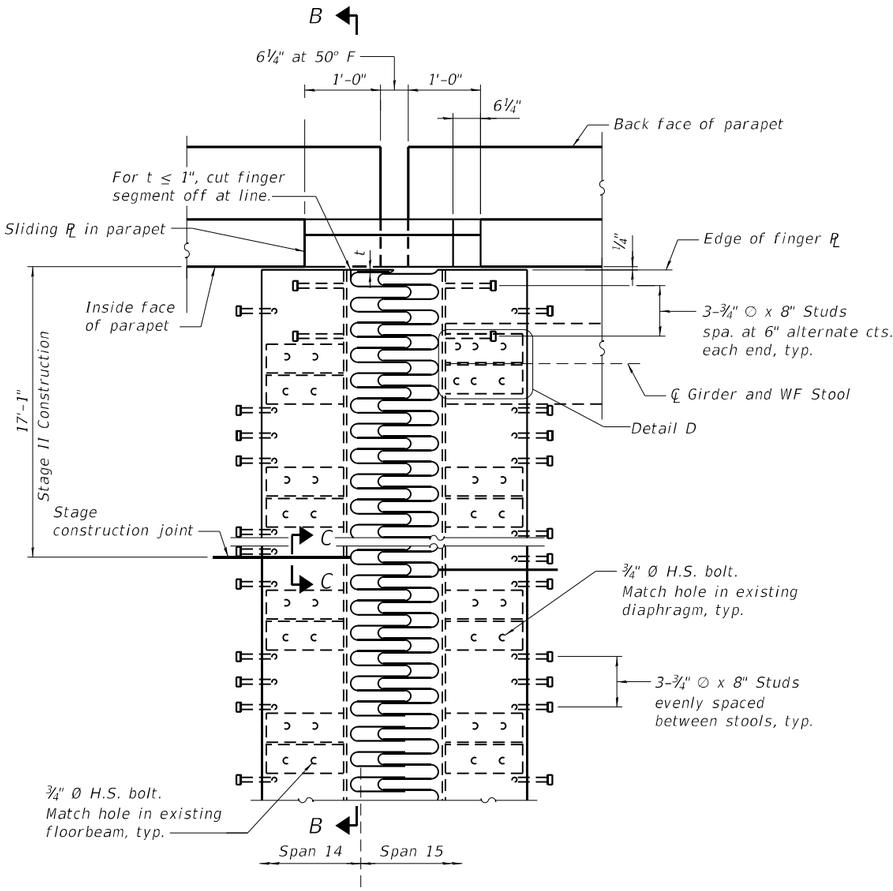
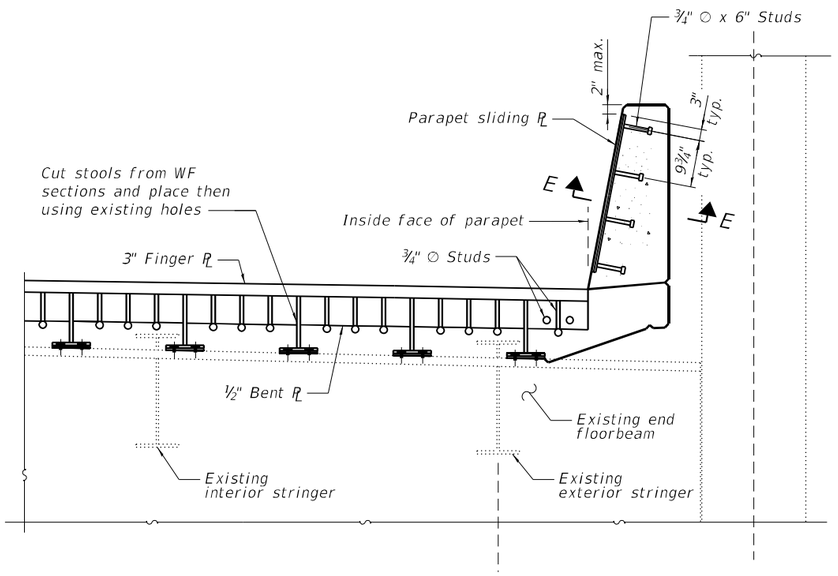


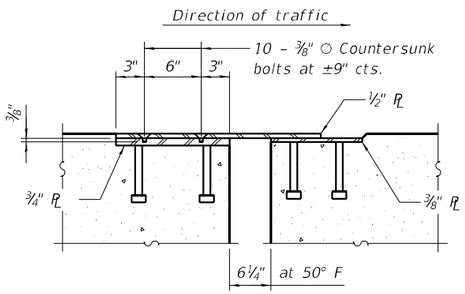
PLAN AT PIER 13

Floorbeam and diaphragms not shown for clarity.

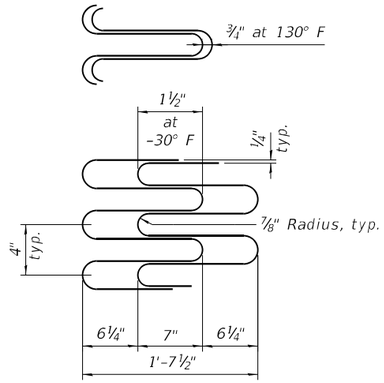


SECTION B-B

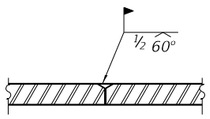
Span 14 shown, Span 15 similar



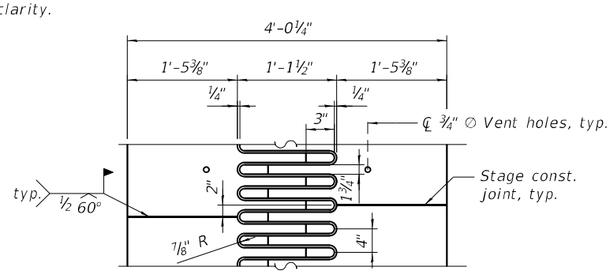
SECTION E-E



FINGER PLATE SETTING DIAGRAM

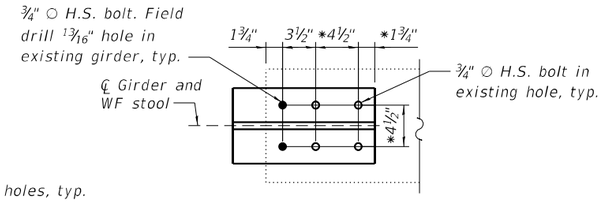


SECTION C-C



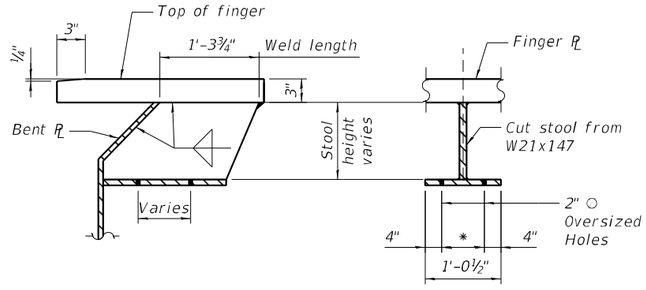
FLAME CUTTING DIAGRAM

Cut from ℄ 3" x 4'-0¼" x 39'-1⅜"
(1 required)



DETAIL D

* Verify in field



FINGER PLATE STOOL DETAIL

BILL OF MATERIAL

Item	Unit	Total
Finger Plate Expansion Joint, 6"	Foot	39.5
Fabric Reinforced Elastomeric Trough	Foot	49

Notes:

Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

All steel components of the expansion joint shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

MODEL: Default
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MODJESKI and MASTERS

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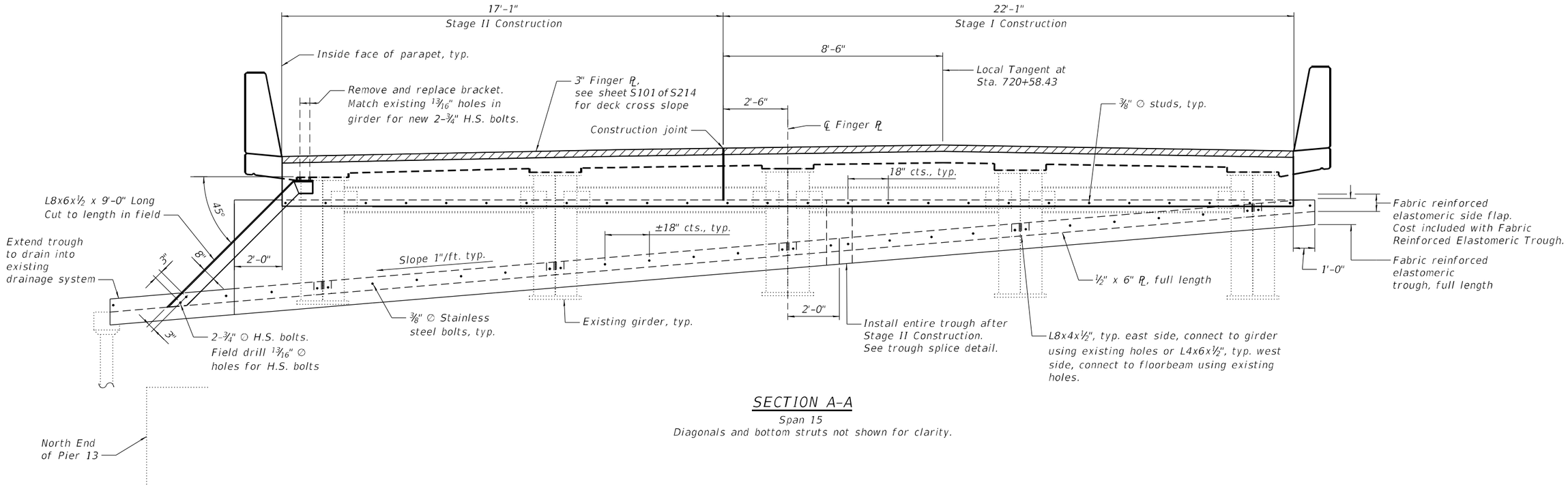
PLOT DATE =	CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE EXPANSION JOINT AT PIER 13 - 2
STRUCTURE NO. 090-0115
SHEET S131 OF S214 SHEETS

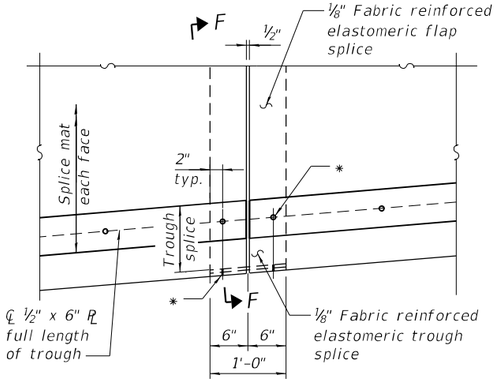
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	301
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



SECTION A-A

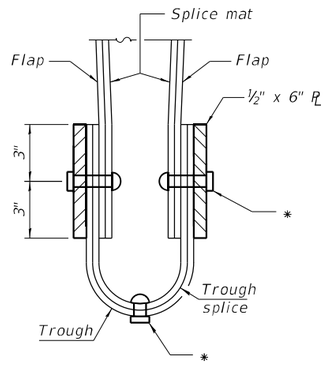
Span 15

Diagonals and bottom struts not shown for clarity.

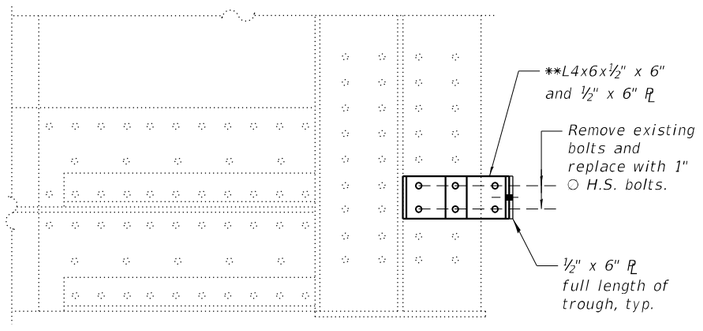


TROUGH SPLICE DETAIL

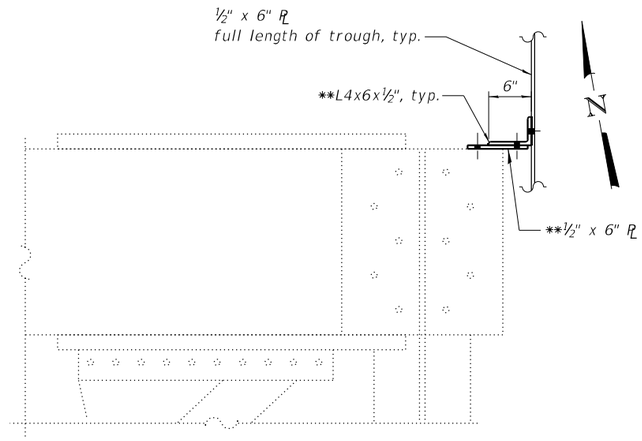
* 3/8" ∅ Stainless steel bolts with washers and nuts. Provide brass grommet in trough.



SECTION F-F



LOWER CHORD ELEVATION



LOWER CHORD PLAN VIEW

DETAIL A

** Field verify location of 1/2" PL and L4x6x1/2" x 6" long attachment

MODJESKI and MASTERS

USER NAME =	DESIGNED - YJ	REVISED -	
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PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE =	CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE EXPANSION JOINT AT PIER 13 - 3
STRUCTURE NO. 090-0115

SHEET S132 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	302
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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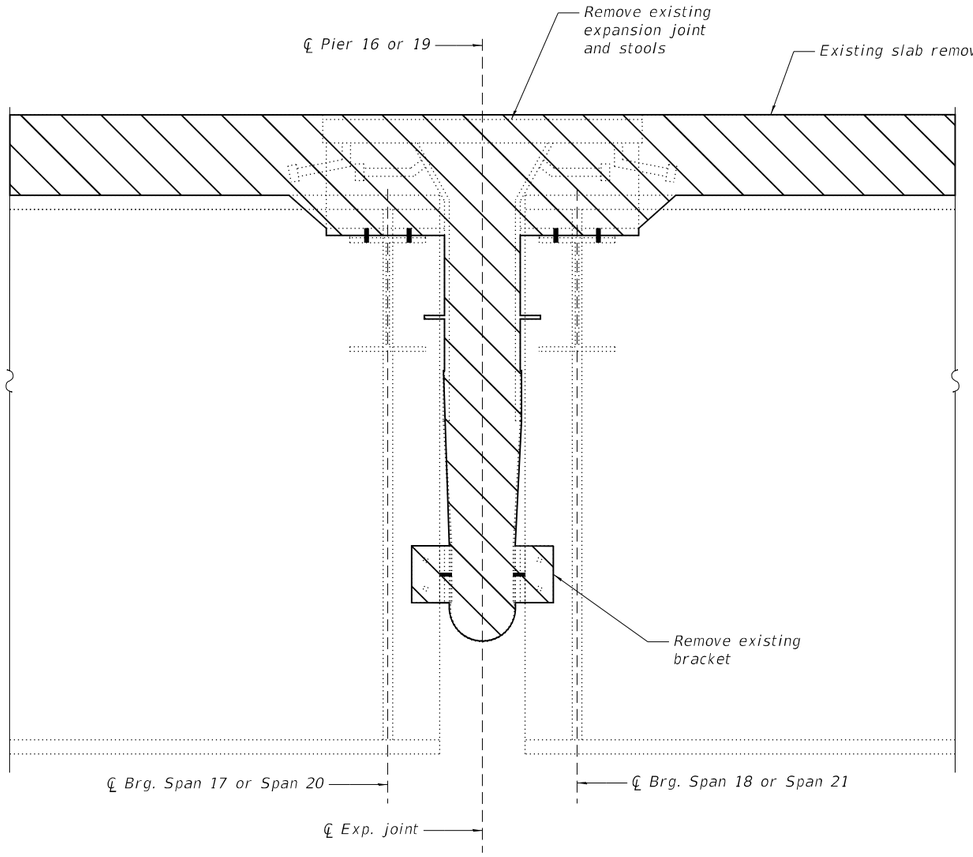
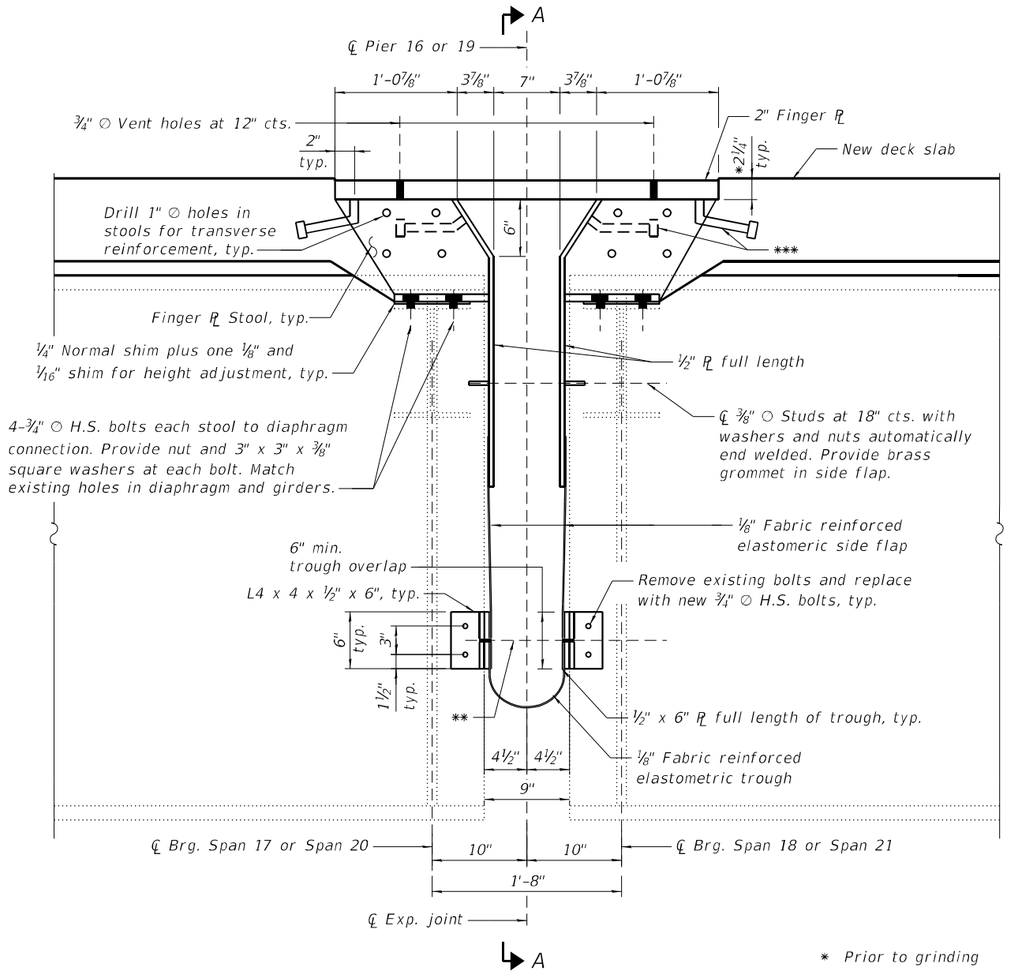


EXPANSION JOINT REMOVAL AT PIER 16 AND 19



EXPANSION JOINT REPLACEMENT AT PIER 16 AND PIER 19

Horizontal dimensions are at 50°F

* *Prior to grinding*

** ⅜" ∅ *Steel bolts with locking washers and nuts. Provide brass grommet in trough.*

*** ¾" ∅ *x 8" Granular or solid flux filled headed studs conforming to Art. 1006.32 of the Std Specifications.*

Notes:

See sheet S135 of S214 for Section A-A.

Removal and disposal of the existing bracket and stools identified on the plans shall be in accordance with the special provisions Structural Steel Removal.

See sheet S134 of S214 for additional details and Bill of Material.

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs, when the deck is poured at an ambient temperature other than 50° F.

MODJESKI and MASTERS

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PLOT DATE =	CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE EXPANSION JOINT AT PIERS 16 AND 19 - 1
STRUCTURE NO. 090-0115
SHEET S133 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	303
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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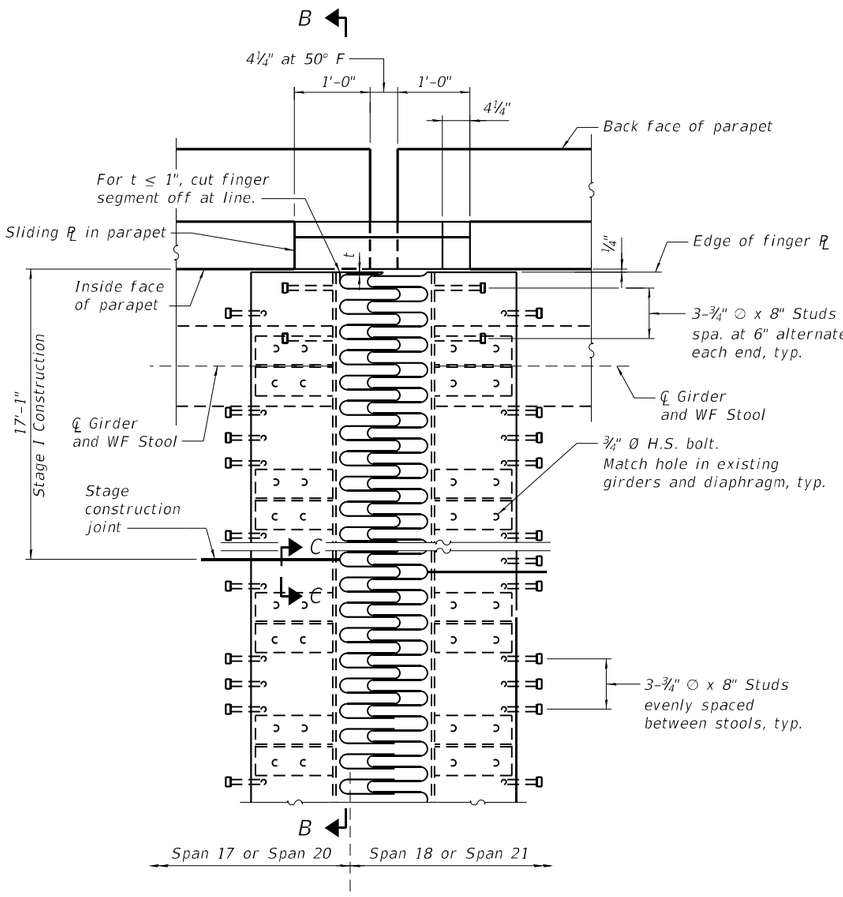
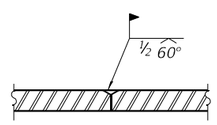
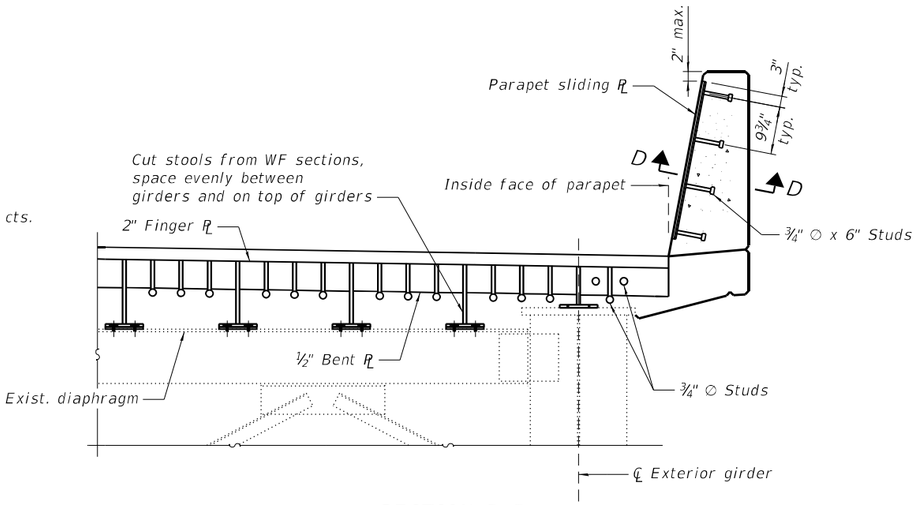


PLAN AT PIER 16 AND 19

Diaphragms not shown for clarity.

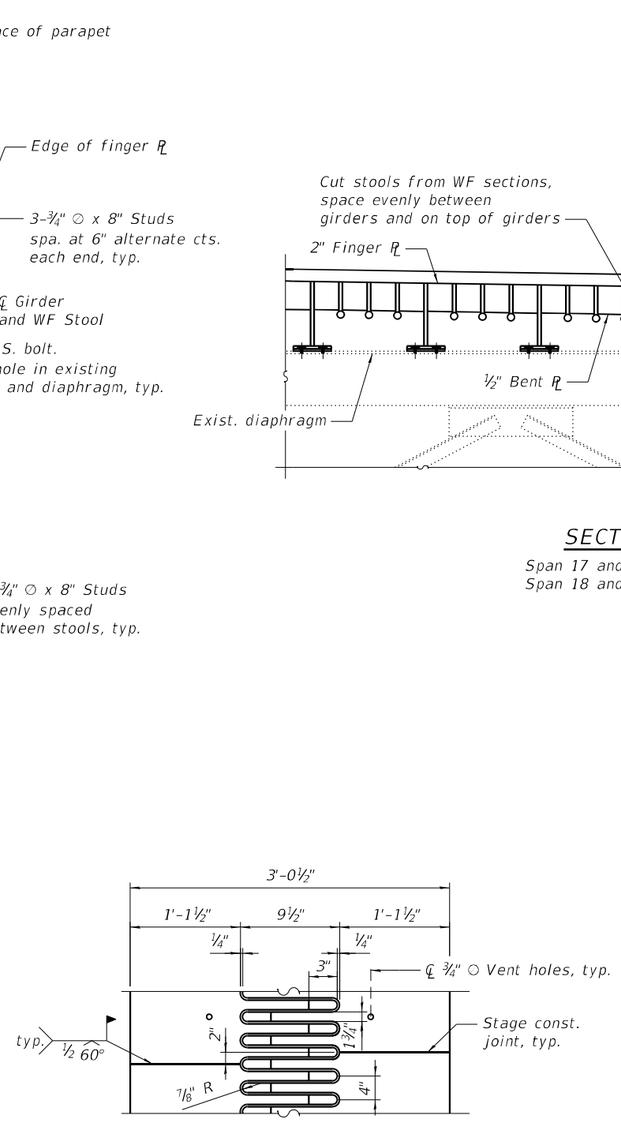


SECTION C-C



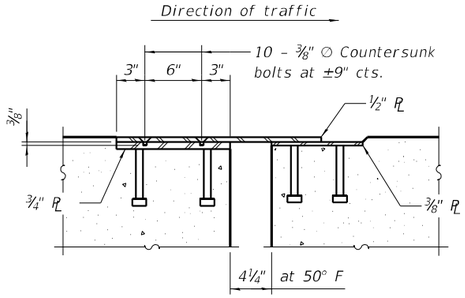
SECTION B-B

Span 17 and Span 20 shown,
Span 18 and Span 21 similar

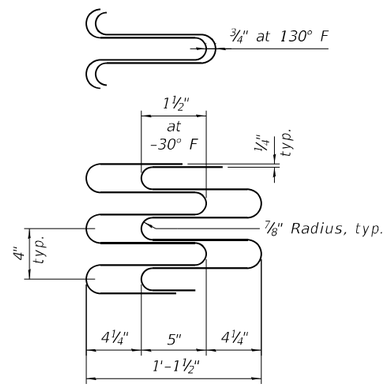


FLAME CUTTING DIAGRAM

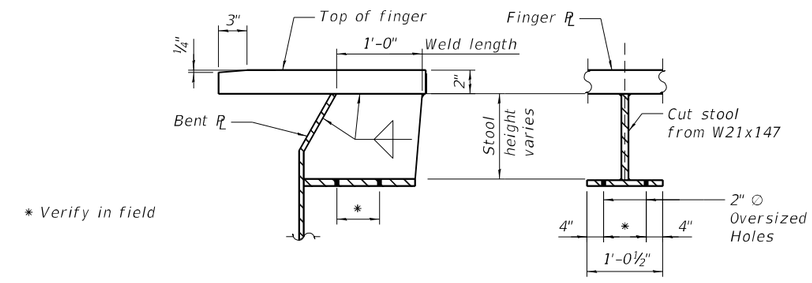
Cut from ℄ 2" x 3'-0½" x 40'-1⅝"
(2 required)



SECTION D-D



FINGER PLATE SETTING DIAGRAM



* Verify in field

FINGER PLATE STOOL DETAIL

BILL OF MATERIAL

Item	Unit	Total
Finger Plate Expansion Joint, 5"	Foot	81
Fabric Reinforced Elastomeric Trough	Foot	84

Notes:

Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

All steel components of the expansion joint shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

MODEL: Default
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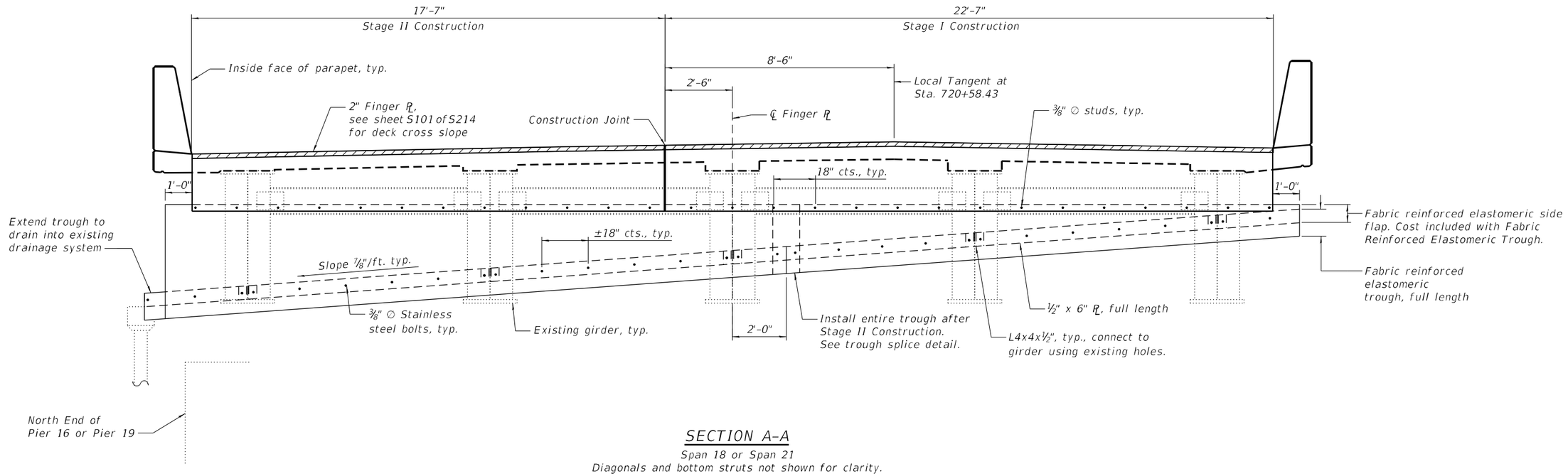
PLOT DATE =	CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

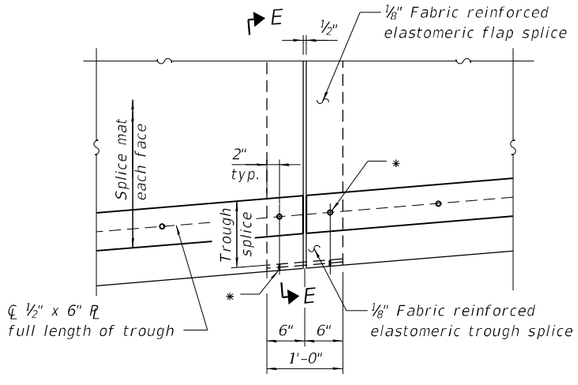
FINGER PLATE EXPANSION JOINT AT PIER 16 AND 19 - 2
STRUCTURE NO. 090-0115
SHEET S134 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	304
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



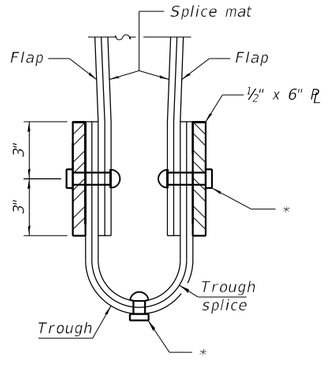
SECTION A-A

Span 18 or Span 21
Diagonals and bottom struts not shown for clarity.



TROUGH SPLICE DETAIL

* ⅜" ∅ Stainless steel bolts with washers and nuts. Provide brass grommet in trough.



SECTION E-E

USER NAME =	DESIGNED - YJ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - UB	REVISED -	
PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE =	CHECKED - UB	REVISED -	

MODJESKI and MASTERS

FINGER PLATE EXPANSION JOINT AT PIER 16 AND 19 - 3
STRUCTURE NO. 090-0115

SHEET S135 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	305
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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STRUCTURAL STEEL REPAIR GENERAL NOTES

The Contractor shall field verify all proposed dimensions of steel plate, angle and other shapes and spacing of holes prior to ordering steel.

Repair plates, fill plates, repair HP sections and repair angles may require field adjustment to fit actual as-built conditions. Cost included in Structural Steel Repair.

Repair plates, fill plates, repair HP sections and repair angles have been sized per available existing plan information. Bolt layout for replacement of existing fasteners with new bolts in existing holes are also based on existing plan information. Dimensions shall be field verified to confirm.

Unless noted otherwise, the as-designed repair details do not require temporary support for structural members. If additional fasteners need to be removed beyond those shown, the Contractor shall submit a procedure for review and approval by the Engineer. If necessary, the Contractor shall provide temporary support for members due to the additional fastener removal.

Trimming of repair plates, fill plates, and angles to accommodate existing fasteners not used in the repair shall occur by saw cutting or grinding. Minimum radius of 1" shall be maintained. Flame-cutting is not permitted. All cut edges shall be ground smooth to an ANSI 500 finish.

Sealant shall be compatible with the proposed paint system and shall be submitted to the Engineer for approval prior to use (see General Notes, Sheet S3 of S214). All costs associated with the installation of the sealant shall be included in Structural Steel Repair.

Coordinate steel repairs with cleaning and painting.

STRUCTURAL STEEL REPAIR PROCEDURES

Provided the Contractor complies with the load restrictions assumed during design (see Structural Steel Repair Load Restrictions section this sheet), there is no limit to the number of steel repair locations that can be simultaneously repaired.

The Contractor will be allowed to remove rivets and replace with temporary high-strength bolts in advance of repair plate and/or angle installation. Flame cutting for rivet removal is not permitted.

Contractor shall install repair plates, fill plates, repair HP sections and angles one at a time at each steel repair location.

For each individual repair plate or angle, the Contractor may remove all rivets to be replaced at the same time to facilitate fit-up and match-marking of holes.

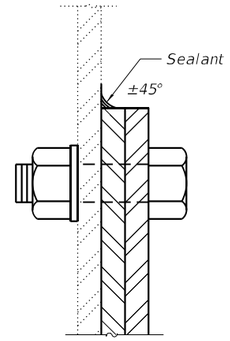
Bolt holes will not be left open overnight. The Contractor shall complete the installation of individual plates or angles at the end of each day. The completion of the installation of all plates and angles at a repair location at the end of each day is not required.

Upon completion of repairs and coating touch-up, joint sealant shall be installed all around perimeter of plys between existing steel and the new steel angles and/or plates per Detail 1 and as directed by the Engineer. After the sealant has cured in accordance with the manufacturer's written product data sheet, a stripe of the finish coat shall be applied over the sealant.

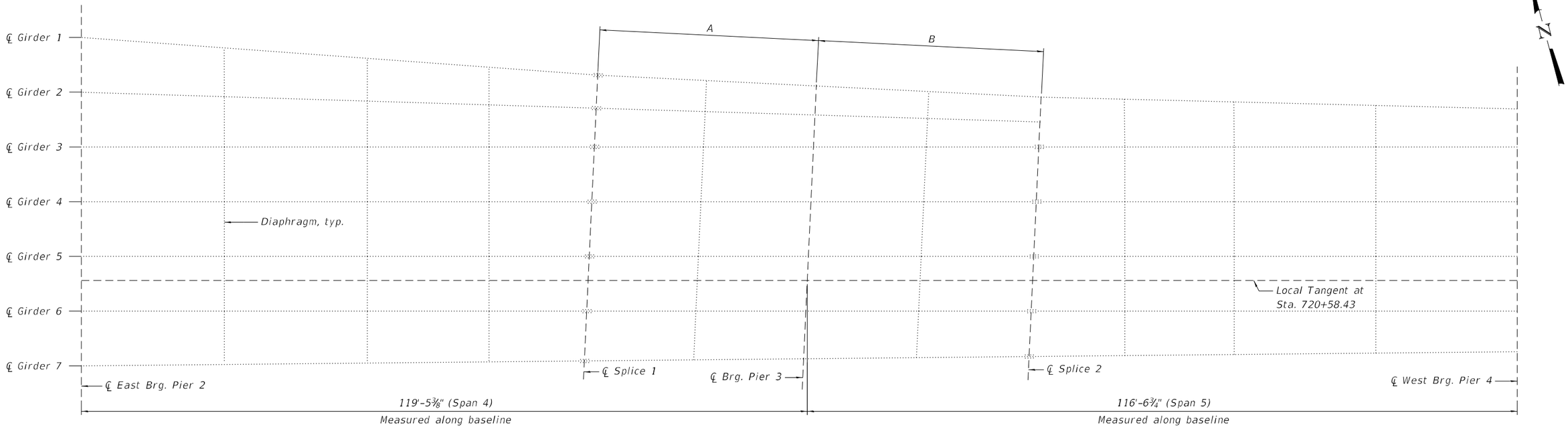
STRUCTURAL STEEL REPAIR LOAD RESTRICTIONS

Construction loading assumed for design consisted of a construction load of 20 psf over the full width of the deck in addition to the existing dead load of the structure including weight of concrete deck and parapets. The 20 psf construction load was positioned or applied in order to maximize the load for each individual member.

The Contractor shall confirm that the combined weight of construction vehicles, equipment, work platforms and stockpiled materials comply with the noted design assumptions at all times during structural steel repairs. The Contractor shall submit construction weights and sequencing to the Engineer for approval.

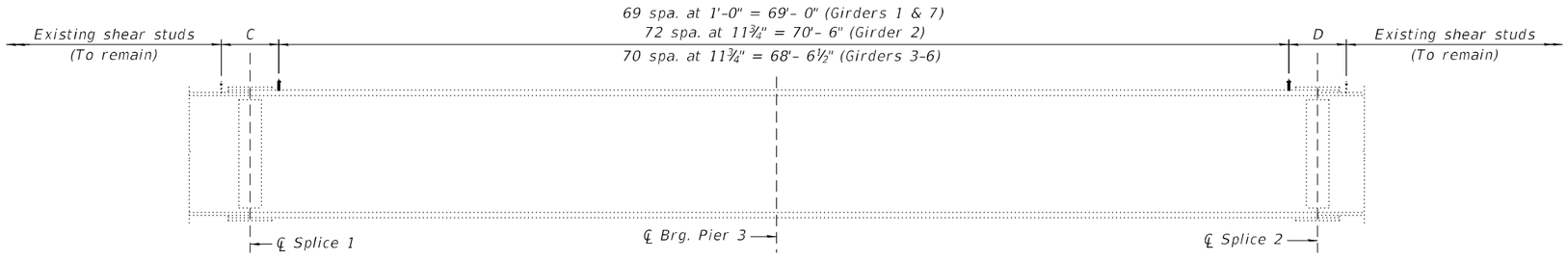


DETAIL 1 - SEALANT

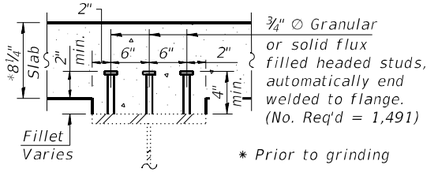


FRAMING PLAN

Spans 4 and 5



GIRDER ELEVATION



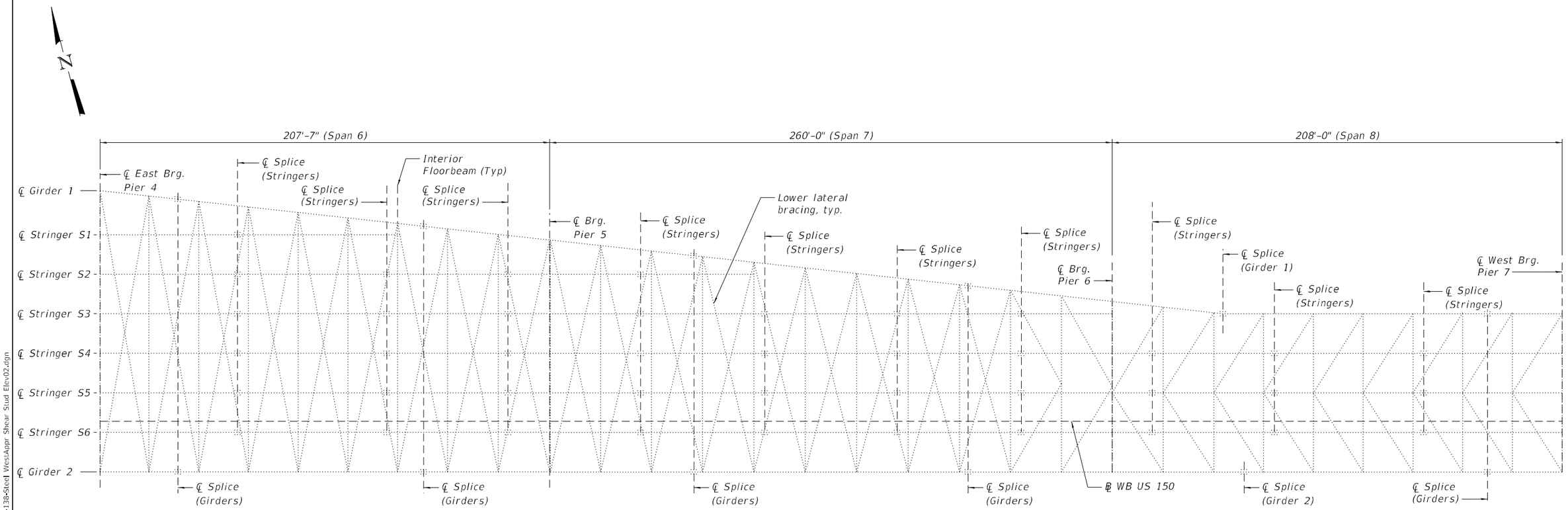
¾" ∅ Granular or solid flux filled headed studs, automatically end welded to flange. (No. Req'd = 1,491)

* Prior to grinding

GIRDER SECTION

Distances between ℄ Splices (Along girder ℄)				
	A	B	C	D
Girder 1	36'-1⁵⁄₁₆"	36'-10¹³⁄₁₆"	3'-10⁹⁄₁₆"	3'-10¾"
Girder 2	36'-1¹⁄₁₆"	36'-11⁹⁄₁₆"	3'-10⅞"	-
Girder 3	36'-1½"	37'-0"	4'-2³⁄₁₆"	4'-2³⁄₁₆"
Girder 4	36'-1½"	37'-0"	4'-2⁵⁄₁₆"	4'-1¹³⁄₁₆"
Girder 5	36'-1½"	37'-0"	4'-2¼"	4'-2"
Girder 6	36'-1½"	37'-0"	4'-2⅛"	4'-2¼"
Girder 7	36'-1¾"	37'-0¼"	3'-11⁹⁄₁₆"	3'-11½"

Note:
Existing shear studs in Span 3 to remain. No additional shear studs in Span 3 are required.



FRAMING PLAN

Spans 6 thru 8

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MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -	
	CHECKED - YSS	REVISED -	
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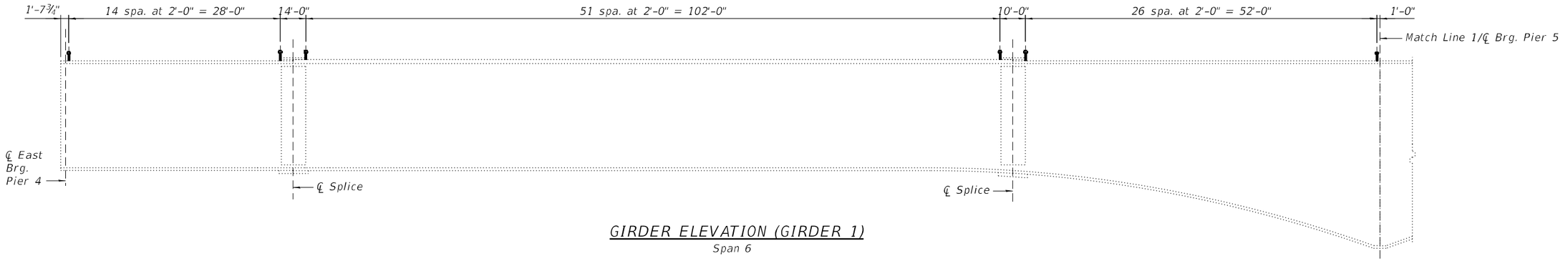
PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

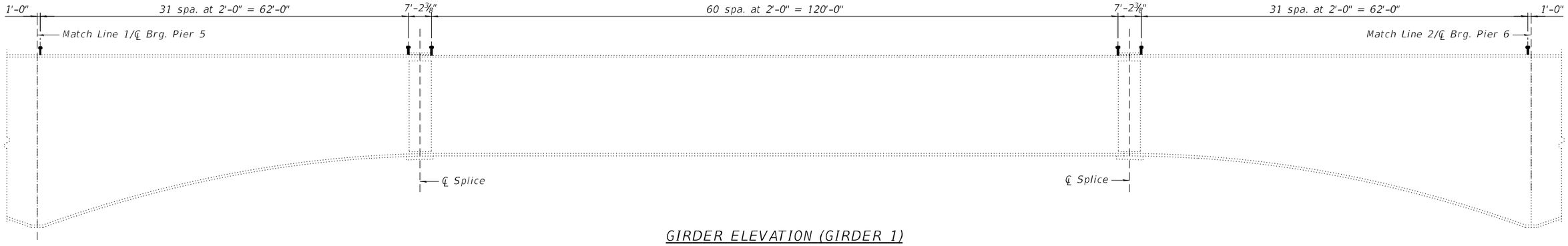
WEST APPROACH - SHEAR STUD DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S138 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	308
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



GIRDER ELEVATION (GIRDER 1)

Span 6



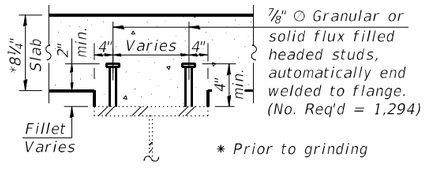
GIRDER ELEVATION (GIRDER 1)

Span 7

GIRDER ELEVATION (GIRDER 1)

Span 8

Note:
See sheet S138 of S214 for Framing Plan.



GIRDER SECTION

MODEL: Default
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3/13/2025 12:52:56 PM

MODJESKI and MASTERS

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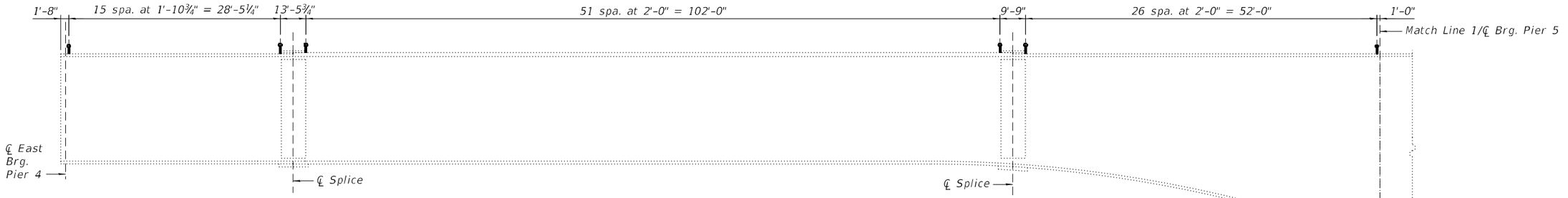
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

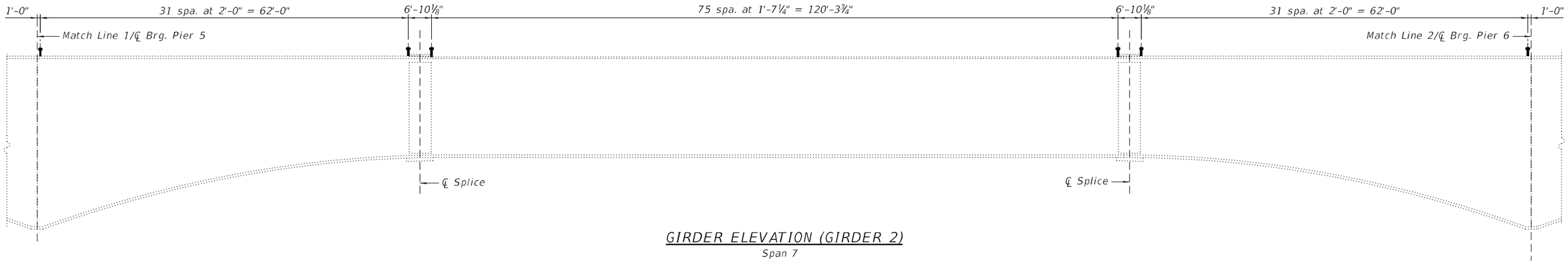
WEST APPROACH - SHEAR STUD DETAILS - 3
STRUCTURE NO. 090-0115
SHEET S139 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	309
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



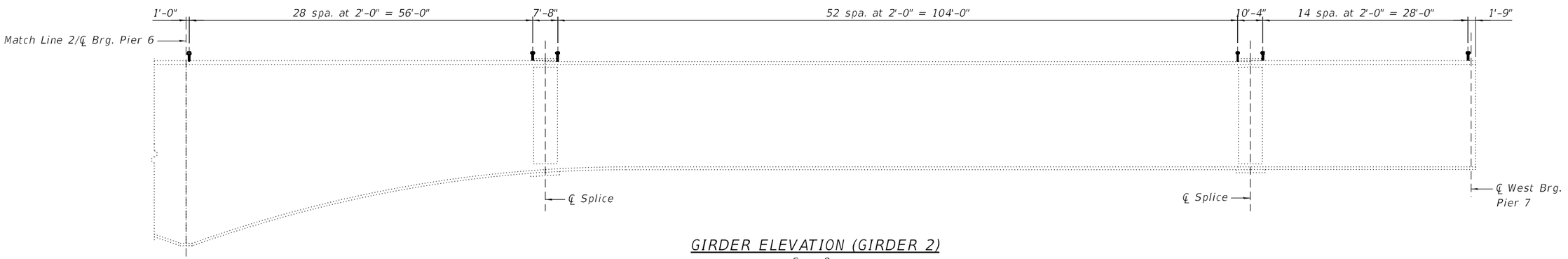
GIRDER ELEVATION (GIRDER 2)

Span 6



GIRDER ELEVATION (GIRDER 2)

Span 7



GIRDER ELEVATION (GIRDER 2)

Span 8

Notes:
See sheet S138 of S214 for Framing Plan.
See Girder Section on sheet S139 of S214 for transverse shear stud spacing.

MODEL: Default
FILE NAME: P:\4312-WBMcCluggageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-140-SteelWestAppr Shear Stud Elev04.dgn
3/13/2025 12:52:58 PM

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	CHECKED - YSS	REVISED -	
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PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - SHEAR STUD DETAILS - 4
STRUCTURE NO. 090-0115
SHEET S140 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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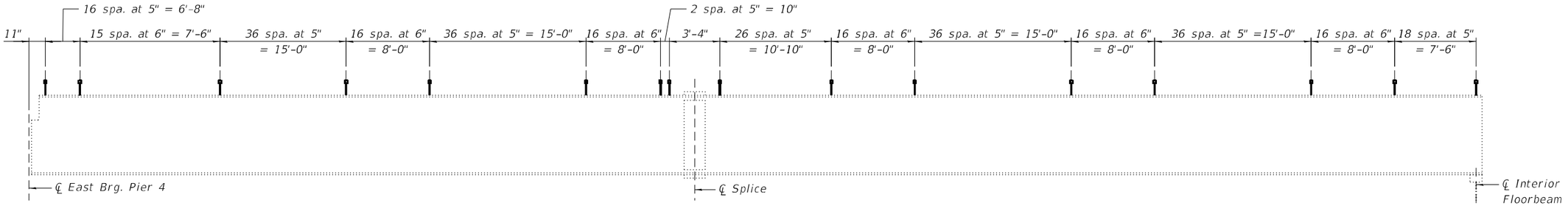
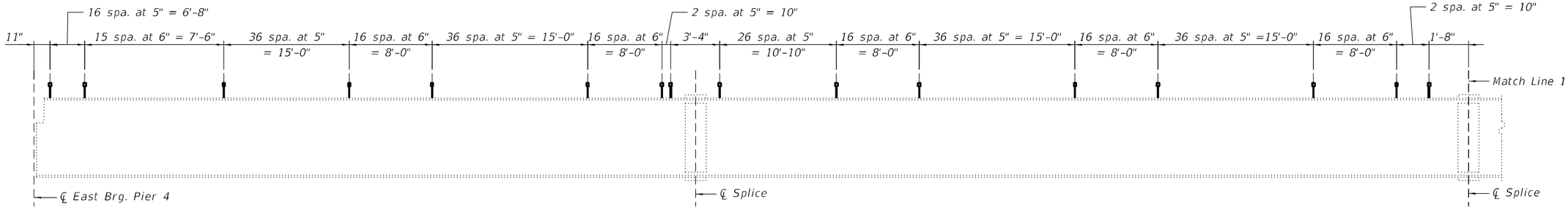
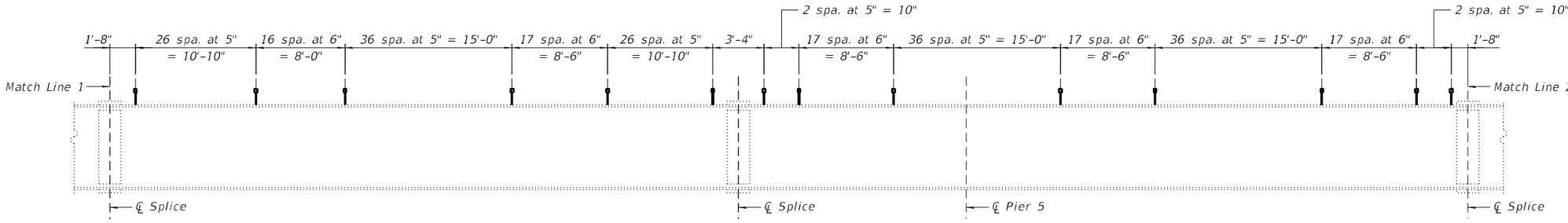
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



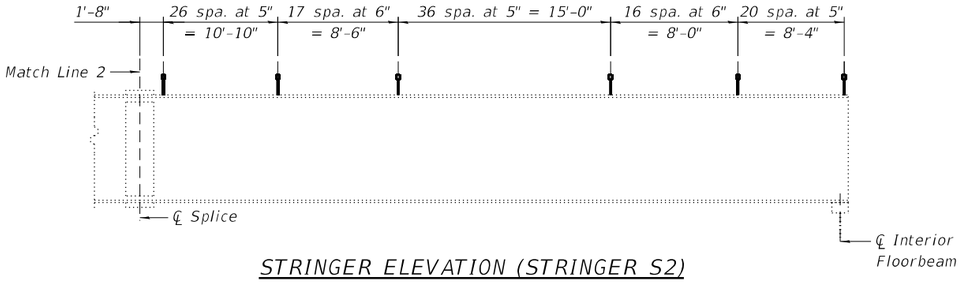
STRINGER ELEVATION (STRINGER S1)



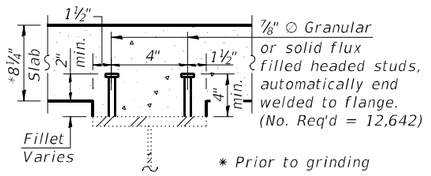
STRINGER ELEVATION (STRINGER S2)



STRINGER ELEVATION (STRINGER S2)



STRINGER ELEVATION (STRINGER S2)



STRINGER SECTION

Note:
See sheet S138 of S214 for Framing Plan.

MODEL: Default
FILE NAME: P:\4312-WBMc\LiggageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\(0900115-68E44-141-Steel WestAppr Shear Stud Elev05.dgn
3/13/2025 12:53:00 PM

MODJESKI and MASTERS

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	CHECKED - YSS	REVISED -	
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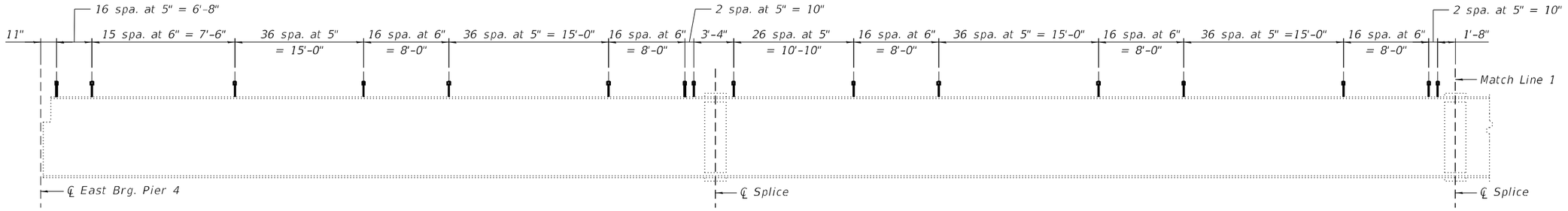
PLOT DATE =	CHECKED - YSS	REVISED -	

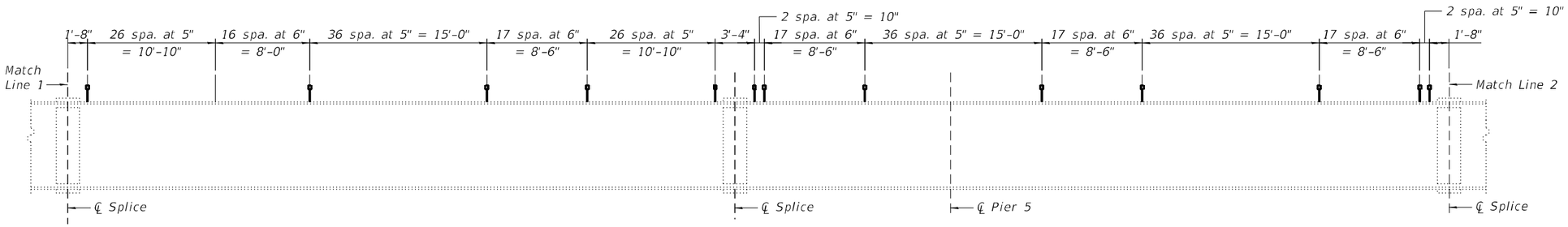
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - SHEAR STUD DETAILS - 5
STRUCTURE NO. 090-0115
SHEET S141 OF S214 SHEETS

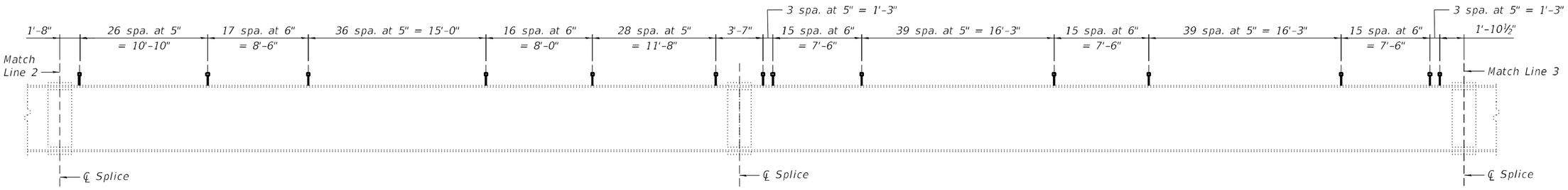
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	311
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



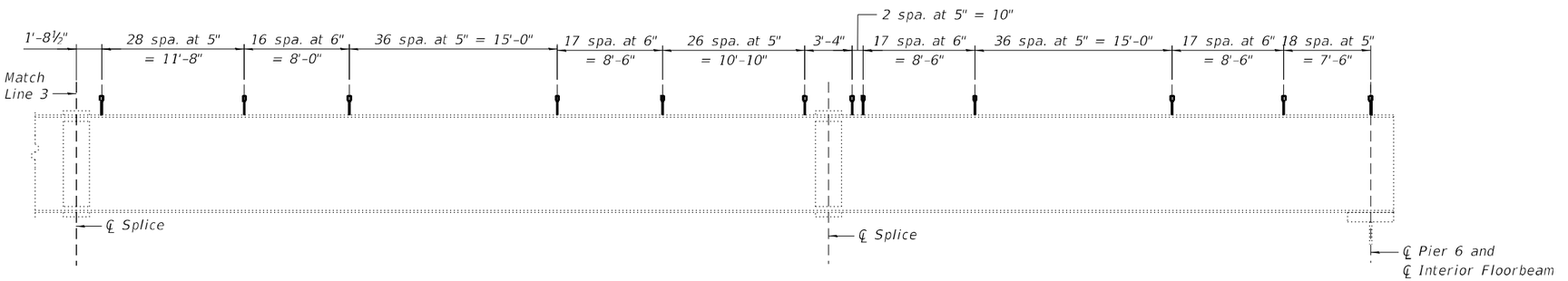
STRINGER ELEVATION (STRINGER S3)



STRINGER ELEVATION (STRINGER S3)



STRINGER ELEVATION (STRINGER S3)



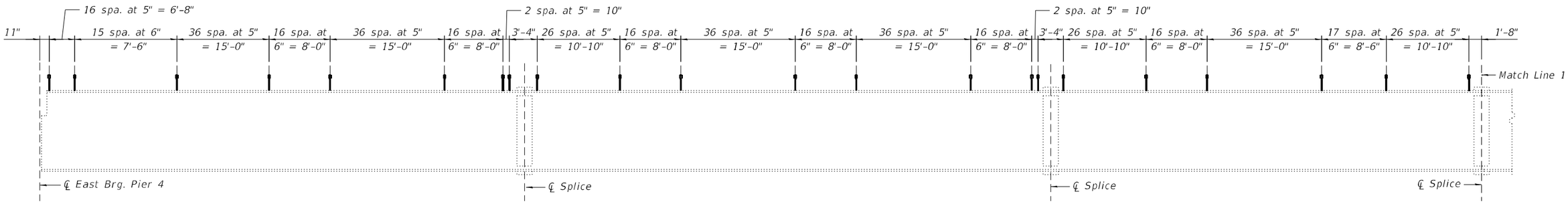
STRINGER ELEVATION (STRINGER S3)

Notes:
See sheet S138 of S214 for Framing Plan.
See Stringer Section on sheet S141 of S214 for transverse shear stud spacing.

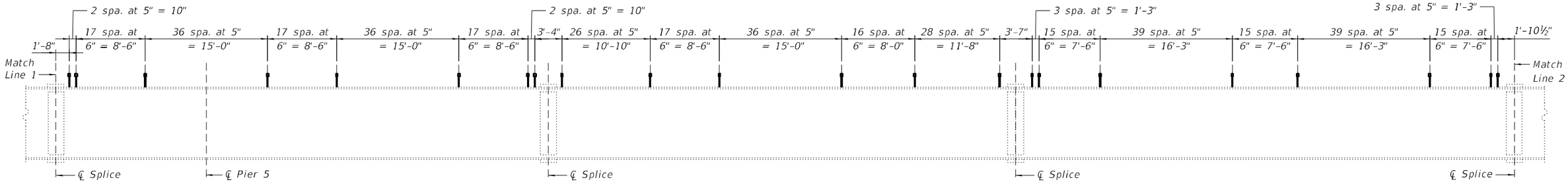
MODEL: Default
FILE NAME: P:\4312-WBMcCLugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-142-Steel WestAppr Shear Stud Elev06.dgn
3/13/2025 12:53:03 PM

MODJESKI and MASTERS	USER NAME =	DESIGNED - JDB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST APPROACH - SHEAR STUD DETAILS - 6 STRUCTURE NO. 090-0115
		CHECKED - YSS	REVISED -		
	PLOT SCALE =	DRAWN - ATH	REVISED -		
	PLOT DATE =	CHECKED - YSS	REVISED -		SHEET S142 OF S214 SHEETS

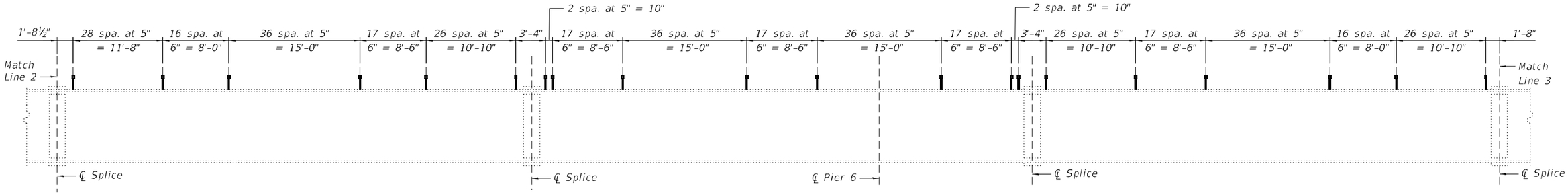
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	312
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



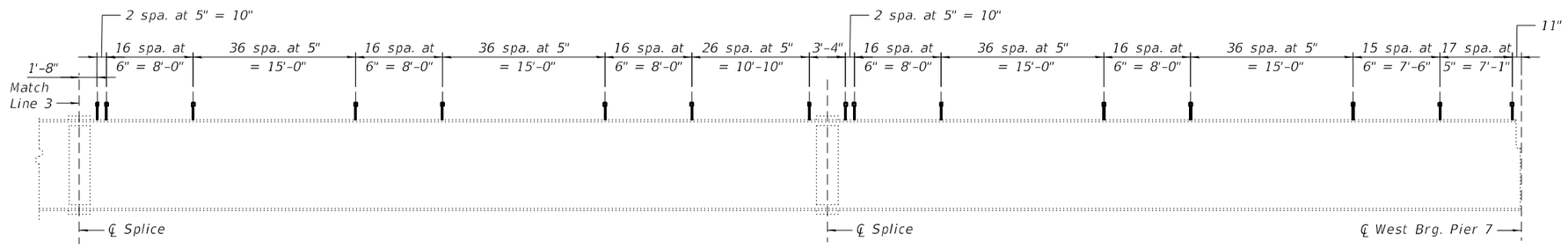
STRINGER ELEVATION (STRINGER S4 THRU S6)



STRINGER ELEVATION (STRINGER S4 THRU S6)



STRINGER ELEVATION (STRINGER S4 THRU S6)



Notes:
See sheet S138 of S214 for Framing Plan.
See Stringer Section on sheet S141 of S214 for transverse shear stud spacing.

STRINGER ELEVATION (STRINGER S4 THRU S6)

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3/13/2025 12:53:06 PM

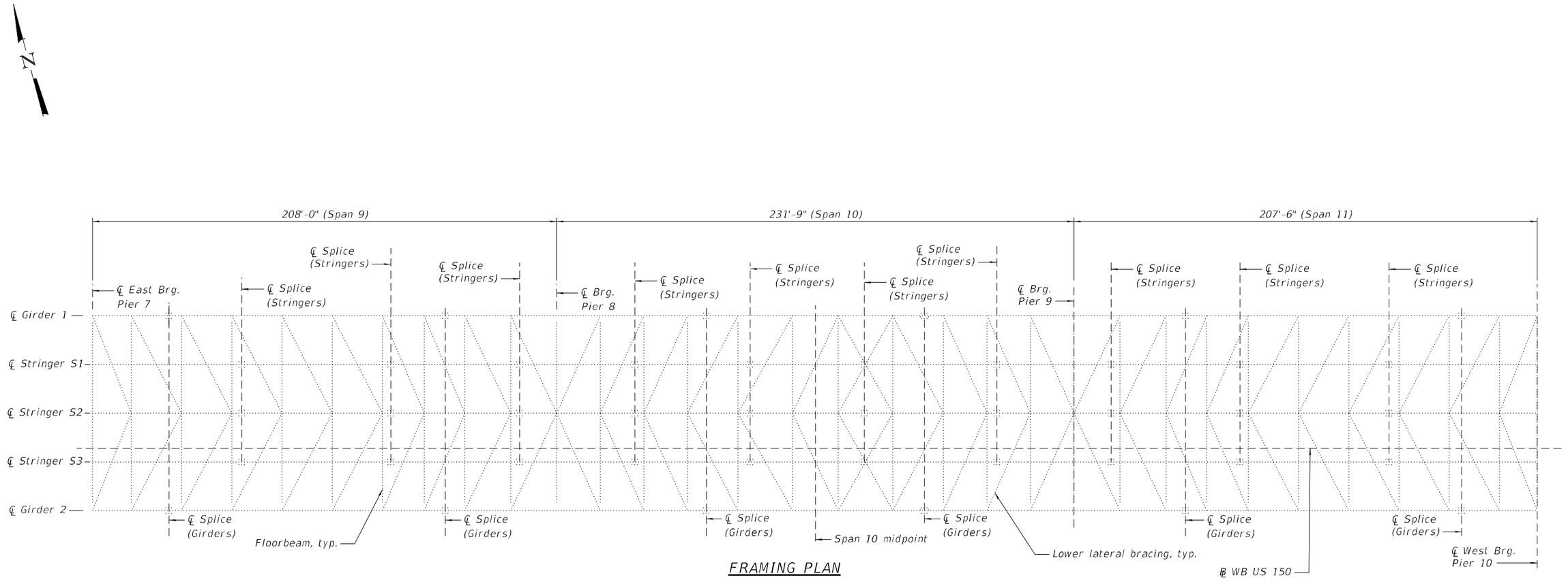
MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -	
	CHECKED - YSS	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - SHEAR STUD DETAILS - 7
STRUCTURE NO. 090-0115
SHEET S143 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	313
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN

Spans 9 thru 11

MODEL: Default
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3/13/2025 12:53:08 PM

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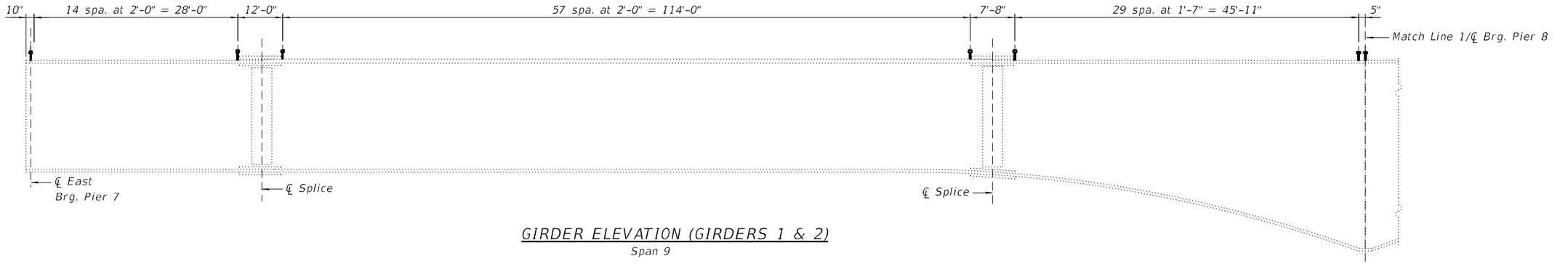
PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - SHEAR STUD DETAILS - 8
STRUCTURE NO. 090-0115

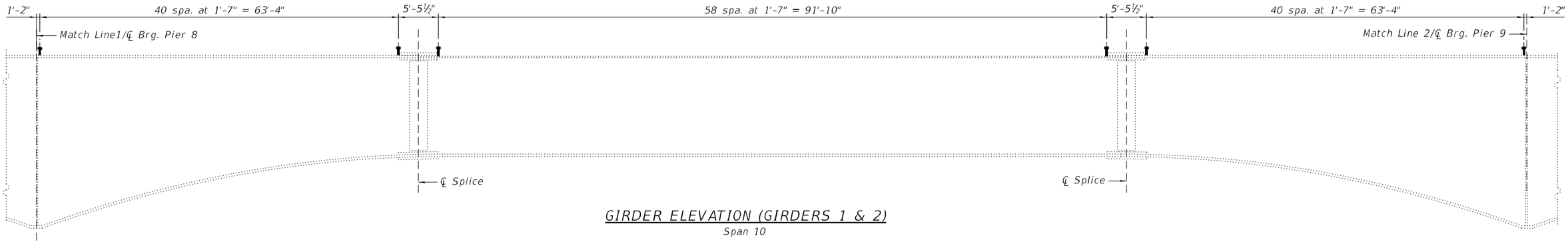
SHEET S144 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	314
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



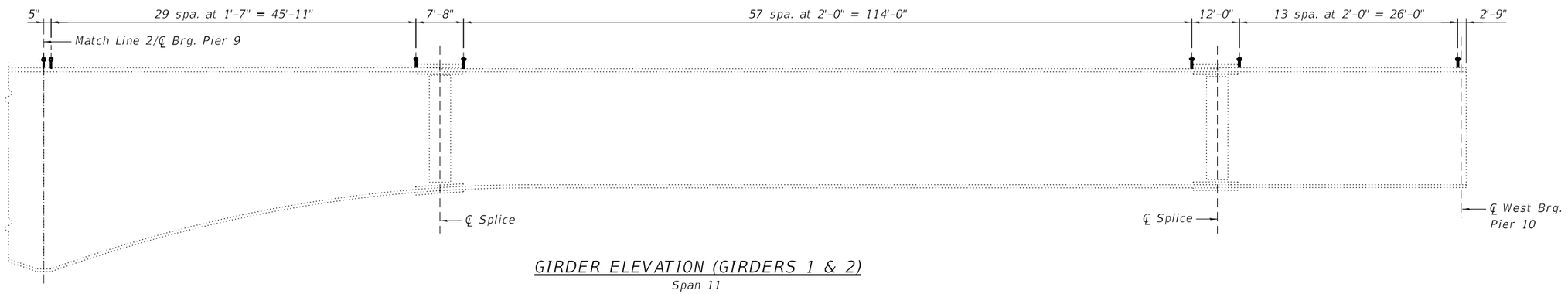
GIRDER ELEVATION (GIRDERS 1 & 2)

Span 9



GIRDER ELEVATION (GIRDERS 1 & 2)

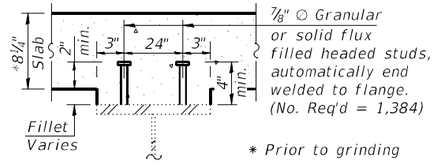
Span 10



GIRDER ELEVATION (GIRDERS 1 & 2)

Span 11

Notes:
See sheet S144 of S214 for Framing Plan.



GIRDER SECTION

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3/13/2025 12:53:10 PM

MODJESKI and MASTERS

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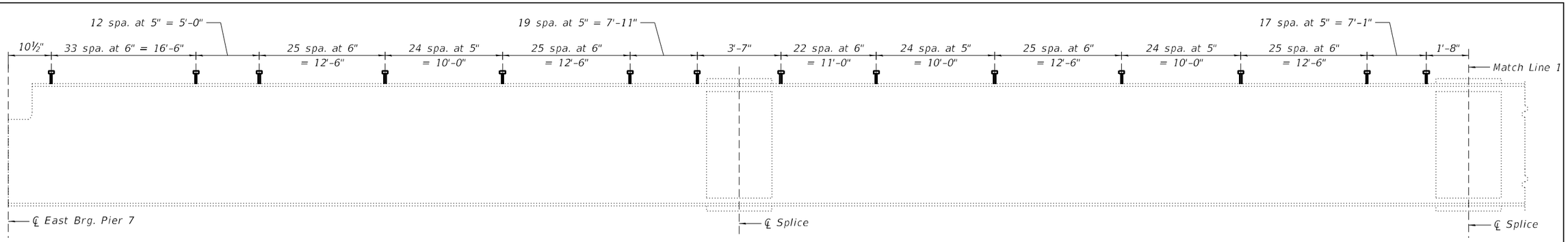
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - YSS	REVISED -

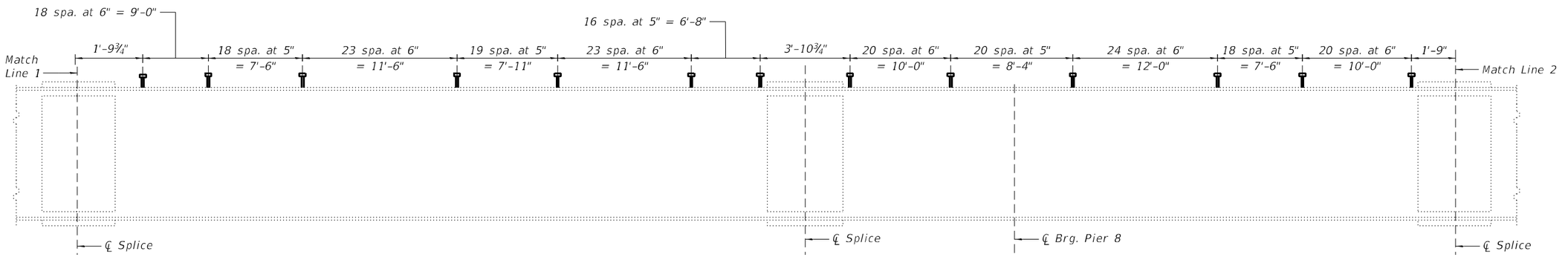
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - SHEAR STUD DETAILS - 9
STRUCTURE NO. 090-0115
SHEET S145 OF S214 SHEETS

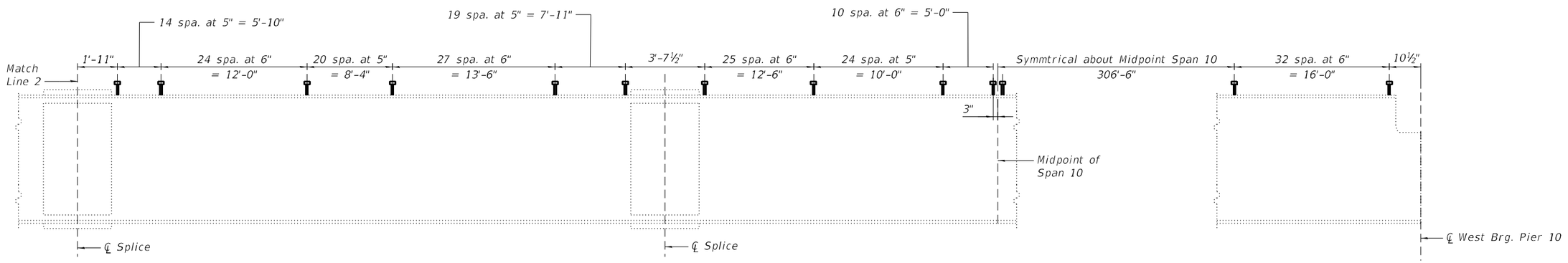
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	315
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

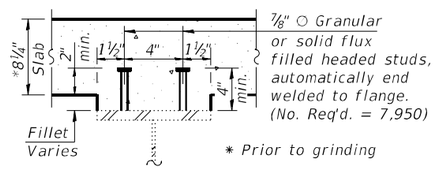


STRINGER ELEVATION (STRINGERS S1 THRU S3)



STRINGER ELEVATION (STRINGERS S1 THRU S3)





STRINGER SECTION

STRINGER ELEVATION (STRINGERS S1 THRU S3)

Note:
See sheet S144 of S214 for Framing Plan.

MODEL: Default
FILE NAME: P:\4312-WBMcCLBridgeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-146-Steel WestAppr Shear Stud Elev10.dgn

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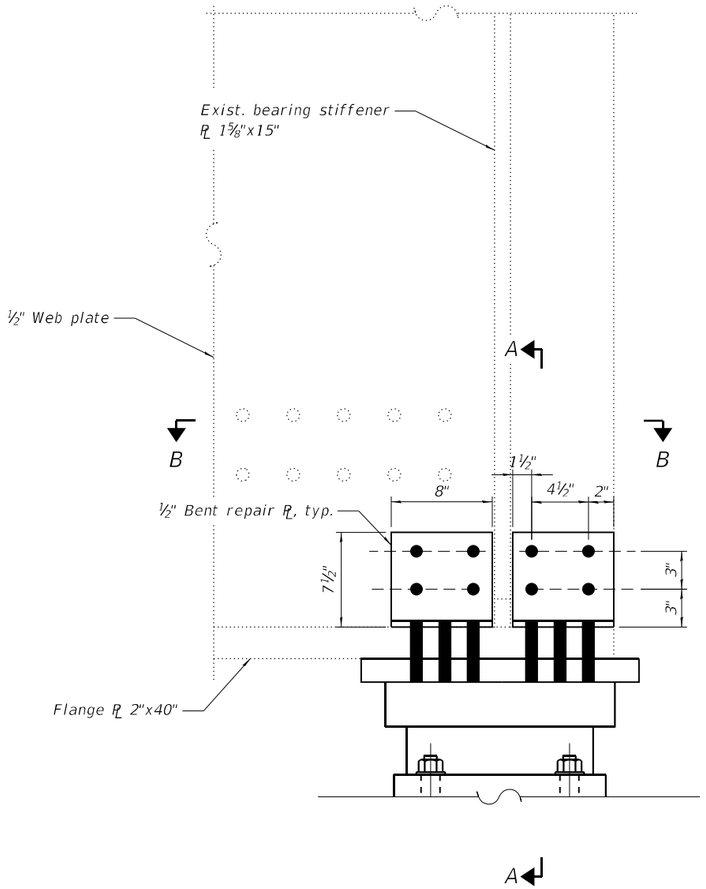
MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -	
	CHECKED - YSS	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

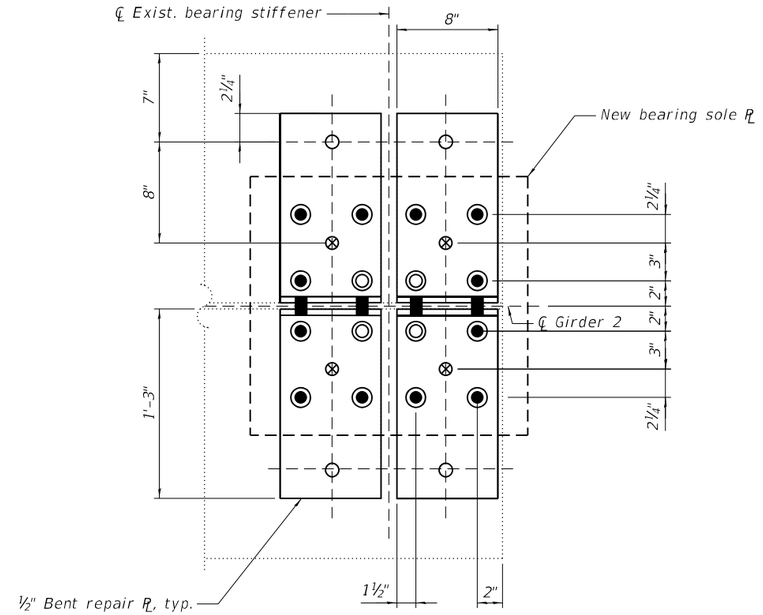
WEST APPROACH - SHEAR STUD DETAILS - 10
STRUCTURE NO. 090-0115
SHEET S146 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	316
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

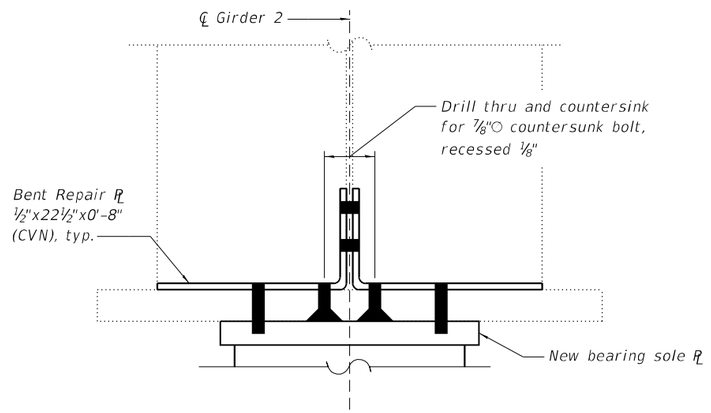


SPAN 8, GIRDER 2 AT PIER 7 (ITEM 115)

Looking North



SECTION B-B



SECTION A-A

LEGEND

- Existing fastener to remain
- New ⅞"∅ bolt in new 15/16"∅ hole
- New 1"∅ bolt in existing 1 1/16"∅ hole
- New ⅞"∅ countersunk bolt in new 15/16"∅ hole
- New 1"∅ stud in new 1¼"∅ hole in girder flange. tapped into bearing sole plate
- ⊗ New 1"∅ stud in existing hole, tapped into bearing sole plate. Ream existing 1 1/16"∅ hole in girder flange 1¼"∅.

Notes:

Countersunk bolts shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized. Dimensions shall conform to ASME B18.5.

Coordinate the girder web repair with the bearing replacement at Pier 7. See sheets S186 and S196 of S214 for the bearing replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	130

MODEL: Default
FILE NAME: P:\4312-WBM\CtLugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-147-WAppr-GirWebRpr.dgn

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MODJESKI and MASTERS

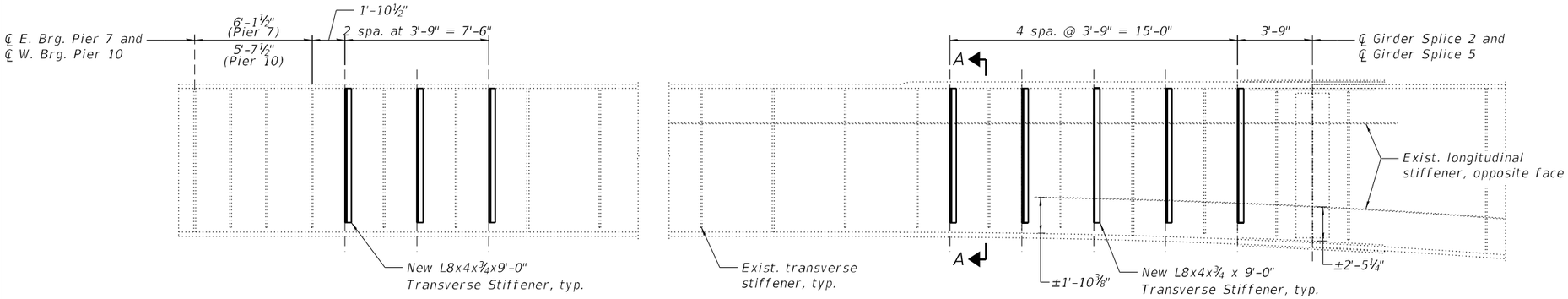
USER NAME =		DESIGNED -	JAD	REVISED -	
		CHECKED -	RLM	REVISED -	
PLOT SCALE =		DRAWN -	KEW	REVISED -	
PLOT DATE =		CHECKED -	JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - GIRDER WEB REPAIR
STRUCTURE NO. 090-0115

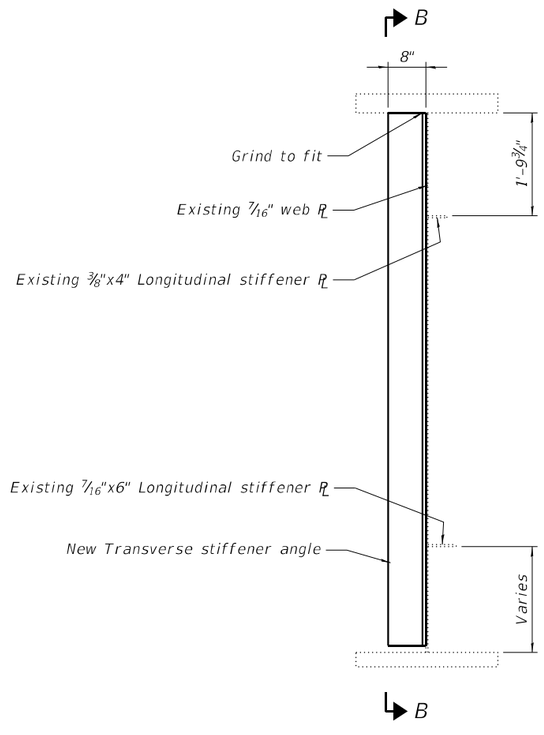
SHEET S147 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	317
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

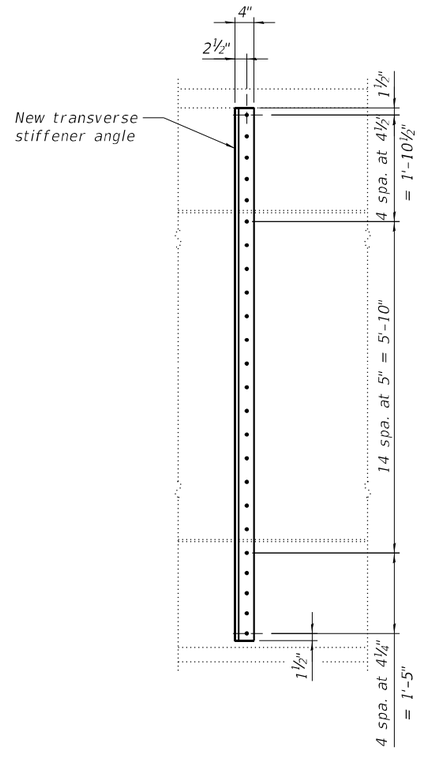


GIRDER ELEVATION, SPANS 9 AND 11, GIRDERS 1 AND 2

Looking north
Inside face of Girder 1 shown. Girder 2 similar.



SECTION A-A



SECTION B-B

Notes:
Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

LEGEND

- *New bolt in new hole (shop or field drilled)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	8,940

MODEL: Default
FILE NAME: P:\4312-WBMc1LugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\09001115-68E44-1148-Steel WestAppr-Girder Web Strengthening.dgn
3/13/2025 12:53:22 PM

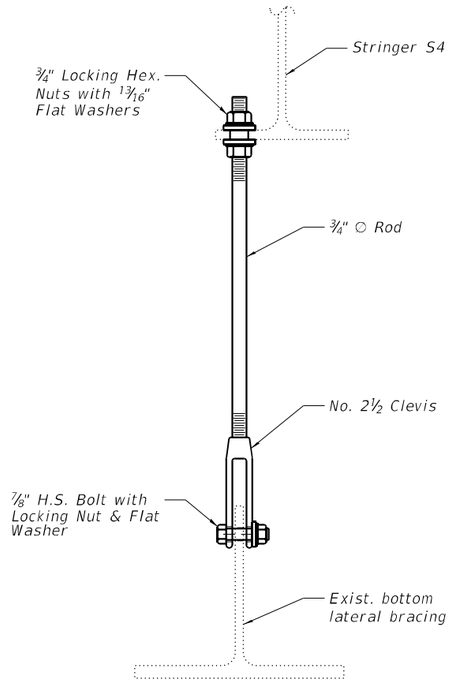
MODJESKI and MASTERS

USER NAME =	DESIGNED - SEC	REVISED -	
	CHECKED - YSS	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - GIRDER WEB STRENGTHENING
STRUCTURE NO. 090-0115
SHEET S148 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	318
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



LATERAL BRACING HANGER REPAIR
SPAN 6, LATERAL BRACE AT MIDPOINT IN PANELS 3, 4, 5, 6 AND 7 (ITEM 20)

Note:
The cost of all work required to replace the missing or broken hangers for the lateral bracing shall be included in the contract unit price for Structural Steel Repair and will not be measured separately for payment.

MODEL: Default
FILE NAME: P:\4312-WBMcCluggageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-149-WAppr-LatBraceHanger.dgn
3/13/2025 12:53:26 PM

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
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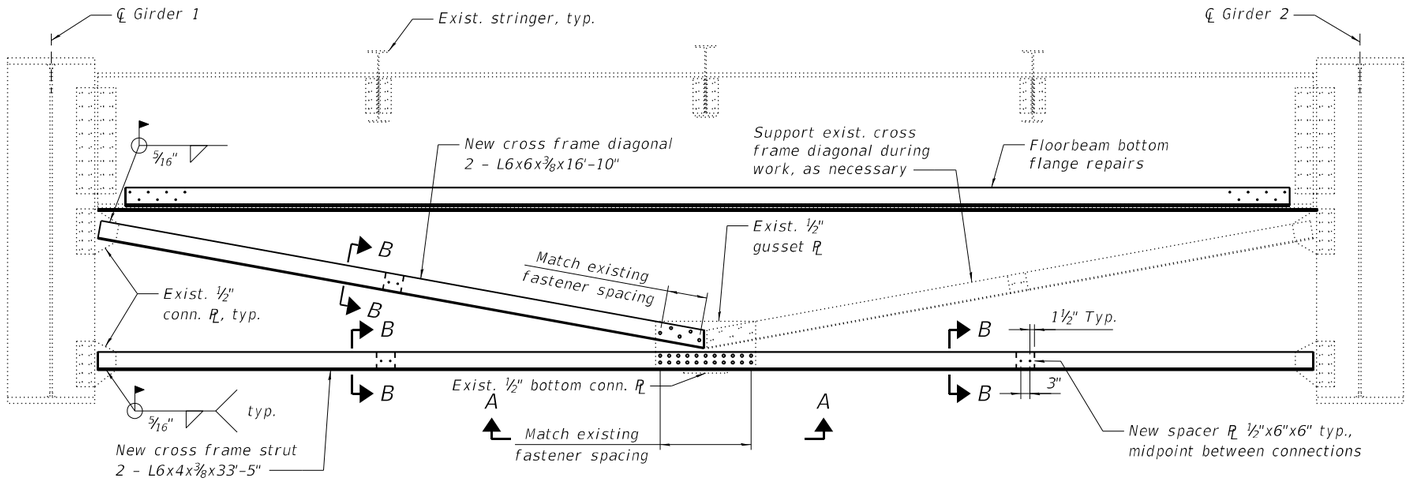
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

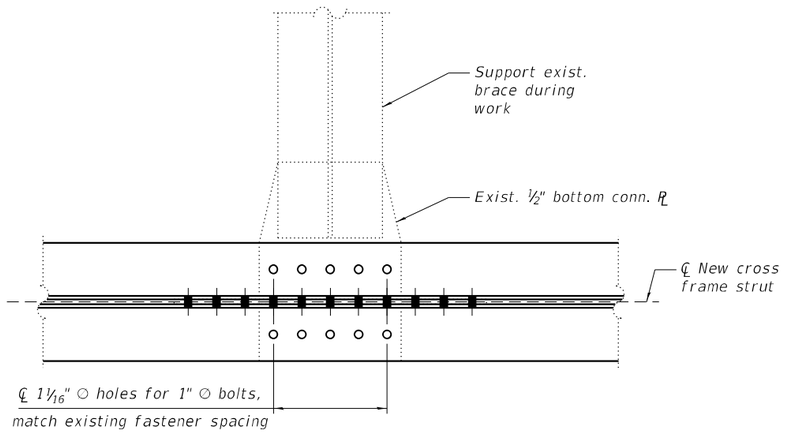
WEST APPROACH - LATERAL BRACING HANGER REPAIR DETAILS
STRUCTURE NO. 090-0115
SHEET S149 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	319
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

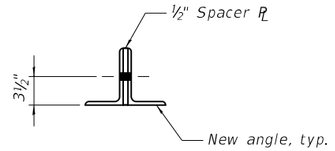


SPAN 9, CROSS FRAME AT FLOORBEAM 0 (ITEM 131)

Looking east



VIEW A-A



SECTION B-B

Notes:

Remove existing cross frame members identified for replacement using the air-arc method to remove existing welded connections and grind smooth all weld material remaining on the existing connection plates. Cost included with Structural Steel Repair. Install new members as shown.

Coordinate cross frame repairs with floorbeam bottom flange repairs. See sheet S151 of S214 for floorbeam repair details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

The cost of all work required to repair the cross frame strut and diagonal, including brace and diagonal support, shall be included in the cost for Structural Steel Repair.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drilled)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	1,390

MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADDStructural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-150-WAppr_CF_Rpr_Dtl.dgn

3/14/2025 9:35:17 AM

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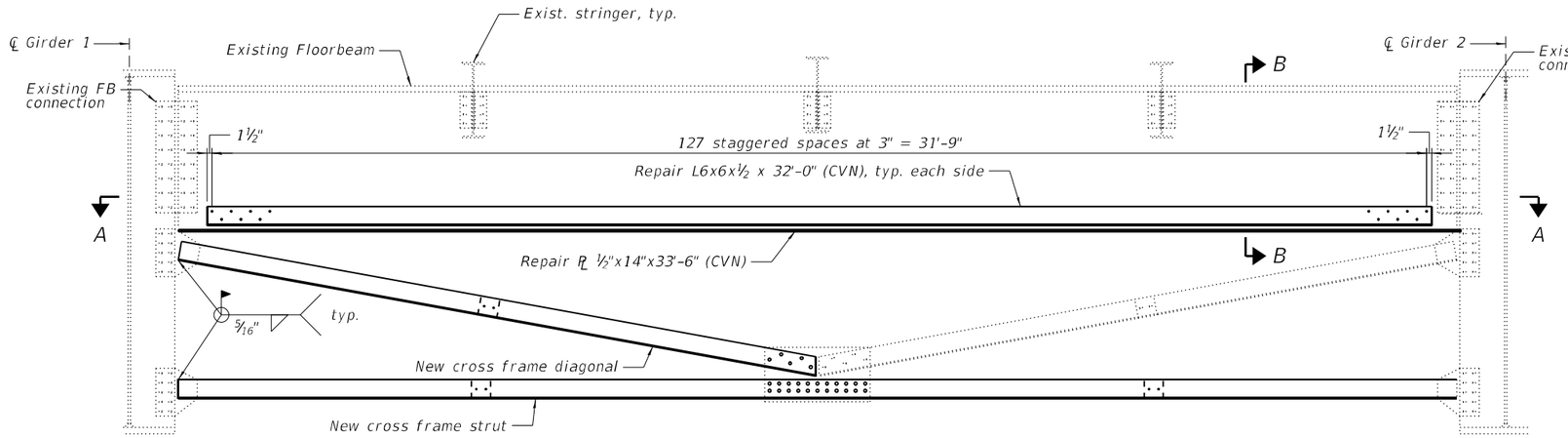
PLOT DATE =	CHECKED - JAD	REVISED -	

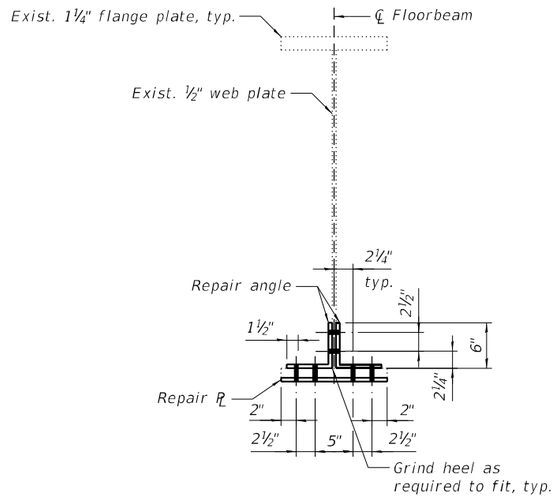
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - CROSS FRAME REPAIR DETAILS
STRUCTURE NO. 090-0115
SHEET S150 OF S214 SHEETS

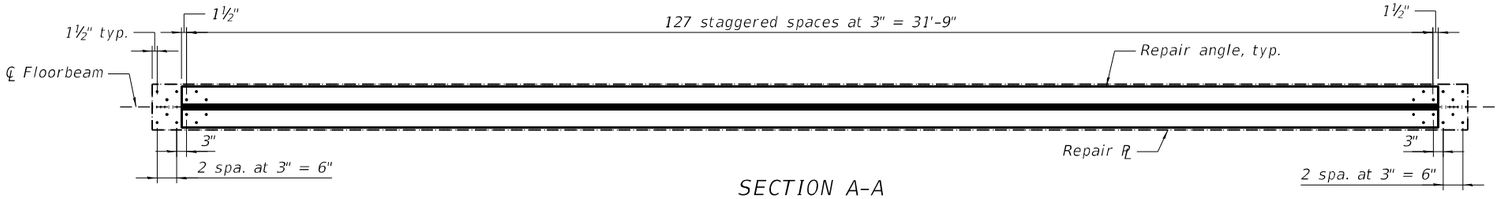
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	320
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



SPAN 9, FLOORBEAM 0 (ITEM 116)



SECTION B-B



SECTION A-A

Notes:

Coordinate floorbeam bottom flange repairs with cross frame repairs. See sheet S150 of S214 for cross frame repair details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

LEGEND

- New bolt in new hole (shop or field drilled)
- ⁘ Existing fastener to remain

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	2,460

MODJESKI and MASTERS

USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH - FLOORBEAM BOTTOM FLANGE REPAIR
STRUCTURE NO. 090-0115
SHEET S151 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	321
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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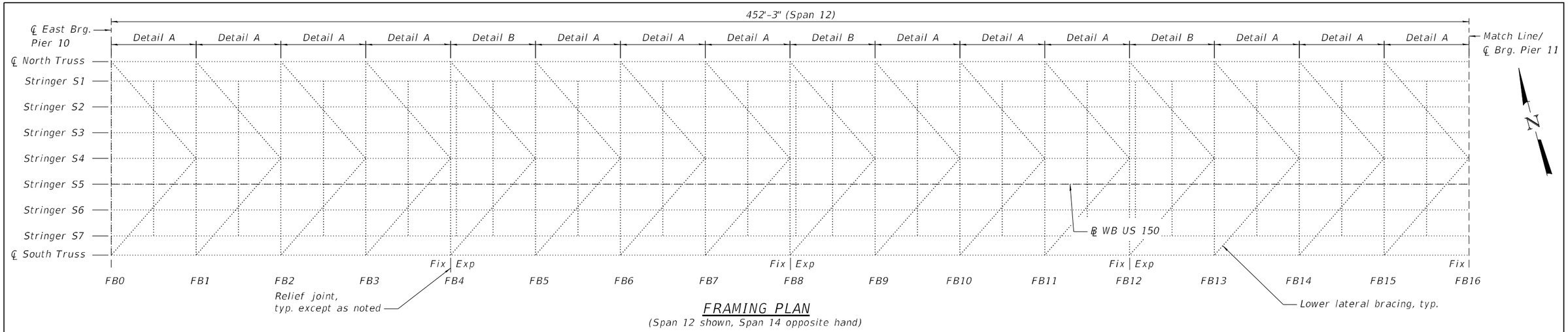
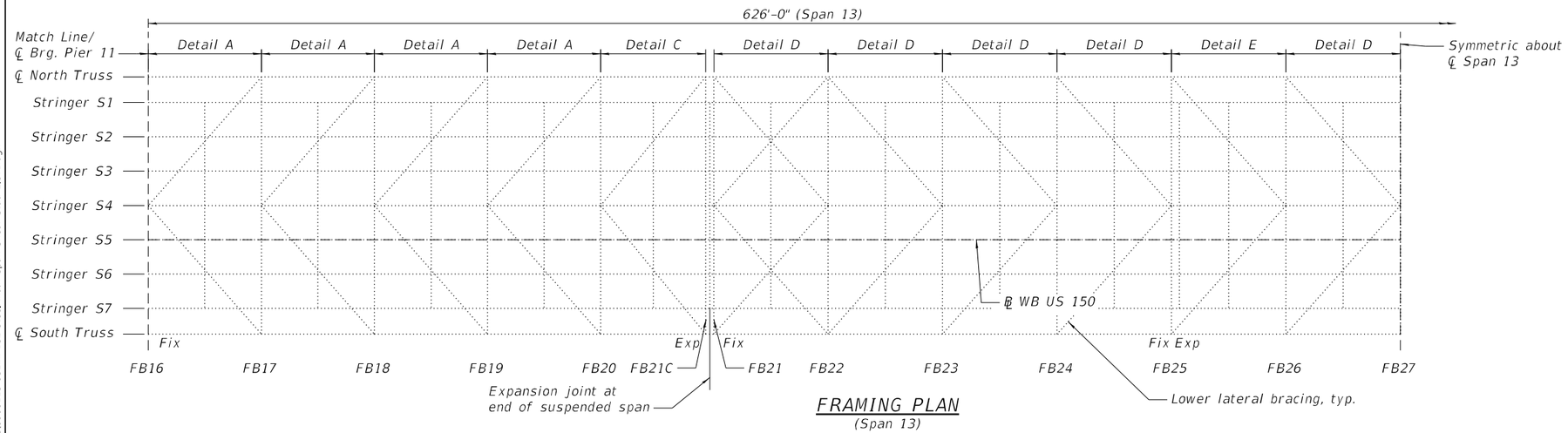
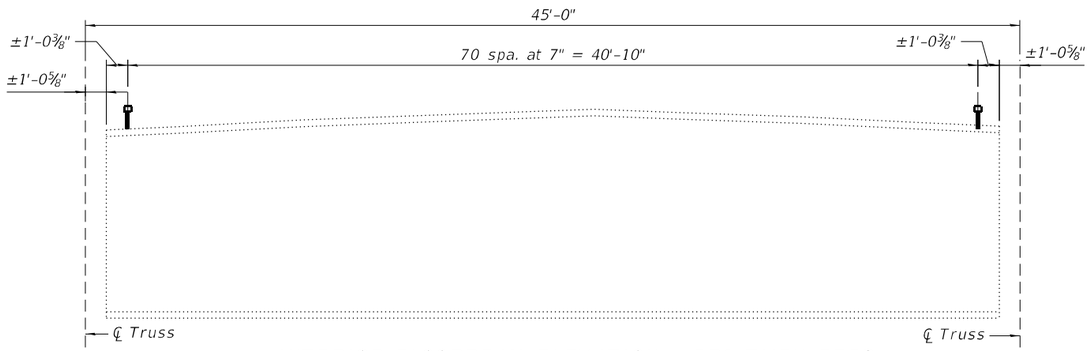
3/14/2025 9:33:49 AM



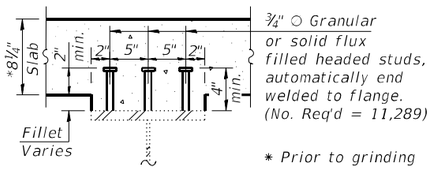
FRAMING PLAN
(Span 12 shown, Span 14 opposite hand)



FRAMING PLAN
(Span 13)



INTERIOR FLOORBEAM ELEVATION – FB1 THRU FB53



¾" ○ Granular or solid flux filled headed studs, automatically end welded to flange. (No. Req'd = 11,289)

* Prior to grinding

INTERIOR FLOORBEAM SECTION

Notes:

Shear studs will not be installed on end floorbeams or interior floorbeams FB21C and FB33C.

Coordinate shear stud installation with floorbeam retrofits (sheets $MR3 thru S177 of S214) and Floorbeam 29 top flange repairs (sheet S164 of S214). Adjust shear stud spacing as needed to accommodate bolt installation.

MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -
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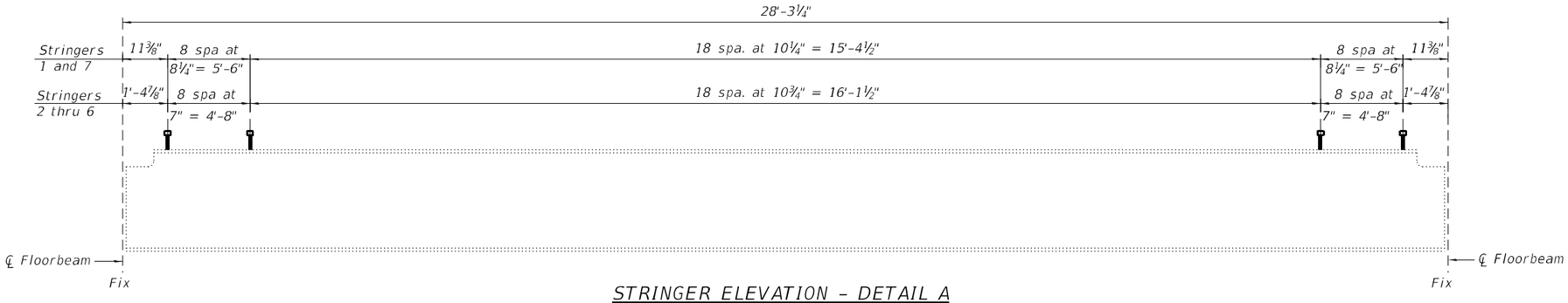
PLOT DATE =	CHECKED - YSS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

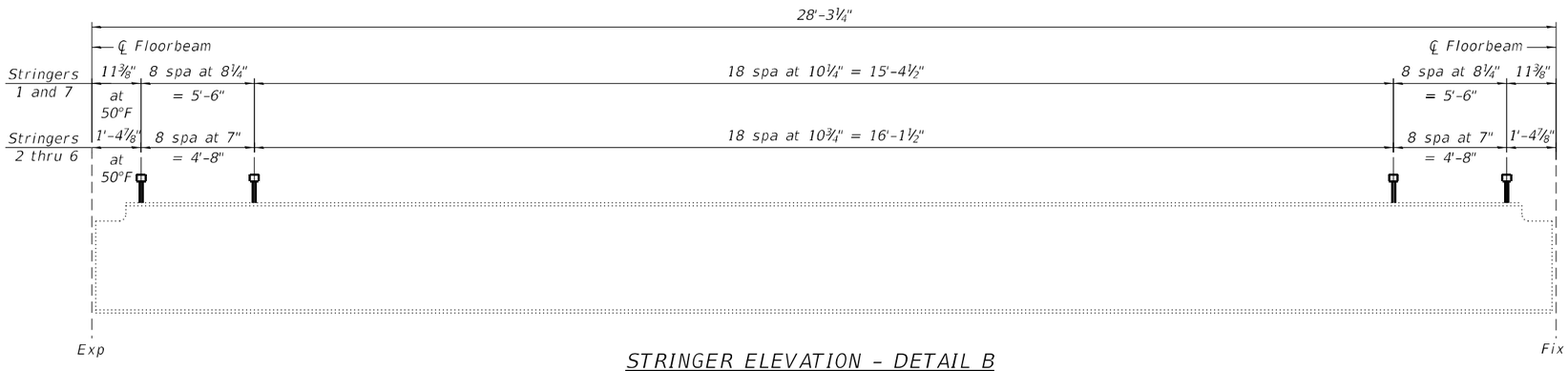
MAIN SPANS - SHEAR STUD DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S152 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	322
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

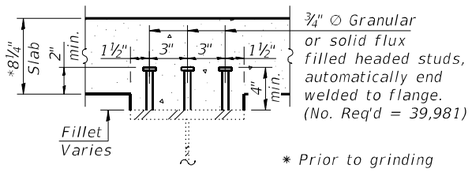
MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-152-Steel Main Span Shear Stud Elev1.dgn
3/14/2025 9:33:53 AM



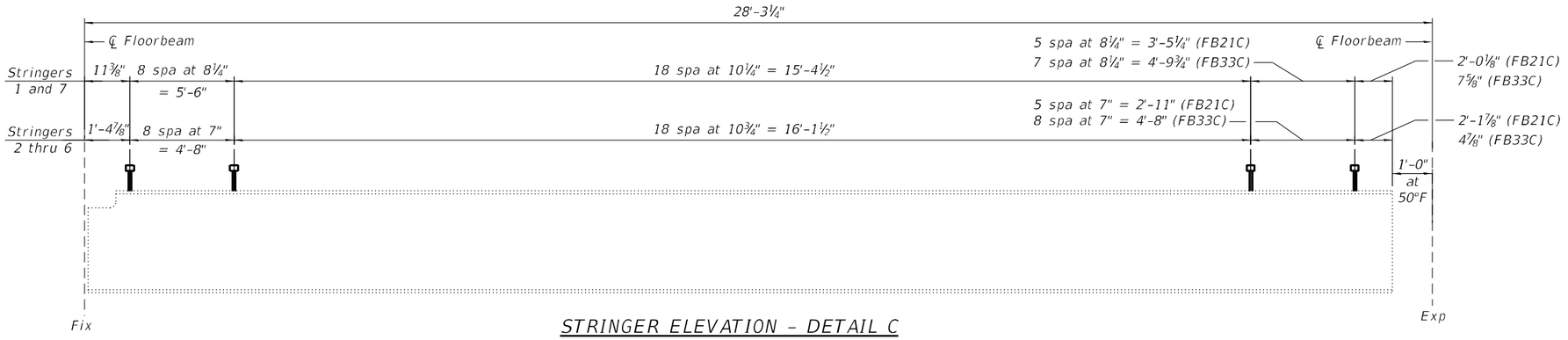
STRINGER ELEVATION – DETAIL A



STRINGER ELEVATION – DETAIL B



STRINGER SECTION



STRINGER ELEVATION – DETAIL C

Note:
See sheet S152 of S214 for Framing Plan.

MODEL: Default
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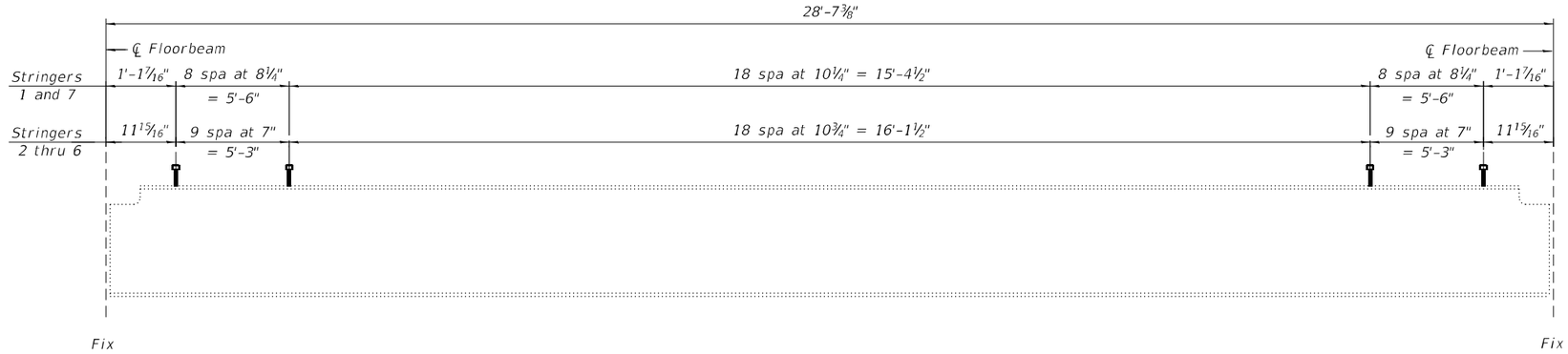
PLOT DATE =	CHECKED - YSS	REVISED -	

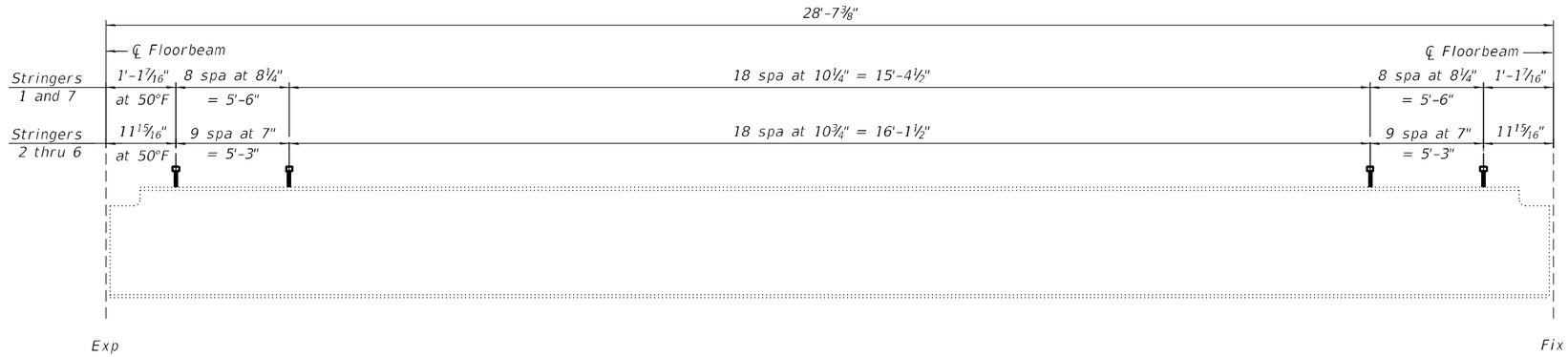
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - SHEAR STUD DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S153 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	323
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



STRINGER ELEVATION - DETAIL D



STRINGER ELEVATION - DETAIL E

Notes:
See sheet S152 of S214 for Framing Plan.
See Stringer Section on sheet S153 of S214 for transverse shear stud spacing.

MODEL: Default
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3/13/2025 12:53:56 PM

MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -
	CHECKED - YSS	REVISED -
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - YSS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - SHEAR STUD DETAILS - 3
STRUCTURE NO. 090-0115
SHEET S154 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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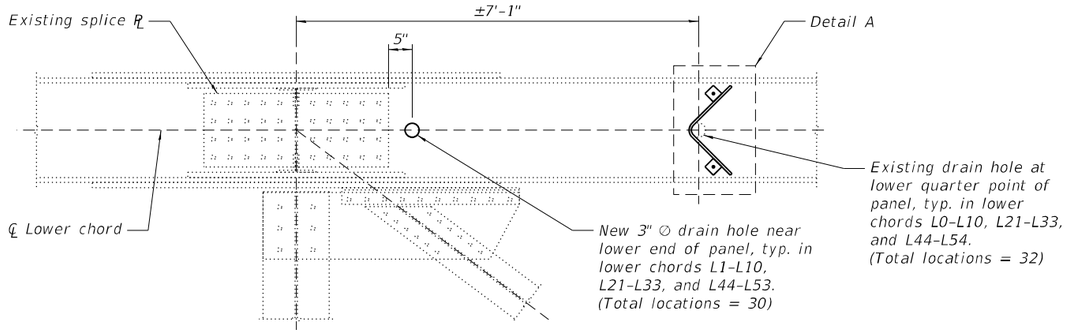
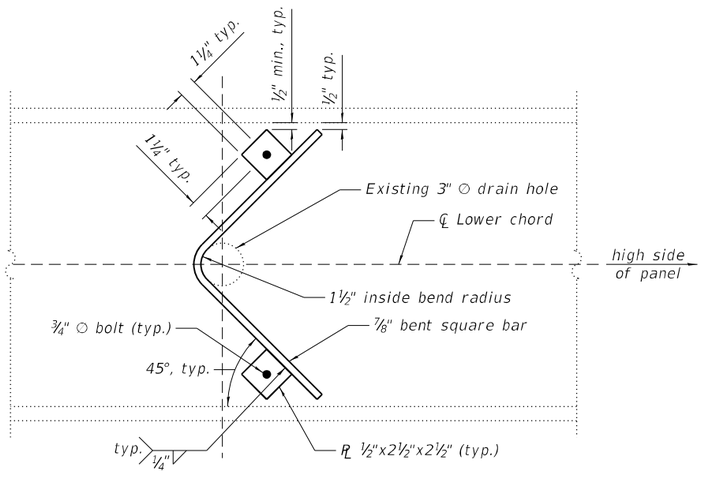
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



PARTIAL PLAN – LOWER CHORD DRAIN HOLE REPAIR DETAIL (ITEM 170)

North lower chord shown, south lower chord similar.



DETAIL A

Notes:

New steel required for the lower chord drain repair shall be AASHTO M183 Grade 36.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

Upon completion of the repairs and coating touch-up, install joint sealant to the front face of the bent square bars (drain hole side) at the interface between the bar and the lower chord web. After the sealant has cured in accordance with the manufacturer's written product data sheet, apply a stripe of the paint system finish coat over the sealant.

The cost of all work required to repair the lower chord drain holes, including drilling new drain holes and application of joint sealant shall be included in the contract unit price for Structural Steel Repair.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drilled)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	250

MODEL: Default
FILE NAME: P:\4312-WBMcClugageRehab\CADDStructural_SN 090-0115_WBMainBridge_Final Plans\(0900115-68E44-155-Steel Main Span LC Drain Details.dgn

MODJESKI and MASTERS	USER NAME =	DESIGNED - JAD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - RLM	REVISED -	
	PLOT SCALE =	DRAWN - KEW	REVISED -	
	PLOT DATE =	CHECKED - JAD	REVISED -	

MAIN SPANS - LOWER CHORD DRAIN DETAILS
STRUCTURE NO. 090-0115
SHEET S155 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	325
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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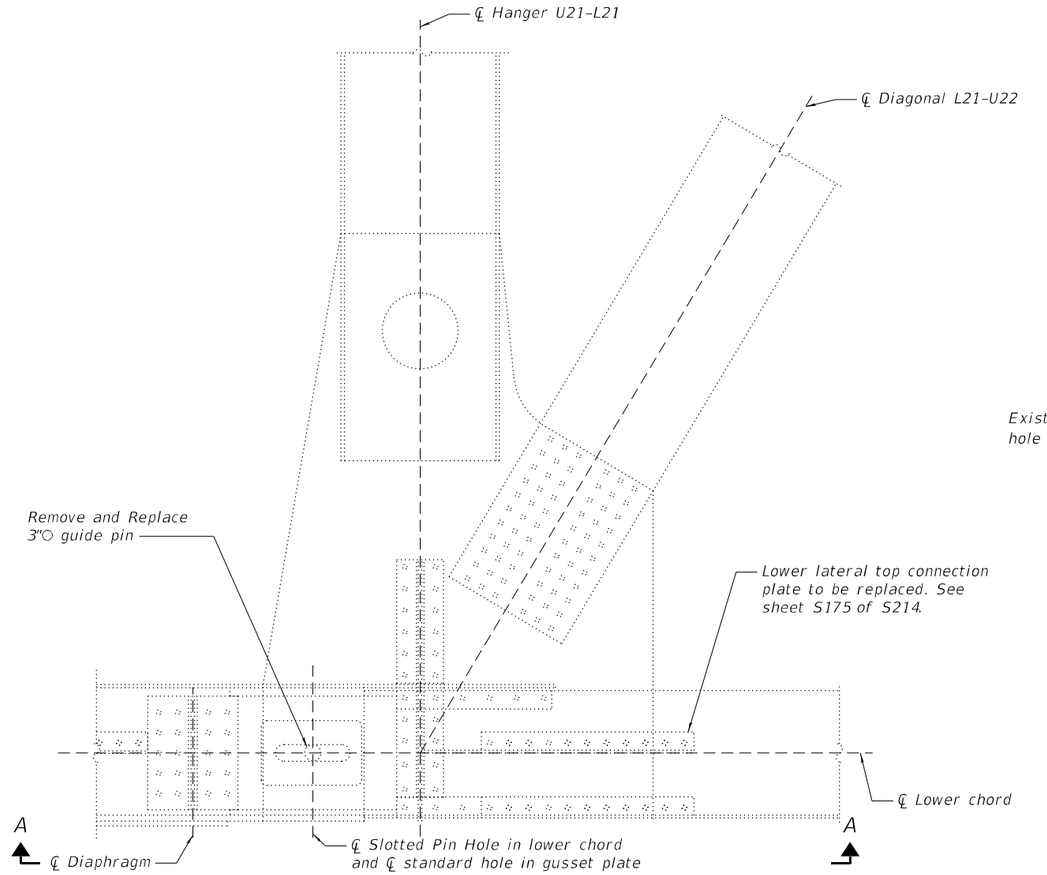
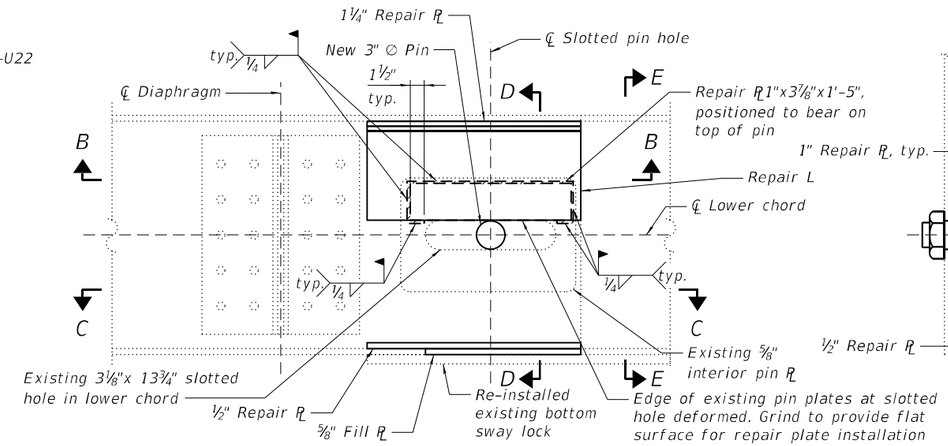


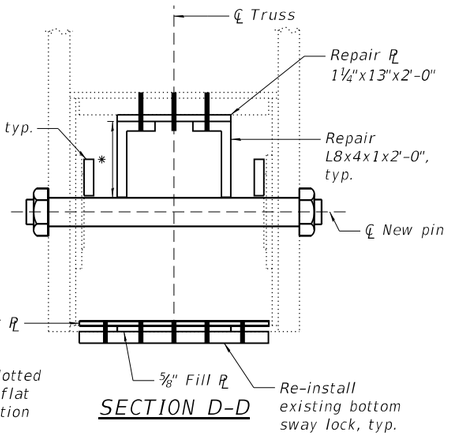
ELEVATION – GUIDE PIN AND PIN PLATE REPAIR
SPAN 13, L21N (ITEM 188)
SPAN 13, L21S (ITEM 189)



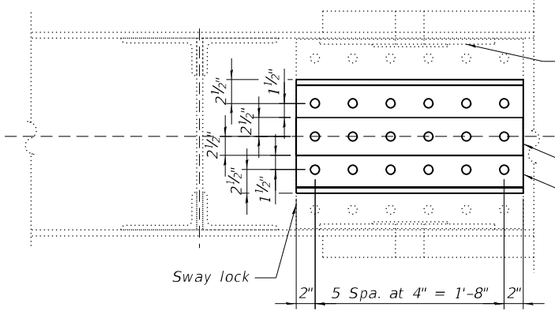
INSIDE ELEVATION – GUIDE PIN REPAIR AT L21

Looking north, sway lock side supports not shown for clarity

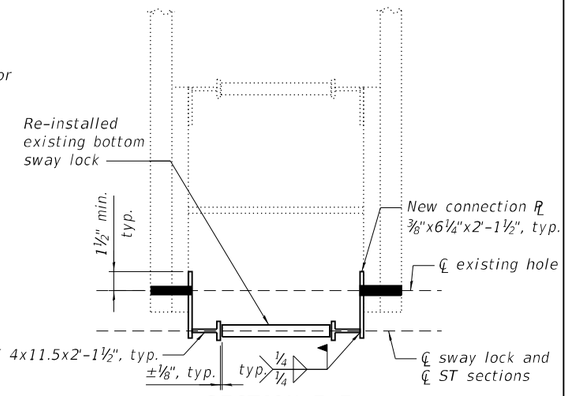
* Trim angle leg as required to bear on top of pin



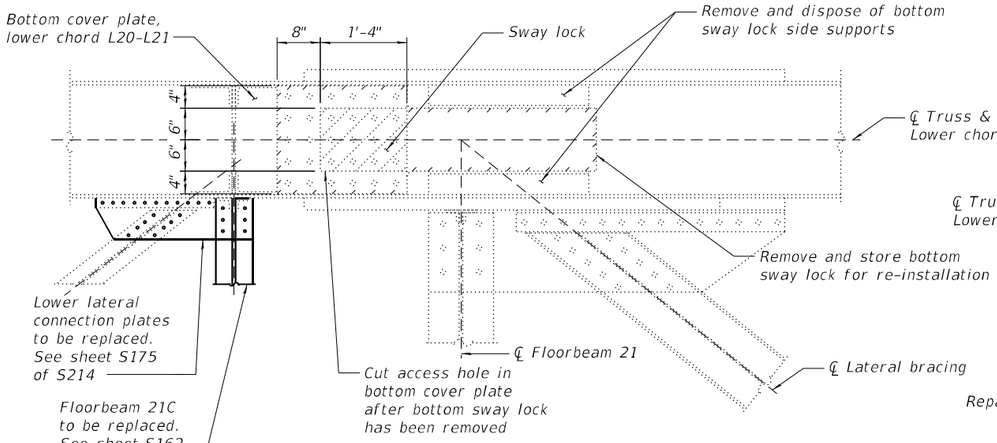
SECTION D–D



SECTION B–B

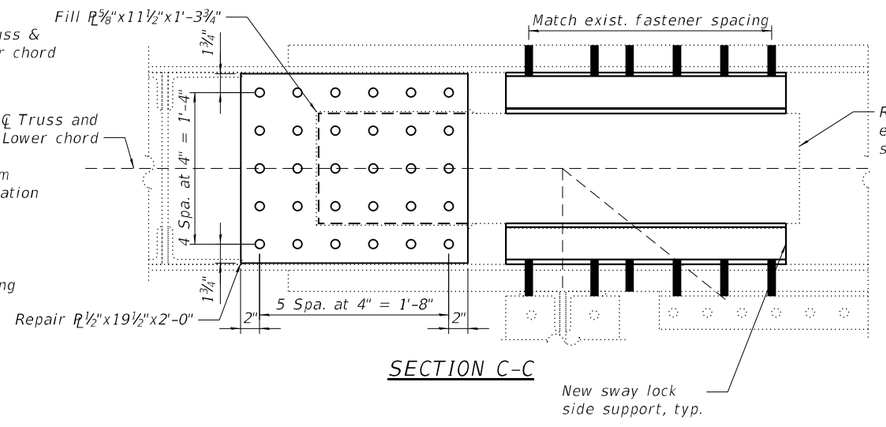


SECTION E–E



VIEW A–A

South lower chord shown, north lower chord similar.



SECTION C–C

Note:
Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to the touch prior to connecting new steel to existing steel.

LEGEND

- Existing fastener to remain
- Replace existing fastener with new 1" ∅ bolt in existing 1 1/16" ∅ hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	1,590

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - GUIDE PIN REPAIR DETAILS
STRUCTURE NO. 090-0115
SHEET S156 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	326
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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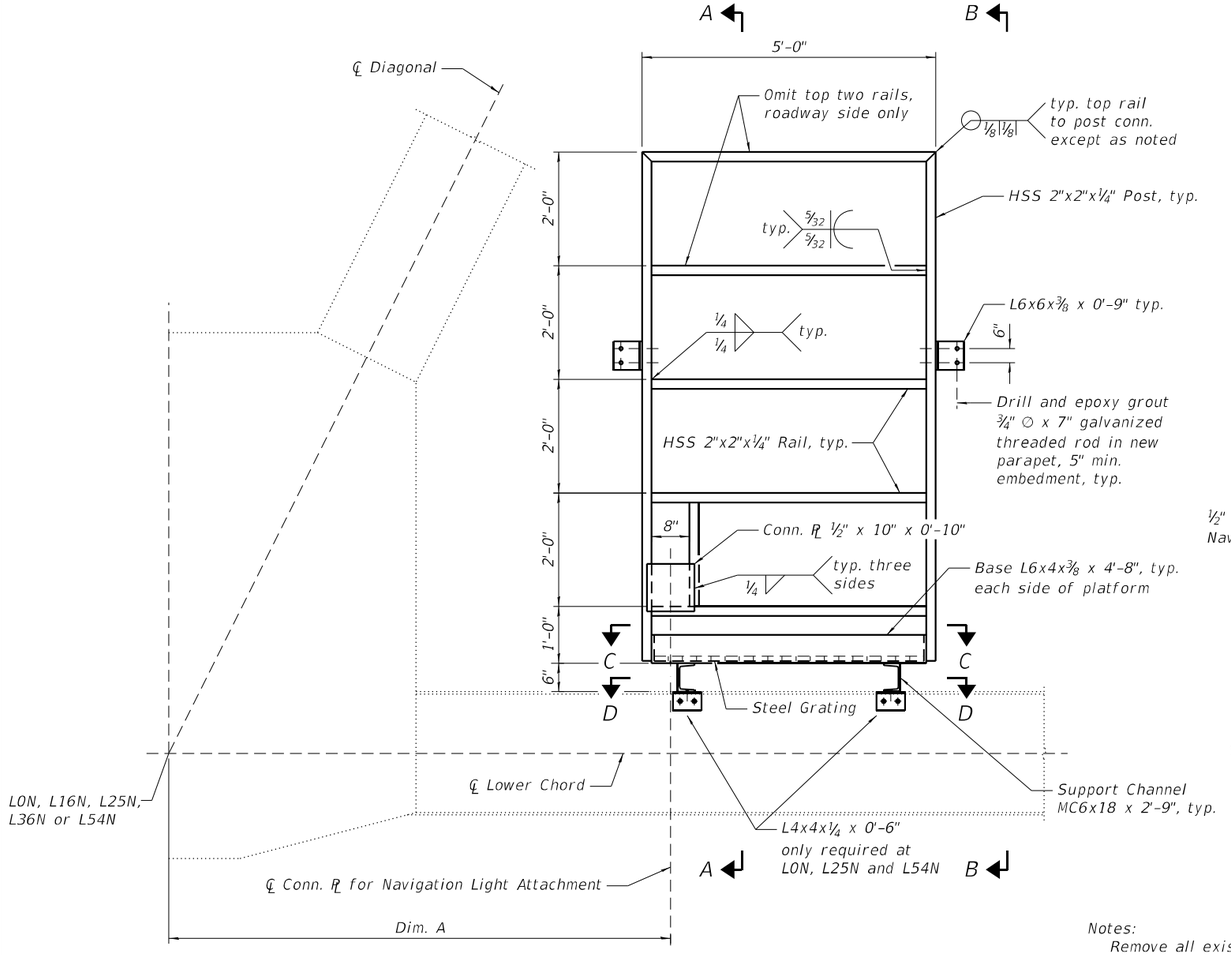
3/14/2025 9:33:59 AM

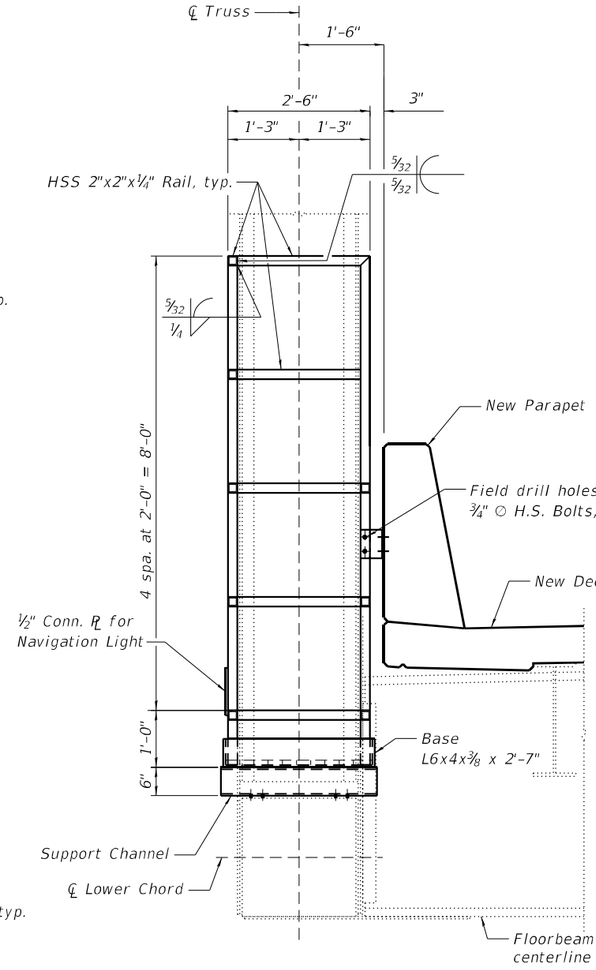


PART ELEVATION AT ACCESS PLATFORM (ITEM 119)

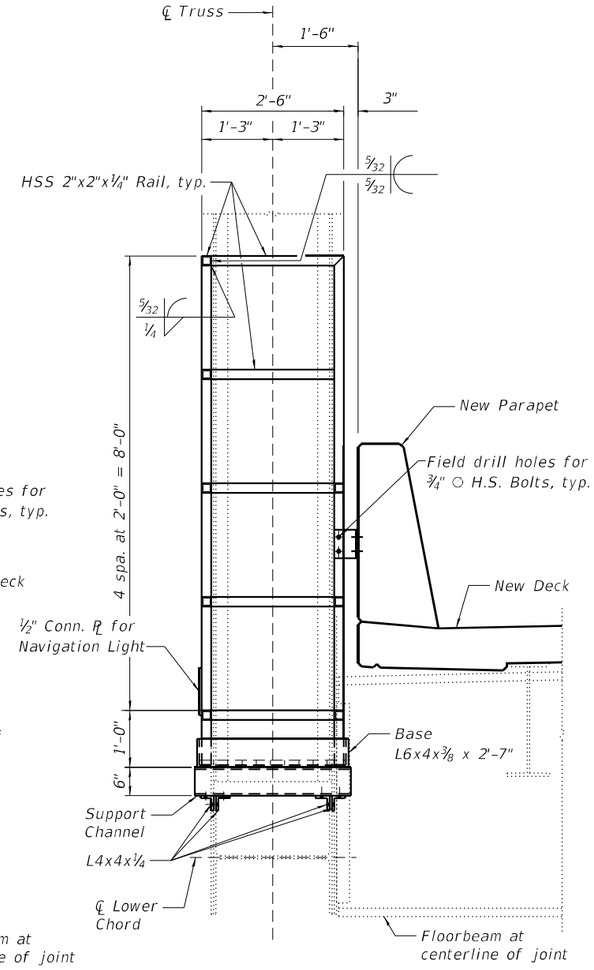
L54N shown looking south, other locations similar except as noted.
Parapet not shown for clarity.

ACCESS PLATFORM TABLE

Location	Dim. A
L0N–L1N near L0N	9'–6"
L16N–L17N near L16N	6'–6"
L25N–L26N near L25N	8'–6"
L36N–L37N near L36N	6'–6"
L53N–L54N near L54N	9'–6"



SECTION A-A FOR L16N AND L36N



SECTION A-A FOR L0N, L25N AND L54N

Notes:

Remove all existing access platforms from the bridge. If existing access platform base plates are welded to the lower chord, remove welds by grinding in accordance with the Tack Weld Removal Procedure shown on sheet S182 of S214. Cost to remove existing access platforms is included with Access Ladder.

Install new access platforms and railing at the locations indicated.

Bolts for angle to post connections shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized. Threaded rods shall be ASTM F1554 Grade 36.

Platforms and railing shall meet OSHA Requirements.

See sheet S158 of S214 for View B-B and Sections C-C and D-D.

Drill holes and grout threaded rods in accordance with Section 584 of the Standard Specifications.

All work required to remove and replace access platforms and railing, including the cost to drill and grout threaded rods, will be paid for at the contract unit price per each location for Access Ladder.

Steel grating shall be galvanized per ASTM A123 and ASTM A384. All other steel components of the new access platforms, including platforms, railing, support channels, and associated attachments and hardware, shall be galvanized after fabrication according to AASHTO M111 or M232 as applicable.

Existing steel that will be in contact with new steel from the access platform replacement will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections.

See electrical plans for navigation light details.

BILL OF MATERIAL

Item	Unit	Total
Access Ladder	Each	5

MODJESKI and MASTERS

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		CHECKED - RLM	REVISED -	
PLOT SCALE =		DRAWN - ATH	REVISED -	
PLOT DATE =		CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - NAVIGATION LIGHT ACCESS PLATFORMS - 1
STRUCTURE NO. 090-0115
SHEET S157 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	327
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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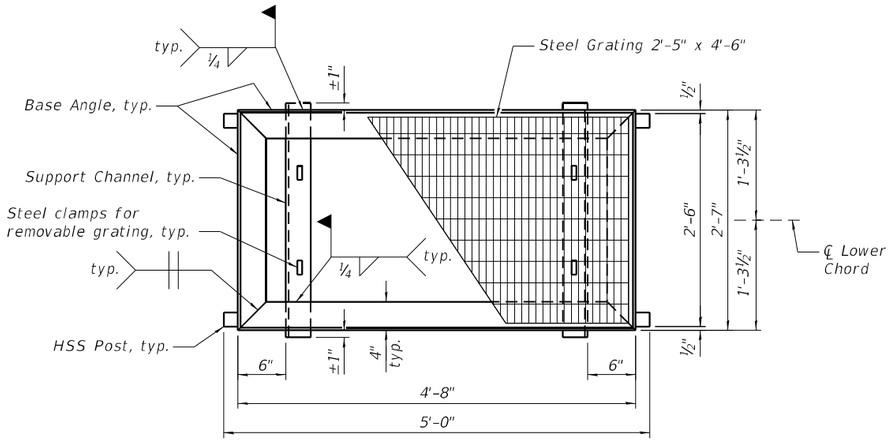
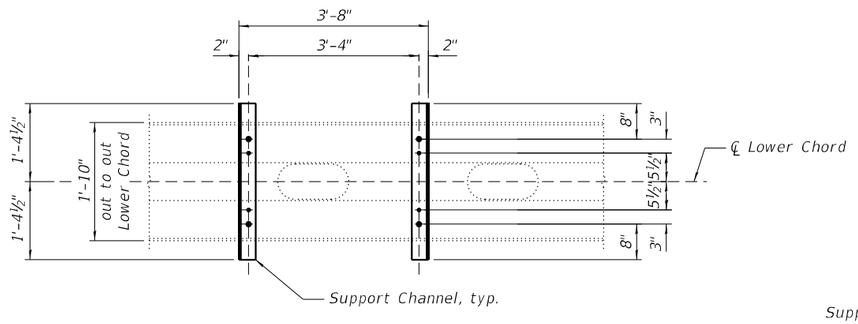
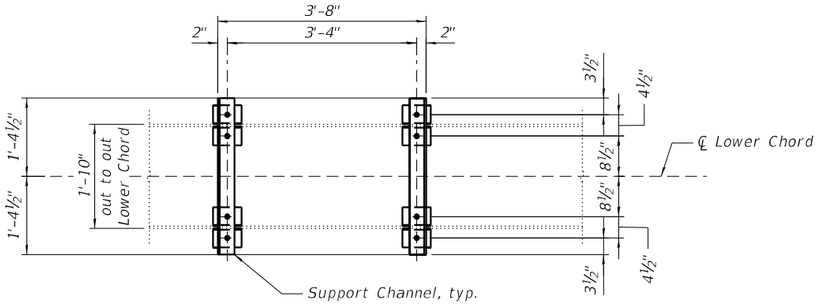


SECTION C-C

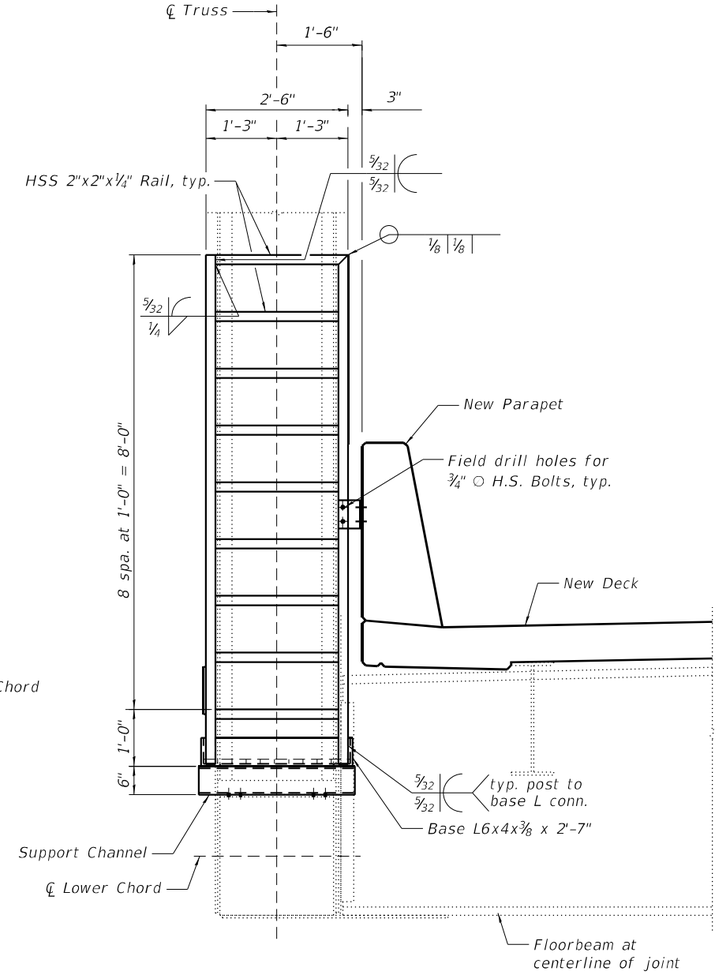
Lower chord not shown for clarity.



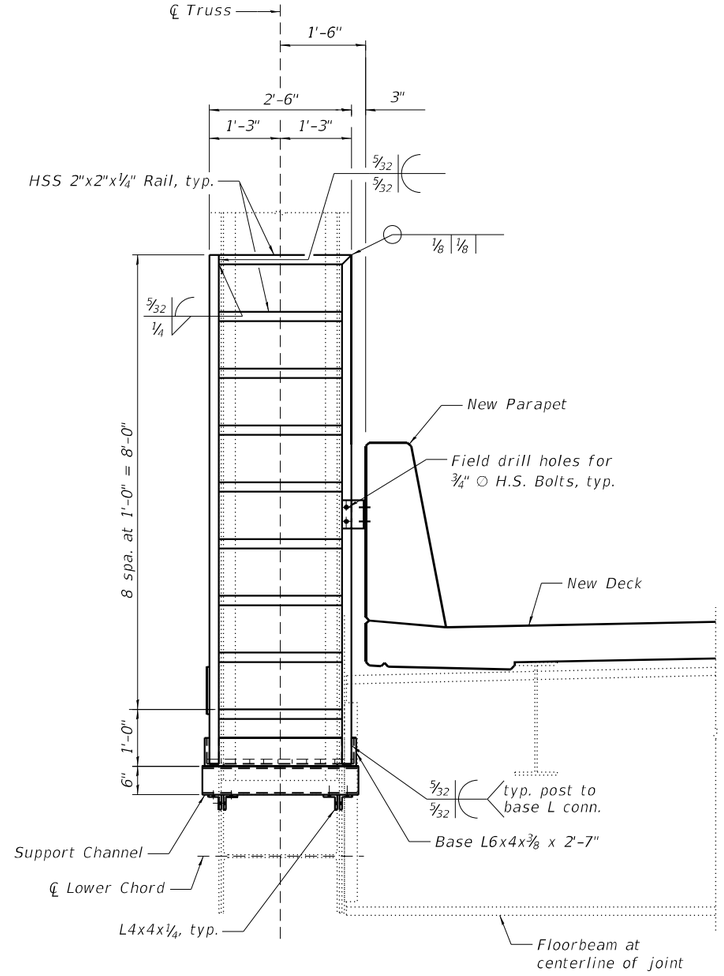
SECTION D-D FOR L16N AND L36N



SECTION D-D FOR L0N, L25N AND L54N



VIEW B-B FOR L16N AND L36N



VIEW B-B FOR L0N, L25N AND L54N

LEGEND

- New bolt in new hole (shop or field drilled)

Notes:

Bolts for support channel to lower chord connection shall be ¾" ∅ ASTM F3125 Grade A325 Type 1, mechanically galvanized. Holes in new material and new holes in existing material shall be 13/16" ∅.

Grating shall provide 100 psf min. Live Load capacity, and shall not exceed ¼" deflection under such load.

See the Electrical Plans for more information regarding the navigation waterway obstruction warning luminaire details.

MODEL: Default
FILE NAME: P:\4312-WBMcCl\BridgeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-158-Steel MainSpan NavLtAccPlat2.dgn
3/14/2025 6:57:29 AM

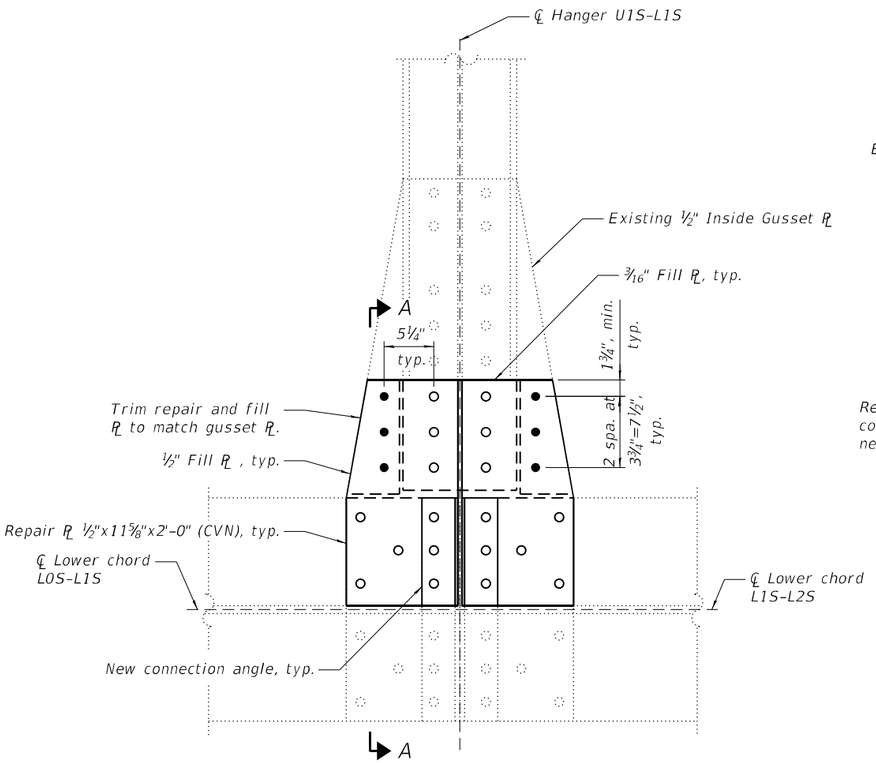
MODJESKI and MASTERS

USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

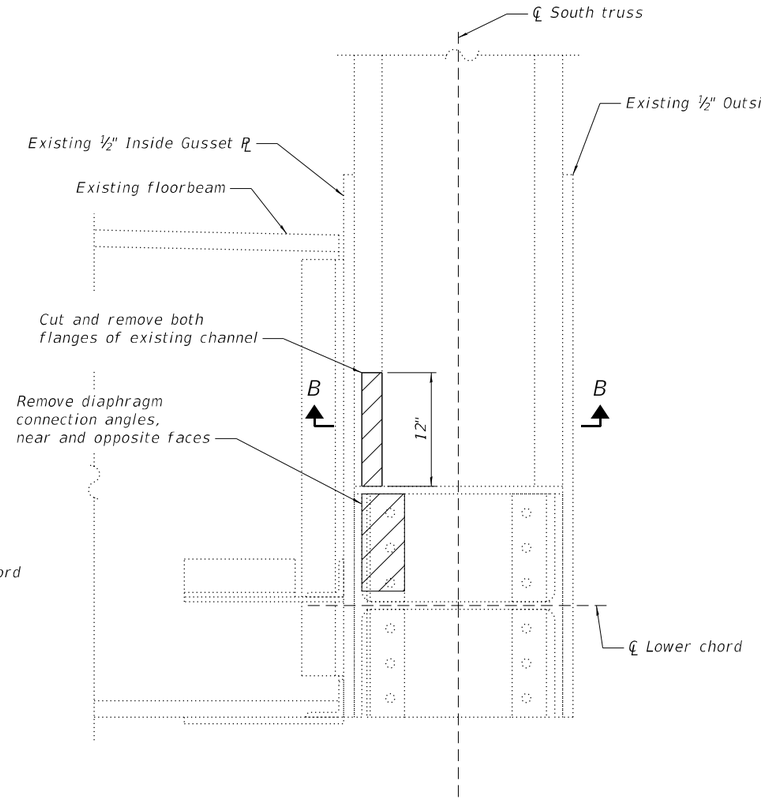
MAIN SPANS - NAVIGATION LIGHT ACCESS PLATFORMS - 2
STRUCTURE NO. 090-0115
SHEET S158 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	328
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

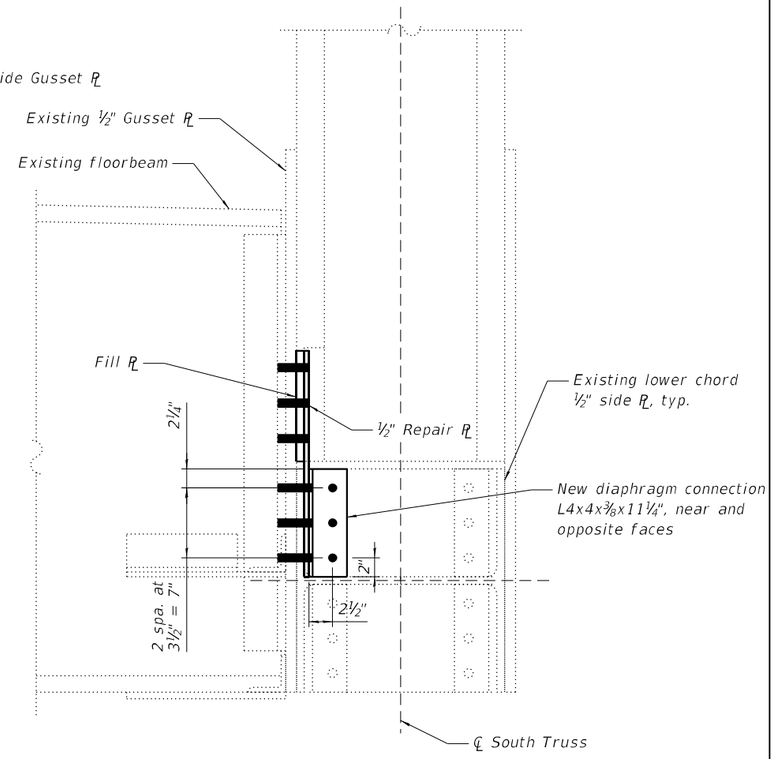


INSIDE ELEVATION – SPAN 12, INSIDE GUSSET PLATE AT L1S (ITEM 133)

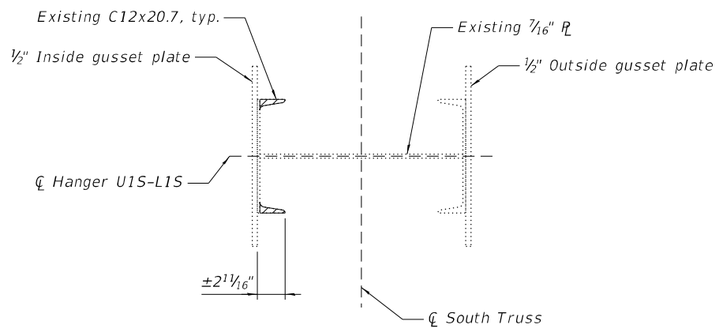
Looking north, showing repair details



SECTION A–A – REMOVAL DETAILS



SECTION A–A – REPAIR DETAILS



SECTION B–B

LEGEND

- ◌ Existing fastener to remain
- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

Notes:

Repair plates shall be completed one side at a time.

Existing fasteners in gusset plate connection are 1" ∅ bolts in 1 1/16" ∅ holes. All fasteners in gusset plate shall be 1" ○ ASTM F3125 Grade A325 Type 1, mechanically galvanized bolts. Holes in new material and new holes in existing material shall be 1 1/16" ∅.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. Primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	170

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH/KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - GUSSET PLATE REPAIRS
STRUCTURE NO. 090-0115
SHEET S159 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	329
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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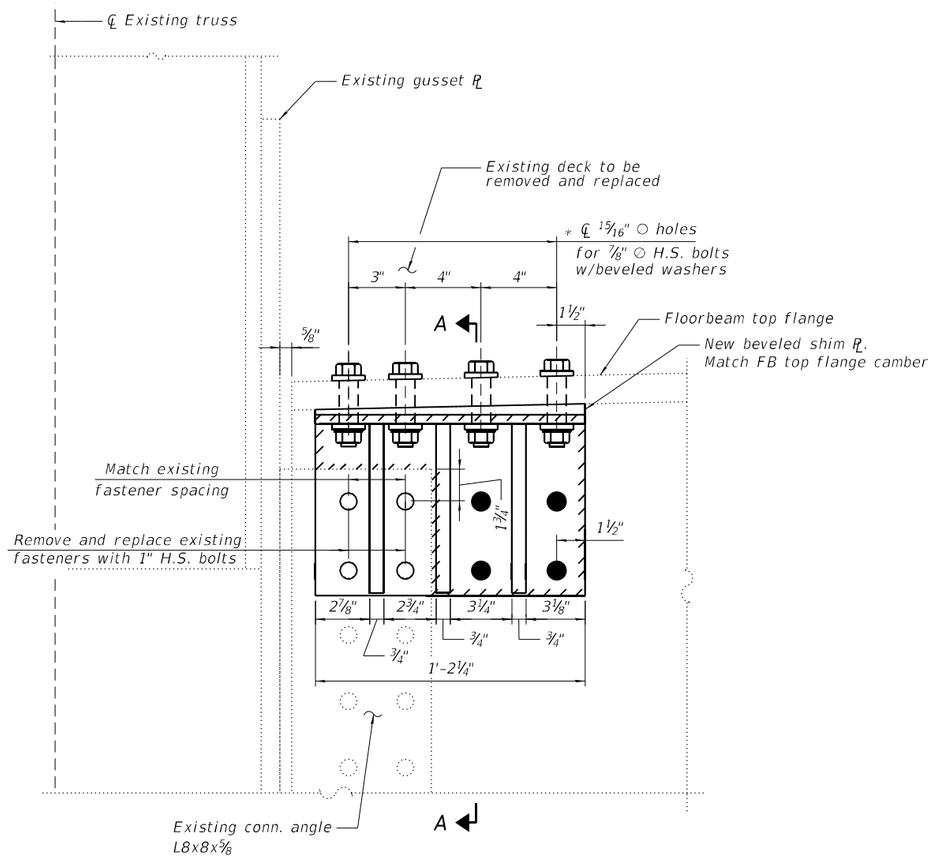
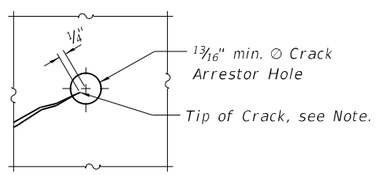
3/13/2025 12:54:18 PM



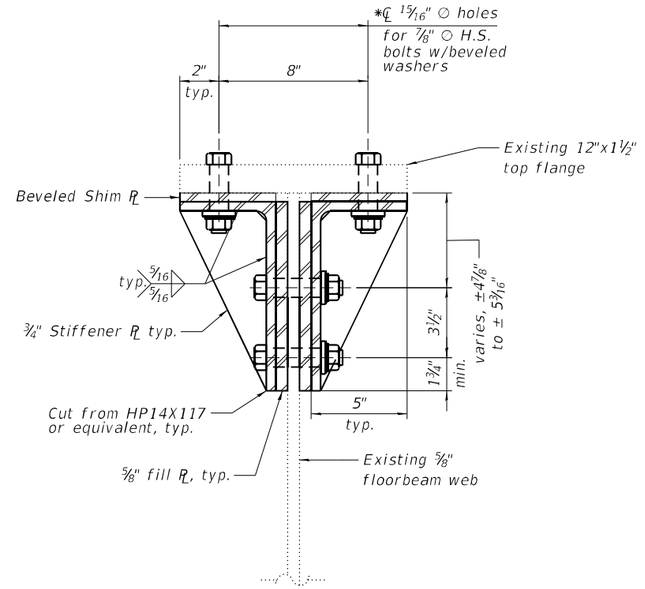
PARTIAL ELEVATION – TYPICAL END FLOORBEAM RETROFIT

Required at each end of both end floorbeams of the truss.



CRACK ARRESTOR HOLE DETAIL
SPAN 14, SOUTH END OF FLOORBEAM 54 (ITEM 182)

Note: Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill 13/16" min. ∅ arrestor hole at the crack tip. After arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip. The cost of all work required to locate and arrest web cracks shall be included in the contract unit price of Structural Steel Repair and will not be measured separately for payment.



SECTION A–A

* Drill new holes in floorbeam flange.

Notes:

Floorbeam retrofits will be completed while the deck is removed.

Before installing floorbeam retrofits, the floorbeam webs shall be inspected for cracking near the upper corner at each end of the member. If a crack is detected, drill an arrestor hole according to the crack arrestor hole detail.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

LEGEND

- ⁘ Existing fastener to remain
- • New 7/8" ∅ bolt in new 15/16" ∅ hole (shop or field drilled)
- ○ New 1" ∅ bolt in existing 1 1/16" ∅ hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	1,480

MODEL: Default
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3/13/2025 12:54:23 PM

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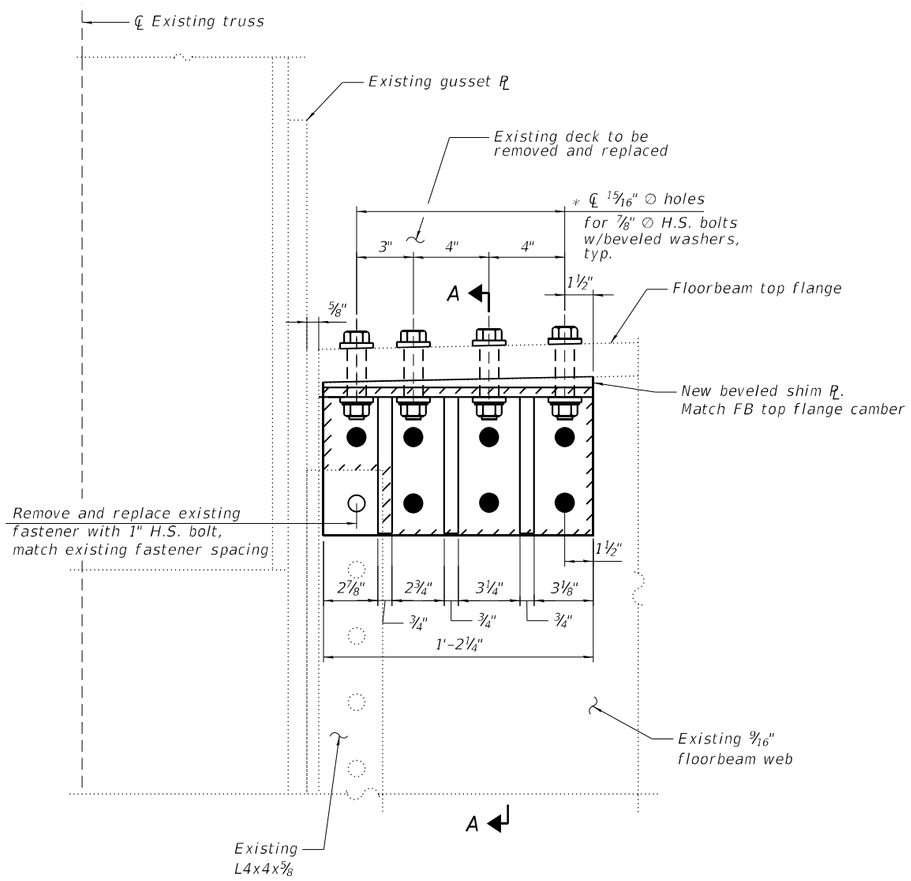
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

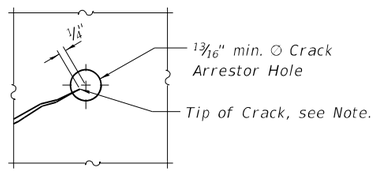
MAIN SPANS - FLOORBEAM RETROFIT DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S160 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	330
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



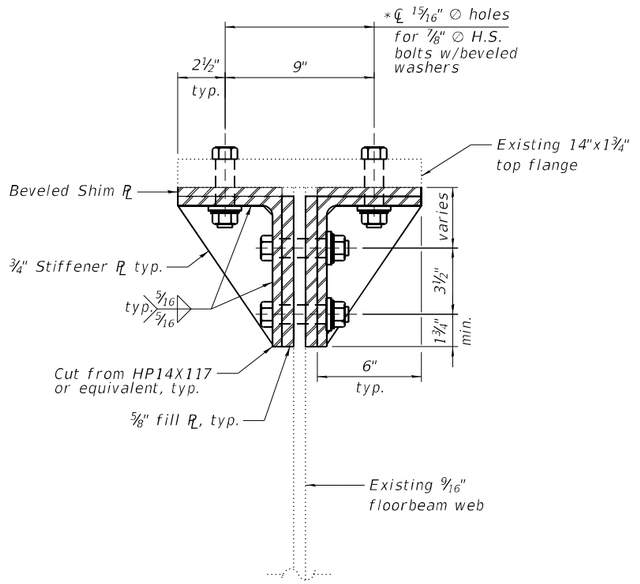
PARTIAL ELEVATION – TYPICAL INTERMEDIATE FLOORBEAM RETROFIT

Required at each end of all intermediate floorbeams of the truss spans except at Floorbeam 21C and 33C.



CRACK ARRESTOR HOLE DETAIL
SPAN 13, SOUTH END OF FLOORBEAM 21 (ITEM 165)
SPAN 13, SOUTH END OF FLOORBEAM 34 (ITEM 180)
SPAN 14, SOUTH END OF FLOORBEAM 52 (ITEM 191)

Note: Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill 13/16" min. ∅ arrestor hole at the crack tip. After arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip. The cost of all work required to locate and arrest web cracks shall be included in the contract unit price of Structural Steel Repair and will not be measured separately for payment.



SECTION A-A

* Drill holes in floorbeam flange

Notes:

The floorbeam connection angles at the north end of Floorbeam 21 were replaced. Slight modifications to the fill plate and retrofit bracket may be required to accommodate the previous repair.

Floorbeam retrofits will be completed while the deck is removed.

Before installing floorbeam retrofits, the floorbeam webs shall be inspected for cracking near the upper corner at each end of the member. If a crack is detected, drill an arrestor hole according to the crack arrestor hole detail.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

LEGEND

- ⁘ Existing fastener to remain
- • New 7/8" ∅ bolt in new 15/16" ∅ hole (shop or field drilled)
- ○ New 1" ∅ bolt in existing 1 1/16" ∅ hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	41,110

MODEL: Default
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PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - FLOORBEAM RETROFIT DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S161 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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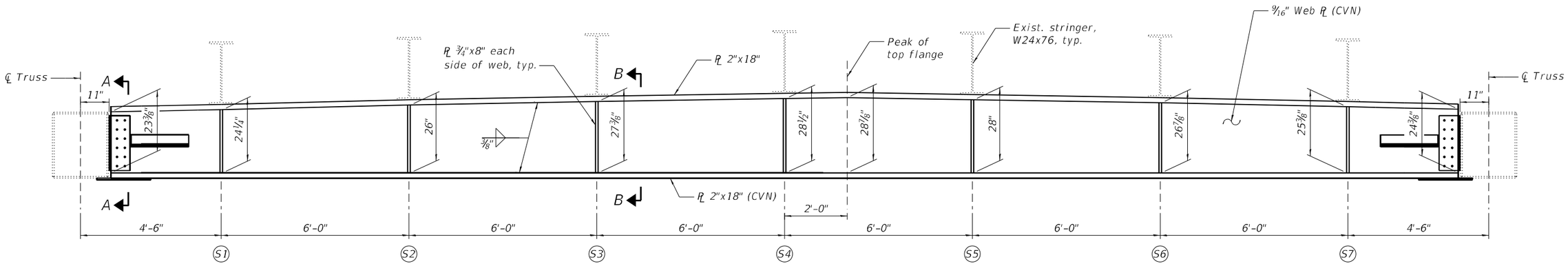
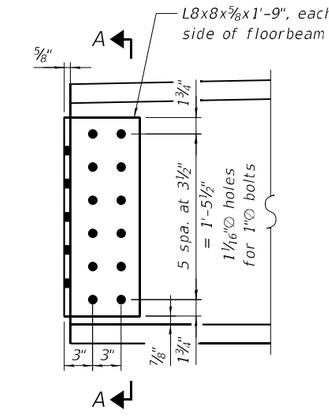
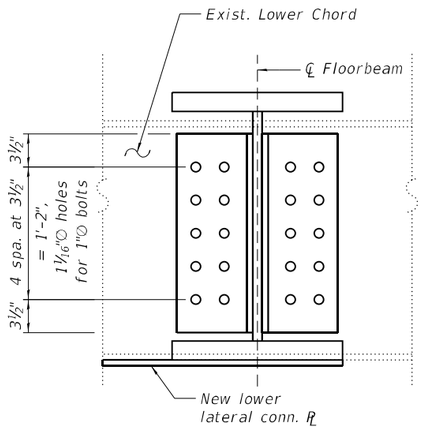
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



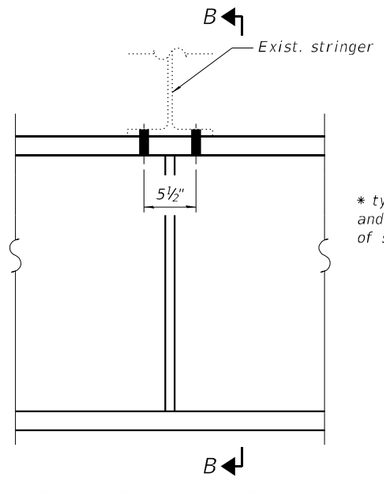
GIRDER ELEVATION – FLOORBEAMS 21C AND 33C



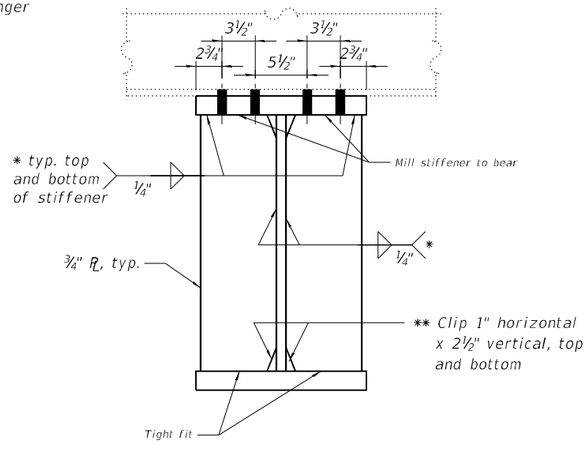
FLOORBEAM CONNECTION TO TRUSS LOWER CHORD



SECTION A-A



STRINGER CONNECTION TO FLOORBEAM



SECTION B-B

* Terminate ¼" (±⅛") from the end of plate intersects.
** Clip may be rounded for ease of shop painting.

LEGEND

- New bolt in new hole (shop or field drilled)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

Notes:

Coordinate floorbeam replacement with lower lateral connection plate replacements. See sheet S175 of S214 for lower lateral connection plate details.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

Removal and disposal of the existing floorbeams shall be in accordance with the special provision Structural Steel Removal.

The cost to support the stringers and lower lateral bracing shall be included in the cost for Furnishing and Erecting Structural Steel.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	27,970
Structural Steel Removal	Pound	27,660

MODEL: Default
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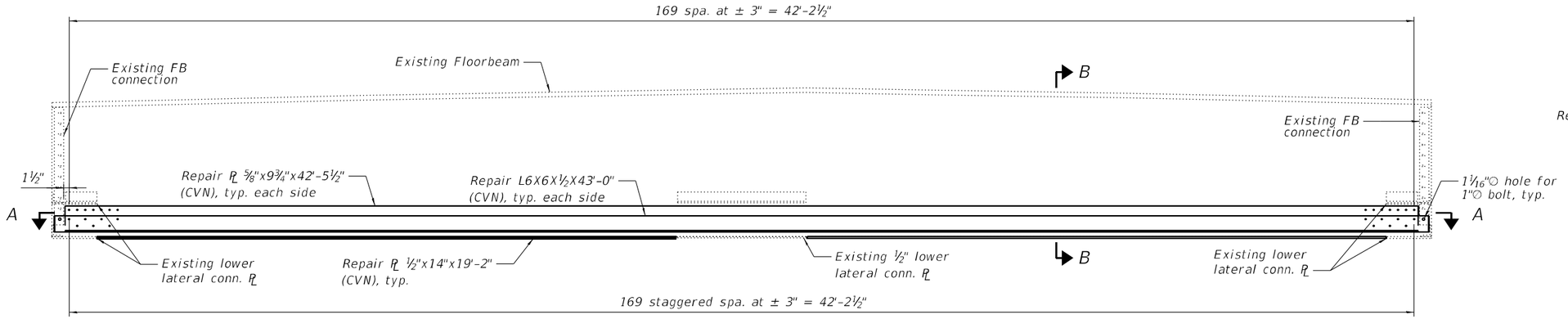
PLOT SCALE =	DRAWN - ELK	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

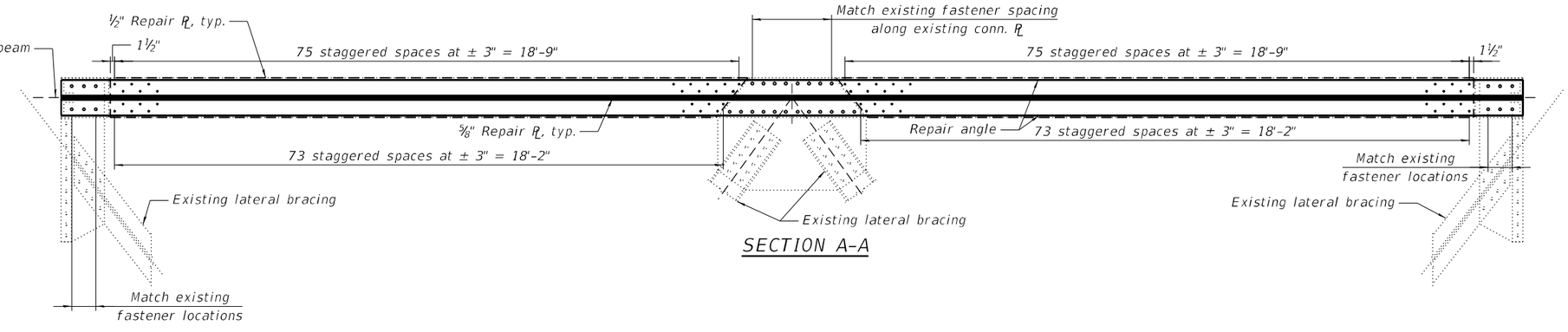
MAIN SPANS - FLOORBEAM REPLACEMENT
STRUCTURE NO. 090-0115
SHEET S162 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	332
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	

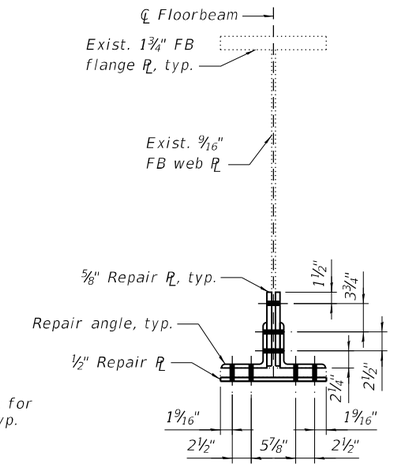


ELEVATION – SPAN 13, FLOORBEAM 21 (ITEM 165)

Looking west



SECTION A-A



SECTION B-B

Notes:
Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.
Load carrying components designated "CVN" shall conform to the Charpy-V-Notch impact Energy Requirement, Zone 2.

LEGEND

- • Shop or field drill holes
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)
- ⁘ Existing holes to remain (not all existing fasteners to remain are shown)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	5,090

MODJESKI and MASTERS

USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - FLOORBEAM REPAIR DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S163 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	333
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	

MODEL: Default
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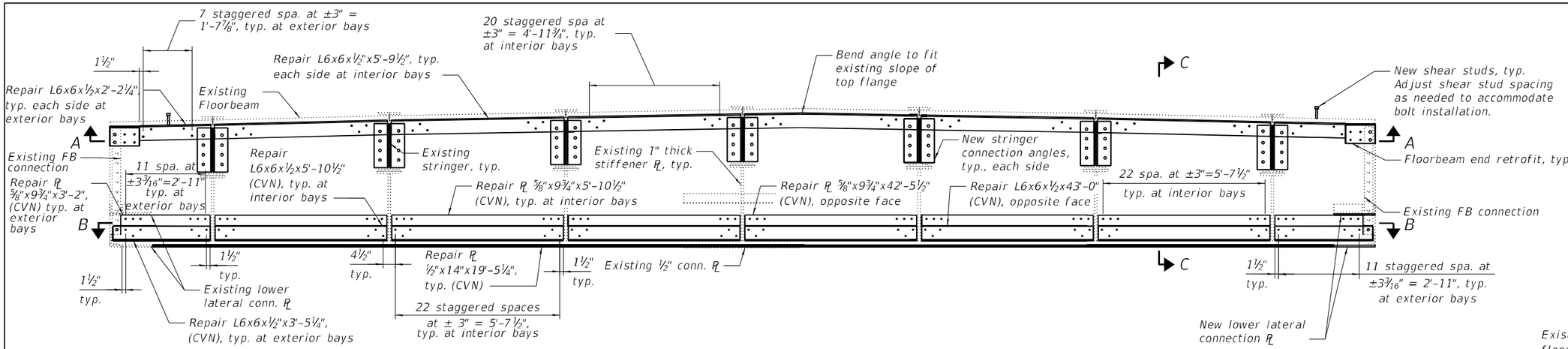
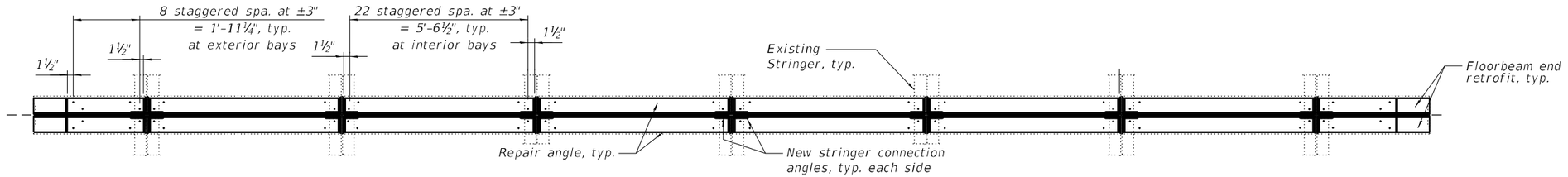
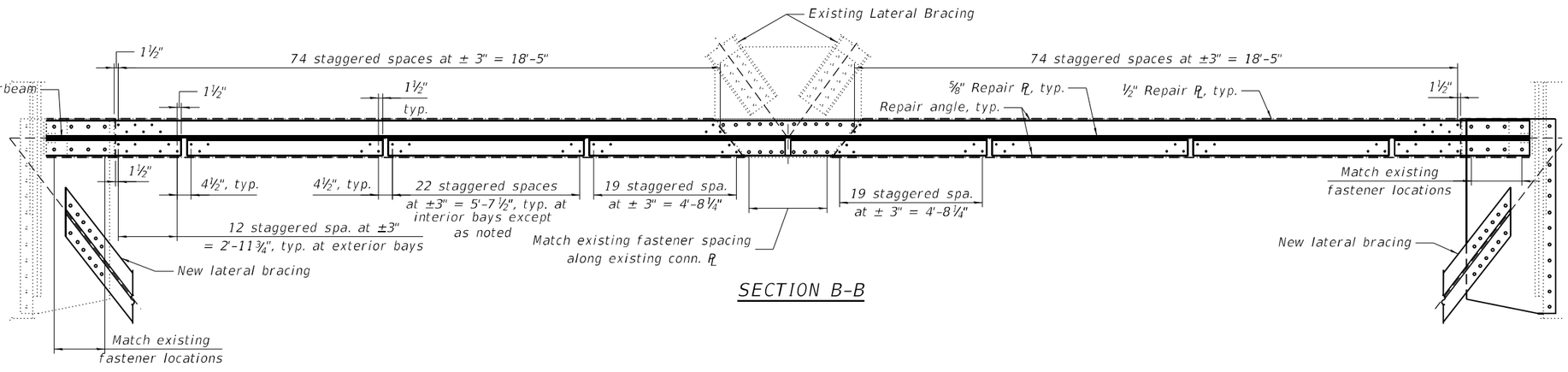


ELEVATION – SPAN 13, FLOORBEAM 29 (ITEM 121)

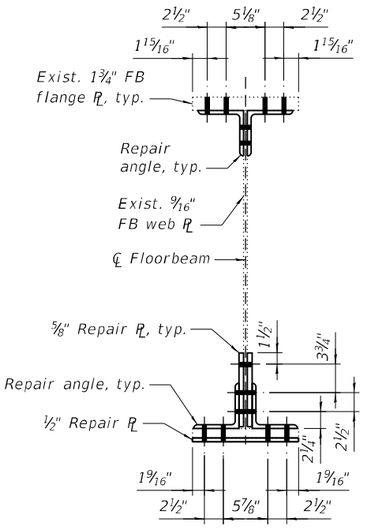
Looking East



SECTION A-A



SECTION B-B



SECTION C-C

Notes:

Coordinate Floorbeam 29 flange repairs with the lower lateral bracing replacement at L29N and L29S (sheet S171 of S214), the lower lateral connection plate replacement at L29S (sheet S177 of S214), the stringer web repairs at each stringer (sheet S168 of S214), the floorbeam end retrofits (sheet S161 of S214), and shear stud installation (sheet S152 of S214).

The top flange repair angles shall be installed while the deck is removed within this panel.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

LEGEND

- ⁘ *Existing fastener to remain (not all existing fasteners to remain are shown)*
- • *New bolt in new hole (shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	7,330

MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-164-Steel Main Span-FB

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USER NAME =	DESIGNED - YJ/JAD	REVISED -	
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PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - FLOORBEAM REPAIR DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S164 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	334
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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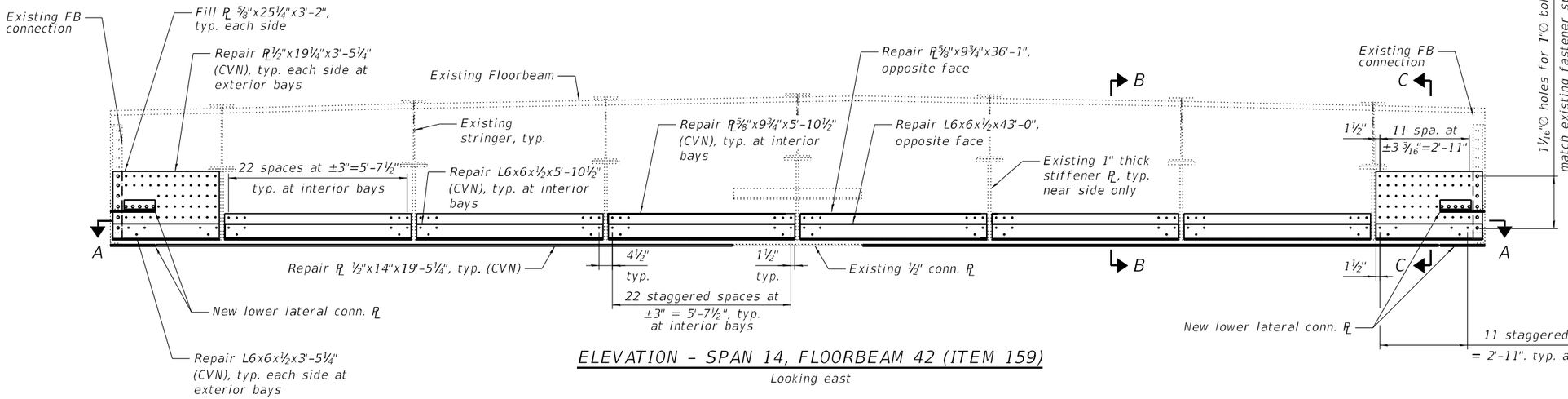
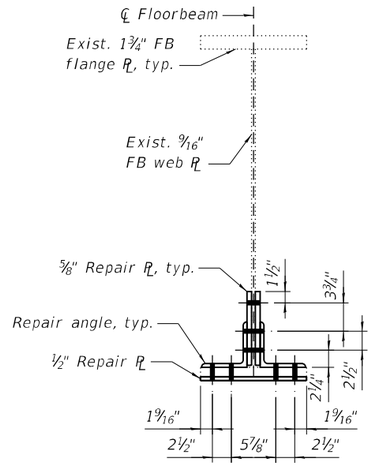
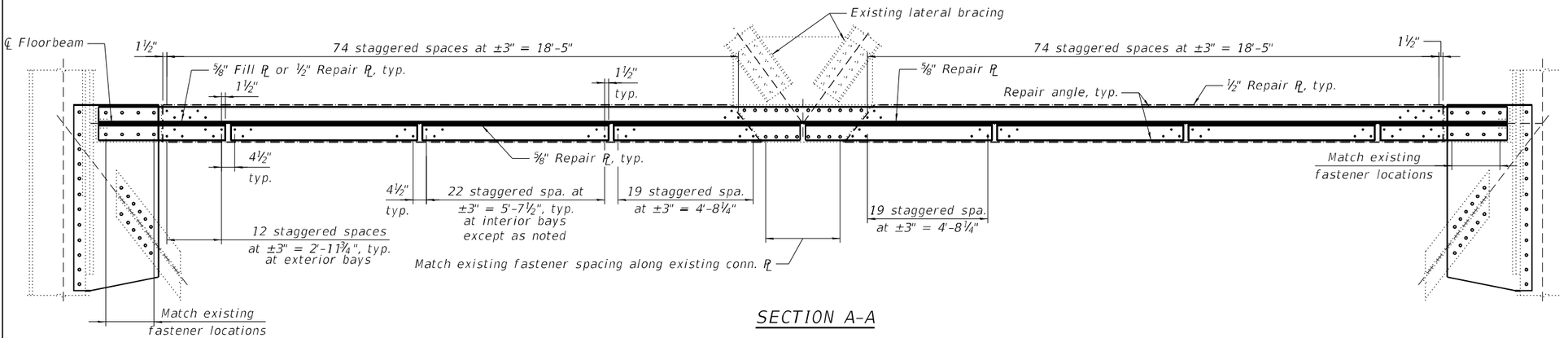


ELEVATION – SPAN 14, FLOORBEAM 42 (ITEM 159)

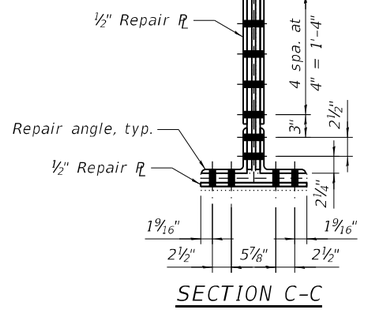
Looking east



SECTION B–B



SECTION A–A



SECTION C–C

LEGEND

- ◌ Existing fastener to remain (not all existing fasteners to remain are shown)
- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	6,020

Notes:

Coordinate Floorbeam 42 web and flange repairs with the lower lateral connection plate replacements at L42N and L42S. See sheet S175 of S214 for the lower lateral bracing connection plate replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

MODEL: Default
FILE NAME: P:\4312-WBM\CLIgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-165-Steel Main Span-FB Bolt Flange Repairs3.dgn

3/13/2025 12:54:39 PM

MODJESKI and MASTERS

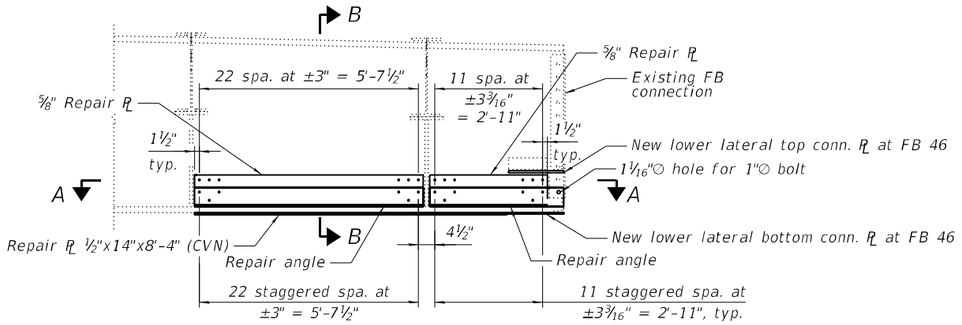
USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - FLOORBEAM REPAIR DETAILS - 3
STRUCTURE NO. 090-0115

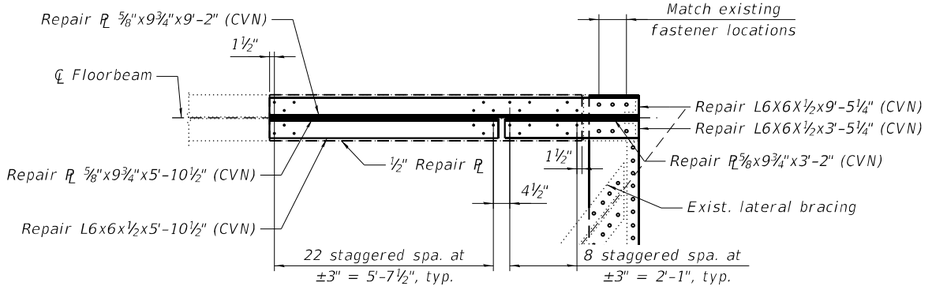
SHEET S165 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	335
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

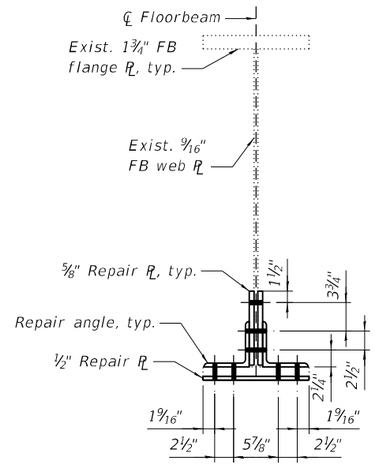


PARTIAL ELEVATION - SPAN 14, FLOORBEAM 46, SOUTH END (ITEM 160)
PARTIAL ELEVATION - SPAN 14, FLOORBEAM 50, SOUTH END (ITEM 162)

Looking East
Floorbeam 46 shown, Floorbeam 50 similar



SECTION A-A



SECTION B-B

Notes:

Coordinate Floorbeam 46 flange repairs with the lower lateral connection plate replacement at L46S. See sheet S173 of S214 for the lower lateral bracing connection plate replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

LEGEND

- ◌ *Existing fastener to remain (not all existing fasteners to remain are shown)*
- ● *New bolt in new hole (shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	2,200

MODEL: Default
FILE NAME: P:\4312-WBMcCLuggeRehab\CADDStructural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-166-Steel Main Span-FB Bott Flange Repairs4.dgn
3/13/2025 12:54:43 PM

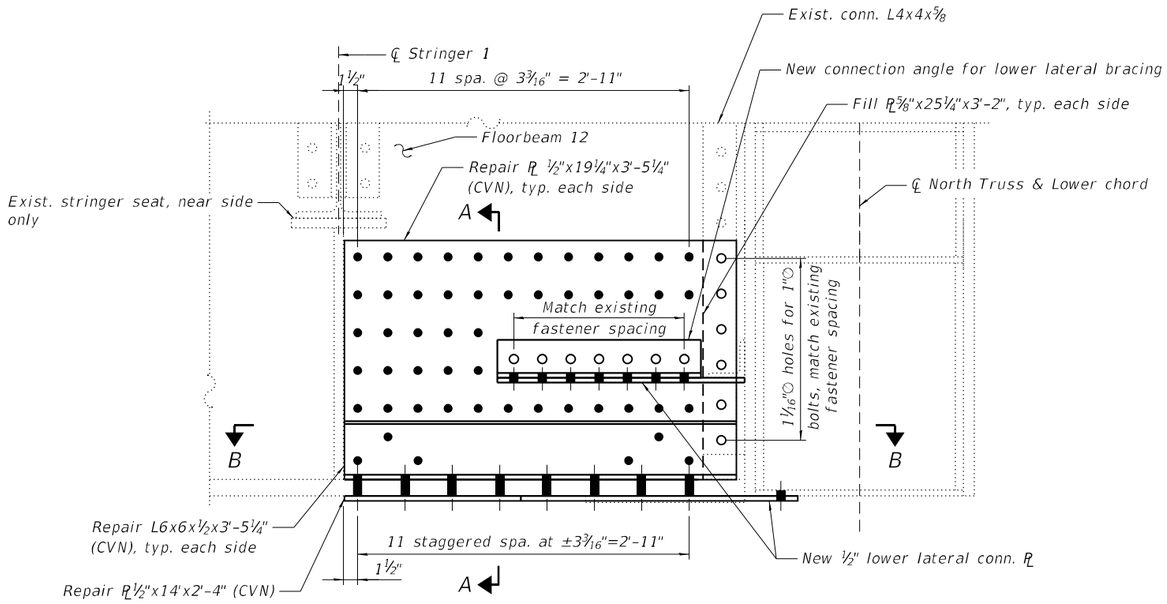
MODJESKI and MASTERS

USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

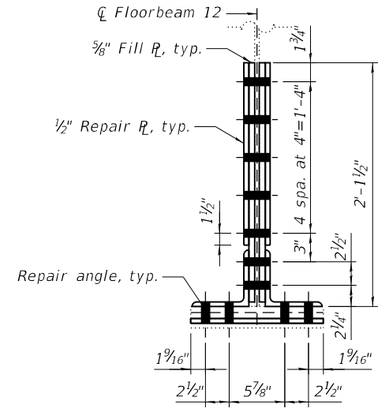
MAIN SPANS - FLOORBEAM REPAIR DETAILS - 4
STRUCTURE NO. 090-0115
SHEET S166 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	336
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

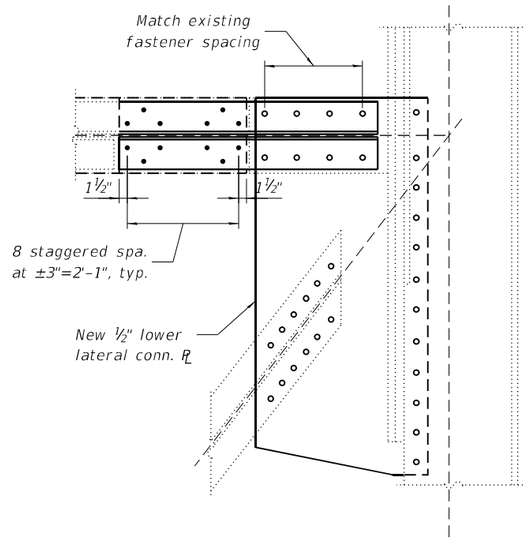


FLOORBEAM WEB REPAIR AT SPAN 12, FLOORBEAM 12, NORTH END (ITEM 164)

Looking west



SECTION A-A



SECTION B-B

Notes:

Coordinate Floorbeam 12 web repairs with the lower lateral connection plate replacements at this location. See sheet S175 of S214 for connection plate replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch impact Energy Requirement, Zone 2.

LEGEND

- ⁘ *Existing fastener to remain*
- • *New bolt in new hole (shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	840

MODEL: Default
FILE NAME: P:\4312-VBM\CLIgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-167-MainSpanFBWebRpr.dgn

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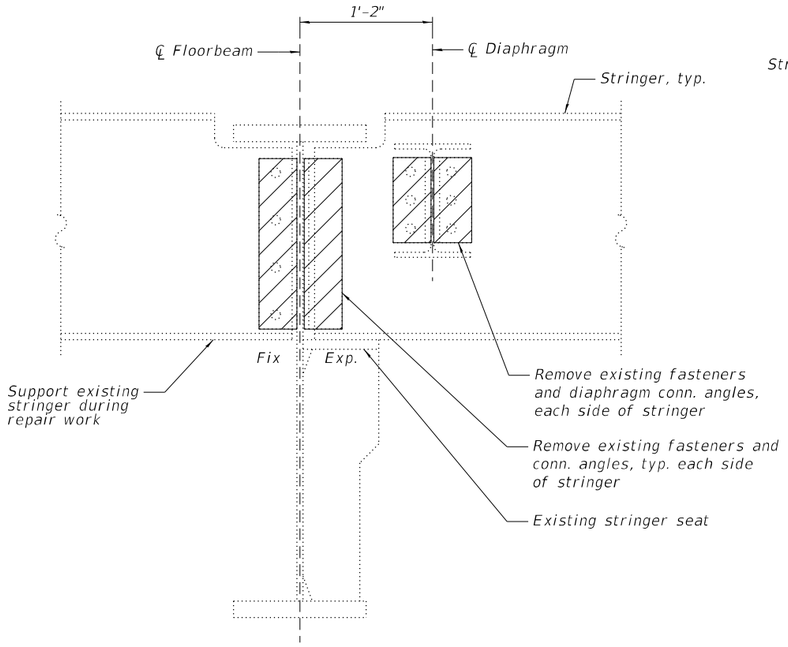
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

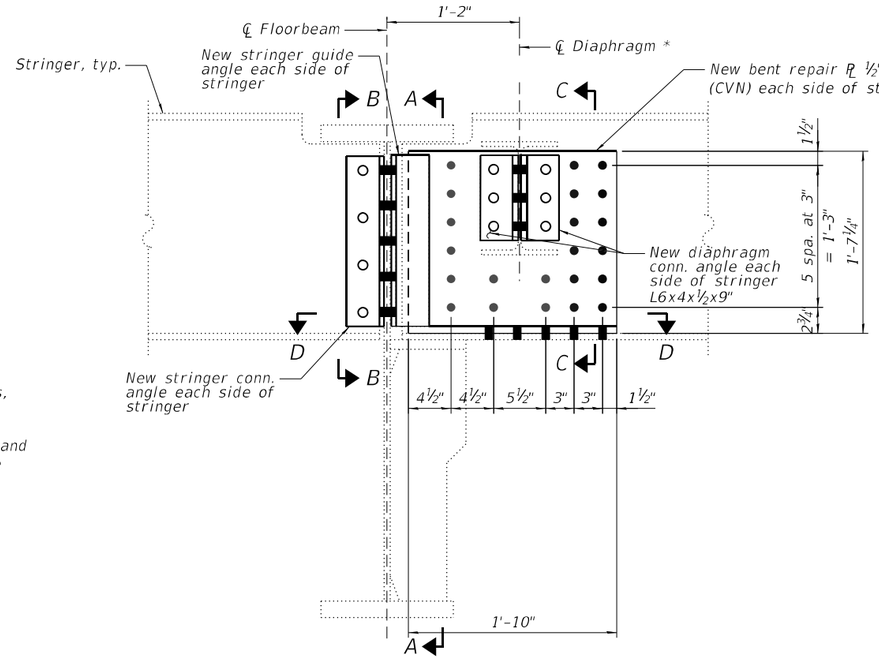
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - FLOORBEAM REPAIR DETAILS - 5
STRUCTURE NO. 090-0115
SHEET S167 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	337
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

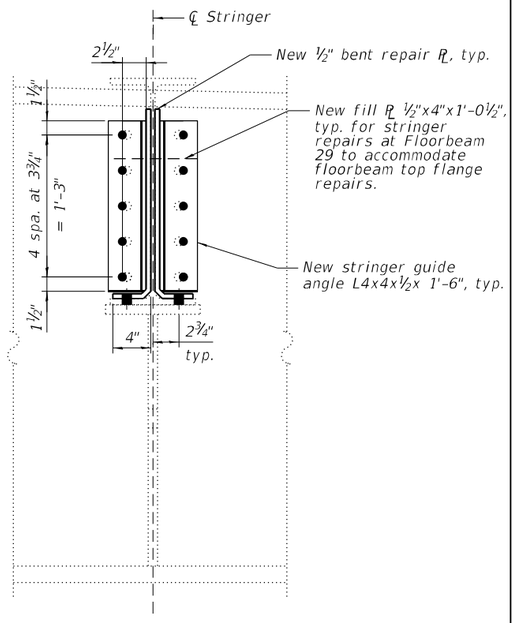


ELEVATION – REMOVAL
at stringer relief joints



ELEVATION – REPAIR
at stringer relief joints

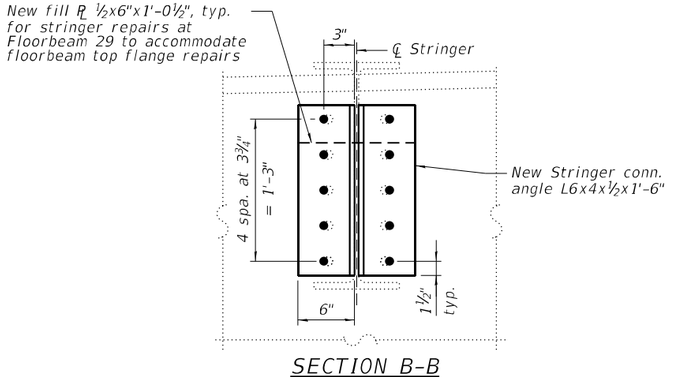
* Trim end of exist. diaphragms each side of stringer to accomodate repair PL's



SECTION A–A

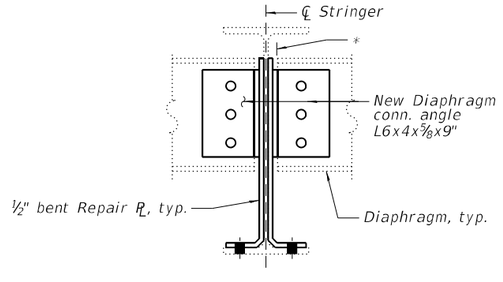
Note: Existing holes to be reamed and slotted, as required, to accommodate bolts for new angles.

SPAN 12, PANEL 5, STRINGER 7 AT FLOORBEAM 4 (ITEM 117)
SPAN 12, PANEL 9, STRINGERS 1 THRU 6 AT FLOORBEAM 8 (ITEMS 134 THRU 138 AND 163)
SPAN 12, PANEL 13, STRINGERS 1 AND 7 AT FLOORBEAM 12 (ITEMS 118 AND 177)
SPAN 13, PANEL 26, STRINGERS 1 THRU 7 AT FLOORBEAM 25 (ITEMS 143 THRU 149)
SPAN 13, PANEL 29, STRINGERS 1 THRU 7 AT FLOORBEAM 29 (ITEMS 150 THRU 156)

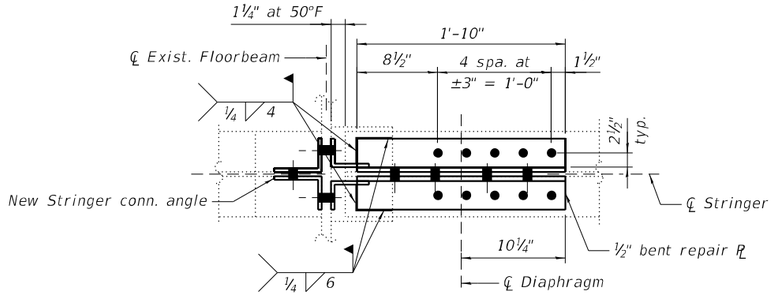


SECTION B–B

Existing holes to be reamed and slotted, as required, to accommodate bolts for new angles.



SECTION C–C



SECTION D–D

Notes:

Coordinate stringer web repairs with the floorbeam repairs at Floorbeam 29. See sheet S164 of S214 for floorbeam repair details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

The cost of all work required to repair the stringer, including steel removal, stringer support, reaming and slotting existing holes, and trimming diaphragms, shall be included in the cost for Structural Steel Repair.

LEGEND

- Existing fastener to remain unless noted otherwise
- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	9,410

MODJESKI and MASTERS

USER NAME =	DESIGNED - JKB/JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - STRINGER WEB REPAIR DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S168 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	338
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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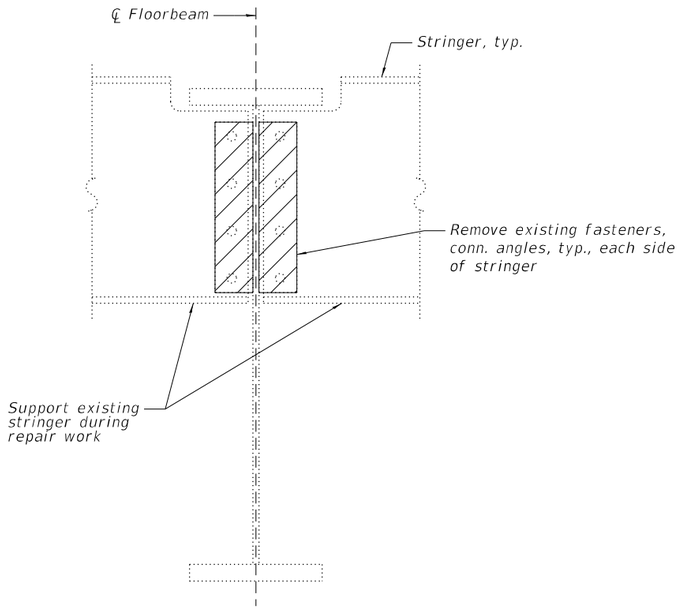
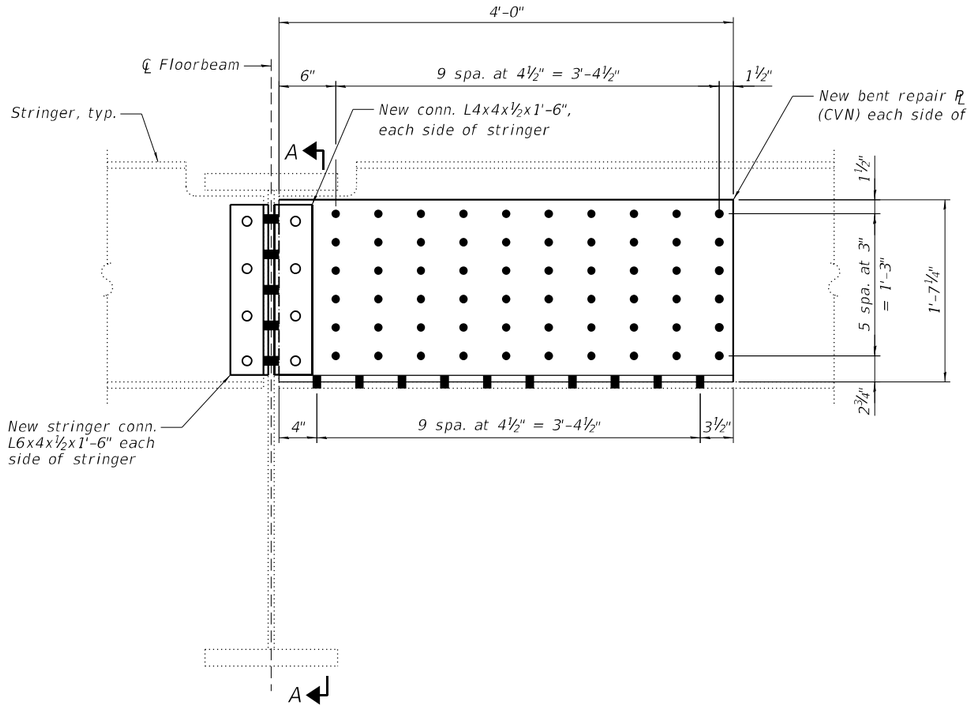
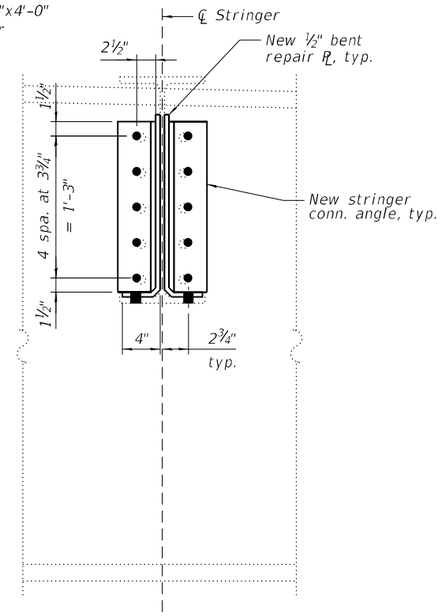


ELEVATION – REMOVAL



ELEVATION – REPAIR

Stringer repair at Floorbeam 11 shown, stringer repair at Floorbeam 50 similar.



SECTION A–A

Note: Existing holes to be reamed and slotted, as required, to accommodate bolts for new angles.

SPAN 12, PANEL 11, STRINGER 7 AT FLOORBEAM 11 (ITEM 34)
SPAN 14, PANEL 51, STRINGER 7 AT FLOORBEAM 50 (ITEM 125)

Notes:

Coordinate stringer repair at Floorbeam 50 with floorbeam bottom flange repairs. See sheet S166 of S214 for floorbeam repair details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

The cost of all work required to repair the stringer, including steel removal, stringer support, and reaming and slotting existing holes shall be included in the cost for Structural Steel Repair.

LEGEND

- ◌ *Existing fastener to remain unless noted otherwise*
- ● *New bolt in new hole (shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	890

MODEL: Default
FILE NAME: P:\4312-WBM\CL\bgeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-169-Steel Main Span Stringer Web Repairs2.dgn
3/13/2025 12:54:57 PM

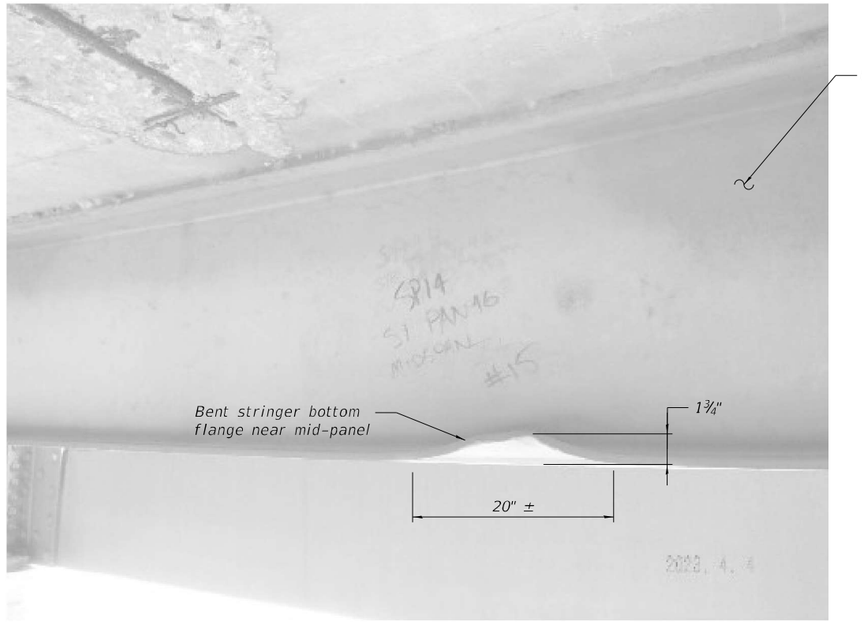
MODJESKI and MASTERS

USER NAME =	DESIGNED - JKB/JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

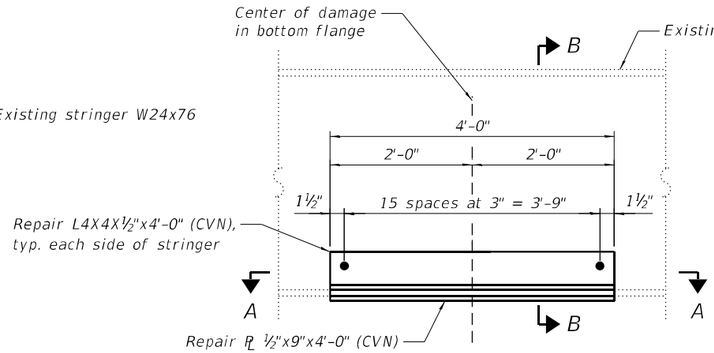
MAIN SPANS - STRINGER WEB REPAIR DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S169 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	339
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

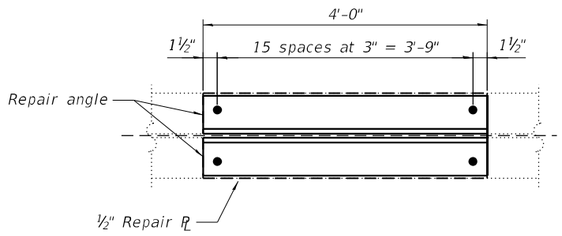


REPAIR TREATMENT

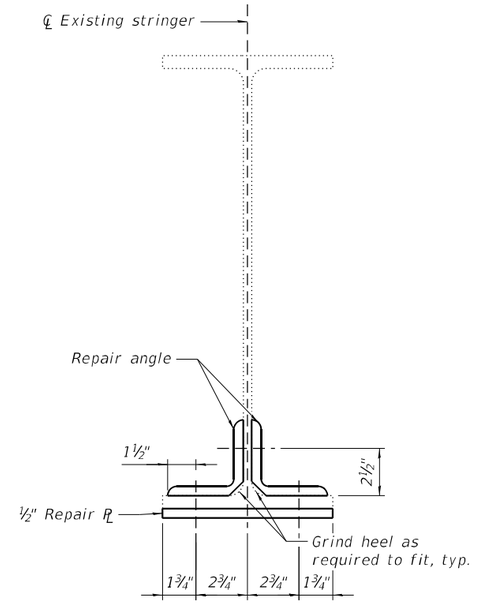
Bent stringer bottom flange shall be mechanically straightened prior to installing repair plates and angles. Heat straightening is not allowed. Contractor shall submit a straightening procedure to the Engineer for review and approval prior to performing work. After straightening, the Contractor shall inspect the bottom flange within the repair area for nicks, gouges and cracks. Identified defects shall be reported to the Bureau of Bridges and Structures for further disposition. Cost to straighten existing members shall be included with Structural Steel Repair.



REPAIR PLATE/ANGLE INSTALLATION



SECTION A-A



SECTION B-B

PARTIAL ELEVATION - SPAN 14, PANEL 46, STRINGER 1 NEAR MID-PANEL (ITEM 15)

LEGEND

- *New bolt in new hole (shop of field drilled)*

Notes:

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	210

MODEL: Default
FILE NAME: P:\4312-WBM\c\BridgeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-170-Steel Main Span-Stringer Bott Flange Repairs.dgn

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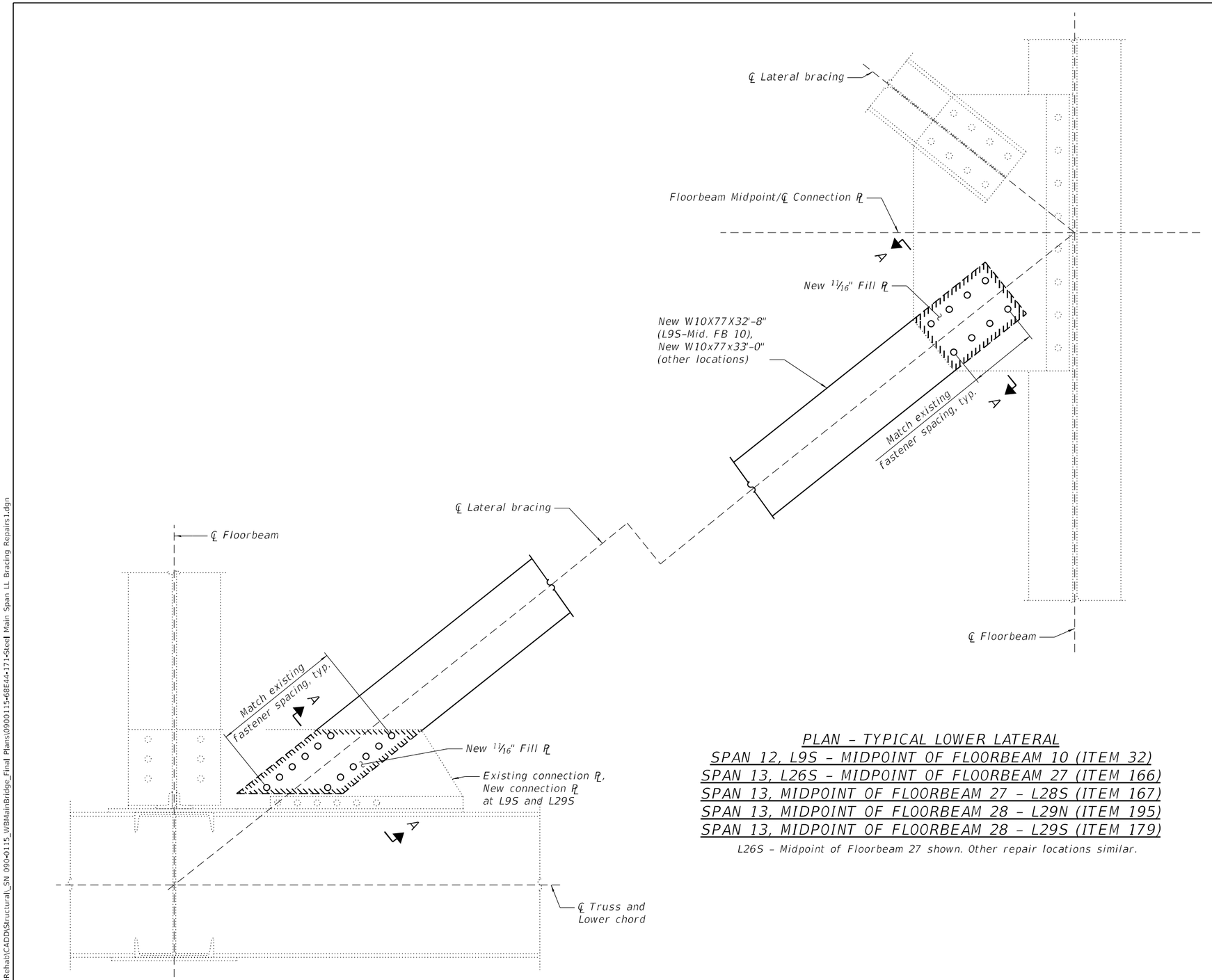
MODJESKI and MASTERS

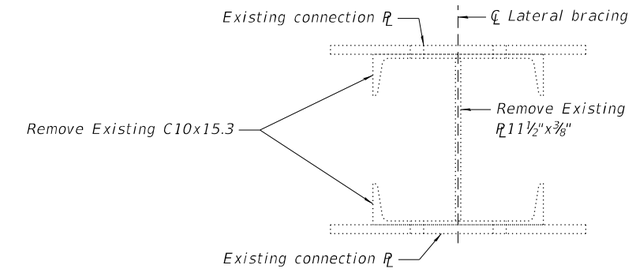
USER NAME =	DESIGNED - YJ	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

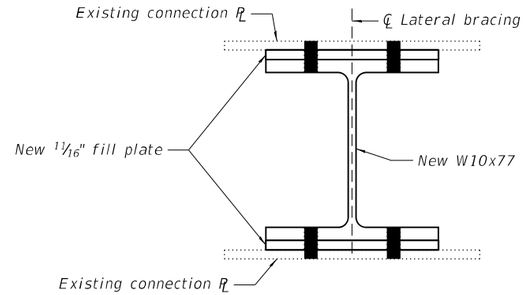
MAIN SPANS - STRINGER BOTTOM FLANGE REPAIR
STRUCTURE NO. 090-0115
SHEET S170 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	340
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			





SECTION A-A
Removal detail.



SECTION A-A
Replacement detail.

PLAN - TYPICAL LOWER LATERAL
SPAN 12, L9S - MIDPOINT OF FLOORBEAM 10 (ITEM 32)
SPAN 13, L26S - MIDPOINT OF FLOORBEAM 27 (ITEM 166)
SPAN 13, MIDPOINT OF FLOORBEAM 27 - L28S (ITEM 167)
SPAN 13, MIDPOINT OF FLOORBEAM 28 - L29N (ITEM 195)
SPAN 13, MIDPOINT OF FLOORBEAM 28 - L29S (ITEM 179)

L26S - Midpoint of Floorbeam 27 shown. Other repair locations similar.

Notes:

Remove and dispose of existing lower lateral bracing identified for replacement.

Coordinate lateral bracing repairs at Span 12, L9S and Span 13, L29S with lower lateral connection plate replacements at these locations. See sheets S174 and S177 of S214 for lower lateral connection plate replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- o Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	13,200

MODJESKI and MASTERS

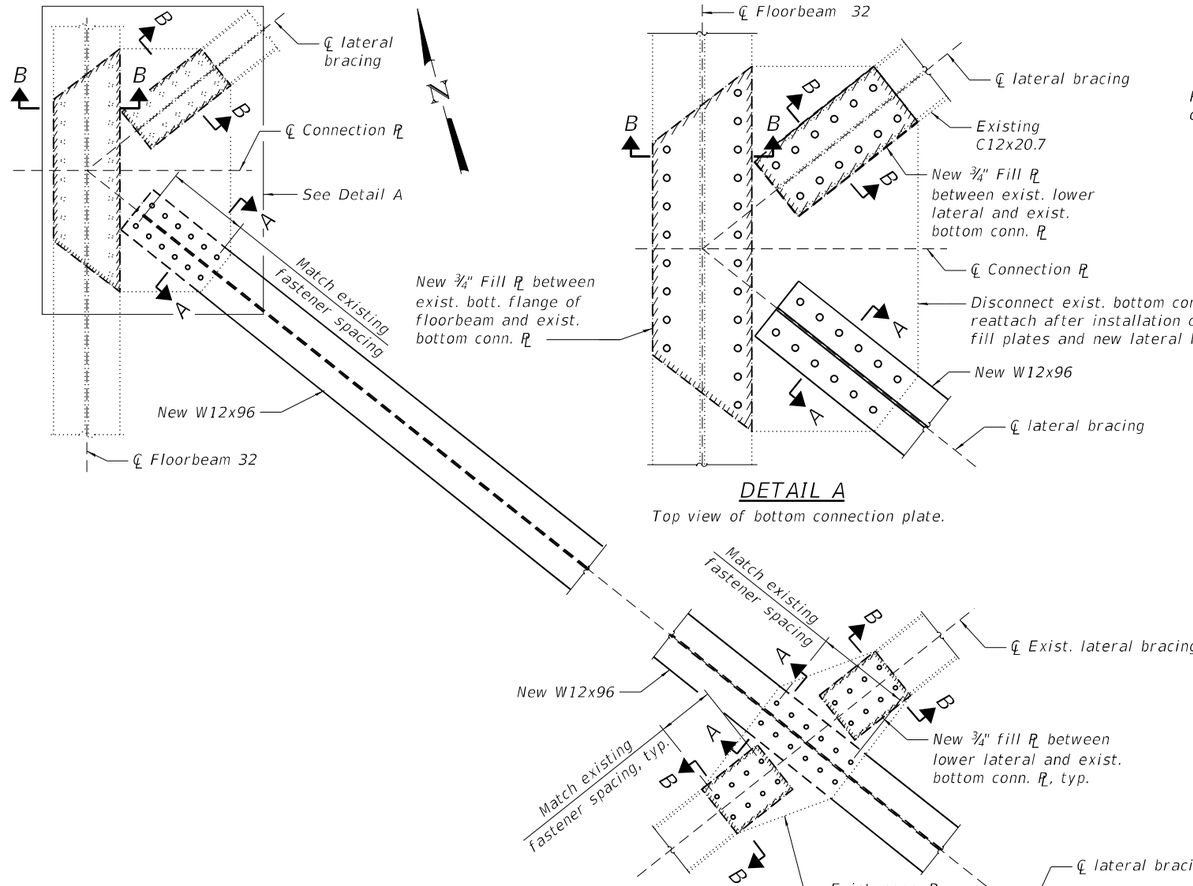
USER NAME =	DESIGNED - JKB	REVISED -	
	CHECKED - JAD	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LATERAL BRACING REPAIRS - 1
STRUCTURE NO. 090-0115
SHEET S171 OF S214 SHEETS

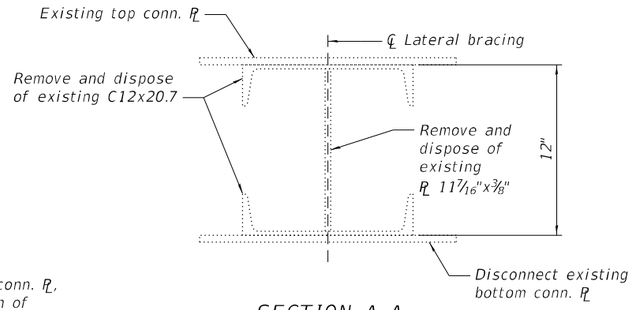
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	341
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: P:\4312-WBM\CE\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-171-Steel Main Span LL Bracing Repairs1.dgn
3/13/2025 12:55:11 PM



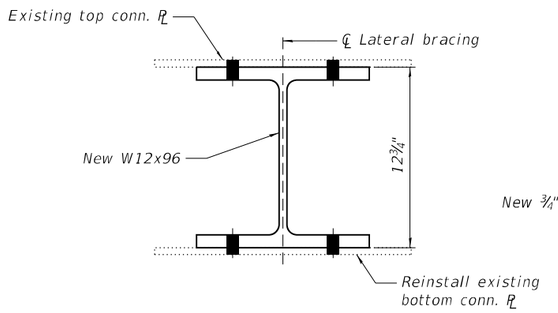
DETAIL A

Top view of bottom connection plate.



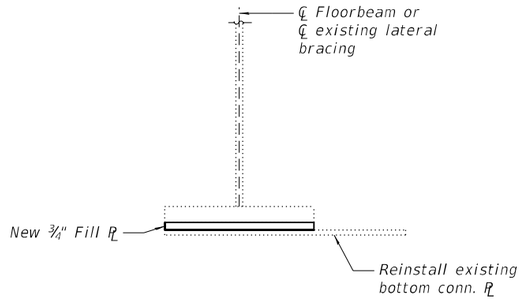
SECTION A-A

Removal detail.



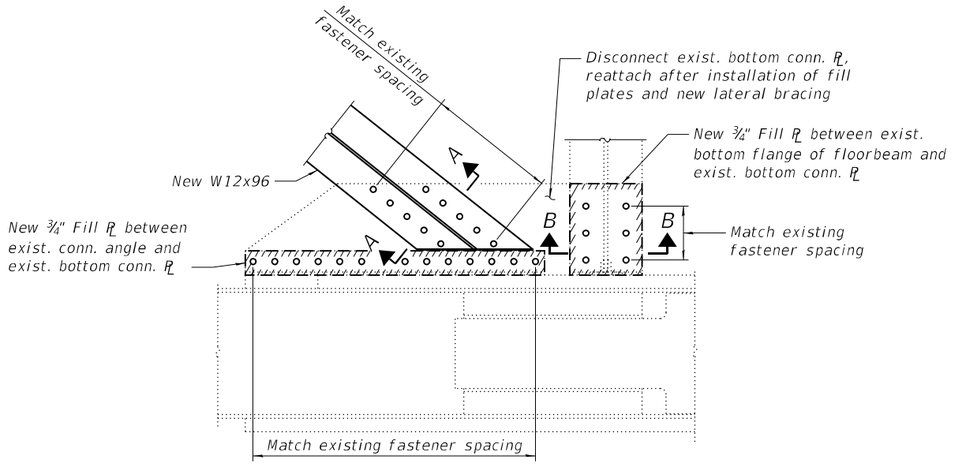
SECTION A-A

Replacement detail.



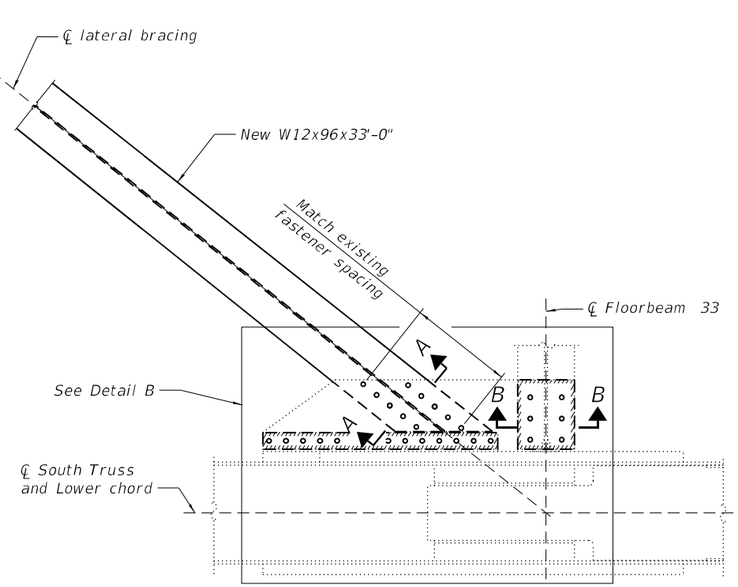
SECTION B-B

Section at floorbeam shown.
Section at lateral bracing similar.



DETAIL B

Top view of bottom connection plate.



PLAN – TYPICAL LOWER LATERAL SPAN 13, MIDPOINT OF FLOORBEAM 32 – L33S (ITEM 157)

Notes:

Remove and dispose of existing lower lateral bracing identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- o *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	3,610

MODJESKI and MASTERS

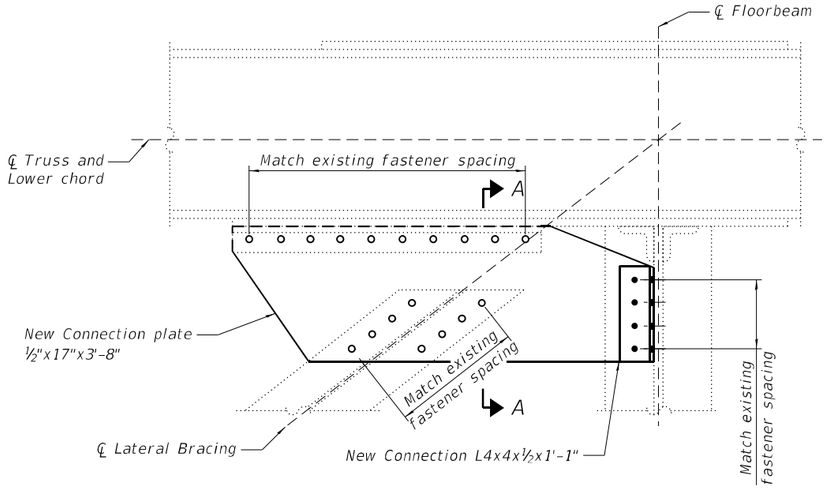
USER NAME =	DESIGNED - JKB	REVISED -	
	CHECKED - JAD	REVISED -	
PLOT SCALE =	DRAWN - ATH / KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LATERAL BRACING REPAIRS - 2
STRUCTURE NO. 090-0115
SHEET S172 OF S214 SHEETS

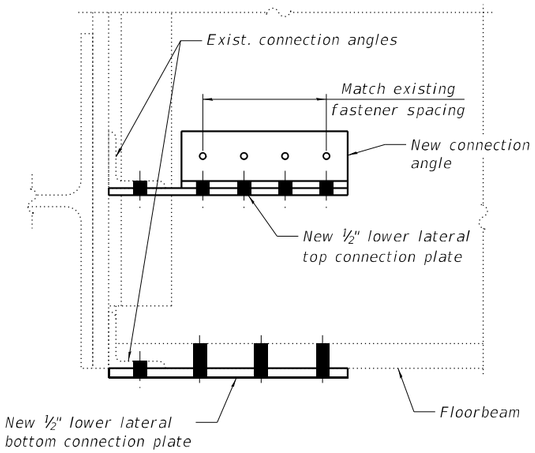
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	342
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-172-Steel Main Span LL Bracing Repairs2.dgn
3/13/2025 12:55:17 PM



PLAN

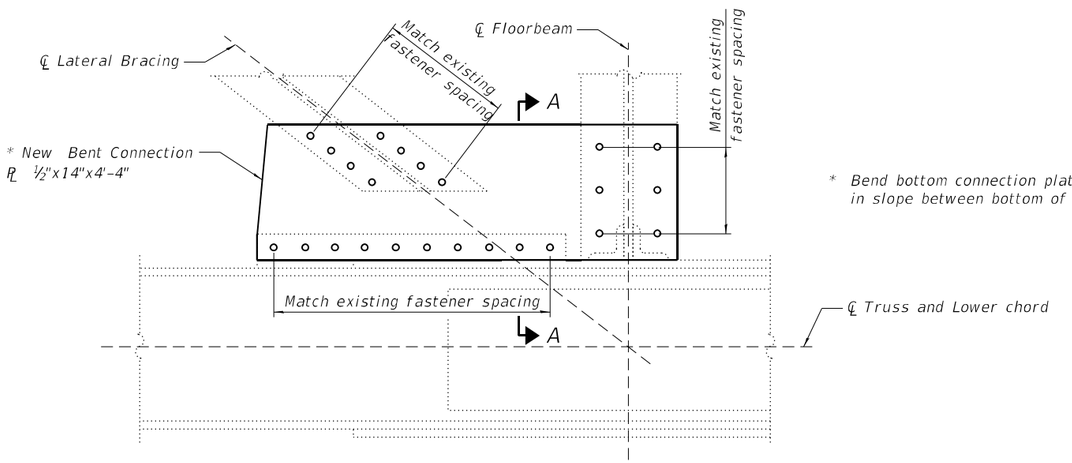
Top view L50N shown. Other locations similar.



SECTION A-A

Lateral brace not shown for clarity.

LOWER LATERAL TOP CONNECTION PLATE AT L4S (ITEM 66)
LOWER LATERAL TOP CONNECTION PLATE AT L46N (ITEM 124)
LOWER LATERAL TOP CONNECTION PLATE AT L46S (ITEM 161)
LOWER LATERAL TOP CONNECTION PLATE AT L50N (ITEM 209)



PLAN

Bottom view L50N shown. L4N similar.

LOWER LATERAL BOTTOM CONNECTION PLATE AT L4N (ITEM 65)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L50N (ITEM 209)

* Bend bottom connection plate as needed to match change in slope between bottom of floorbeam and lower chord.

Notes:

Coordinate lower lateral connection plate replacement with floorbeam flange repairs at L46S. See sheet S166 of S214 for floorbeam flange repair details.

Remove and dispose of existing lower lateral connection plates and connection angles identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	830

MODEL: Default
FILE NAME: P:\4312-WBM\cl\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\09001115-68E44-173-Steel Main Span LL Conn Repairs1.dgn
3/13/2025 12:55:21 PM

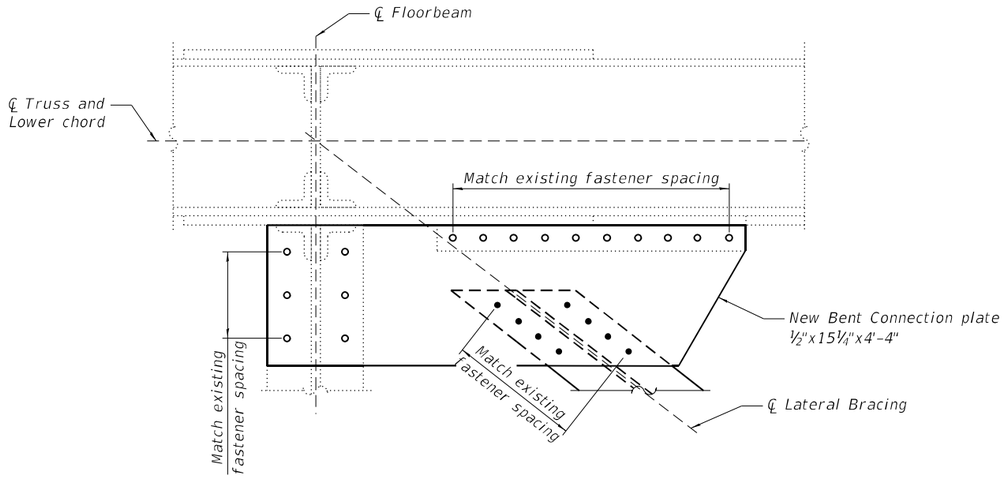
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S173 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	343
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



PLAN

Bottom view L9S shown. L7N similar.

LOWER LATERAL BOTTOM CONNECTION PLATE AT L7N (ITEM 30)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L9S (ITEM 67)

* Bend bottom connection plate as needed to match change in slope between bottom of floorbeam and lower chord.

Notes:

Coordinate lower lateral connection plate replacement with lateral bracing repairs at L9S. See sheet S171 of S214 for the lateral bracing repair details.

Remove and dispose of existing lower lateral connection plates and connection angles identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	270

MODJESKI and MASTERS

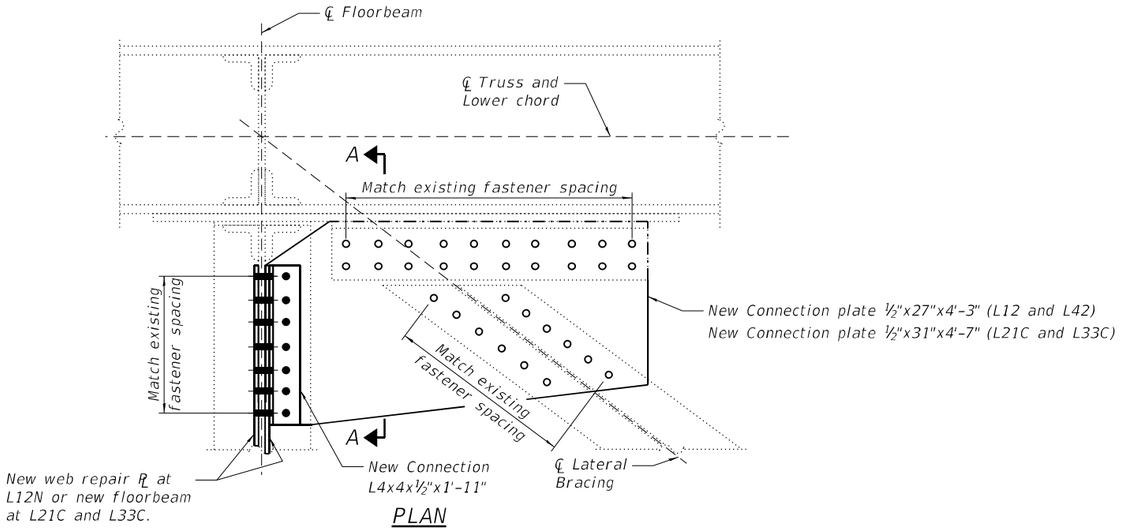
USER NAME =	DESIGNED - JAD	REVISED -
	CHECKED - RLM	REVISED -
PLOT SCALE =	DRAWN - KEW	REVISED -
PLOT DATE =	CHECKED - JAD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S174 OF S214 SHEETS

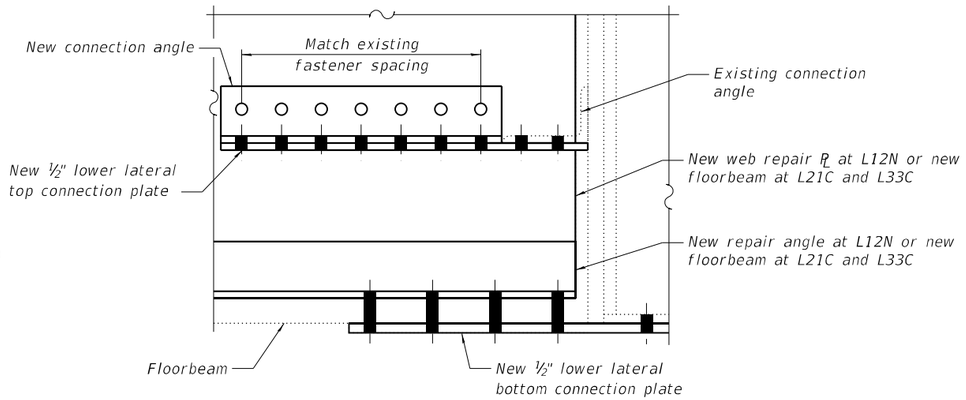
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	344
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: P:\4312-WBMcClugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-174-Steel Main Span LL Conn Repairs2.dgn
3/13/2025 12:55:25 PM



PLAN

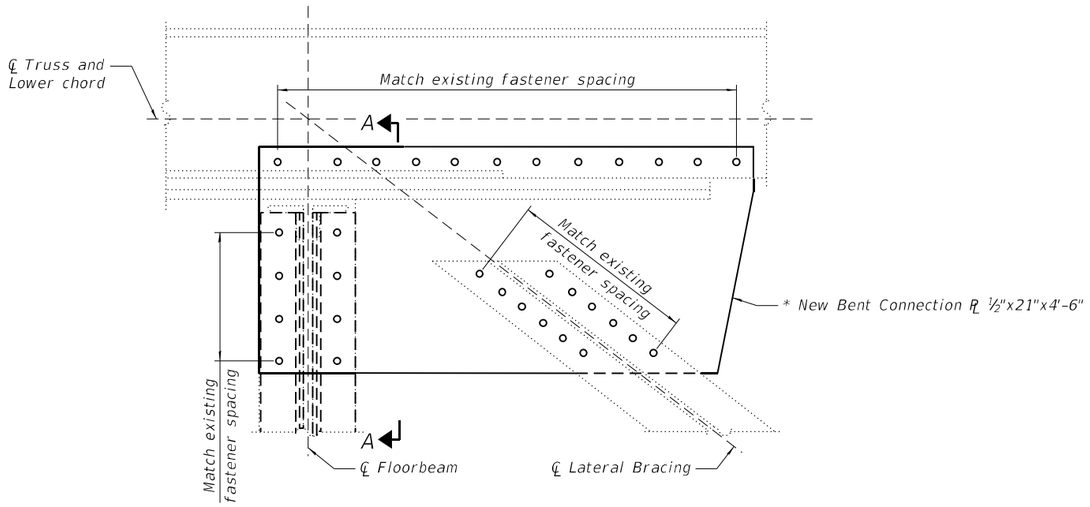
Top view L12N shown. Other locations similar.



SECTION A-A

Lateral brace not shown for clarity.

LOWER LATERAL TOP CONNECTION PLATE AT L12N (ITEM 68)
LOWER LATERAL TOP CONNECTION PLATE AT L12S (ITEM 69)
LOWER LATERAL TOP CONNECTION PLATE AT L42N (ITEM 79)
LOWER LATERAL TOP CONNECTION PLATE AT L42S (ITEM 80)
LOWER LATERAL TOP CONNECTION PLATE AT L21CN
LOWER LATERAL TOP CONNECTION PLATE AT L21CS
LOWER LATERAL TOP CONNECTION PLATE AT L33CN
LOWER LATERAL TOP CONNECTION PLATE AT L33CS



PLAN

Bottom view L12N shown. Other locations similar.

* Bend bottom connection plate as needed to match change in slope between bottom of floorbeam and lower chord.

LOWER LATERAL BOTTOM CONNECTION PLATE AT L12N (ITEM 68)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L12S (ITEM 69)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L42N (ITEM 79)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L42S (ITEM 80)

Notes:

Coordinate lower lateral connection plate replacement with floorbeam web repair at L12N and floorbeam replacement at L21C and L33C. See sheets S166 and S167 of S214 for floorbeam details.

Remove and dispose of existing lower lateral connection plates and connection angles identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	3,080

MODEL: Default
FILE NAME: P:\4312-WBMcCLuggeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-175-Steel Main Span LL Conn Repairs3.dgn

3/13/2025 12:55:28 PM

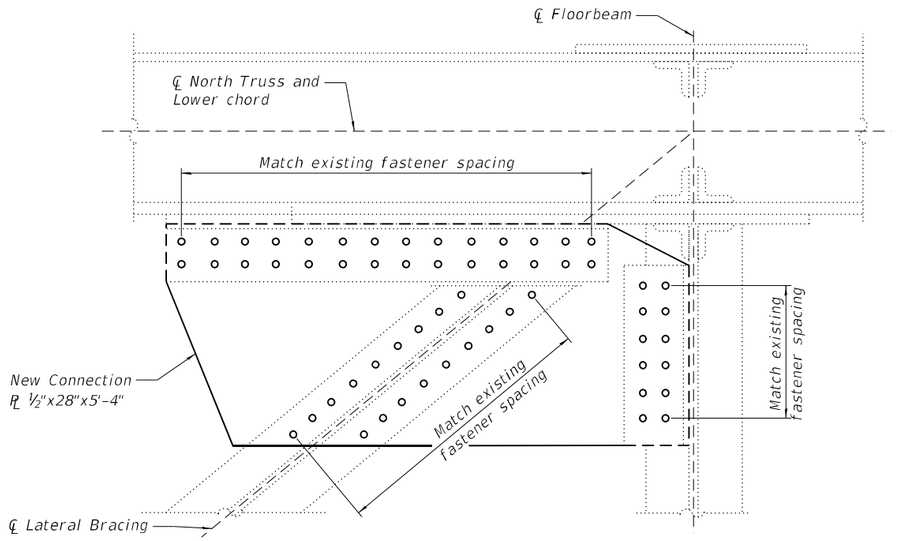
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

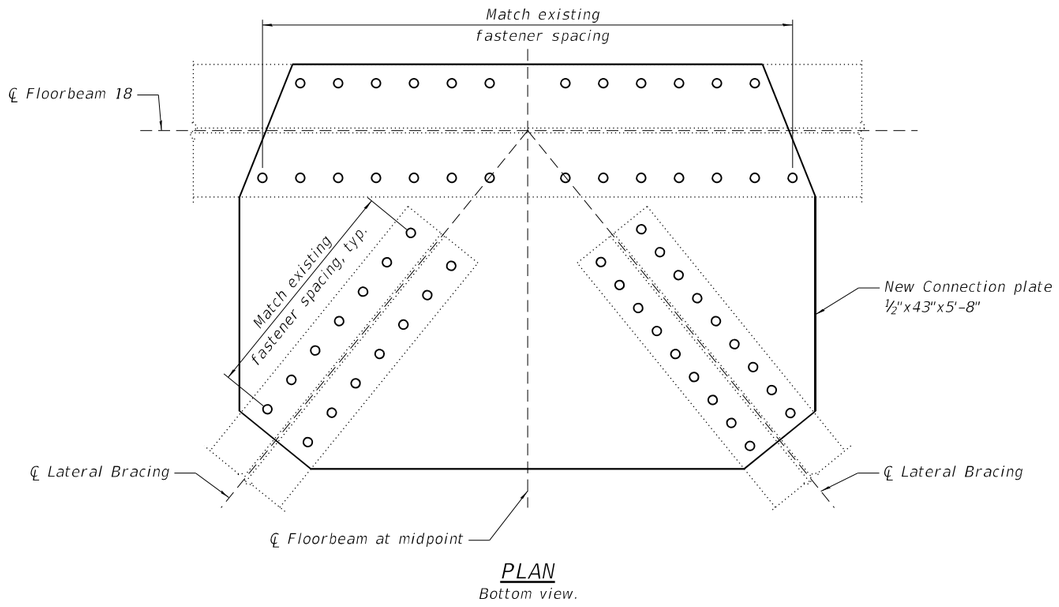
MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 3
STRUCTURE NO. 090-0115
SHEET S175 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	345
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



PLAN
Top view.

LOWER LATERAL TOP CONNECTION PLATE AT L18N (ITEM 72)



PLAN
Bottom view.

LOWER LATERAL BOTTOM CONNECTION PLATE AT MIDPOINT OF FLOORBEAM 18 (ITEM 140)

Notes:

Remove and dispose of existing lower lateral connection plates identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- o *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	800

MODEL: Default
FILE NAME: P:\04312-WBMcCLupageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-176-Steel Main Span LL Conn Repairs4.dgn
3/13/2025 12:55:31 PM

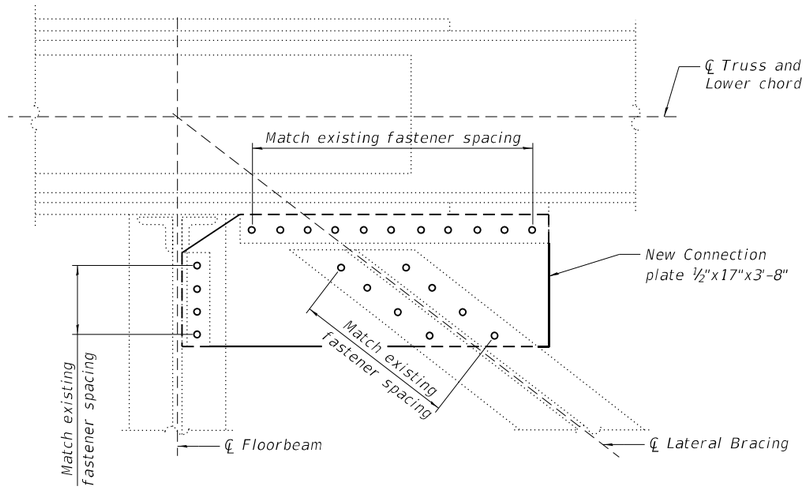
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 4
STRUCTURE NO. 090-0115
SHEET S176 OF S214 SHEETS

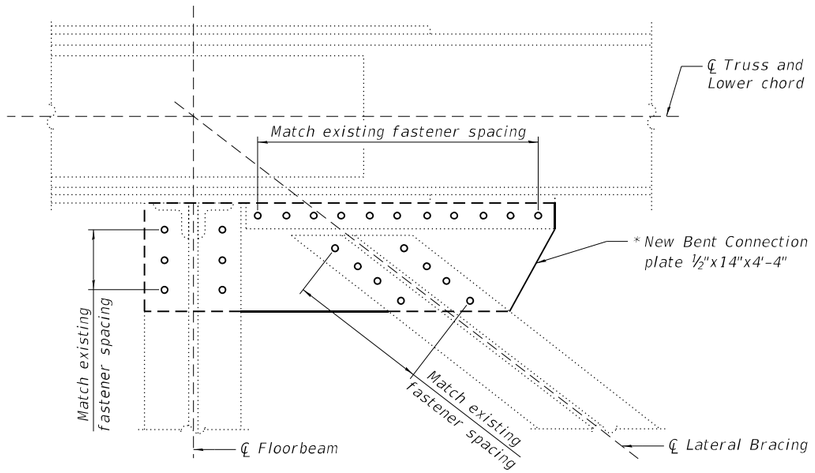
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	346
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



PLAN

Top view L25N shown. L29S similar.

LOWER LATERAL TOP CONNECTION PLATE AT L25N (ITEM 142)
LOWER LATERAL TOP CONNECTION PLATE AT L29S (ITEM 179)



PLAN - REPAIR

Top view L25N shown. L29S similar.

LOWER LATERAL BOTTOM CONNECTION PLATE AT L25N (ITEM 142)
LOWER LATERAL BOTTOM CONNECTION PLATE AT L29S (ITEM 179)

* Bend bottom connection plate as needed to match change in slope between bottom of floorbeam and lower chord.

Notes:

Remove and dispose of existing lower lateral connection plates identified for replacement.

Coordinate lower lateral connection plate replacement with lateral bracing repairs at L29S. See sheet S171 of S214 for the lateral bracing repair details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- o Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	500

MODEL: Default
FILE NAME: P:\4312-WBM\CLUgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-177-Steel Main Span LL Conn Repairs5.dgn

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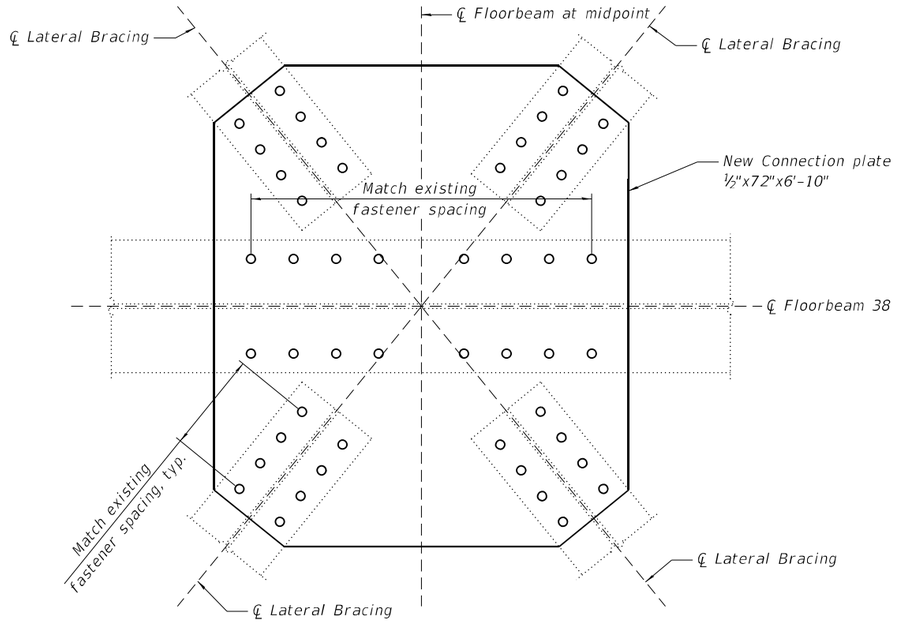
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -
	CHECKED - RLM	REVISED -
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - JAD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 5
STRUCTURE NO. 090-0115
SHEET S177 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	347
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



PLAN

Bottom view.

LOWER LATERAL BOTTOM CONNECTION PLATE AT MIDPOINT OF FLOORBEAM 38 (ITEM 158)

Notes:

Remove and dispose of existing lower lateral connection plates identified for replacement.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for secondary connections. The primer shall be dry to touch prior to connecting new steel to existing steel.

LEGEND

- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	900

MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-178-Steel Main Span LL Conn Repairs6.dgn

3/13/2025 12:55:38 PM

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

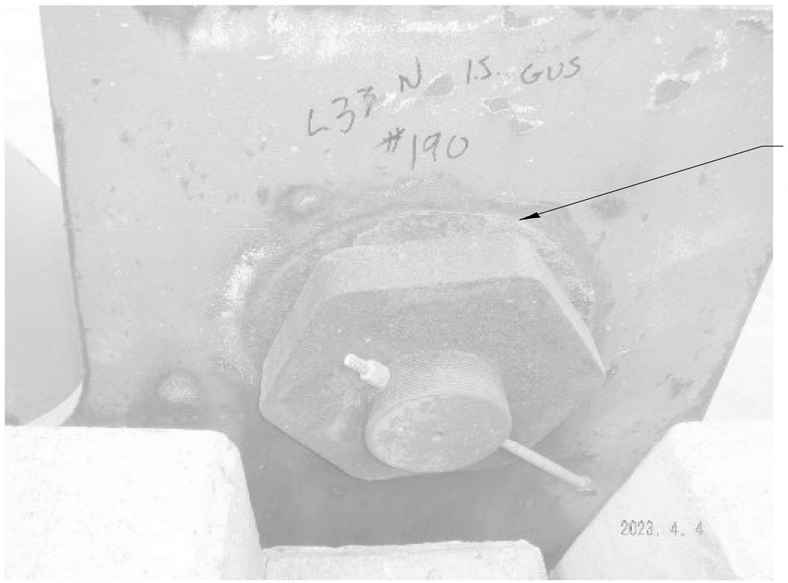
MAIN SPANS - LOWER LATERAL CONNECTION PLATE DETAILS - 6
STRUCTURE NO. 090-0115

SHEET S178 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	348
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

Replace missing ½" cotter pin for existing 5½" ∅ pin, both ends of pin at North Bearing, one end of pin at South Bearing

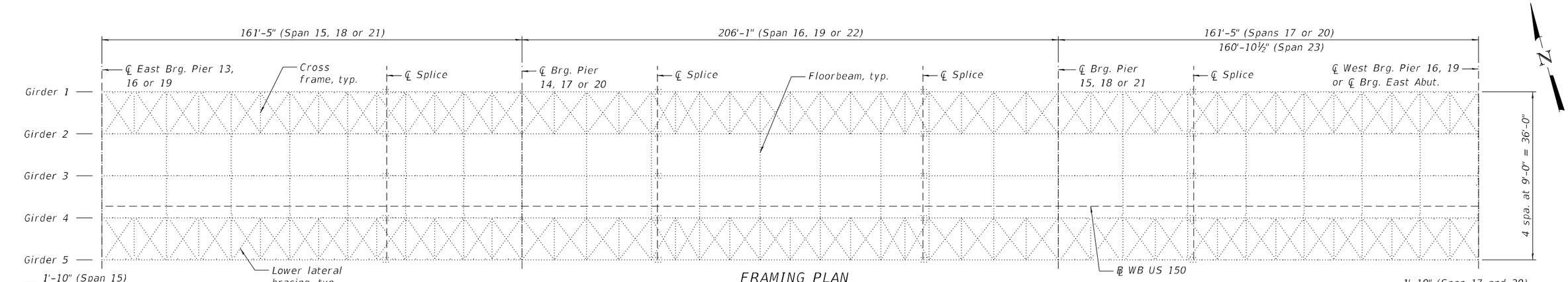
SPAN 13/14, PIER 12, NORTH BEARING (ITEM 77)
SPAN 13/14, PIER 12, SOUTH BEARING (ITEM78)



Replace broken washer with new ⅜" self-lubricating washer for existing 14" ∅ pin

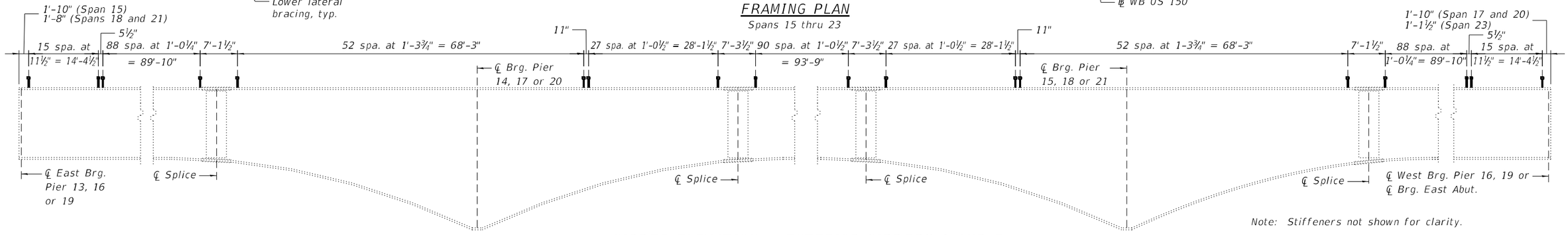
SPAN 13, HANGER U33N-L33N AT L33N (ITEM 190)
Inside face

Note:
The cost of all work required to replace the missing cotter pins and broken pin washer shall be included in the contract unit price for Structural Steel Repair and will not be measured separately for payment.



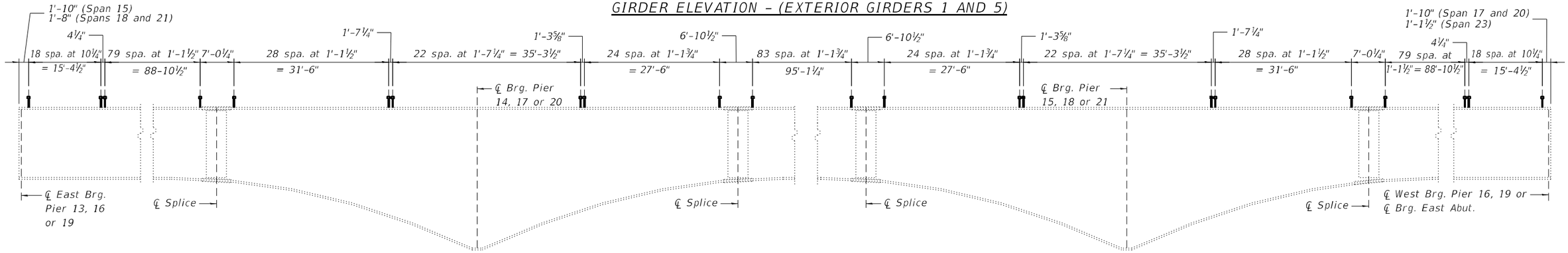
FRAMING PLAN

Spans 15 thru 23

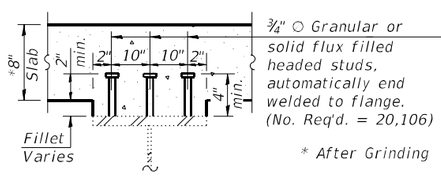


Note: Stiffeners not shown for clarity.

GIRDER ELEVATION – (EXTERIOR GIRDERS 1 AND 5)

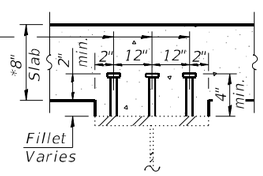


GIRDER ELEVATION – (INTERIOR GIRDERS 2 THRU 4)



¾" ○ Granular or solid flux filled headed studs, automatically end welded to flange. (No. Req'd. = 20,106)

* After Grinding



GIRDER SECTION – NEAR GIRDER ENDS AND MIDSPAN

GIRDER SECTION – NEAR INTERIOR PIERS

MODEL: Default
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3/13/2025 12:55:49 PM

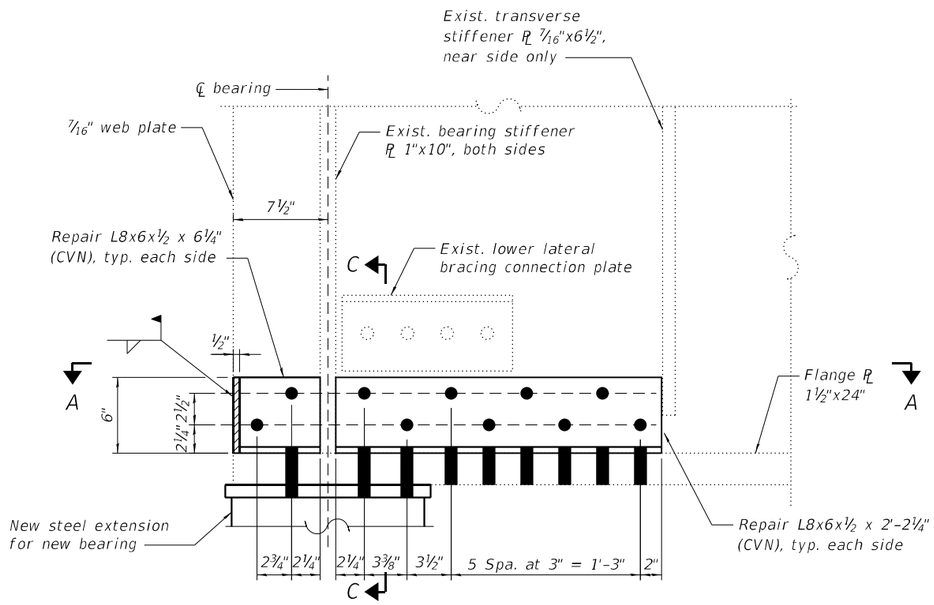
MODJESKI and MASTERS

USER NAME =	DESIGNED - JDB	REVISED -	
	CHECKED - YSS	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - YSS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

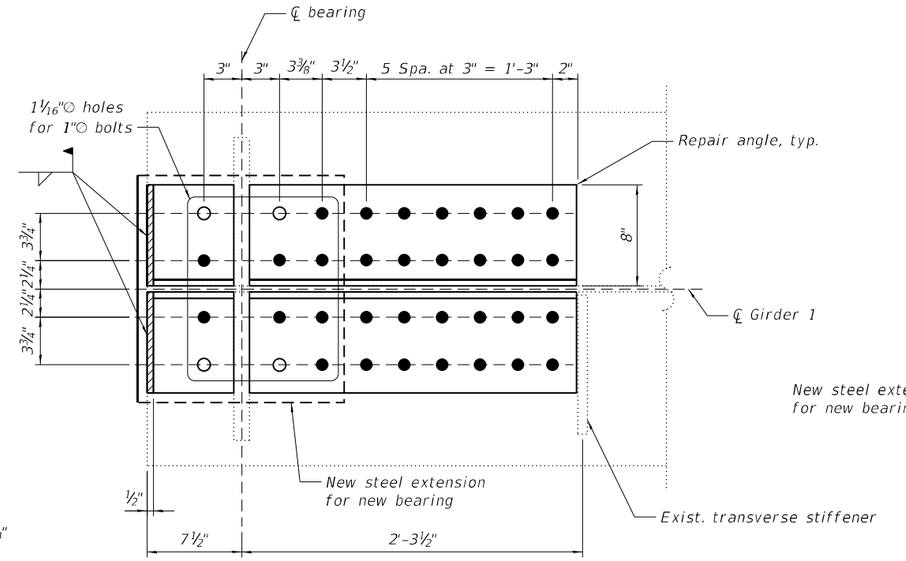
EAST APPROACH - SHEAR STUD DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S180 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	350
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

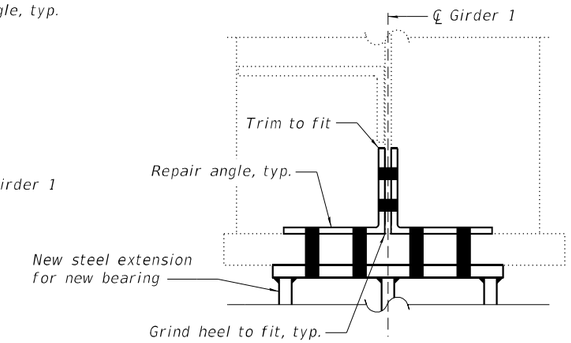


SPAN 15, GIRDER 1 AT PIER 13 (ITEM 184)

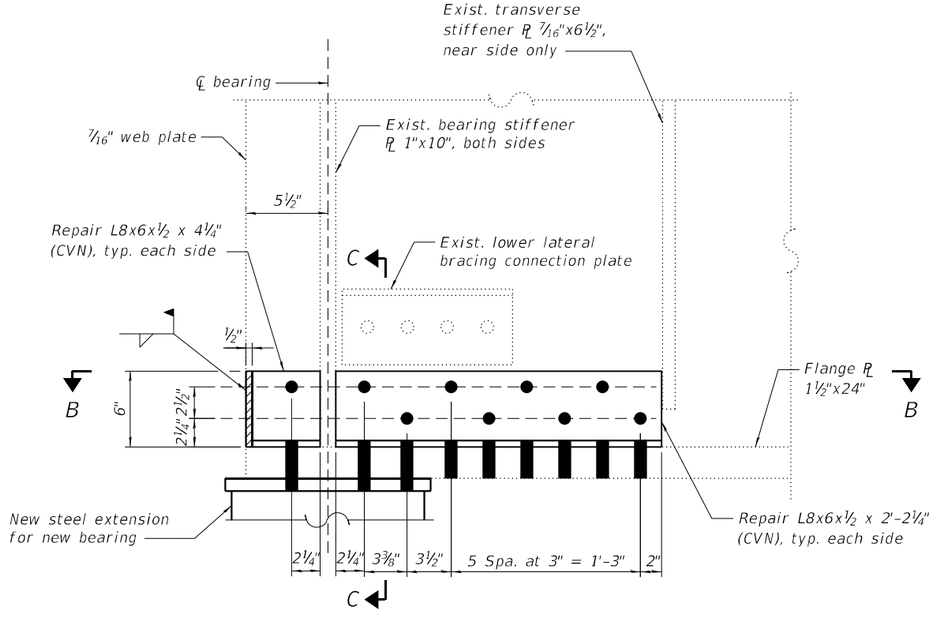
Looking North



SECTION A-A

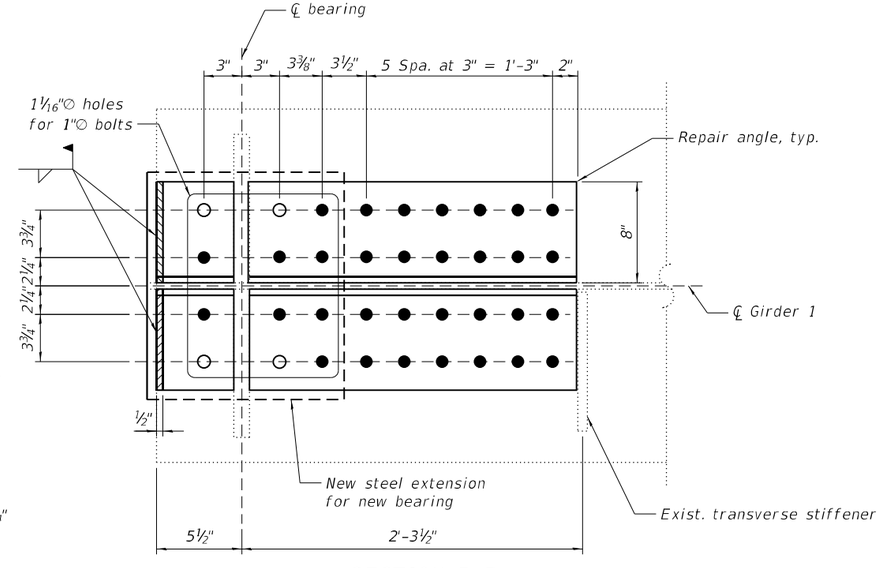


SECTION C-C



SPAN 21, GIRDER 1 AT PIER 19 (ITEM 211)

Looking North



SECTION B-B

LEGEND

- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)
- ● New bolt in new hole (Shop or field drill holes)
- ⁘ Existing fastener to remain

Notes:

Coordinate the girder web repairs with the bearing replacements at Pier 13E and 19W. See sheets S189 and S192 of S214 for the bearing replacement details.

Existing steel that will be in contact with new steel will be cleaned and painted in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures for primary connections. The primer shall be fully cured in accordance with the manufacturer's instructions prior to connecting new steel to existing steel.

Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirement, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	350

MODEL: Default
FILE NAME: P:\4312-WBMc\CL\gageRehab\CADDStructural_SN 090-0115_WBMainBridge_Final Plans\09001115-68E44-181-EApp+GirWebRpr.dgn

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MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST APPROACH - GIRDER WEB REPAIRS
STRUCTURE NO. 090-0115
SHEET S181 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	351
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

REPLACE DEFECTIVE OR MISSING FASTENERS

2024 NBIS INSPECTION DEFICIENCY ITEM NO.	LOCATION	QTY.
50	Span 4, Girder 3 at Field Splice	1
51	Span 5, Girder 5 at Field Splice	1
172	Span 7, Girder 1, 1st Splice East of Pier 5	1
130	Span 7, Lateral Brace, Girder 1 at Floorbeam 5	2
192	Span 8, Girder 1 between Floorbeam 2 and Floorbeam 3	2
59	Span 9, Lateral Brace, Midpoint Floorbeam 2	1
60	Span 9, Floorbeam 9 at Girder 1	1
205	Span 11, Girder 1, 1st Splice East of Pier 9	1
132	Span 12, U1S-U2N at U1S	1
101	Span 12, Upper K-Brace, U8N-U9S at U8N	1
193	Span 12, U16S, Inside Gusset Plate	1
194	Span 13, U17S, Outside Gusset Plate	1
102	Span 13, L22N-L23N at L23N Web Splice	3
141	Span 13, Lateral Brace, L23N - Floorbeam 23 at L23N	1
74	Span 13, U27N, Inside Gusset Plate	1
78	South Bearing at Pier 12	1
40	Span 14, U39S, Inside Gusset Plate	1
81	Span 14, Stringer 7 at Floorbeam 46, Panel 46	1
160	Span 14, Floorbeam 46, North End	1
208	Span 14, U47S, Gusset Plate	1
210	Span 14, Stringer 1 at Floorbeam, Panel 50	1
198	Span 16, Lateral Brace, 7th Connection from Pier 14 at Girder 5	1
199	Span 16, Midspan Girder 5	2
83	Span 16, Girder 2 at Field Splice	1
84	Span 16, Lateral Brace, Girder 1 at 1st Connection Plate West of Pier 15	1
110	Span 17, Girder 1, 30' East of Pier 15	1
103	Span 17, Girder 5, 30' East of Pier 15	2
42	Span 17, Girder 5 at 10th, 15th and 20th Stiffeners West of Pier 16	18
104	Span 18, Girder 1, 20' West of Pier 17	2
90	Span 19, Girder 1, Web Field Splice at West End of Span	1
111	Span 19, Girder 5, 30' East of Pier 17 and 15' West of Pier 18	3
200	Span 19, Lateral Brace, 9th Connection from Pier 17 to Girder 1	1
43	Span 19, Girder 1, 30' West of Pier 18	2
105	Span 20, Lateral Brace, 7th Connection from Pier 18 to Girder 4	1
126	Span 20, Girder 3, 4th Cross Frame from Pier 18	2
127	Span 22, Girder 1 East of Pier 20	2

Bolt Replacement Procedure:

1. *Remove existing defective fasteners as required. Flame cutting for rivet removal is not permitted.*
2. *Install new bolts in open holes. New bolts shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized, with a diameter 1/16" less than the diameter of the hole.*
3. *The work to replace defective or missing fasteners will be paid for at the contract unit price per each for Bolt Replacement.*

Note:
The Contractor shall replace all loose, broken, severely corroded or missing fasteners with H.S. bolts. The Engineer shall approve all additional locations not shown in the plans prior to replacement. The number of additional bolts not detailed for replacement in the plans shall be in addition to the quantity shown for Bolt Replacement and in accordance with Article 104.02 of the Standard Specifications.

BILL OF MATERIAL

Item	Unit	Total
Bolt Replacement	Each	65

MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS/JAD	REVISED -
	CHECKED - RLM	REVISED -
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - JAD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS FASTENER REPAIRS
STRUCTURE NO. 090-0115
SHEET S182 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	352
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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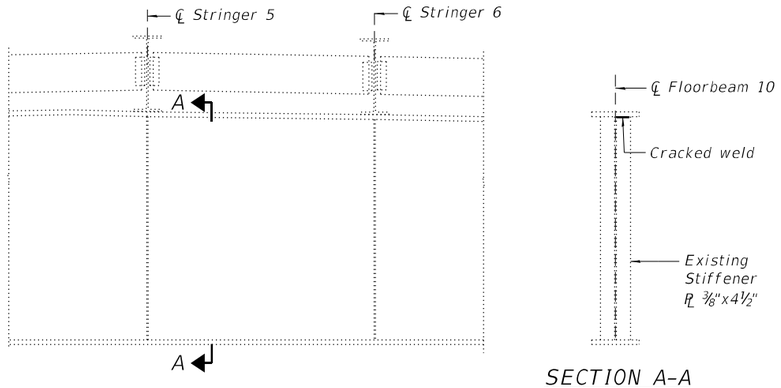
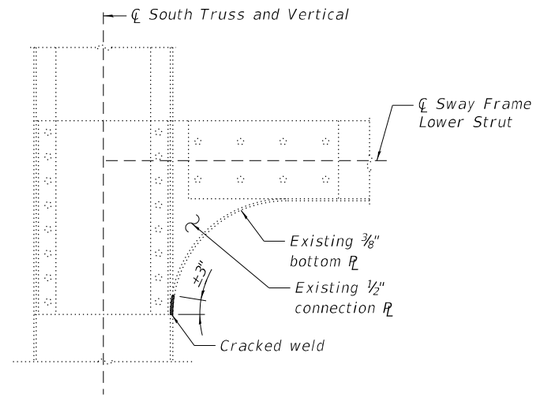


SECTION A-A

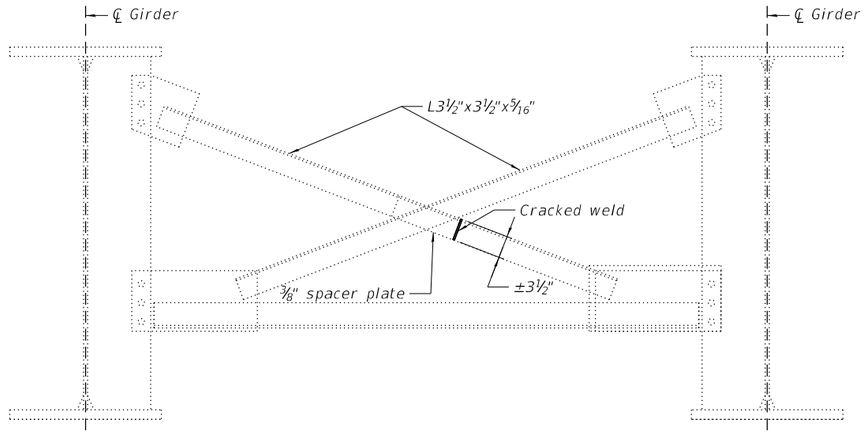
SPAN 7, FLOORBEAM 10 (ITEM 55)
West Face



SPAN 14, SWAY FRAME LOWER STRUT
AT VERTICAL L47S-U47S (ITEM 181)
East Face

Cracked Weld Repair Procedure:

1. *The Contractor shall submit a proposed Welding Procedure Specification (WPS) for the Engineer's review and approval prior to proceeding with this work.*
2. *The Contractor shall provide a welder that is certified in the overhead position according to AWS D1.5 Clause 5, Part B, to perform the weld repairs to the floorbeam stiffener.*
3. *Clean the steel surface as necessary to facilitate visual inspection and magnetic particle testing (MPT) of the crack. MPT shall be utilized to locate the ends of the crack.*
4. *Remove the crack plus an additional 2 inches beyond each end of the crack by grinding or other approved method. Bevel the sides and ends of the excavation. The finished excavation shall be smooth and provide a bright shiny surface.*
5. *Perform MPT of the excavation to verify that the entire crack has been removed.*
6. *Preheat steel to a minimum temperature of 250°F. The minimum interpass temperature shall be limited to 250°F.*
7. *Welding shall be performed in accordance with the approved WPS.*
8. *Grind the weld repair to blend with the contour of the adjoining weld.*
9. *The full length of the weld repair shall be inspected by MPT.*



SPAN 15, 2ND CROSS FRAME FROM PIER 14 BTWN GIRDERS 3 AND 4 (ITEM 197)
SPAN 21, 4TH CROSS FRAME FROM PIER 20 BTWN GIRDERS 2 AND 3 (ITEM 212)
SPAN 21, 2ND CROSS FRAME FROM PIER 20 BTWN GRIDERS 4 AND 5 (ITEMS 201)

Crack location shown for Items 197 and 212. Crack location for Item 201 at opposite end of spacer plate.

REMOVE TACK WELDS

2024 NBIS INSPECTION DEFICIENCY ITEM NO.	LOCATION	NO. OF WELDS
4	Span 13, L26N-L27N at L26N, Cracked Tack Weld in Misc. Top Plate to Lower Chord Connection	*

* Remove all tack welds in order to remove and dispose of miscellaneous top plate.

Tack Weld Removal Procedure:

1. *Remove tack welds by grinding. The surface of the affected members at the location of weld removal shall be ground smooth.*
2. *Ground surfaces shall be inspected for cracks using dye penetrant or magnetic particle testing. Cracks located in the base material of the removed tack weld shall be reported to the Engineer for further disposition.*

Note:
The Contractor shall grind all cracked welds parallel to the direction of the existing weld and not perpendicular to the weld.
The cost of all work required to remove tack welds or repair the cracked welds, including material testing and identification, shall be included in the contract unit price for Structural Steel Repair and will not be measured separately for payment.

MODEL: Default
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USER NAME =	DESIGNED - PMS/JAD	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - JAD	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS WELD REPAIRS
STRUCTURE NO. 090-0115
SHEET S183 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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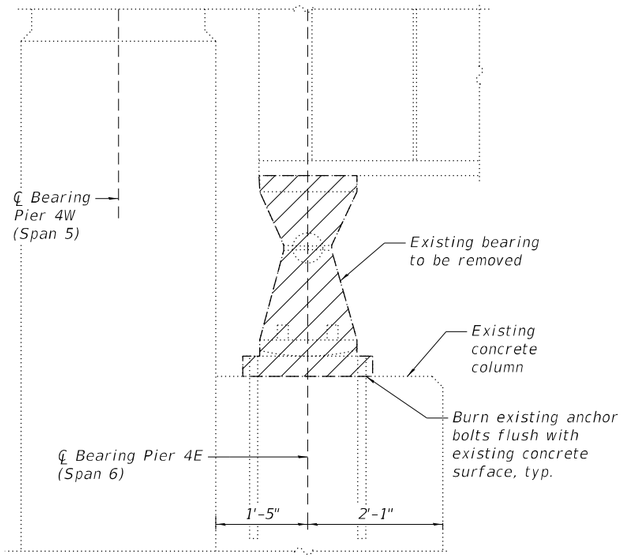
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

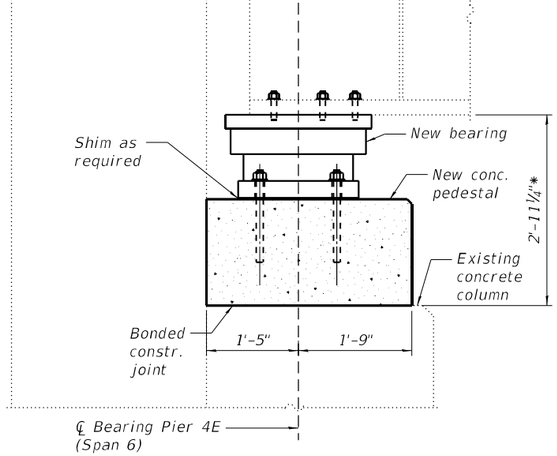


ELEVATION

BEARING REMOVAL AT PIER 4 (ITEMS 98 AND 129)

Looking North

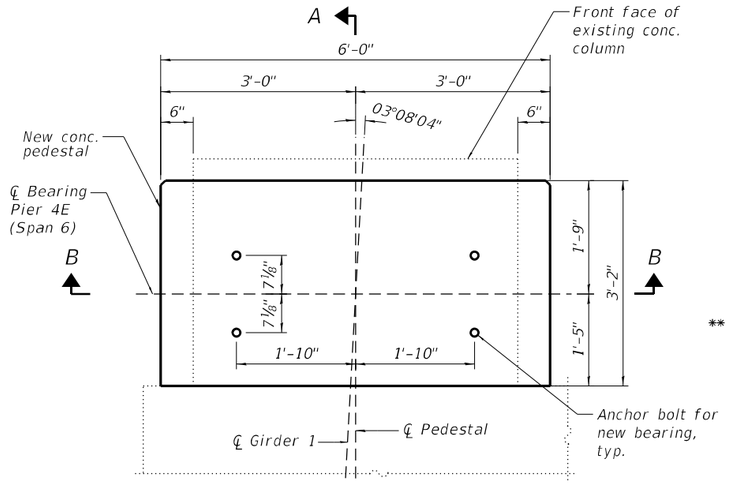
After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



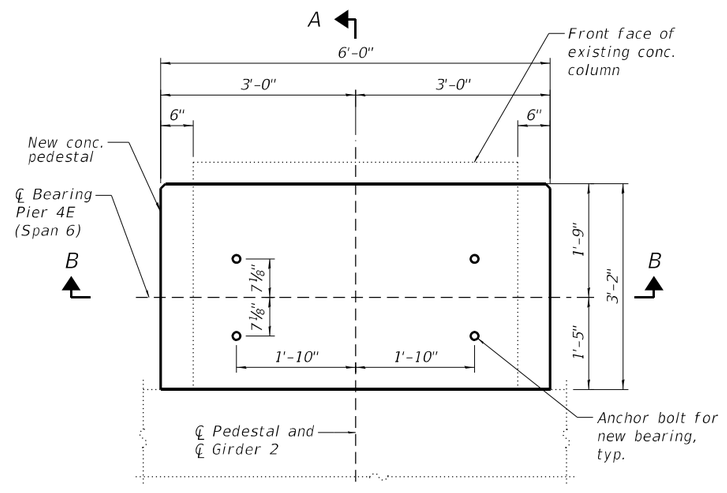
ELEVATION

BEARING REPLACEMENT AT PIER 4

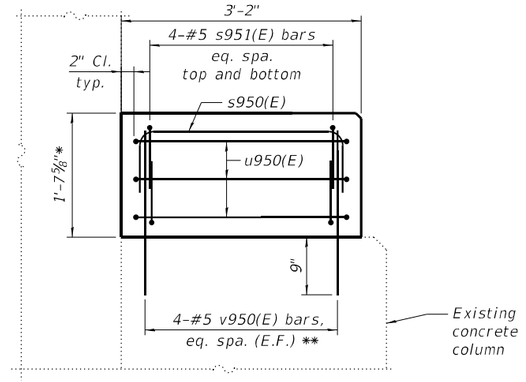
* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.



PEDESTAL PLAN – NORTH BEARING

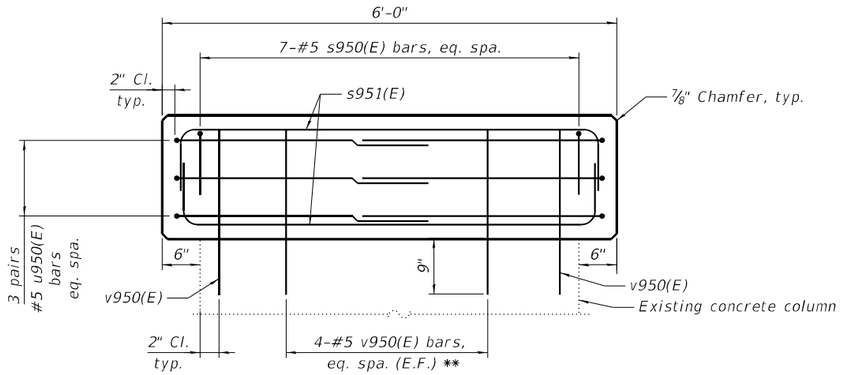


PEDESTAL PLAN – SOUTH BEARING

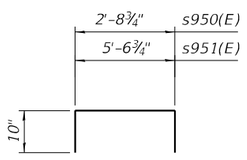


SECTION A-A

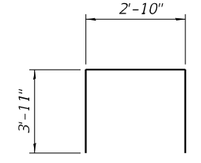
** Drill and Epoxy Grout



SECTION B-B



BAR s950(E)
BAR s951(E)



BAR u950(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s950(E)	14	#5	4'-5"	⌐¬
s951(E)	16	#5	7'-3"	⌐¬
u950(E)	12	#5	10'-8"	⌐¬
v950(E)	32	#5	2'-2"	—
Concrete Structures		Cu. Yd.	2.4	
Reinforcement Bars, Epoxy Coated		Pound	400	
Jack and Remove Existing Bearings		Each	2	

Notes:

Work this sheet with sheet S194 of S214.

Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S204 and S210 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 560 kips.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODJESKI and MASTERS

USER NAME =
PLOT SCALE =
PLOT DATE =

DESIGNED - JAD
CHECKED - MAP
DRAWN - KEW
CHECKED - MAP

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 1
STRUCTURE NO. 090-0115
SHEET S184 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	354
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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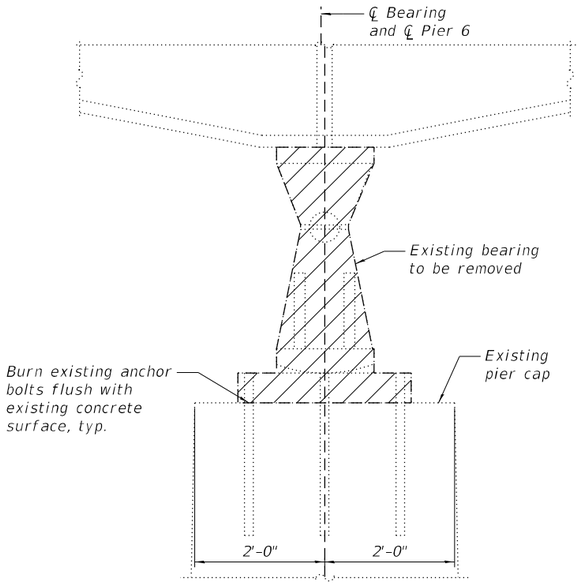
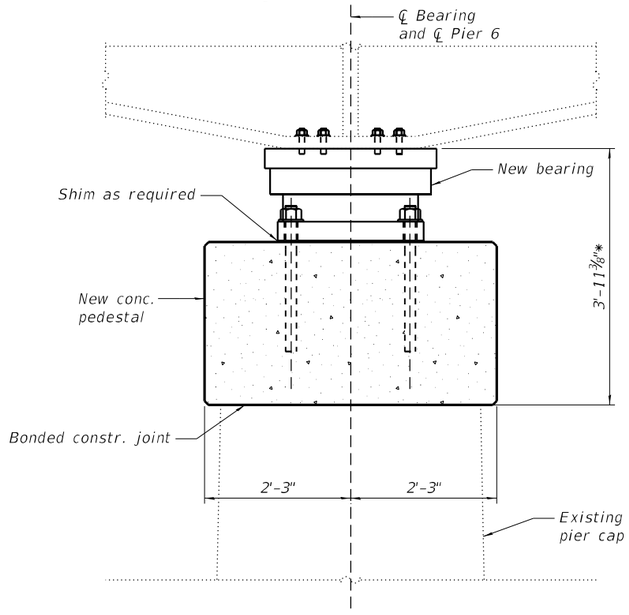


ELEVATION

BEARING REMOVAL AT PIER 6 (ITEMS 99 AND 100)

Looking North

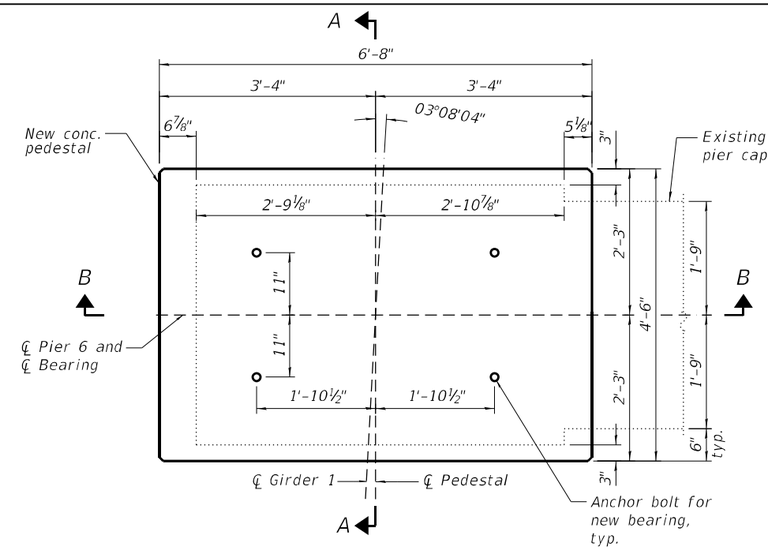
After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



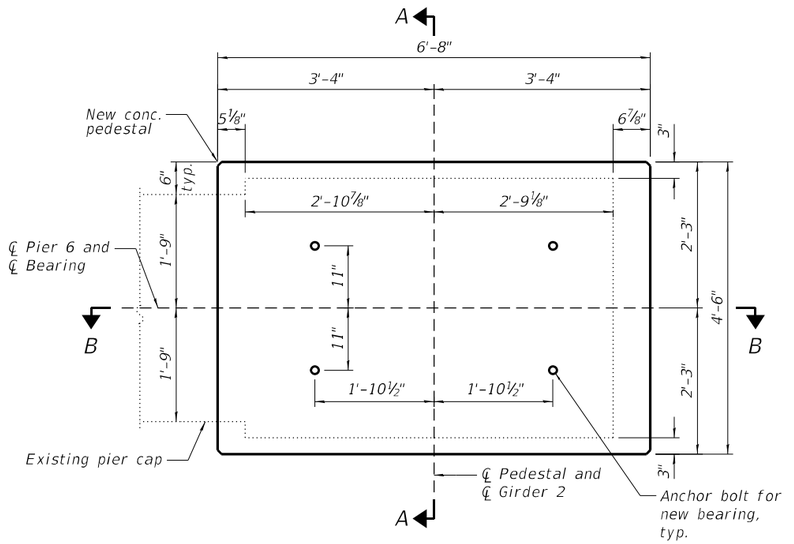
ELEVATION

BEARING REPLACEMENT AT PIER 6

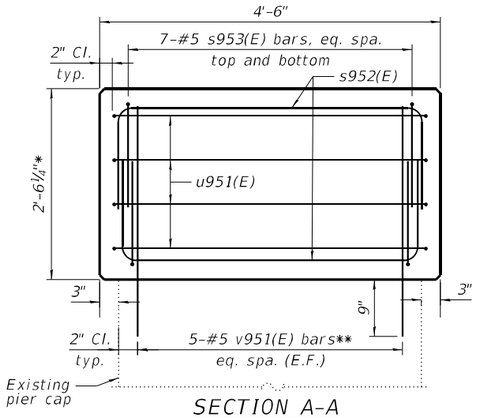
* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.



PEDESTAL PLAN - NORTH BEARING

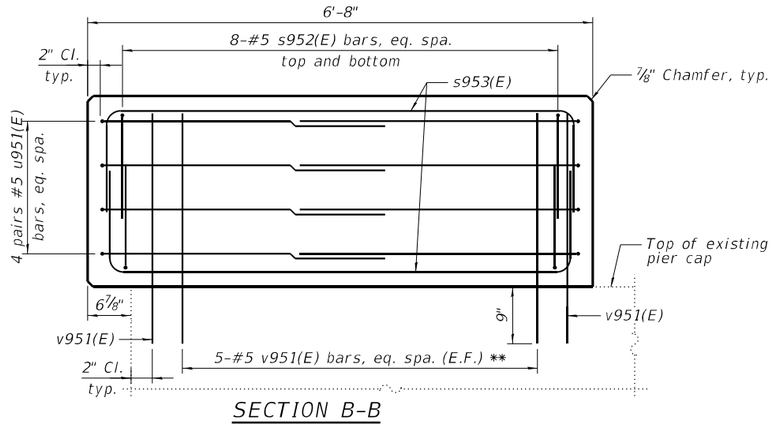


PEDESTAL PLAN - SOUTH BEARING

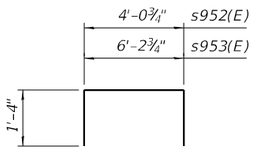


SECTION A-A

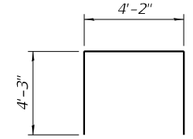
** Drill and Epoxy Grout



SECTION B-B



BAR s952(E)
BAR s953(E)



BAR u951(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s952(E)	32	#5	6'-9"	☐
s953(E)	28	#5	8'-11"	☐
u951(E)	16	#5	12'-8"	☐
v951(E)	40	#5	3'-1"	—
Concrete Structures		Cu. Yd.	5.7	
Reinforcement Bars, Epoxy Coated		Pound	830	
Jack and Remove Existing Bearings		Each	2	

Notes:

Work this sheet with sheet S195 of S214.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 1340 kips.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 2
STRUCTURE NO. 090-0115
SHEET S185 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	355
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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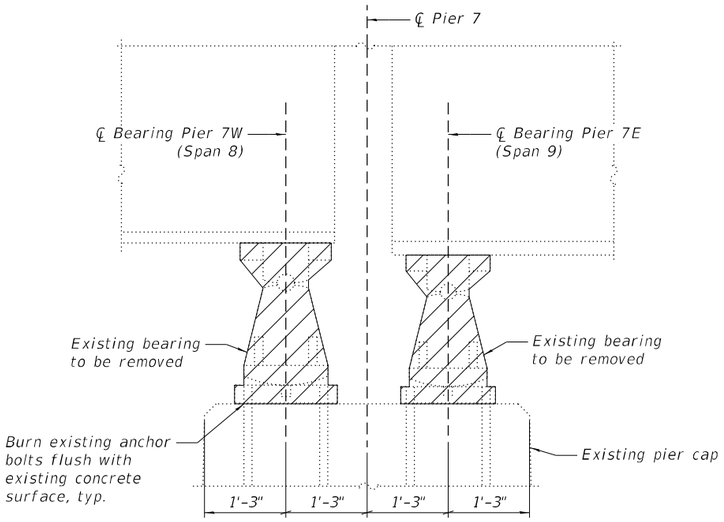
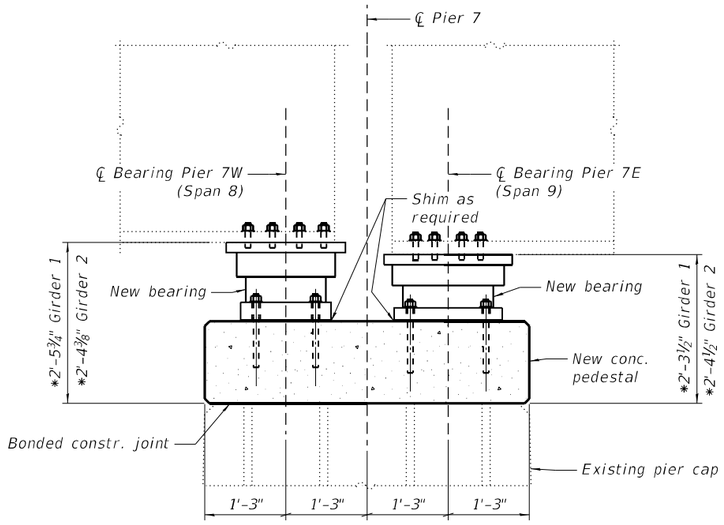


ELEVATION
BEARING REMOVAL AT PIER 7 (ITEMS 113 AND 114)

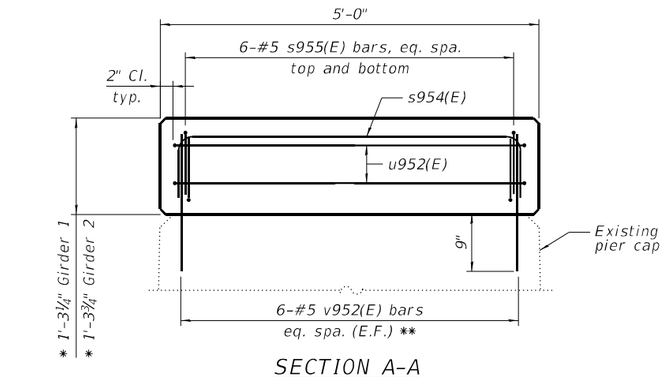
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



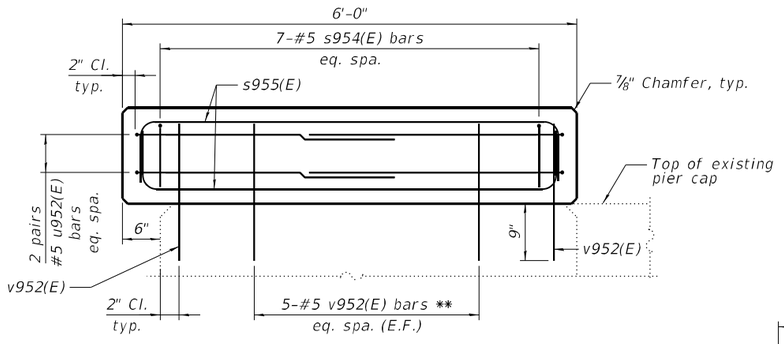
ELEVATION
BEARING REPLACEMENT AT PIER 7

* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.

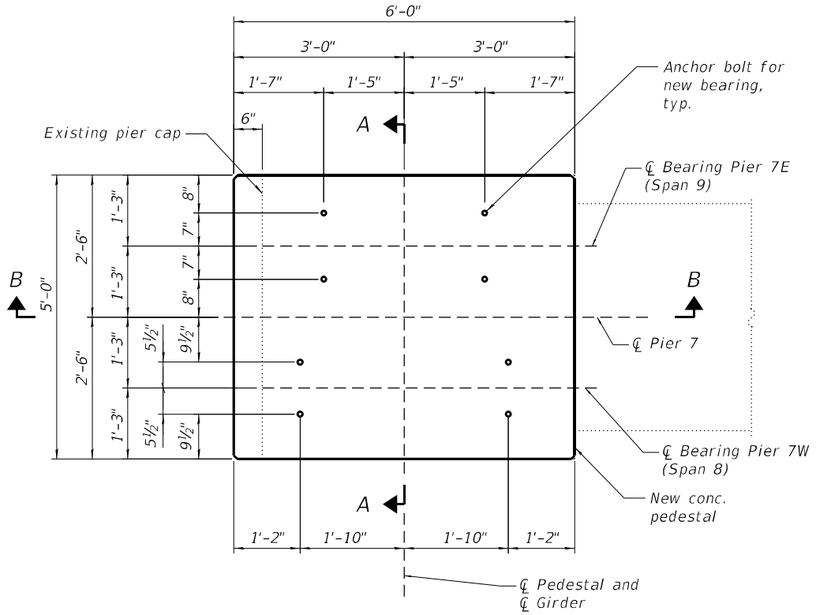


SECTION A-A

** Drill and Epoxy Grout

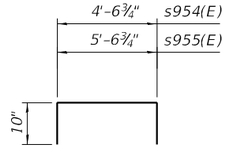


SECTION B-B

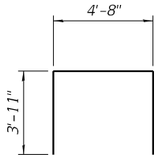


PEDESTAL PLAN

North Bearing shown, South Bearing similar



BAR s954(E)
BAR s955(E)



BAR u952(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s954(E)	14	#5	6'-3"	⌐ ¬
s955(E)	24	#5	7'-3"	⌐ ¬
u952(E)	8	#5	12'-6"	⌐ ¬
v952(E)	44	#5	1'-10"	—
Concrete Structures		Cu. Yd.		2.9
Reinforcement Bars, Epoxy Coated		Pound		470
Jack and Remove Existing Bearings		Each		4

Notes:

Work this sheet with sheets S196 and S198 of S214.

Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S205 and S211 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 350 kips for Span 8 bearings and 370 kips for Span 9.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -
	CHECKED - MAP	REVISED -
PLOT SCALE =	DRAWN - KEW	REVISED -
PLOT DATE =	CHECKED - MAP	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 3
STRUCTURE NO. 090-0115

SHEET S186 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	356
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	

MODEL: Default
FILE NAME: P:\4312-WBMcClugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-186-BrgREP03.dgn

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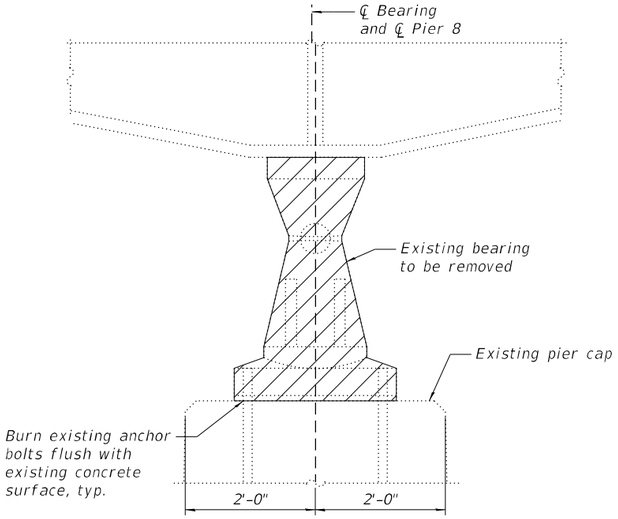
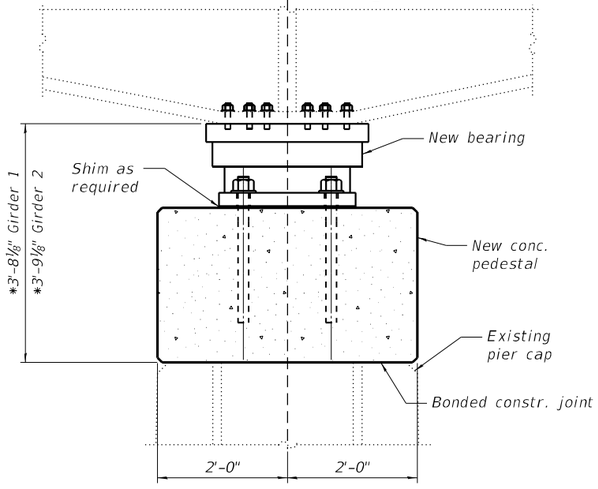


ELEVATION
BEARING REMOVAL AT PIER 8 (ITEM 61)

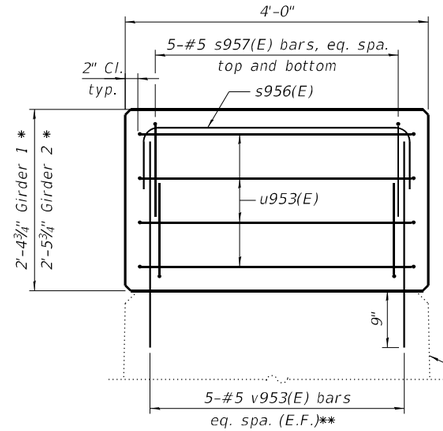
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



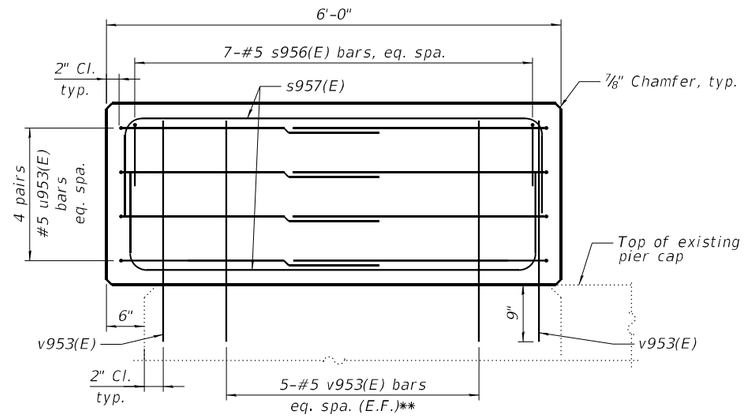
ELEVATION
BEARING REPLACEMENT AT PIER 8

* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.

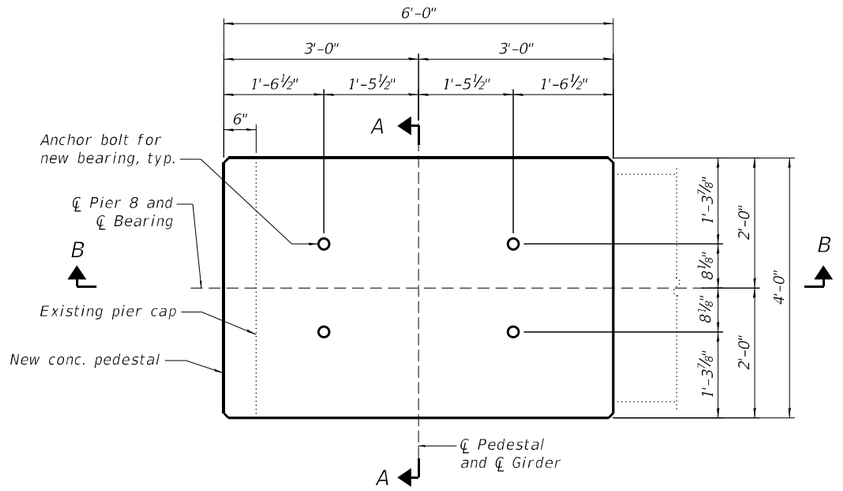


** Drill and Epoxy Grout

SECTION A-A

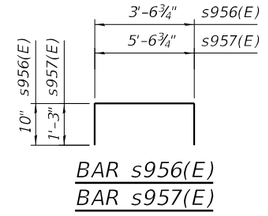


SECTION B-B

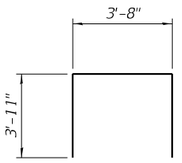


PEDESTAL PLAN

North Bearing shown, South Bearing similar



BAR s956(E)
BAR s957(E)



BAR u953(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s956(E)	14	#5	5'-3"	⌐¬
s957(E)	20	#5	8'-1"	⌐¬
u953(E)	16	#5	11'-6"	⌐¬
v953(E)	40	#5	3'-0"	—
Concrete Structures			Cu. Yd.	4.4
Reinforcement Bars, Epoxy Coated			Pound	570
Jack and Remove Existing Bearings			Each	2

Notes:

Work this sheet with S197 of S214.

Coordinate bearing replacement with substructure repairs. See sheet S205 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 1170 kips.

The jacking capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
FILE NAME: P:\4312-WBMcCLBgeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090115-68E44-187-BrgREP04.dgn

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 4
STRUCTURE NO. 090-0115
SHEET S187 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	357
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	

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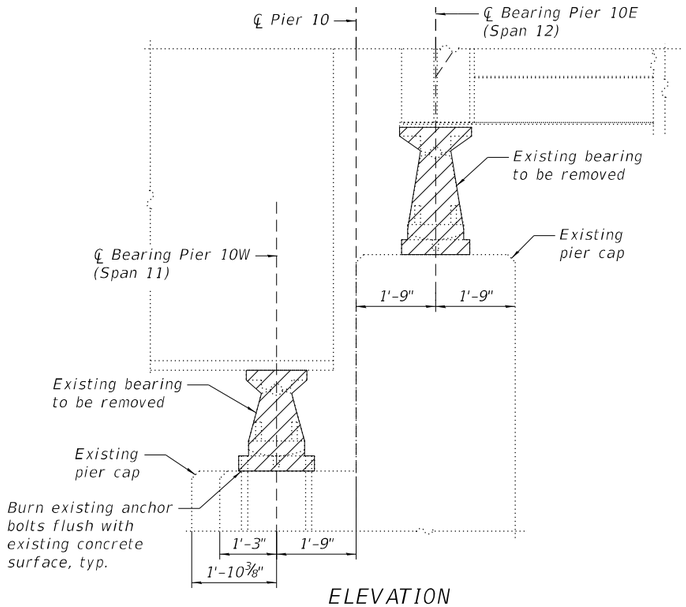
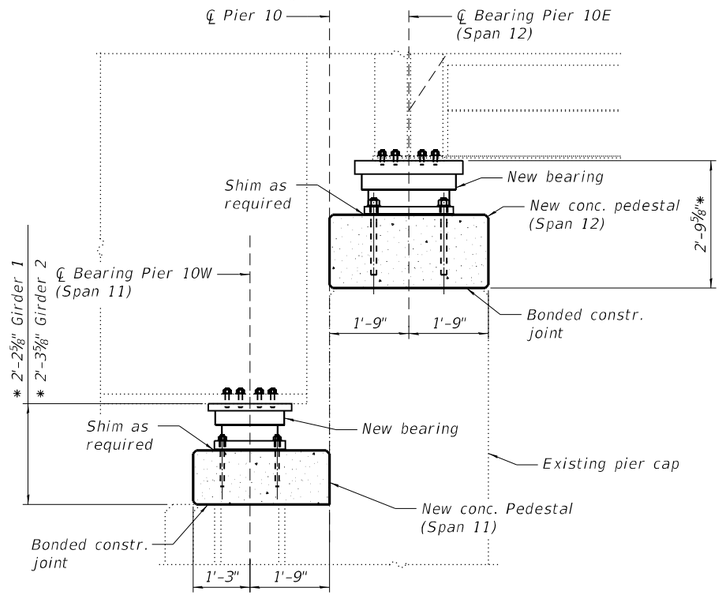


ELEVATION

BEARING REMOVAL AT PIER 10 (ITEMS 186 AND 187)

Looking North

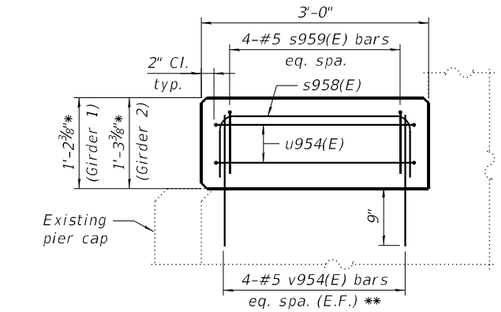
After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



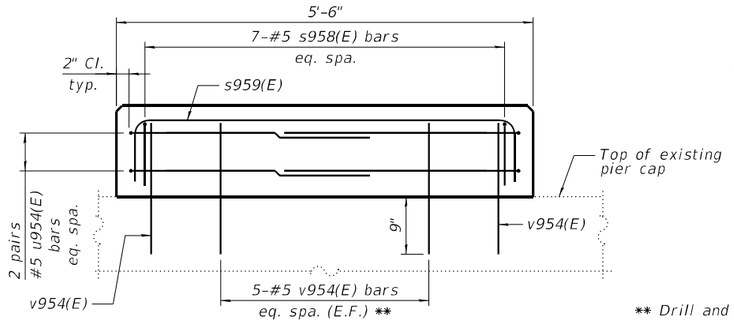
ELEVATION

BEARING REPLACEMENT AT PIER 10

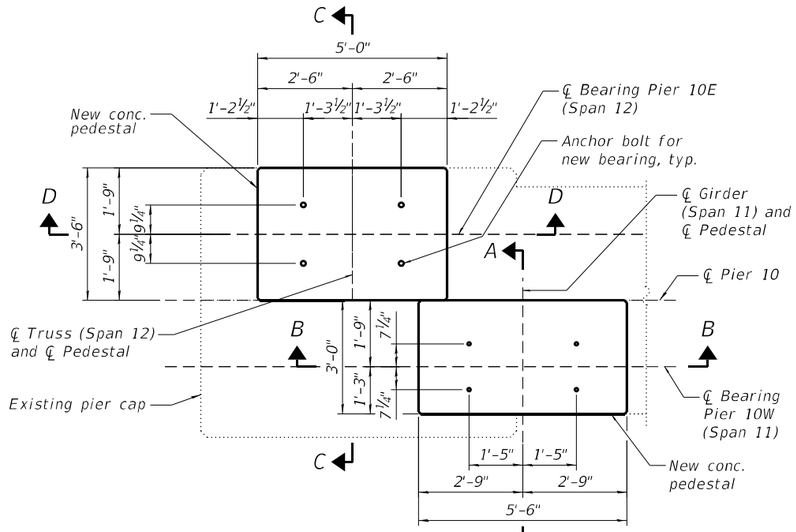
* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.



SECTION A-A

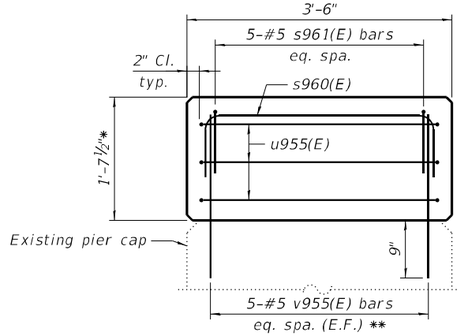


SECTION B-B

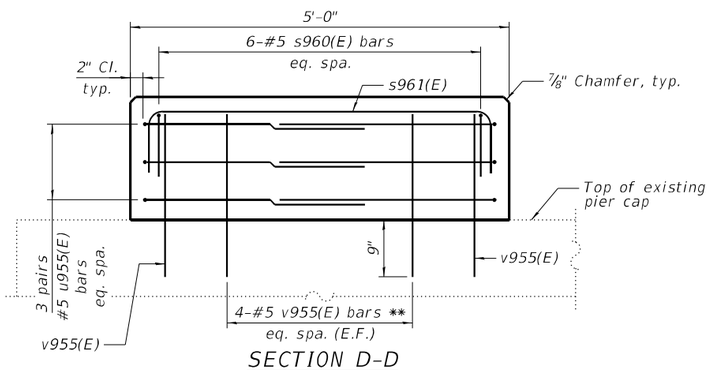


PEDESTAL PLAN

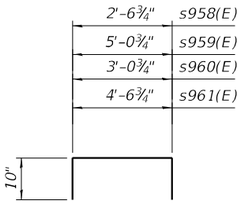
** Drill and Epoxy Grout



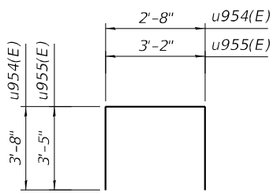
SECTION C-C



SECTION D-D



BAR s958(E)
BAR s959(E)
BAR s960(E)
BAR s961(E)



BAR u954(E)
BAR u955(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s958(E)	14	#5	4'-3"	
s959(E)	8	#5	6'-9"	
s960(E)	12	#5	4'-9"	
s961(E)	10	#5	6'-3"	
u954(E)	8	#5	10'-0"	
u955(E)	12	#5	10'-0"	
v954(E)	36	#5	1'-10"	—
v955(E)	36	#5	2'-2"	—
Concrete Structures		Cu. Yd.		3.7
Reinforcement Bars, Epoxy Coated		Pound		610
Jack and Remove Existing Bearings		Each		4

Notes:

Work this sheet with sheets S198 and S199 of S214 .

Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S206 and S211 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 370 kips for Span 11 and 760 kips for Span 12.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
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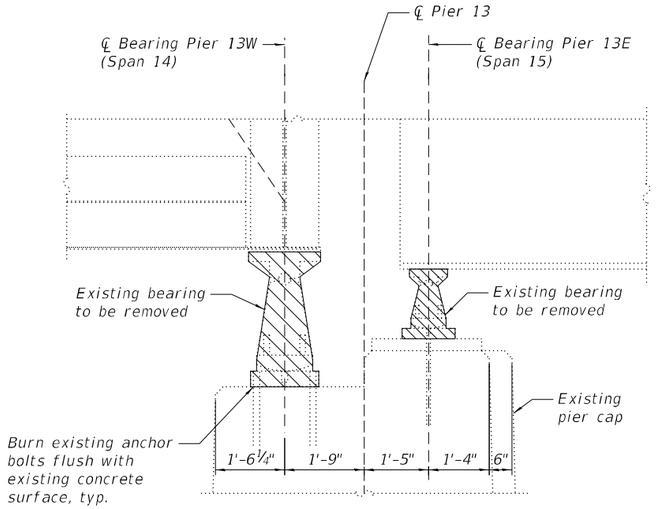
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 5
STRUCTURE NO. 090-0115
SHEET S188 OF S214 SHEETS

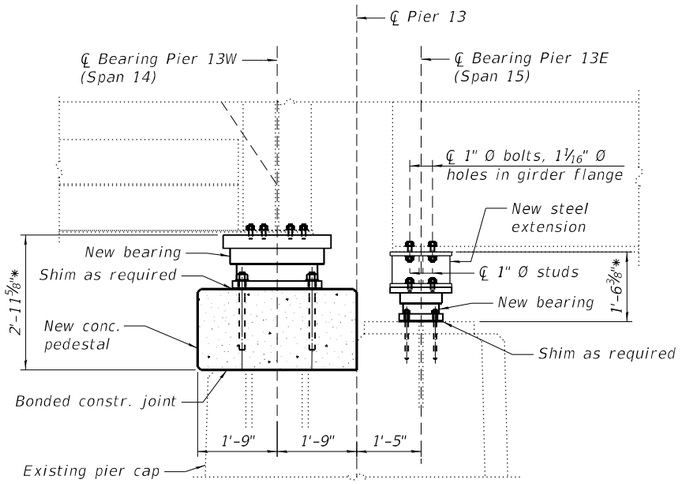
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	358
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



ELEVATION
BEARING REMOVAL AT PIER 13 (Item 41)

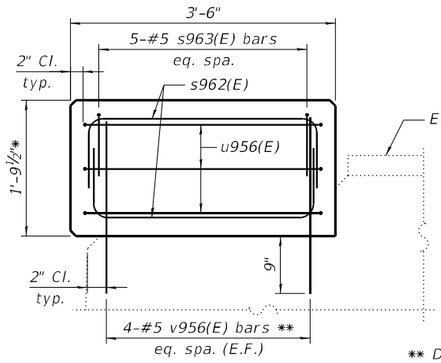
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



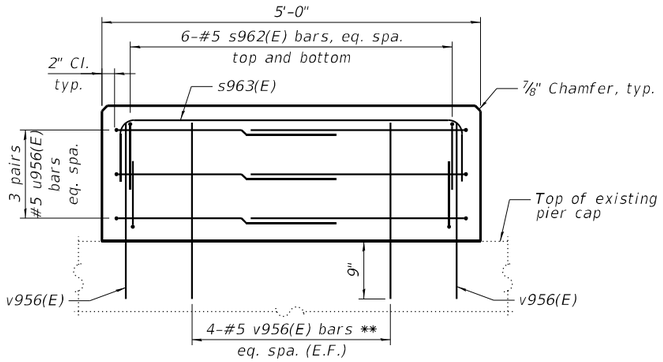
ELEVATION
BEARING REPLACEMENT AT PIER 13

✱ *Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.*

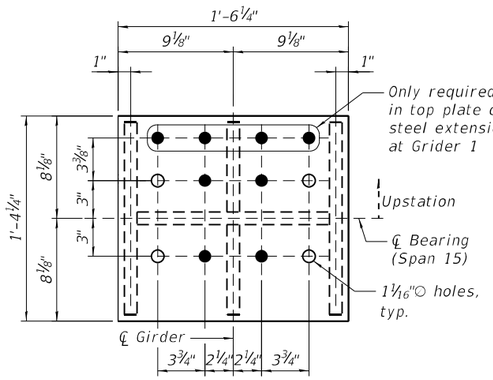


SECTION A-A

** Drill and Epoxy Grout

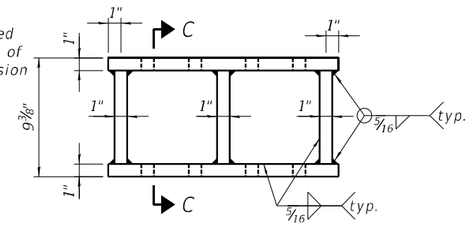


SECTION B-B

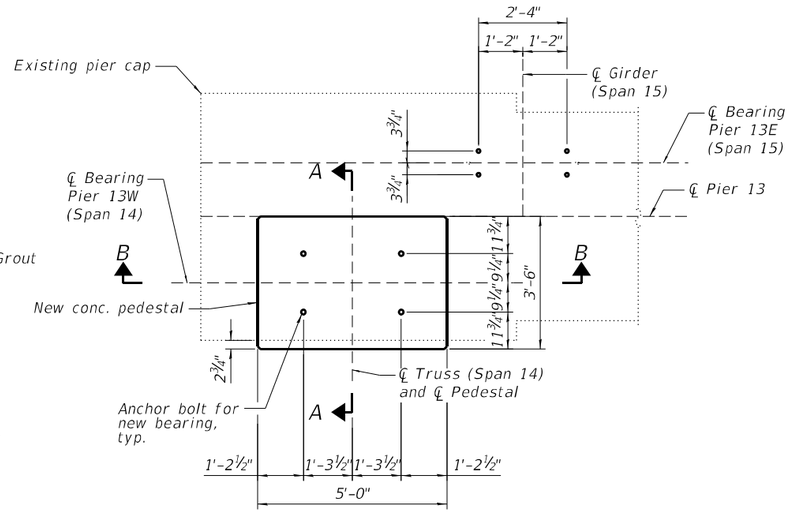


STEEL EXTENSION PLAN

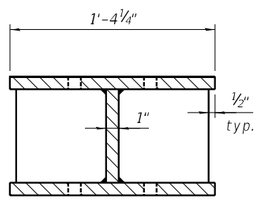
5 required



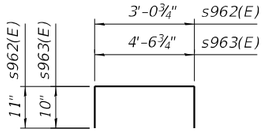
STEEL EXTENSION ELEVATION



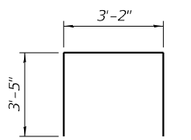
PEDESTAL AND ANCHOR BOLT LOCATION PLAN



SECTION C-C



BAR s962(E)
BAR s963(E)



BAR u956(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s962(E)	24	#5	4'-11"	⌐¬
s963(E)	10	#5	6'-3"	⌐¬
u956(E)	12	#5	10'-0"	⌐¬
v956(E)	32	#5	2'-4"	—
Concrete Structures		Cu. Yd.	2.4	
Reinforcement Bars, Epoxy Coated		Pound	400	
Furnishing and Erecting Structural Steel		Pound	1,500	
Jack and Remove Existing Bearings		Each	7	

LEGEND

- ● *New bolt in new hole (shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

Notes:

Work this sheet with sheets S199 and S200 of S214.

Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S207 and S211 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Steel extensions shall be galvanized according to AASHTO M111.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 760 kips for Span 14 and 110 kips for Span 15.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
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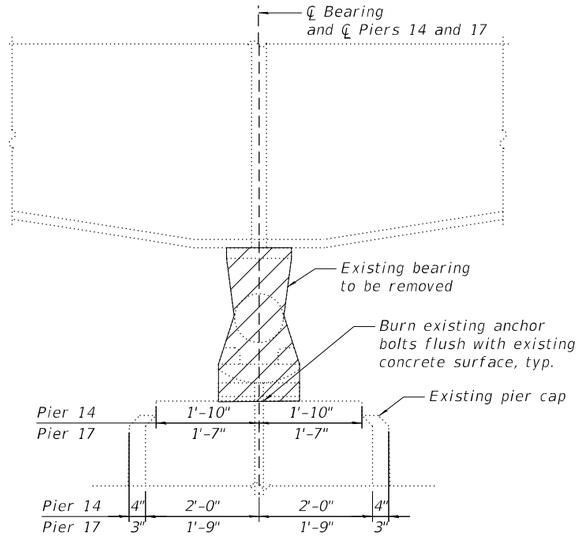
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 6
STRUCTURE NO. 090-0115
SHEET S189 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	359
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

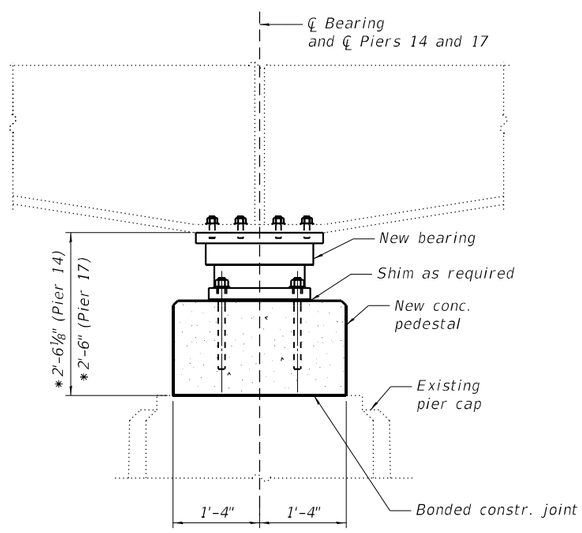


ELEVATION

BEARING REMOVAL AT PIERS 14 AND 17 (ITEM 89)

Looking North

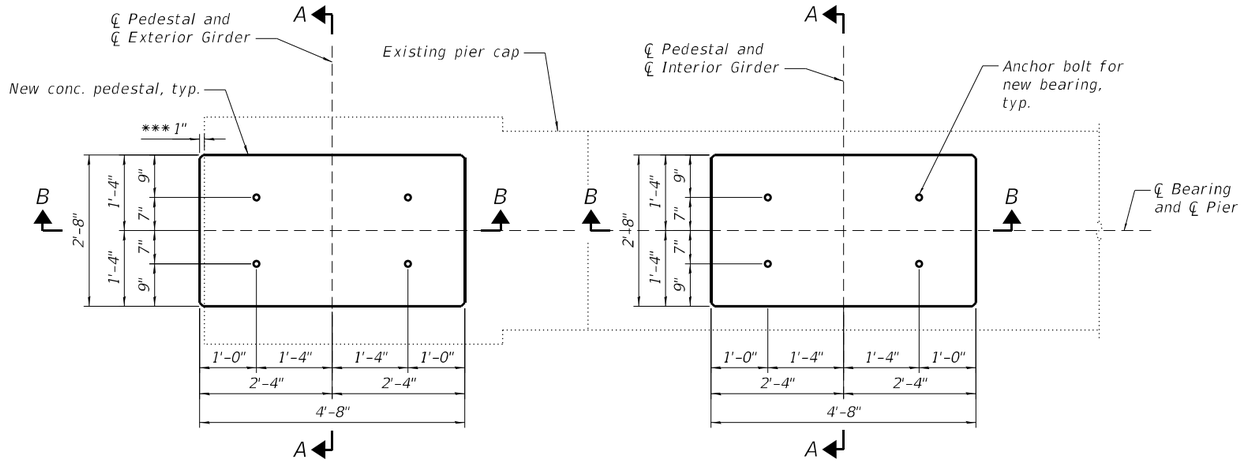
After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



ELEVATION

BEARING REPLACEMENT AT PIERS 14 AND 17

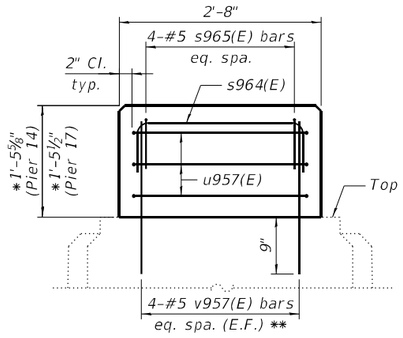
* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.



PEDESTAL PLAN

Pier 17 shown, Pier 14 similar

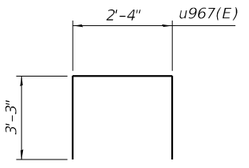
*** 1" overhang at Pier 17 only. Pedestal does not overhang existing pier cap at Pier 14.



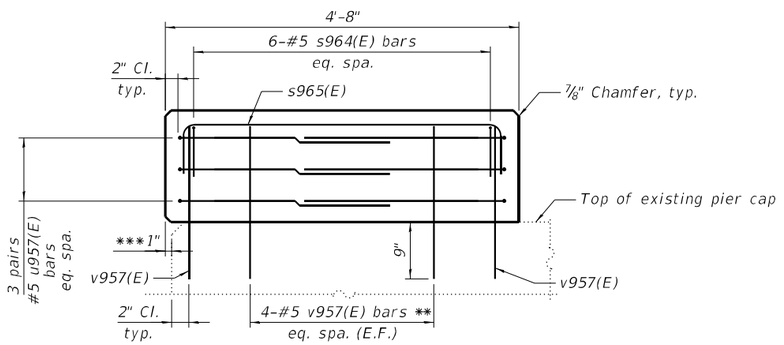
SECTION A-A

** Drill and Epoxy Grout

BAR s964(E)
BAR s965(E)



BAR u957(E)



SECTION B-B

Exterior pedestals at Pier 17 shown, exterior pedestals at Pier 14 and all interior pedestals similar

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s964(E)	60	#5	3'-11"	☐
s965(E)	40	#5	5'-11"	☐
u957(E)	60	#5	8'-10"	☐
v957(E)	160	#5	2'-0"	—
Concrete Structures			Cu. Yd.	6.8
Reinforcement Bars, Epoxy Coated			Pound	1,380
Jack and Remove Existing Bearings			Each	10

Notes:

Work this sheet with sheet S201 of S214. Coordinate bearing replacement with substructure repairs. See sheet S208 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 410 kips.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
FILE NAME: P:\4312-WBMc\Cl\gageRehab\CADDStructural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-190-BgREP07.dgn

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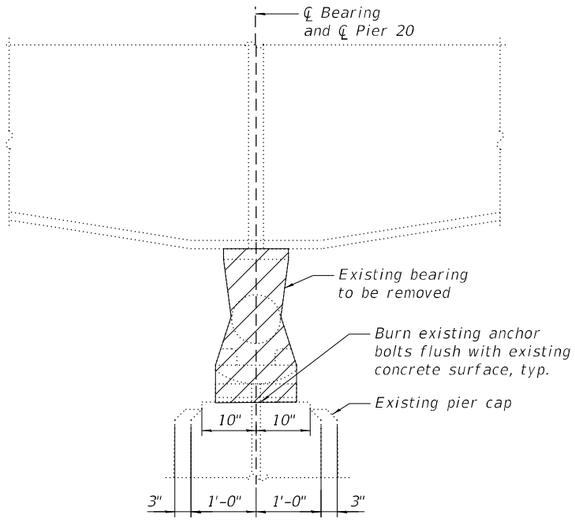
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 7
STRUCTURE NO. 090-0115
SHEET S190 OF S214 SHEETS

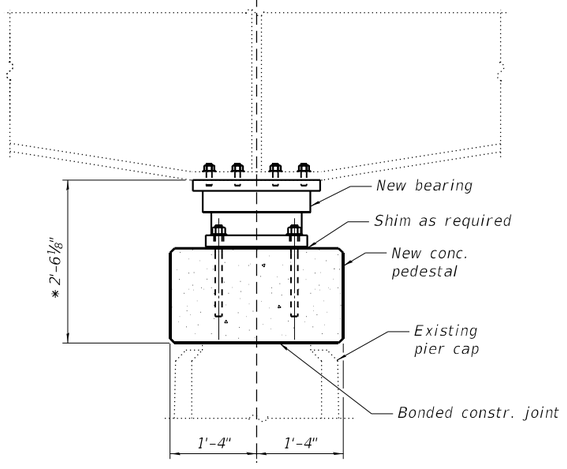
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	360
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



ELEVATION
BEARING REMOVAL AT PIER 20

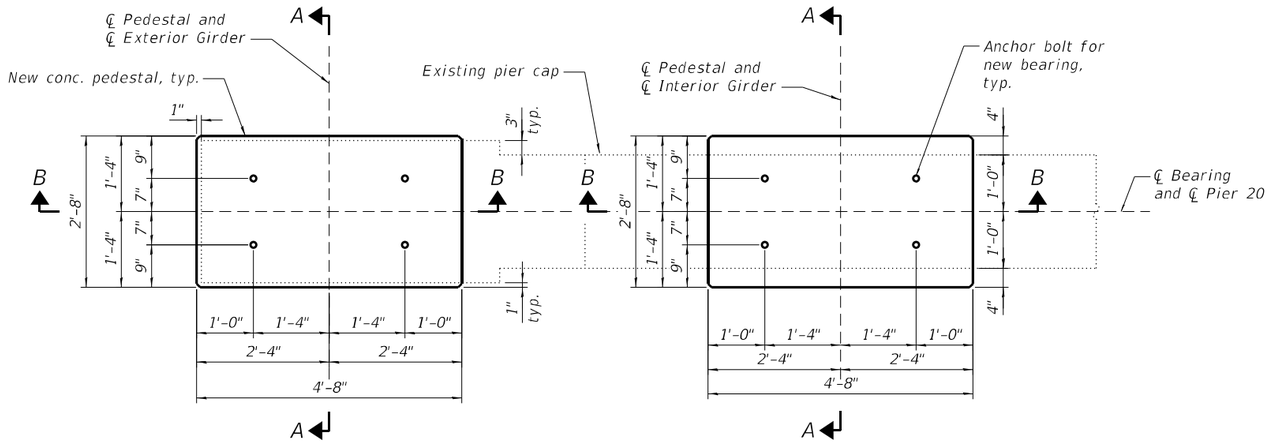
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.

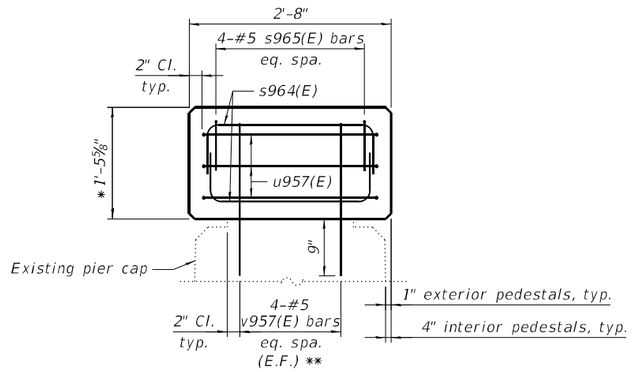


ELEVATION
BEARING REPLACEMENT AT PIER 20

* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.

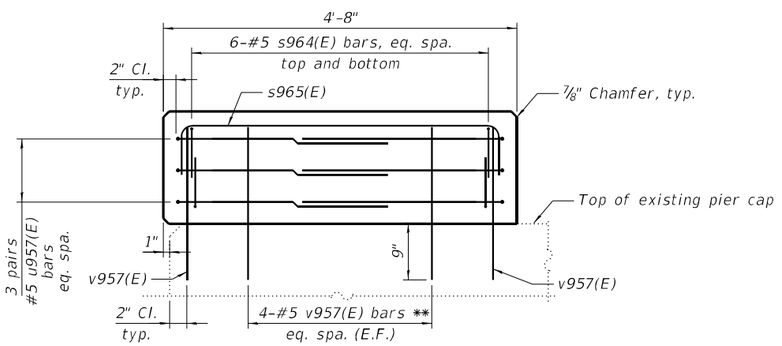


PEDESTAL PLAN



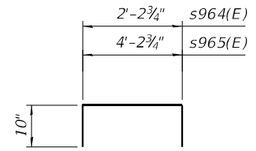
SECTION A-A

** Drill and Epoxy Grout

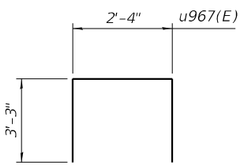


SECTION B-B

Exterior pedestal shown,
Interior pedestal similar



BAR s964(E)
BAR s965(E)



BAR u957(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s964(E)	60	#5	3'-11"	☐
s965(E)	20	#5	5'-11"	☐
u957(E)	30	#5	8'-10"	☐
v957(E)	80	#5	2'-0"	—
Concrete Structures			Cu. Yd.	3.4
Reinforcement Bars, Epoxy Coated			Pound	820
Jack and Remove Existing Bearings			Each	5

Notes:

Work this sheet with sheet S201 of S214.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Epoxy grout vertical bars in concrete pedestal in accordance with Article 584 of the Standard Specifications. Cost is included with Reinforcement Bars, Epoxy Coated.

Space reinforcement in pedestal to miss new anchor bolts for bearings.

Maximum service dead load reaction per bearing with deck weight included is 410 kips.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
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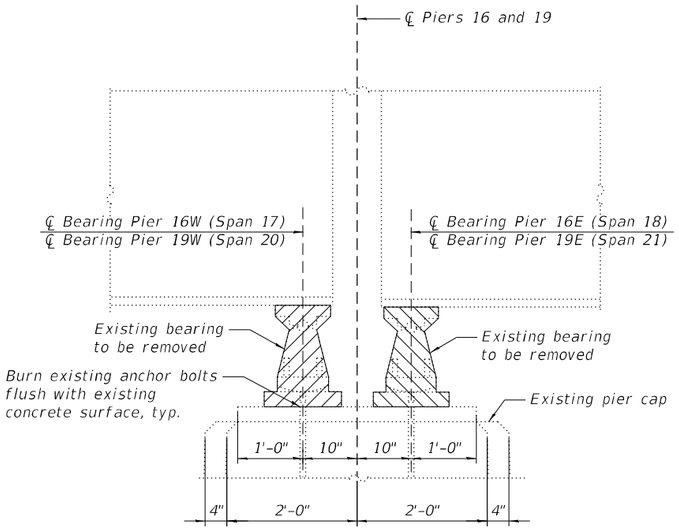
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 8
STRUCTURE NO. 090-0115
SHEET S191 OF S214 SHEETS

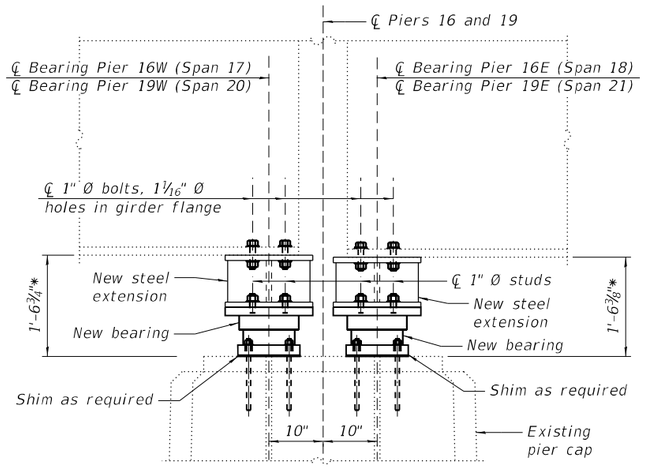
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	361
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



ELEVATION
BEARING REMOVAL AT PIERS 16 AND 19

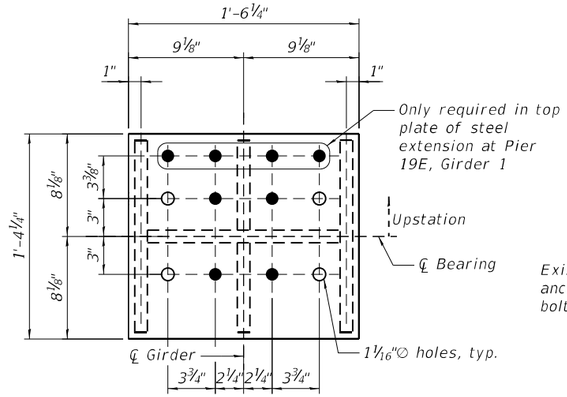
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.



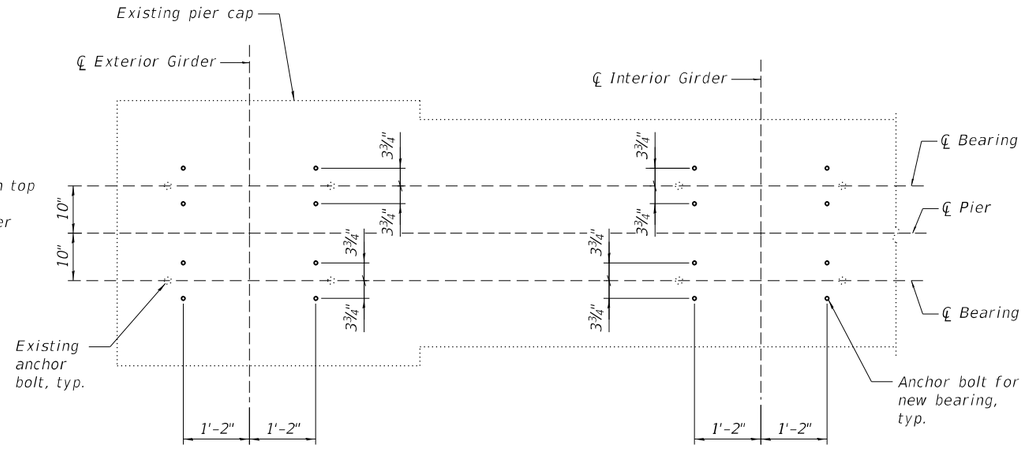
ELEVATION
BEARING REPLACEMENT AT PIERS 16 AND 19

* *Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.*

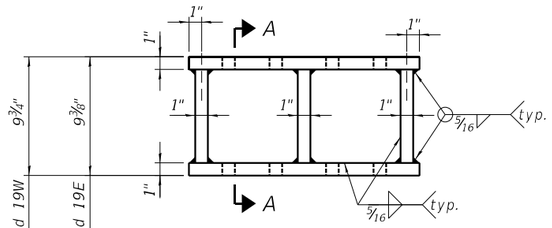


STEEL EXTENSION PLAN

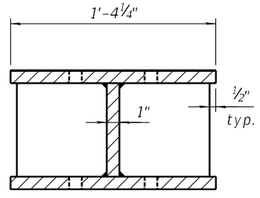
10 required



ANCHOR BOLT LOCATION PLAN



STEEL EXTENSION ELEVATION



SECTION A-A

LEGEND

- ● *New bolt in new hole (Shop or field drilled)*
- ○ *Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)*

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	6,270
Jack and Remove Existing Bearings	Each	20

Notes:

Work this sheet with sheet S200 of S214.

Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S208, S209 and S212 of S214 for details.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Steel extensions shall be galvanized according to AASHTO M111.

Maximum service dead load reaction per bearing with deck weight included is 110 kips.

The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
FILE NAME: P:\d312-WBMrcCtLuggeRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-192-BrgRep09.dgn

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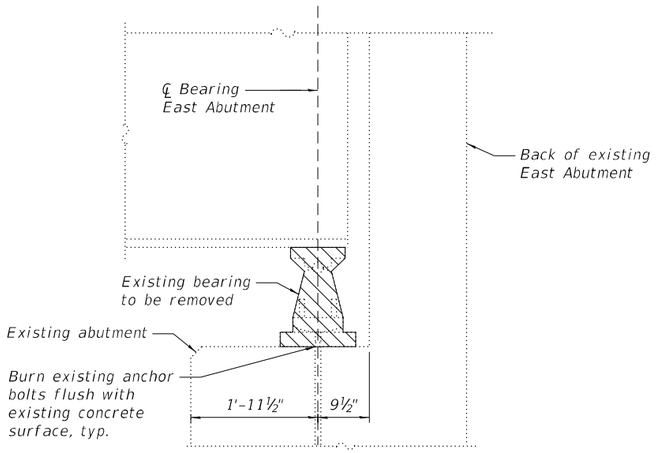
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 9
STRUCTURE NO. 090-0115
SHEET S192 OF S214 SHEETS

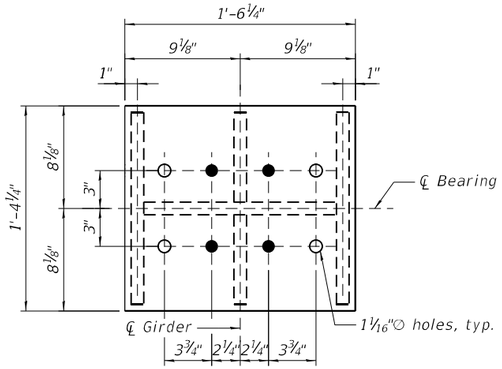
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	362
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



ELEVATION
BEARING REMOVAL AT EAST ABUTMENT (ITEM 47)

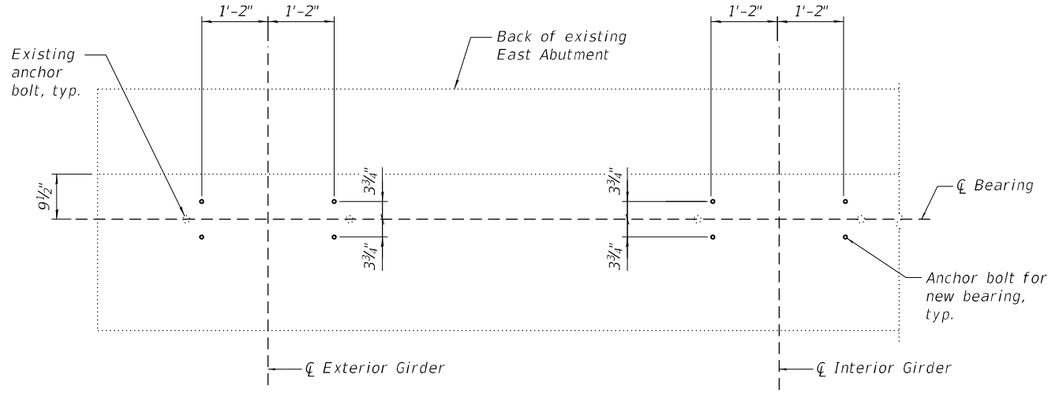
Looking North

After the existing bearings have been removed, clean and paint the existing structural steel that will interface with the new bearings in accordance with the special provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.

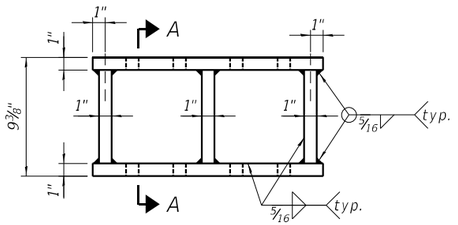


STEEL EXTENSION PLAN

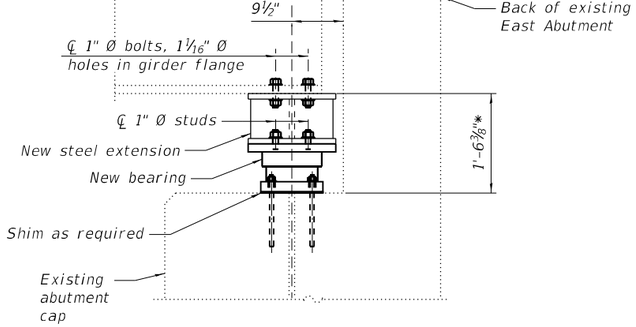
5 required



ANCHOR BOLT LOCATION PLAN

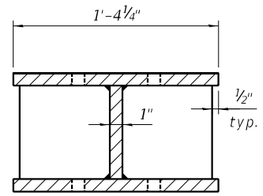


STEEL EXTENSION ELEVATION



ELEVATION
BEARING REPLACEMENT AT EAST ABUTMENT

* Dimension obtained from existing plans at ℄ bearing. It is the Contractor's responsibility to carefully verify dimensions of the existing bearings to ensure proper fit prior to ordering any material. Particular attention should be paid to any difference in height in the longitudinal direction. Adjustment may be made by using tapered shims as necessary.



SECTION A-A

LEGEND

- ● New bolt in new hole (shop or field drilled)
- ○ Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template)

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1,560
Jack and Remove Existing Bearings	Each	5

Notes:
Work this sheet with sheet S200 of S214.
Coordinate bearing replacement with substructure repairs and concrete sealing. See sheets S209 and S212 of S214 for details.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Steel extensions shall be galvanized according to AASHTO M111.
Maximum service dead load reaction per bearing with deck weight included is 110 kips.
The jack capacity provided shall be at a minimum 150% of the maximum service dead load reaction.

MODEL: Default
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PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

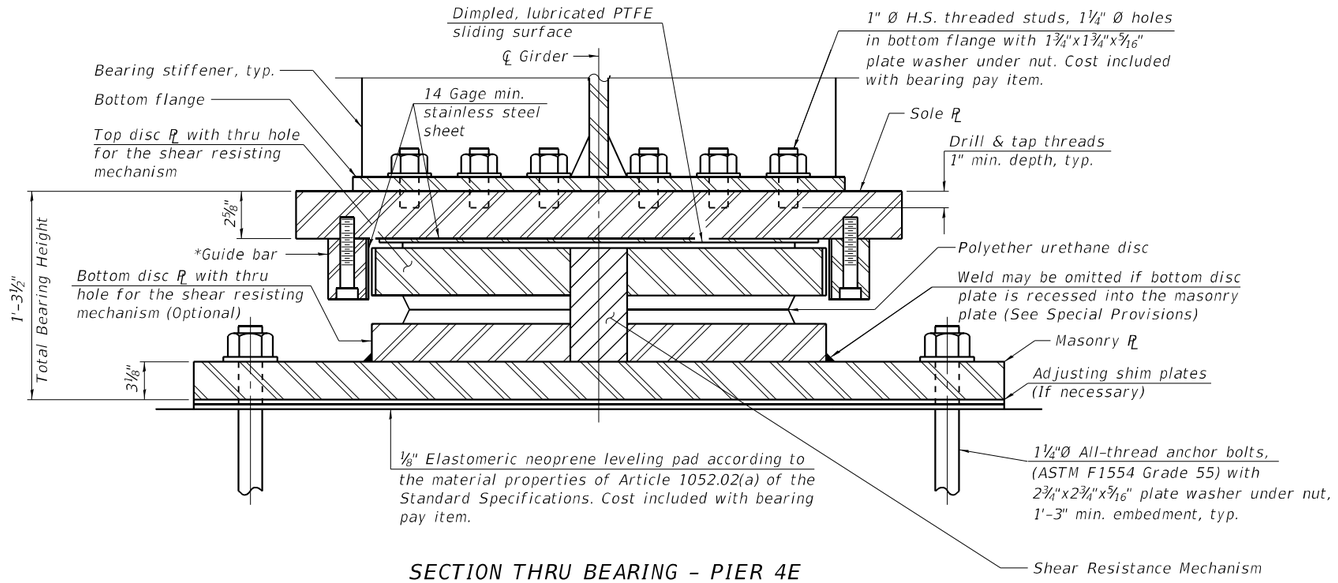
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - 10
STRUCTURE NO. 090-0115
SHEET S193 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	363
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

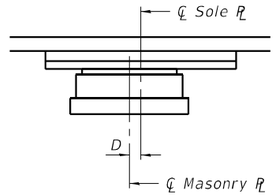


SECTION THRU BEARING - PIER 4E

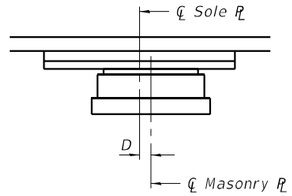
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 4E	842	112	0.025	1.15"



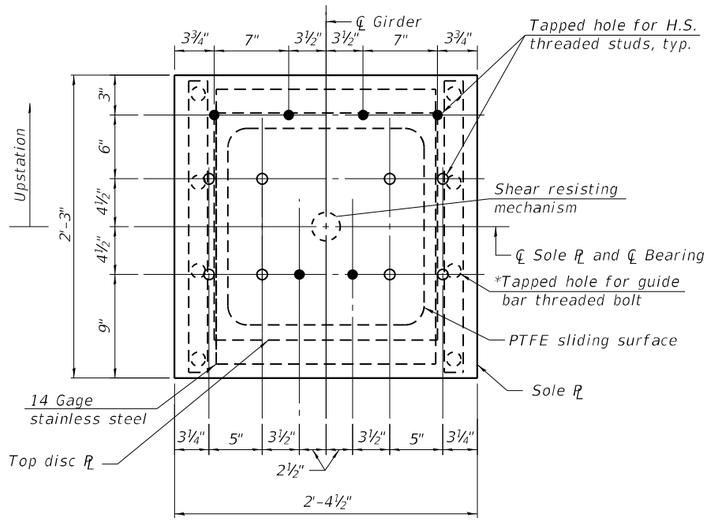
BELOW 50°F.
(Move masonry ℙ away from fixed bearing)



ABOVE 50°F.
(Move masonry ℙ toward fixed bearing)

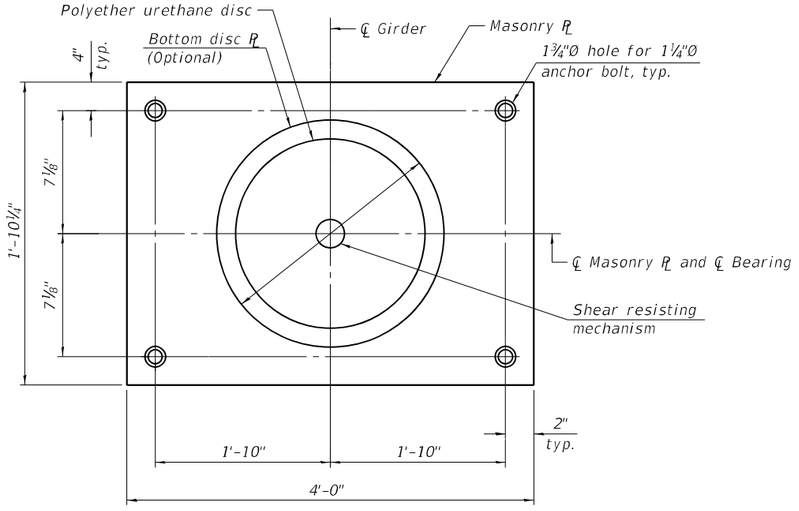
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 900K	Each	2
	Anchor Bolts, 1¼"	Each	8

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

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USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 1
STRUCTURE NO. 090-0115
SHEET S194 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	364
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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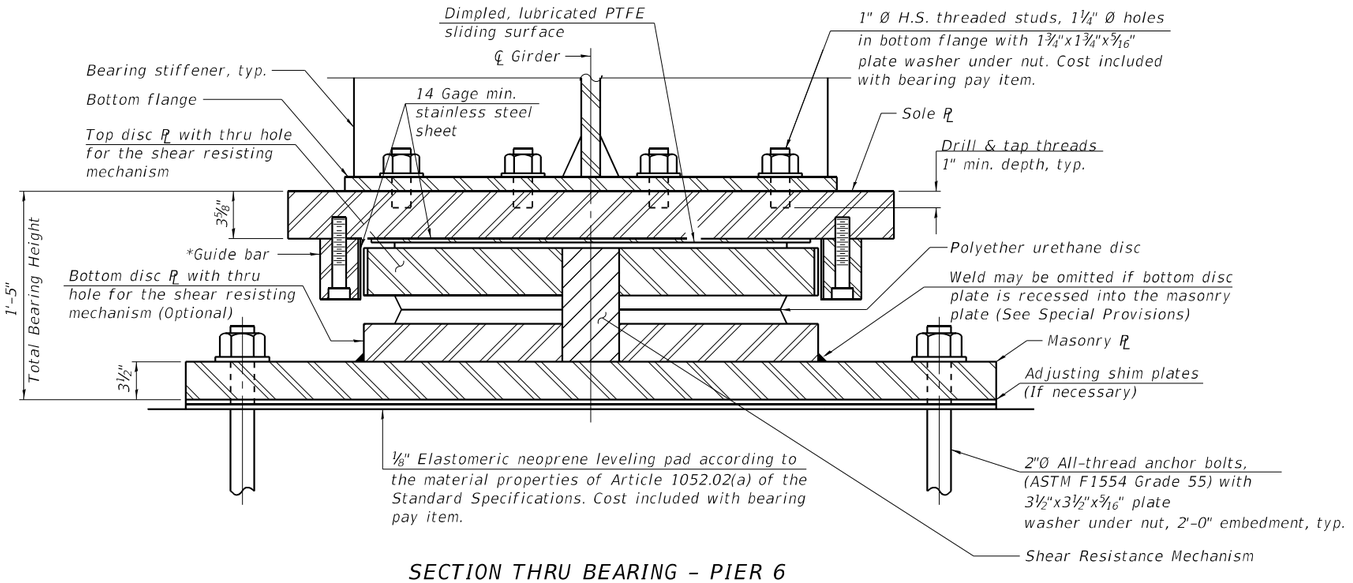
** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

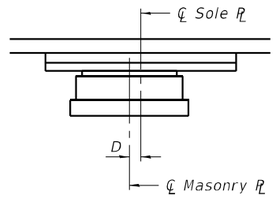


SECTION THRU BEARING – PIER 6

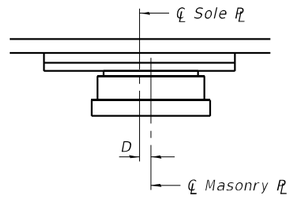
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 6	1689	267	0.017	1.42"



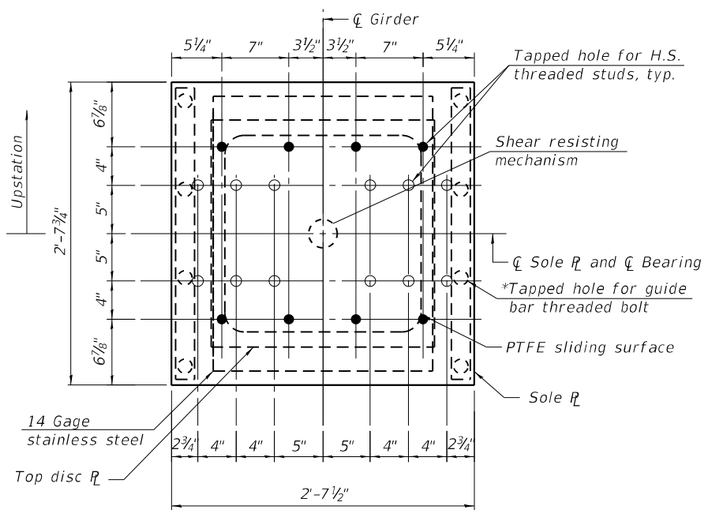
BELOW 50°F.
(Move masonry PL away from fixed bearing)



ABOVE 50°F.
(Move masonry PL toward fixed bearing)

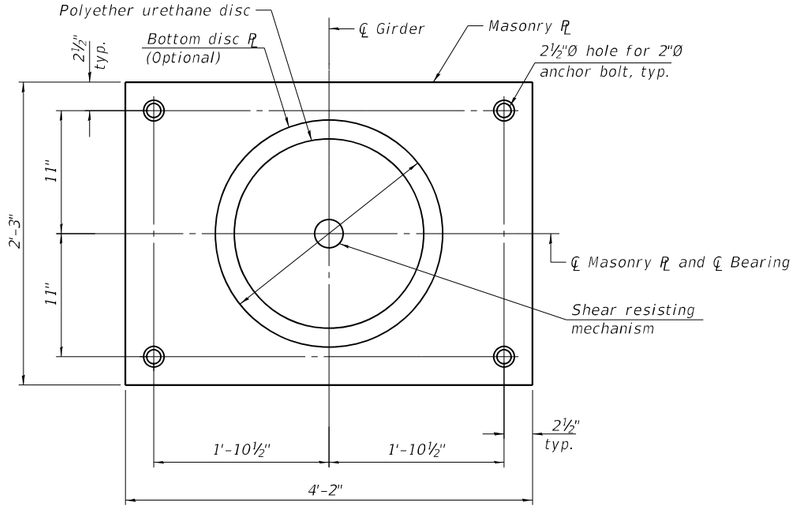
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 1750K	Each	2
	Anchor Bolts, 2"	Each	8

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S195 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	365
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: P:\4312-WBM\CILugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-195-BrgDtls2.dgn

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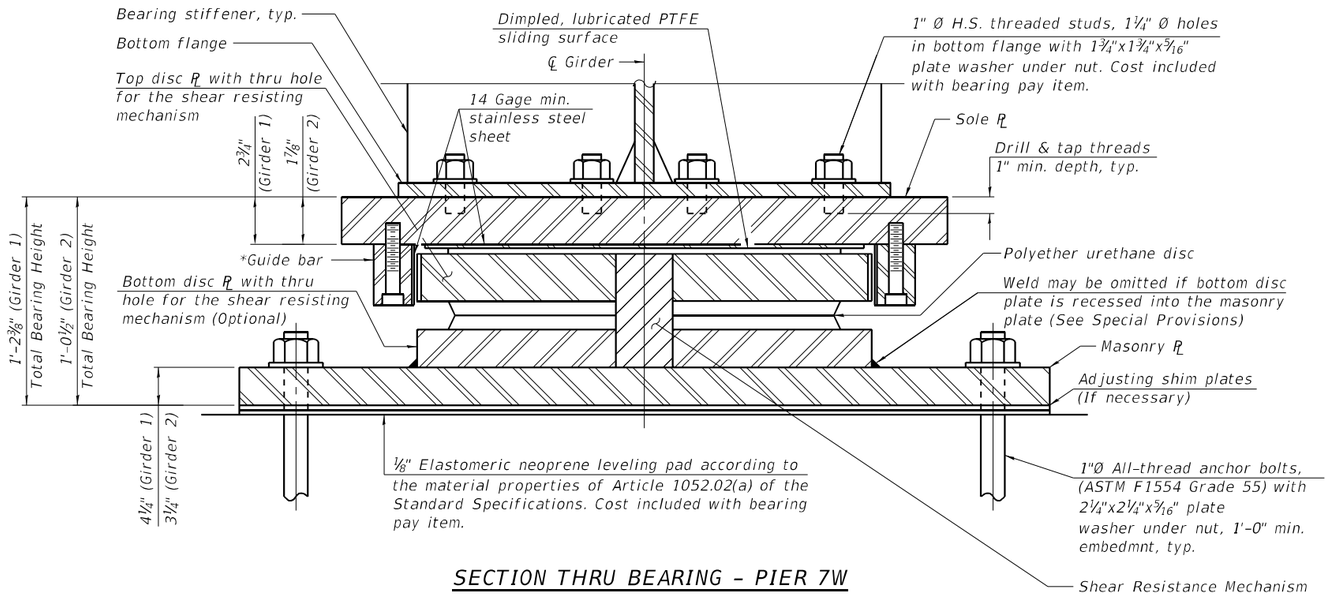
** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

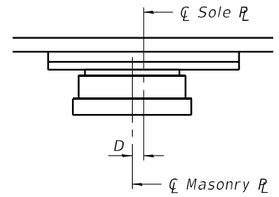


SECTION THRU BEARING - PIER 7W

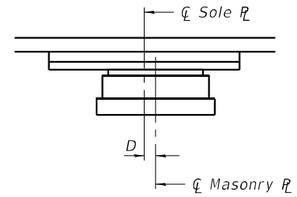
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 7W	478	80	0.013	2.57"



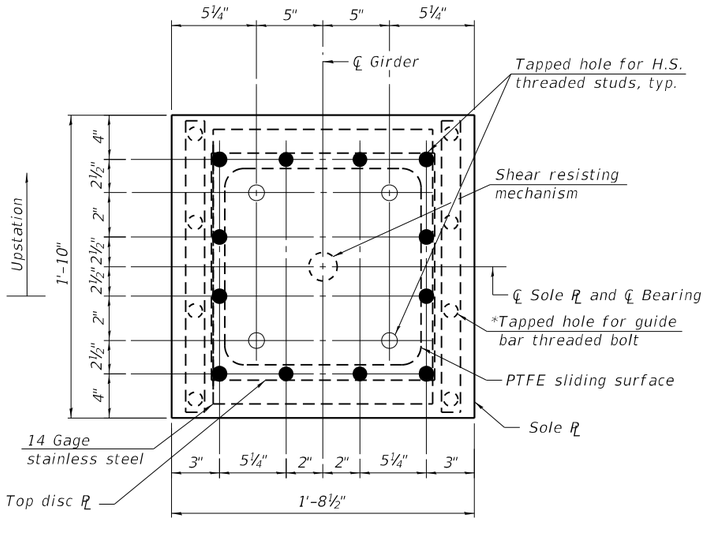
BELOW 50°F.
(Move masonry ℄ away from fixed bearing)



ABOVE 50°F.
(Move masonry ℄ toward fixed bearing)

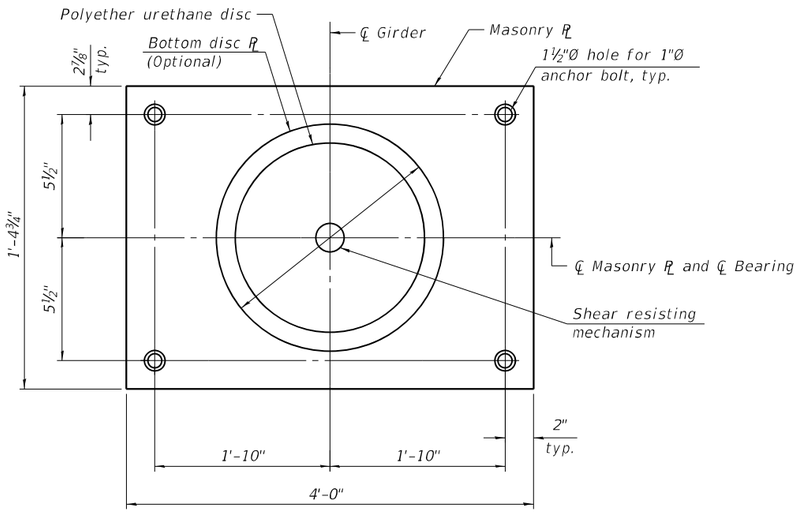
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- • New bolt in new hole
- ○ Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 500K	Each	2
	Anchor Bolts, 1"	Each	8

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 3
STRUCTURE NO. 090-0115
SHEET S196 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	366
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: P:\4312-WBM\CILuggageRehab\CADD\Structural_SN 090-0115_WBHahnBridge_Final Plans\0900115-68E44-196-BrgDtls3.dgn

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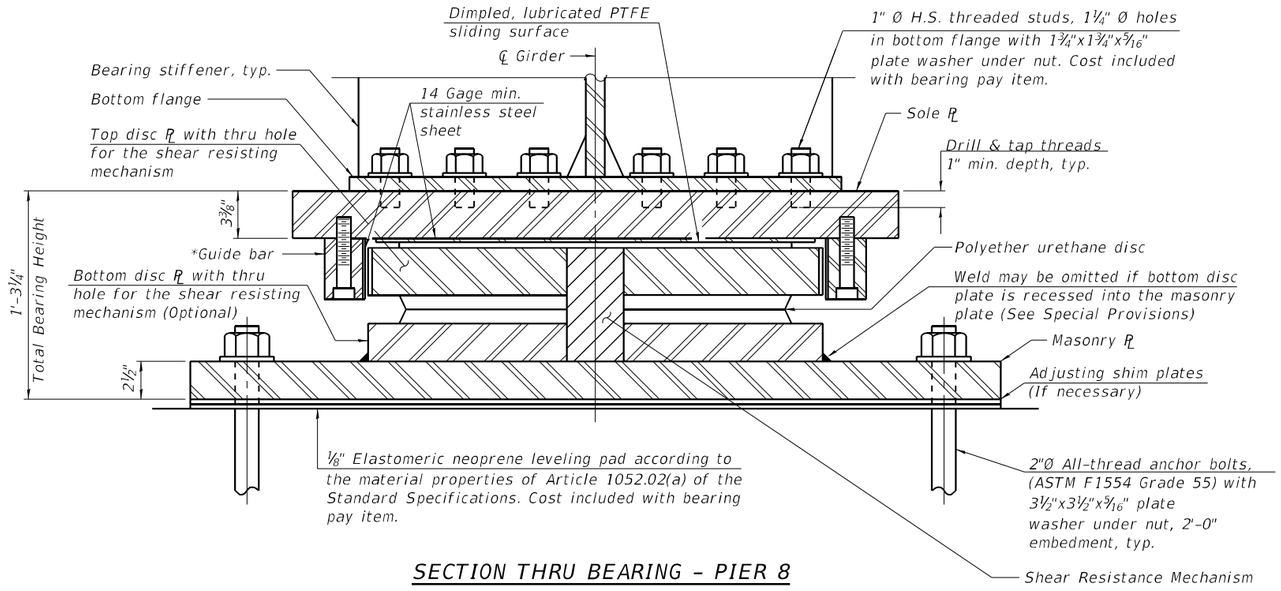
** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

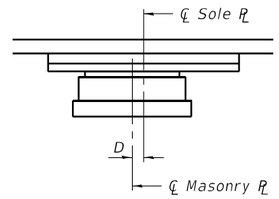


SECTION THRU BEARING - PIER 8

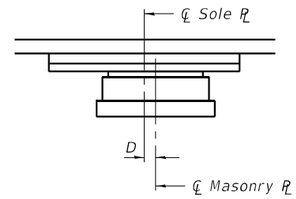
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 8	1477	233	0.013	1.27"



BELOW 50°F.
(Move masonry PL away from fixed bearing)



ABOVE 50°F.
(Move masonry PL toward fixed bearing)

SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Notes:

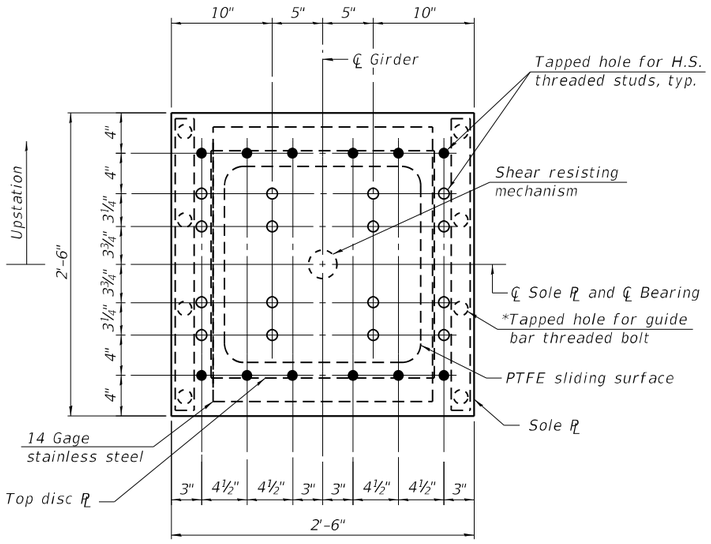
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

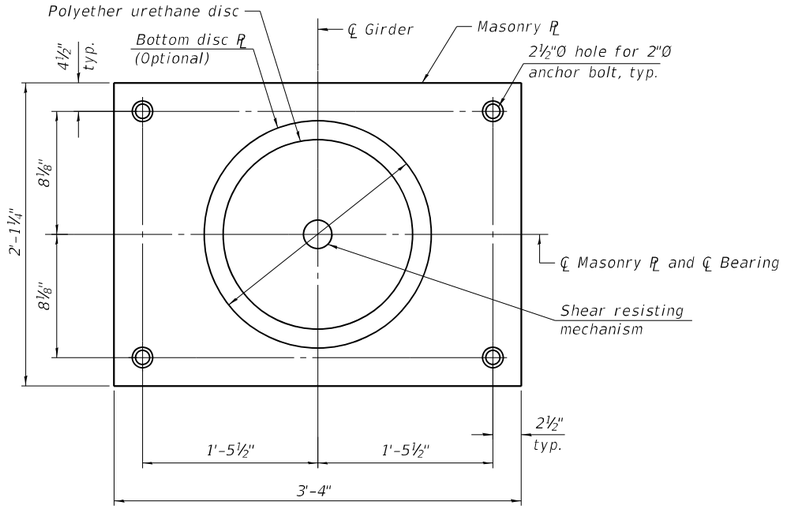
H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 1500K	Each	2
	Anchor Bolts, 2"	Each	8

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODEL: Default
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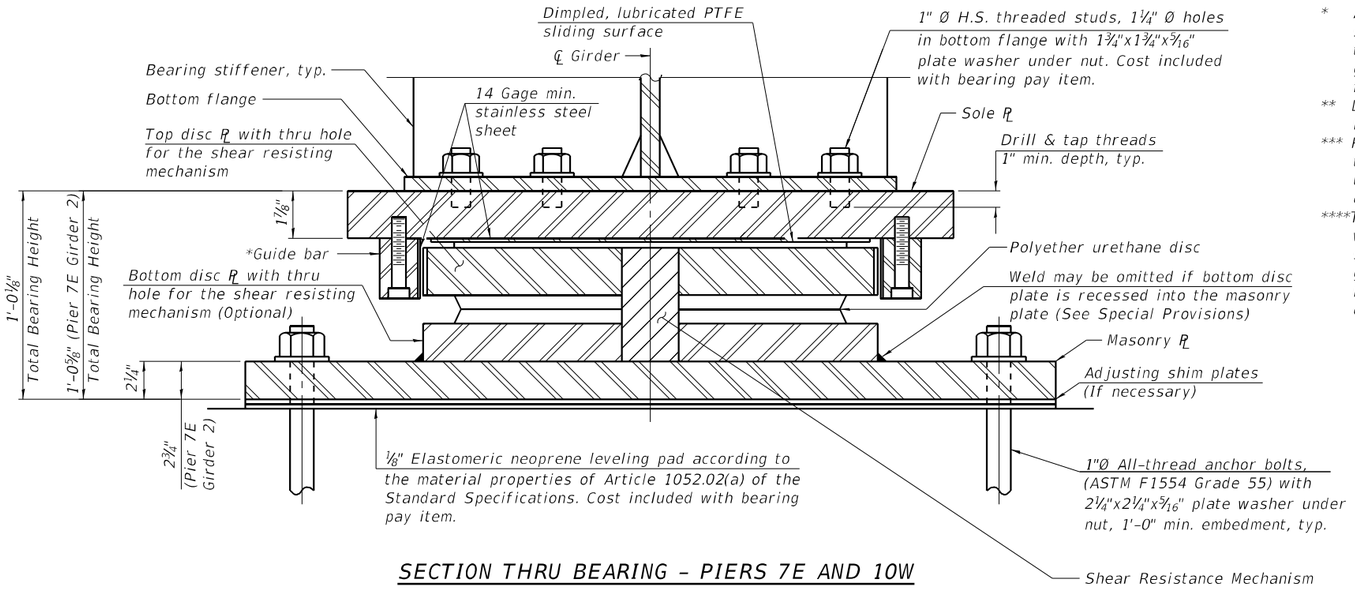
MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 4
STRUCTURE NO. 090-0115
SHEET S197 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	367
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	



SECTION THRU BEARING - PIERS 7E AND 10W

* As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

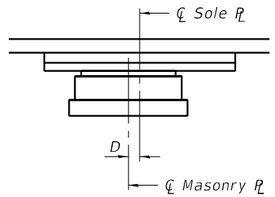
** Design Loads are the governing service loads with no dynamic load allowance.

*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

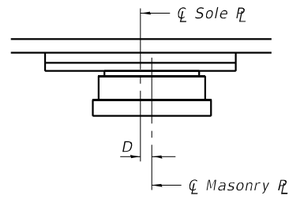
**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 7E and 10W	500	86	0.035	2.41"



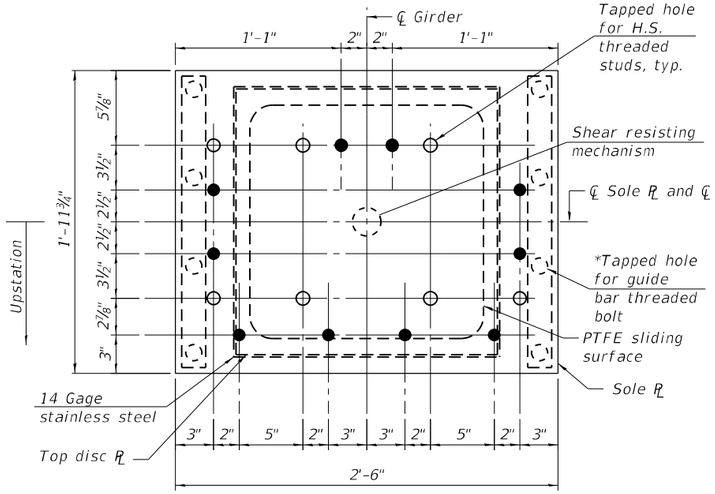
BELOW 50°F.
(Move masonry PL away from fixed bearing)



ABOVE 50°F.
(Move masonry PL toward fixed bearing)

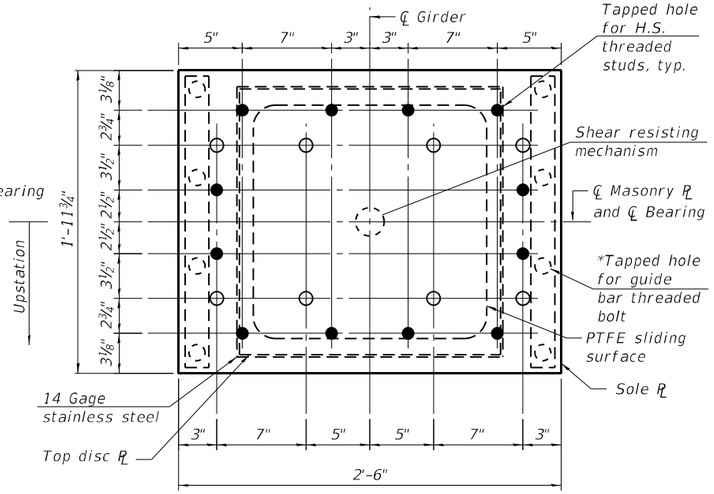
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

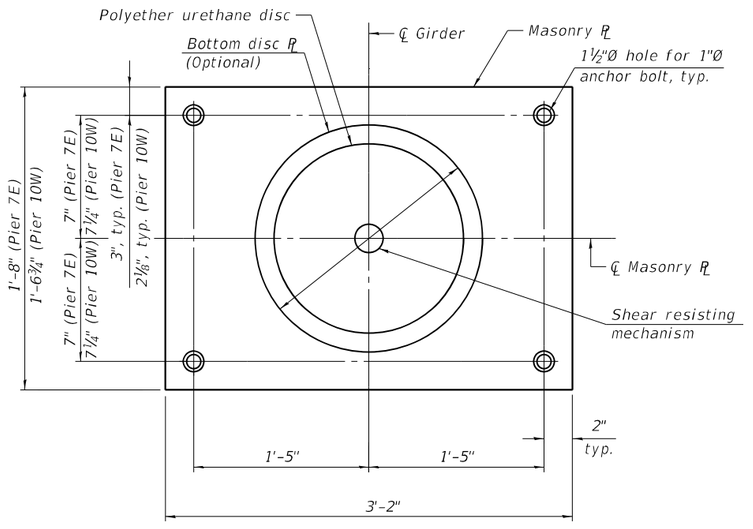


PIER 7E SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



PIER 10W SOLE PLATE AND TOP DISC PLATE PLAN



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 600K	Each	4
	Anchor Bolts, 1"	Each	16

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODEL: Default
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MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

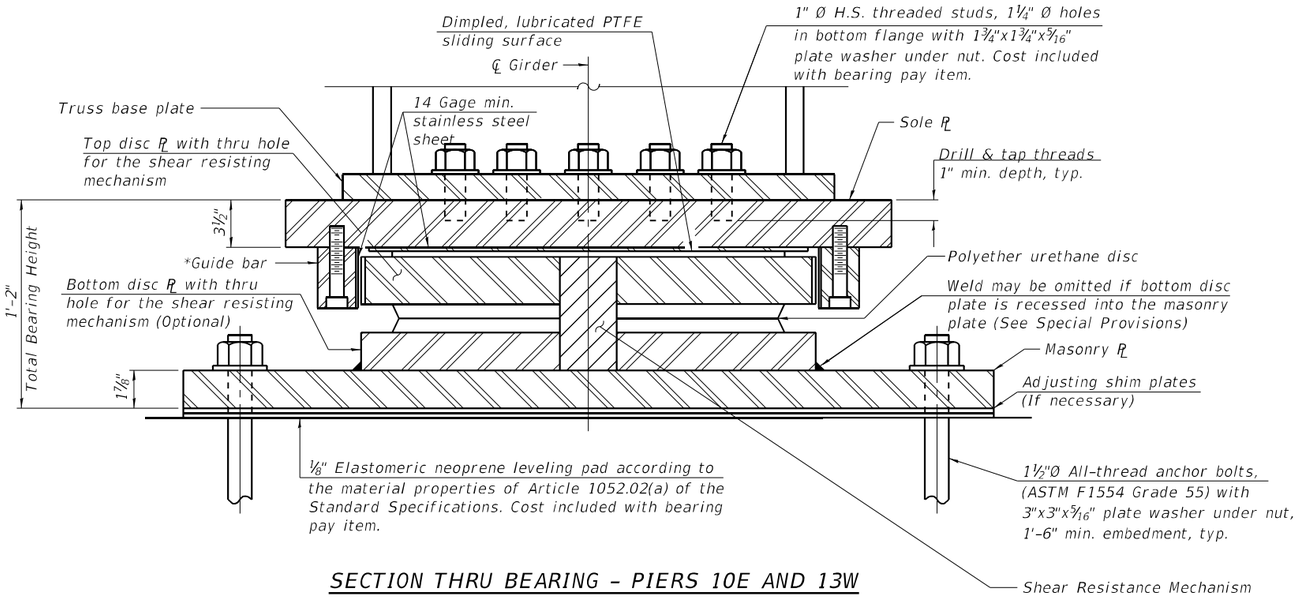
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 5
STRUCTURE NO. 090-0115
SHEET S198 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	368
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

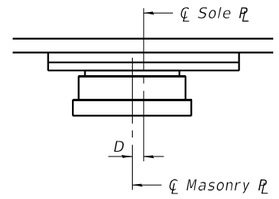


SECTION THRU BEARING - PIERS 10E AND 13W

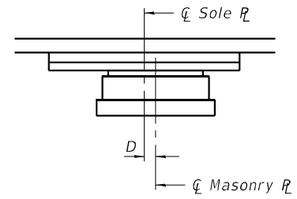
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 10E and 13W	1007	151	0.040	2.48"



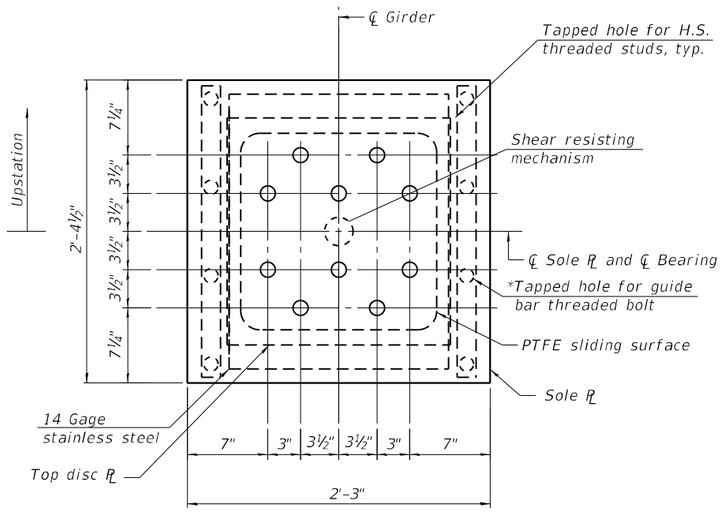
BELOW 50°F.
(Move masonry ℄ away from fixed bearing)



ABOVE 50°F.
(Move masonry ℄ toward fixed bearing)

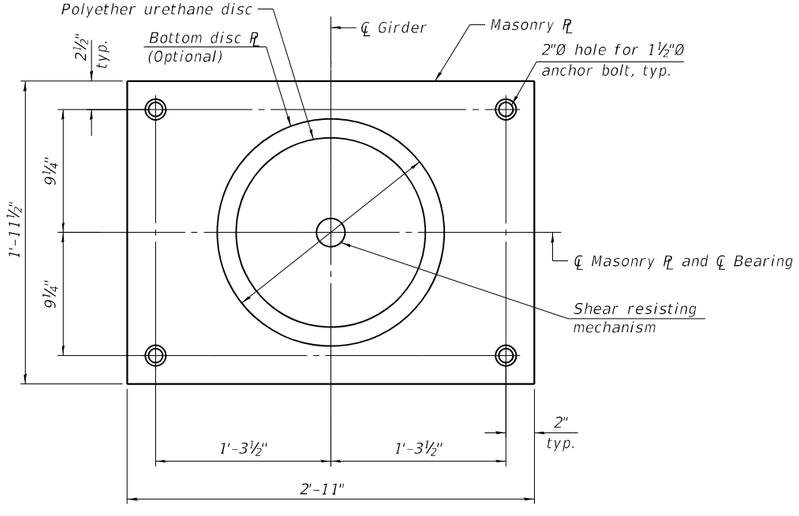
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.
H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.
Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 1250K	Each	4
	Anchor Bolts, 1½"	Each	16

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODEL: Default
FILE NAME: P:\4312-WBM\CLIgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-199-BrgDtls6.dgn

MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 6
STRUCTURE NO. 090-0115
SHEET S199 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	369
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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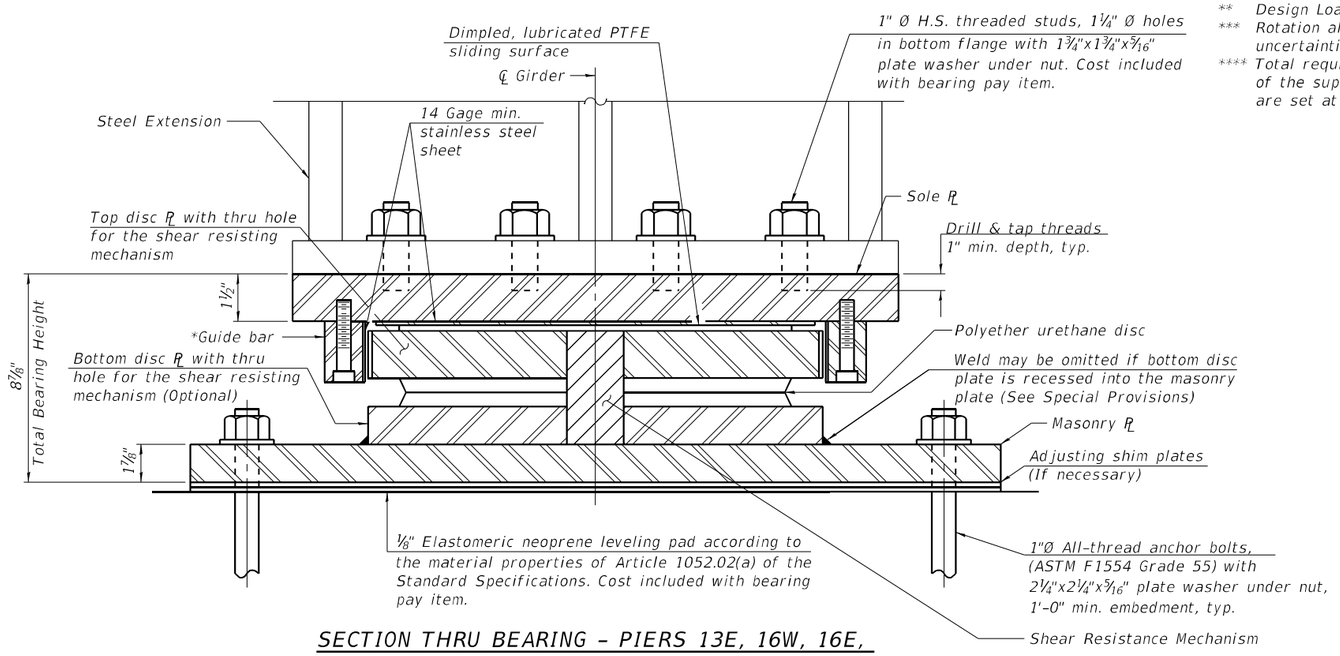
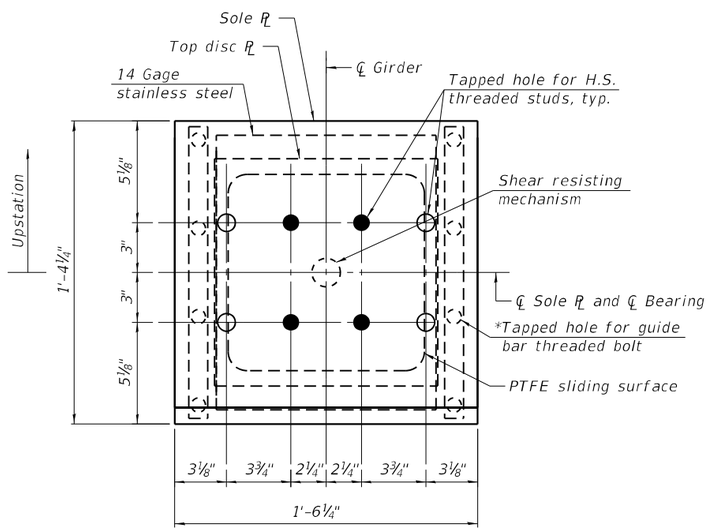


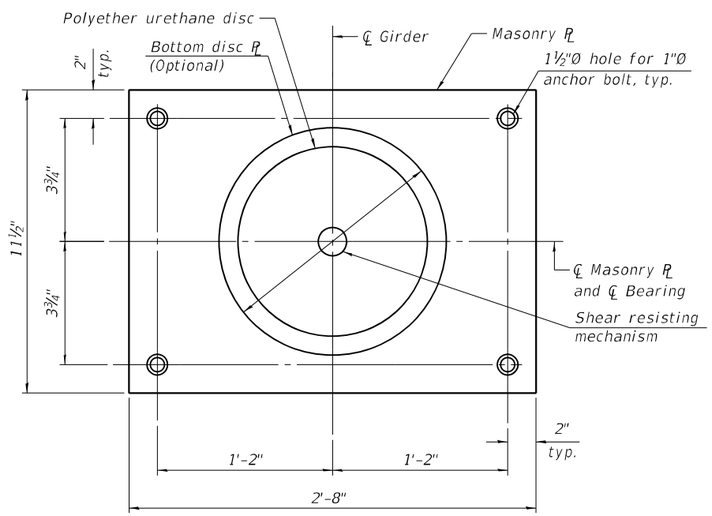
SECTION THRU BEARING - PIERS 13E, 16W, 16E, 19W, 19E AND EAST ABUT.

*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to steel extension and for steel extension to girder bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.

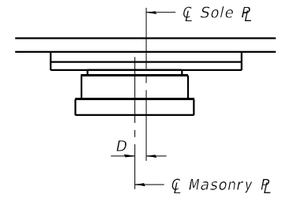


MASONRY PLATE AND BOTTOM DISC PLATE PLAN

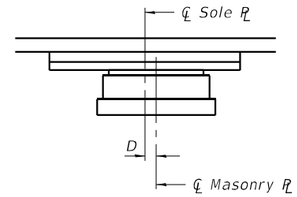
** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.
**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 13E, 16W, 16E, 19W, 19E, and East Abutment	171	42	0.014	2.02"



BELOW 50°F.
(Move masonry Pℓ away from fixed bearing)



ABOVE 50°F.
(Move masonry Pℓ toward fixed bearing)

SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Notes:
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.
H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.
Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- ● New bolt in new hole
- ○ Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 200K	Each	30
	Anchor Bolts, 1"	Each	120

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODEL: Default
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MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

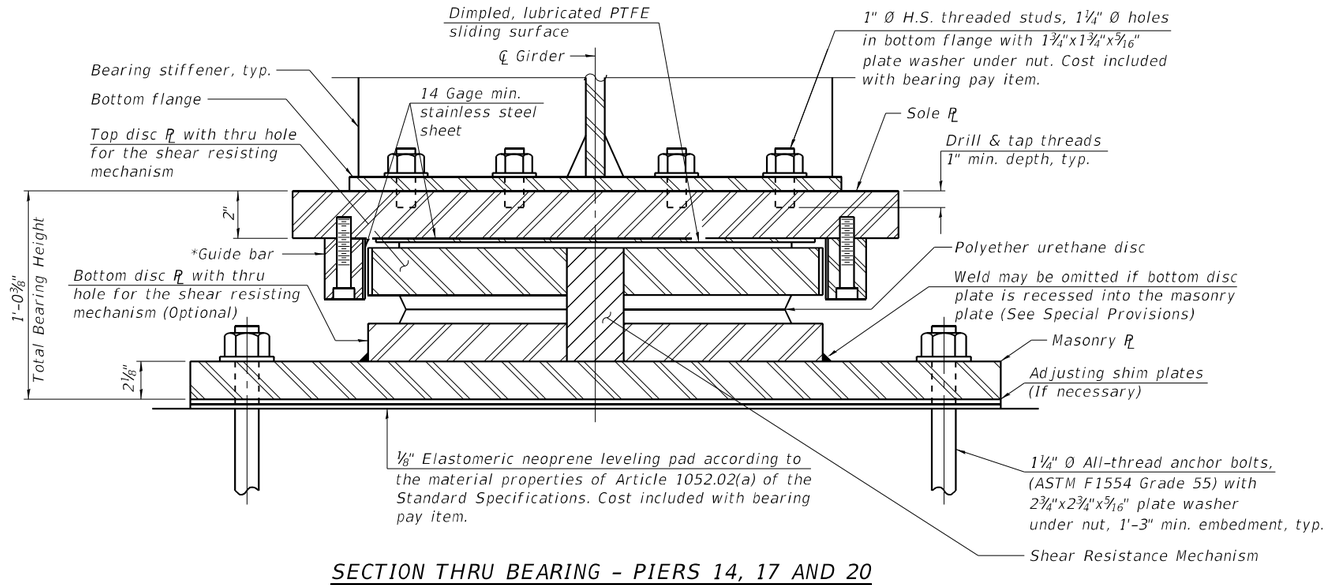
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 7
STRUCTURE NO. 090-0115
SHEET S200 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	370
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

** Design Loads are the governing service loads with no dynamic load allowance.
*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure along the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

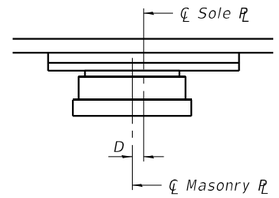


SECTION THRU BEARING - PIERS 14, 17 AND 20

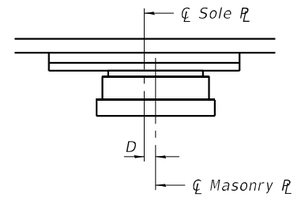
*As alternates to the bolted connection shown, the guide bars may be connected to the sole plate by groove welds or the guide bars and sole plate may be fabricated as a single piece.

BEARING DESIGN DATA

Location	Vertical Design Load ** (kips)	Horizontal Design Load ** (kips)	Required Rotation Range *** (radians)	Maximum Theoretical Thermal Movement**** from 50°F
Pier 14, 17 and 20	542	94	0.016	1.13"



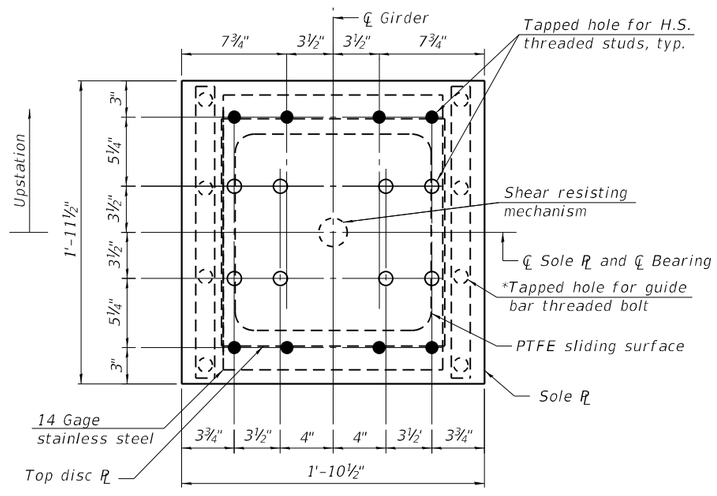
BELOW 50°F.
(Move masonry PL away from fixed bearing)



ABOVE 50°F.
(Move masonry PL toward fixed bearing)

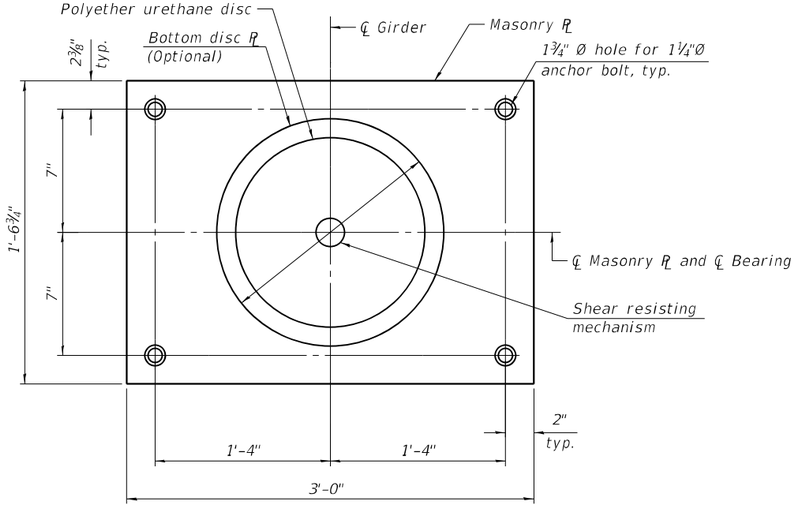
SETTING ANCHOR BOLTS AT EXPANSION BEARING

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.



SOLE PLATE AND TOP DISC PLATE PLAN

Use hole pattern shown for H.S. threaded studs as template for connection to bottom flange. See Legend for bolt hole type in bottom flange. Open holes from previous bearing connection in bottom flange not used for connection of the new bearing shall be filled with H.S. bolts.



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Shim plates not included in total bearing height. Cost included with bearing pay item.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

H.S. bolts in bearing assembly shall be galvanized according to ASTM B 695 Class 50.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pedestal concrete.

LEGEND

- New bolt in new hole
- Replace existing fastener with new bolt in existing hole

BILL OF MATERIAL

	Item	Unit	Total
*****	High Load Multi-Rotational Bearings, Disc, Guided Expansion- 600K	Each	15
	Anchor Bolts, 1¼"	Each	60

***** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

MODEL: Default
FILE NAME: P:\4312-WBM\CILuggageRehab\CADD\Structural_SN 090-0115_WBHahnBridge_Final Plans\090011568E44-201-BrgDtls8.dgn

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MODJESKI and MASTERS

USER NAME =	DESIGNED - JAD	REVISED -	
	CHECKED - MAP	REVISED -	
PLOT SCALE =	DRAWN - KEW	REVISED -	
PLOT DATE =	CHECKED - MAP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARING DETAILS - 8
STRUCTURE NO. 090-0115
SHEET S201 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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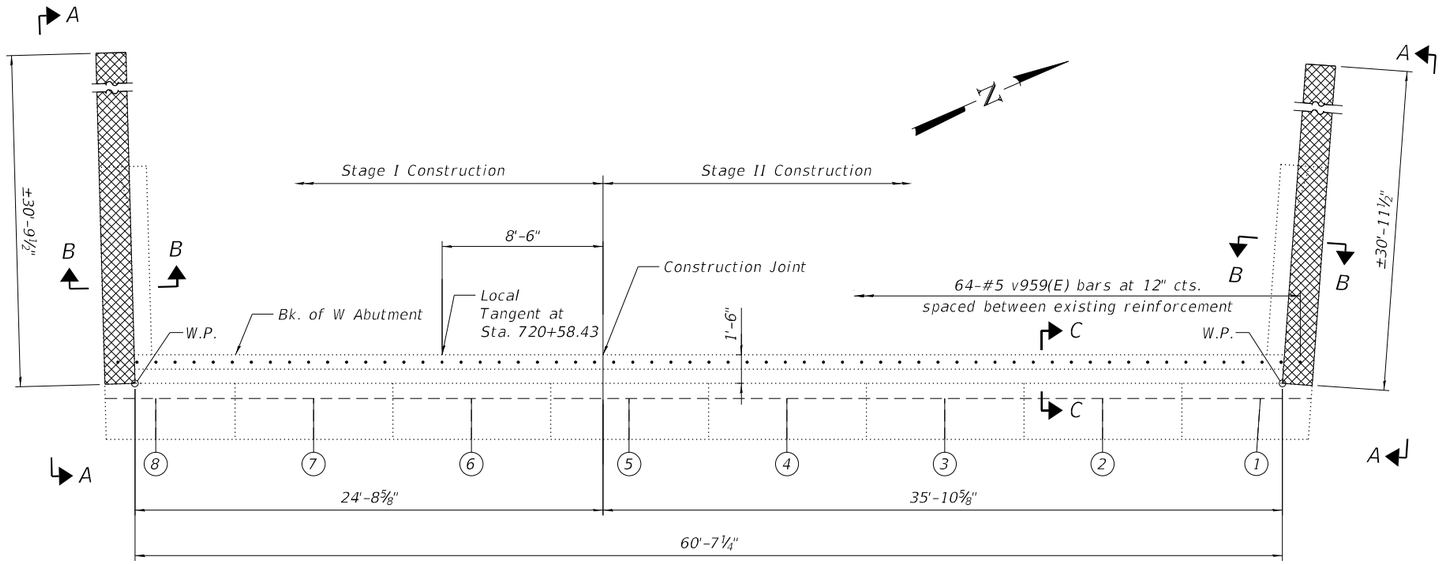
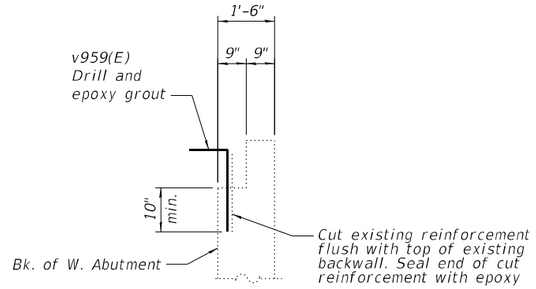
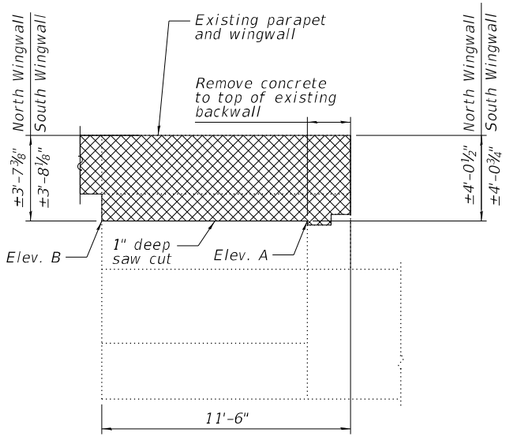
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



ABUTMENT PLAN

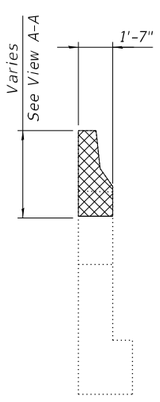


SECTION C-C

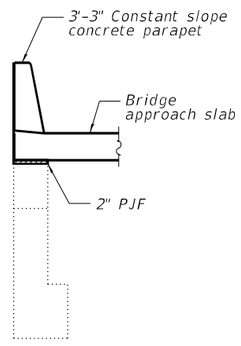


VIEW A-A

South Wingwall shown, North Wingwall opposite hand.

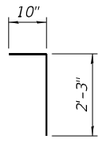


REMOVAL



PROPOSED

SECTION B-B



BAR v959(E)

WINGWALL REMOVAL ELEVATION

Wingwall	Elev. A	Elev. B
North	502.24	502.48
South	502.67	502.92

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
v959(E)	64	#5	3'-1"	⌐
Concrete Removal			Cu. Yd.	1.4
Reinforcement Bars, Epoxy Coated			Pound	210

LEGEND:

Concrete Removal

Note:
Removal of the existing parapet shall be included with Removal of Existing Concrete Deck. No. 2.

MODEL: Default
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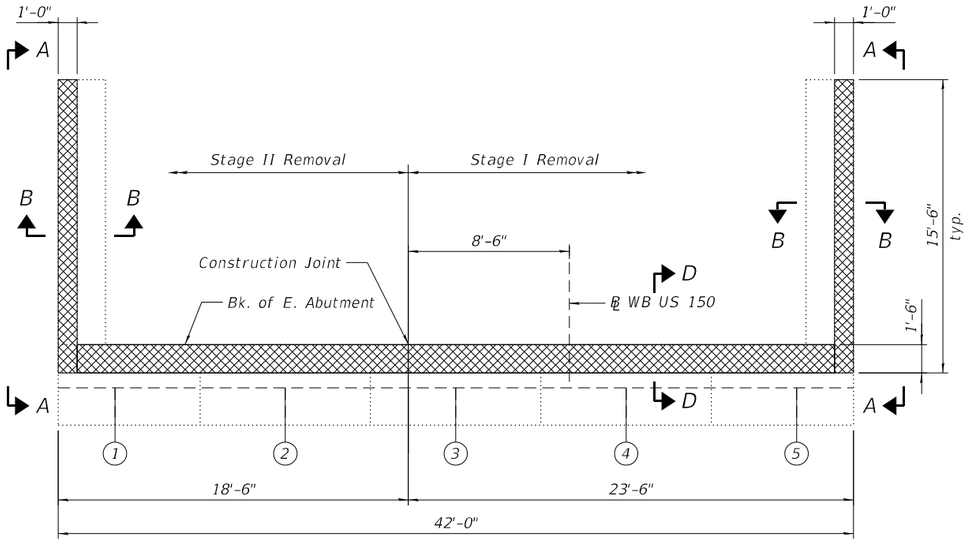
USER NAME =		DESIGNED - UB	REVISED -	
		CHECKED - YSS	REVISED -	
PLOT SCALE =		DRAWN - AEC	REVISED -	
PLOT DATE =		CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

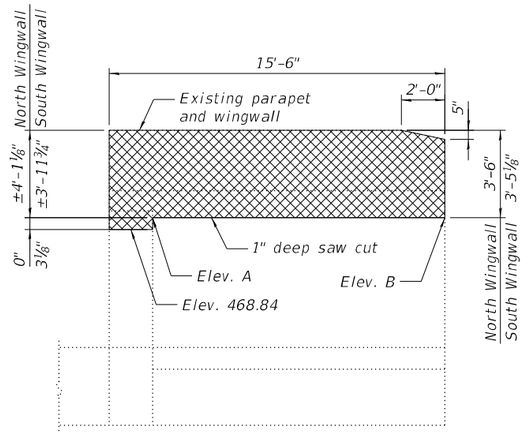
WEST ABUTMENT MODIFICATIONS
STRUCTURE NO. 090-0115

SHEET S202 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	372
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



ABUTMENT PLAN - REMOVAL

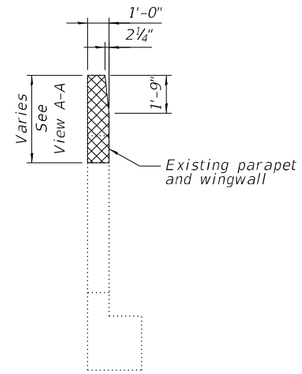


VIEW A-A

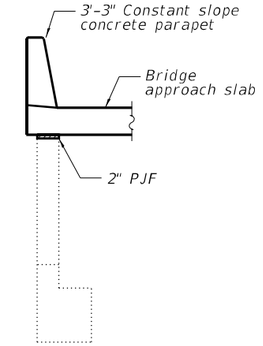
South Wingwall shown, North Wingwall opposite hand.

WINGWALL REMOVAL ELEVATION

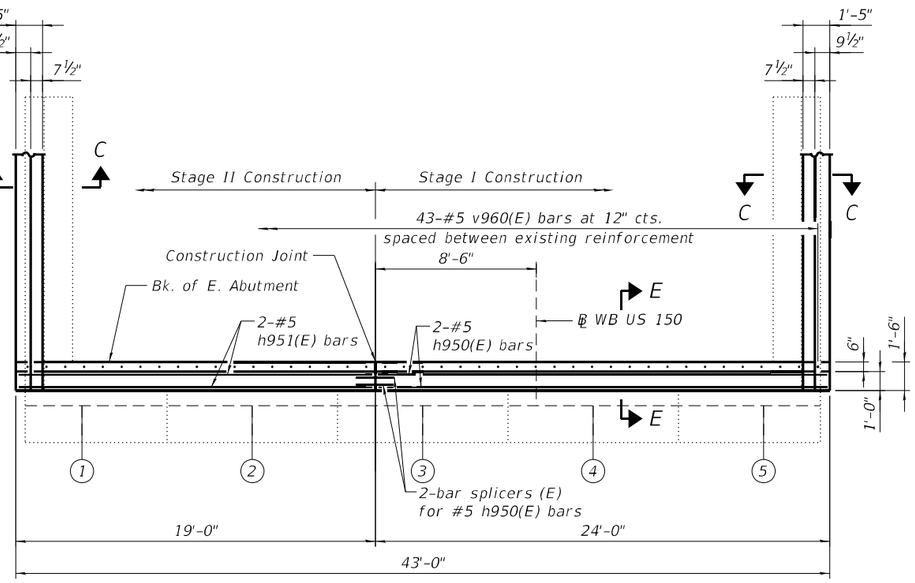
Wingwall	Elev. A	Elev. B
North	468.84	468.57
South	469.11	468.83



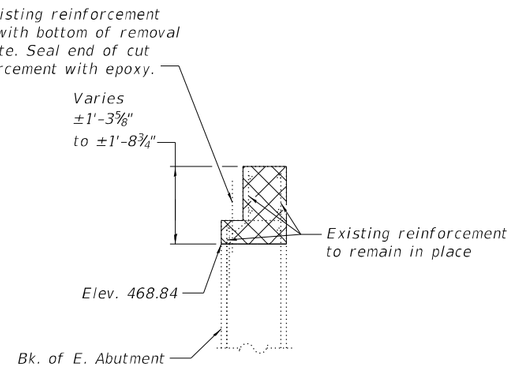
SECTION B-B



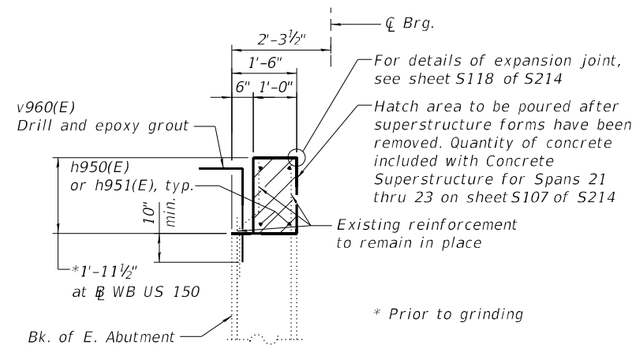
SECTION C-C



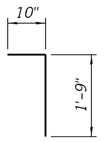
ABUTMENT PLAN - CONSTRUCTION



SECTION D-D



SECTION E-E



BAR v960(E)

EAST ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h950(E)	4	#5	23'-8"	——
h951(E)	4	#5	18'-8"	——
v960(E)	43	#5	2'-7"	⌜
Concrete Removal			Cu. Yd.	4.8
Reinforcement Bars, Epoxy Coated			Pound	300

LEGEND:

Concrete Removal

Notes:

Existing reinforcement to remain in place shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system at the Contractor's expense.

Removal of the existing parapet shall be included with Removal of Existing Concrete Deck No. 2.

MODEL: Default
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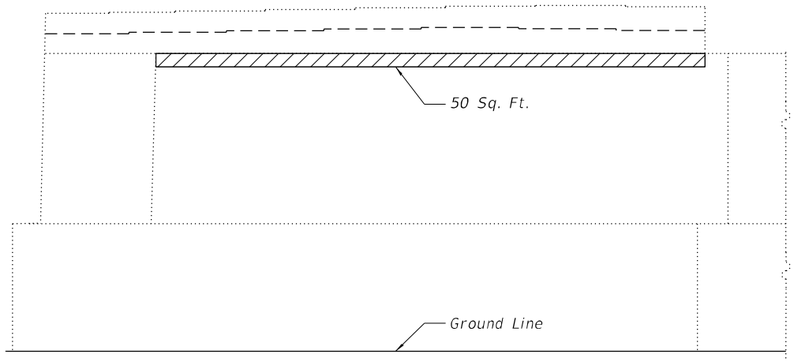
USER NAME =	DESIGNED - UB	REVISED -	
	CHECKED - YSS	REVISED -	
PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE =	CHECKED - UB	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

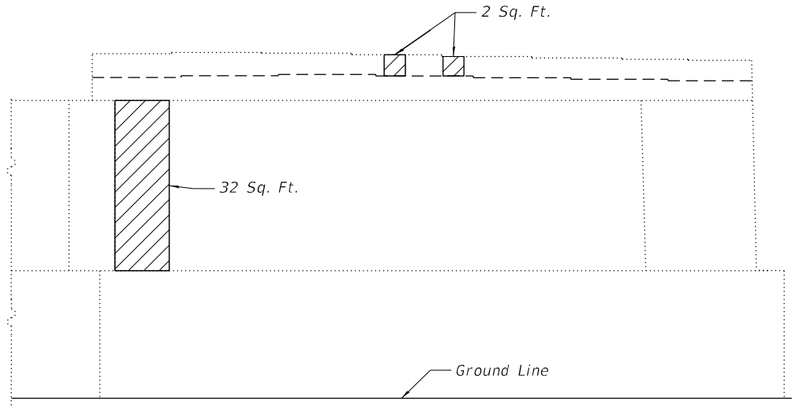
EAST ABUTMENT MODIFICATIONS
STRUCTURE NO. 090-0115
SHEET S203 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	373
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



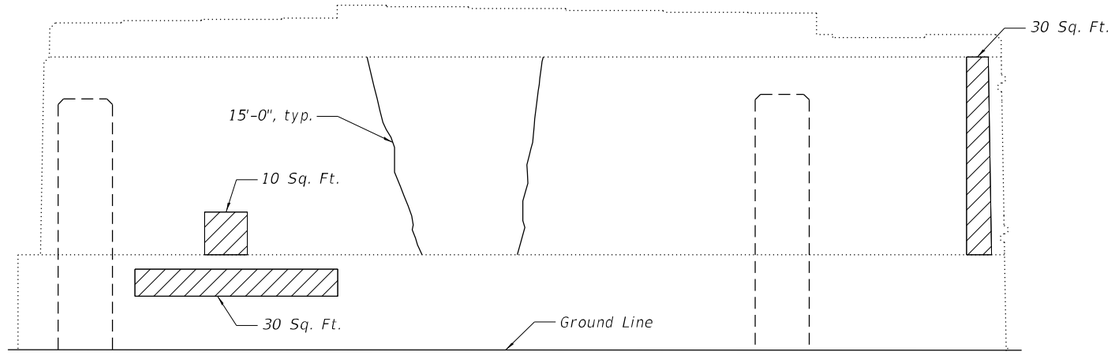
PIER 2 ELEVATION (ITEM 49)

West face



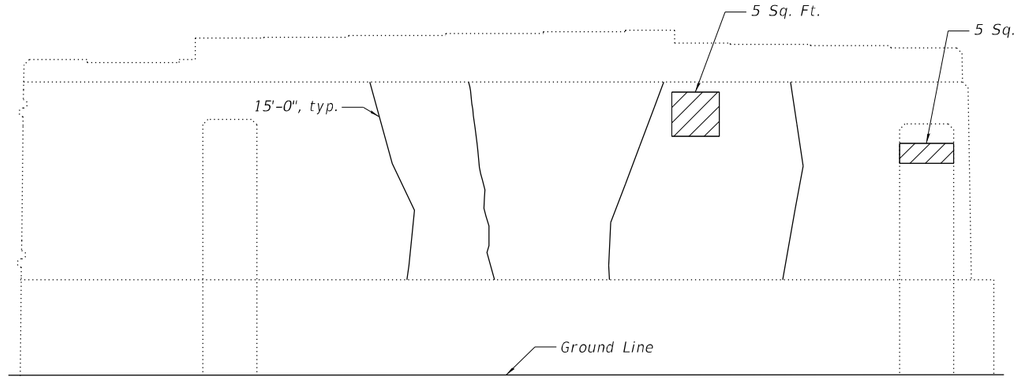
PIER 2 ELEVATION

East face



PIER 4 ELEVATION (ITEM 53)

West face



PIER 4 ELEVATION

East face

LEGEND

Crack Length — Epoxy Crack Injection

Structural Repair of Concrete (Depth equal to or less than 5")

Note:
Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	90
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	166

MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -	
	CHECKED - MJP	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - 1
STRUCTURE NO. 090-0115

SHEET S204 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	374
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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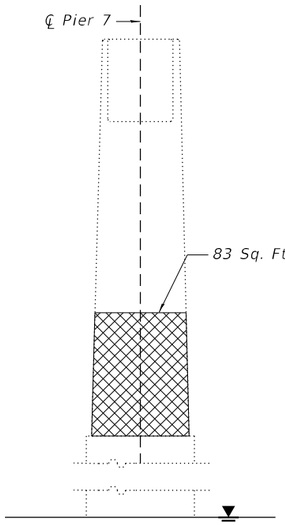
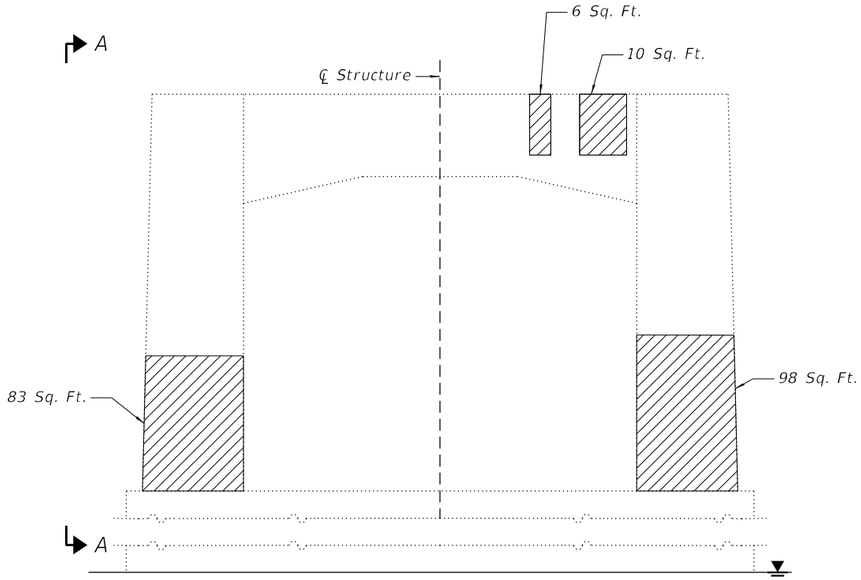
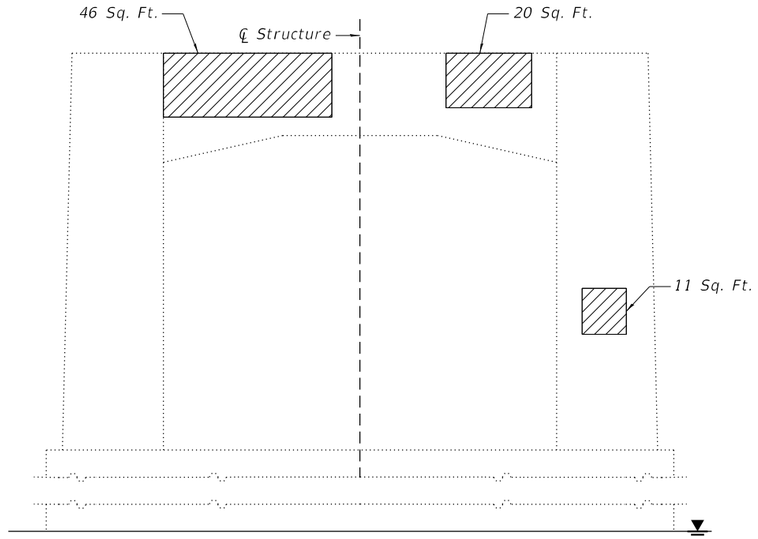


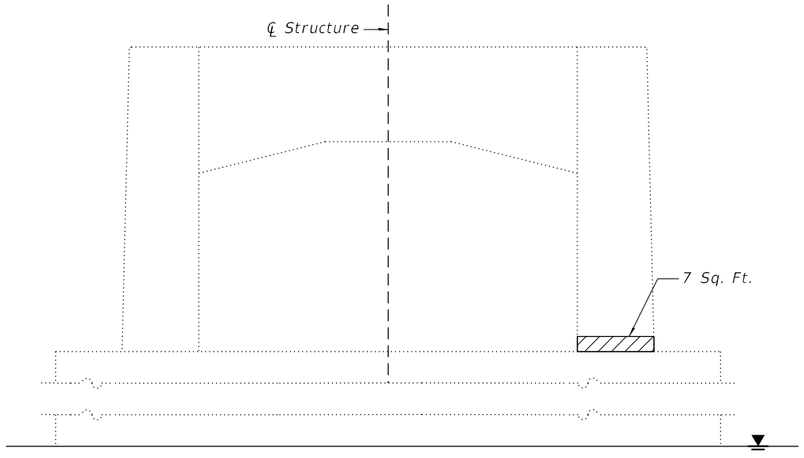
VIEW A-A
North face



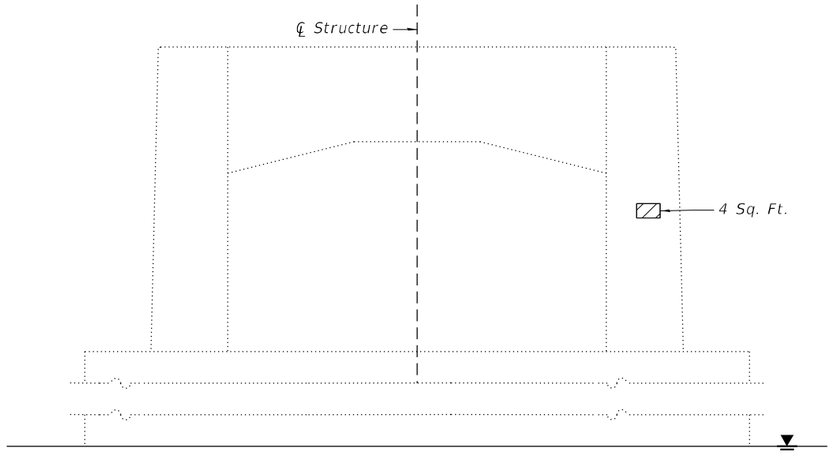
PIER 7 ELEVATION (ITEM 22)
West face



PIER 7 ELEVATION
East face



PIER 8 ELEVATION (ITEM 26)
West face



PIER 8 ELEVATION
East face

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5")

Structural Repair of Concrete (Depth greater than 5")

Note:
Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	285
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	83

MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -
	CHECKED - MJP	REVISED -
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - RLM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - 2
STRUCTURE NO. 090-0115
SHEET S205 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	375
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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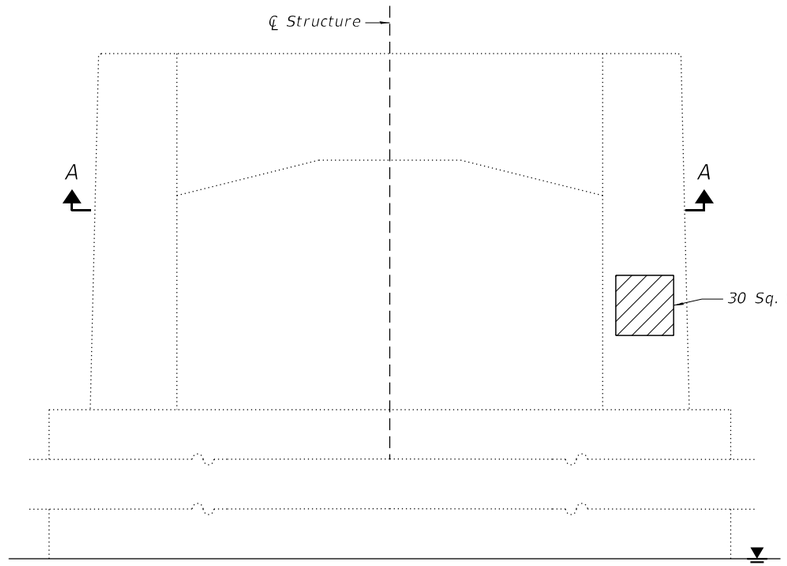
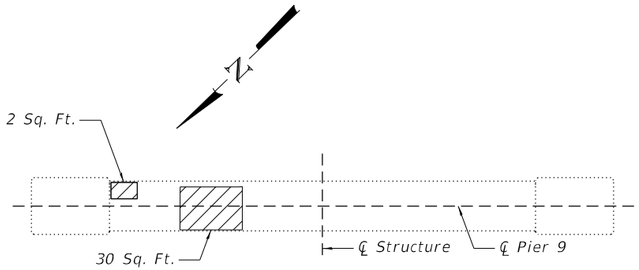


PIER 9 ELEVATION (ITEM 63)

West face

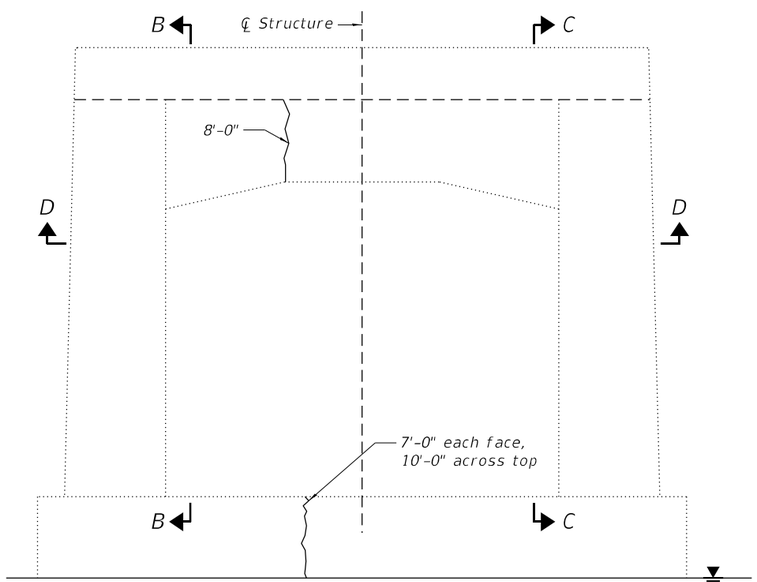


VIEW A-A

LEGEND

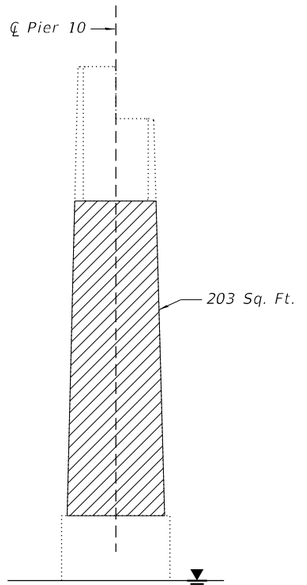
Crack Length — Epoxy Crack Injection

Structural Repair of Concrete (Depth equal to or less than 5")



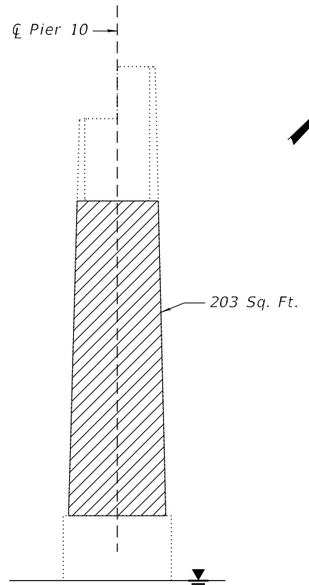
PIER 10 ELEVATION (ITEM 28)

East face



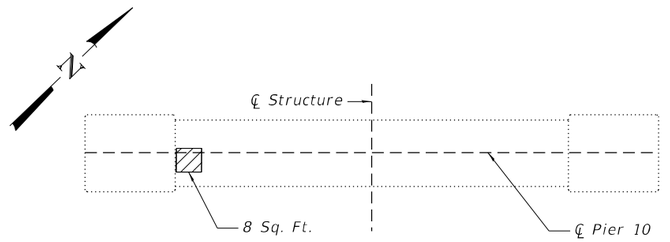
VIEW B-B

Inside face, south column



VIEW C-C

Inside face, north column



VIEW D-D

Note:
Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	32
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	476

MODEL: Default
FILE NAME: P:\4312-WBMcCl\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\09001115-68E44-206-SubstRepDtl3.dgn

3/13/2025 12:57:15 PM

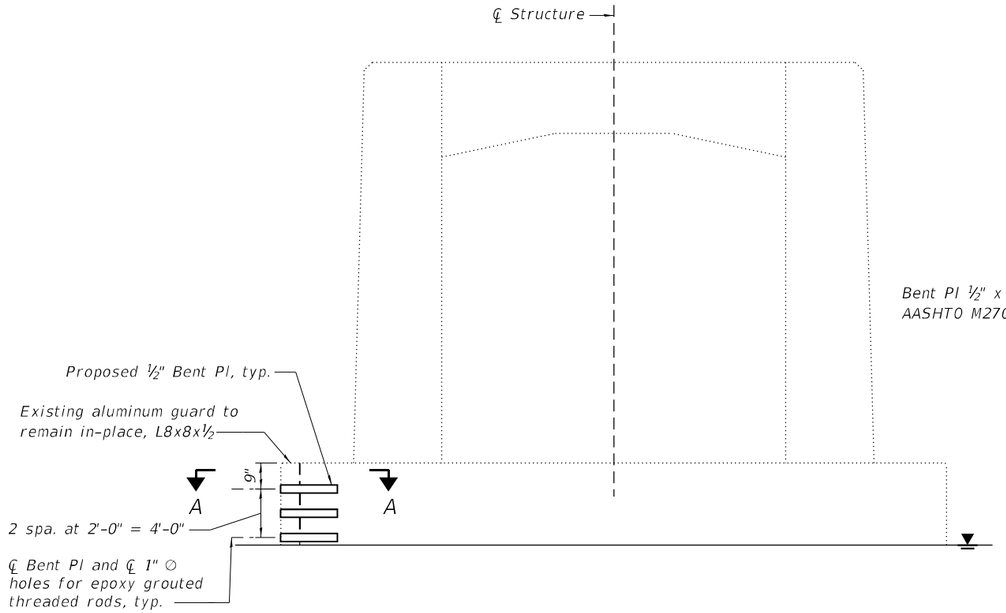
MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -	
	CHECKED - MJP	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

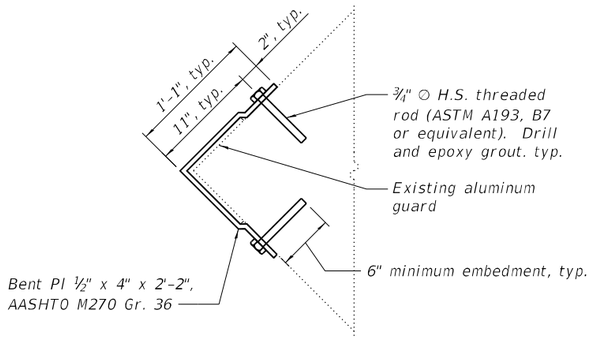
SUBSTRUCTURE REPAIR DETAILS - 3
STRUCTURE NO. 090-0115
SHEET S206 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	376
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



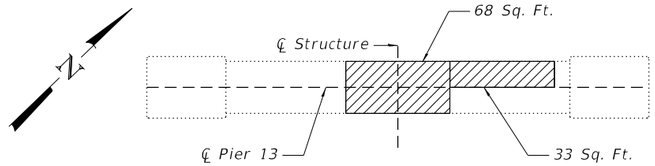
PIER 11 ELEVATION (ITEM 71)

West face

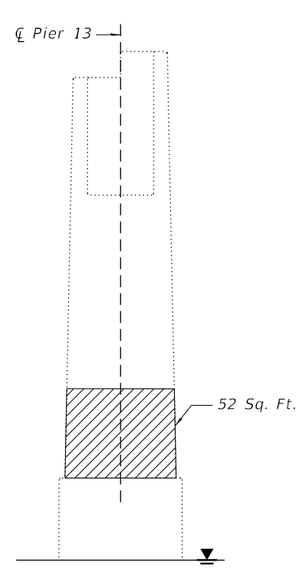


SECTION A-A

North end of pier

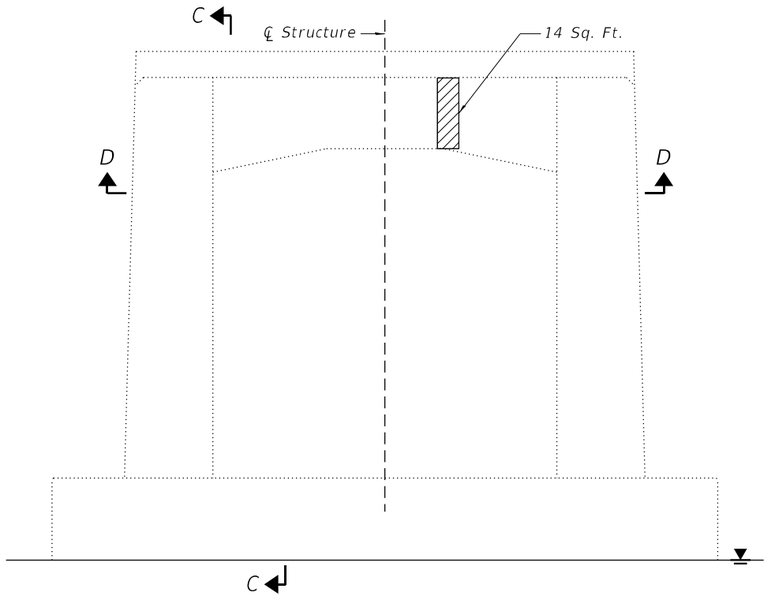


VIEW D-D



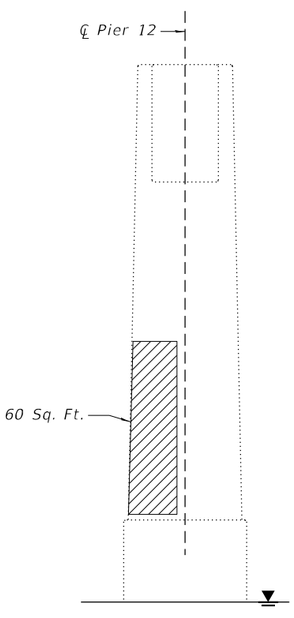
VIEW C-C

Inside face, south column



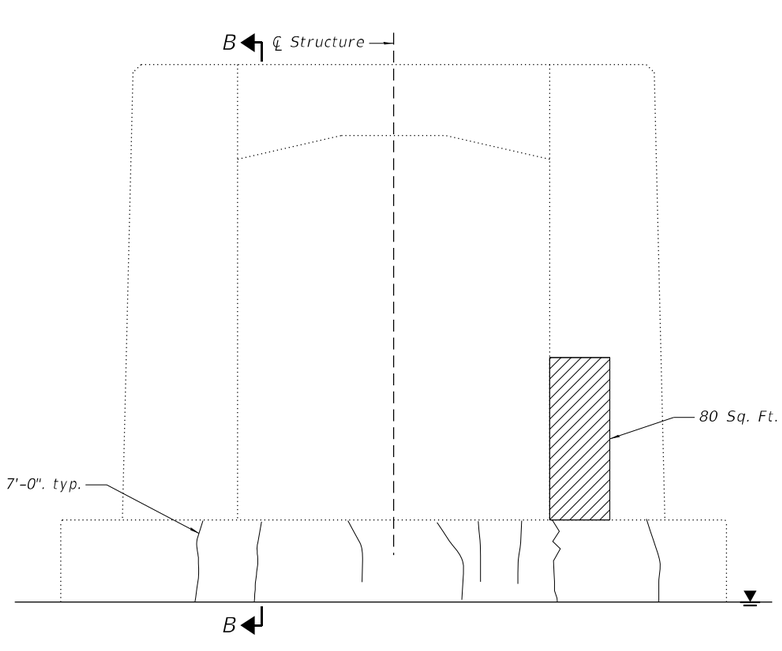
PIER 13 ELEVATION (ITEM 82)

East face



VIEW B-B

Inside face, north column



PIER 12 ELEVATION (ITEM 76)

West face

Notes:

Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

Existing aluminum guard is loose. Contractor to install bent plates to hold aluminum guard flush against the nose of the pier. All work required to install the proposed bent plates including drilling and epoxying the threaded rods will be paid for as Structural Steel Repair.

The bent plates and threaded rods shall be galvanized according to AASHTO M111 or M232 as applicable.

Epoxy grout threaded rods according to Article 584 of the Standard Specifications.

LEGEND

Crack Length — Epoxy Crack Injection

Structural Repair of Concrete (Depth equal to or less than 5")

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	56
Structural Steel Repair	Pound	60
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	307

MODEL: Default
FILE NAME: P:\4312-WBMc\LugageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-207-SubstrRepDtl4.dgn

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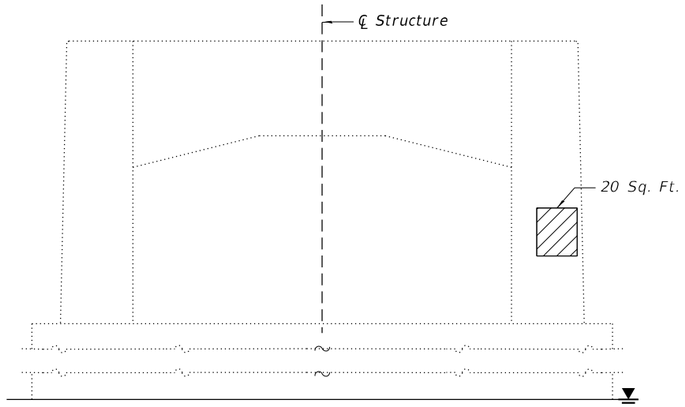
MODJESKI and MASTERS

USER NAME =		DESIGNED - PMS	REVISED -
		CHECKED - MJP	REVISED -
PLOT SCALE =		DRAWN - ATH	REVISED -
PLOT DATE =		CHECKED - RLM	REVISED -

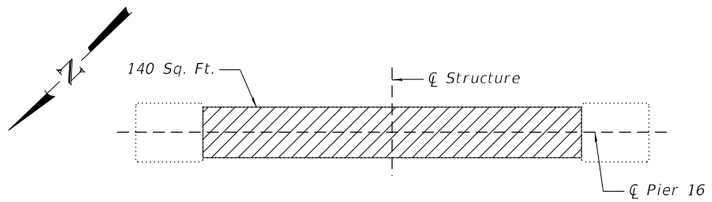
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - 4
STRUCTURE NO. 090-0115
SHEET S207 OF S214 SHEETS

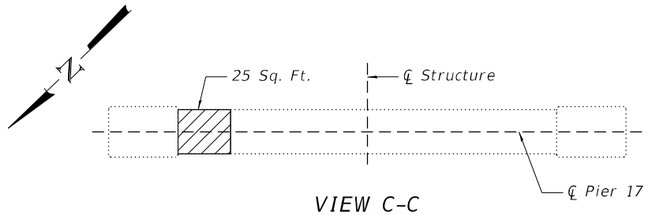
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	377
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



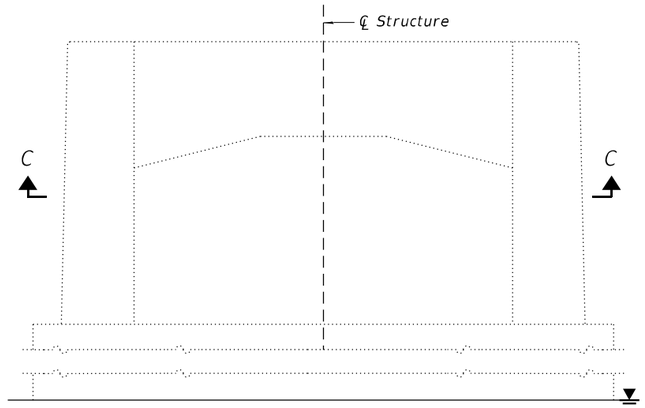
PIER 15 ELEVATION (ITEM 85)
East face



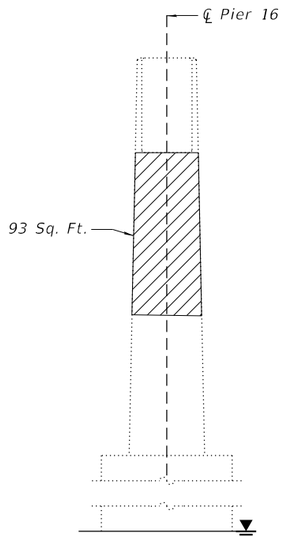
VIEW B-B



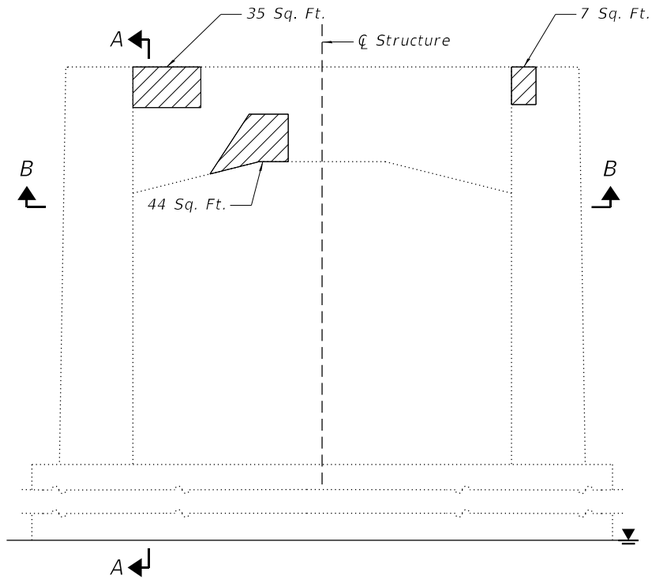
VIEW C-C



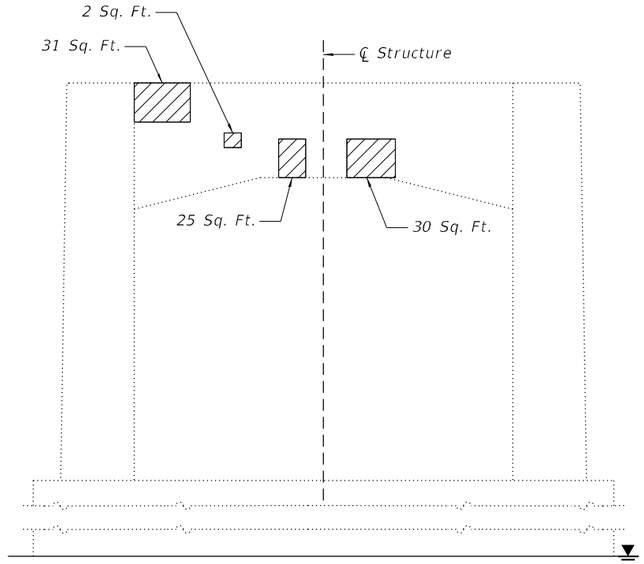
PIER 17 ELEVATION (ITEM 88)
West face



VIEW A-A
Inside face, north column



PIER 16 ELEVATION (ITEM 10)
West face



PIER 16 ELEVATION
East face

LEGEND

Structural Repair of Concrete
(Depth equal to or less than 5")

Note:
Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	452

MODEL: Default
FILE NAME: P:\4312-WBMcCluggageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011568E44-208-SubstrRepDtl5.dgn
3/13/2025 12:57:21 PM

MODJESKI and MASTERS

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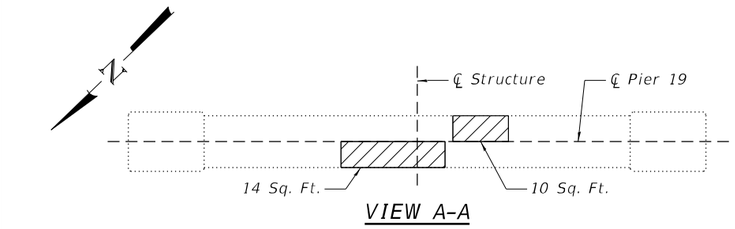
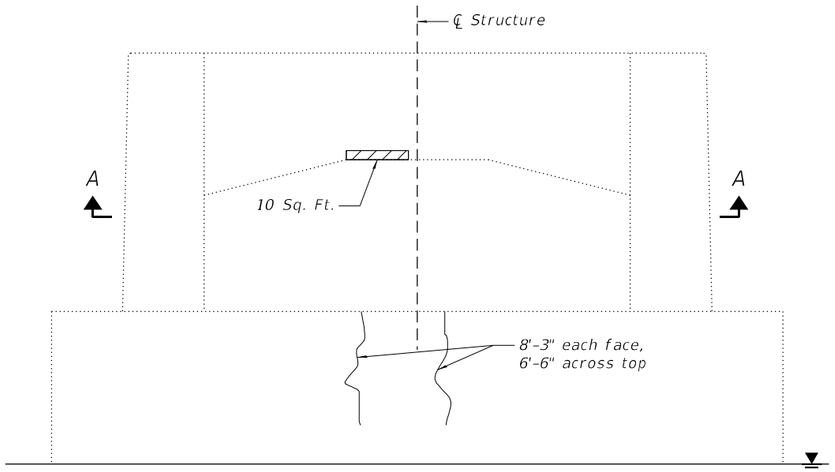
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - 5
STRUCTURE NO. 090-0115
SHEET S208 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	378
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

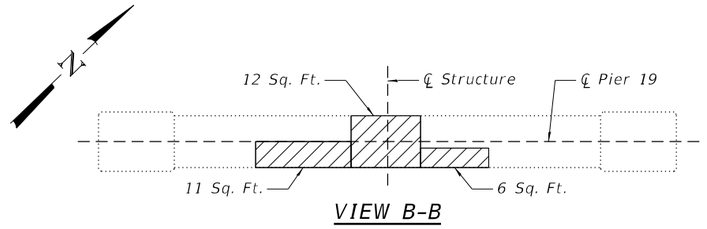


VIEW A-A

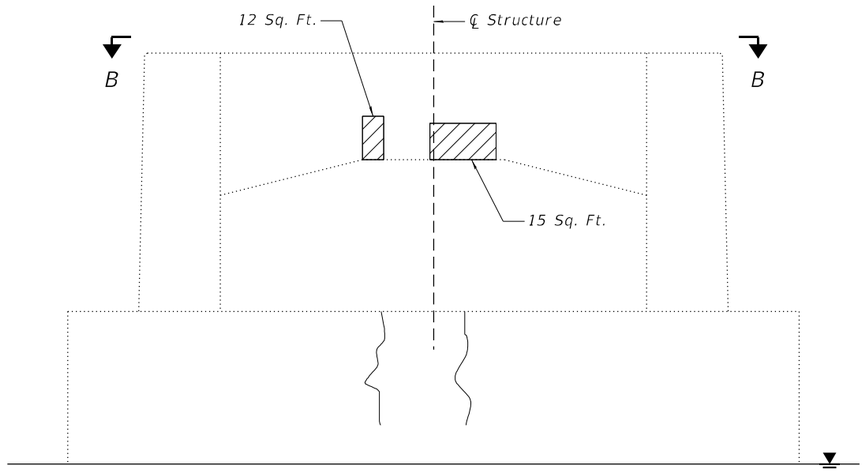


PIER 19 ELEVATION (ITEM 92)

West face

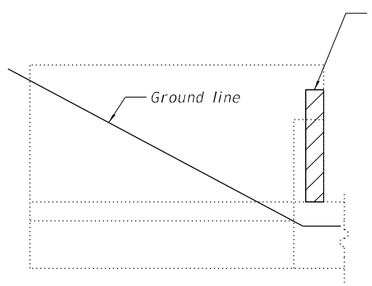


VIEW B-B



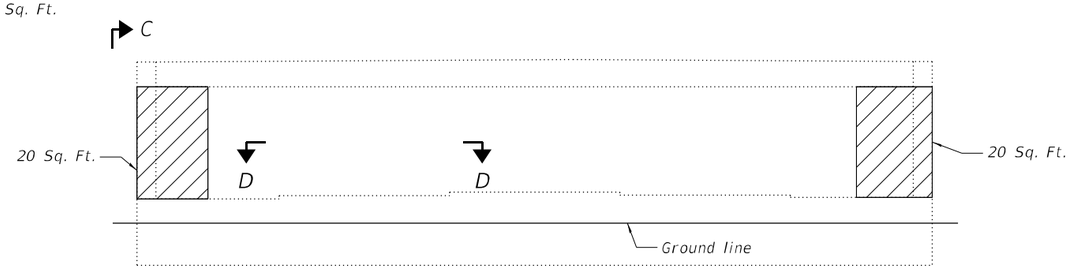
PIER 19 ELEVATION

East face



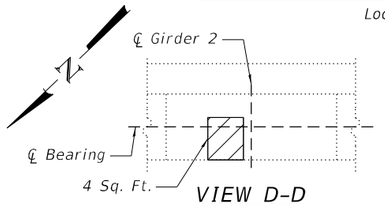
VIEW C-C

North Wingwall



EAST ABUTMENT ELEVATION (ITEM 23)

Looking east



VIEW D-D

LEGEND

Crack Length — Epoxy Crack Injection

Structural Repair of Concrete (Depth equal to or less than 5")

Notes:

Concrete repair areas shown are estimated. The limits of repair will be determined in the field by the Engineer.

Perform substructure repairs to pier and abutment caps in conjunction with bearing replacements. Complete concrete repairs to top of cap after the existing bearings have been removed and prior to the installation of the new bearings. See sheets S192 and S193 of S214 for bearing replacement details.

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	46
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	144

MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -	
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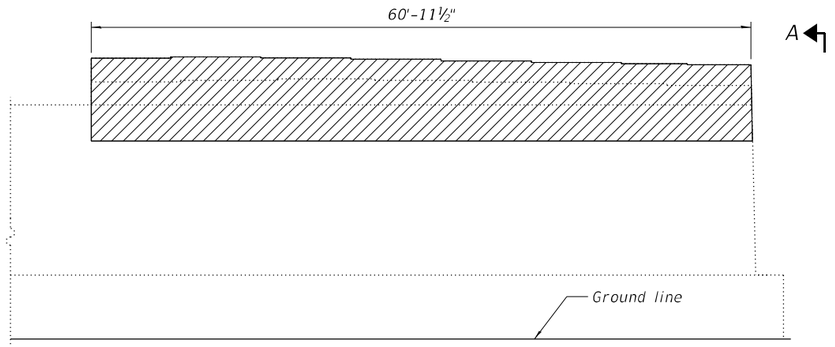
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - 6
STRUCTURE NO. 090-0115

SHEET S209 OF S214 SHEETS

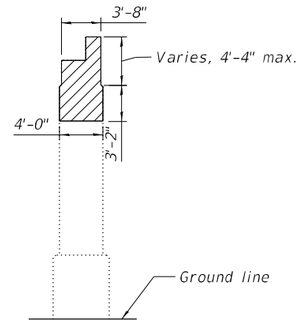
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	379
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: P:\4312-WBM\CL\gageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\0900115-68E44-209-SubstrRepDtls6.dgn
3/13/2025 12:57:23 PM



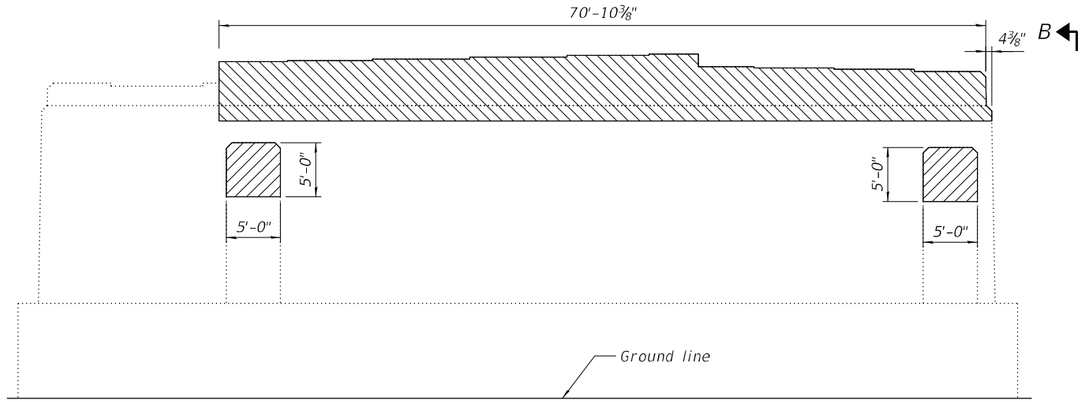
PIER 2 ELEVATION

East face shown, west limits similar



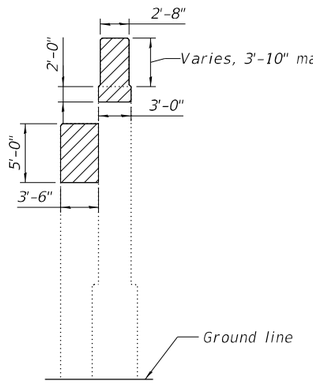
VIEW A-A

North end shown,
south limits similar



PIER 4 ELEVATION

East face shown, west limits similar



VIEW B-B

North end shown,
south limits similar

Notes:

Concrete sealer shall be applied to all vertical and horizontal surfaces of substructure units within the limits shown.

Concrete sealer shall be applied after substructure repairs are completed and concrete has cured for at least the recommended number of days stated in the manufacturer's instructions.

See sheet S204 of S214 for substructure repair locations.

LEGEND

Limits of concrete sealer

BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	2,112

MODEL: Default
FILE NAME: P:\d312-WBMrCLitgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-210-ConcSealer Substr1.dgn
3/13/2025 12:57:26 PM

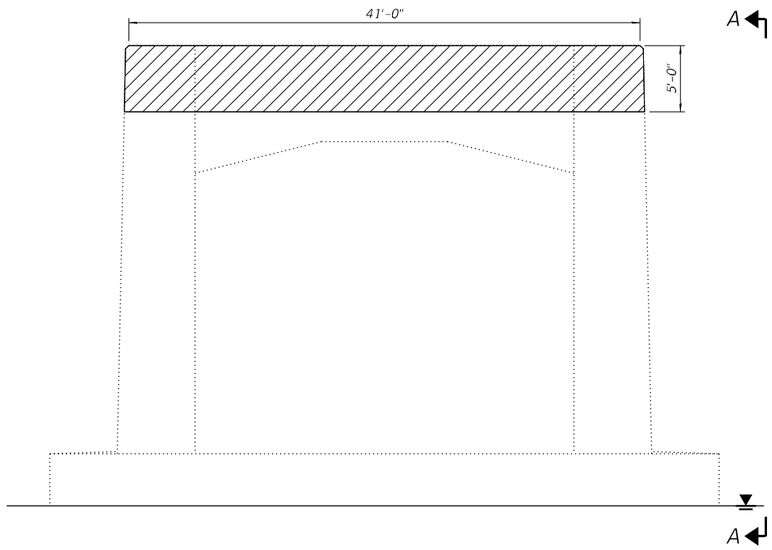
MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -	
	CHECKED - RLM	REVISED -	
PLOT SCALE =	DRAWN - ATH	REVISED -	
PLOT DATE =	CHECKED - RLM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

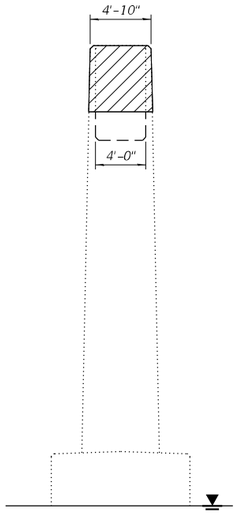
CONCRETE SEALER - SUBSTRUCTURE - 1
STRUCTURE NO. 090-0115
SHEET S210 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	380
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		



PIER 7 ELEVATION

West face shown, east limits similar

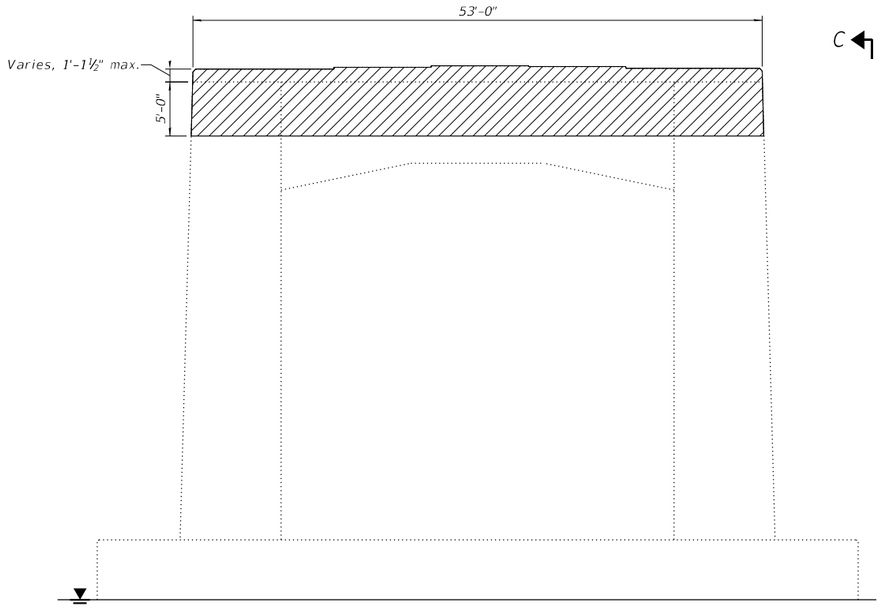


VIEW A-A

South end shown,
north end similar

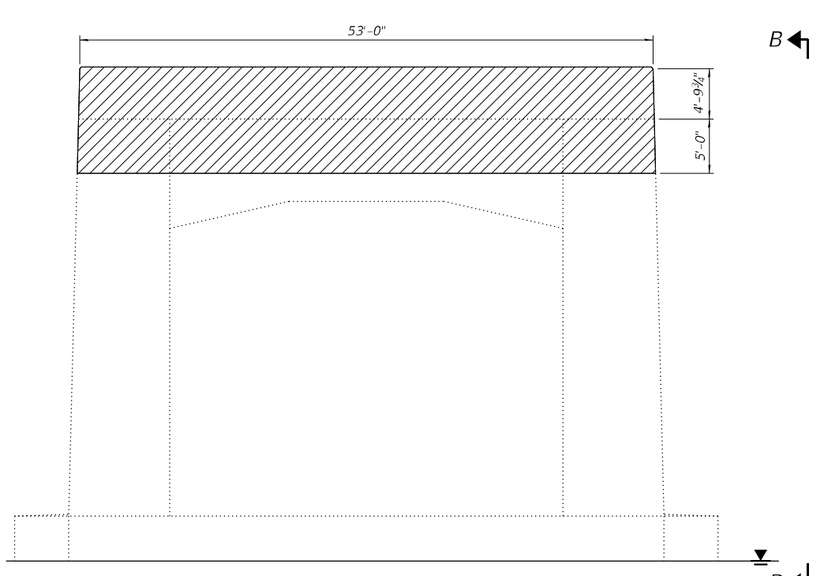
VIEW C-C

South end shown,
north end similar



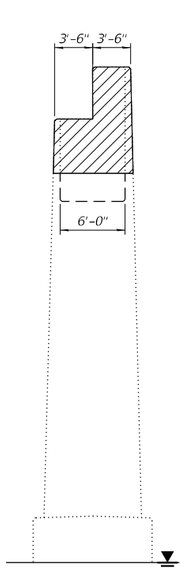
PIER 13 ELEVATION

West face shown, east limits similar



PIER 10 ELEVATION

West face shown, east limits similar



VIEW B-B

South end shown,
north end similar

Notes:

Concrete sealer shall be applied to all vertical and horizontal surfaces of substructure units within the limits shown.

Concrete sealer shall be applied after substructure repairs are completed and concrete has cured for at least the recommended number of days stated in the manufacturer's instructions.

See sheets S205 thru S207 of S214 for substructure repair locations.

LEGEND

Limits of concrete sealer

BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	3,157

MODEL: Default
FILE NAME: P:\4312-WBM\CLIgageRehab\CADD\Structural_SN 090-0115_WBMainBridge_Final Plans\090011S-68E44-211-ConcSealer Substr2.dgn

3/13/2025 12:57:28 PM

MODJESKI and MASTERS

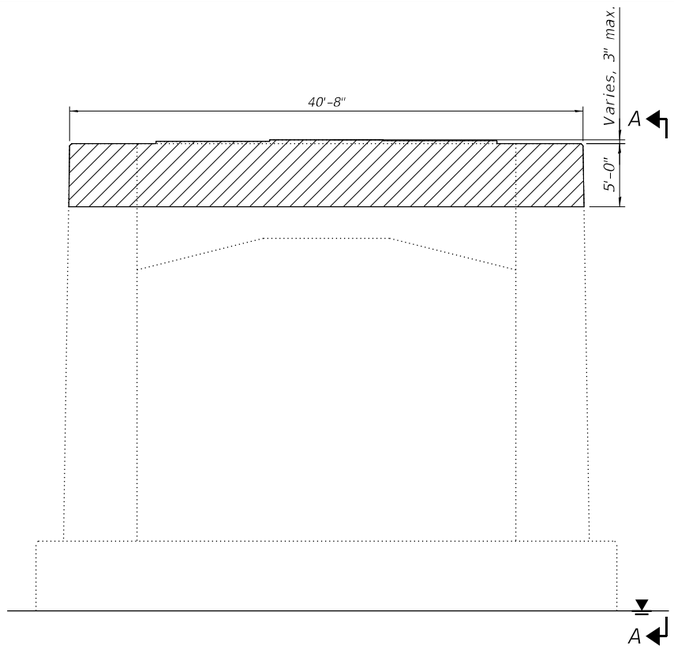
USER NAME =		DESIGNED -	PMS	REVISED -
		CHECKED -	RLM	REVISED -
PLOT SCALE =		DRAWN -	ATH	REVISED -
PLOT DATE =		CHECKED -	RLM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE SEALER - SUBSTRUCTURE - 2
STRUCTURE NO. 090-0115

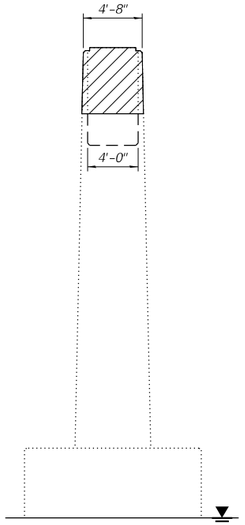
SHEET S211 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	381
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



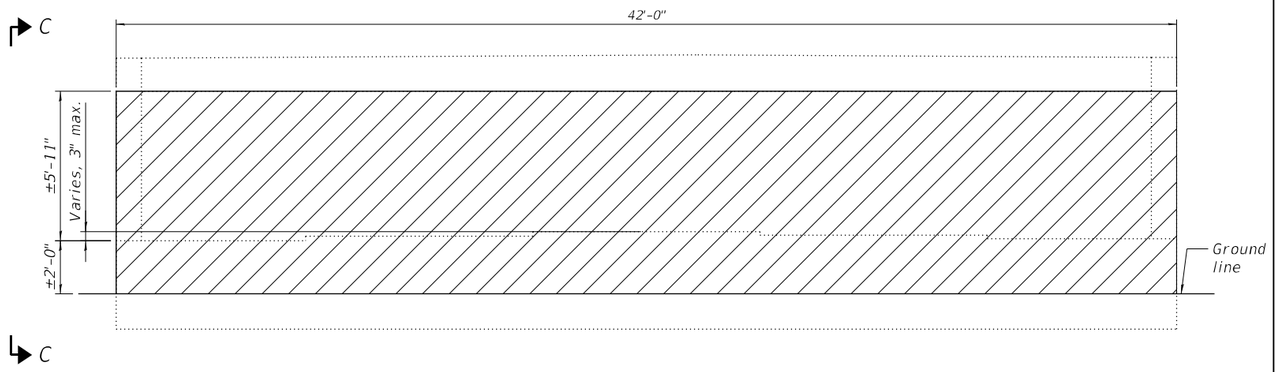
PIER 16 ELEVATION

West face shown, east limits similar



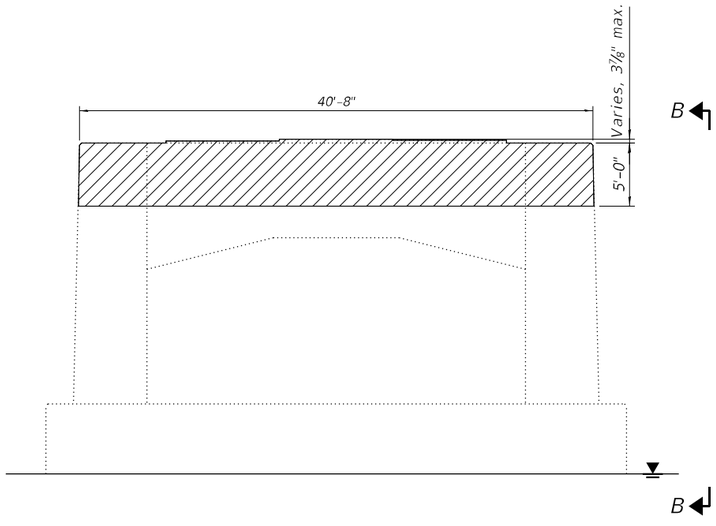
VIEW A-A

South end shown, north end similar



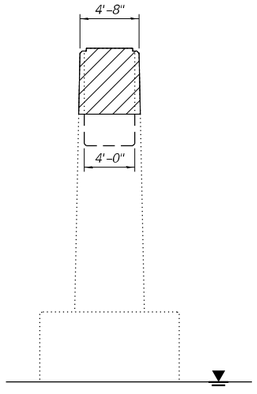
EAST ABUTMENT ELEVATION

Looking east



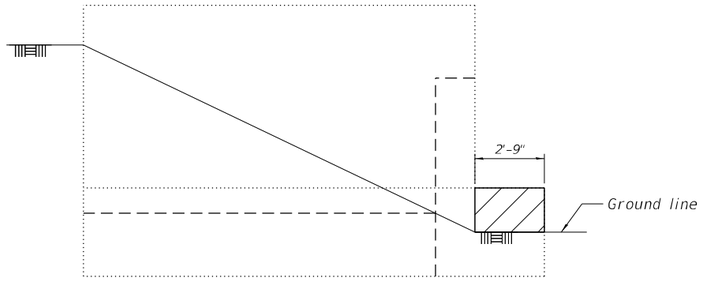
PIER 19 ELEVATION

West face shown, east limits similar



VIEW B-B

South end shown, north end similar



VIEW C-C

North end shown, south end similar

Notes:

Concrete sealer shall be applied to all vertical and horizontal surfaces of substructure units within the limits shown.

Concrete sealer shall be applied after substructure repairs are completed and concrete has cured for at least the recommended number of days stated in the manufacturer's instructions.

See sheets S203 and S208 of S214 for substructure repair locations and abutment modifications.

LEGEND

Limits of concrete sealer

BILL OF MATERIAL

Item	Unit	Total
Concrete Sealer	Sq. Ft.	1,754

MODJESKI and MASTERS

USER NAME =	DESIGNED - PMS	REVISED -
	CHECKED - RLM	REVISED -
PLOT SCALE =	DRAWN - ATH	REVISED -
PLOT DATE =	CHECKED - RLM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE SEALER - SUBSTRUCTURE - 3
STRUCTURE NO. 090-0115

SHEET S212 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	382
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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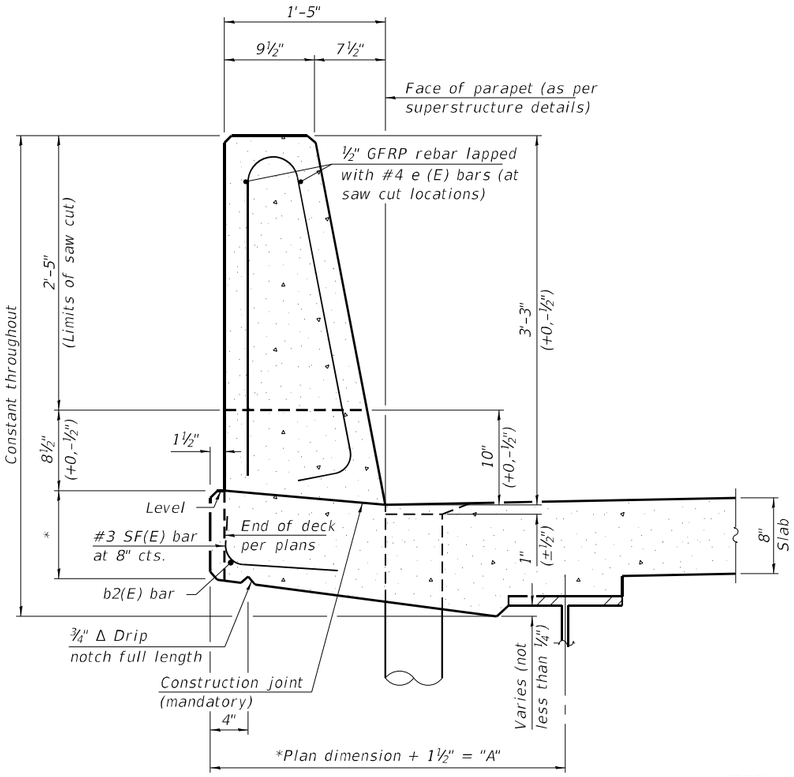
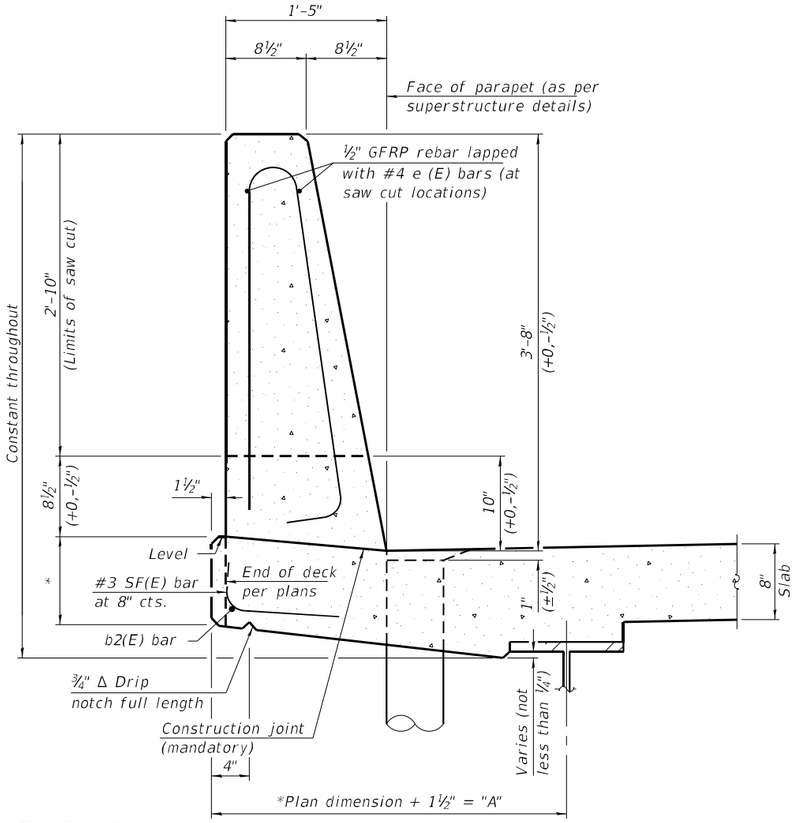
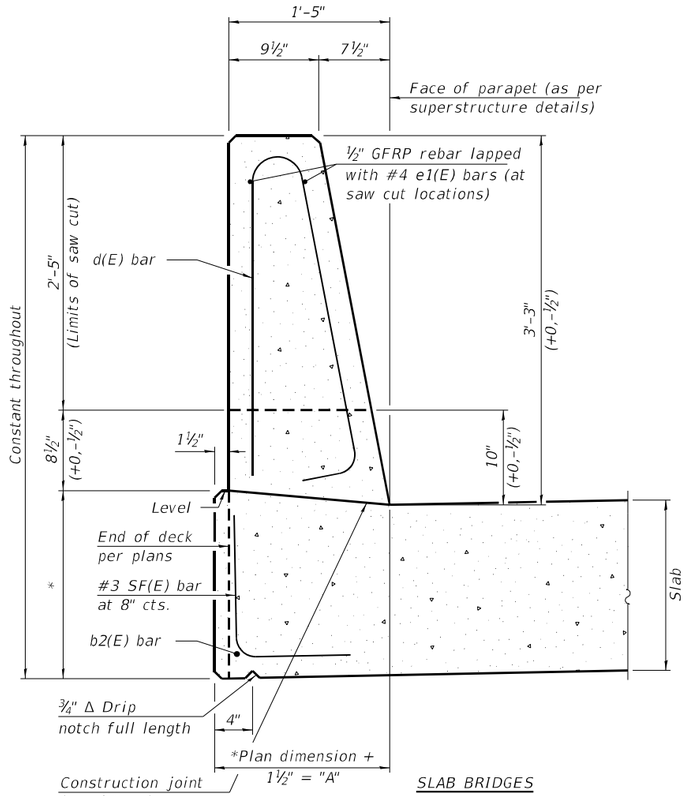


39" CONSTANT-SLOPE
PARAPET SECTION
(Showing dimensions, d(E), and ½" Ø GFRP rebar)



44" CONSTANT-SLOPE
PARAPET SECTION
(Showing dimensions, d(E), and ½" Ø GFRP rebar)

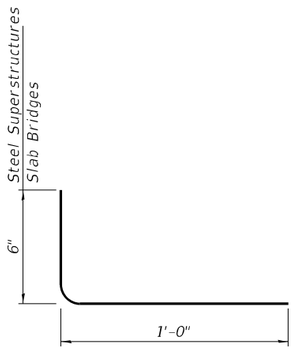


39" CONSTANT-SLOPE
PARAPET SECTION
(Showing dimensions, d(E), and ½" Ø GFRP rebar)

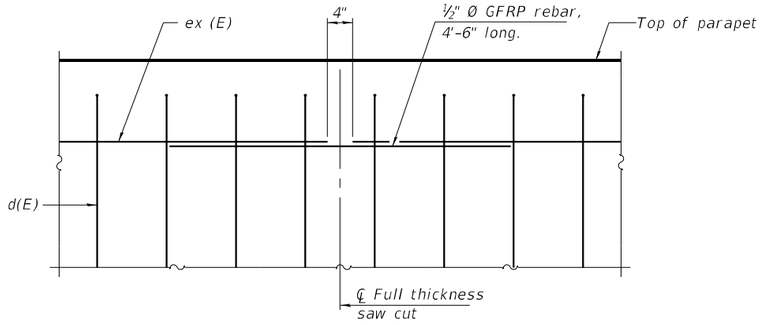
STEEL SUPERSTRUCTURES

SLAB BRIDGES

*See Superstructure Details.



SF(E) BAR



DETAIL - GFRP REBAR STIFFENING ELEVATION
(Place as shown in parapet section at each parapet joint location.)

Notes:
All dimensions shall remain the same as shown on superstructure details, except dimension "A" which is to be revised as shown.
Additional concrete needed to revise dimension "A" (39" and 44" parapets):
Steel Superstructures: 0.00348 cu. yds./ft.
Slab Bridge Superstructures: cu. yds./ft.
Place full depth aluminum sheets as shown on superstructure details.
Replace all cork joint filler locations with a full thickness saw cut.
Steel and slab superstructures shown. Other superstructure types similar.

SFP 39-44 10/27/2023

MODJESKI and MASTERS	USER NAME =	DESIGNED - UB	REVISED -
		CHECKED - RLM	REVISED -
	PLOT SCALE =	DRAWN - AEC	REVISED -
	PLOT DATE =	CHECKED - UB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 090-0115
SHEET S213 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	383
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
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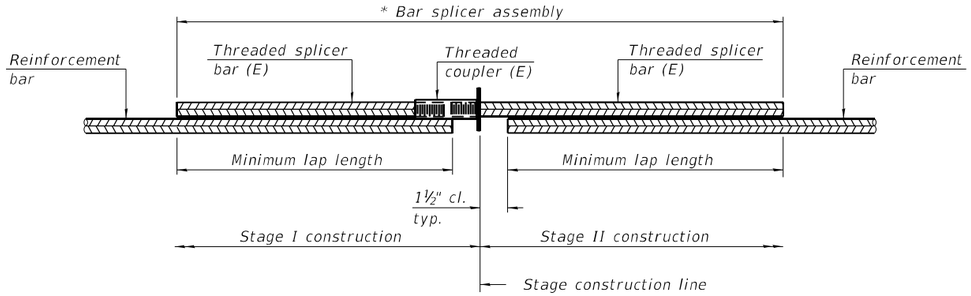


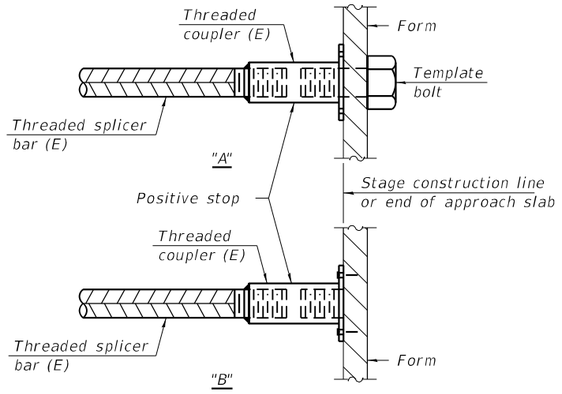
STANDARD BAR SPLICER ASSEMBLY PLAN

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1½" + thread length

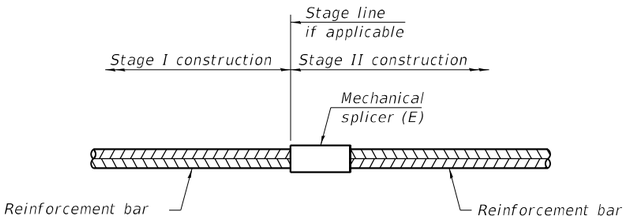
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Slab	#5	15,982	3'-6"
Slab	#6	20	3'-7"
West Approach slab	#5	46	3'-4"
West Approach slab	#8	60	4'-9"
East Approach slab	#5	46	3'-4"
East Approach slab	#8	60	4'-9"
East Approach footing	#5	40	3'-0"
East Abutment Modifications	#5	4	3'-4"



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Slab	#5	39
Slab	#6	14

Notes:
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 5-15-2023

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PLOT DATE =	CHECKED - YSS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 090-0115
SHEET S214 OF S214 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR	PEO/TAZ	418	384
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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PLOT DATE = 3/13/2025	DATE - 3/13/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
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SCALE: N.T.S. | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR; (14HB-1)BRR	PEO/TAZ	418	385
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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PLOT DATE = 3/13/2025	DATE - 3/13/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
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SCALE: N.T.S. | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR; (14HB-1)BRR	PEO/TAZ	418	386
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
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SCALE: N.T.S. | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR; (14HB-1)BRR	PEO/TAZ	418	387
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
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SCALE: N.T.S. | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR; (14HB-1)BRR	PEO/TAZ	418	388
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
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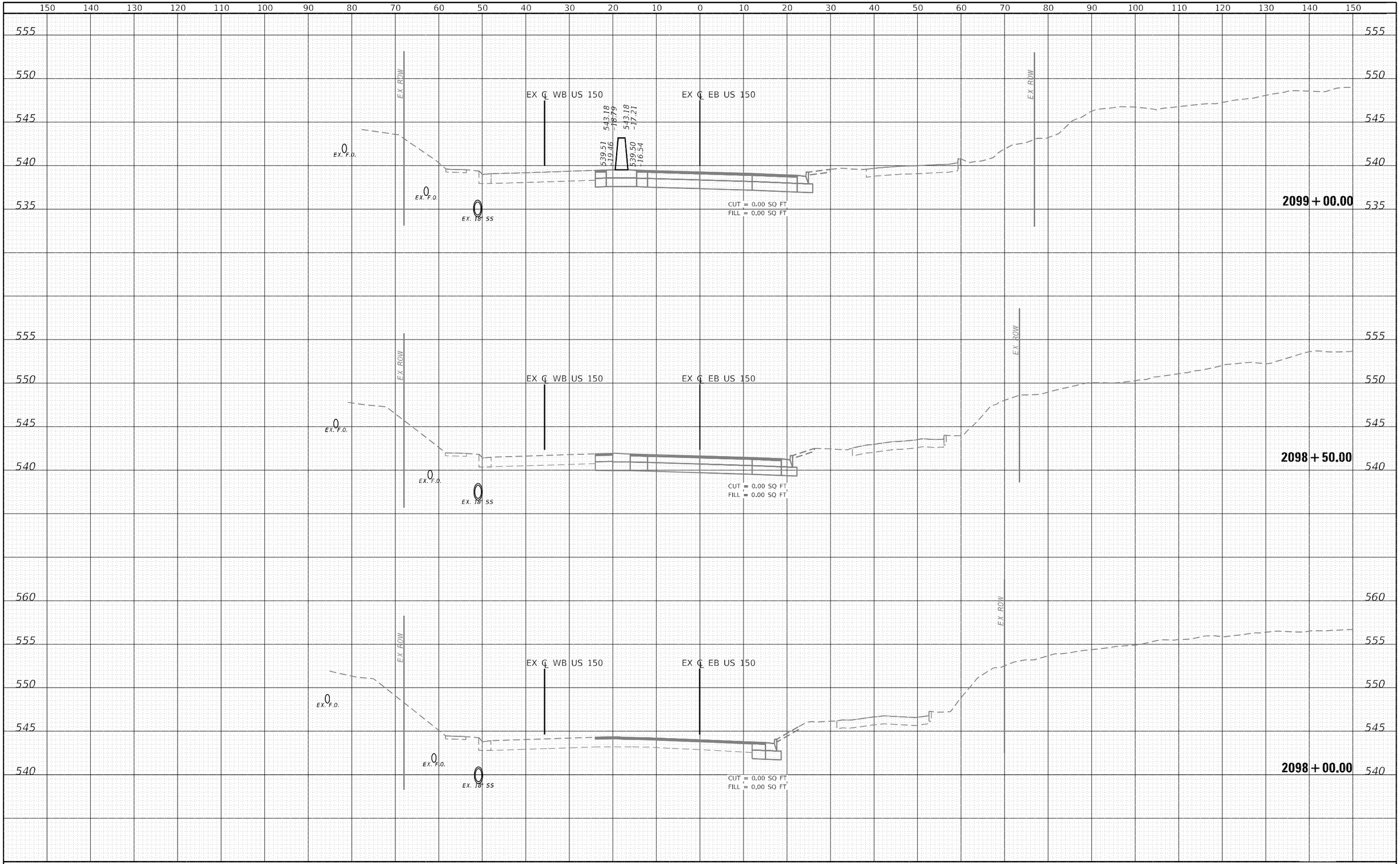
SCALE: N.T.S. | SHEET OF SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR; (14HB-1)BRR	PEO/TAZ	418	389
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



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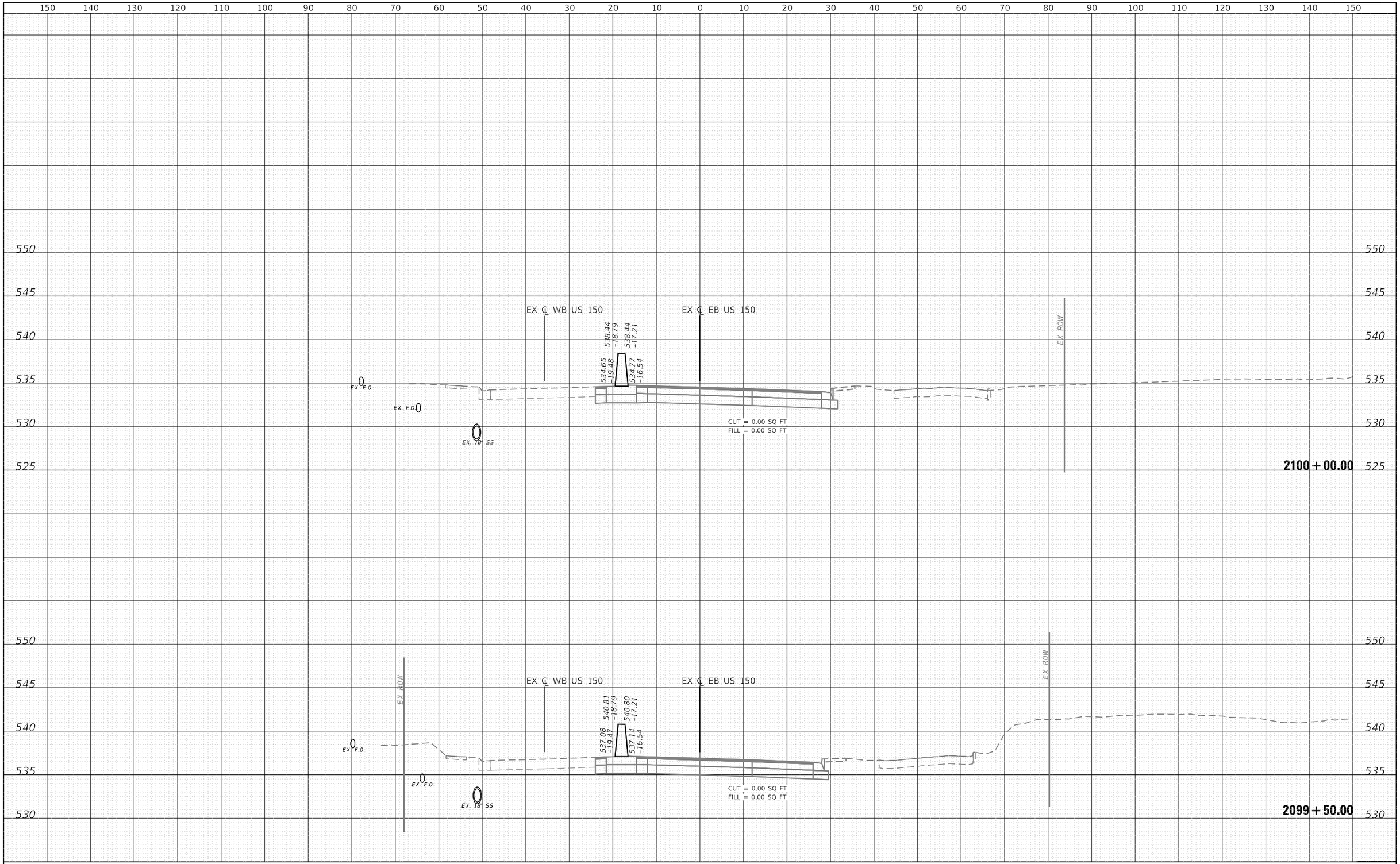
	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	390
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



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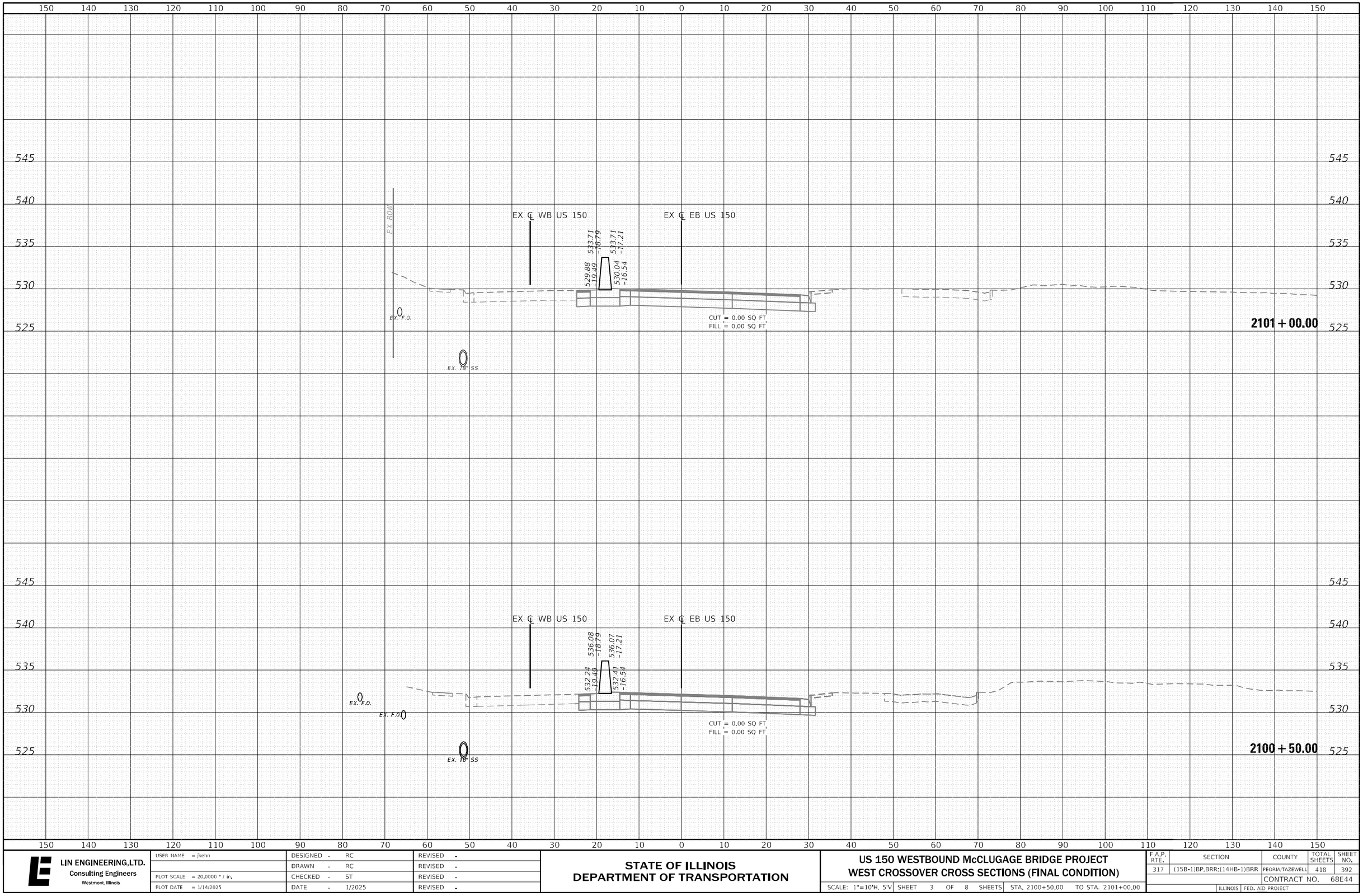
	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	391
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



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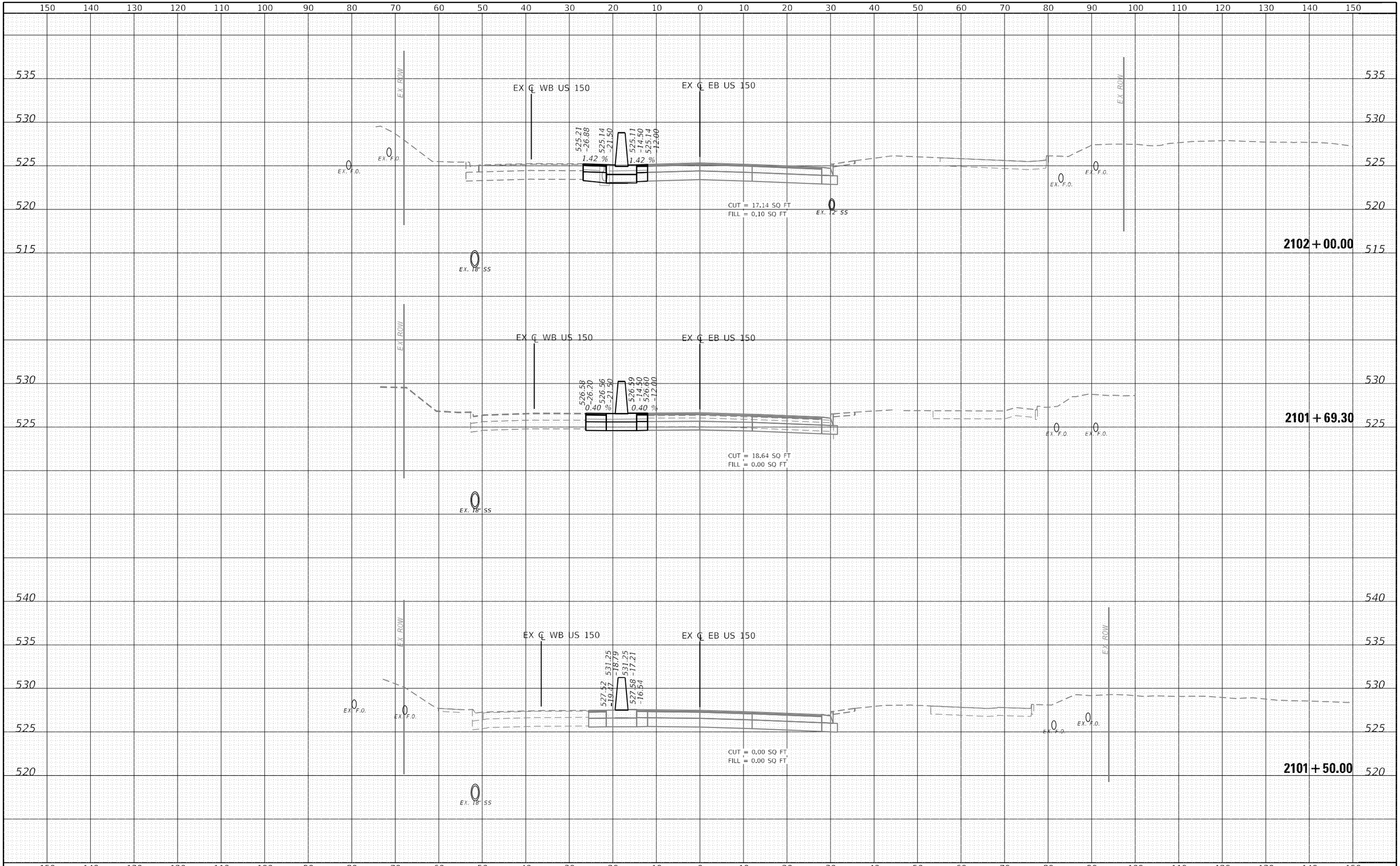
	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	392
		CONTRACT NO. 68E44		
		ILLINOIS	FED. AID PROJECT	



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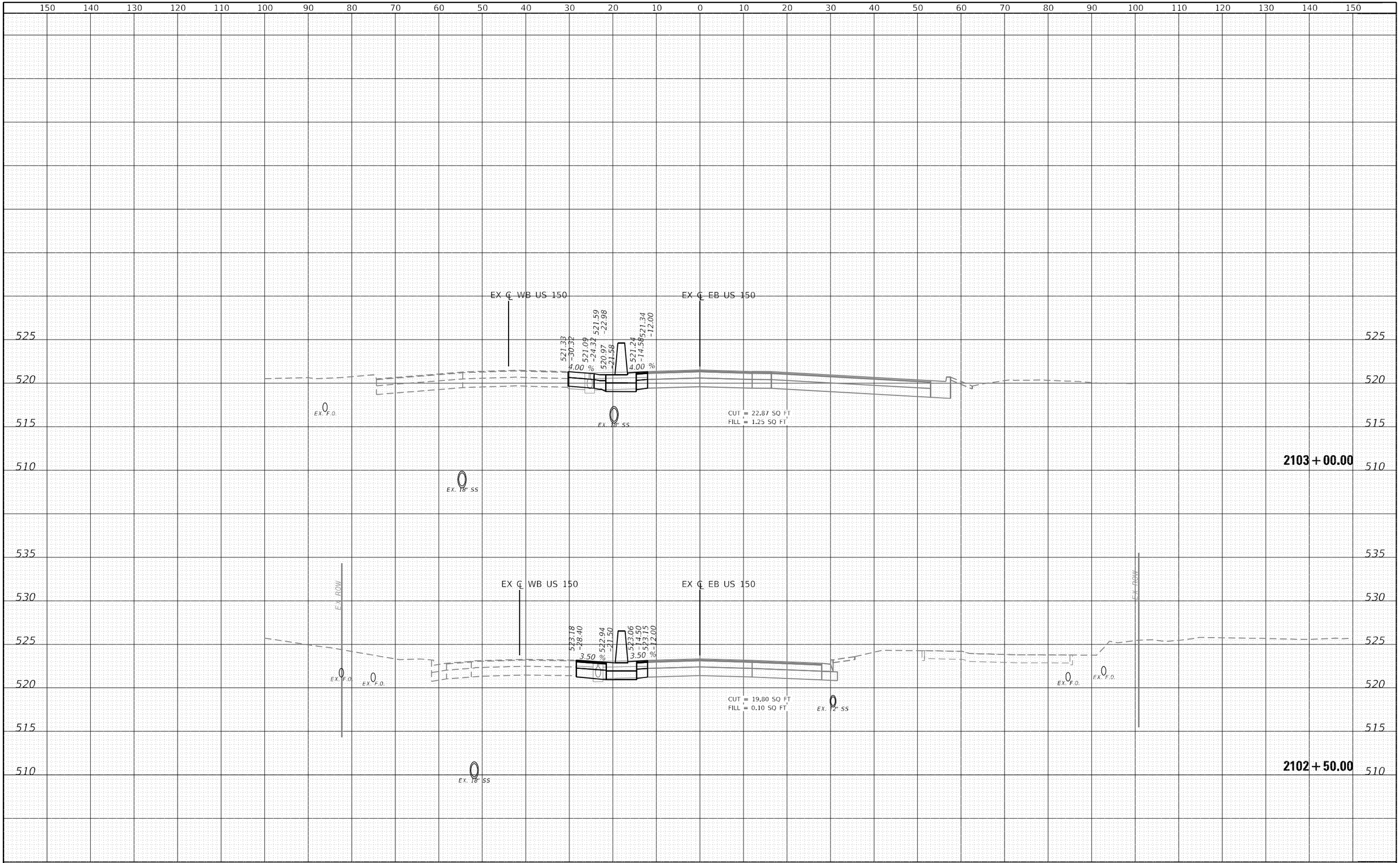
	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	393
		CONTRACT NO. 68E44		
	ILLINOIS | FED. AID PROJECT			



LIN ENGINEERING,LTD. Consulting Engineers Westmont, Illinois	USER NAME = jkeinn	DESIGNED - RC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT WEST CROSSOVER CROSS SECTIONS (FINAL CONDITION)
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	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	394
		CONTRACT NO. 68E44		
	ILLINOIS | FED. AID PROJECT			

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

530 525 520 515 510 505

EX ℄ WB US 150

EX ℄ EB US 150

516.91 -40.13 | 516.67 -34.13 | 516.60 -28.86 | 516.59 -23.11 | 516.70 -16.11 | 516.86 -12.00

4.00 % 4.00 %

EX. F.O. EX. F.O. EX. F.O.

EX. 18" SS

CUT = 38.23 SQ FT
FILL = 2.87 SQ FT

EX. F.O. EX. 24" SS

2104 + 50.00

EX ℄ WB US 150

EX ℄ EB US 150

518.28 -36.11 | 518.04 -30.11 | 517.93 -26.93 | 518.00 -22.38 | 518.11 -15.38 | 518.25 -12.00

4.00 % 4.00 %

EX. F.O. EX. F.O. EX. F.O.

EX. 18" SS

CUT = 29.43 SQ FT
FILL = 1.90 SQ FT

EX. F.O. EX. 18" SS

2104 + 00.00

EX ℄ WB US 150

EX ℄ EB US 150

519.77 -33.03 | 519.53 -27.03 | 519.43 -24.90 | 519.45 -21.87 | 519.56 -14.87 | 519.67 -12.00

4.00 % 4.00 %

EX. F.O.

EX. 18" SS

CUT = 25.65 SQ FT
FILL = 1.55 SQ FT

EX. F.O. EX. 18" SS

2103 + 50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

LIN ENGINEERING,LTD.
Consulting Engineers
Westmont, Illinois

USER NAME = jkenn	DESIGNED - RC	REVISED -
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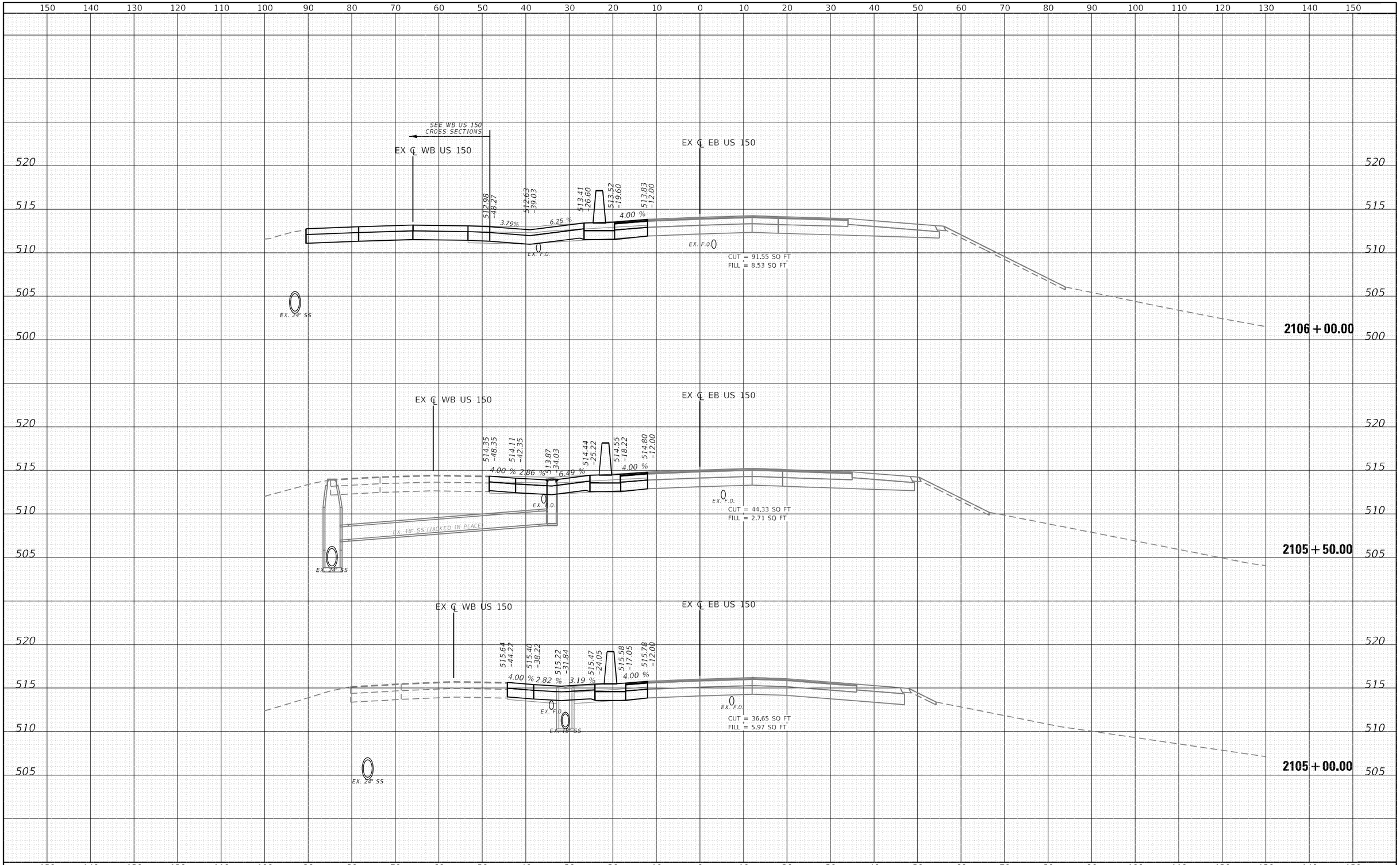
PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT
WEST CROSSOVER CROSS SECTIONS (FINAL CONDITION)

SCALE: 1"=10'H, 5'V | SHEET 6 OF 8 SHEETS | STA. 2103+50.00 TO STA. 2104+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	395
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



LIN ENGINEERING,LTD. Consulting Engineers Westmont, Illinois	USER NAME = jkeinn	DESIGNED - RC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT WEST CROSSOVER CROSS SECTIONS (FINAL CONDITION)
		DRAWN - RC	REVISED -		
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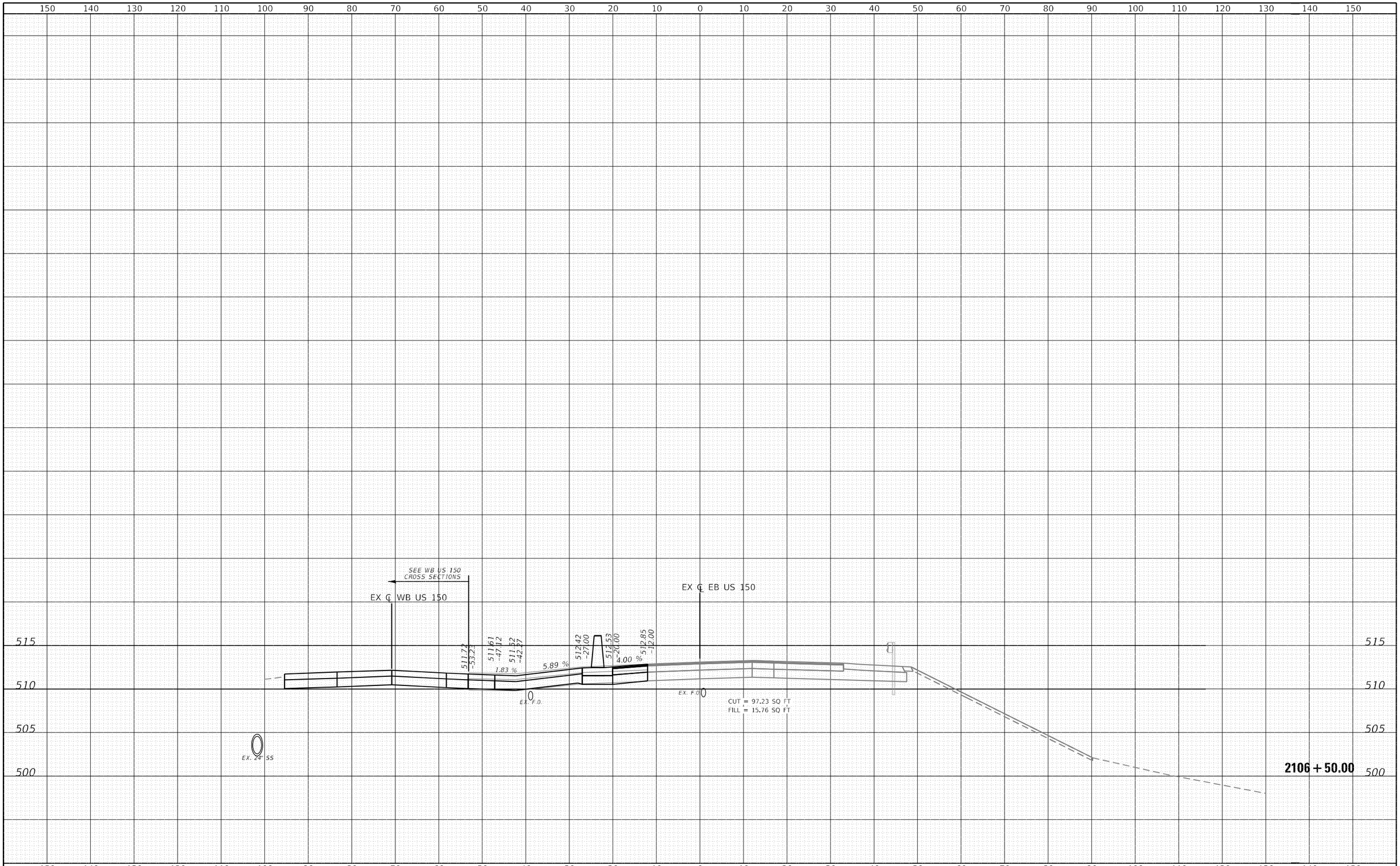
	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	396
		CONTRACT NO. 68E44		
	ILLINOIS FED. AID PROJECT			



LIN ENGINEERING,LTD. Consulting Engineers Westmont, Illinois	USER NAME = jkenn	DESIGNED - RC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	US 150 WESTBOUND McCLUGAGE BRIDGE PROJECT WEST CROSSOVER CROSS SECTIONS (FINAL CONDITION)
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	PLOT DATE = 1/14/2025	DATE - 1/2025	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B-1)BP,BRR;(14HB-1)BRR	PEORIA/TAZEWELL	418	397
		CONTRACT NO. 68E44		
	ILLINOIS	FED. AID PROJECT		

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LAYOUT	CM	9/3/2024
DRAWN	CM	1/13/2025
REVIEWED	MGD	1/14/2025

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PLOT DATE = 2/13/2025
PLOT SCALE = 20.00 ' / In.
USER NAME = Andrijanbb46

DESIGNED - CJM
DRAWN - CM
CHECKED - MGD
DATE - 1/14/2025

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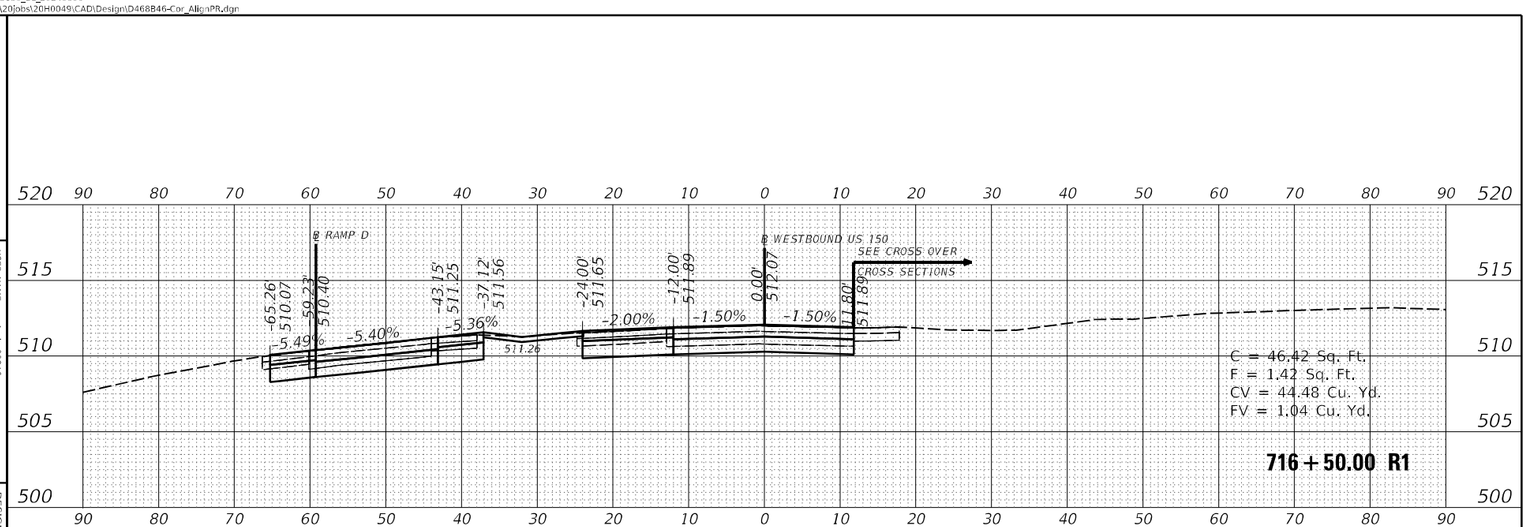
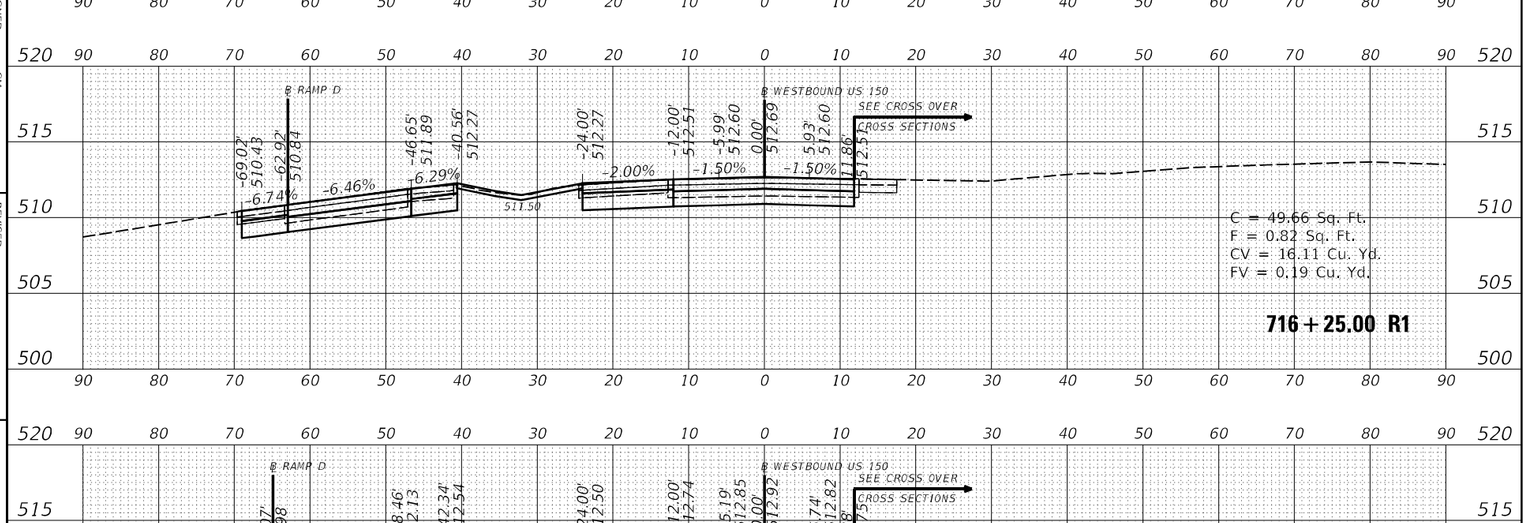
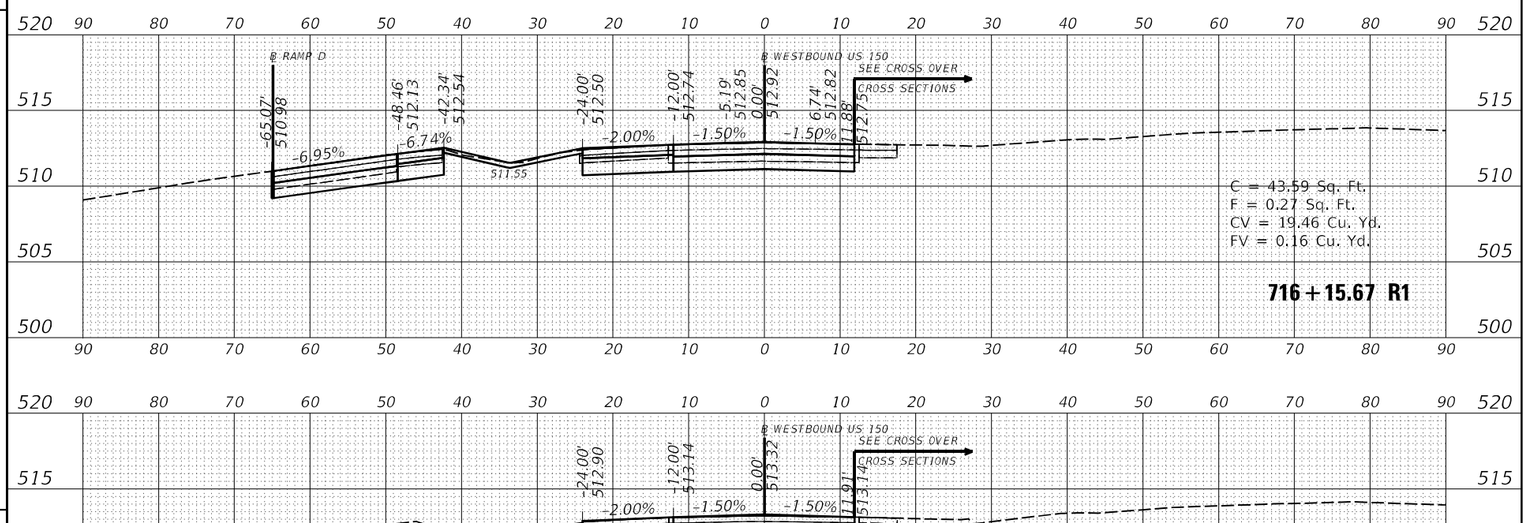
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

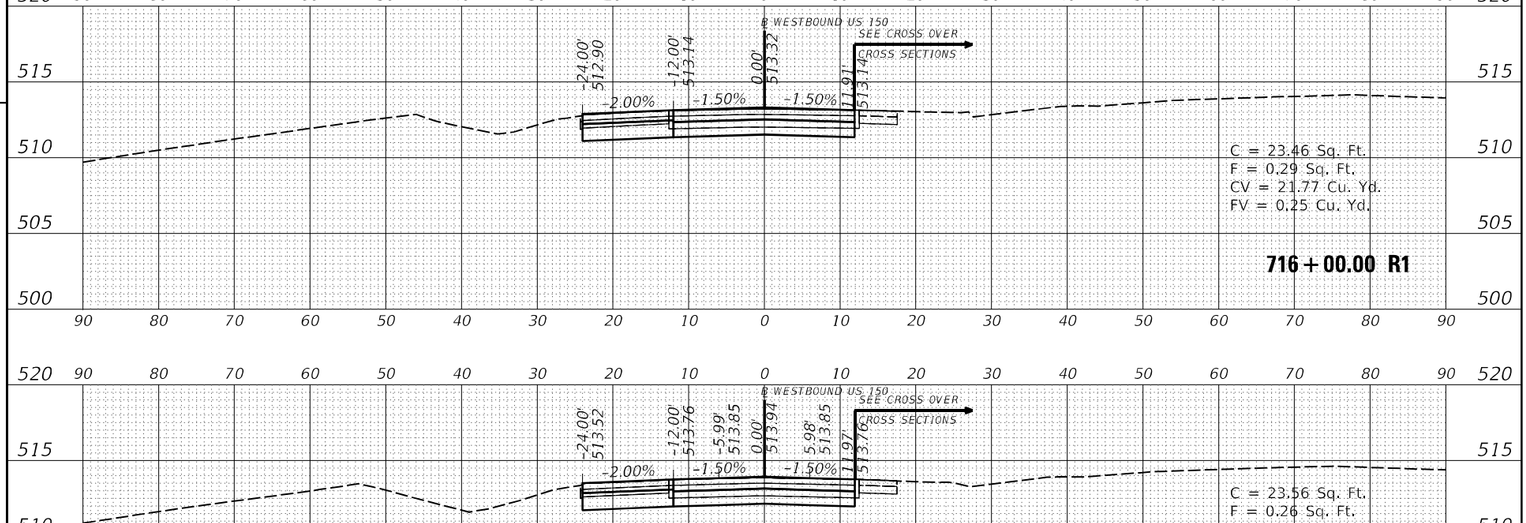
WESTBOUND US 150 McCLUGAGE BRIDGE
CROSS SECTIONS

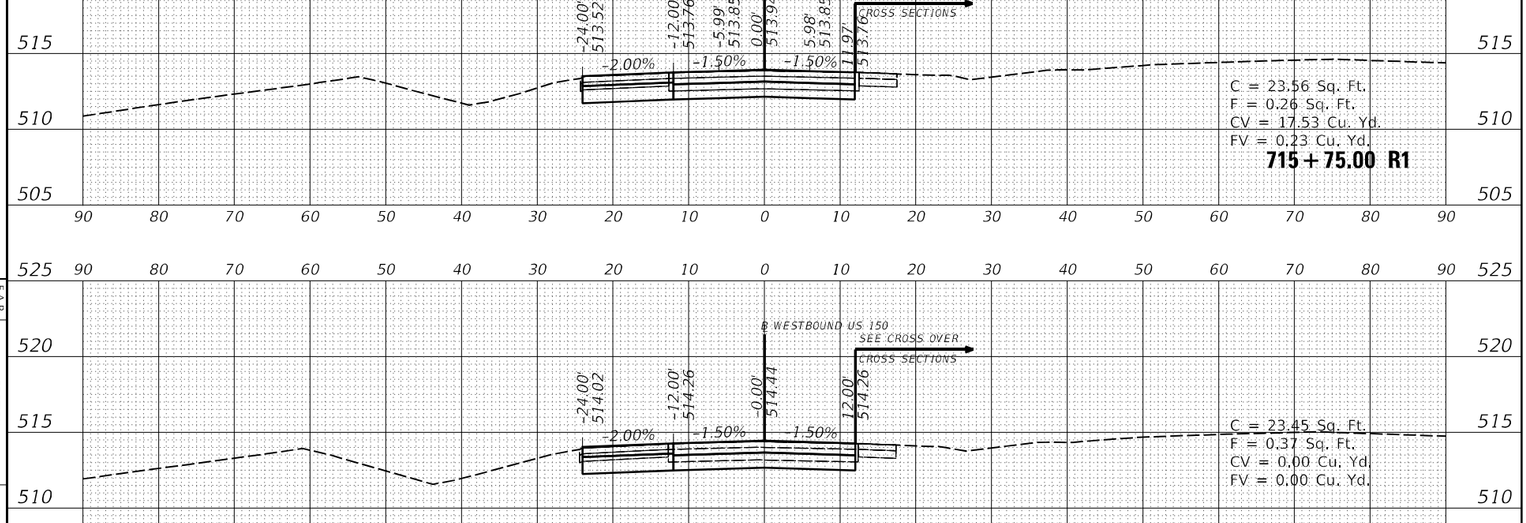
SCALE: 1"=10'
SHEET OF SHEETS
STA. 715+54.86 R1 TO STA. 716+50.00 R1

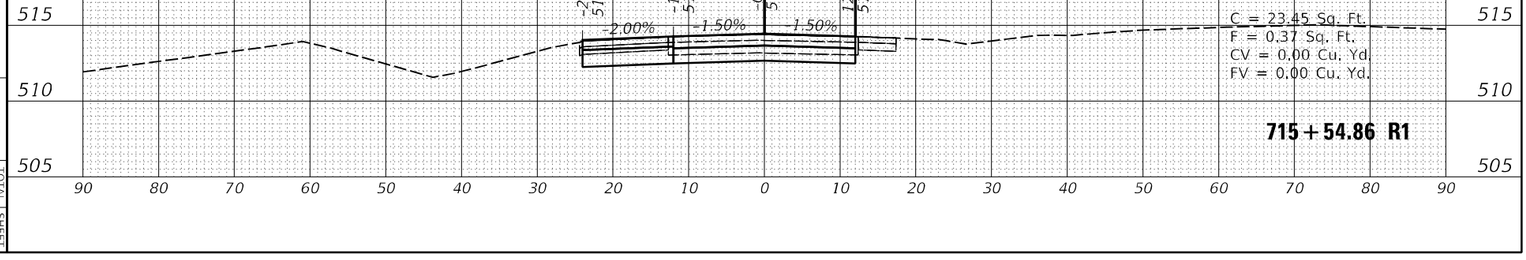












F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317A	115B-1BP, BRR(1,14HB-1)BRR	PEORIA(TAZ)WELL	418	398
ILLINOIS FED. AID PROJECT		CONTRACT NO. 68E44		

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LAYOUT	CM	9/3/2024
DRAWN	CM	1/13/2025
REVIEWED	MGD	1/14/2025

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MODEL: PR_US150_BL_20240606
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DRAWN - C.M
CHECKED - MGD
DATE - 1/14/2025

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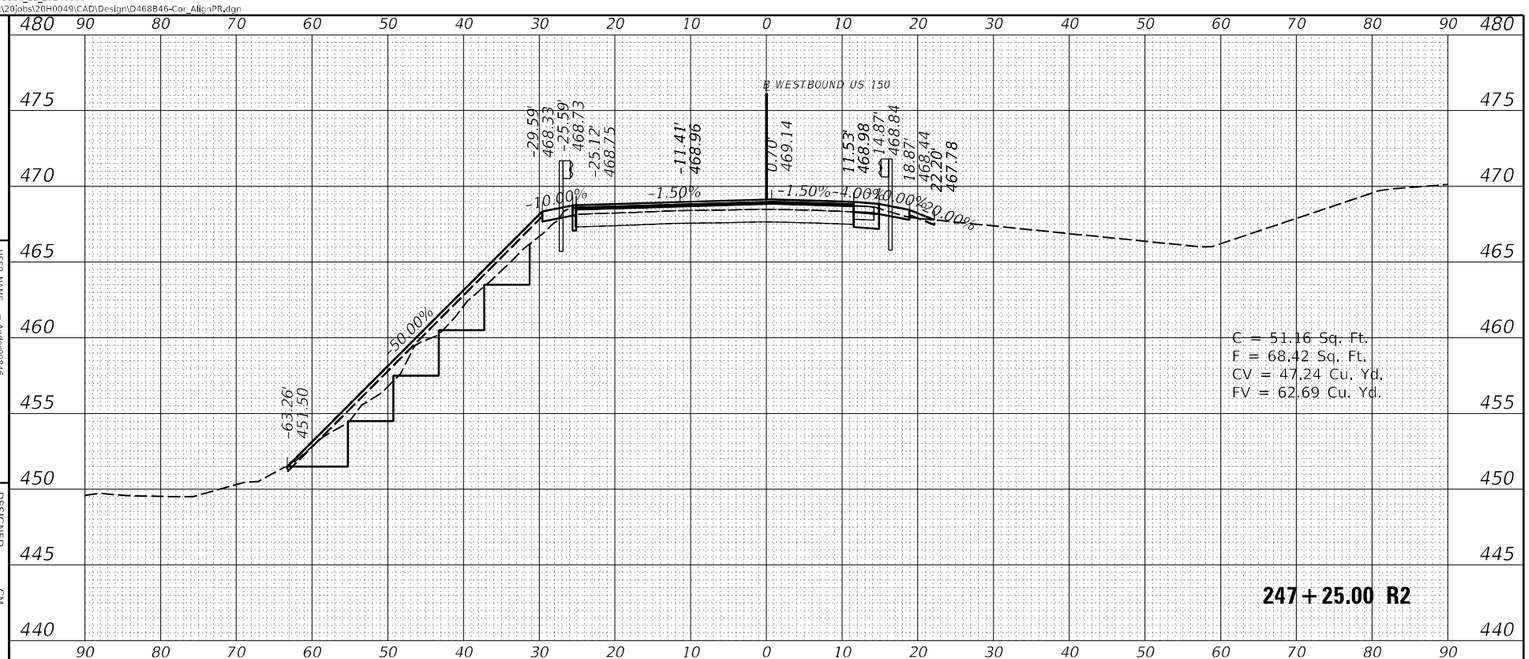
REVISED -
REVISED -
REVISED -

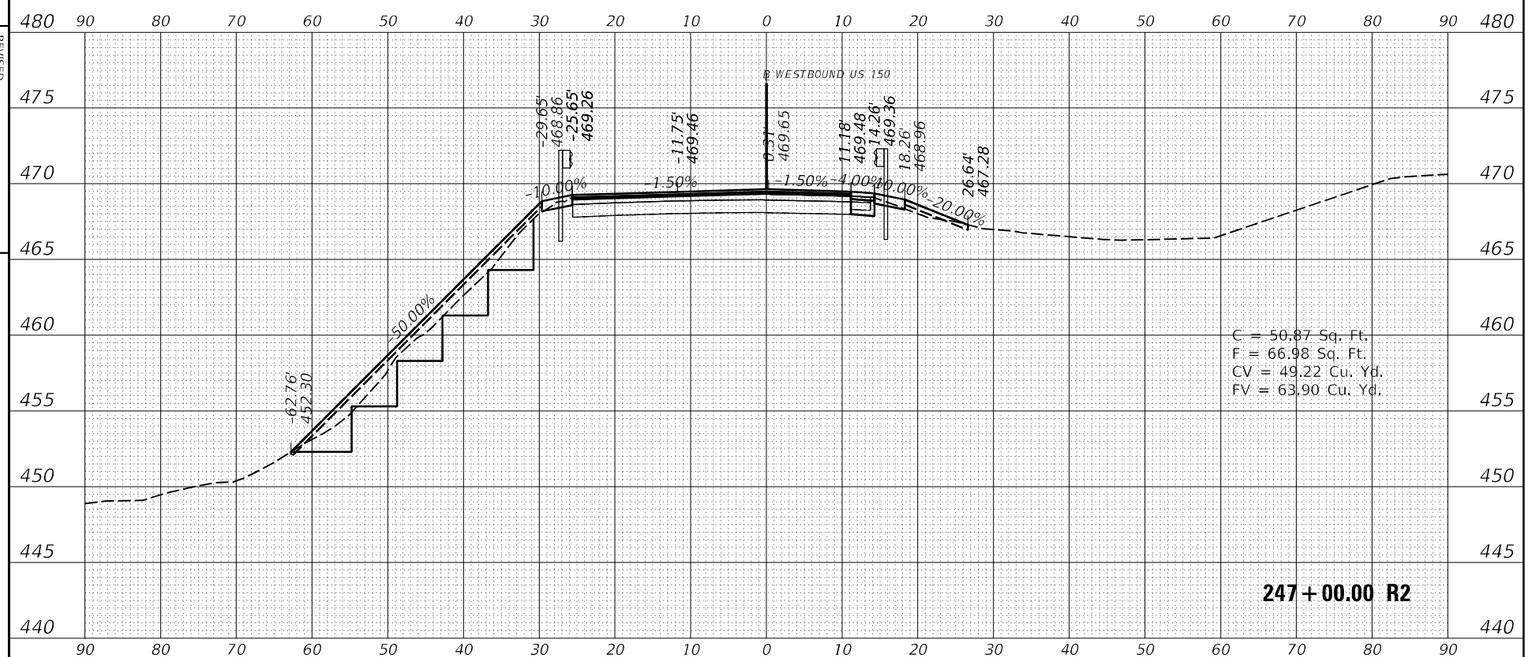
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

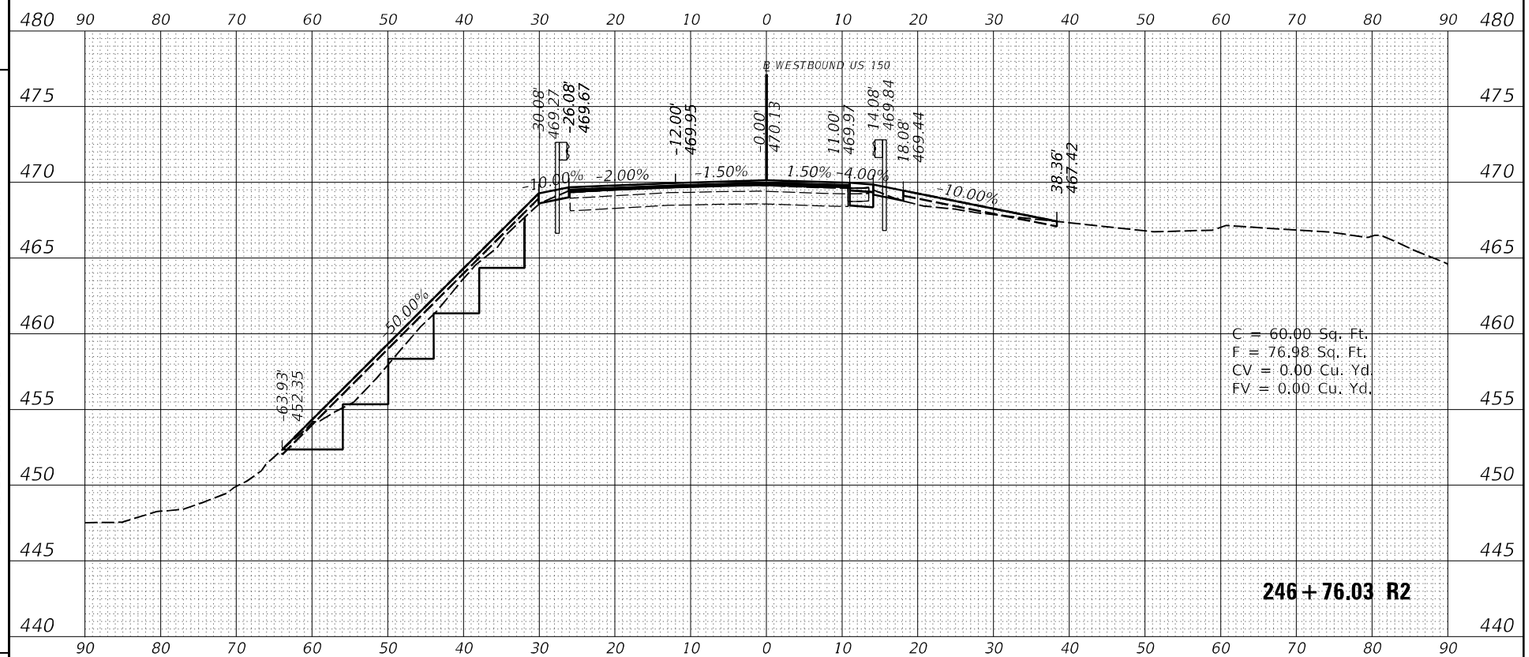
WESTBOUND US 150 McCLUGAGE BRIDGE
CROSS SECTIONS

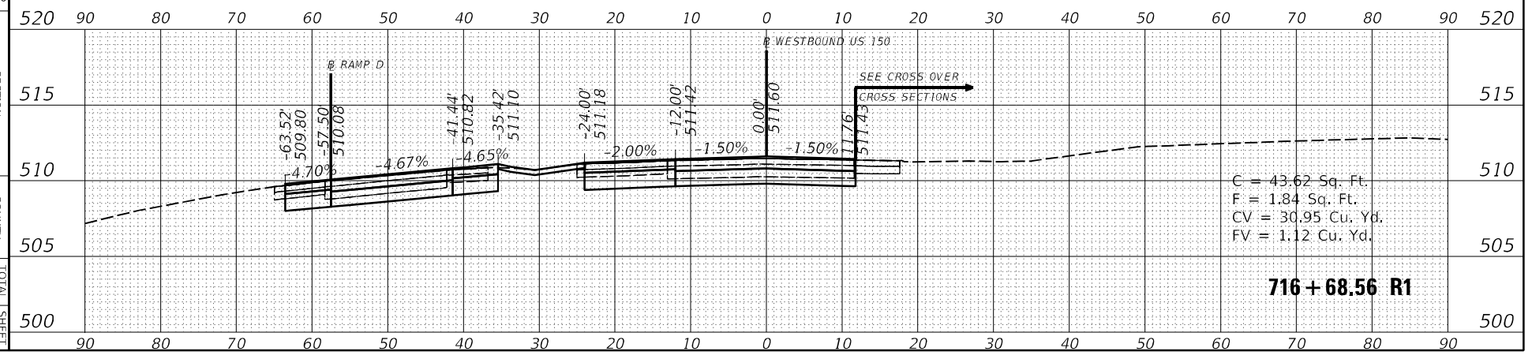
SCALE: 1"=10'
SHEET OF SHEETS
STA. 716+68.56 R1 TO STA. 247+25.00 R2

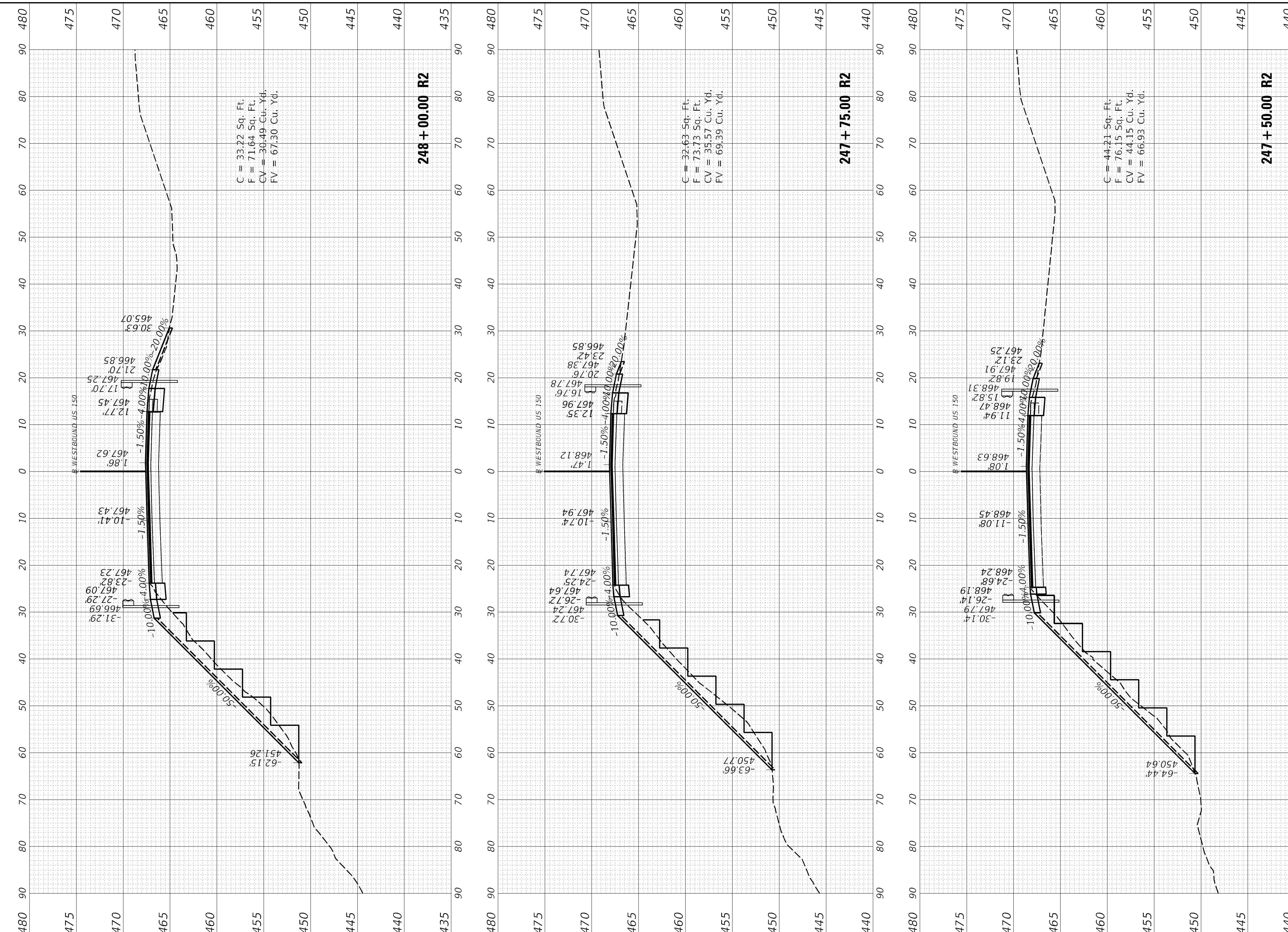
F.A.P. RTE. 317A
SECTION 115B-1BP, BR3R(134HB-1)3RR, PEORIA(AZWELL)
COUNTY
TOTAL SHEETS 418
SHEET NO. 399
CONTRACT NO. 68E44
ILLINOIS FED. AID PROJECT











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LAYOUT	CM	9/3/2024
DRAWN	CM	1/13/2025
REVIEWED	MGD	1/14/2025

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PLOT DATE = 2/13/2025	DATE - 1/14/2025	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WESTBOUND US 150 McCLUGAGE BRIDGE
CROSS SECTIONS

SCALE: 1"=10' | SHEET OF SHEETS | STA. 247+50.00 R2 TO STA. 248+00.00 R2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317A	(15B-1)BP, BRR;(14HB-1)BRR	PEORIA/TAZWELL	418	400
		CONTRACT NO. 68E44		
		ILLINOIS FED. AID PROJECT		