

01-19-2018 LETTING ITEM 039

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INDEX OF SHEETS, SEE SHEET NO. 2

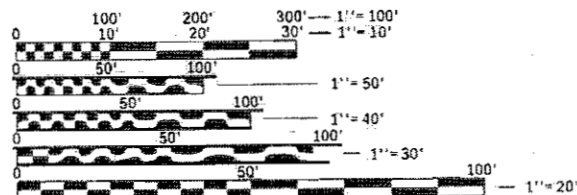
PROPOSED
BRIDGE PAINTING

FAI ROUTE 72 (I-72)
SECTION D6 BDGE PAINTING 2018
PROJECT NHPP-HRH4(089)
BRIDGE PAINTING
MORGAN COUNTY

C-96-012-18

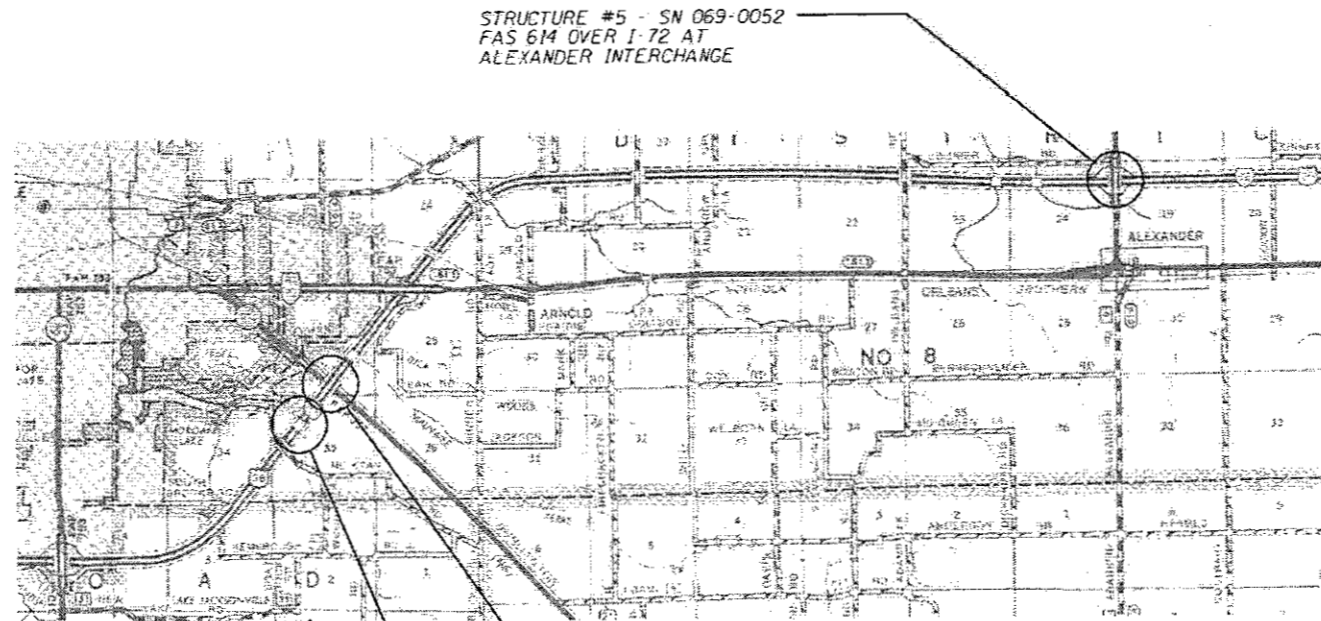
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D6 BDGE PAINTING 2018	MORGAN	14	1
		ILLINOIS	CONTRACT NO. 72K20	

D-96-004-18



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

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



STRUCTURE #5 - SN 069-0052
FAS 6M OVER I-72 AT
ALEXANDER INTERCHANGE

STRUCTURES #3 & #4 - SN 069-0040 & 0041
I-72 EB & WB OVER IL 104 & BNRR
1.1 MILES SW I-72/OLD 36 INTERCHANGE

STRUCTURES #1 & #2 - SN 069-0038 & 0039
I-72 EB & WB OVER S FORK MAUVAISE TERRE CREEK
1.6 MILES SW I-72/OLD 36 INTERCHANGE

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

GROSS LENGTH = x.xx FT. = x.xxx MILE
NET LENGTH = x.xx FT. = x.xxx MILE

CONTRACT NO. 72K20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 3 October 2017
[Signature] REGIONAL ENGINEER

Nov 30 2017
Maureen M. Addis, PE ENGINEER OF DESIGN AND ENVIRONMENT

Nov 30 2017
[Signature] DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-14 EXISTING BRIDGE PLANS (FOR INFORMATION ONLY)

HIGHWAY STANDARDS

- 000001-06
- 001006
- 701001-02
- 701006-05
- 701101-05
- 701106-02
- 701301-04
- 701321-17
- 701400-09
- 701402-12
- 701411-09
- 701901-07
- 704001-08
- 782006

GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL LOCATIONS AS DEFINED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN (MUNSELL 7.5G 4/8). THE FINISH COAT FOR ALL OTHER AREAS SHALL BE GRAY (MUNSELL 5B 7/1).
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT LOCATIONS CALLED OUT IN THE SPECIAL PROVISIONS. A MINIMUM OF 2 MONITORS WILL BE REQUIRED DURING BLASTING OPERATIONS AT THE SPECIFIED STRUCTURES. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES."
3. THE SSPC-OP-1 AND SSPC-OP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THESE BRIDGES.
4. 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 THE CONTRACTOR'S EXPENSE. RUBBER COMPONENTS SHALL NOT BE PAINTED.
5. UPON COMPLETION OF PAINTING OPERATIONS AT EACH LOCATION, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED Sept. 26th 20 17
John C. Weyangund
ENGINEER OF OPERATIONS

EXAMINED Oct 2nd 20 17
David Anderson
ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED September 26 20 17
Jeffrey P. Meyer
ENGINEER OF PROGRAM DEVELOPMENT

TRAFFIC CONTROL SCHEDULE

LOCATION	T C & P STD 701321 (EACH)	T C & P STD 701402 (EACH)	T C & P STD 701411 (EACH)	TEMP. CONC. BARRIER (FOOT)	RELOCATE TEMP. CONC. BARRIER (FOOT)	TEMP. IMPACT ATTEN. TL-3 (EACH)	RELOCATE IMPACT ATTEN. TL-3 (EACH)	TEMP. BRIDGE TRAF. SIGNALS (EACH)
IL 104 @ STRUCTURES 3 & 4	1	-	-	350	350	2	2	1
I-72 EB @ STRUCTURE 5	-	1	1	300	300	1	1	-
I-72 WB @ STRUCTURE 5	-	1	1	300	300	1	1	-
TOTALS:	1	2	2	950	950	4	4	1

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0-01514-6002
NHPP 90/10

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 RURAL
67100100	MOBILIZATION	L SUM	1	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2	2
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70400100	TEMPORARY CONCRETE BARRIER	FOOT	950	950
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	950	950
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	4
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	4
X5060601	NON- CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
X5060602	NON- CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	1
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1	1
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1	1
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1	1

0-01514-6002
NHPP 90/10

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 RURAL
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1	1
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1	1
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1	1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

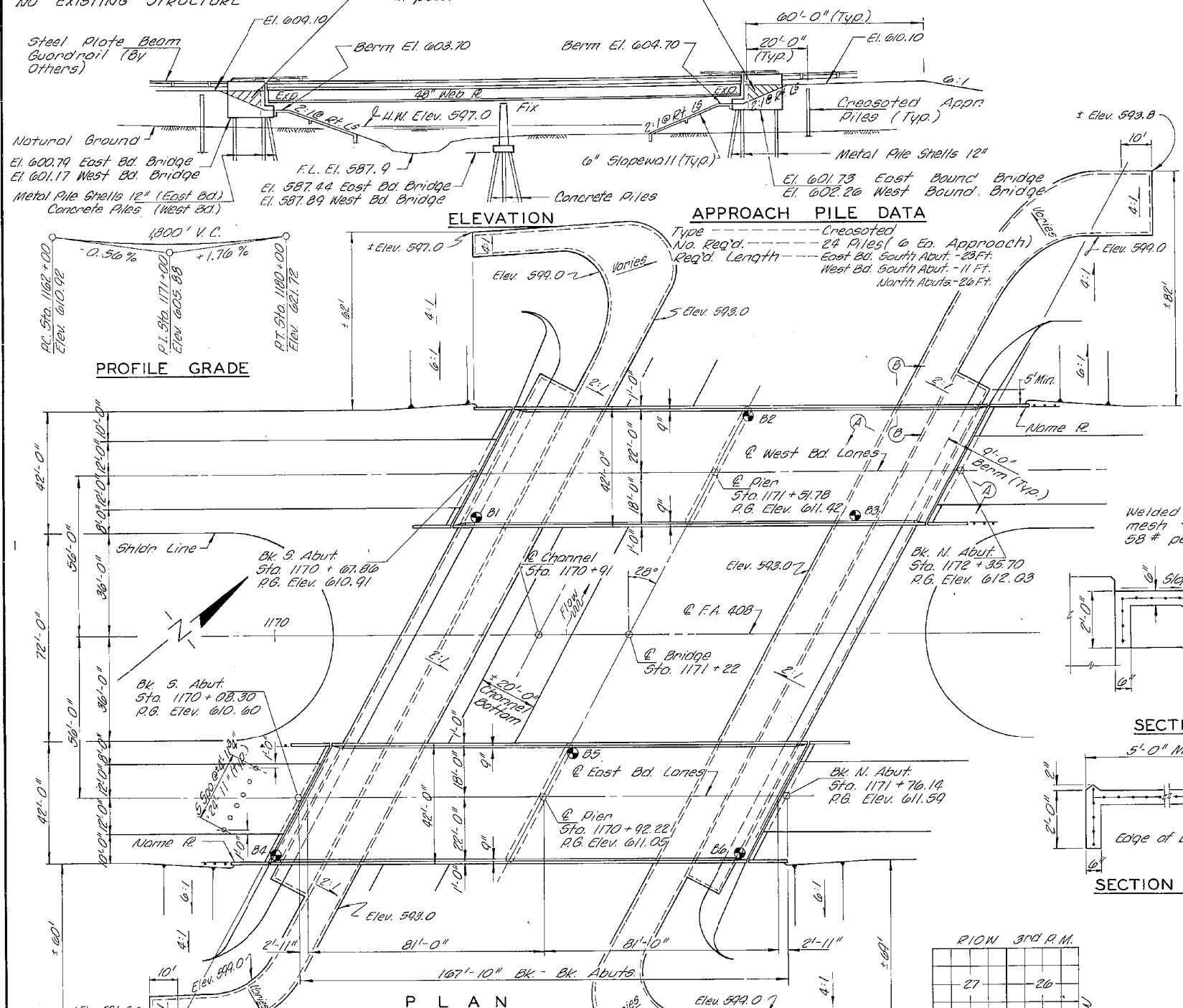
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D6 BDGE PAINTING 2018	MORGAN	14	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K20	

B.M. #8 - R.R. Spike in R.R. 150' L.F.
Sta. 1183+00 Elev. 603.18
NO EXISTING STRUCTURE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
408	69-88	MORGAN	24	5
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT EBF-408-2(29)	SHEET 1 OF 19		



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown. Fasteners shall be high strength bolts. Bolts 7/8" & open holes 1 1/16" & , unless otherwise noted. Field welding of construction accessories will not be permitted to the bottom flange of 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. Anchor bolts shall be set before bolting cross frames and diaphragms over supports. Calculated weight of Structural Steel = 388,310 Pounds. Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer. The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments. The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete. Protective Coat shall not be applied to surfaces to which Cool Tan Inter-layer Protective Coat is applied. All structural steel shall conform to A.S.T.M. Designation A588 and shall be used in the bare unpainted condition. The Contractor shall drive three test piles in permanent locations as directed by the Engineer before ordering the remainder of the piles. One metal shell test pile in the North and South abutment of the East Bound Bridge and one concrete test pile in the pier of the West Bound Bridge.

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| 2. Footing Layout | 13-16a. Abutments |
| 3. Borings | 17-18. Piers |
| 4-6. Deck Elevations | 19. Pile Details |
| 7. Superstructure | |
| 8. Superstructure Details | |
| 9. Handrail Details | |
| 10. Framing Plan | |
| 11. Girder Details | |

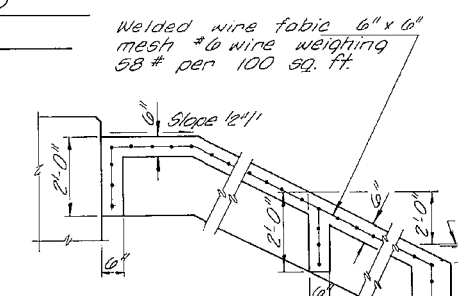
APPROVED
FOR SUBMITTAL
Carl E. Johnson, Jr.
Chief of District

TOTAL BILL OF MATERIAL

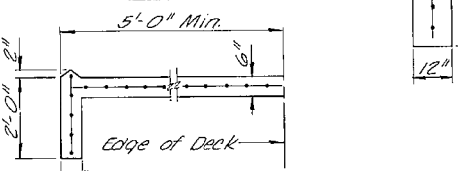
ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu. Yd.	428.8	211.7	640.5
Reinforcement Bars	LB	102,220	31,200	133,420
Structural Steel	Lump Sum	1		1
Prefabricated Joint Sealer 2 1/2"	Lin. Ft.		188	188
Slope Wall @ Inch	Sq. Yd.		2,490	2,490
Aluminum Rolling	Lin. Ft.	758		758
Protective Coat	Sq. Yd.	242	41	283
Structure Excavation	Cu. Yd.		280	280
Name Plates	Each	2		2
Concrete Piles	Lin. Ft.		1,888	1,888
Test Pile Concrete	Each		1	1
Creosoted Piles Up To 20 Feet	Lin. Ft.		66	66
Creosoted Piles 20.1 To 58 Feet	Lin. Ft.		450	450
Test Piles Metal Shells	Each		2	2
Metal Pile Shells 12"	Lin. Ft.		1,405	1,405
Class A Concrete	Cu. Yd.		2005	2005

* See Special Provisions

SECTION A-A



SECTION B-B



DESIGN STRESSES

$f_c = 1,200$ p.s.i. (Deck Slab)
 $f_c = 1,400$ p.s.i. (Curb, Parapet, Sub)
 $f_c = 20,000$ p.s.i. (Reinf.)
 $f_s = 27,000$ p.s.i. (Struct.) (A588)
 $f_c = 75$ p.s.i. (Flgs.)
 $n = 10$
 LOADING HS 20-44 & ALT.
 Design Specifications: AASHTO 1969 as applicable. Allow 25#/Sq. Ft. for future wearing surface.
 Allowable Deflection = $L/1000$
 Fred A. Stone Jr.
 Illinois Structural No. 2934

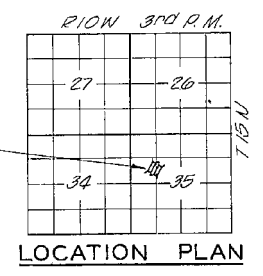
SOUTH FORK MAUVAISE TERRE CREEK

GENERAL PLAN & ELEVATION
 PROJECT EBF-408-2(29)
 F.A. RT. 408 SEC. 69-88
 MORGAN COUNTY
 STATION 1171 + 22
COLLINS AND RICE
 CONSULTING ENGINEERS
 DRAWN M.B. CHECKED F.S.
 DATE 2-7-73 NO. 800

STATION 1171 + 22
 BUILT 1971 BY
 STATE OF ILLINOIS
 F.A. RT. 408 SECTION 69-88
 PROJECT EBF-408-2(29)
 LOADING HS20 & ALT.
 LETTERING FOR NAME PLATE
 See Std. 2113

WATERWAY DATA

Drainage Area ----- 8.08 Sq. Mi.
 Req'd. Opening (50 Yr.) ----- 480 Sq. Ft.
 Proposed Opening ----- 480 Sq. Ft.
 Computed Discharge ----- 2,880 C.F.S.
 Created Head ----- 0.6 ft.



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DEPARTMENT OF TRANSPORTATION

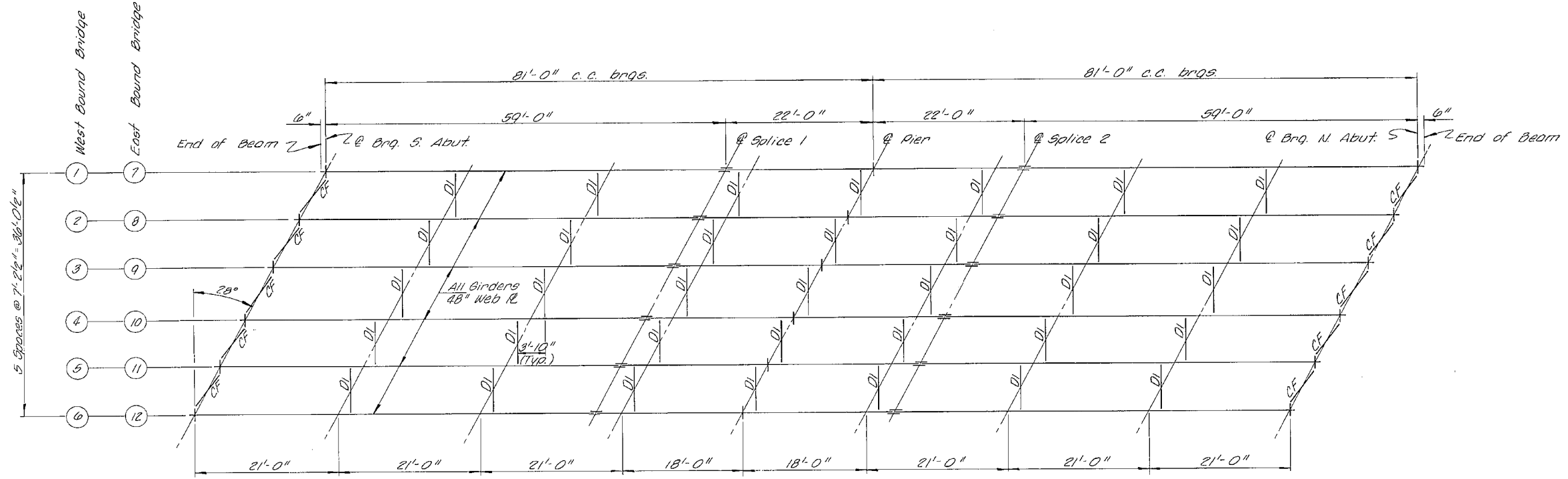
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(FOR INFORMATION ONLY)

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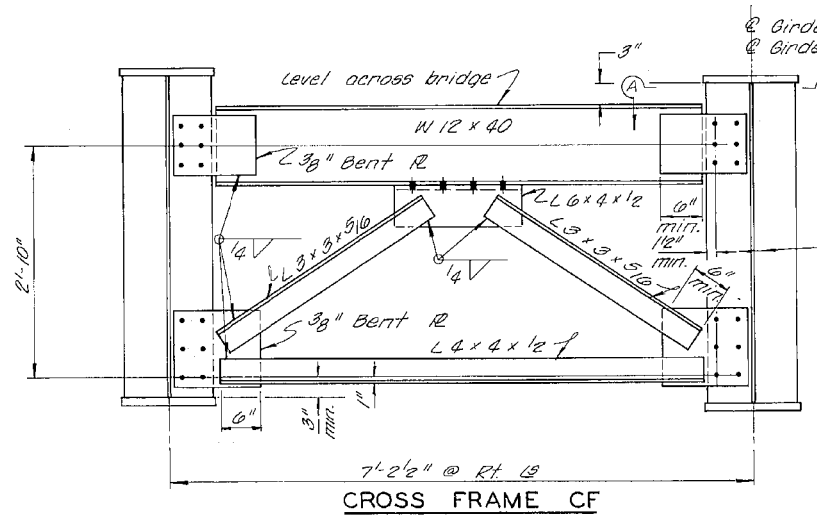
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72	D6 BDGE PAINTING 2018	MORGAN	14	4
CONTRACT NO. 72K20				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
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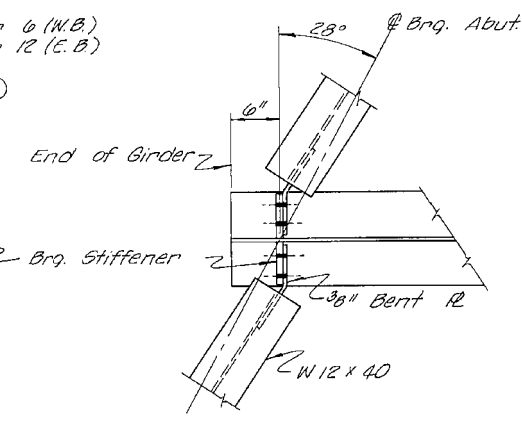
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408	69-88	MORGAN	24	14
F.A. 408 69-88		PROJECT		
SHEET 10 OF 19				



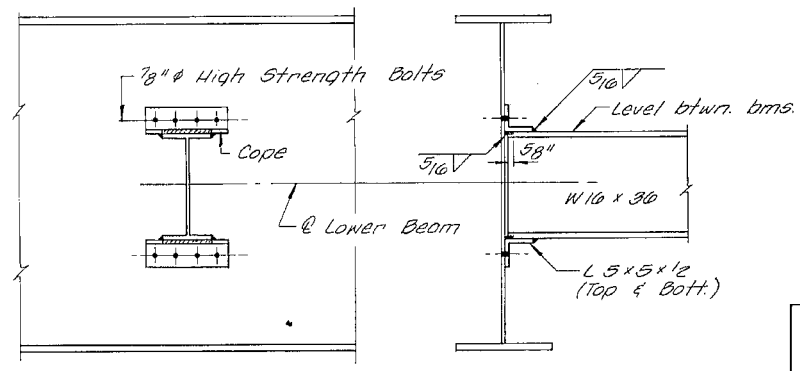
FRAMING PLAN



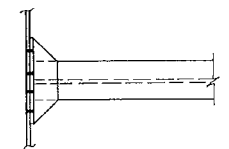
CROSS FRAME CF



SECTION A-A



DIAPHRAGM D1



FRAMING PLAN				
F.A. RT. 408	SEC. 69-88	MORGAN COUNTY	STATION 1171 + 22	
COLLINS AND RICE CONSULTING ENGINEERS				
DESIGNED F.S.	CHECKED H.B.	DATE 2-7-78 NO. 800		
DRAWN A.D.				

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

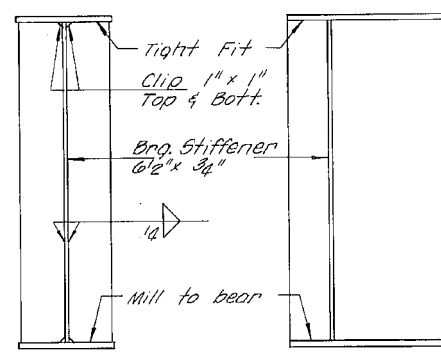
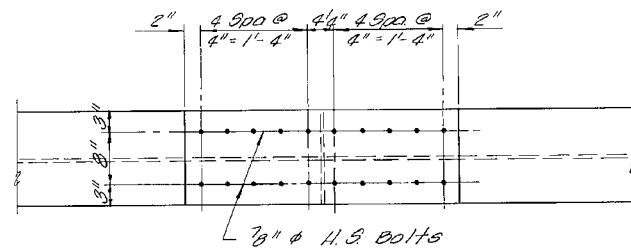
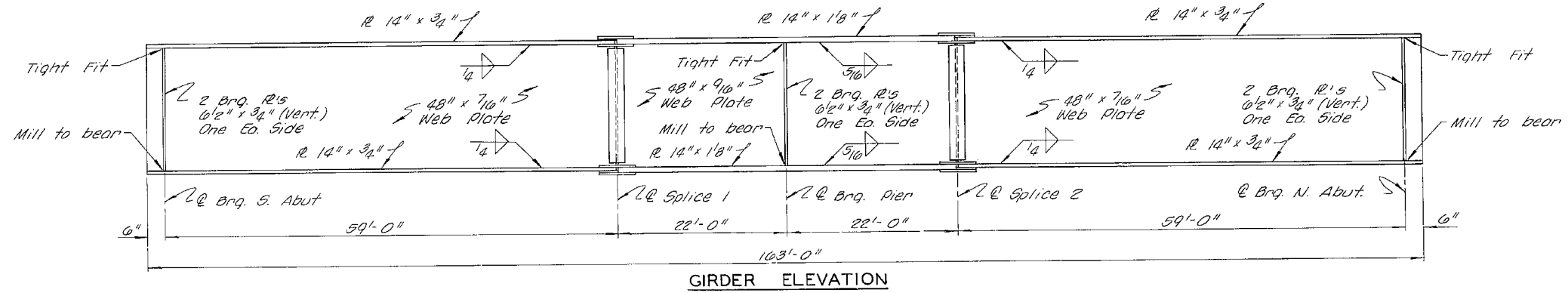
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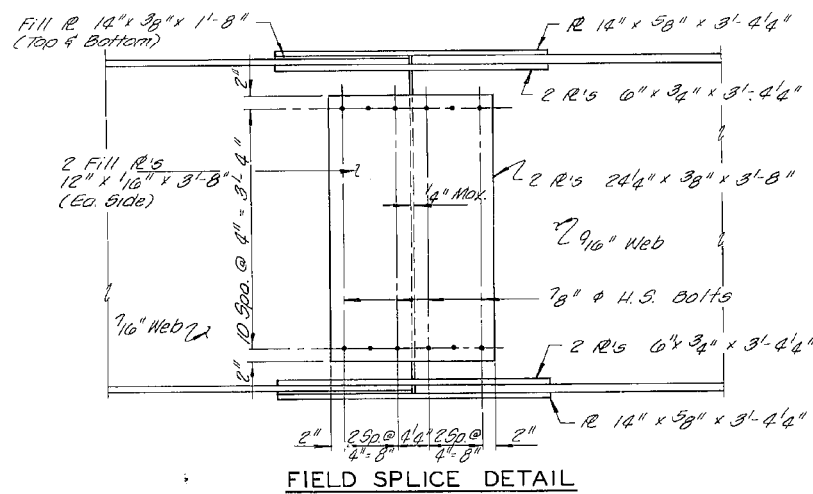
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ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 408	6A-88	MORGAN	24	15
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT			SHEET 11 OF 19	



ELEVATIONS AT TOP OF GIRDER WEB (For Fabrication Only)

LOCATION	@ Brq. So. Abut.	@ Splice 1	@ Brq. Pier	@ Splice 2	@ Brq. No. Abut.
Girder 1	609.94	610.25	610.40	610.55	611.03
Girder 2	610.06	610.37	610.52	610.67	611.15
Girder 3	610.15	610.46	610.61	610.76	611.24
Girder 4	610.19	610.50	610.65	610.80	611.28
Girder 5	610.06	610.37	610.52	610.67	611.15
Girder 6	609.88	610.19	610.34	610.49	610.97
Girder 7	609.69	609.95	610.08	610.21	610.63
Girder 8	609.80	610.06	610.19	610.32	610.74
Girder 9	609.90	610.16	610.29	610.42	610.84
Girder 10	609.81	610.07	610.20	610.33	610.75
Girder 11	609.67	609.93	610.06	610.19	610.61
Girder 12	609.50	609.76	609.89	610.02	610.44



GIRDER DETAILS	
F.A. RT. 408	SEC. 69-88
MORGAN COUNTY	
STATION 1171 + 22	
COLLINS AND RICE CONSULTING ENGINEERS	
PREPARED F.S.	CHECKED M.B.
DRAWN A.D.	DATE 2-7-73 No. 800

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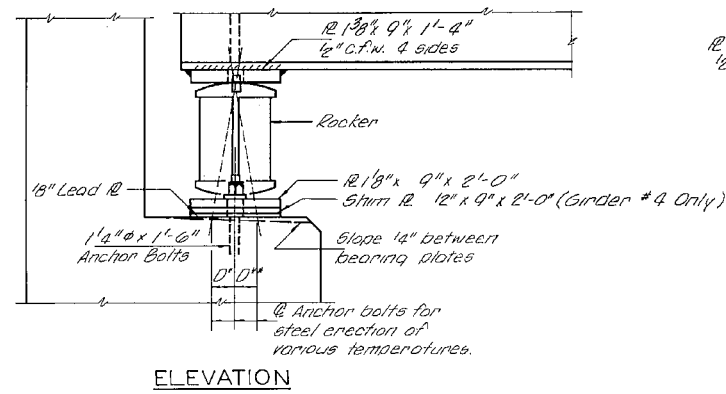
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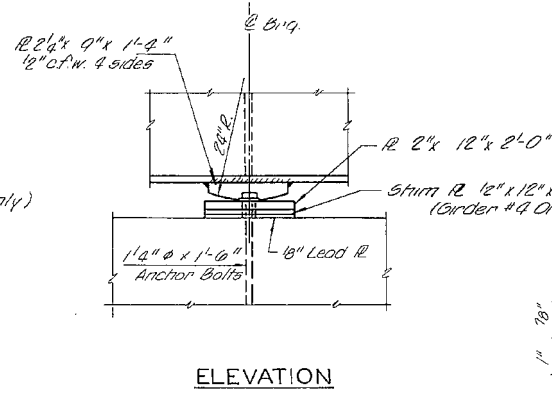
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72	D6 BDGE PAINTING 2018	MORGAN	14	6
CONTRACT NO. 72K20				
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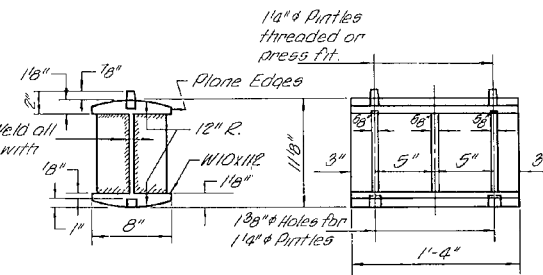
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F.A.		PROJECT	SHEET 12 OF 19	



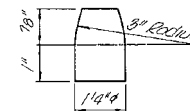
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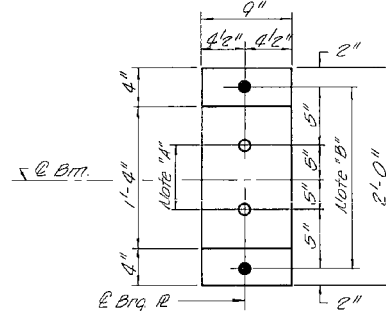
ELEVATION



ROCKER



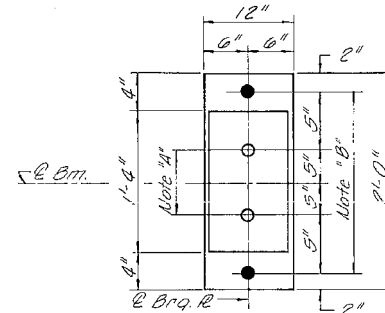
PINTLE



PLAN AT ABUTMENT

Note "A"
1 1/2" Holes - 1" deep in top flange for 1 1/2" x 9" x 2'-0" Pintles Thread or press fit

Note "B"
1 1/2" Holes for 1 1/2" x 9" x 2'-0" Anchor Bolts - 2 1/2" x 2 1/2" x 5/16" R Washers under nut.



PLAN AT PIER

Note:
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 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

NOTES FOR SETTING OF ANCHOR BOLTS
AT EXPANSION BEARINGS

- 0" (Side of brq away from fixed brq)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
D** (Side of brq toward fixed brq)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.
- After beams have been erected and dimensions D* and D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

	0.4 Span 1	Pier
I (in ⁴)	16,510	24,192
S (in ³)	667	963
Q (K/FT)	1,380	1,380
M _R (FT.K)	582	1,260
M _E (FT.K)	600	588
M _{TD} (FT.K)	140	143
M TOTAL (FT.K)	1,339	1,991
F _s (K/5.1)	24.0	24.8

	Abut.	Pier
R _R (K)	40.3	142.9
R _L (K)	40.3	60.4
Imo (K)	9.8	14.7
R TOTAL (K)	90.4	218.0

BEARINGS	
F.A. RT. 408 SEC. 69-88	
MORGAN COUNTY	
STATION 1171 + 22	
COLLINS AND RICE	
CONSULTING ENGINEERS	
DESIGNED <i>M.B.</i>	CHECKED <i>F.S.</i>
DRAWN <i>A.O.</i>	DATE 2-7-73 NO. 800

MODEL: Default
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USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/3/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS SN 069-0038 & 0039
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D6 BDGE PAINTING 2018	MORGAN	14	7
			CONTRACT NO. 72K20	
		ILLINOIS FED. AID PROJECT		

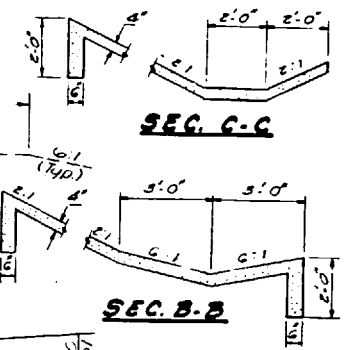
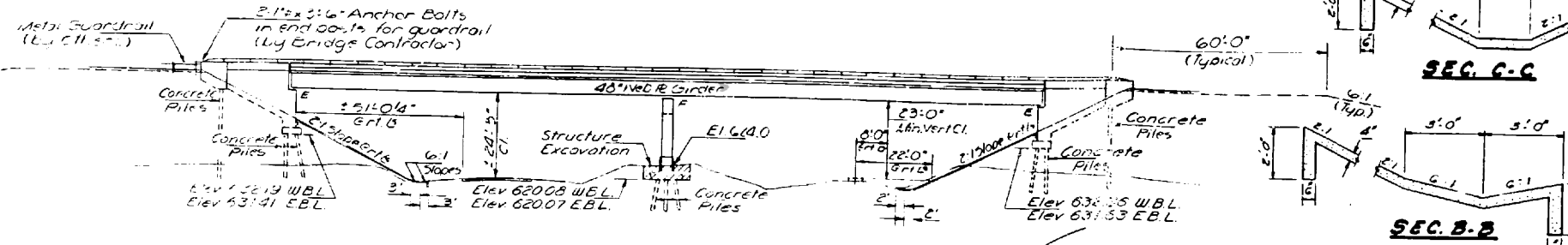
069-0040 & 069-0041

069-0040/0041

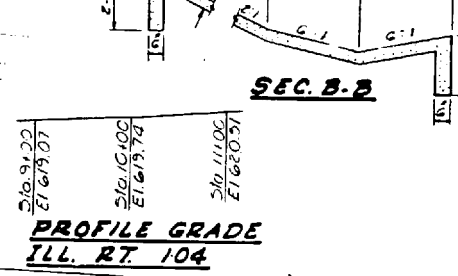
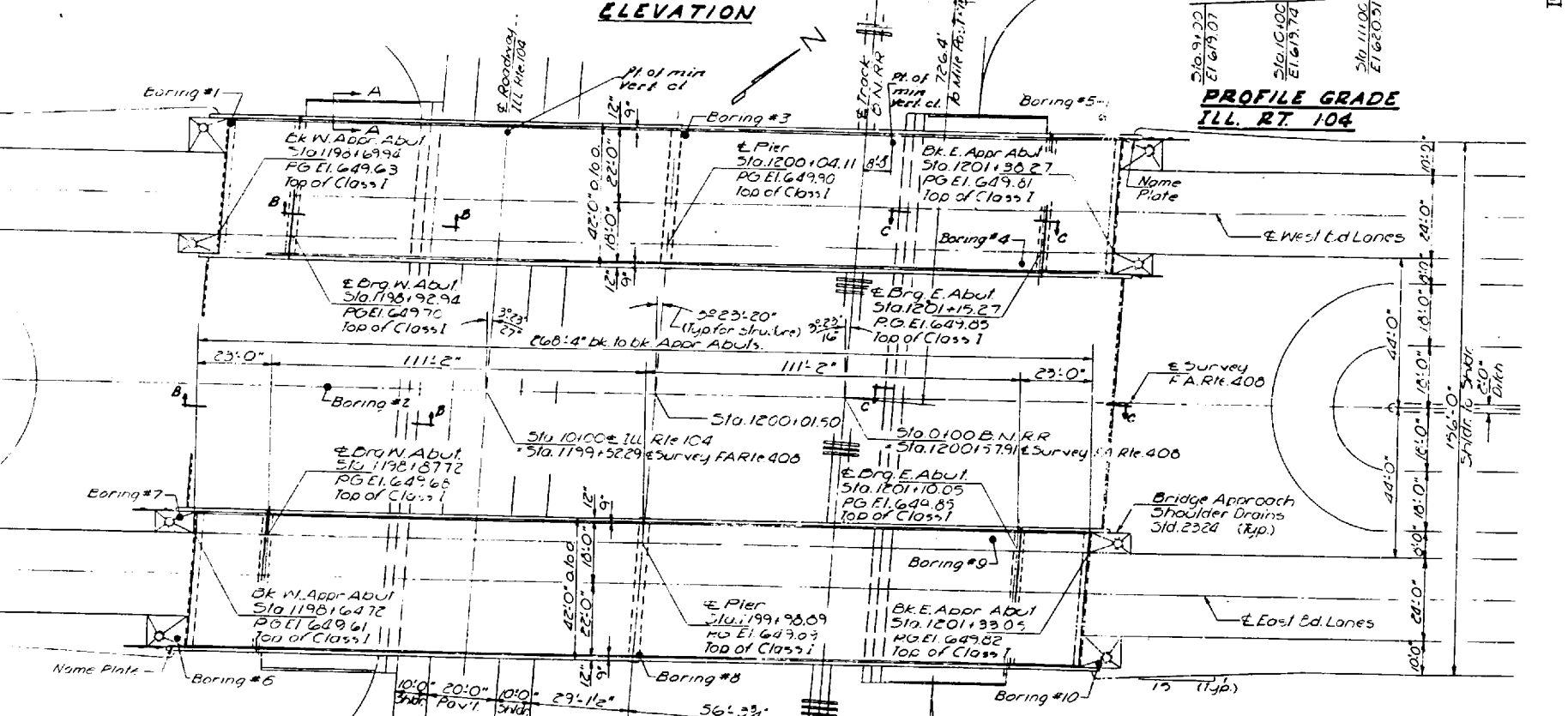
D.I. #9 R.R. Sinks in I.P. 200' to 171'30" El 621.05

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	069-0040	SHEET NO.	77
SECTION	MOGAW	TOTAL SHEETS	27 SHEETS



GENERAL NOTES
 All reinforcement bars shall be lapped 24 diameter unless otherwise shown.
 Fasteners shall be high strength bolts. Bolts 3/4", open holes 1 1/2", unless otherwise noted.
 Calculated weight of Structural Steel 684300 lbs.
 The basic lead silico chromate paint system shall be used for shop & field painting of structural steel.



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.
 Anchor bolts shall be set before bolting diaphragms over supports.
 Slope wall shall be reinforced with welded wire fabric 2" x 2" mesh, weighing 58 lb. per 100 sq. ft.
 The contractor shall drive 3 concrete test piles in a permanent location, 1 at the West Abut. (W.B.L.) 1 at the pier (W.B.L.) and 1 at the East Abut. (E.B.L.) as directed by the Engineer before ordering the remainder of piles.
 Concrete piles at abutments shall be driven in holes prepared through the embankment in accordance with Article 513.03 (c) of the Standard Specifications.
 The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
 The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.
 Protective Coat shall not be applied to surfaces to which the Waterproofing Membrane is applied.
 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 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
 The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, webs, and splice plates of the steel girders or wide flange beams.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Protective Coat	Sq. Yds.	815		815
Class X Concrete	Cu. Yds.	768.8	476.1	1244.9
Structural Steel	L.S.	1		1
Aluminum Railing	Lin. Ft.	1101		1101
Reinforcement Bars	Lbs.	171330	59620	230950
Concrete Piles	Lin. Ft.		5802	5802
Test Piles (Concrete)	Each		3	3
Name Plates	Each	2		2
Slope Wall (4")	Sq. Yds.		2280	2280
Preformed Joint Sealer (A)	Lin. Ft.	168		168
Bituminous Concrete Surface Course Class 1	Tons	189		189
Waterproofing Membrane System	Sq. Yds.	2298		2298
Structure Excavation	Cu. Yds.		140	140
Stud Shear Connectors	Each	6896		6896
Sand Backfill	Cu. Yds.		580	580

Note: The Engineer shall determine in the field the location of the deck drains in the spans where R.R. signal and communication pole lines are involved. No deck drains shall be permitted over R.R. tracks.

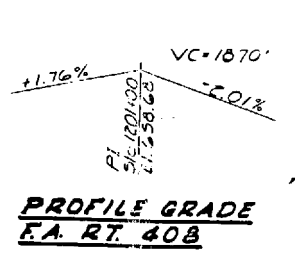
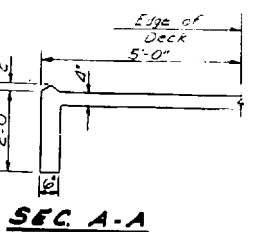
PROFILE S.N. R.R. (North Rail)

Sta. 2+100	El. 619.17
Sta. 1+00	El. 620.24
Sta. 0+00	El. 620.17
Sta. 1+00	El. 620.17
Sta. 1+00	El. 620.17
Sta. 1+00	El. 620.17
Sta. 1+00	El. 620.17
Sta. 1+00	El. 620.17

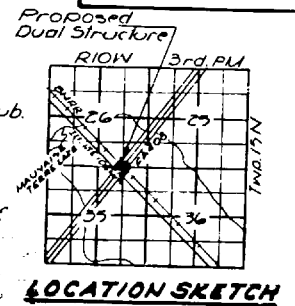
DESIGNED	JEN, T.A.I.F.A.
CHECKED	John A. Morris
DRAWN	J.K.
CHECKED	J.M. S.T.

STATION 1200+01.50
 BUILT BY
 STATE OF ILLINOIS
 F.A. RT 408 SEC. 69-BVHB
 PROJ. I.M.F. 1818-408-2(27)
 LOADING HS 20

NAME PLATE
(See S11 2113)



DESIGN STRESSES
 fc = 1200 psi Deck Slab
 fc = 1400 psi Curb, Parapet, Sub.
 fs = 20,000 psi Reinf.
 fs = 20,000 psi Struct.
 Vc = 75 psi Footings
 n = 10
 Allow 2 1/2" for full wearing surf.
 Design Specifications 1969 AASHTO as applicable



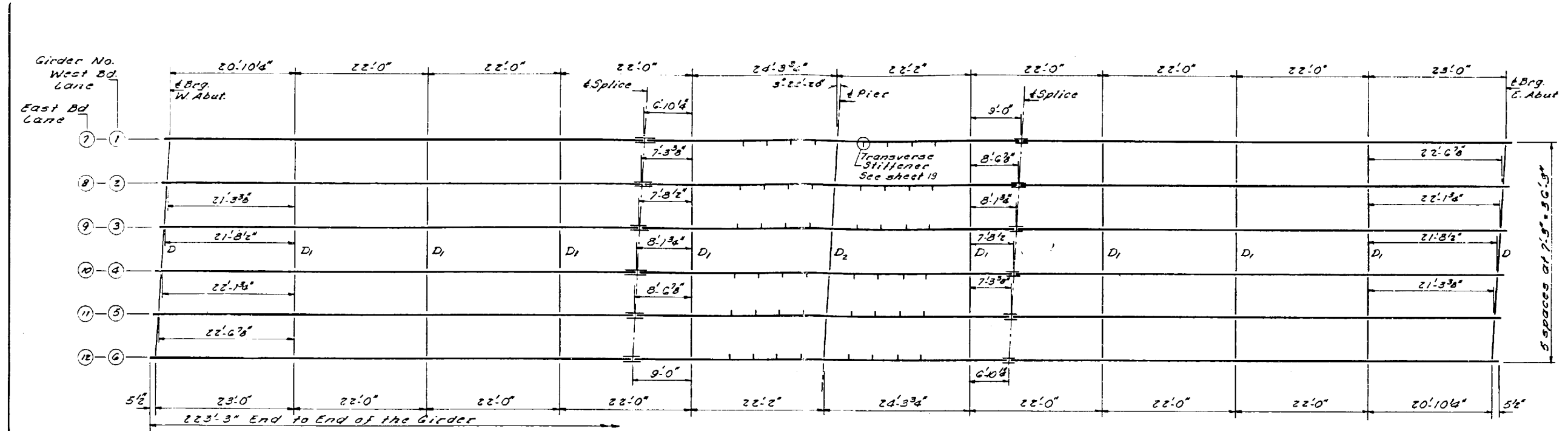
PROJ. I.M.F. 1818-408-2(27)
GENERAL PLANT ELEVATION
F.A. RT 408 OVER
ILL. RT 104 (E.B.N.R.R.)
F.A. RT 408 SEC. 69-BVHB
MORGAN COUNTY
STATION 1200+01.50

ECO 18-1288

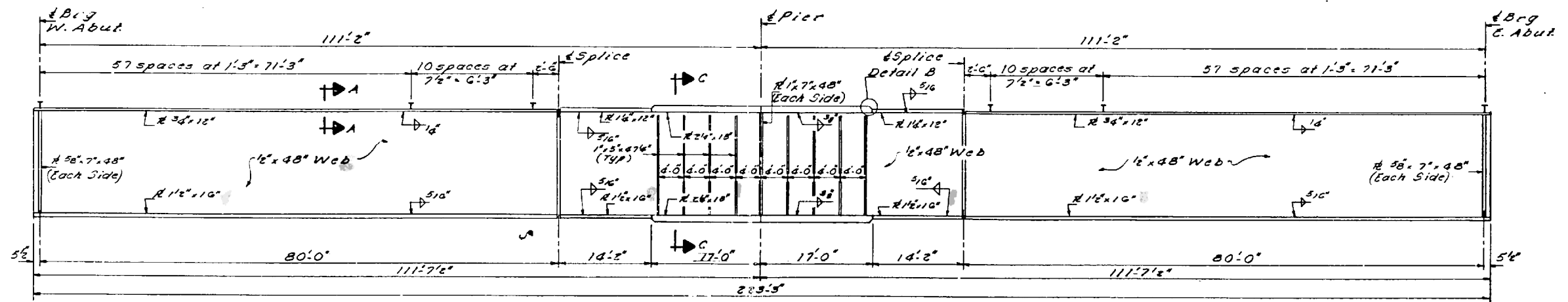
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PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -	SCALE:	SHEET OF SHEETS STA. TO STA.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 72K20		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69-8	VAR	MORGAN	309	94
SHEET NO. 18				
29 SHEETS				



PLAN



GIRDER ELEVATION

Note
For Girder Details & Sections
see sheet #19

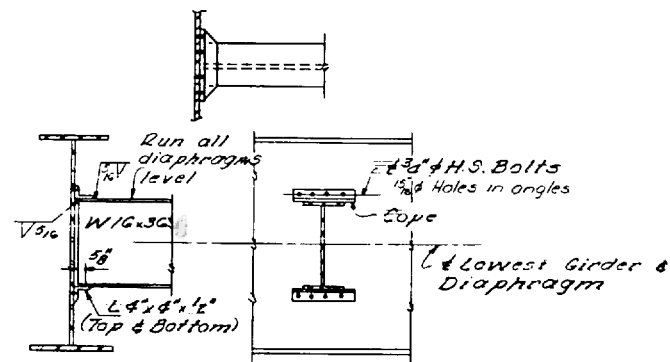
DESIGNED	SHEN, TBAIFA
CHECKED	John A. Novus
DRAWN	JE
CHECKED	J.A.H., S.T.

EXAMINER	APR 16 2013
PASSED	W.C. Baumann
APPROVED	F. Nussbaum

GIRDER PLAN
I.A. RT 408 SEC 69-BVNB
MORGAN COUNTY
STATION 100+01.30

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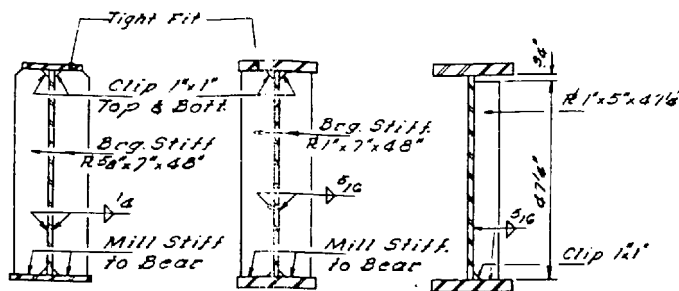
USER NAME = dudleybm	DESIGNED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS SN 069-0040 & 0041 (FOR INFORMATION ONLY)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISOR -		SCALE:	72	D6 BDGE PAINTING 2018	MORGAN	14	9
PLOT DATE = 10/3/2017	CHECKED -	REVISOR -		SHEET OF SHEETS	CONTRACT NO. 72K20				
	DATE -	REVISOR -		STA. TO STA.	ILLINOIS FED. AID PROJECT				



INTERIOR DIAPHRAGM D1

(Req'd. 80)

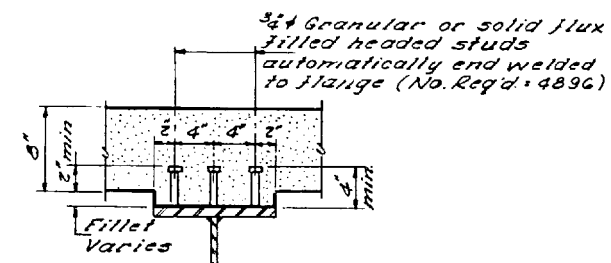
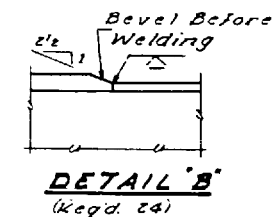
Note: Hardened washers shall be required over 15/16\"/>



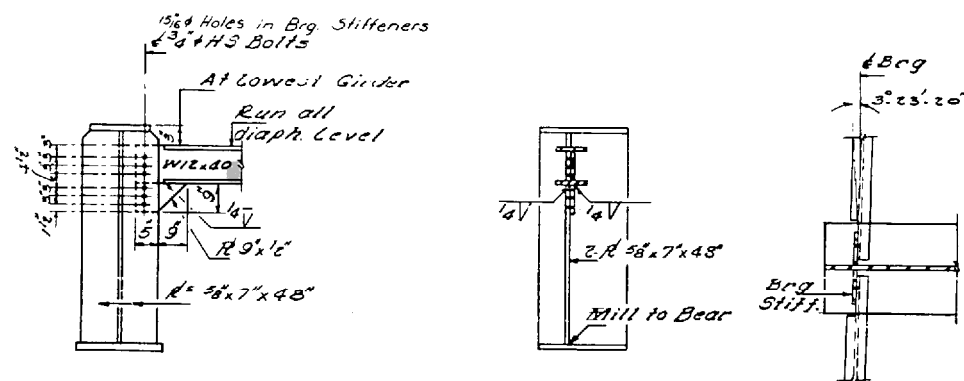
SEC. AT ABUTMENT

SEC. AT PIER

SEC. C-C
(Transverse Stiffeners - one side only)



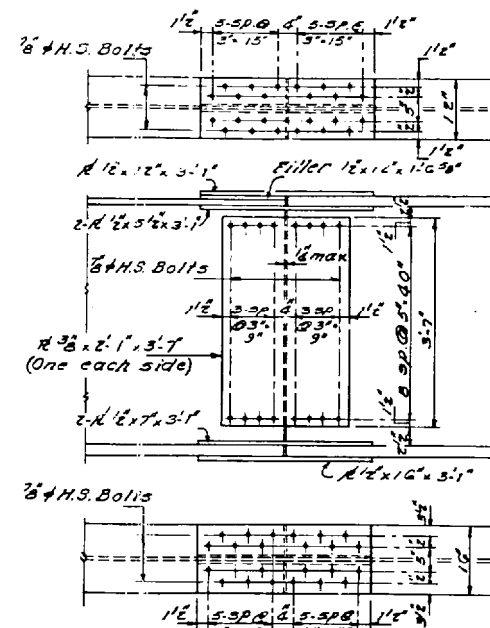
SEC. A-A



END DIAPHRAGM D

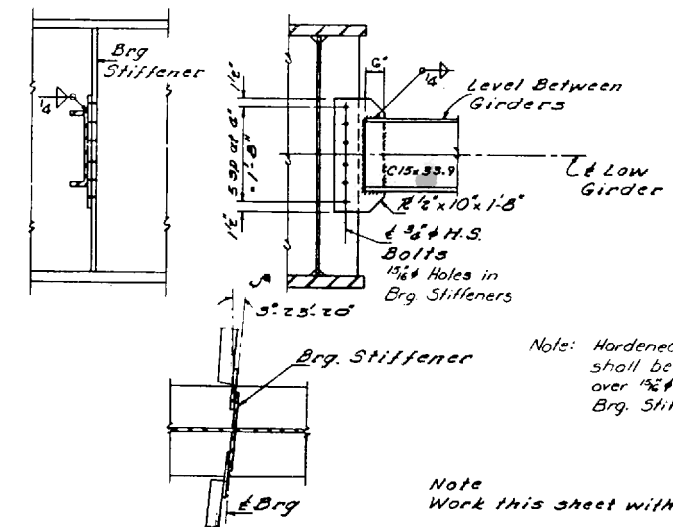
(Req'd. 20)

Note: Hardened washers shall be required over 15/16\"/>



FIELD SPLICE DETAIL

(Req'd. 24)



INTERIOR DIAPHRAGM D2

(Req'd. 10)

Note: Hardened washers shall be required over 15/16\"/>

Note Work this sheet with sheet 78

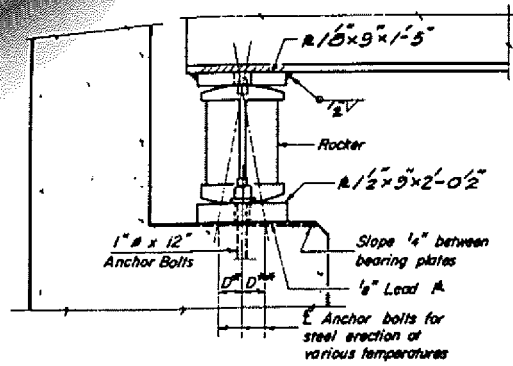
GIRDER DETAILS
E.A. RT 408 SEC. 69-BVHB
MORGAN COUNTY
STATION 100+01.50

DESIGNED	SYEN, T2A1FA
CHECKED	John A. Morris
DRAWN	J.K.
CHECKED	J.A.M. S.T.

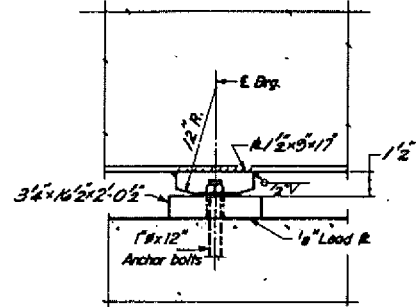
APPROVED	April 16 2013
EXAMINED	[Signature]
PASSED	[Signature]
APPROVED	[Signature]

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

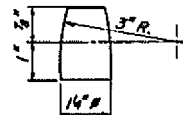
PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
408	69-B IHB	MORGAN 309	33
SHEET NO. 17			
29 SHEETS			



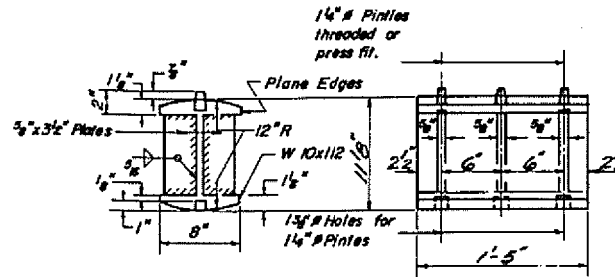
ELEVATION
@ ABUTMENT



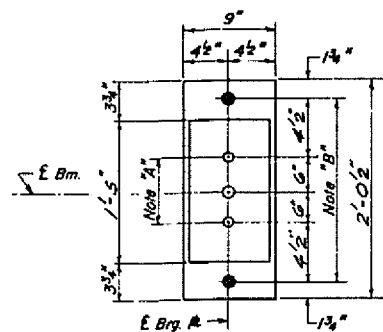
ELEVATION
@ PIER



PINTLE



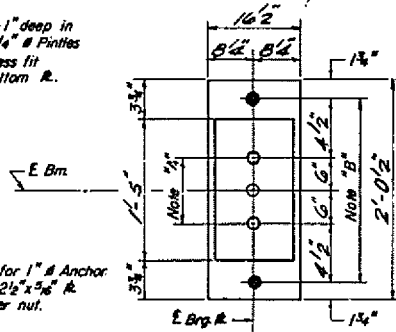
ROCKER



PLAN
AT ABUTMENT

Note "A"
1/2" # Holes - 1" deep in
top R. for 1/4" # Pinholes
Thread or press fit
pinholes in bottom R.

Note "B"
1/2" # Holes for 1" # Anchor
Bolts - 2 1/2" x 2 1/2" x 3/4" R.
Washers under nut.



PLAN
AT PIER

NOTES FOR SETTING OF ANCHOR BOLTS
AT EXPANSION BEARINGS

- D^* (Side of brg. away from fixed brg.)
 $D^* = \frac{1}{4}$ " per each 100' of expansion for
every 15° fall below the normal temp.
of 50° F.
- D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = \frac{1}{4}$ " per each 100' of expansion for
every 15° rise above the normal temp.
of 50° F.

- After beams have been erected and dimensions
 D^* & D^{**} determined, holes shall be drilled and
anchor bolts shall be grouted in place. All fixed
anchor bolts may be built into the masonry.

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp.1	Pier
I_x (in ⁴)	22199.5	55774
I_c (in ⁴)	62067.3	
S_x (in ³)	1172.3	2124.7
S_c (in ³)	1625.4	
R (K/I)	0.965	1.163
M_R (K)	724.39	-1866.66
$f_s R$ (ksi)	7.41	10.54
$s R$ (K/I)	0.456	0.456
M_{sR} (K)	416.10	-650.32
M_k (K)	944.24	-836.89
M_{xmp} (K)	198.29	-175.75
Total (K)	1558.63	-1662.96
$f_s \Sigma$ (ksi)	11.50	-9.99
$f_s \text{ Total}$ (ksi)	18.91	-19.93
VR (K)	48.87	35.72

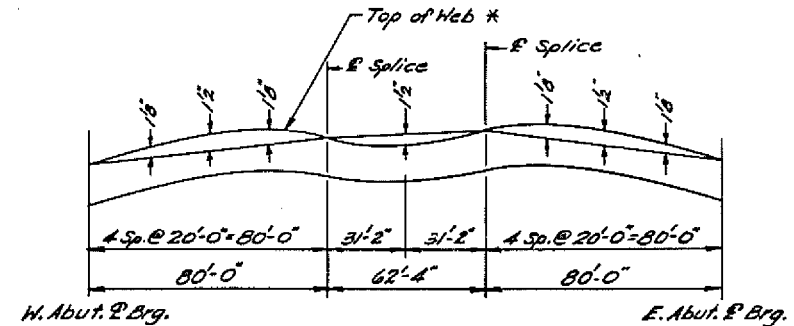
INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R_R (K)	57.85	206.25
R_L (K)	42.65	74.84
Imp. (K)	8.96	13.72
R Total (K)	109.46	296.81

I_x and S_x are the moment of inertia and section modulus
of the steel section.
 I_c and S_c are the moment of inertia and section modulus
of the composite section used in computing f_s .
 VR is the maximum f_s + Impact shear range in span.

TOP OF WEB ELEVATION
(For Fabrication only)

WEST BOUND LANE						
Girder	1	2	3	4	5	6
R Brg. W. Abut.	648.64	648.79	648.90	648.96	648.85	648.71
R Splice 1	648.77	648.92	649.04	649.10	648.99	648.85
R Pier	648.67	648.82	648.94	649.00	648.89	648.75
R Splice 2	648.81	648.96	649.08	649.14	649.03	648.89
R Brg. E. Abut.	648.78	648.93	649.05	649.11	649.00	648.87

EAST BOUND LANE						
Girder	7	8	9	10	11	12
R Brg. W. Abut.	648.70	648.83	648.94	648.88	648.76	648.61
R Splice 1	648.85	648.98	649.09	649.03	648.91	648.76
R Pier	648.75	648.88	648.99	648.93	648.81	648.66
R Splice 2	648.90	649.03	649.14	649.08	648.96	648.81
R Brg. E. Abut.	648.87	649.01	649.12	649.06	648.94	648.79



CAMBER DIAGRAM
* For Top of Web Elevation of splices
& Bearings. See Table

DESIGNED	Sven J. J. J.
CHECKED	John A. Morris
DRAWN	Leon Heeren
CHECKED	J. A. M. S. T.

EXAMINED	April 16 1973
PASSED	W. E. Baumann
APPROVED	Ray F. Neumann

I-2-G 3-29-71

BEARING DETAILS
FA. RT. 408 SEC. 69-B/IHB
MORGAN COUNTY
STA. 1200+01.50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS SN 069-0040 & 0041
(FOR INFORMATION ONLY)

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/3/2017	DATE -	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D6 BDGE PAINTING 2018	MORGAN	14	11
CONTRACT NO. 72K20				
ILLINOIS FED. AID PROJECT				

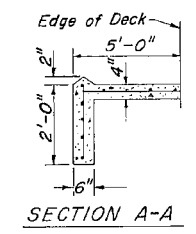
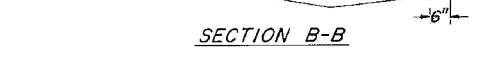
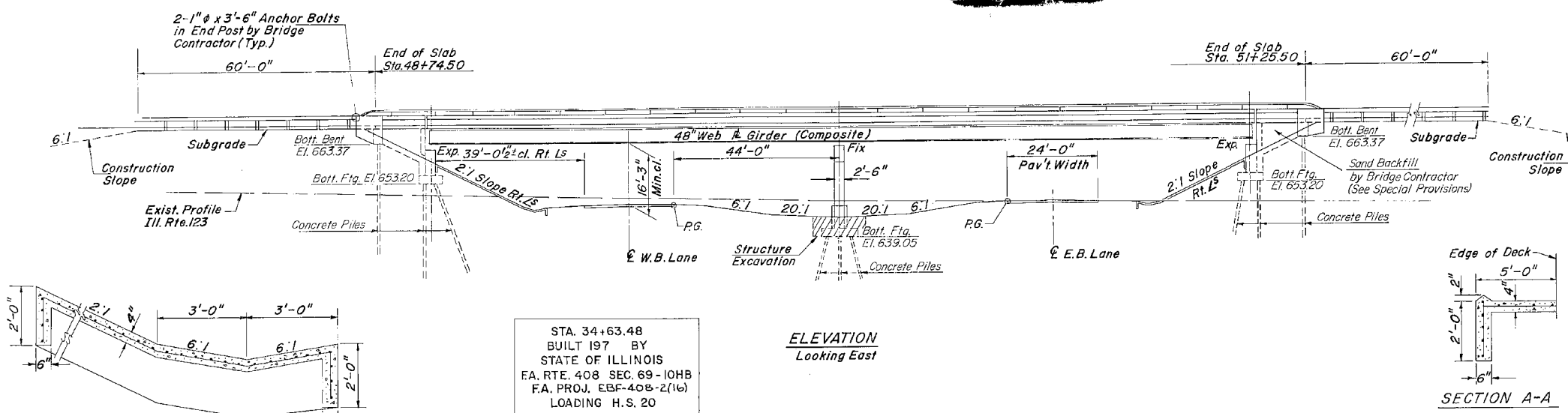
B.M. No. 203, Cut in S. End, W. Headwall of Concrete Bridge (Culvert) 89' Rt. Sta. 34+60, Elev. 641.34

STATE OF ILLINOIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
S. I. I.	F.A. RTE. 408	69-10HB	MORGAN	79	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			14 SHEETS

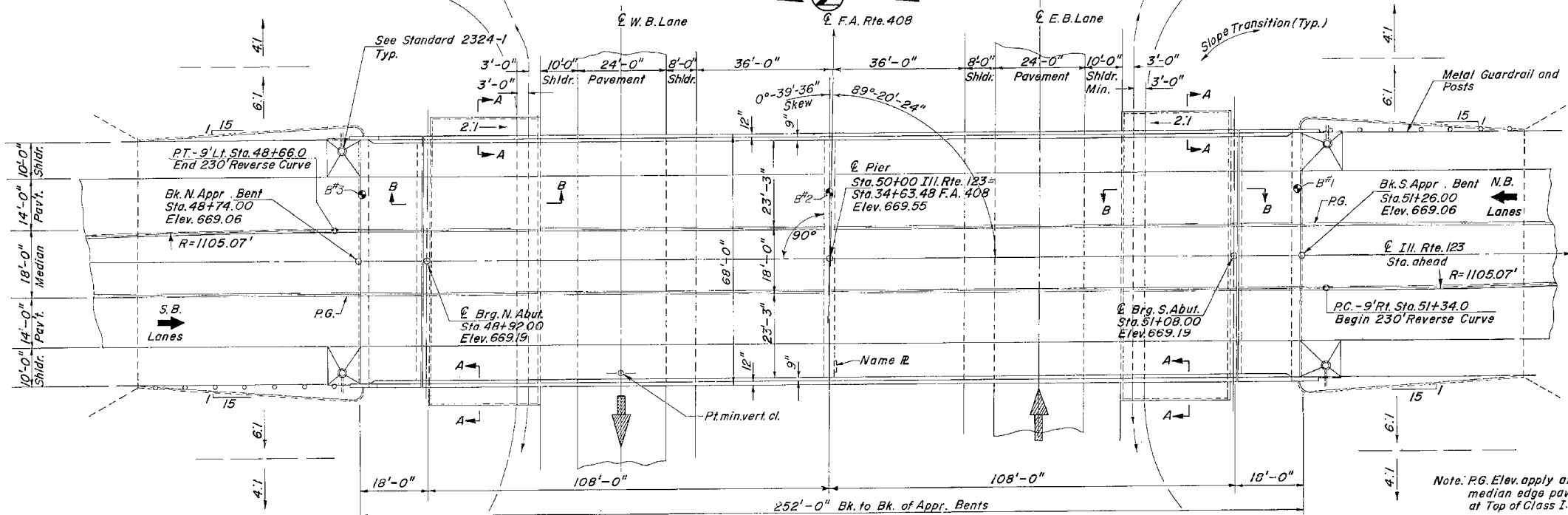
GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
 The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.
 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.
 Anchor bolts shall be set before bolting diaphragms c.r supports. Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{16}$ " unless otherwise noted.
 The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
 The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.
 Protective Coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.
 Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58#/100 sq ft.
 Calculated weight of Structural Steel = 512,440 Lbs.
 Concrete piles at appr. bents shall be driven in holes precored through the embankment in accordance with Article 513.09(c) of the Standard Specifications.
 The Contractor shall drive 2 concrete test piles in a permanent location. One test pile of the S. Abutment and one test pile of the Pier as directed by the Engineer before ordering the remainder of piles.



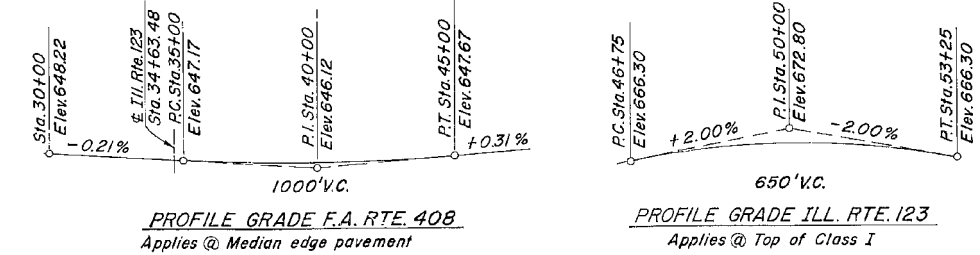
STA. 34+63.48
 BUILT 197 BY
 STATE OF ILLINOIS
 F.A. RTE. 408 SEC. 69-10HB
 F.A. PROJ. EBF-408-2(1b)
 LOADING H.S. 20
 NAME PLATE
 Std. 2113

ELEVATION
 Looking East



PLAN

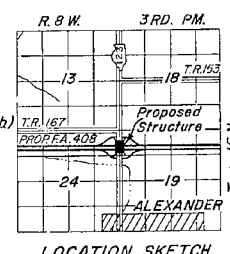
DESIGNED	G.E.P.
CHECKED	W.B.
DRAWN	R.H.H.
CHECKED	G.E.P.



DESIGN STRESSES
 $f_c = 1200$ psi (Deck Slab)
 $f_c = 1400$ psi (Curb, Parapet, Sub, & Struct. Slab)
 $f_s = 20,000$ psi (Reinf.)
 $f_s = 20,000$ psi (Struct. Steel)
 $V_c = 75$ psi (Figs.)
 $n = 10$
 Allowable $\frac{1}{4}$ Deflection, L/1200 Comp.
 Allowable Fut. W.S. 25 p.s.f.
LOADING HS20-44
 Design Spec. AASHTO 1969 as applicable.

TOTAL BILL OF MATERIALS

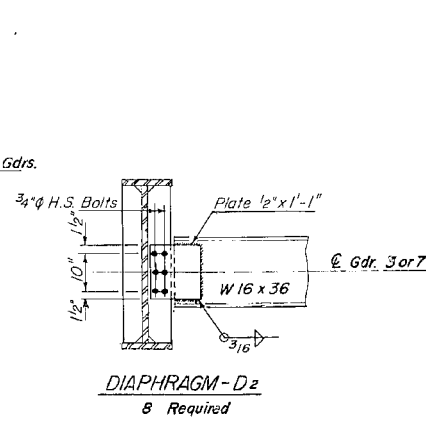
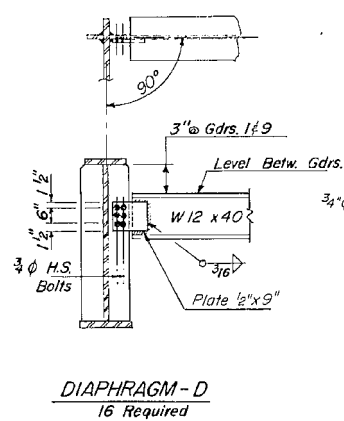
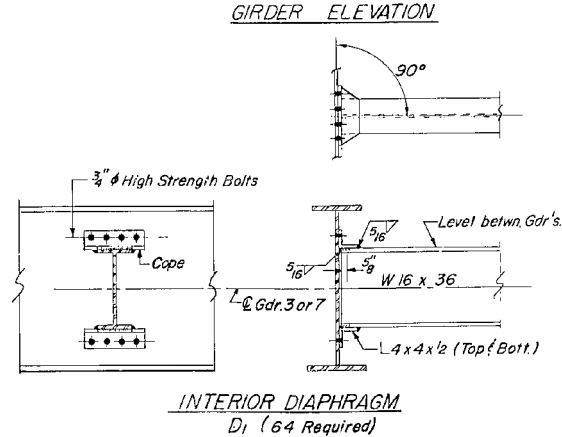
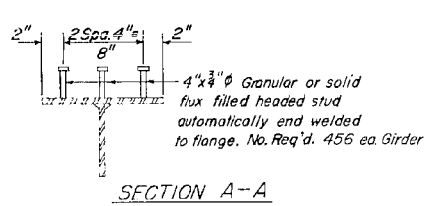
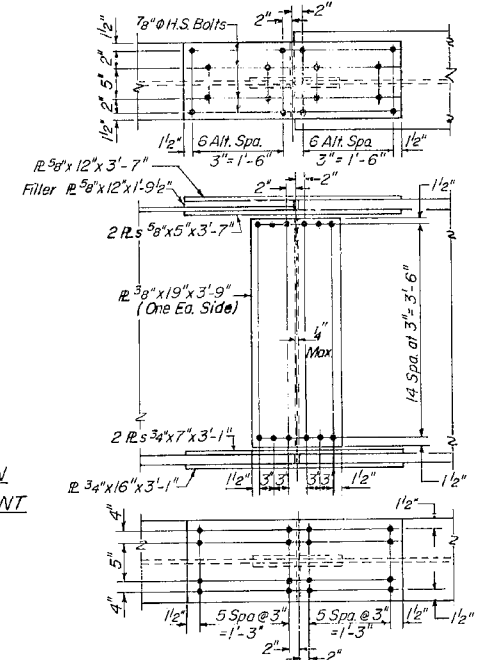
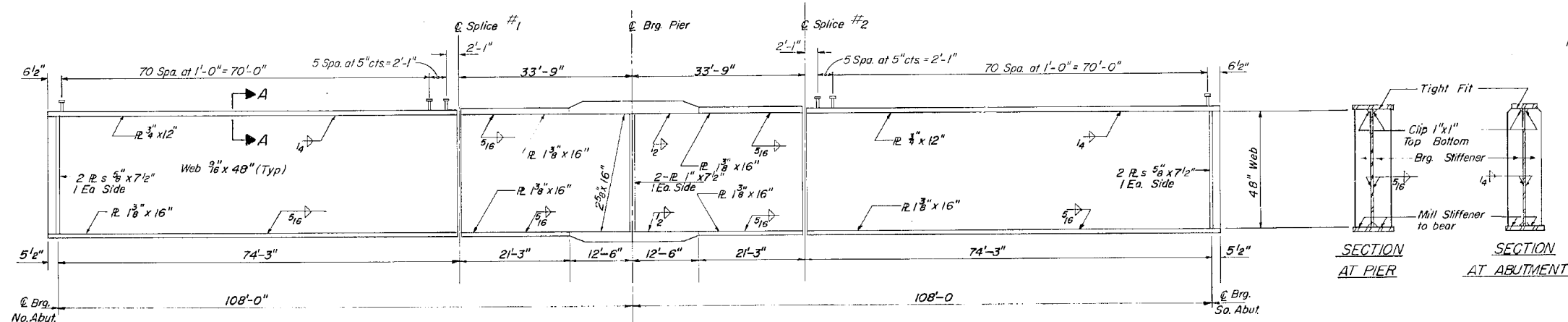
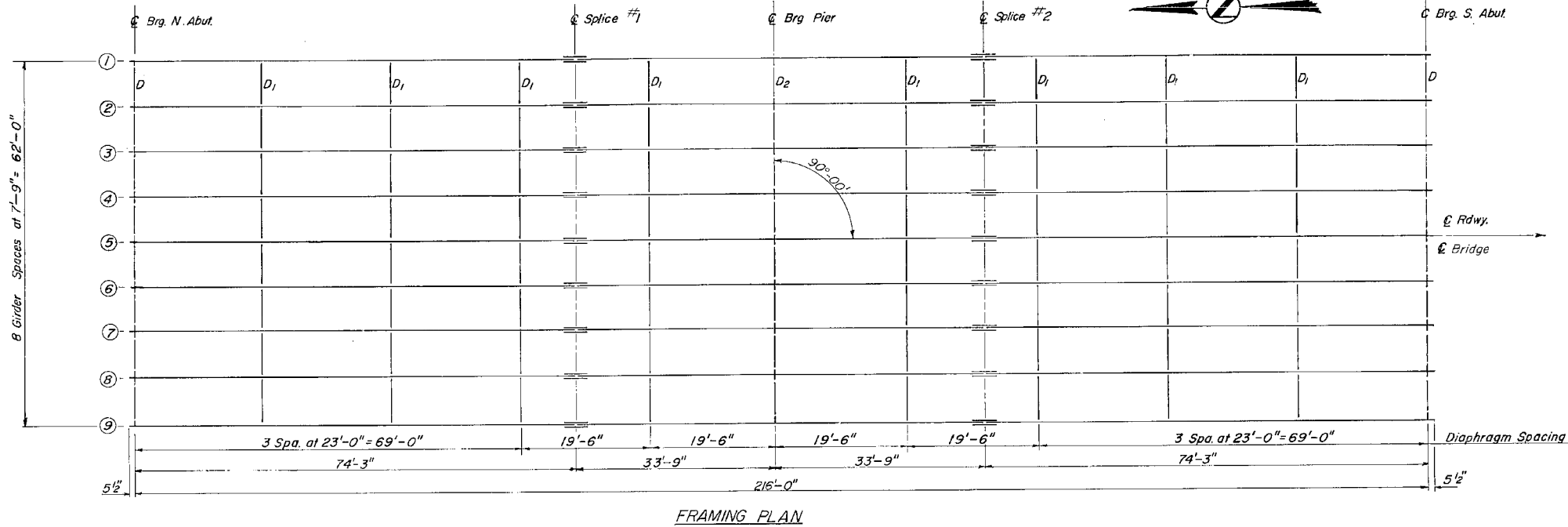
ITEM	UNIT	SUPER.	SUB.	TOTAL
Structure Excavation	Cu.Yds.	122	122	122
Class X Concrete	Cu.Yds.	557.4	361.0	918.4
Structural Steel	Lump Sum	L.S.		L.S.
Reinforcement Bars	Lbs.	128,350	40,080	168,430
Aluminum Railing	Lin.Ft.	518		518
Slope Wall (4")	Sq.Yds.		652	652
Stud Shear Connectors	Each	4104		4104
Name Plate	Each		1	1
Protective Coat	Sq.Yds.	658		658
Sand Backfill	Cu.Yds.		310	310
Coal Tar Interlayer Protective Coat	Sq.Yds.	1350		1350
Bituminous Conc. Sur. Crse. Class I	Tons	110		110
Preformed Joint Sealer	Lin.Ft.	137		137
Concrete Piles	Lin.Ft.		3415	3415
Test Piles (Concrete)	Each		2	2



GENERAL PLAN & ELEVATION
ILL. RTE. 123 OVER F.A. RTE. 408
SECTION 69-10HB
MORGAN COUNTY
STA. 34+63.48

MODEL: Default; FILE: MORGAN_CO_OPERATIONS\Bridges\Bridges\plans_CAD\72K20 - 1172 Morgan Co_painting\bridge.dwg

USER NAME = dudleybm	DESIGNED -	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS SN 069-0052 (FOR INFORMATION ONLY)	F.A.I. RTE. 72	SECTION D6 BDGE PAINTING 2018	COUNTY MORGAN	TOTAL SHEETS 14	SHEET NO. 12
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISIONS -		SCALE: SHEET OF SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT CONTRACT NO. 72K20				
PLOT DATE = 10/3/2017	DATE -	REVISIONS -							

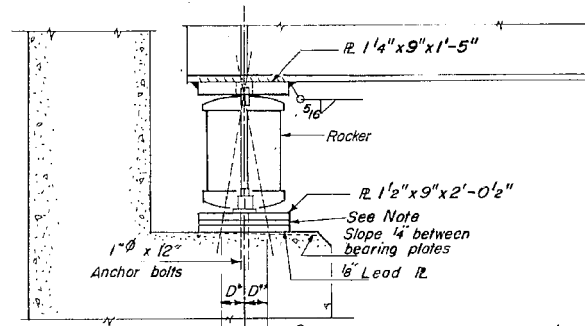


DESIGNED D.V.K.
 CHECKED G.E.P.
 DRAWN E-S R.H.H.
 CHECKED G.E.P.

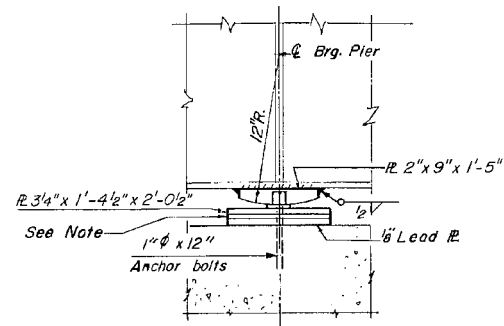
STRUCTURAL STEEL
 ILL. RTE. 123 over FA. 408
 SEC. 69-10HB
 MORGAN COUNTY
 STA. 34 + 63.48

USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/3/2017	CHECKED -	REVISED -
	DATE -	REVISED -

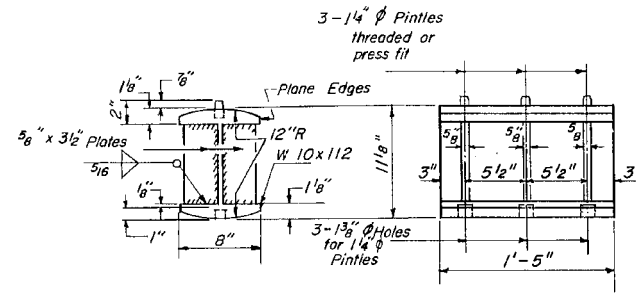
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D6 BDGE PAINTING 2018	MORGAN	14	13
CONTRACT NO. 72K20				
ILLINOIS FED. AID PROJECT				



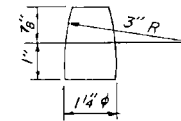
SECTION



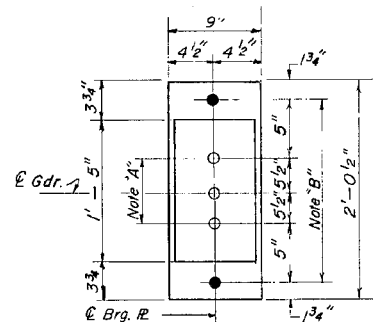
ELEVATION



ROCKER

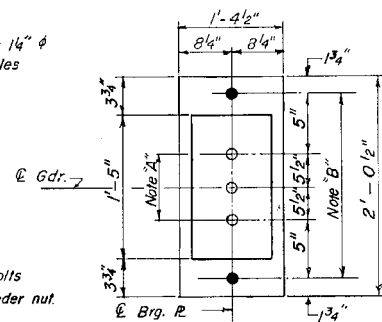


PINTLE



PLAN
AT ABUTMENT

Note "A"
1 3/8" ϕ Holes - 1" deep in top R for 1 1/4" ϕ Pintles. Thread or press fit pintles in bottom R.



PLAN
AT PIER

Note "B"
1 1/2" ϕ Holes for 1" ϕ Anchor Bolts
2 1/2" x 2 1/2" x 5/16" R Washers under nut.

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1	Pier
I_s (in 4)	22136.4	59052.9
I_c (in 4)	60949.7	
S_s (in 3)	1118.4	2218.0
S_c (in 3)	1559.4	
e (K/1)	1.019	1.700
M_e (1/K)	688.9	2556.5
$f_s e$ (ksi)	7.39	13.83
$s e$ (K/1)	0.486	
$M_s e$ (1/K)	410.8	
M_e (1/K)	967.5	875.0
M_{imp} (1/K)	207.5	187.7
$Total$ (1/K)	1585.8	1062.7
$f_s e$ (ksi)	12.20	5.75
$f_s Total$ (ksi)	19.59	19.58
VR (K)	60.6	

NOTE:
Brg seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\pm 1/8$ 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.

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R_e (K)	58.0	216.1
R_e (K)	45.2	78.6
Imp (K)	9.7	16.9
$Rtotal$ (K)	112.9	311.6

I_s and S_s are the moment of inertia and section modulus of the steel section. I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s . VR is the maximum $\frac{1}{2}$ + Impact shear range in span.

NOTES FOR SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- a) D^* (Side of brg. away from fixed brg.)
 $D^* = 1/8$ " per each 100' of expansion for every 15" fall below the normal temp. of 50° F.
- D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = 3/8$ " per each 100' of expansion for every 15" rise above the normal temp. of 50° F.
- b) After beams have been erected and dimensions D^* & D^{**} determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

TOP OF WEB ELEVATIONS					
Loc.	Gdr.	1 8 9	2 8 8	3 8 7	4, 5, 8 6
\bar{E} Brg. No. Abut.		667.931	668.052	668.173	668.294
\bar{E} Splice 1		668.151	668.272	668.393	668.514
\bar{E} Brg. Pier		668.151	668.272	668.393	668.514
\bar{E} Splice 2		668.151	668.272	668.393	668.514
\bar{E} Brg. So. Abut.		667.931	668.052	668.173	668.294

For Fabrication only.

DESIGNED	D.V.K.
CHECKED	G.E.P.
DRAWN E.S.	R.H.H.
CHECKED	G.E.P.