

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-2	(107) (126) BP	19	1
REVISIONS		CONTRACT NO. 72K75	
** FAI 172, FAP 506,733,321 (I-172,IL110,IL94,IL96,US54) ** ADAMS, HANCOCK, PIKE			

D-96-061-18

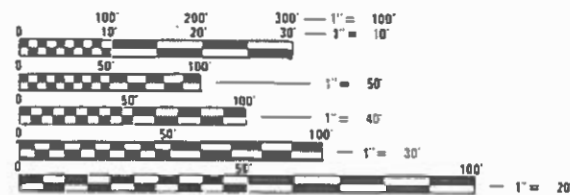
FOR INDEX OF SHEETS, SEE SHEET NO. 2

**PROPOSED
BRIDGE PAINTING**

VARIOUS ROUTES
[FAI 172, FAP 506,733,321 (I-172,IL110,IL94,IL96,US54)]
SECTION (1-2) (2) (107) (126) BP
PROJECT STP-SZYL(806)
BRIDGE PAINTING
VARIOUS COUNTIES (ADAMS, HANCOCK & PIKE)



C-96-109-18



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

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

CONTRACT NO. 72K75



LOCATION #2
SN 001-0069
OR 79 OVER I-172
2.2 MI S IL 57

LOCATION #3
SN 034-0065
IL 94 OVER SLATER CR.
2.5 MI NW IL 61 IN BOWEN



HANCOCK CO.

LOCATION #1
SN 001-0052
IL 96 OVER BEAR CR.
1.4 MI N MARCELLINE



ADAMS CO.



PIKE CO.

LOCATION #4
SN 075-0133
US 54/IL 107 OVER BAY CR.
1.5 MI N IL 106 IN PITTSFIELD

LOCATION #5
SN 075-0134
US 54/IL 107 OVER PANTHER CR.
1.4 MI N IL 106 IN PITTSFIELD

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 30 October 2018

[Signature] REGIONAL ENGINEER

June 14 2019
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

June 14 2019
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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
- 4-19 EXISTING BRIDGE PLANS (FOR INFORMATION ONLY)


HIGHWAY STANDARDS


- 000001-07
- 001006
- 701001-02
- 701006-05
- 701101-05
- 701106-02
- 701201-05
- 701400-09
- 701406-12
- 701901-08


GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED 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 COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT LOCATION #1 ONLY.
3. THE SSPC-OP-1 AND SSPC-OP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
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, 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 August 23rd 20 18

 ENGINEER OF OPERATIONS

EXAMINED August 20th 20 18

 ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED September 17 20 18

 ENGINEER OF PROGRAM DEVELOPMENT

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REV. - MS

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					SCALE:	SHEET OF SHEETS		STA.	TO STA.		

VARIOUS COUNTIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0-01373-6002	0-01373-6003	0-01373-6003	0-01373-6003
				STP 80/ 20	STP 80/20	STP 80/20	STP 80/20
				BRIDGE-RURAL 0047 ADAMS	BRIDGE-RURAL 0047 ADAMS	BRIDGE-RURAL 0047 HANCOCK	BRIDGE-RURAL 0047 PIKE
67100100	MOBILIZATION	L SUM	1	0.2	0.2	0.2	0.4
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0	0.25	0.25	0.5
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1	0	0	0
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	150	30	30	30	60
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	1	0	0	0
X5060603	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1	0	0	1	0
X5060604	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1	0	0	0	1
X5060605	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1	0	0	0	1
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	0	1	0	0
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	0	1	0	0
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1	0	0	0
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1	0	0	1	0
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1	0	0	0	1
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1	0	0	0	1

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PLOT DATE = 5/29/2019	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

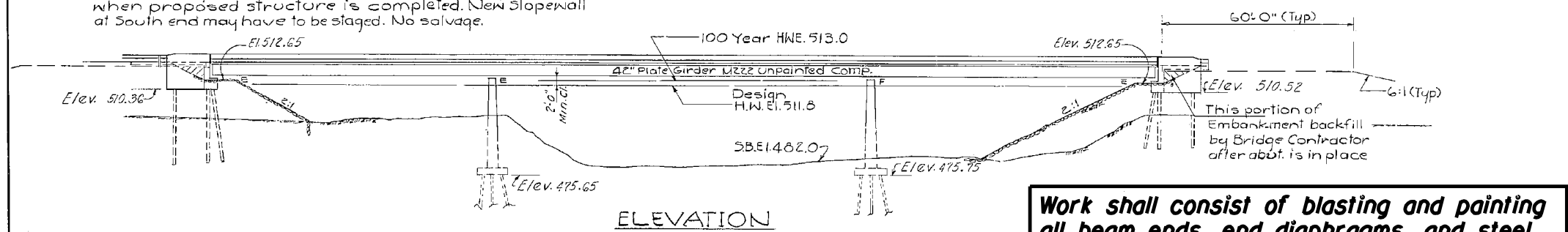
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	(1-2) (2) (107) (126) BP	VAR.	19	3
			CONTRACT NO. 72K75	
ILLINOIS FED. AID PROJECT				

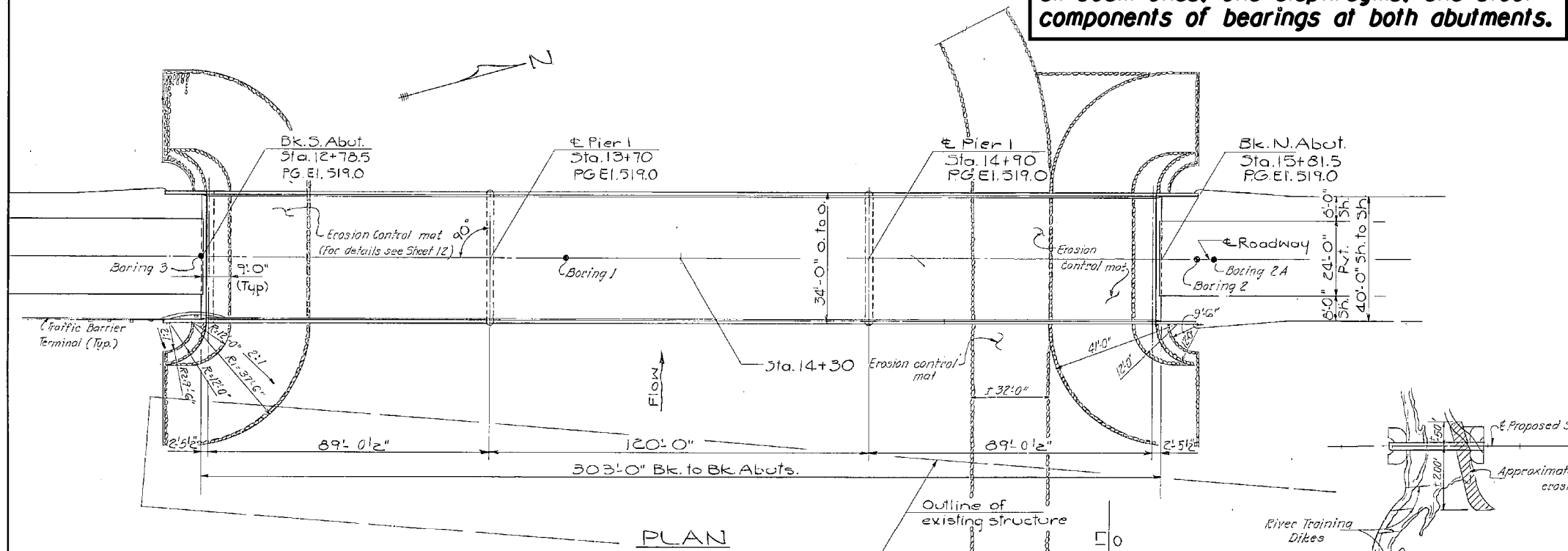
Bench Mark: U.S.G.S #1 Chisel a on S.E. corner Bear Creek bridge on top of wheel guard, El. 514.62.
 Exist. Structure: No. 001-0021 Built in 1927 as S.B.I. Rte. 96
 Section 126B-E-C Sta. 227+04 100 ft. steel truss span and
 6-50 ft. R.C. thru Girder Spans with 21 ft. Roadway.
 Substructure: R.C. solid piers and abutments.
 The Roadway Contractor shall remove existing structure when proposed structure is completed. New Slope wall at South end may have to be staged. No salvage.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1 13 SHEETS
F.A. RT. 506	126B-1	Adams	60	30	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



Work shall consist of blasting and painting all beam ends, end diaphragms, and steel components of bearings at both abutments.



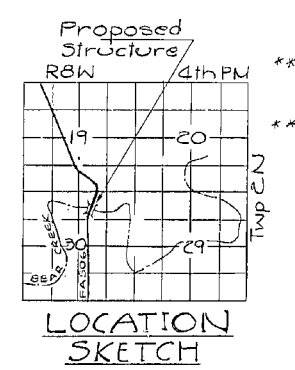
GENERAL NOTES
 Fasteners shall be high strength bolts. Bolts 3/4" Ø; open holes 1 1/8", unless otherwise noted.
 Calculated weight of Structural Steel = 244,680 Lbs. (M-222)
 All structural steel shall be AASHTO: M 222 unpainted except expansion joint angles and attached bars which shall be AASHTO: M 183 and shop painted with two coats of basic lead silico chromate paint.
 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.
 Layout of erosion control mat 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.
 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.
 No shims shall be allowed under Type 1 Elastomeric Bearing Pads on Pier 1 and North Abutment.
 Backfill shall be placed behind the abutment after the superstructure has been poured and the falsework removed. See Article 502.11 of the Standard Specifications.
 See Proposal for Boring Data.
 The Contractor shall drive in a permanent location 1 (one) concrete test pile at Ab. Abutment, 2 (two) steel test piles (4"Ø x 42") 1 @ Pier 1 and 1 @ Pier 2 as directed by the Engineer before ordering the remainder of piles.
 Reinforcement bars shall conform to the requirements of AASHTO M-31 Grade 60.
 Protective coat shall be applied to surfaces of the deck and face of parapet and curb in accordance with Art. 503.12 of the Standard Specifications.

STATION 14+30
 BUILT 197 BY
 STATE OF ILLINOIS
 F.A. RT. 506 SEC. 126B-1
 LOADING HS 20
 STR. NO.

NAME PLATE
 (See Std. 2113)
 *Structure No. to be supplied by District.

WATERWAY INFORMATION
 Drainage Area 352 Sq. Miles
 Design Discharge (50 Yr.) 23000 cfs
 Exist. Opening (below 50 Yr. H.W.E.) 6600 Sq. Ft.
 Req'd. Opening (below 50 Yr. H.W.E.) 46000 Sq. Ft.
 Prop. Opening (below 50 Yr. H.W.E.) 46000 Sq. Ft.
 Created Head for Design Flood 0.4 Ft.
 100 Year Discharge 26000 cfs
 Created Head for 100 Year Flood 0.5 Ft.

DESIGN STRESSES
 f'c = 3500 psi
 fy = 60,000 psi - Reinf.
 fy = 50,000 psi - Struct.
 n = 8.5
 Allow 25 Lbs. per Sq. Ft. for Future Wearing Surface
 Design Specifications 1973
 AASHTO 1974, 1975, 1976 & 1977
 interim specifications.



TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Removal of Existing Structures	Each			1
Class X Concrete	Cu. Yds	310.0	76.9	386.9
Class A Concrete	Cu. Yds		331.2	331.2
Reinforcement Bars (Epoxy Coated)	Lbs.	47650		47650
Reinforcement Bars	Lbs.	33150	37080	70230
Steel Piles (HP 10 x 42)	Lin. Ft.		2640	2640
Test Piles (Steel HP 10 x 42)	Each		2	2
Name Plates	Each	1		1
Stud Shear Connectors	Each	2820		2820
Preformed Joint Sealer (2"x2")	Lin. Ft.	34		34
Neoprene Exp. Joint (4")	Lin. Ft.	33		33
Cofferdam Pier 1	Each		1	1
Cofferdam Pier 2	Each		1	1
Cofferdam Excavation	Cu. Yds.		522	522
Protective Coat	Sq. Yds.	1271		1271
Structural Steel	L.S.			L.S.
Erosion Control Mat	Sq. Yds.	2350		2350
Concrete Piles	Lin. Ft.		1783	1783
Test Piles (Concrete)	Each		1	1
Stone Dikes	Tons			11950

** See Special Provisions.

**GENERAL PLAN & ELEVATION
 OVER BEAR CREEK
 F.A. RTE. 506 (ILL. RTE. 96)
 SECTION 126B-1
 ADAMS COUNTY
 STATION 14+30**

DESIGNED: [Signature]
 CHECKED: [Signature]
 DRAWN: S.H. JS
 CHECKED: [Signature]

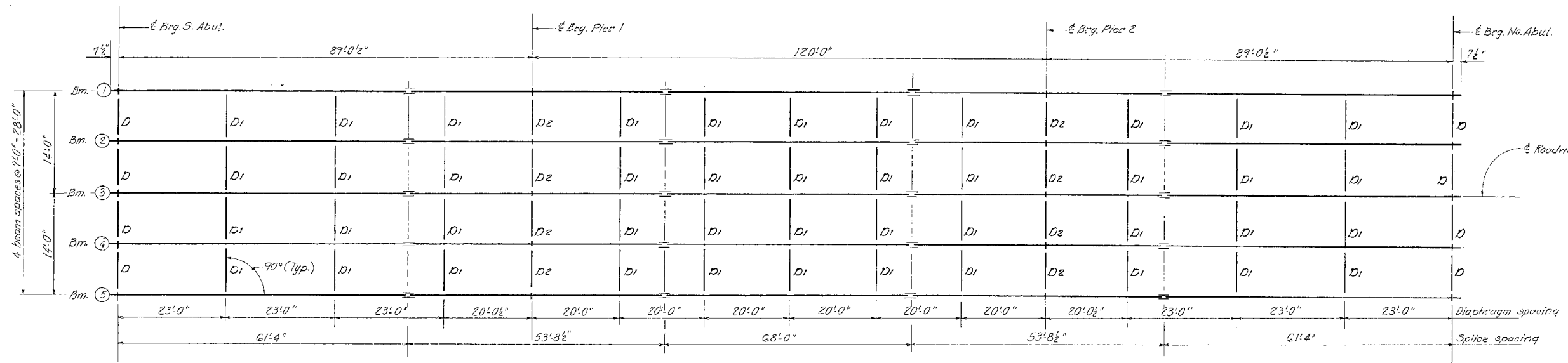
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 PASSED: [Signature]
 APPROVED: [Signature]



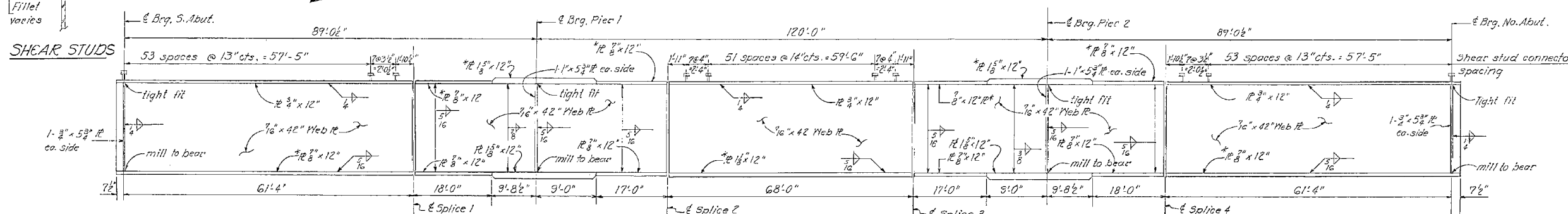
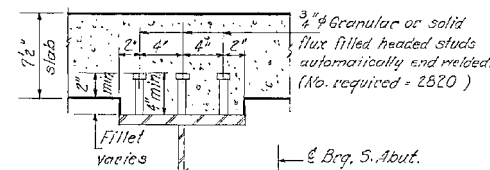
LOADING HSCO-44

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 13 SHEETS
F.A.R.T. 506	126B-1	Adams	60	35	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



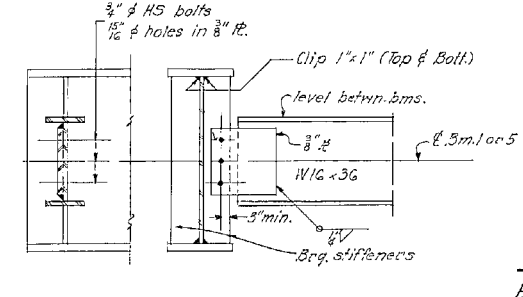
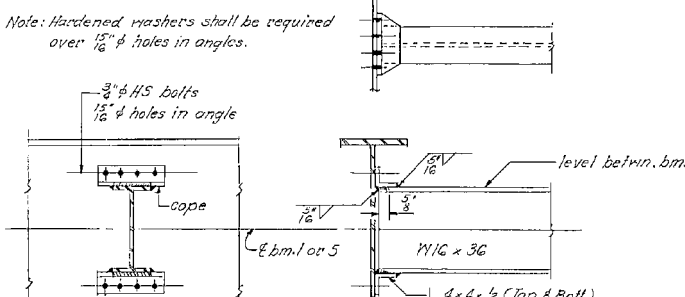
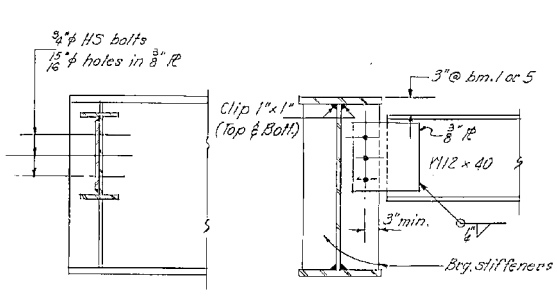
FRAMING PLAN
For Field Splice Detail see Sheet #3.



BEAM ELEVATION

Note:
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the steel girders. Tension flanges are identified by asterisk (*).

Note: Hardened washers shall be required over 1/8" holes in angles.



DESIGNED	APRIL 13 1978	EXAMINED	
CHECKED		PASSED	
DRAWN		APPROVED	
CHECKED		DIRECTOR OF HIGHWAYS	

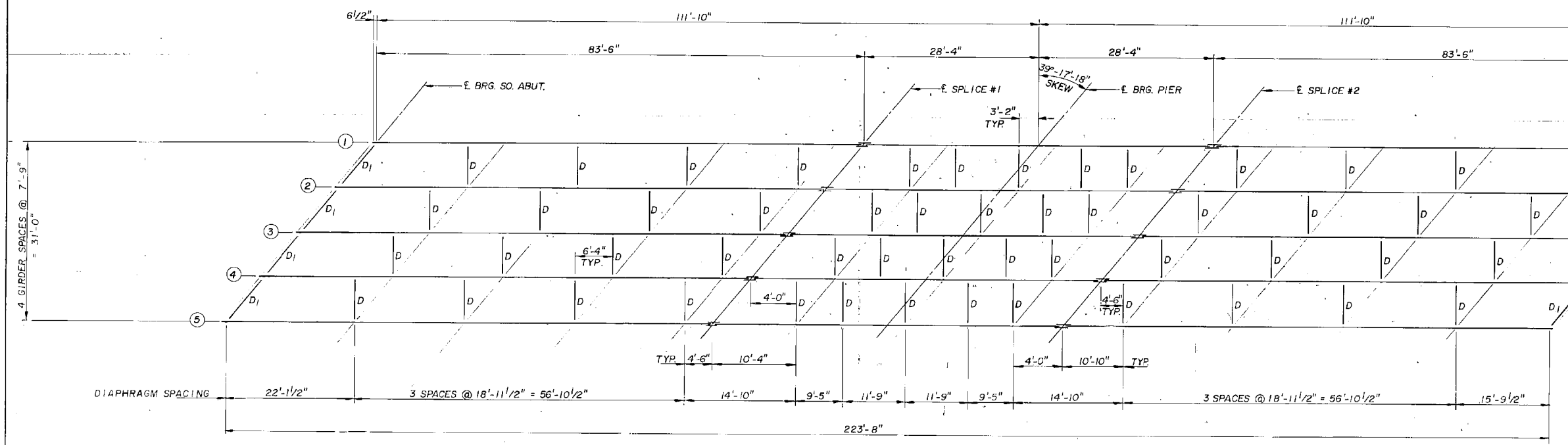
STRUCTURAL STEEL
F.A.R.T. 506 SEC. 126B-1
ADAMS COUNTY
STA. 14 + 30.00

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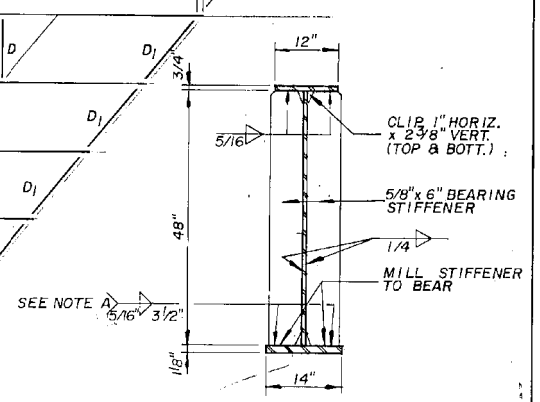
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PLOT DATE = 5/28/2019	CHECKED -	REVISED -			CONTRACT NO. 72K75				
	DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 408	1-2HB	ADAMS	30	18

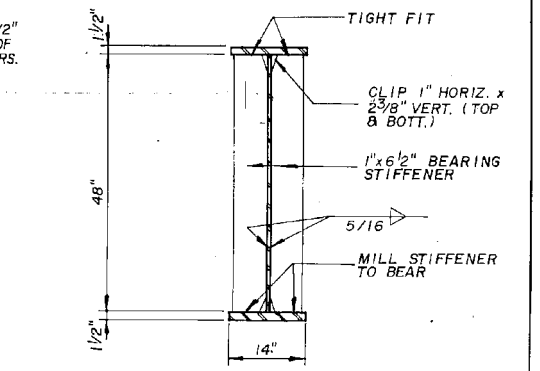
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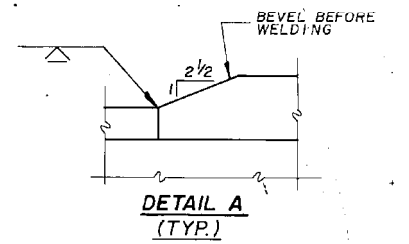
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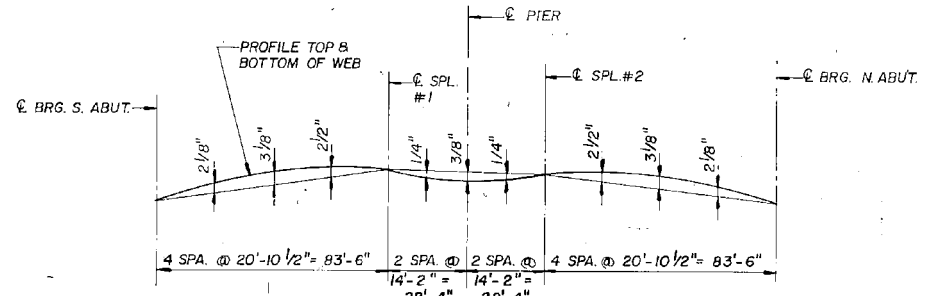
GIRDER SECTION AT ABUTMENT



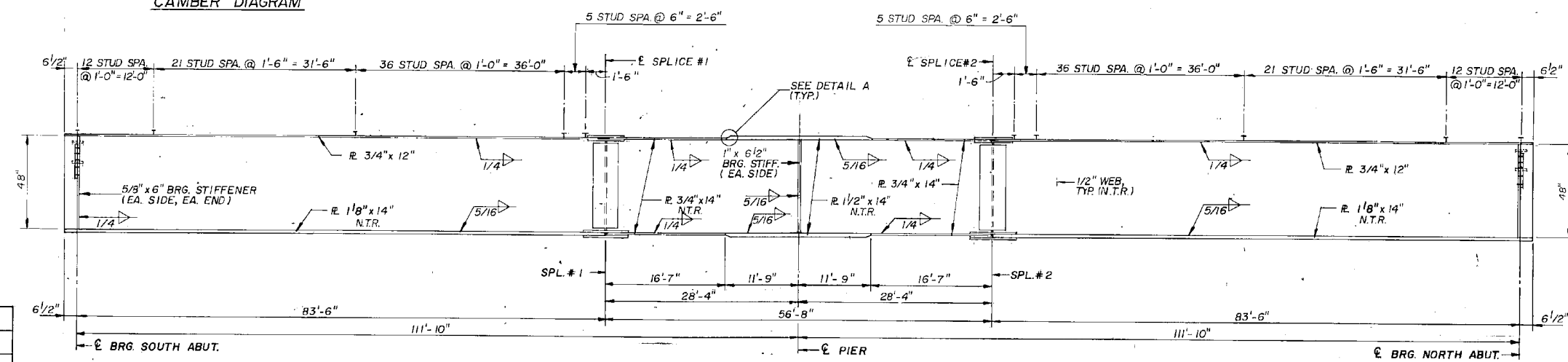
GIRDER SECTION AT PIER



DETAIL A (TYP.)



CAMBER DIAGRAM



GIRDER ELEVATION

NOTE A: WELD SHALL END 1/2" FROM BOTH ENDS OF BEARING STIFFENERS.

"NTR" DENOTES PLATES TO WHICH NOTCH TOUGHNESS REQUIREMENTS ARE APPLICABLE. ALL FLANGES, FLANGE SPLICE PLATE MATERIAL AND ALL BEARING PLATES SHALL BE A.A.S.H.T.O. M223 (GR. 50) STEEL.

**STRUCTURAL STEEL DETAILS
FRAMING PLAN & GIRDER ELEVATION**

ILL. RTE. 79 OVER F.A.P. RTE. 408
F.A.P. RTE. 408, SEC. 1-2HB
ADAMS COUNTY
STA. 0+00.20 N.W. =
STA. 999+99.80 S.E.

DESIGNED	V.S.N.
CHECKED	K.L.F.
DRAWN	J.S.
CHECKED	K.L.F.

USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 5/28/2019	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 001-0069
(FOR INFORMATION ONLY)

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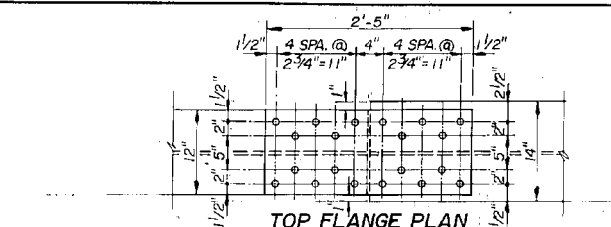
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CONTRACT NO. 72K75				
ILLINOIS FED. AID PROJECT				

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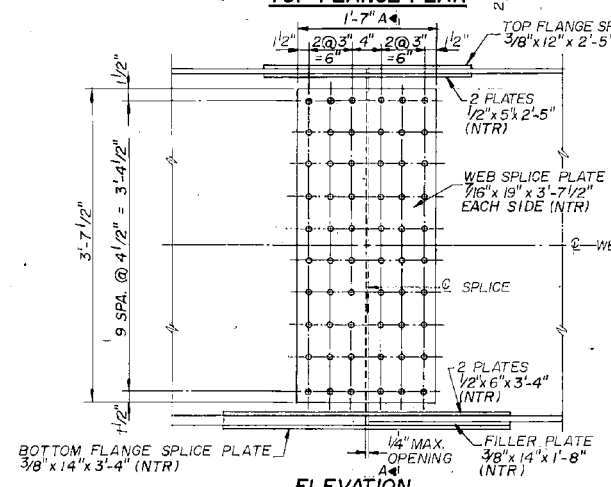
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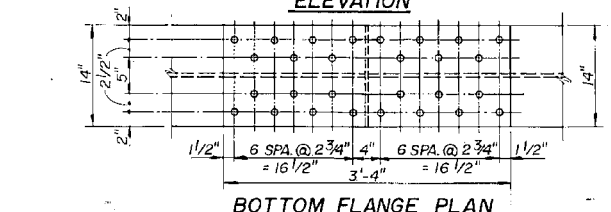
SHEET NO. 13 OF 19 SHEETS



TOP FLANGE PLAN

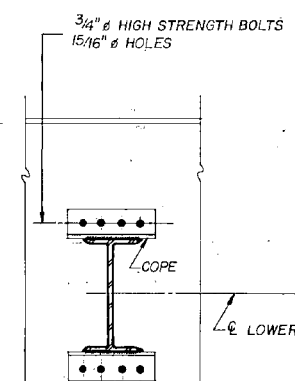


ELEVATION

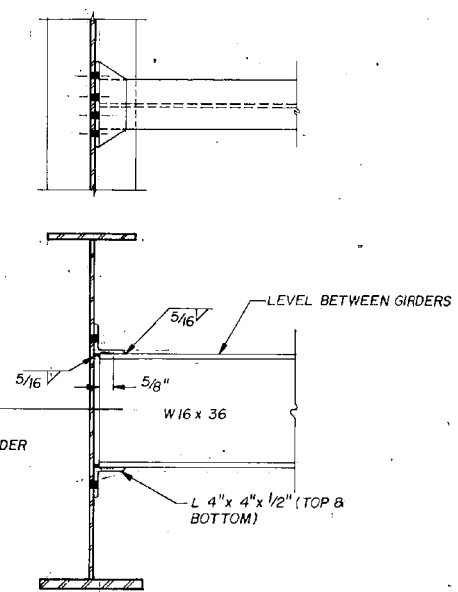


BOTTOM FLANGE PLAN

FIELD SPLICE DETAILS
SPLICE NO. 1 & 2
 (ALL SPLICE PLATES SUBJECT TO NTR)

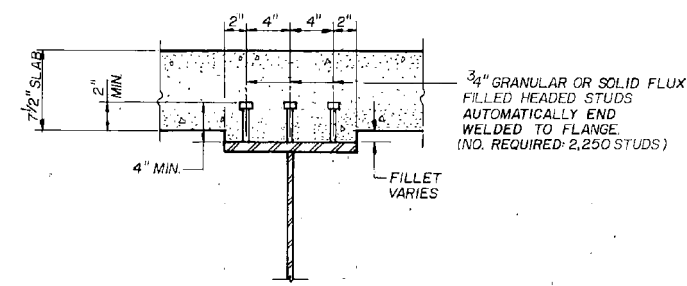


DIAPHRAGM D
 (52 REQ'D.)

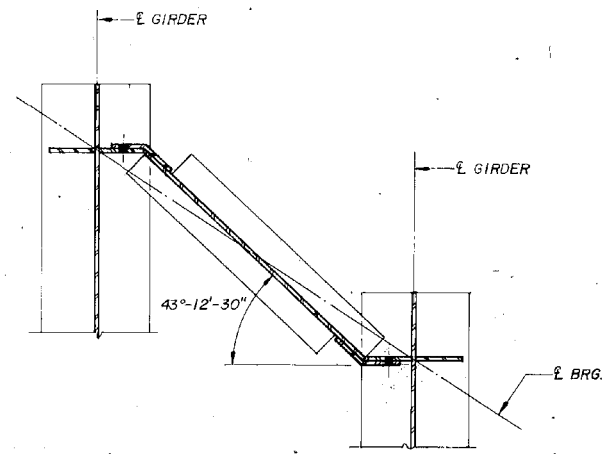


SECTION A-A

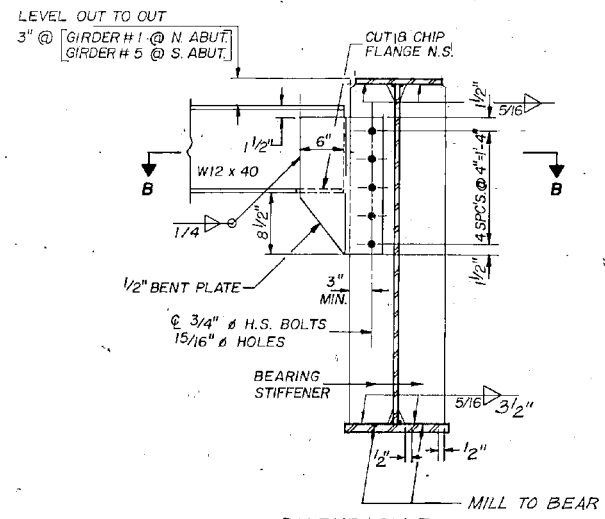
- NOTES:
1. ALL BOLTS ARE 7/8" HIGH STRENGTH BOLTS 15/16" Ø OPEN HOLES.
 2. "NTR" DESIGNATES NOTCH TOUGHNESS REQUIREMENTS.
 3. ALL FLANGE SPLICE PLATES SHALL BE AASHTO M223, GR. 50 STEEL.
 4. NO BOLT THREADS IN SHEAR PLANE.



SHEAR STUDS



SECTION B-B



DIAPHRAGM D1
 (8 REQ'D.)

NOTE: TWO HARDENED WASHERS SHALL BE REQUIRED OVER ALL 15/16" Ø HOLES.

DESIGNED	V.S.N.
CHECKED	K.L.F.
DRAWN	J.S.
CHECKED	K.L.F.

STRUCTURAL STEEL DETAILS
GIRDER & FRAMING DETAILS
 ILL. RTE. 79 OVER F.A.P. RTE. 408
 F.A.P. RTE. 408, SEC. I - 2HB
 ADAMS COUNTY
 STA. 0+00.20 N.W. =
 STA. 999+99.80 S.E.

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PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 5/28/2019	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 001-0069
 (FOR INFORMATION ONLY)

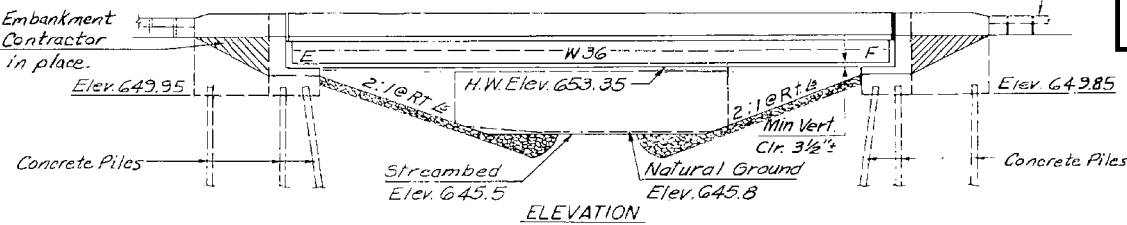
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(1-2)	(2) (107) (126) BP	VAR.	19	9
CONTRACT NO. 72K75				
ILLINOIS FED. AID PROJECT				

BM 2TD - Cut on Southwest corner of Southwest wing of existing bridge. Elev. 656.01
 Existing Structure: SN 034-0035 Remove 37' R.C. deck girder bridge, w/22.2' Roadway & Closed Abutments.

Traffic Barrier Terminal Std 2341 (Typ.)

This Portion of Embankment Backfill by Bridge Contractor after Abutment is in place.



Work shall consist of blasting and painting all beam ends, end diaphragms, and steel components of bearings at both abutments.

GENERAL NOTES

- See Proposal for Boring Data.
- Pasteners shall be high strength bolts. Bolts 7/8" dia., open holes 15/16" dia., unless otherwise noted.
- Calculated weight of Structural Steel 69,750 lbs., M183 = 10,720 lbs., M223 GR 50 = 59,030 lbs.
- The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted. The color of the final finish coat shall be Munsell No. 7.5G 4/8 Interstate Green.
- The quantity of Protective Coat includes the top of deck and inside face and top of parapets.
- Field welding of construction accessories will not be permitted to the bottom flange of beams. Field welding in other areas will be permitted only when approved by the Engineer.
- Bridge Seat Sealer shall be applied to all top surfaces of the abutments. Est. quantity = 292 sq. ft.
- Anchor bolts shall be set before bolting diaphragms over supports.
- The main load carrying components subject to tensile stress shall conform to the "Supplemental Requirements for Notch Toughness Zone 2". These components are the wide flange beams.
- Reinforcement bars shall conform to the requirements of AASHTO M31, M42 or M53 Grade 60.
- The embankment configuration shown shall be the minimum embankment that must be constructed prior to the construction of the abutments. (See Rdwy Plans)
- The concrete for bridge floors finished in accordance with Article 503.15 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete.
- The Contractor shall drive one (1) concrete test pile in a permanent location at the East and West abutments as directed by the Engineer before ordering the remainder of the piles.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

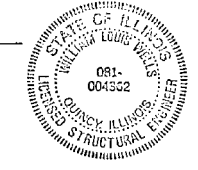
TOTAL BILL OF MATERIAL

Item	Units	Superstructure	Substructure	Total
Removal of Existing Structures	Each			1
Protective Coat	Sq. Yd.	337		337
Neoprene Expansion Joint (2")	Lin.Ft.	48		48
Floor Drains	Each	8		8
Elastomeric Bearing Assembly, Type 1	Each	6		6
Class X Concrete Superstructure	Cu.Yd.	83.9		83.9
Class X Concrete	Cu.Yd.		95.0	95.0
Furn. and Erect Structural Steel	L.Sum	1		1
Stud Shear Connectors	Each	1,080		1,080
Reinforcing Bars, Epoxy Coated	Lbs.	16,560	9,240	25,800
Furnish Concrete Piles	Lin.Ft.		1,542	1,542
Driving Concrete Piles	Lin.Ft.		1,542	1,542
Test Pile, Concrete	Each	2		2
Name Plates	Each	1		1
Structural Excavation	Cu.Yd.		279	279
Stone Riprap Class A4	Ton		548	548
Bridge Seat Sealer	L.Sum		1	1
Filter Fabric for use with Riprap	Sq.Yd.		717	717
Preformed Joint Seal (1 3/4")	Lin.Ft.	49		49
Temporary Bridge Rail	Lin.Ft.	104		104
Temporary Sheet Piling	Sq.Ft.		1174	1174

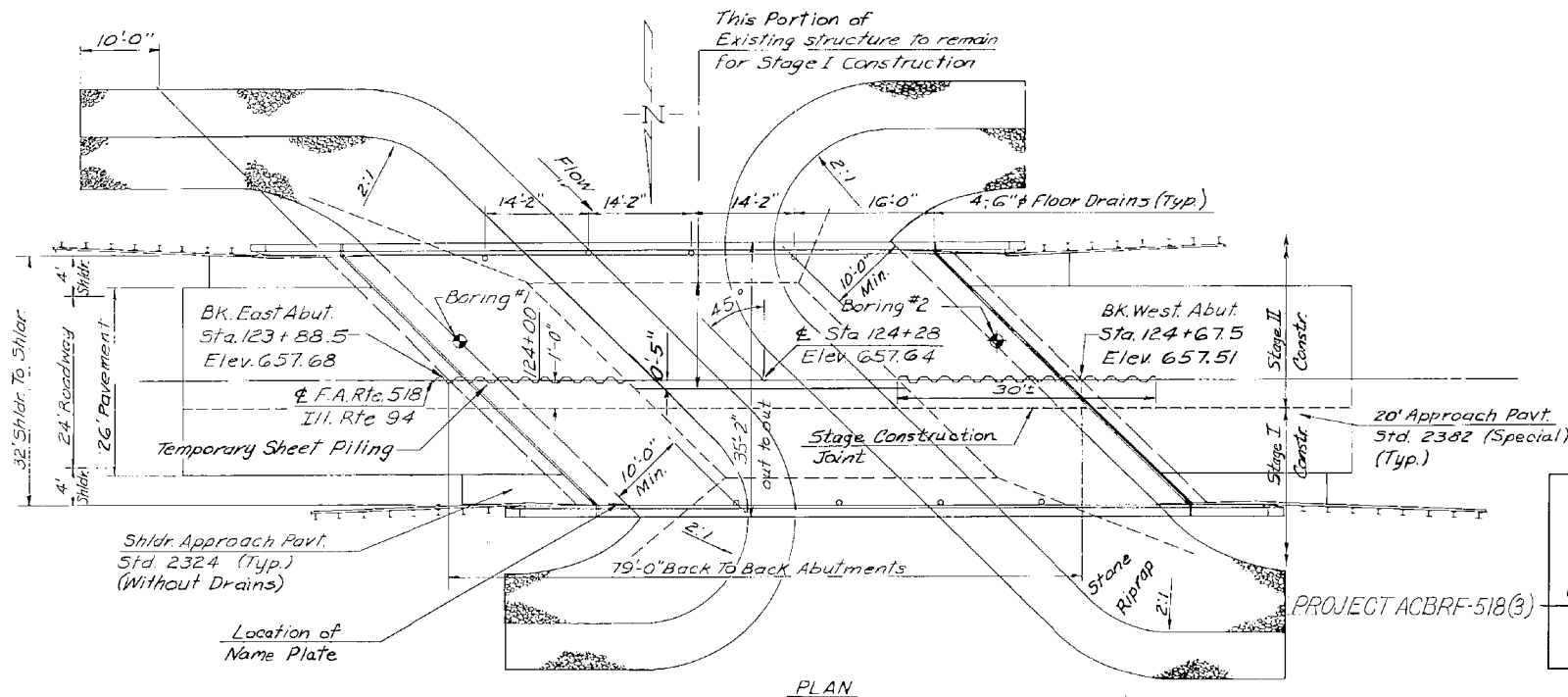
*Quantity includes Bridge Deck Surface

APPROVED
 ENGINEER IN CHARGE ONLY

Ralph E. Ankus
 Structural Engineer



William L. Wells 7/31/90
 Date
 Licensed Structural Engineer
 State of Illinois No. 4362
 License Expires November 30, 1990



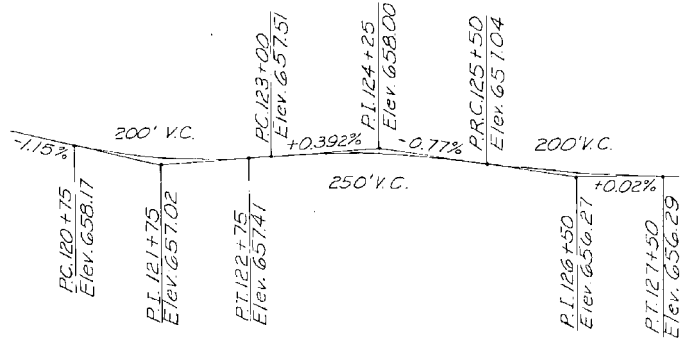
STATION 124+28
 BUILT 199 BY
 STATE OF ILLINOIS
 F.A. RTE. 518 SEC. 2B-2
 LOADING HS 20
 STR. NO. 034-0065

NAME PLATE
 See Std. 2113

TEMPORARY SHEET PILING DATA

Top Elev. = 659.00
 Bottom Elev. = 639.00

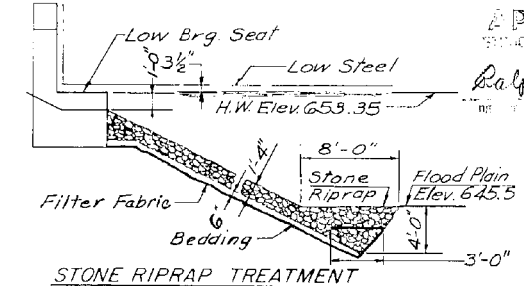
Notes: The information for the Temporary Sheet Piling is estimated. It is the Contractor's responsibility to provide a design and computations of the sheet piling and associated members, if required, subject to approval of the Engineer.
 The Contractor shall anchor the sheet piling to back of existing abutment wall. The connection shall be approved by the Engineer. Sheet piling within the limits of existing footing shall have the bottom elevation at the top of the footing.



PROFILE GRADE
 F.A. Rte. 518
 Along Q Roadway

Drainage Area 5.750 Mi.		Low Grade Elev. 656.28 @ Sta. 127+24					
Flood	Yr.	Q C.F.S.	Opening Sq. Ft.	Head - Ft. H.W.E.	Head - Ft. Prop. Exist.	Headwater El. Prop.	Headwater El. Prop.
Design	50	1480	179 264	653.35	1.66 0.78	655.01	654.13
Base	100	1695	179 269	653.65	2.18 0.96	655.83	654.61
Overlapping							
Max Calc.	500	1900		269	653.89		655.08

* Provided by 100T



STONE RIPRAP TREATMENT

DESIGN SPECIFICATION

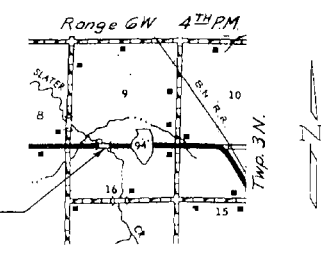
1989 AASHTO

LOADING HS 20-44

Allow 25 #/sq. ft. for future wearing surface

DESIGN STRESSES

f_c = 3,500 psi
 f_y = 60,000 psi (Reinf.)
 f_y = 50,000 psi (Struct.) M223 Gr 50



LOCATION SKETCH

GENERAL PLAN
 ILLINOIS ROUTE 94 OVER
 SLATER CREEK
 F.A. RTE. 518 SECTION 2B-2
 HANCOCK COUNTY
 Sta. 124+28
 STRUCTURE NUMBER 034-0065

KLINGNER & ASSOCIATES, P.C.

Consulting Engineers
 813 Broadway • Quincy, Illinois 62301
 (217) 223-3670 • FAX: 223-3603

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 034-0065
 (FOR INFORMATION ONLY)

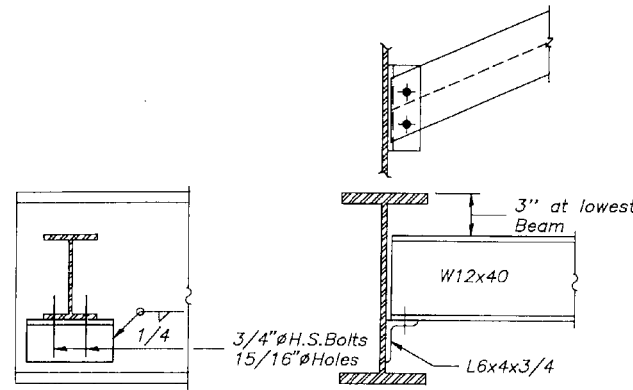
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	(1-2) (2) (107) (126) BP	VAR.	19	11

CONTRACT NO. 72K75
 ILLINOIS FED. AID PROJECT

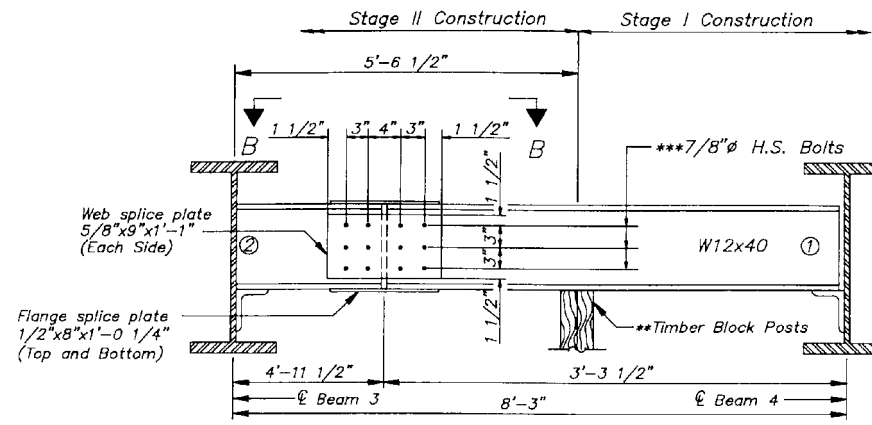
MODEL: Default FILE: \\nas01\c0\OPERATIONS\Bridges\Bridges\034-0065\034-0065.dwg - Beam end print west 20/19/2019 10:00:00 AM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. OF 14 SHEETS
S. B. I. A. 518	2B-2	HANCOCK	28	18	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



DIAPHRAGM D₁
8 Required

Note: Two hardened washers shall be required over all 15/16" holes.



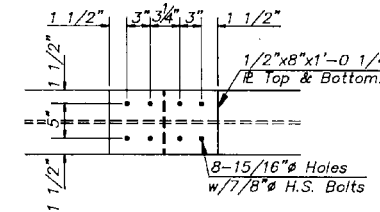
DIAPHRAGM D₃
2 Required

Dimensions are along centerline of diaphragm (Looking Southwest)
For details of connections to beams see diaphragm D₁
** Cost incidental to Structural Steel

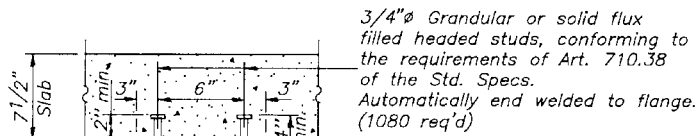
***Fasteners shall be High Strength Bolts 7/8" diameter.
Open holes 15/16" diameter.

DIAPHRAGM D₃ CONSTRUCTION SEQUENCE

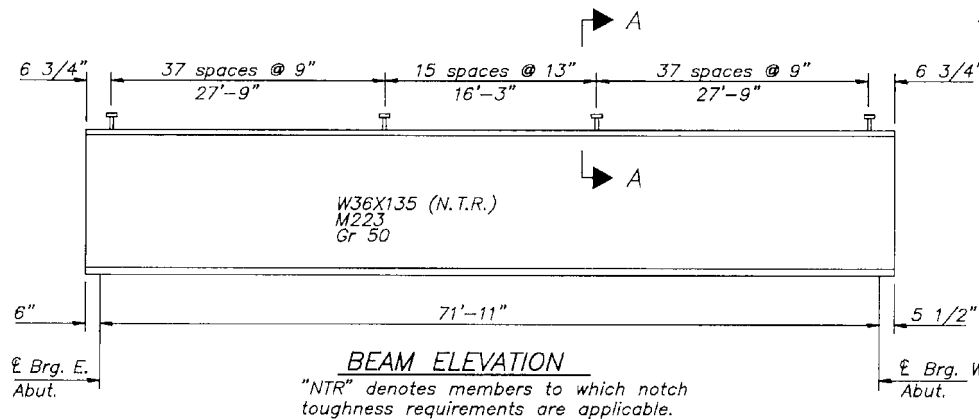
1. Order Diaphragm D₃ in two sections with lengths of 3'-10 3/4" and 3'-2 3/4".
2. Attach part ① of Diaphragm to Beam 4 during Stage I Construction.
3. Place Timber Block Posts between part ① of Diaphragm and abutment bearing seat.
4. Attach part ② of diaphragm to both Beam 3 and part ① of diaphragm during Stage II Construction.
5. Attach all splice plates to part ① and part ② of diaphragms.
6. Remove Timber Block Posts.



Section B-B



SECTION A-A

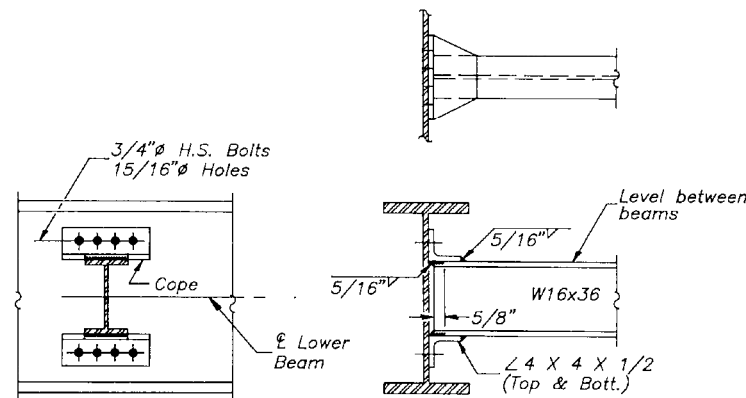


BEAM ELEVATION
"NTR" denotes members to which notch toughness requirements are applicable.

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Overload).
I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s (Overload).
V_R is the maximum Live Load + Impact shear range in span.
M_a (Applied Moment) = 1.3[M_ℓ + M_{sℓ} + 5/3(M_ℓ + I)].
M_u is the Full Plastic Moment Capacity Computed according to AASHTO 10.48.1 & 10.50.1.1
f_s (Overload) is the sum of the stresses due to M_ℓ + M_{sℓ} + 5/3(M_ℓ + I).

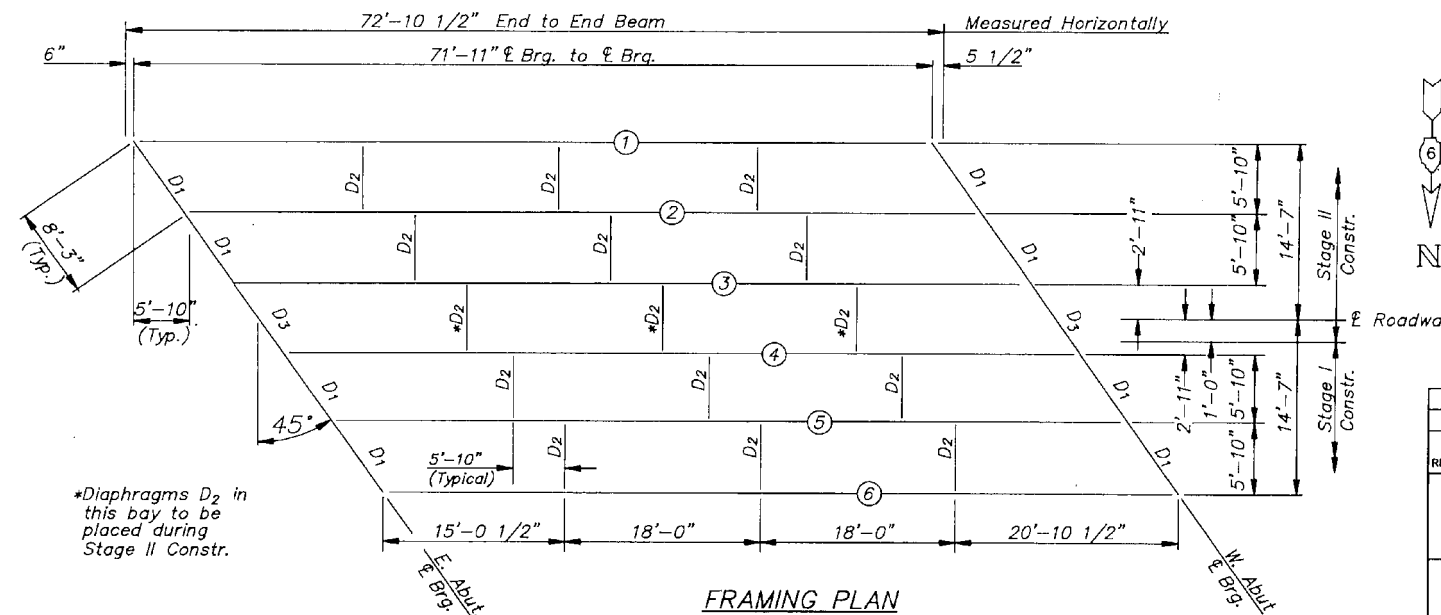
Units	E. & W. Abuts.
R _ℓ (K)	35.8
R _ℓ (K)	33.2
Imp. (K)	8.5
R (Total) (K)	77.5

Beam No.	E. E. Brg.	W. E. Brg.
1	656.767	656.669
2	656.872	656.754
3	656.961	656.825
4	656.959	656.804
5	656.865	656.690
6	656.756	656.561



DIAPHRAGM D₂
15 Required

Note: Two hardened washers shall be required over all 15/16" holes.
Provide 1 1/2" Long Vertical slotted holes in connection angles for diaphragms for Beam #4 with 5/16" structural plate washers.
The bolts for the slotted holes shall be finger tightened prior to the deck slab pouring & then be fully tightened after completion of pouring.



FRAMING PLAN

REV. NO.	THM	WLW	APPD.	DESCRIPTION	DATE
					3/90

F.A. ROUTE 518 (IL 94)
SECTION 2B-2
HANCOCK COUNTY
STRUCTURAL STEEL DETAILS
STRUCTURE NO. 034-0065
STATION 124+28

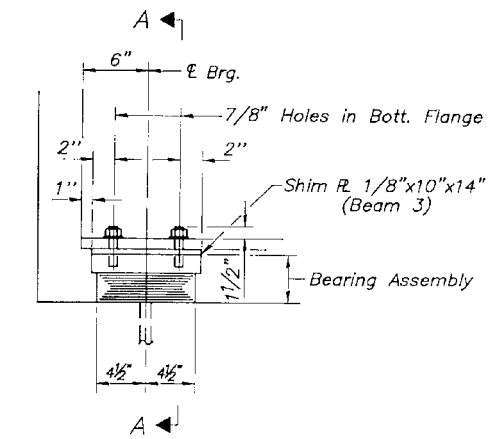
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 034-0065
(FOR INFORMATION ONLY)

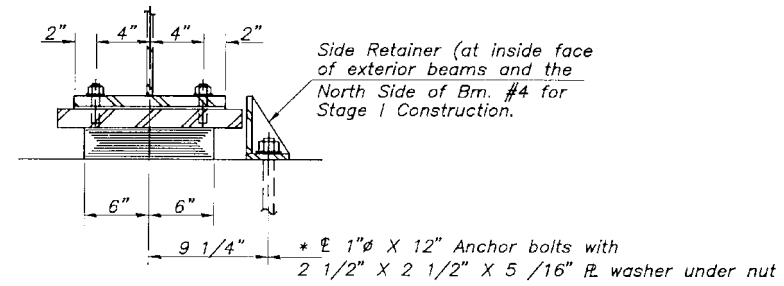
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	(1-2) (2) (107) (126) BP	VAR.	19	12
CONTRACT NO. 72K75				

SCALE: SHEET OF SHEETS STA. TO STA.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10 OF 14 SHEETS
S. B. L. F. A. 518	2B-2	HANCOCK	28	19	
FED. ROAD DIST. NO. 7	(LUNGS)	FED. AID PROJECT-			



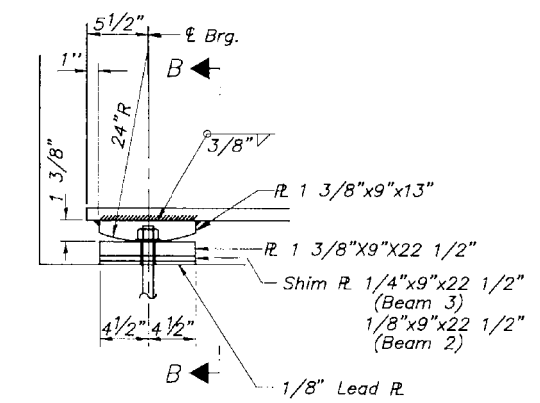
ELEVATION AT ABUT.
(East)



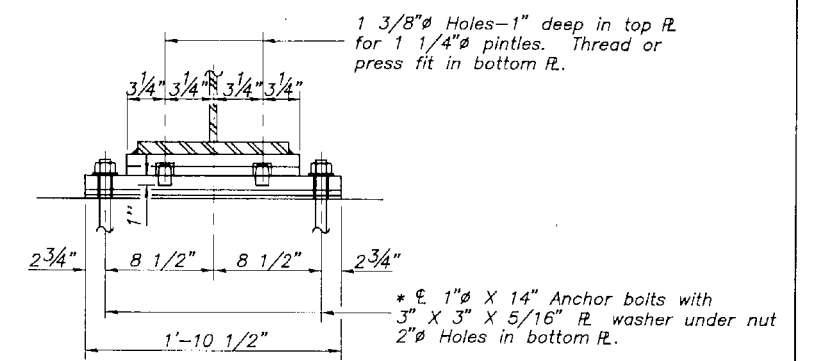
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

* Notes: Anchor bolts at fixed bearings may be built into the masonry.
See sheet #11 for Anchor Bolt installation.

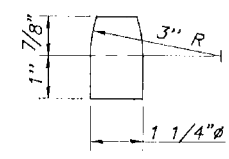


ELEVATION AT ABUT.
(West)

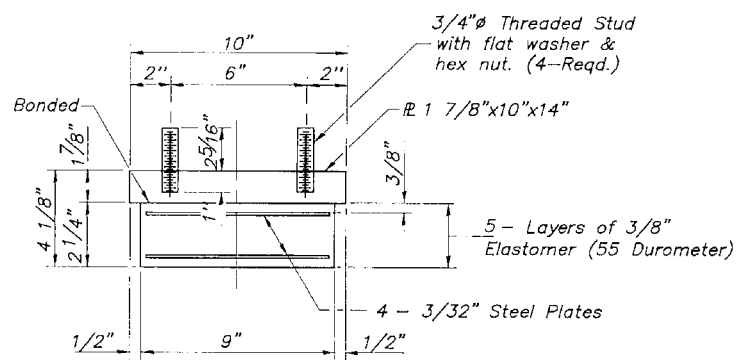


SECTION B-B

FIXED BEARING

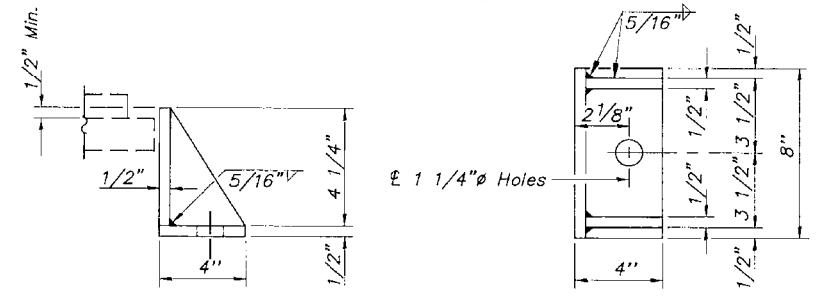


PINTLE



BEARING ASSEMBLY

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



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type 1	Each	6

REV. NO.	DATE	DESCRIPTION

F.A. ROUTE 518 (IL 94)
SECTION 2B-2
HANCOCK COUNTY
BEARING ASSEMBLY, TYPE I
STRUCTURE NO. 034-0065
STATION 124+28

MODEL: Default
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USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/28/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 034-0065
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	(1-2) (2) (107) (126) BP	VAR.	19	13
CONTRACT NO. 72K75				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Work shall consist of blasting and painting all beam ends, end diaphragms, and steel components of bearings at both abutments.

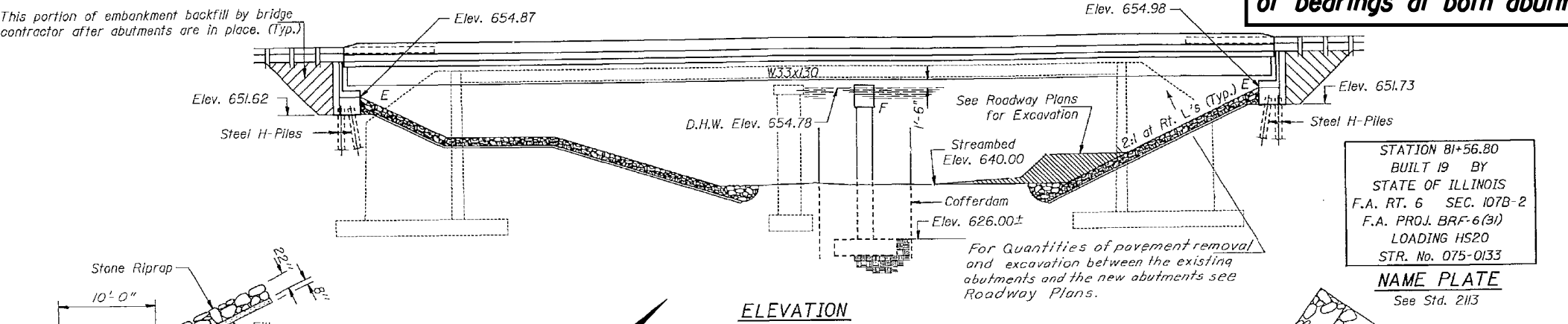
ROUTE NO.	SECTION	COUNTY	SHEETS	TOTAL SHEETS
107-B-2	PIKE	46	26	15 SHEETS

GENERAL NOTES

Proposed for Boring Data.
Fasteners shall be high strength bolts. Bolts 7/8" φ, open holes 1 1/16" φ, unless otherwise noted.
Calculated weight of M 183 Structural Steel = 20,050 Lbs.
Calculated weight of M 223 Grade 50 Structural Steel = 140,990 Lbs.
The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.
Field welding of construction accessories will not be permitted to the bottom flange of beams 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.
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the wide flange beams and all splice plate material of the wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
Layout of slope protection system 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.
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. For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed.
The contractor shall drive one Steel HP8x36 test pile in a permanent location at the N. Abutment as directed by the Engineer before ordering the remainder of piles.
Bridge Seat Sealer shall be applied to the seat area of the abutments. Est. quantity = 263 Sq. Ft.

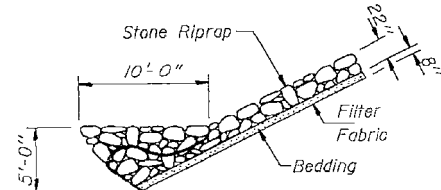
Bench Mark: B.M. #2 chiseled square 12.5' Lt., Sta. 81+06, Top wingwall S.E. corner of Bridge Elev. 659.68
Existing Structure: # 075-0053 Built as S.B.I. Rte. 107 Sec. 107-B Sta. 81+20.00 in 1932. Two Span R.C. Girder Bridge with overall length of 104.98' Bk. to Bk. and 22'-0" width. The contractor shall remove the existing structure and replace it with a new two span R.C. Deck 7 1/2" thick slab on W 33" Bms., utilizing stage construction.
No Salvage.

This portion of embankment backfill by bridge contractor after abutments are in place. (Typ.)

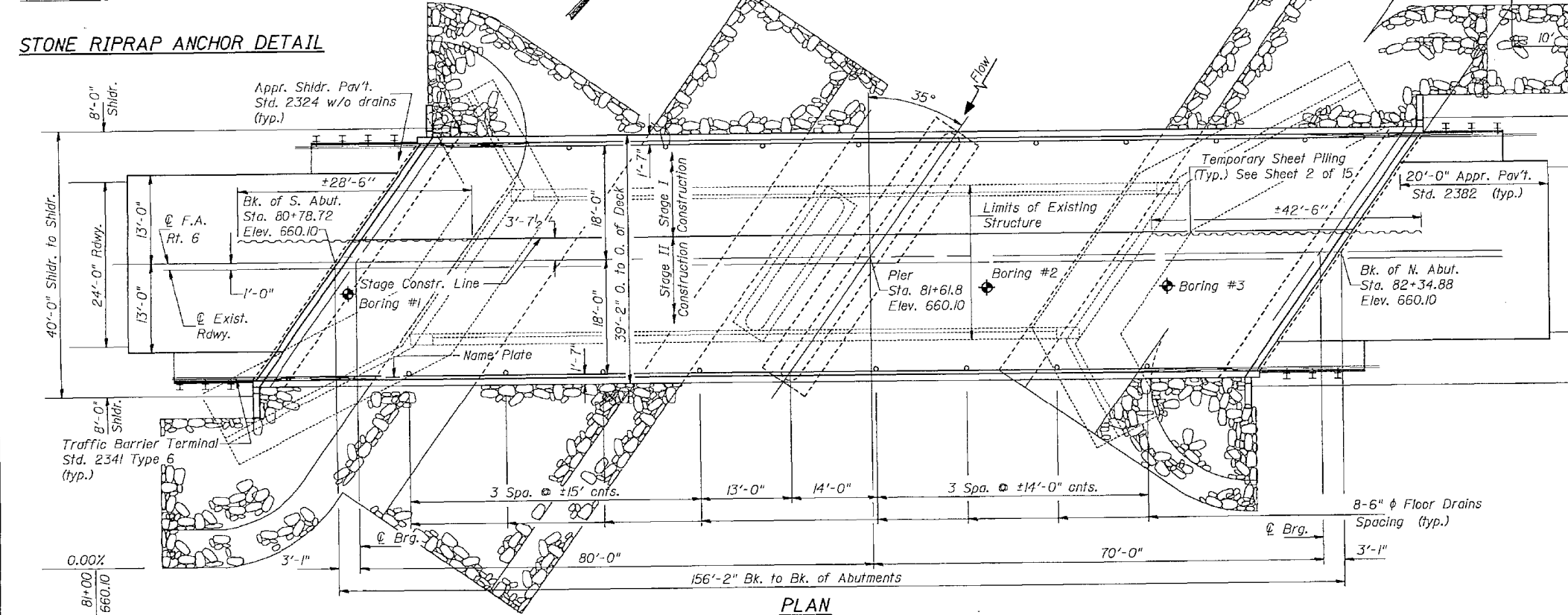


STATION 81+56.80
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 6 SEC. 107B-2
F.A. PROJ. BR-6(31)
LOADING HS20
STR. No. 075-0133

NAME PLATE
See Std. 2113



STONE RIPRAP ANCHOR DETAIL



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Rock Excavation for Structures	Cu. Yd.		27	27
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		158	158
Cofferdam Excavation	Cu. Yd.		287	287
Cofferdams	Each		2	2
Floor Drains	Each	16		16
Preformed Joint Seal 4"	Lin. Ft.	94		94
Protective Coat	Sq. Yd.	124		124
Elastomeric Bearing Assembly, Type I	Each	7		7
Elastomeric Bearing Assembly, Type II	Each	7		7
Class X Concrete	Cu. Yd.		222.2	222.2
Class X Concrete Superstructure	Cu. Yd.	182.1		182.1
Structural Steel	L. S.	1		1
Stud Shear Connectors	Each	2,198		2,198
Reinforcement Bars	Lbs.		11,900	11,900
Reinforcement Bars, Epoxy Coated	Lbs.	39,680	7,550	47,230
Steel Piles HP8x36	Lin. Ft.		454	454
Test Pile Steel HP8x36	Each		1	1
Name Plates	Each		1	1
Stone Riprap Class A5	Sq. Yd.		1,159	1,159
Filter Fabric For Use With Riprap	Sq. Yd.		1,342	1,342
Temporary Sheet Piling	Sq. Ft.		1,919	1,919
Bridge Seat Sealer	L. S.		1	1

PROFILE GRADE
F.A.P. Rte. 6 Ill. Rte. 107

DESIGNED *Kevin J. Reckers*
CHECKED *Mark P. Thomson*
DRAWN *Paul W. Sweet*
CHECKED *KLR*

December 6, 1988
EXAMINED *Greg O. Kaspar*
PASSED *James J. Kautzman*
APPROVED _____
DIRECTOR OF HIGHWAYS

WATERWAY INFORMATION

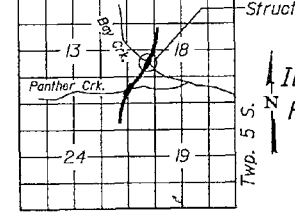
Drainage Area = 27.4 sq. mi. Low Grade Elev. 659.9 @ Sta. 80+00.00

Flood	Freq. Yr.	*Q C.F.S.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	50	9136*	10200	924	1200	654.78	4.35	1.59	659.13	656.37
Base	100	10167*	11540	964	1342	655.16	5.30	1.86	660.46	657.02
Overtopping	100	-	-	-	-	-	-	-	-	-
Max. Calc.	500	-	-	-	-	-	-	-	-	-

* Proposed Discharge

DESIGN SPECIFICATIONS
AASHTO (1983) and applicable Interims (1984 thru 1987)
LOADING HS 20-44
Allow 25# / sq. ft. for future wearing surface.
DESIGN STRESSES
FIELD UNITS
f_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
f_y = 50,000 psi (M223 Grade 50) (Struc.)
f_y = 36,000 psi (M183) (Struc.)

Range 4 W. R. 3 W. 3rd. P.M.



LOCATION SKETCH

GENERAL PLAN
ILL. ROUTE 107 OVER BAY CREEK
F.A. ROUTE 6 SECTION 107 B-2
PIKE COUNTY
STATION 81+56.8
STRUCTURE NUMBER 075-0133

MODEL: Default; FILE: \\msbdc\OPERATIONS\bridge\bridgeplans_CAD\72K75 - beam end plate west 2019\beamend.dwg

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/28/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

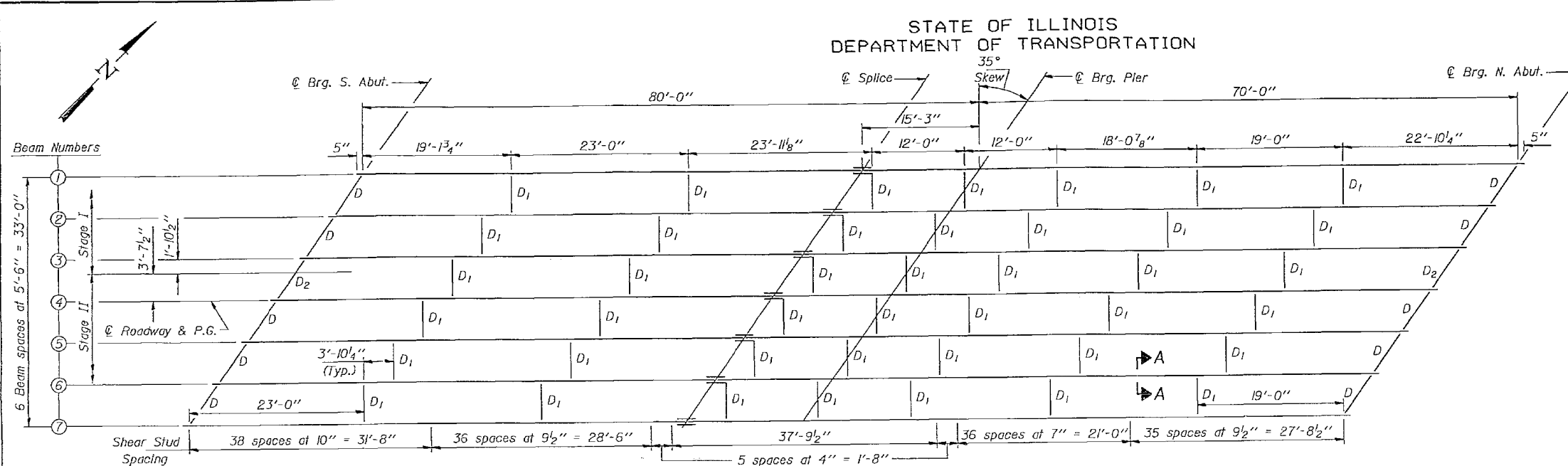
EXISTING PLANS, SN 075-0133
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR. (1-2) (2) (107) (126) BP			VAR. 19	14
CONTRACT NO. 72K75				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
			34	15 SHEETS
FED. AID DIST. NO. 7	BUILDING	FED. AID PROJECT		



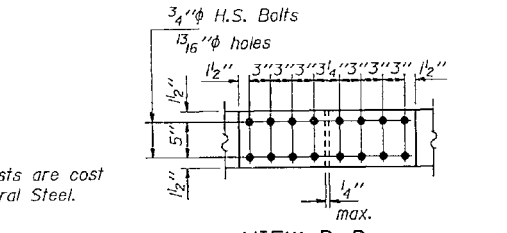
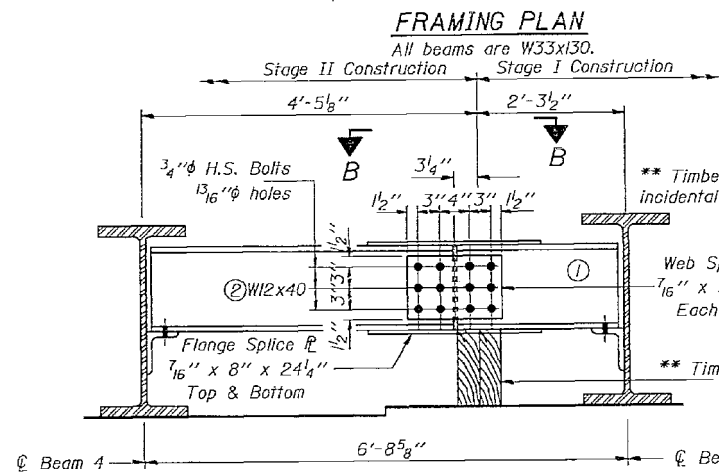
INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 1	Pier	0.6 Sp. 2
Is (in ⁴)	6,710	6,710	6,710
Ic (in ⁴)	16,739		16,739
Ss (in ³)	406	406	406
Sc (in ³)	580		580
φ (K/ft.)	0.677	0.932	0.677
M _E (K)	327	617	205
s _E (K/ft.)	0.255		0.255
M _{sE} (K)	142		96
M _L (K)	511	271	429
M (Imp) (K)	123	68	112
M ₃ (M _L +I) (K)	1,057	565	902
M _a (K)	1,984	1,537	1,564
M _u (K)	3,115		3,115
f _{sE} non-comp (k.s.i.)	9.7	18.2	6.1
f _{sE} (comp) (k.s.i.)	2.9		2.0
f _s (M _L +I) (k.s.i.)	21.9	16.7	18.7
f _s (Overload) (k.s.i.)	34.5	34.9	26.8
f _s (Total) (k.s.i.)		45.4	
V _R (K)	42.3		42.7

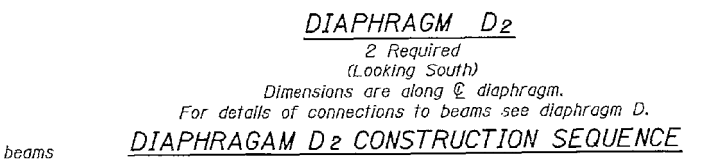
INTERIOR BEAM REACTION TABLE

	S. Abut.	Pier	N. Abut.
R _P (K)	29.6	86.5	23.8
R _L (K)	31.9	42.5	31.2
Imp. (K)	7.7	10.6	8.1
R (Total) (K)	69.2	139.6	63.1

Is and Ss are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing f_s (Total & Overload).
V_R is the maximum Live Load + Impact shear.
M_a (Applied Moment) = 1.3IM_E + M_{sE} + M₃(M_L + I).
M_u is the Full Plastic Moment Capacity for Compact, Braced section.
f_s (Overload) is the sum of the stresses due to M_E + M_{sE} + M₃(M_L + I).
f_s (Total) (Non-compact section) is the sum of the stresses due to 1.3IM_E + M_{sE} + M₃(M_L + I).

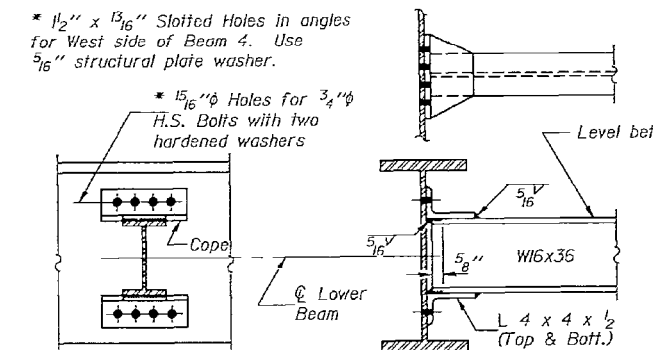
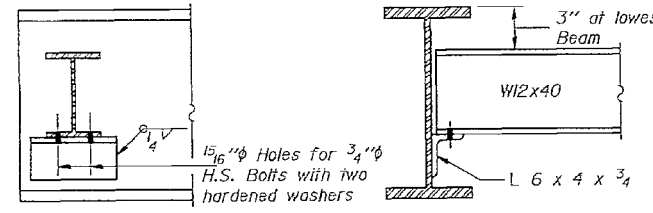


VIEW B-B
Temporary Sheet Piling for Stage I Const. shall be notched to allow placement of top flange splice plate.



- 1.) Order Diaphragm D₂ in two sections.
- 2.) Attach part ① of Diaphragm to Beam 3 and top flange splice plate during Stage I Construction.
- 3.) Place Timber Block Posts between part ① of diaphragm and abutment bearing seat.
- 4.) Attach part ② of diaphragm to both Beam 4 and part ① of diaphragm during Stage II Construction.
- 5.) Attach web splice plates to part ① and part ② of diaphragms.
- 6.) Remove Timber Block Posts.
- 7.) Attach bottom flange splice plate to part ① and part ② of diaphragms.

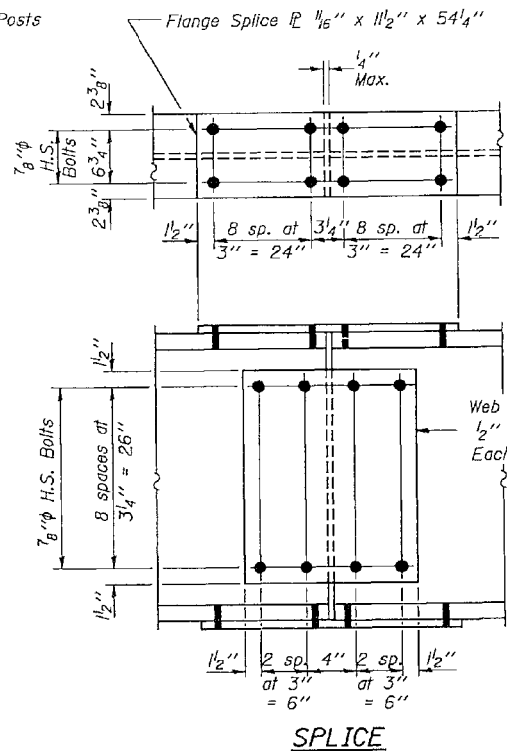
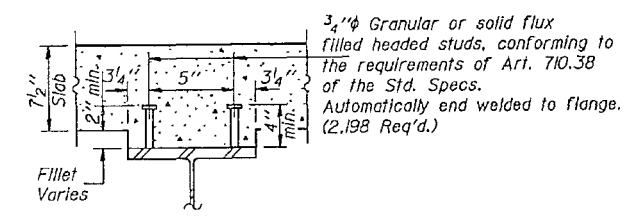
Notes: The bolts for the slotted holes shall only be finger-tightened prior to the deck slab pouring and then be fully-tightened after the completion of the pouring.
The beams and their splice plate material shall be AASHTO M223, Grade 50.
All beams and splice plate material shall conform to the Supplemental Requirements for Notch Toughness Zone 2.



Top of Beam Elevations

	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7
⊕ Brg. S. Abut.	659.10	659.20	659.29	659.38	659.29	659.20	659.10
⊕ Splice	659.10	659.20	659.29	659.38	659.29	659.20	659.10
⊕ Brg. Pier	659.10	659.20	659.29	659.38	659.29	659.20	659.10
⊕ Brg. N. Abut.	659.10	659.20	659.29	659.38	659.29	659.20	659.10

(For Fabrication Only)

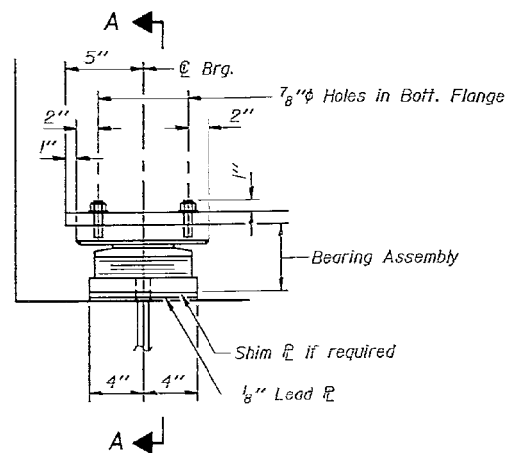


DESIGNED: Kevin J. Reichen
CHECKED: Mark P. Thompson
DRAWN: Paul Sumner
CHECKED: KLR
I-2-D 8-30-80

EXAMINED: Craig O. Kaspar
PASSED: James J. Kasper
APPROVED: [Signature]
DEC 6 19 88

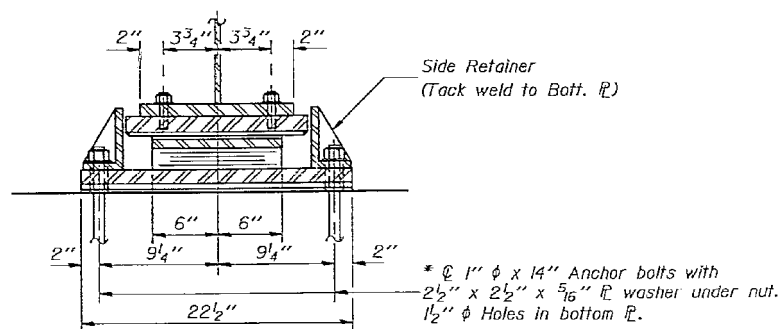
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			35	10
SHEET NO. 10 15 SHEETS				



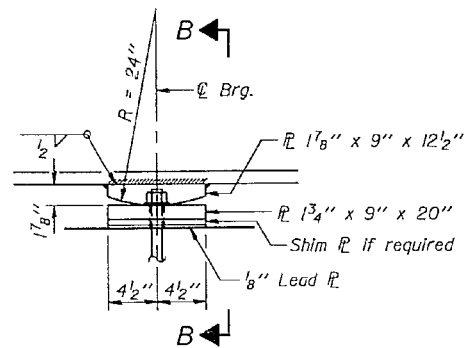
ELEVATION AT S. ABUTMENT

TYPE II ELASTOMERIC EXP. BRG.



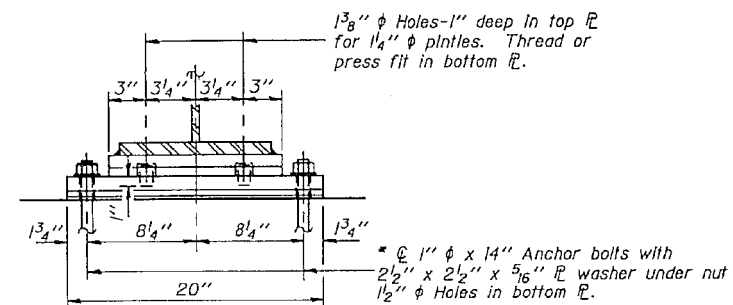
SECTION A-A

* Notes: Anchor bolts at Pier may be built into the masonry. See sheet #1 of 15 for Anchor Bolt installation.

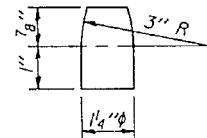


ELEVATION AT PIER

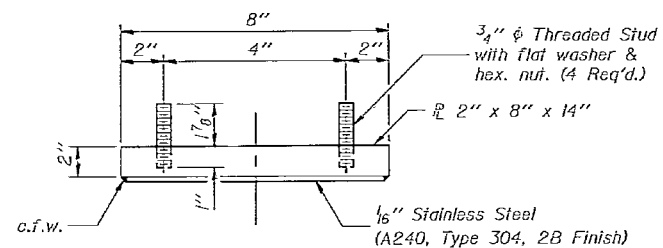
FIXED BEARING



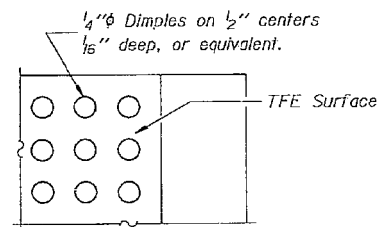
SECTION B-B



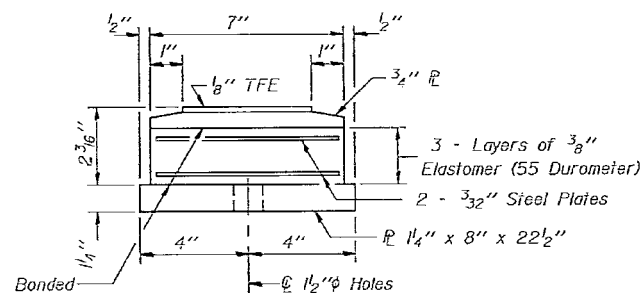
PINTLE



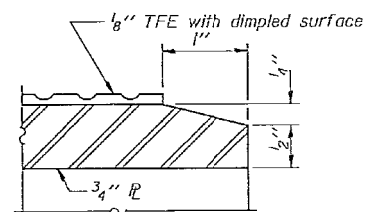
TOP BEARING ASSEMBLY



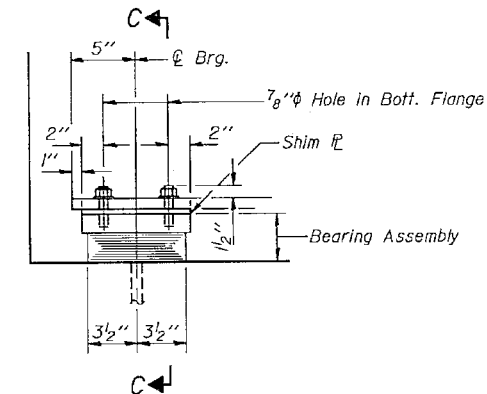
PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY

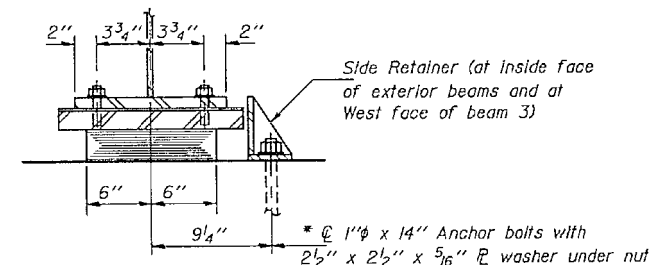


SECTION THRU TFE

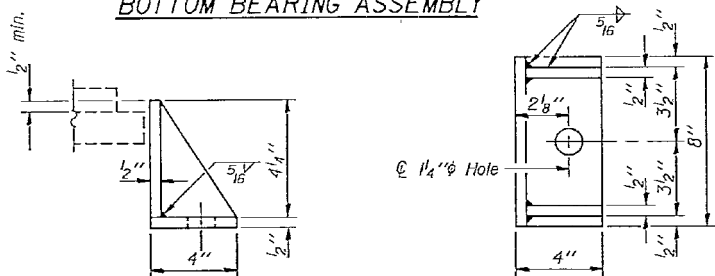


ELEVATION AT N. ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.



SECTION C-C

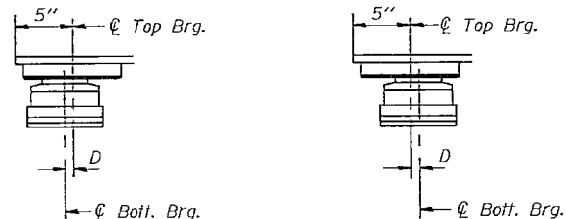


SIDE RETAINER

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

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.

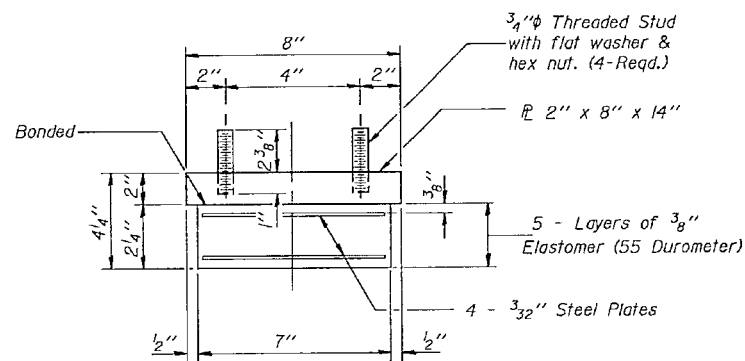
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



BELOW 50° F. (Move bott. brg. away from fixed brg.) ABOVE 50° F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

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



BEARING ASSEMBLY

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	7
Elastomeric Bearing Assembly Type I	Each	7

BEARING DETAILS
F.A. RT. 6 SEC. 107B-2
PIKE COUNTY
STA. 81+56.80

DESIGNED <i>Kevin S. Ketchum</i>	EXAMINED <i>Greg J. Kaspar</i>
CHECKED <i>Mick P. Thomson</i>	PASSED <i>James J. Roubert</i>
DRAWN <i>Paul Summer</i>	APPROVED _____
CHECKED <i>KLR</i>	DATE <i>Dec. 6 19 88</i>

MODEL Default
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USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 5/28/2019	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS, SN 075-0133
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	(1-2) (2) (107) (126) BP	VAR.	19	16
CONTRACT NO. 72K75				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
107B-1	Pike	46	11	15 SHEETS
F.A. RT. 6	ILLINOIS	FED. AID PROJECT		

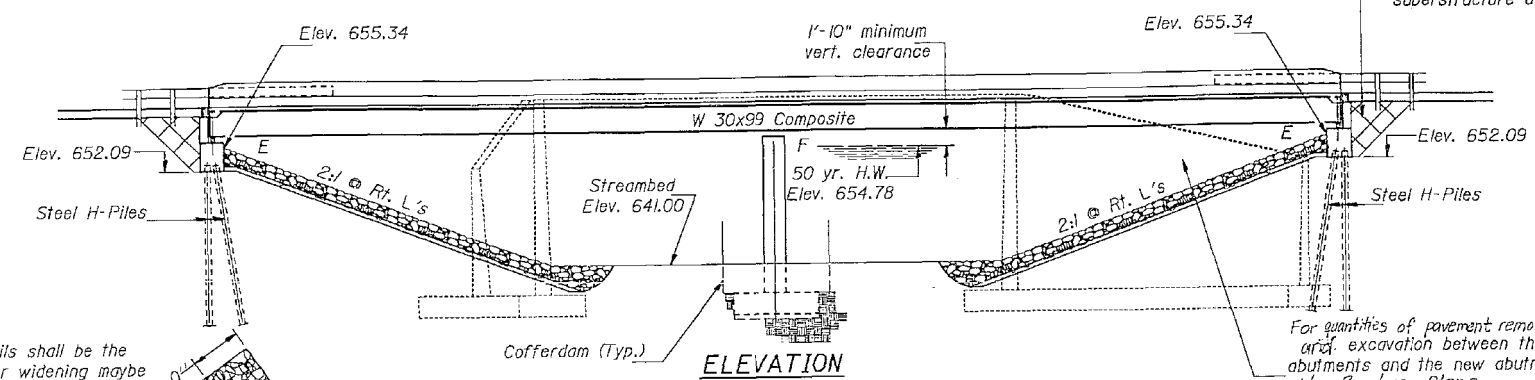
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark: B.M. #1 chiseled square 12.4' Lt., Sta. 72+95, Top of wingwall S.E. corner of Bridge. Elev. 659.73

Existing Structure: # 075-0054 Built as S.B.I. Rte. 107, Sec. 107-B, Sta. 73+40, in 1932. A single span R.C. Girder Bridge with overall length of 58' Bk. to Bk. and 21' Curb to Curb. The contractor shall remove the entire existing structure and replace it with a new 2 span WF superstructure on pile bent abutments and pier on spread footing, utilizing stage construction.

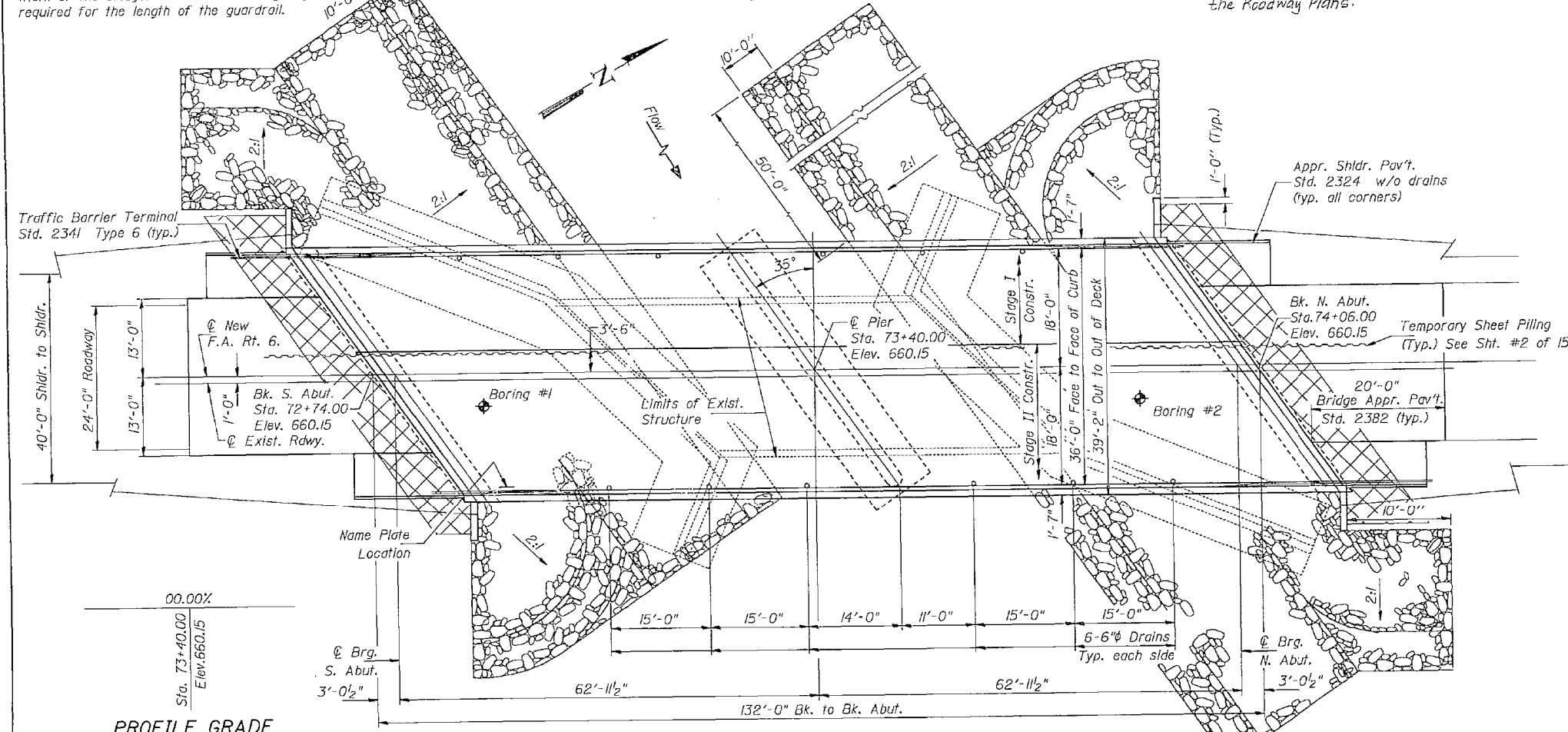
GENERAL NOTES

See Proposal for Boring Data.
Fasteners shall be high strength bolts. Bolts 7/8"φ, open holes 15/16"φ, unless otherwise noted.
Calculated weight of Structural Steel = 16,820 Lbs. M-183.
Calculated weight of Structural Steel = 89,310 Lbs. M-223.
The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.
Field welding of construction accessories will not be permitted to the bottom flange of beams 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.
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the wide flange beams (W30x99) and all splice plate material of the wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
Layout of stone riprap 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.
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. (For Type I Elastomeric Bearings shims of the dimensions of the top plate shall be provided and placed as detailed).
The contractor shall drive one (1) Steel (HPI0x42) test pile in a permanent location at the North Abutment as directed by the Engineer before ordering the remainder of piles.
Bridge Seat Sealer shall be applied to the seat area of the Abutments. Est. Quantity = 263 Sq. Ft.



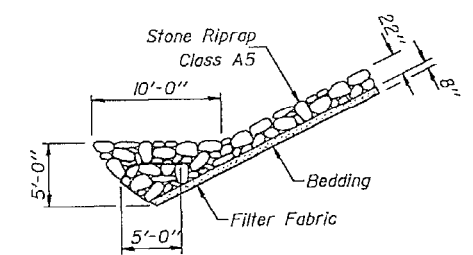
Note:
The width between guardrails shall be the width of the bridge. Shoulder widening maybe required for the length of the guardrail.

For quantities of pavement removal and excavation between the existing abutments and the new abutments, See the Roadway Plans.

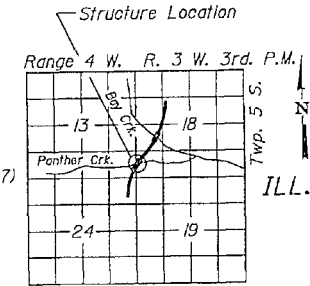


Work shall consist of blasting and painting all beam ends, end diaphragms, and steel components of bearings at both abutments.

STATION 73+40.00
BUILT 1932 BY
STATE OF ILLINOIS
F.A. RT. 6 SEC. 107B-1
F.A. PROJ. BAF-6(31)
LOADING HS20
STR. NO. 075-0134



NAME PLATE
See Std. 2113



LOCATION SKETCH

GENERAL PLAN
ILL. ROUTE 107 OVER PANTHER CREEK
F.A. ROUTE 6 SECTION 107B-1
PIKE COUNTY
STATION 73+40.00
STRUCTURE NUMBER 075-0134

WATERWAY INFORMATION

Drainage Area = 11.0 sq. mi. Low Grade Elev. 659.9 @ Sta. 80+00.00

Flood	Freq. Yr.	Q* C.F.S.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Nat. H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	50	5964*	4900	485 944	654.78	4.35 1.59	659.13 656.37
Base	100	7033*	5660	505 1020	654.16	5.30 1.86	660.46 657.02
Overtopping	100	-	-	-	-	-	-
Max. Calc.	500	-	-	-	-	-	-

*Proposed Discharge

DESIGN SPECIFICATIONS
AASHTO (1983) and applicable Interims (1984 thru 1987)
LOADING HS 20-44
Allow 25# / sq. ft. for future wearing surface.
DESIGN STRESSES
FIELD UNITS
f_c = 3,500 psi
f_y = 60,000 psi (Relnf.)
f_y = 50,000 psi (M223 Grade 50)

DESIGNED **VECTOR VELTZ**
CHECKED **M.R. Chaudh**
PAUL W. SWEET
DRAWN **John F. Schneller Jr.**
CHECKED **G.R.A.**

December 14, 1988
EXAMINED **Oran J. Kappas**
PASSED **James J. Rayburn**
APPROVED
DIRECTOR OF HIGHWAYS

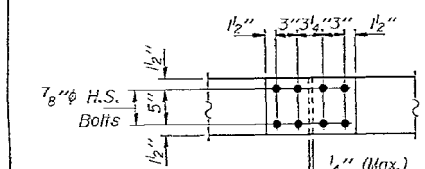
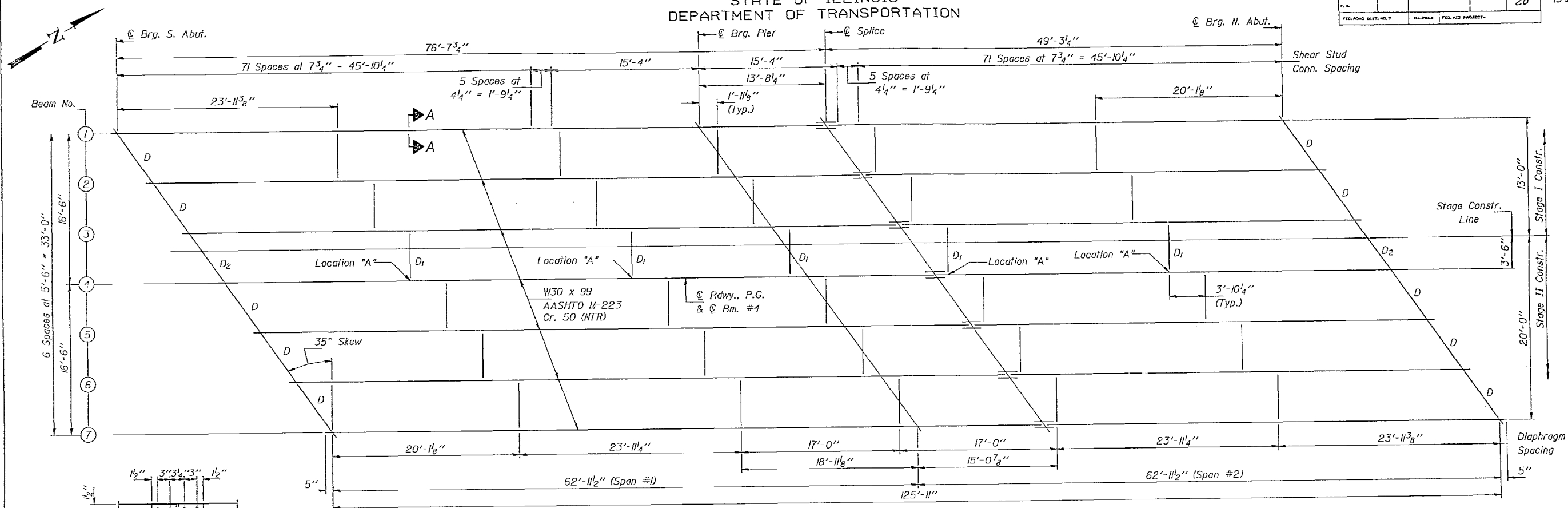
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USER NAME = dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS, SN 075-0134 (FOR INFORMATION ONLY)	F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	VAR. (1-2) (2) (107) (126) BP VAR. 19 17
PLOT DATE = 5/28/2019	CHECKED -	REVISED -			CONTRACT NO. 72K75
	DATE -	REVISED -			ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RT. 6	(1-2) (2) (107) (126) BP	PIKE	19	18
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 72K75	

SHEET NO. 10
15 SHEETS

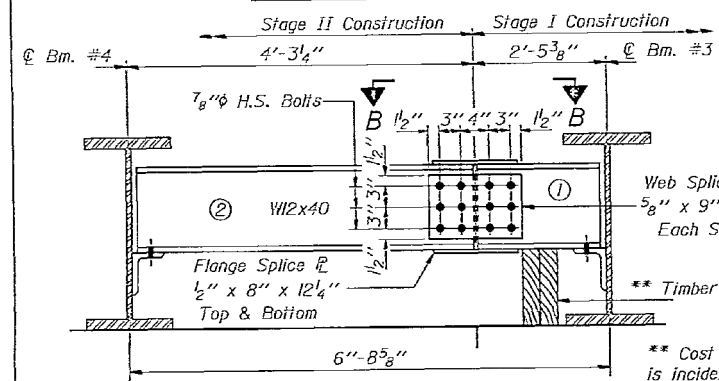


VIEW B-B

DIAPHRAGM D₂ CONSTRUCTION SEQUENCE

- 1.) Order Diaphragm D₂ in two sections with lengths of 2'-5³/₈" and 4'-3¹/₄".
- 2.) Attach section ① of Diaphragm to Beam #3 and top flange splice ℄ during Stage I Construction.
- 3.) Place Timber Block Posts between section ① of diaphragm and abutment bearing seat.
- 4.) Attach section ② of diaphragm to both Beam #4 and section ① of diaphragm during Stage II Construction.
- 5.) Attach all remaining splice plates to sections ① and ② of diaphragms.
- 6.) Remove Timber Block Posts.

FRAMING PLAN

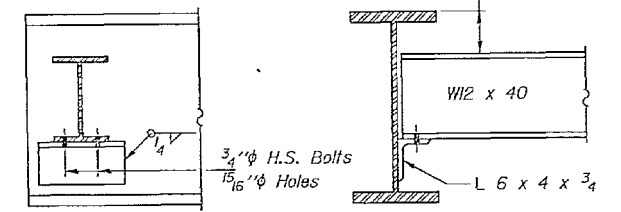


DIAPHRAGM D₂

(2 Required)
Dimensions are along ℄ diaphragm.
(Looking South)
For details of connections to beams see diaphragm D.

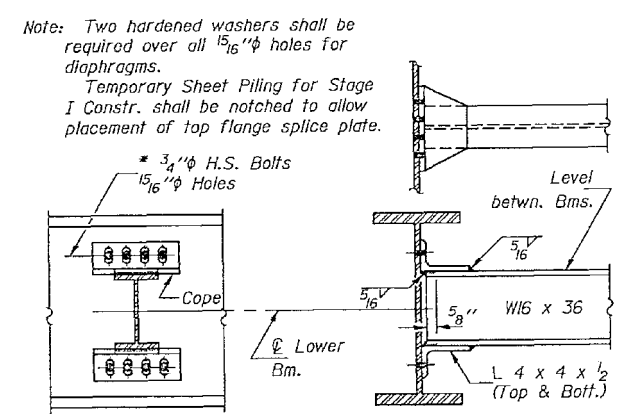
DESIGNED	VECTOR VELTZ	EXAMINED	Dec 14 1988
CHECKED	M.R. Church	PASSED	James J. Hays
DRAWN	John F. Schneller Jr.	APPROVED	JAMES J. HAYS
CHECKED	ORA		

I-2-D 8-30-80



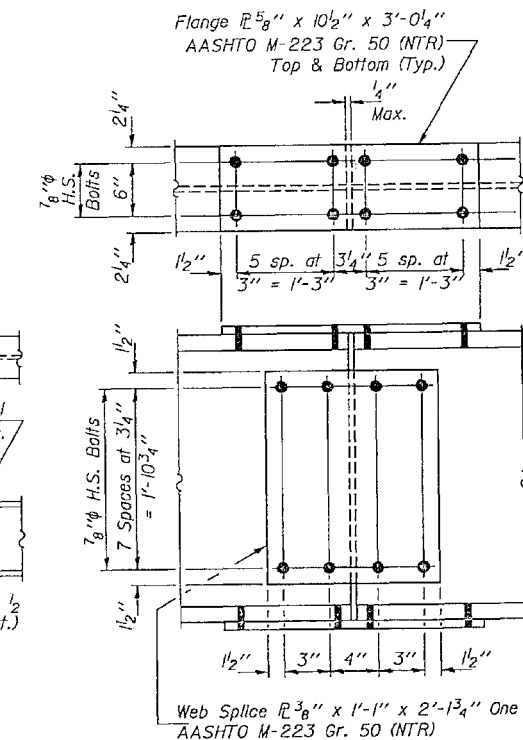
DIAPHRAGM D₁

(10 Required)

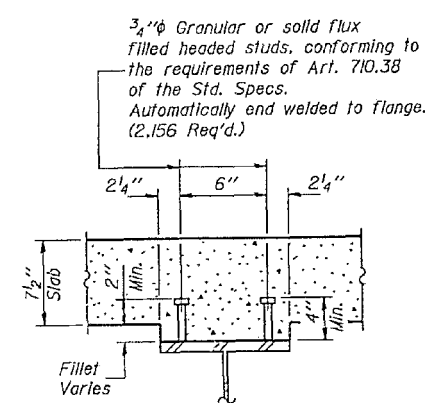


DIAPHRAGM D₁

(30 Required)
* Use 1³/₁₆" x 1¹/₂" Slotted holes in L 4 x 4 x 1²/₂ at Location "A" only. Provide 5¹⁶" Plate washer for slotted holes. Bolts shall be finger-tightened prior to deck pour for Stage II Construction.



SPlice



SECTION A-A

Note: "N.T.R. denotes plates to which Match Toughness Requirements are applicable.

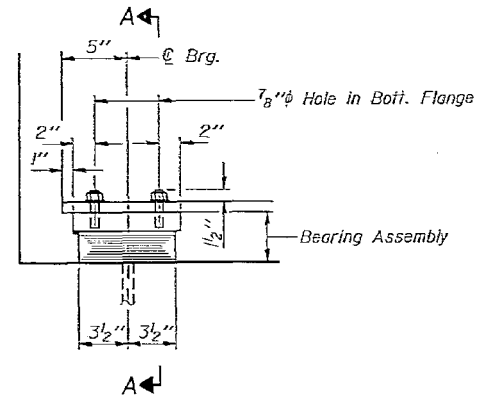
STRUCTURAL STEEL
F.A. RT. 6 SEC. 107B-1
PIKE COUNTY
STA. 73+40.00

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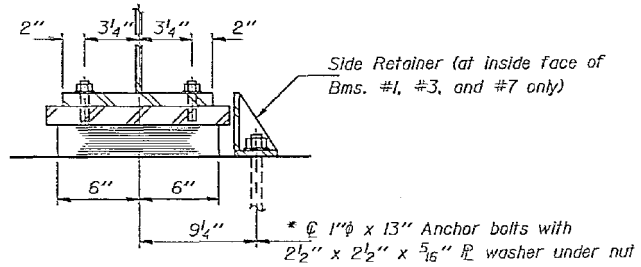
USER NAME = dudleybm	DESIGNED -	REVISED -	EXISTING PLANS, SN 075-0134	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -	(FOR INFORMATION ONLY)	VAR.	(1-2) (2) (107) (126) BP	PIKE	19	18
PLOT DATE = 5/28/2019	CHECKED -	REVISED -	SCALE:	ILLINOIS		FED. AID PROJECT	CONTRACT NO. 72K75	
	DATE -	REVISED -	SHEET OF SHEETS	STA.	TO STA.			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

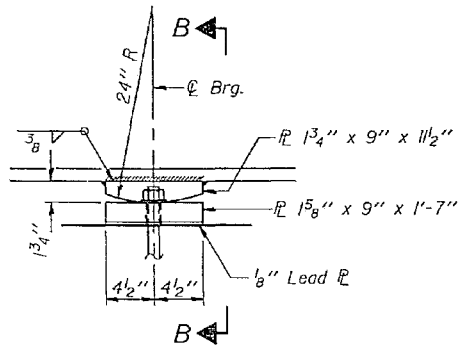
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
			21	15 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



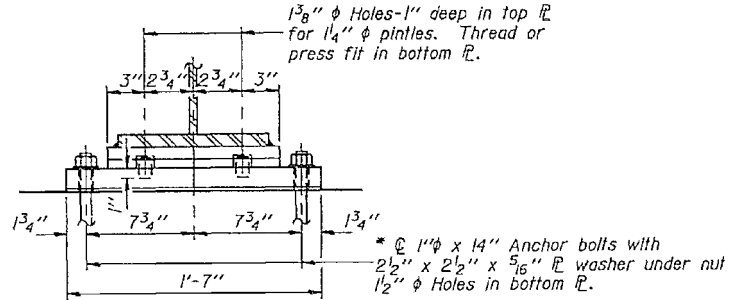
ELEVATION AT ABUTS.



SECTION A-A

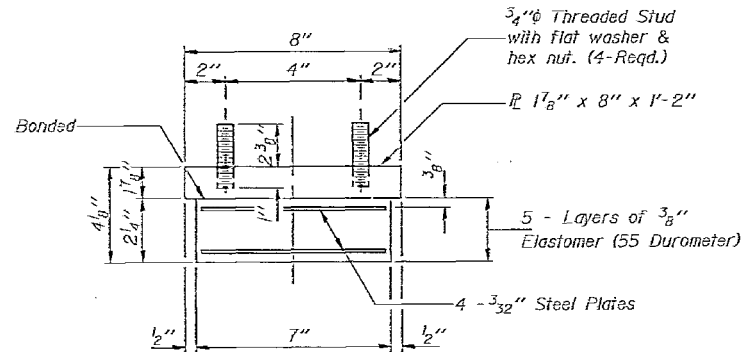


ELEVATION AT PIER



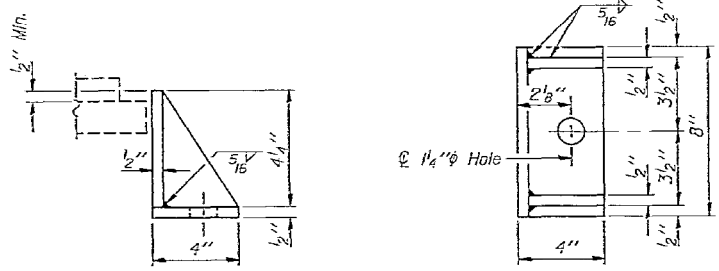
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



SIDE RETAINER

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

INTERIOR BEAM MOMENT TABLE			
		0.4 Sp. #1 or 0.6 Sp. #2	Pier
I_s	(in ⁴)	3,990	3,990
I_c	(in ⁴)	11,173	
S_s	(in ³)	269	269
S_c	(in ³)	409	
ϕ	(K/ft.)	0.650	0.905
M_P	(K)	181	413
s_P	(K/ft.)	0.255	
M_{sP}	(K)	85	
M_L	(K)	369	190
M (Imp)	(K)	98	51
$S_3(M_L + I)$	(K)	778	402
M_a	(K)	1,357	1,060
M_u	(K)	2,437	
f_{sP} non-comp (k.s.i.)		8.1	18.4
f_{sP} (comp) (k.s.i.)		2.5	
$f_{s_3}(L+I)$ (k.s.i.)		22.8	17.9
f_s (Overload) (k.s.i.)		33.4	36.3
f_s (Total) (k.s.i.)			47.2
VR	(K)	40.6	

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s (Total & Overload).
 VR is the maximum Live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3CM_P + M_{sP} + S_3(M_L + I)$.
 M_u is the Full Plastic Moment Capacity for Compact, Braced section.
 f_s (Overload) is the sum of the stresses due to $M_P + M_{sP} + S_3(M_L + I)$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3CM_P + M_{sP} + S_3(M_L + I)$.
 ** These values are Service Load.

* TOP OF FLANGE ELEVATIONS

Loc.	Bm. #1 & #7	#2 & #6	#3 & #5	#4
@ Brg. So. Abut.	659.15	659.26	659.34	659.43
@ Brg. Pier	659.15	659.26	659.34	659.43
@ Splice	659.15	659.26	659.34	659.43
@ Brg. No. Abut.	659.15	659.26	659.34	659.43

* For Fabrication only.

** INTERIOR BEAM REACTION TABLE			
		Abuts.	Pier
R_P	(K)	22.0	70.1
R_L	(K)	29.9	36.8
Imp.	(K)	7.9	9.8
R (Total)	(K)	59.8	116.7

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type 1	Each	14

BEARING DETAILS
F.A. RT. 6 SEC. 107B-1
PIKE COUNTY
STA. 73+40.00

DESIGNED **VECTOR VELTZ**
 CHECKED **Al. P. Blouch**
 DRAWN **John F. Schneller Jr.**
 CHECKED **GPA**
 EXAMINED **Greg O. Kaspar**
 PASSED **James J. Robertson**
 APPROVED **[Signature]**
 Dec. 14 1988

I-2-E1 12-1-83

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