

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAP 742 ROUTE IL 2
SECTION D2 BRIDGE PAINTING 2014-1

TYPE of IMPROVEMENT
PARTIAL CLEANING AND PAINTING
ON SN: 052-0063 AND SN: 071-0025
LEE / OGLE

C-92-074-13

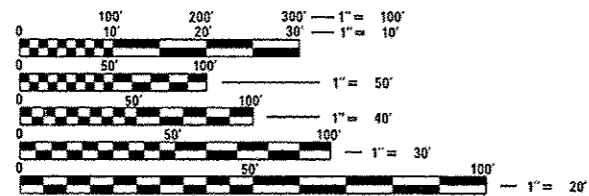
R-10-E

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2	D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	1
		ILLINOIS	CONTRACT NO. 64J52	

D-92-032-13



FOR INDEX OF SHEETS, SEE SHEET NO. 2



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

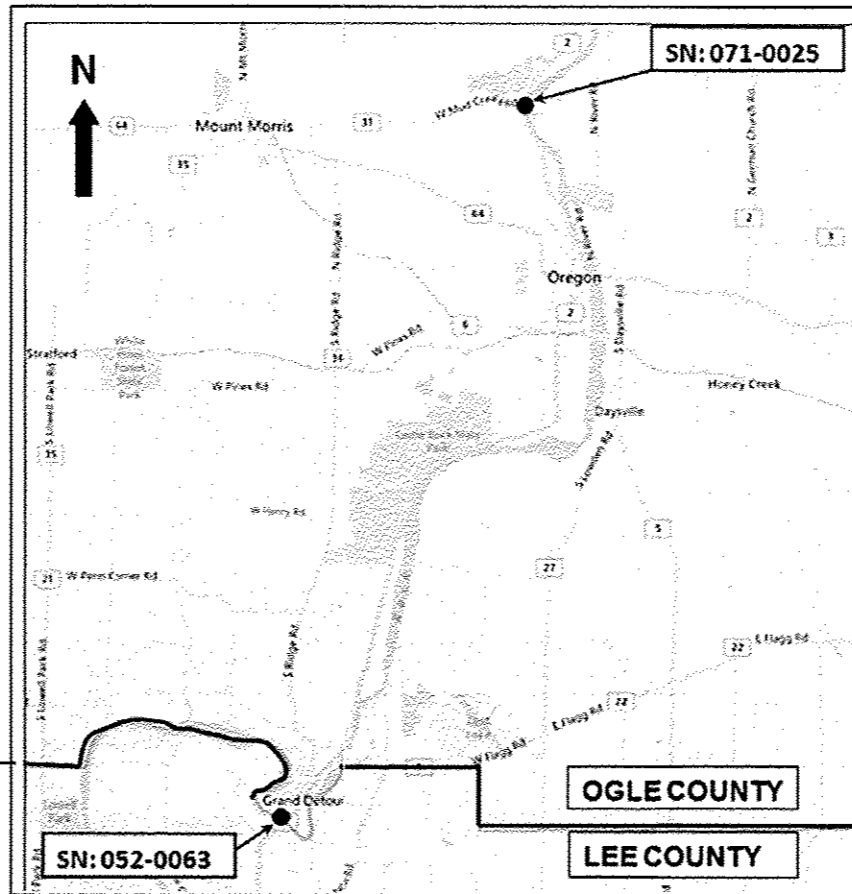
PROJECT ENGINEER:
MAHMOUD ETEMADI (815)-284-5393

DIXON TOWNSHIP, SECTION 13, 14
ROCKVALE TOWNSHIP, SECTION 28

CONTRACT NO. 64J52

T-24-N

T-22-N



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *Jan. 22nd 20 14*
Paul C. [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21 20 14
John D. Baranzelli, P.E. [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

March 21 20 14
Omernick [Signature]
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

R-9-E

GENERAL NOTES

INDEX OF SHEETS

- 1. Cover Sheet
- 2. Index Sheet, State Standards, General Notes
- 3. Summary of Quantities
- 4-5 Traffic Control Plan for Bridge No. 1 SN: 052-0063
- 6-7 Traffic Control Plan for Bridge No. 2 SN: 071-0025
- 8 District Standards
- 9-25 Existing Bridge Plans, for Information Only

STATE STANDARDS

- 701001-02 Off-Road Operations, 2L, 2W, More than 4.5 m (15') Away
- 701006-05 OFF-Road Operations, 2L, 2W, 15' (5.5 m) TO 24" (600 mm) from pavement edge
- 701201-04 Lane Closure, 2L, 2W, Day Only, for speeds > 45 mph
- 701301-04 Lane Closure, 2L, 2W, Short Time Operations
- 701311-03 Lane Closure, 2L, 2W, Moving Operation-Day Only
- 701331-04 Lane Closure, 2L, 2W, with Run-Around, For Speeds > 45 mph
- 701701-09 Urban Lane Closure, Multilane Intersection
- 701901-03 Traffic Control Devices
- 704001-07 Temporary Concrete Barrier
- 720011-01 Metal Posts for Signs, Markers & Delineators
- 728001-01 Telescoping Steel Sign Support
- 729001-01 Applications for Types A & B Metal Posts (For Signs and Markers)

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 2A shall be used. This work will be included in the contract unit price per LUMP SUM for CLEANING AND PAINTING STEEL BRIDGE NO. 1 and CLEANING AND PAINTING STEEL BRIDGE NO. 2

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of CLEANING AND PAINTING STEEL BRIDGE NO. 1 and in the cost of CLEANING AND PAINTING STEEL BRIDGE NO. 2.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the CLEANING AND PAINTING STEEL BRIDGE No.1 AND CLEANING AND PAINTING STEEL BRIDGE No. 2

All Borrow/Waste/Use sites must be approved by the Department prior to removing any material from the project or initiating any earthmoving activities, including temporary stockpiling outside the limits of construction.

Temporary Impact Attenuators will be measured as each for each attenuator supplied on the job as specified in the plans, and shall include the cost of renting/owning the attenuator for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, TEMPORARY of the type specified.

Relocate Temporary Impact Attenuators will be paid for as Each and will be paid for each time the attenuator is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, RELOCATE of the type specified.

This work shall be done in accordance with Section 704 of the Standard Specifications. Temporary Concrete Barrier will be measured in feet along the centerline of the barrier and shall include the cost of renting/owning the barrier for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway in accordance with Section 704 of the Standard Specification. This shall be paid for at the contract unit price per Foot for TEMPORARY CONCRETE BARRIER.

Relocate Temporary Concrete Barrier will be paid for in Feet along the centerline of the barrier, and will be paid for each time the barrier is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Foot for RELOCATE TEMPORARY CONCRETE BARRIER.

The SSPC QP1 Contract certifications will be Requires for this Contract.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

IDOT is not a member of JULIE. If you are near any overhead lighting, intersection lighting or traffic signals, contact the IDOT Traffic Office at 815/284-5469 at least 48 hours prior to work.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

COMPANY/TYPE	TELEPHONE/CENTURYLINK
CONTACT INFO.	Mr. BRAD STOCKHAM (309)-477-0363 OR (800)892-0123
ADDRESS	RIVERWAY BUSINESS PARK/200 ENTERPRISE DRIVE, PEKIN, IL 61554
COMPANY/TYPE	ELECTRIC/COMMONWEALTH EDISON COMPANY
CONTACT INFO.	MS. NORA FERNANDEZ (815)490-2869 OR (800)892-0123
ADDRESS	123 ENERGY AVENUE, ROCKFORD IL, 61109
COMPANY/TYPE	TELEPHONE/FRONTIER
CONTACT INFO.	Mr. KALIN HINSHAW (815)895-1515 OR (800)892-0123
ADDRESS	112 W. ELM STREET, SYCAMORE, IL. 60178
COMPANY/TYPE	GAS/NICOR GAS CO.
CONTACT INFO.	Ms. CONSTANCE LANE (630)983-8676 OR (800)892-0123
ADDRESS	1844 FERRY ROAD, NAPERVILLE, IL. 60563-9600
COMPANY/TYPE	TELEPHONE/WINDSTREAM
CONTACT INFO.	Mr. PAUL BAUMANN (630)925-4751 OR (800)892-0123
ADDRESS	1815 S. MEYERS ROAD, SUITE 900, OAK BROOK TERRACE, IL. 60181

DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STATE STANDARDS, GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
DRAWN -	REVISED -			IL 2	D2 BRIDGE PAINTING 2014-E	LEE / OGLE	25	2	
CHECKED -	REVISED -			CONTRACT NO. 64J52					
DATE -	REVISED -			ILLINOIS					

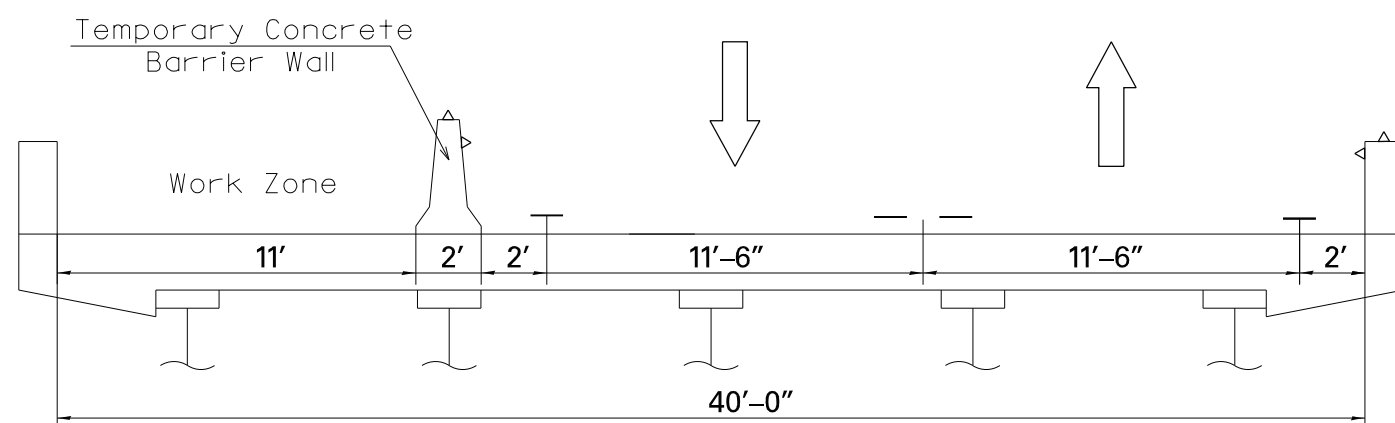
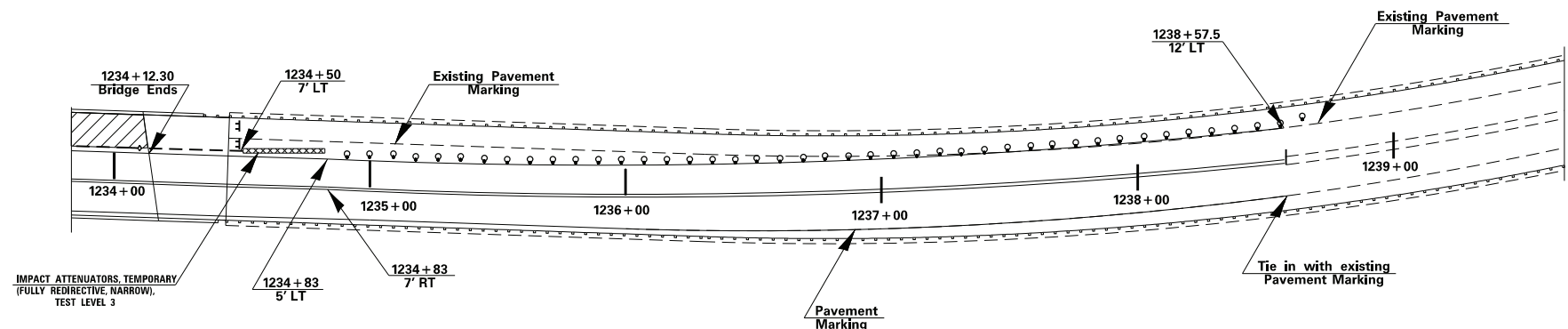
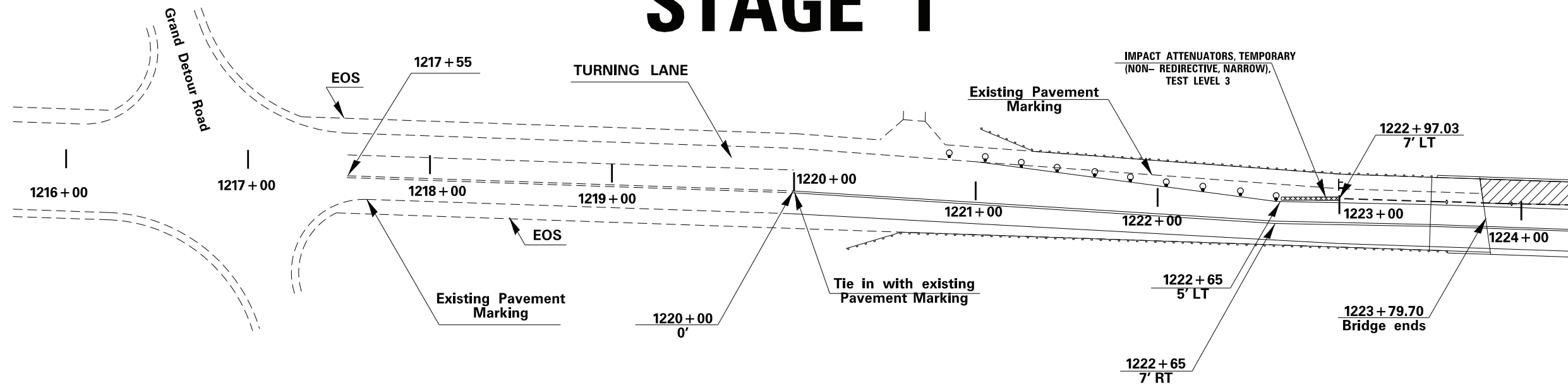
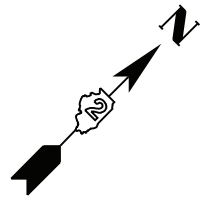
BRIDGE MAINT

SUMMARY OF QUANTITIES					100% State Funds
					0014
Pay Item No.	Description	Units	Lee	Ogle	Total Quantity
67100100	MOBILIZATION	L SUM	0.5	0.5	1
70100200	TRAFFIC CONTROL AND PROTECTION, STANDARD 701331	EACH	1	1	2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	0.5	0.5	1
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	14,860	10,040	24,900
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	4,953	3,347	8,300
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1,152.97		1,152.97
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1,152.97		1,152.97
70600251	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1		1
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1		1
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1		1
70600352	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1		1
* 78001100	PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT		124.8	124.8
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	14,800	7,200	22,000
* 78001140	PAINT PAVEMENT MARKING - LINE 8"	FOOT		1000	1000
* 78001150	PAINT PAVEMENT MARKING - LINE 12"	FOOT		600	600
* 78001180	PAINT PAVEMENT MARKING - LINE 24"	FOOT		20	20
78300100	PAVEMENT MARKING REMOVAL	SQ FT	2,467	2,740	5,207
Z0007114	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES	L SUM	0.5	0.5	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1		1
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM		1	1

*Specialty Items

DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -	REVISED -			IL 2 D2 BRIDGE PAINTING 2014	LEE / OGLE	25	3	
CHECKED -	REVISED -			CONTRACT NO. 64J52				
DATE -	REVISED -			ILLINOIS				

STAGE 1



STAGE 1 CROSS-SECTION

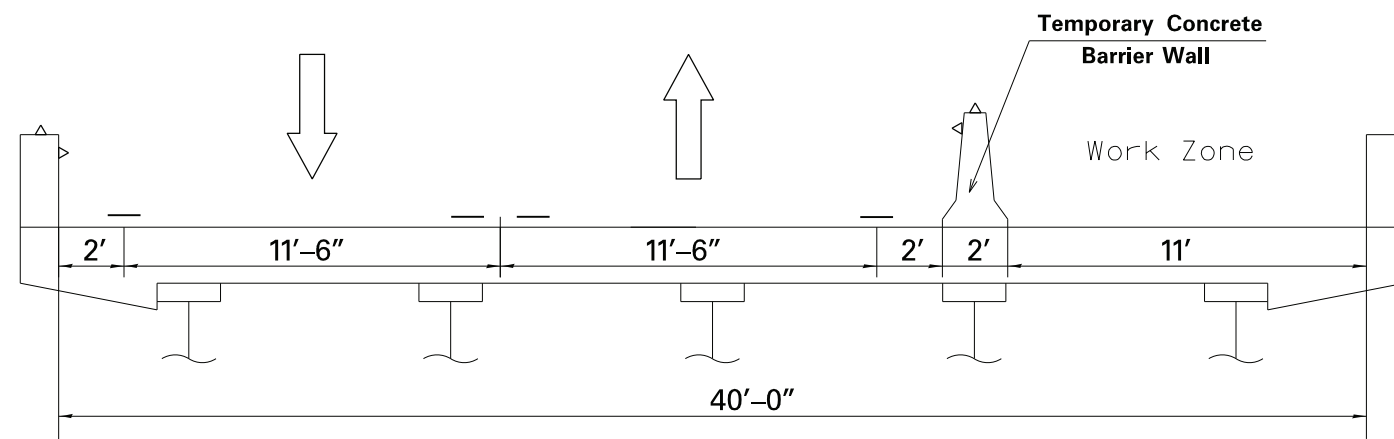
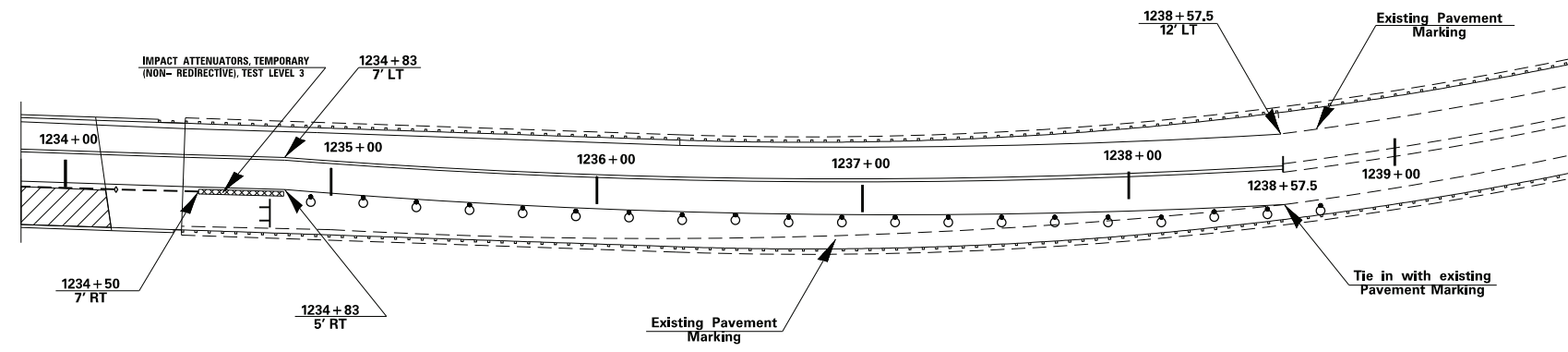
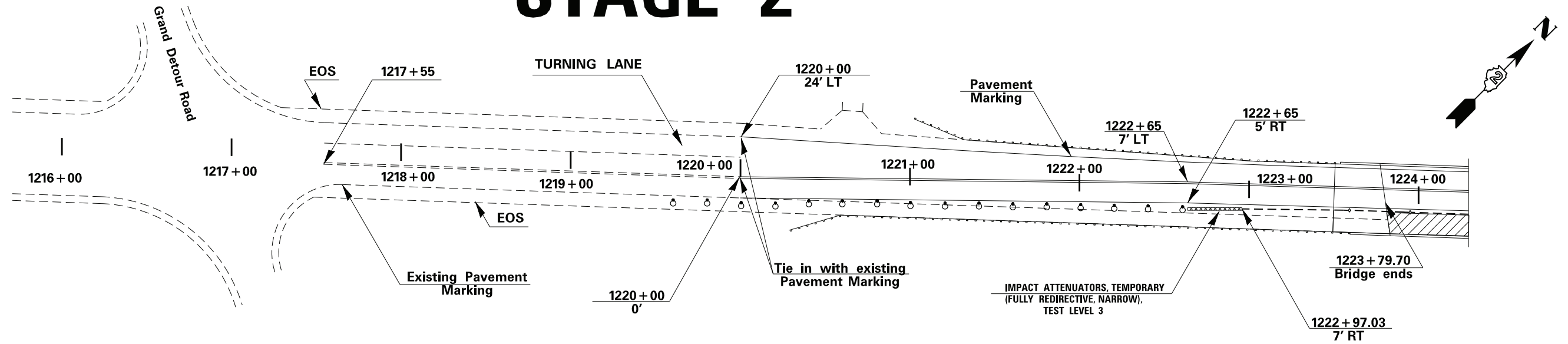
- Notes:
- Barrier wall offsets are to the traffic side of the wall
 - See Standard 701331 for additional information
 - Place type III barricades in nonworking hours

LEGEND

	Work area
	Type III barricade
	Temporary concrete barrier
	Type C Monodirectional reflector
	Impact attenuator

	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGE 1 Bridge No.1 SN: 052-0063	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	DRAWN -	REVISED -			IL 2	D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	4		
	CHECKED -	REVISED -			CONTRACT NO. 64J52						
	DATE -	REVISED -			ILLINOIS						

STAGE 2



STAGE 2 CROSS-SECTION

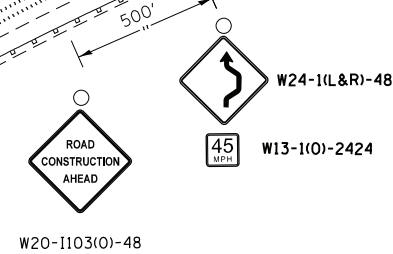
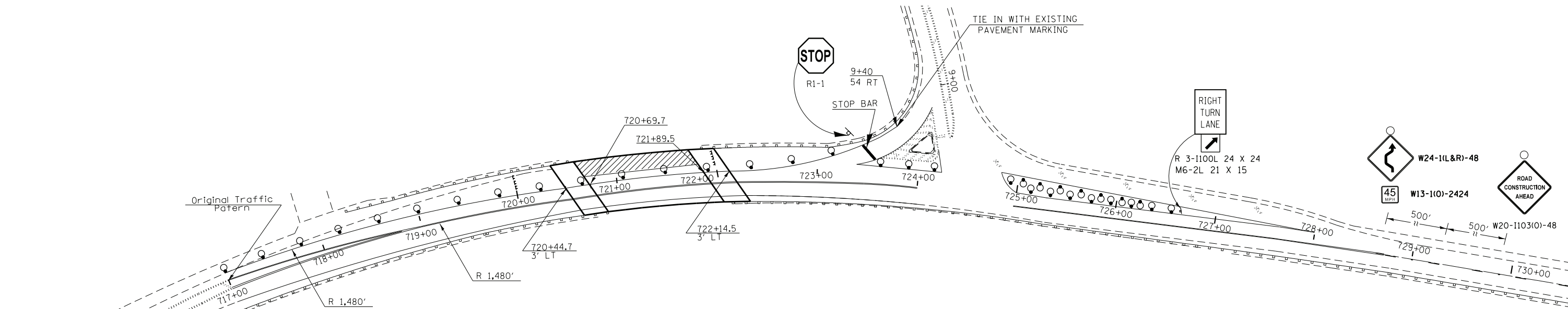
- Notes:
- Barrier wall offsets are to the traffic side of the wall
 - See Standard 701331 for additional information
 - Place type III barricades in nonworking hours

LEGEND

- Work area
- Type III barricade
- Temporary concrete barrier
- Type C Monodirectional reflector
- Impact attenuator

DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGE 2 Bridge No. 1 SN: 052-0063		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -	REVISED -				IL 2	D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	5
CHECKED -	REVISED -				CONTRACT NO. 64J52				
DATE -	REVISED -				ILLINOIS				

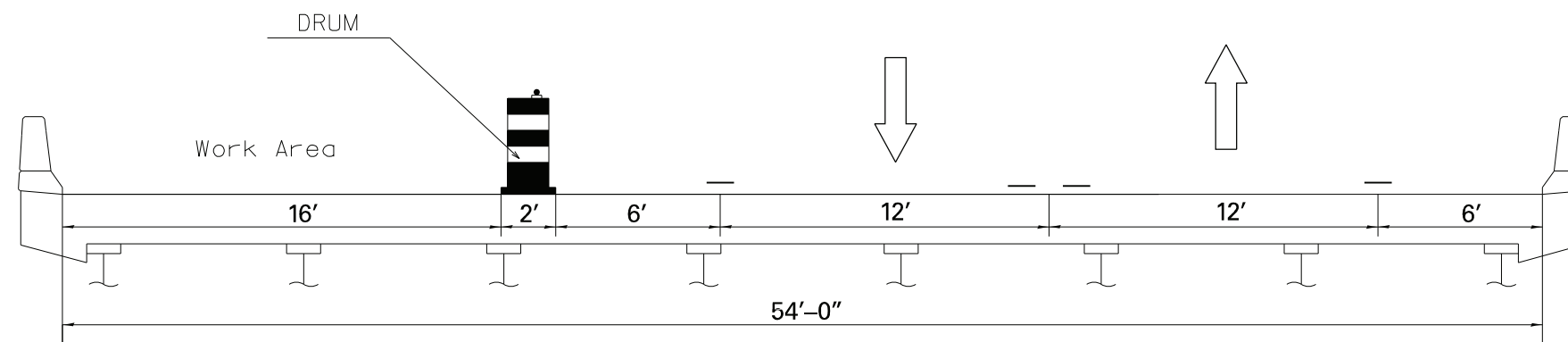
STAGE 1



NOTES:

Type III barricade to be placed when no work is being performed.

Remove conflicting pavement marking



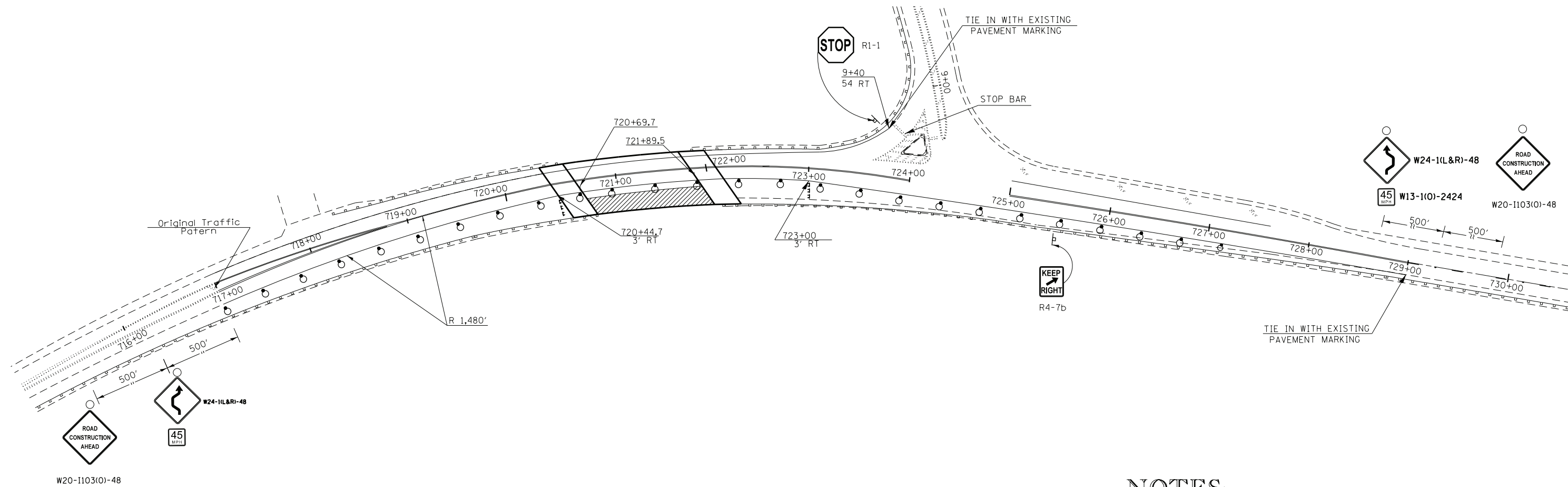
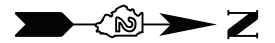
STAGE 1 CROSS-SECTION

LEGEND:

- Drum with steady burning bi-directional light to be spaced at 40 ft
- Sign with flashing light
- Work area
- Sign
- Type III barricade

	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL STAGE 1 Bridge No. 2 SN: 071-0025	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	6	
	CHECKED -	REVISED -			CONTRACT NO. 64J52				
	DATE -	REVISED -			ILLINOIS				

STAGE 2



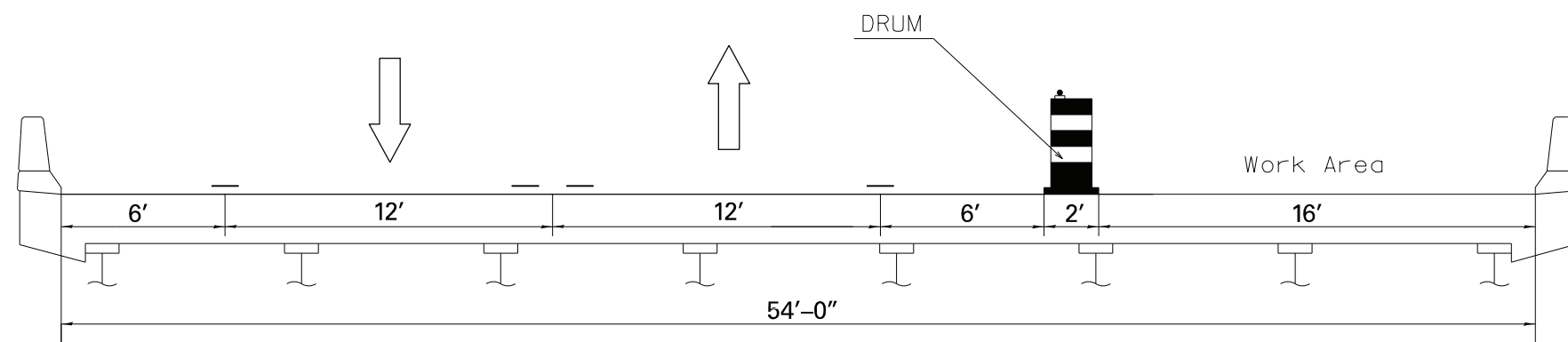
NOTES:

Type III barricade to be placed when no work is being performed.

Remove conflicting pavement marking

LEGEND:

- Drum with steady burning bi-directional light to be spaced at 40 ft
- Sign with flashing light
- Work area
- Sign
- Type III barricade



STAGE 2 CROSS-SECTION

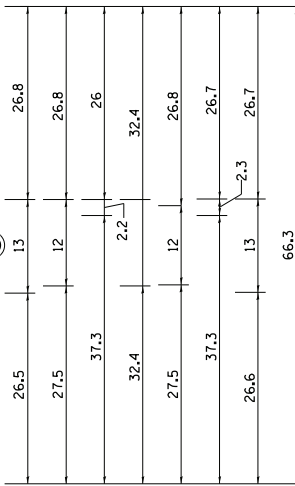
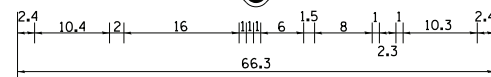
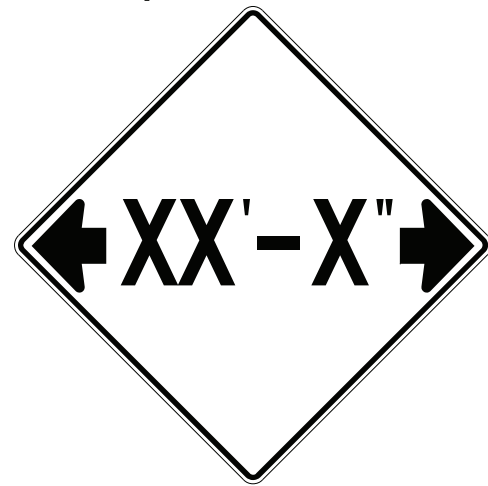
DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

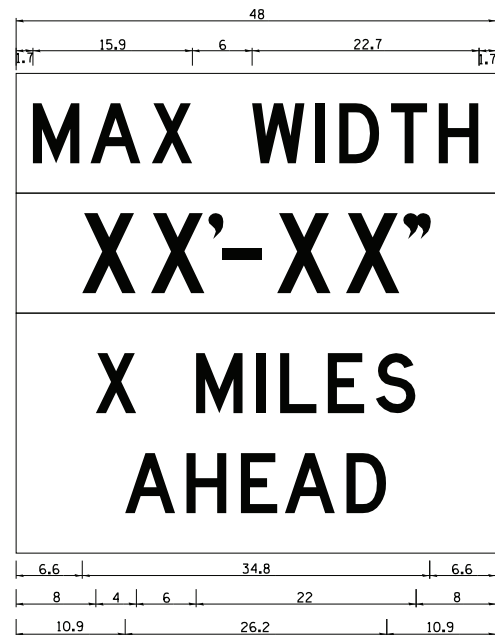
**TRAFFIC CONTROL STAGE 2
Bridge No. 2 SN: 071-0025**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE		25	7
			CONTRACT NO. 64J52	
ILLINOIS				

INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)



NOTES
 W12-2 - Horizontal Clearance Sign
 48.0" across sides, 1.9" Radius,
 0.8" Border, 0.5" Indent, Black on
 Orange; Standard Arrow Custom
 10.4" X 8.1" 180° Black 11 Inch
 D Series Lettering; Standard Arrow
 Custom 10.4" X 8.1" 0°



W12-1103 (Width is 8D);
 No border, Black on White;
 [MAX WIDTH] D;

No border, Black on Orange;
 [XX'-XX''] D;

No border, Black on White;
 [X MILES] D; [AHEAD] D;

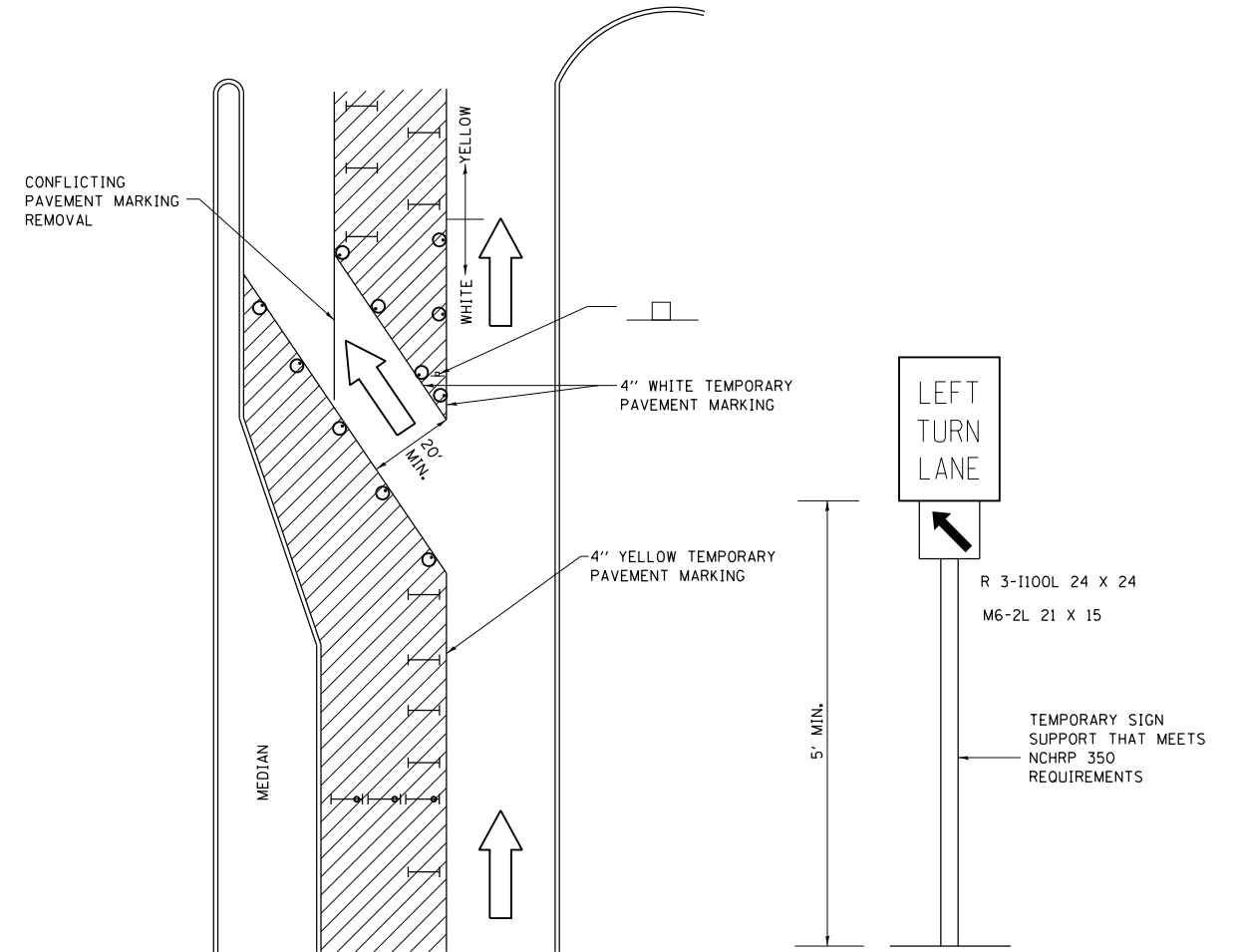
All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

REVISED - 5-15-09

INFORMATIONAL WARNING SIGNS (FOR NARROW TRAVEL LANES) 39.2

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)



LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE OR DRUM WITH FLASHING BURNING LIGHT
- DRUM OR BARRICADE WITH STEADY BURN LIGHT
- SIGN (SEE DETAIL)
- TYPE I OR II CHECK BARRICADE WITH STEADY LIGHT BURN

REVISED - 10-14-11

GENERAL NOTES

CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 IN HEIGHT.

STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS WILL BE MONODIRECTIONAL.

TEMPORARY PAVEMENT MARKING SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.

THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 X 24 AND M6-2R 21 X 15 SHALL BE USED.

THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) 94.2

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DISTRICT
 STANDARDS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE		25	8
			CONTRACT NO. 64J52	
ILLINOIS				

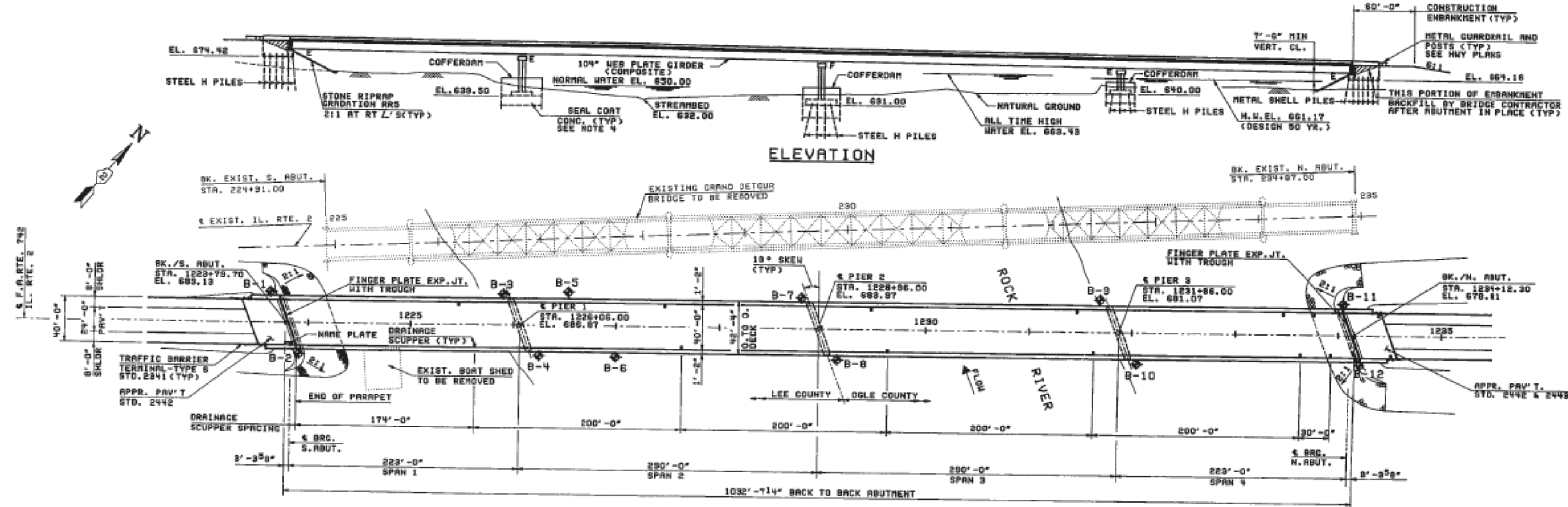
052-0063

FOR INFORMATION ONLY

BENCH MARK:

CHISELED SQUARE, EAST END OF EXISTING SOUTH ABUTMENT AT STA. 224+90 (ALONG EXIST. 4) 20' RT. ELEV. 660.47.

SHEET NO. 1 OF 30	ROUTE NO. SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. RTE. 742	398B-1	LEE & OGLE	86	25
ILLINOIS FED. AID PROJECT				
STP-DRP-742(25)				



EXISTING STRUCTURE

STRUCTURE NO. 052-0036 SECTION 398B-1
 GRAND DETOUR BRIDGE ON IL. RTE. 2 AT STA. 228+88 (ALONG EXIST. 4), BUILT IN 1947.
 SUPERSTRUCTURE: 3 TIED ARCH SPANS & 2 PLATE GIRDER APPROACH SPANS WITH CONCRETE FILLED GRATING DECK.
 SUBSTRUCTURE: 4 PIERS WITH HEBBELL CONNECTING TWO OUTSIDE COLUMNS AND ABUTMENTS WITH WALL CONNECTING THREE COLUMNS.
 EXISTING BRIDGE TO BE REMOVED AFTER NEW BRIDGE IS OPEN TO TRAFFIC.

DESIGN STRESSES

STRUCTURAL STEEL: LOAD FACTOR DESIGN
 σ = 50,000 PSI - A270 GRADE 50
 σ = 36,000 PSI - A270 GRADE 36
 CONCRETE: LOAD FACTOR DESIGN
 σ = 3,500 PSI
 σ = 60,000 PSI (REINFORCEMENT)

DESIGN SPECIFICATIONS

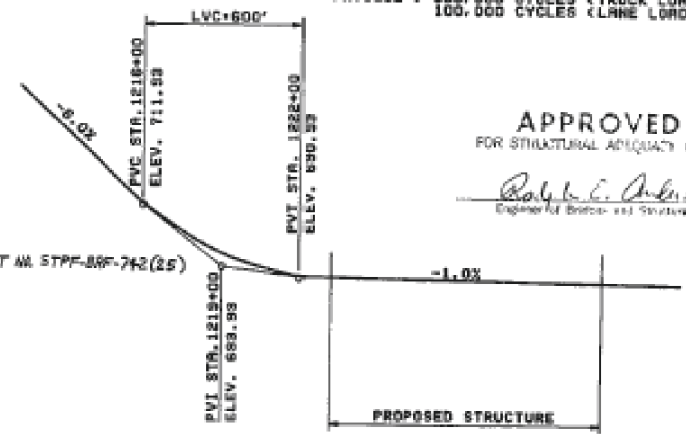
1989 AASHTO, 1990 & 1991 INTERIM SPECIFICATIONS
 LOADINGS: HS 20-44 ALLOW 25 LB/SQ. FT. FOR FUTURE WEARING SURFACE
 DESIGN FORCES FOR SEISMIC PERFORMANCE CATEGORY - A
 FATIGUE: 500,000 CYCLES (TRUCK LOADING)
 100,000 CYCLES (LANE LOADING)

STATION 1228+06
 BUILT 199. BY
 STATE OF ILLINOIS
 F.A. RT. 742, SEC. 398B-1
 LOADING: HS20
 STR. NO. 052-0063

NAME PLATE
 (SEE STANDARD 2119)

WATERWAY INFORMATION

FLOOD	FREQ. YR.	Q C.F.S.	OPENING SQ. FT.		NAT. H.W.E.	HEAD-FT.		HEADWATER EL.	
			EXIST.	PROP.		EXIST.	PROP.	EXIST.	PROP.
			LOW GRADE ELEV. +667.92 AT STA. 225+37.85 ALONG EXISTING IL. RTE. 2						
DESIGN	50	54,000	13,220	13,640	661.15	0.01	0.01	661.16	661.17
BASE	100	58,200	13,920	14,370	661.80	0.02	0.01	661.92	661.92
OVERTOPPING	500+		15,940	15,850					
MAX. CALC.	500	70,800			669.41	0.02	0.01	669.43	669.43



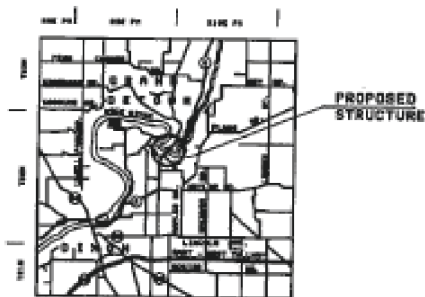
PROFILE GRADE
 F.A. RTE. 742 (IL. RTE. 2)
 (ALONG & ROADWAY)



Vishal R. Patel
 REGISTERED STRUCTURAL ENGINEER
 EXPIRES 11/30/24

APPROVED
 FOR STRUCTURAL ADJUSTMENT ONLY

Robert L. Johnson
 Engineer of Bridges and Structures



LOCATION PLAN

NOTES:

- FOR GENERAL NOTES, INDEX OF DRAWINGS, TOTAL BILL OF MATERIAL AND STONE RIPRAP DETAILS SEE DWG. NO. GD-02.
- FOR BORING LOGS SEE DWG. NOS. GD-03, GD-04 & GD-05.
- FOR REMOVAL AND REPLACEMENT OF UNSUITABLE SOIL AT NORTH ABUTMENT SEE ROADWAY DRAWINGS.
- SEAL COAT CONCRETE IS DESIGNED FOR WATER ELEVATION (661.17 + 652)/2 = 656.5. CONTRACTOR SHALL CHECK THE SEAL COAT CONCRETE THICKNESS IN ACCORDANCE WITH ARTICLE 502.07 OF THE CONSTRUCTION MANUAL.

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 BRIDGE PLANS
 GENERAL PLAN & ELEVATION
 GRAND DETOUR BRIDGE
 OVER ROCK RIVER
 F.A. RTE. 742 SECTION 398B-1
 STA. 1228+98 LEE & OGLE COUNTIES
 STRUCTURE NUMBER 052-0063

STEINMARK BOYNTON INC.
 CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO. GD-01	SCALE N.T.S.	DATE 4-19-93	SHEET NO. 25
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CHECKED BY: KRP
 DRAFTED BY: SBR
 ESTIMATED BY: UG
 CHECKED BY: KRP
 DESIGNED BY: KRP
 IN CHARGE: PCU

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

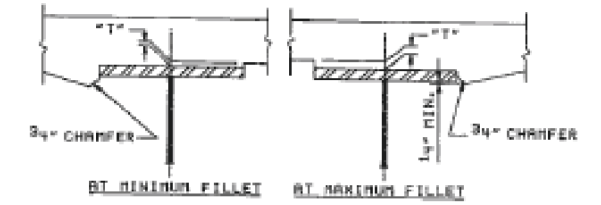
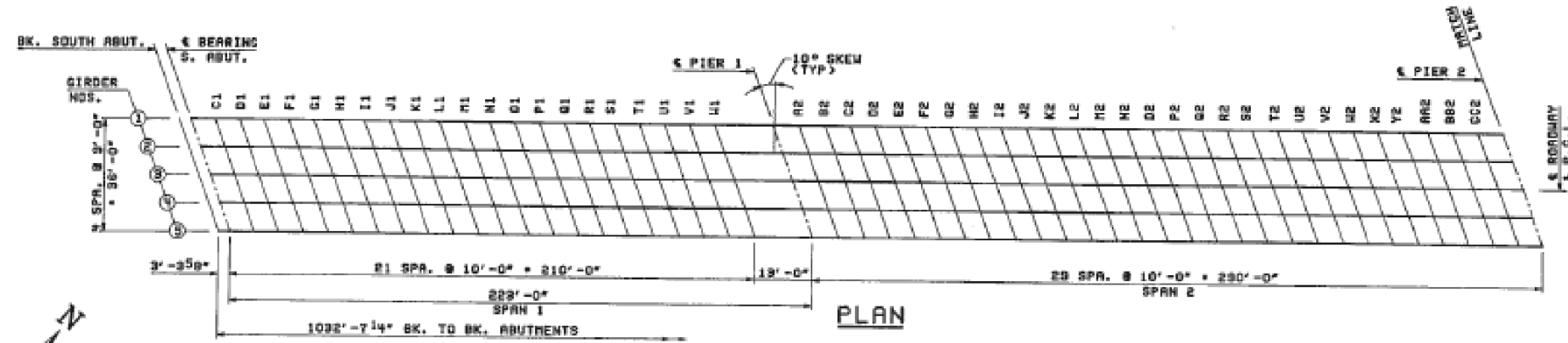
EXISTING BRIDGE PLANS
 SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	9
CONTRACT NO. 64J52				
ILLINOIS				

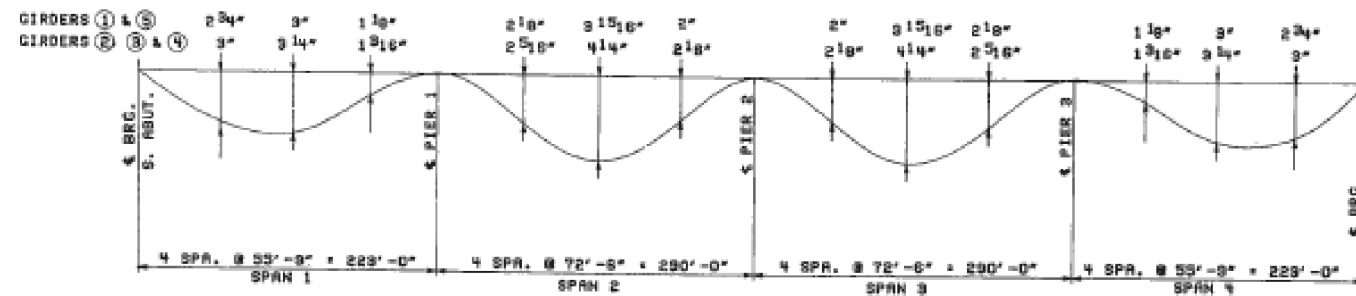
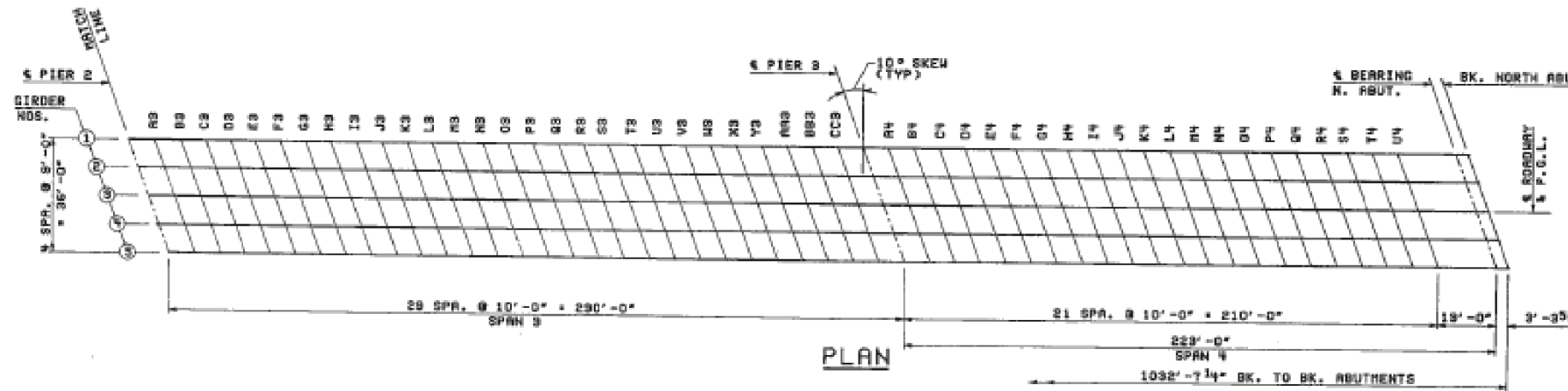
FOR INFORMATION ONLY

SHEET NO. 4 OF 30

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	39RB-1	LEE & OGLE	86	28
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
STPFF-BRF-742 (28)				



TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT INTERVALS SHOWN, THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" SHOWN, MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGES OF GIRDERS.



THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS AS SHOWN ON DWG. NO. GD-07 AND GD-08.

NOTE:
1. WORK THIS DWG. WITH DWG. NOS. GD-07 & GD-08.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
TOP OF SLAB ELEVATIONS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 39RB-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-06	SCALE N.T.S.	DATE 4-19-93
		SHEET NO. 28

DESIGNED BY: KMP CHECKED BY: KMP
DRAWN BY: SBR CHECKED BY: SBR
ESTIMATED BY: RJR CHECKED BY: RJR

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

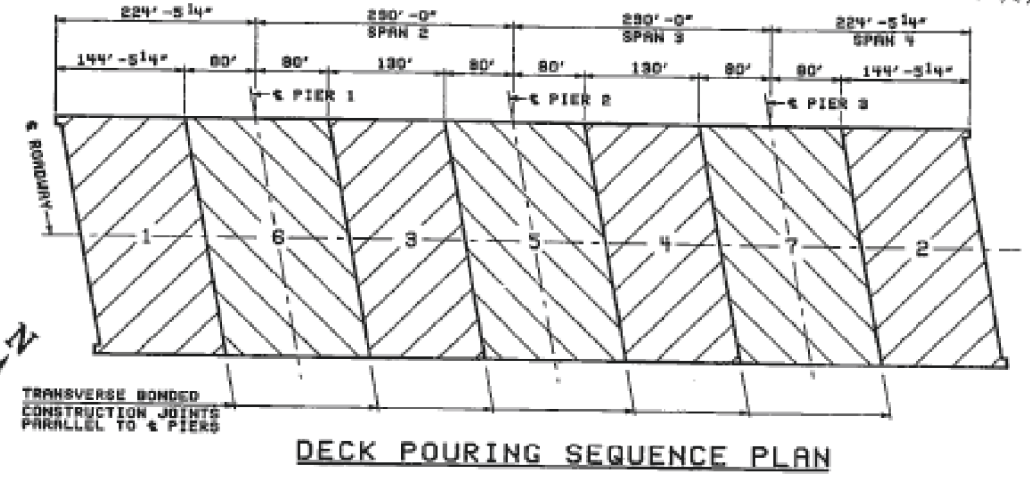
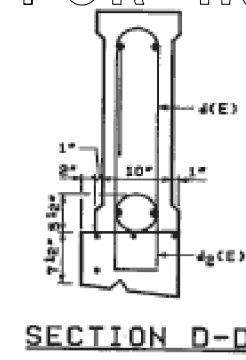
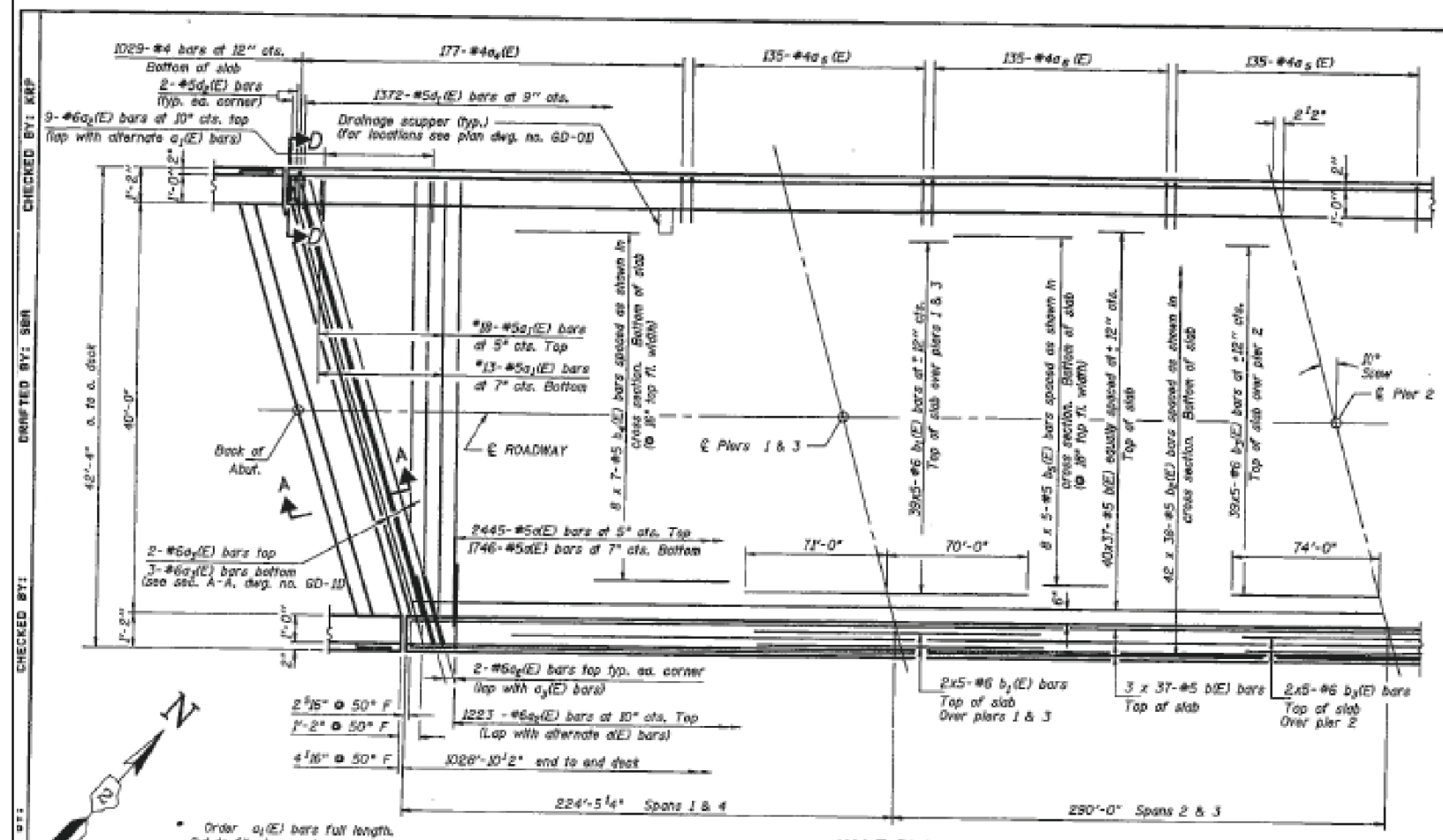
**EXISTING BRIDGE PLANS
SN: 052-0063**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2	D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	10
				CONTRACT NO. 64J52
ILLINOIS				

FOR INFORMATION ONLY

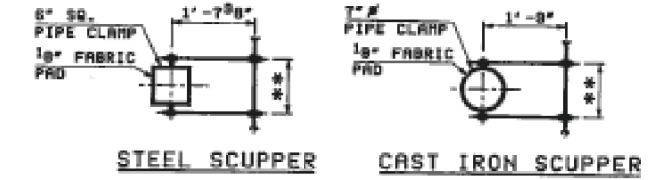
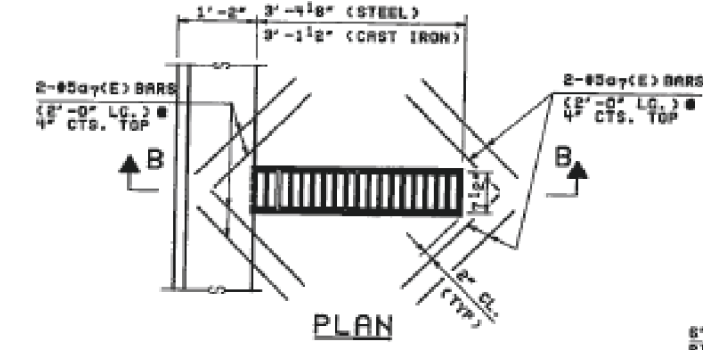
SHEET NO. 7 OF 30

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. RTE. 208B-1	LEE & OGLE		86	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
STP-BAF-742(2B)				



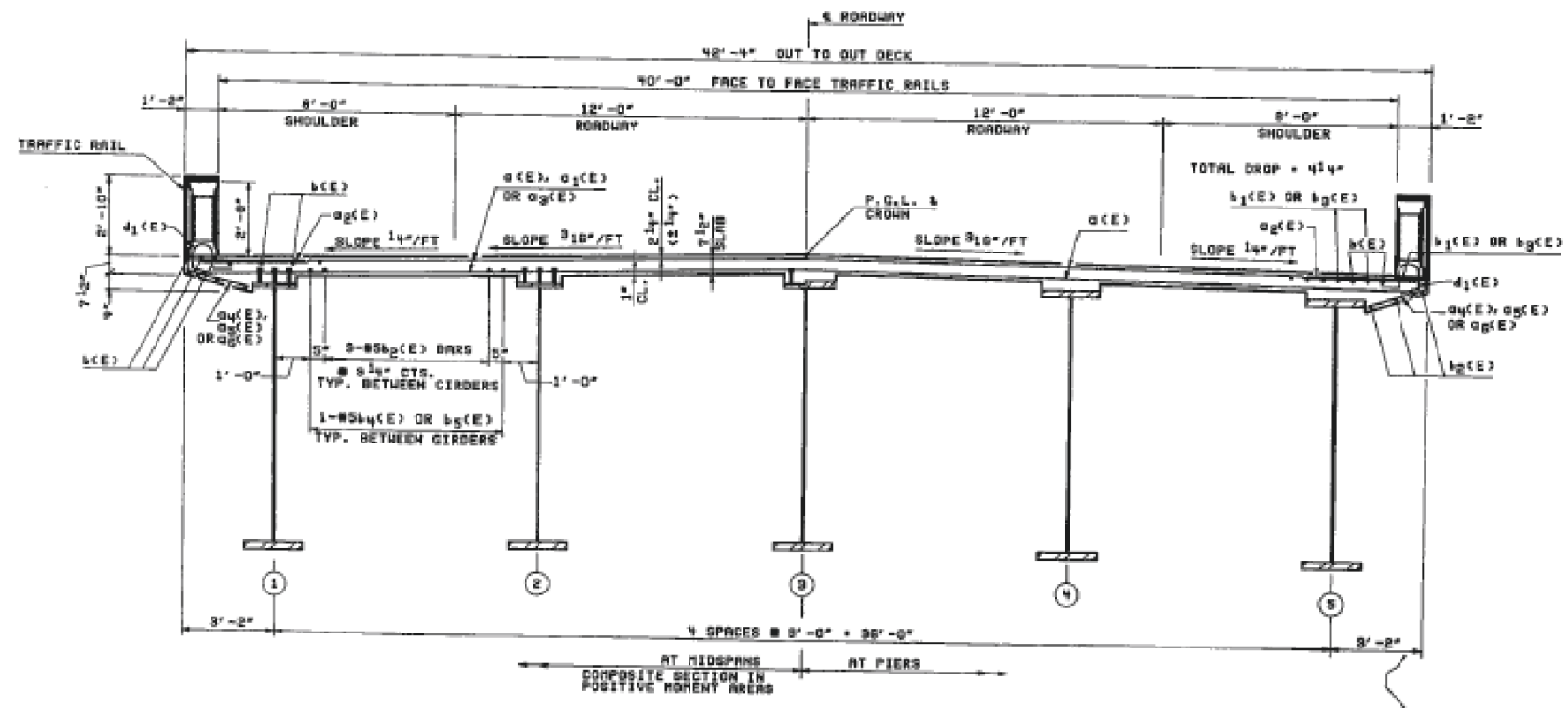
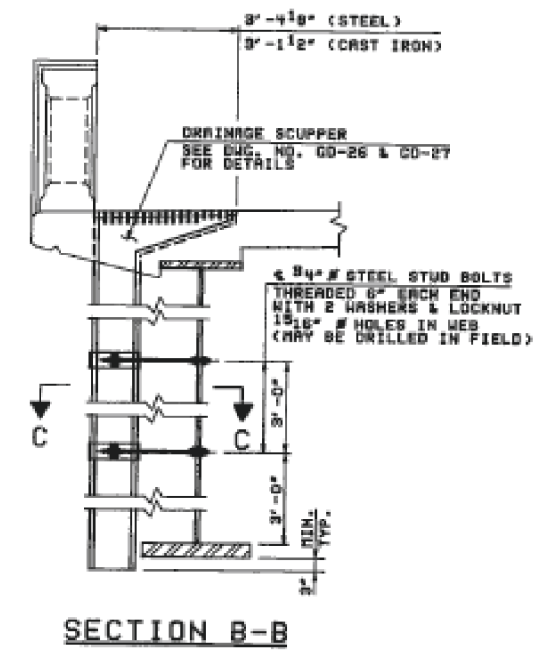
NOTES: (DECK POURING)

- POURING SEQUENCES SHALL BE AS SHOWN ABOVE. SEQUENCES 1 & 2 AND 3 & 4 MAY BE CAST SIMULTANEOUSLY.
- WHEN THE DECK POUR IS STOPPED FOR THE DAY AT ONE OR MORE OF THE TRANSVERSE BONDED CONSTRUCTION JOINTS IN THE DECK POURING SEQUENCE AS SHOWN, THE NEXT POUR SHALL NOT BE MADE UNTIL BOTH OF THE FOLLOWING REQUIREMENTS ARE MET:
 - AT LEAST 72 HOURS SHALL HAVE LAPSED FROM THE END OF THE PREVIOUS POUR.
 - THE CONCRETE STRENGTH SHALL HAVE ATTAINED A MINIMUM MODULUS OF RUPTURE OF 850 P.S.I. OR A MINIMUM COMPRESSIVE STRENGTH OF 3500 P.S.I.



NOTES:

- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
 - BARS INDICATED THUS a_1a_2 OR b_1b_2 ETC. INDICATES NO LINES OF BARS WITH 3 LENGTHS PER LINE.
 - FOR TRAFFIC RAIL DETAILS AND BILL OF MATERIAL SEE DNG. NO. GD-10.
 - FOR SECTION A-A & FINGER PLATE EXPANSION JT. DETAILS SEE DNG. NO. GD-11.
 - SCUPPERS SHALL BE LOCATED CLEAR OF ALL CROSS FRAMES AND SHEAR STUDS.
- MIN. BAR LAP
 #5 BAR = 2'-2"
 #6 BAR = 2'-7"



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DETAILS

GRAND DETOUR BRIDGE
OVER ROCK RIVER
F.A. RTE. 742 SECTION 398B-1
STA. 1228+96 LEE & OGLE COUNTIES
STRUCTURE NUMBER 052-0063

STEINMAN BOYNTON INC.
CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO.	SCALE	DATE	SHEET NO.
GD-09	N. T. S.	4-19-93	31

REVISION	DATE	DESCRIPTION

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

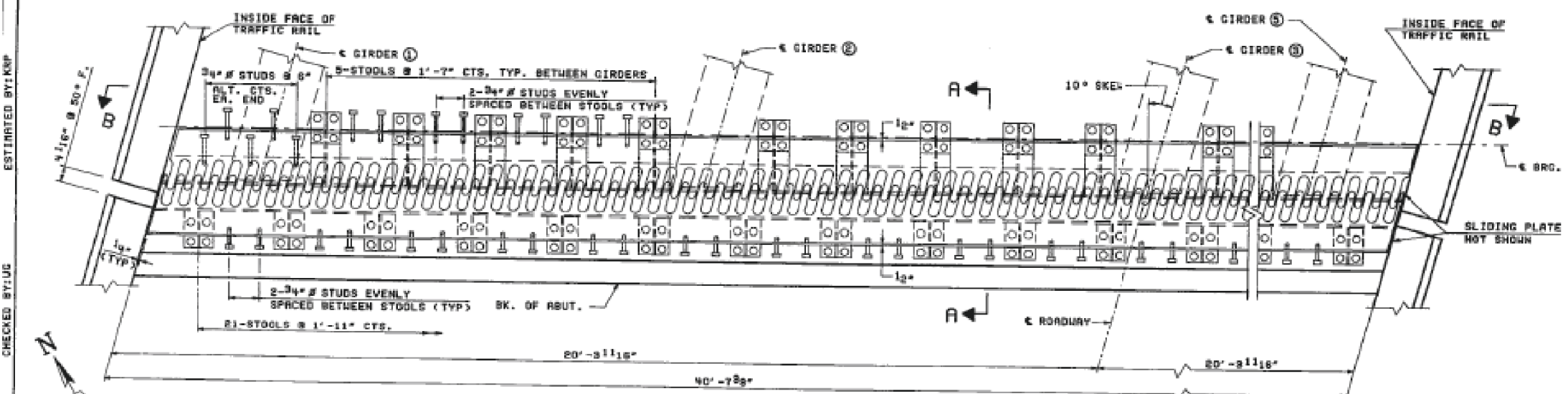
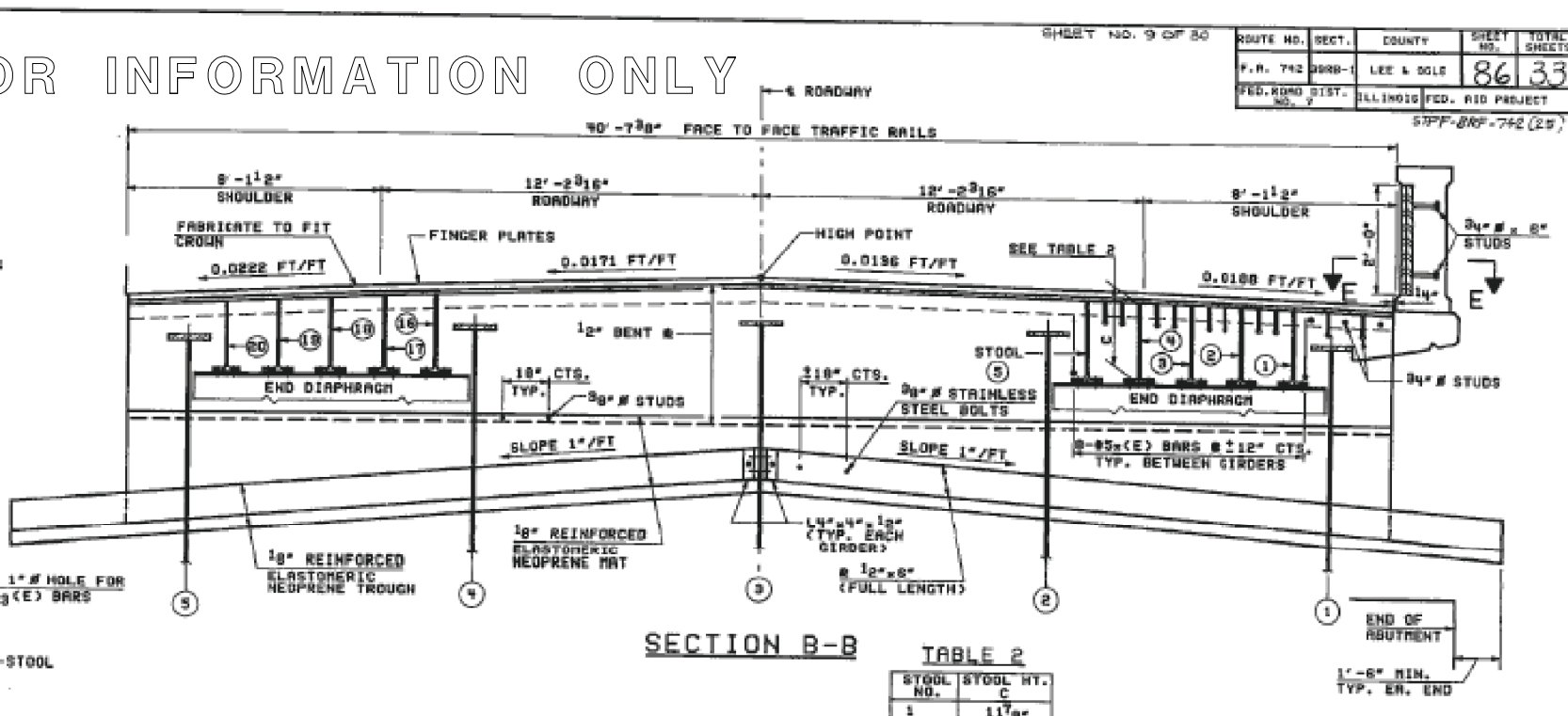
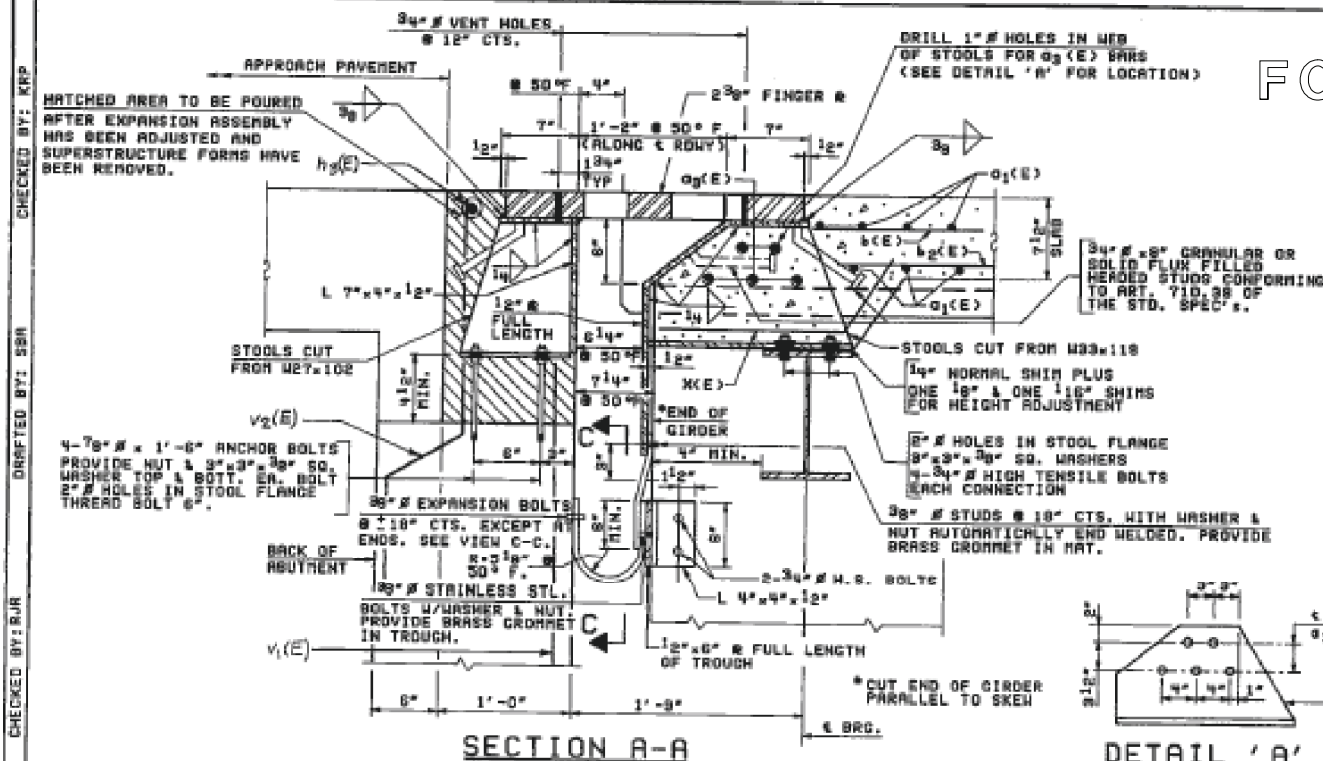
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE		25	11
CONTRACT NO. 64J52				
ILLINOIS				

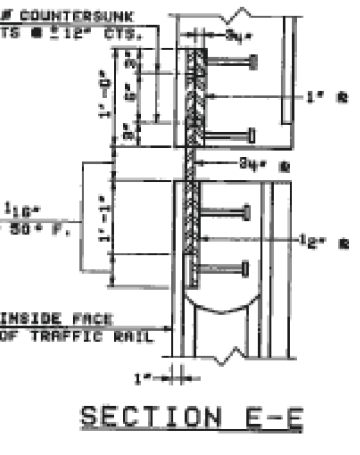
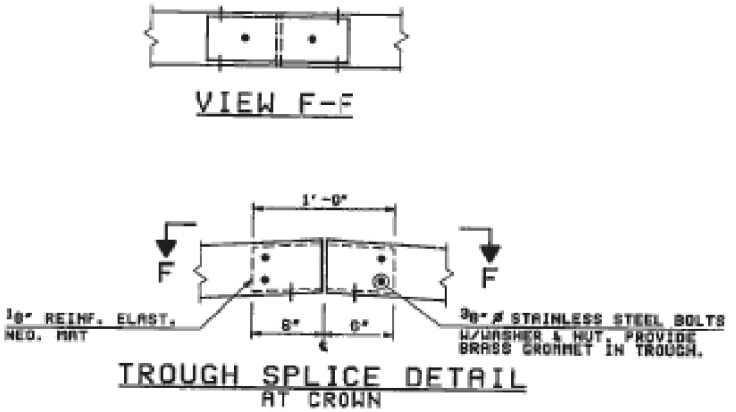
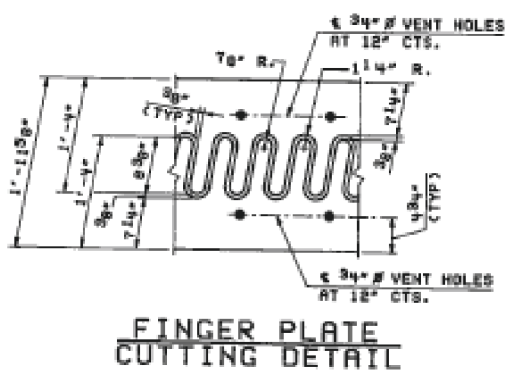
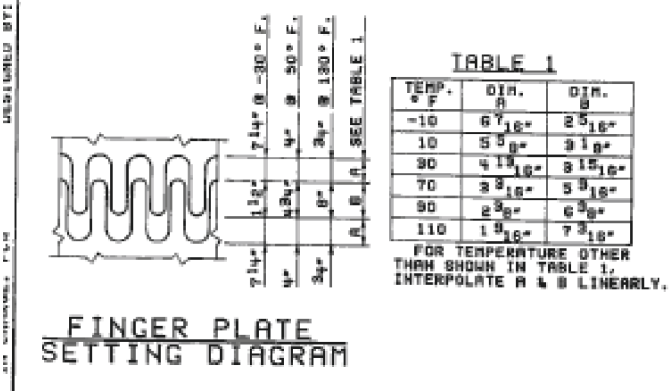
FOR INFORMATION ONLY

SHEET NO. 9 OF 30		ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
		F.A. 742	398B-1	LEE & OGLE	86	33
		FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT		SPPF-88F-742 (25)	



BILL OF MATERIAL

ITEM	UNIT	LEE COUNTY	OGLE COUNTY	TOTAL
REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN FT	46	46	92



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
FINGER PLATE EXP. JT.
DETAILS @ ABUTMENTS

GRAND DETOUR BRIDGE
OVER ROCK RIVER
F.A. RTE. 742 SECTION 398B-1
STA. 1228+96 LEE & OGLE COUNTIES
STRUCTURE NUMBER 052-0063

STEINBACH BOYNTON INC.
CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO. GD-11	SCALE N.T.S.	DATE 4-19-93	SHEET NO. 33
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DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

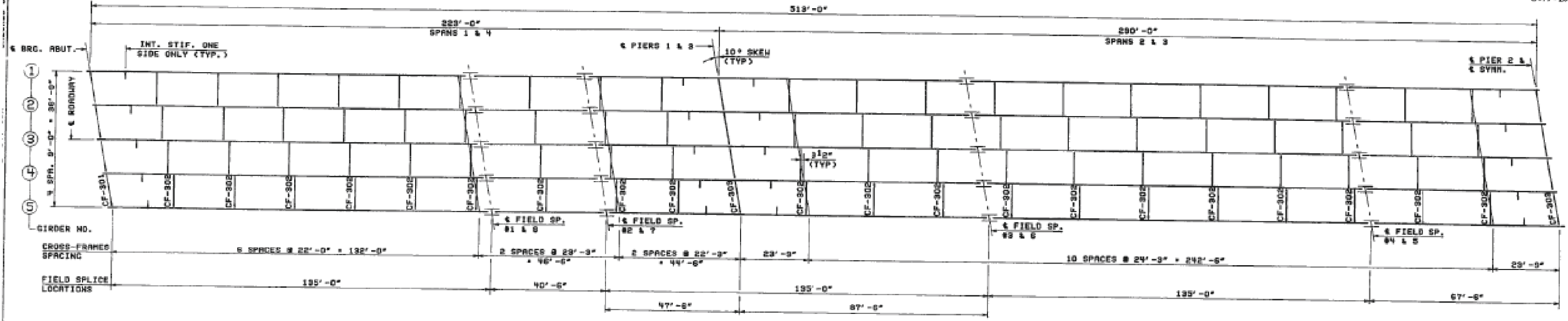
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	12	CONTRACT NO. 64J52

FOR INFORMATION ONLY

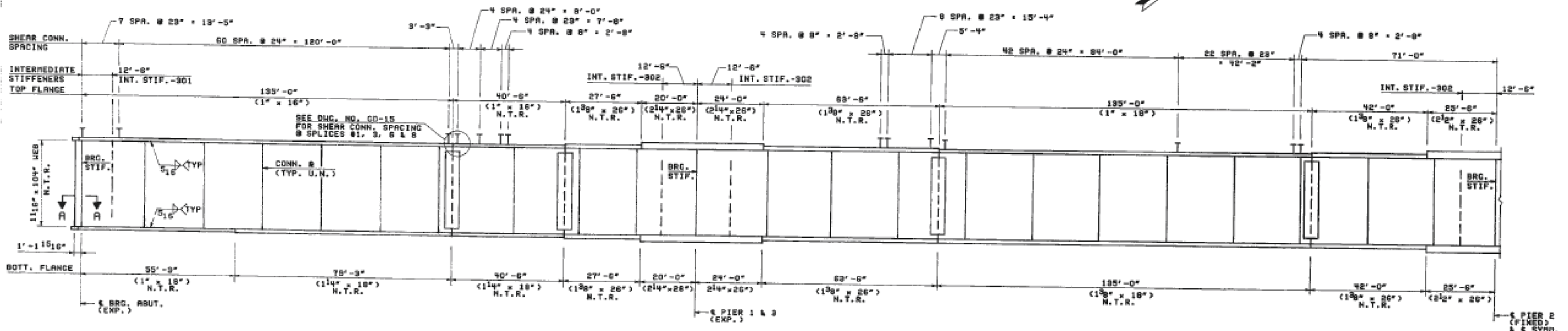
SHEET NO. 10 OF 50

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	398B-1	LEE & OGLE	86	34
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

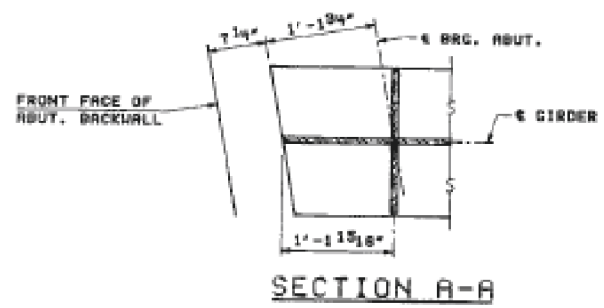
STP-BRF-742(15)



HALF FRAMING PLAN



HALF ELEVATION



SECTION A-A

NOTES:

1. FOR GENERAL NOTES SEE DWG. NO. GD-02.
2. ALL DIMENSIONS ARE GIVEN HORIZONTALLY & VERTICALLY AND SHALL BE ADJUSTED FOR VERTICAL PROFILE, CROSS SLOPES & CAMBERS.
3. ALL STRUCTURAL STEEL FOR FLANGES & WEBS OF MAIN GIRDERS, BEARING STIFFENERS & INTERMEDIATE STIFFENERS SHALL BE AASHTO A570 (GRADE 50).
4. N.T.R. DESIGNATES MEMBERS SUBJECT TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS (ZONE 2).
5. FOR ADDITIONAL DETAILS SEE DWG. NOS. GD-13 THRU GD-17.

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
**GIRDER FRAMING PLAN
& ELEVATION**
GRAND DETOUR BRIDGE
OVER ROCK RIVER
F.A. RTE. 742 SECTION 398B-1
STA. 1228+96 LEE & OGLE COUNTIES
STRUCTURE NUMBER 052-0063
STEINMAN BOYNTON INC.
CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO.	SCALE	DATE	SHEET NO.
GD-12	N.T.S.	4-19-93	34

DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS SN: 052-0063	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -	REVISED -			IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	13	
CHECKED -	REVISED -			CONTRACT NO. 64J52				
DATE -	REVISED -			ILLINOIS				

FOR INFORMATION ONLY

SHEET NO. 11 OF 30

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	398B-1	LEE & OGLE	86	35
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

STP-DRF-742(25)

MOMENT TABLE

(COMPOSITE IN POSITIVE MOMENT AREA ONLY)

	INTERIOR GIRDER MOMENT TABLE			
	0.4 SP. 1	PIERS	0.5 SP. 2 & 3	PIER 2
I_x (IN ⁴)	183785	994700	181840	438138
I_x (IN ⁴) π -8	330024		344408	
I_x (IN ⁴) π -RT	242887		255225	
S_x (IN ³)	3987	7275	3610	7547
S_x (IN ³) π -8	4436		4656	
S_x (IN ³) π -2Y	3969		4187	
DL (K/FT)	1.355	1.738	1.417	1.787
M DL (FT-K)	3928	12830	4018	14010
SOL (K/FT)	0.950		0.950	
M SOL (FT-K)	1118		1143	
M LL (FT-K)	3272	4859	4152	5957
M IMP (FT-K)	485	610	501	848
5/8 (M LL+I) (FT-K)	6428	8772	7755	10005
M_x (FT-K)	14817	28089	18788	31220
f_x DL NON-COMP (KSI)	13.8	21.2	13.3	21.2
f_x DL COMP (KSI)	3.4		3.3	
f_x 5/8 (LL+I) (KSI)	17.4	14.5	20.0	15.1
f_x OVERLOAD (KSI)	34.7	35.7	36.6	36.3
f_x TOTAL (KSI)	48.1	46.4	47.6	47.2
VR (K)	95.1		101.8	

INTERIOR GIRDER REACTION TABLE			
	S. ABUT. & N. ABUT.	PIERS 1 & 3	PIER 2
R DL (K)	182.7	500.0	520.7
R LL (K)	79.2	191.4	204.9
R IMP. (K)	11.2	25.1	24.7
R TOTAL (K)	273.1	716.5	750.3

- (1) M_x (APPLIED MOMENT) = $1.3[M DL + M SOL + 5/8 (M LL+I)]$
 (2) NON-COMPACT SECTION

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_x (TOTAL AND OVERLOAD).

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

VR IS THE MAXIMUM LL + IMPACT SHEAR RANGE IN SPAN.
 f_x (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3[M DL + M SOL + 5/8 (M LL+I)]$

f_x (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M DL + M SOL + 5/8 (M LL + I)$

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

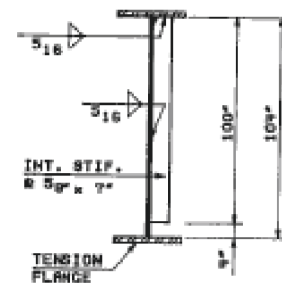
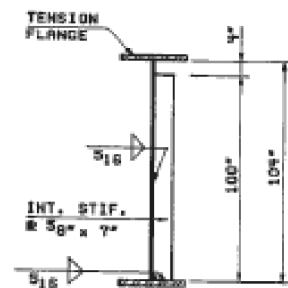
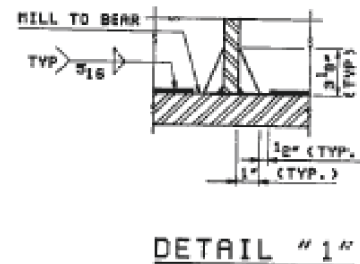
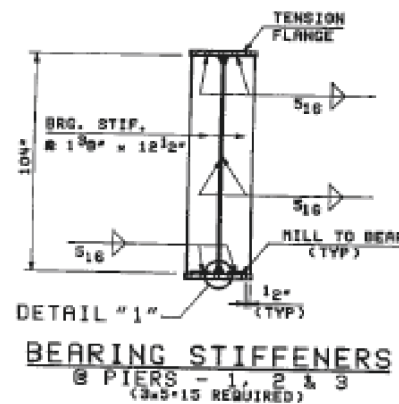
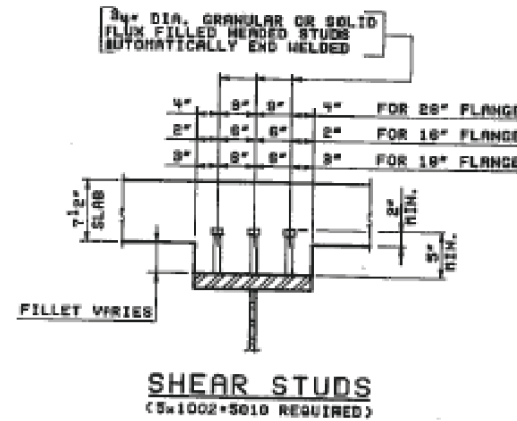
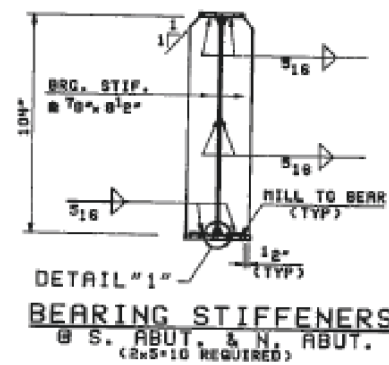
M SOL - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

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

I - LIVE LOAD IMPACT

NOTES:

1. FOR GENERAL NOTES SEE DWG. NO. GD-02.
2. CLIP ALL STIFFENER PLATES 1" HORIZONTALLY AND 3/4" VERTICALLY AT WEB TO FLANGE CONNECTION OF ALL MAIN GIRDERS.



INTERMEDIATE STIFFENER
INT. STIF. - 302
(2x5x90 REQUIRED)

INTERMEDIATE STIFFENER
INT. STIF. - 301
(2x5x10 REQUIRED)

FLANGE @ THICKNESS TRANSITION

REVISION	DATE	DESCRIPTION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS

GRAND DETOUR BRIDGE
OVER ROCK RIVER
F.A. RTE. 742 SECTION 398B-1
STA. 1228+96 LEE & OGLE COUNTIES
STRUCTURE NUMBER 052-0063

STEINMANN BOYNTON INC.
CONSULTING ENGINEERS - CHICAGO, ILLINOIS

DRAWING NO. GD-13	SCALE N.T.S.	DATE 7-17-93	SHEET NO. 35
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DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	14

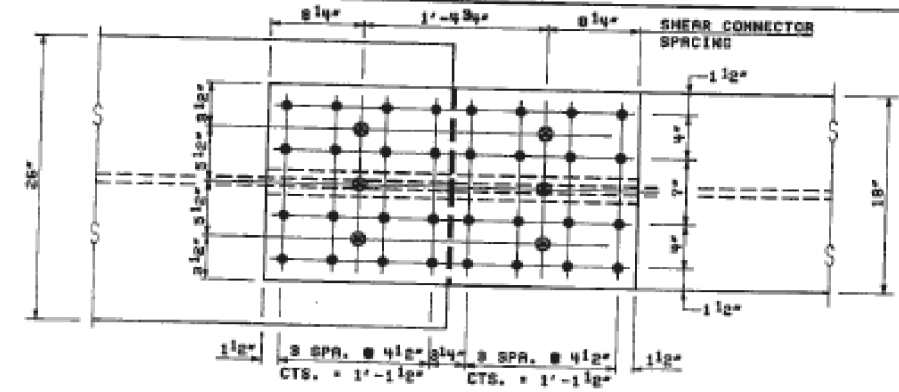
CONTRACT NO. 64J52

ILLINOIS

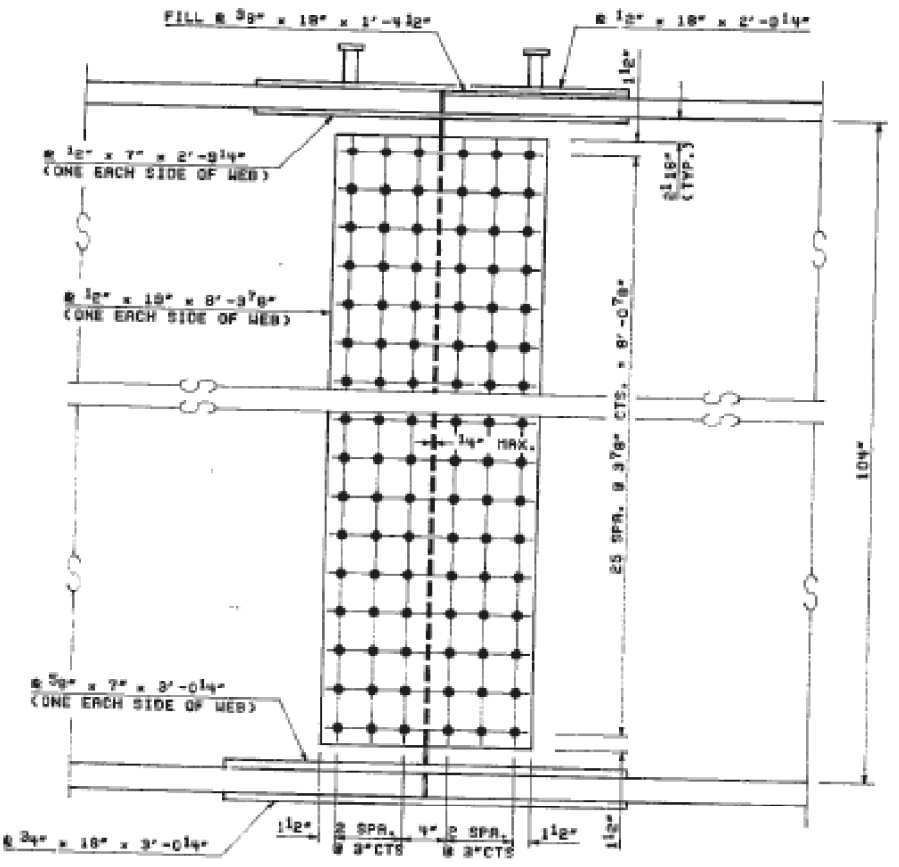
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	398B-1	LEE & OGLE	86	37
FED. ROAD DIST. NO. 2			ILLINOIS FED. AID PROJECT	
STP-DRF-742(13)				

CHECKED BY: KRP

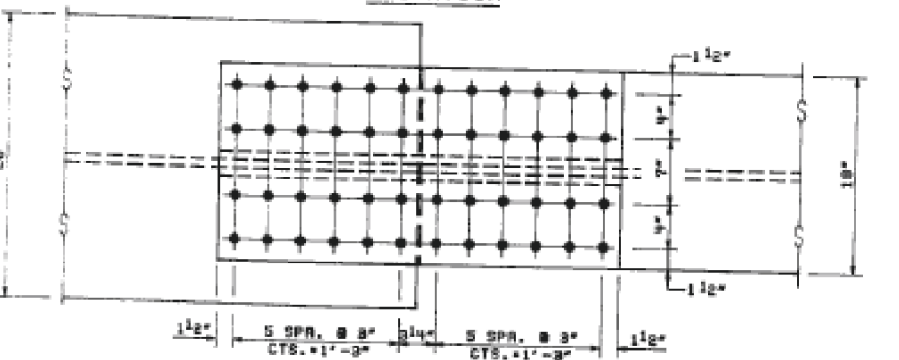
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TOP PLAN

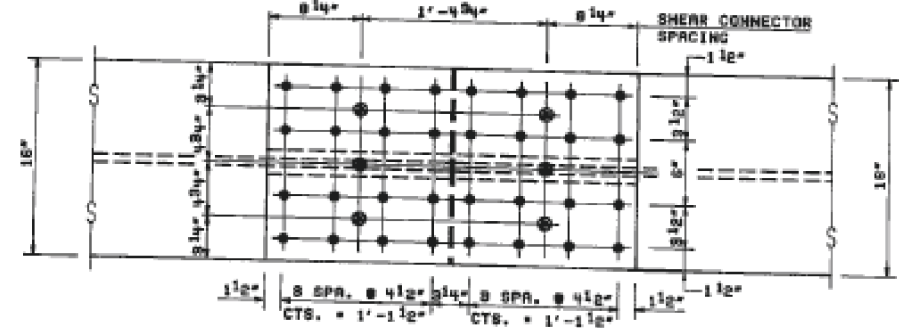


ELEVATION

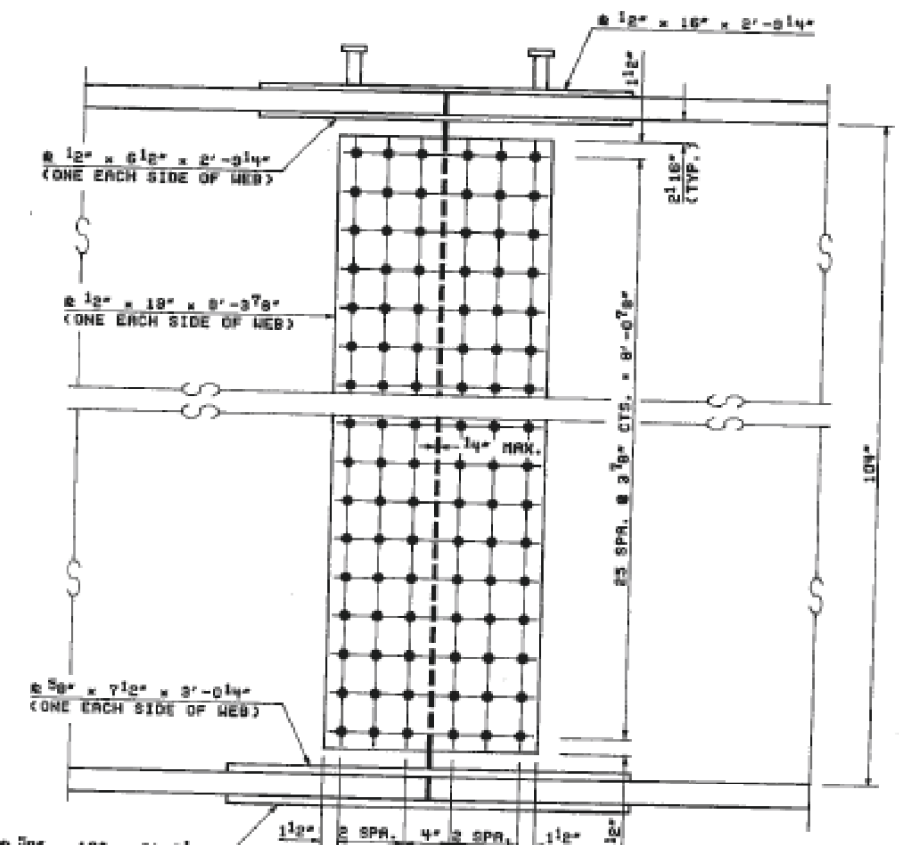


BOTTOM PLAN

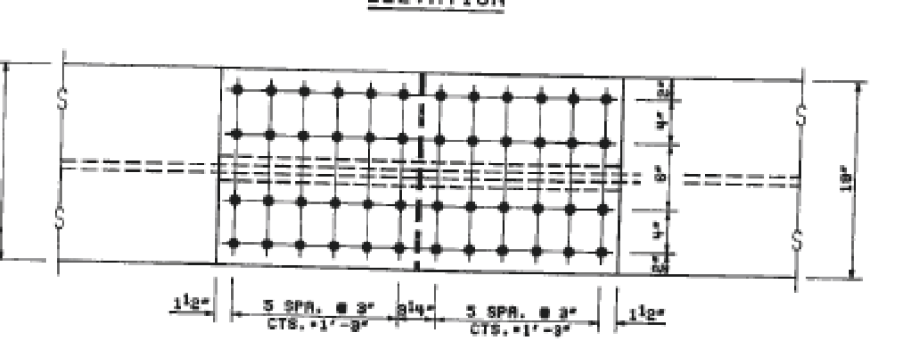
FIELD SPLICES #3 & #6



TOP PLAN

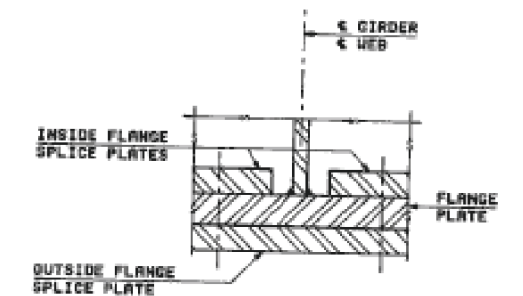


ELEVATION



BOTTOM PLAN

FIELD SPLICES #1 & #8



TYPICAL SPLICE SECTION

- NOTES:**
1. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 7/8" DIA., OPEN HOLES 1 1/8" DIA.
 2. ALL SPLICE PLATES SHALL BE A572M20, GRADE 50 AND SHALL CONFORM, EXCEPT FILLER PLATES, TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2.
 3. SHEAR CONNECTOR INDICATED BY ⊙ IN TOP PLAN.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
FIELD SPLICES & DETAILS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 398B-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-15	SCALE N.T.S.	DATE 4-19-93
		SHEET NO. 37

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

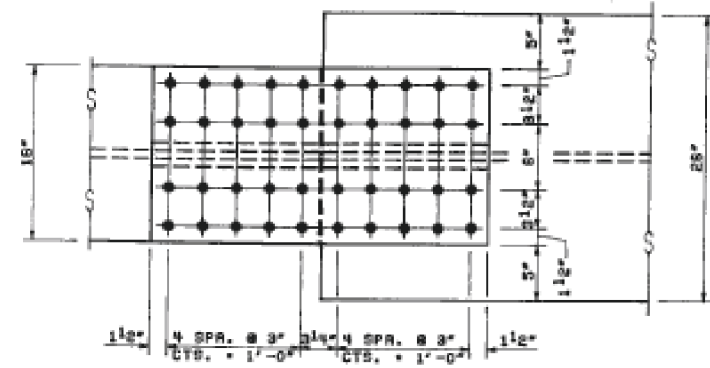
EXISTING BRIDGE PLANS
SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2	D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	15
				CONTRACT NO. 64J52
ILLINOIS				

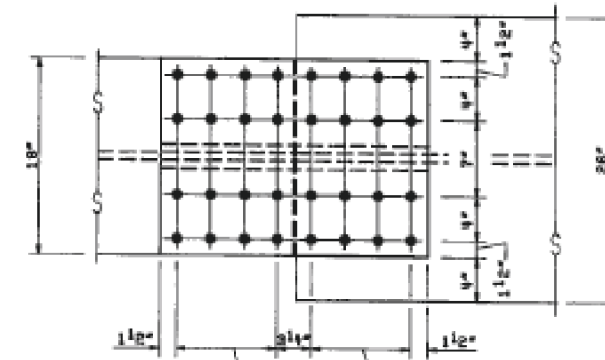
FOR INFORMATION ONLY

SHEET NO. 14 OF 30

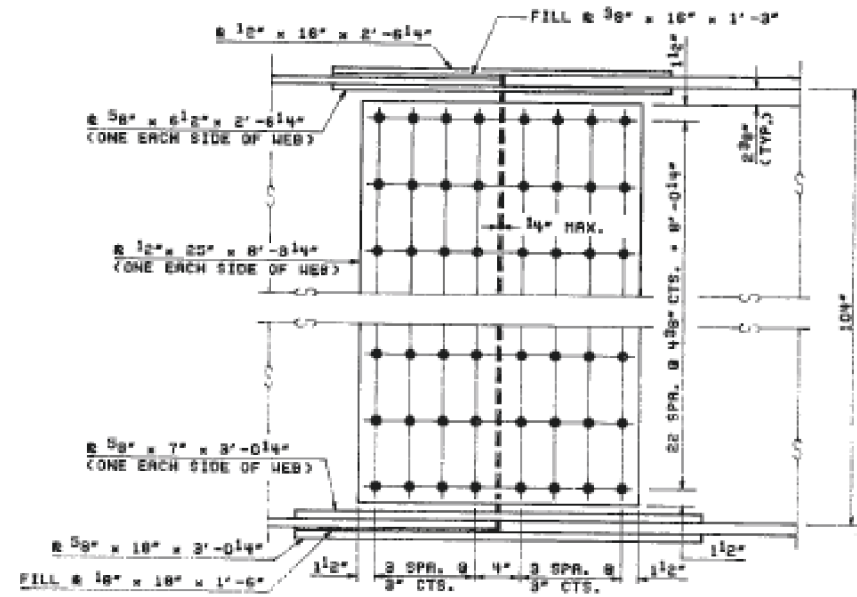
ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	39RB-1	LEE & OGLE	86	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. RD PROJECT	STPF-BRF-742(25)	



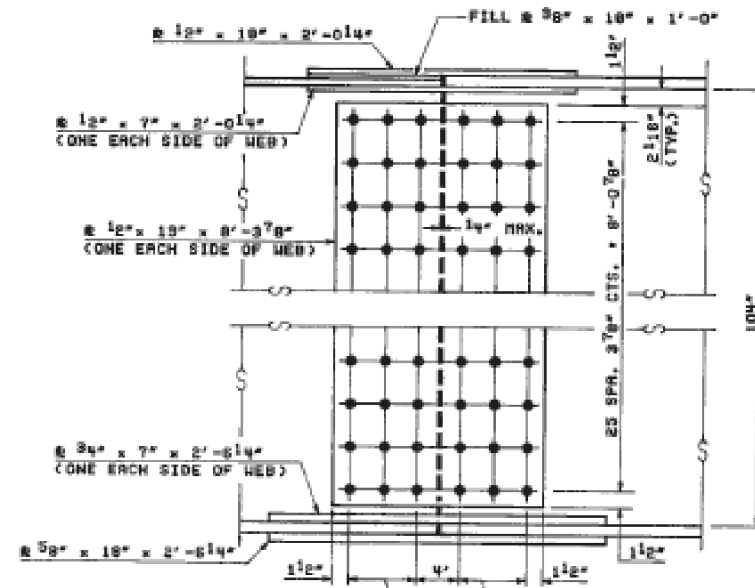
TOP PLAN



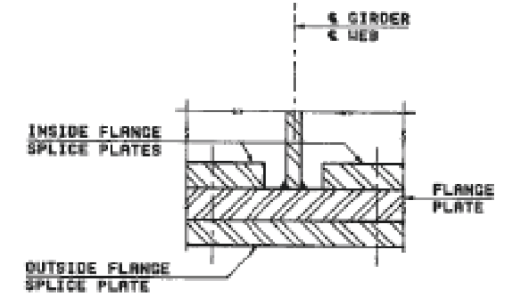
TOP PLAN



ELEVATION



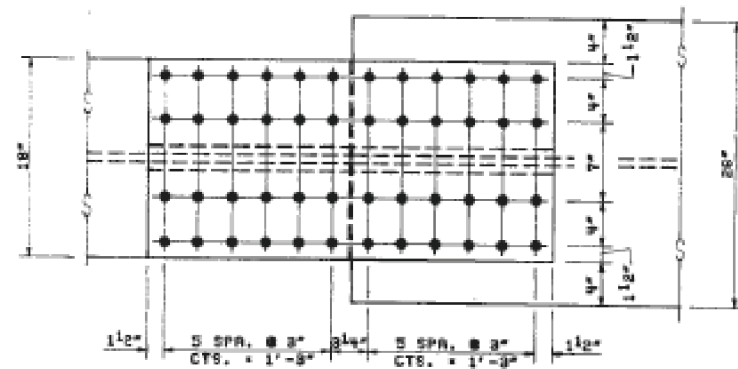
ELEVATION



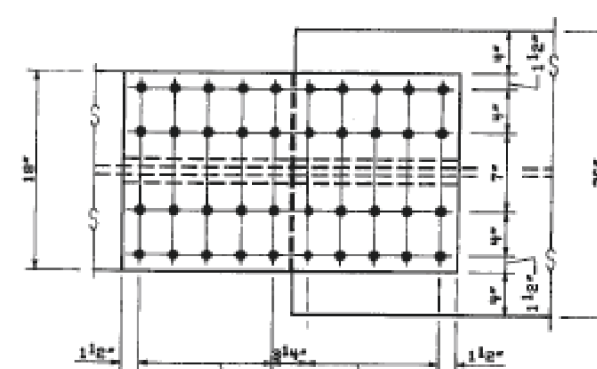
TYPICAL SPLICE SECTION

NOTES:

1. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 7/8" DIA., OPEN HOLES 1 1/16" DIA.
2. ALL SPLICE PLATES SHALL BE A5720 M570, GRADE 50 AND SHALL CONFORM, EXCEPT FILLER PLATES, TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2.



BOTTOM PLAN
FIELD SPLICES #2 & #7



BOTTOM PLAN
FIELD SPLICES #4 & #5

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
FIELD SPLICES & DETAILS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 39RB-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-16	SCALE N.T.S.	DATE 4-19-93
		SHEET NO. 38

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

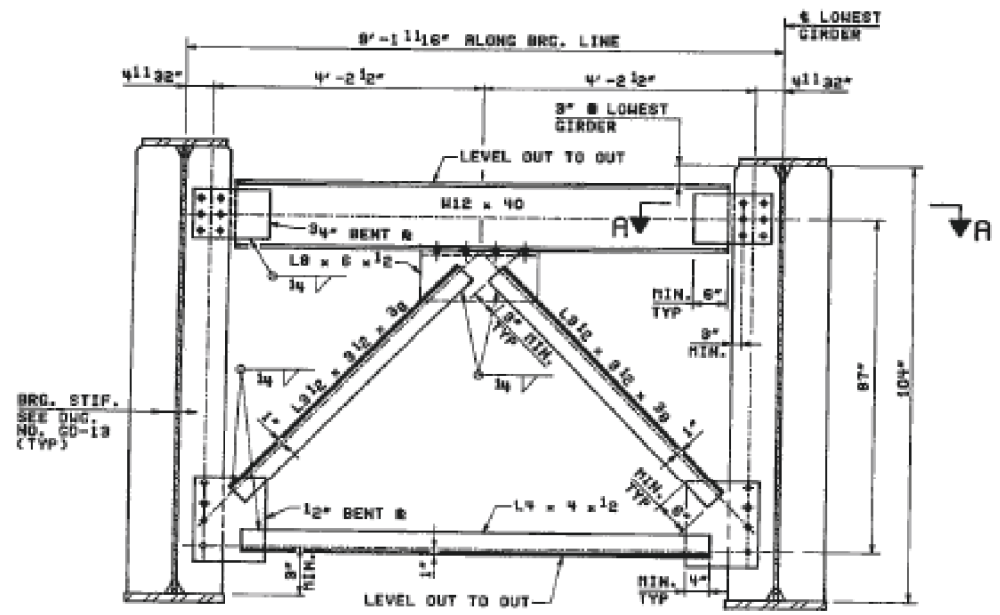
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

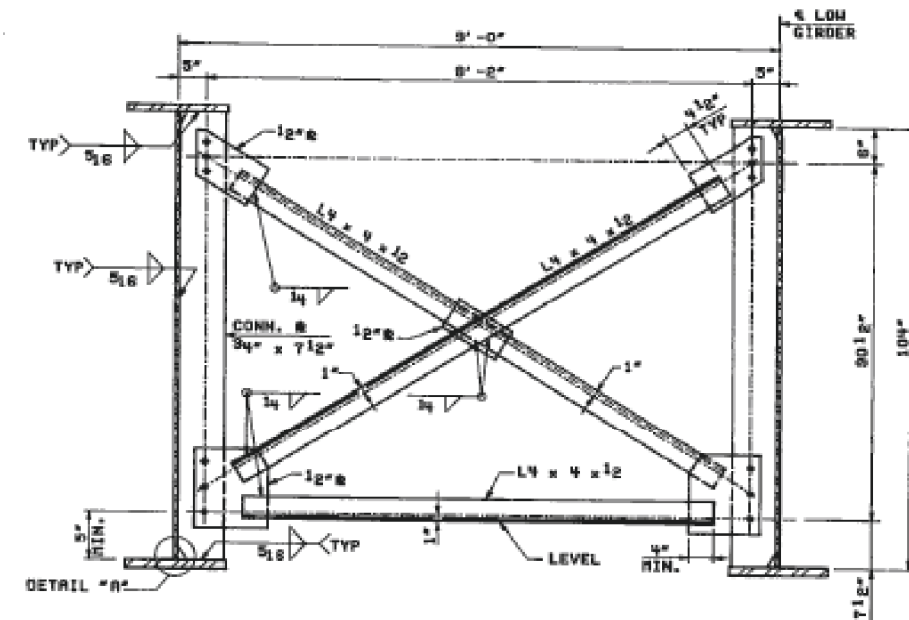
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	16
				CONTRACT NO. 64J52
ILLINOIS				

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. RTE. 398B-1	LEE & OGLE		86	39
FED. ROAD DIST. NO. 7	ELLENGER	FED. AID PROJECT		

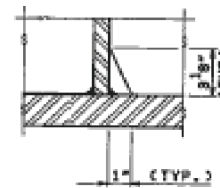
STP-DRF-742 (25)



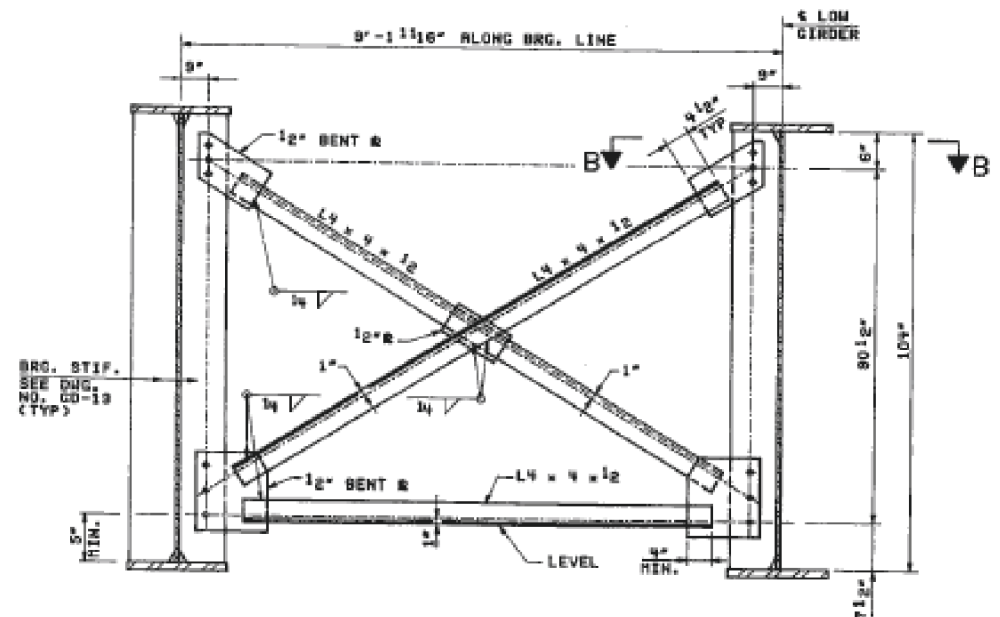
END CROSS FRAME CF - 301
@ S. ABUT. & N. ABUT.
(8 REQUIRED)



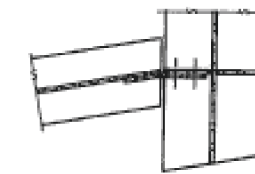
INT. CROSS FRAME CF - 302
(160 REQUIRED)



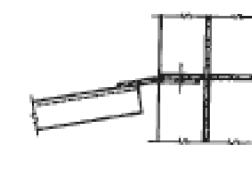
DETAIL "A"



INT. SUPPORT CROSS FRAME CF - 303
@ PIERS 1, 2 & 3
(12 REQUIRED)



SECTION A-A



SECTION B-B

NOTES:

1. PROVIDE 1 1/16" # HOLES FOR ALL 7/8" # BOLTS.
2. TWO HARDENED WASHERS SHALL BE REQUIRED OVER ALL OVERSIZE HOLES.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
CROSS FRAMES		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 398B-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-17	SCALE N.T.S.	DATE 4-19-93
		SHEET NO. 39

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

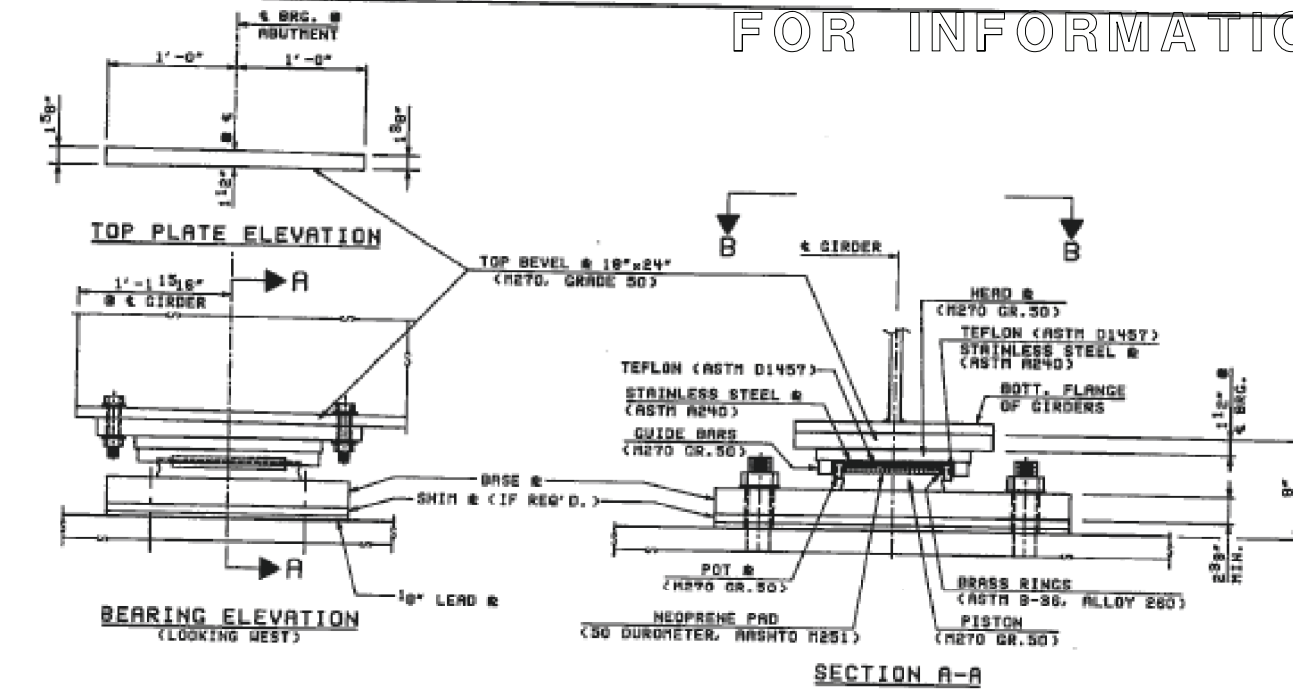
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 052-0063

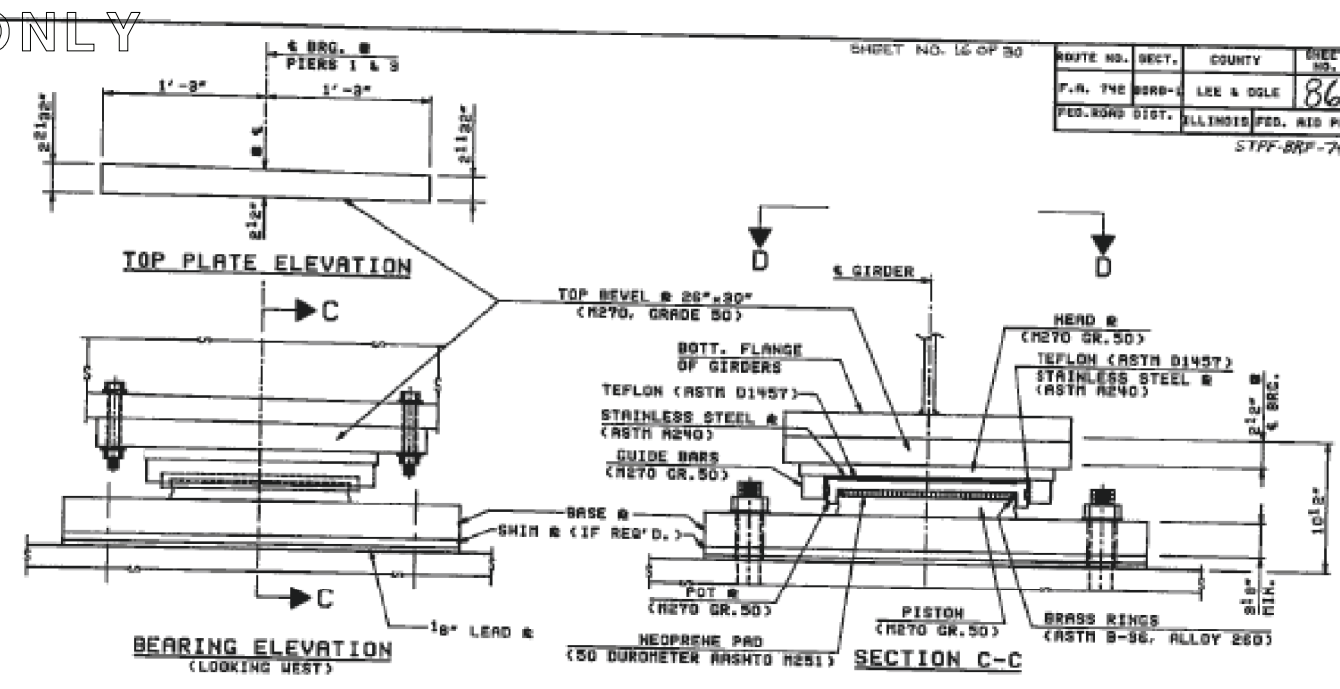
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	17
				CONTRACT NO. 64J52

ILLINOIS

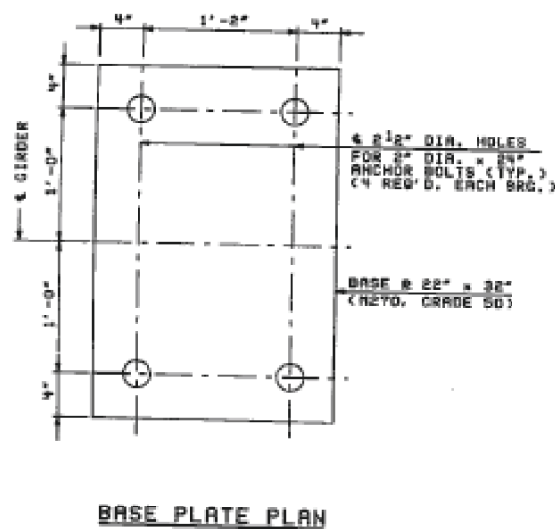
ROUTE NO. SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. RTE. 398B-1	LEE & OGLE	86	40
FED. ROAD DIST.	ILLINOIS FED. AID PROJECT		
STPF-BRF-742(25)			



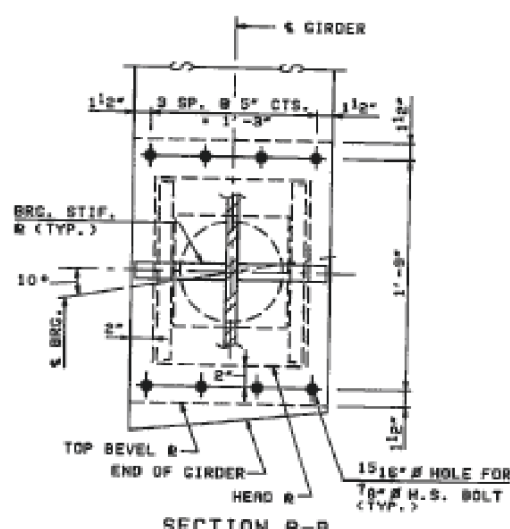
SECTION A-A



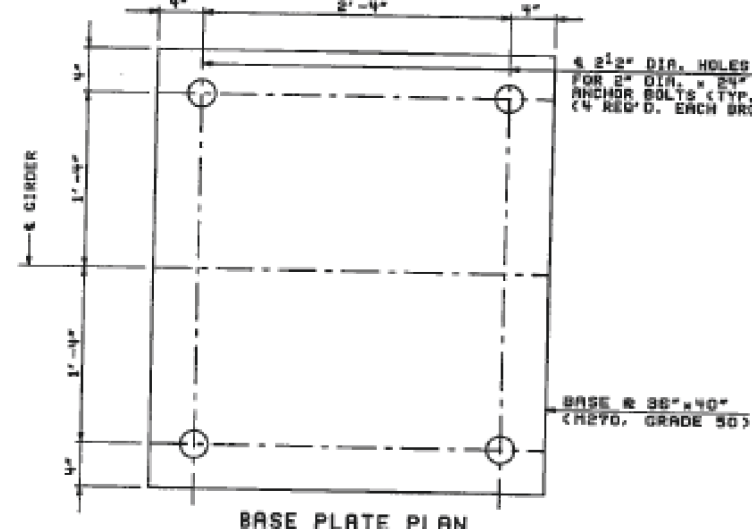
SECTION C-C



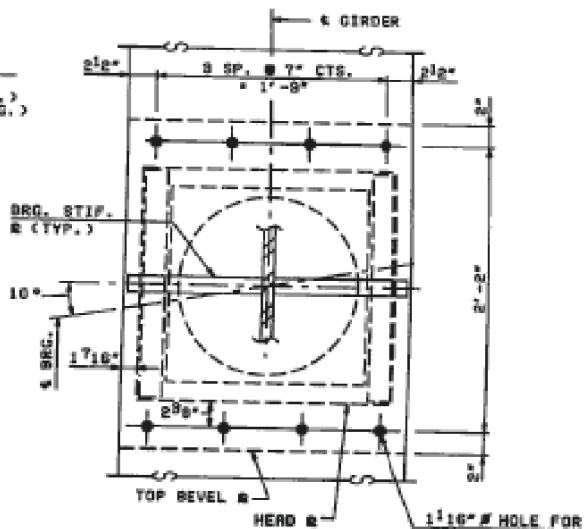
BASE PLATE PLAN



SECTION B-B



BASE PLATE PLAN



SECTION D-D

FLOATING BEARINGS - GUIDED EXPANSION @ ABUTMENTS

(FOR ALL GIRDERS - 2x5x10 REQUIRED)
(S. ABUTMENT SHOWN, SIMILAR AT N. ABUTMENT)

FLOATING BEARINGS - GUIDED EXPANSION @ PIERS 1 & 3

(FOR ALL GIRDERS - 2x5x10 REQUIRED)

BEARING DATA
N. ABUT. & S. ABUT.

MIN. DEAD LOADS	114 KIPS
MAX. DEAD LOADS	135 KIPS
LIVE LOAD + IMP	95 KIPS
TOTAL - MAXIMUM	230 KIPS

BEARING DATA
PIERS 1 & 3

MIN. DEAD LOADS	495 KIPS
MAX. DEAD LOADS	505 KIPS
LIVE LOAD + IMP	220 KIPS
TOTAL - MAXIMUM	725 KIPS

TRANSVERSE LOADS--(MAX.)

WIND	14 KIPS
OR EARTHQUAKE	27 KIPS

TRANSVERSE LOADS--(MAX.)

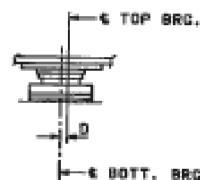
WIND	32 KIPS
OR EARTHQUAKE	101 KIPS

ROTATION

MOVEMENT--(LONGITUDINAL)	0.02 RADIAN
MOVEMENT--(TRANSVERSE)	0.25 INCHES

ROTATION

MOVEMENT--(LONGITUDINAL)	0.02 RADIAN
MOVEMENT--(TRANSVERSE)	0.25 INCHES



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.

NOTES:

- ALL DETAILED DESIGN COMPUTATIONS, DRAWINGS & INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
- SEE DWG. NO. CD-29 FOR ANCHOR BOLT DETAILS.
- CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIMENSIONS AS REQUIRED IN THE FIELD FOR THE ACTUAL BEARINGS USED (INCLUDING SEAT ELEVATIONS). DIMENSIONS TO BE ADJUSTED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF BEARINGS.
- BEARING DIMENSIONS SUCH AS DIAMETER OF BRASS RINGS, PISTON, POT PLATE, HEAD PLATE, GUIDE BARS, NEOPRENE PAD, TEFLON, STAINLESS STEEL PLATE ETC. SHALL BE AS PER MANUFACTURER FOR GIVEN BEARING DESIGN DATA.

BILL OF MATERIAL

ITEM	UNIT	LEE COUNTY	OGLE COUNTY	TOTAL
FLOATING BEARINGS, GUIDED EXPANSION (750 KIPS)	EACH	5	5	10
FLOATING BEARINGS, GUIDED EXPANSION (230 KIPS)	EACH	5	5	10

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
FLOATING BEARING DETAILS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 398B-1		
STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. CD-18	SCALE N.T.S.	DATE 4-19-92 SHEET NO. 18

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

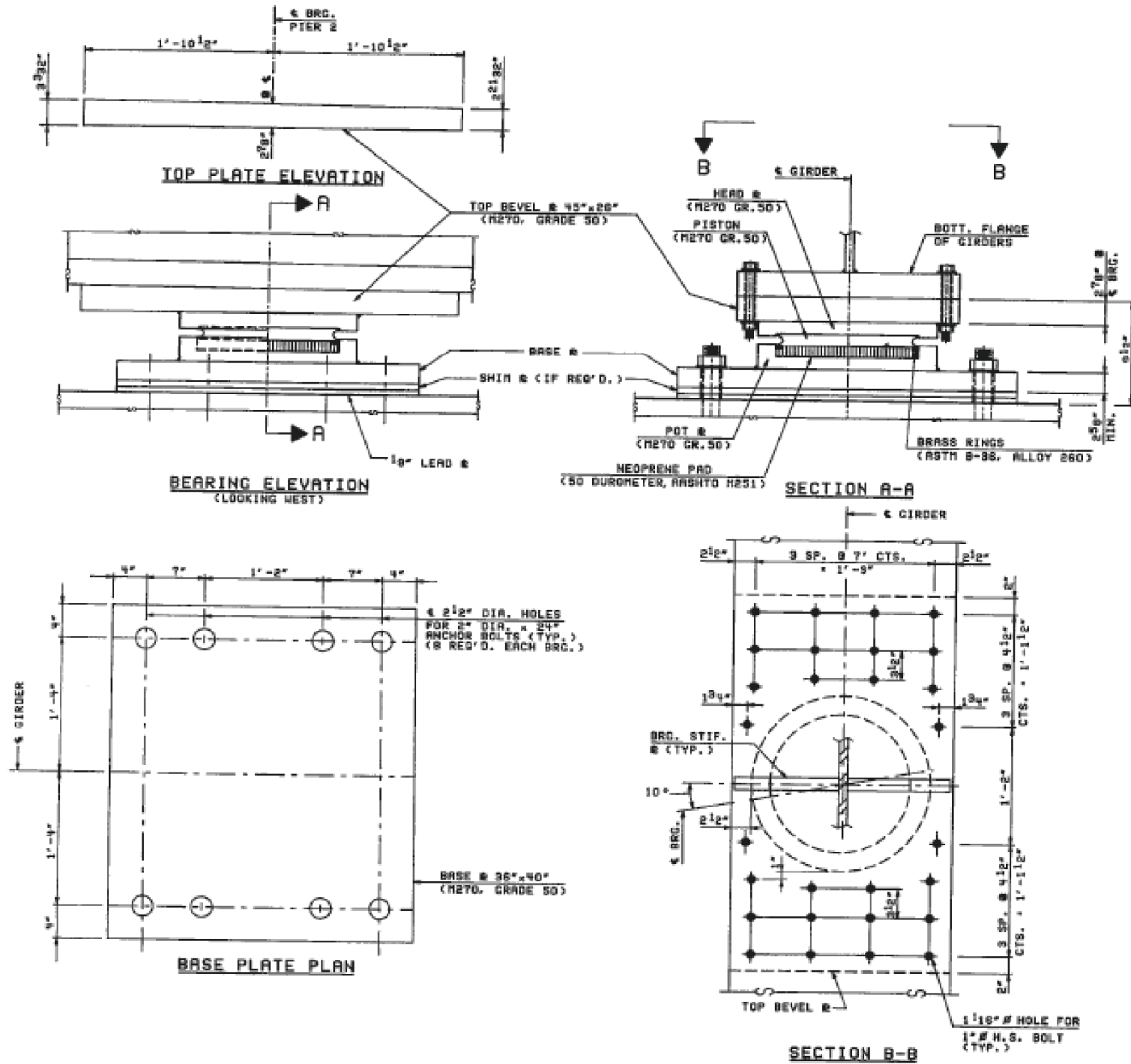
EXISTING BRIDGE PLANS
SN: 052-0063

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	18	
				CONTRACT NO. 64J52
ILLINOIS				

FOR INFORMATION ONLY

SHEET NO. 17 OF 30

ROUTE NO.	SECT.	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 742	398B-1	LEE & OGLE	86	41
FED. ROAD DIST.		ILLINOIS FED. AID PROJECT		
STPF-BRF-742(25)				



BEARING DATA

PIER 2	
MIN. DEAD LOADS	454 KIPS
MAX. DEAD LOADS	525 KIPS
LIVE LOAD + IMP	235 KIPS
TOTAL - MAXIMUM	760 KIPS
LONGITUDINAL LOADS-(MAX.)	
WIND	48 KIPS
OR EARTHQUAKE	361 KIPS
OR	
TRANSVERSE LOADS-(MAX.)	
WIND	37 KIPS
OR EARTHQUAKE	105 KIPS
ROTATION	
	0.02 RADIANS
MOVEMENT-(LONGITUDINAL)	
	— INCHES
MOVEMENT-(TRANSVERSE)	
	0.25 INCHES

BILL OF MATERIAL

ITEM	UNIT	COUNTY		TOTAL
		LEE	OGLE	
FLOATING BEARINGS, FIXED (800 KIPS)	EACH	2.5	2.5	5

NOTES:

1. ALL DETAILED DESIGN COMPUTATIONS, DRAWINGS & INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
2. SEE DWG. NO. GD-29 FOR ANCHOR BOLT DETAILS.
3. ANCHOR BOLTS AT FIXED BEARINGS MAY BE BUILT INTO THE MASONRY.
4. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIMENSIONS AS REQUIRED IN THE FIELD FOR THE ACTUAL BEARINGS USED (INCLUDING BEAT ELEVATIONS). DIMENSIONS TO BE ADJUSTED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OF BEARINGS.
5. BEARING DIMENSIONS SUCH AS DIAMETER OF BRASS RINGS, PISTON, POT PLATE, HEAD PLATE, GUIDE BARS, NEOPRENE PAD, TEFLON, STAINLESS STEEL PLATE ETC. SHALL BE AS PER MANUFACTURER FOR GIVEN BEARING DESIGN DATA.

REVISION	DATE	DESCRIPTION
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
FLOATING BEARING DETAILS		
GRAND DETOUR BRIDGE OVER ROCK RIVER F.A. RTE. 742 SECTION 398B-1 STA. 1228+96 LEE & OGLE COUNTIES STRUCTURE NUMBER 052-0063		
STEINMAN BOYNTON INC. CONSULTING ENGINEERS - CHICAGO, ILLINOIS		
DRAWING NO. GD-19	SCALE	DATE 1-19-93
		SHEET NO. 41

DESIGNED -	REVISED -	
DRAWN -	REVISED -	
CHECKED -	REVISED -	
DATE -	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING BRIDGE PLANS
SN: 052-0063**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	19
				CONTRACT NO. 64J52
ILLINOIS				

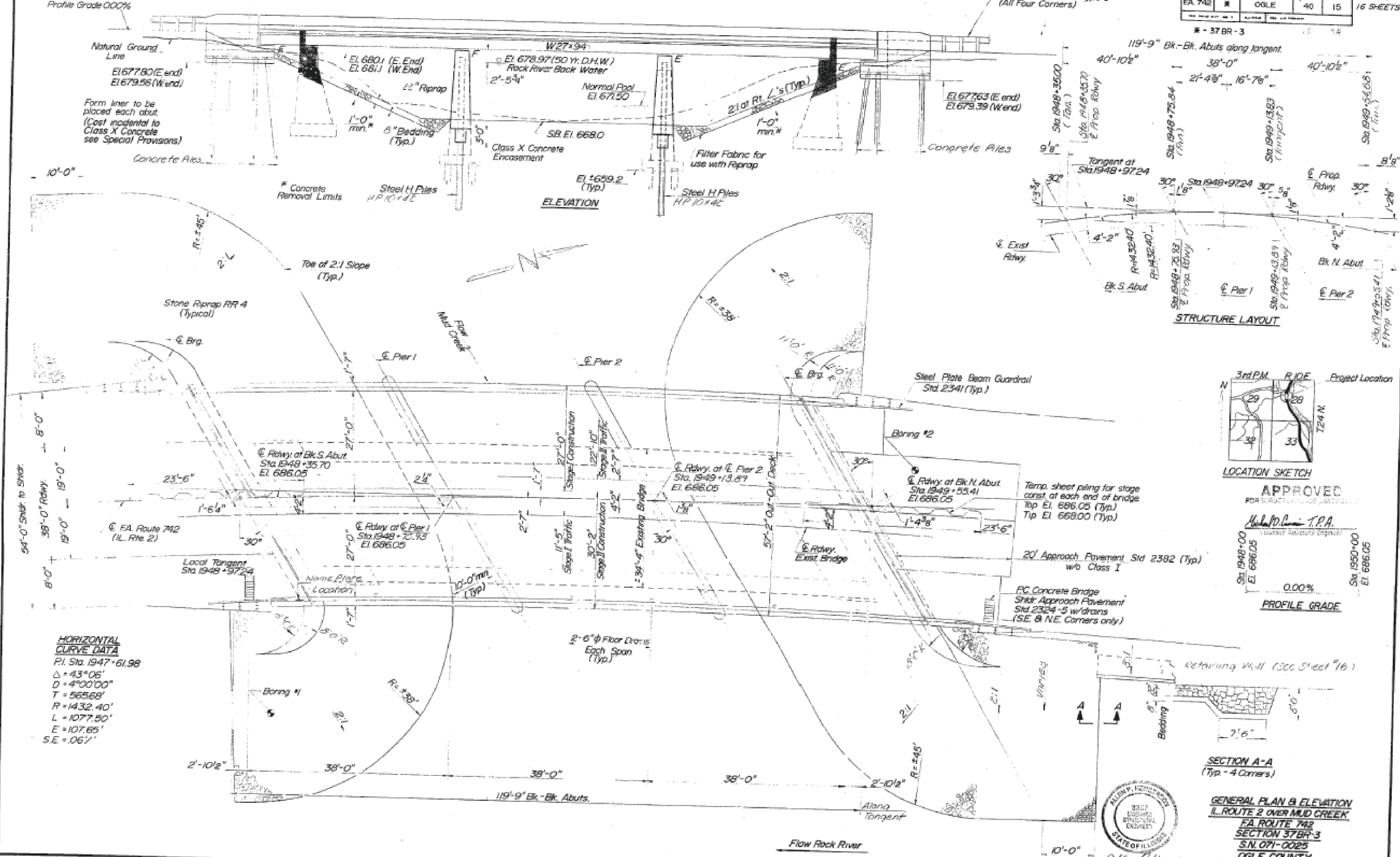
071-0025 vch

EA 742	OGLE	40	15	SHEET 1
				16 SHEETS

Benchmark: Chiseled "O" on top of S.E. Wingwall of Existing Structure El. 684.28
 Existing Structure: 3-Span RC Deck, continuous RC, arched girder bridge, RC pier on concrete footings + 28'-0" clear deck width, Gross Structure length = 100'-6", Piers to be re-used, Exist Structure No. 071-0025
 Traffic is to be maintained during construction utilizing Stage Construction

Note: Existing Substructure Removal is indicated by Estimated Abutment Concrete Removal - 50.8 cu. yd.

Traffic Barrier Terminal Std 2341-Type 6 (All Four Corners)



HORIZONTAL CURVE DATA

PI Sta. 1947+61.98
$\Delta = 43^{\circ}06'$
$D = 4^{\circ}00'00''$
$T = 565.68'$
$R = 1432.40'$
$L = 1077.50'$
$E = 107.65'$
$S.E. = .061'$

APPROVED FOR STRUCTURE

Michael D. Henderson, P.E.
 LICENSED PROFESSIONAL ENGINEER

0.00%
 PROFILE GRADE



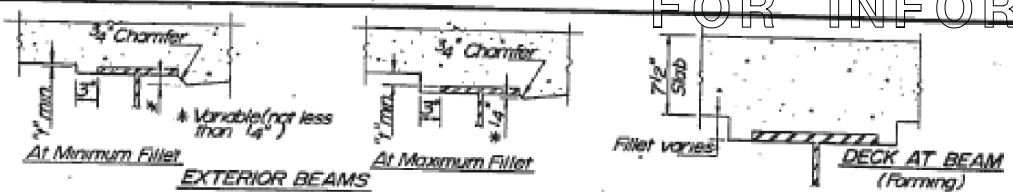
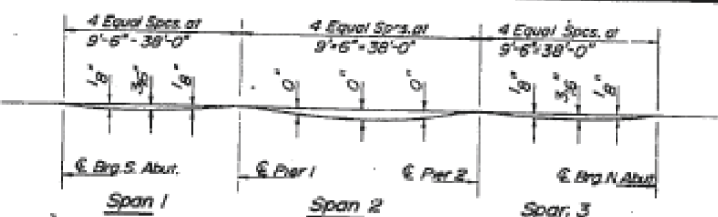
ALLEN HENDERSON & ASSOCIATES CONSULTING CIVIL AND STRUCTURAL ENGINEERS
 SPRINGFIELD, ILL. PHONE: (217) 544-8033

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
 SN: 071-0025

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	20
				CONTRACT NO. 64J52

ILLINOIS



METHOD OF DETERMINING FILLET HEIGHTS "f"
After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the station shown on Sheet 4. These elevations subtracted from the Theoretical Grade Elevations Adjusted for Dead Load Deflection shown on Sheet 4, minus floor thickness equals the fillet heights above top flange of beams.

DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete slab only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevation adjusted for dead load deflection as shown below.

SCREENED INFORMATION FOR BEAM OR GIRDER = 01

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 02

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 04

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 06

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 07

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = BMD JT

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 03

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = CONST

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = BMD JT

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = CL

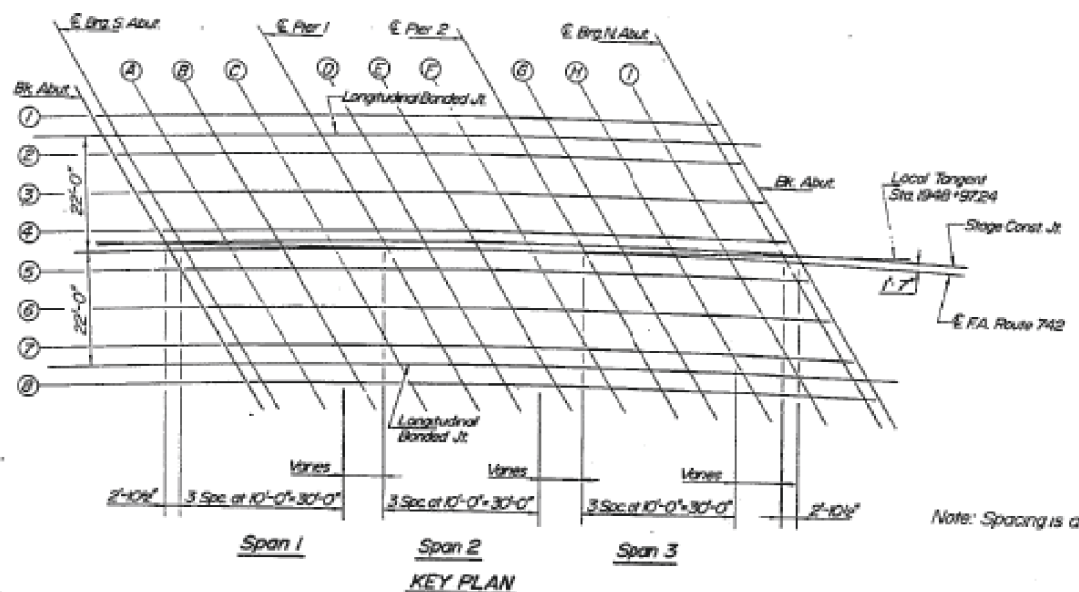
Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 08

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.

SCREENED INFORMATION FOR BEAM OR GIRDER = 09

Table with columns: LINE STATION, OFFSET, THEORETICAL GRADE, ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION. Rows include BEA, BRG SA, A, B, C, PIER1, D, E, F, PIER2, G, H, I, BRG NA, BK NA.



Note: Spacing is along E. beam.

TOP OF SLAB ELEVATIONS
I.L. ROUTE 2 OVER MUD CREEK
SECTION 37 BR-3
S.N. 071-0025
OGLE COUNTY

ALLEN HENDERSON & ASSOCIATES

CONSULTING CIVIL AND STRUCTURAL ENGINEERS
SPRINGFIELD, ILL.

PHONE: (217) 544-8033

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 071-0025

Table with columns: DESIGNED, DRAWN, CHECKED, DATE, REVISIONS.

Table with columns: F.A.P. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.

FOR INFORMATION ONLY

FA 742	OGLE	40	22	SHEET 8 16 SHEETS
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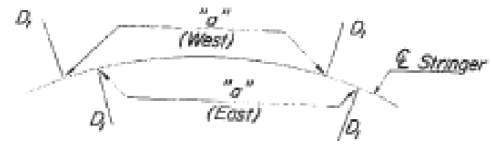
TABLE
DIAPHRAGM SPACING

Beam	1/4" (East)	1/4" (West)	1/2" (East)	1/2" (West)	3/4" (East)	3/4" (West)
1	23'-11 1/2"		12'-9"		20'-8 3/4"	
2	24'-0 1/4"	23'-10 3/4"	12'-9 3/4"	12'-7 1/2"	20'-9 1/4"	20'-6 3/4"
3	24'-0 3/4"	23'-11 1/4"	12'-10 3/8"	12'-7 3/4"	20'-9 3/8"	20'-6 5/8"
4	24'-1 1/4"	24'-0 1/4"	12'-10 1/2"	12'-8 1/4"	20'-10 1/4"	20'-6 1/4"
5	24'-1 3/8"	24'-1 1/8"	12'-11 1/8"	12'-9 1/4"	20'-11"	20'-9 1/4"
6	24'-2 3/8"	24'-1 3/8"	13'-0 3/8"	12'-9 3/4"	20'-11 3/8"	20'-9 3/8"
7	24'-2 1/2"	24'-2 1/2"	13'-1 1/8"	12'-11"	21'-0"	20'-9 1/4"
8		24'-3 3/8"		12'-11 3/4"		20'-9 1/4"

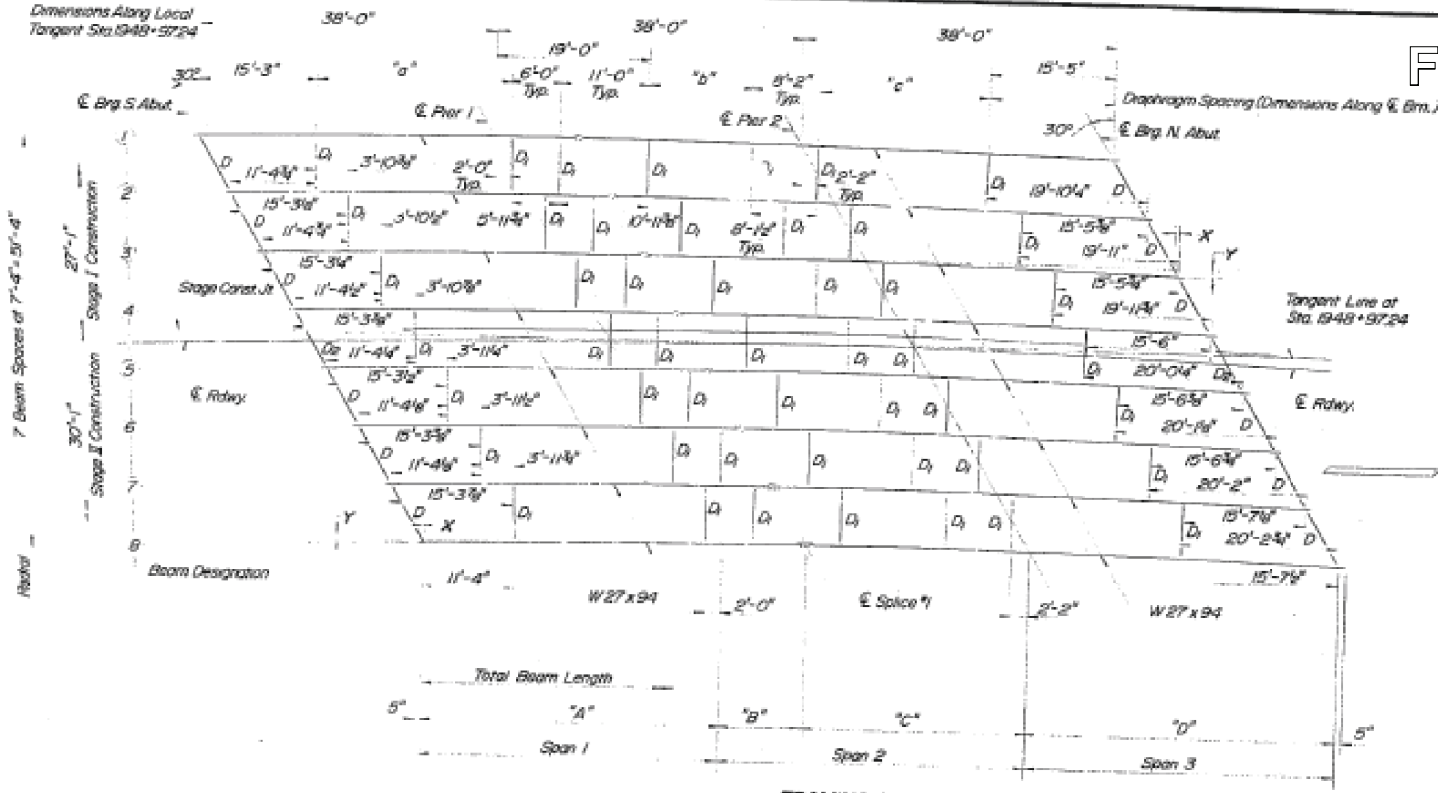
NOTES

- All dimensions are along \hat{c} beam except as noted.
- Dimensions X and Y are given from the respective Local Tangent of each beam at Sta. 1948+97.24.
- Beams shall be fabricated to their respective radii.
- All dimensions are along the curve except as noted.
- Work this sheet with sheet nos. 9 & 10.
- All diaphragms between Beams 4 & 5 shall be installed during Stage II Construction.
- All stringers (W27 x 94) and splice plates shall be A.A.S.H.T.O. M 223 Grade 50.
- All diaphragms, connection angles, plates and bearing plates - A.A.S.H.T.O. M 183.

LEGEND



Diaphragm Spacing Table



FRAMING PLAN

Note: Notch Toughness Requirements are required for beams 1 thru 8 and all flange and web field splice plates.

BEAM DIMENSIONS

Beam	Radius	"A"	"B"	"C"	"D"	TOTAL BEAM LENGTH
1	1458.01'	37'-2 1/2"	10'-6"	27'-3"	38'-3 3/8"	113'-3 3/8"
2	1450.73'	37'-3 3/8"	10'-6"	27'-3 3/4"	38'-4 1/8"	113'-5 1/8"
3	1443.40'	37'-4"	10'-6"	27'-4 1/8"	38'-5 1/4"	113'-6"
4	1436.07'	37'-4 1/8"	10'-6"	27'-5 1/4"	38'-6 1/2"	113'-10 1/4"
5	1428.73'	37'-5 1/8"	10'-6"	27'-5 3/4"	38'-7 1/2"	114'-0 3/8"
6	1421.40'	37'-6"	10'-6"	27'-6 1/4"	38'-8 1/4"	114'-3"
7	1414.07'	37'-6 3/8"	10'-6"	27'-7 1/8"	38'-9 1/4"	114'-5 3/8"
8	1406.73'	37'-7 1/8"	10'-6"	27'-8 1/4"	38'-10"	114'-7 1/4"

LAYOUT DIMENSIONS

Beam	E Brg. S. Abut.		E Pier 1		E Splice 1		E Pier 2		E Brg. N. Abut.	
	X"	Y"	X"	Y"	X"	Y"	X"	Y"	X"	Y"
1	1'-0 1/2"	1'-10"	0'-3 1/2"	0'-5 1/2"	0'-1 1/2"	0'-2 3/4"	0'-0"	0'-0"	0'-3 3/8"	0'-6 1/8"
2	0'-11 1/2"	1'-2 3/4"	0'-2 3/4"	0'-4 1/2"	0'-1 1/2"	0'-1 1/2"	0'-0 1/2"	0'-0 1/2"	0'-4 1/4"	0'-8 1/4"
3	0'-10 1/2"	1'-5 1/2"	0'-1 1/2"	0'-3 1/2"	0'-0 1/2"	0'-1 1/4"	0'-0 1/2"	0'-0 1/2"	0'-5 1/4"	0'-9 3/8"
4	0'-8 1/2"	1'-3 1/2"	0'-1 1/2"	0'-2 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-6 1/4"	0'-11 1/4"
5	0'-8 1/2"	1'-2 1/2"	0'-1 1/2"	0'-1 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-6 1/4"	0'-11 1/4"
6	0'-7 1/2"	1'-1 1/2"	0'-0 1/2"	0'-1 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-1 1/2"	0'-7 1/4"	1'-0 3/4"
7	0'-6 1/2"	0'-11 1/2"	0'-0 1/2"	0'-1 1/2"	0'-0 1/2"	0'-0 1/2"	0'-1 1/2"	0'-2 1/4"	0'-9 1/4"	1'-4 1/8"
8	0'-4 1/2"	0'-6 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-0 1/2"	0'-1 1/2"	0'-3 1/4"	0'-10 1/4"	1'-6 1/8"

SPAN LENGTH TABLE

Beam	Span 1	Span 2	Span 3
1	37'-2 1/2"	37'-9"	38'-3 3/8"
2	37'-3 3/8"	37'-9 3/8"	38'-4 1/8"
3	37'-4"	37'-10 1/8"	38'-5 1/4"
4	37'-4 1/8"	37'-11 1/4"	38'-6 1/2"
5	37'-5 1/8"	37'-11 3/8"	38'-7 1/2"
6	37'-6"	38'-0 1/4"	38'-8 1/4"
7	37'-6 3/8"	38'-1 1/8"	38'-9 1/4"
8	37'-7 1/8"	38'-2 3/8"	38'-10"

INTERIOR BEAM MOMENT TABLE

	0.4 Span 1	Pier 1	0.5 Span 2	Pier 2	0.4 Span 3
I_s (in ⁴)	3270	3270	3270	3270	3270
S_s (in ³)	243	243	243	243	243
S_{sl} (in ³)	12.4	12.4	12.4	12.4	12.4
Q (in ³)	1.099	1.099	1.099	1.099	1.099
M_d (k)	124.01	195.02	40.33	164.42	132.80
M_L (k)	293.6	198.8	175.6	162.5	223.9
M_{imp} (k)	64.1	47.7	52.7	48.8	67.2
M_a (k)	462.8	344.2	380.5	352.2	485.2
M_b (k)	762.9	649.0	547.1	671.6	603.0
M_{bl} (k)	6.4	1.2	2.0	3.8	8.9
f_s (ksi)	6.1	7.6	2.0	8.1	6.5
f_s (k/ft)	22.85	17.00	18.79	17.39	23.96
f_w (ksi)	6.19	1.6	1.94	3.69	6.61
$f_s + f_w$ (ksi)	33.7	25.5	22.3	28.3	37.1
f_s (total) (ksi)	37.67	32.05	27.02	33.17	39.65
f_s (total) + f_w	43.9	33.2	29.0	36.8	48.3
F_b (ksi)	50	47.5	50	47.5	50

INTERIOR BEAM REACTION TABLE

	Abutments	Piers
R_2 (k)	17.1	48.7
R_4 (k)	34.2	120.0
Impact (k)	10.3	12.0
Total (k)	61.6	100.6

MOMENT TABLE LEGEND

I_s and S_s are the moment of inertia and section modulus of the section used in computing f_s (Total and Overload).
 M_d - Moment due to dead loads on section.
 M_L - Moment due to live loads on section.
 M_{imp} - Moment due to impact loads on section.
 M_a - Live load impact (I).
 M_b (Applied Moment) - $1.3(M_d + M_s Q + S_s(M_L + I))$.
 f_s (Total) - Sum of stresses due to $1.3(M_d + M_s Q + S_s(M_L + I))$.
 f_s (Overload) - Sum of stresses due to $(M_d + M_s Q + S_s(M_L + I))$.
 F_b - Maximum allowable stress F_{bu} or F_{bv} computed according to A.A.S.H.T.O. [Guide Specifications for Horizontally Curved Highway Bridges Section 2.12(B) and 2.15.1].
 $(f_s + f_w)$ (Overload) is the sum of the stress due to $M_d + M_s Q + S_s(M_L + I) + M_{bl}/L_3$.
 S_{bl} is the section modulus for one flange plate for lateral flange bending.
 M_{bl} is the lateral bending moment for flange plate (factored).
 f_w is the calculated normal stress at the edge of flange due to lateral bending (factored).

TOP OF BEAM ELEVATIONS *

Loc.	E Brg. S. Abut.	E Pier 1	E Splice 1	E Pier 2	E Brg. N. Abut.
1	685.89	685.89	685.89	685.89	685.89
2	685.45	685.45	685.45	685.45	685.45
3	685.01	685.01	685.01	685.01	685.01
4	685.57	685.57	685.57	685.57	685.57
5	685.13	685.13	685.13	685.13	685.13
6	684.69	684.69	684.69	684.69	684.69
7	684.25	684.25	684.25	684.25	684.25
8	683.81	683.81	683.81	683.81	683.81

* For fabrication only

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CONSULTING CIVIL AND STRUCTURAL ENGINEERS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 071-0025

STRUCTURAL STEEL
ILL. ROUTE 2 OVER MUD CREEK
FA. ROUTE 742
SECTION 37 BR-3
S/N 071-0025
OGLE COUNTY
(FRAMING PLAN & DETAILS)

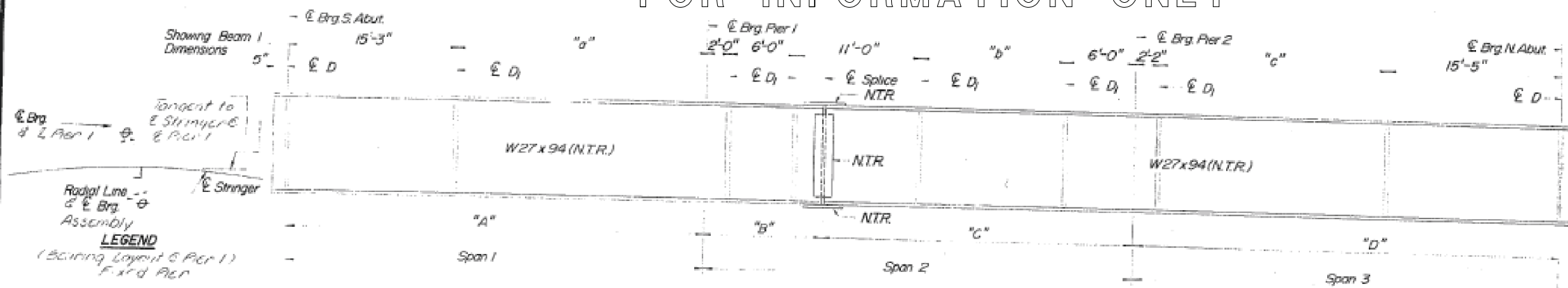
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CHECKED -	REVISED -
DATE -	REVISED -

F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE		25	23
			CONTRACT NO. 64J52	

ILLINOIS

FOR INFORMATION ONLY

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
FA 742	CGLE	40	23
SHEET 9 OF 16 SHEETS			



For Dimensions "a", "b" & "c" and Beams 2 thru 8 Dimensions, See Sheet No. 9 of 16 Sheets.

Cost of Timber Block Posts are incidental to Structural Steel.

LEGEND
(BEARING LAYOUT & PIER 1) Fixed Pier

Note: For bearing layout of S. Abut., Pier 2 & N. Abut., See Sheet No. 10 of 16 Sheets

BEAM ELEVATION
For A, B, C & D and Span Dimensions See Sheet No. 8 of 16 Sheets
Members designated N.T.R. shall conform to the Supplemental Requirements for Notch Toughness (Zone 2).

VALUE OF ϕ
(BEARING PLACEMENT)

LOC.	BM	#1	#2	#3	#4	#5	#6	#7	#8
Brig. N. Abut.	30°04'42"	30°15'02"	30°25'20"	30°35'36"	30°45'17"	30°55'29"	31°07'06"	31°18'06"	
Brig. S. Abut.	27°51'18"	28°00'30"	28°09'49"	28°19'12"	28°28'43"	28°38'21"	28°48'06"	28°57'58"	
PIER 1	28°40'47"	28°50'18"	28°59'55"	29°09'40"	29°19'31"	29°29'29"	29°39'35"	29°49'47"	
PIER 2	29°19'12"	29°29'42"	29°40'08"	29°49'37"	30°00'00"	30°09'24"	30°19'43"	30°30'56"	

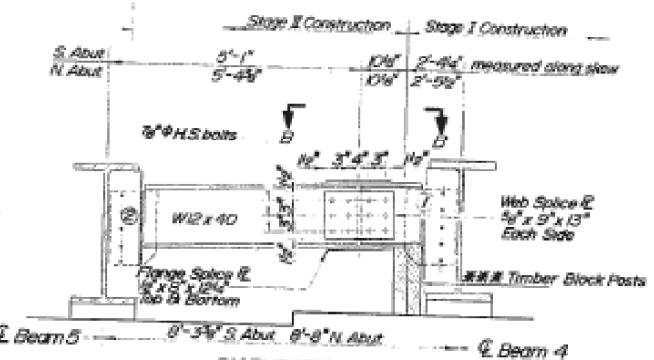
DIMENSION I

LOC.	BM	BTWN 1 & 2	BMS 2 & 3	BTWN 3 & 4	BMS 4 & 5	BTWN 5 & 6	BMS 6 & 7	BTWN 7 & 8	BMS 8 & 9
Brig. N. Abut.	8'-7 3/4"	8'-7 3/4"	8'-7 3/4"	8'-8"	8'-8 1/4"	8'-8 3/4"	8'-8 3/4"	8'-8 3/4"	
Brig. S. Abut.	8'-2 3/4"	8'-3 1/4"	8'-3 1/4"	8'-3 1/4"	8'-3 1/4"	8'-3 1/4"	8'-3 1/4"	8'-3 1/4"	

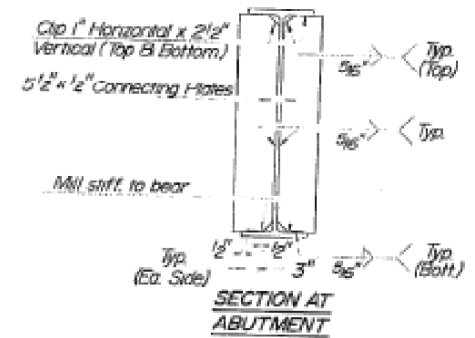
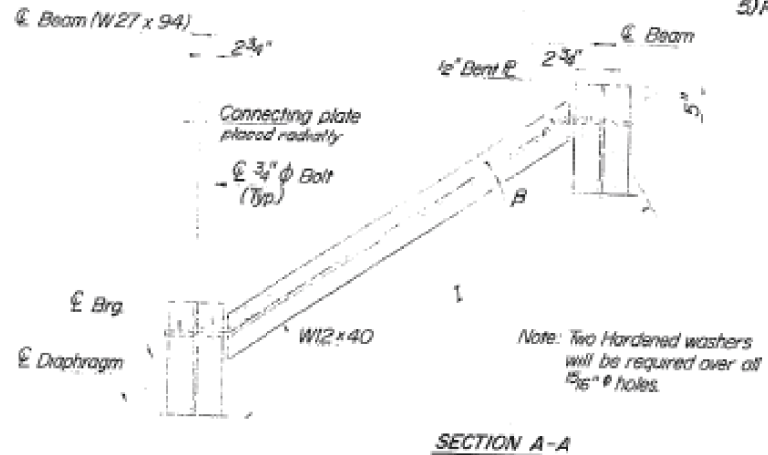
VALUE OF B

LOC.	BM	BTWN 1 & 2	BTWN 2 & 3	BTWN 3 & 4	BTWN 4 & 5	BTWN 5 & 6	BTWN 6 & 7	BTWN 7 & 8
Brig. N. Abut.	3°40'56"	3°41'21"	3°42'08"	3°42'36"	3°43'08"	3°43'57"	3°44'28"	
Brig. S. Abut.	3°23'04"	3°23'30"	3°24'12"	3°24'56"	3°25'40"	3°26'24"	3°27'08"	

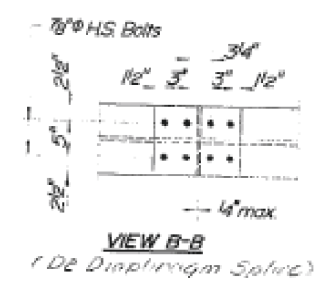
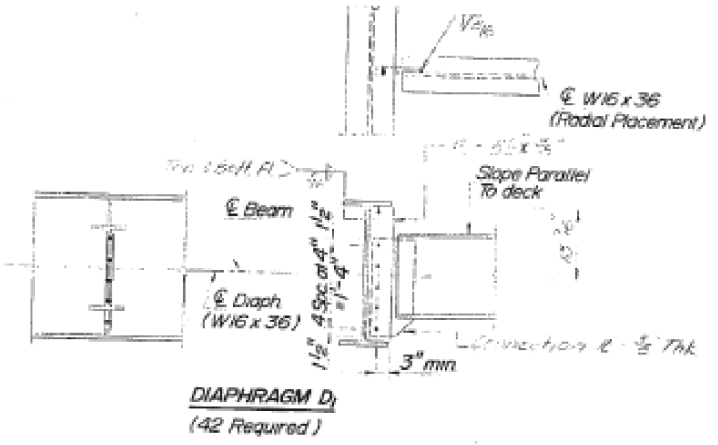
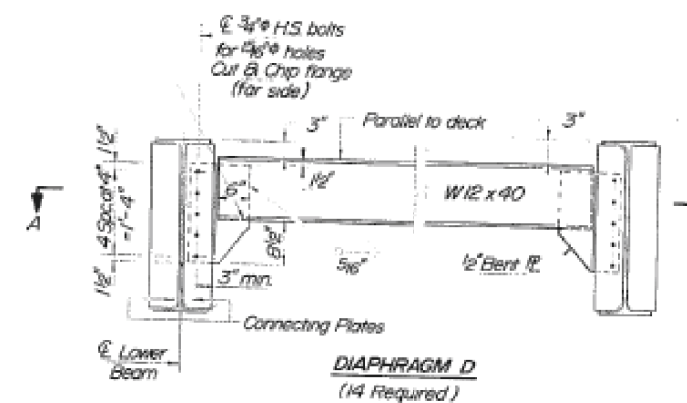
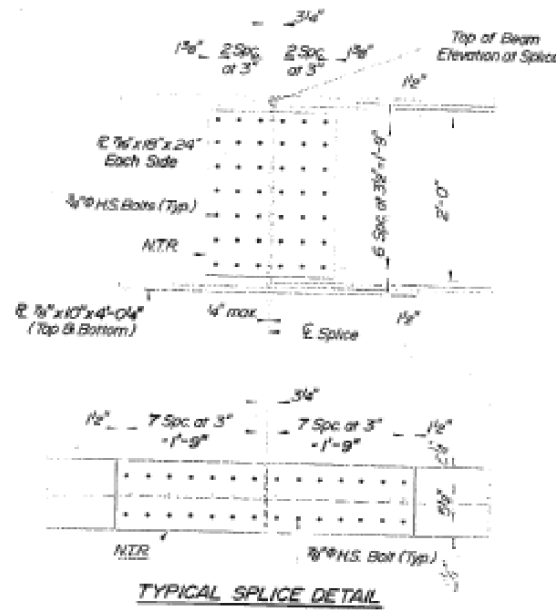
- DIAPHRAGM D₂ CONSTRUCTION SEQUENCE**
- 1) Order Diaphragm D₂ in two sections with lengths of 4'-6" & 2'-7" S. Abut. and 5'-1" & 2'-8" N. Abut.
 - 2) Attach section (1) of Diaphragm to Beam #4 and top flange splice \bar{C} during Stage I Construction.
 - 3) Place Timber Block Posts between section (1) of diaphragm and abutment bearing seat.
 - 4) Attach section (2) of diaphragm to both Beam #5 and section (1) of diaphragm during Stage II Construction with splice plates.
 - 5) Remove Timber Block Posts.



DIAPHRAGM D₂
2 Required (Looking South)
For details of connections to beams see Diaphragm D



Notes: Work this sheet with Sheet No. 11 & 12 of 16
All connecting holes for Diaphragms shall be 1 1/2" ϕ . Two hardened washers shall be required over all oversize holes.
All stringers, flange splice plates, web splice plates - M-223, Grade 50. All Diaphragms and Connection Plates - M-193.
All connecting holes for Diaphragms shall be 1 1/2" ϕ . Two hardened washers shall be required over all oversize holes. See Sheet No. 8 of 16 Sheets.



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
IL ROUTE 2 OVER MUD CREEK
FA ROUTE 742
SECTION 37BR-3
S.N. 071-0025
OGLE COUNTY

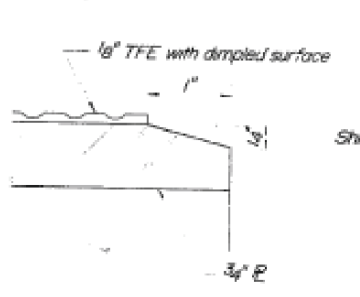
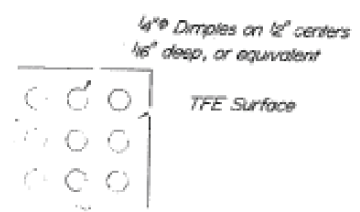
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DRAWN -	REVISED -			
CHECKED -	REVISED -			
DATE -	REVISED -			

F.A.P. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2 BRIDGE PAINTING 2014-1	LEE / OGLE	25	24	
CONTRACT NO. 64J52				

FOR INFORMATION ONLY

DATE	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
11/15/11	37 BR-3	OGLE	40	24
* - F.A. RTE. 742 (I.L. RTE 2)				

Sheet 10
16 Sheets

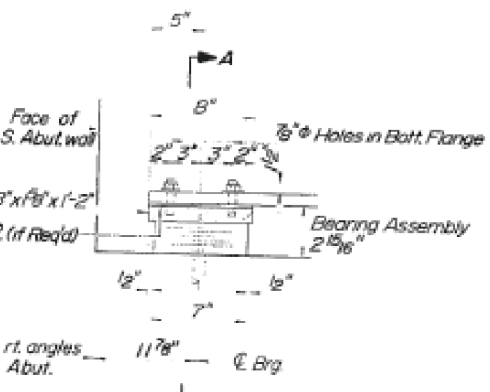


N. ABUT. TFE DETAILS

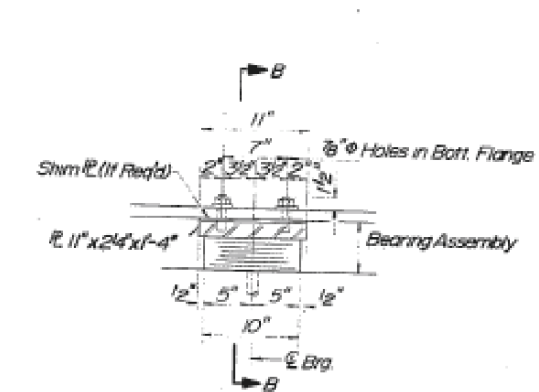
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

New anchor bolts of new bearing may be built into masonry.

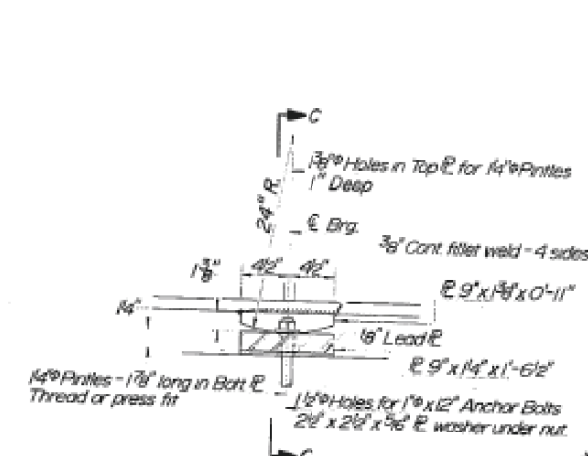
See Sheet No. 15 of 16 for anchor bolt installation.



TYPE I ELASTOMERIC EXPANSION BEARING S. ABUTMENT

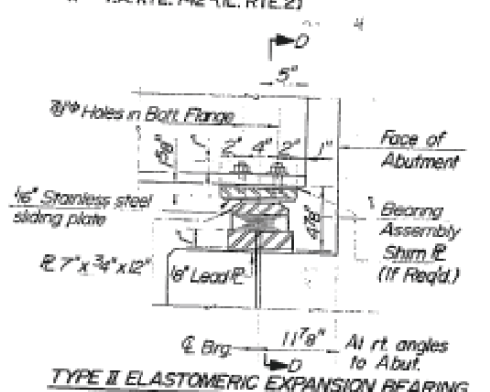


TYPE I ELASTOMERIC EXPANSION BEARING PIER 2

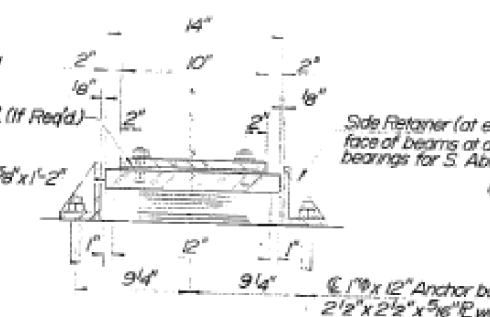


FIXED BEARING PIER 1

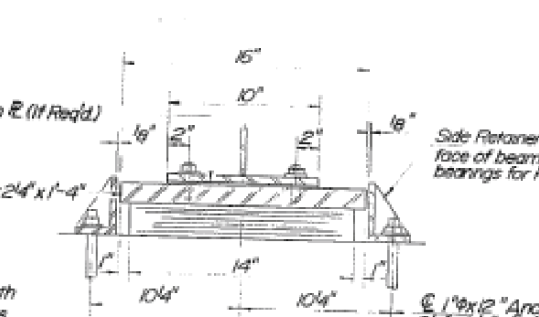
Note: Quantity of Structural Steel for Pier 1 Retainers and bearings included in the lump sum item for Structural Steel - Est. wt. 1280 lbs.



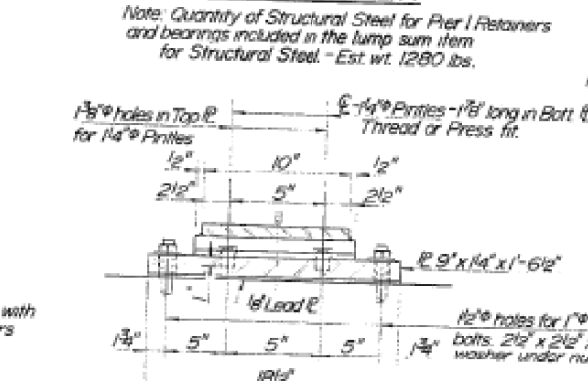
TYPE II ELASTOMERIC EXPANSION BEARING N. ABUTMENT



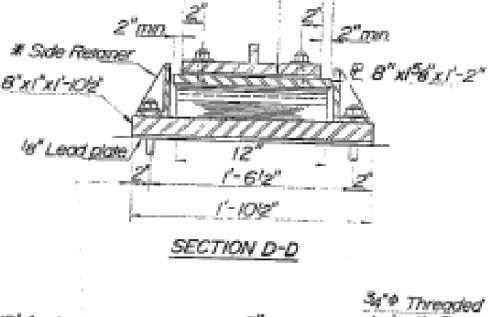
SECTION A-A



SECTION B-B



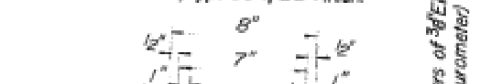
SECTION C-C



SECTION D-D

TOP BEARING ASSEMBLY

1/8" Stainless Steel Sliding Plate, A240, Type 304, 2B Finish



BOTTOM BEARING ASSEMBLY

2 Steel Plates, 3/32" thickness

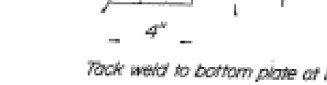
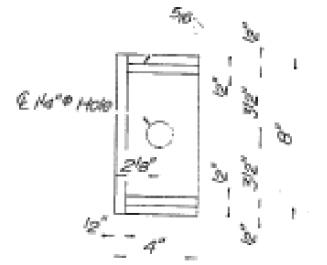


BILL OF MATERIAL

Item	Quantity
Elastomeric Bearing Assembly, Type I	Each 16
Elastomeric Bearing Assembly, Type II	Each 8

STRUCTURAL STEEL

I.L. ROUTE 2 OVER MUD CREEK
F.A. ROUTE 742
SECTION 37BR-3
S.N. 071-0025
OGLE COUNTY
BEARING DETAILS



SIDE RETAINER DETAILS

(An equivalent rolled angle with stiffeners will be allowed in lieu of welded plate.)

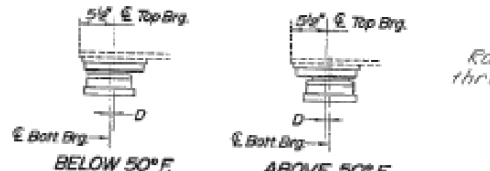
16 Required at N. Abut.
15 Required at Pier 2
16 Required at S. Abut.



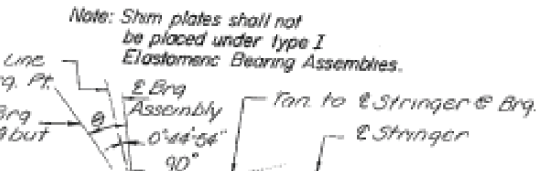
BEARING ASSEMBLY S. ABUT.



BEARING ASSEMBLY PIER 2



BEARING LAYOUT S. ABUT.



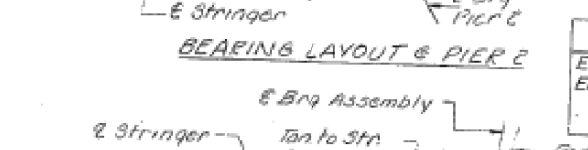
BEARING LAYOUT PIER 2



BEARING LAYOUT N. ABUT.



BEARING LAYOUT & PIER 2



BEARING LAYOUT & N. ABUT.

NOTE: For values of the angle θ , see Sheet No. 9 of 16 Sheets.

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SPRINGFIELD, IL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
SN: 071-0025

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IL 2 D2	BRIDGE PAINTING 2014-1	LEE / OGLE	25	25
				CONTRACT NO. 64J52