01-17-14 LETTING ITEM 056

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677 659	*	**	13	1
	ILLINOIS	CONTRACT NO.	74621	

* D7 BRIDGE PAINTING 2014-3
** COLES, MOULTRIE

D-97-021-13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

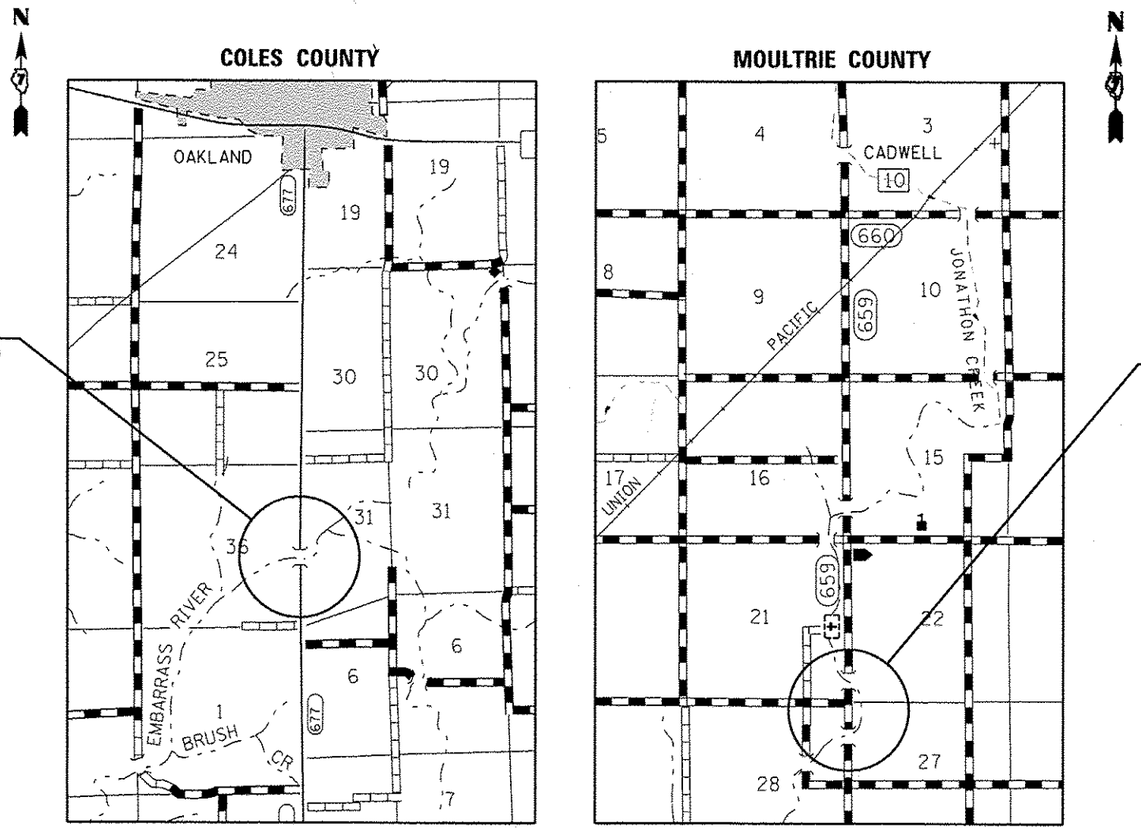
F.A.S. ROUTES 677 & 659 (CH3 & CH8)
SECTION D7 BRIDGE PAINTING 2014-3

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 1400 (2009) FAS 677
2200 (2010) FAS 659

BRIDGE PAINTING
COLES & MOULTRIE COUNTIES
C-97-067-13

LOCATION OF SECTION INDICATED THUS:- ▬



LOCATION 1
S.N. 015-0036

LOCATIONS 2 & 3
S.N. 070-0039
S.N. 070-0040

100' 200' 300' — 1"= 100'
10' 20' 30' — 1"= 10'
50' 100' — 1"= 50'
50' 100' — 1"= 40'
50' 100' — 1"= 30'
50' 100' — 1"= 20'

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

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

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: TOM RONAN
PHONE: (217)-342-8320

CONTRACT NO. 74621

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Aug 07 20 13
Roger L. Dirstine /GW
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 4 20 13
John D. Baramelli, P.E. /GW
acting ENGINEER OF DESIGN AND ENVIRONMENT
October 4 20 13
Omer Osman, P.E. /GW
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, & LOCATION DESCRIPTIONS
3	SUMMARY OF QUANTITIES
4-13	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 13:

STANDARD 701101-04	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701106-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701201-04	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701901-03	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012; THE SUPPLEMENTAL SPECIFICATIONS , THE RECURRING SPECIAL PROVISIONS, AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THE PROPOSED PROJECT IS LOCATED AT 3 LOCATIONS IN COLES AND MOULTRIE COUNTIES IN DISTRICT 7. THE LOCATIONS ARE AT STRUCTURE NUMBER 015-0036 IN COLES COUNTY AND AT STRUCTURE NUMBERS 070-0039 AND 070-0040 IN MOULTRIE COUNTY.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING THE BRIDGES AS SPECIFIED IN THE PLANS AND SPECIAL PROVISIONS.

THE STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE PLANS AND THE SPECIAL PROVISIONS.

ALL DECK DRAINS ON STRUCTURE NUMBER 015-0036 SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THEIR OWN EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ONLY STRUCTURAL STEEL IS TO BE PAINTED. ALL OTHER SURFACES WILL BE PROTECTED FROM BEING PAINTED. ALL PAINT AND OVERSPRAY WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

THE SSPC QP1 AND QP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

STRUCTURE LOCATION DESCRIPTIONS

LOCATION #1

ROUTE: FAS 677
MARKED: CH 3
SECTION: 15BR
STATION: 130+30
STRUCTURE NUMBER: 015-0036

TYPE OF BRIDGE: Wide Flange I-Beams -3 Spans (6 Beams)
LOCATION: 2.5 miles south of Oakland
FEATURE CARRIED/SPANNED: CH 3 over the Little Embarrass River

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, within 5' (measured along the beam) of the abutments, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia beams, for the entire length of the beams, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

Four air monitors will be required at this location.

LOCATION #2

ROUTE: FAS 659
MARKED: CH 8
SECTION: 1BR
STATION: 173+60
STRUCTURE NUMBER: 070-0039

TYPE OF BRIDGES: Wide Flange I-Beams -3 Spans (5 Beams)
LOCATION: 4.9 miles south of ILL 133
FEATURE CARRIED/SPANNED: CH 8 over Jonathon Creek

COLOR OF THE FINISH COAT SHALL BE REDDISH BROWN, MUNSELL 2.5YR 3/4.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, within 5' (measured along the beam) of the abutments, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

Two air monitors will be required at this location.

LOCATION #3

ROUTE: FAS 659
MARKED: CH 8
SECTION: 1BR-1
STATION: 154+73.46
STRUCTURE NUMBER: 070-0040

TYPE OF BRIDGES: Wide Flange I-Beams -3 Spans (5 Beams)
LOCATION: 5.2 miles south of ILL 133
FEATURE CARRIED/SPANNED: CH 8 over Jonathon Creek

COLOR OF THE FINISH COAT SHALL BE REDDISH BROWN, MUNSELL 2.5YR 3/4.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings and diaphragms, within 5' (measured along the beam) of the abutments, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

Two air monitors will be required at this location.

* D7 BRIDGE PAINTING 2014-3
** COLES, MOULTRIE

Rev.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, GENERAL NOTES AND STRUCTURE LOCATION DESCRIPTIONS

SCALE: N/A | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677 659	*	**	13	2
		CONTRACT NO. 74621		
	ILLINOIS FED. AID PROJECT			

100% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
				COLES COUNTY	MOULTRIE COUNTY
				0014	0014
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5	0.5
Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	0.3	0.7
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

* D7 BRIDGE PAINTING 2014-3
** COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

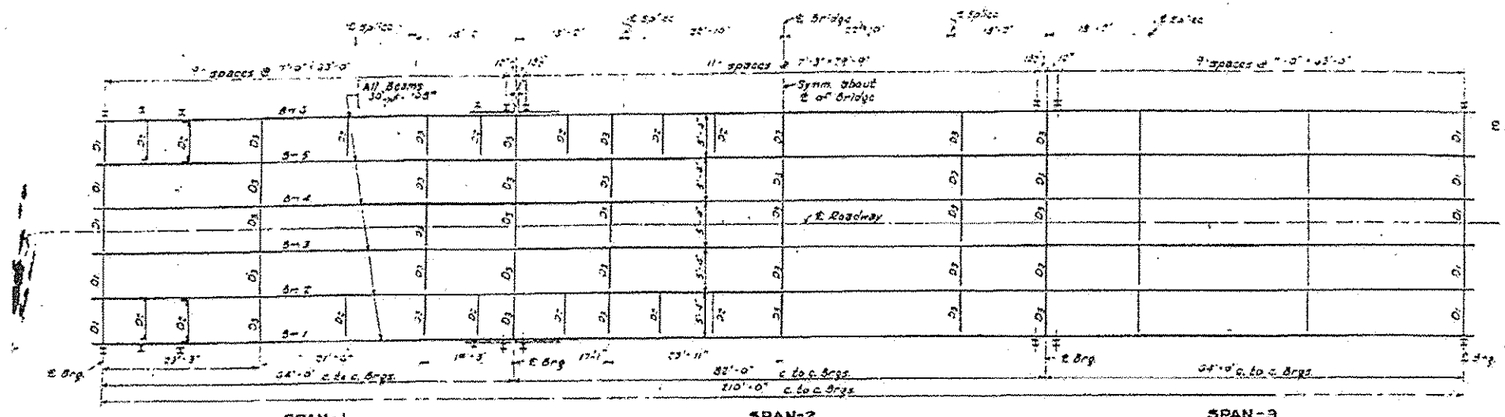
SUMMARY OF QUANTITIES

SCALE: N/A | SHEET 1 OF 1 SHEETS | STA. | TO STA.

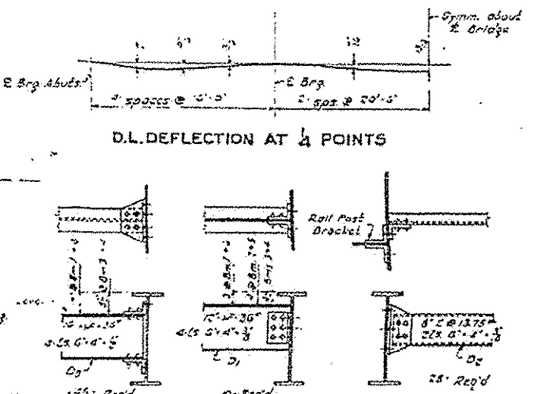
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
627 659	*	**	13	3
		CONTRACT NO. 74621		
		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SHEET NO. 3
6 SHEETS

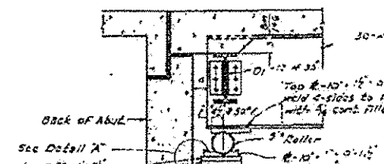


PLAN OF STRUCTURAL STEEL

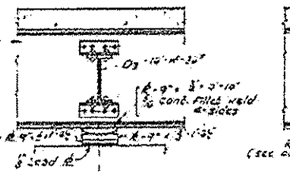


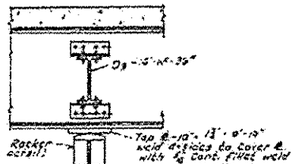
D.L. DEFLECTION AT ¼ POINTS

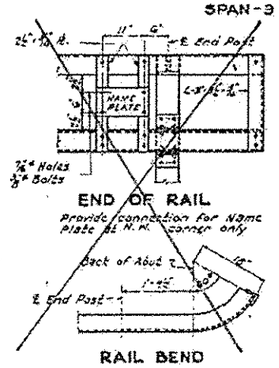
DIAPHRAGM DETAILS

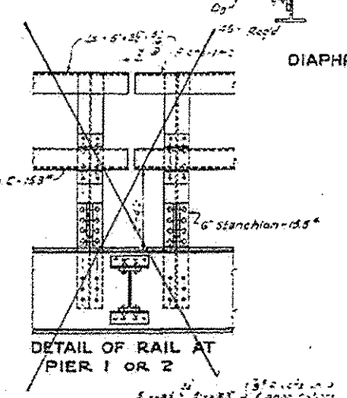


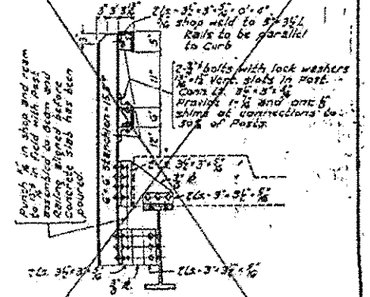
SECTION AT ABUTMENT

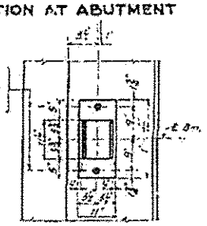




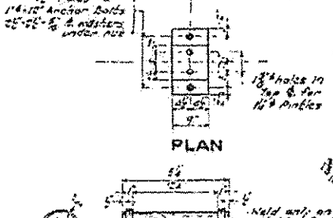


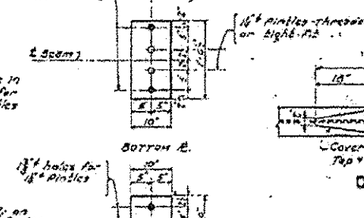


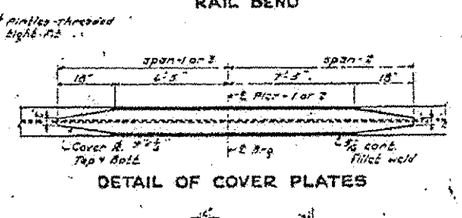


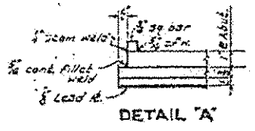


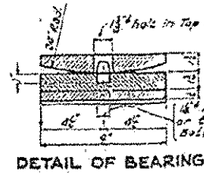
*Note to Erector: Increase each dimension by the same amount if Abutment has moved or if Temp. is over 50°F. Decrease each by the same amount if Temp. is below 50°F.











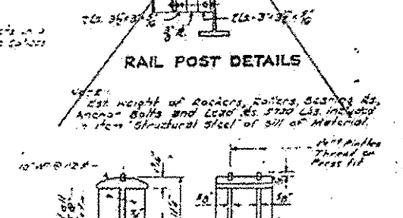
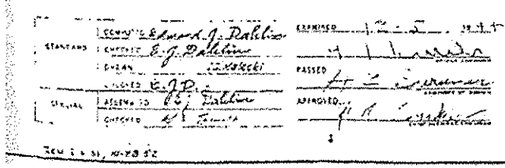


TABLE OF "L" DIMENSIONS						
Beam No.	1	2	3	4	5	6
Abuts.	0	0	1"	1"	0	0
Pier-1	0	0	1"	1"	0	0
Pier-2	0	0	1"	1"	0	0



PINTLE

-SUPERSTRUCTURE-
BRUSH CREEK BRIDGE
S.A.R. 13 SEC. 15 B-M.F.T.
COLES COUNTY
STA. 130+30

STANDARD 720.50
U.S. BRIDGE PAINTING CO.
COLES, MOULTRIE

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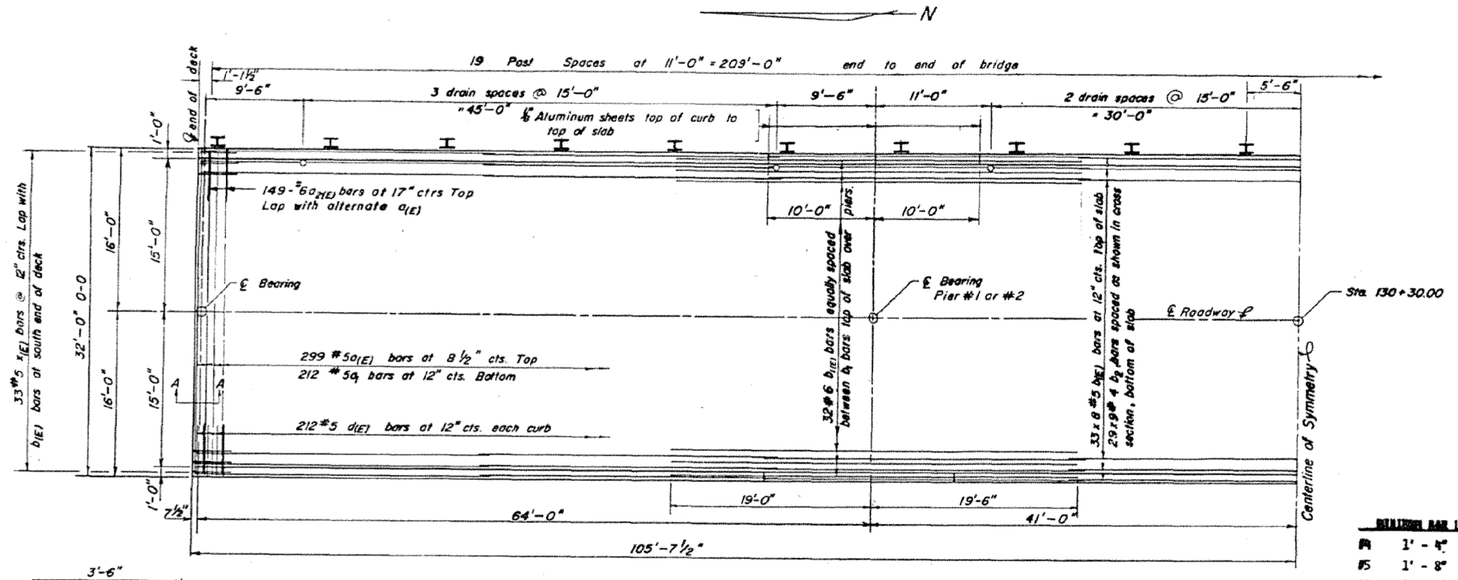
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 015-0036

SCALE: N/A | SHEET 3 OF 10 SHEETS | STA. | TO STA.

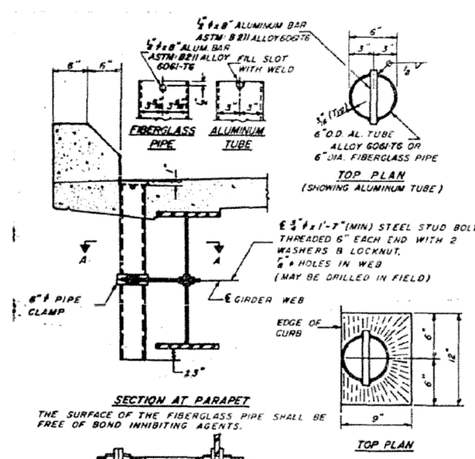
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
874	-	--	13	6
		CONTRACT NO. 74621		
		ILLUSTRATED ADD PROJECT		

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677	15 BR	COLES	11	5
	ILLINOIS	PROJECT P-STP-029-7(5)		



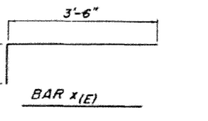
PLAN

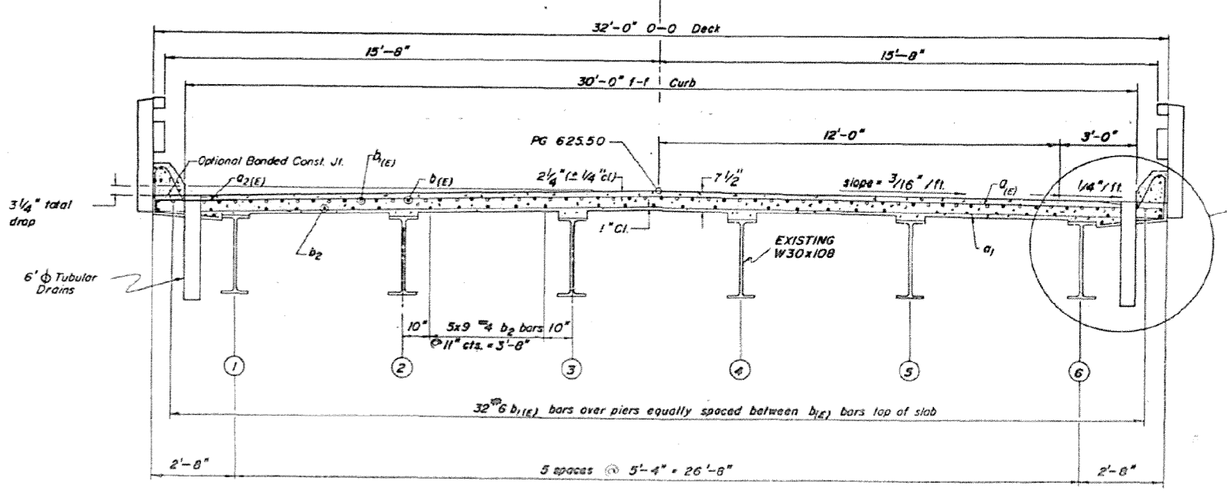
REINFORCING BAR LAP	
#8	1' - 4"
#5	1' - 8"
#6	2' - 0"



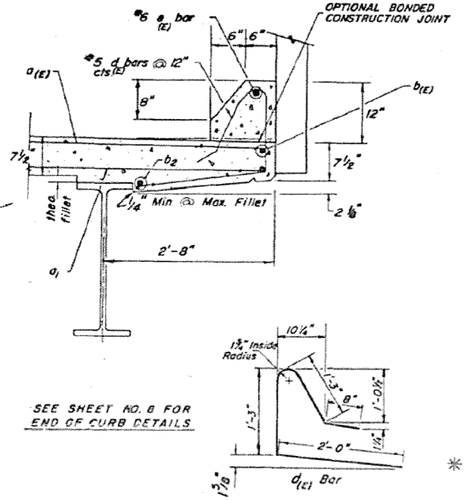
NOTE: FIBERGLASS PIPE SHALL CONFORM TO ASTM D 2996, DESIGNATION CODE 8TRP-11 AE-5112 PIPES WITH CLASS C OR F LINER ARE ACCEPTABLE.

THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE BASIC LEAD SILICO CHROMATE PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM PIPE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH THE STEEL STRUCTURAL PAINTING COUNCILS SPEC., SSPC-SP1 AND SSPC-PT 3 PRIOR TO PAINTING.





CROSS SECTION
looking south



NOTE: Bars indicated thus: 40 X2 #5 etc. indicates 40 lines of bars with 2 lengths per line. See sheet #8 for quantities of reinforcement and concrete in curbs.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	299	#5	31'-8"	
a1	212	#5	31'-8"	
a2(E)	298	#6	4'-0"	
b(E)	264	#5	28'-1"	
b1(E)	64	#6	38'-6"	
b2	261	#4	24'-10"	
c(E)	2	#4	31'-8"	
x(E)	33	#5	4'-1"	
Class X Concrete			Cu. Yds.	182.2
Reinforcement Bars			Pound	11,330
Reinforcement Bars (Epoxy Coated)	*		Pound	23,280
Name Plates			Each	1
Floor Drains			Each	26

* Reinforcement bars designated (E) shall be epoxy coated. See special provisions.

REVISIONS			
NO.	DATE	CHANGED	BY
D			
C			
B			
A			

SUPERSTRUCTURE SHEET
BRIDGE OVER LIT. EMBARRAS RIVER
SECTION 15 BR
FAS ROUTE 677, COLES CO.
STATION 130+30
SKEW = 0°

T. M. 1-22-82
R. L. Mc
DES. R. L. Mc

SHEET 5 OF 11
FILE NO. 3137-92-80

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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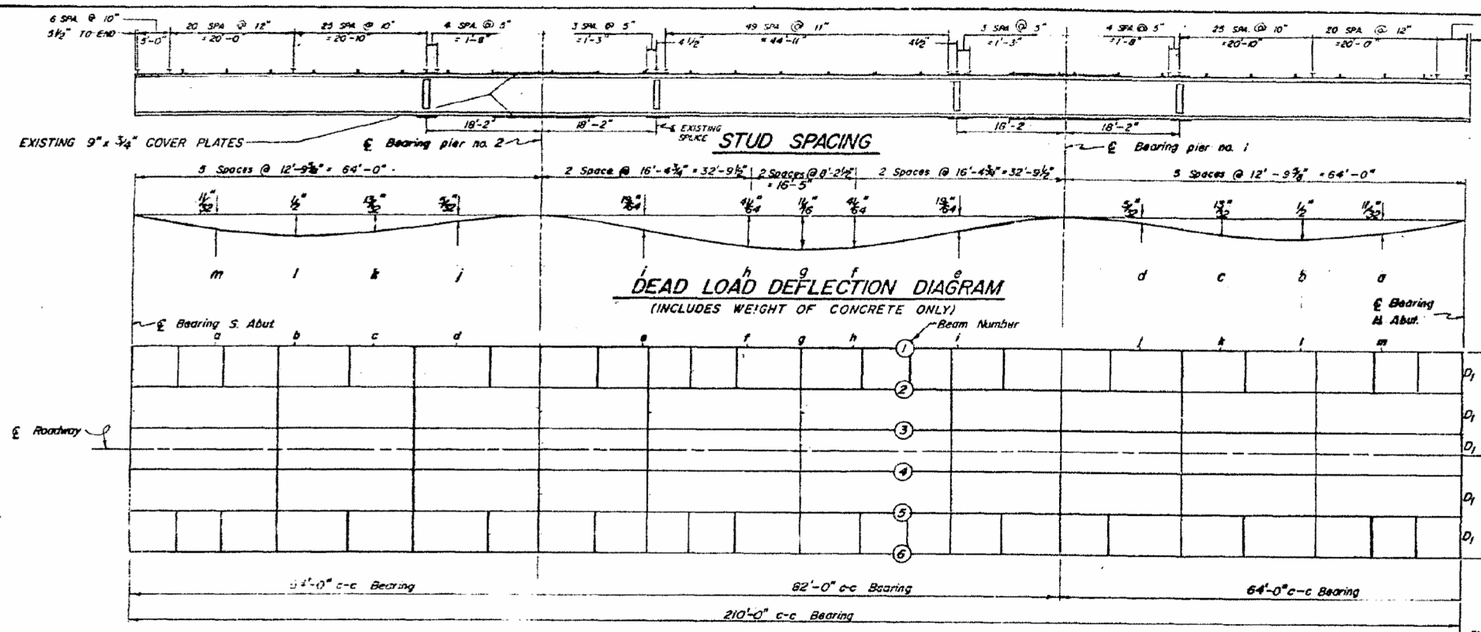
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 015-0036

SCALE: N/A | SHEET 2 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677	•	••	13	5
659				
		CONTRACT NO. 74621		
	ILLINOIS FED. AID PROJECT			

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677	15 BR	COLES	11	6
		ILLINOIS Project P-94-028-79		



METHOD OF DETERMINING FILLET HEIGHTS "t"

After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection", minus floor thickness equals the fillet heights above top flange of beams.

LOCATION	STATION
BR. S. ABUT.	131+36.79
℄ BRG. S. ABUT.	131+35.00
a	131+22.20
b	131+09.40
c	130+96.60
d	130+83.80
℄ BRG. PIER #2	130+71.00
e	130+54.60
f	130+38.20
g	130+30.00
h	130+21.80
i	130+05.40
℄ BRG. PIER #1	129+89.[illegible]
j	129+76.20
k	129+63.40
l	129+50.60
m	129+37.80
℄ BRG. N. ABUT.	129+25.00
BR. N. ABUT.	129+23.21

BEAM NO. 1 & 6
OFFSET = 13.33' RT. & LT. OF ℄

THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
625.292	625.292
"	625.292
"	625.321
"	625.334
"	625.326
"	625.305
"	625.292
"	625.317
"	625.345
"	625.349
"	625.345
"	625.317
"	625.292
"	625.305
"	625.326
"	625.334
"	625.321
"	[illegible]
	625.292

BEAM NO. 2 & 5
OFFSET = 8.00' RT. & LT. OF ℄

THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
625.375	625.375
"	625.375
"	625.404
"	625.417
"	625.409
"	625.388
"	625.375
"	625.400
"	625.428
"	625.432
"	625.428
"	625.400
"	625.375
"	625.388
"	625.409
"	625.417
"	625.404
"	625.375
	625.375

BEAM NO. 3 & 4
OFFSET = 2.67' RT. & LT. OF ℄

THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
625.458	625.458
"	625.458
"	625.487
"	625.503
"	625.492
"	625.471
"	625.458
"	625.463
"	625.511
"	625.515
"	625.511
"	625.483
"	625.458
"	625.471
"	625.492
"	625.503
"	625.487
"	625.458
	625.458

NOTE: Elevations are at top of concrete

NOTE: RIVET REMOVAL AND REPLACEMENT WAS REVISED AS FOLLOWS:
1) RIVETS AT ALL FLANGE SPLICES WERE REM & REPL.
2) REM + REPL ONLY TOP AND BOTTOM ROW OF RIVETS ON WEB SPLICE PLATES.

NO.	DATE	CHANGED BY
D		
C		
B		
A		

REVISIONS

SECTION 15 BR, COLES CO., ILL.
FAS 677 OVER LITTLE EMBARRASS RIV
STATION 130+30

STUD SPACING & TOP OF SLAB ELEVATIONS

[illegible]
TS Mc
RL Mc
DES RL Mc
3-26-82 SHEET NO. 6 OF 11
JOB NO 3137-92-80

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 015-0036

SCALE: N/A | SHEET 3 OF 10 SHEETS | STA. | TO STA.

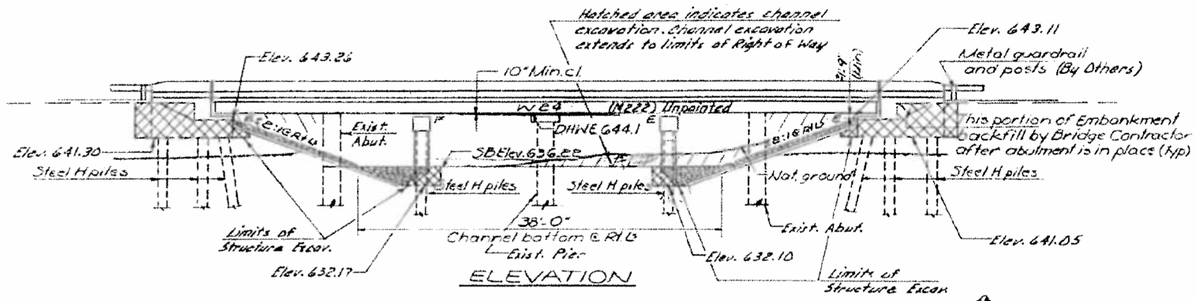
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
677	•	••	13	6
659			CONTRACT NO. 74621	
		ILLINOIS	FED. AID PROJECT	

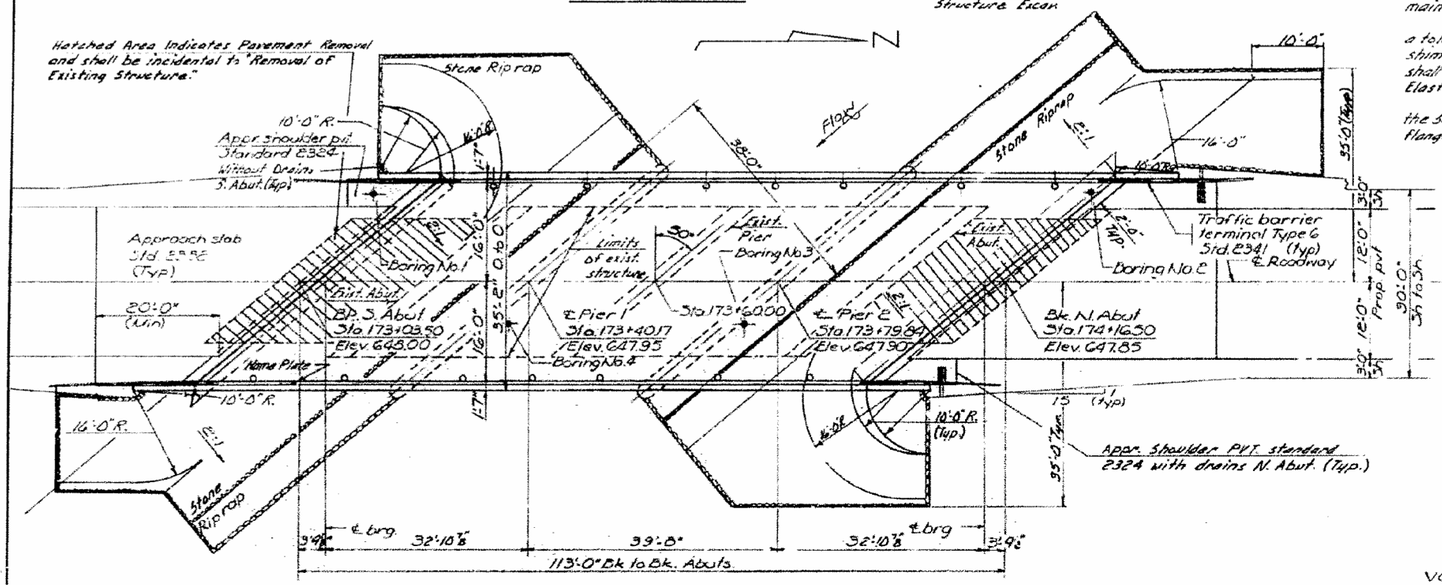
Bench Mark: Chiseled "□" on north end of west hubguard. Elev. 643.77
Existing structure: Built as S.A. Route 8, Section 1-A-MFF in 1933. No. 070-0011
The superstructure consists of reinforced concrete slab on steel I-beams
The substructure consists of creosoted plank and timber pile abutments and creosoted timber pile pier. F to F 23'-9" and Bk. to Bk. of abuts. 74'-8"
The Contractor shall remove the existing structure before the new one is constructed. Traffic will be detoured. No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	1BR	Moultrie	38	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
12 SHEETS





PLAN

GENERAL NOTES

See proposal for Boring Data.
Fasteners shall be high strength bolts (AASHTO M164, Type 3). Bolts ⅞" ϕ, open holes 1" ϕ, unless otherwise noted.
Calculated weight of Structural Steel = 52860 Lbs.
All structural steel shall be AASHTO M222 unpainted.
All structural steel for a distance of three times the depth of the beams, but not exceeding 10 feet each way from deck joints shall be cleaned and given one coat of the basic lead silico chromate primer and maroon field coat. Both coats to be applied in the shop with spot painting only in the field.
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.
Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.
The contractor shall drive two steel (HP 8x36) test piles in a permanent location, one at South Abutment and other at Pier "2", as directed by the engineer before ordering the remainder of piles.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjustment 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 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 wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.

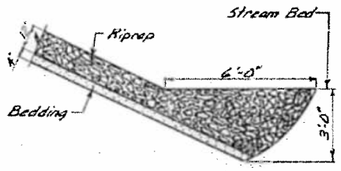
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu. Yds.	122.0	195.8	317.8
Structural Steel	L.S.	—	—	0.1
Protective Coat	Sq. Yds.	500	—	500
Neoprene Expansion Joint (2")	Lin. Ft.	104	—	104
Floor Drains	Each	14	—	14
Elastomeric Brg. Assem. Type I	Each	15	—	15
Steel Piles (HP 8x36)	Lin. Ft.	—	1078	1078
Test Piles Steel (HP 8x36)	Each	—	2	2
Structure Excavation	Cu. Yds.	—	283	283
Reinforcement Bars	Lbs.	11280	15680	26960
Reinforcement Bars (Epoxy Coated)	Lbs.	17950	—	17950
Name Plate	Each	1	—	1
Riprap	Sq. Yds.	—	637	637
Channel Excavation	Cu. Yds.	—	467	467
Removal of Existing Structure No. 2	Each	—	—	1

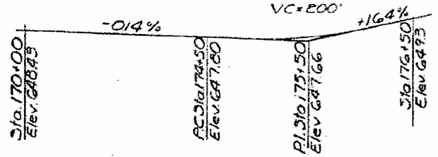
WATERWAY INFORMATION

Drainage Area = 1.940 sq. mi. Low Grade Elev. 645.14 (Exist) 647.10 (Prop) 631a

Flood	Frq. Yr.	Q CFS	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. HWE	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	1766	252	394	644.14	0.56	0.51	644.7	644.65
Base	100	2251	252	394	644.8	0.94	0.79	645.74	645.59
Overtopping									
Max. Calc.	500	3869	252	394	645.6	1.67	0.56	646.8	646.16



RIPRAP ANCHOR DETAIL



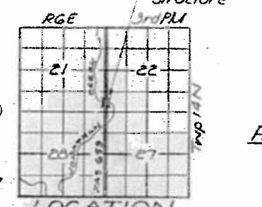
PROFILE GRADE

DESIGN STRESSES

fc = 3,500 psi
fy = 60,000 psi (Reinf)
fy = 50,000 psi (Struct)
(M-222 unpainted)

Allow 25 lb/sq.ft. for future wearing surface.
Design Specifications: 1977 AASHTO, 1978, 1979 and 1980 interims.

LOADING HS20-44



LOCATION SKETCH

STATION 173+60.00
JONATHAN CREEK
BUILT 198...
F.A.S. RTE. 659 SEC. 1-BR
FA PROJ. BRS 659(102)
LOADING HS 20
*STR. NO. _____

NAME PLATE
(See Std. 2113)
*Structure No. to be Supplied by Dist.

DESIGNED Chhagan P. Patel
CHECKED B. C. Raikes
DRAWN R. Sommer JS
CHECKED R. C. R. C.P.P.

October 6, 19 81
EXAMINED James J. Rayburn
PASSED Carl E. Hausmann Jr.
APPROVED
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

GENERAL PLAN
F.A.S. RTE. 659 OVER JONATHAN CREEK
F.A.S. ROUTE 659
SECTION 1-BR
MOULTRIE COUNTY
STATION 173+6000

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0039

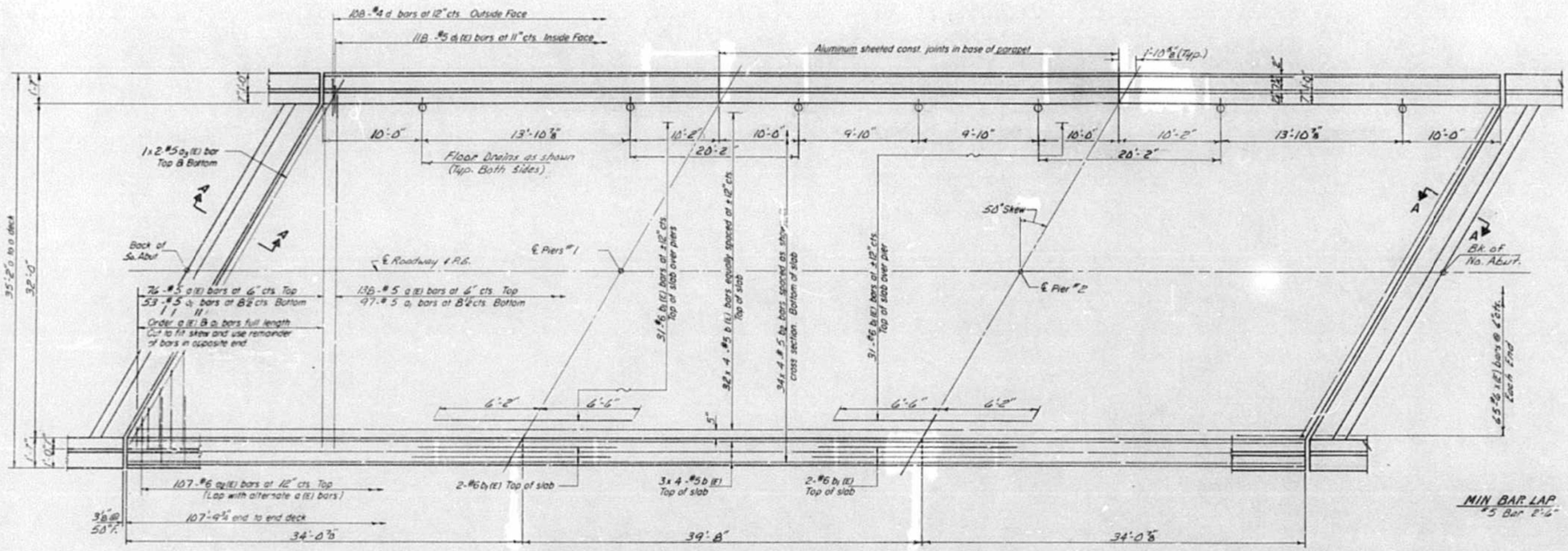
SCALE: N/A | SHEET 4 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	7
		CONTRACT NO. 74621		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

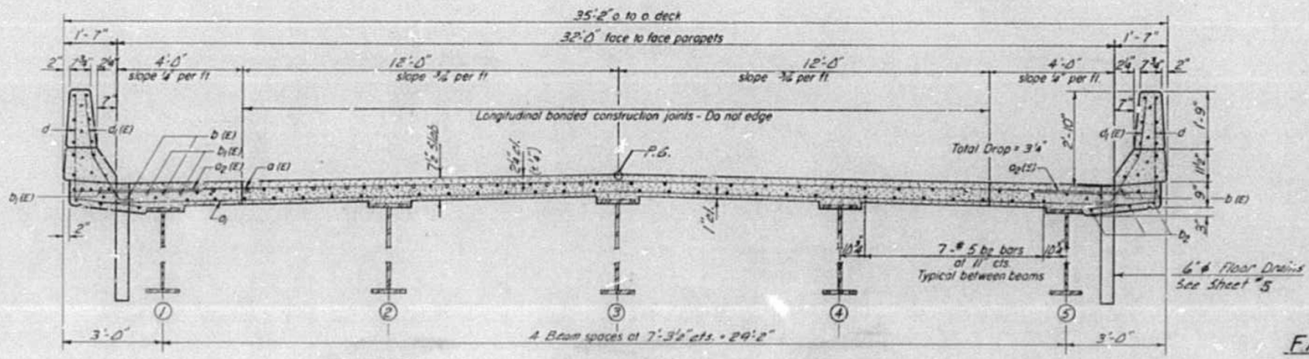
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	1BR	Moultrie	38	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4
12 SHEETS



MIN. BAR LAP
#5 Bar 2'-4"

PLAN



CROSS SECTION
(LOOKING NORTH)

NOTES:
See sheet #5 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

DESIGNED	Chhagan P. Patel	October 6, 1981
CHECKED	R. F. Rakely	EXAMINED James J. Rayburn, ENGINEER OF BRIDGE DESIGN
DRAWN	R. Summer	PASSED Carl E. Hanneman, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	R. F. R. C.P.P.	APPROVED, DIRECTOR OF HIGHWAYS

S-1-L(159) 8-30-80

SUPERSTRUCTURE
F.A.S. RTE. 659 SECTION 1-BR
MOULTRIE COUNTY
STA. 173+60.00

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0039

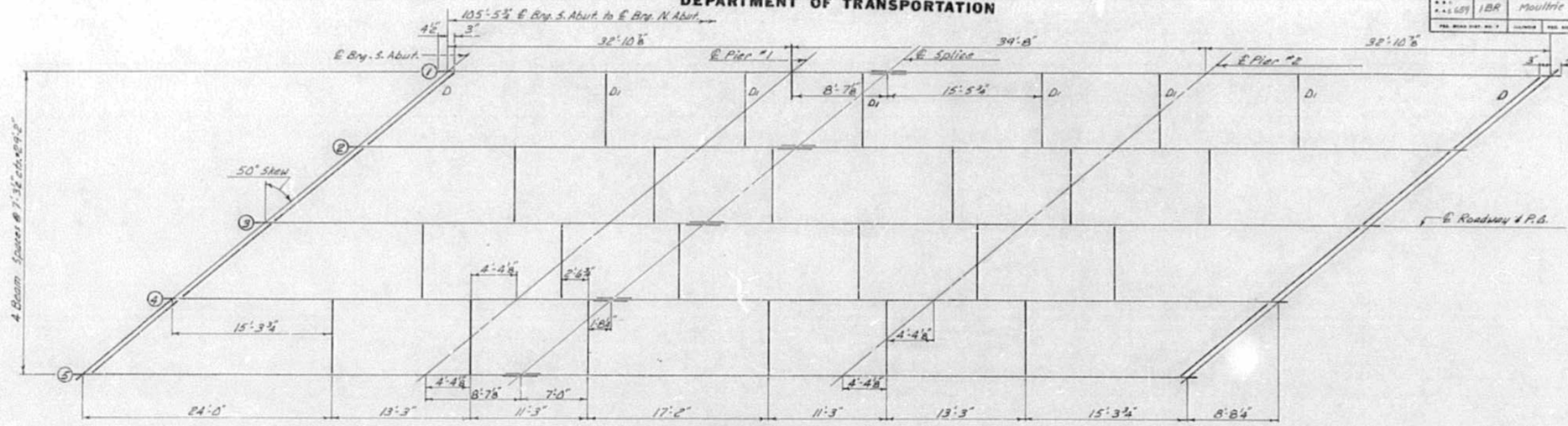
SCALE: N/A | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	8
		CONTRACT NO. 74621		
		ILLINOIS FED. AID PROJECT		

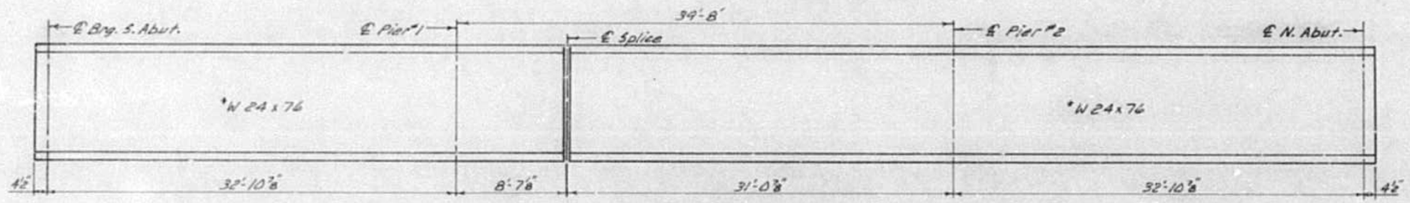
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	1BR	Moultrie	38	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

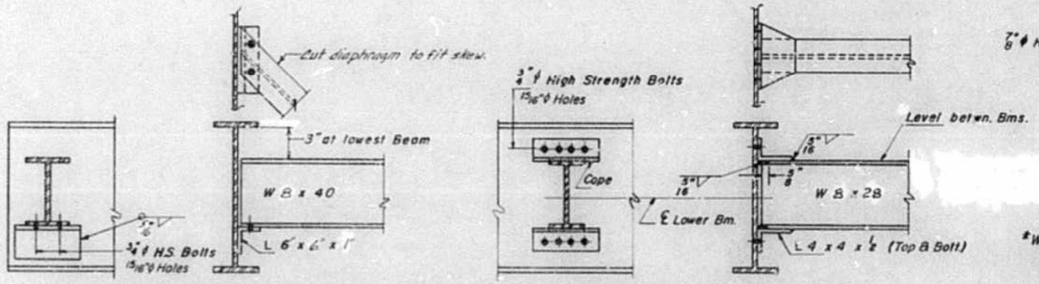
SHEET NO. 7
12 SHEETS



FRAMING PLAN

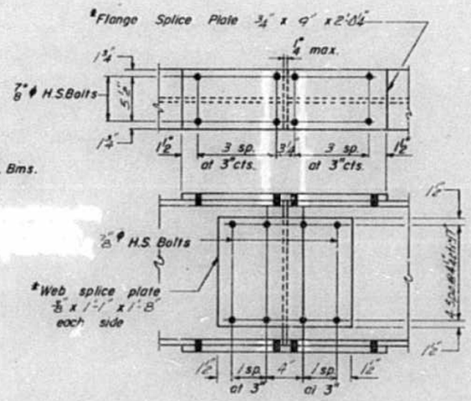


GIRDER ELEVATION



DIAPHRAGM D
8 Required

DIAPHRAGM D1
24 Required



SPLICE

Note: Two hardened washers shall be required over all 15/16" ϕ holes.
All contact surfaces of joints shall be free of paint or lacquer.

All steel shall be AASHTO M222 (Unpainted)

*Notch toughness requirements are applicable to these plates and shapes.

DESIGNED	Chhagan B. Patel
CHECKED	R. F. Rassey
DRAWN	R. Sommer
CHECKED	R. F. K. C.P.B.

October 6, 1981
EXAMINED James T. Kaufmann
ENGINEER OF BRIDGE DESIGN
PASSED Carl E. Bergmann Jr.
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

I-2-D 8-30-80

STRUCTURAL STEEL
F.A.S. RTE. 659 SECTION 1-BR
MOULTRIE COUNTY
STA. 173+60.00

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0039

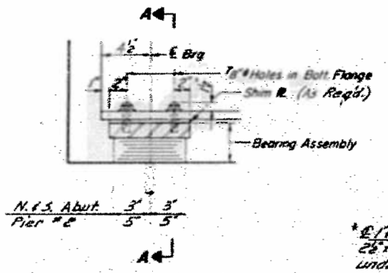
SCALE: N/A | SHEET 6 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	9
		CONTRACT NO. 74621		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

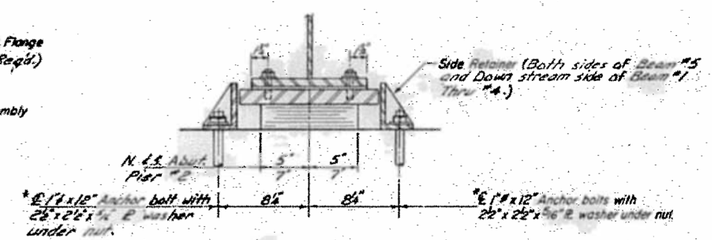
F.A.S. 659 Sec. 1-BR	1BR	Moultrie	38	27

SHEET NO. 8
12 SHEETS

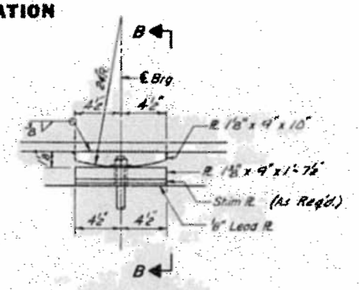


SECTION AT ABUTS & PIER #2

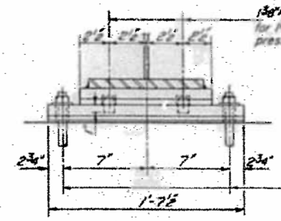
TYPE 1 ELASTOMERIC EXP BRG.



SECTION A-A
(at Beam #5)



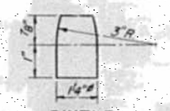
ELEVATION AT PIER #1



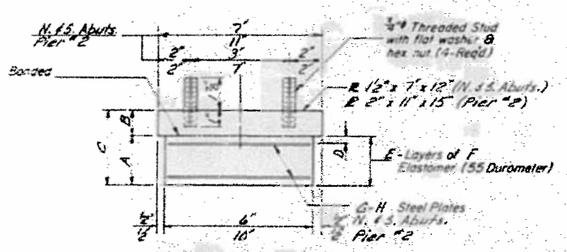
SECTION B-B

FIXED BEARING

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



PINTLE

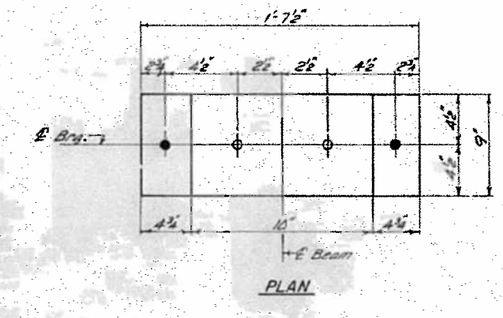


BEARING ASSEMBLY

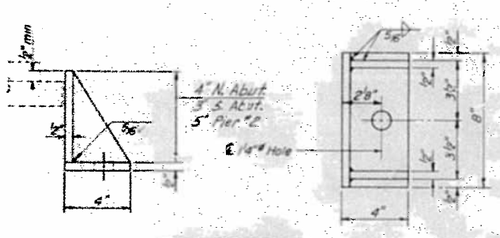
Note: Shim plates shall not be placed under Bearing Assembly.

TABLE FOR A THRU H

Location	A	B	C	D	E	F	G	H
N. Abut.	2"¼	1½"	3"¼	5/16"	6	5/16"	5	14 Ea.
S. Abut.	1"⅛	1½"	2"⅛	5/16"	3	5/16"	2	14 Ea.
Pier #2	2"¼	2"	4"¼	7/16"	5	7/16"	4	8



PLAN



SIDE RETAINER
(No. Req'd. 16)

INTERIOR BEAM MOMENT TABLE

	0.4 Span #1 & 0.6 Span #3	Pier #1 & Pier #2	0.5 Span #2
I_s (in⁴)	2100	2100	2100
S_s (in³)	176	176	176
℄ (Mi)	1.122	1.122	1.122
M℄ ('k)	112	193	93
M$_{DL}$ ('k)	381	307	386
M$_{LLIMP}$ ('k)	114	92	116
M Total ('k)	607	592	595
f_s (ksi)	41.4	40.4	40.6

The Load Factor (1.3)[℄ + S (℄ + IMP.)] is used in computing moments and stresses.

INTERIOR BEAM REACTION TABLE

	Sc. No. Abut.	Piers #1 & #2
R ℄ (k)	13.9	45.2
R ℄ (k)	32.1	42.8
R IMP (k)	9.6	12.8
R TOTAL (k)	55.6	100.8

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Elastomeric Bearing Assembly, Type I	Each	15

Note:
All steel shall be AASHTO M 222. Steel at Piers shall be unpainted. Steel at Abutments shall be cleaned and given one coat of the Basic Lead Silico Chromate Primer and Maroon Field Coat. Both coats to be applied in the shop with spot painting only in the field.

**TOP OF FLANGE ELEVATION

	℄ Brg. S.Abut.	℄ Brg. N.Abut.	℄ Pier #1	℄ Pier #2	℄ Splice
Beam #1	647.01	646.86	646.96	646.90	646.95
Beam #2	647.15	647.00	647.10	647.04	647.09
Beam #3	647.27	647.12	647.22	647.17	647.21
Beam #4	647.17	647.02	647.12	647.07	647.11
Beam #5	647.05	646.91	647.01	646.95	647.00

**For fabrication only

DESIGNED	Chhagan P. Patel	October 6,	19 82
CHECKED	R. F. Rooney	EXAMINED	James T. Keyburn, ENGINEER OF SPECIFICATION
DRAWN	R. Sommer	PASSED	Carl E. Nunnemacher, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	R. F. R. C.P.P.	APPROVED	DIRECTOR OF HIGHWAYS

I-2-E1 8-30-80

BEARING DETAILS
F.A.S. RTE. 659 SECTION 1-BR
MOULTRIE COUNTY
STA. 173+60.00

• 07 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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Default	PLOT DATE = 8/6/2013	CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0039

SCALE: N/A | SHEET 7 OF 10 SHEETS | STA. | TO STA.

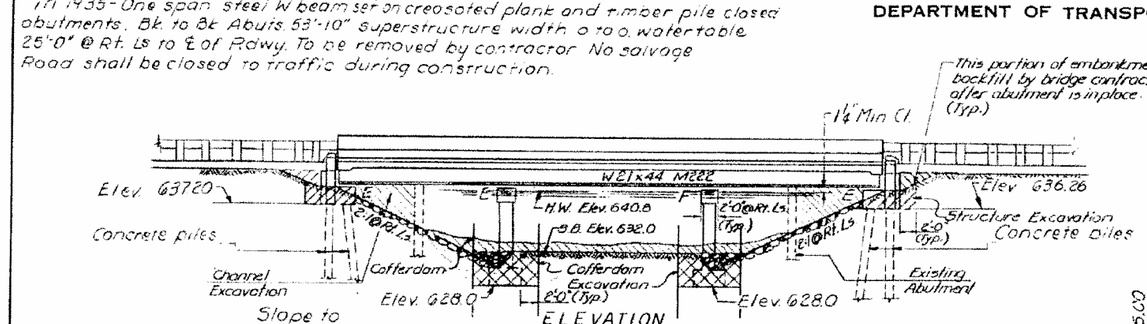
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	10
		CONTRACT NO. 74621		
	ILLINOIS	FED. AID PROJECT		

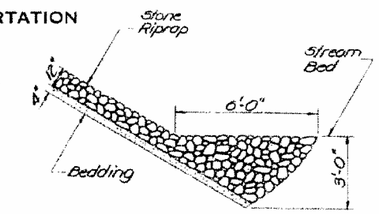
B.M. Chiseled square on norin end of west nubguard Elev. 644.21
Existing structure #070-0012 Built as S.A. Rte. 8, Sec. -A-MFT @ Sta 154+74.
In 1935- One span steel W beam set on creosoted plank and timber pile closed abutments. Bk. to Bk Abuts. 53'-10" superstructure width, o to o. watertable 25'-0" @ Rt. Ls to ℄ of Rdwy. To be removed by contractor. No salvage. Road shall be closed to traffic during construction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

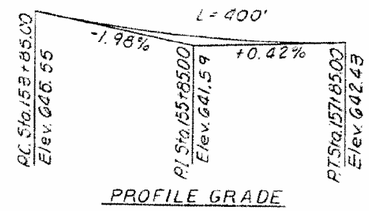
FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
659	1BR-1	Moultrie	38	9
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
11 SHEETS

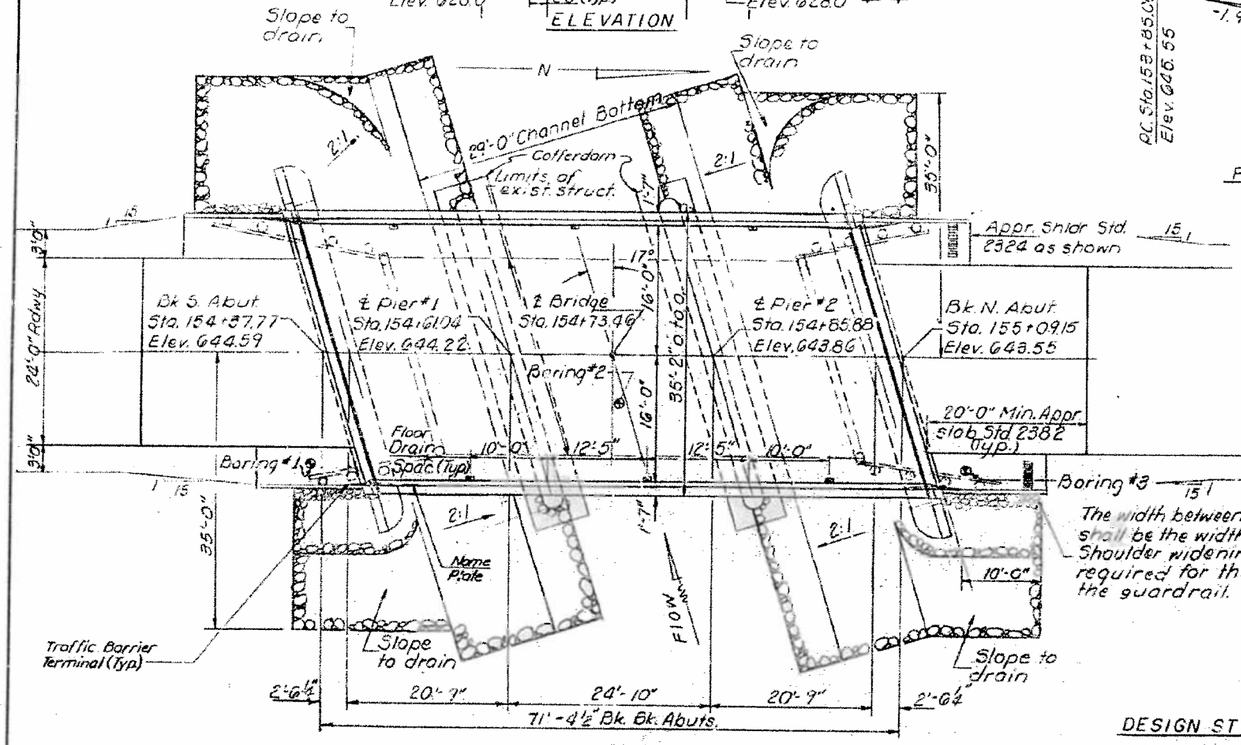




RIPRAP ANCHOR DETAIL
(At Rt. Ls)



PROFILE GRADE



PLAN

STATION 154+73.45
JONATHAN CREEK
BUILT 198
F.A.S. RT. 659 SEC. 1BR-1
PROJ. BR-S-659 (102)
LOADING H520
*STR. NO.

NAME PLATE
(See Std. 2:13)

*Structure number to be supplied by District.

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

GENERAL NOTES

See Proposal for Boring Data.
Fasteners shall be high strength bolts (AASHTO M.164, Type 3). Bolts ¾"ℓ, open holes ⅞"ℓ, unless otherwise noted.
Calculated weight of Structural Steel = 22860 lbs.
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.
The contractor shall drive one concrete test piles in a permanent location of the S.℄N. Abut as directed by the Engineer before ordering the remainder of piles.
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ½ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ½" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
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 of the wide flange beams.
Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
All structural steel for a distance of three times the depth of the beams or girders, but not exceeding 10 feet, each way from deck joints shall be cleaned and given one coat of the basic lead silico chromate primer and maroon field coat. Both coats to be applied in the shop with spot painting only in the field.

TOTAL BILL OF MATERIALS

Item	Unit	Super	Sub	Total
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.			73
Floor Drains	Each			6
Class X Concrete	Cu. Yd.	73.3	136	209.3
Structural Steel	Lump Sum			0.3
Protective Coat	Sq. Yd.	297		297
Reinforcement Bars	Pound	7070	10580	17650
Reinforcement Bars (Epoxy Coated)	Pound	10730		10730
Concrete Piles	Lin. Ft.		348	348
Test Pile Concrete	Each		2	2
Name Plates	Each			1
Riprap	Sq. Yd.		500	500
Neoprene Expansion Joint (2")	Lin. Ft.	71		71
Cofferdams	Each		2	2
Cofferdam Excavation	Cu. Yd.		112	112
Channel Excavation	Cu. Yd.		135	135

DESIGN STRESSES

f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Reinf)
fy = 50,000 p.s.i. Struct. Steel M7222 (unpainted)

Design specifications: 1977 AASHTO, 1978, 1979 & 1980 Interim Specifications
Allow 25 #/sq. ft. for future wearing surface.

LOADING HS20-44

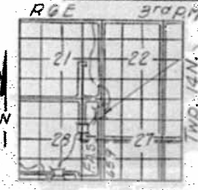
WATERWAY INFORMATION

Drainage Area 20.40 sq. mi. Low Grade Elev. 642.3'

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Opening Prop.	Sq. Ft. Net H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	1790	334	375	640.8	0.45	0.59	641.25	641.39
Base of Overtopping	100	2280	334	411	641.4	1.13	0.86	642.53	642.26

DESIGNED	Patrick M. Patrick	
CHECKED	Dale F. Schaub	
DRAWN	Stu Ferchaw F.M.	
CHECKED	Dale F. Schaub	

October 6, 1981
EXAMINED James T. Rockwell
PASSED Carl E. Hammarth
APPROVED



LOCATION PLAN

GENERAL PLAN & ELEVATION
CADWELL RD. OVER JONATHAN CREEK
F.A.S. RTE. 659 SEC. 1BR-1
MOULTRIE COUNTY
STA. 154+73.46

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0040

SCALE: N/A | SHEET 8 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	11
		CONTRACT NO. 74621		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 4
11 SHEETS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
18R-1	Moultrie	38	12

Floor Drain Spacing (Typ. Each Side)

12'-0⅛" | 22'-5" | 22'-5" | 11'-0⅜"

68-#4 d bars at 12" c/s. Outside Face

72-#5 b_1(E) bars at 11" c/s. Inside Face

See Curb & Exp. Jt. Detail Sht. #5

Aluminum sheeted const. joints in base of parapet

3½"

10'-0" | 12'-5" | 12'-5" | 10'-0"

21-#5 a_1(E) bars at 6" c/s. Top
15-#5 a_1 bars at 3½ c/s. Bottom
Order extra a_1 bars full length. Cut to fit skew and use remainder of bars in opposite end.

℄ Pier #1

℄ F.A.S. Rt. 659

115-#5 a_1(E) bars at 6" c/s. Top
31-#5 a_1 bars at 3½ c/s. Bottom

67-#6 a_2(E) bars at 12" c/s. Top
(Lap with alternate a_1(E) bars)

31-#6 b_1(E) bar at ± 12" c/s. Top of slab over piers

32 x 3-#5 a_1(E) bars spaced at ± 12" c/s. (1'-3" min. lap)

34 x 3-#5 b_2 bars spaced as shown in cross section Bottom of slab (1'-3" min. lap)

31-#6 b_1(E) bars at ± 12" c/s. Top of slab over pier

17°-00'-00" Skew

℄ Pier #2

2" Neoprene Exp. Jt.

Back of 1:1 Abut.

35'-2" o. to o. deck
32'-0"

Brick of S. Abut

2" Neoprene Exp. Jt.

1-#6 a_3(E) bar Top & Bottom

4'-0" | 4'-0" | 4'-0" | 4'-0"

2-#6 b_1(E) Top of slab

3 x 3-#5 b_2(E) Top of slab

2-#6 b_1(E) Top of slab

2'-8"

67'-10¾" end to end deck

21'-2¾"

24'-10"

21'-10"

2'-8"

N

PLAN

℄ Roadway

35'-2" o. to o. deck
32'-0" face to face parapets

1'-7" | 4'-0" slope ¼" per ft | 12'-0" slope 3/16" per ft | 12'-0" slope 3/16" per ft | 4'-0" slope ¼" per ft | 1'-7"

Longitudinal bonded construction joints - Do not edge

7½" Slab

P.G.

Total Drop = 3¼"

2'-10" Parapet

Floor Drain - For details see Sheets #6

7x3-#5 b_2 bars at 12" c/s. Typical between beams

1 | 2 | 3 | 4 | 5

3'-0" | 4 spaces at 7'-3½" = 29'-2" | 3'-0"

NEAR PIER | NEAR MIDSPAN

CROSS SECTION
LOOKING NORTH

NOTES:
See sheet #5 for superstructure details and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

Bars indicated thus 20-3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

SUPERSTRUCTURE
F.A.S. RT. 659 SEC. 18R-1
MOULTRIE COUNTY
STATION 154+73.46

DESIGNED	Patrick M. Petrow
CHECKED	Dale F. Schaub
DRAWN	Stu Perchow
CHECKED	Dale F. Schaub

October 6, 1981
EXAMINED James J. Hayhoen, ENGINEER OF BRIDGE DESIGN
PASSED Carl E. Hammerich, ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

S-1-R(15°) 8-30-80

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0040

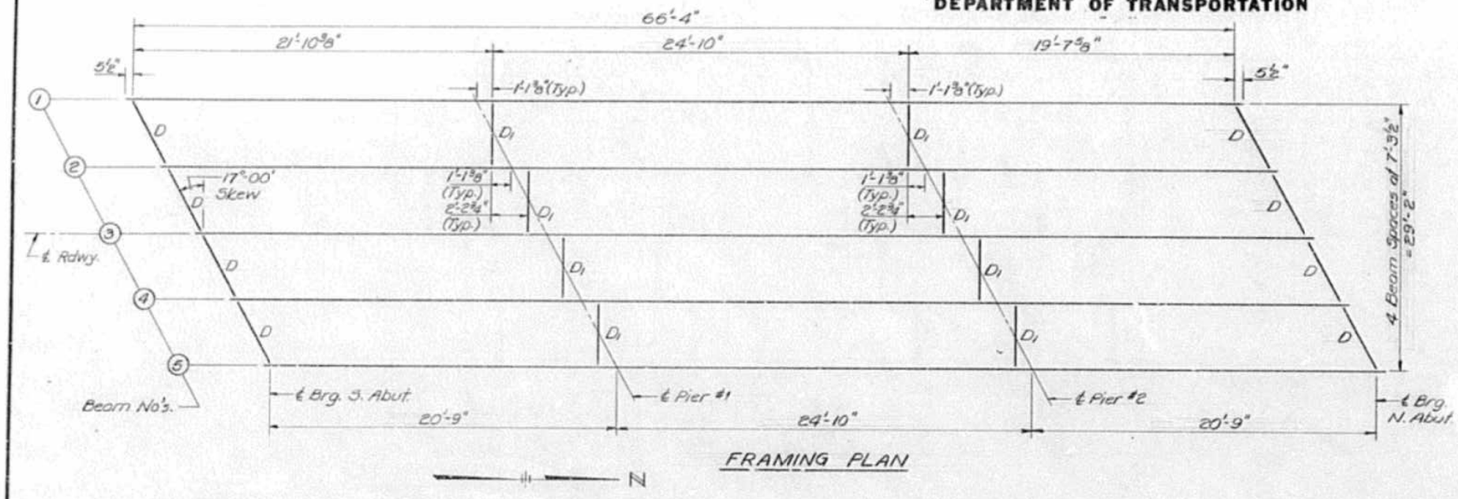
SCALE: N/A | SHEET 9 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•	••	13	12
		CONTRACT NO. 74621		
		ILLINOIS FED. AID PROJECT		

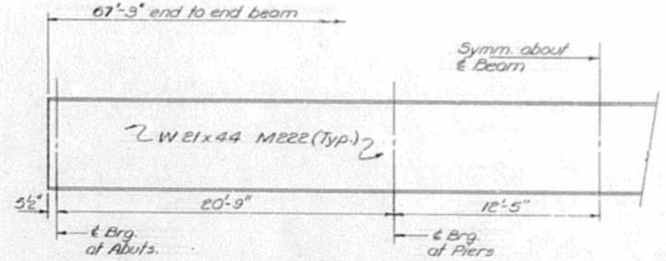
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 659	1BR-1	Moultrie	38	14

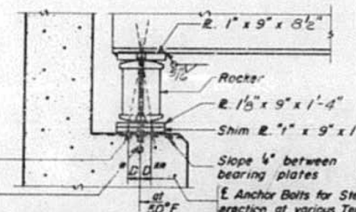
SHEET NO. 6
11 SHEETS



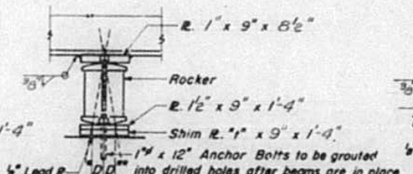
FRAMING PLAN

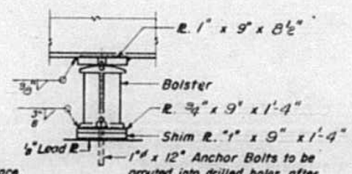


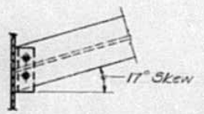
ELEVATION

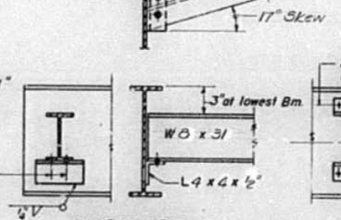


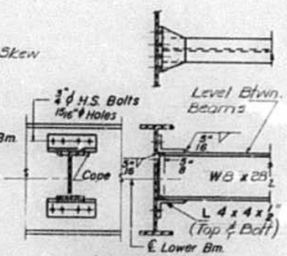
SECTION AT ABUTMENTS



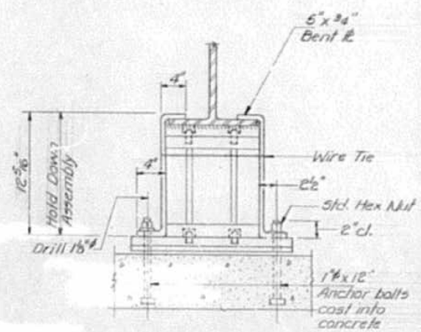






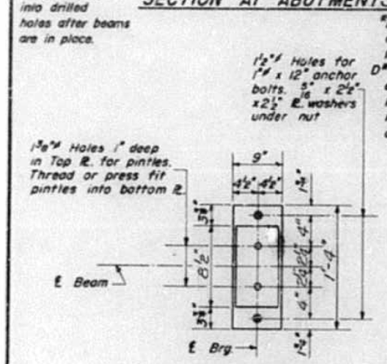


Note: Two hardened washers shall be required over all 15/16" ϕ holes. All contact surfaces of joints shall be free of paint or lacquer.

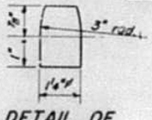


BEAM HOLD DOWN DETAIL

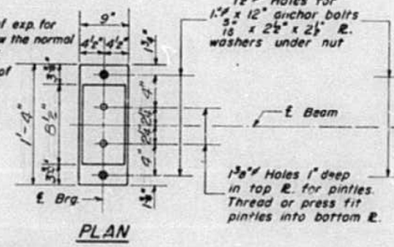
Note:
Beams shall be held down at the Abutment on the opposite end of Bridge from which the deck pour is commenced. After pouring is completed the Hold Down Assembly shall be removed and Nuts placed on Anchor Bolts.
Cost of Hold Down Assembly, incidental to Class X Concrete.



PLAN



DETAIL OF PINTLE



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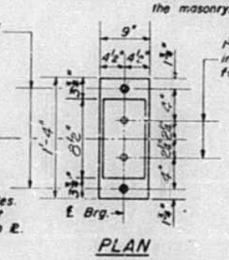

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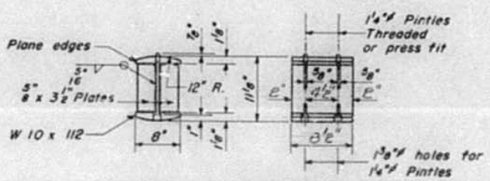
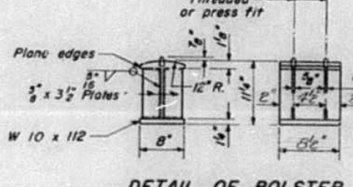
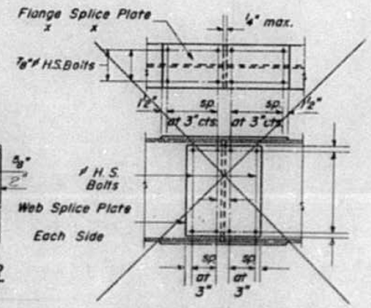


DETAIL OF ROCKER AT S. ℄ N. ABUTS. ℄ PIER #1



DETAIL OF BOLSTER AT PIER #2



DETAIL OF SPLICE

Note:
The design Moment and Reaction Tables are on sheet #2

STRUCTURAL STEEL
F.A.S. RT. 659 SEC. 1 BR-1
MOULTRIE COUNTY
STATION 154+73.46

DESIGNED	Patrick M Petrone		
CHECKED	Dale F. Schaub		
DRAWN	Stu Ferchow		
CHECKED	Dale F. Schaub		

October 6, 1981
EXAMINED James J. Kayborn
ENGINEER OF BRIDGE DESIGN
PASSED Carl E. Herrmann
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

I-2 8-30-80

• D7 BRIDGE PAINTING 2014-3
•• COLES, MOULTRIE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
S.N. 070-0040

SCALE: N/A | SHEET 10 OF 10 SHEETS | STA. | TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	•			
		••	13	13
		CONTRACT NO. 74621		
		ILLINOIS FED. AID PROJECT		