029

F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	D5 BRIDGE PAINTING 2020-1	VERMILION	52	1
	ILLINOIS	CONTRACT NO 70E06		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 7

PROPOSED HIGHWAY PLANS

F.A.I. ROUTE 74 (I–74)
SECTION D5 BRIDGE PAINTING 2020–1
PROJECT NHPP–3YFN(792)
BRIDGE PAINTING
VERMILION COUNTY

C–95–050–19

P–95–009–19

LOCATION OF SECTION INDICATED THUS:–

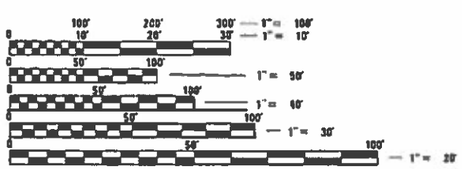
CURRENT ADT

LOC. #1 & #2	LOC. #3 & #4	LOC. #5 & #6
"L" STREET 1350 (2014)	LYNCH RD. 3550 (2018)	CR2100E 125 (2014)
I–74(EB) 12300 (2019)	I–74(WB) 9400 (2019)	I–74(WB) 9400 (2019)
I–74(WB) 11800 (2019)	I–74(EB) 9500 (2019)	I–74(EB) 9500 (2019)

TRAFFIC DATA LOCATIONS

LOC. #1 = S.N. 092–0008 – FAI 74(EB) OVER "L" STREET IN TILTON
LOC. #2 = S.N. 092–0009 – FAI 74(WB) OVER "L" STREET IN TILTON
LOC. #3 = S.N. 092–0025 – FAI 74 (WB) OVER LYNCH ROAD IN DANVILLE
LOC. #4 = S.N. 092–0026 – FAI 74 (EB) OVER LYNCH ROAD IN DANVILLE
LOC. #5 = S.N. 092–0023 – FAI 74 (WB) OVER CR2100E AND CSX RR IN DANVILLE
LOC. #6 = S.N. 092–0024 – FAI 74 (EB) OVER CR2100E AND CSX RR IN DANVILLE

FOR LOCATION MAP, SEE SHEET 3



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 EXCAVATORS
1–800–892–0123
OR 811 TOWNSHIP: DANVILLE

PROJECT ENGINEER JASON STULTS
SQUAD LEADER RYAN CARROLL
PHONE NUMBER (217) 465–4181

CONTRACT NO. 70E06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 14 20 19
REGIONAL ENGINEER

Oct 4 20 19
ENGINEER OF DESIGN AND ENVIRONMENT

Oct 4 20 19
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV. 9/10/19

INDEX OF SHEETS

HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
701316-12	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR FOR SPEEDS > 45 MPH
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NON-TRAVERSABLE MEDIAN
701901-08	TRAFFIC CONTROL DEVICES

GENERAL NOTES

G.N.-100
ENGLISH UNITS OF MEASURE SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-100A
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

GN 105.07C
EXISTING STATE-OWNED AND MAINTAINED UNDERGROUND UTILITY FACILITIES EXIST WITHIN THE ROW. THE DEPARTMENT IS NOT A MEMBER OF JULIE AND DOES NOT LOCATE IT'S OWN FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE AT THEIR OWN EXPENSE FOR SECURING AN APPROVED LOCATING FIRM TO LOCATE ALL EXISTING IDOT UNDERGROUND FACILITIES PRIOR TO COMMENCING ANY EXCAVATION, PER THE REQUIREMENTS OF ARTICLE 803 OF THE STANDARD SPECIFICATIONS. UTILITY LOCATES MAY ALSO BE REQUIRED OUTSIDE THE PROJECT LIMITS, SUCH AS FOR TRAFFIC CONTROL SIGNING AND OTHER ITEMS. THE CONTRACTOR MAY OBTAIN, ON REQUEST, PLANS OF EXISTING ELECTRICAL FACILITIES FROM THE DEPARTMENT. FOR FURTHER INFORMATION, THE CONTRACTOR MAY CONTACT THE DISTRICT TRAFFIC OPERATIONS ENGINEER, GARY SIMS, AT 217-251-4859.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR LOCATING AND PROVIDING PROTECTION FOR FACILITIES DURING ALL PHASES OF CONSTRUCTION. IF, AT ANY TIME, THE FACILITIES ARE DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DEPARTMENT AND MAKE ALL NECESSARY ARRANGEMENTS FOR REPAIR TO THE SATISFACTION OF THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

G.N.-107.12
THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE LOCAL RAILROAD CONTACT IS:

Ms. Amanda DeCesare
CSX Transportation
3131A Spring Grove Avenue
Cincinnati, OH 45225
(513) 853-1221

SPECIAL ATTENTION IS CALLED TO ARTICLE 107.12 REGARDING RAILROAD FLAGGERS. THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE RAILROAD CONTACT PERSON FOR FLAGGERS IS:

Mr. Ben Ewing
Roadmaster
CSX Transportation
564 CSX Lane
Danville, IL 61834
(217) 722-7993

G.N.-501A
THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

G.N.-506 (SPL.)
ALL FINAL SURFACES OF THE BEAMS SHALL BE PAINTED GRAY (MUNSELL COLOR STANDARD - 5B 7/1) EXCEPT THE EXTERIOR SURFACES OF THE EXTERIOR BEAMS WHICH SHALL BE PAINTED WITH EITHER INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8) OR REDDISH BROWN (MUNSELL COLOR STANDARD 2.5YR 3/4) AS SPECIFIED UNDER THE DESCRIPTION FOR EACH STRUCTURE.

ONLY STRUCTURAL STEEL AND OTHER DESIGNATED SURFACES SHALL BE PAINTED. ALL OTHER SURFACES SHALL BE PROTECTED FROM CONTRACTORS BLASTING AND PAINTING OPERATIONS. ANY AREAS DAMAGED BY BLASTING OR OVERSPRAY WILL BE REMOVED OR REPAIRED AT THE CONTRACTOR'S EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

THE SSPC-QP1 AND QP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THIS CONTRACT.

ALL TRASH AND PAINTING DEBRIS, EXCLUDING WASTE BARRELS OR ROLL-OFF DUMPSTERS, SHALL BE REMOVED BEFORE BEGINNING WORK AT ANOTHER LOCATION.

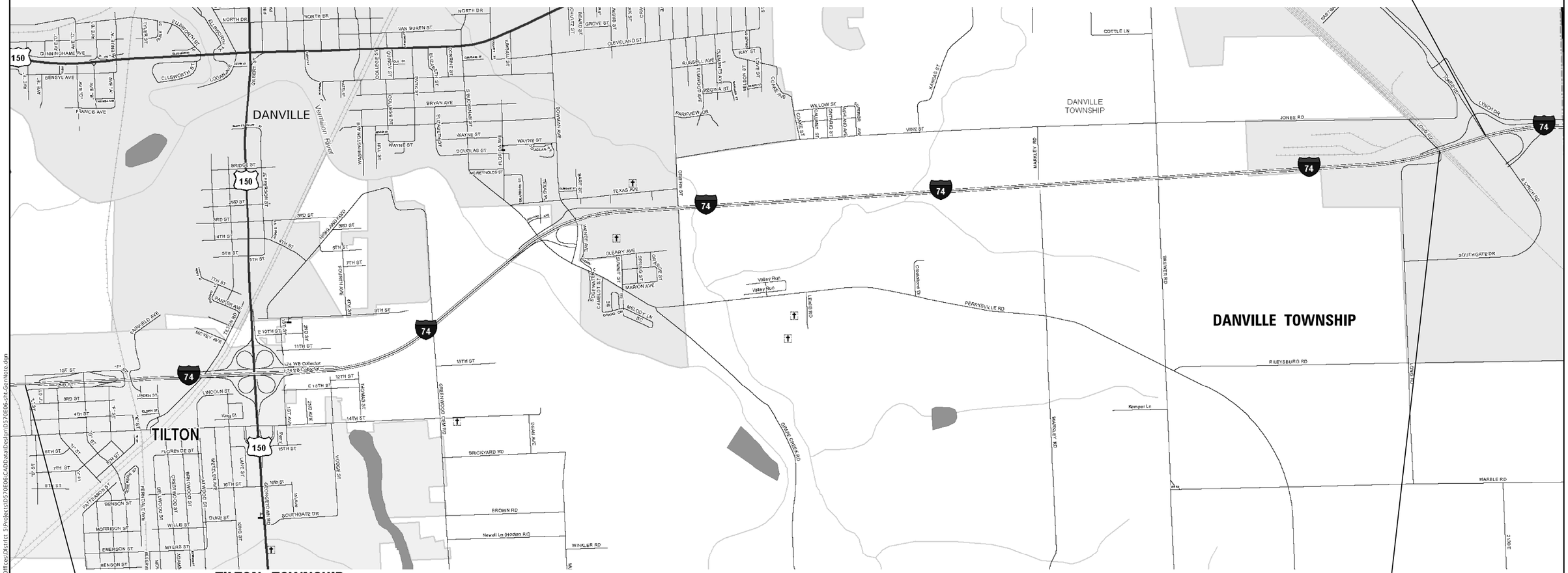
2 YEAR PAINT WARRANTY REQUIRED FOR ALL STRUCTURES

NO COMMITMENTS

LOCATION #1, #2, #3, #4, #5, AND #6

#1 – 092–0008 (EB)
#2 – 092–0009 (WB)
#3 – 092–0025 (WB)
#4 – 092–0026 (EB)
#5 – 092–0023 (WB)
#6 – 092–0024 (EB)

LOCATION #3 & #4
S.N. 092-0025 (WB)
S.N. 092-0026 (EB)
I-74 OVER LYNCH
ST. IN DANVILLE
I-74 M.P. 219.7



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USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION MAP

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	3
* D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

LOCATION #1

DESCRIPTION: I-74 EB over "L" STREET in TILTON - M.P. - 213.4
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-11VB)BR
STRUCTURE NO.: 092-0008 E.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
7 BEAM LINES - BK-BK ABUTS = 277.4'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

NOTE: ELASTOMERIC BEARINGS

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

LOCATION #2

DESCRIPTION: I-74 WB over "L" STREET in TILTON - M.P. - 213.4
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-11VB)BR
STRUCTURE NO.: 092-0009 W.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
8 BEAM LINES - BK-BK ABUTS = 317.5'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

NOTE: ELASTOMERIC BEARINGS

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

LOCATION #3

DESCRIPTION: I-74 WB over LYNCH RD in DANVILLE - M.P. - 219.7
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-12HB-6)BR
STRUCTURE NO.: 092-0025 W.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
7 BEAM LINES - BK-BK ABUTS = 157.6'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

NOTE: ELASTOMERIC BEARINGS

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

LOCATION #4

DESCRIPTION: I-74 EB over LYNCH RD in DANVILLE - M.P. - 219.7
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-12HB-6)BR
STRUCTURE NO.: 092-0026 E.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
8 BEAM LINES - BK-BK ABUTS = 157.6'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

NOTE: ELASTOMERIC BEARINGS

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

LOCATION #5

DESCRIPTION: I-74 WB over CSX RR & CR 2100E in DANVILLE - M.P. - 219.5
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-12VB-1)BR
STRUCTURE NO.: 092-0023 W.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
11 BEAM LINES - BK-BK ABUTS = 271.0'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

LOCATION #6

DESCRIPTION: I-74 EB over CSX RR & CR 2100E in DANVILLE - M.P. - 219.5
COUNTY: VERMILION
ROUTE: F.A.I. 74
MARKED ROUTE: I-74
SECTION: (92-12VB-1)BR
STRUCTURE NO.: 092-0024 E.B.
TYPE OF STRUCTURE CONTINUOUS STEEL
7 BEAM LINES - BK-BK ABUTS = 271.0'

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLASTNG SSPC-SP10.

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 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 ALL EXTERIOR AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN (MUNSELL COLOR STANDARD 7.5G 4/8).

A MINIMUM OF TWO (2) HIGH VOLUME AIR MONITORS WILL BE REQUIRED TO MONITOR AIR QUALITY DURING DUST PRODUCING OPERATIONS AT THIS SITE. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHALL FOLLOW THE GUIDE BRIDGE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

NOTE: DECK DRAINS WITHIN THE PAINTING LIMITS DESCRIBED ABOVE ARE TO BE PAINTED AT NO ADDITIONAL COST.

TWO (2) YEAR PAINT WARRANTY REQUIRED FOR THIS STRUCTURE

RAILROAD GENERAL NOTES

Refer to the CSX Transportation Public Project Information Manual for additional requirements needed for working on/above/adjacent to CSXT. Specific sections that pertain to this project are: Special Provisions for Construction near CSXT Property, Overhead Bridge Criteria, Construction Submission Criteria, and Insurance Requirements for Public Projects.

CSXT may require the Contractor to install filter fabric over the track(s) and ballast to prevent any construction debris from fouling the ballast. This will be determined during actual construction activities by CSXT or its Representative. Fabric will remain in place until all construction activities are complete.

The Contractor may not use CSXT right-of-way for storage of materials or equipment during construction without prior CSXT approval. The CSXT right-of-way must remain clear for railroad use at all times. Equipment may not be positioned to block the railroad access road, track area or any part of the CSXT right-of-way without prior CSXT approval.

Temporary Construction Clearance - Ensure all falsework, bracing or forms have a minimum horizontal clearance of 12 feet measured perpendicular to the centerline of the nearest track, and a minimum vertical clearance of 22 feet or existing clearance, whichever is less, as measured from the top of rail profile.

Means and Methods – The Contractor shall develop a detailed submission indicating the progression of work with specific times when tasks will be performed for work activities that are on or in the vicinity of the CSXT property. This submission may require a walkthrough at which time CSXT and/or the CSXT Construction Representative will be present. Work will not be permitted to commence until the Contractor has provided CSXT with a satisfactory plan that the project will be undertaken without scheduling, performance or safety related issues. Provide a listing of the anticipated equipment to be used, the location of all equipment to be used and insure a contingency plan of action is in place should a primary piece of equipment malfunction. All work in the vicinity of CSXT property that has the potential of affecting CSXT train operations must be submitted and approved by CSXT prior to work being performed. This submission shall also include a detailed narrative discussing the coordination of project safety issues between Contractor, CSXT and the CSXT Construction Representative. The narrative shall address project level coordination and day to day, specific work operations including crane and equipment operations, erection plans and temporary works.

Construction Schedule – Submit a detailed construction schedule for the duration of the project clearly indicating the time periods while working on and around CSXT right-of-way. As the work progresses, this schedule shall be updated and resubmitted as necessary to reflect changes in work sequence, duration and method, etc.

Contractor access will be limited to the immediate project area only. The CSXT right-of-way outside the project area may not be used for contractor access to the project site and no temporary at-grade crossings will be allowed.

Contractor shall enter into Right-of-Entry Agreement with CSXT. Periodically, throughout the project duration, the Contractor will be required to meet, discuss and, if necessary, take immediate action at the discretion of CSXT personnel and/or their authorized Representative, to comply with provisions of that agreement and these specifications.

All waste materials generated by this project, including but not limited to washing with water, cleaning solvents, blasting, scraping, brushing and painting operations, shall be the responsibility of the Project Sponsor or its Contractor and shall be contained, collected and properly disposed of by the Project Sponsor or its Contractor. The Project Sponsor and its Contractor agree to fully comply with all federal, state, and local environmental laws, regulations, statutes and ordinances at all times.

Upon completion of the work on CSXT property, the Contractor shall request the Owner to arrange a final inspection of the project with the Railroad's Project Engineer or his authorized Representative.

SUMMARY OF QUANTITIES

	LOC. #1	LOC. #2	LOC. #3	LOC. #4	LOC. #5	LOC. #6
	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74
	S.N. 092-0008	S.N. 092-0009	S.N. 092-0025	S.N. 092-0026	S.N. 092-0023	S.N. 092-0024
	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.
	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL
	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE
CONSTRUCTION TYPE CODE:	0047	0047	0047	0047	0047	0047

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
67100100	MOBILIZATION	L SUM	1.0	0.1	0.1	0.2	0.2	0.2	0.2
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	2.0			0.5	0.5	0.5	0.5
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2.0					1.0	1.0
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1.0			0.5	0.5		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2.0			0.5	0.5	0.5	0.5
70107004	PAVEMENT MARKING BLACKOUT TAPE, 4"	FOOT	1300.0			650.0	650.0		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14.0					7.0	7.0
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	2840.0			360.0	360.0	1060.0	1060.0
70400100	TEMPORARY CONCRETE BARRIER	FOOT	850.0					425.0	425.0
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.0					1.0	1.0
X2700001	TEMPORARY RUMBLE STRIPS (SPECIAL)	EACH	8.0					4.0	4.0
X4403300	CONCRETE MEDIAN REMOVAL	SQ FT	4400.0			2200.0	2200.0		
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 1	L SUM	1.0	1.0					
X5067502	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 2	L SUM	1.0		1.0				

SUMMARY OF QUANTITIES

	LOC. #1	LOC. #2	LOC. #3	LOC. #4	LOC. #5	LOC. #6
	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74
	S.N. 092-0008	S.N. 092-0009	S.N. 092-0025	S.N. 092-0026	S.N. 092-0023	S.N. 092-0024
	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.
	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL
	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE
CONSTRUCTION TYPE CODE:	0047	0047	0047	0047	0047	0047

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
X5067503	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 3	L SUM	1.0			1.0			
X5067504	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 4	L SUM	1.0				1.0		
X5067505	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 5	L SUM	1.0					1.0	
X5067506	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 6	L SUM	1.0						1.0
X6061702	CONCRETE MEDIAN, TYPE SM (DOWELLED)	SQ FT	4400.0			2200.0	2200.0		
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1.0	0.5	0.5				
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1.0	1.0					
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1.0		1.0				
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1.0			1.0			
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1.0				1.0		
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1.0					1.0	
Z0007106	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6	L SUM	1.0						1.0
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1.0	1.0					
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1.0		1.0				

SUMMARY OF QUANTITIES

	LOC. #1	LOC. #2	LOC. #3	LOC. #4	LOC. #5	LOC. #6
	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74	FAI 74
	S.N. 092-0008	S.N. 092-0009	S.N. 092-0025	S.N. 092-0026	S.N. 092-0023	S.N. 092-0024
	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.	VERMILION CO.
	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL	80% FEDERAL
	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE	20% STATE
CONSTRUCTION TYPE CODE:	0047	0047	0047	0047	0047	0047

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1.0			1.0			
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1.0				1.0		
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1.0					1.0	
Z0010506	CLEANING AND PAINTING STEEL BRIDGE NO. 6	L SUM	1.0						1.0
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1.0					0.5	0.5

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	o
TEMPORARY STRIPING	- - - - - - - -

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PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 1 & 2: TRAFFIC CONTROL PLAN – STAGE I
I-74 & "L" STREET

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	10
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	o
TEMPORARY STRIPING	- - - - - - - -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 1 & 2: TRAFFIC CONTROL PLAN – STAGE II
I-74 & "L" STREET

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	11
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	
CONCRETE MEDIAN REMOVAL	
STOP BAR	

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PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 3 & 4: TRAFFIC CONTROL PLAN – STAGE I
I–74 & LYNCH ROAD

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	12
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	
CONCRETE MEDIAN REMOVAL	
STOP BAR	

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PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 3 & 4: TRAFFIC CONTROL PLAN – STAGE II
I–74 & LYNCH ROAD

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	13
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

STOP BAR; CONTRACTOR TO REFER TO IDOT TRAFFIC CONTROL STANDARD 701316-12

CONSTRUCTION BARRELS

CONTRACTOR TO REMOVE A MINIMUM OF 145.0' OF CONCRETE MEDIAN. CONTRACTOR TO BEGIN AND TERMINATE REMOVAL AT EXISTING CONSTRUCTION JOINT. SEE MEDIAN DETAIL (SM-6) ON PAGE 16. CONTRACTOR TO REPLACE MEDIAN AT THE TERMINATION OF THE PROJECT ACCORDING TO MEDIAN DETAIL PROVIDED (SM-6) ON PAGE 16.

140.0'±

40.0'±

CONSTRUCTION AREA

40.0'±

CONSTRUCTION BARRELS

CONTRACTOR TO REMOVE A MINIMUM OF 145.0' OF CONCRETE MEDIAN. CONTRACTOR TO BEGIN AND TERMINATE REMOVAL AT EXISTING CONSTRUCTION JOINT. SEE MEDIAN DETAIL (SM-6) ON PAGE 16. CONTRACTOR TO REPLACE MEDIAN AT THE TERMINATION OF THE PROJECT ACCORDING TO MEDIAN DETAIL PROVIDED (SM-6) ON PAGE 16.

145.0'±

STOP BAR; CONTRACTOR TO REFER TO IDOT TRAFFIC CONTROL STANDARD 701316-12

N

0 100' 200'

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	o
CONCRETE MEDIAN REMOVAL	
STOP BAR	—

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PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 3 & 4: TRAFFIC CONTROL PLAN – STAGE I
I-74 & LYNCH ROAD

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	14
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

STOP BAR; CONTRACTOR TO REFER TO IDOT TRAFFIC CONTROL STANDARD 701316-12

CONTRACTOR TO REMOVE A MINIMUM OF 145.0' OF CONCRETE MEDIAN. CONTRACTOR TO BEGIN AND TERMINATE REMOVAL AT EXISTING CONSTRUCTION JOINT. SEE MEDIAN DETAIL (SM-6) ON PAGE 16. CONTRACTOR TO REPLACE MEDIAN AT THE TERMINATION OF THE PROJECT ACCORDING TO MEDIAN DETAIL PROVIDED (SM-6) ON PAGE 16.

N

CONSTRUCTION BARRELS

140.0'±

40.0'±

CONSTRUCTION AREA

40.0'±

CONSTRUCTION BARRELS

CONTRACTOR TO REMOVE A MINIMUM OF 145.0' OF CONCRETE MEDIAN. CONTRACTOR TO BEGIN AND TERMINATE REMOVAL AT EXISTING CONSTRUCTION JOINT. SEE MEDIAN DETAIL (SM-6) ON PAGE 16. CONTRACTOR TO REPLACE MEDIAN AT THE TERMINATION OF THE PROJECT ACCORDING TO MEDIAN DETAIL PROVIDED (SM-6) ON PAGE 16.

145.0'±

STOP BAR; CONTRACTOR TO REFER TO IDOT TRAFFIC CONTROL STANDARD 701316-12

0 100' 200'

LEGEND

CONSTRUCTION AREA	
CONSTRUCTION BARRELS	
CONCRETE MEDIAN REMOVAL	
STOP BAR	

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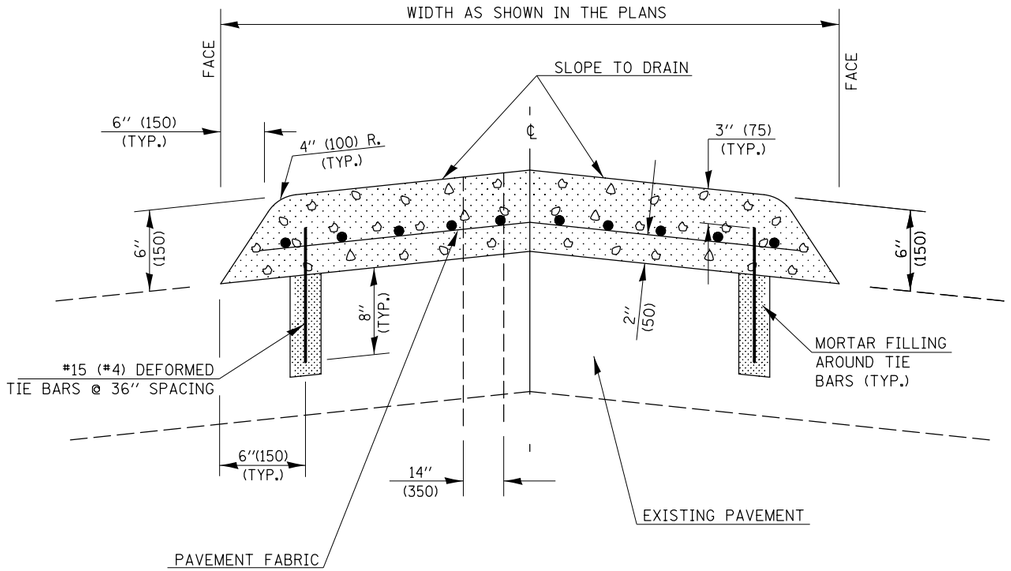
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATIONS 3 & 4: TRAFFIC CONTOL PLAN – STAGE II
I-74 & LYNCH ROAD

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

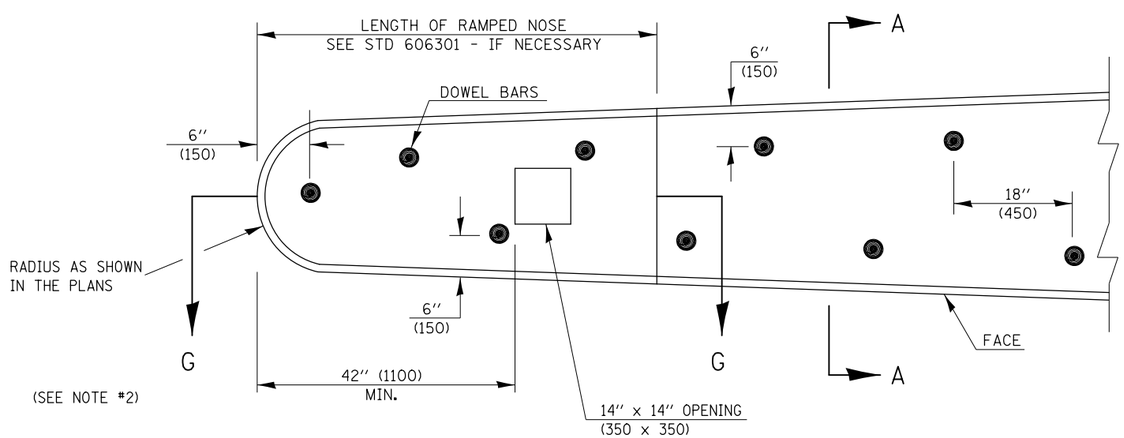
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	15
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	



SECTION A-A

GENERAL NOTES

1. DOWEL BARS @ 36" CTS. OR AS DIRECTED BY THE ENGINEER
2. THE EXISTING MEDIAN CONSISTS OF A 6" THICK CONCRETE MEDIAN DOWELED INTO FULL DEPTH ASPHALT PAVEMENT. THERE IS NO CURB AND GUTTER TO BE REMOVED ONLY THE 6" MEDIAN CAP SITTING ON THE FULL DEPTH ASPHALT PAVEMENT. THE EXISTING MEDIAN CONTAINS WELDED WIRE FABRIC.
3. CARE SHALL BE TAKEN NOT TO DAMAGE PORTIONS OF THE CONCRETE MEDIAN TO REMAIN IN PLACE. FULL DEPTH SAW CUTS SHALL BE USED AT THE REMOVAL LIMITS.
4. CARE SHALL BE TAKEN NOT TO DAMAGE THE FULL DEPTH ASPHALT PAVEMENT BELOW THE CONCRETE MEDIAN. THE UNDERLYING PAVEMENT WILL BE UTILIZED FOR CROSSOVER TRAFFIC. EXISTING DOWEL BARS SHALL BE CUT FLUSH WITH THE PAVEMENT OR REMOVED AND HOLES FILLED WITH MORTAR.
5. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQ FOOT FOR
   CONCRETE MEDIAN REMOVAL
   CONCRETE MEDIAN, TYPE SM (DOWELLED)
   THE COST OF FURNISHING AND INSTALLING THE DOWEL BARS, MORTAR FILLING, AND PAVEMENT FABRIC SHALL BE INCLUDED IN THE PAY ITEMS LISTED ABOVE WITH NO ADDITIONAL COMPENSATION ALLOWED.



PLAN OF MEDIAN

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

BILL OF MATERIALS

LOCATION 3# & #4 - 092-0025 & 092-0026

ITEM	UNIT	TOTAL
CONCRETE MEDIAN REMOVAL	SQFT	2,200.0
CONCRETE MEDIAN, TYPE SM (DOWELLED)	SQFT	2,200.0

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PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE MEDIAN REMOVAL
CONCRETE MEDIAN, TYPE SM (DOWELLED)

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	16
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

BENCH MARK: PERMANENT SURVEY MARKER, TYPE II
STATION 1873+58.65, TOP OF BRASS PLUG ELEV. 667.91

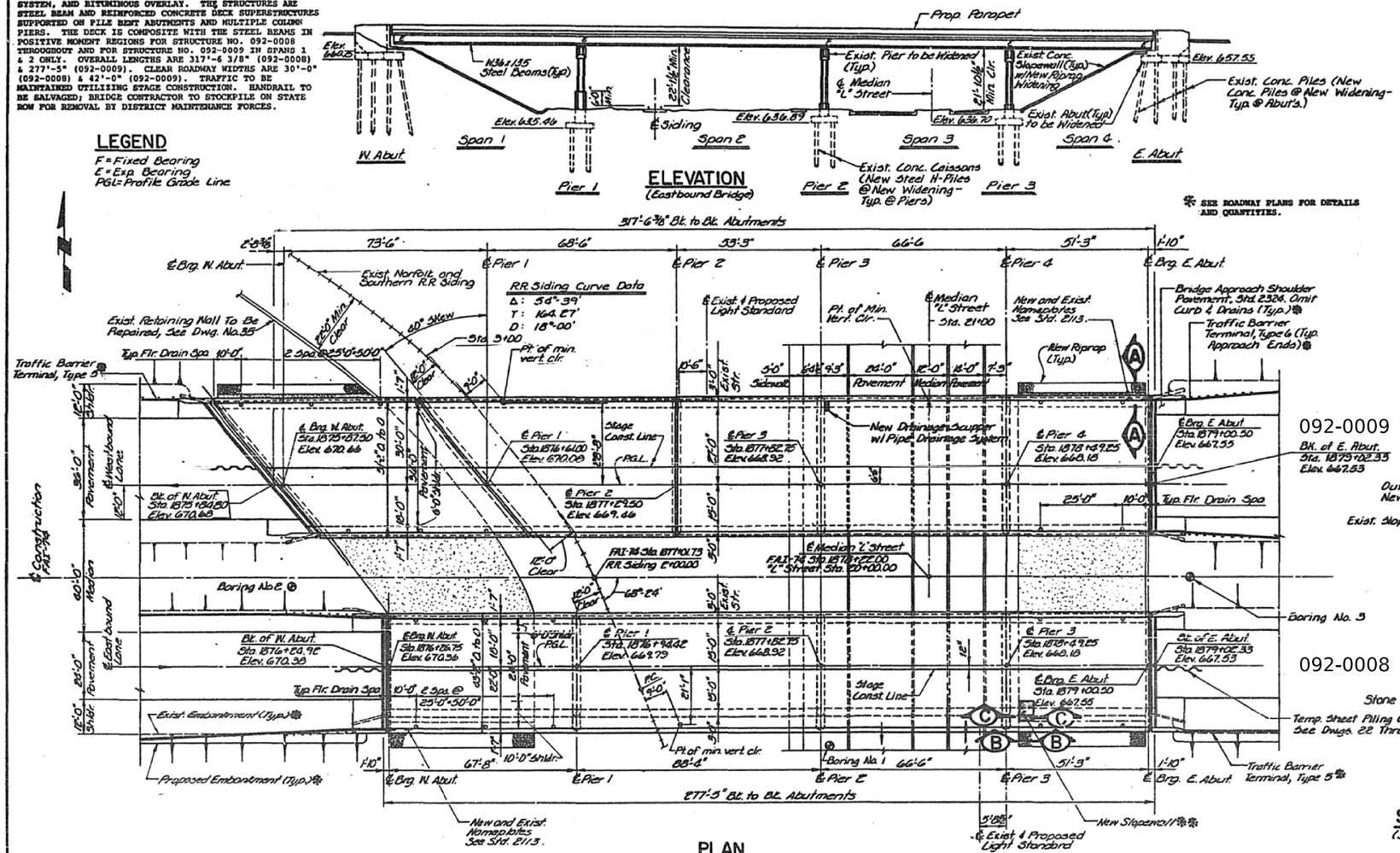
EXISTING STRUCTURE:
STRUCTURE NO.'S 092-0008 & 092-0009 WERE BUILT IN 1964 AS FAI 74, SECTION 92-11VB. REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, INSTALLATION OF WATERPROOFING MEMBRANE SYSTEM, AND BITUMINOUS OVERLAY. THE STRUCTURES ARE STEEL BEAM AND REINFORCED CONCRETE DECK SUPERSTRUCTURES SUPPORTED ON PILE BENT ABUTMENTS AND MULTIPLE COLUMN PIERS. THE DECK IS COMPOSITE WITH THE STEEL BEAMS IN POSITIVE MOMENT REGIONS FOR STRUCTURE NO. 092-0008 THROUGHOUT AND FOR STRUCTURE NO. 092-0009 IN SPANS 1 & 2 ONLY. OVERALL LENGTHS ARE 317'-6 3/8" (092-0008) & 277'-5" (092-0009). CLEAR ROADWAY WIDTHS ARE 30'-0" (092-0008) & 42'-0" (092-0009). TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. HANDRAIL TO BE SALVAGED; BRIDGE CONTRACTOR TO STOCKPILE ON STATE ROW FOR REMOVAL BY DISTRICT MAINTENANCE FORCES.

***(92-11VB)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAIL-74 ***		Vermilion	145	90
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Dwg. No. 1 of 41

092-0008 E.B.



** SEE ROADWAY PLANS FOR DETAILS AND QUANTITIES.

STATION 1877+01.73
BUILT 199_ BY
STATE OF ILLINOIS
FAIRTE. 74 SECTION (92-11VB)BR

LOADING HS20 & ALT.
STR. NO. 092-0009

WESTBOUND

STATION 1877+01.73
BUILT 199_ BY
STATE OF ILLINOIS
FAI. RTE. 74 SECTION (92-11VB)BR

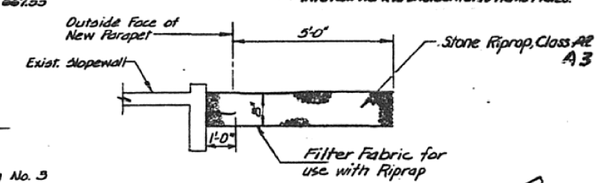
LOADING HS20 & ALT.
STR. NO. 092-0008

EASTBOUND

NEW NAME PLATES
(1 EA. REQ'D)
(SEE STD. 2113)

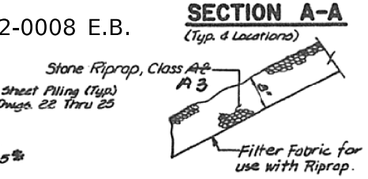
Note
Salvage Existing Name Plates & Mount Adjacent to New Name Plates on New Parapet as shown on Std. 2113. The cost of Salvaging & Incorporating Exist. Name Plates into New Work is Incidental to Name Plates.

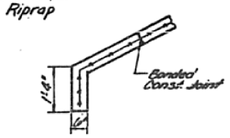
092-0009 W.B.



092-0008 E.B.

SECTION A-A
(Typ. 4 Locations)



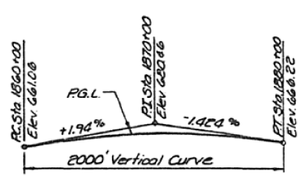


SECTION C-C

SECTION B-B
(Similar @ 4 Locations)

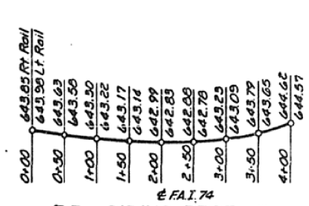
** REMOVE & REPLACE 4" SLOPEWALL WHERE REQUIRED FOR CONSTRUCTION OF PIER WIDENING. COST INCIDENTAL TO CLASS X CONCRETE.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson



FAI-74 PROFILE GRADE
(Along ℄ Pavement)

"L" STREET PROFILE GRADE
(℄ Pavement Southbound Lanes)



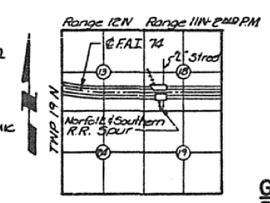
R.R. SIDING PROFILE
(Top of Rail)

DESIGN STRESSES (EXIST. ELEMENTS TO BE REUSED)
f'_c = 3,500 psi
f_y = 40,000 psi (REINF. BARS)
f_s = 20,000 psi (REINF. BARS)
f_y = 36,000 psi (STRUCT. STEEL)

DESIGN SPECIFICATIONS
AASHTO 1989 AND APPLICABLE INTERIMS (1990) AND SEISMIC RETROFITTING GUIDELINES FOR HIGHWAY BRIDGES.

LOADING
HS 20-44 & ALTERNATE MILITARY WITH ALLOWANCES FOR 25 PSF F.W.S.

DESIGN STRESSES (NEW CONSTRUCTION)
f'_c = 3,500 psi
f_y = 60,000 psi (REINF. BARS)
f_y = 36,000 psi NSW (M-183 STRUCT. STEEL)



LOCATION SKETCH

STATE OF ILLINOIS
RICHARD B. PAYNE
No. 4647
REGISTERED STRUCTURAL ENGINEER

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	8-89
DRAWN BY:	TP/WEM	8-89
CHECKED BY:	JRF	8-89
APPROVED BY:	RDP	8-89

GENERAL PLAN & ELEVATION
FAI 74 OVER "L" STREET & RR SIDING
FAI RTE 74 SECTION (92-11VB) BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008 (E.B.)
STRUCTURE NO. 092-0009 (W.B.)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	17
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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092-0009 W.B.

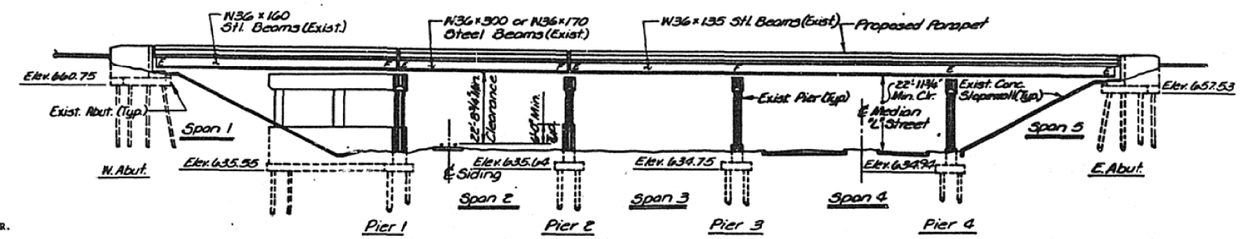
(92-11VB)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	*	Vermilion	145	91
STA		TO STA		
FED ROAD DIST NO		ILLINOIS	PROJECT	

Dwg. No. 2 of 41

GENERAL NOTES

1. SEE PROPOSAL FOR BORING DATA.
2. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" ø, OPEN HOLES 13/16" ø, UNLESS OTHERWISE NOTED.
3. CALCULATED WEIGHT OF STRUCTURAL STEEL = 74,000 LBS.
5. ALL CONTACT SURFACES OF JOINTS FOR THE DIAPHRAGMS AND BOLTED SPLICES SHALL BE FREE OF PAINT OR LACQUER.
6. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
8. THE NEW MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE NEW WIDE FLANGE BEAMS AND ALL SPLICE PLATE MATERIAL FOR THESE NEW BEAMS.
9. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
10. 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.
11. EXPANSION BOLTS SHALL CONSIST OF APPROVED. EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4" ø X 12" HOOKED BOLTS.
12. BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.
13. THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT EACH ABUTMENT ON THE EB BRIDGE AND ONE STEEL HP 10X42 PILE IN A PERMANENT LOCATION AT THE RETAINING WALL AND AT PIER 2 ON THE EB BRIDGE AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.
14. THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS, PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGES IS NOT PERMITTED.
15. SLOPEWALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC, 6"x6" - W4.0xW4.0, WEIGHING 58 LBS. PER SQ. FT.
16. BRIDGE SEAT SEALER SHALL BE APPLIED TO THE BEARING SEATS AT ALL ABUTMENTS AND AT PIERS 1 & 2 WB. ESTIMATED QUANTITY = 750 SQUARE FEET.
17. THE FIRST TWO COATS OF LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL.
18. STRUCTURAL STEEL SHALL ONLY BE CLEANED AND PAINTED AS REQUIRED BY THE SPECIAL PROVISION "CLEANING AND PAINTING NEW STEEL AND ADJACENT AREAS OF EXISTING STEEL STRUCTURES."



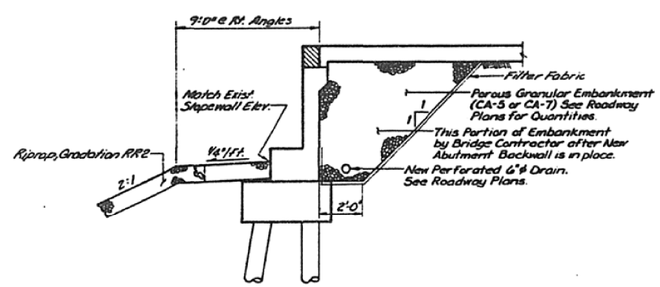
Prior to pouring the new concrete for the deck, all loose rust, loose mill scale, and all other foreign material shall be removed from the embedded portions of flanges of stringers. The removal shall be accomplished in accordance with the requirements of the SSPC Surface Preparation Specifications SP-11 for Power tool cleaning or SP-2 for Hand tool cleaning. Cost shall be incidental to concrete removal.

ELEVATION
(Westbound Bridge)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER-STRUCTURE	SUB-STRUCTURE	TOTAL
Concrete Removal	Cu. Yd.	-	46.8	46.8
Expansion Bolts, 3/4" ø	Ea.	-	221	221
Removal of Exist. Conc. Dk. No. 3	L. Sum	1	-	1
Removal of Exist. Conc. Dk. No. 4	L. Sum	1	-	1
Structure Excavation	Cu. Yd.	-	433.5	433.5
Floor Drains	Ea.	20	-	20
Preformed Joint Seal, 4"	Lin. Ft.	145	-	145
Neoprene Expansion Joint, 2"	Lin. Ft.	172	-	172
Class X Concrete Superstructure	Cu. Yd.	863.7	-	863.7
* Protective Coat	Sq. Yd.	485	-	485
Class X Concrete	Cu. Yd.	-	190.5	190.5
Furn & Erect. Struct. Steel	L. Sum	1	-	1
Stud Shear Connectors	Ea.	5298	-	5298
Jack Exist. Struct. No. 3	L. Sum	1	-	1
Jack Exist. Struct. No. 4	L. Sum	1	-	1
Reinforcement Bars	Lbs.		2420	2420
Reinforcement Bars (Epoxy Coated)	Lbs.	188240	26310	214550
Bridge Seat Sealer	L. Sum	-	1	1
Steel Piles HP10x42	Lin. Ft.	-	544	544
Concrete Piles	Lin. Ft.	-	252	252
		-		
Filter Fabric For Use With Riprap	Sq. Yd.	-	159	159
Test Pile Steel HP10x42	Ea.	-	2	2
Test Pile Concrete	Ea.	-	2	2
Temporary Sheet Piling	Sq. Ft.	-	1336	1336
Nameplates	Ea.	2	-	2
Repair Concrete Structures	Sq. Ft.	-	151	151
Stone RipRap, Class A2	Sq. Yd.	-	159	159
Elastomeric Bearing Assembly, Type II	Ea.	-	15	15
Drainage Scupper	Ea.	1	-	1
Elastomeric Brg. Assembly, Type I	Ea.	-	46	46
Temporary Bridge Rail	Lin. Ft.	350	-	350
Drainage System	L. Sum	1	-	1
Elastomeric Brg. Assembly, Type III	Ea.	-	7	7
Bridge Deck Grooving	Sq. Yd.	2926		2926

* INCLUDES TOP AND INSIDE FACE OF PARAPET ONLY.



TYPICAL SECTION THRU ABUTMENTS

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	12-89
DRAWN BY:	WEM	12-89
CHECKED BY:	JKF	12-89
APPROVED BY:	RDP	12-89

GENERAL NOTES & BILL OF MATERIAL
FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

MODEL: $MODELNAMES
FILE NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

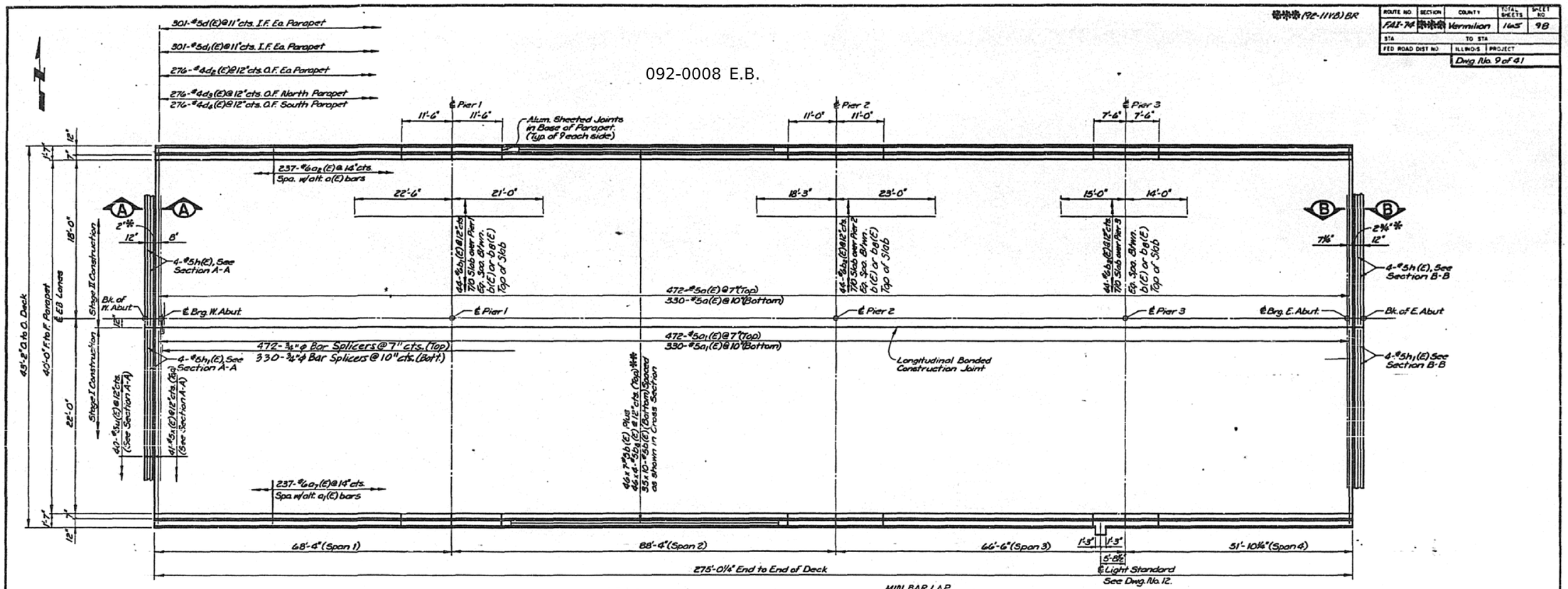
FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	18
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	(92-11VB)BR	Vermilion	165	9B
STA		TO STA		
FED ROAD DIST NO		ILLINOIS	PROJECT	
			Dwg. No. 9 of 41	

092-0008 E.B.



NOTES

1. SEE DWG. NO. 11 FOR SECTIONS A-A & B-B.
2. BARS INDICATED THUS: 46x9-#5, ETC., INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATION OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 13.
5. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-89
DRAWN BY:	WEM	12-89
CHECKED BY:	RDP	12-89
APPROVED BY:	RDP	12-89

SUPERSTRUCTURE (EB)

FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	19
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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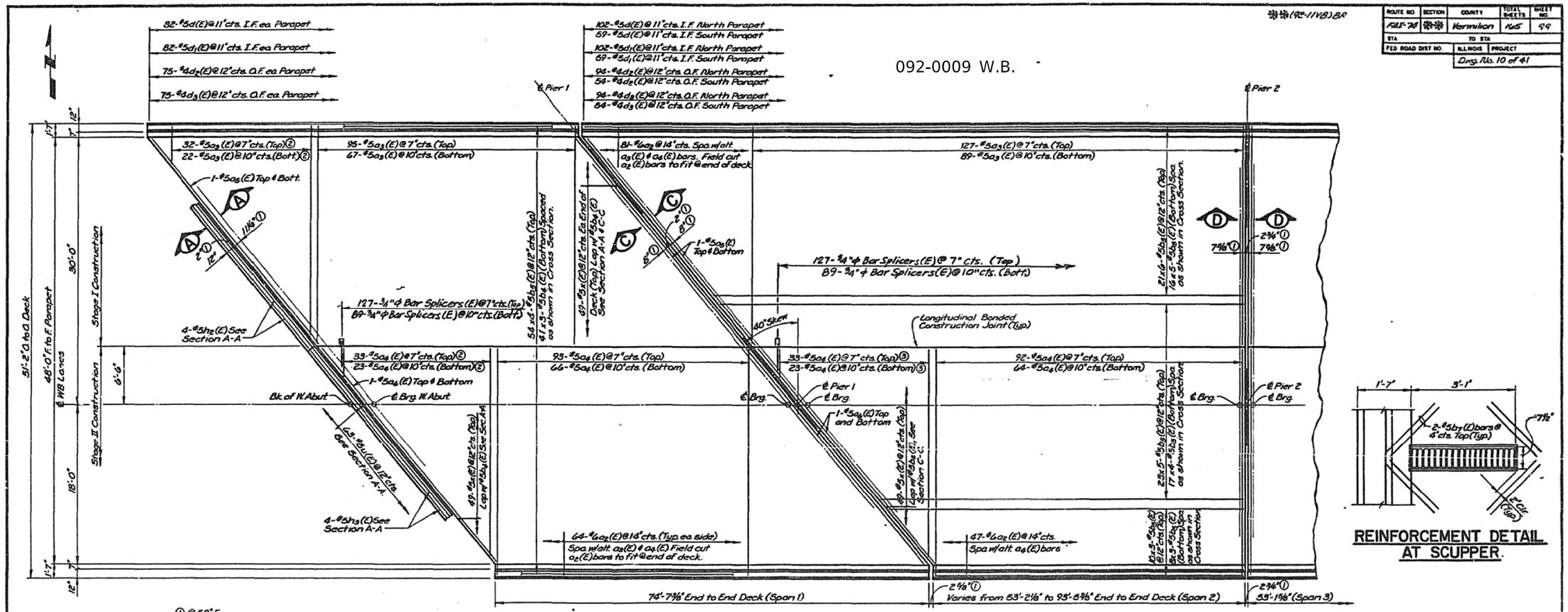
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	(92-11VB)BR	Vermilion	165	99
STA		TO STA		
FED ROAD DIST NO.		ILLINOIS	PROJECT	
		Drg. No. 10 of 41		

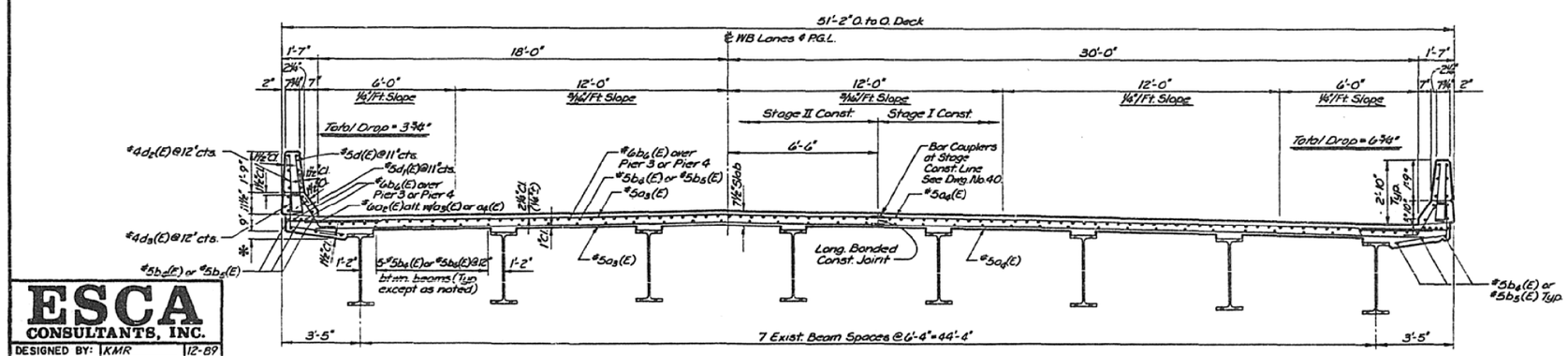
092-0009 W.B.



① @ 50°F.
② Order a_3(E) & a_4(E) bars full length. Field cut to fit skew & use remainder of bars in opposite end of span.
③ Order a_2(E) bars full length. Field cut to fit skew & use remainder of bars in West end of Span 2, North Side.

PLAN

MIN BAR LAP
#5 2'-2"



CROSS SECTION
(LOOKING WEST)

℄ See Section Thru Parapet on Dwg. No. 12.

NOTES

1. SEE DWG. NO. 11 FOR SECTIONS A-A, C-C, & D-D.
2. BARS INDICATED THUS: 10x3-#5b3, ETC., INDICATES 10 LINES OF BARS WITH 3 LENGTHS PER LINE.
3. BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.
5. CUT REINFORCEMENT BARS IN SLAB TO CLEAR DRAINAGE SCUPPERS.

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-89
DRAWN BY:	WEM	1-90
CHECKED BY:	RDP	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE (WB)
FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0009(EB)
STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	20
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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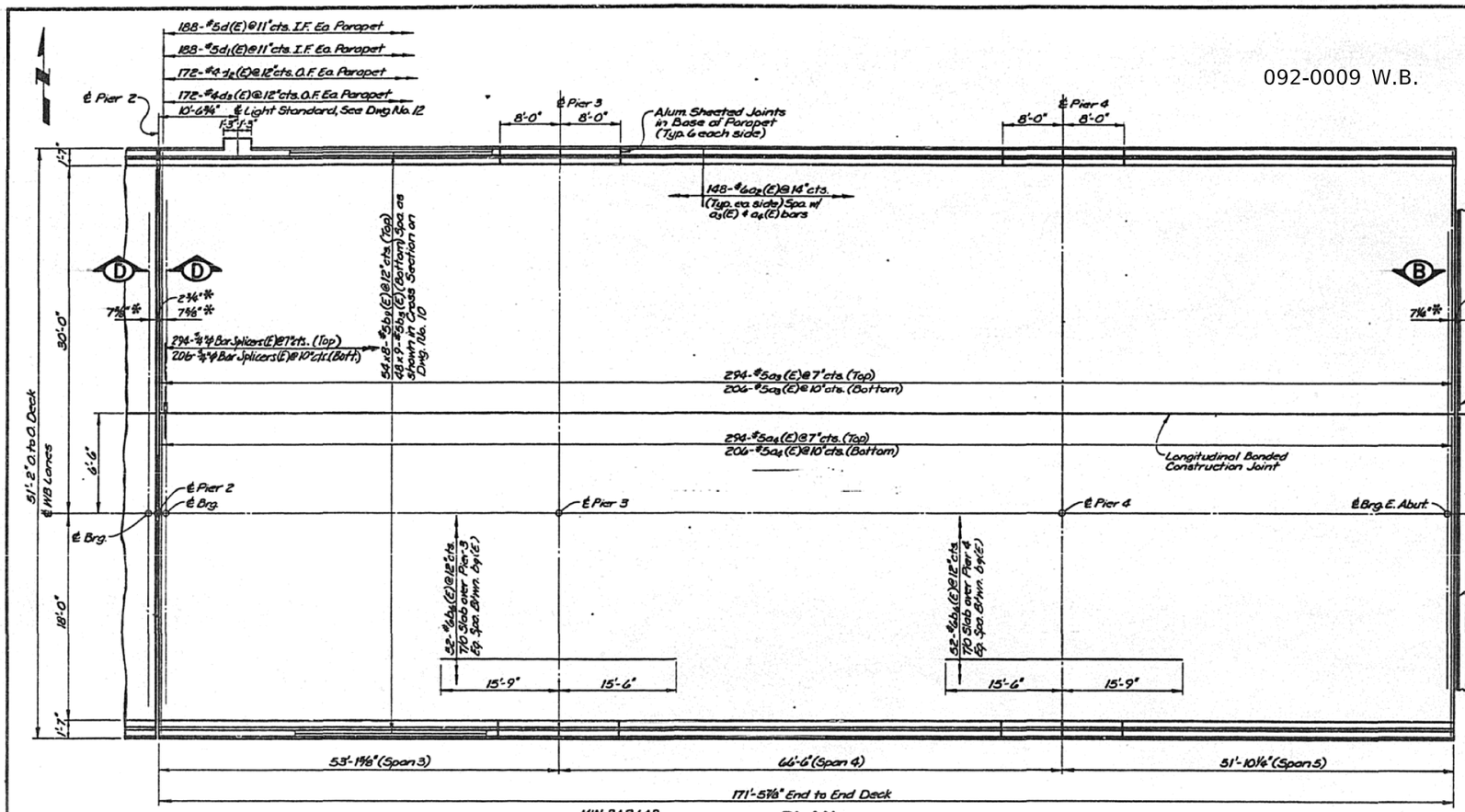
092-0009 W.B.

(92-11VB)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74		Vermilion	145	100
STA		TO STA.		
FED ROAD DIST NO		ILLINOIS	PROJECT	

Dwg. No. 11 of 41

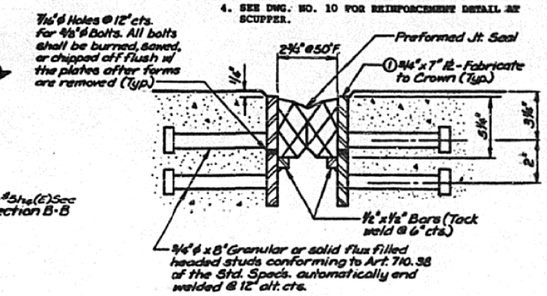


PLAN

MIN BAR LAP
#5 2'-2"

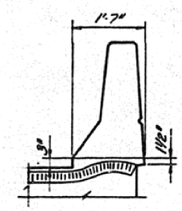
NOTES

1. BARS INDICATED THUS: 54x9-#5b5, ETC., INDICATES 54 LINES OF BARS WITH 9 LENGTHS PER LINE.
2. BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATIONS OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 14.
4. SEE DWG. NO. 10 FOR REINFORCEMENT DETAIL AT SCUPPER.

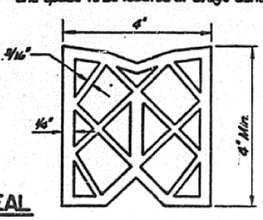


TYPICAL SECTION

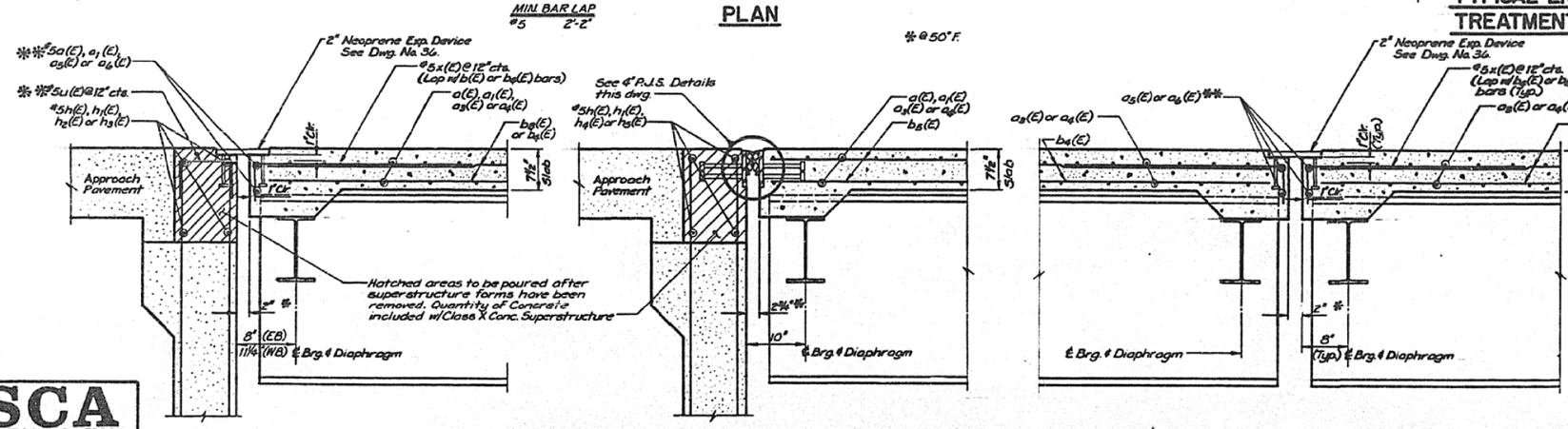
① Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel. Centerline of one space to be located at Stage Const. Line.



TYPICAL END OF SEAL TREATMENT



4" P.J.S. DETAILS

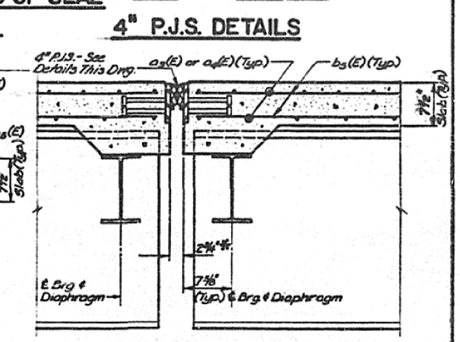


SECTION A-A

Place h and/or a bars in back of Anchor Bolt if req'd to maintain 1" Clr. (+0, -1/8"). Anchor Bolts should be tied to a & h bars.

SECTION B-B

SECTION C-C



SECTION D-D

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-89
DRAWN BY:	WEM	1-90
CHECKED BY:	RDP	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE (WB)
FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	21
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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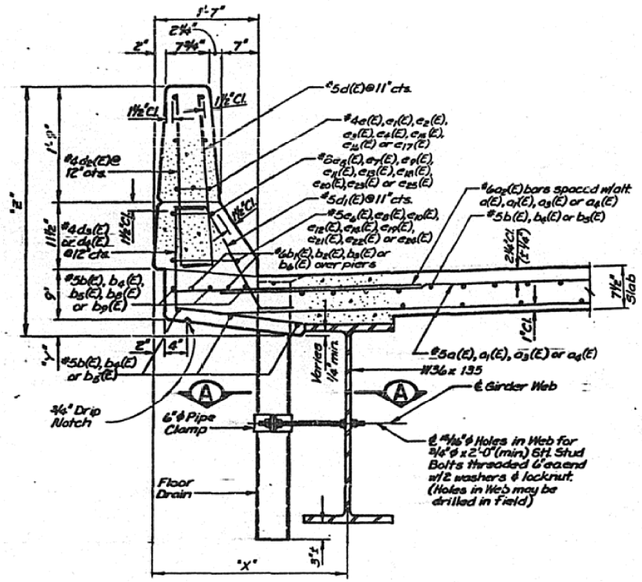
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	(92-11VB)	Vermilion	165	101
STA		TO STA		
FED ROAD DIST NO.	ILLINOIS	PROJECT		

Dwg. No. 12 of 41



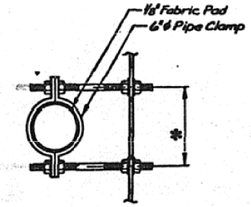
SECTION THRU PARAPET

X DIMENSIONS

LOCATION	X
EB Lanes, N Side	3'-6½"
EB Lanes, S Side	3'-0"
WB Lanes, N Side	3'-5"
WB Lanes, S Side	3'-5"

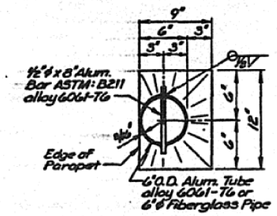
Y & Z DIMENSIONS

LOCATION	Y	Z
EB Lanes N&S Sides	3"	3'-8⅝"
WB Lanes, Span 1, N&S Sides	3⅛"	3'-8⅝"
WB Lanes, Span 2, N Side	4¾"	3'-10⅛"
WB Lanes, Span 2, S Side	1¾"	3'-7⅛"
WB Lanes, Spans 3,4,5, N&S	2⅛"	3'-7⅝"



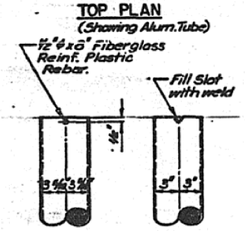
*Dimension as required by Pipe Clamp.

SECTION A-A



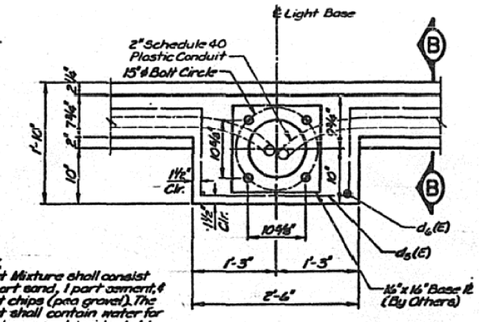
TOP PLAN

(Showing Alum. Tube)



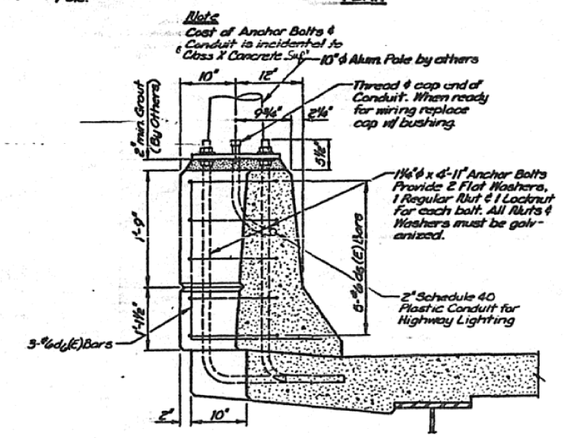
FIBERGLASS PIPE — ALUMINUM TUBE

FLOOR DRAIN DETAILS



Note: Grout Mixture shall consist of 1 part sand, 1 part cement, & 1 part chips (pea gravel). The grout shall contain water for a 1" slump, cost incidental to Pole.

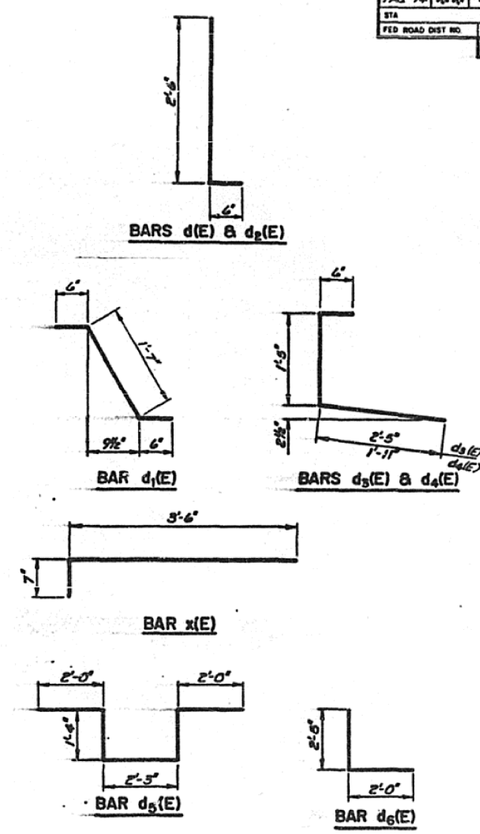
PLAN



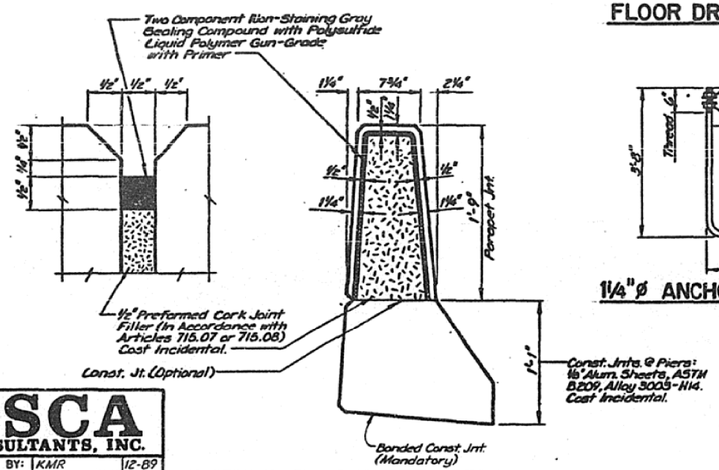
Note: Cost of Anchor Bolts & Conduit is incidental to Class X Concrete Sup.

SECTION B-B

DETAIL OF LIGHT STANDARD

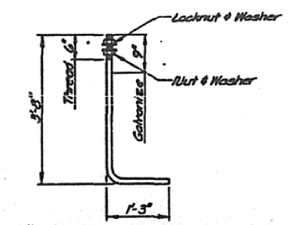


BAR BENDING DETAILS

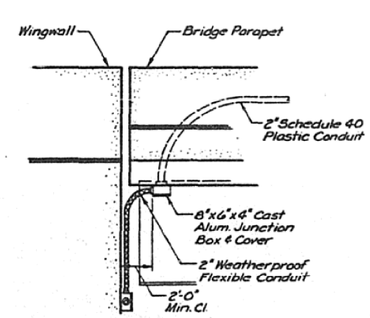


DETAILS OF PARAPET JOINT

(See Dwg. Nos. 13 & 14 for locations of these joints.)

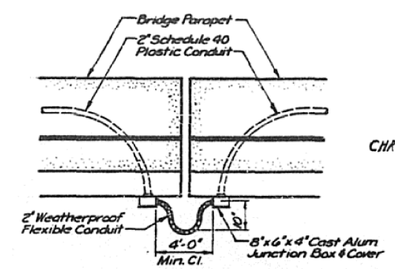


1¼"ø ANCHOR BOLT



AT ABUTMENTS

S. Corner, W. Abut. EB Lanes Shown; S. Corner E. Abut. EB Lanes, N. Corner W. Abut. WB Lanes & N. Corner E. Abut. WB Lanes Similar.



AT NORTH PARAPET, WB LANES PIER 1 & PIER 2

Note: Cost of Plastic & Flexible Conduit, Junction Boxes, & Anchor Bolts is incidental to Class X Concrete Superstructure.

FLEXIBLE CONDUIT DETAILS

NOTES

1. FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.
2. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
3. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH A FINAL COAT OF THE LEAD & CHROMATE-FREE ALKYD PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREWASH AS PER MIL-P-15328.
4. THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
5. SEE DWGS. 9 & 11 FOR LOCATION OF LIGHT STANDARDS.

ESCA CONSULTANTS, INC.

DESIGNED BY:	KMR	12-89
DRAWN BY:	WEM	1-90
CHECKED BY:	RDP	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE DETAILS

FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

MODEL: $MODELNAMES
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USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

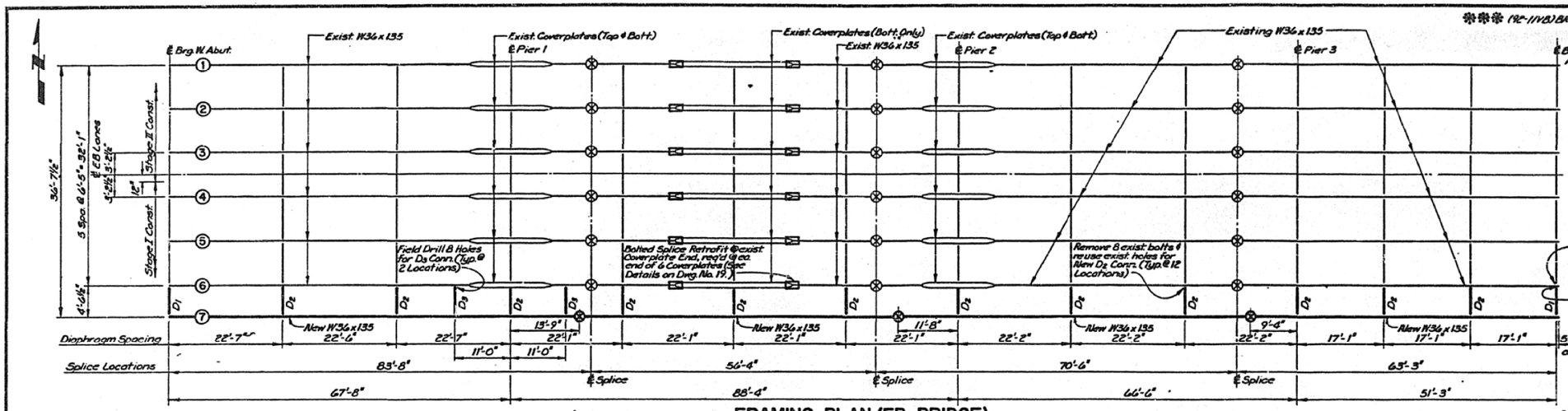
FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	22
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74		Vermilion	165	106
STA.		TO STA.		
FED ROAD DIST NO.	ILLINOIS	PROJECT		

Dwg No. 17 of 41

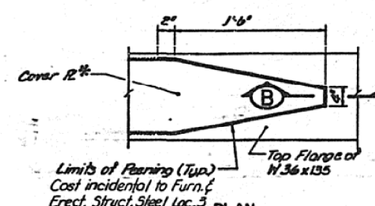


FRAMING PLAN (EB BRIDGE)

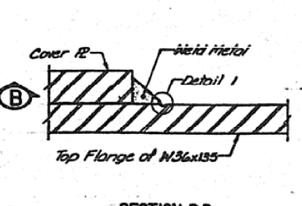
TABLE OF ELEVATIONS (T/O STEEL BEAMS)

BEAM	W. ABUT	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	PIER 3	E. ABUT.
1	669.43	668.79	–	–	667.93	–	667.18	666.62
2	669.53	668.89	–	–	668.03	–	667.28	666.72
3	669.60	668.96	–	–	668.11	–	667.35	666.79
4	669.60	668.96	–	–	668.11	–	667.35	666.79
5	669.53	668.89	–	–	668.03	–	667.28	666.72
6	669.43	668.79	–	–	667.93	–	667.18	666.62
7	669.33	668.71	668.58	667.96	667.83	667.18	667.08	666.52

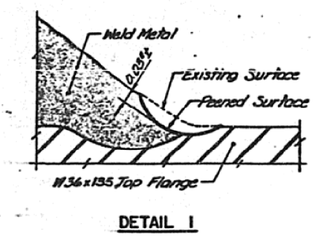
NOTE: ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 20.



PLAN



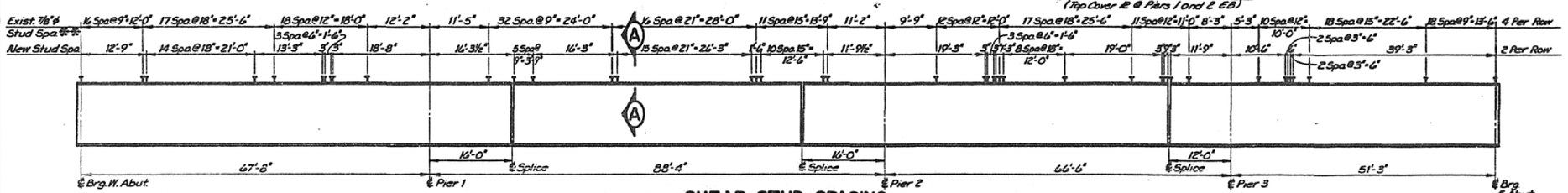
SECTION B-B



DETAIL 1

PEENING DETAILS

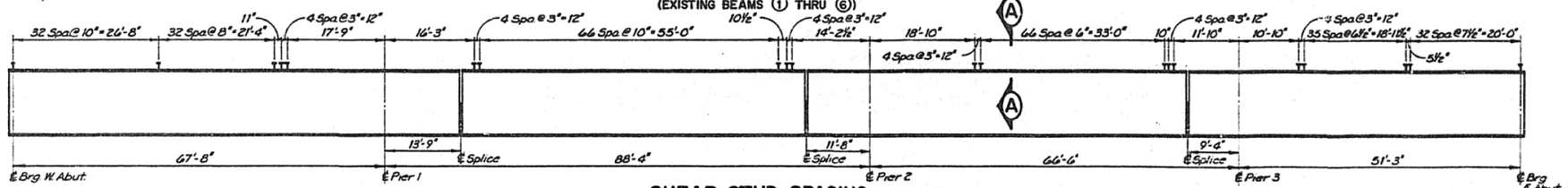
(Top Cover ⅝" @ Pairs 1 and 2 EB)



SHEAR STUD SPACING

(EXISTING BEAMS ① THRU ⑥)

Exist. Studs are to be preserved & incorporated into new work. See Note 6.

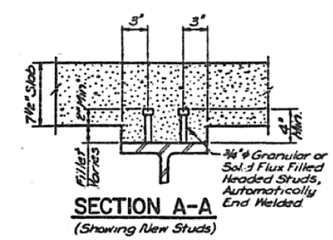


SHEAR STUD SPACING

(NEW BEAM ⑦)

NOTES

1. D1, D2, D3 INDICATES NEW DIAPHRAGMS. D1 IS W12x40, D2 & D3 ARE W16x36. SEE NOTES REGARDING CONNECTIONS ON FRAMING PLAN THIS DWG. AND DETAILS ON DWG. NO. 19.
2. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE UNCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS. SEE DWG. 20.
3. PROVIDE SHEAR STUDS ON EXISTING AND NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
4. WELDS AT ENDS OF ALL EXISTING TOP COVER PLATES AT PIERS 1 & 2 ARE TO BE PEENED. PEENING IS TO BE PERFORMED UNDER FULL DEAD LOAD CONDITIONS, PRIOR TO REMOVAL OF EXISTING CONCRETE DECK. SEE DETAILS THIS DWG. & SPECIAL PROVISIONS.
5. ENDS OF EXISTING BOTTOM COVERPLATES IN SPAN 2 (NEAR MID-SPAN) ARE TO BE RETROFITTED WITH BOLTED SPLICE PLATES. THIS WORK IS TO BE PERFORMED FOR EACH STAGE AFTER EXISTING DECK IS REMOVED AND PRIOR TO FORMING FOR NEW DECK.
6. EXISTING SHEAR STUDS ON BEAMS 1 THRU 6 ARE TO BE PRESERVED AND INCORPORATED INTO NEW WORK.
7. SEE DWG. NO. 19 FOR COVERPLATE RETROFIT DETAILS.
8. THE NEW W36x135 AND ITS SPLICE PLATE MATERIAL SHALL MEET HOTCH TOUGHNESS REQUIREMENTS.



SECTION A-A

(Showing New Studs)

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE STEEL DETAILS (EB)

FAI 74 OVER I. STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	23
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

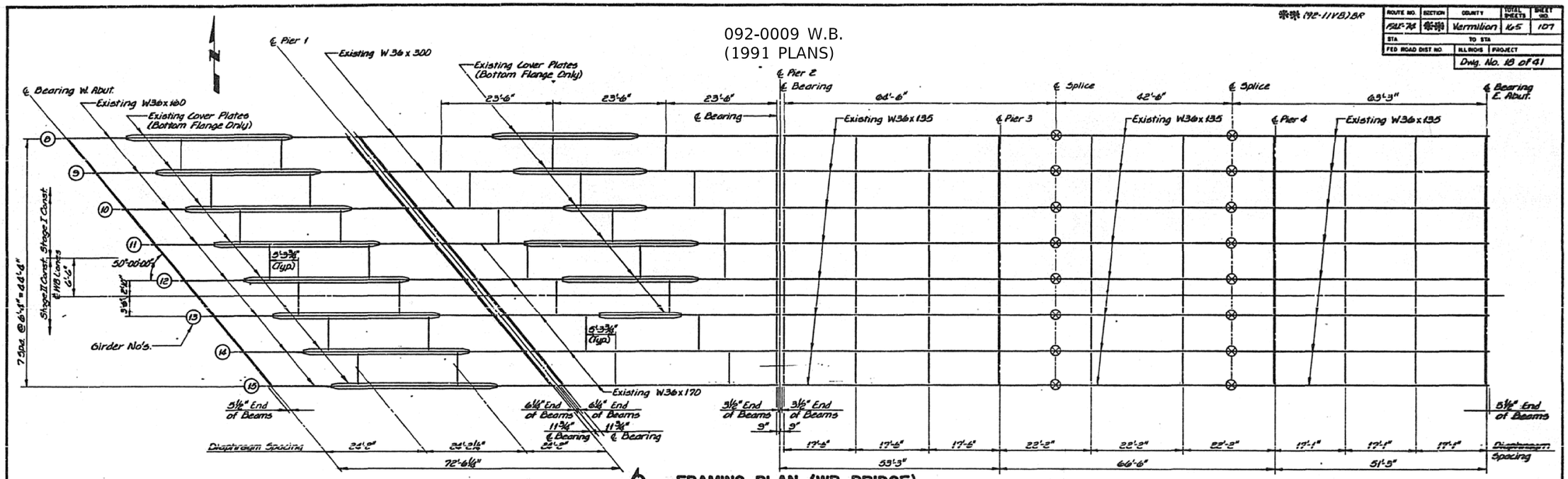
MODEL: $MODELNAME
FILE NAME: pw:\\uhnroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-lht-17details.dgn

092-0009 W.B.
(1991 PLANS)

(92-11VB)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74		Vermilion	165	107
STA		TO STA		
FED ROAD DIST NO.		ILLINOIS	PROJECT	

Dwg. No. 18 of 41

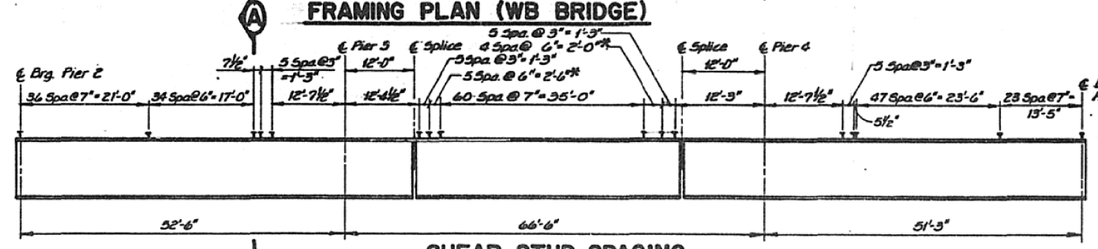


FRAMING PLAN (WB BRIDGE)

TABLE OF ELEVATIONS (T/O STEEL BEAMS)

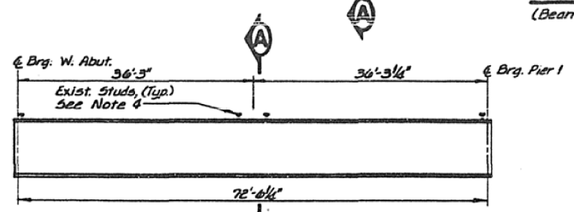
BEAM	W. ABUT.	PIER 1, BRG. 1	PIER 1, BRG. 2	PIER 2, BRG. 1	PIER 2, BRG. 2	PIER 3	SPAN 4 SPLICE	SPAN 4 SPLICE	PIER 4	E. ABUT.
8	669.64	669.09	669.08	668.27	668.26	667.67	—	—	666.93	666.36
9	669.71	669.16	669.14	668.38	668.36	667.78	—	—	667.03	666.47
10	669.80	669.24	669.23	668.51	668.50	667.91	—	—	667.16	666.60
11	669.89	669.32	669.31	668.63	668.62	668.04	—	—	667.29	666.72
12	669.92	669.35	669.33	668.70	668.69	668.10	—	—	667.36	666.79
13	669.87	669.30	669.28	668.70	668.68	668.10	—	—	667.35	666.79
14	669.76	669.18	669.16	668.62	668.61	668.03	—	—	667.28	666.71
15	669.62	669.03	669.01	668.52	668.51	667.92	—	—	667.18	666.61

NOTE: ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 20.

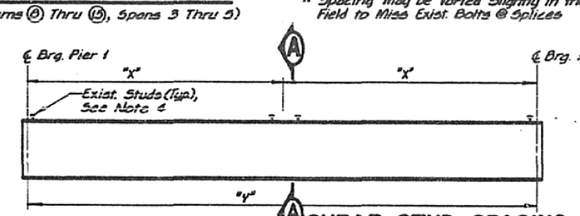


SHEAR STUD SPACING
(Beams ⑧ Thru ⑫, Spans 3 Thru 5)

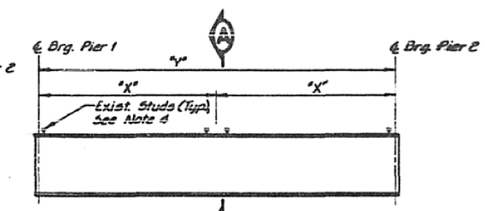
* Spacing May be Varied Slightly in the Field to Miss Exist. Bolts @ Splices



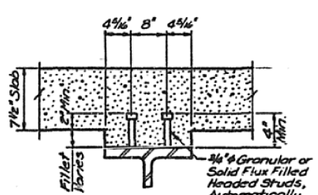
SHEAR STUD SPACING
(Beams ⑧ Thru ⑫, Span 1)



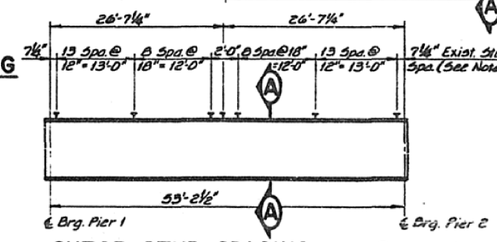
SHEAR STUD SPACING
(Beams ⑧, ⑨, & ⑩, Span 2)



SHEAR STUD SPACING
(Beams ⑪ Thru ⑭, Span 2)



SECTION A-A
(Showing New Studs)



SHEAR STUD SPACING (Beam ⑬, Span 2)

"X" & "Y" DIMENSIONS

BEAM	"X"	"Y"
⑧	45'-2 7/16"	90'-4 7/8"
⑨	42'-6 9/16"	85'-1 1/8"
⑩	39'-10 21/32"	79'-9 5/16"
⑪	37'-2 25/32"	74'-5 9/16"
⑫	34'-6 7/8"	69'-1 3/4"
⑬	31'-11"	63'-10"
⑭	29'-3 1/8"	58'-6 1/4"

NOTES

1. SEE DWG. NO. 17 FOR SECTION A-A.
2. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE DISCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS. SEE DWG. 20.
3. PROVIDE SHEAR STUDS ON EXISTING BEAMS AS SHOWN ON DETAILS THIS DWG.
4. EXISTING SHEAR STUDS ON BEAMS ⑧ THRU ⑫ IN SPANS 1 & 2 ARE TO BE PRESERVED AND INCORPORATED INTO NEW WORK.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	1-90
DRAWN BY:	GGB	1-90
CHECKED BY:	JRF	1-90
APPROVED BY:	RDP	1-90

SUPERSTRUCTURE STEEL DETAILS (WB)
FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	24
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI-74	(92-11VB)BR	Vermilion	105	100
STA		TO STA		
FED ROAD DIST NO	ILLINOIS	PROJECT		

Dwg. No. 19 of 61

MOMENT TABLES (EB BRIDGE)

		EXISTING BEAMS (W/COVER PLATES)							NEW BEAM (NO COVER PLATE)						
		0.4 Span 1	Pier 1	0.5 Span 2	Pier 2	0.55 Span 3	Pier 3	0.6 Span 4	0.4 Span 1	Pier 1	0.5 Span 2	Pier 2	0.55 Span 3	Pier 3	0.6 Span 4
I_g	in^4	7,800	12,741	9,075	11,889	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800
I_c (+)	in^4	15,114	-	17,895	-	15,114	-	15,114	13,983	-	13,983	-	13,983	-	13,983
I_c (−)	in^4	20,689	-	25,021	-	20,689	-	20,689	19,411	-	19,411	-	19,411	-	19,411
S_g or Z	in^3	439	688	552	646	439	439	435	439	429 / 609	439	439	439	439	439
S_c (+)	in^3	584	-	728	-	584	-	584	568	-	568	-	568	-	568
S_c (−)	in^3	649	-	806	-	649	-	649	636	-	636	-	636	-	636
(+) N.C.	k/ft	0.83	1.15	0.85	1.14	0.83	1.10	0.83	0.67	0.94	0.67	0.94	0.67	0.94	0.67
M (+) N.C.	ft-k	229.2	748.5	297.6	614.0	109.3	319.6	166.0	199.9	593.0	260.8	504.4	93.7	278.5	133.7
(+) C	k/ft	0.27	-	0.27	-	0.27	-	0.27	0.27	-	0.27	-	0.27	-	0.27
M (+) C	ft-k	85.2	-	117.2	-	49.9	-	57.9	89.3	-	124.7	-	50.4	-	56.8
M (−)	ft-k	465.6	339.5	566.9	318.0	411.1	196.6	337.5	331.8	219.0	401.8	210.3	288.9	142.4	237.2
M_{Imp}	ft-k	120.9	83.6	132.9	78.6	107.3	53.5	95.7	86.1	53.9	94.2	51.9	75.4	38.7	67.3
5/3 (M (−)+Imp)	ft-k	977.5	705.2	1166.3	661.0	864.0	416.8	722.0	696.5	454.8	826.7	437.0	607.2	301.9	507.5
M_u	ft-k	1679.5	1889.8	2057.4	1657.5	1331.2	957.3	1229.7	1281.4	1362.1	1575.9	1223.8	976.7	754.5	907.4
f_g (+) N.C.	ksi	6.27	13.06	6.47	11.41	2.99	8.74	4.54	5.46	16.21	7.13	13.78	2.56	7.61	3.65
f_g (+) C.	ksi	1.75	-	1.93	-	1.03	-	1.19	1.89	-	2.63	-	1.07	-	1.20
f_g 5/3(M (−)+Imp)	ksi	18.07	12.30	17.36	12.28	15.98	11.39	13.35	13.14	12.43	15.60	11.95	11.46	8.25	9.58
f_g (Total)	ksi	-	32.96	-	30.80	-	26.17	-	-	-	-	33.45	-	20.62	-
V_R	k	48.2	-	42.7	-	39.7	-	40.7	34.1	-	30.3	-	28.0	-	28.8
M_u	ft-k	2,759	-	3,252	-	2,759	-	2,759	2,693	1,527	2,693	-	2,693	-	2,693
f_g (overload)	ksi	31.87	29.30	31.32	27.62	25.11	23.77	23.35	24.69	32.62	30.35	29.55	18.76	18.50	17.50

REACTION TABLES (EB BRIDGE)

		EXISTING BEAMS (W/COVER PLATES)					NEW BEAM (NO COVER PLATES)				
		W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.	W. Abut.	Pier 1	Pier 2	Pier 3	E. Abut.
R (+)	k	26.7	100.6	90.0	67.5	22.4	23.7	84.4	76.5	58.4	19.1
R (−)	k	35.4	49.1	47.9	40.7	26.8	25.1	34.3	33.5	28.8	19.1
R_{Imp}	k	9.2	12.1	11.8	11.1	7.6	6.5	8.4	8.3	7.8	5.4
R (Total)	k	71.3	161.8	149.7	119.3	56.8	55.3	127.1	118.3	95.0	43.4

MOMENT TABLES (WB BRIDGE)

		Beams 8 thru 15	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14	Beam 15	Beams 8 thru 15				
		0.5 Span 1	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.5 Span 2	0.4 Span 3	Pier 3	0.5 Span 4	Pier 4	0.6 Span 5
I_g	in^4	11,762	22,524	22,095	22,095	12,029	11,847	11,847	10,500	10,500	7,800	7,800	7,800	7,800	7,800
I_c (+)	in^4	21,762	33,412	32,436	32,426	21,361	20,999	20,999	18,394	18,394	15,006	-	15,006	-	15,006
I_c (−)	in^4	30,786	46,271	44,732	44,732	30,058	29,478	29,478	25,401	25,401	20,577	-	20,577	-	20,577
S_g	in^3	722	1,277	1,243	1,243	711	694	694	580	580	439	439	439	439	439
S_c (+)	in^3	921	1,499	1,454	1,454	898	877	877	738	738	583	-	583	-	583
S_c (−)	in^3	1,020	1,668	1,618	1,618	998	976	976	822	822	648	-	648	-	648
(+) NC	k/ft	0.86	0.99	0.93	0.93	0.80	0.79	0.79	0.78	0.84	0.80	1.06	0.80	1.06	0.80
M (+) NC	ft-k	562.8	1015.9	840.8	736.5	553.8	475.0	402.9	332.3	296.9	151.4	375.3	159.1	365.6	141.8
(+) C	k/ft	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	-	0.26	-	0.26
M (+) C	ft-k	172.3	267.7	237.2	208.5	181.6	156.6	133.5	111.1	91.8	54.7	-	65.8	-	51.4
M (−)	ft-k	590.7	776.1	721.1	665.9	610.8	555.6	500.6	449.1	394.5	342.7	192.7	403.2	190.3	318.9
M_{Imp}	ft-k	149.5	180.1	171.6	162.6	153.1	143.1	132.5	122.4	110.7	96.5	52.2	105.3	51.7	90.5
5/3 (M (−)+Imp)	ft-k	1233.7	1593.7	1487.8	1360.8	1273.2	1164.5	1055.2	952.5	842.0	732.0	408.2	847.5	403.3	682.4
M_u	ft-k	2559.4	2740.4	3325.6	3023.6	2611.1	2334.9	2069.0	1814.7	1599.9	1219.5	1018.6	1394.1	999.6	1138.3
f_g (+) NC	ksi	9.35	9.55	8.12	7.11	5.35	8.21	6.97	6.88	6.14	4.14	10.20	4.35	10.00	3.88
f_g (+) C	ksi	2.24	2.14	1.96	1.72	2.43	2.14	1.83	1.81	1.49	1.13	-	1.35	-	1.06
f_g 5/3 (M+Imp)	ksi	14.51	11.47	11.03	10.24	15.31	14.32	12.97	13.91	12.29	13.56	11.16	15.69	11.02	12.64
f_g (Total)	ksi	-	-	-	-	-	-	-	-	-	-	27.85	-	27.33	-
V_R	k	45.3	45.8	45.7	45.6	45.4	45.1	44.8	44.4	43.8	40.4	-	41.0	-	45.7
M_u	ft-k	4,003	6,264	6,113	6,113	3,972	3,906	3,906	3,423	3,423	2,754	-	2,754	-	2,754
f_g (overload)	ksi	30.74	26.82	24.64	22.35	31.99	29.25	25.92	27.05	23.85	23.17	24.99	26.41	24.55	21.62

REACTION TABLES (WB BRIDGE)

		Span 1		Span 2, Pier 1								Span 2, Pier 2								Spans 3, 4, & 5			
		W. Abut.	Pier 1	8	9	10	11	12	13	14	15	8	9	10	11	12	13	14	15	Pier 2	Pier 3	Pier 4	E. Abut.
R (+)	k	40.3	40.3	56.5	50.4	47.2	39.4	36.4	33.5	30.6	29.5	56.5	50.4	47.2	39.4	36.4	33.5	30.6	29.5	21.1	71.4	70.4	20.5
R (−)	k	30.8	36.1	33.0	32.4	31.7	31.1	30.3	29.3	28.2	26.9	37.2	36.9	36.7	36.3	35.9	35.4	34.9	34.2	26.5	40.0	39.8	33.0
R_{Imp}	k	7.8	9.2	7.6	7.7	7.8	7.8	7.8	7.8	7.7	7.6	8.6	8.8	8.9	9.1	9.2	9.4	9.5	9.6	7.4	10.8	10.8	9.4
R (Total)	k	78.9	85.6	97.1	90.5	86.7	78.3	74.5	70.6	66.5	64.0	102.3	96.1	52.8	84.8	81.5	78.3	75.0	73.3	55.0	122.2	121.0	62.9

I_g AND S_g ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_g (TOTAL).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_g (TOTAL).

VR IS THE MAXIMUM (−) + IMPACT SHEAR RANGE IN SPAN.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1 & 10.48.1.

M_g (APPLIED MOMENT) = 1.3 [M (−) + M_g (+) + 5/3 (M (−) + I)].

f_g (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M (−) + M_g (+) + 5/3 (M (−) + I)].

M (−) N.C. = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_g (+) C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

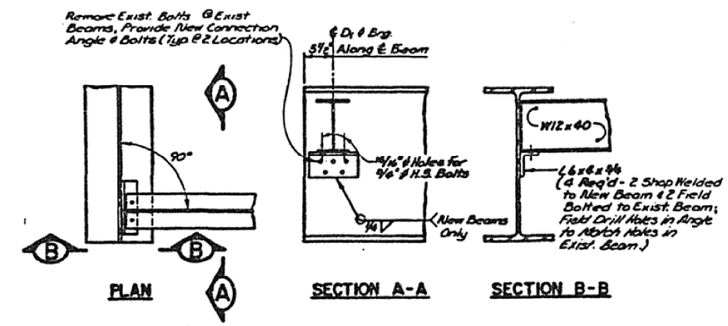
M (−) = MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

M IMP = MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.

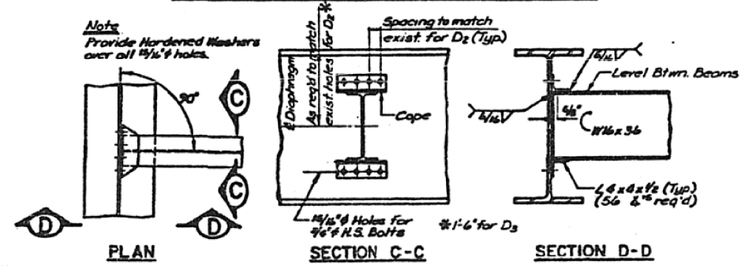
Z Is The Plastic Section Modulus Used to Compute The Fully Plastic Moment Capacity in The Noncomposite Areas.

EB & WB BILL OF MATERIAL

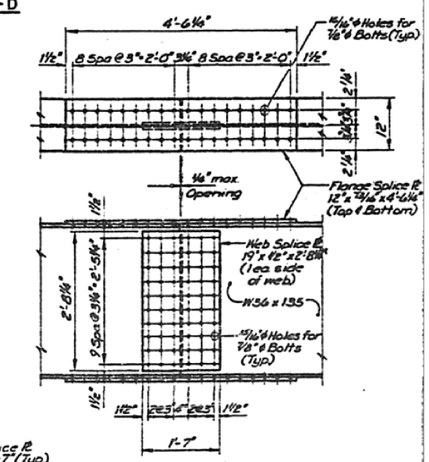
ITEM	UNIT	QUANTITY
Furnish & Erect Structural Stl	L. Sum	1
Stud Shear Connectors	Each	5298
Weld Peening	Each	24



DIAPHRAGM D1 CONNECTION DETAILS

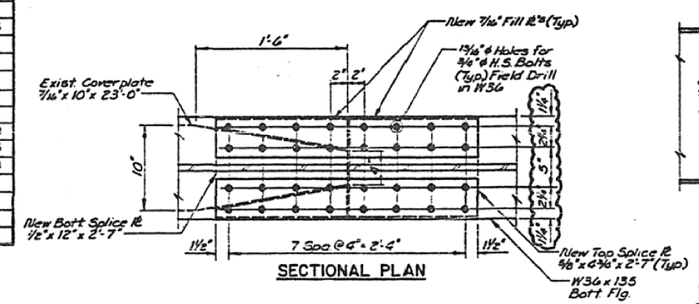


DIAPHRAGMS D2 & D3 CONNECTION DETAILS

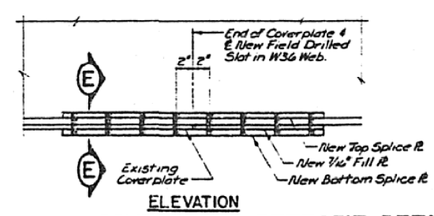


FIELD SPLICE DETAIL

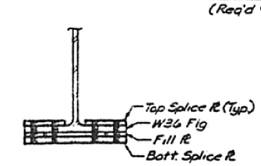
(Req'd @ 3 Locations)



SECTIONAL PLAN



ELEVATION



SECTION E-E

COVERPLATE RETROFIT DETAILS

(Req'd @ 12 Locations in Span 2 EB - See Framing Plan)

Rev. 1/22/92 RDP

SUPERSTRUCTURE STEEL DETAILS

FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

ESCA CONSULTANTS, INC.

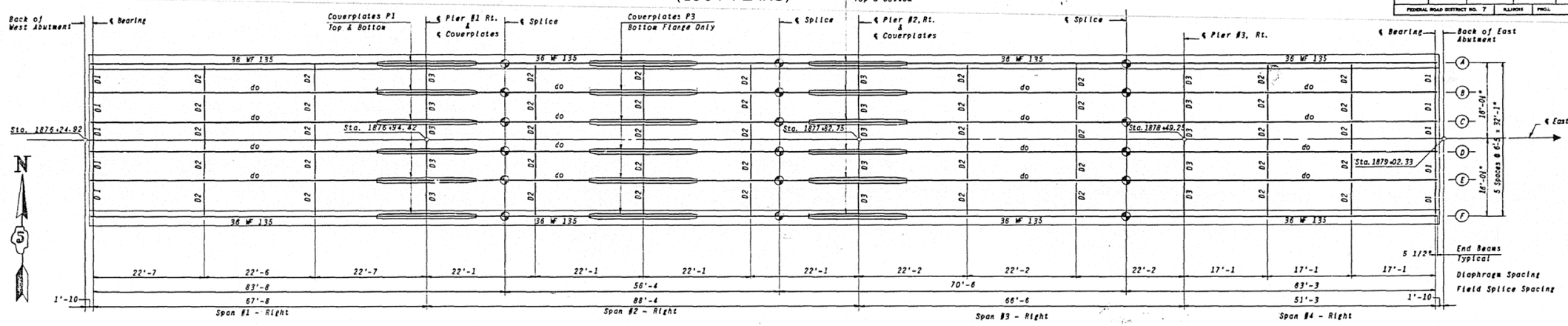
DESIGNED BY:	RDP	1-90
DRAWN BY:	WEM	1-90
CHECKED BY:	JRF	2-90
APPROVED BY:	RDP	2-90

NOTES

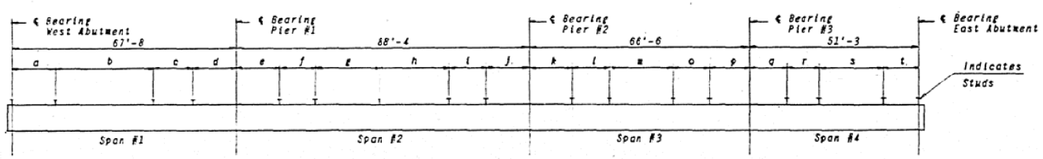
1. SPLICE PLATES FOR FIELD SPLICES OF NEW BEAMS AND COVERPLATE RETROFITTING ARE SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

092-0008 E.B.
(1964 PLANS)

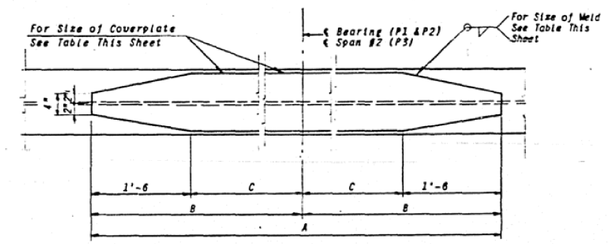
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11 VB	VERMILION	67	30
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	



FRAMING PLAN RIGHT BRIDGE



SHEAR CONNECTOR SPACING



COVER PLATE DETAIL

TABLE OF SHEAR CONNECTOR SPACINGS

PART	SHEAR CONNECTOR 4"-7/8" STUDS	PART	SHEAR CONNECTOR 4"-7/8" STUDS
a	16 Spa. @ 0'-9=12'-6	l	12 Spa. @ 1'-0=12'-0
b	17 Spa. @ 1'-6=25'-6	m	17 Spa. @ 1'-6=25'-6
	-		-
c	18 Spa. @ 1'-0=18'-0	o	11 Spa. @ 1'-0=11'-0 **
d	11'-8	p	*** 8'-3
e	*** 11'-5	q	5'-3
f	** 12 Spa. @ 0'-9=9'-0	r	10 Spa. @ 1'-0=10'-0
g	20 Spa. @ 0'-9=15'-0	s	18 Spa. @ 1'-3=22'-6
h	16 Spa. @ 1'-9=28'-0		-
i	11 Spa. @ 1'-3=13'-9 **	t	18 Spa. @ 0'-9=13'-6
j	*** 11'-2		-
k	9'-9		-

NOTES:

** Space 3 studs only at top of flange splice plates to avoid interference with flange bolts at field splices.

*** Subject to adjustments due to ** .

For shear connector details see Sheets "Framing Plan No. 1 & No. 2 Left Bridge" & "Structural Steel Framing Plan".

TABLE OF ELEVATIONS -- TOP OF STEEL BEAMS*

BRIDGE	GIRDER	WEST ABUTMENT	PIER NO. 1	SPAN NO. 2 SPLICE	SPAN NO. 2 SPLICE	PIER NO. 2	SPAN NO. 3 SPLICE	PIER NO. 3	EAST ABUTMENT
RIGHT BRIDGE	A	669.3009	668.7236	668.5861	668.0117	667.8542	667.2468	667.1130	666.4911
	B	669.4079	668.8307	668.6732	668.1187	667.9612	667.3538	667.2201	666.5982
	C	669.4794	668.9022	668.7447	668.1902	668.0327	667.4253	667.2916	666.6696
	D	669.4794	668.9022	668.7447	668.1902	668.0327	667.4253	667.2916	666.6696
	E	669.4079	668.8307	668.6732	668.1187	667.9612	667.3538	667.2201	666.5982
	F	669.3009	668.7236	668.5861	668.0117	667.8542	667.2468	667.1130	666.4911

NOTE: For fabrication use only, does not include deflections.

* Top of beam flanges without splice plates or coverplates elevations are at ℄ of bearings, except as noted.

COVERPLATE DIMENSIONS

MK	THICKNESS	WIDTH	A	B	C	WELD SIZE	NO. REQ'D
P1	3/4"	10"	16'-6	8'-3	6'-9	1/4"	12
P2	5/8"	10"	14'-6	7'-3	5'-9	1/4"	12
P3	7/16"	10"	23'-0	11'-6	10'-0	3/16"	6

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CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER GENERAL REFRACTORIES CO.
R.R. & "L" ST. SECTION 92-11VB
VERMILION COUNTY STA. 1877+01.73
FRAMING PLAN
SPANS NO.1 – NO.4 RIGHT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

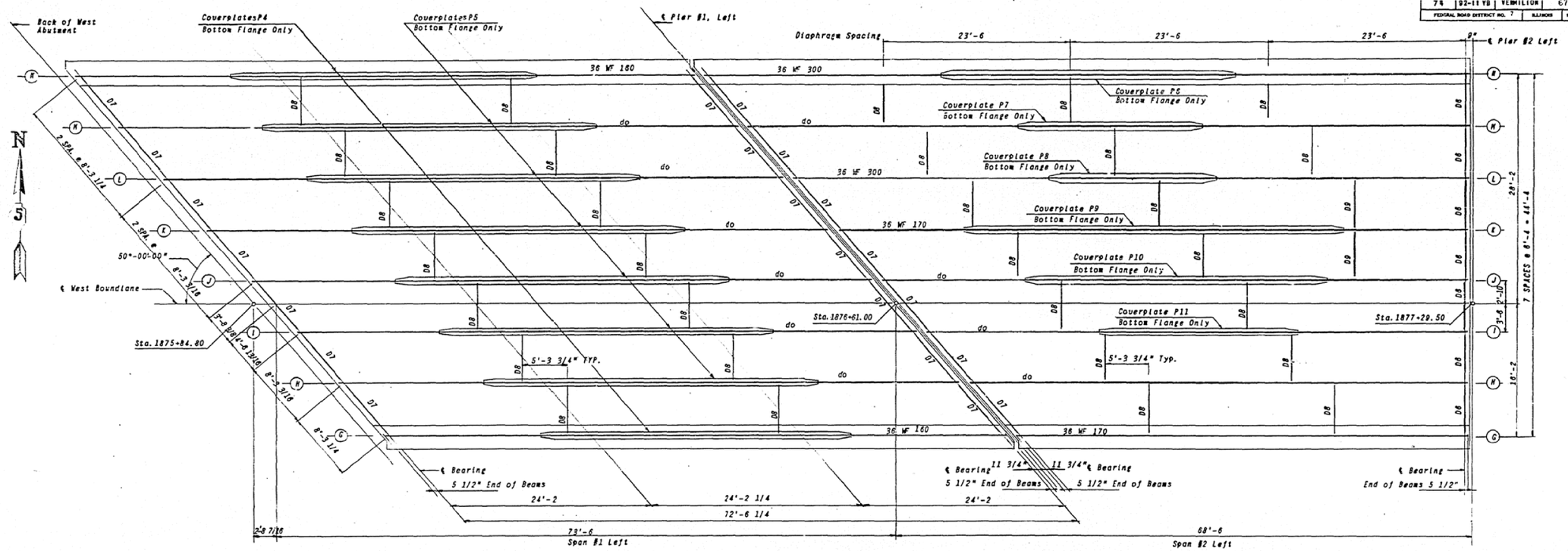
FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

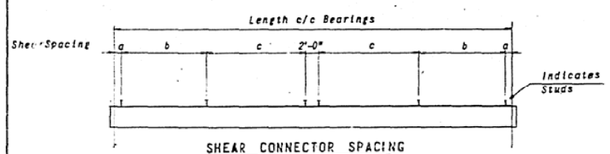
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	26
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

092-0009 W.B.
(1964 PLANS)

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11 VB	VERMILION	67	28
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

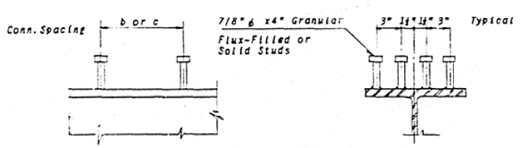


FRAMING PLAN LEFT BRIDGE
SPAN #1 & #2



SHEAR CONNECTOR SPACING

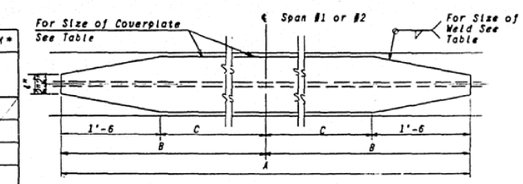
SHEAR CONNECTORS ARE INCLUDED IN QUANTITY OF STRUCTURAL STEEL
EST. WT. = 7,537 LBS.



SHEAR CONNECTOR

SPAN	GIRDER	SPAN LENGTH	SPACING a	SHEAR CONNECTOR 4"-7/8" ϕ STUDS SPACING b	SPACING c	ELEVATIONS TOP OF STEEL BEAM* WEST ABUTMENT	PIER NO. 1	PIER NO. 1	PIER NO. 2
SPAN NO. 1	G	72'-6 1/4	0'-3 1/8	20 @ 1'-0	10 @ 1'-6	669.556	668.965		
	H	do	0'-3 1/8	20 @ 1'-0	10 @ 1'-6	669.700	669.115		
	I	do	do	do	do	669.812	669.234		
	J	do	do	do	do	669.855	669.283		
	K	do	do	do	do	669.827	669.252		
	L	do	do	do	do	669.740	669.181		
	M	do	do	do	do	669.646	669.093		
	N	72'-6 1/4	0'-3 1/8	20 @ 1'-0	10 @ 1'-6	669.575	669.029		
SPAN NO. 2	G	53'-2 7/16	0'-7 1/4	13 @ 1'-0	8 @ 1'-6			668.952	668.464
	H	58'-6 1/4	0'-3 1/8	16 @ 1'-0	8 @ 1'-6			669.102	668.567
	I	63'-10	0'-5	20 @ 1'-0	7 @ 1'-6			669.222	668.641
	J	69'-1 3/4	0'-6 7/8	16 @ 1'-0	10 @ 1'-6			669.271	668.644
	K	74'-5 9/16	0'-2 3/4	21 @ 1'-0	10 @ 1'-6			669.250	668.578
	L	79'-9 5/16	0'-4 5/8	22 @ 1'-0	11 @ 1'-6			669.169	668.453
	M	85'-1 1/8	0'-6 9/16	23 @ 1'-0	12 @ 1'-6			669.082	668.321
	N	90'-4 7/8	0'-2 7/16	17 @ 1'-0	18 @ 1'-6			669.018	668.214

NOTE: Elevations top of steel for fabrication use only, does not include deflections.
* Elevations are at ℄ of bearings.



COVER PLATE DETAIL

COVERPLATE DIMENSIONS							
MK	THICKNESS	WIDTH	A	B	C	WELD SIZE	NO. REQ'D.
P4	5/8"	11"	40'-0	20'-0	18'-6	1/4"	2
P5	5/8"	11"	40'-0	20'-0	18'-6	1/4"	6
P6	5/8"	11"	35'-0	17'-6	16'-0	1/4"	1
P7	1/2"	11"	32'-0	11'-0	9'-6	1/4"	1
P8	1/2"	11"	20'-0	10'-0	8'-6	1/4"	1
P9	1/2"	10"	42'-6	21'-3	20'-9	1/4"	1
P10	7/16"	10"	33'-0	16'-6	15'-0	1/4"	1
P11	7/16"	10"	20'-0	10'-0	8'-6	1/4"	1

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ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER GENERAL REFRACTORIES CO.
R.R. & "L" ST. SECTION 92-11VB
VERMILION COUNTY STA. 1877+01.73
FRAMING PLAN
SPANS NO.1 & NO.2 LEFT BRIDGE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

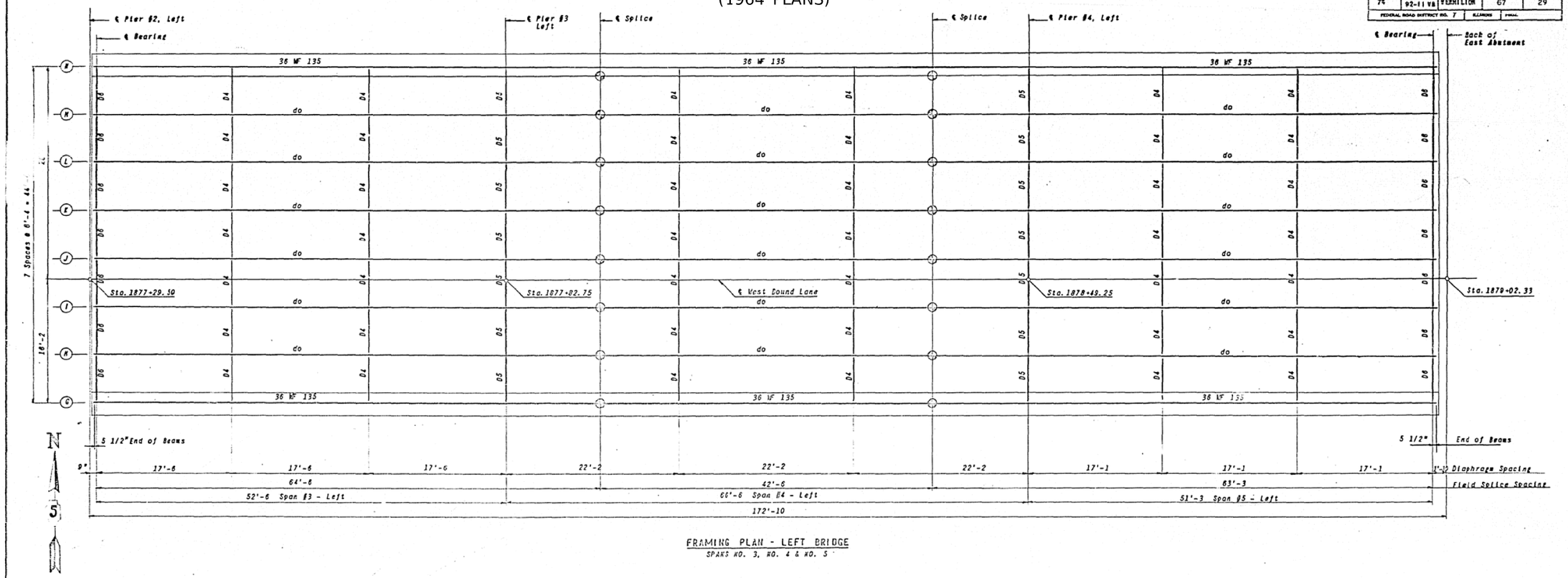
FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	27
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

092-0009 W.B.
(1964 PLANS)

F.A.I. RTE. NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
74	92-11 VB	VERMILION	67	29
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	FINAL	



FRAMING PLAN - LEFT BRIDGE
SPANS NO. 3, NO. 4 & NO. 5

TABLE OF ELEVATIONS - TOP OF STEEL BEAMS[1]

BRIDGE	GIRDER	PIER NO. 2	PIER NO. 3	SPAN NO. 4 SPLICE	SPAN NO. 4 SPLICE	PIER NO. 4	EAST ABUTMENT
LEFT BRIDGE	G	668.3815	667.8490	667.7152	667.2416	667.1078	666.4859
	H	668.4951	667.9525	667.8188	667.3451	667.2114	666.5894
	I	668.5584	668.0258	667.8921	667.4184	667.2847	666.6627
	J	668.5621	668.0295	667.8957	667.4221	667.2883	666.6664
	K	668.4951	667.9625	667.8298	667.3561	667.2224	666.6004
	L	668.3711	667.8385	667.7048	667 2311	667.0974	666.4755
	M	668.2392	667.7066	667.5728	667.0992	666.9654	666.3435
	N	668.1315	667.5990	667.4652	666.9916	666.8578	666.2359

NOTES: For fabrication use only, does not include deflections.

1. Top of beam flanges without splice plates elevations are at ℄ of bearings, except as noted.

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ILLINOIS DIVISION OF HIGHWAYS
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R.R. & "L" ST. SECTION 92-11VB
VERMILION COUNTY STA. 1877+01.73
FRAMING PLAN
SPANS NO.3 — NO.5 LEFT BRIDGE

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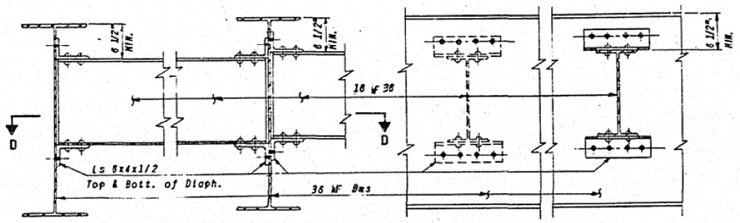
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

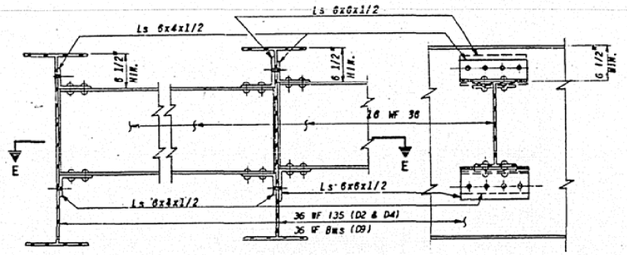
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	28
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-11 VB	VERMILION	67	31
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

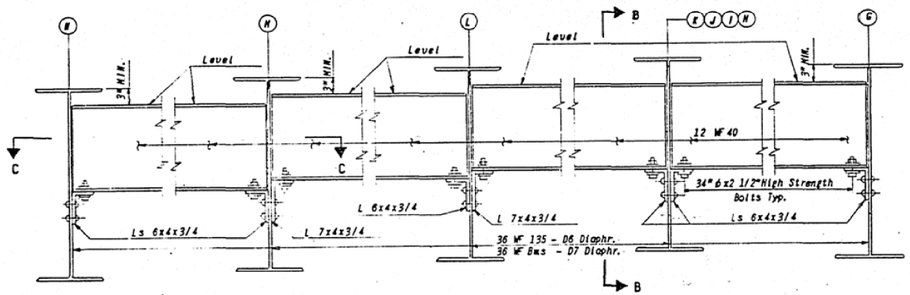


INTERMEDIATE DIAPHRAGMS SPAN #1 & #2. LEFT BRIDGE
30 - D8 DIAPHR.

092-0009 W.B.



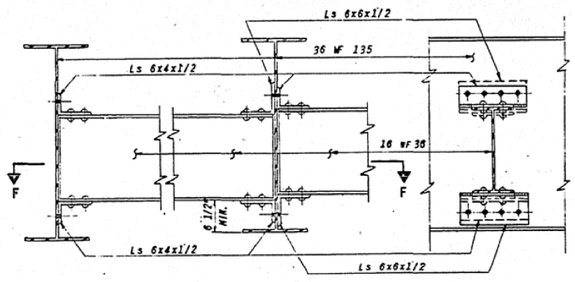
DIAPHRAGMS FOR POSITIVE MOMENT AREAS
45 - D2 DIAPHR.
42 - D4 DIAPHR.
2 - D9 DIAPHR.



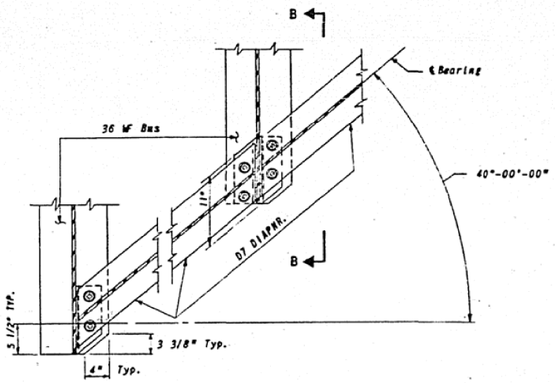
END DIAPHRAGMS

LEFT BRIDGE

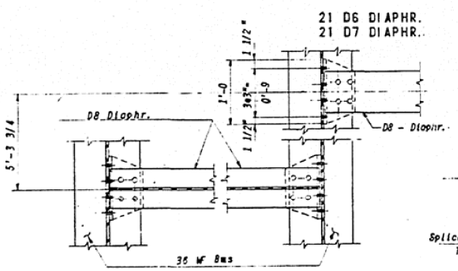
092-0009 W.B.



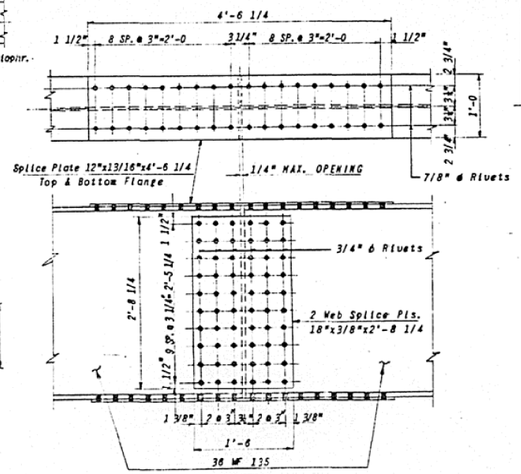
DIAPHRAGMS FOR NEGATIVE MOMENT AREAS
15 - D3 DIAPHR.
14 - D5 DIAPHR.



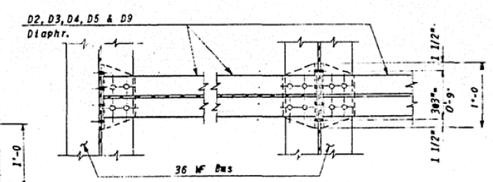
SECTION C-C
D7-DIAPHR.



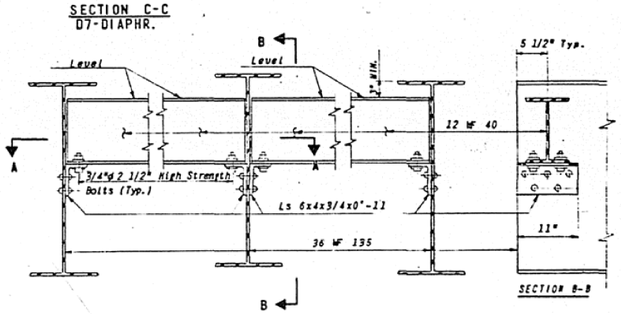
SECTION D-D



FIELD SPLICE DETAIL
34 REQUIRED
See Note This Sheet



SECTIONS E-E & F-F



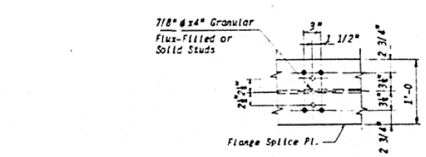
END DIAPHRAGMS

10 - D1 DIAPHR.

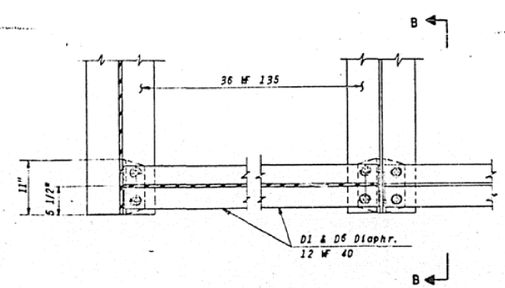
RIGHT BRIDGE

092-0008 E.B.

TOTAL COMPUTED WEIGHT OF
FRAMING STRUCTURAL STEEL 744,440 LBS.



SHEAR CONNECTOR ARRANGEMENT AT SPLICE PLATES



SECTION A-A
D1 & D6 DIAPHR.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER GENERAL REFRACTORIES CO.
R.R. & "L" ST. SECTION 92-11VB
VERMILION COUNTY STA. 1877+01.73

STRUCTURAL STEEL FRAMING DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LS	EG		LDB	HSM	Oct.62	

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	29
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

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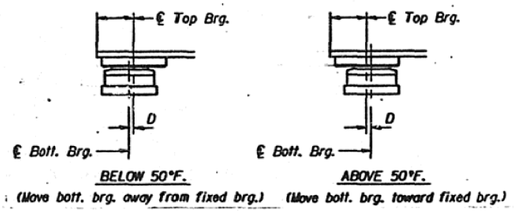
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74		Vermilion	62	109
STA		TO STA.		
FED ROAD DIST NO.		ILLINOIS	PROJECT	

Dwg. No. 20 of 81

(92-11VB) BR

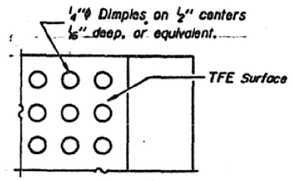
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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

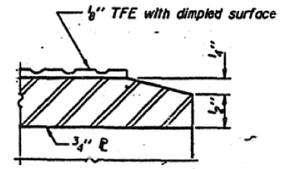


SETTING ANCHOR BOLTS AT TYPES II & III EXP. BRG.'S

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



PLAN-TFE SURFACE



SECTION THRU TFE

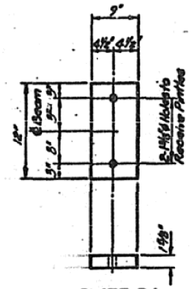
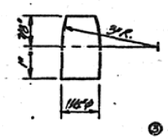
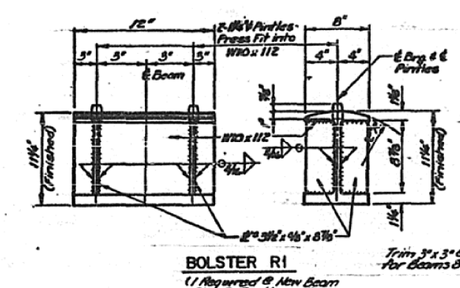


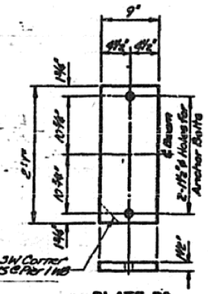
PLATE P1
(1 Req'd)
(Top Plate @ New Beam - Pier 2 EB)



PINTLE
(2 Req'd.)

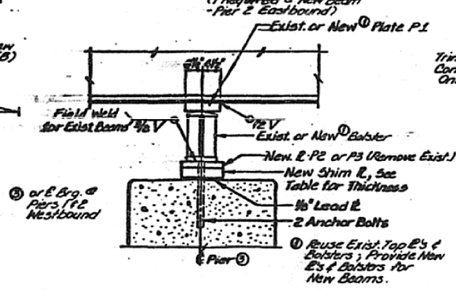


BOLSTER R1
(1 Required @ New Beam - Pier 2 Eastbound)



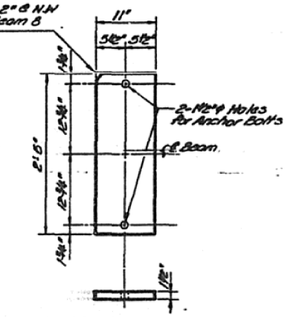
Trim 3"x3"@ 3W Corner for Beams 8-15 @ Per 1 WB

PLATE P2
(28 Req'd.)



ELEVATION AT FIXED BEARING

Trim 2"x2"@ N.W. Corner Beam 8 Only.



Note: Use P3 @ Beams 8 thru 10 @ Per 2 WB; Use P2 @ all other Locations.

PLATE P3
(3 req'd)

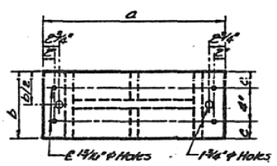
NOTES

1. PORTIONS OF EXISTING FIXED BEARINGS TO BE REUSED IN NEW CONSTRUCTION.
2. SEE DWG. NO. 39 FOR ANCHOR BOLT DETAILS.
3. ANCHOR BOLTS AT FIXED BEARINGS MAY BE BUILT INTO THE MASONRY.
4. THE NEW STEEL PEDESTALS, FILL PLATES & SIDE RETAINERS FOR EXP. BRGS. AS WELL AS THE NEW PLATES P2 & SHIM PLATES UNDER EXISTING FIXED BEARINGS AND NEW PLATES P1 & P2 AND BOLSTERS R1 FOR NEW FIXED BEARINGS ARE INCLUDED IN "FURNISHING & ERECTING STRUCTURAL STEEL."
5. SEE DWG. NO. 21 FOR DETAILS OF ELASTOMERIC EXPANSION BEARINGS.

* FIELD VERIFY; SEE NOTE 5 UNDER "PROCEDURE" THIS DWG.

SHIM PLATE * THICKNESS TABLE

BEAM NO.	PIER 1	PIER 2	PIER 3
1	-	13/16"	-
2	-	13/16"	-
3	-	13/16"	-
4	-	13/16"	-
5	-	13/16"	-
6	-	13/16"	-
7	-	5/16"	-
8	1 11/16"	11/16"	13/16"
9	1 1/2"	11/16"	13/16"
10	1 1/2"	11/16"	13/16"
11	1 1/4"	7/8"	13/16"
12	1 1/2"	7/8"	13/16"
13	15/16"	7/8"	13/16"
14	15/16"	7/8"	13/16"
15	15/16"	7/8"	13/16"



PLAN - TOP PLATE

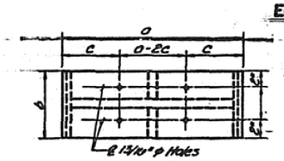
FILL PLATE * THICKNESS TABLE

* FIELD VERIFY; SEE NOTE 5 UNDER "PROCEDURE" THIS DWG.

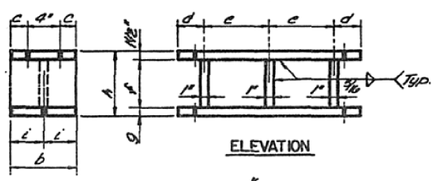
BEAM	W. ABUT.	PIER 1	PIER 3	E. ABUT.
1	3/8"	5/16"	1 5/16"	3/16"
2	3/8"	5/16"	1 5/16"	3/16"
3	3/8"	5/16"	1 5/16"	3/16"
4	3/8"	5/16"	1 5/16"	3/16"
5	3/8"	5/16"	1 5/16"	3/16"
6	3/8"	5/16"	1 5/16"	3/16"
7	3/8"	3/16"	1/8"	1 5/16"

BEAM	W. ABUT.	PIER 1 SPAN 2	PIER 2 SPAN 3	PIER 4	E. ABUT.
8	3/16"	11/15"	2 1/8"	1 3/8"	3/16"
9	3/16"	1/2"	2 1/8"	1 3/8"	3/16"
10	3/16"	1/2"	2 1/8"	1 3/8"	3/16"
11	3/16"	13/16"	5/16"	1 3/8"	3/16"
12	3/16"	1 1/16"	5/16"	1 3/8"	3/16"
13	3/16"	1/2"	5/16"	1 3/8"	3/16"
14	3/16"	1/2"	5/16"	1 3/8"	3/16"
15	3/16"	1/2"	5/16"	1 3/8"	3/16"

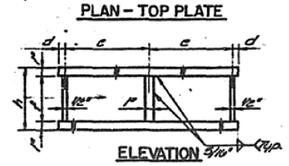
NOTE: FILL PLATE THICKNESSES SHOWN MAY BE THE SUM OF TWO FILL PLATES.



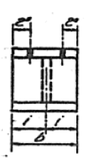
PLAN - TOP PLATE

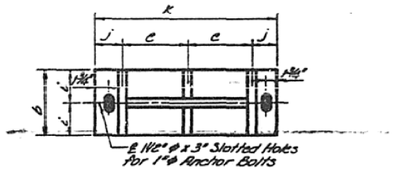


ELEVATION

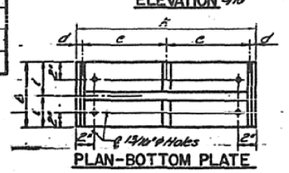


ELEVATION





PLAN - BOTTOM PLATE



PLAN-BOTTOM PLATE

STEEL PEDESTALS AT TYPE I EXPANSION BEARINGS

(FOR USE AT EXP. BRGS. - SEE DWG. NO. 21)

STEEL PEDESTALS AT TYPES II & III EXPANSION BEARINGS

(FOR USE AT EXP. BRGS. - SEE DWG. NO. 21)

STEEL PEDESTAL DIMENSIONS

LOCATION	# REQ'D	a	b	c	d	e	f	g	h	i	j	k
E. ABUT. EB	7	1'-10 1/2"	8"	2"	5"	6 1/4"	5 5/8"	1 3/8"	8 1/2"	4"	4"	1'-8 1/2"
E. ABUT. WB	8	1'-10 1/2"	8"	2"	5"	6 1/4"	5 5/8"	1 3/8"	8 1/2"	4"	4"	1'-8 1/2"
PIER 2 WB	8	1'-2"	8"	3"	5/8"	6 3/8"	9 1/16"	-	11 1/16"	4"	-	1'-2"
W. ABUT. EB	7	1'-10 1/2"	8"	2"	5"	6 1/4"	5 7/8"	1 3/8"	8 3/4"	4"	4"	1'-8 1/2"
W. ABUT. WB	8	1'-2"	10"	3"	5/8"	6 3/8"	8 3/8"	-	10 3/8"	5"	-	1'-2"
PIER 3 EB	7	1'-4"	11"	4"	5/8"	7 3/8"	6 11/16"	-	8 11/16"	5 1/2"	-	1'-4"
PIER 4 WB	8	1'-4"	11"	4"	5/8"	7 3/8"	6 11/16"	-	8 11/16"	5 1/2"	-	1'-4"
PIER 1 WB	① 5	1'-6"	11"	5"	5/8"	8 3/8"	6 1/16"	-	8 1/16"	5 1/2"	-	1'-6"
PIER 1 WB	② 3	1'-6"	11"	2 11/16"	5/8"	8 3/8"	6 1/16"	-	8 1/16"	5 1/2"	-	1'-6"
PIER 1 EB	7	1'-8"	1'-1"	6"	5/8"	9 3/8"	6 11/16"	-	8 11/16"	6 1/2"	-	1'-8"

① Beams 11 Thru 15

② Beams 8 Thru 10

FIXED BEARINGS

PROCEDURE

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR RAISING EXISTING BEAMS, PROVIDING NEW EXPANSION BEARINGS AND SHIMMING EXISTING FIXED BEARINGS PRIOR TO COMMENCING ANY RELATED WORK. THIS WORK SHALL BE DONE FOR EACH STAGE AFTER EXISTING CONCRETE DECK IS REMOVED AND PRIOR TO POURING OF NEW CONCRETE DECK. THE MAXIMUM DEAD LOAD REACTION PER BEAM (WEIGHT OF STEEL ONLY) AT ABUTMENTS IS 7 kips AND AT PIERS IS 16 kips.
2. DIAPHRAGMS ALONG THE STAGE CONSTRUCTION LINE SHALL BE DISCONNECTED BEFORE RAISING OPERATIONS COMMENCE. ALL NUTS ON BEARING ANCHOR BOLTS ON BEAMS TO BE RAISED SHALL BE REMOVED AND replaced. (CUT OFF ANCHOR BOLTS FLUSH WITH BRG. SEAT AT ALL BEARINGS EXCEPT THE EB ABUTMENTS AND THE E. ABUT. WB. ANCHOR BOLTS AT THESE LOCATIONS ARE TO BE PRESERVED AND REUSED. SEE NOTE 6.)
3. RAISING SHALL BE DONE BY JACKING. MEASURES SHALL BE TAKEN TO PREVENT LATERAL OR LONGITUDINAL DISPLACEMENT OF BEAMS DURING RAISING OPERATIONS. ALL BEAMS FOR EACH STAGE AT A GIVEN SUB-STRUCTURE ELEMENT SHALL BE SLOWLY AND CONTINUALLY RAISED THE SAME AMOUNT SIMULTANEOUSLY, WITH THE MAXIMUM AMOUNT OF RAISE LIMITED TO 1" GREATER THAN THAT REQUIRED TO INSTALL NEW BEARINGS OR SHIM PLATES. ANY SWAY OF THE STEEL DURING RAISING OPERATIONS SHALL BE IMMEDIATELY CORRECTED.
4. DIAPHRAGMS MAY BE USED AS JACKING BEAMS. IF SO, JACKS SHALL BE PLACED AT THE MIDPOINT OF THE DIAPHRAGM, ON THE CENTERLINE OF BEARING. THE STEEL SHALL BE RAISED IN INCREMENTS OF 1/2" AND SHALL BE BLOCKED IN POSITION UPON COMPLETION OF A RAISING INTERVAL. TIMBER BLOCKING MAY BE USED TO HOLD THE STRUCTURE IN PLACE WHILE JACKS ARE REPOSITIONED FOR THE NEXT LIFT.
5. PRIOR TO RAISING, ELEVATIONS OF EXISTING BEARING SEATS SHALL BE TAKEN AND THE ENGINEER SHALL VERIFY FILL PLATE AND SHIM PLATE THICKNESSES REQUIRED AT EACH BEARING. THIS SHALL BE ACCOMPLISHED BY USING FIELD MEASUREMENTS ALONG WITH THE "TABLE OF ELEVATIONS - TOP OF STEEL BEAMS" ON DWG. NOS. 17 AND 18.
6. RAISE BEAMS, REMOVE EXISTING EXPANSION BEARINGS, INSTALL NEW SHIM PLATES AND PLATES P2 OR P3 UNDER EXISTING FIXED BEARINGS, AND INSTALL NEW ELASTOMERIC EXPANSION BEARINGS. INSTALL NEW ANCHOR BOLTS WHERE REQUIRED (SEE DWG. NO. 39), AND PLACE AND TIGHTEN NUTS ON NEW AND EXISTING ANCHOR BOLTS.
7. AFTER WORK ON THE BEARINGS IS COMPLETE, REPAINT ANY AREAS DISTURBED BY WELDINGS, ETC. WITH THE SAME PAINT SYSTEM SPECIFIED FOR THE STRUCTURAL STEEL.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	2/90
DRAWN BY:	CJG	2/90
CHECKED BY:	JRF	2/90
APPROVED BY:	RDP	2/90

BEARINGS
FAI 74 OVER L STREET
FAI RTE. 74 SECTION (92-11VB)BR
VERMILION COUNTY
STATION 1877+01.73
STRUCTURE NO. 092-0008(EB)
STRUCTURE NO. 092-0009(WB)

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USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

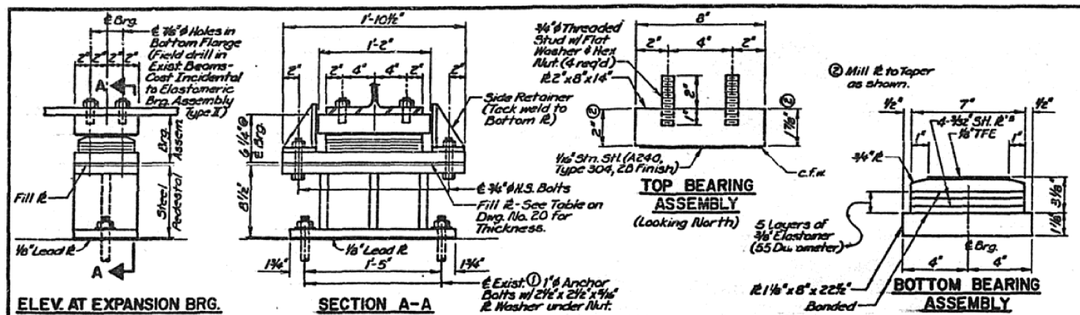
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	30
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	*	Vermilion	165	110
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

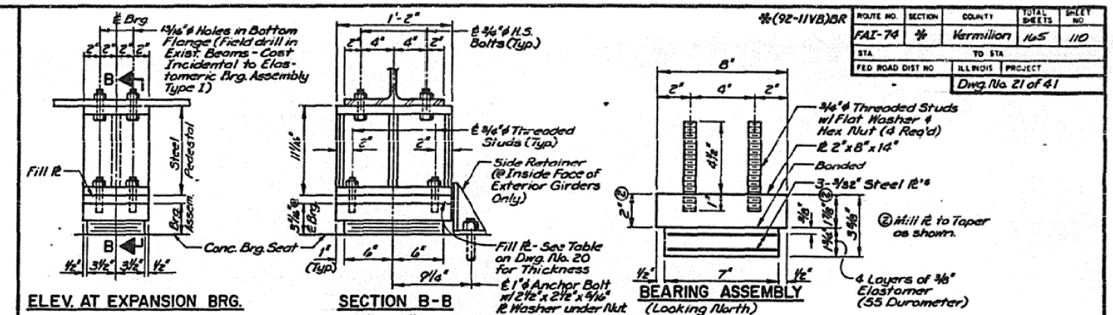
*(92-11VB)BR

Dwg. No. 21 of 41



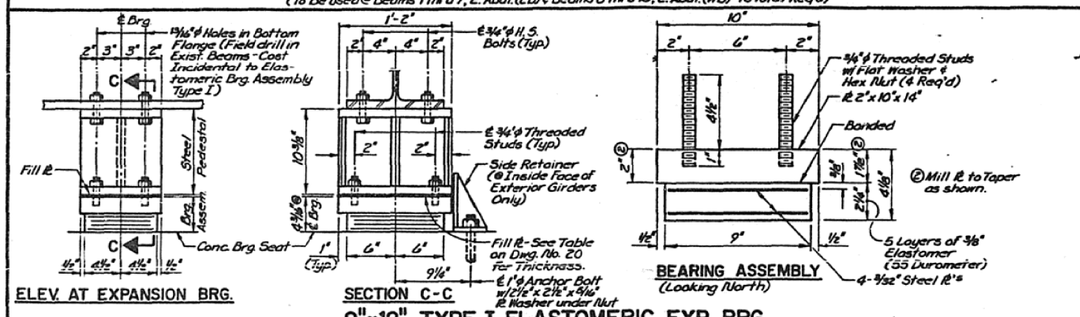
7"x12" TYPE II ELASTOMERIC EXP. BRG.

(To Be Used @ Beams 1 thru 7, E. Abut. (EB) & Beams 8 thru 15, E. Abut. (WB) - 15 Total Req'd)



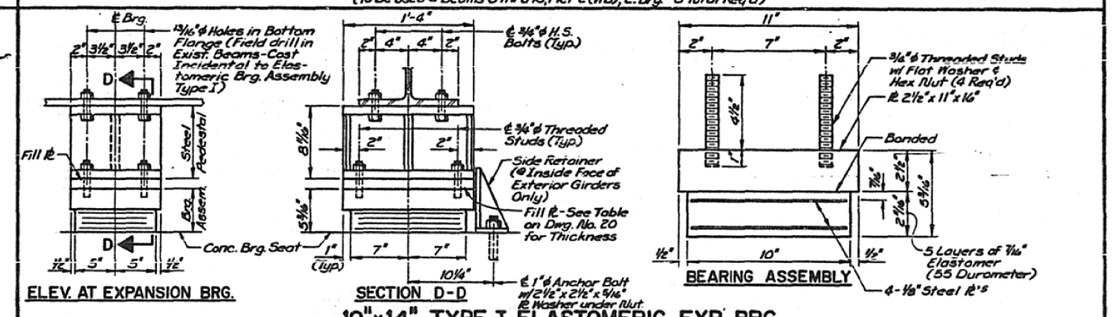
7"x12" TYPE I ELASTOMERIC EXP. BRG.

(To Be Used @ Beams 8 thru 15, Pier 2 (WB), E. Brg. - 8 Total Req'd)



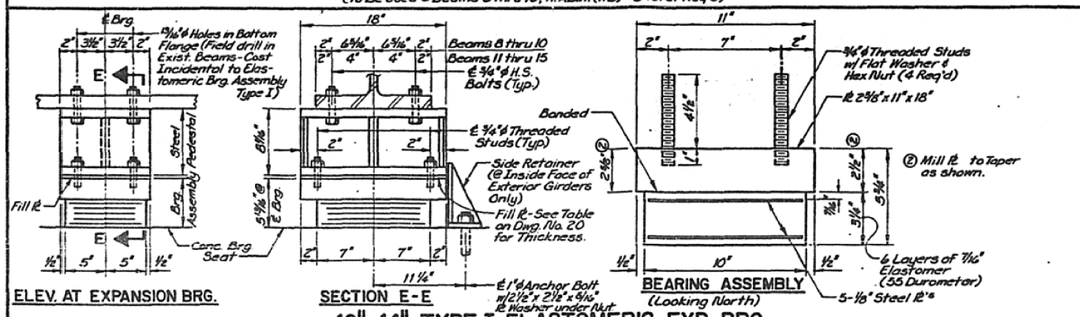
9"x12" TYPE I ELASTOMERIC EXP. BRG.

(To Be Used @ Beams 8 thru 15, W. Abut. (WB) - 8 Total Req'd)



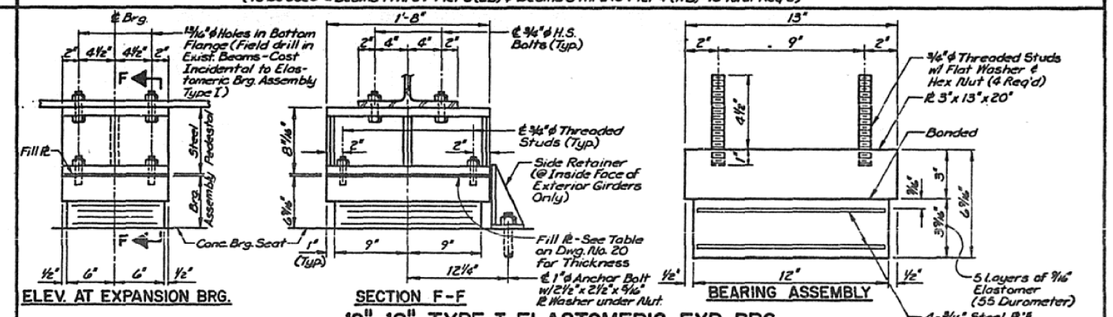
10"x14" TYPE I ELASTOMERIC EXP. BRG.

(To Be Used @ Beams 1 thru 7 Pier 3 (EB) & Beams 8 thru 15 Pier 4 (WB) - 15 Total Req'd)



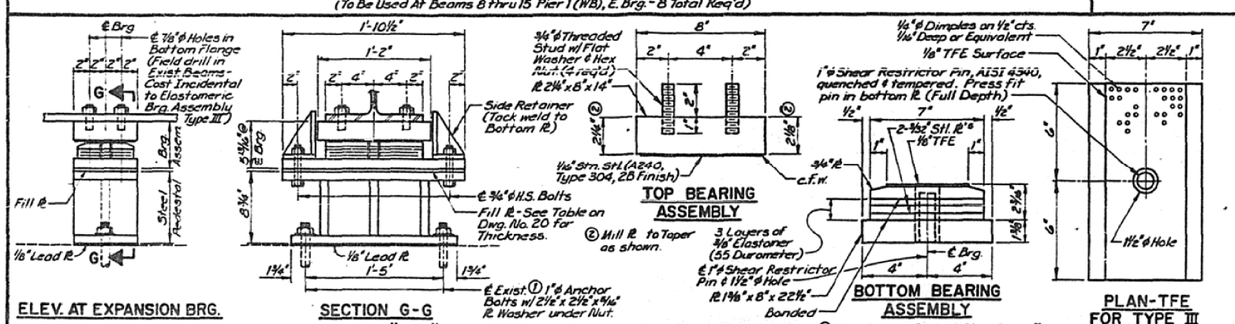
10"x14" TYPE I ELASTOMERIC EXP. BRG.

(To Be Used At Beams 8 thru 15 Pier 1 (WB), E. Brg. - 8 Total Req'd)



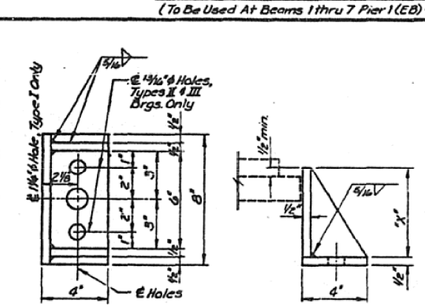
12"x18" TYPE I ELASTOMERIC EXP. BRG.

(To Be Used At Beams 1 thru 7 Pier 1 (EB) - 7 Total Req'd)



7"x12" TYPE III ELASTOMERIC EXP. BRG.

(To Be Used At Beams 1 thru 7 W. Abut. (EB) - 7 Total Req'd)



SIDE RETAINER

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

"X" DIMENSIONS

BEARING	"X"
7"x12"	5⅜"
9"x12"	6½"
10"x14"	7⅛"
12"x18"	7⅞"

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Elastomeric Brg. Assembly, Type I	Each	45
Elastomeric Brg. Assembly, Type II	Each	15
Elastomeric Brg. Assembly, Type III	Each	7

NOTES

1. SEE DWG. NO. 20 FOR DETAILS OF STEEL PEDESTALS, TABLE OF FILL PLATE THICKNESSES, AND OTHER MISCELLANEOUS DETAILS.
2. SEE DWG. NO. 39 FOR DETAILS OF NEW ANCHOR BOLTS.

ELASTOMERIC BEARINGS

FAI 74 OVER L STREET

FAI RTE. 74 SECTION (92-11VB)BR

VERMILION COUNTY

STATION 1877+01.73

STRUCTURE NO. 092-0008(EB)

STRUCTURE NO. 092-0009(WB)

USER NAME = dawsonkb	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #1 & #2

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	31
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

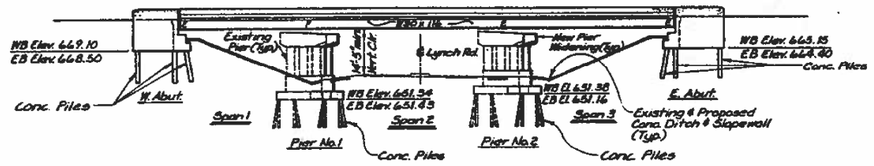
MODEL: $MODELNAME
FILE NAME: pw:\\uiarmroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	118	63
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	
			Dwg. No. 1 of 34	

* (92-12HB-6) BR

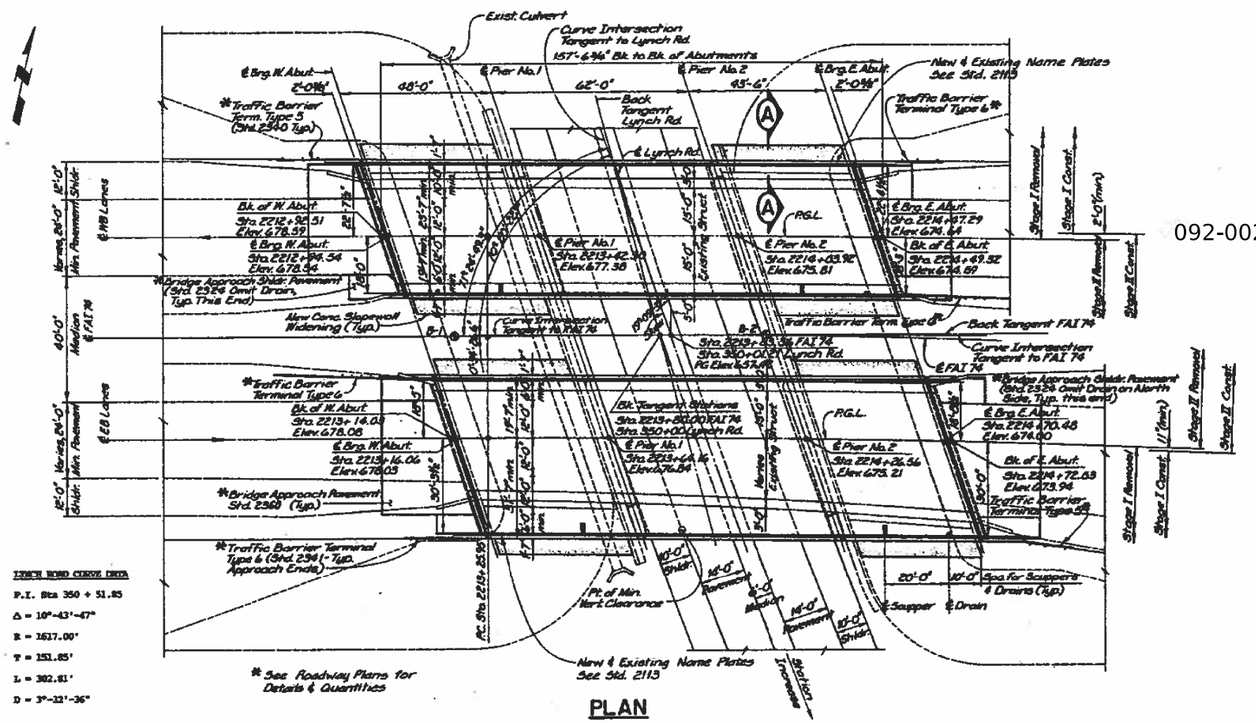
BENCHMARK: PERMANENT SURVEY MARKER, LYNCH ROAD STATION 349+00, ELEVATION 658.07

EXISTING STRUCTURE: STRUCTURES NUMBERED 092-0025 AND 092-0026 WERE BUILT IN 1962 AS FAI 74, SECTION 92-12HB-6. REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, INSTALLATION OF WATERPROOFING MEMBRANE SYSTEM, AND BITUMINOUS OVERLAY. EACH STRUCTURE CONSISTS OF A THREE SPAN CONTINUOUS NON-COMPOSITE STEEL BEAM AND REINFORCED CONCRETE DECK SUPERSTRUCTURE WITH PILE BENT ABUTMENTS AND PILE SUPPORTED MULTIPLE COLUMN PIERS. OVERALL LENGTH IS 157'-6-3/4" AND CLEAR ROADWAY WIDTH IS 30'-0" FOR STRUCTURE NO. 092-0025 AND VARIES FROM 31'-4-3/8" TO 37'-3" FOR STRUCTURE NO. 092-0026. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. HANDRAIL TO BE SALVAGED. BRIDGE CONTRACTOR TO STOCKPILE HANDRAIL ON STATE ROW FOR REMOVAL BY DISTRICT MAINTENANCE FORCES.



ELEVATION

(EB Shown, WB Similar)



PLAN

092-0025 W.B.

092-0026 E.B.

FAI 74 CURVE DATA	LYNCH ROAD CURVE DATA
PC Sta. 2213 + 25.95	P.I. Sta. 350 + 51.85
Δ = 16°-02'-45"	Δ = 10°-43'-47"
R = 5729.50	R = 1617.00'
T = 807.57	T = 151.85'
L = 1604.58	L = 302.81'
D = 1°-00'	D = 3°-12'-36"
SE = 0.01%	

TRANSITIONS: EB: ATTAIN .01 SE STA. 2212 + 14.03 TO STA. 2213 + 16.03
INCREASE FROM .01 TO .02 SE STA. 2214 + 72.53 TO 2215 + 72.53
WB: ATTAIN .01 SE STA. 2211 + 92.51 TO STA. 2213 + 92.51
INCREASE FROM .01 TO .02 SE STA. 2214 + 49.32 TO STA. 2215 + 49.32

STATION 2213+83.36
BUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-12HB-6)BR
LOADING HS20 & ALT.
STR. NO. 092-0025

WESTBOUND

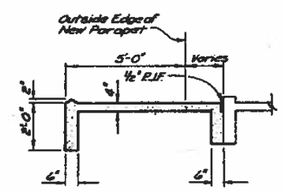
STATION 2213+83.36
BUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-12HB-6)BR
LOADING HS20 & ALT.
STR. NO. 092-0026

EASTBOUND

NEW NAME PLATES (1 EA. REQ'D)

(SEE STD. 2113)

Note:
Salvage Existing Name Plates and Mount Adjacent to New Name Plates on New Parapet as shown on Std. 2113. The cost of salvaging & incorporating exist. Name Plates into new work is incidental to Name Plates.



SECTION A-A

APPROVED
FOR STRUCTURAL ADEQUACY
Ralph E. Anderson
STRUCTURAL ENGINEER

LEGEND

F = Fixed Brg.
E = Exp. Brg.
PGL = Profile Grade Line
⊗ = Boring Location

DESIGN SPECIFICATIONS

AASHTO 1989 and applicable interims (1990) and Seismic Retrofitting Guidelines for Highway Bridges.

LOADING

HS20-44 & ALTERNATE MILITARY, WITH ALLOWANCE FOR 25 psf FUTURE WEARING SURFACE

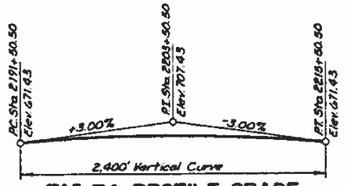
DESIGN STRESSES (NEW CONSTRUCTION)

f'c = 3,500 psi
fy = 60,000 psi (REINF. BARS)
fy = 36,000 psi (M-183 STRUCT. STL.) (COMPOSITE)

DESIGN STRESSES (EXIST. CONST.)

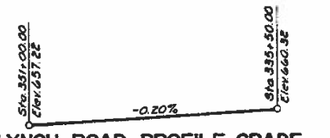
f'c = 3,500 psi
fy = 40,000 psi (REINF. BARS)
fs = 20,000 psi (REINF. BARS)
fs = 18,000 psi (STRUCT. STL. - NON-COMPOSITE)

STATE OF ILLINOIS
RICHARD R. PAYNE
No. 4647
REGISTERED STRUCTURAL ENGINEER



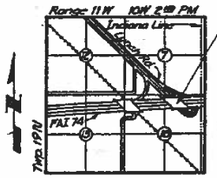
FAI 74 PROFILE GRADE

(Exist. T/O Conc. Along ℄ Pavement Shown; For Proposed Bridge Elevations, add 0.25')



LYNCH ROAD PROFILE GRADE

(Along Edge of Median)



LOCATION SKETCH

GENERAL PLAN & ELEVATION

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

ESCA CONSULTANTS, INC.			
DESIGNED BY:	RDP	9-89	
DRAWN BY:	WEM	9-89	
CHECKED BY:	JRF	9-89	
APPROVED BY:	RDP	10-89	

USER NAME = dawsonkb	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

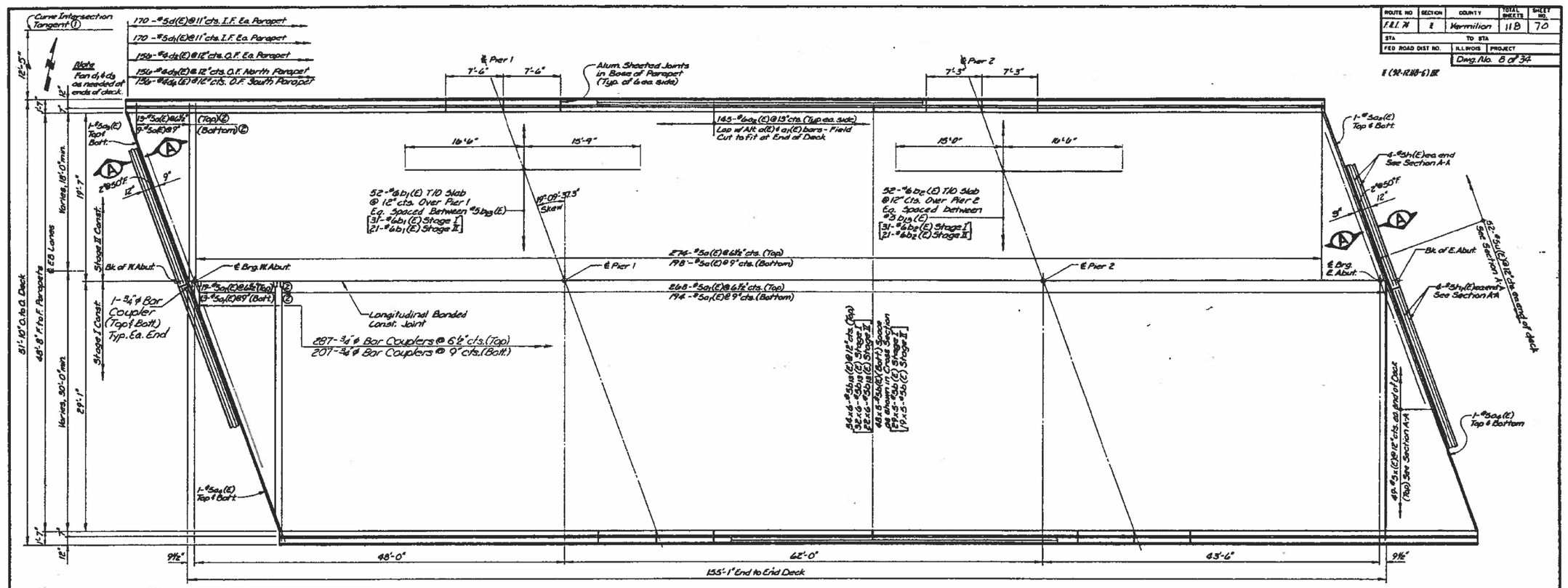
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	32
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
FILE NAME: pw:\\uhenroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Proj\Cts\D570E06\CADData\Design\D570E06-sht-details.dgn

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	E	Vermilion	118	70
STA		TO STA		
FED ROAD DIST NO.	ILLINOIS	PROJECT		
		Dwg. No. 8 of 34		

E (92-12HB-6) BR



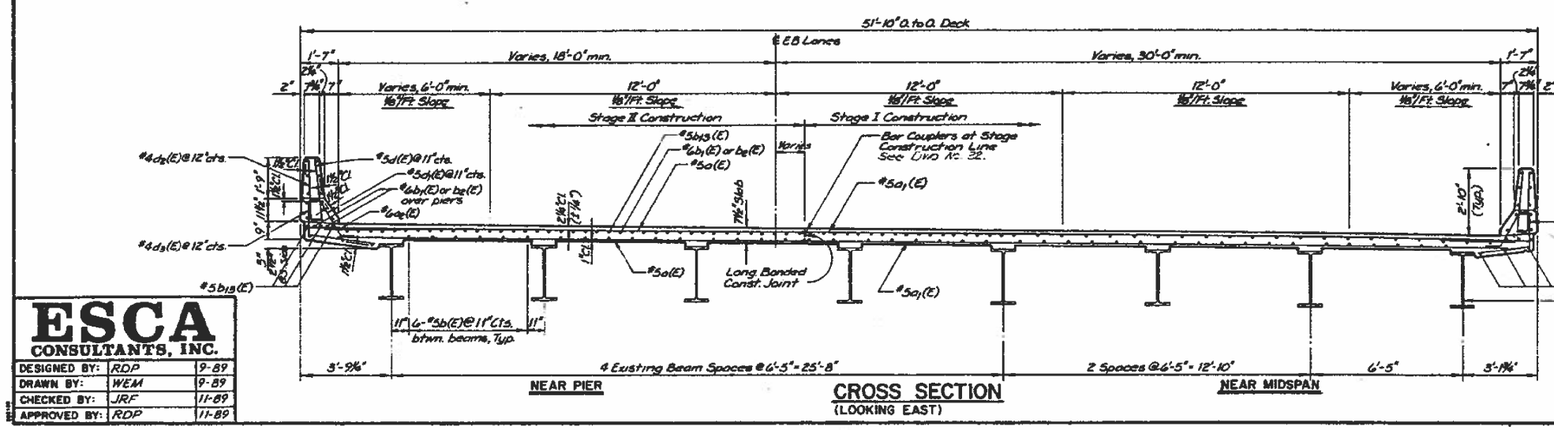
① Superstructure to be Built Parallel to Curve Intersection Tangent.

② Order a(E) & a_1(E) bars full length. Field cut to fit skew & use remainder of bars in opposite end.

PLAN

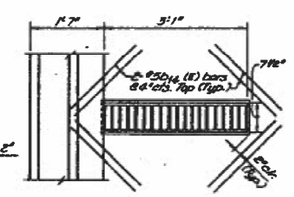
092-0026 E.B.

MIN. BAR LAP
#5 1'-8"



CROSS SECTION

(LOOKING EAST)



REINFORCEMENT DETAIL AT SCUPPERS

NOTES

1. SEE DWG. NO. 11 FOR SECTION A-A AND PARAPET REINFORCEMENT.
2. BARS INDICATED THUS: 48x5-85, ETC., INDICATES 48 LINES OF BARS WITH 5 LENGTHS PER LINE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATION OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. 10.
5. REINFORCEMENT BARS AND BAR COUPLERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.
6. SEE DWG. NO. 11 OF 34 FOR SUPERSTRUCTURE BILL OF MATERIAL.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	9-89
DRAWN BY:	WEM	9-89
CHECKED BY:	JRF	11-89
APPROVED BY:	RDP	11-89

SUPERSTRUCTURE (EB)

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	33
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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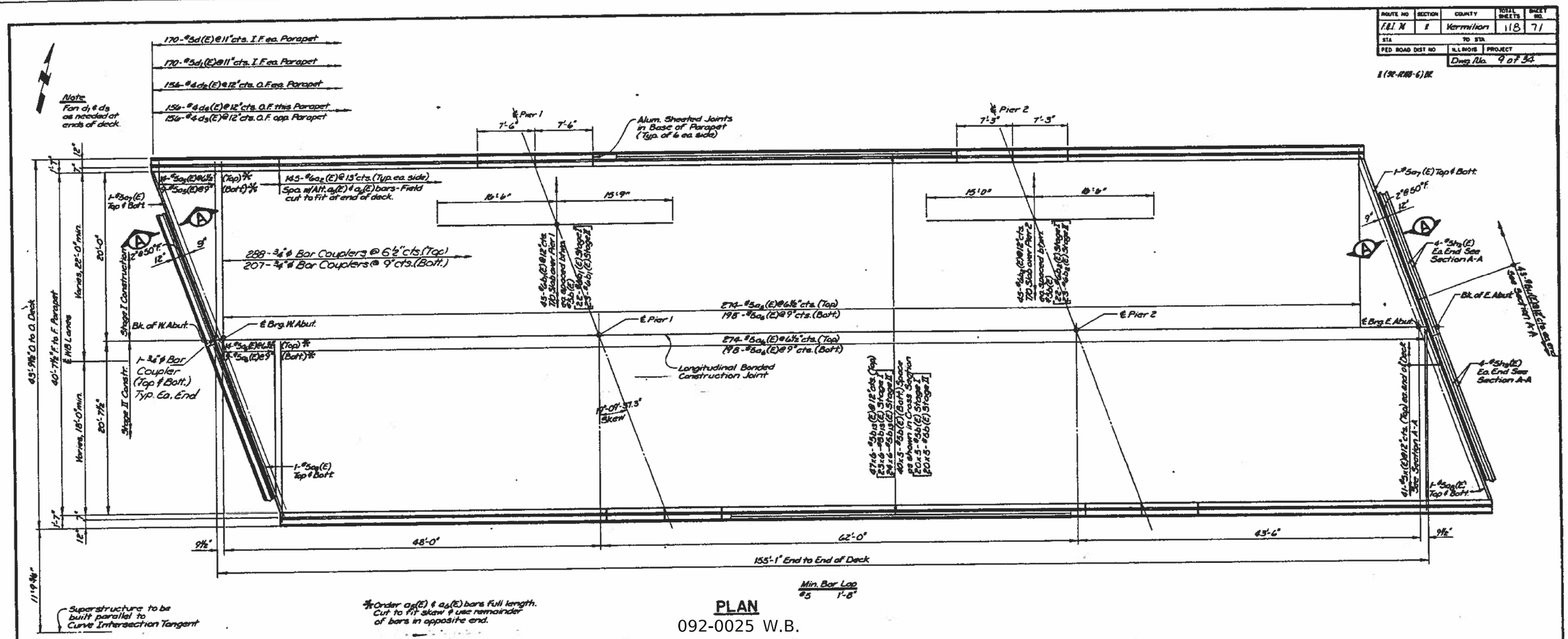
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	8	Vermilion	118	71
STA		TO STA		
FED ROAD DIST NO	ILLINOIS	PROJECT		

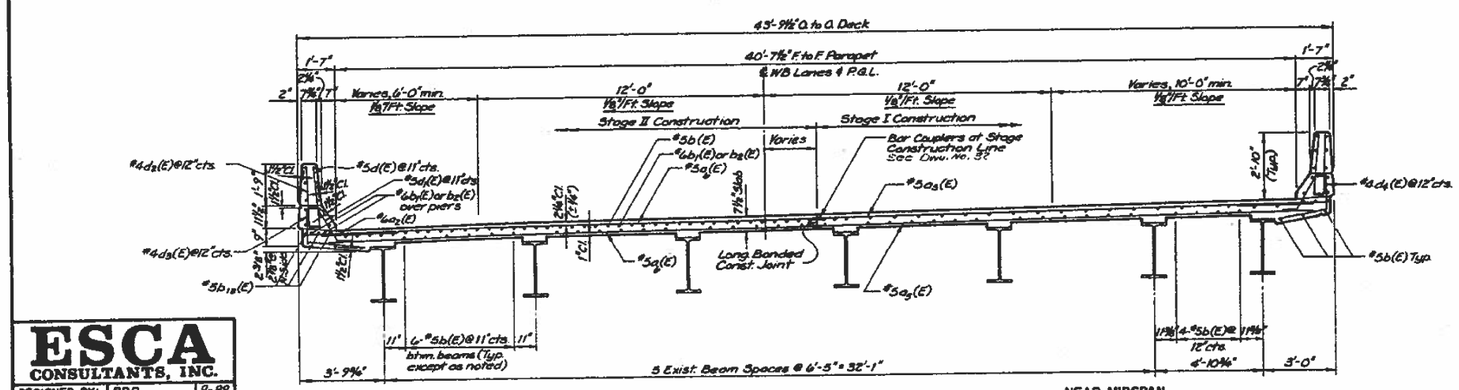
Dwg. No. 9 of 34

8 (92-12HB-6) BR



PLAN

092-0025 W.B.



CROSS SECTION

(LOOKING WEST)

NOTES

1. SEE DWG. NO. 11 FOR SECTION A-A AND PARAPET REINFORCEMENT.
2. BARS INDICATED THUS: 47#5-85, ETC., INDICATES 47 LINES OF BARS WITH 5 LENGTHS PER LINE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATION OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 10 .
5. REINFORCEMENT BARS AND BAR COUPLERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.
6. SEE DWG. NO. 8 FOR REINFORCEMENT DETAIL AT SCUPPERS.
7. SEE DWG. NO. 11 OF 34 FOR SUPERSTRUCTURE BILL OF MATERIAL.

SUPERSTRUCTURE (WB)
FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	9-89
DRAWN BY:	WEM	9-89
CHECKED BY:	JRF	11-89
APPROVED BY:	RDP	11-89

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	34
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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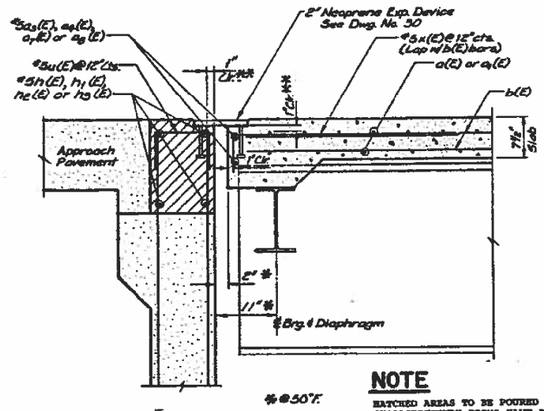
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	2	Vermilion	110	75
STA	TO STA			
FED. ROAD DIST NO.	ILLINOIS	PROJECT		

Dwg. No. 11 of 34

1(92-12HB-6)BR

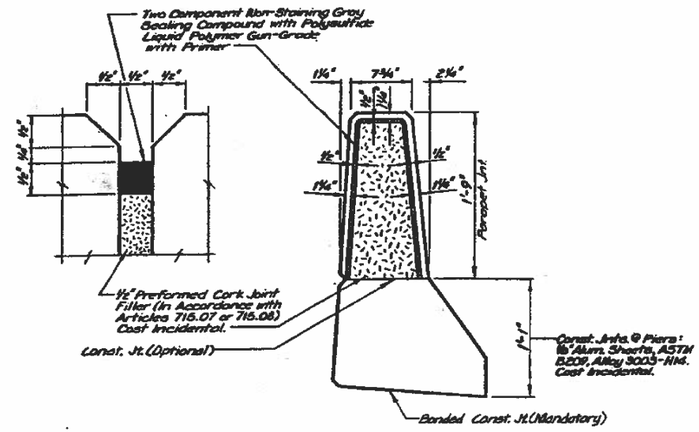


SECTION A-A

NOTE

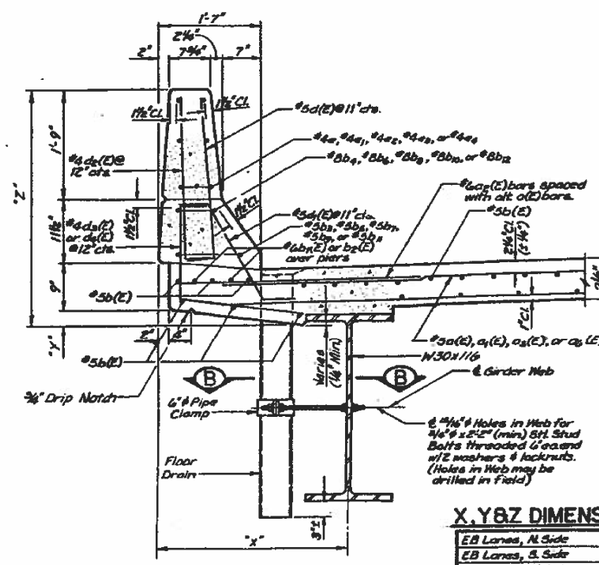
HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. (PARTIAL OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

*** PLACE a(E) AND h(E) THROUGH h_3(E) BARS IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1" CL. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO a(E) AND h(E) THROUGH h_3(E) BARS.

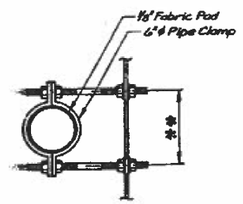


DETAILS OF PARAPET JOINT

(See Dwg. No. 10 for locations of these joints)

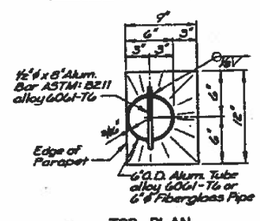


SECTION THRU PARAPET



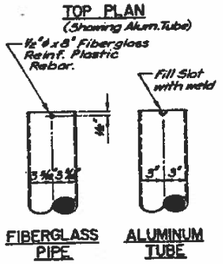
** Dimension as required by Pipe Clamp.

SECTION B-B

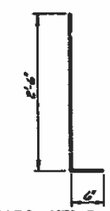


TOP PLAN

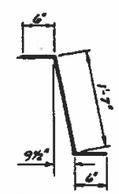
(Showing Alum. Tube)



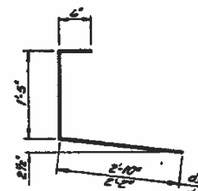
FLOOR DRAIN DETAILS



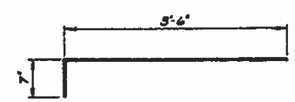
BARS d(E) & d_2(E)



BAR d_1(E)



BARS d_3(E) & d_4(E)



BAR x(E)

BAR BENDING DETAILS

BILL OF MATERIAL (W.B. BRIDGE)

BAR	No	SIZE	LENGTH	SHAPE
a_2(E)	290	#6	5'-0"	—
a_3(E)	495	#5	20'-7"	—
a_6(E)	495	#5	21'-3"	—
a_7(E)	4	#5	21'-0"	—
a_8(E)	4	#5	21'-10"	—
b(E)	200	#5	35'-1"	—
b_1(E)	45	#6	32'-3"	—
b_2(E)	45	#6	31'-6"	—
b_3(E)	8	#5	21'-6"	—
b_4(E)	8	#8	23'-3"	—
b_5(E)	8	#5	7'-2"	—
b_6(E)	8	#8	7'-2"	—
b_7(E)	8	#5	26'-6"	—
b_8(E)	8	#8	26'-3"	—
b_9(E)	8	#5	6'-11"	—
b_{10}(E)	8	#8	6'-11"	—
b_{11}(E)	8	#5	19'-5"	—
b_{12}(E)	8	#8	21'-2"	—
b_{13}(E)	282	#5	28'-0"	—
b_{14}(E)	16	#5	3'-0"	—
d(E)	340	#5	3'-0"	L
d_1(E)	340	#5	2'-7"	⅃
d_2(E)	312	#4	3'-0"	L
d_3(E)	156	#4	4'-9"	L
d_4(E)	156	#4	4'-1"	L
e(E)	36	#4	13'-5"	—
e_1(E)	24	#4	7'-2"	—
e_2(E)	36	#4	15'-5"	—
e_3(E)	24	#4	6'-11"	—
e_4(E)	24	#4	18'-2"	—
x(E)	41	#5	4'-1"	⅃

ITEM	UNIT	QUANTITY
Class X Conc. Superstructure	Cu. Yds.	203.7
*** Protective Coat	Sq. Yds.	63
Reinf. Bars (Epoxy Coated)	Lbs.	40,060
Drainage Scuppers	Each	2
Neoprene Exp. Joint, 2"	Lin. Ft.	90
Floor Drains	Each	2

BILL OF MATERIAL (E.B. BRIDGE)

BAR	No	SIZE	LENGTH	SHAPE
a(E)	494	#5	20'-1"	—
a_1(E)	494	#5	29'-8"	—
a_2(E)	290	#6	5'-0"	—
a_3(E)	4	#5	20'-8"	—
a_4(E)	4	#5	30'-9"	—
b(E)	240	#5	35'-1"	—
b_1(E)	52	#6	32'-3"	—
b_2(E)	52	#6	31'-6"	—
b_3(E)	8	#5	21'-6"	—
b_4(E)	8	#8	23'-3"	—
b_5(E)	8	#5	7'-2"	—
b_6(E)	8	#8	7'-2"	—
b_7(E)	8	#5	26'-6"	—
b_8(E)	8	#8	26'-3"	—
b_9(E)	8	#5	6'-11"	—
b_{10}(E)	8	#8	6'-11"	—
b_{11}(E)	8	#5	19'-5"	—
b_{12}(E)	8	#8	21'-2"	—
b_{13}(E)	324	#5	28'-0"	—
b_{14}(E)	16	#5	3'-0"	—
d(E)	340	#5	3'-0"	L
d_1(E)	340	#5	2'-7"	⅃
d_2(E)	312	#4	3'-0"	L
d_3(E)	156	#4	4'-9"	L
d_4(E)	156	#4	4'-1"	L
e(E)	36	#4	13'-5"	—
e_1(E)	24	#4	7'-2"	—
e_2(E)	36	#4	15'-5"	—
e_3(E)	24	#4	6'-11"	—
e_4(E)	24	#4	18'-2"	—
x(E)	49	#5	4'-1"	⅃

ITEM	UNIT	QUANTITY
Class X Conc. Superstructure	Cu. Yds.	234.9
*** Protective Coat	Sq. Yds.	63
Reinf. Bars (Epoxy Coated)	Lbs.	47,820
Drainage Scuppers	Each	2
Neoprene Exp. Joint, 2"	Lin. Ft.	107
Floor Drains	Each	2

*** Quantity includes top and inside faces of parapets only.

X, Y & Z DIMENSIONS

EB Lanes, N. Side	3'-9⅛"
EB Lanes, S. Side	3'-7-3/16"
WB Lanes, N. Side	3'-0"
WB Lanes, S. Side	3'-9-3/16"

Location	"Y"	"Z"
EB Lanes, N. Side	3"	3'-8½"
EB Lanes, S. Side	2½"	3'-8"
WB Lanes, N. Side	2⅞"	3'-8⅜"
WB Lanes, S. Side	2⅜"	3'-7⅞"

NOTES

1. FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.
2. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
3. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREMASK AS PER MIL-P-15328.
4. THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
5. Reinforcement bars designated (E) shall be epoxy coated.

SUPERSTRUCTURE DETAILS

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

REVISED 1-25-91

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	9-89
DRAWN BY:	CJS	9-89
CHECKED BY:	KMD	9-89
APPROVED BY:	RDP	9-89

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	35
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS FED. AID PROJECT		

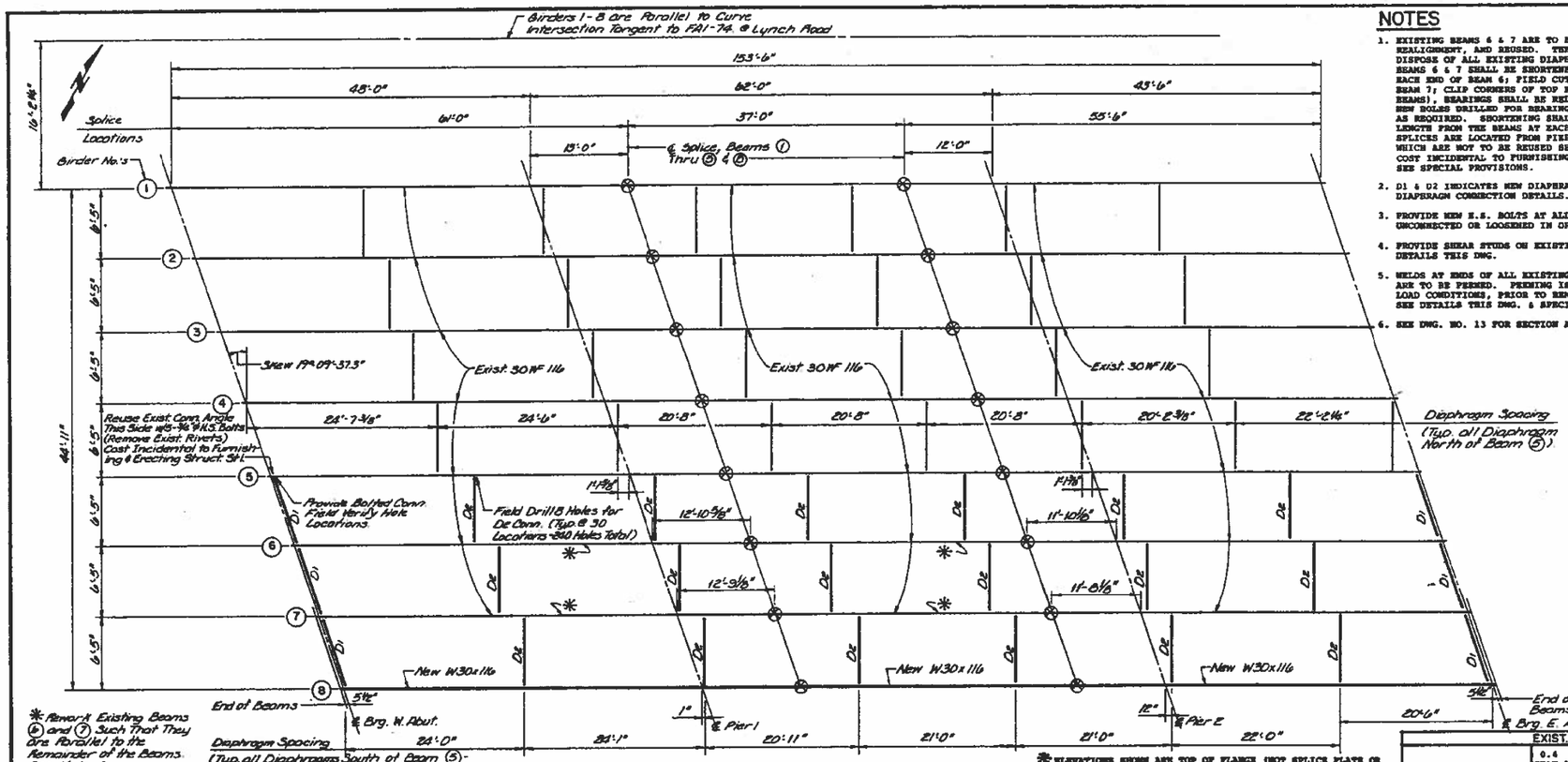
MODEL: $MODELNAMES
FILE NAME: pw:\\ildnaoom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Dwgs\D570E06-sht-Details.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	1	Vermilion	118	74
STA		TO STA		
FED ROAD DIST NO	ILLINOIS	PROJECT		
		Dwg. No. 12 of 34		

E (92-12HB-6) BR

NOTES

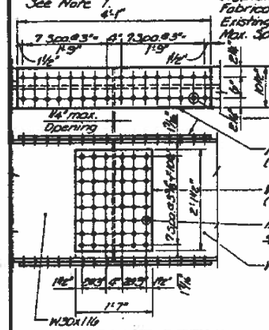
1. EXISTING BEAMS 6 & 7 ARE TO BE REMOVED, REMORKED FOR REALIGNMENT, AND REUSED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING DIAPHRAGMS SOUTH OF BEAM 5. BEAMS 6 & 7 SHALL BE SHORTENED (FIELD CUT 6 13/16" FROM EACH END OF BEAM 6; FIELD CUT 1'-2" FROM EACH END OF BEAM 7; CLIP CORNERS OF TOP FLANGE TO MATCH EXISTING BEAMS), BEARINGS SHALL BE RELOCATED ON THE BEAMS, AND NEW HOLES DRILLED FOR BEARING AND DIAPHRAGM CONNECTIONS AS REQUIRED. SHORTENING SHALL BE ACCOMPLISHED BY CUTTING LENGTH FROM THE BEAMS AT EACH ABUTMENT, SUCH THAT EXISTING SPLICES ARE LOCATED FROM PIERS AS SHOWN. EXISTING HOLES WHICH ARE NOT TO BE REUSED SHALL BE FILLED WITH H.S. BOLTS. COST INCIDENTAL TO FURNISHING & ERECTING STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.
2. D1 & D2 INDICATES NEW DIAPHRAGMS. SEE DWG. NO. 13 FOR DIAPHRAGM CONNECTION DETAILS.
3. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE UNCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS.
4. PROVIDE SHEAR STUDS ON EXISTING AND NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
5. WELDS AT ENDS OF ALL EXISTING TOP COVER PLATES AT PIERS 1 & 2 ARE TO BE PEENED. PEENING IS TO BE PERFORMED UNDER FULL DEAD LOAD CONDITIONS, PRIOR TO REMOVAL OF EXISTING CONCRETE DECK. SEE DETAILS THIS DWG. & SPECIAL PROVISIONS.
6. SEE DWG. NO. 13 FOR SECTION A-A.



FRAMING PLAN (EB BRIDGE)

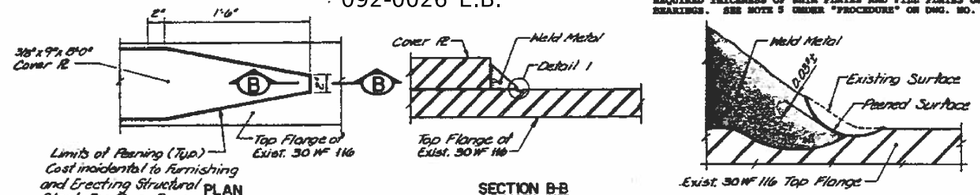
092-0026 E.B.

* ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAILING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 14.



FIELD SPLICE DETAIL

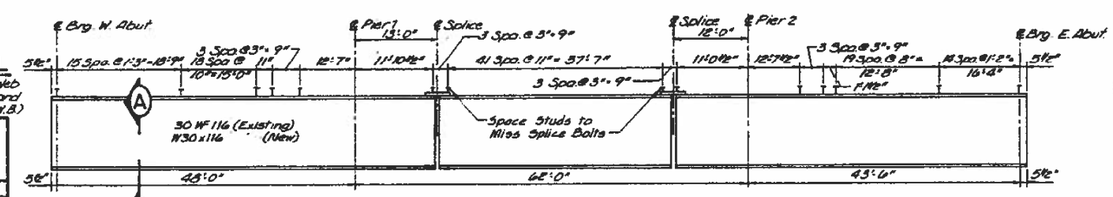
Note: 8 New Flange PL's & 8 New Web PL's reqd. (256 - ¾" ϕ Flange Bolts and 192 - ¾" ϕ Web Bolts reqd. (EB & W.B.)



PLAN

SECTION B-B

PEENING DETAILS (Exist. Beams) DETAIL 1



SHEAR STUD SPACING

(Typ. Beams (1) Thru (8))

REACTION TABLES (EB BRIDGE)

ALL BEAMS	W. ABUT.	PIER 1	PIER 2	E. ABUT.
R DL k	19.8	70.1	66.6	17.2
R DD k	32.7	38.4	38.7	26.4
LMP k	9.5	10.7	10.9	7.8
R (TOTAL) k	62.0	119.2	116.2	51.4

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (TOTAL).

VR IS THE MAXIMUM DL + IMPACT SHEAR RANGE IN SPAN.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1.

M_u (APPLIED MOMENT) = 1.3 [M DL + M_{DL} DL + 5/3 (M LL + I)].

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M DL + M_{DL} DL + 5/3 (M LL + I)].

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M DL + M_{DL} DL + 5/3 M (LL + I).

M DL N.D. = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_{DL} DL C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M LL = MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

M IMP = MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.

MOMENT TABLES (EB BRIDGE)

		EXIST. BEAMS (W/COVER PLATES) 0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3	NEW BEAMS (NO COVER PLATES) 0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3
I_s	in.^{4}	4,919	6,488	4,919	6,488	4,919	4,930	4,930	4,930	4,930	4,930
I_c DL (n=27)	"	10,382		10,382		10,382	10,070		10,070		10,070
I_c LL (n=9)	"	14,137		14,137		14,137	13,820		13,820		13,820
S_s	in.^{3}	329	422	329	422	329	329	329	329	329	329
S_c DL (n=27)	"	453		453		453	448		448		448
S_c LL (n=9)	"	502		502		502	498		498		498
DL N.C.	k/ft	0.85	1.13	0.85	1.13	0.85	0.82	1.08	0.82	1.08	0.82
M DL N.C.	ft-k	127.6	350.2	149.1	319.2	94.9	121.3	323.6	144.6	295.1	90.6
DL C.	"	0.26		0.26		0.26	0.26		0.26		0.26
M_{DL} DL C.	"	46.8		59.3		34.1	45.5		60.9		34.7
M LL	"	292.2	174.1	368.8	166.5	265.0	293.1	168.0	371.2	160.5	265.7
M IMP	"	84.4	48.4	98.6	46.8	79.0	84.7	46.7	99.3	45.2	78.8
5/3 (M LL + IMP)	"	627.7	370.8	779.1	355.6	572.7	629.6	357.8	784.2	342.7	574.3
M_u	"	1040.1	937.3	1283.8	877.2	912.2	1035.3	885.8	1286.6	829.2	909.5
f_s DL N.C.	ksi	4.65	9.95	5.44	9.08	3.46	4.42	11.80	5.27	10.76	3.30
f_s DL C	"	1.19		1.57		0.90	1.22		1.63		0.93
f_s 5/3 (LL + I)	"	15.08	10.54	18.62	10.11	13.69	15.17	13.05	18.90	12.50	13.84
f_s (TOTAL)	"		26.64		24.95			32.30		30.25	
V_R	k	45.4		40.7		37.9	45.3		40.7		37.8
M_D	ft-k	2,135		2,135		2,135	2,135		2,135		2,135
f_s (OVERLOAD)	ksi	20.84	20.49	25.63	19.19	18.05	20.81	24.85	25.80	23.26	18.07

TABLE OF ELEVATIONS (T/O STEEL BEAMS)*

BEAM	W. ABUT.	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	E. ABUT.
1	677.63	676.42			674.80	673.65
2	677.52	676.29			674.67	673.52
3	677.40	676.17			674.55	673.39
4	677.28	676.05			674.42	673.26
5	677.17	675.93			674.29	673.13
6	677.05	675.80			674.16	672.99
7	676.93	675.68			674.02	672.85
8	676.81	675.55	675.21	674.23	673.90	672.70

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	9.89
DRAWN BY:	CJG	9.89
CHECKED BY:	MHD	9.89
APPROVED BY:	RDP	9.89

SUPERSTRUCTURE STEEL DETAILS (EB BRIDGE)

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	36
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

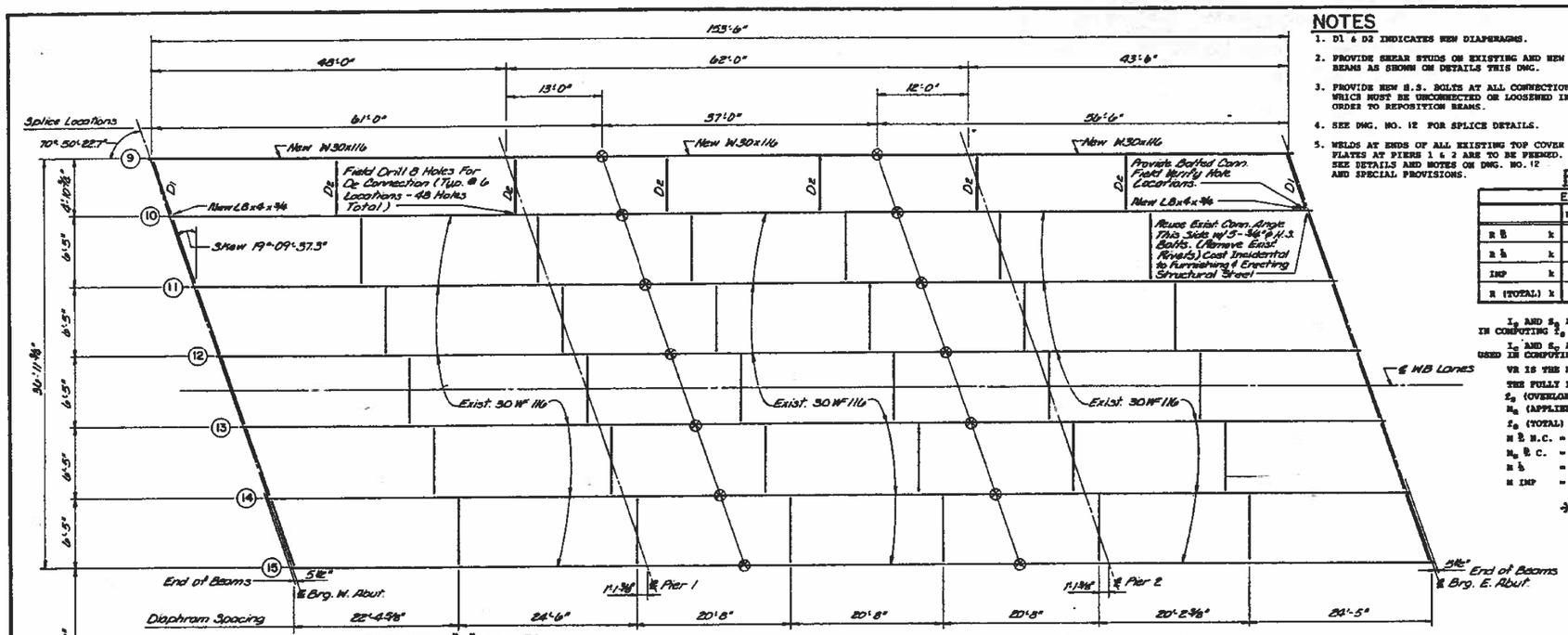
MODEL: SMODELNAMES
FILE NAME: pw:\\uhanroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-Str-3details.dgn

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	4	Vermilion	118	75
STA		TO STA		
FED ROAD DIST NO	ILLINOIS	PROJECT		
		Dwg. No. 13 of 36		

8(92-12HB-6)BR

NOTES

1. D1 & D2 INDICATES NEW DIAPHRAGMS.
2. PROVIDE SHEAR STUDS ON EXISTING AND NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
3. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE UNCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS.
4. SEE DWG. NO. 12 FOR SPLICE DETAILS.
5. WELDS AT ENDS OF ALL EXISTING TOP COVER PLATES AT PIERS 1 & 2 ARE TO BE PEENED. SEE DETAILS AND NOTES ON DWG. NO. 12 AND SPECIAL PROVISIONS.



DIMENSION "Y" VALUES

BEAM		⑤	⑥	⑦	⑧	⑨	⑩
@ West Abut.	N. Side	–	3 9/16" (F.V.)	4 1/2"	3"	–	9 7/16" (F.V.)
	S. Side	4 7/16" (F.V.)	5 3/16"	4 1/2"	–	9 7/16" (F.V.)	9 7/16" (F.V.)
@ East Abut.	N. Side	–	4 9/16" (F.V.)	4 3/8"	3"	–	10 3/16" (F.V.)
	S. Side	6 3/16" (F.V.)	6 1/4"	4 3/8"	–	10" (F.V.)	10 3/16" (F.V.)

F.V. = Field Verify Exist. Dimension

FRAMING PLAN (WB BRIDGE)

092-0025 W.B.

(E.B. & W.B) BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnish & Erect Structural Stl.	L. Sum	1
Shear Studs	Each	7440
Weld Peening	Each	52

REACTION TABLES (WB BRIDGE)

		EXIST. BEAMS (W/COVER PLATES)				NEW BEAMS (NO COVER PLATES)			
		W. ABUT.	PIER 1	PIER 2	E. ABUT.	W. ABUT.	PIER 1	PIER 2	E. ABUT.
R D	k	20.1	70.9	67.3	17.4	17.6	61.4	58.4	15.4
R L	k	26.5	38.7	37.6	31.9	26.5	38.6	37.5	31.9
IMP	k	7.7	10.7	10.6	9.5	7.7	10.7	10.5	9.5
R (TOTAL)	k	54.3	120.3	115.5	58.8	51.8	110.7	106.4	56.8

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_c (TOTAL).

VR IS THE MAXIMUM L + IMPACT SHEAR RANGE IN SPAN.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1.

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M_D + M_u D_c + 5/3 M_L + I).

M_u (APPLIED MOMENT) = 1.3 [M_D + M_u D_c + 5/3 (M_L + I)].

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO 1.3 [M_D + M_u D_c + 5/3 (M_L + I)].

M_D N.C. = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M_u D.C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M_L = MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

M IMP = MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.

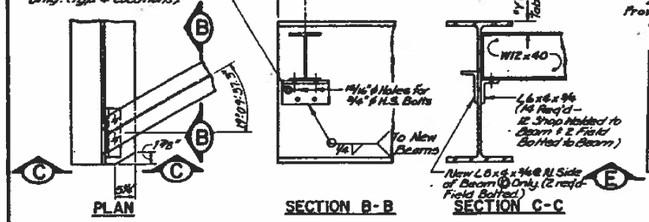
*TABLE OF ELEVATIONS (T/O STEEL BEAMS)

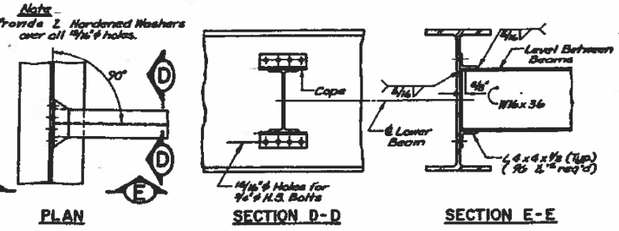
BEAM	W. ABUT.	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	E. ABUT.
9	678.21	677.05	676.73	675.80	675.49	674.38
10	678.15	676.96			675.39	674.27
11	678.03	676.84			675.27	674.15
12	677.92	676.72			675.14	674.02
13	677.80	676.60			675.02	673.89
14	677.68	676.48			674.90	673.77
15	677.57	676.37			674.78	673.64

MOMENT TABLES (WB BRIDGE)

		EXIST. BEAMS (W/COVER PLATES)					NEW BEAMS (NO COVER PLATES)				
		0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3	0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3
I_s	in.^{4}	4,919	6,488	4,919	6,488	4,919	4,930	4,930	4,930	4,930	4,930
I_c D (n=27)	"	10,401		10,401		10,401	9,575		9,575		9,575
I_c L (n=9)	"	14,157		14,157		14,157	13,288		13,288		13,288
S_s	in.^{3}	329	422	329	422	329	329	329	329	329	329
S_c D (n=27)	"	453		453		453	439.5		439.5		439.5
S_c L (n=9)	"	501		501		501	491		491		491
D N.C.	k/ft	0.86	1.15	0.86	1.15	0.86	0.71	0.98	0.71	0.98	0.71
M D N.C.	ft-k	128.2	354.1	149.8	322.8	95.3	108.5	300.2	129.4	273.8	81.5
D C.	"	0.27		0.27		0.27	0.27		0.27		0.27
M_u D C.	"	46.2		61.0		35.1	46.6		61.9		35.5
M L	"	304.2	174.6	367.4	167.8	253.6	304.5	170.2	367.9	162.7	253.9
M IMP	"	87.9	48.5	98.2	47.0	75.2	88.0	47.1	98.4	45.8	75.3
5/3 (M L + IMP)	"	653.5	371.9	776.1	356.6	548.0	654.2	362.5	777.2	347.4	548.7
M_u	"	1,076.3	943.8	1,282.9	883.2	881.9	1,052.8	861.6	259.0	807.6	865.4
f_s D N.C.	ksi	4.68	10.08	5.46	9.18	3.48	3.96	10.95	4.72	9.99	2.97
f_s D C.	"	1.22		1.62		0.93	1.27		1.69		0.97
f_s 5/3 (L + I)	"	15.65	10.58	18.59	10.14	13.13	15.99	13.23	18.99	12.67	13.41
f_s (TOTAL)	"		26.85		25.12			31.43		29.46	
V_R	k	38.1		41.2		45.1	38.1		41.2		45.1
M_u	ft-k	2,135		2,135		2,135	2,088		2,088		2,088
f_s (OVERLOAD)	ksi	21.55	20.66	25.67	19.32	17.54	21.22	24.18	25.40	22.66	17.35

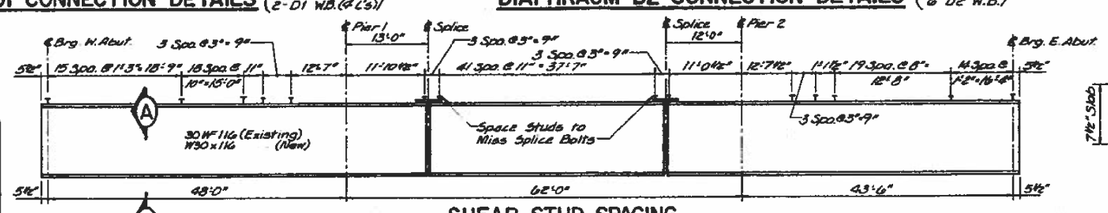
*ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 14.





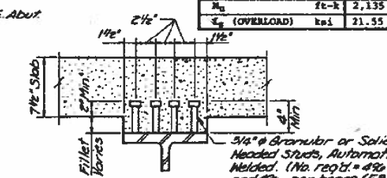
DIAPHRAGM D1 CONNECTION DETAILS (4-D1 E.B. (12L's) 2-D1 W.B. (4L's))

DIAPHRAGM D2 CONNECTION DETAILS (18 D2 E.B. 6 D2 W.B.)



SHEAR STUD SPACING

(Typ. Beams ⑨ Thru ⑮)



SECTION A-A

SUPERSTRUCTURE STEEL DETAILS (WB BRIDGE)

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	9.89
DRAWN BY:	CJG	9.89
CHECKED BY:	KHD	9.89
APPROVED BY:	RDP	9.89

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	37
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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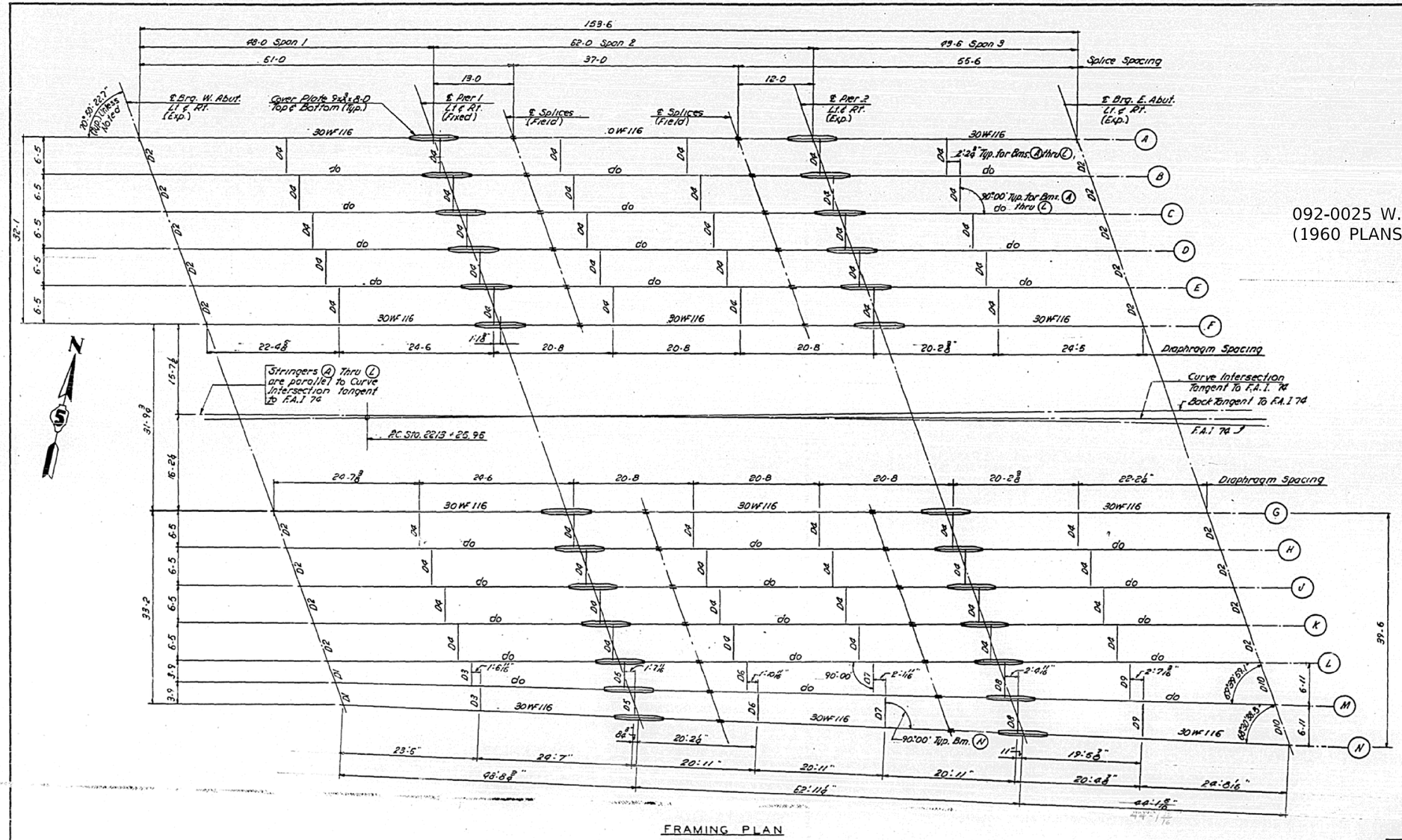
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12HB-6	VERMILION	38	20
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	FNAL	



092-0025 W.B.
(1960 PLANS)

092-0026 E.B.
(1960 PLANS)

Note: Pier Diaphragms shall be erected after anchor bolt holes have been field drilled.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
F. A. I. RT. 74 BRIDGE
OVER EAST DANVILLE SPUR SEC. 92-12HB-6
VERMILION COUNTY STA. 2213+83.36

STEEL SUPERSTRUCTURE PLAN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAE	IH		JWC	HJM	5-6-60	

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	38
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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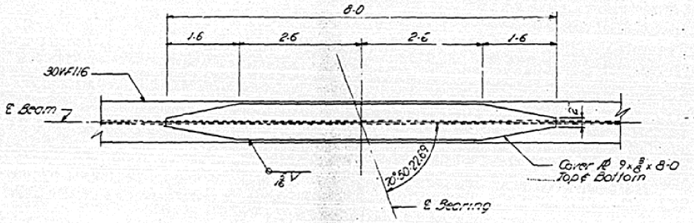
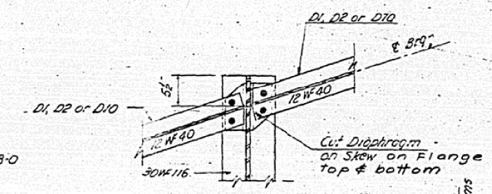
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12HB-6	VERMILION	33	27
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

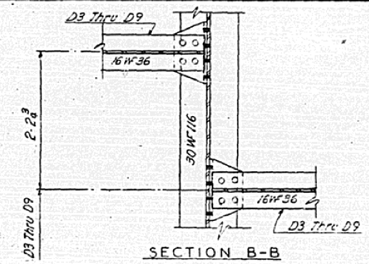
(1960 PLANS)



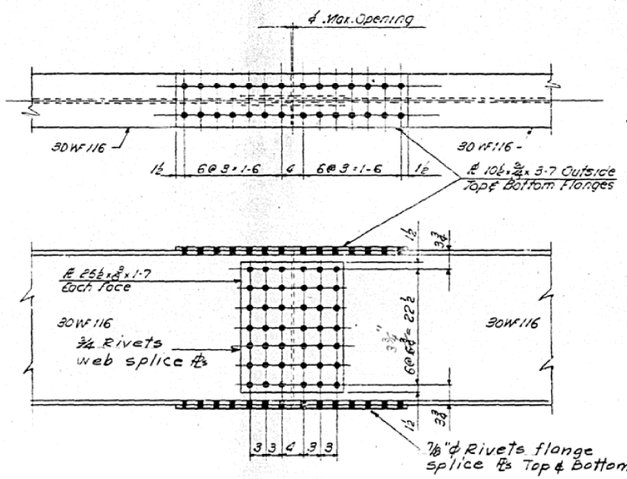
COVER PLATE DETAIL
52 Required 2 Bridges



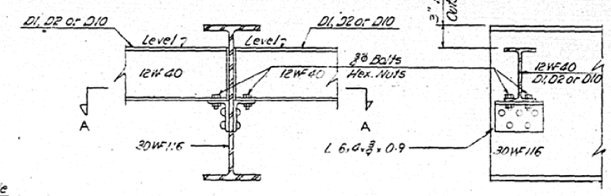
SECTION A-A



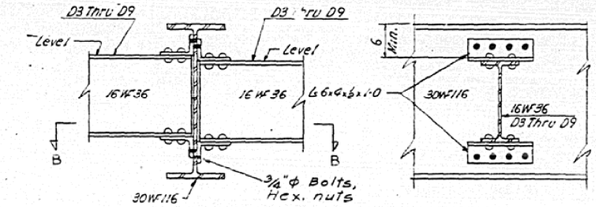
SECTION B-B



BEAM SPLICE DETAIL
26 Required 2 Bridges



DIAPHRAGM D1 D2 OR D10
2 D1 & 2 D10 Required East Bound Bridge
18 D2 Required 2 Bridges



DIAPHRAGM D3 THRU D9
2 Each D3, D5, D6, D7, D8 & D9 East Bound Bridge
54 D4 2 Bridges

DIAPHRAGM CONNECTION DETAILS
⅞ϕ Rivets

All End Diaphragms 12WF40
All Interior Diaphragms 16WF36

TOTAL COMPUTED WEIGHT OF FRAMING STEEL
STRUCTURAL STEEL 273,850 LBS.
(2 BRIDGES)

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
F. A. I. RT. 74 BRIDGE
OVER EAST DANVILLE SPUR SEC.92-12HB-6
VERMILION COUNTY STA. 2213+83.36

STEEL SUPERSTRUCTURE DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JAE	IH		EFD	HSM	5660	

MODEL: SMODELNAMES
FILE NAME: pw:\\ahxroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

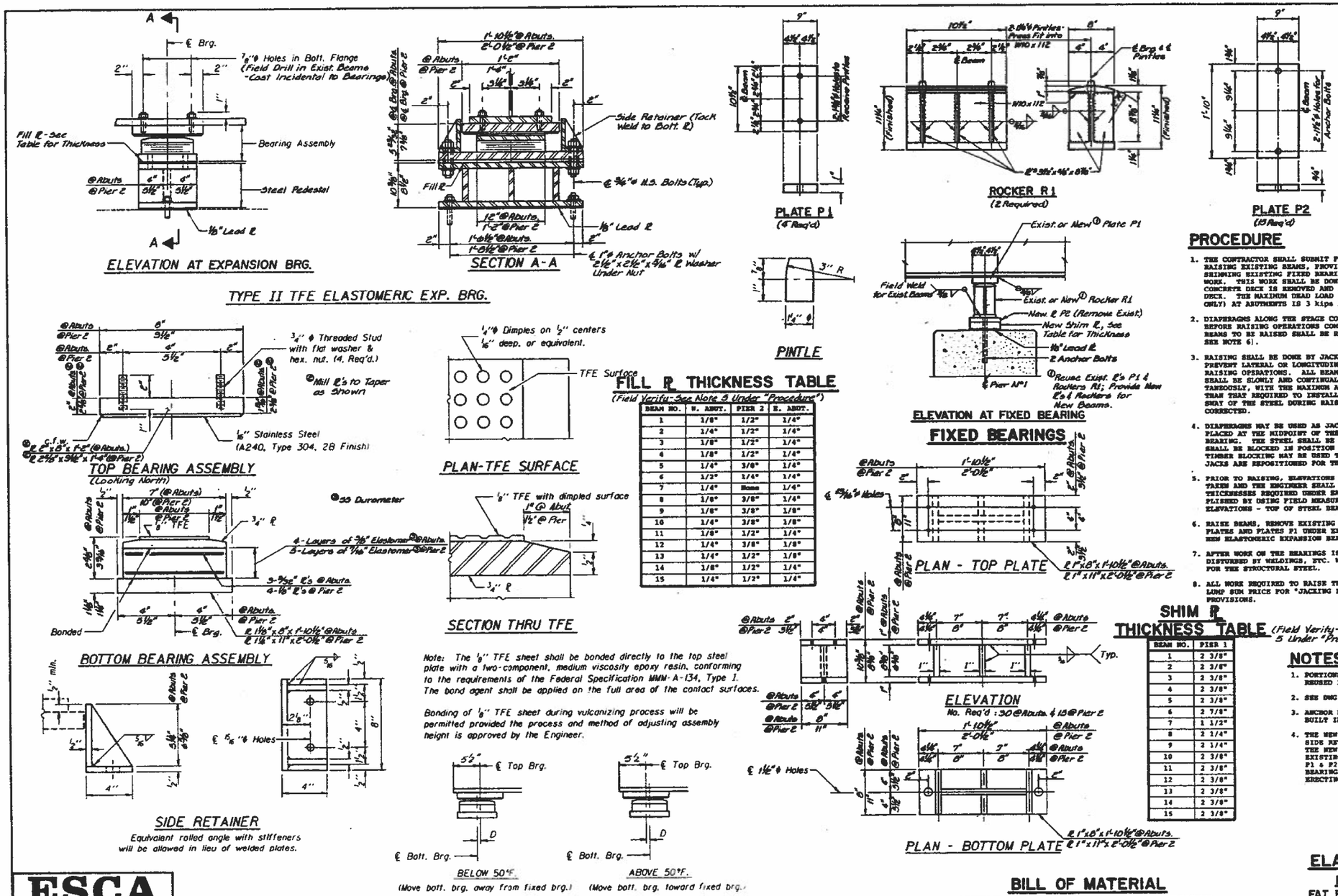
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	39
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI N	1	Vermilion	118	76
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Dwg. No. 16 of 34

I (92-12HB-6)BR



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

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

FILL PL THICKNESS TABLE

(Field Verify-See Note 5 Under "Procedure")

BEAM NO.	W. ABUT.	PIER 2	E. ABUT.
1	1/8"	1/2"	1/4"
2	1/4"	1/2"	1/4"
3	1/8"	1/2"	1/4"
4	1/8"	1/2"	1/4"
5	1/4"	3/8"	1/4"
6	1/2"	1/4"	1/4"
7	1/4"	None	1/4"
8	1/8"	3/8"	1/4"
9	1/8"	3/8"	1/8"
10	1/4"	3/8"	1/8"
11	1/8"	1/2"	1/4"
12	1/4"	3/8"	1/8"
13	1/4"	1/2"	1/8"
14	1/8"	1/2"	1/4"
15	1/4"	1/2"	1/4"

SHIM PL THICKNESS TABLE

(Field Verify-See Note 5 Under "Procedure")

BEAM NO.	PIER 1
1	2 3/8"
2	2 3/8"
3	2 3/8"
4	2 3/8"
5	2 3/8"
6	2 7/8"
7	1 1/2"
8	2 1/4"
9	2 1/4"
10	2 3/8"
11	2 3/8"
12	2 3/8"
13	2 3/8"
14	2 3/8"
15	2 3/8"

PROCEDURE

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR RAISING EXISTING BEAMS, PROVIDING NEW EXPANSION BEARINGS AND SHIMMING EXISTING FIXED BEARINGS PRIOR TO COMMENCING ANY RELATED WORK. THIS WORK SHALL BE DONE FOR EACH STAGE AFTER EXISTING CONCRETE DECK IS REMOVED AND PRIOR TO POURING OF NEW CONCRETE DECK. THE MAXIMUM DEAD LOAD REACTION PER BEAM (WEIGHT OF STEEL ONLY) AT ABUTMENTS IS 3 kips AND AT PIERS IS 8 kips.
2. DIAPHRAGMS ALONG THE STAGE CONSTRUCTION LINE SHALL BE REMOVED BEFORE RAISING OPERATIONS COMMENCE. ALL BEARING ANCHOR BOLTS ON BEAMS TO BE RAISED SHALL BE REMOVED (CUT OFF FLUSH WITH BRG. SEAT. SEE NOTE 6).
3. RAISING SHALL BE DONE BY JACKING. MEASURES SHALL BE TAKEN TO PREVENT LATERAL OR LONGITUDINAL DISPLACEMENT OF BEAMS DURING RAISING OPERATIONS. ALL BEAMS AT A GIVEN SUBSTRUCTURE ELEMENT SHALL BE SLOWLY AND CONTINUALLY RAISED THE SAME AMOUNT SIMULTANEOUSLY, WITH THE MAXIMUM AMOUNT OF RAISE LIMITED TO 3" GREATER THAN THAT REQUIRED TO INSTALL NEW BEARINGS OR SHIM PLATES. ANY SWAY OF THE STEEL DURING RAISING OPERATIONS SHALL BE IMMEDIATELY CORRECTED.
4. DIAPHRAGMS MAY BE USED AS JACKING BEAMS. IF SO, JACKS SHALL BE PLACED AT THE MIDPOINT OF THE DIAPHRAGM, ON THE CENTERLINE OF BEARING. THE STEEL SHALL BE RAISED IN INCREMENTS OF 1 1/2" AND SHALL BE BLOCKED IN POSITION UPON COMPLETION OF A RAISING INTERVAL. TIMBER BLOCKING MAY BE USED TO HOLD THE STRUCTURE IN PLACE WHILE JACKS ARE REPOSITIONED FOR THE NEXT LIFT.
5. PRIOR TO RAISING, ELEVATIONS OF EXISTING BEARING SEATS SHALL BE TAKEN AND THE ENGINEER SHALL VERIFY FILL PLATE AND SHIM PLATE THICKNESSES REQUIRED UNDER EACH BEARING. THIS SHALL BE ACCOMPLISHED BY USING FIELD MEASUREMENTS ALONG WITH THE "TABLE OF ELEVATIONS - TOP OF STEEL BEAMS" ON DWG. NOS. 12 AND 13.
6. RAISE BEAMS, REMOVE EXISTING EXPANSION BEARINGS, INSTALL NEW SHIM PLATES AND PLATES P1 UNDER EXISTING FIXED BEARINGS, AND INSTALL NEW ELASTOMERIC EXPANSION BEARINGS. INSTALL ANCHOR BOLTS.
7. AFTER WORK ON THE BEARINGS IS COMPLETE, REPAINT ANY AREAS DISTURBED BY WELDINGS, ETC. WITH THE SAME PAINT SYSTEM SPECIFIED FOR THE STRUCTURAL STEEL.
8. ALL WORK REQUIRED TO RAISE THE BEAMS SHALL BE PAID FOR AT THE LUMP SUM PRICE FOR "JACKING EXISTING STRUCTURES." SEE SPECIAL PROVISIONS.

NOTES

1. PORTIONS OF EXISTING FIXED BEARINGS TO BE REUSED IN NEW CONSTRUCTION.
2. SEE DWG. NO. 31 FOR ANCHOR BOLT DETAILS.
3. ANCHOR BOLTS AT FIXED BEARINGS MAY BE BUILT INTO THE MASONRY.
4. THE NEW STEEL PEDESTALS, FILL PLATES & SIDE RETAINERS FOR EXP. BRGS. AS WELL AS THE NEW PLATES P2 & SHIM PLATES UNDER EXISTING FIXED BEARINGS AND NEW PLATES P1 & P2 AND ROCKERS R1 FOR NEW FIXED BEARINGS ARE INCLUDED IN "FURNISHING & ERECTING STRUCTURAL STEEL."

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type II	Each	45

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	2/90
DRAWN BY:	GSB	2/90
CHECKED BY:	JAF	2/90
APPROVED BY:	RDP	2/90

ELASTOMERIC BEARINGS

FAI 74 OVER LYNCH ROAD
FAI RTE. 74 SECTION (92-12HB-6)BR
VERMILION COUNTY
STATION 2213+83.36
STRUCTURE NO. 092-0025(WB)
STRUCTURE NO. 092-0026(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	40
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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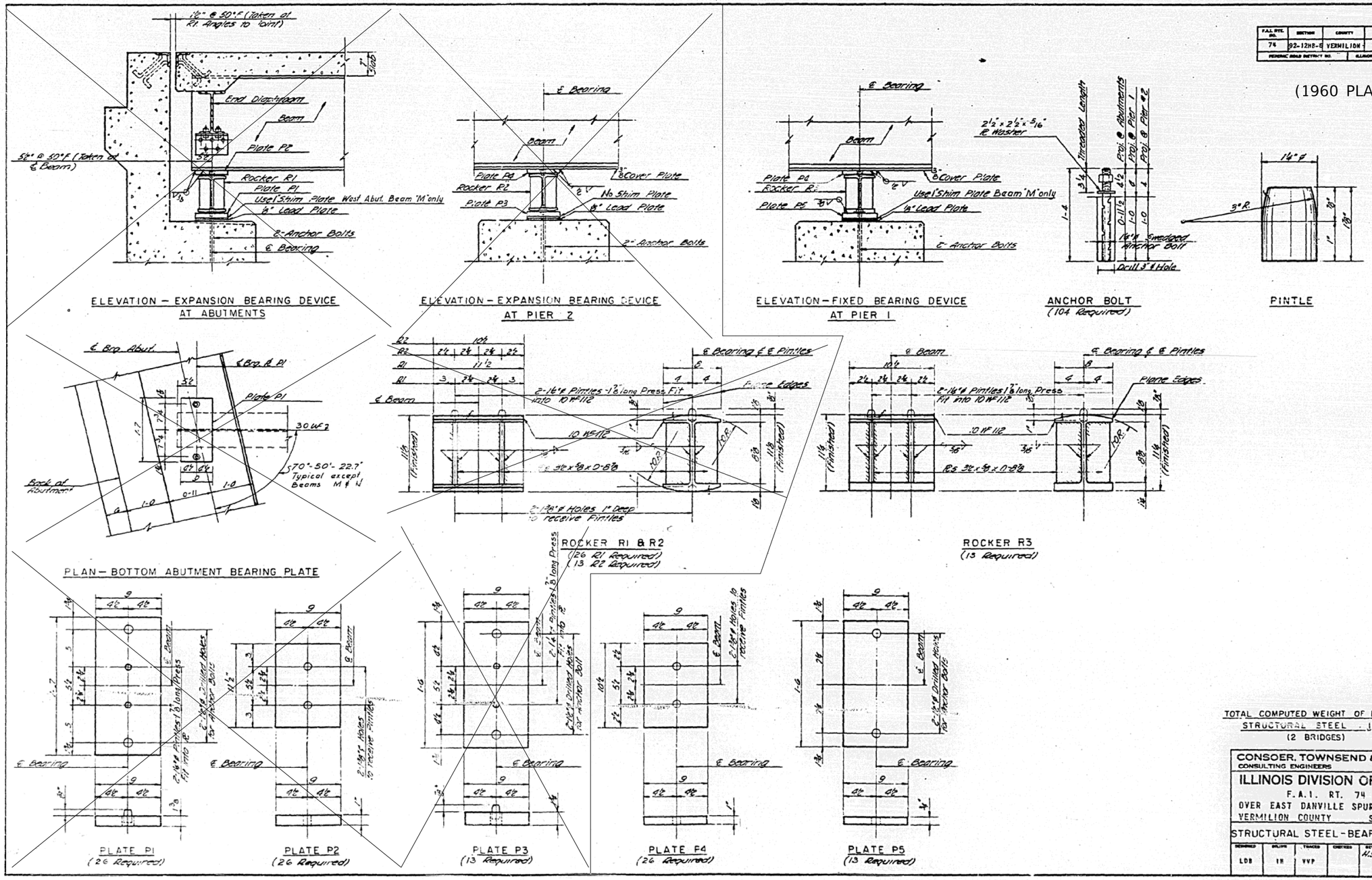
F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12HB-6	VERMILION	33	22
PERIODIC BRIDGE DISTRICT NO.		ILLINOIS	PROJ.	

(1960 PLANS)



TOTAL COMPUTED WEIGHT OF BEARING DEVICES
STRUCTURAL STEEL 13,190 LBS
(2 BRIDGES)

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
F.A.I. RT. 74 BRIDGE
OVER EAST DANVILLE SPUR SEC. 92-12HB-6
VERMILION COUNTY STA. 2213+83.36

STRUCTURAL STEEL - BEARINGS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LDB	IH	VVP		H.S.M.	5-6-60	

MODEL: $MODELNAMES
FILE NAME: pw:\\ullanroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

USER NAME = dawsonkb	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #3 & #4

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

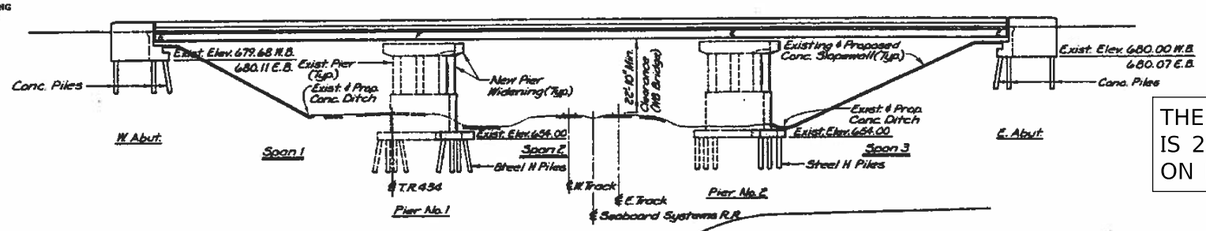
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	41
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	###	Vermilion	118	33
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 1 of 30		

(92-12VB-1)BR

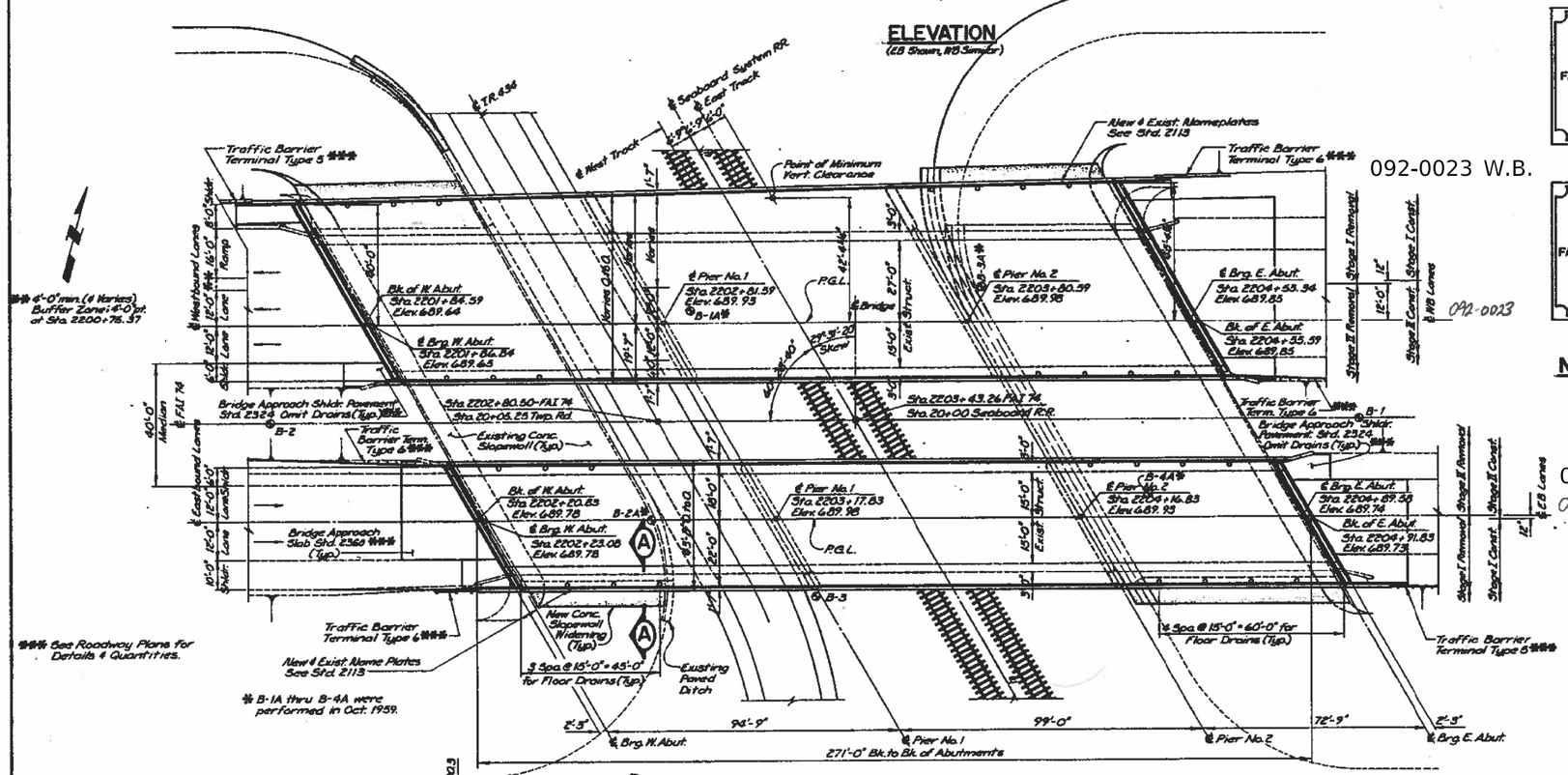
BENCHMARK: PERMANENT SURVEY MARKER, STA 2200 + 64.10, ELEV. 685.70

EXISTING STRUCTURE: STRUCTURE NO'S. 092-0023 & 092-0024 WERE BUILT IN 1962 AS FAI 74, SECTION 92-12VB-1, VF-1. REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION DEVICE RECONSTRUCTION, INSTALLATION OF WATER PROOFING MEMBRANE SYSTEM, AND BITUMINOUS OVERLAY. EACH STRUCTURE CONSISTS OF A THREE SPAN CONTINUOUS NON-COMPOSITE STEEL BEAM AND REINFORCED CONCRETE DECK SUPERSTRUCTURE WITH PILE BENT ABUTMENTS AND PILE SUPPORTED MULTIPLE COLUMN PIERS.- OVERALL LENGTH IS 271'-0" AND CLEAR ROADWAY WIDTHS ARE 42'-0" FOR STRUCTURE NO. 092-0023 and 30'-0" FOR STRUCTURE NO. 092-0024. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. HANDRAIL TO BE SALVAGED. BRIDGE CONTRACTOR TO STOCK PILE HANDRAIL ON STATE ROW FOR REMOVAL BY DISTRICT MAINTENANCE FORCES.



ELEVATION
(EB Shown, WB Similar)

THE EXISTING MINIMUM VERTICAL CLEARANCE IS 22'-7 1/2" FOR THE WB BRIDGE BASED ON FIELD MEASUREMENTS TAKEN 4/23/19.



PLAN

STATION 2203+43.26
REBUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-12VB-1)BR

LOADING HS20 & ALT.
STR. NO. 092-0023

WESTBOUND

STATION 2203+43.26
REBUILT 199_ BY
STATE OF ILLINOIS
FAI. RTE. 74 SECTION (92-12VB-1)BR

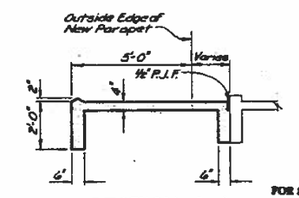
LOADING HS20 & ALT.
STR. NO. 092-0024

EASTBOUND

NEW NAME PLATES
(1 EA. REQ'D)
(SEE STD. 2113)

Note:
Salvage Existing Name Plates & Mount Adjacent to New Name Plates on New Parapet as shown on Std. 2113. The cost of Salvaging & Incorporating Exist. Name Plates into New Work is Incidental to Nameplates.

092-0024 E.B.
092-0024



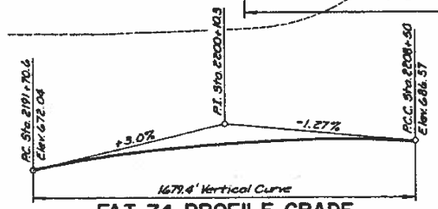
SECTION A-A
(See Dwg. No. 2 for Add'l Slopewall Details)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Licensed Structural Engineer

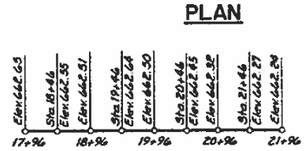
LEGEND
F = Fixed Brg.
E = Exp. Brg.
PGL = Profile Grade Line
⊕ Boring Location

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89



FAI 74 PROFILE GRADE
(Exist. T/O Conc. along ℄ Pavement Shown; For Proposed Bridge Elevations, add 0.25')



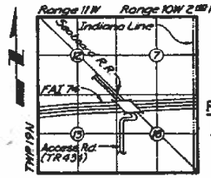
SEABOARD SYSTEMS R.R. PROFILE
(Top of Rail, East Track)

DESIGN SPECIFICATIONS
AASHTO 1989 & applicable interims (WORK SEISMIC RETROFITTING GUIDELINES FOR HIGHWAY BRIDGES)
LOADING
HS20-44 & ALTERNATE MILITARY, WITH ALLOWANCE FOR 25 psf FUTURE WEARING SURFACE

DESIGN STRESSES (New)
f'c = 3,500 psi
fy = 60,000 psi (REINF. BARS)
fy = 36,000 psi (STRUCT. STL. M-183) (COMPOSITE)

DESIGN STRESSES (EXIST. CONST.)
f'c = 3,500 psi
fy = 40,000 psi (REINF. BARS)
fs = 20,000 psi (REINF. BARS)
fs = 18,000 psi (STRUCT. STL.- NON-COMPOSITE)

STATE OF ILLINOIS
No. 4647
REGISTERED STRUCTURAL ENGINEER



LOCATION SKETCH

GENERAL PLAN & ELEVATION
FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	42
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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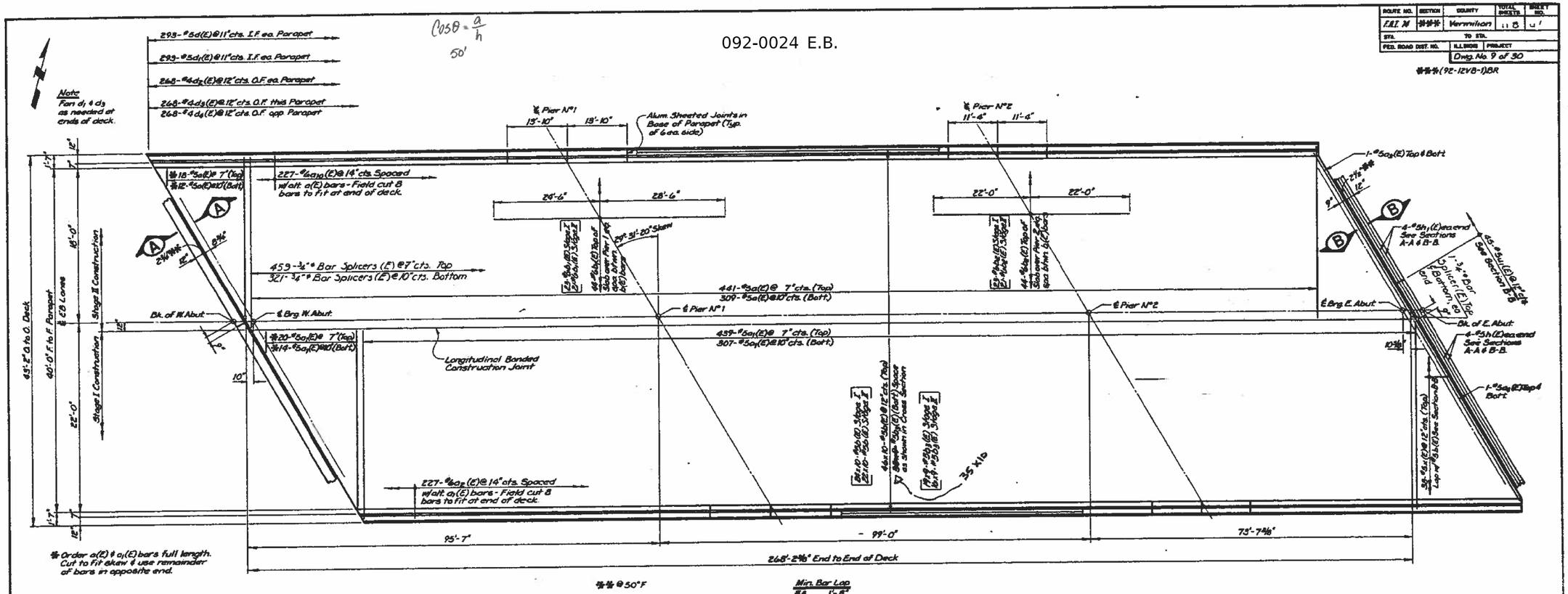
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. N	###	Vermilion	11 B	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

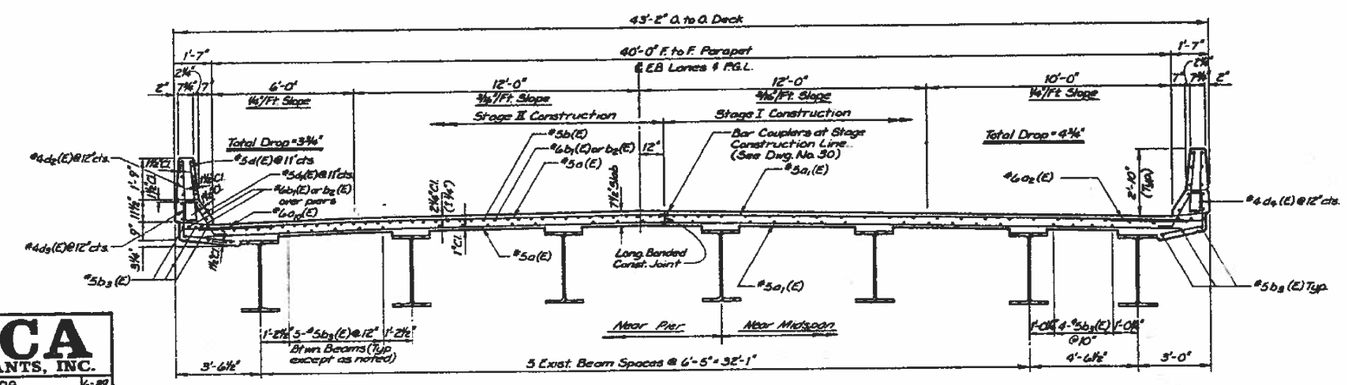
Dwg. No. 9 of 30

###(92-12VB-1)BR

092-0024 E.B.



PLAN



CROSS SECTION
(LOOKING EAST)

NOTES

1. SEE DWG. NO. 11 FOR SECTIONS A-A & B-B.
2. BARS INDICATED THUS: #4x10-#5, ETC., INDICATES 44 LINES OF BARS WITH 10 LENGTHS PER LINE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATION OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 12.
5. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

SUPERSTRUCTURE (EB)

FAI 74 OVER SEABOARD SYSTEMS RR
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

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USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

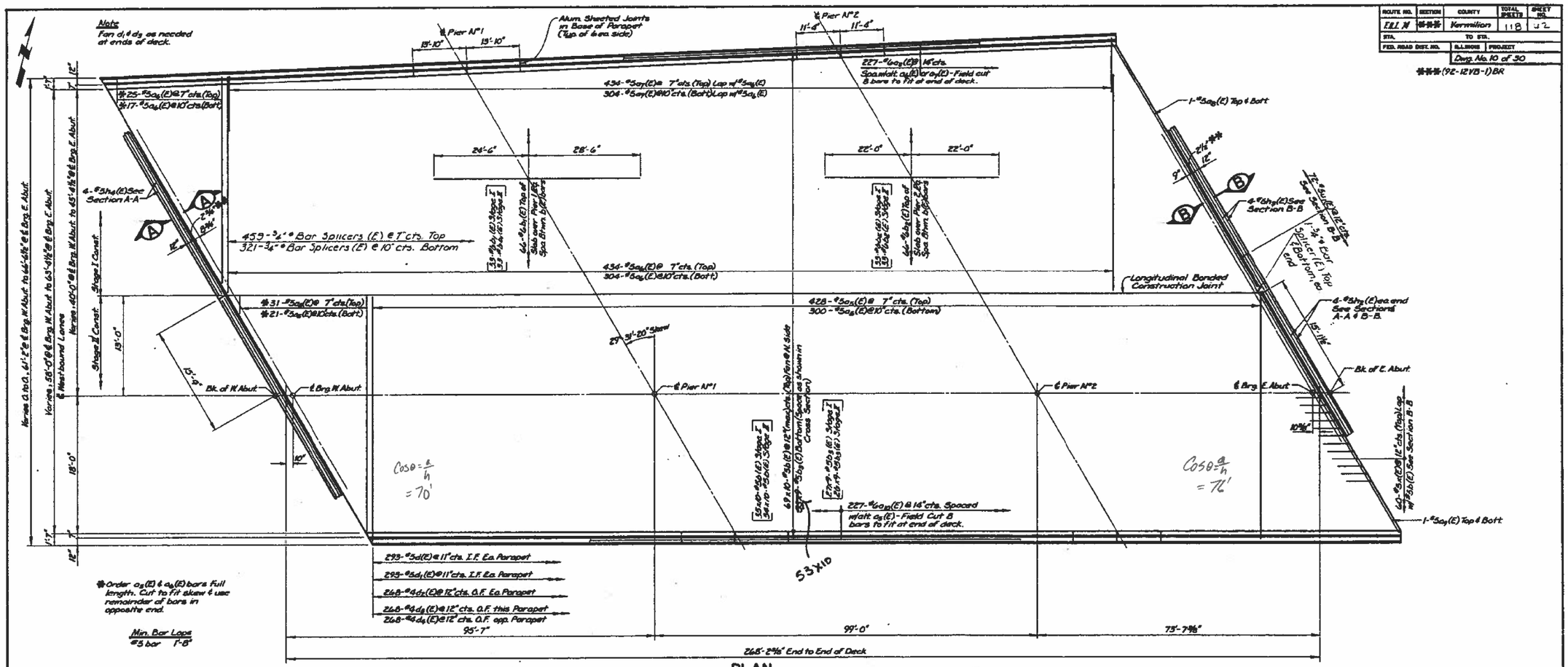
SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	43
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	*****	Vermilion	118	42
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Dwg. No. 10 of 30

*****(92-12VB-1)BR



PLAN

CROSS SECTION
(LOOKING WEST)

NOTES

1. SEE DWG. NO. 11 FOR SECTIONS A-A & B-B.
2. BARS INDICATED THUS: 66x10-#5, ETC., INDICATES 66 LINES OF BARS WITH 10 LENGTHS PER LINE.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
4. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DRAWING. LOCATION OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 12.
5. REINFORCEMENT BARS AND BAR SPLICERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

SUPERSTRUCTURE (WB)

FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	44
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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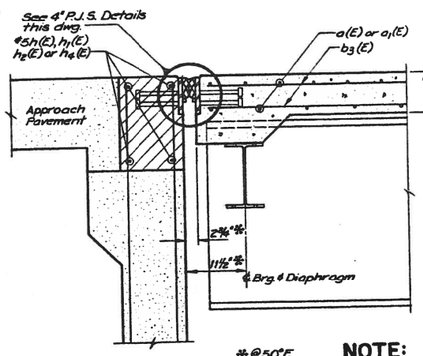
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	*****	Vermilion	118	43
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

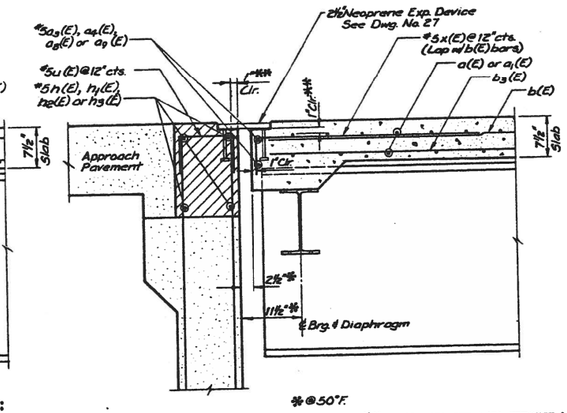
Dwg. No. 11 of 30

***** (92-12VB-1)BR



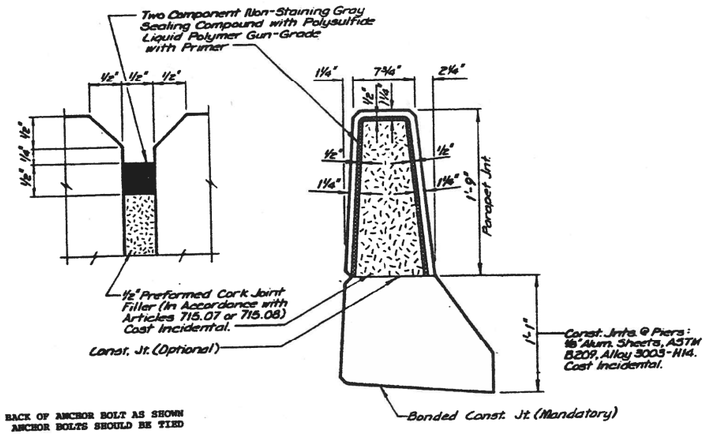
SECTION A-A

NOTE:
HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.



SECTION B-B

*** PLACE a(E) AND h(E) THROUGH b3(E) BARS IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1" CL. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO a(E) AND h(E) THROUGH b3(E) BARS.

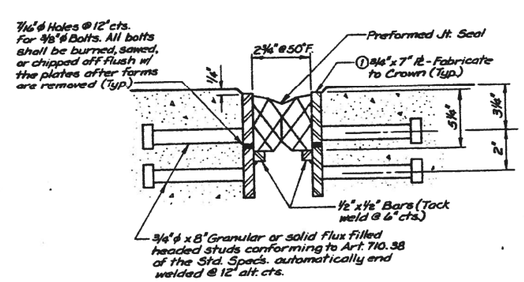


DETAILS OF PARAPET JOINT

(See Dwg. No. 12 for locations of these joints)

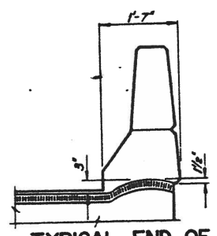
NOTES

1. FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.
2. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
3. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE LEAD & CHROMATE FREE ALKYD PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREWASH AS PER MIL-P-15328.
4. THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.
5. Bars designated (E) shall be epoxy coated.

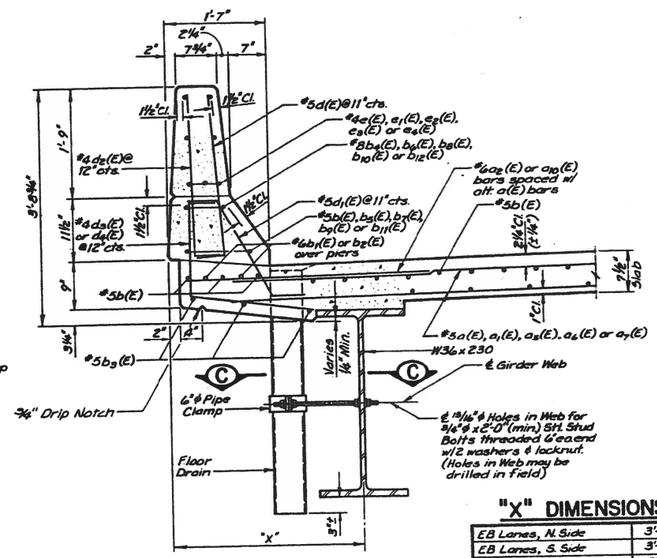


TYPICAL SECTION

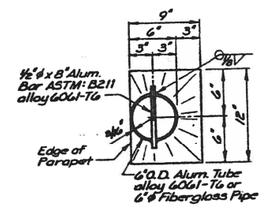
① Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel. Centerline of one space to be located at Stage Const. Line.



TYPICAL END OF SEAL TREATMENT

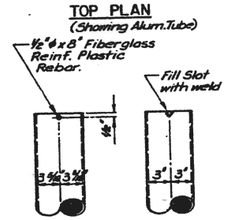


SECTION THRU PARAPET



TOP PLAN

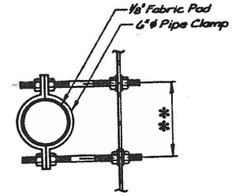
(Showing Alum. Tube)



FIBERGLASS PIPE

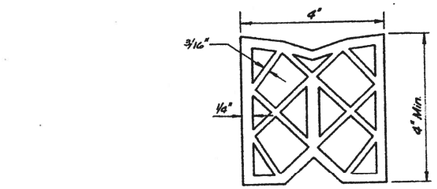
ALUMINUM TUBE

FLOOR DRAIN DETAILS



** Dimension as required by Pipe Clamp.

SECTION C-C



4" P.J.S. DETAILS

"X" DIMENSIONS

EB Lanes, N. Side	3'-6½"
EB Lanes, S. Side	3'-0"
WB Lanes, N. Side	2'-11"
WB Lanes, S. Side	3'-5"

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

SUPERSTRUCTURE DETAILS
FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

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USER NAME = dawsonkb	DESIGNED -	REVISED -	
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PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

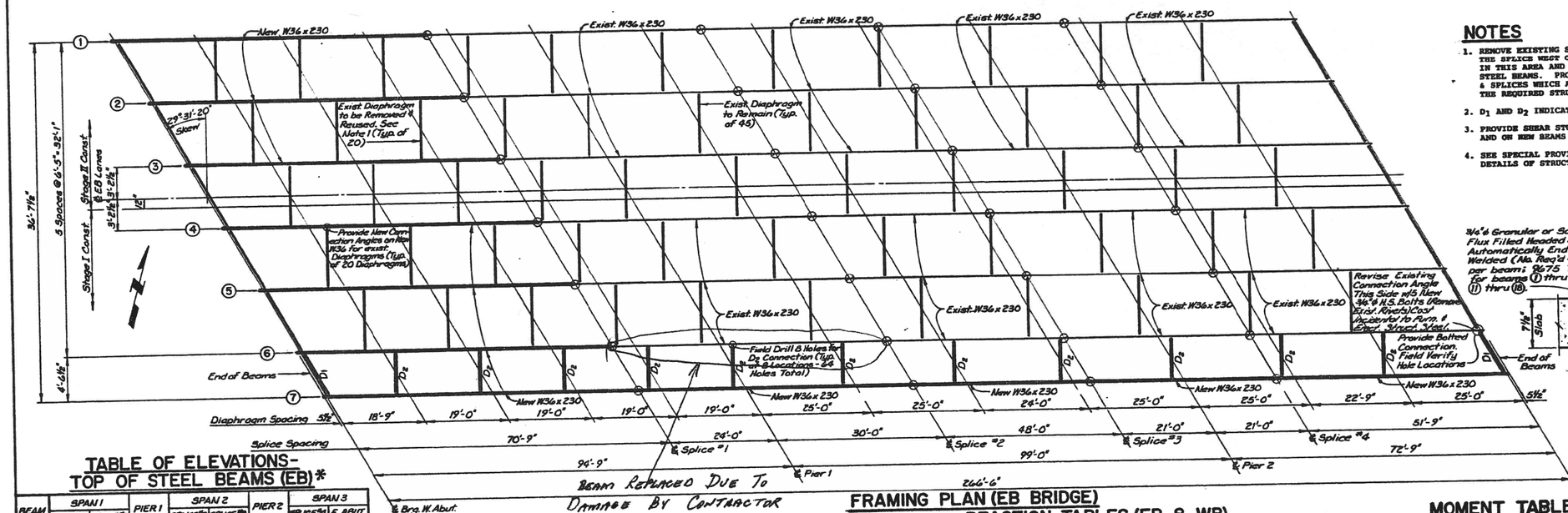
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	45
	D5 BRIDGE PAINTING 2020-1	CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

092-0024 E.B.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	[illegible]	Vermilion	115	46
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	
			Dwg. No. 14 of 30	

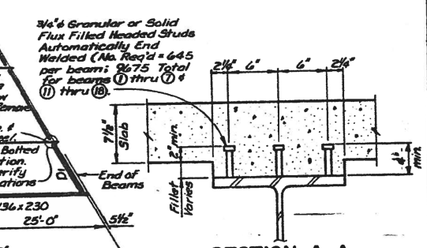
(92-12VB-1)BR



FRAMING PLAN (EB BRIDGE)

NOTES

1. REMOVE EXISTING STRUCTURAL STEEL BETWEEN THE W. ABUT. AND THE SPLICE WEST OF PIER 1. PRESERVE EXISTING DIAPHRAGMS IN THIS AREA AND INCORPORATE INTO NEW WORK. PROVIDE NEW STEEL BEAMS. PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS & SPLICES WHICH ARE UNCONNECTED OR LOOSENED TO FACILITATE THE REQUIRED STRUCTURAL STEEL WORK.
2. D_1 AND D_2 INDICATE NEW DIAPHRAGMS.
3. PROVIDE SHEAR STUDS ON EXISTING STEEL BEAMS TO REMAIN AND ON NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
4. SEE SPECIAL PROVISIONS AND DWG. NO. 15 FOR ADDITIONAL DETAILS OF STRUCTURAL STEEL.

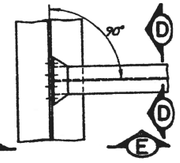


SECTION A-A

TABLE OF ELEVATIONS - TOP OF STEEL BEAMS (EB)*

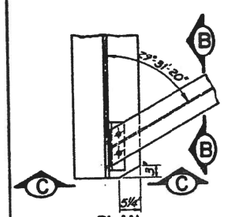
BEAM	SPAN 1 W. ABUT.	SPAN 1 SPLICE #1	PIER 1	SPAN 2 SPLICE #2	SPAN 2 SPLICE #3	PIER 2	SPAN 3 SPLICE #4	SPAN 3 E. ABUT.
①	688.812	688.932	688.956	688.985	688.960	688.930	688.899	688.834
②	688.929	689.041	689.063	689.090	689.061	689.029	688.996	688.926
③	689.014	689.120	689.139	689.163	689.130	689.096	689.061	688.986
④	689.026	689.126	689.143	689.164	689.127	689.091	689.054	688.974
⑤	688.965	689.058	689.073	689.091	689.049	689.011	688.973	688.888
⑥	688.871	688.958	688.970	688.984	688.939	688.899	688.859	688.770
⑦	688.785	688.861	688.877	688.893	688.835	688.795	688.755	688.666

* Elevations shown are Top of Flange (not Splice ℞ or Cover ℞) after jacking; they do not include deflection, & are given for use in fabrication of New Steel Beams & to assist the contractor in determining req'd thickness of Shim ℞'s under bearings.

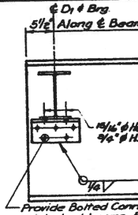


PLAN

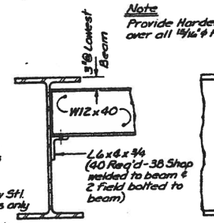
Note: Provide Hardened Washers over all 13/16"ϕ holes.



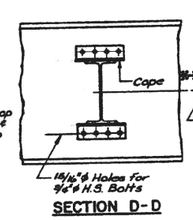
PLAN



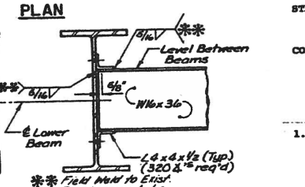
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

DIAPHRAGM D1 CONNECTION DETAILS

(8-D1 REQ'D)

DIAPHRAGM D2 CONNECTION DETAILS

(44-D2 REQ'D)

REACTION TABLES (EB & WB)

INTERIOR BEAMS (Exist. w/New Section @ W. End)		W. ABUT.	PIER 1	PIER 2	E. ABUT.	NEW INTERIOR BEAM W. ABUT.	PIER 1	PIER 2	E. ABUT.
R ℄	k	40.7	124.0	102.4	29.9	36.1	106.9	89.8	26.2
R ℄	k	34.9	56.8	51.4	29.6	27.2	47.6	43.3	30.1
IMP	k	8.4	12.9	13.0	7.5	6.2	10.8	11.0	7.6
R (TOTAL)	k	84.0	193.7	166.8	67.0	69.5	165.3	144.1	63.9

f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M_D ℞ + M_S ℞ + 5/3 M_{IM} ℞ + I)

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL)

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (TOTAL)

VR IS THE MAXIMUM ℞ + IMPACT SHEAR RANGE IN SPAN

M_s (APPLIED MOMENT) = 1.3 [M_D ℞ + M_S ℞ + 5/3 (M_{IM} ℞ + I)]

f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO

1.3 [M_D ℞ + M_S ℞ + 5/3 (M_{IM} ℞ + I)]

M_D ℞ N.C. = MOMENT DUE TO DEAD LOADS ON NONCOMPOSITE SECTION

M_S ℞ C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION

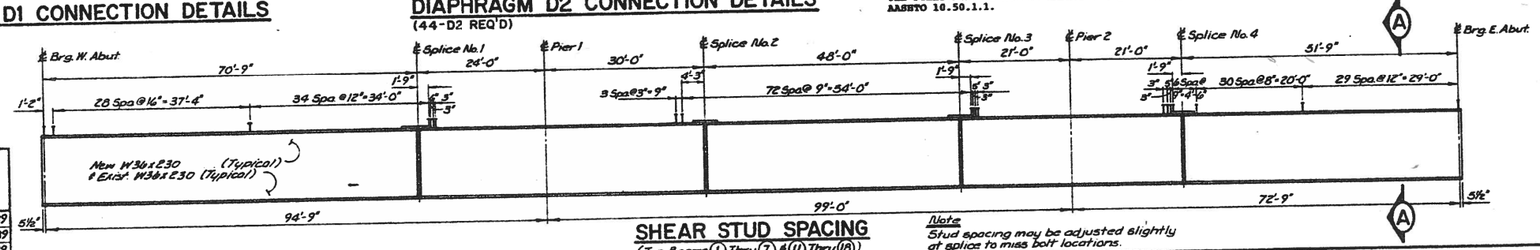
M_{IM} ℞ = MOMENT DUE TO LIVE LOAD OR NONCOMPOSITE OR COMPOSITE SECTION

M_{Imp} = MOMENT DUE TO LIVE LOAD IMPACT ON NONCOMPOSITE OR COMPOSITE SECTION

THE FULLY PLASTIC MOMENT CAPACITY (M_U) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1.

MOMENT TABLES (EB & WB)

INTERIOR BEAMS (Exist. w/New Section @ W. End)		0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3	NEW INTERIOR BEAM 0.4 SPAN 1	PIER 1	0.5 SPAN 2	PIER 2	0.6 SPAN 3
I_s	in⁴	15,000	24,543	15,000	21,254	15,000	15,000	15,000	15,000	15,000	15,000
I_c ℄ n=27	"	23,076		23,076		23,076	22,113		22,113		22,113
I_c ℄ n=9	"	31,460		31,460		31,460	30,062		30,062		30,062
S_s	in³	837	1299	837	1144	837	837	837	837	837	837
S_c ℄ n=27	"	991		991		991	976		976		976
S_c ℄ n=9	"	1094		1094		1094	1079		1079		1079
℄ N.C.	ft	0.84	1.21	0.84	1.18	0.84	0.75	0.98	0.75	0.98	0.75
M ℄ N.C.	ft-k	554.5	1129.3	296.5	762.9	298.0	503.6	941.9	280.0	665.6	263.6
℄ C.	"	0.27		0.27		0.27	0.23		0.23		0.23
M_S ℄ C.	"	190.2		118.1		102.1	164.6		106.9		87.4
M ℄	"	689.9	491.5	640.2	392.5	522.7	602.8	389.2	546.4	323.0	450.3
M IMP	"	157.0	111.8	142.9	98.2	132.2	137.2	88.6	122.0	81.7	108.8
5/3(M℄+IMP)	"	1411.5	1005.5	1305.2	879.5	1091.5	1233.3	796.3	1118.0	674.5	898.5
M_D	"	2803.1	2775.2	2235.7	2057.1	2520.8	2474.6	2259.7	1951.2	1742.1	1624.4
f_s ℄ N.C.	ksi	7.95	10.44	4.25	8.00	4.27	7.22	13.50	4.02	9.54	3.78
f_s ℄ C.	"	2.30		1.43		1.24	2.05		1.31		1.07
f_s 4/3(℄+I)	"	15.48	9.29	14.32	8.60	11.98	13.72	11.42	12.39	9.67	10.00
f_s (TOTAL)	"		25.65		21.58		29.60	32.39		24.97	
VR	k	48.3		49.6		47.1	40.6		43.2		41.3
M_U	ft-k	4325		4325		4325	4195		4195		4195
f_s (Over Load)	ksi	25.73	19.73	20.00	16.60	17.49	22.99	24.92	17.72	19.21	14.85



SHEAR STUD SPACING

(Typ. Beams ① Thru ⑦ & ⑪ Thru ⑱)

Note: Stud spacing may be adjusted slightly at splice to miss bolt locations.

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

SUPERSTRUCTURE STEEL DETAILS

FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023 (WB)
STRUCTURE NO. 092-0024 (EB)

MODEL: $MODELNAMES
FILE NAME: pw:\\dbarroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\Districts\District 5\Projects\D570E06\CADData\Design\D570E06-sht-details.dgn

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	46
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

092-0023 W.B.

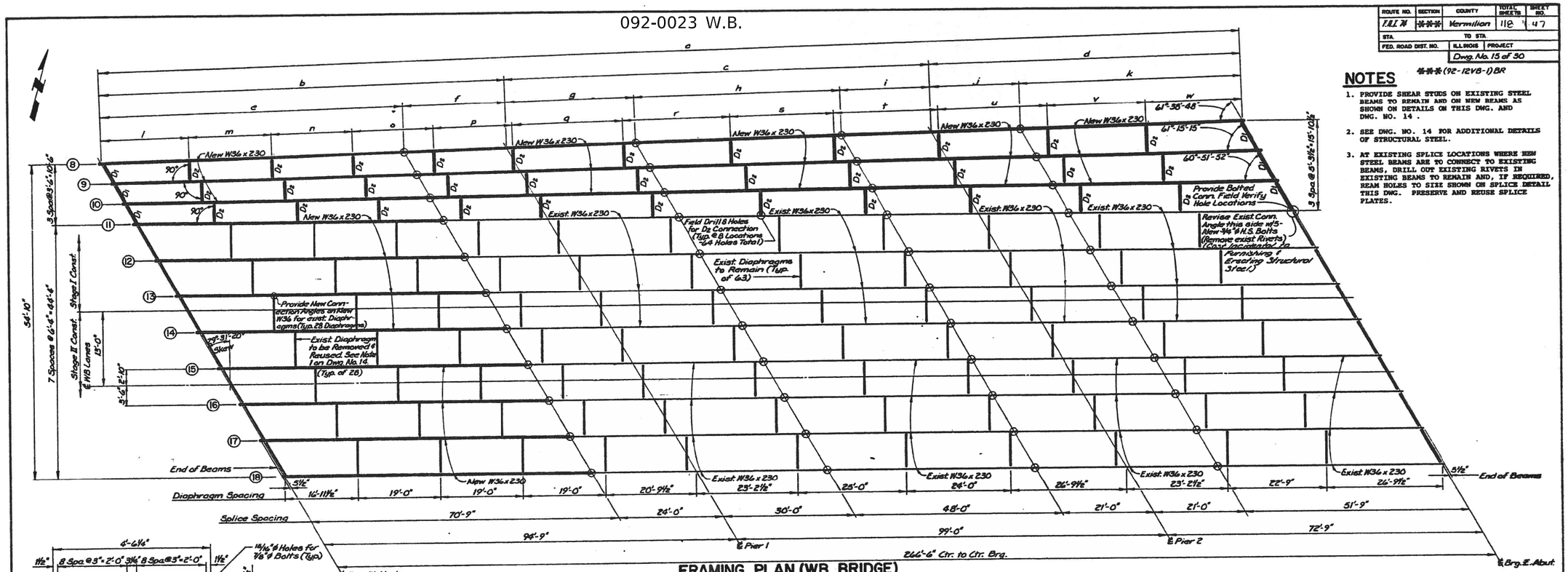
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	~~XX-XX-XX~~	Vermilion	112	47
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Dwg. No. 15 of 30

~~XX-XX-XX~~ (92-12VB-1)BR

NOTES

1. PROVIDE SHEAR STUDS ON EXISTING STEEL BEAMS TO REMAIN AND ON NEW BEAMS AS SHOWN ON DETAILS ON THIS DWG. AND DWG. NO. 14 .
2. SEE DWG. NO. 14 FOR ADDITIONAL DETAILS OF STRUCTURAL STEEL.
3. AT EXISTING SPLICE LOCATIONS WHERE NEW STEEL BEAMS ARE TO CONNECT TO EXISTING BEAMS, DRILL OUT EXISTING RIVETS IN EXISTING BEAMS TO REMAIN AND, IF REQUIRED, REAM HOLES TO SIZE SHOWN ON SPLICE DETAIL THIS DWG. PRESERVE AND REUSE SPLICE PLATES.



FRAMING PLAN (WB BRIDGE)

TABLE OF BEAM DIMENSIONS

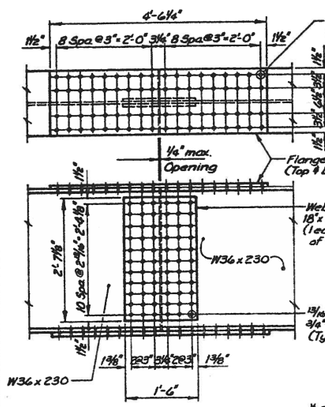
BEAM	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w
8	263'-6 1/8"	93'-8 1/8"	97'-10 7/16"	71'-11 3/16"	69'-11 1/2"	23'-8 3/8"	29'-8"	47'-5 3/8"	20'-9 3/16"	20'-9 3/16"	51'-2 1/16"	18'-9 3/16"	18'-10 9/16"	18'-10 9/16"	18'-10 9/16"	18'-4 9/16"	25'-3 7/8"	24'-9 3/16"	23'-9 9/16"	23'-11 1/16"	25'-8 1/16"	22'-6 9/16"	23'-8"
9	264'-5 9/16"	94'-0 7/16"	98'-3 1/16"	72'-2 7/16"	70'-2 9/16"	23'-9 3/16"	29'-9 9/16"	47'-7 9/16"	20'-10 1/16"	20'-10 1/16"	51'-4 9/16"	18'-9 9/16"	18'-11 1/16"	18'-11 1/16"	18'-11 1/16"	18'-5 1/8"	25'-4 7/8"	24'-10 7/16"	23'-10 7/16"	24'-0 7/16"	25'-9 9/16"	22'-8"	23'-9 9/16"
10	265'-5 7/8"	94'-4 7/16"	98'-7 1/16"	72'-5 7/16"	70'-5 9/16"	23'-10 3/16"	29'-10 1/16"	47'-9 9/16"	20'-11 1/16"	20'-11 1/16"	51'-6 1/16"	18'-11 9/16"	19'-0"	19'-0"	19'-0"	18'-5 7/16"	25'-6 1/16"	25'-0"	24'-0"	24'-0 7/16"	25'-11 7/16"	22'-9"	23'-9 9/16"

TABLE OF ELEVATIONS - TOP OF STEEL BEAMS**

BEAM	SPAN 1 W. ABUT.	SPAN 1 SPLICE	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	SPAN 3 E. ABUT.
8	688.255	688.428	688.478	688.540	688.554	688.546	688.538	688.532
9	688.341	688.522	688.572	688.634	688.652	688.644	688.636	688.633
10	688.408	688.592	688.642	688.704	688.727	688.719	688.711	688.709
11	688.390	688.577	688.627	688.689	688.716	688.709	688.701	688.704
12	688.565	688.696	688.744	688.804	688.826	688.817	688.807	688.805
13	688.661	688.835	688.881	688.938	688.956	688.945	688.933	688.926

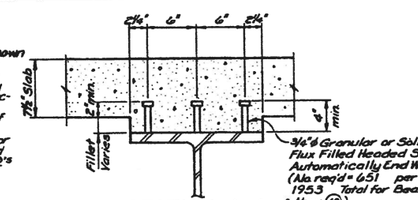
BEAM	SPAN 1 W. ABUT.	SPAN 1 SPLICE	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	SPAN 3 E. ABUT.
14	688.802	688.971	689.014	689.068	689.082	689.069	689.055	689.044
15	688.879	689.041	689.082	689.133	689.142	689.127	689.111	689.096
16	688.894	689.049	689.088	689.136	689.141	689.126	689.107	689.086
17	688.896	688.985	689.022	689.068	689.068	689.049	689.030	689.005
18	688.746	688.888	688.923	688.966	688.962	688.941	688.920	688.889

** Elevations shown are Top of Flange (not Splice ℙ or Cover ℙ) after jacking; they do not include deflection, & are given for use in fabrication of new Stl. Beams & to assist the contractor in determining req'd thickness of Shim ℙ's under bearings.



FIELD SPLICE DETAIL

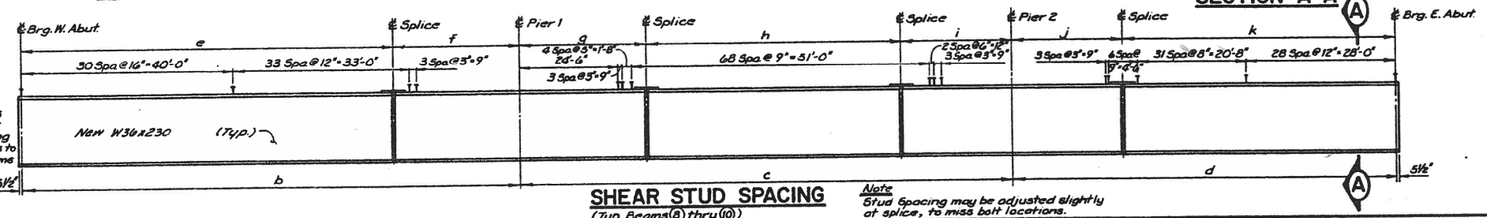
Note
32 New Flange ℙ's & 32 New Web ℙ's req'd. & 320 # 7/8" ø Flange Bolts and 1980 # 3/4" ø Web Bolts req'd.



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Shear Studs	Each	11,628
Adjust & Reposition Bearings	Each	36
Structural Steel Removal	Lbs.	227600



SHEAR STUD SPACING

(Typ. Beams 8 thru 10)

Note
Stud Spacing may be adjusted slightly at splice, to miss bolt locations.

SUPERSTRUCTURE STEEL DETAILS

FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

REVISED 4-15-91

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

Includes Bolts for Connecting New Beams to Exist. Beams

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

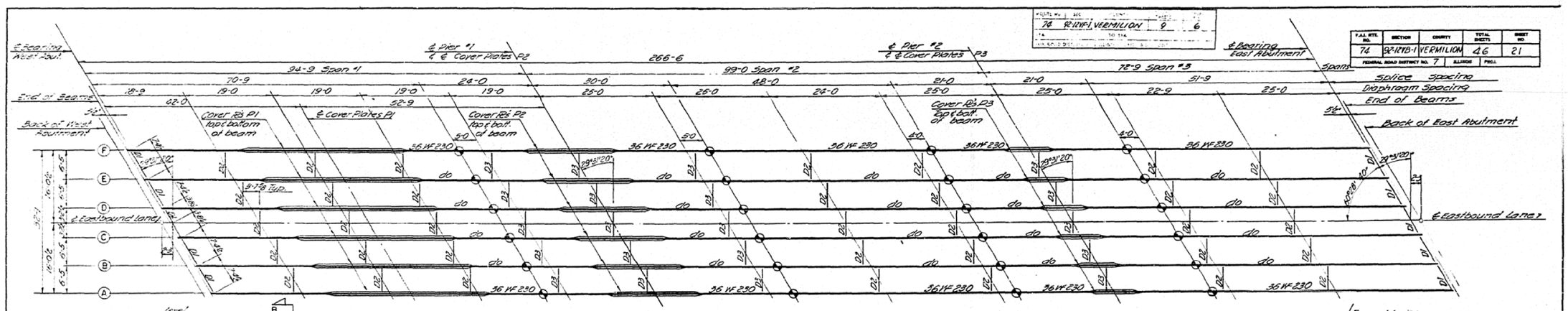
FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	47
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

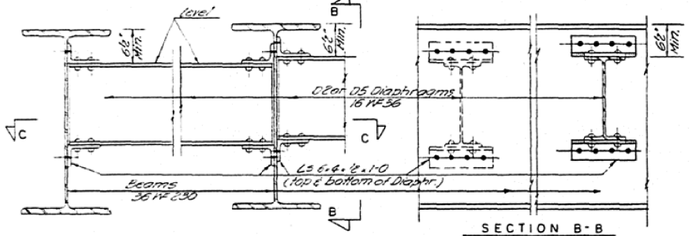
MODEL: $MODELNAMES
FILE NAME: pw:\\uilanroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12VB-1	VERMILION	46	21
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PROJ.	

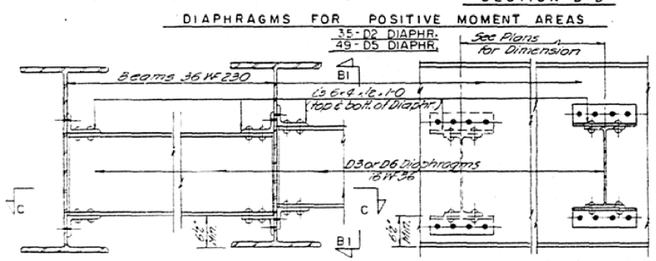


FRAMING PLAN - RIGHT BRIDGE

092-0024 E.B.
(1962 PLANS)



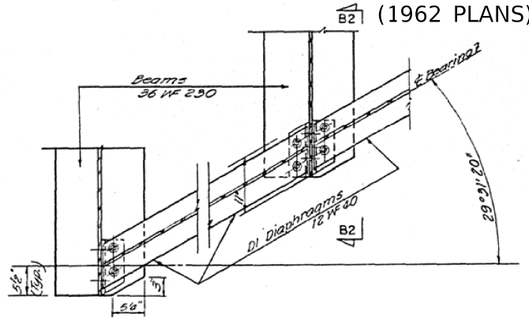
SECTION B-B



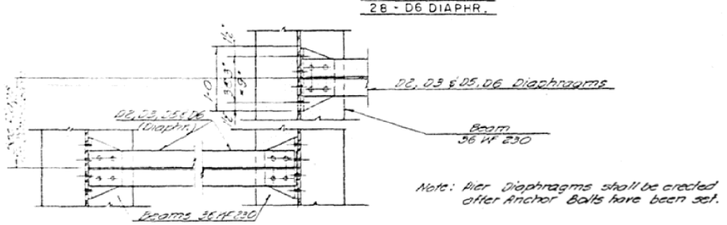
DIAPHRAGMS FOR POSITIVE MOMENT AREAS

SECTION B1-B1

DIAPHRAGMS FOR NEGATIVE MOMENT AREAS
20 - D3 DIAPHR.
26 - D6 DIAPHR.



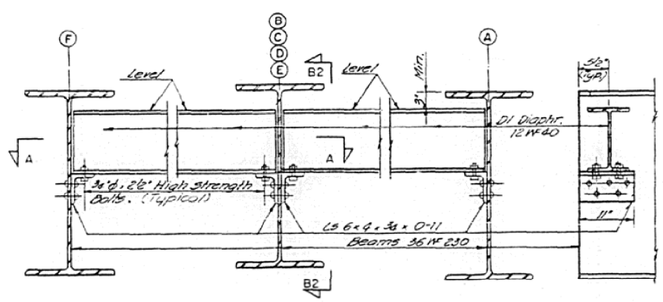
SECTION A-A



Note: Pier Diaphragms shall be erected after Anchor Bolts have been set.

SECTION C-C

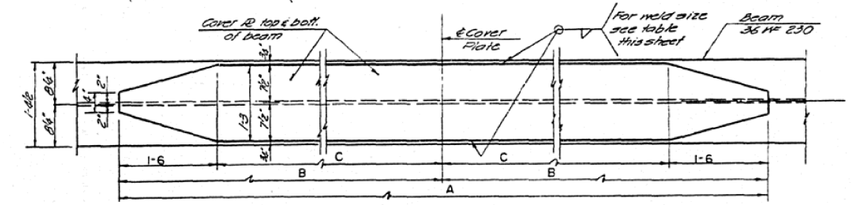
INTERMEDIATE DIAPHRAGMS - RIGHT & LEFT BRIDGE



SECTION B2-B2

END DIAPHRAGMS - RIGHT BRIDGE
WEST & EAST ABUTMENT SHOWN
10 - D1 DIAPHR.

092-0024 E.B.
(1962 PLANS)



COVER PLATE DETAIL

COVER PLATE DIMENSIONS							
MK	Thickness	Width	A	B	C	Weld Size	No. Req'd.
P1	3/8"	1'-3	35'-0	17'-6	16'-0	5/16	28
P2	13/16"	1'-3	20'-6	10'-3	8'-9	5/16	28
P3	5/8"	1'-3	12'-0	5'-9	6'-6	5/16	28

TABLE OF ELEVATIONS - TOP OF STEEL BEAMS (*)

BRIDGE	BEAM	SPAN NO. 1 W. ABUT	SPAN NO. 1 SPLICE	PIER NO. 1	SPAN NO. 2 SPLICE	SPAN NO. 2 SPLICE	PIER NO. 2	SPAN NO. 3 SPLICE	SPAN NO. 3 E. ABUT.
RIGHT BRIDGE	A	688.788	688.833	688.845	688.861	688.824	688.782	688.746	688.687
	B	688.882	688.923	688.948	688.966	688.934	688.896	688.865	688.805
	C	688.943	690.001	689.018	689.039	689.012	688.976	688.959	688.891
	D	688.981	688.995	689.014	689.038	689.015	688.981	688.946	688.905
	E	688.846	688.916	688.938	688.965	688.946	688.914	688.881	688.843
	F	688.729	688.807	688.831	688.860	688.845	688.815	688.782	688.751
LEFT BRIDGE	G	688.663	688.773	688.808	688.851	688.858	688.837	688.816	688.806
	H	688.759	688.870	688.907	688.925	688.944	688.925	688.926	688.922
	I	688.811	688.934	688.973	689.021	689.037	689.020	689.003	689.003
	J	688.796	688.926	688.967	689.018	689.038	689.023	689.007	689.013
	K	688.719	688.856	688.899	688.953	688.979	688.965	688.951	688.961
	L	688.578	688.720	688.766	688.823	688.852	688.841	688.829	688.845
	M	688.432	688.581	688.629	688.689	688.722	688.713	688.705	688.722
	N	688.307	688.462	688.512	688.576	688.612	688.605	688.597	688.621

* Beam Flange without Splice or Cover Plate.

Note: For fabrication use only, does not include deflection.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER C. & E. I. R. R.
FAI - 74 SECTION 92-12 VB-1, VF-1
VERMILION COUNTY STA. 2203+43.26

STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EER	JT	JT	RBS LDB	HSM 1-30-62		

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

FOR INFO ONLY - STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	48
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

MODEL: $MODELNAMES
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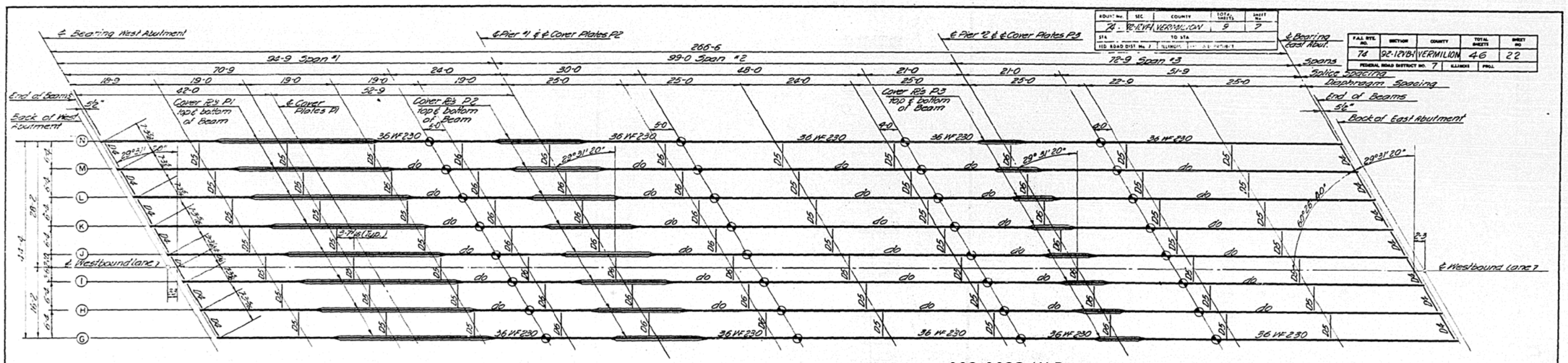
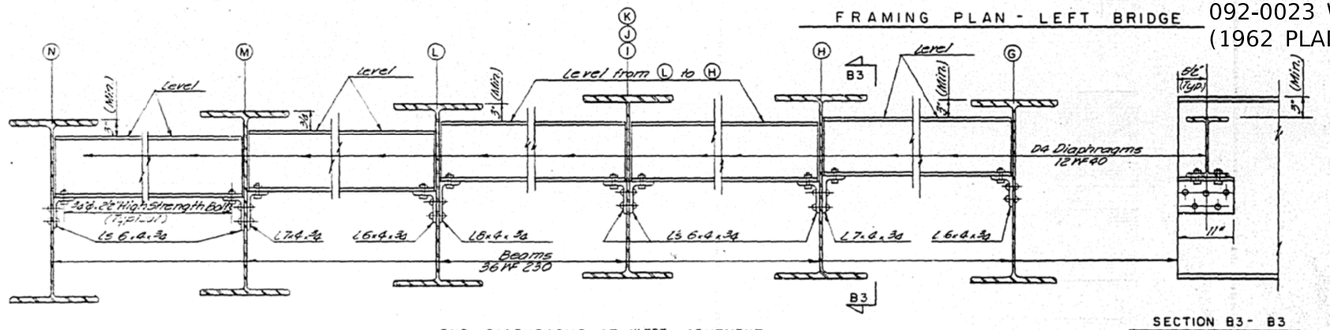
ROUT. No.	SEC.	COUNTY	TOTAL SHEETS	SHEET No.
74	92-12VB1	VERMILION	5	2
STA.	TO STA.			
FED. ROAD DIST. No. 7	ILLINOIS			

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12VB1	VERMILION	46	22
FEDERAL ROAD DISTRICT NO. 7	ILLINOIS	PROJ.		

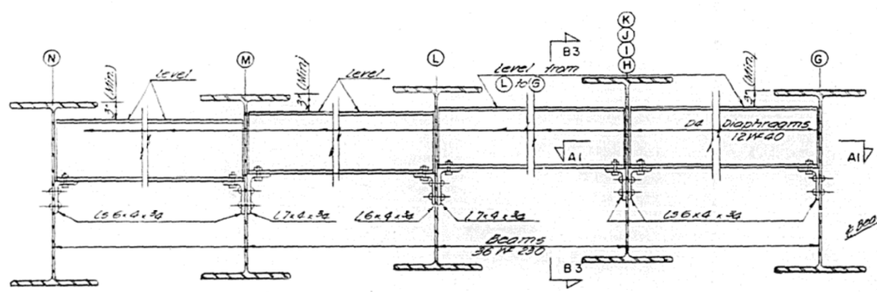


FRAMING PLAN - LEFT BRIDGE

092-0023 W.B.
(1962 PLANS)



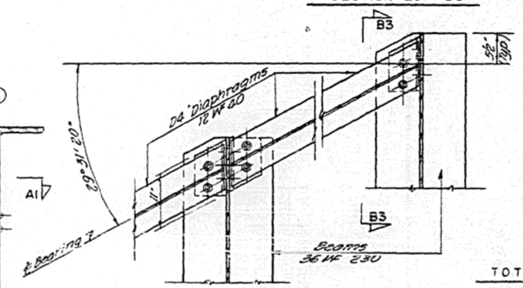
END DIAPHRAGMS AT WEST ABUTMENT
7-D4 DIAPHR.



END DIAPHRAGMS AT EAST ABUTMENT
7-D4 DIAPHR.

092-0023 W.B.
(1962 PLANS)

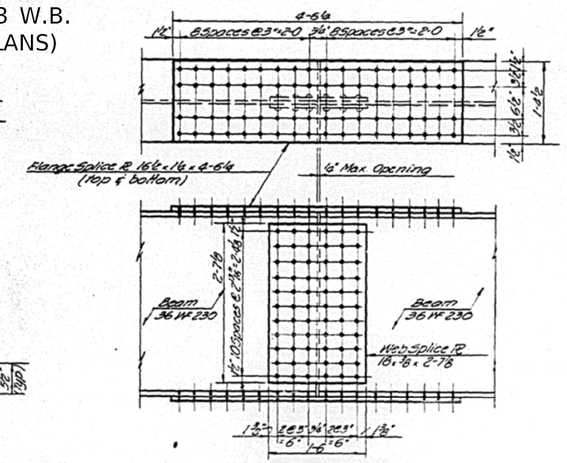
END DIAPHRAGMS - LEFT BRIDGE



SECTION B3 - B3

SECTION A1 - A1

Note: Pier Diaphragms shall be erected after Anchor Bolts have been set.



FIELD SPLICE DETAIL
56 REQUIRED

Note: All rivet holes to be reamed with all parts assembled to grade and parts match marked.
¾"ϕ Rivets in all Web Splices & Diaphragm Connections
⅞"ϕ Rivets in all Flange Splices

TOTAL COMPUTED WEIGHT OF FRAMING STEEL
STRUCTURAL STEEL 1,016,710 LBS.
(2 BRIDGES)

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS — CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER C. & E. I. R.R.
FAI - 74 SECTION 92-12VB-1, VF-1
VERMILION COUNTY — STA. 2203+43.26

STRUCTURAL STEEL DETAILS

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LEP	JT	JT	RBS LDB	HSM	1-30-62	

USER NAME = dawsonkb	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

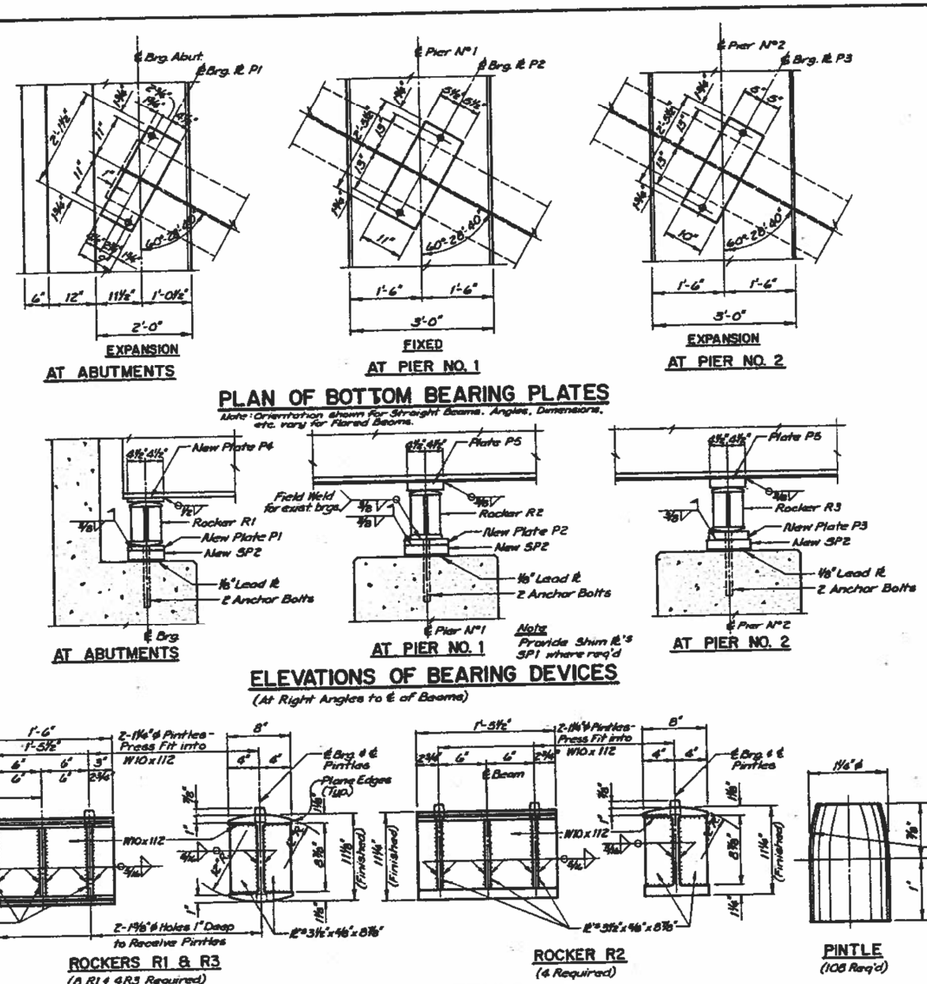
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	49
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

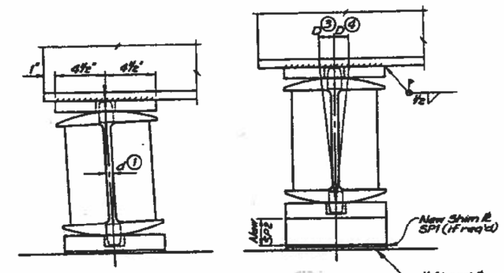
MODEL: SMODELNAMES
FILE NAME: pw:\\dhanroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	74	Vermilion	110	45
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Orig. No. 16 of 30

74 (92-12VB-1)BR

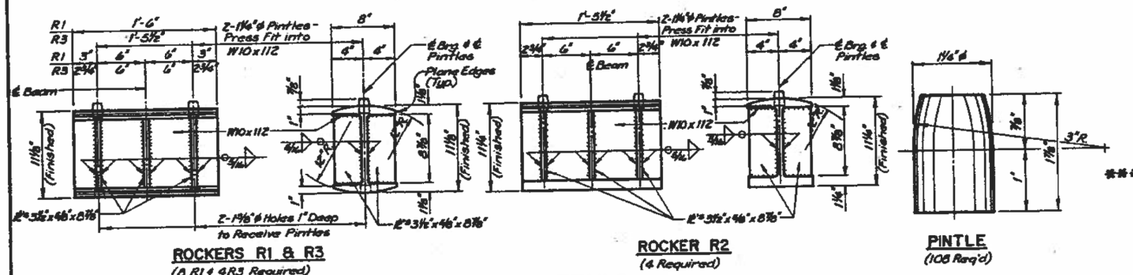




NOTE: NEW PINTLES PLACED ON ROCKERS AT ABUTMENTS DUE TO SEVERE DETERIORATION OF OLD PINTALS.

PROCEDURE:

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR RAISING, SHIMMING, AND REPOSITIONING EXISTING BEARINGS AND BEAMS PRIOR TO COMMENCING ANY RELATED WORK. THIS WORK SHALL BE DONE FOR EACH STAGE AFTER EXISTING CONCRETE DECK IS REMOVED, AFTER NEW STEEL IS INSTALLED, AND PRIOR TO POURING OF NEW CONCRETE DECK. THE MAXIMUM DEAD LOAD REACTION PER BEAM (WEIGHT OF STEEL ONLY) AT ABUTMENTS IS 9 kips AND AT PIERS IS 27 kips.
2. DIAPHRAGMS ALONG THE STAGE CONSTRUCTION LINE SHALL BE REMOVED BEFORE RAISING OPERATIONS COMMENCE. ALL BEARING ANCHOR BOLTS ON BEAMS TO BE RAISED SHALL BE REMOVED (CUT OFF FLUSH WITH BRG. SEAT. (SEE NOTE 6).
3. RAISING, SHIMMING, AND REPOSITIONING SHALL BE DONE BY JACKING. MEASURES SHALL BE TAKEN TO PREVENT LATERAL OR LONGITUDINAL DISPLACEMENT OF BEAMS DURING RAISING OPERATIONS. ALL BEAMS AT A GIVEN SUBSTRUCTURE ELEMENT SHALL BE SLOWLY AND CONTINUALLY RAISED THE SAME AMOUNT SIMULTANEOUSLY, WITH THE MAXIMUM AMOUNT OF RAISE LIMITED TO 3" GREATER THAN THAT REQUIRED TO INSTALL NEW SHIM PLATES. ANY SWAY OF THE STEEL DURING RAISING OPERATIONS SHALL BE IMMEDIATELY CORRECTED.
4. DIAPHRAGMS MAY BE USED AS JACKING BEAMS. IF SO, JACKS SHALL BE PLACED AT THE MIDPOINT OF THE DIAPHRAGM, ON THE CENTERLINE OF BEARING. THE STEEL SHALL BE RAISED IN INCREMENTS OF 1 1/2" AND SHALL BE BLOCKED IN POSITION UPON COMPLETION OF A RAISING INTERVAL. TIMBER BLOCKING MAY BE USED TO HOLD THE STRUCTURE IN PLACE WHILE JACKS ARE REPOSITIONED FOR THE NEXT LIFT.
5. PRIOR TO RAISING, EACH BEARING SHALL BE CHECKED TO DETERMINE WHETHER HORIZONTAL REPOSITIONING OF TOP BEARING PLATES IS REQUIRED. ALSO ELEVATIONS OF EXISTING BEARING SEATS SHALL BE TAKEN AND THE ENGINEER SHALL VERIFY THE THICKNESS OF SP2 SHIM PLATES REQUIRED UNDER EACH BEARING. THIS SHALL BE ACCOMPLISHED BY USING FIELD MEASUREMENTS ALONG WITH THE "TABLE OF ELEVATIONS - TOP OF STEEL BEARS" ON DWG. NOS. 14 AND 15. ONE SP2 AND TWO SP1 SHIM PLATES FOR EACH BEARING SHALL BE INCLUDED WITH THE STRUCTURAL STEEL, AND USED AS REQUIRED.
6. IF HORIZONTAL REPOSITIONING IS REQUIRED, THE WELDS ON THE EXISTING TOP PLATE SHALL BE REMOVED BY ARC GOUGING AND/OR GRINDING. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE BOTTOM FLANGE OF THE BEAM AND THE TOP PLATE. ANY UNAVOIDABLE GOUGES IN THE FLANGE SHALL BE GROUND SMOOTH. AFTER REMOVAL OF EXISTING WELDS ON THE TOP PLATE, THE WELD AREA SHALL BE CLEANED BY METHOD I IN ACCORDANCE WITH ART. 509.06(b) OF THE SPECIAL PROVISIONS.
7. RAISE BEAMS, INSTALL NEW LEAD PLATES, SHIM PLATES (AND NEW BOTTOM PLATES AT EXISTING BEARINGS). REMOVE EXISTING BOTTOM PLATES AND LEAD PLATES. PROPERLY POSITION ROCKERS AND TOP PLATES. LOWER BEAMS AND WELD TOP PLATE TO BEAM (IF REQUIRED) AS DETAILED. INSTALL NEW ANCHOR BOLTS. WELD SP2 TO BOTTOM PLATE. WELD NEW BOTTOM PLATE TO EXISTING FIXED BEARING OR ENGAGE PINTLES IN NEW BOTTOM PLATE WITH HOLES IN EXISTING ROCKERS.
8. AFTER WORK ON THE BEARING IS FINALIZED, REPAINT THESE AREAS WITH THE SAME PAINT SYSTEM SPECIFIED FOR THE EXISTING STRUCTURAL STEEL.
9. ALL WORK REQUIRED TO RAISE THE NEW AND EXISTING BEAMS SHALL BE PAID FOR AT THE LUMP SUM PRICE FOR "JACKING EXISTING STRUCTURES." THOSE EXISTING BEARINGS WHICH REQUIRE HORIZONTAL REPOSITIONING (REMOVAL, RELOCATING AND REWELDING OF TOP PLATES) SHALL BE PAID FOR AT THE PRICE PER EACH FOR "ADJUST AND REPOSITION BEARINGS." SEE SPECIAL PROVISIONS.

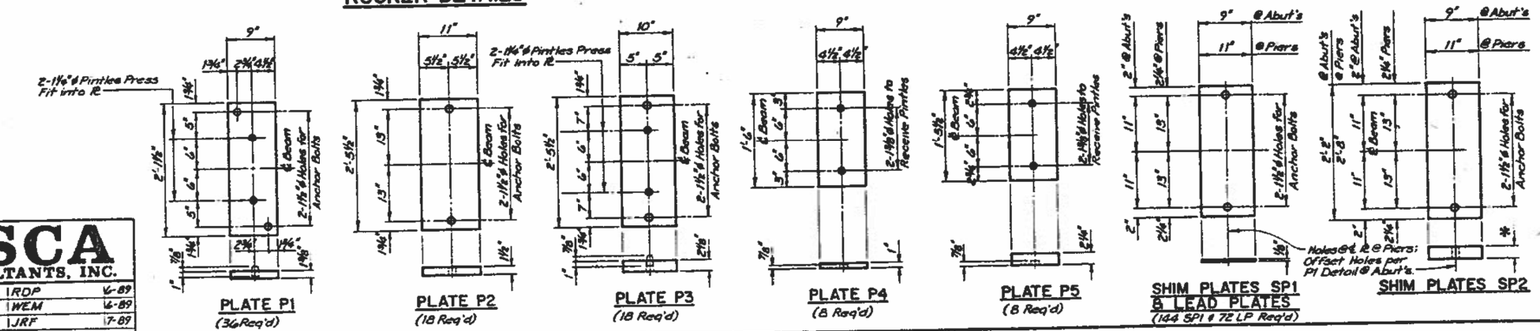


SHIM PLATES-SP2***

LOCATION	THICKNESS	No REQ'D
WB Bridge W. Abut.	7/8"	11
WB Bridge Pier 1	1 1/4"	11
WB Bridge Pier 2	1 1/8"	11
WB Bridge E. Abut.	7/8"	11
EB Bridge W. Abut.	7/8"	7
EB Bridge Pier 1	1 1/8"	7
EB Bridge Pier 2	1 1/4"	7
EB Bridge E. Abut.	7/8"	7

NOTES

1. ALL EXISTING BEARINGS TO BE USED IN NEW CONSTRUCTION.
2. PROVIDE SHIM PLATES SP2 UNDER ALL NEW AND EXISTING BEARINGS.
3. EXISTING BEAMS TO BE RAISED BY JACKING. SEE REPOSITIONING DETAIL THIS DRAWING.
4. SEE DWG. NO. 29 FOR ANCHOR BOLT DETAILS.
5. DETAILS ON THIS DRAWING DEPICT EXISTING BEARINGS AS WELL AS NEW BEARINGS.
6. PROVIDE ALL NEW LEAD PLATES AND PLATES P1, P2, & P3 (WITH NEW PINTLES ON P1 & P3), SUCH THAT NEW ANCHOR BOLT LOCATIONS WILL NOT CONFLICT WITH EXISTING. CUT ALL EXISTING ANCHOR BOLTS OFF FLUSH WITH TOP OF BEARING SEAT. REMOVE EXISTING BOTTOM PLATES AND LEAD PLATES.



ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	6-89
DRAWN BY:	WEM	6-89
CHECKED BY:	JRF	7-89
APPROVED BY:	RDP	7-89

BEARINGS

FAI 74 OVER SEABOARD SYSTEMS R.R.
FAI RTE. 74 SECTION (92-12VB-1)BR
VERMILION COUNTY
STATION 2203+43.26
STRUCTURE NO. 092-0023(WB)
STRUCTURE NO. 092-0024(EB)

USER NAME = dawsonkb	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

SCALE: | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	50
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

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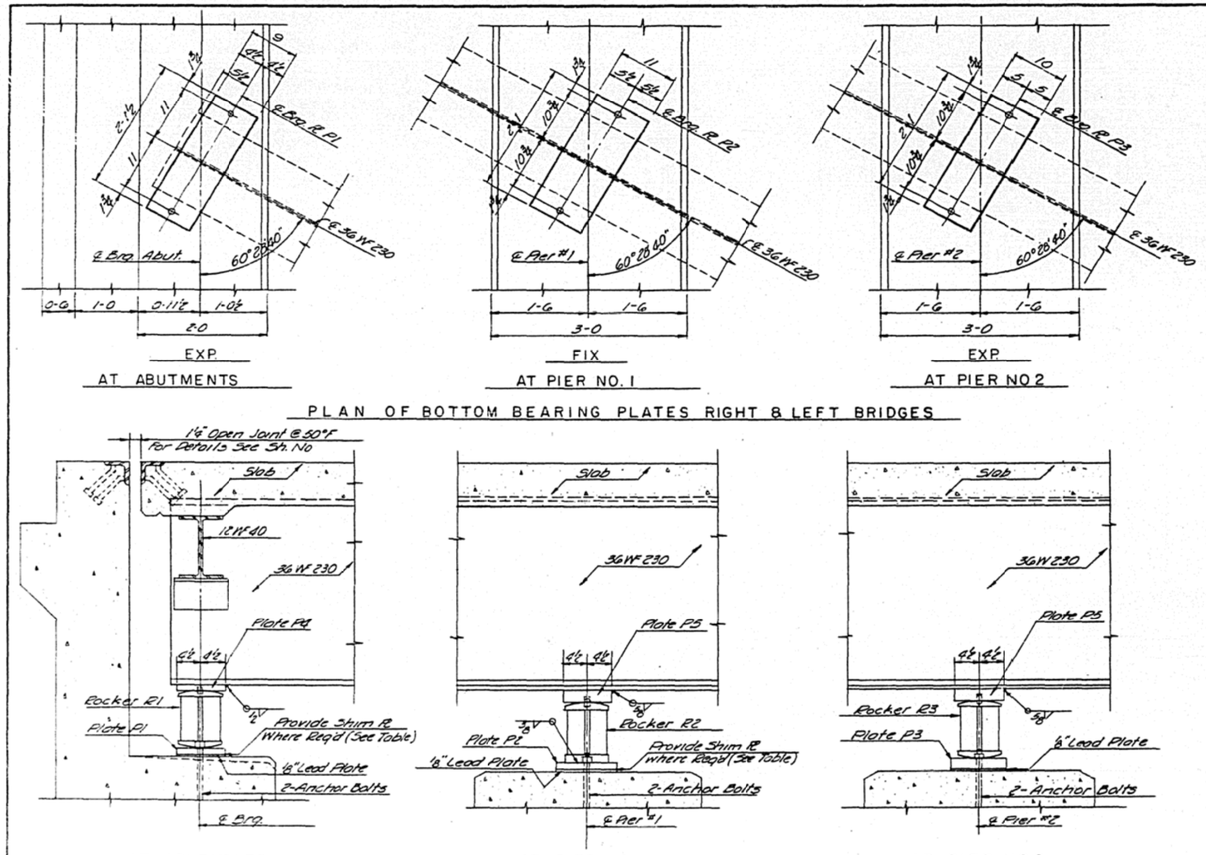
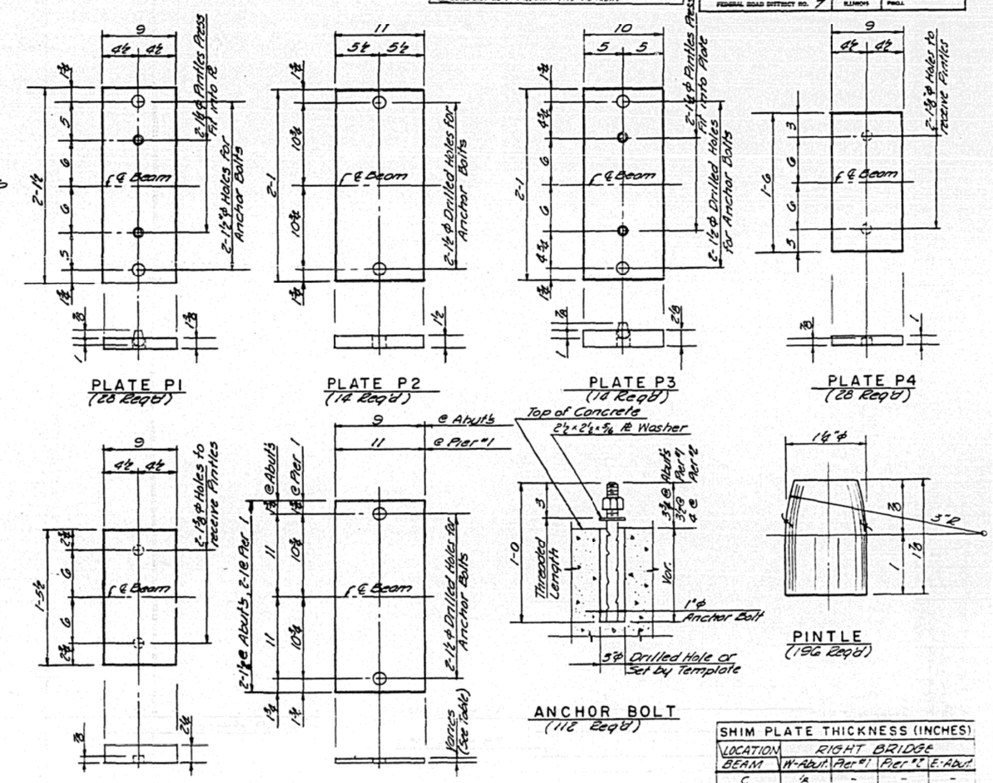
1962 PLANS

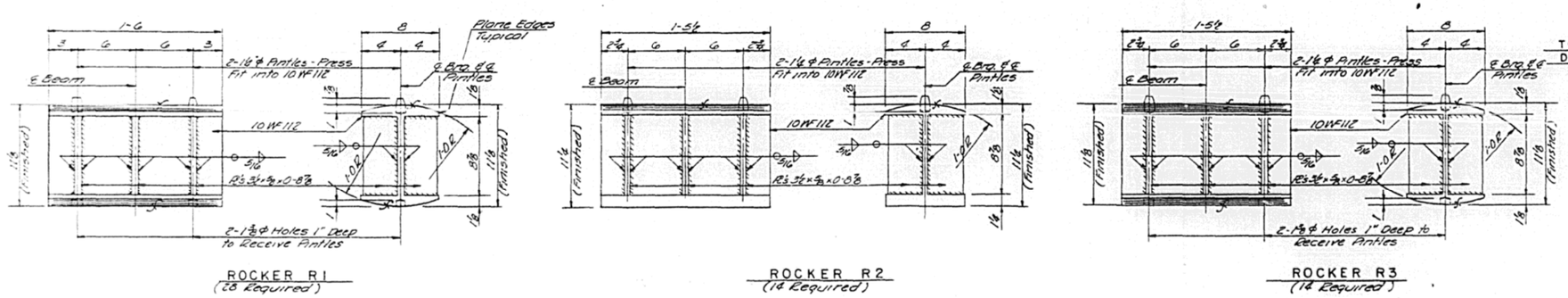
ROUTE No.	SEC.	COUNTY	TOTAL SHEETS	SHEET No.
74	92-12VF-1	VERMILION	9	9
STA.		TO STA.		
FED. ROAD DIST. No. 7	ILLINOIS	FED. AID PROJECT		

F.A.I. RTE. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12VB-1	VERMILION	46	24
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	FED. AID PROJECT	





SHIM PLATE THICKNESS (INCHES)				
LOCATION	RIGHT BRIDGE			
BEAM	W-Abut.	Pier #1	Pier #2	E-Abut.
C	⅛	-	-	-
D	-	-	-	⅛
	LEFT BRIDGE			
I	⅛	⅛	-	-
J	-	-	-	⅛



TOTAL COMPUTED WEIGHT OF BEARING DEVICES STRUCTURAL STEEL 63,360 LBS.

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT 74 OVER C. & E. I. R. R.
FAI-74 SECTION 92-12VB-1, VF-1
VERMILION COUNTY STA 2203+43.26

STRUCTURAL STEEL BEARING DEVICES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EER	EER	EER	RBS LDB	HSM	1-30-62	

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	DRAWN -	REVISED -
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/15/2019	DATE -	REVISED -

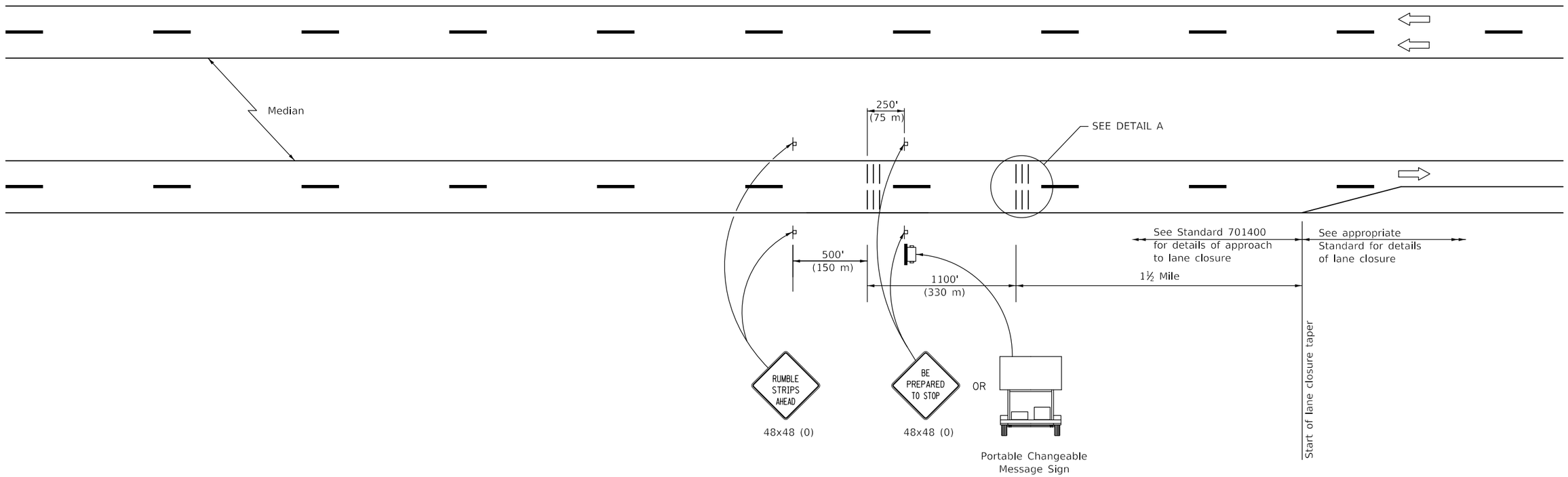
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFO ONLY – STRUCTURE DETAILS FOR LOCATIONS #5 & #6

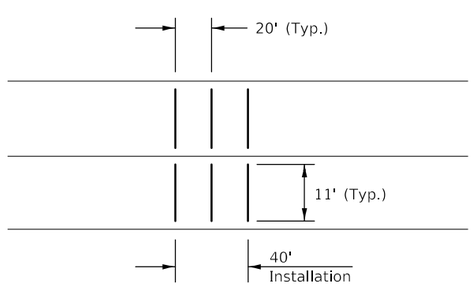
SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	VERMILION	52	51
D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
		ILLINOIS	FED. AID PROJECT	

DETAIL FOR TEMPORARY RUMBLE STRIPS (SPECIAL)



DETAIL A



SYMBOLS

Sign

Temporary Rumble Strips (Special)

Trailer Mounted Sign

GENERAL NOTES

Remove the Temporary Rumble Strips (Special) prior to the removal of the advanced warning signs.

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: $MODELNAMES
FILE NAME: pw:\\ildarroom.dot.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D570E06\CADData\Design\D570E06-sht-Details.dgn

USER NAME = dawsonkb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL FOR TEMPORARY RUMBLE STRIPS (SPECIAL)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			74	*	VERMILION	52	52
PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -			D5 BRIDGE PAINTING 2020-1		CONTRACT NO. 70E06		
PLOT DATE = 8/15/2019	DATE -	REVISED -		SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.	ILLINOIS	FED. AID PROJECT			