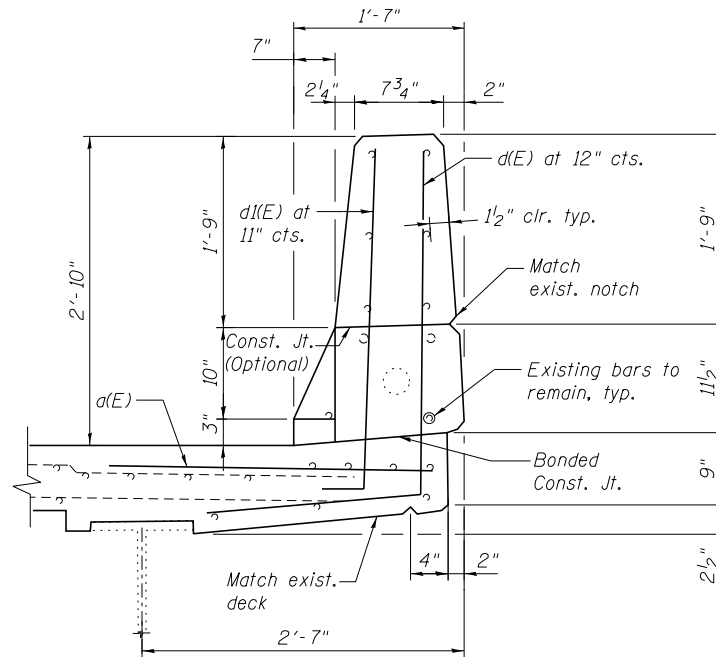
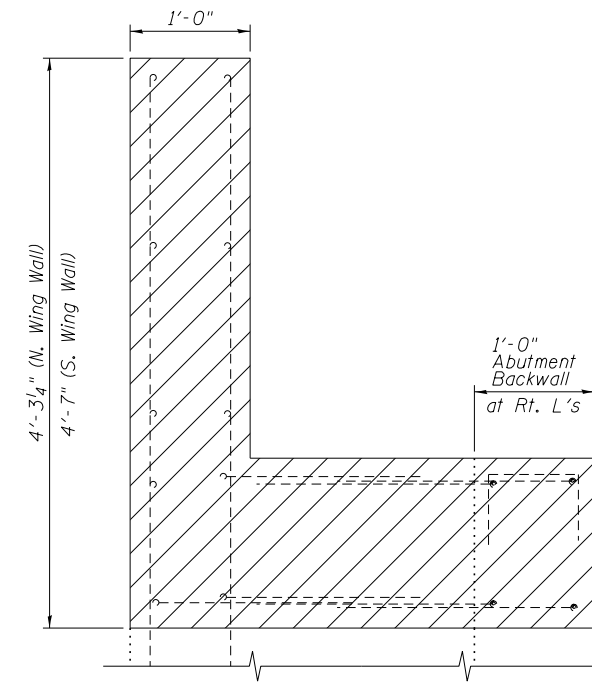


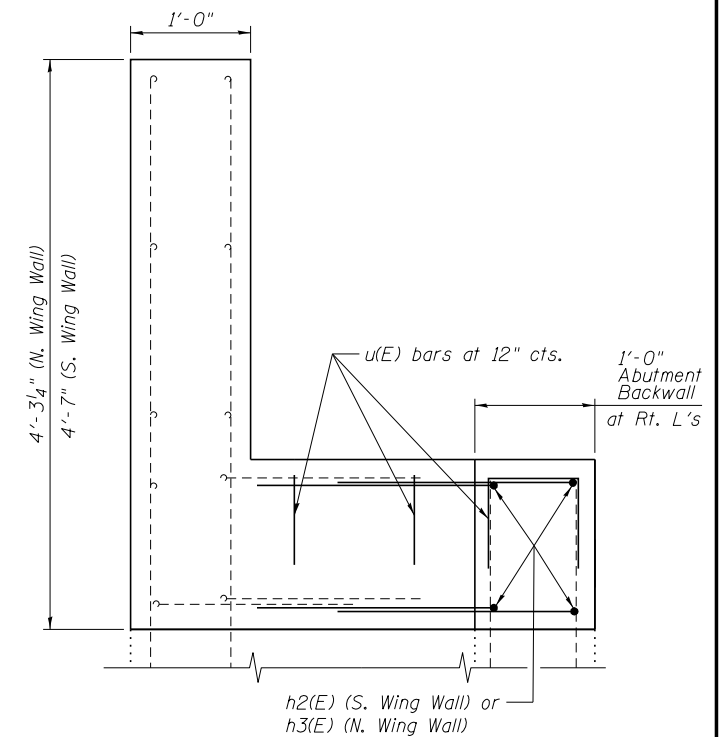
**SECTION - EXISTING PARAPET
AT ABUTMENT F**



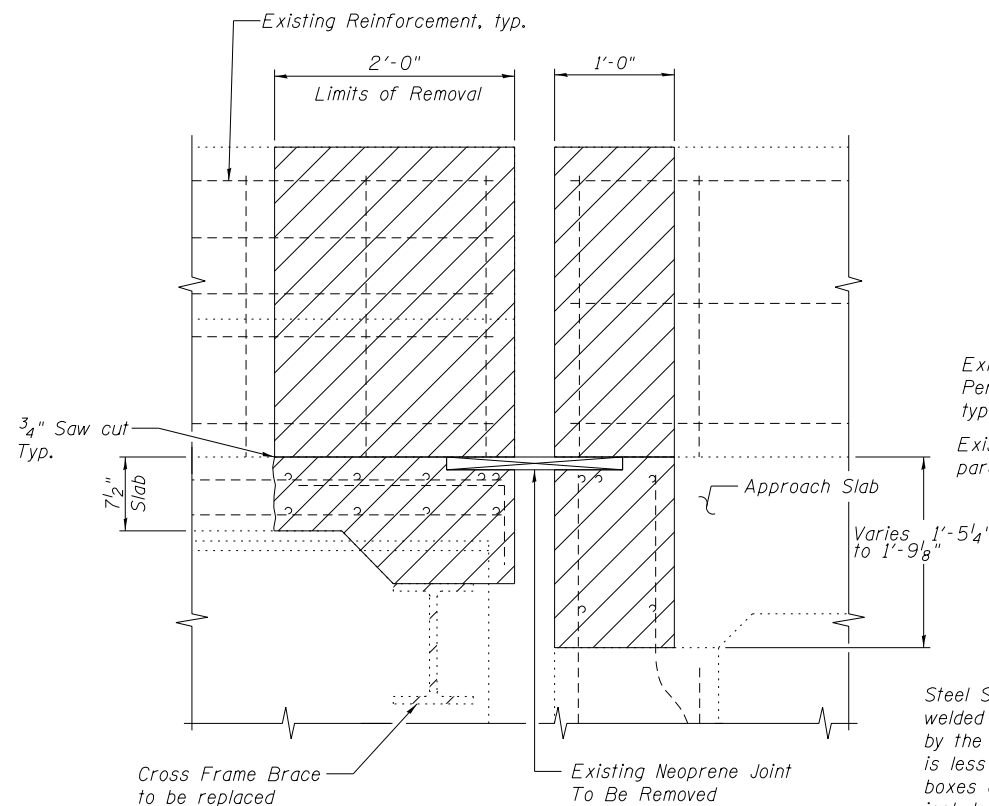
**SECTION - PROPOSED PARAPET
AT ABUTMENT F**



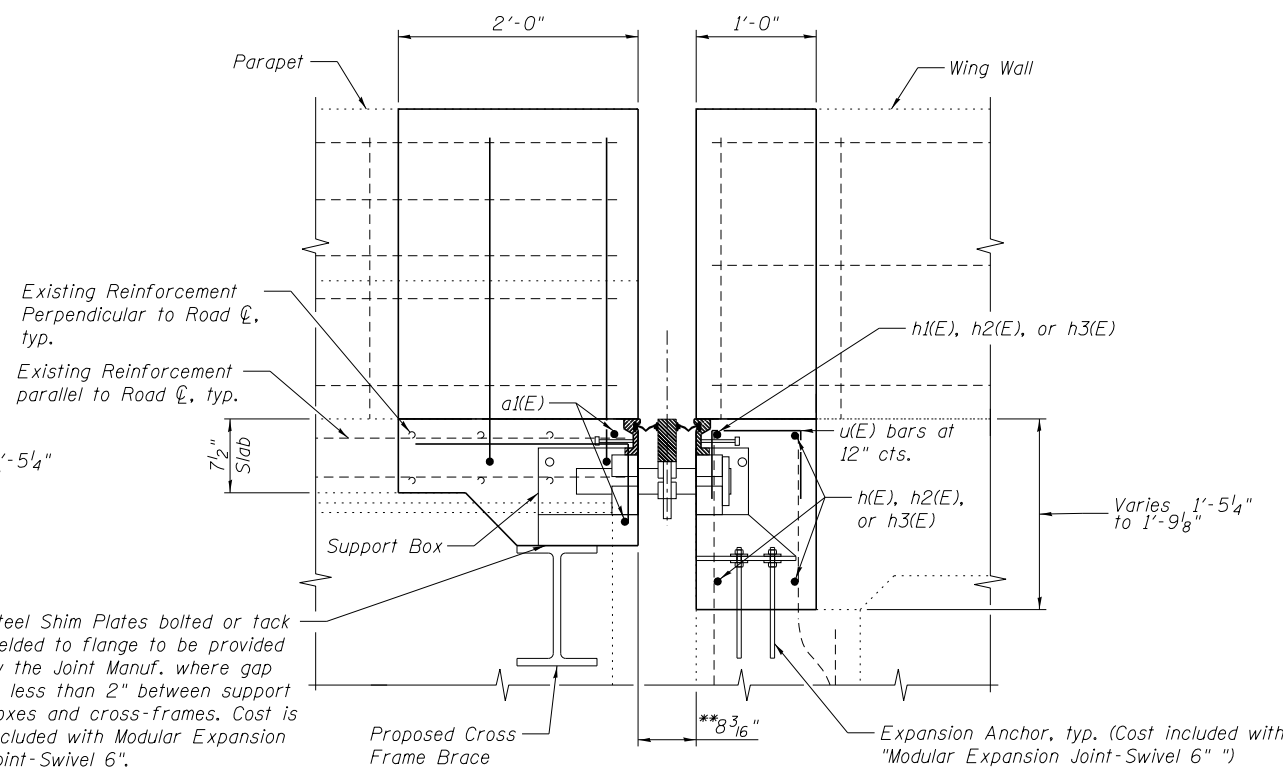
SECTION B-B



SECTION C-C



SECTION A-A



SECTION D-D

****Adjusted as required by Joint Manufacturer**

NOTES:

1. Work this sheet with sheets SE5 and SE6.
2. Support Boxes shall be rigidly attached to cross frames, beams, and abutment backwall by adjustable brackets, stools, shims or other method according to the manufacturer's recommendations and as approved by the Engineer. Cost of attachment included in "Modular Expansion Joint-Swivel 6" ".
3. Removal and disposal of the existing expansion joint will not be paid for separately, but shall be included with the cost of "Modular Expansion Joint-Swivel 6" ".
4. Existing reinforcement bars extending into the concrete removal area shall be blast-cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired or replaced with an approved bar splicer or anchorage system. Cost included with "Concrete Removal".
5. If either existing name plate falls within the limits of Concrete Removal, it shall be removed and reinstalled in its original location according to IDOT Std. 515001. Cost included with "Concrete Removal".
6. Existing guardrail, lower rub rail and posts shall be removed and reinstalled as required to facilitate expansion joint repair. See Special Provision for "Re-attach Guardrail to Structure".

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016-0987-60W75-007-ExpJtDetail-abut.dgn		CHECKED - JAW	REVISED -
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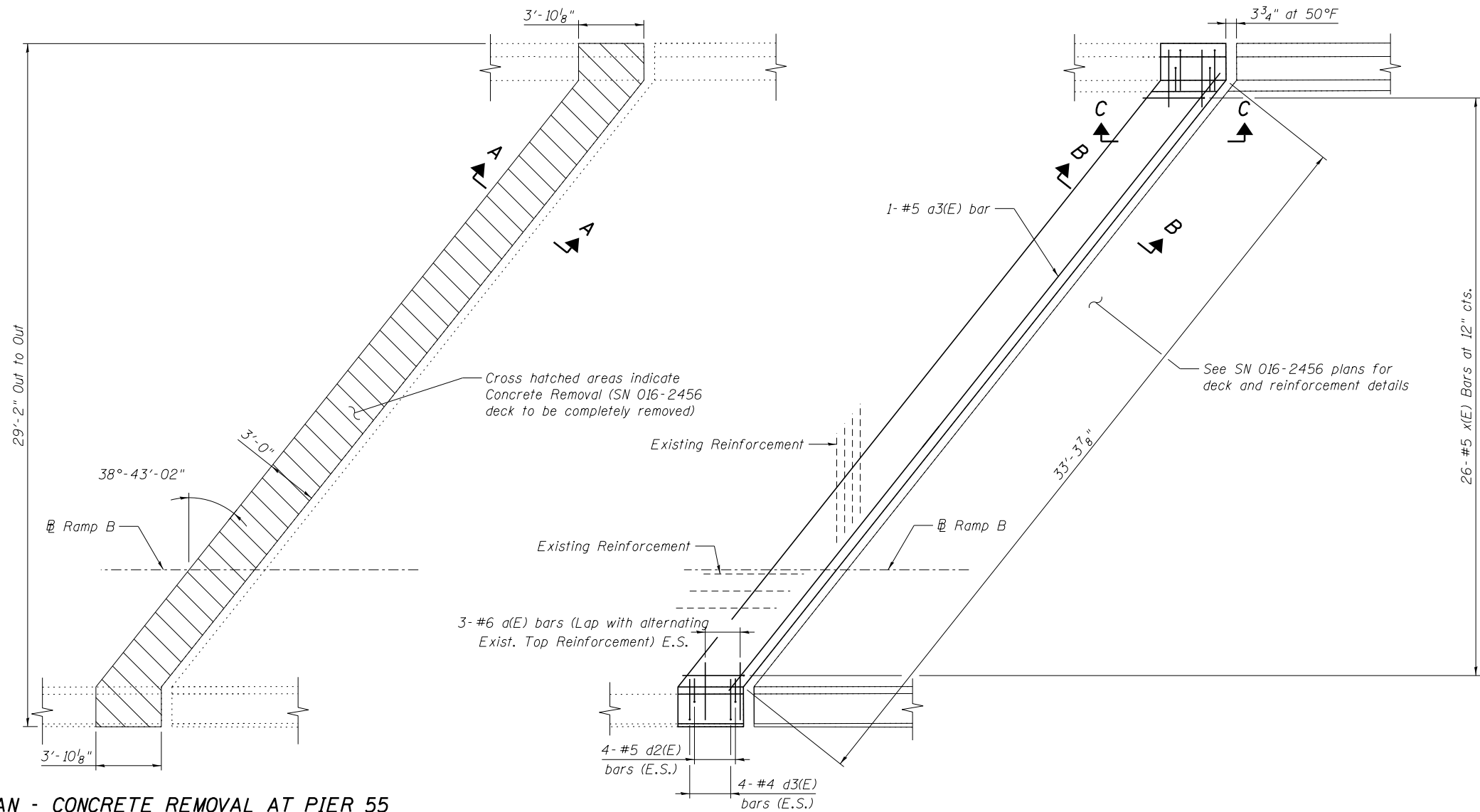
**EXPANSION JOINT DETAILS - ABUTMENT F
STRUCTURE NO. 016-0987**

SHEET NO. SE7 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

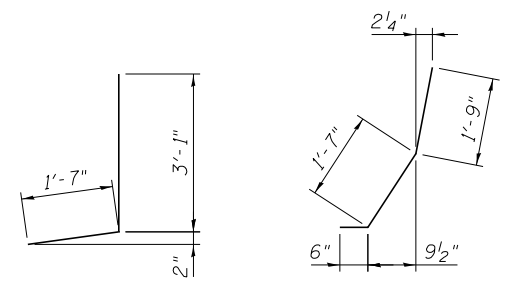
ILLINOIS FED. AID PROJECT

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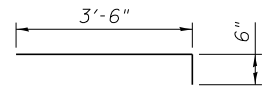
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	6	#6	4'-0"	—
a3(E)	1	#5	34'-10"	—
d2(E)	8	#5	3'-10"	J
d3(E)	8	#4	4'-8"	J
x(E)	26	#5	4'-0"	┌
Concrete Removal		Cu. Yd.	4.8	
Concrete Superstructure		Cu. Yd.	4.8	
Finger Pl. Exp. Jt., 4"		Foot	33.5	
Fabric Reinforced Elastomeric Trough		Foot	70.0	
Reinforcement Bars, Epoxy Coated		Pound	240	



BAR d3(E)

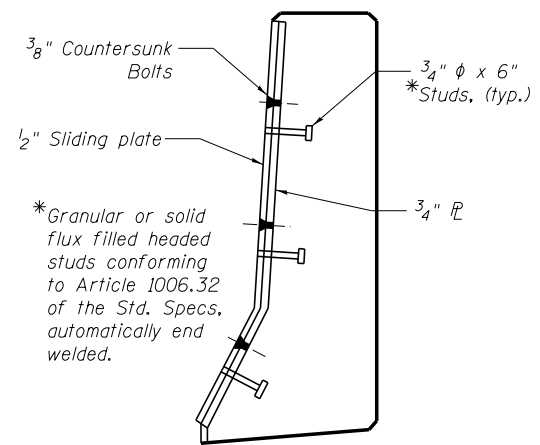
BAR d2(E)



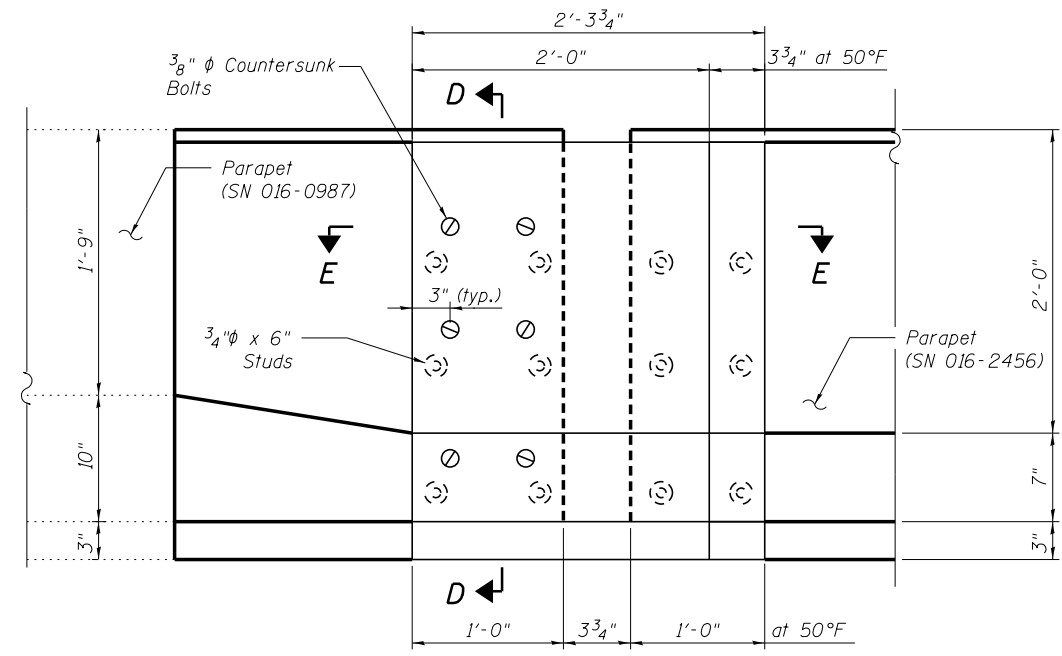
BAR x(E)

PLAN - CONCRETE REMOVAL AT PIER 55

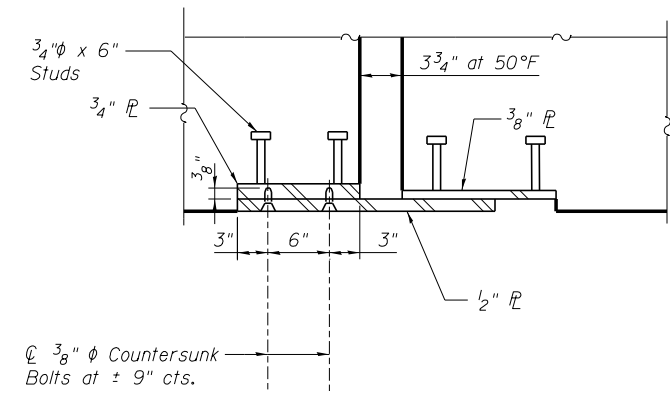
PLAN - CONCRETE REPLACEMENT AT PIER 55



SECTION D-D



VIEW C-C



SECTION E-E

NOTES:

- I.F. denotes Inside Face. O.F. denotes Outside Face. E.S. denotes Each Side.
- Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with "Concrete Removal".
- Work this sheet with sheets SE9 thru SE13.

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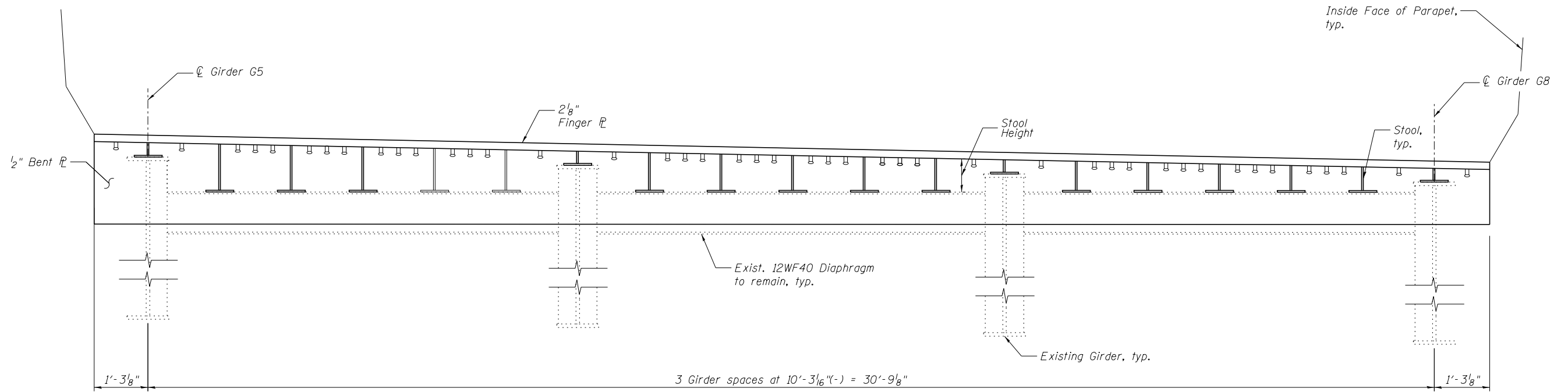
**EXPANSION JOINT REPAIRS - PIER 55
STRUCTURE NO. 016-0987**

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CONTRACT NO. 60W75				

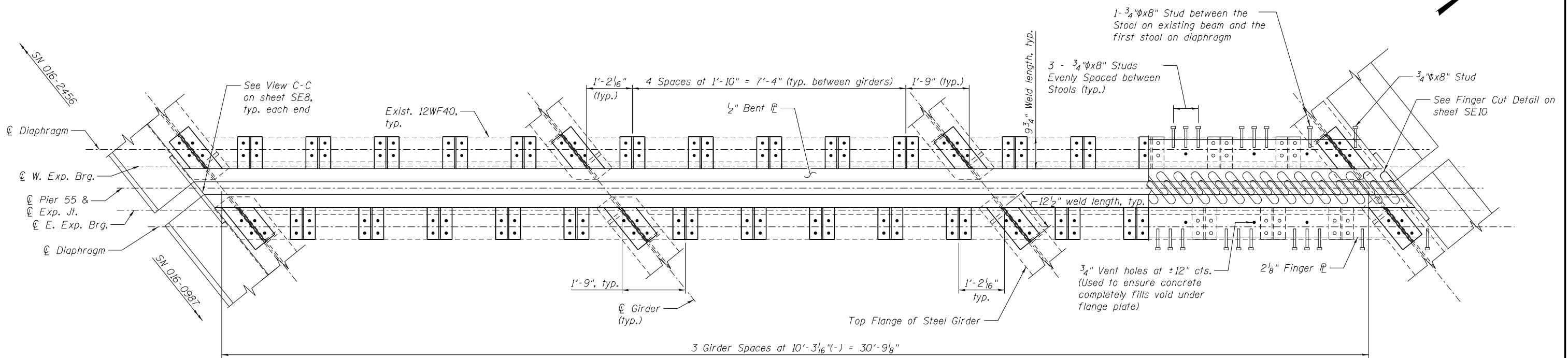
SHEET NO. SE8 OF SE21 SHEETS

ILLINOIS FED. AID PROJECT

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STOOL DETAIL - PIER 55
(Looking West)



PLAN - STOOL LAYOUT AT PIER 55

NOTES:

- Existing stools shall be removed and replaced with proposed stools in the same location.
- Where existing cross frames shall remain in place, Contractor to field verify all stool locations and top of diaphragms elevations.
- Field Drill 1 5/16 inch diameter holes in top flange of existing girder where stool bears on girder. Cost of field drilling included with Finger fl Exp. Jt. 4"
- Work this sheet with sheets SE8 and SE10 thru SE13.

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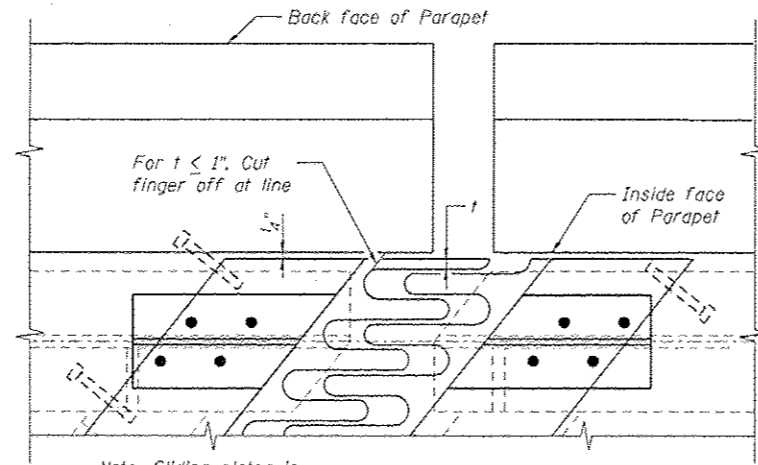
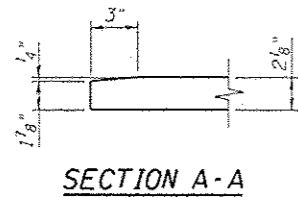
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EXPANSION JOINT LAYOUT - PIER 55
STRUCTURE NO. 016-0987

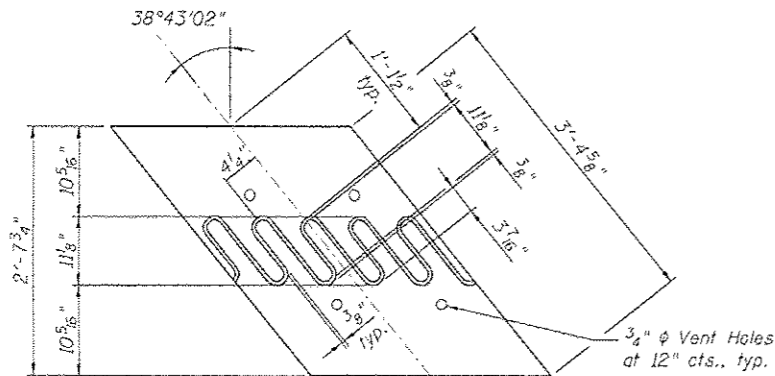
SHEET NO. SE9 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

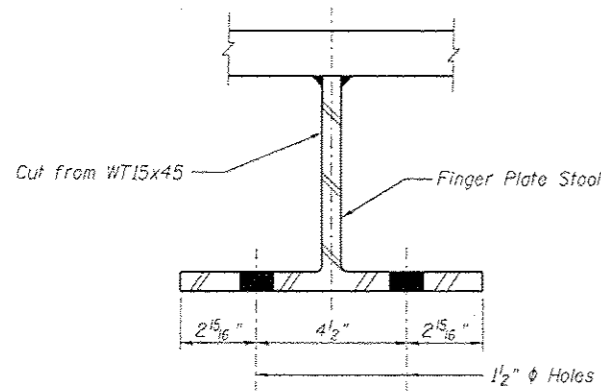
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FINGER CUT DETAIL

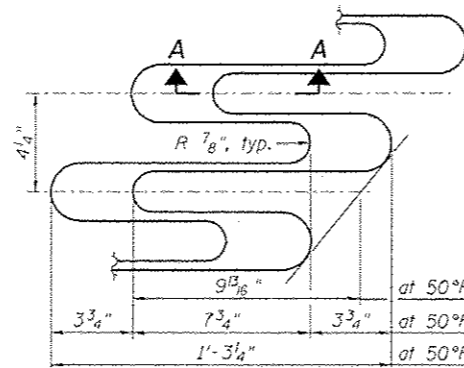


FLAME CUTTING DIAGRAM - PIER 55
(Cut from
R 2 1/8" x 2'-7 3/4" x 35'-4 5/8")

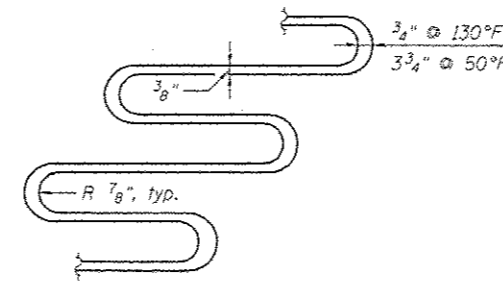


VIEW B-B

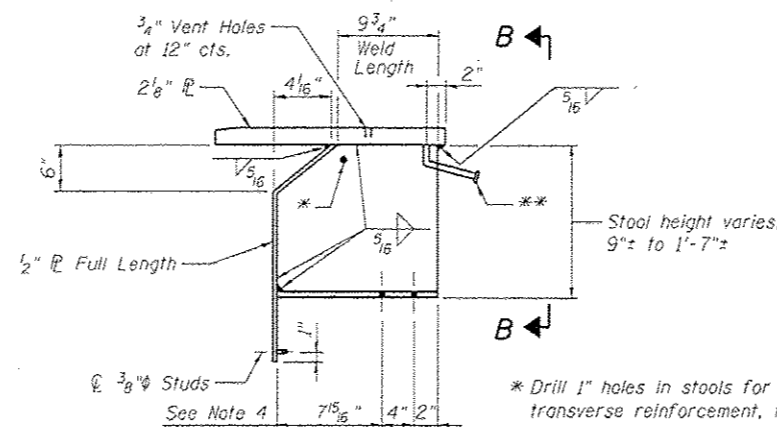
(Contractor shall field verify stool heights)



JOINT OPENING AND
GEOMETRY DETAIL
PIER 55

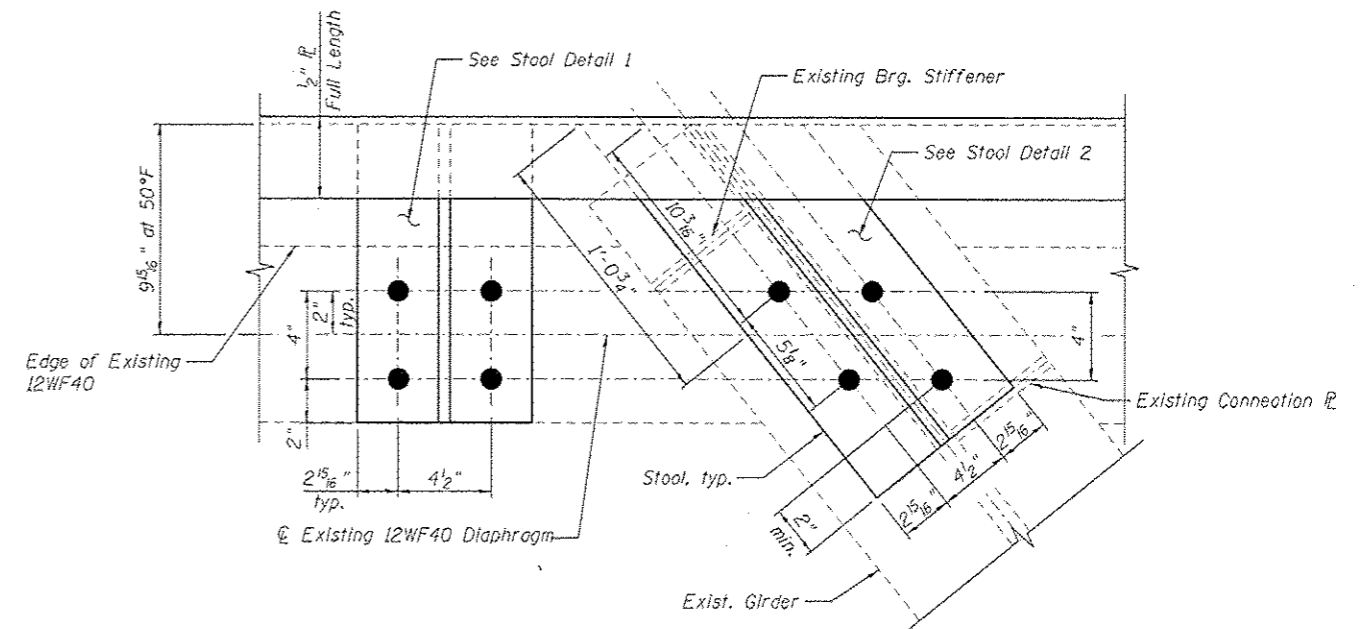


JOINT OPENING DETAIL

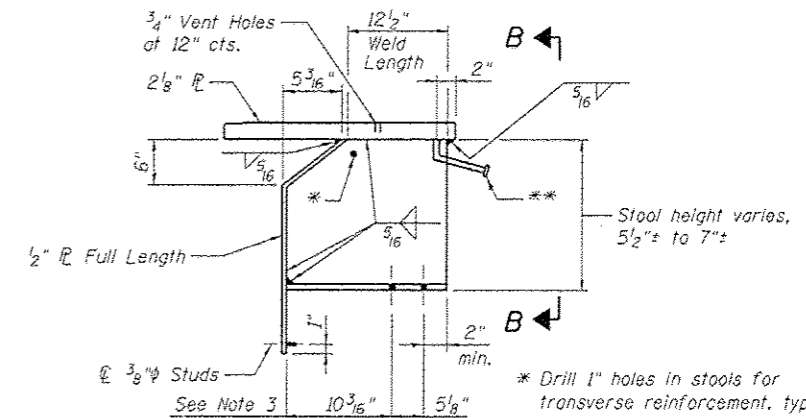


STOOL DETAIL 1

All dimensions shown are measured along a stool placed on top of an existing diaphragm.



PARTIAL PLAN - STOOL LAYOUT AT PIER 55



STOOL DETAIL 2

All dimensions shown are measured along a stool placed on top of an existing girder.

NOTES:

- All steel for Finger Plate Joint shall conform to AASHTO M270 specification, Gr. 50 (NTR).
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Field drill 1/16" φ holes in top flange of existing girder where stool bears on girder. Cost of field drilling included with Finger R Exp. Jt. 4"
- Hole spacing and dimensions for proposed stools on existing diaphragms shall be field verified.
- Work this sheet with sheets SE8, SE9 and SE11 thru SE13.

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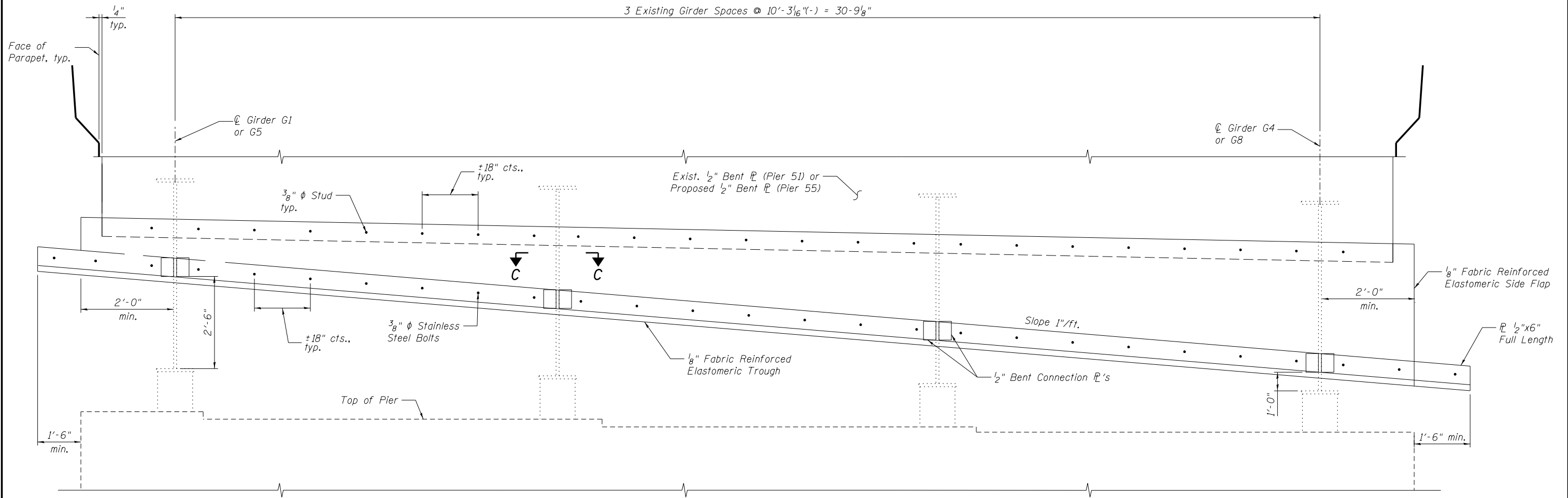
STATE OF ILLINOIS
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EXPANSION JOINT PLAN - PIER 55
STRUCTURE NO. 016-0987

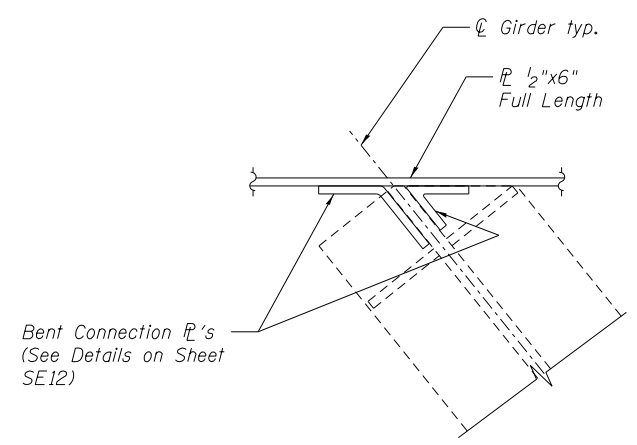
SHEET NO. SE10 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	504
CONTRACT NO. 60W75				

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TROUGH DETAIL - PIER 51
 (Horizontal dimensions measured along skew)
 (Pier 55 Similar)



SECTION C-C

NOTE:
 Work this sheet with sheets SE8 thru SE10, SE12 and SE13.

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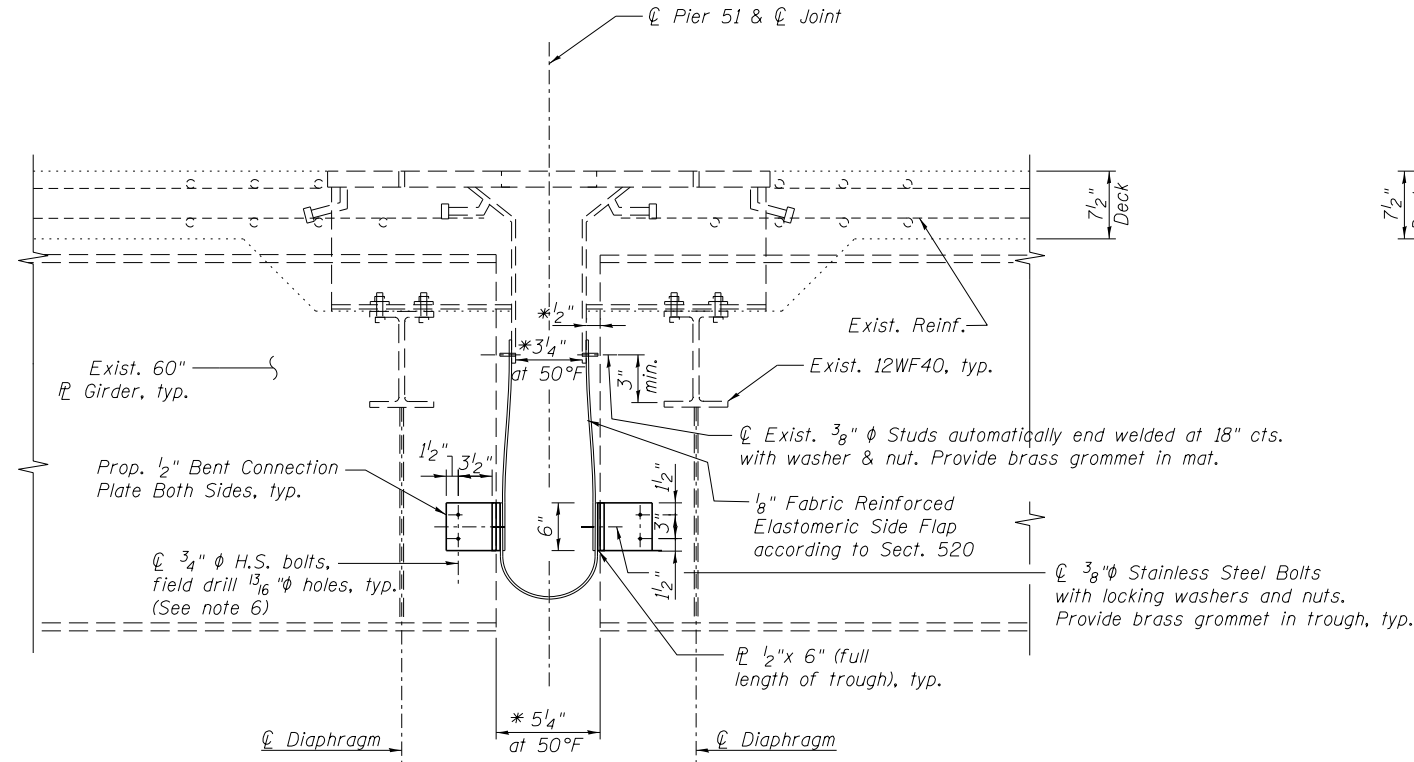
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TROUGH DETAILS - PIERS 51 AND 55
STRUCTURE NO. 016-0987

SHEET NO. SE11 OF SE21 SHEETS

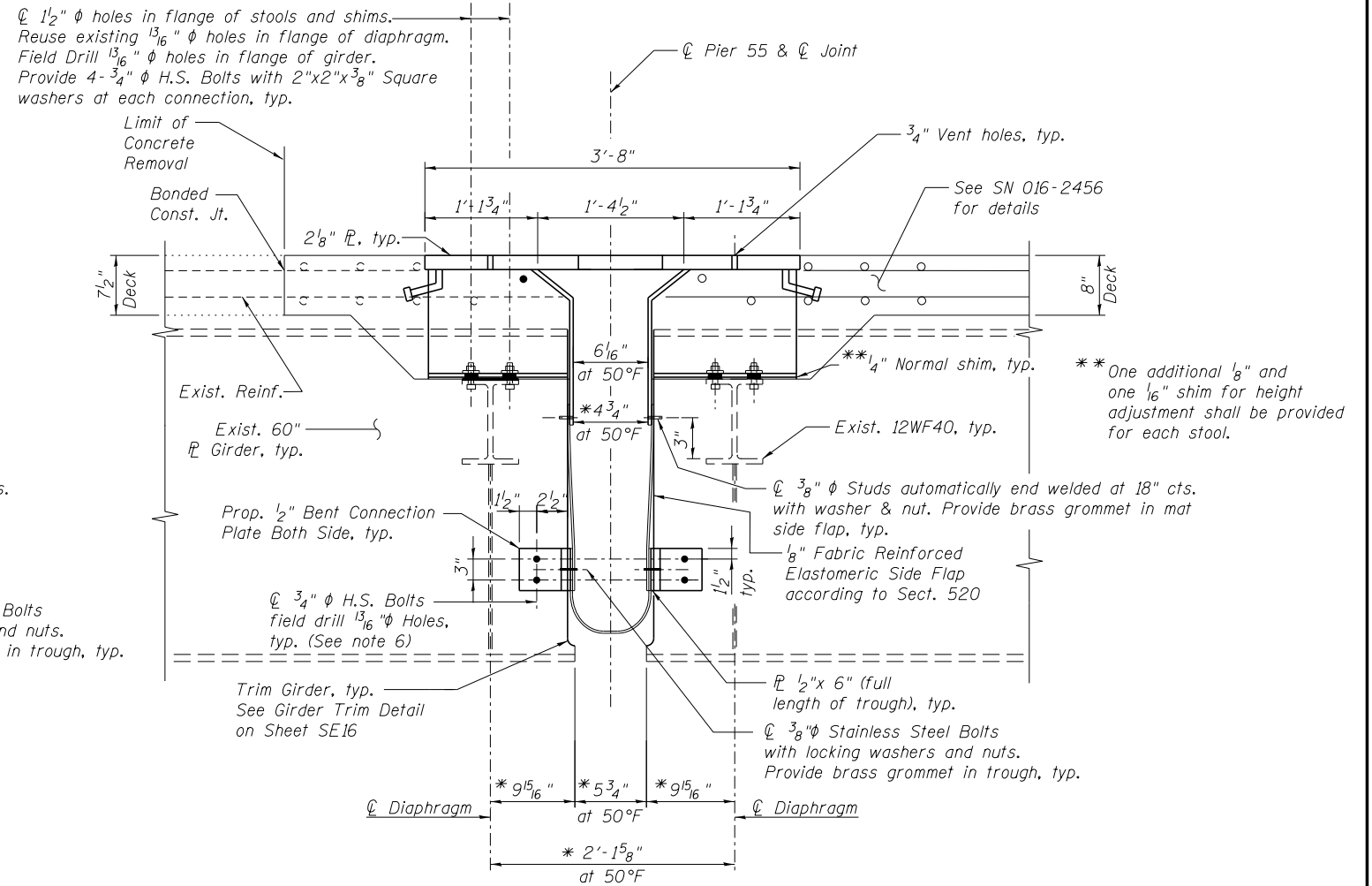
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372	2013-037B-R	COOK	787	505
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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 6/18/2015



FABRIC REINFORCED ELASTOMERIC TROUGH DETAIL AT PIER 51

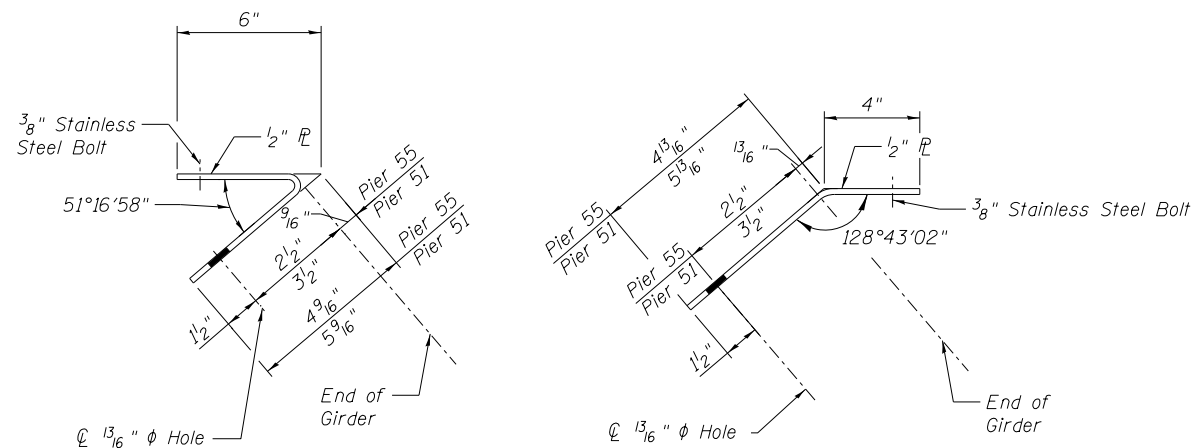
(All dimensions measured along ϕ of Girder unless noted otherwise)
 (Trough and all hardware paid for as "Fabric Reinforced Elastomeric Trough")



FINGER PLATE JOINT DETAIL AT PIER 55

(All dimensions measured along ϕ of Girder unless noted otherwise)
 (Joint paid for as "Finger Plate Expansion Joint, 4" and "Fabric Reinforced Elastomeric Trough")

* Dimension measured perpendicular to ϕ Joint.



BENT CONNECTION PLATE DETAIL

NOTES:

1. All steel for Finger Plate Joint shall conform to AASHTO M270 specification, Gr. 50 (NTR).
2. Design expansion at Pier 55 \pm 2.82"
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
4. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
5. Hole spacing and dimensions for proposed stools on existing cross frames shall be field verified.
6. Existing holes for bent connection plate should be plugged with 3/4" High Strength Bolts. Cost of field drilling and high strength bolts included with Finger Pl. Exp. Jt. 4".
7. Work this sheet with sheets SE8 thru SE11 and SE13.

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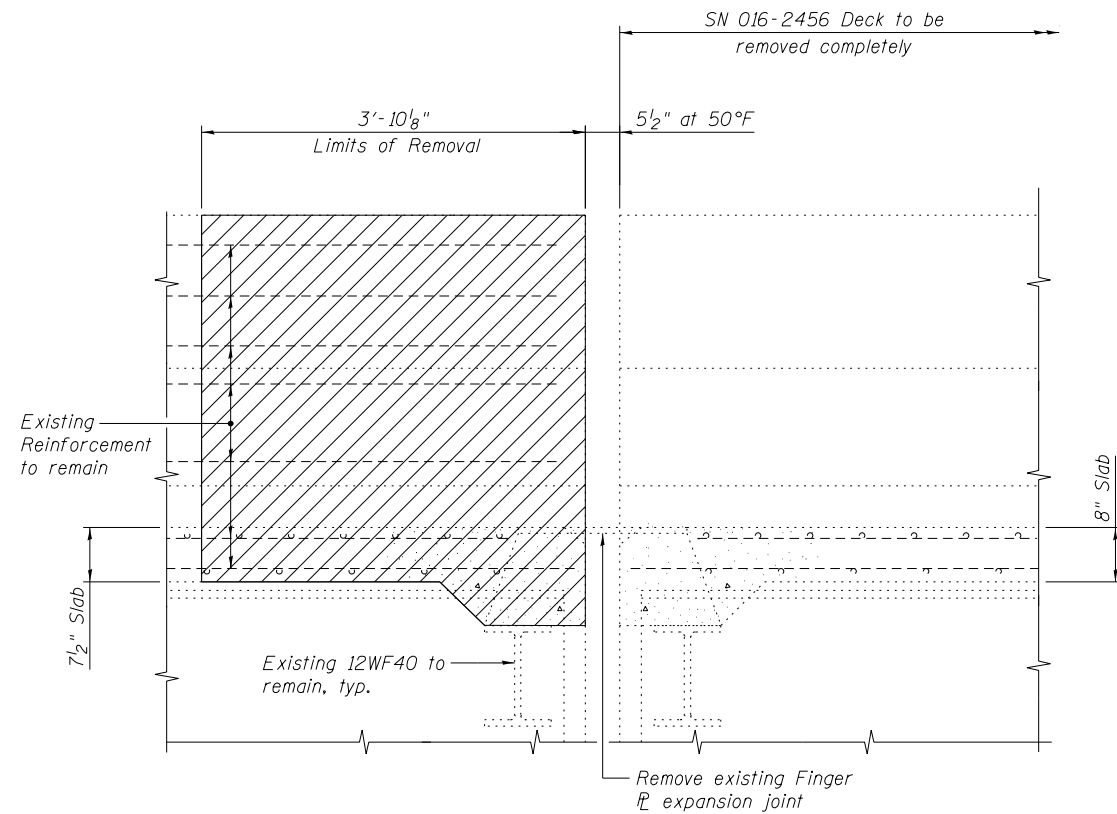
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT - PIERS 51 AND 55
 STRUCTURE NO. 016-0987**

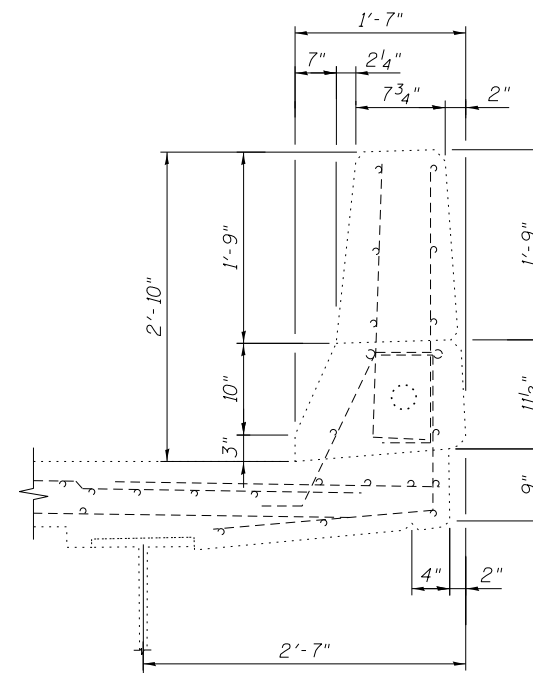
SHEET NO. SE12 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

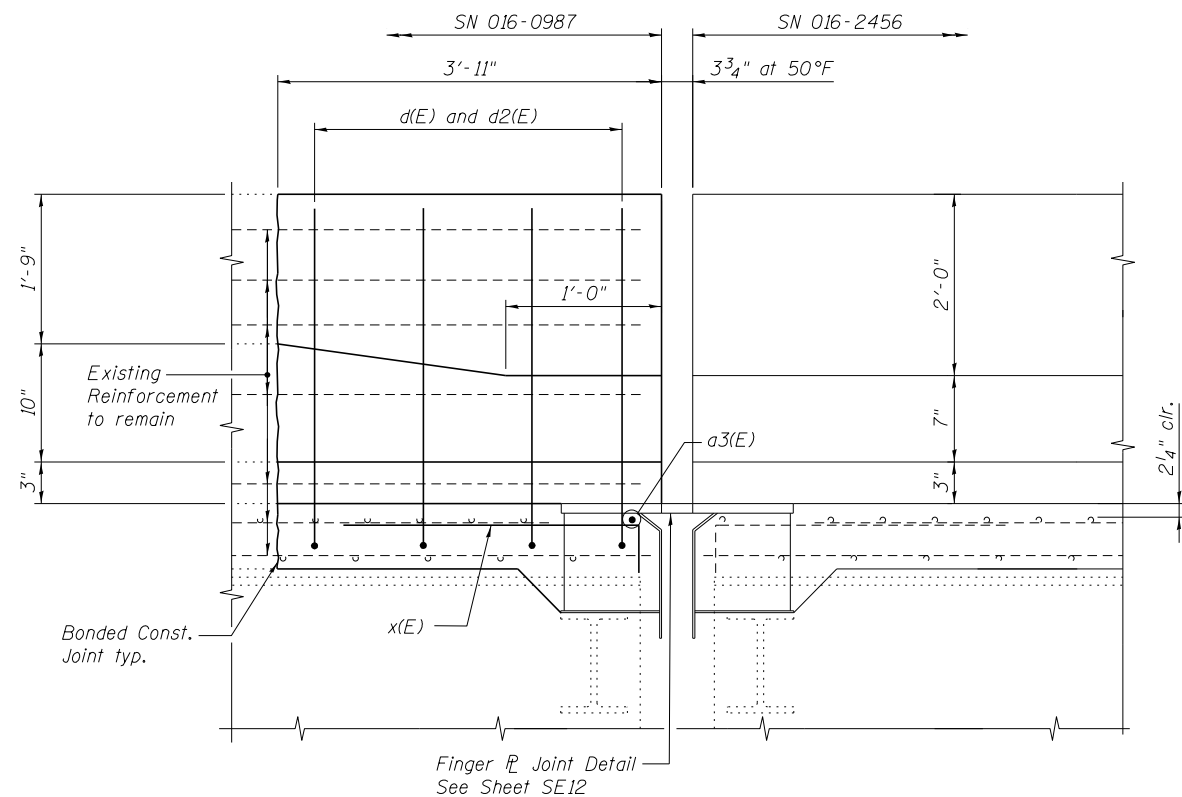
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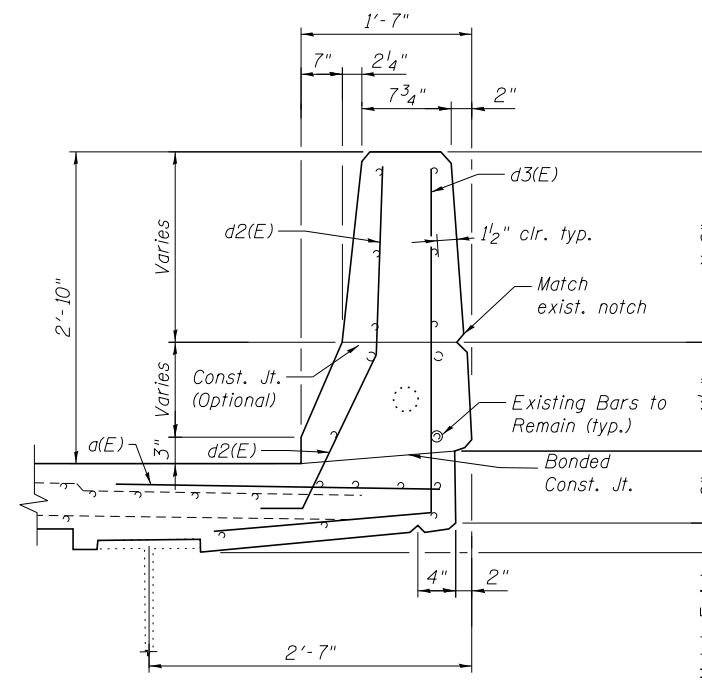
SECTION A-A
(Measured along toe of parapet)



SECTION THROUGH EXISTING PARAPET



SECTION B-B
(Measured along toe of parapet)



PROPOSED PARAPET SECTION

NOTES:

- Existing reinforcement bars extending into the concrete removal area shall be blast-cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be repaired or replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- Removal and disposal of the existing expansion joints will not be paid for separately, but shall be included with the cost of "Concrete Removal".
- The Contractor shall exercise extreme care with the existing conduits in sections of the parapet to be removed and to protect and support the conduit. The Contractor will be required to repair any damage done to the conduit to the satisfaction of the Engineer, at no additional cost to the Department.
- Work this sheet with sheets SE8 thru SE12.

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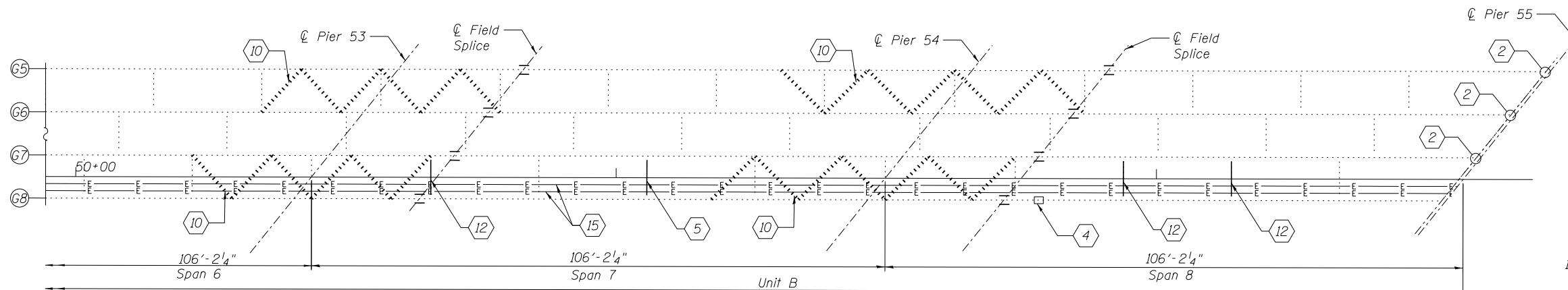
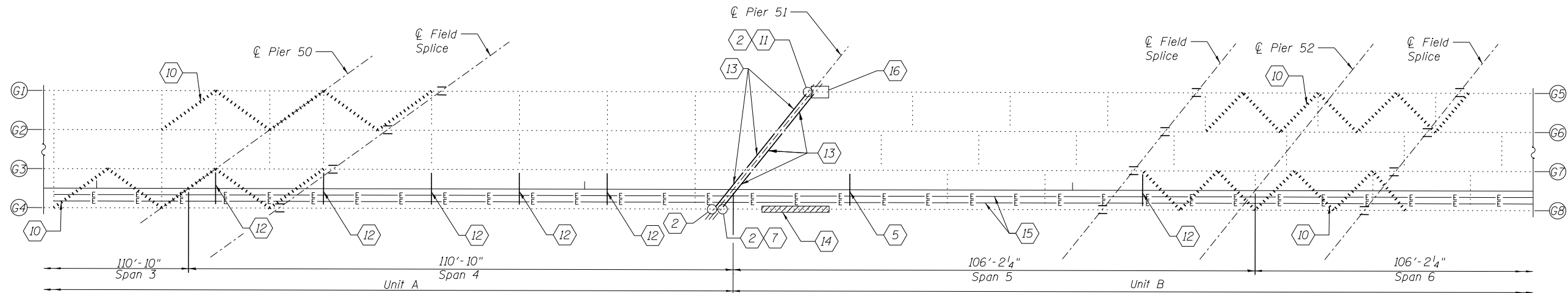
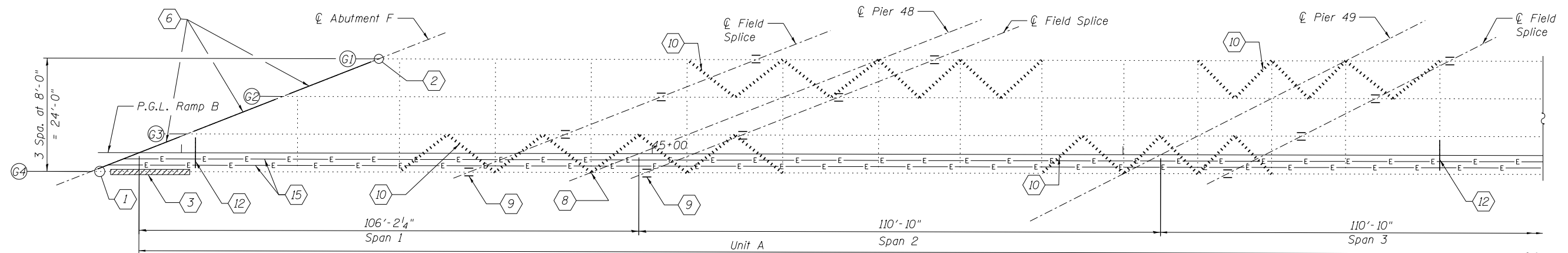
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EXPANSION JOINT DETAILS - PIER 55
STRUCTURE NO. 016-0987

SHEET NO. SE13 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	507
				CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. Steel removal paid for as "Structural Steel Removal".
 2. New steel and repairs are paid for as "Structural Steel Repair" unless noted otherwise.

FRAMING PLAN

- 1 Girder Web Plating at Stiffener - See Detail 1 on Sheet SE15
- 2 Girder Web Plating at Stiffener - See Detail 2 on Sheet SE15
- 3 Web Plating, Full Depth - See Detail 3 on Sheet SE15
- 4 Web Plating, Partial Depth - See Detail 4 on Sheet SE15
- 5 Replace Cross Frame in kind - See Sheet SEX6 (For Information Only). Steel paid for as "Furnishing and Erecting Structural Steel".
- 6 Replace Cross Brace in kind except replace 16WF58 with W16x67 - See Sheet SEX6 (For Information Only). Steel paid for as "Furnishing and Erecting Structural Steel".
- 7 Replace Missing Nut at Bearing
- 8 Fix loose bearing bolt. The existing 1 1/2" ϕ shoulder bolt was observed to be extending 3/8" from a fully tightened position. If the bolt is checked and determined to be snug tight, then no further action is required. Otherwise, this bolt shall be tightened, and inspected by the Engineer, by the turn-of-the-nut method according to Article 505.04 of the Standard Specifications. Cost included with "Structural Steel Repair". If the Engineer determines the bolt to be damaged, then it will be retrofitted to the satisfaction of the Engineer according to Article 109.04 of the Standard Specifications. The retrofit will replace the existing bolt with a 1 3/4" ϕ A325 Type I, mechanically galvanized bolt. This will involve either tapping a larger diameter hole or drilling a hole for an Engineer approved self-locking coil insert. See Sheet SEX7 (For Information Only).
- 9 Replace Flange Splice Plate bolts and nuts in kind. Approximately 56 nuts and bolts required for replacement. Nuts and bolts shall be replaced one at a time. Surface preparation shall be performed according to the Special Provisions. Cost included with "Structural Steel Repair".
- 10 Remove all lateral wind braces (78 total). Remove gusset plates and grind flush with remaining elements. See Special Provision for "Structural Steel Removal".
- 11 Replace missing bolts at cross-frame connection.
- 12 Replace bottom member of Cross Frame in kind - See Sheet SEX6 (For Information Only). Steel paid for as "Furnishing and Erecting Structural Steel".
- 13 Replace bottom member of Cross Brace in kind - See Sheet SEX6 (For Information Only). Steel paid for as "Furnishing and Erecting Structural Steel".
- 14 Web Plating, Full Depth - See Detail 5 on Sheet SE15
- 15 Remove all existing conduit and junction boxes - See Detail 6 on Sheet SE16
- 16 Web Plating, Partial Depth - See Detail 7 on Sheet SE16

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	Pound	6,780
Remove Conduit Attached to Structure	Foot	1,746
Structural Steel Removal	Pound	16,290
Structural Steel Repair	Pound	2,000

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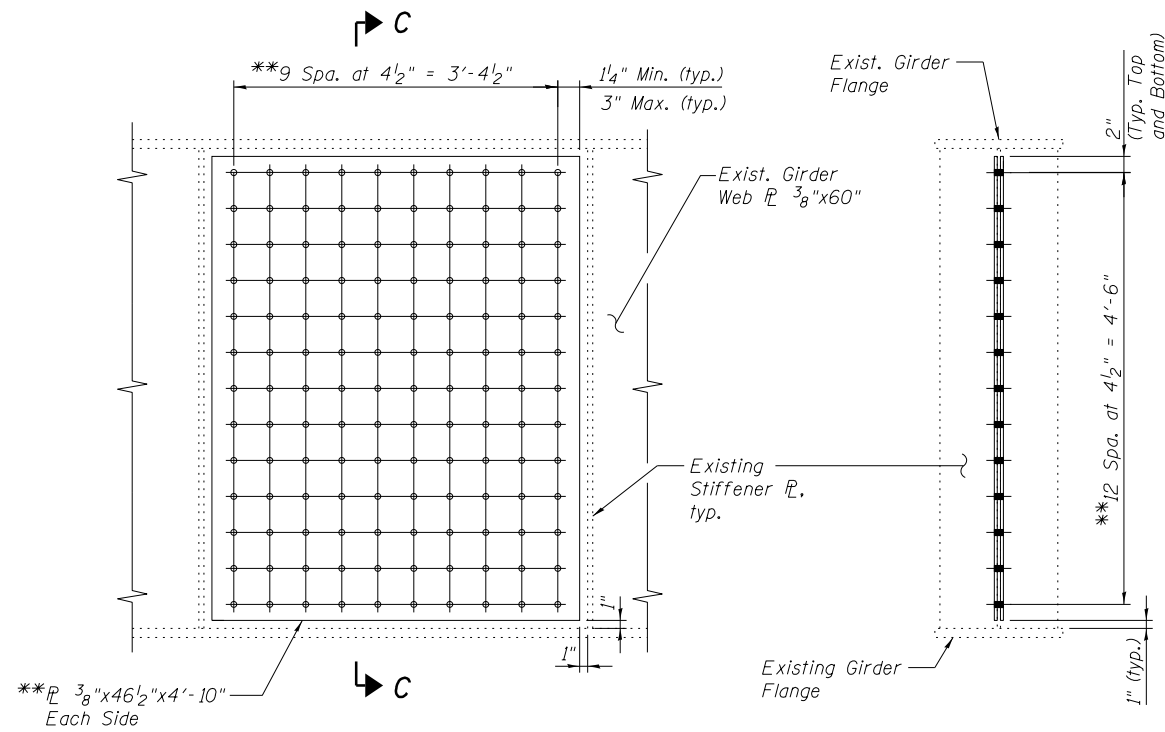
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FRAMING PLAN
STRUCTURE NO. 016-0987

SHEET NO. SE14 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

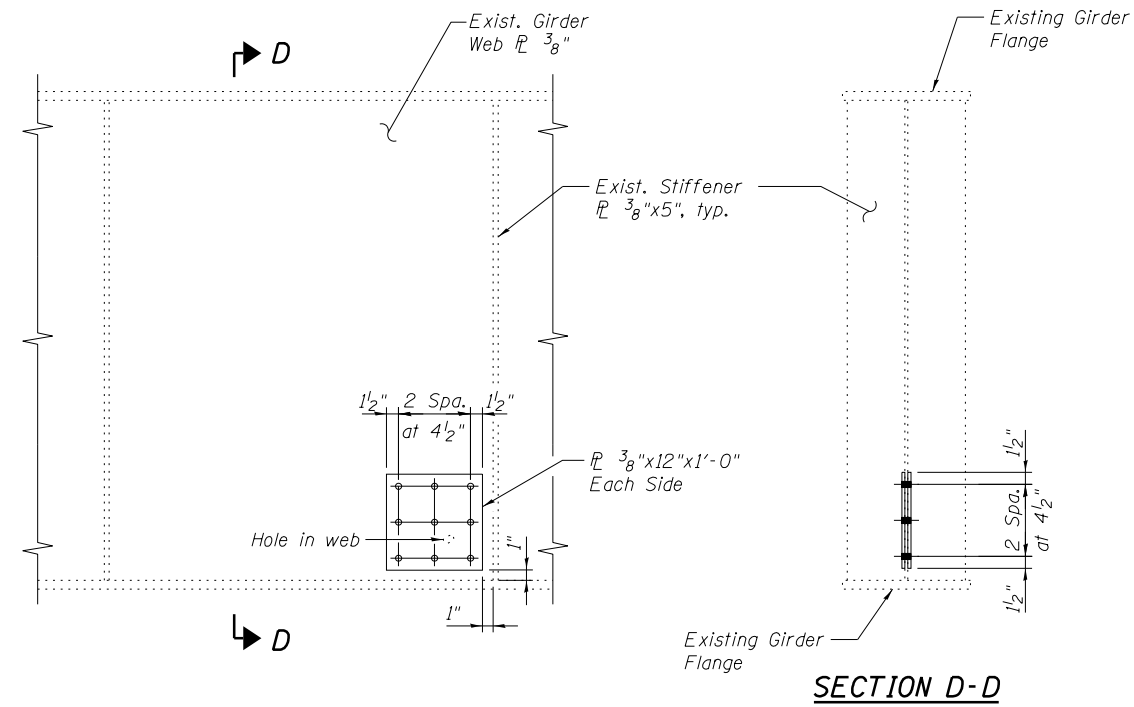


DETAIL 3

(At first 4'-1" wide panel past C Brg.)

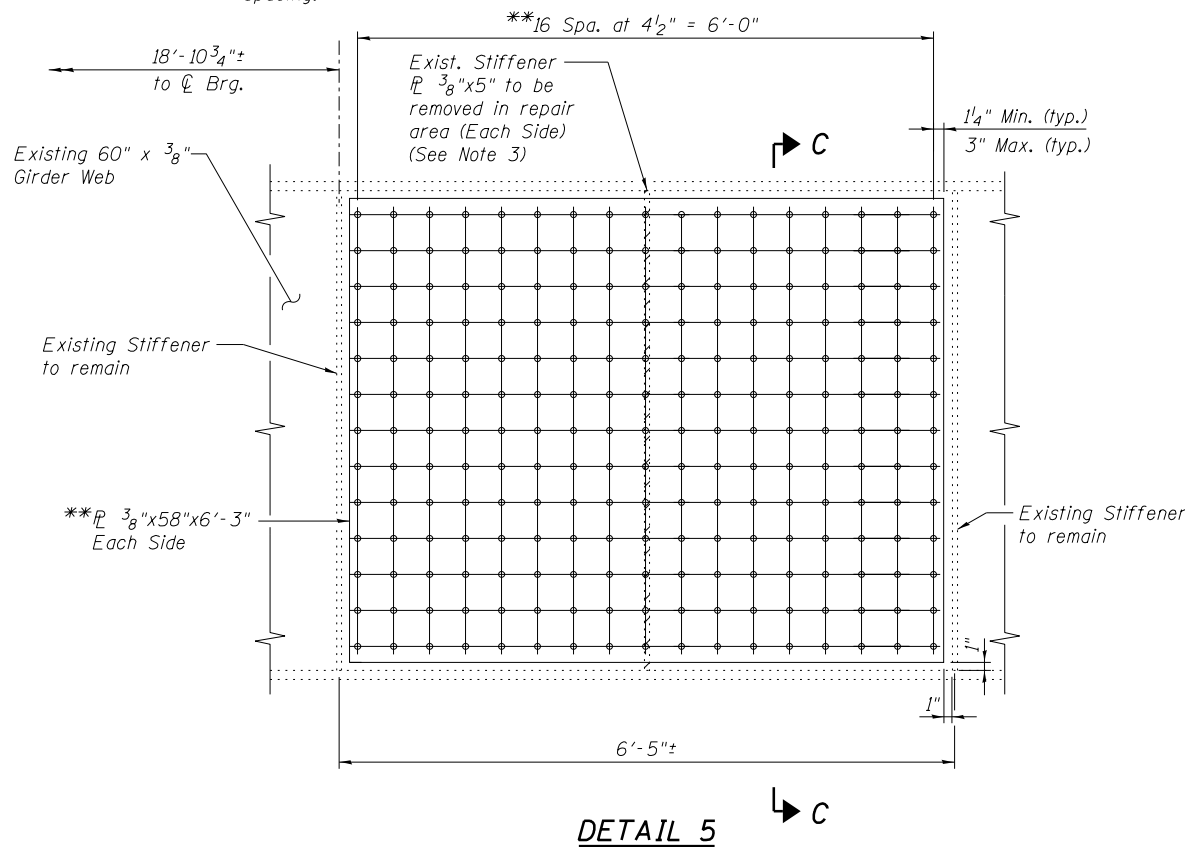
**Adjust R Size and number of bolts as needed depending on stiffener spacing.

SECTION C-C

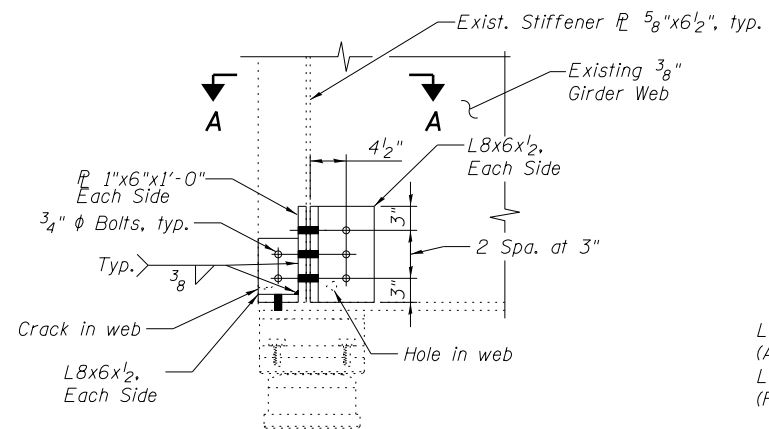


DETAIL 4

SECTION D-D



DETAIL 5

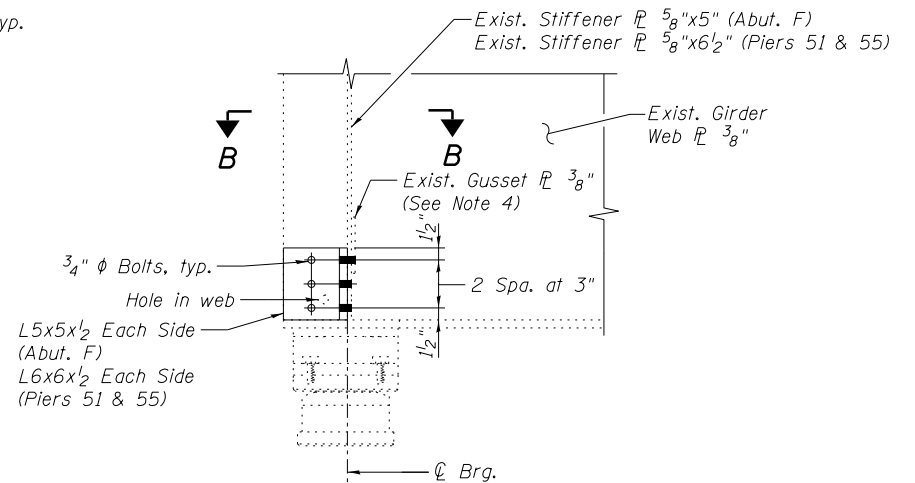


DETAIL 1

(See Note 4)

SECTION A-A

(See Note 4)



DETAIL 2

(See Note 4)

SECTION B-B

(See Note 4)

NOTES:

- All steel repairs shown on this sheet shall be paid for as "Structural Steel Repair".
- Fasteners shall be high strength bolts. Bolts 3/4" φ, holes 13/16" φ, unless otherwise noted. New holes in existing members are to be field drilled using holes in new members as a template, unless otherwise noted. Cost included with "Structural Steel Repair".
- Stiffener removal includes removing the stiffener from the indicated location and grinding welds flush with surface. Cost included with "Structural Steel Removal". See Special Provisions.
- The Contractor shall verify existing dimensions and locations of the gusset plates and dimensions and locations of existing hole sizes and make any necessary adjustments to the bolt spacing and angle sizes prior to construction or ordering of materials. Holes in angle legs that are reusing existing holes shall be field drilled. Cost included with "Structural Steel Repair".

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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISIONS -
016-0987-60W75-015-steel details.dgn	PLOT SCALE =	CHECKED - JAW	REVISIONS -
	PLOT DATE = 6/18/2015	DRAWN - CMK	REVISIONS -
		CHECKED - JAW	REVISIONS -

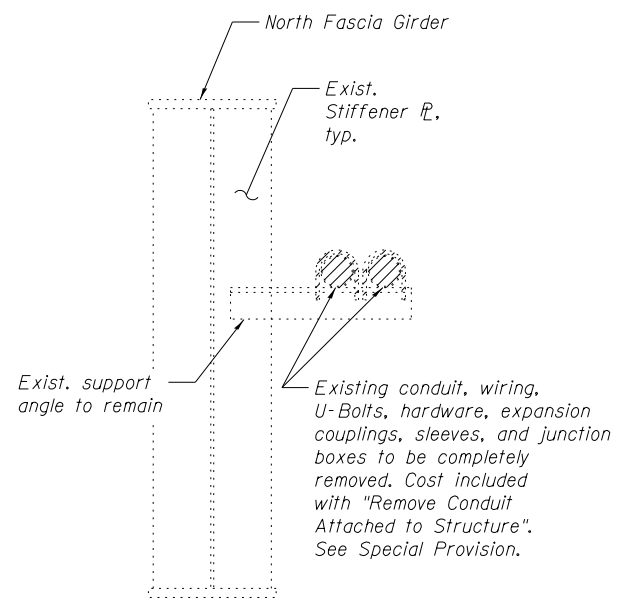
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL REPAIR DETAILS (1 OF 2)
STRUCTURE NO. 016-0987

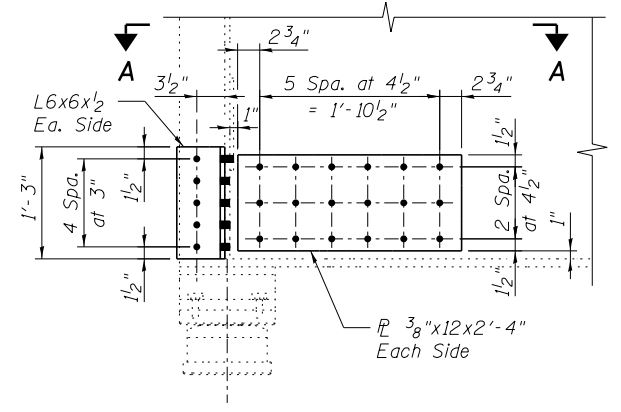
SHEET NO. SE15 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	509
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

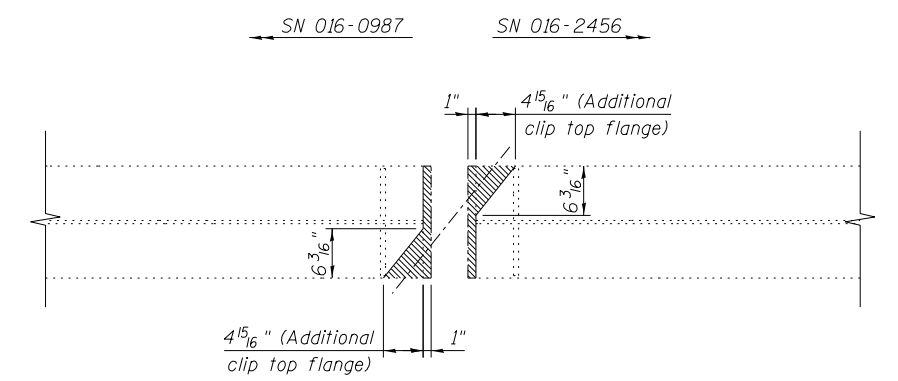
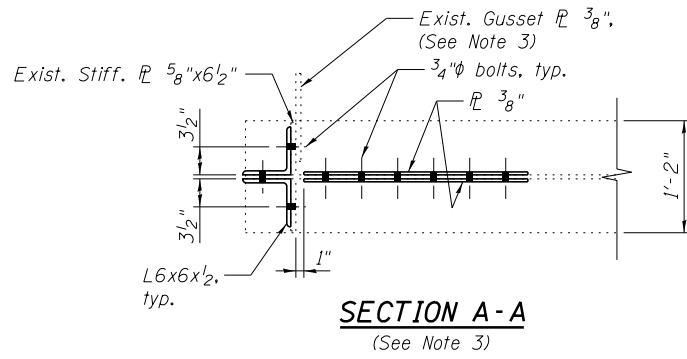
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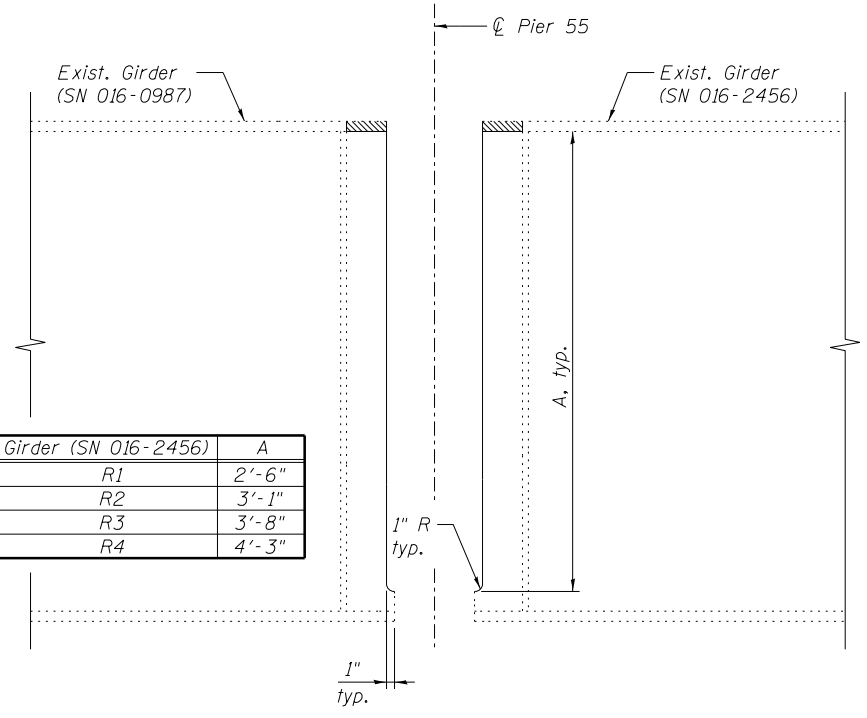
DETAIL 6



DETAIL 7
(See Note 3)



GIRDER TRIM PLAN - PIER 55
(Top flange only)



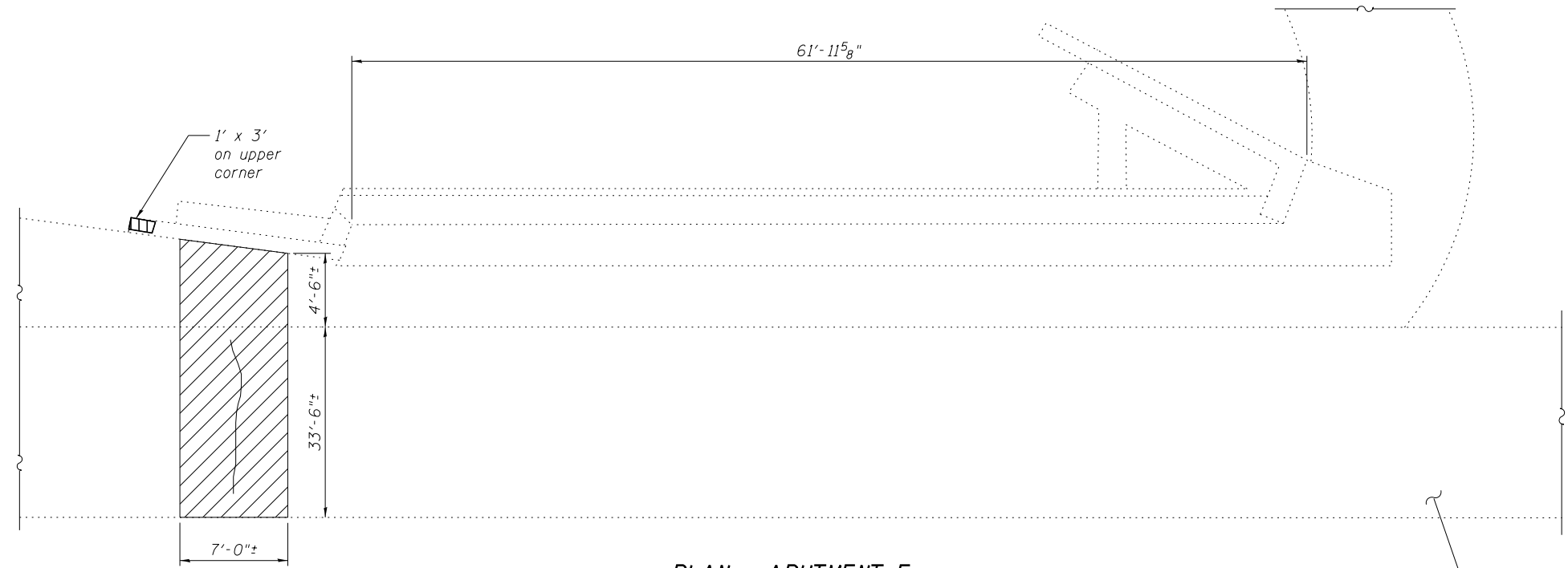
GIRDER TRIM DETAIL - PIER 55
(Cost included with "Structural Steel Removal")

NOTES:

- All steel repairs shown on this sheet shall be paid for as "Structural Steel Repair".
- Fasteners shall be high strength bolts. Bolts $\frac{3}{4}"\phi$, holes $1\frac{1}{16}"\phi$, unless otherwise noted. New holes in existing members are to be field drilled using holes in new members as a template, unless otherwise noted. Cost included with "Structural Steel Repair".
- The Contractor shall verify existing dimensions and locations of the gusset plates and dimensions and locations of existing hole sizes and make any necessary adjustments to the bolt spacing and angle sizes prior to construction or ordering of materials. Holes in angle legs that are reusing existing holes shall be field drilled. Cost included with "Structural Steel Repair".

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CHECKED -	AJK
PLOT SCALE =	
DRAWN -	RMG
REVIS	
PLOT DATE =	6/18/2015
CHECKED -	JLS
REVIS	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	510
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				






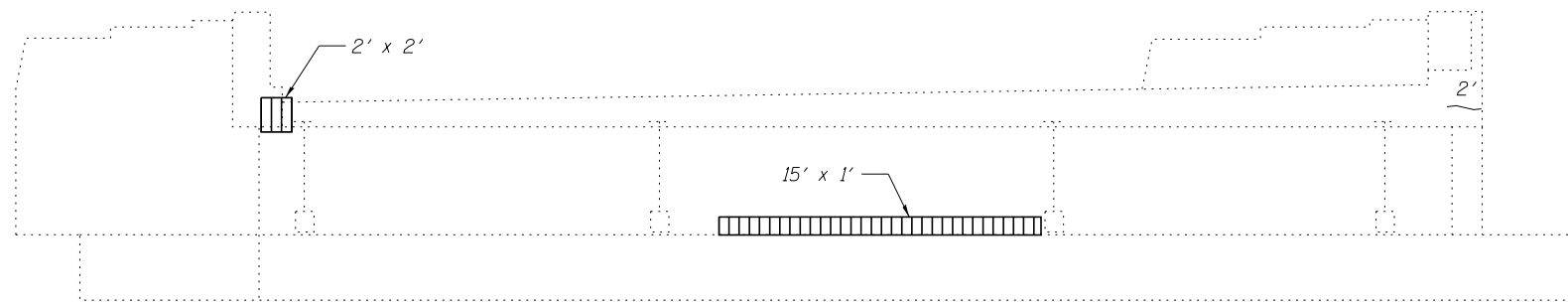
PLAN - ABUTMENT F

SLOPEWALL REPAIR

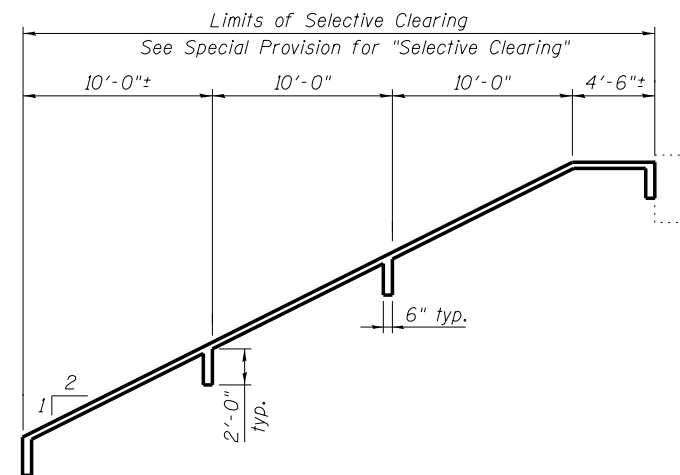
Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

Existing and new welded wire fabrics should overlap at least 6".

- LEGEND:**
-  Remove and Replace Slopewall. Estimated 2' deep void under Slopewall to be filled with Granular Backfill for Structures.
 -  Spalled concrete
 -  Crack to be repaired (Length = Est. Repair Length)





ELEVATION - ABUTMENT F



SECTION THRU SLOPEWALL

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	22
	Epoxy Crack Injection	Foot	2
	Granular Backfill for Structures	Cu. Yd.	20
	Slope Wall Removal	Sq. Yd.	30
	Slope Wall 4 Inch	Sq. Yd.	30

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FILE NAME =
016-0987-60W75-017-abutment.dgn

USER NAME = jsurber
PLOT SCALE =
PLOT DATE = 6/18/2015

DESIGNED - CMK
CHECKED - JAW
DRAWN - CMK
CHECKED - JAW

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

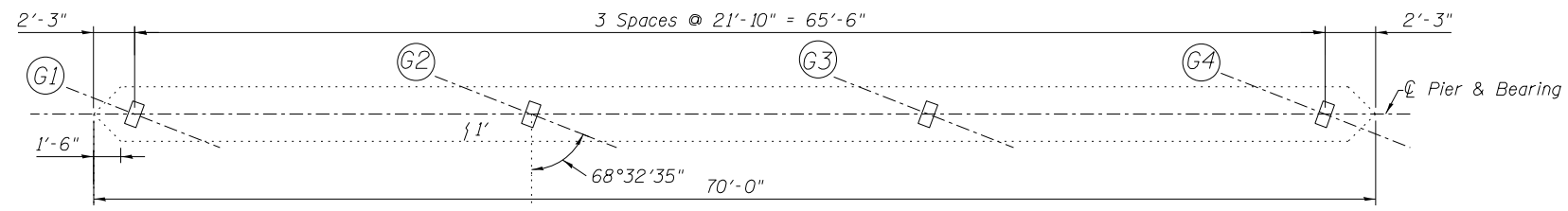
**SUBSTRUCTURE REPAIRS - ABUTMENT F
STRUCTURE NO. 016-0987**

SHEET NO. SE17 OF SE21 SHEETS

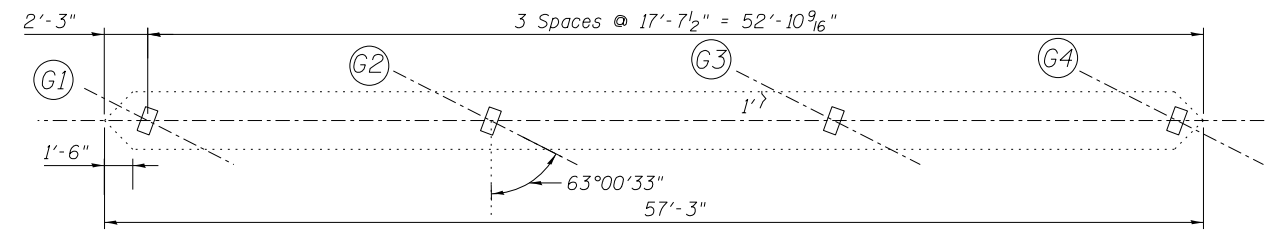
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	511
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

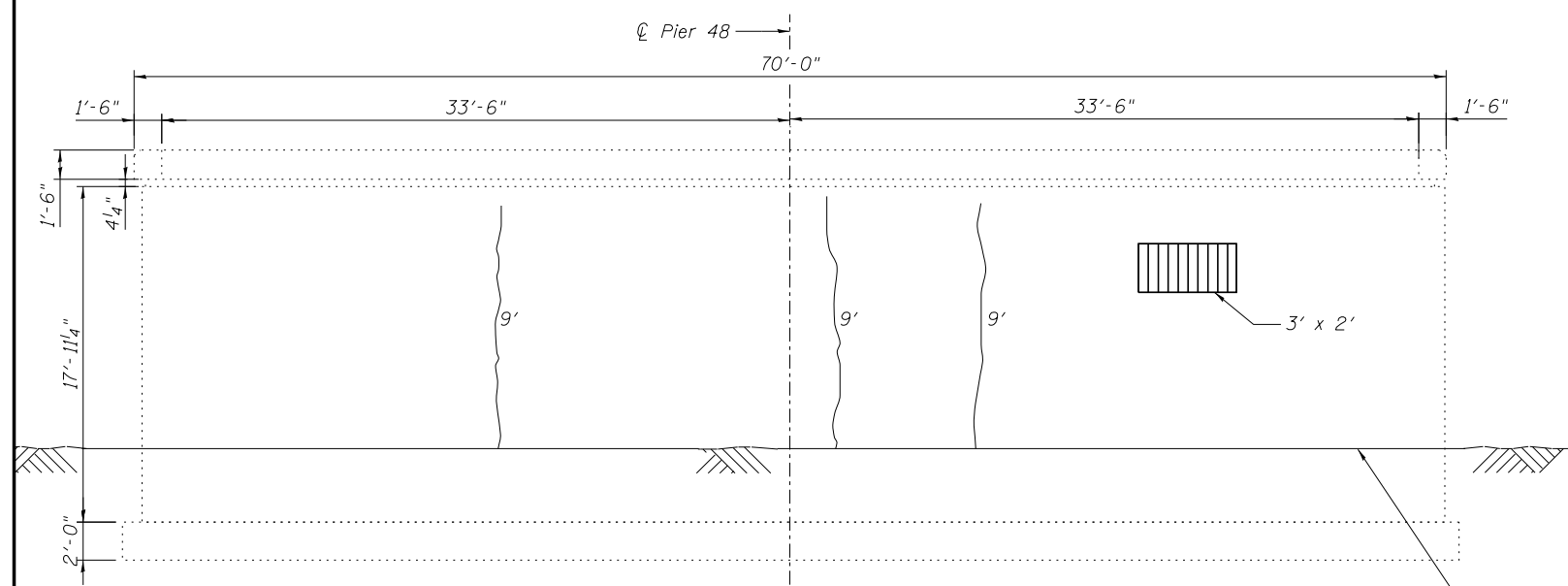
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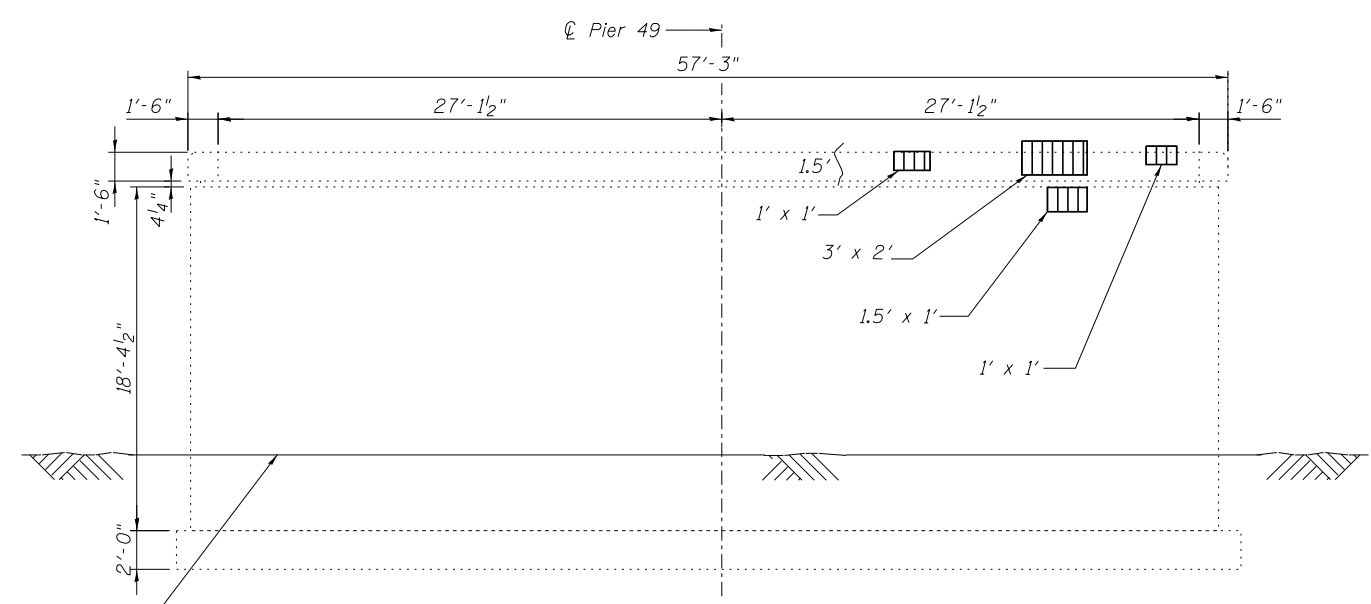
PIER 48
(Cap Plan)



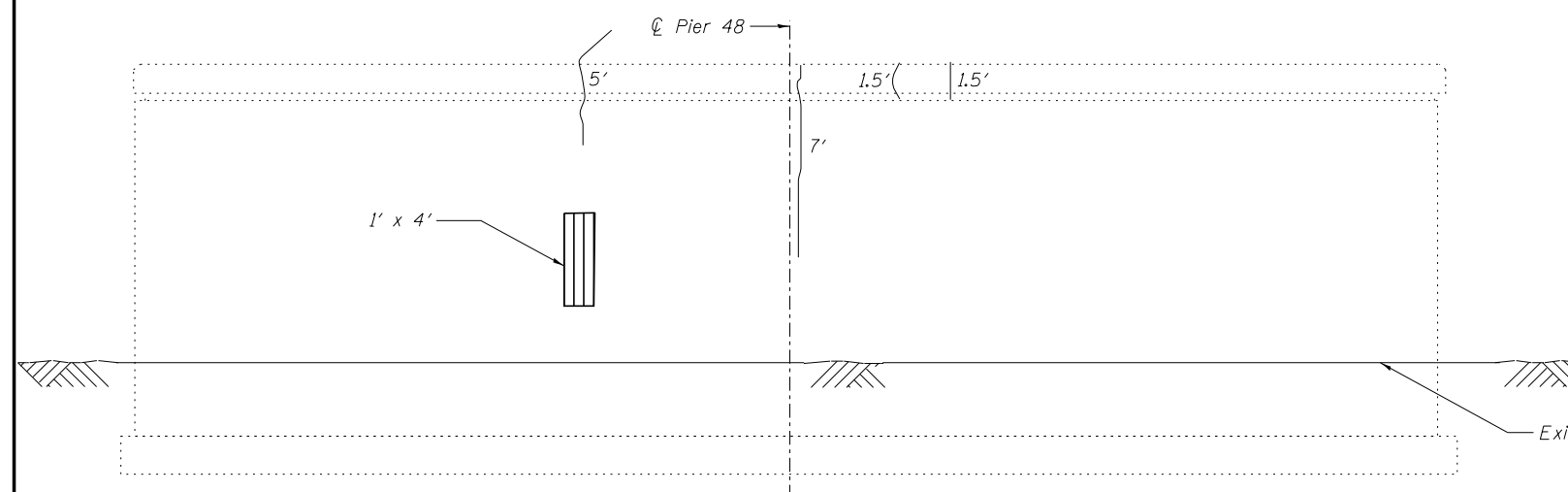
PIER 49
(Cap Plan)



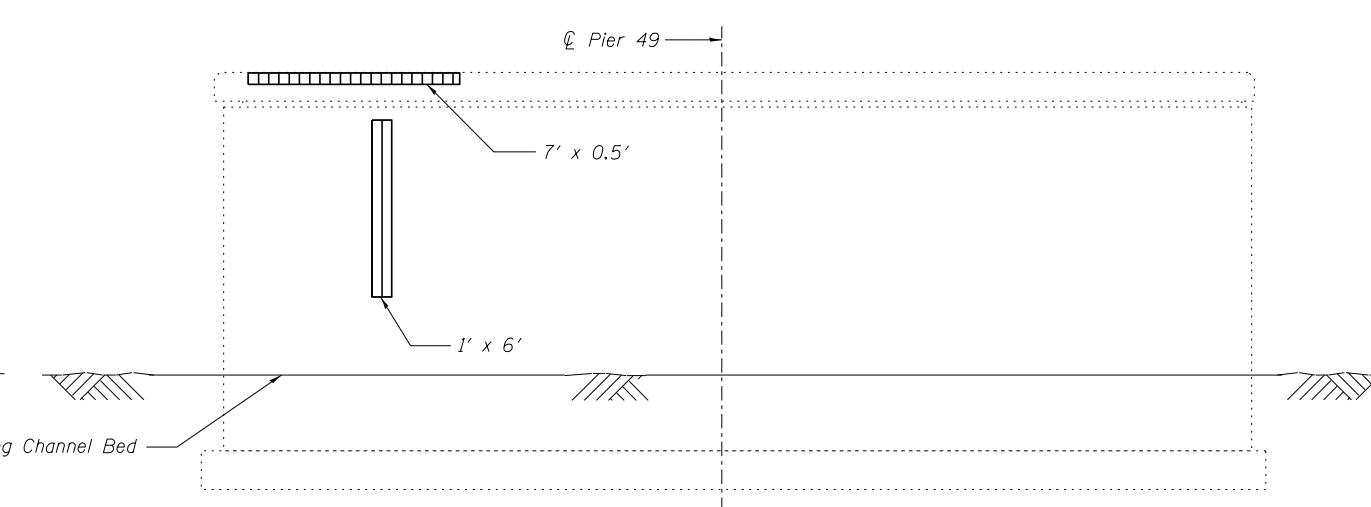
PIER 48
(Looking West)



PIER 49
(Looking West)



PIER 48
(Looking East)



PIER 49
(Looking East)

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	29
	Epoxy Crack Injection	Foot	46

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		CHECKED - JAW	REVISED -
		DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -
PLOT SCALE =			
PLOT DATE = 6/18/2015			

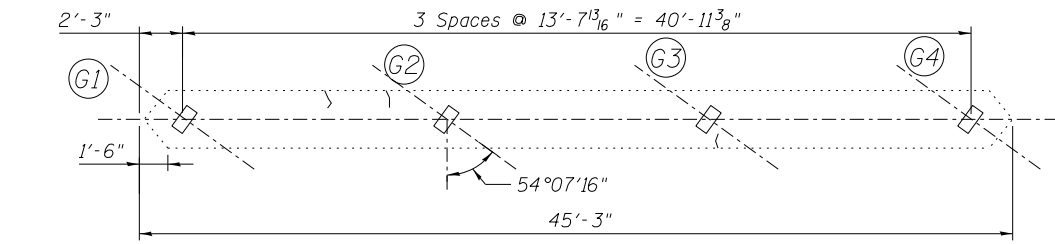
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS - PIERS 48 & 49
STRUCTURE NO. 016-0987

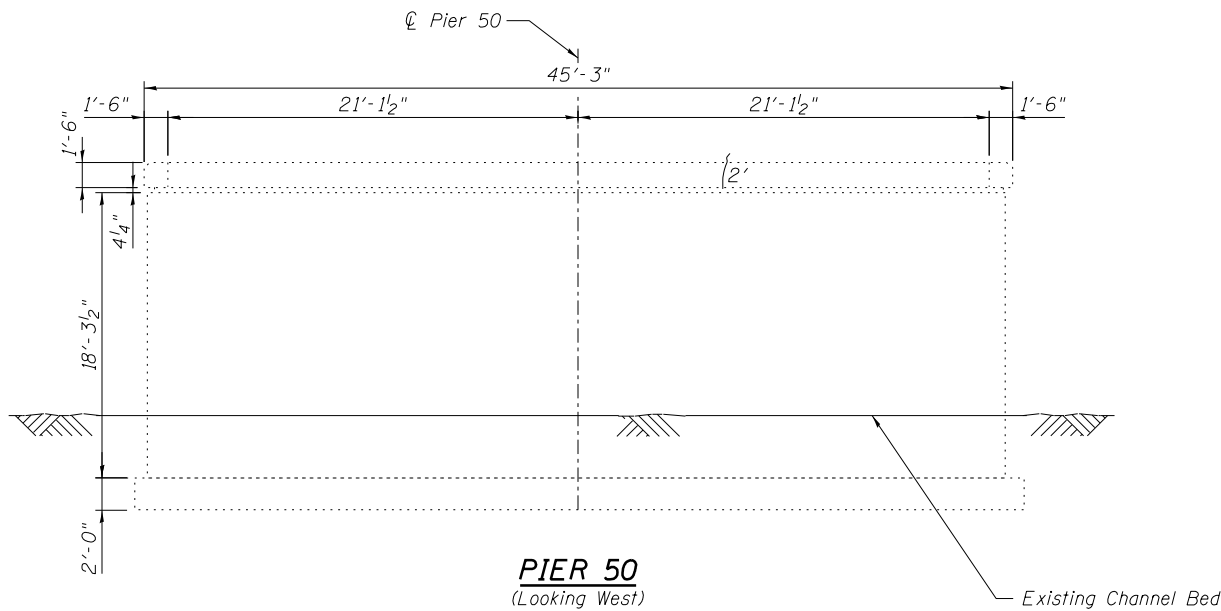
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	512
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

SHEET NO. SE18 OF SE21 SHEETS

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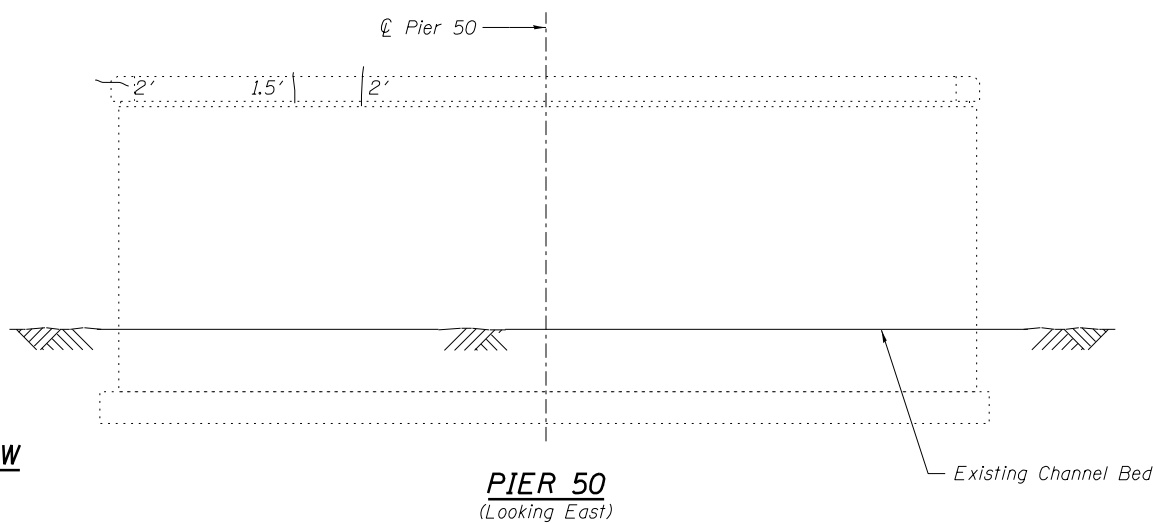


PIER 50
(Cap Plan)

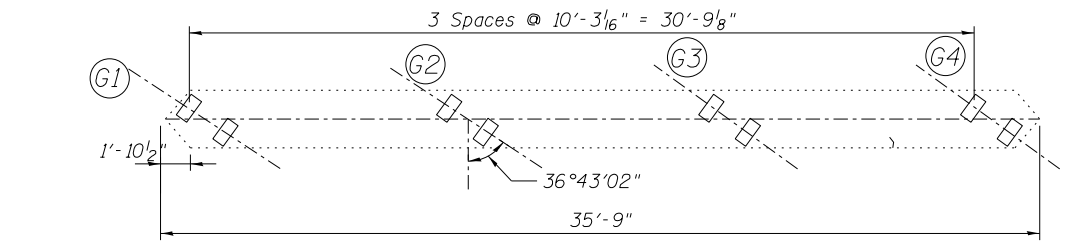


PIER 50
(Looking West)

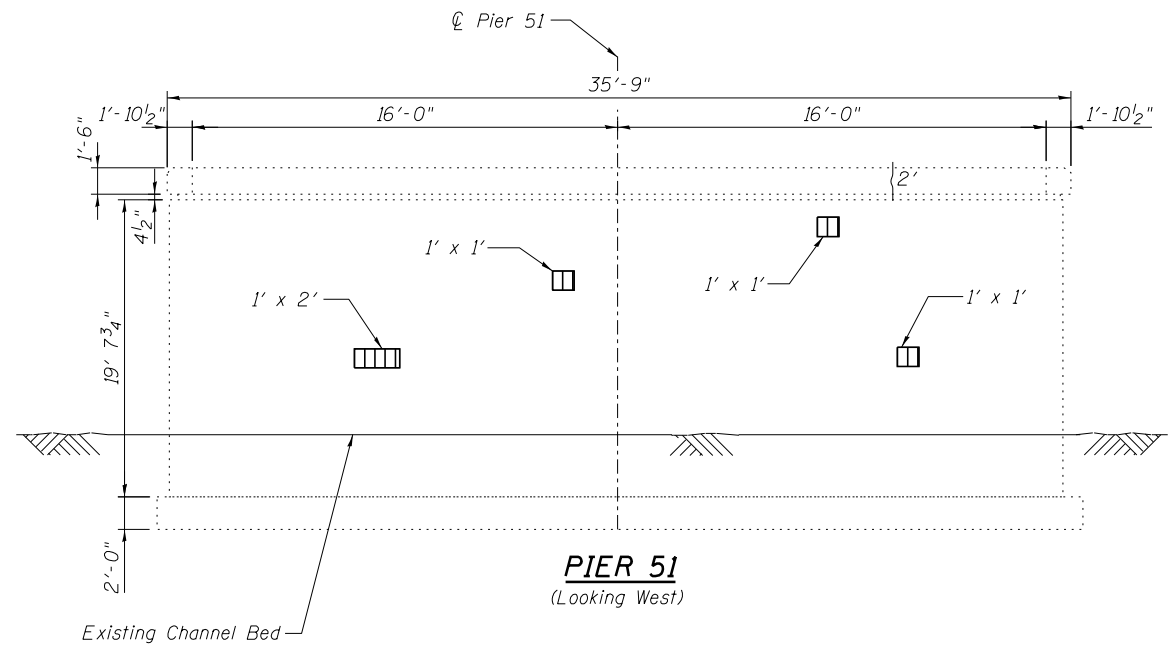
PIER 50 - END VIEW
(Looking South West)



PIER 50
(Looking East)

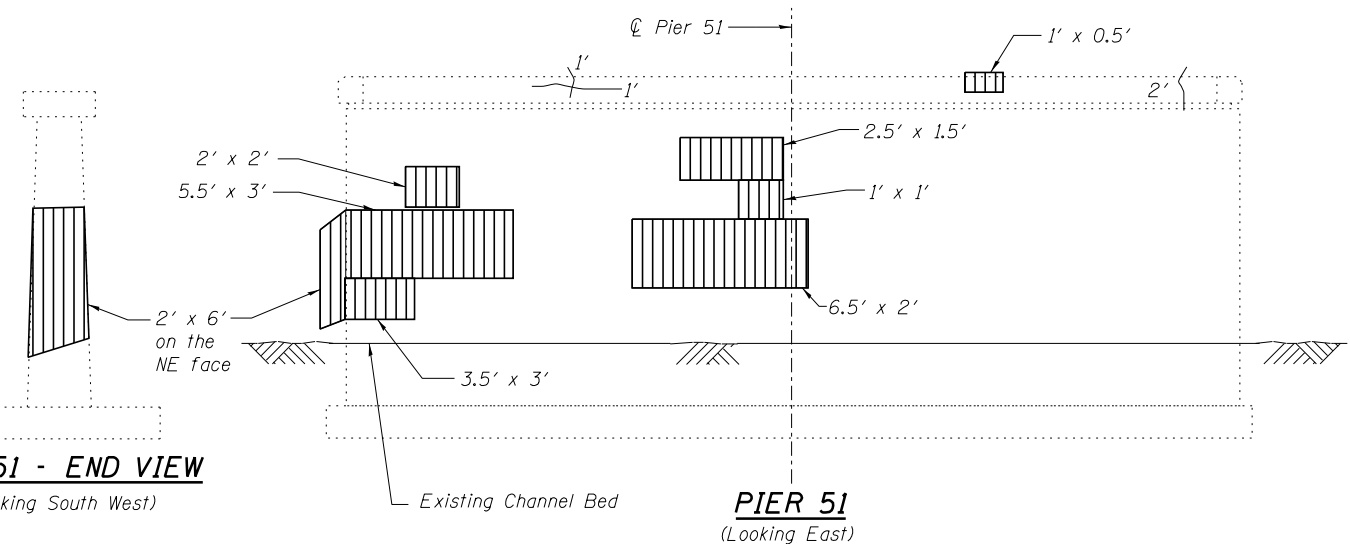


PIER 51
(Cap Plan)



PIER 51
(Looking West)

PIER 51 - END VIEW
(Looking South West)



PIER 51
(Looking East)

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	67
	Epoxy Crack Injection	Foot	14

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FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
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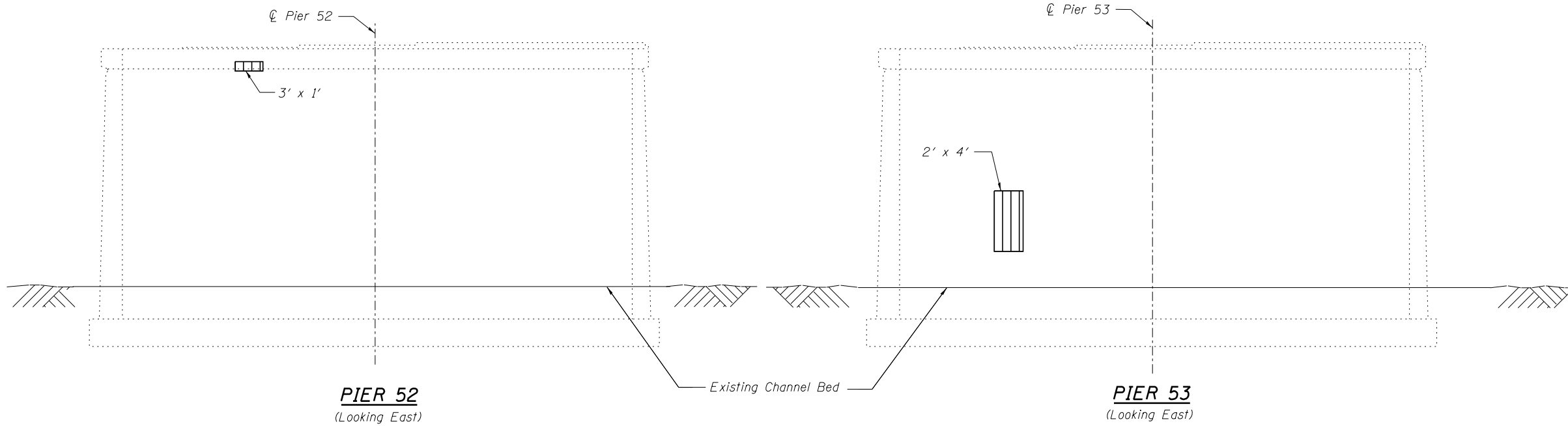
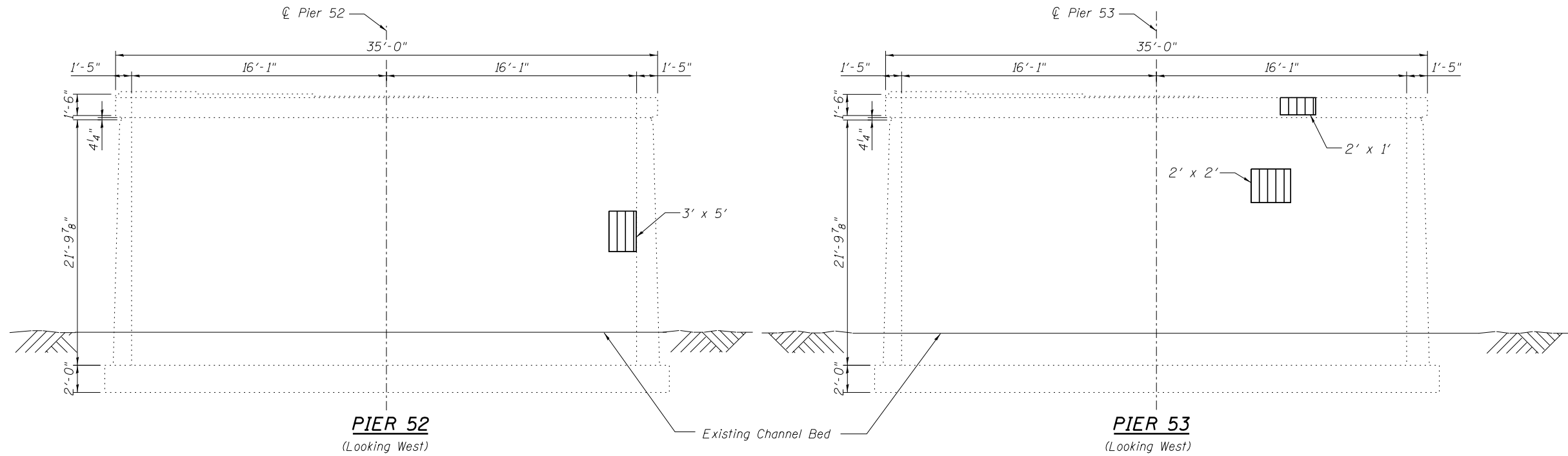
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS - PIERS 50 & 51
STRUCTURE NO. 016-0987

SHEET NO. SE19 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	513
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	32

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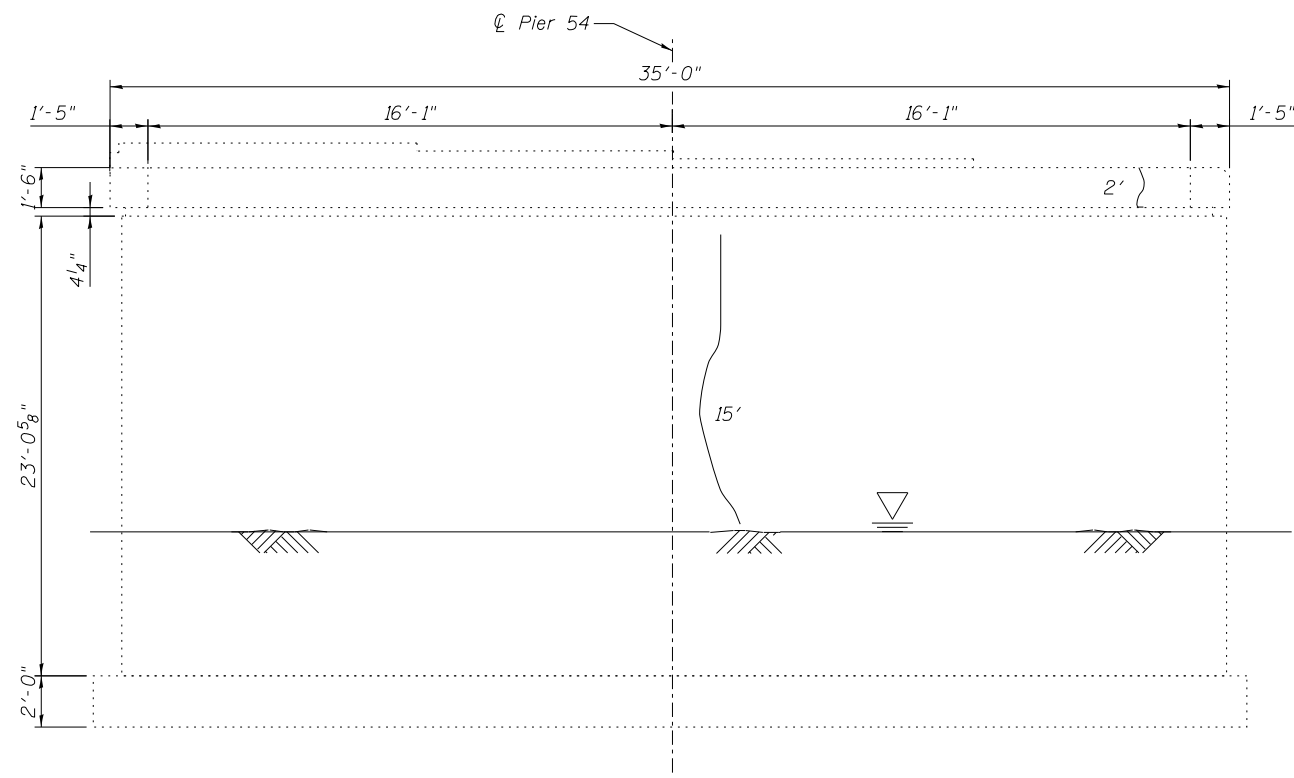
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUBSTRUCTURE REPAIRS – PIERS 52 & 53
STRUCTURE NO. 016-0987**

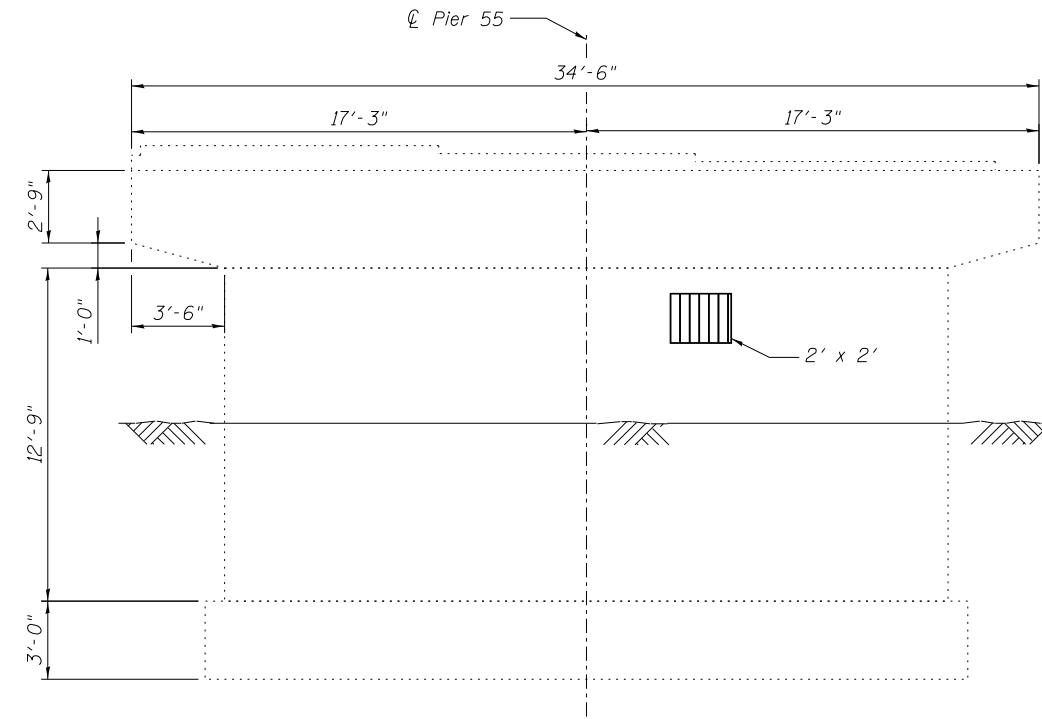
SHEET NO. SE20 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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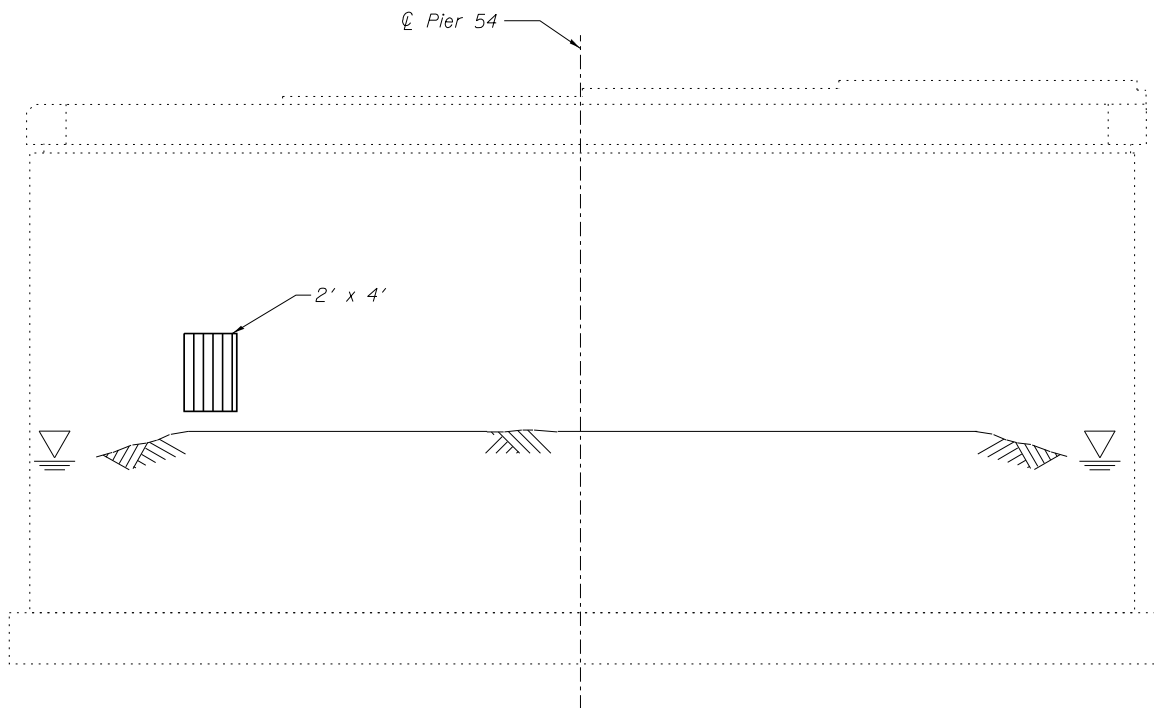
PIER 54
(Looking West)



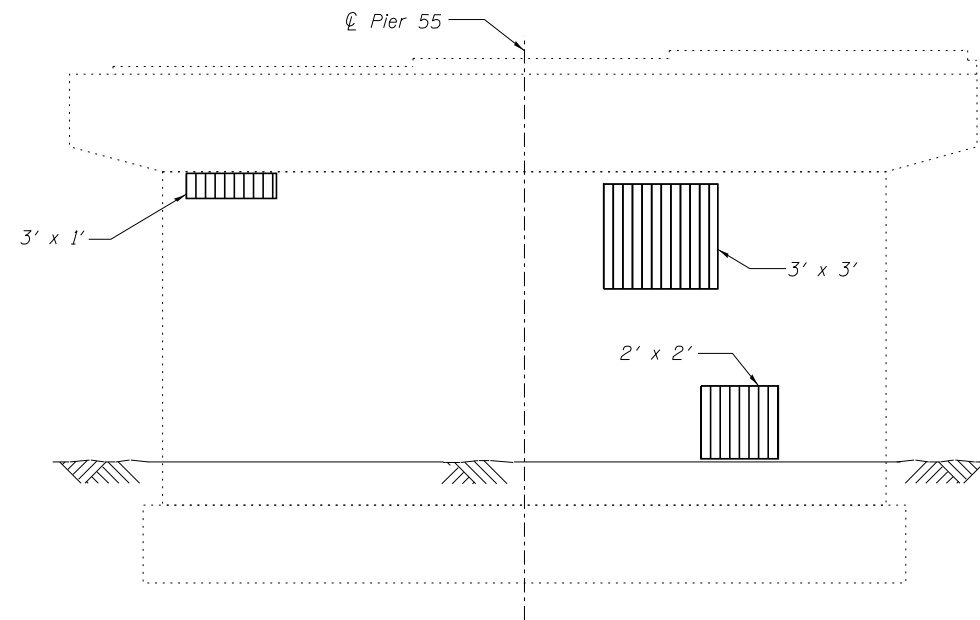
PIER 55
(Looking West)



PIER 55 END VIEW
(Looking South)



PIER 54
(Looking East)



PIER 55
(Looking East)

BILL OF MATERIAL

SYMBOL	ITEM	UNIT	QUANTITY
	Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	32
	Epoxy Crack Injection	Foot	19

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312-565-0450 Job No. 10093

FILE NAME =
016-0987-60W75-021-piers54&55.dgn

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REVISED -

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REVISED -

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REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS - PIERS 54 & 55
STRUCTURE NO. 016-0987

SHEET NO. SE21 OF SE21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	515
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
F.A.I. 55	2013-037B-R	COOK	324	324
SHEET NO. 1				

Bench Mark: Chiseled "□" cut on south side parapet wall at Pier #55 (T.B.M. #7) 617.59
Existing Structure: F.A.I. Rte. 55 W. Bd. to Il. Rte. 171 N. Bd. Ramp B, Sec. 0707-615B, Sta. 49+10.93 Str. No. 016-0987. Built in 1963 as an eight span, two continuous four span units, multi girder bridge. The substructure consists of a pile bent abutment and eight solid wall, spread footing piers. Traffic will be detoured utilizing alternate routes during rehabilitation.

No salvage

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

The Inorganic Zinc-Silicate/Acrylic/Acrylic Point System shall be used for shop painting of structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8.
Cleaning and painting of the existing structural steel shall be as specified in the Special Provision for "Cleaning and Painting Existing Steel Structures". All existing structural steel within 5 feet of either side of expansion joints shall be cleaned and painted by Method 1. All remaining existing structural steel shall be cleaned by Method 2. The Lead and Chromate Free Alkyd Paint System shall be used for painting of existing structural steel. The prime and intermediate coats shall be applied as specified in the special provision, followed by a spot final finish coat over all newly primed steel surfaces. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5G 4/8.
The estimated area to be cleaned by Method 1 is 1,240 sq. ft.

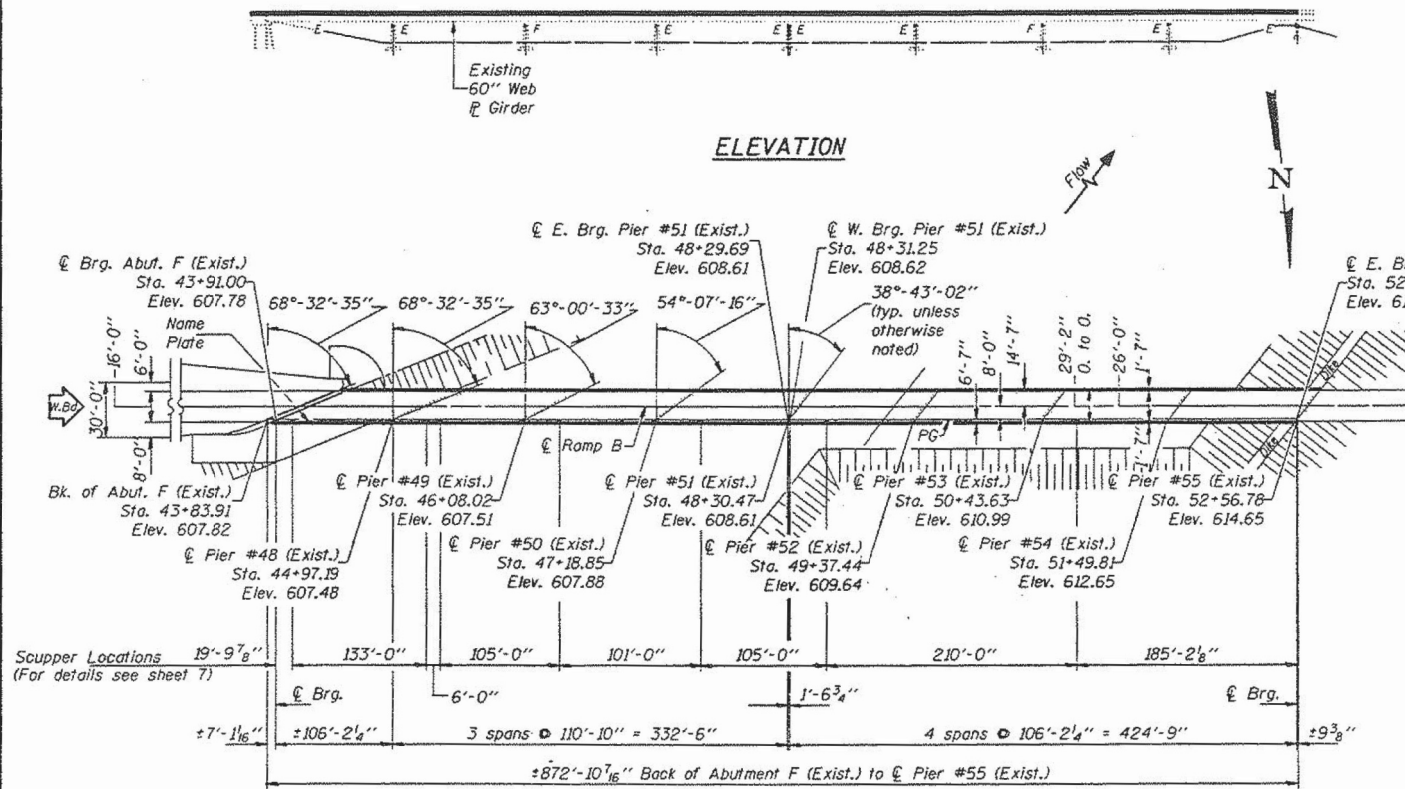
The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel girders, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the girder flanges is not permitted.

Roadway expansion guards shall be flame cut as provided in Article 507.04(i) of the Standard Specifications.
Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

The concrete, for bridge floors finished in accordance with Article 503.15 of the Standard Specifications, shall be placed and compacted parallel to the skew in uniform increments along centerline of the bridge. The finishing machine, when required, shall be set parallel to the skew for striking off and screeding the concrete.

Asbestos material is on waterproofing membrane.



STATION 49+10.93
REBUILT 199 BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 0707-615B
F.A. PROJ.
LOADING HS20
STR. NO. 016-0987

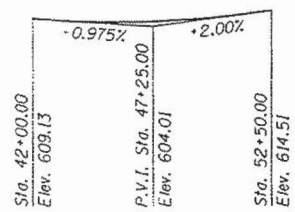
NAME PLATE
See Std. 2113
Clean and relocate existing Name Plate adjacent to the new Name Plate. Cost incidental to new Name Plate.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1		1
Concrete Removal	Cu. Yd.	7.6		7.6
Class X Concrete Superstructure	Cu. Yd.	800.4		800.4
Protective Coat	Sq. Yd.	697		697
Elastomeric Bra. Assembly, Type II	Each	16		16
Furn. & Erect. Structural Steel	Pound	28,870		28,870
Neoprene Expansion Joint (4")	Lin. Ft.	66		66
Bridge Deck Grooving	Sq. Yd.	2278		2278
Cleaning and Painting Steel Bridge	L.S.		710	209,400
Reinforcement Bars, Epoxy Coated	Pound	208,690		208,690
Name Plates	Each	1		1
Jack & Remove Existing Bearings	Each	16		16
Epoxy Crack Sealing	Lin. Ft.		102	102
Stud Shear Connectors	Each	6456		6456
Drainage Scuppers	Each	7		7
Formed Concrete Repair Depth ≤ 5"	Sq. Ft.		325	325
Bar Splicers	Each	20		20
Reinforced Neoprene Expansion Joint Treatment	Lin. Ft.	74		74
Power Tool Cleaning Residue Containment and Disposal	L.S.	0.32		0.32
Blasting Residue Containment & Disposal	L.S.	0.32		0.32
Bituminous Conc. Surface Removal (Asbestos)	Sq. Yd.	2088		2088

For Light Post Locations see sheets 6 & 7 of 24.

GENERAL PLAN
F.A.I. ROUTE 55 W. BD. TO
ILLINOIS ROUTE 171 N. BD.
RAMP B
OVER DES PLAINES RIVER
F.A.I. ROUTE 55 - SEC. 0707-615B
COOK COUNTY
STATION NO. 49+10.93
STRUCTURE NO. 016-0987



PROFILE GRADE

S.E. = 0.02'/'
S.E. Transition
Sta. 43+00.00, 0.05'/ to Sta. 44+00.00, 0.02'/'

- SCOPE OF WORK
- Rehabilitation consists of removal and replacement of existing concrete deck.
 - Replacement of all expansion joints.
 - Removal and replacement of expansion bearings.
 - Repair of cracks and spalls on substructure.
 - Removal and replacement of section of abutment.

LOADING HS20-44 (New Construction)

DESIGN SPECIFICATIONS

1992 AASHTO and 1993 Interim

DESIGN STRESSES

Proposed $f_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
Existing $f_s = 20,000$ psi (struct.)
 $f_y = 36,000$ psi (M-270, Gr.36)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Acceleration Coefficient (A) = 0.038g
Site Coefficient (S) = 1.2

DESIGNED: Nicholas S. Lovell
CHECKED: Victor H. Vreza
DRAWN: r.b. carbonell
CHECKED: A.T.S. J.W.V.

EXAMINED: [Signature]
PASSED: [Signature]



FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 1 OF 11
STRUCTURE NO. 016-0987

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	516
CONTRACT NO. 60W75				

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME =	DESIGNED -	REVISOR -
016-0987-60W75-822-Existing GPE.dgn	jsurber	CMK	
		CHECKED -	REVISIONS -
		JAW	
		DRAWN -	REVISIONS -
		CMK	
		CHECKED -	REVISIONS -
		JAW	

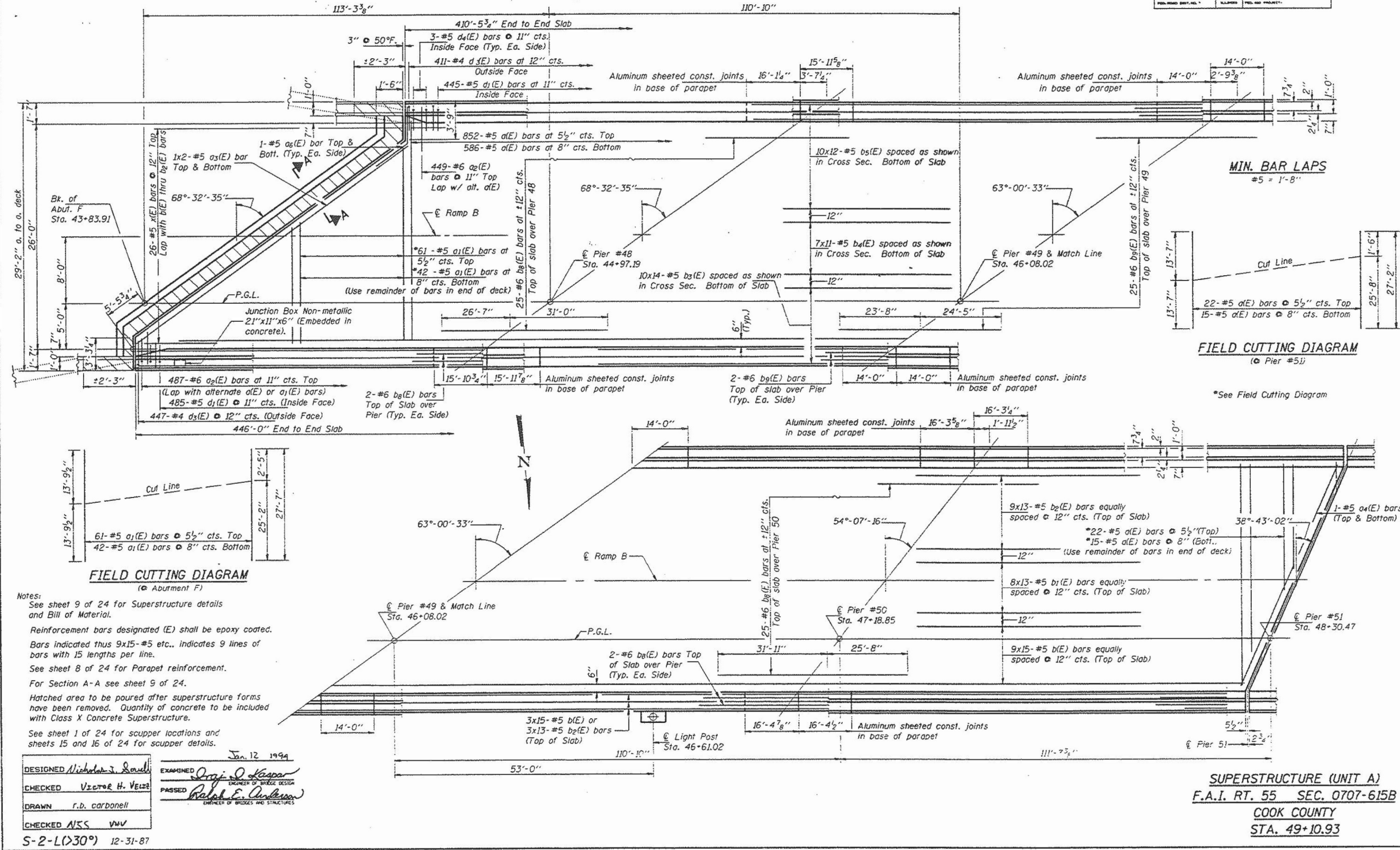
SHEET NO. SEXI OF SEXII SHEETS

ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
F.A. 1. 05	0707-615B	COOK	323 329	24 SHEETS

SHEET NO. 6
24 SHEETS



Notes:
See sheet 9 of 24 for Superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 9x15-#5 etc., indicates 9 lines of bars with 15 lengths per line.
See sheet 8 of 24 for Parapet reinforcement.
For Section A-A see sheet 9 of 24.
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete to be included with Class X Concrete Superstructure.
See sheet 1 of 24 for scupper locations and sheets 15 and 16 of 24 for scupper details.

DESIGNED	Nicholas J. Savelli
CHECKED	VICTOR H. VELAZ
DRAWN	r.d. cardonell
CHECKED	NJS VWV

S-2-L(230) 12-31-87

EXAMINED
Raj D. Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Jan. 12 1994

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 2 OF 11
STRUCTURE NO. 016-0987

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	517

CONTRACT NO. 60W75

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME :	USER NAME :	DESIGNED :	REVISD :
016-0987-60W75-023-Existing deck.dgn	jsurber	CMK	-
	PLOT SCALE :	CHECKED :	REVISD :
		JAW	-
	PLOT DATE :	DRAWN :	REVISD :
	6/18/2015	CMK	-
		CHECKED :	REVISD :
		JAW	-

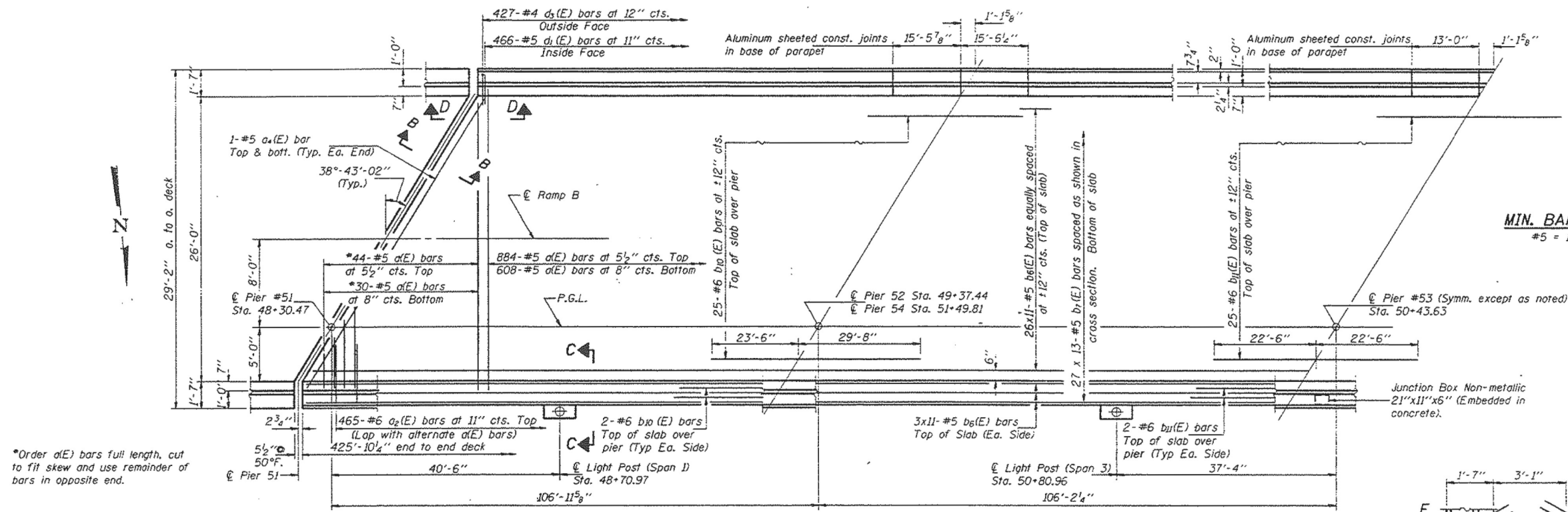
SHEET NO. SEX2 OF SEX11 SHEETS

ILLINOIS FED. AID PROJECT

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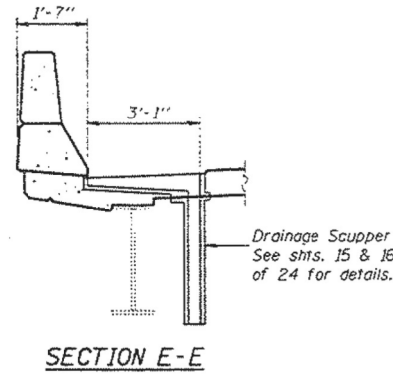
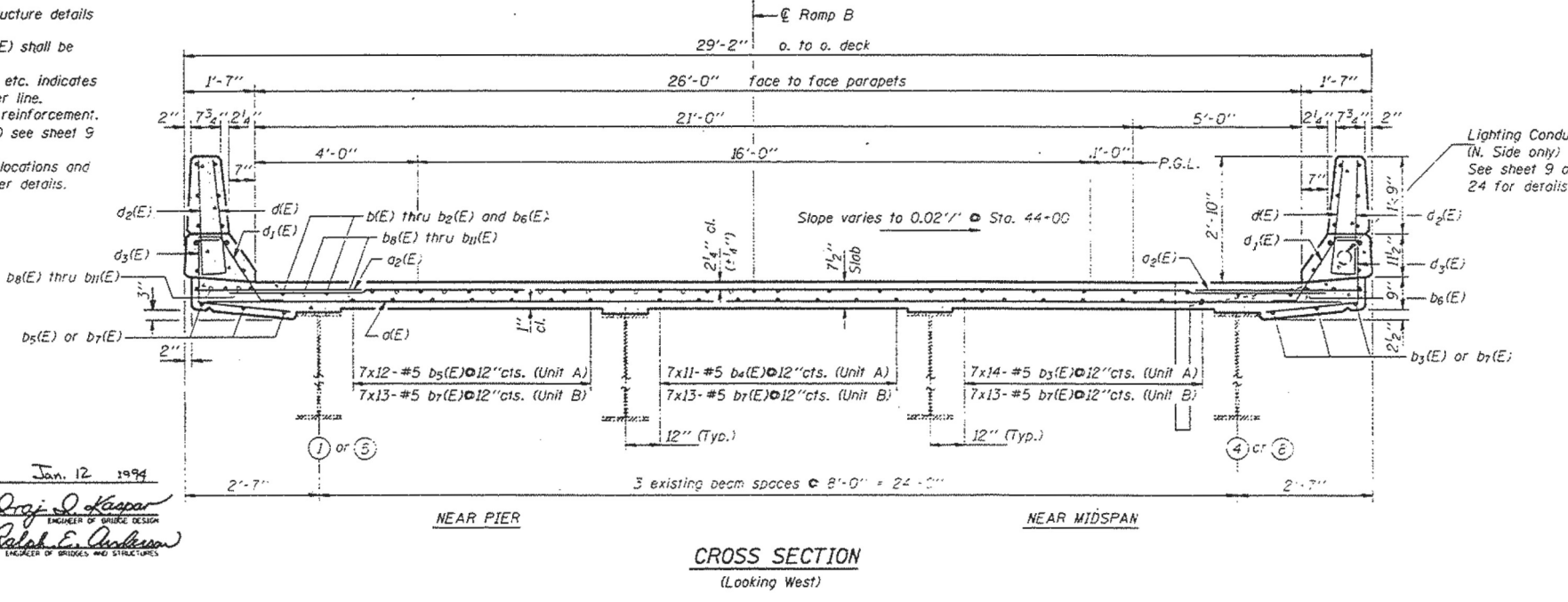
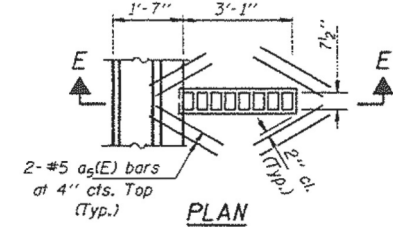
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 7
F.A.I. RT. 55	0707-615B	COOK	383	330	24 SHEETS
FED. AID DIST. NO.	ALIGNED	FED. AID PROJECT			



*Order d(E) bars full length, cut to fit skew and use remainder of bars in opposite end.

Notes: See Sheet 9 of 24 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 26 x 11-#5 etc. indicates 26 lines of bars with 11 lengths per line.
See Sheet 8 of 24 for parapet reinforcement.
For Sections B-B, C-C and D-D see sheet 9 of 24.
See sheet 1 of 24 for scupper locations and sheets 15 and 16 of 24 for scupper details.



DESIGNED <i>Nicholas J. Dowd</i>	EXAMINED <i>Gregory J. Kasper</i>
CHECKED <i>Victor B. Velfz</i>	PASSED <i>Ralph E. Anderson</i>
DRAWN <i>r.b. carbonell</i>	
CHECKED <i>AJS</i>	<i>VHV</i>

SUPERSTRUCTURE (UNIT B)
F.A.I. RT. 55 SEC. 0707-615B
COOK COUNTY
STA. 49+10.93

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
016-0987-60W75-024-Existing deck2.dgn	PLOT SCALE =	CHECKED - JAW	REVISED -
	PLOT DATE = 6/18/2015	DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -

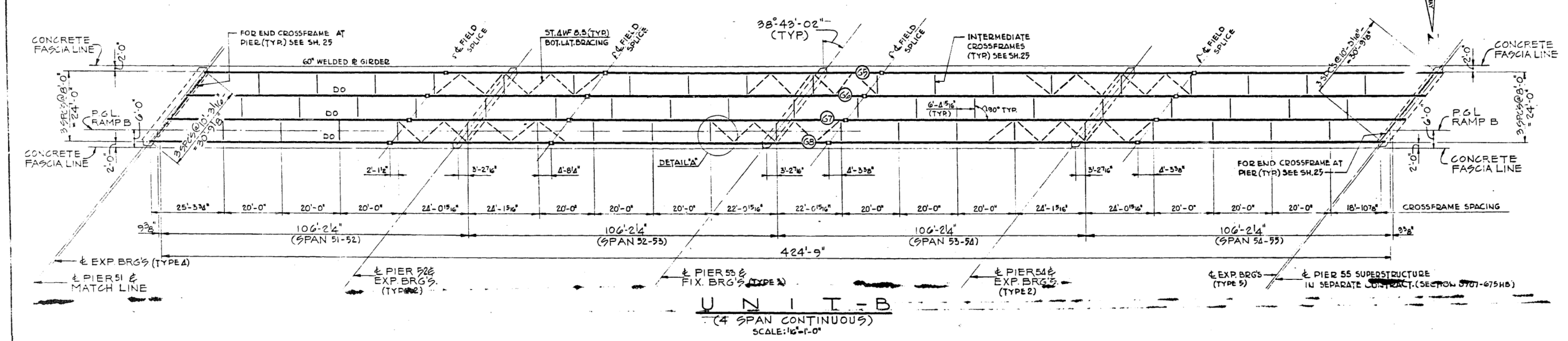
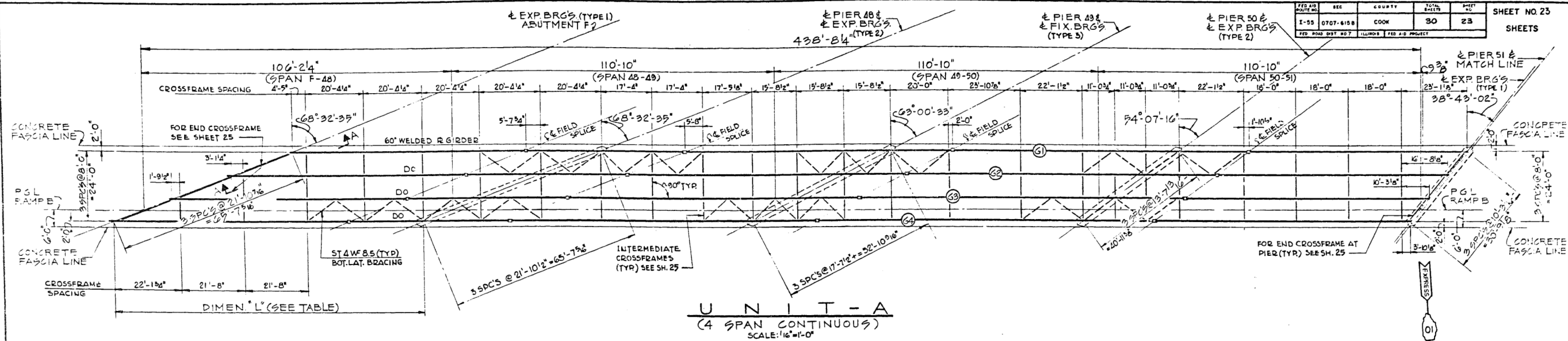
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 3 OF 11
STRUCTURE NO. 016-0987
SHEET NO. SEX3 OF SEX11 SHEETS

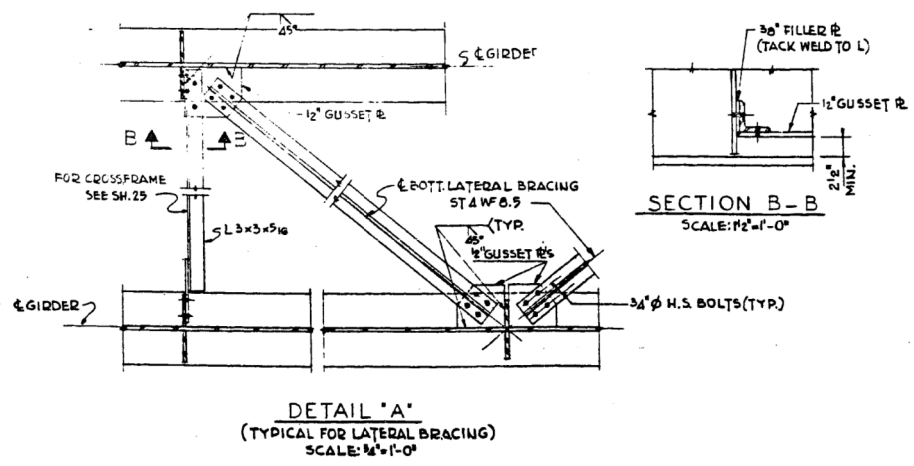
F.A.P. R.T.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	518
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT	SHEET NO. 23
1-55	0707-6158	COOK	30
			23
			SHEETS



GIRDER	SPAN F-48	SPAN 48-49	SPAN 49-50	SPAN 50-51
G1	106'-2 1/4"	99'-2 7/8"	99'-2 7/8"	99'-2 7/8"
G2	106'-2 1/4"	103'-10 3/8"	103'-10 3/8"	103'-10 3/8"
G3	106'-2 1/4"	108'-6 1/2"	108'-6 1/2"	108'-6 1/2"
G4	106'-2 1/4"	113'-1 7/8"	113'-1 7/8"	113'-1 7/8"



BILL OF MATERIALS #		
ITEM	UNIT	QUANTITY
FURNISHING AND ERECTING		
STRUCTURAL STEEL	POUND	749230

* INCLUDES ALL MATERIAL SHOWN ON SH. 23, 24 & 25

NOTES:
 FOR GIRDER DETAILS, SEE SH. 24
 FOR CROSSFRAME DETAILS, SEE SH. 25
 FOR BEARING DETAILS, SEE SH. 26
 FOR DETAILS OF EXPANSION GUARD AT ABUTMENT, SEE SH. 27
 FOR DETAILS OF FINGER & EXPANSION DEVICE AT PIERS 51 & 55, SEE SH. 27
 FOR CAMBER DIAGRAM, TYP. FIELD SPLICE AND WELDING DETAILS, SEE SH. 29
 FOR CONDUIT SUPPORT DETAILS, SEE SHEET 29.

DE LEW, CATHY & CO. ENGINEERS
 DESIGNED BY D.M. JUNDERSON
 DRAWN BY P.A. ALIKAWA
 CHECKED S.H. STODZINKI
 IN CHARGE E.S. MARTINS
 APPROVED L.N. RIAN

JOB NO. 1179

ILLINOIS DIVISION OF HIGHWAYS
 SOUTHWEST EXPRESSWAY
RAMP B
 OVER DES PLAINES RIVER
 FRAMING PLAN
 SCALE: AS NOTED DATE: 9-12-63

FOR INFORMATION ONLY

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 4 OF 11
 STRUCTURE NO. 016-0987

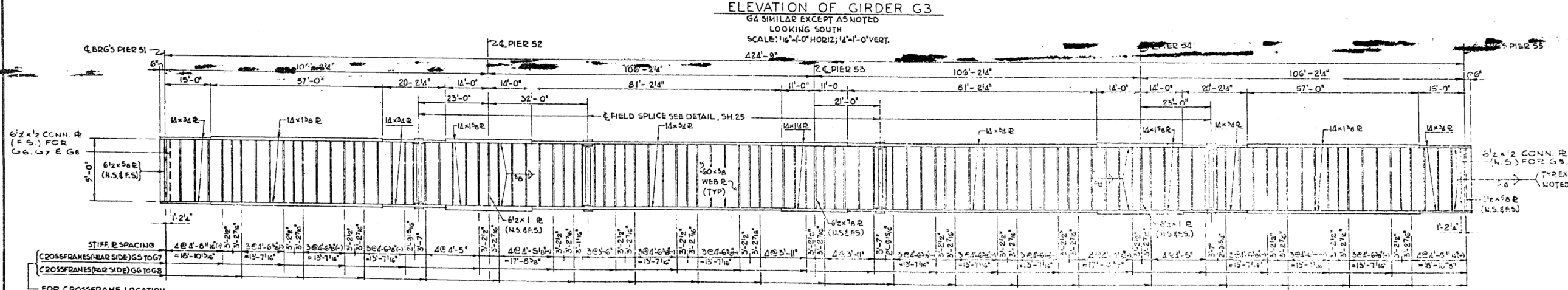
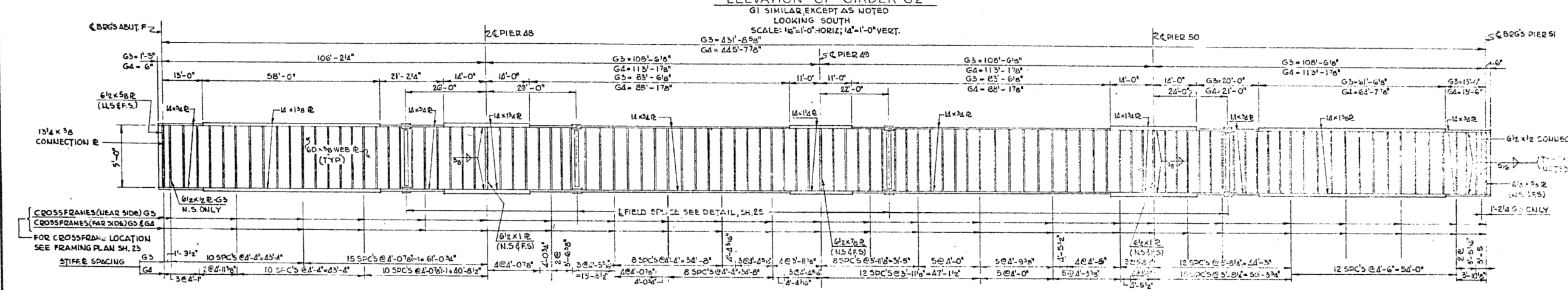
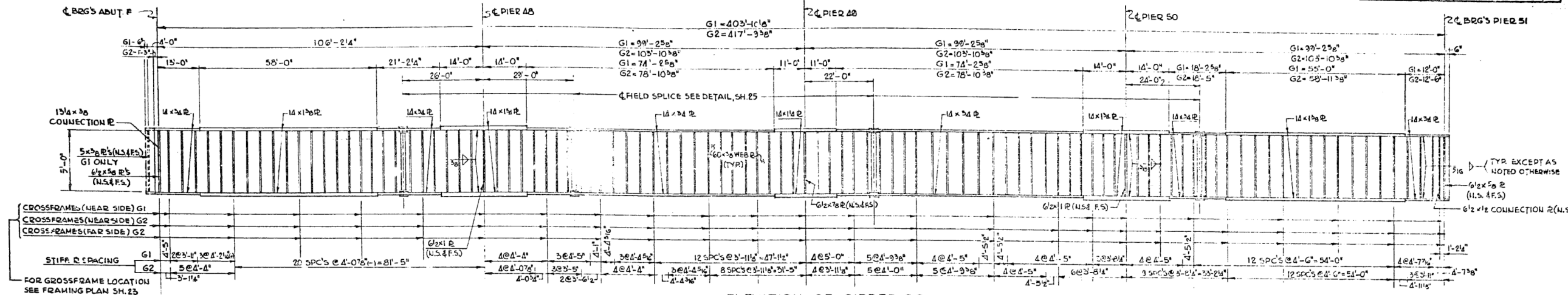
SHEET NO. SEX4 OF SEX11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	519
				CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT				

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 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
016-0987-60W75-025-Existing Framing.dgn		CHECKED - JAW	REVISED -
	PLOT SCALE =	DRAWN - CMK	REVISED -
	PLOT DATE = 6/18/2015	CHECKED - JAW	REVISED -

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NOTES: INTERMEDIATE STIFFENERS 5x8 R (N.S. & F.S.) EXCEPT AT CROSSFRAMES 6x2x1/2 R
ALL STIFFENER R'S TO BE WELDED AT RIGHT ANGLES TO WEB OF GIRDER EXCEPT AT CROSSFRAMES, WHERE THEY SHALL BE VERTICAL.
FOR DETAILS OF BEARING AND INTERMEDIATE STIFFENER R'S, TYPICAL SHOP AND FIELD SPLICES, CROSS FRAMES AND ADDITIONAL CONNECTION R'S FOR END CROSSFRAMES SEE SH. 25.
FOR CONDUIT SUPPORT DETAILS SEE SHEET 29.

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
RAMP B
OVER DES PLAINES RIVER
GIRDER ELEVATIONS
SCALE: AS NOTED DATE: 7-2-13

DE LEW, CATHER & CO. ENGINEERS
DESIGNED BY J.O. COMBETTO
DRAWN BY A. LIUKANE
CHECKED S.H. STUBZINSKI
IN CHARGE E.S. MARJINS
APPROVED L.N. RIAN

JOB NO. 1179

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 5 OF 11
STRUCTURE NO. 016-0987
SHEET NO. SEX5 OF SEX11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	520
CONTRACT NO. 60W75				ILLINOIS FED. AID PROJECT



FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
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		DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -

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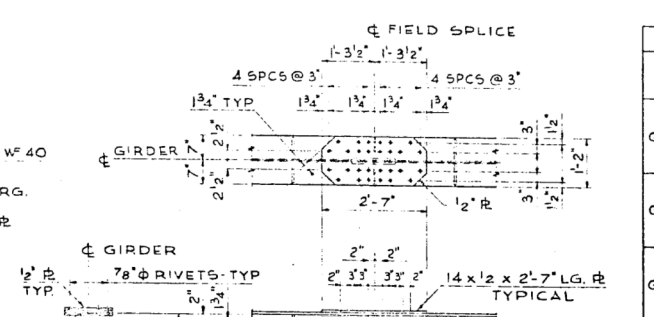
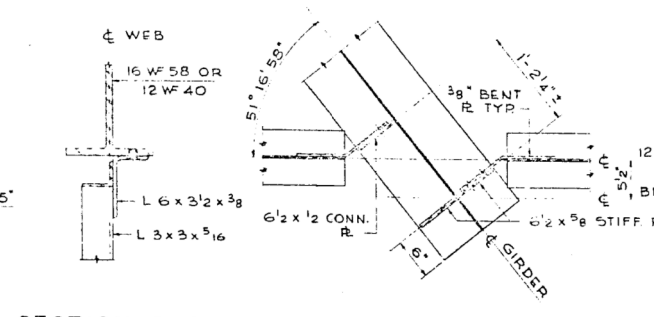
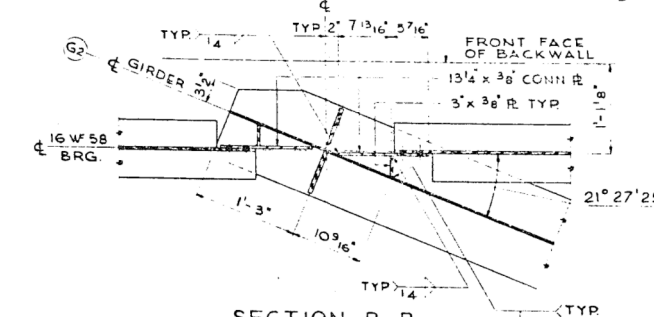
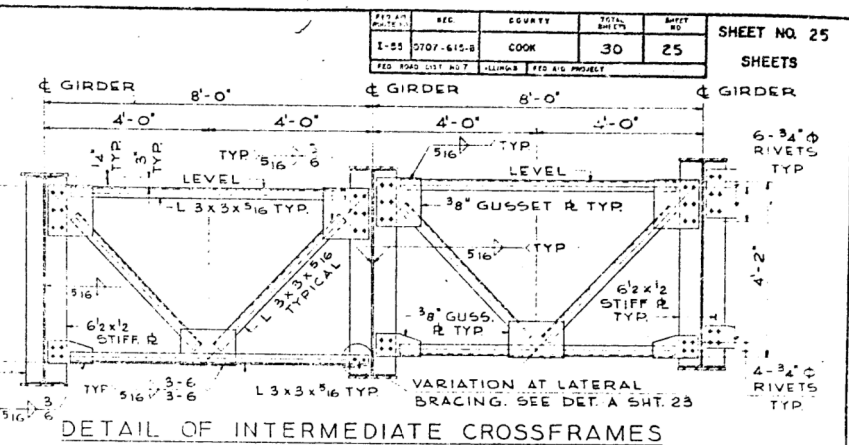
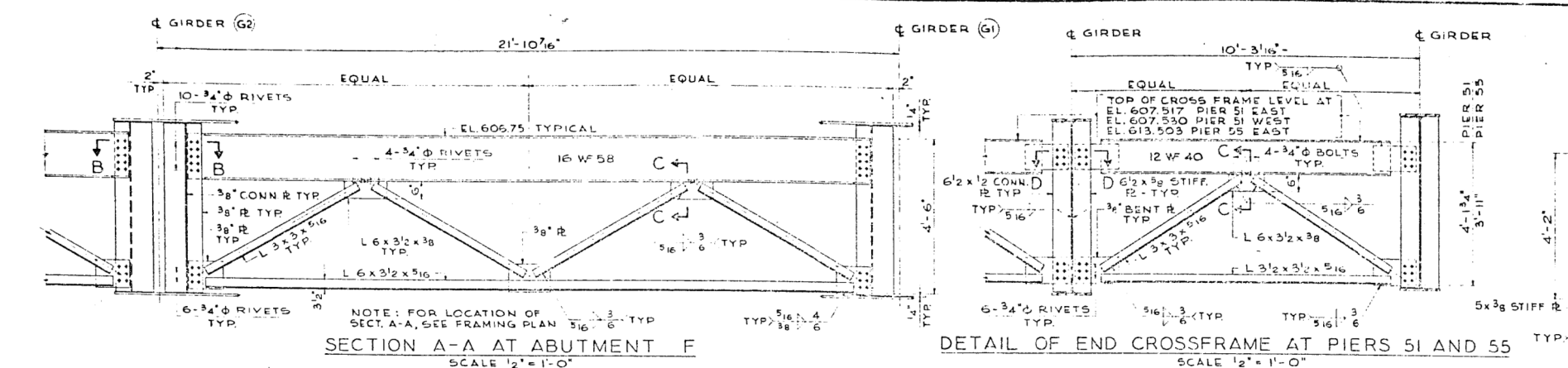
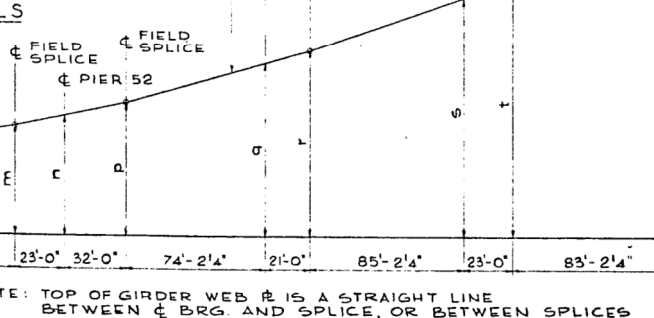
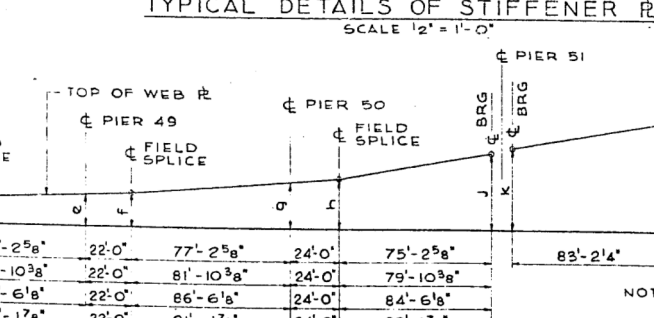
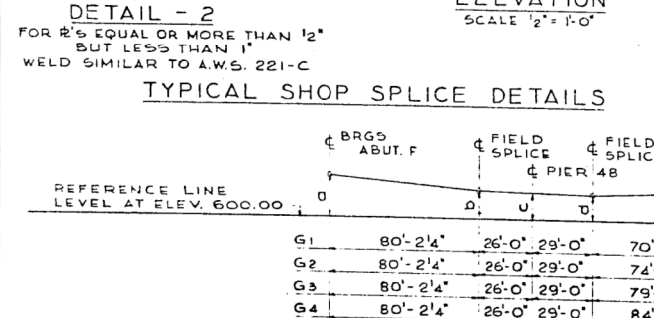
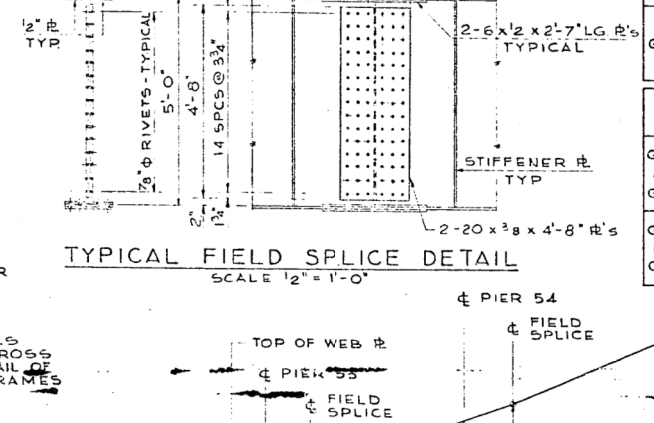
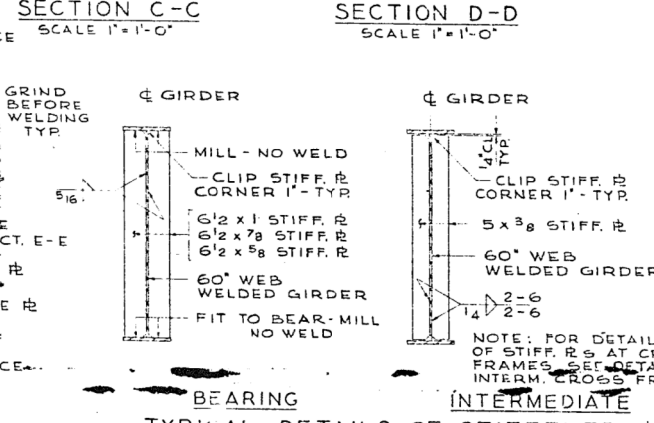
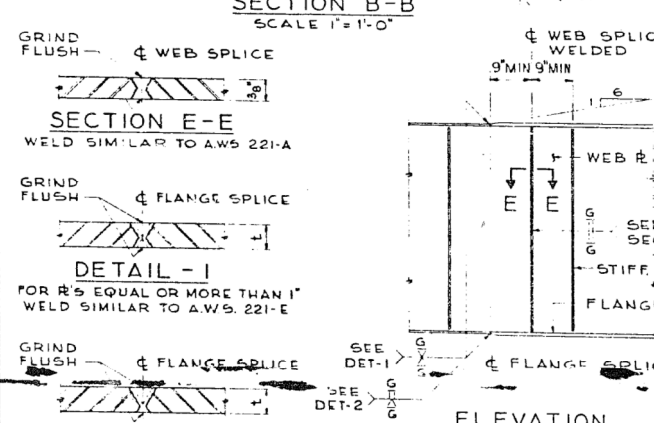


TABLE OF MOMENTS AND REACTIONS

GIRDER	MOMENTS (KIP-FT.)										REACTIONS (K)					
	4 SPAN F-48	PIER-48	5 SPAN 48-49	PIER-49	5 SPAN 49-50	PIER-50	4 SPAN 50-51	ABUT-F	PIER-48	PIER-49	PIER-50	PIER-51	PIER-48	PIER-49	PIER-50	PIER-51
G1	D.L. 1258	-1665	419	-999	479	-1545	1061	60	168	129	162	55				
	L.L. 416	-381	291	-313	288	-362	390	20	34	31	33	20				
	I. 89	-83	65	-70	65	-80	87	4	7	7	7	5				
	TOTAL 1763	-2129	775	-1378	832	-1987	1538	84	209	167	202	80				
G2	D.L. 1030	-1420	411	-930	420	-1381	958	49	141	113	140	48				
	L.L. 963	-909	728	-773	721	-883	954	47	79	73	78	47				
	I. 207	-196	160	-169	159	-196	207	10	17	16	17	10				
	TOTAL 2200	-2525	1299	-1872	1300	-2460	2119	106	237	202	235	105				
G3	D.L. 1000	-1479	474	-1033	457	-1510	1058	48	142	119	146	50				
	L.L. 975	-955	731	-841	731	-968	996	47	81	76	81	47				
	I. 211	-205	157	-181	158	-208	214	10	17	16	17	10				
	TOTAL 2186	-2639	1362	-2055	1346	-2686	2268	105	242	211	244	107				
G4	D.L. 1180	-1860	655	-1312	593	-1980	1391	58	178	151	184	63				
	L.L. 421	-428	326	-389	329	-446	446	20	35	34	36	20				
	I. 92	-92	69	-82	69	-94	94	4	8	7	8	4				
	TOTAL 1693	-2380	1050	-1783	991	-2520	1931	82	221	192	228	87				



NOTE: TOP OF GIRDER WEB IS A STRAIGHT LINE BETWEEN BRG. AND SPlice, OR BETWEEN SPlices

GIRDER	a	b	c	d	e	f	g	h	j
G1	80'-2 1/4"	26'-0" 29'-0"	70'-2 5/8"	22'-0"	77'-2 5/8"	24'-0"	75'-2 5/8"		
G2	80'-2 1/4"	26'-0" 29'-0"	74'-10 3/8"	22'-0"	81'-10 3/8"	24'-0"	79'-10 3/8"		
G3	80'-2 1/4"	26'-0" 29'-0"	79'-6 1/8"	22'-0"	86'-6 1/8"	24'-0"	84'-6 1/8"		
G4	80'-2 1/4"	26'-0" 29'-0"	84'-1 7/8"	22'-0"	91'-1 7/8"	24'-0"	89'-1 7/8"		

GIRDER	k	m	n	p	q	r	s	t	u
G5	8.317	9.050	9.316	9.688	10.739	11.037	12.419	12.792	14.515
G6	8.123	8.840	9.103	9.468	10.506	10.800	12.166	12.535	14.247
G7	7.910	8.612	8.870	9.229	10.254	10.544	11.895	12.260	13.958
G8	7.717	8.404	8.658	9.012	10.023	10.309	11.645	12.005	13.690

DE LEW, CATHER & CO. ENGINEERS
 DESIGNED BY J. COMBETTO
 DRAWN BY J. NOWACK
 CHECKED S.H. STUJINSKI
 IN CHARGE E.S. MARTINS
 APPROVED L.N. RIAN

GIRDERS G1 THRU G4

GIRDERS G5 THRU G8

FOR INFORMATION ONLY

ILLINOIS DIVISION OF HIGHWAYS
 SOUTHWEST EXPRESSWAY
RAMP B
 OVER DES PLAINES RIVER
 GIRDER DETAILS
 SCALE: AS NOTED DATE: 9-12-13

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 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME	USER NAME	DESIGNED	CHECKED	PLOT SCALE	PLOT DATE
016-0987-60W75-827-Existing Steel2.dgn	jsurber	CMK	JAW		6/18/2015

DESIGNED	CHECKED	DRAWN	CHECKED	REVISIONS
CMK	JAW	CMK	JAW	

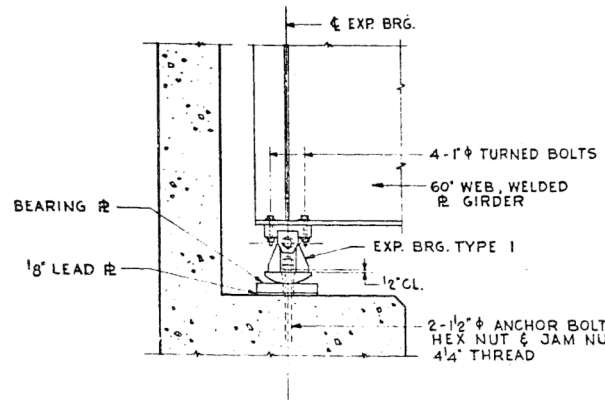
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 6 OF 11
 STRUCTURE NO. 016-0987
 SHEET NO. SEX6 OF SEX11 SHEETS

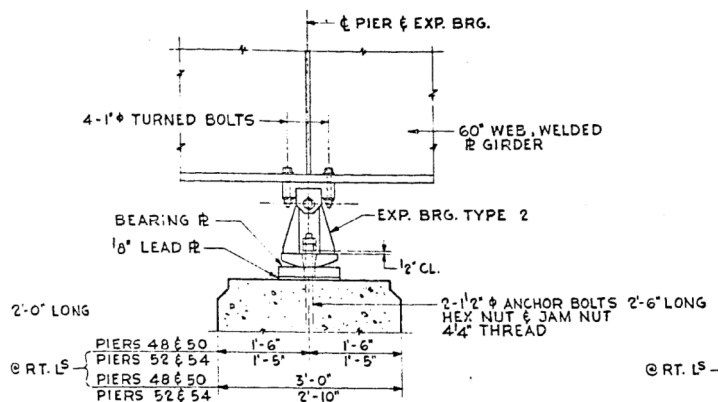
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-0378-R	COOK	787	521

CONTRACT NO. 60W75
 ILLINOIS FED. AID PROJECT

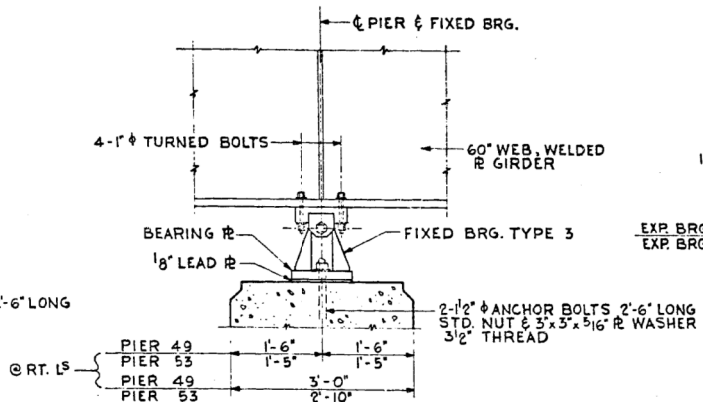
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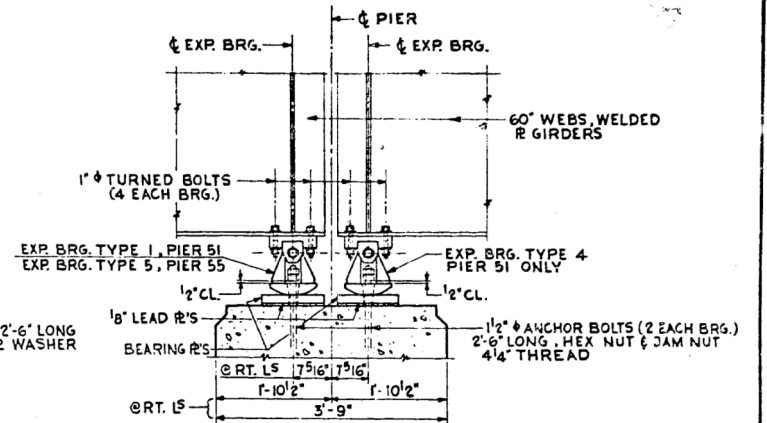
BEARING DETAIL AT ABUTMENT F
SCALE: 3/4" = 1'-0"



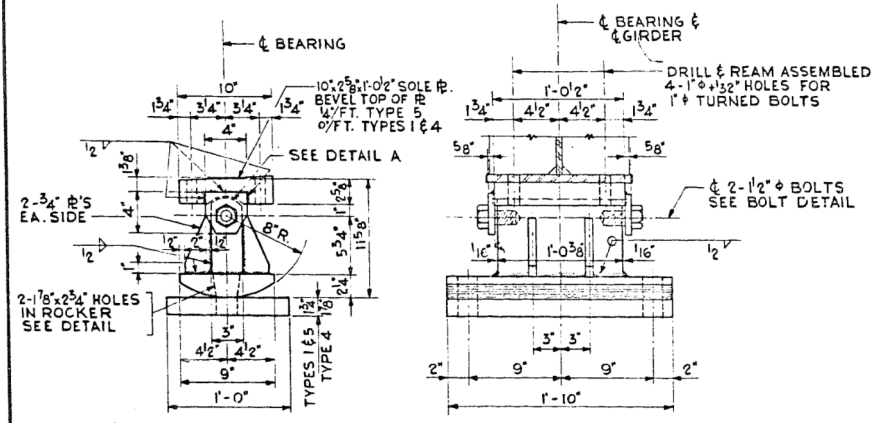
BEARING DETAIL AT PIERS 48, 50, 52 & 54
SCALE: 3/4" = 1'-0"



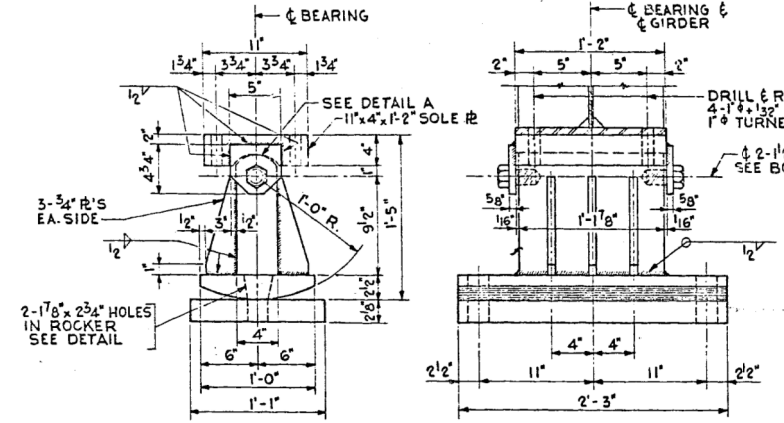
BEARING DETAIL AT PIERS 49 & 53
SCALE: 3/4" = 1'-0"



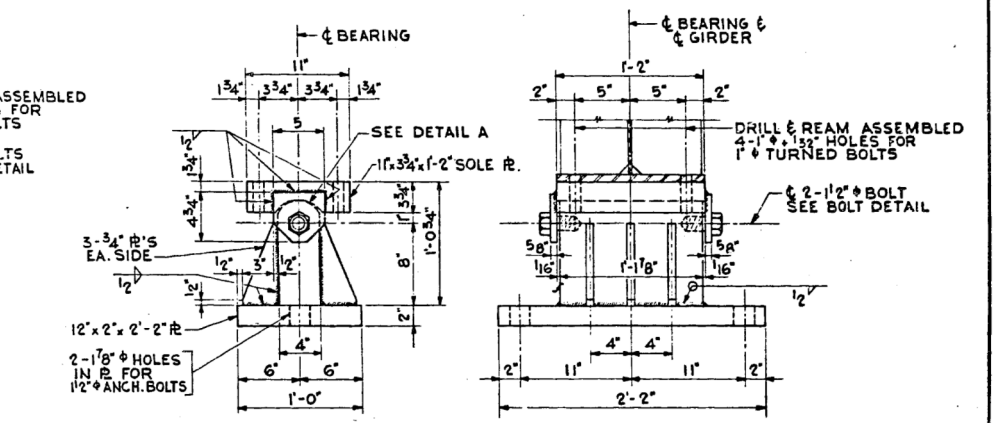
BEARING DETAIL AT PIERS 51 & 55
SCALE: 3/4" = 1'-0"



ROCKER DETAIL OF EXPANSION BEARING TYPES 1, 4 & 5
SCALE: 1/2" = 1'-0"



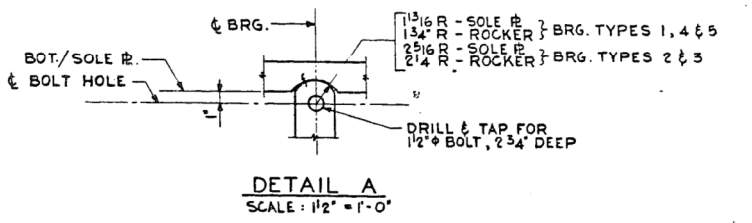
ROCKER DETAIL OF EXPANSION BEARING TYPE 2
SCALE: 1/2" = 1'-0"



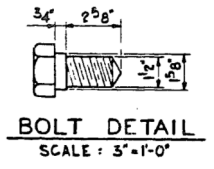
BOLSTER DETAIL OF FIXED BEARING TYPE 3
SCALE: 1/2" = 1'-0"

BRG. TYPE	NO. REQ'D	TOTAL WEIGHT LBS.
1	8	4001
2	16	14116
3	8	4635
4	4	2027
5	4	1973
		26752

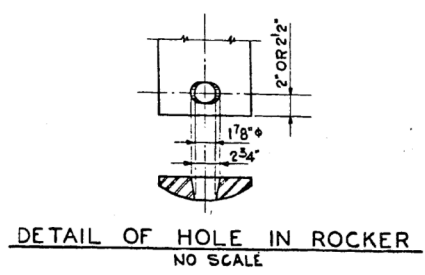
BILL OF MATERIAL		
TEM	UNIT	QUANTITY
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	26,750



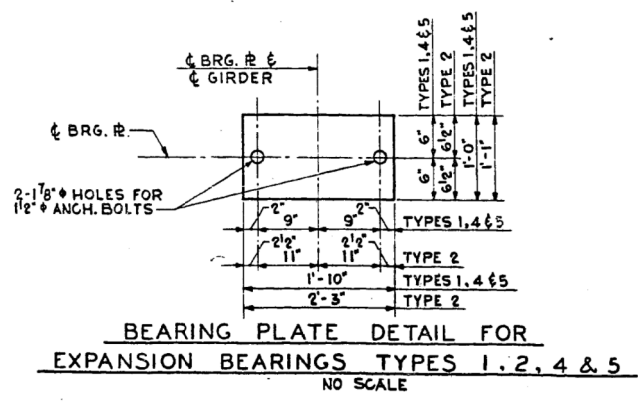
DETAIL A
SCALE: 1/2" = 1'-0"



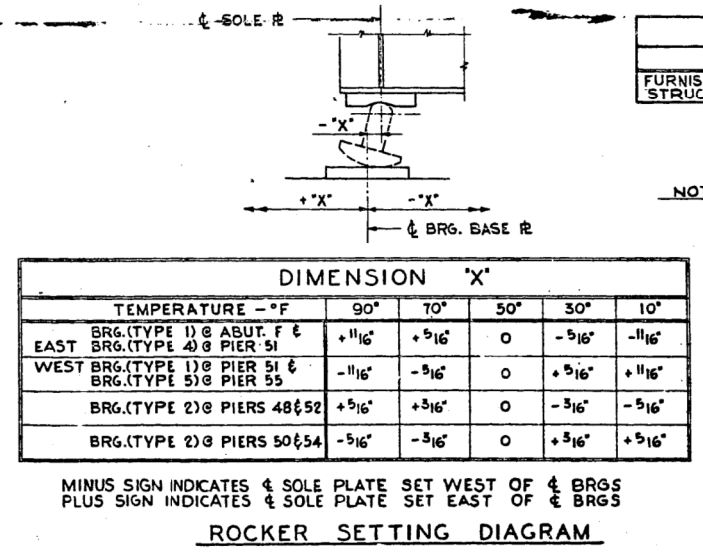
BOLT DETAIL
SCALE: 3" = 1'-0"



DETAIL OF HOLE IN ROCKER
NO SCALE



BEARING PLATE DETAIL FOR EXPANSION BEARINGS TYPES 1, 2, 4 & 5
NO SCALE



ROCKER SETTING DIAGRAM

NOTE: FOR ANCHOR BOLT PROJECTIONS ABOVE TOP OF CONCRETE SEE SHEETS 11 THRU 19

ILLINOIS DIVISION OF HIGHWAYS
SOUTHWEST EXPRESSWAY
RAMP B
OVER DES PLAINES RIVER
BEARING DETAILS

SCALE: AS NOTED DATE: 9-12-63

DE LEUW, CATHER & CO. ENGINEERS
DESIGNED BY J.O. COMBETTO
DRAWN BY R. PIETERS
CHECKED J.W. NITZER
IN CHARGE E.S. MARTINS
APPROVED L.N. RIAN

JOB NO. 1179

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 7 OF 11
STRUCTURE NO. 016-0987

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	522
CONTRACT NO. 60W75				

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
016-0987-60W75-828-Existing Steel3.dgn		CHECKED - JAW	REVISED -
		DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -

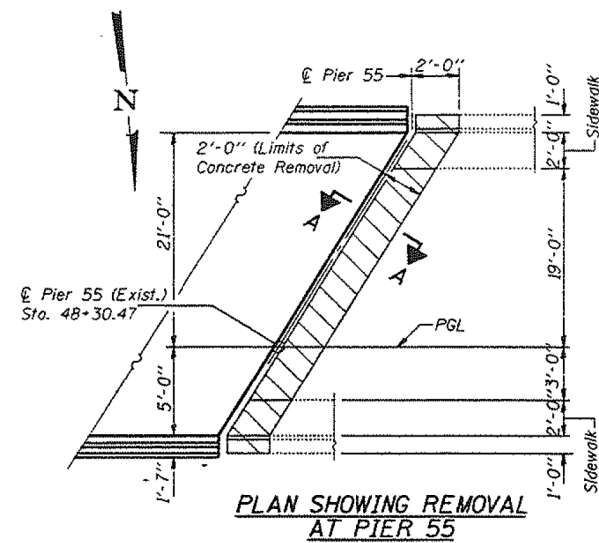
SHEET NO. SEX7 OF SEX11 SHEETS

ILLINOIS FED. AID PROJECT

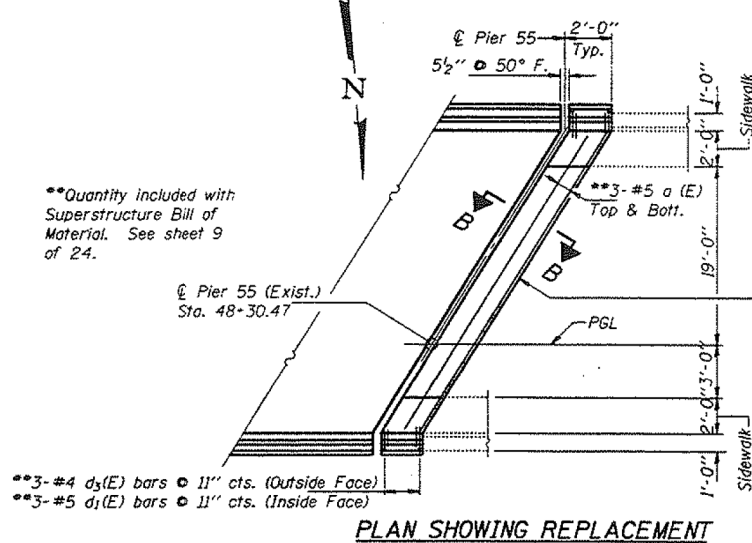
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

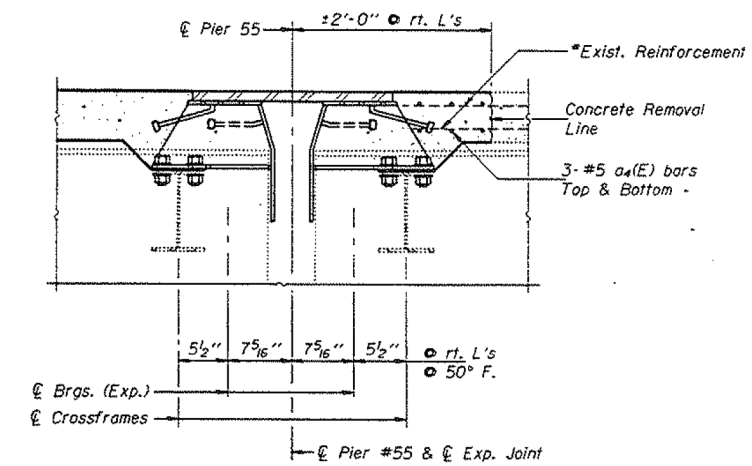
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FED. ROAD DIST. NO. 7		BALANCE	FED. AID PROJECT		



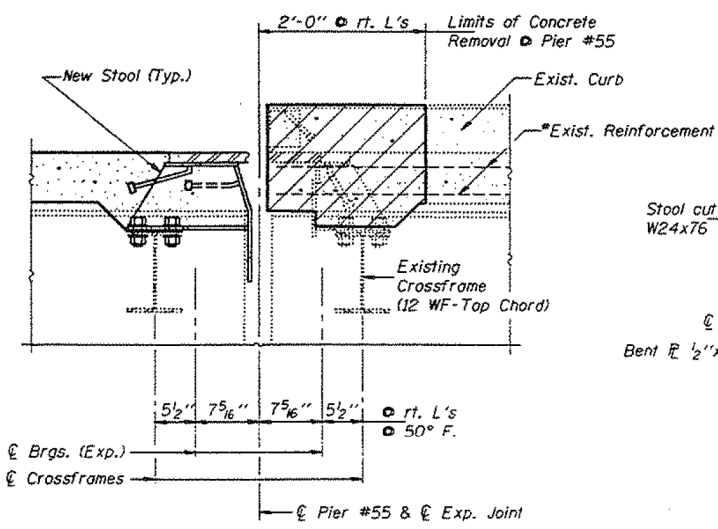
PLAN SHOWING REMOVAL AT PIER 55



PLAN SHOWING REPLACEMENT AT PIER 55

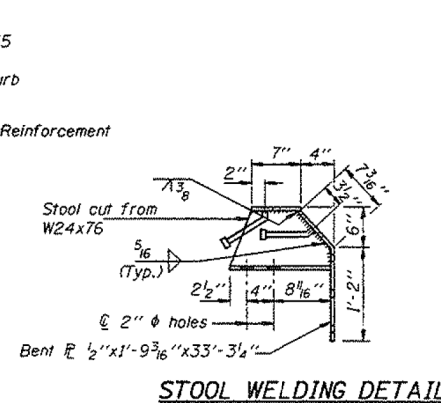


SECTION B-B

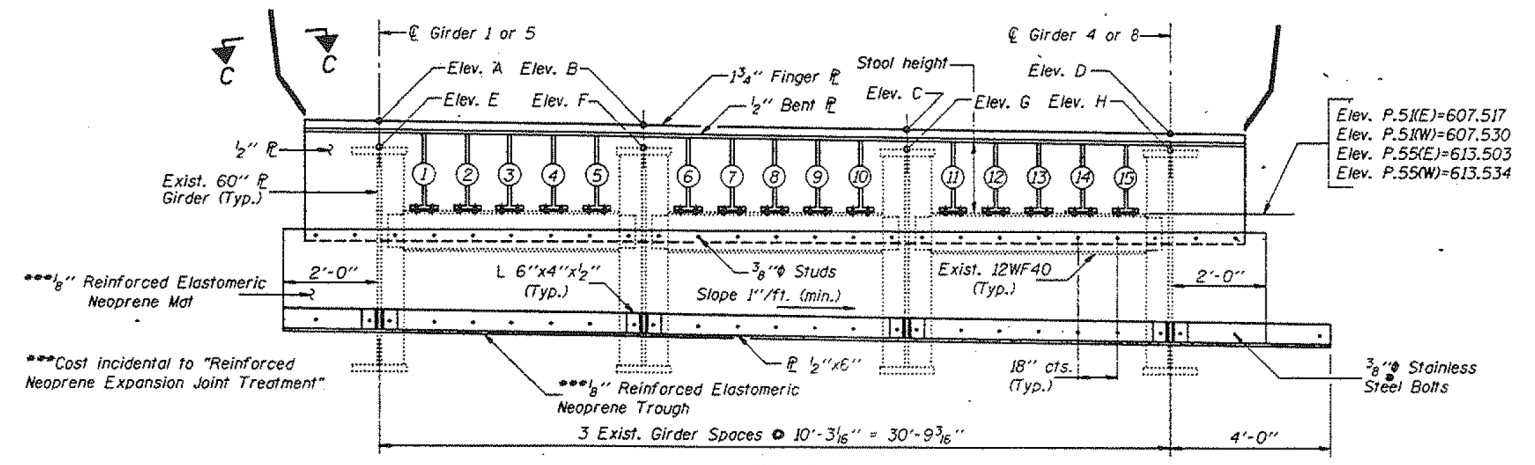


SECTION A-A

*Existing reinforcement bars extending into the new construction shall be straightened, cleaned and incorporated into the new concrete. The Contractor must exercise caution when removing deck slab so as not to damage existing reinforcement.

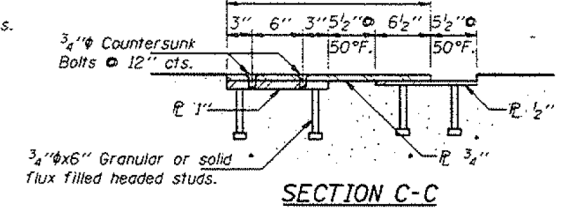


STOOL WELDING DETAIL



VIEW B-B

***ELEVATIONS		A	B	C	D	E	F	G	H
Pier 51	Span 50-51	609.135	608.921	608.708	608.496	608.362	608.168	607.955	607.761
	Span 51-52	609.158	608.944	608.730	608.518	608.385	608.191	607.978	607.785
Pier 55	Span 54-55	615.341	615.052	614.764	614.476	614.268	614.30	614.011	613.743
	Span 55-56	615.392	615.104	614.815	614.527	614.602	614.334	614.045	613.777



SECTION C-C

DESIGNED: *Nicholas J. South*
 CHECKED: *Victor H. Vellez*
 DRAWN: *r.b. carbonell*
 CHECKED: *MJS VHV*

EXAMINED: *Greg J. Kasper*
 PASSED: *Ralph E. Anderson*

Jan. 12, 1994

STOOL HEIGHTS		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Pier 51	Span 50-51	1'-4 1/2"	1'-4 1/16"	1'-3 3/8"	1'-3 1/2"	1'-2 5/8"	1'-1 5/16"	1'-1 1/16"	1'-0 9/16"	1'-0 1/16"	11 3/8"	10 3/16"	10 1/16"	10"	9 1/2"	
	Span 51-52	1'-4 3/4"	1'-4 5/16"	1'-3 13/16"	1'-3 3/8"	1'-2 15/16"	1'-2 3/16"	1'-1 1/16"	1'-1 1/4"	1'-0 11/16"	1'-0 3/8"	11 5/8"	11 1/8"	10 15/16"	10 1/4"	9 3/4"
Pier 55	Span 54-55	1'-7"	1'-6 3/8"	1'-5 3/4"	1'-5 1/8"	1'-4 1/2"	1'-3 1/2"	1'-2 7/8"	1'-2 1/4"	1'-1 5/8"	1'-1 1/16"	1'-0 1/16"	11 7/16"	10 3/16"	10 3/16"	9 5/16"
	Span 55-56	1'-7 3/8"	1'-6 3/4"	1'-6 3/16"	1'-5 9/16"	1'-4 15/16"	1'-3 5/8"	1'-3 1/16"	1'-2 7/16"	1'-2 1/8"	1'-1 1/2"	1'-0 1/2"	11 1/8"	11 1/4"	10 5/8"	10"

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	3.3

EXPANSION JOINT DETAILS
 F.A.I. RT. 55 SEC. 0707-615B
 COOK COUNTY
 STA. 49+10.93

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - CMK	REVISED -
		CHECKED - JAW	REVISED -
		DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -
PLOT SCALE =			
PLOT DATE = 6/18/2015			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

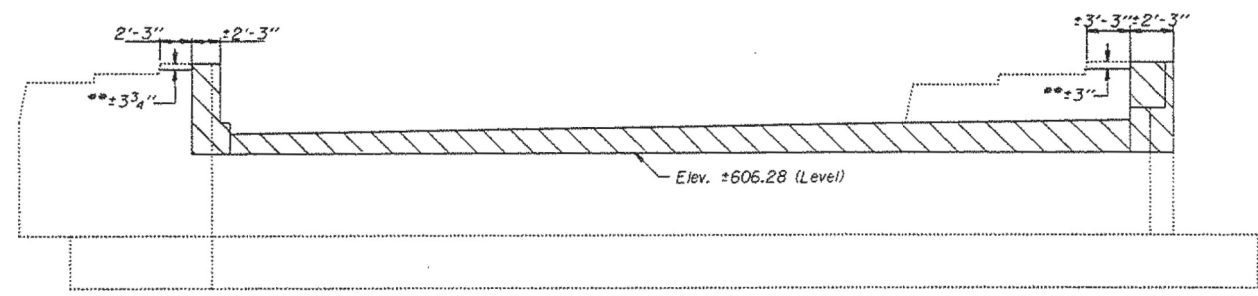
EXISTING PLAN INFORMATION 9 OF 11
STRUCTURE NO. 016-0987
SHEET NO. SEX9 OF SEX11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	524
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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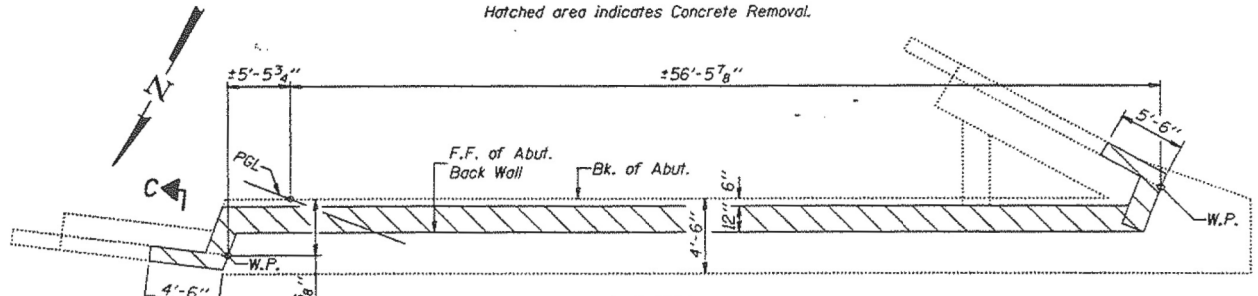
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEETS	SHEET NO.
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PRELIMINARY PROJECT NO.	ILLINOIS	FED. AID PROJECT		

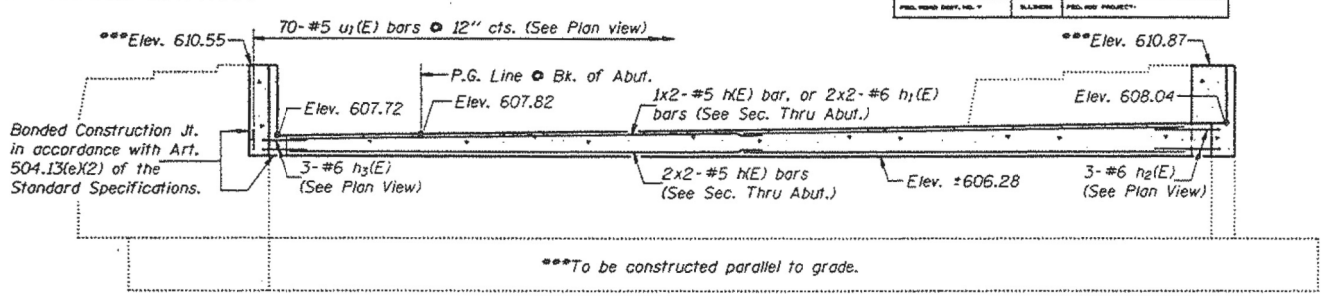


**ELEVATION SHOWING REMOVAL
AT ABUTMENT F**

**Saw Cut top of existing wingwall to match new construction.

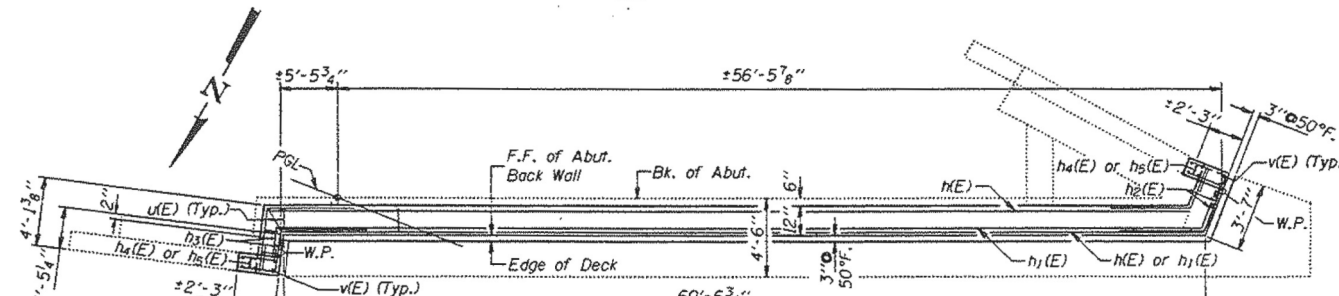


**PLAN SHOWING REMOVAL
AT ABUTMENT F**

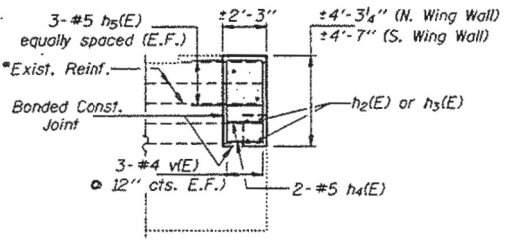
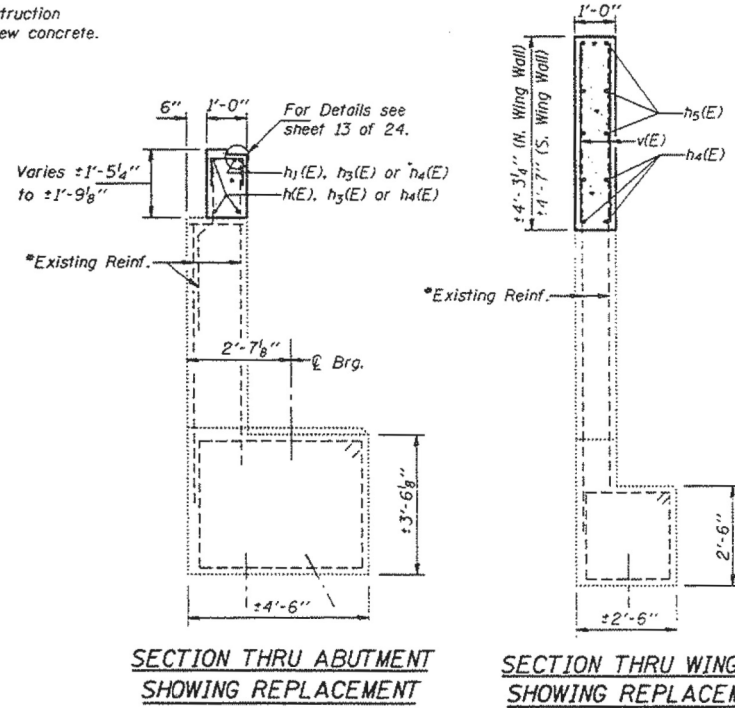
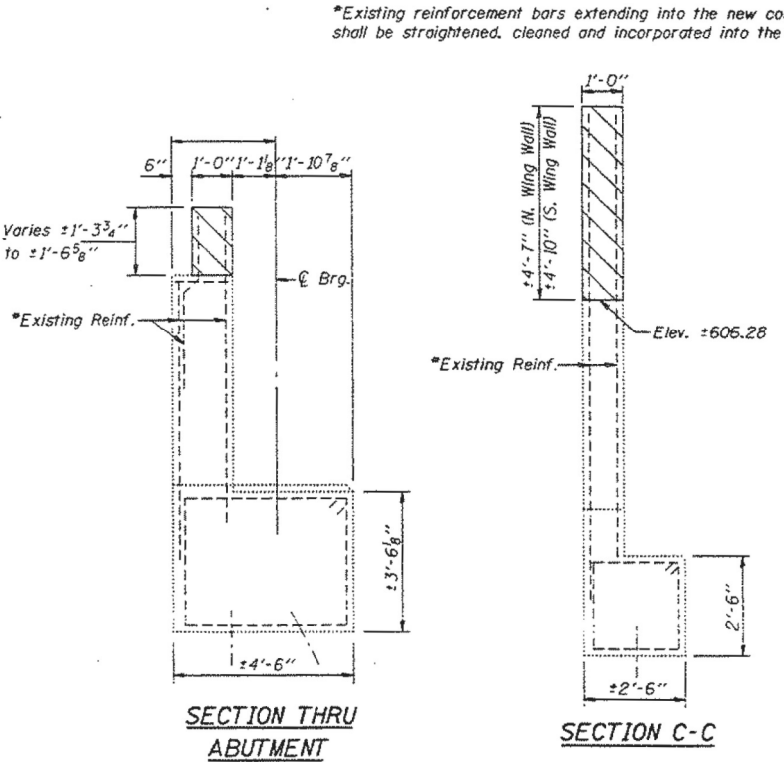
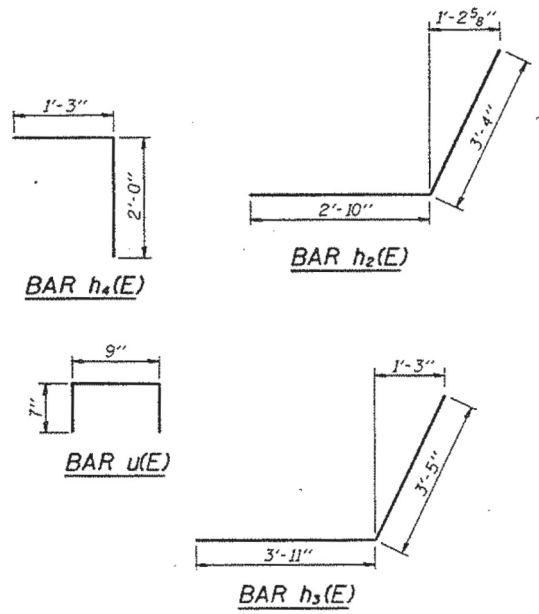


**ELEVATION SHOWING REPLACEMENT
AT ABUTMENT F**

***To be constructed parallel to grade.



**PLAN SHOWING REPLACEMENT
AT ABUTMENT F**



**WINGWALL ELEVATION (VIEW A-A)
SHOWING NEW CONSTRUCTION**

BILL OF MATERIAL

Bar No.	Size	Length	Shape
h(E)	#5	31'-4"	—
h1(E)	#6	31'-7"	—
h2(E)	#6	6'-2"	✓
h3(E)	#6	7'-4"	✓
h4(E)	#5	3'-3"	✓
h5(E)	#5	2'-0"	—
u(E)	#5	1'-11"	□
v(E)	#4	4'-2"	—
Concrete Removal Cu. Yd.		4.3	
Reinf. Bars Epoxy Coated		Lbs. 710	

DESIGNED *Nicholas J. Dall*
CHECKED *Vernor H. Velz*
DRAWN *r.b. carbonell*
CHECKED *NJS V#V*

EXAMINED *Greg J. Kaspar*
PASSED *Ralph E. Anderson*

Jan. 12, 1994

**SECTION THRU
ABUTMENT**

SECTION C-C

**SECTION THRU ABUTMENT
SHOWING REPLACEMENT**

**SECTION THRU WINGWALL
SHOWING REPLACEMENT**

**ABUTMENT DETAILS
F.A.I. RT. 55 SEC. 0707-615B
COOK COUNTY
STA. 49+10.93**

Note: Quantity of Class X Concrete this sheet is included with Superstructure Bill of Material. See sheet 9 of 24.

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

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	PLOT DATE = 6/18/2015	DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

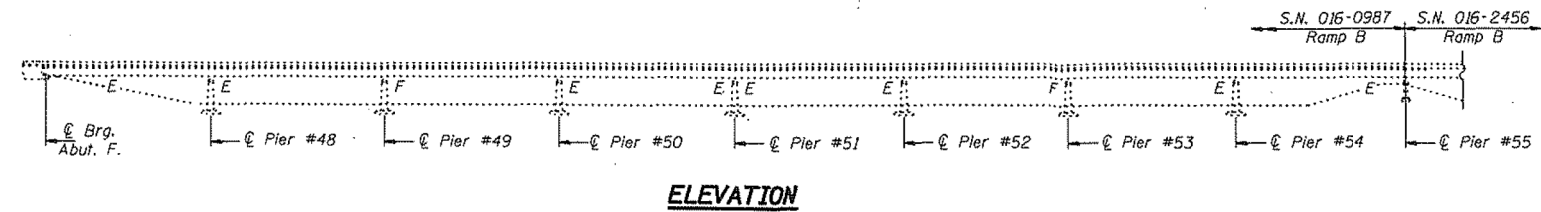
EXISTING PLAN INFORMATION 10 OF 11
STRUCTURE NO. 016-0987
SHEET NO. SEX10 OF SEX11 SHEETS

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

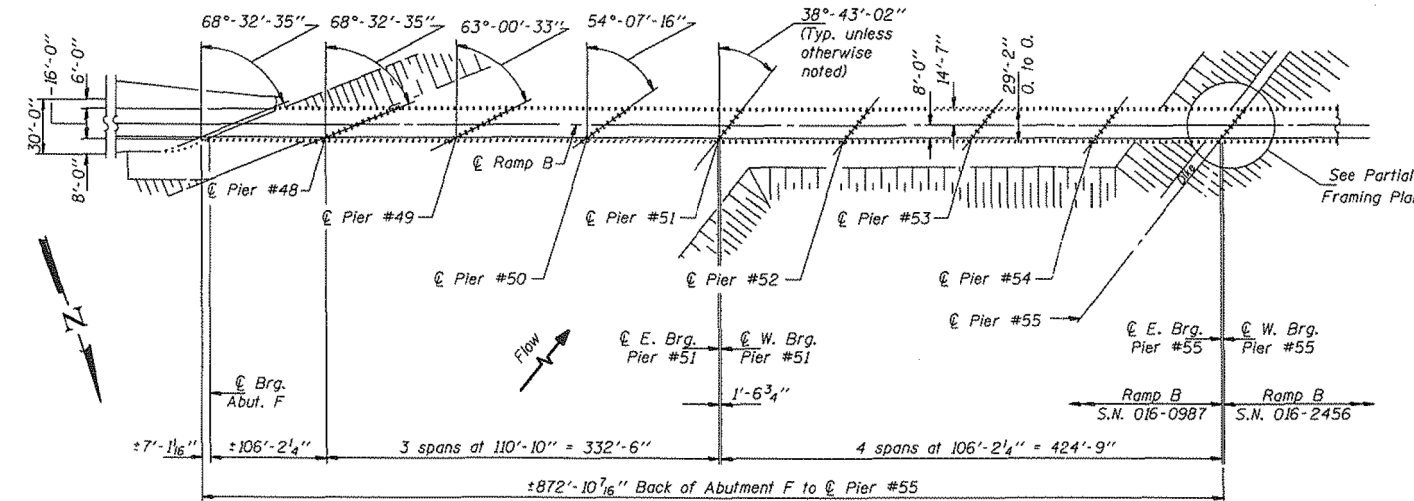
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

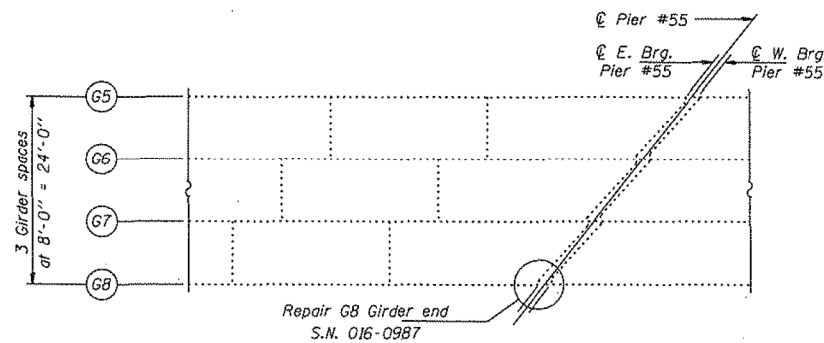
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO. / SHEETS
F.A.I. 55		COOK		1 /
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



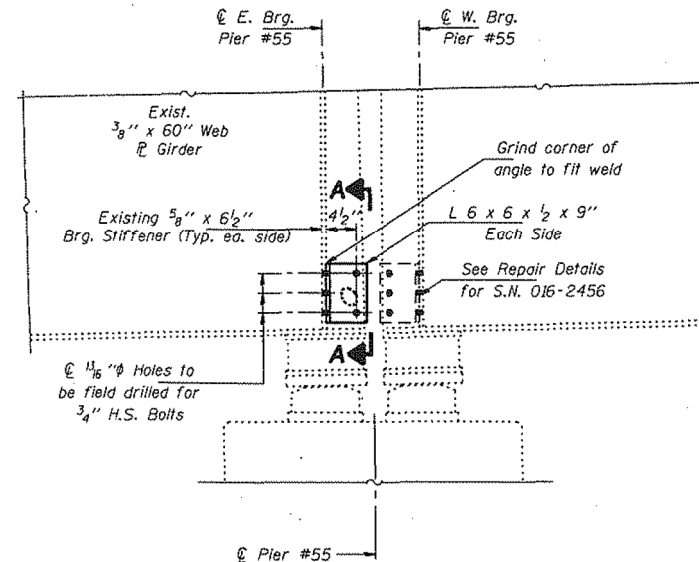
ELEVATION



PLAN



PARTIAL FRAMING PLAN



PARTIAL ELEVATION
BEAM G8

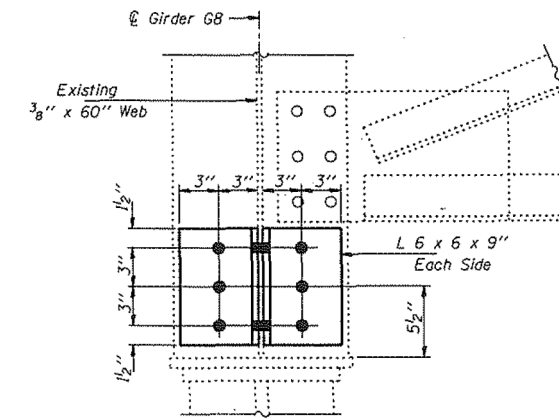
GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat for the exterior face and bottom flange of the fascia girder shall be Interstate Green, Munsell No. 7.5G 4/8. The color of the acrylic finish coat for steel interior locations shall be Gray, Munsell No. 5B 7/1. See Special Provision for "Cleaning and Painting New Metal Structures".

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project. Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures".



SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	34

DESIGNED	C.M.E.	19 99
CHECKED	G.T.B.	EXAMINED
DRAWN	D-terbert	PASSED
CHECKED	C.M.E. V.H.V.	ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
F.A.I. 55 (RAMP B) OVER DES PLAINES RIVER
SEC. 0707-6158
COOK COUNTY
S.N. 016-0987

PRE - FINAL

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

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	PLOT DATE = 6/18/2015	DRAWN - CMK	REVISED -
		CHECKED - JAW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN INFORMATION 11 OF 11
STRUCTURE NO. 016-0987

SHEET NO. SEX11 OF SEX11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
372	2013-037B-R	COOK	787	526
			CONTRACT NO. 60W75	
ILLINOIS FED. AID PROJECT				

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Bench Mark:
Chiseled square on NW corner of concrete wingwall at NE corner of NB IL-171 Bridge over Sanitary & Ship Canal, El. 625.62.

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on NAVD29 Datum. NAVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

Existing Structure: S.N. 016-0487 built in 1964 under F.A. Route 133, Sections 0707-626B & 0707-610HB, consists of a 7 1/2" concrete deck with a 2" microsilica overlay. The structure consists of an eleven span bridge. The structure is supported by 10 multi-column piers, founded on spread footings or BP piles, and 2 abutments founded on BP piles. The structure is 794'-7" back to back of abutments, with an out to out deck width which varies from 36'-0" to 38'-8 1/2". The structure has varying skew angles. Traffic is to be maintained utilizing crossovers.

No salvage.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exst. Construction)

f'c = 3,500 psi
fy = 40,000 psi (Reinforcement)
fy = 36,000 psi (Structural Steel)

LOADING HS20-44

No future wearing surface allowed.

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.04g
Site Coefficient (S) = 1.0

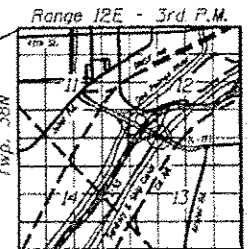
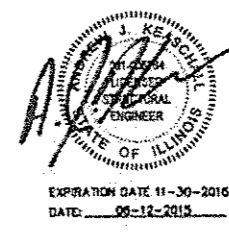
APPROVED

For Structural Adequacy Only

De Carl Perry
Engineer of Bridges & Structures

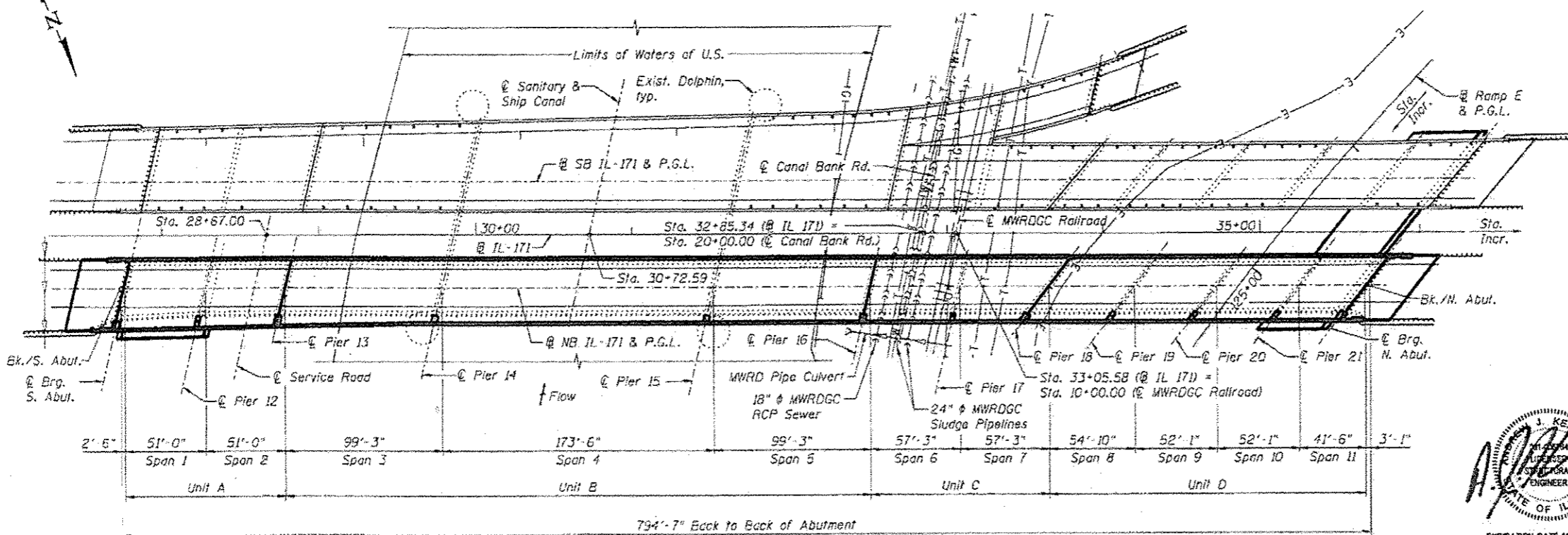
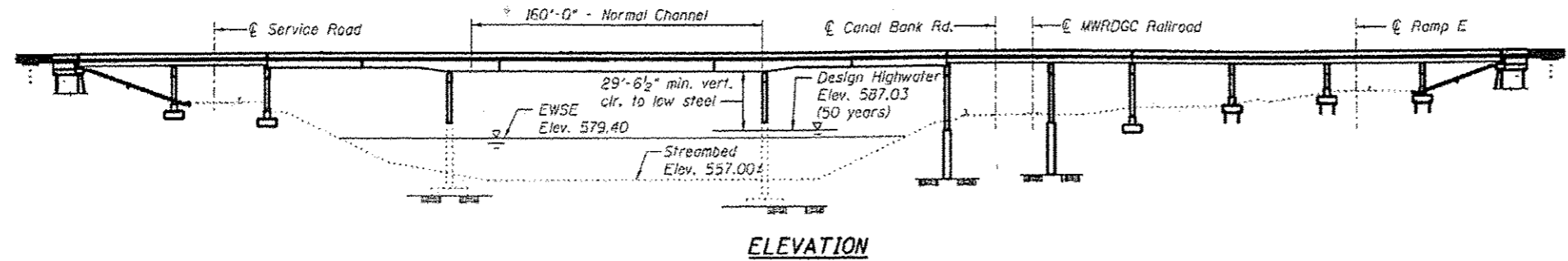
EXISTING UTILITY LEGEND

- S — Underground Storm Sewer
- W — Underground Water Main
- G — Underground Gas Line
- T — Underground Telephone Line
- E — Underground Electrical Line
- ⊙ Existing Drainage Structure



Proposed Rehabilitation

LOCATION SKETCH



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)				
	Pier 13	Pier 14	Pier 15	Pier 16
0.100	550.0	553.0	553.0	585.7
0.500	589.0	553.0	553.0	585.4

Design scour elevations estimated from existing data.

WATERWAY INFORMATION

Flow	Freq. Yr.	C.F.S.	Opening Sq. Ft.		W.H.E. Exist.	W.H.E. Prop.	Head - Ft.		Headwater El.	
			Exist.	Prop.			Exist.	Prop.	Exist.	Prop.
Design	10	8,500	6,997	6,997	583.92	0.00	0.00	583.92	583.92	583.92
Base	100	12,800	8,279	8,279	588.03	0.00	0.00	588.03	588.03	588.03
Overtopping	>500									
Max. Calc.	500	16,100	9,439	9,439	591.44	0.00	0.00	591.43	591.43	591.43

10 Year Velocity through Existing and Proposed Bridge = 1.21 Fps

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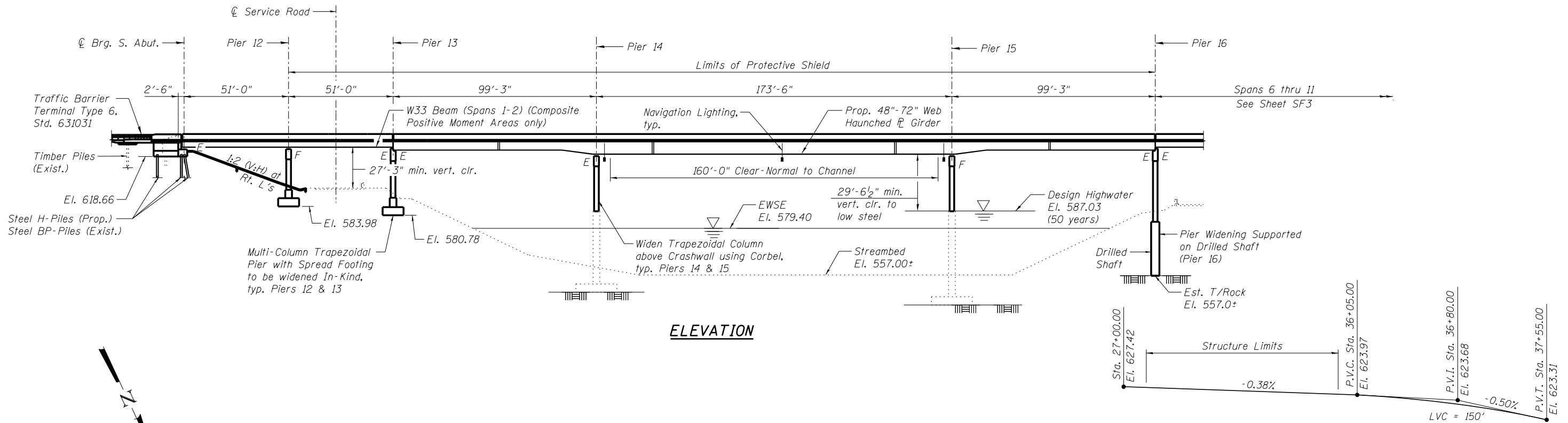
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		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 5F1 OF 5F96 SHEETS

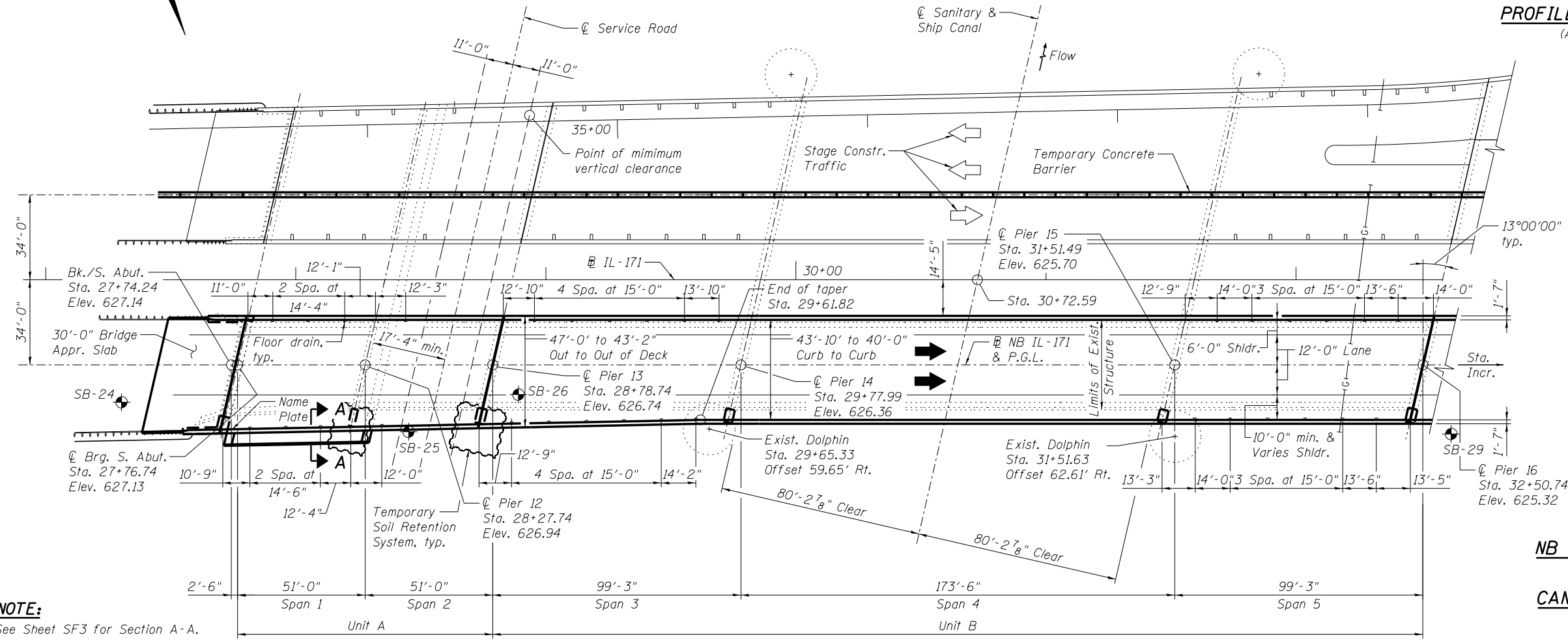
F.A.P. RTE. 373	SECTION 2013-037B-R	COUNTY COOK	TOTAL SHEET NO. 787 527
CONTRACT NO. 6DW75			ILLINOIS FED. AID PROJECT

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ELEVATION

PROFILE GRADE NB IL-171
(Along NB IL-171)



PLAN

EXISTING UTILITY LEGEND

	Underground Storm Sewer
	Underground Water Line
	Underground Gas Line
	Underground Telephone Line
	Underground Electrical Line
	Existing Drainage Structure

NOTE:
See Sheet SF3 for Section A-A.

GENERAL PLAN AND ELEVATION
SPANS 1 THROUGH 5
NB IL-171 OVER SANITARY & SHIP CANAL
(PUBLIC WATER), SERVICE RD.,
CANAL BANK RD., MWRDGC RR & RAMP E
FAP 373 - SECTION 2013-037B-R
COOK COUNTY
STATION 30+72.59
STRUCTURE NO. 016-0487

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

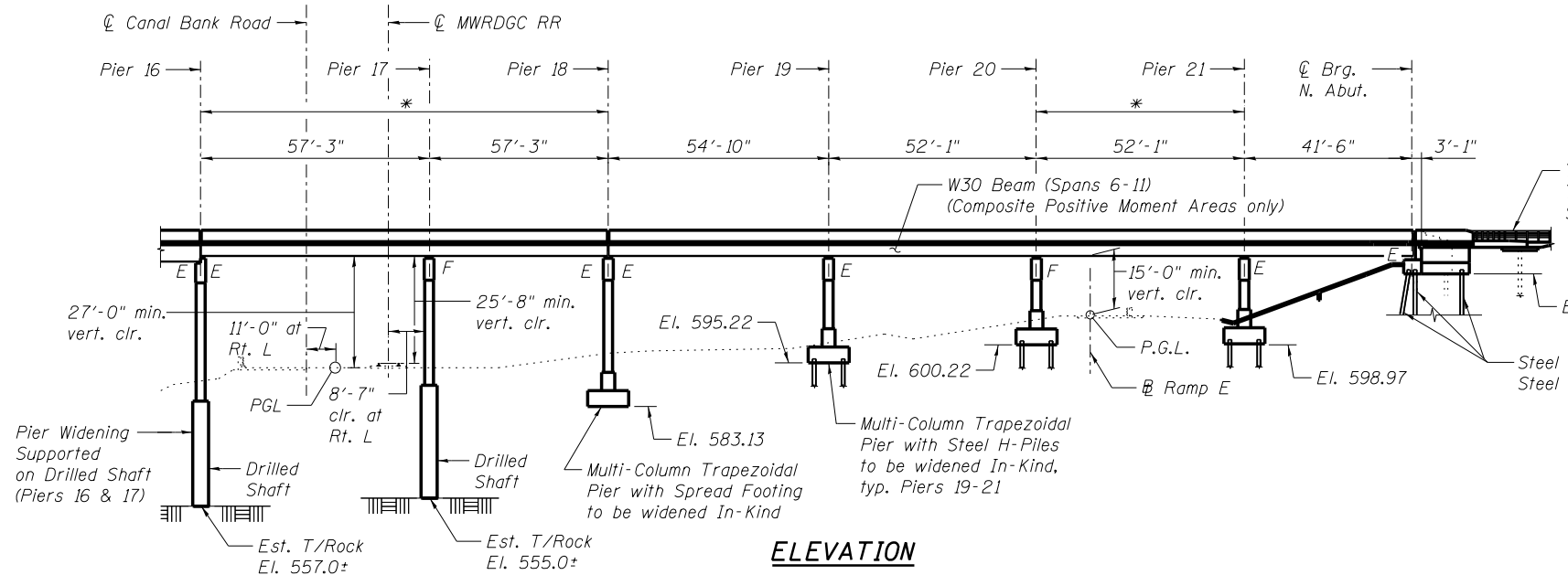
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SHEET NO. SF2 OF SF96 SHEETS

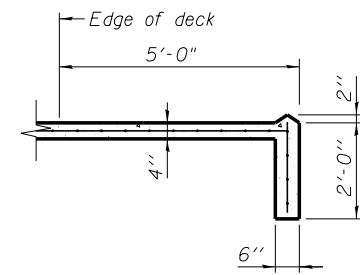
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	528
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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ELEVATION

*Limits of Proposed and Existing Protective Shield. Existing Protective Shield to be removed (Cost included with "Removal of Existing Concrete Deck No. 4").



SECTION A-A

Sta. 09+35.08	Sta. 09+82.35	Sta. 10+18.05	Sta. 10+50.79
El. 594.10	El. 594.10	El. 594.13	El. 594.13

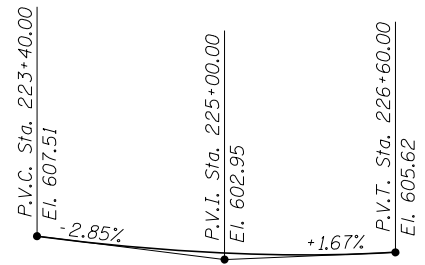
TOP OF RAIL MWRDGC RR

Sta. 19+16.25	Sta. 19+81.60	Sta. 20+18.53	Sta. 20+51.34
El. 592.11	El. 592.38	El. 592.14	El. 592.18

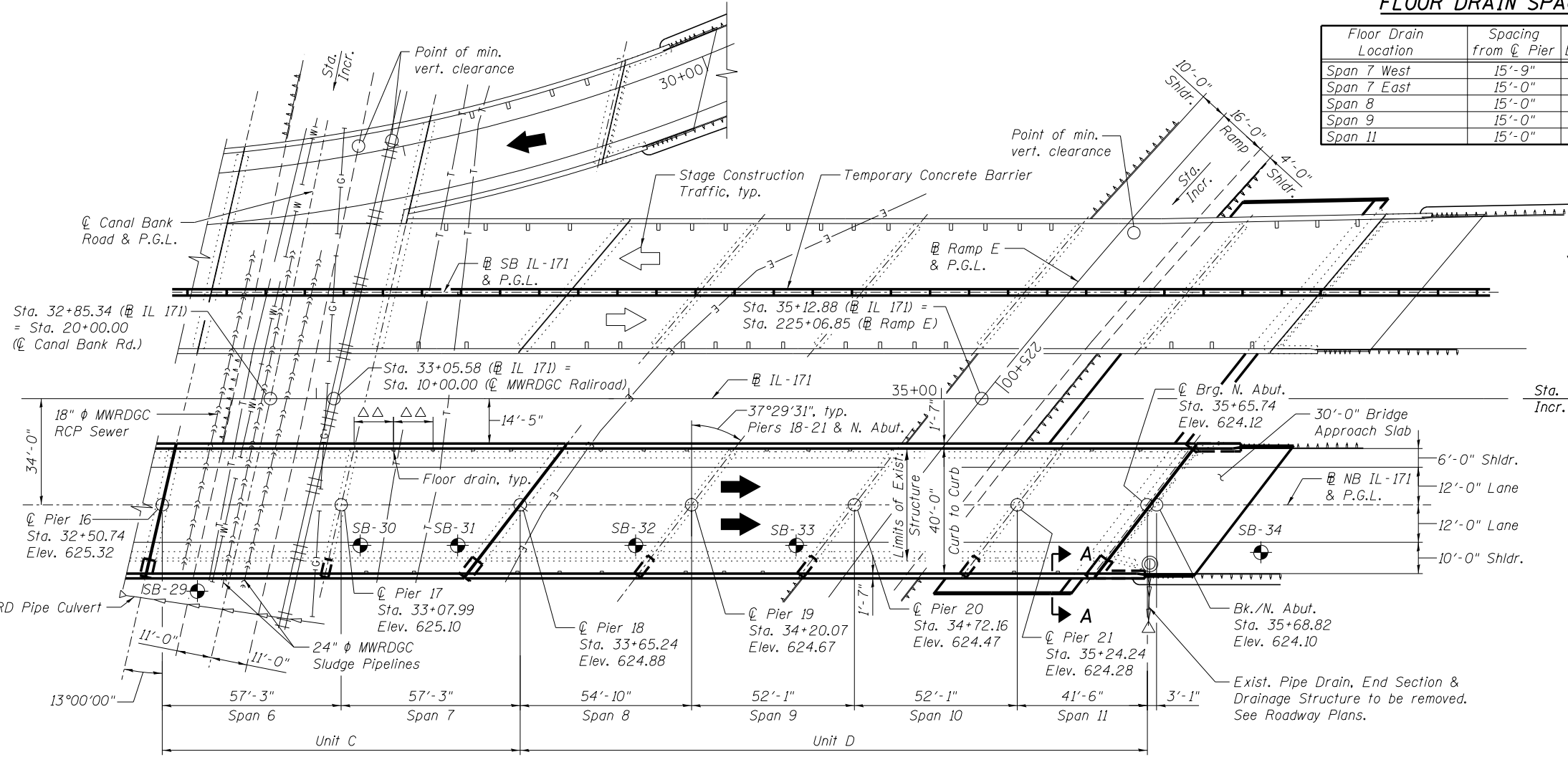
PROFILE GRADE CANAL BANK RD.
(Along West Edge of Pavement)

FLOOR DRAIN SPACING

Floor Drain Location	Spacing from ϕ Pier	Spacing between Drains
Span 7 West	15'-9"	3 at 11'-9"
Span 7 East	15'-0"	1 at 15'-0"
Span 8	15'-0"	2 at 12'-5"
Span 9	15'-0"	2 at 11'-0 1/2"
Span 11	15'-0"	1 at 14'-0"



PROFILE GRADE RAMP E
(Along ϕ Ramp E)



PLAN

EXISTING UTILITY LEGEND

	Underground Storm Sewer
	Underground Water Line
	Underground Gas Line
	Underground Telephone Line
	Underground Electrical Line
	Existing Drainage Structure

GENERAL PLAN AND ELEVATION
SPANS 6 THROUGH 11
NB IL-171 OVER SANITARY & SHIP CANAL
(PUBLIC WATER), SERVICE RD.,
CANAL BANK RD., MWRDGC RR & RAMP E
FAP 373 - SECTION 2013-037B-R
COOK COUNTY
STATION 30+72.59
STRUCTURE NO. 016-0487

Note:
No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line.

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Chicago, Illinois 60601
312-565-0450 Job No. 10093

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0160487_60W75_003_General.P1an.dgn		CHECKED - AJK	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. SF3 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	529
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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GENERAL NOTES

- Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 7/8" dia., holes 15/16" dia., unless otherwise noted.
- Calculated weight of structural steel =
M270 Grade 36: 13,450 lbs.
M270 Grade 50: 128,300 lbs.
- No field welding is permitted except as specified in the contract documents.
- The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8" (0.01). Adjustment shall be made either by grinding the surface or shimming the bearings.
- Concrete Sealer shall be applied to the designated areas of both abutments and Piers 13, 16 and 18.
- The existing structural steel coating contains lead. The Contractor shall take all precautions to deal with the presence of lead on this project.
- The Inorganic Zinc Rich Primer/Acrylic/Acrylic Paint System shall be used for shop and field painting of new structural steel and the steel portions of new elastomeric bearings. Only Inorganic Zinc Rich Primer shall be applied to the new structural steel and the steel portions of the new elastomeric bearings in the shop under this contract and is included in the respective steel or bearing pay items. The intermediate and top coats shall be applied under a separate painting contract.
- Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- The top flange of the existing structural steel is anticipated to have been painted with lead paint. Lead paint removal shall be completed in areas of the top flange that are to receive proposed stud shear connectors. See Special Provision for "Containment and Disposal of Lead Paint Cleaning Residues".

INDEX OF SHEETS

- SF1 Overall General Plan and Elevation
- SF2 General Plan and Elevation Spans 1 through 5
- SF3 General Plan and Elevation Spans 6 through 11
- SF4 General Notes, Bill of Material and Index of Sheets
- SF5 Foundation Layout (1 of 3)
- SF6 Foundation Layout (2 of 3)
- SF7 Foundation Layout (3 of 3)
- SF8 Stage Construction Details Spans 1 and 2
- SF9 Stage Construction Details Spans 3 thru 5
- SF10 Stage Construction Details Spans 6 and 7
- SF11 Stage Construction Details Spans 8 thru 11
- SF12 Temporary Concrete Barrier for Stage Construction
- SF13 Top of Slab Elevations Plan Spans 1 thru 5
- SF14 Top of Slab Elevations Spans 1 and 2 (1 of 2)
- SF15 Top of Slab Elevations Spans 1 and 2 (2 of 2)
- SF16 Top of Slab Elevations Spans 3 thru 5 (1 of 2)
- SF17 Top of Slab Elevations Spans 3 thru 5 (2 of 2)
- SF18 Top of Slab Elevations Plan Spans 6 thru 11
- SF19 Top of Slab Elevations Spans 6 and 7 (1 of 2)
- SF20 Top of Slab Elevations Spans 6 and 7 (2 of 2)
- SF21 Top of Slab Elevations Spans 8 thru 11 (1 of 3)
- SF22 Top of Slab Elevations Spans 8 thru 11 (2 of 3)
- SF23 Top of Slab Elevations Spans 8 thru 11 (3 of 3)
- SF24 Top of South Approach Slab Elevations
- SF25 Top of North Approach Slab Elevations
- SF26 Deck Plan and Cross Section Spans 1 and 2
- SF27 Deck Plan and Cross Section Spans 3 thru 5
- SF28 Deck Plan and Cross Section Span 6 and 7
- SF29 Deck Plan and Cross Section Spans 8 thru 11
- SF30 Parapet Details Spans 1 and 2
- SF31 Parapet Details Spans 3 thru 5
- SF32 Parapet Details Spans 6 and 7
- SF33 Parapet Details Spans 8 thru 11
- SF34 Superstructure Details
- SF35 Reinforcing Bar Details and Bill of Material
- SF36 Concrete Parapet Slipforming Option
- SF37 Preformed Joint Strip Seal
- SF38 South Bridge Approach Slab Plan
- SF39 South Bridge Approach Slab Details
- SF40 North Bridge Approach Slab Plan
- SF41 North Bridge Approach Slab Details
- SF42 Steel Removal and Repair Plan Units A & B
- SF43 Steel Removal and Repair Plan Units C & D
- SF44 Structural Steel Repair Details (1 of 3)
- SF45 Structural Steel Repair Details (2 of 3)
- SF46 Structural Steel Repair Details (3 of 3)
- SF47 Framing Plan & Girder Elevation Spans 1 & 2
- SF48 Framing Plan and Girder Elevation Spans 3 thru 5
- SF49 Framing Plan and Girder Elevation Spans 6 thru 11
- SF50 Steel Diaphragm Details
- SF51 Steel Plate Girder Cross Frames
- SF52 Girder Splice Details (1 of 3)
- SF53 Girder Splice Details (2 of 3)
- SF54 Girder Splice Details (3 of 3)
- SF55 Moment and Reaction Tables (1 of 2)
- SF56 Moment and Reaction Tables (2 of 2)
- SF57 Bearing Details (1 of 2)
- SF58 Bearing Details (2 of 2)
- SF59 South Abutment Concrete Removal and Repair Details
- SF60 North Abutment Concrete Removal and Repair Details
- SF61 Pier 12 and 13 Concrete Repair Details
- SF62 Pier 14 and 15 Concrete Repair Details
- SF63 Pier 16 and 17 Concrete Repair Details
- SF64 Pier 18 and 19 Concrete Repair Details
- SF65 Pier 20 and 21 Concrete Repair Details
- SF66 Fender System Repair Details
- SF67 South Abutment Widening Details (1 of 3)
- SF68 South Abutment Widening Details (2 of 3)
- SF69 South Abutment Widening Details (3 of 3)
- SF70 North Abutment Widening Details (1 of 3)
- SF71 North Abutment Widening Details (2 of 3)
- SF72 North Abutment Widening Details (3 of 3)
- SF73 Abutment Bar Bends and Bill of Material
- SF74 Pier 12 Widening
- SF75 Pier 13 Widening
- SF76 Pier 12 and 13 Widening Details
- SF77 Pier 14 and 15 Widening
- SF78 Pier 14 and 15 Widening Details

STATION 30+72.59
RE-BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 373
SEC. 2013-037B-R
LOADING HS20
STR. NO. 016-0487

NB NAME PLATE
(See Std. 515001)

Existing Name Plate shall be cleaned and relocated next to the new Name Plate. Cost included with Name Plates.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd		37.9	37.9
Slope Wall Removal	Sq Yd		593	593
Removal of Existing Concrete Deck No. 4	Each	1		1
Protective Shield	Sq Yd	2,359		2,359
Structure Excavation	Cu Yd		806	806
Floor Drains	Each	54		54
Concrete Structures	Cu Yd		334.0	334.0
Concrete Superstructure	Cu Yd	1,231.1		1,231.1
Bridge Deck Grooving	Sq Yd	3,674		3,674
Concrete Encasement	Cu Yd		2.8	2.8
Protective Coat	Sq Yd	4,543		4,543
Furnishing and Erecting Structural Steel	L Sum	0.35		0.35
Stud Shear Connectors	Each	12,176		12,176
Reinforcement Bars, Epoxy Coated	Pound	272,610	79,810	352,420
Bar Splicers	Each		97	97
Slope Wall 4 Inch	Sq Yd		713	713
Furnishing Steel Piles HPI2x53	Foot		706	706
Driving Piles	Foot		706	706
Test Pile Steel HPI2x53	Each		4	4
Pile Shoes	Each		20	20
Name Plates	Each	1		1
Drilled Shaft in Soil	Cu Yd		37.0	37.0
Preformed Joint Strip Seal	Foot	240.5		240.5
Elastomeric Bearing Assembly, Type I	Each	7		7
Elastomeric Bearing Assembly, Type II	Each	4		4
Anchor Bolts, 3/4"	Each	26		26
Anchor Bolts, 1"	Each	4		4
Concrete Sealer	Sq Ft		2,319	2,319
* Epoxy Crack Injection	Foot		100	100
Geocomposite Wall Drain	Sq Yd		70	70
Structural Steel Removal	Pound	21,530		21,530
Structural Steel Repair	Pound	3,230		3,230
Containment and Disposal of Lead Paint Cleaning Residues No. 4	L Sum	1		1
Cleaning Bridge Seats	Sq Ft		1,448	1,448
* Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft		282	282
* Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft		57	57
Pipe Underdrains for Structures 4"	Foot		134	134
** Selective Clearing	Unit		2	2
Temporary Soil Retention System	Sq Ft		1,761	1,761
Temporary Shoring and Cribbing	Each		3	3
Remove Conduit Attached to Structure	Foot	1,689		1,689
Fender System	L Sum		0.75	0.75
Granular Backfill For Structures	Cu Yd		124	124

- * Quantity includes a contingency (above the amounts shown in the bills of material) to account for uncertainties associated with the condition of the existing substructure and the age of the original inspection (2008-2009). Actual repair areas will be determined by the Engineer in the field.
- ** The quantity for this work is estimated. The intent for this work is to remove accumulations of rubbish, vegetation, etc. on the existing slopewalls.

INDEX OF SHEETS (CONT'D)

- SF79 Pier 16 Widening
- SF80 Pier 17 Widening
- SF81 Pier 16 and 17 Widening Details
- SF82 Pier 18 Widening
- SF83 Piers 19 thru 21 Widening
- SF84 Piers 18 thru 21 Widening Details (1 of 2)
- SF85 Piers 18 thru 21 Widening Details (2 of 2)
- SF86 Bar Splicer Assembly and Mechanical Splicer Details
- SF87 HP Pile Details
- SF88 Soil Boring Logs South Abutment
- SF89 Soil Boring Logs Pier 12
- SF90 Soil Boring Logs Pier 13
- SF91 Soil Boring Logs Pier 16
- SF92 Soil Boring Logs Pier 17
- SF93 Soil Boring Logs Pier 18
- SF94 Soil Boring Logs Pier 19
- SF95 Soil Boring Logs Piers 20 and 21
- SF96 Soil Boring Logs North Abutment

For existing bridge plans, see Sheets SFX1 thru SFX46 immediately following Sheet SF96.

SCOPE OF WORK

- Remove existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
- Retrofit steel superstructure fatigue prone details.
- Remove wind bracing in spans 3 through 5 (bottom lateral angles).
- Perform miscellaneous repairs including removing debris and installation and tightening of bearing anchor bolt nuts.
- Replace damaged or corroded cross frame.
- Install intermediate stiffeners in Unit B at Piers 13 and 16.
- Install new girders, diaphragms and cross frames for widening.
- Make new deck composite in positive moment areas only by adding shear studs to all girders and beams where not already installed.
- Remove and dispose of abandoned electrical conduits and junction boxes attached to the beams and/or deck.
- Repair spalls, delaminations and open cracks in substructure using formed concrete repair and epoxy crack injection.
- Widen Piers 12 thru 21 and both abutments.
- Remove and replace existing abutment backwalls and wingwalls.
- Widen and repair existing slopewalls.
- Remove and replace existing expansion joints.
- Remove and replace approach slabs and drainage at abutments.
- Remove and replace navigational lighting.
- Repair timber fenders at Piers 3 & 4 of SN 016-0486 and Piers 14 & 15 of SN 016-0487.
- Structural steel repair on the fascia girders in Span 11.



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		DRAWN - RMG	REVISED -
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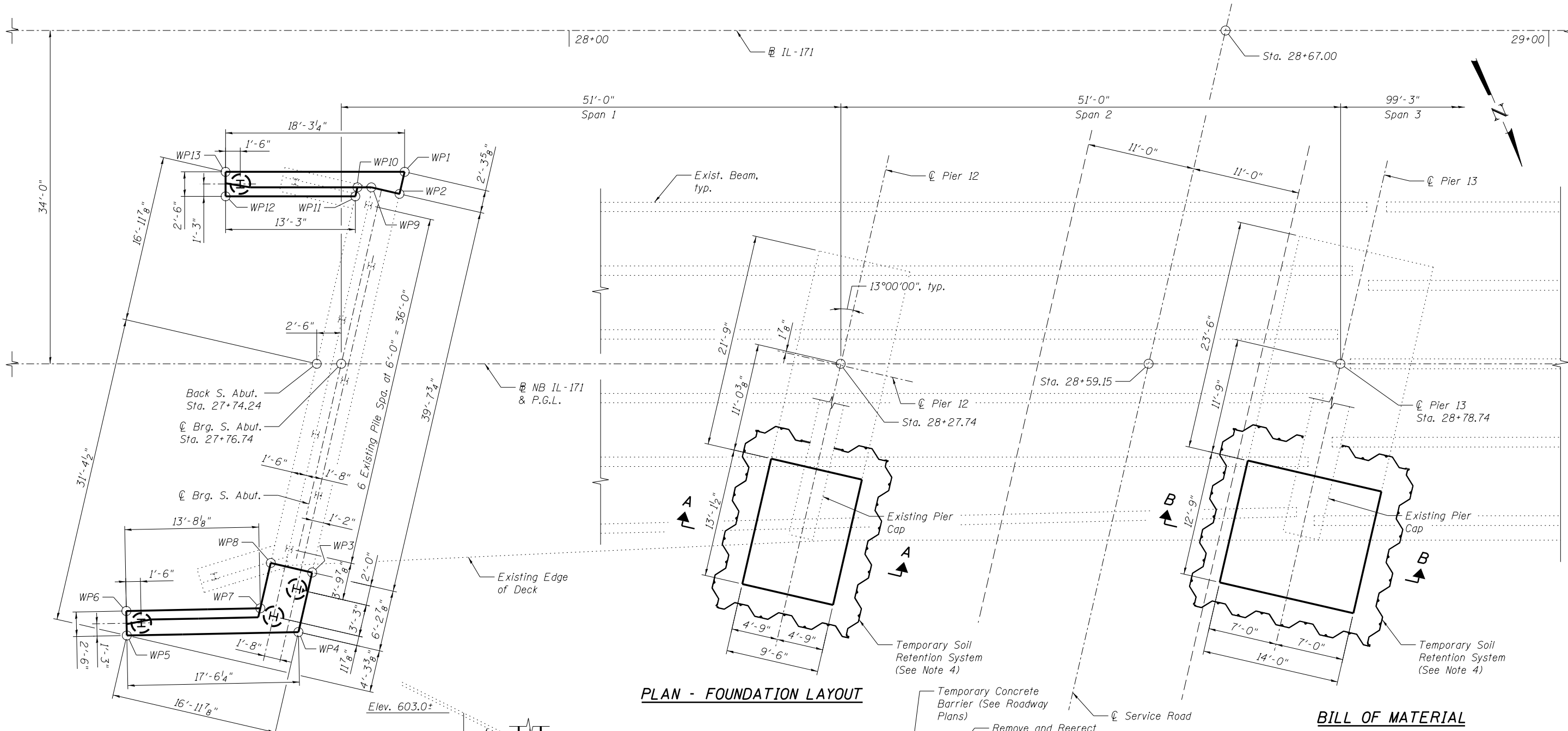
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, BILL OF MATERIAL AND INDEX OF SHEETS
STRUCTURE NO. 016-0487**

SHEET NO. SF4 OF SF96 SHEETS

F.A.P. RT. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	530
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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WORK POINTS

W.P.	Station	Offset
1	27+83.21	14.42' Rt.
2	27+82.69	16.67' Rt.
3	27+73.77	55.29' Rt.
4	27+72.36	61.38' Rt.
5	27+54.85	61.72' Rt.
6	27+54.80	59.22' Rt.
7	27+68.48	58.95' Rt.
8	27+69.55	54.32' Rt.
9	27+79.81	16.00' Rt.
10	27+78.40	16.00' Rt.
11	27+78.19	16.92' Rt.
12	27+64.94	16.92' Rt.
13	27+64.94	14.42' Rt.

PLAN - FOUNDATION LAYOUT

BILL OF MATERIAL

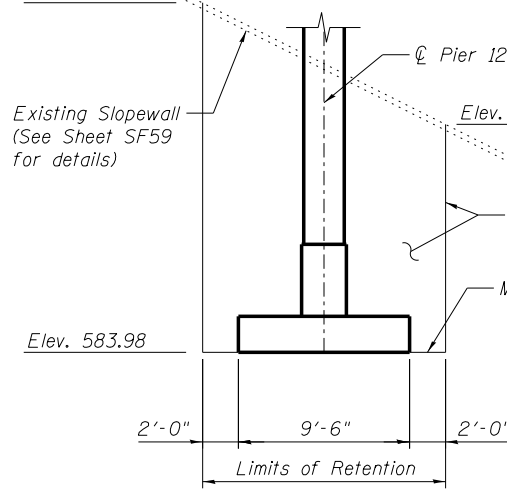
ITEM	UNIT	TOTAL
Temporary Soil Retention System	Sq. Ft.	1,761

LEGEND

- ⊥ Indicates Vertical Pile
- ⊥ Indicates Battered Pile
- ⊕ Concrete Encasement

NOTES:

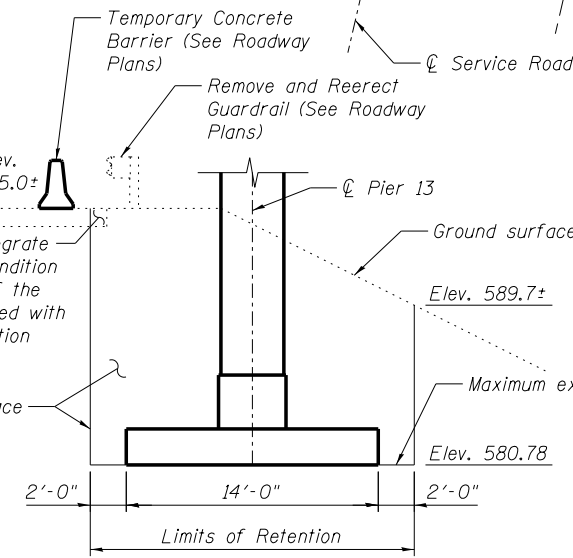
1. For abutment details, see Sheets SF67 to SF69 and SF73.
2. For pier details, see Sheets SF74 to SF76.
3. Work Point offsets measured perpendicular to IL-171.
4. The Temporary Soil Retention System is anticipated to be a soldier pile and lagging system in order to facilitate installation around the existing beams above. This system will also require a closure segment where the system ties into the existing pier. The closure segment shall also be paid for as "Temporary Soil Retention System".



SECTION A-A

TEMPORARY SOIL RETENTION SYSTEM

(All dimensions are perpendicular to skew)



SECTION B-B

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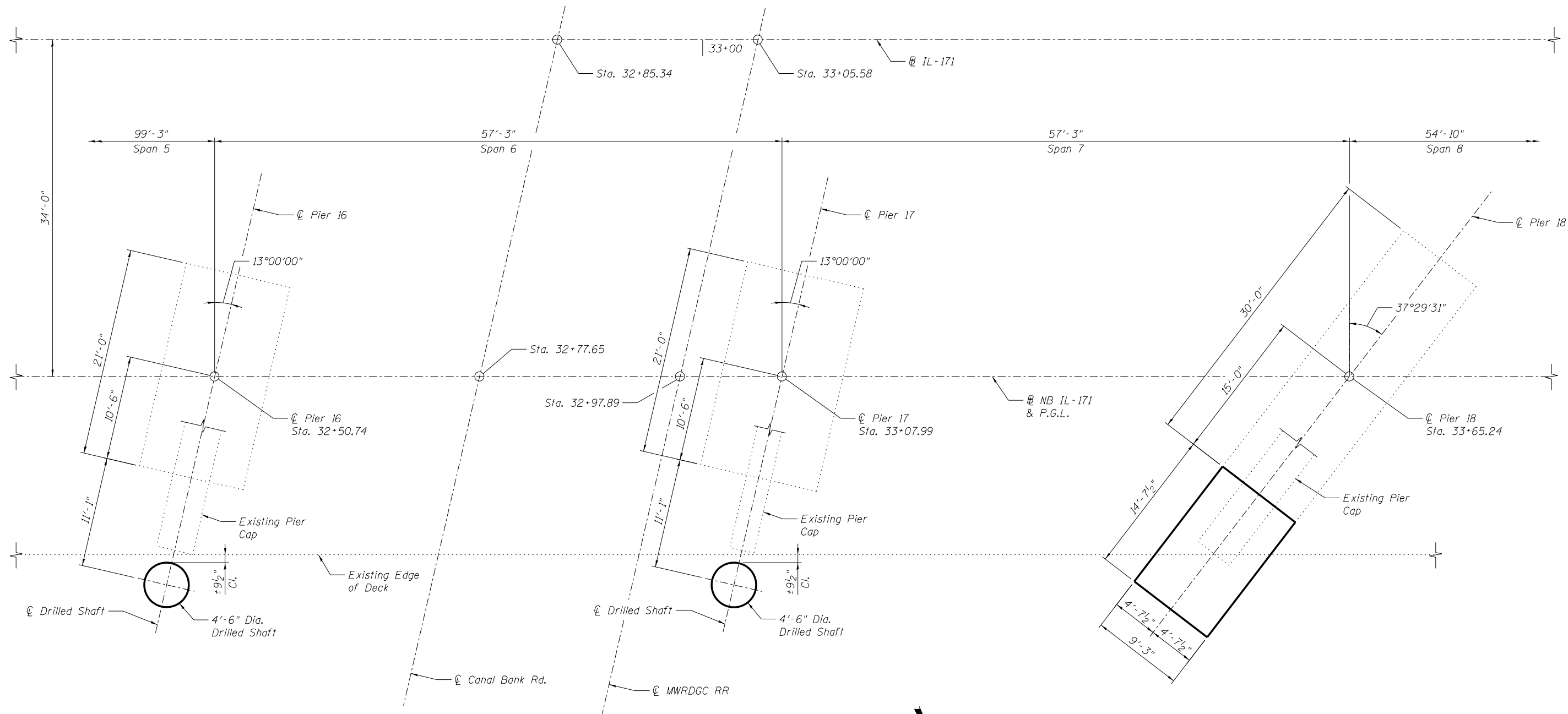
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FOUNDATION LAYOUT (1 OF 3)
STRUCTURE NO. 016-0487**

SHEET NO. SF5 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	531
				CONTRACT NO. 60W75

ILLINOIS FED. AID PROJECT



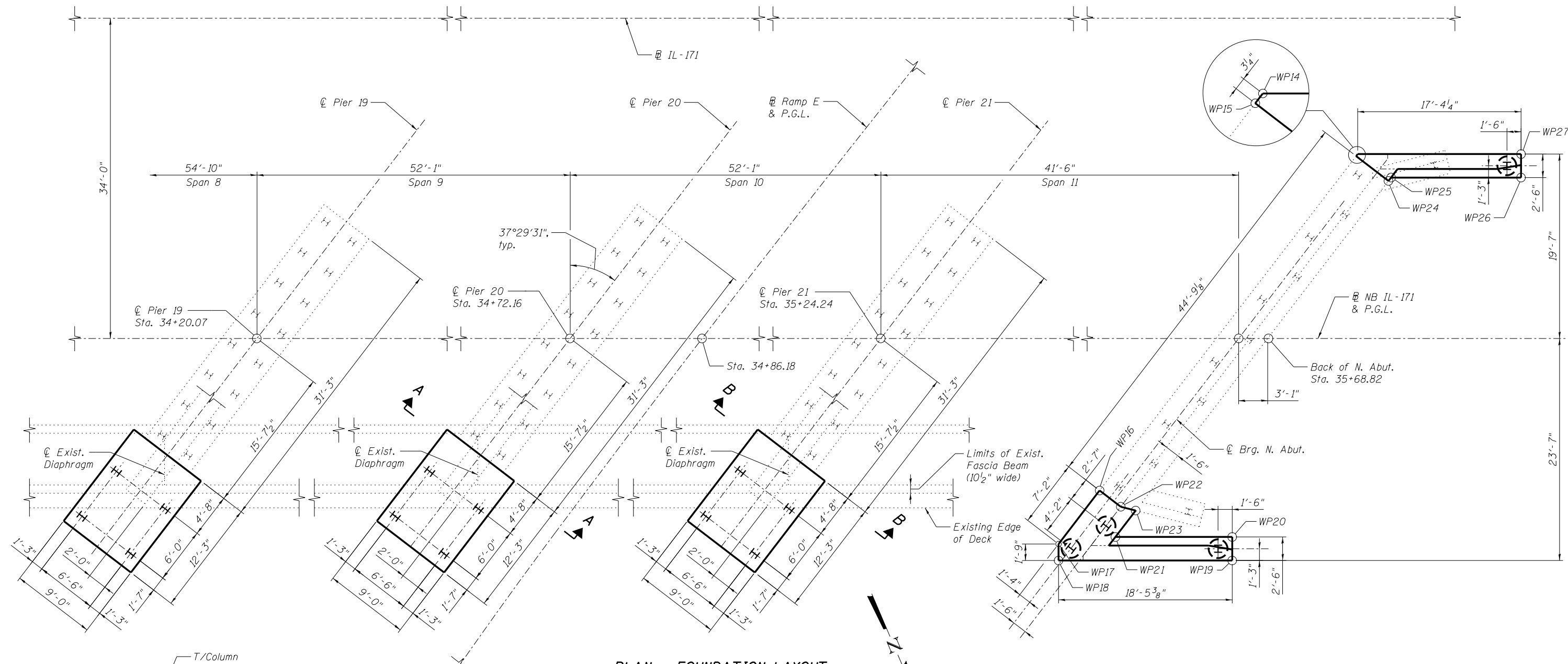
PLAN - FOUNDATION LAYOUT

NOTES:

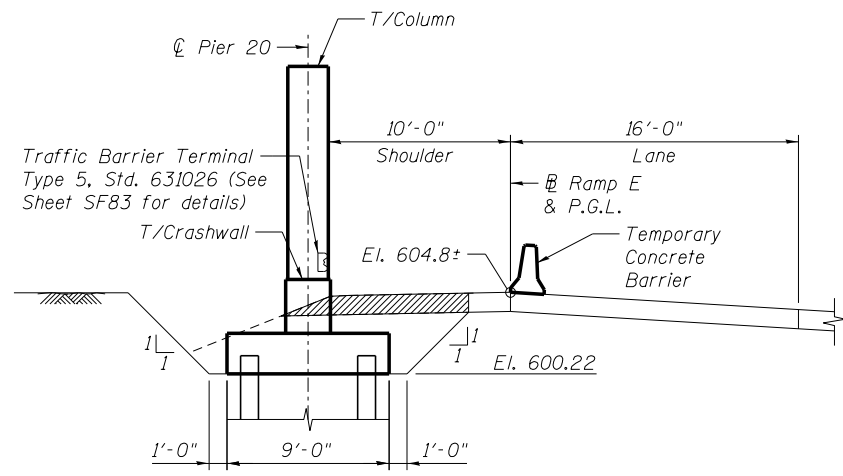
1. For Piers 16 and 17 details, see Sheets SF79 to SF81.
2. For Pier 18 details, see Sheets SF82, SF84 and SF85.

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
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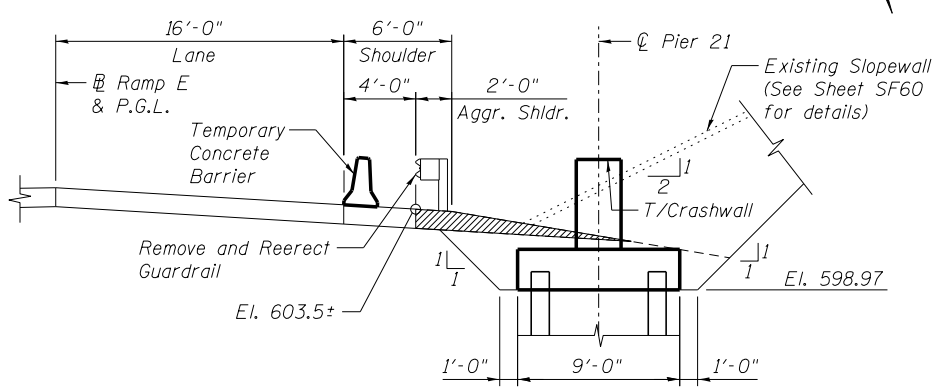
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	532
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				



PLAN - FOUNDATION LAYOUT



SECTION A-A
(See Note 4)



SECTION B-B
(See Note 4)

WORK POINTS

W.P.	Station	Offset
14	35+78.39	14.42' Rt.
15	35+78.22	14.63' Rt.
16	35+50.98	50.15' Rt.
17	35+46.61	55.83' Rt.
18	35+46.61	57.58' Rt.
19	35+65.05	57.58' Rt.
20	35+65.05	55.08' Rt.
21	35+52.65	55.08' Rt.
22	35+53.22	51.86' Rt.
23	35+54.80	52.27' Rt.
24	35+81.66	17.27' Rt.
25	35+81.93	16.92' Rt.
26	35+95.74	16.92' Rt.
27	35+95.74	14.42' Rt.

LEGEND

- ⊥ Indicates Vertical Pile
- ⊥ Indicates Battered Pile
- Concrete Encasement
- ▨ Shoulder Removal & Replacement (See Roadway Plans)

NOTES:

1. For abutment details, see Sheets SF70 to SF73.
2. For pier details, see Sheets SF83 to SF85.
3. Work Point offsets measured perpendicular to IL-171.
4. Roadway removals, pier construction (Pier 20 construction up to the top of column as shown in Section A-A or Pier 21 construction up to the top of crashwall as shown in Section B-B) and roadway construction shall be completed at one pier before beginning the other. See Sheets SF83 thru SF85 for pier details and see Roadway Plans for maintenance of traffic and proposed roadway quantities.

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	PLOT DATE = 6/12/2015	CHECKED - JLS/AJK	REVISED -

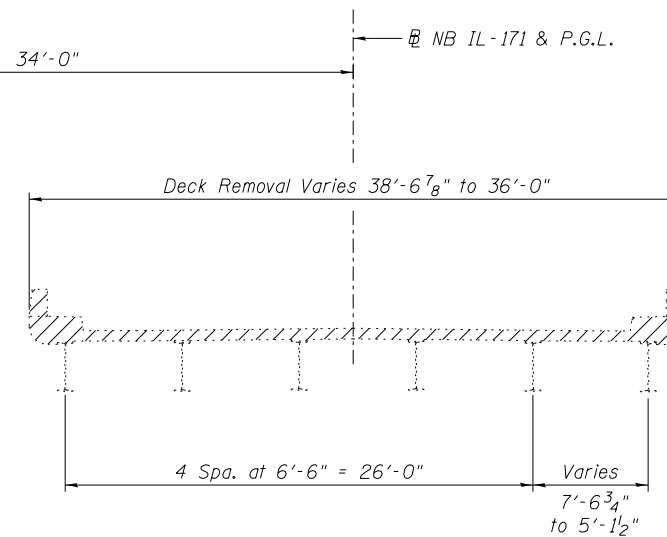
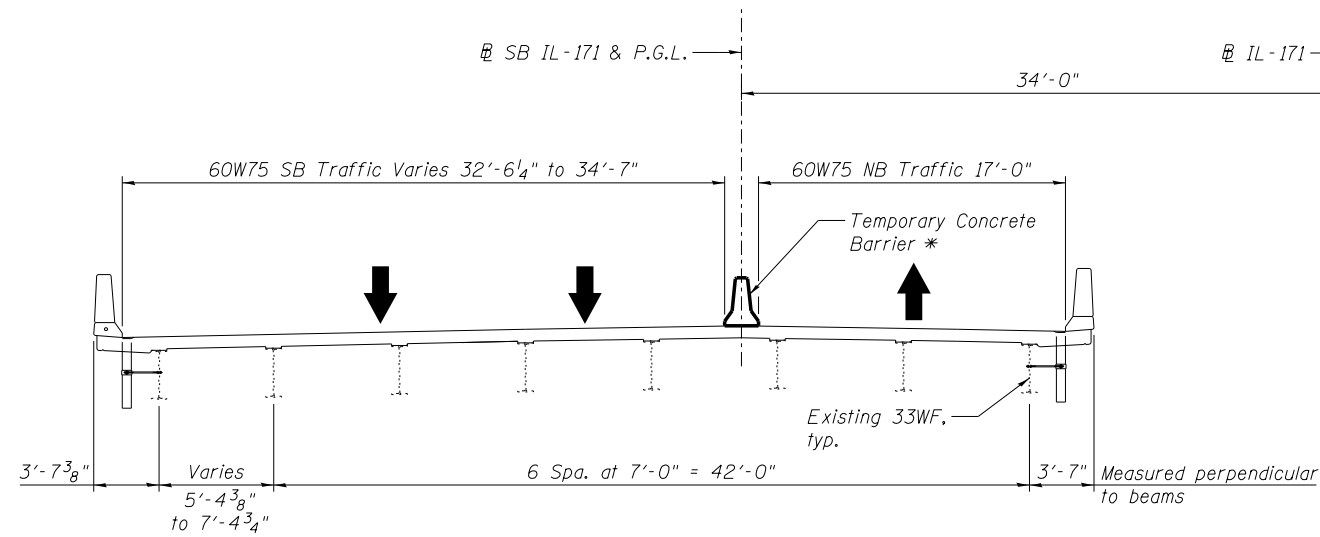
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT (3 OF 3)
STRUCTURE NO. 016-0487

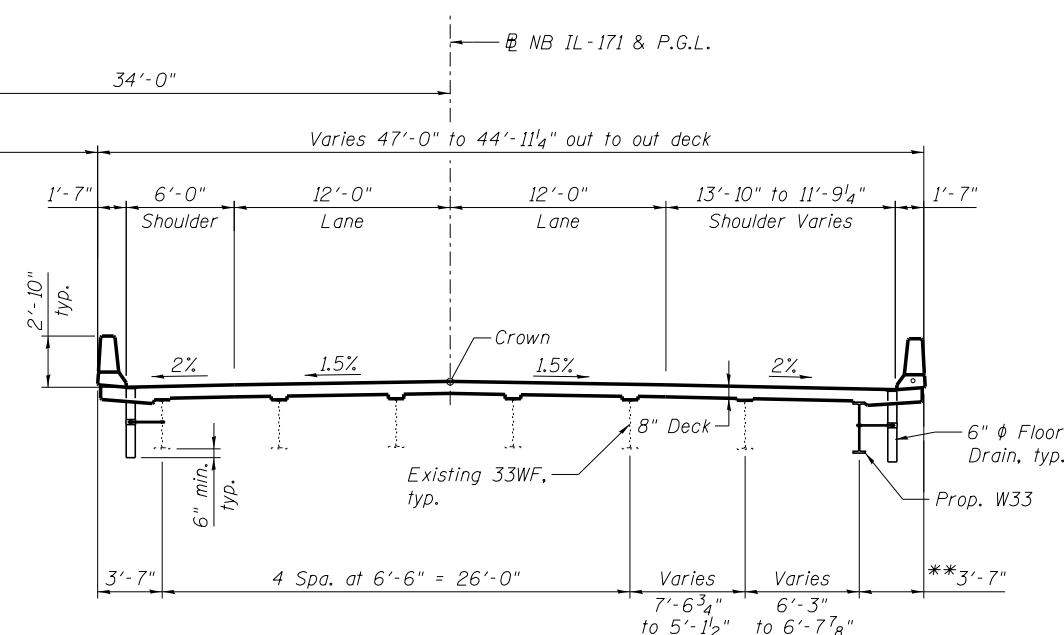
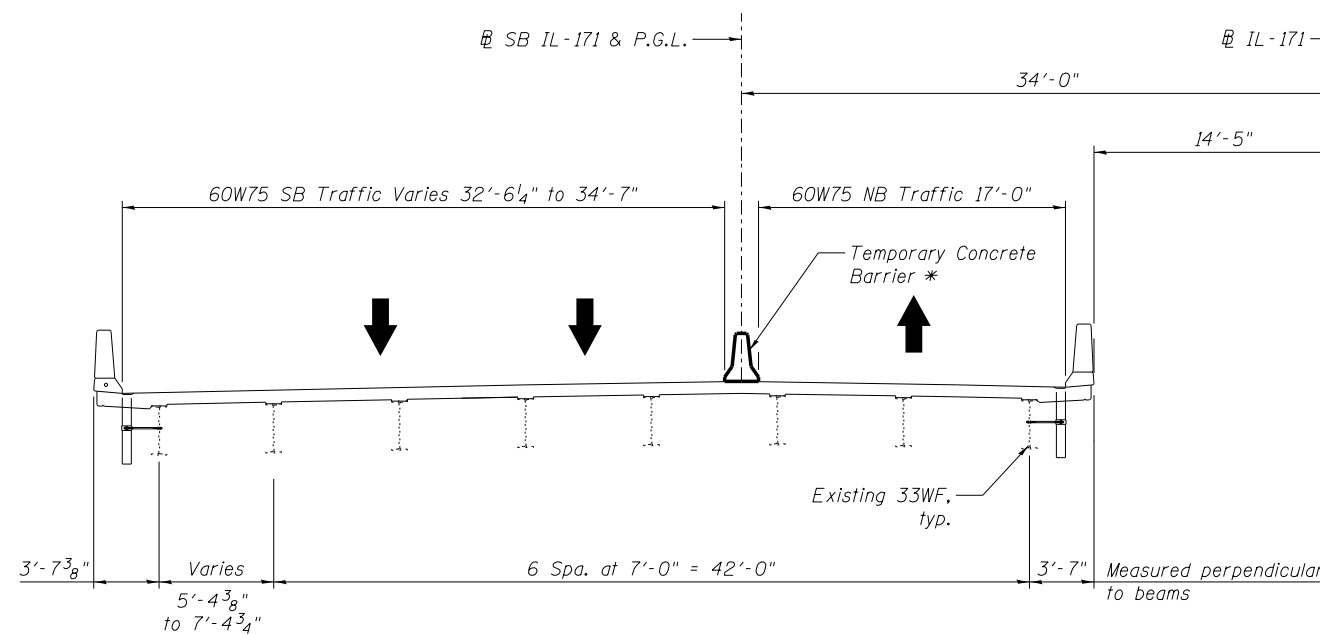
SHEET NO. SF7 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	533
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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CONTRACT 60W75 REMOVAL
(Spans 1 & 2 Looking Upstation)



CONTRACT 60W75 CONSTRUCTION
(Spans 1 & 2 Looking Upstation)

**Measured perpendicular to fascia girder

LEGEND

Indicates Removal of Existing Concrete Deck No. 4.

NOTES:

- All dimensions are measured perpendicular to IL-171 unless noted otherwise.
- The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See Sheet SF44 for Conduit Removal Details.
- Do not anchor Temp. Concrete Barrier to existing deck.
- See Roadway Plans for quantity of "Temporary Concrete Barrier".

* See Sheet SF12 and maintenance of traffic sheets for more information.

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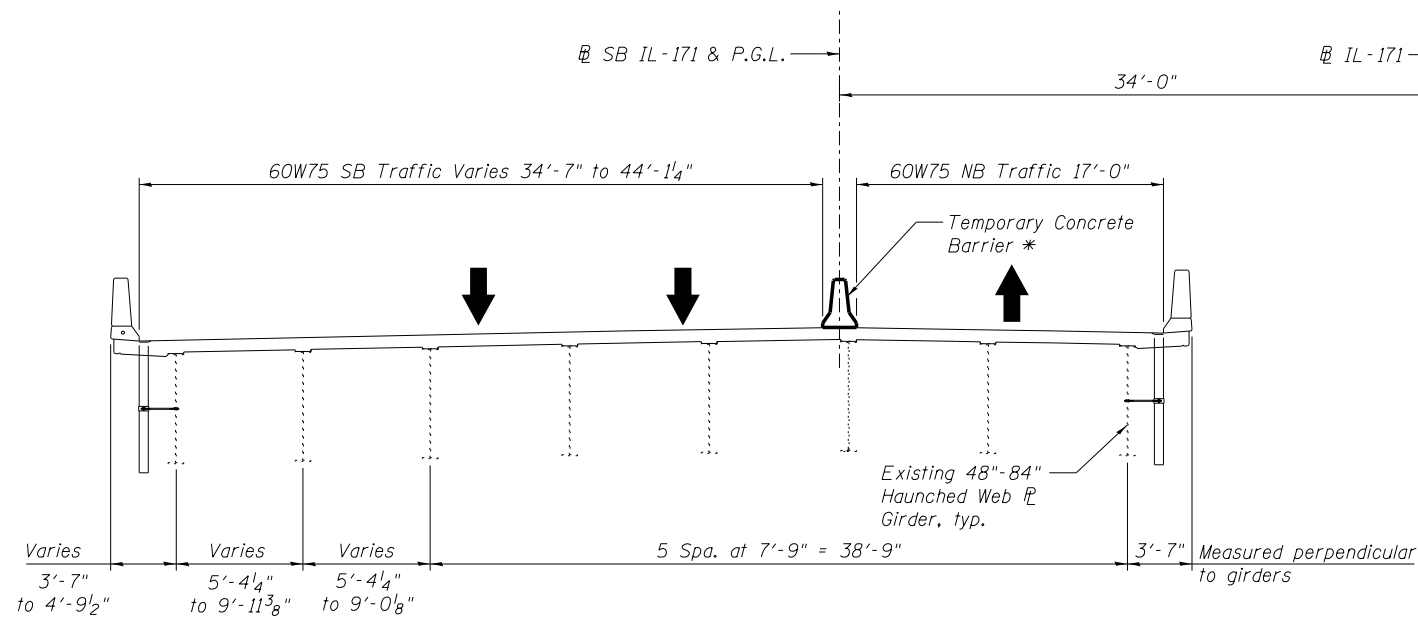
STATE OF ILLINOIS
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STAGE CONSTRUCTION DETAILS SPANS 1 AND 2
STRUCTURE NO. 016-0487

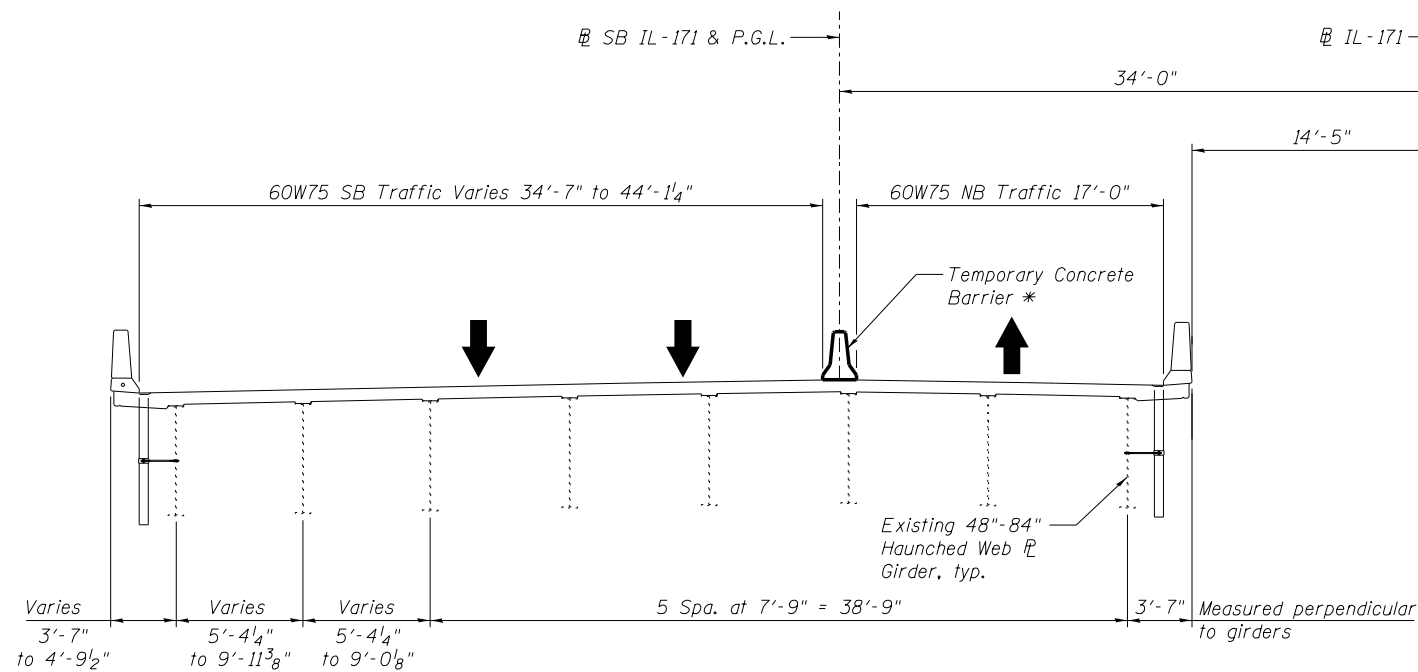
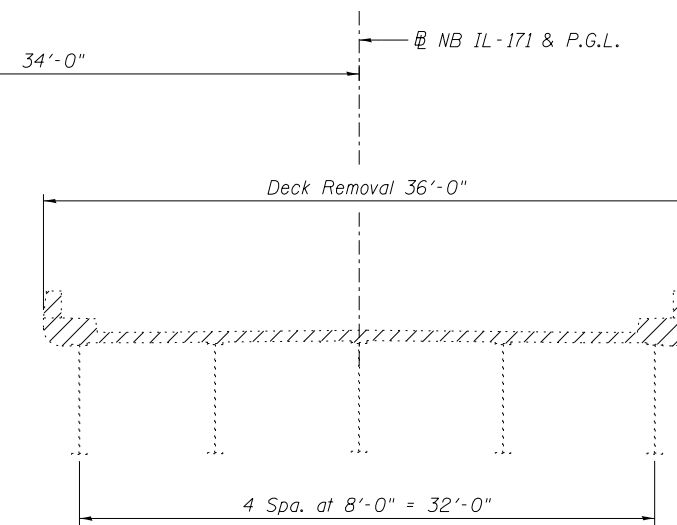
SHEET NO. SF8 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	534
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60W75	

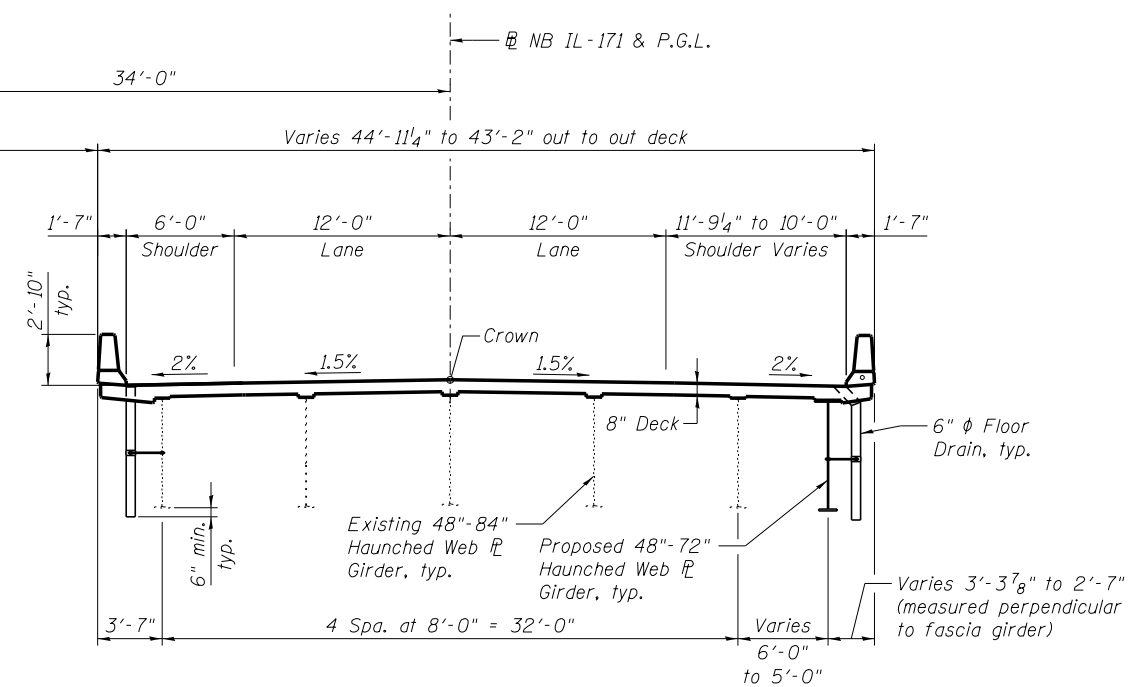
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CONTRACT 60W75 REMOVAL
(Spans 3 thru 5 Looking Upstation)



CONTRACT 60W75 CONSTRUCTION
(Spans 3 thru 5 Looking Upstation)



NOTES:

1. All dimensions are measured perpendicular to IL-171 unless noted otherwise.
2. The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See Sheet SF44 for Conduit Removal Details.
3. Do not anchor Temp. Concrete Barrier to existing deck.
4. See Roadway Plans for quantity of "Temporary Concrete Barrier".

LEGEND

Indicates Removal of Existing Concrete Deck No. 4.

* See Sheet SF12 and maintenance of traffic sheets for more information.

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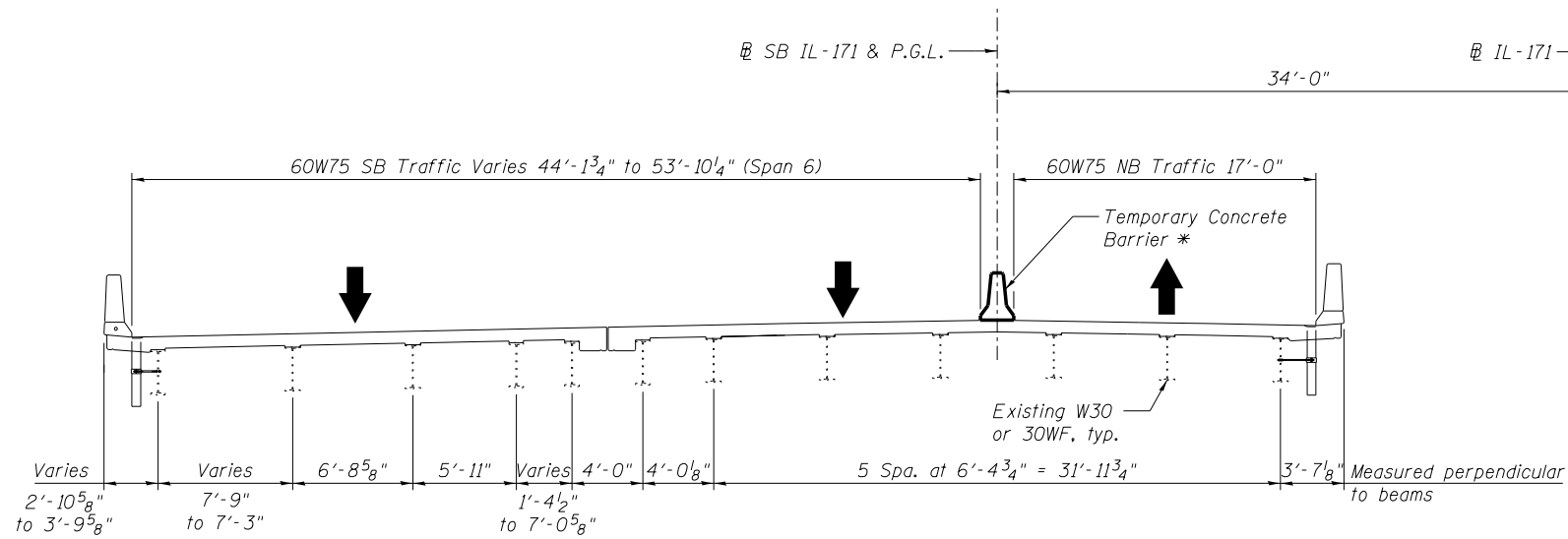
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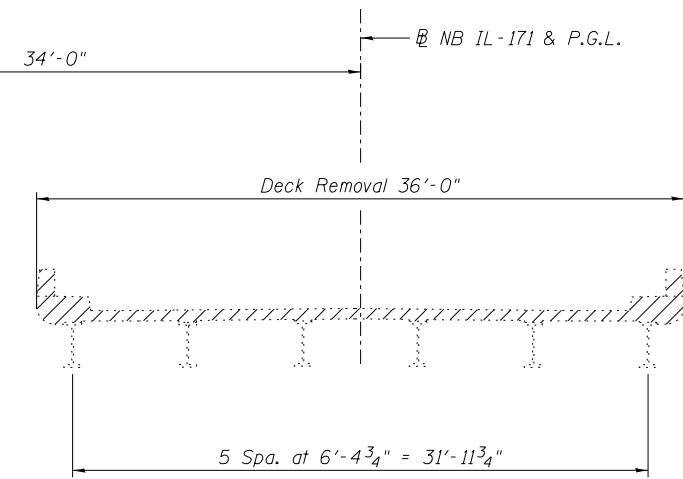
STAGE CONSTRUCTION DETAILS SPANS 3 THRU 5
STRUCTURE NO. 016-0487

SHEET NO. SF9 OF SF96 SHEETS

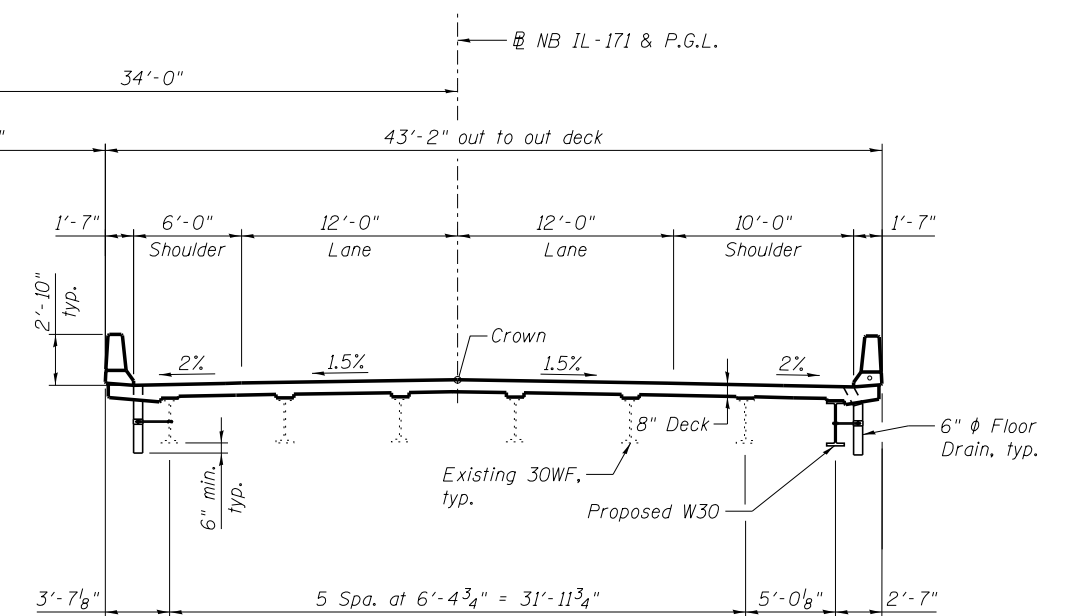
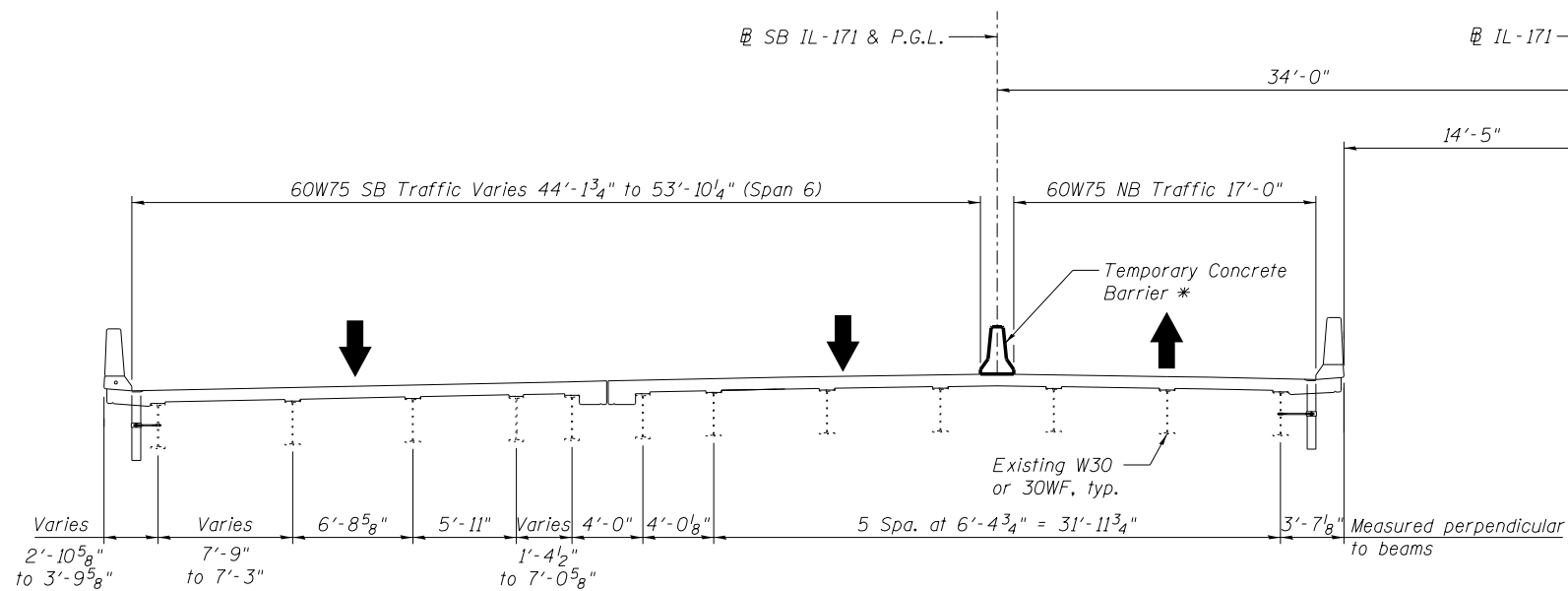
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	535
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	



CONTRACT 60W75 REMOVAL
(Spans 6 & 7 Looking Upstation)



CONTRACT 60W75 CONSTRUCTION
(Spans 6 & 7 Looking Upstation)



LEGEND

Indicates Removal of Existing Concrete Deck No. 4.

NOTES:

1. All dimensions are measured perpendicular to \perp IL-171 unless noted otherwise.
2. The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See Sheet SF44 for Conduit Removal Details.
3. Do not anchor Temp. Concrete Barrier to existing deck.
4. See Roadway Plans for quantity of "Temporary Concrete Barrier".

* See Sheet SF12 and maintenance of traffic sheets for more information.

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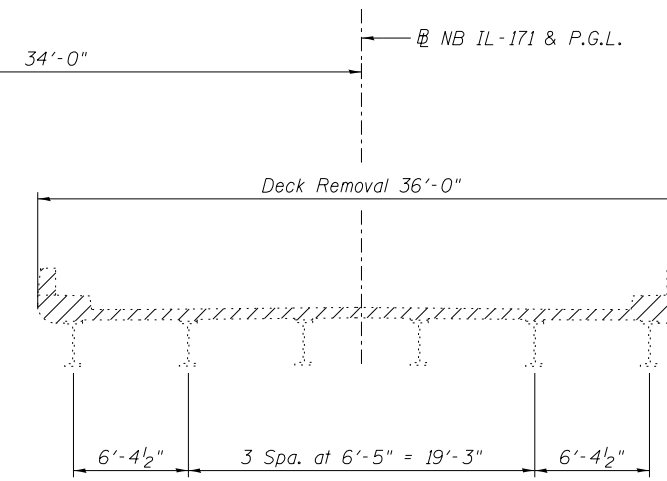
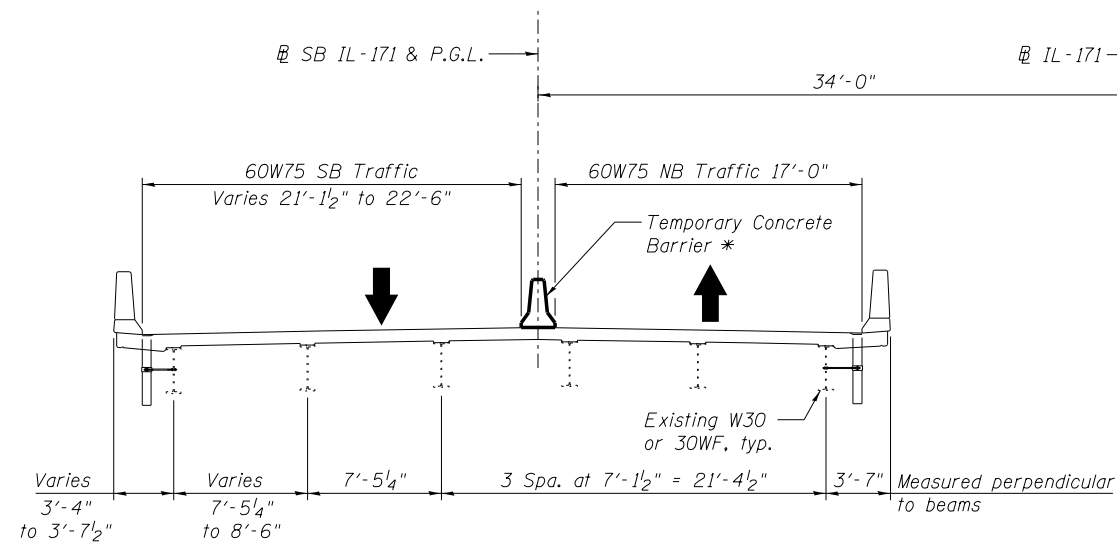
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STAGE CONSTRUCTION DETAILS SPANS 6 AND 7
STRUCTURE NO. 016-0487

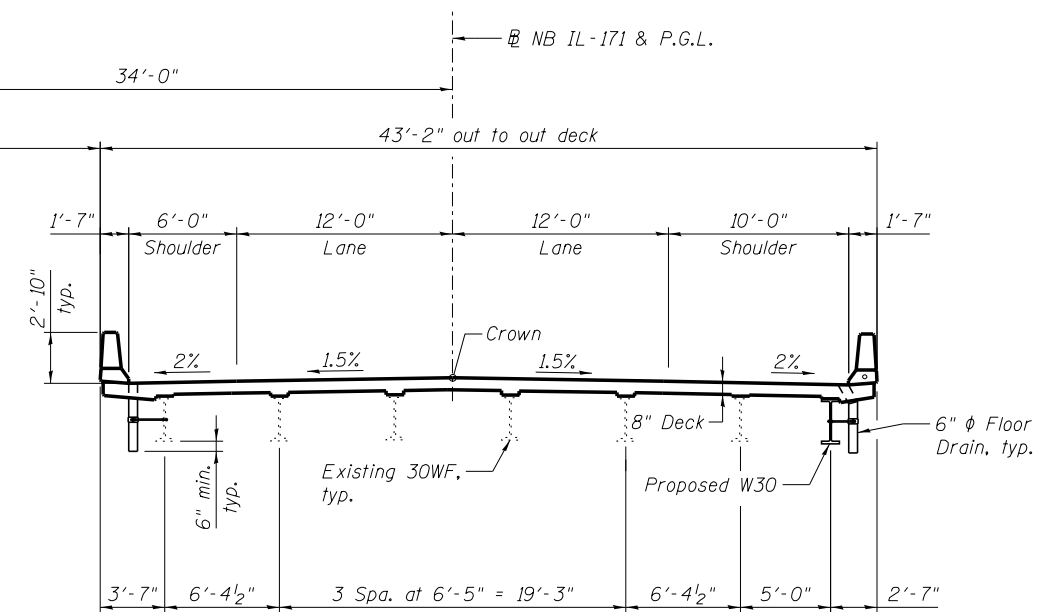
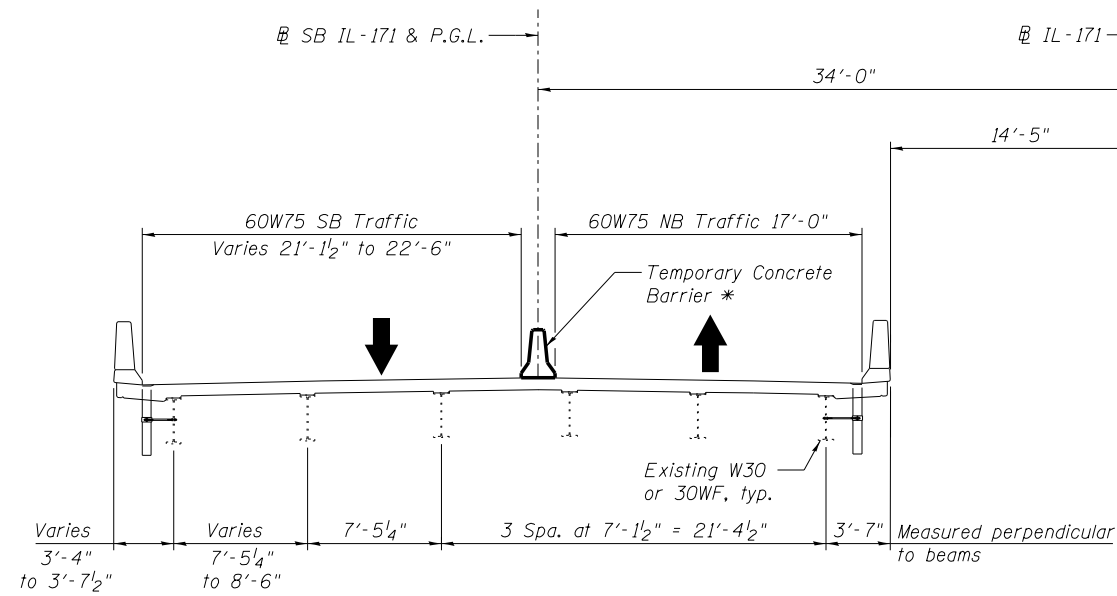
SHEET NO. SF10 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	536
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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CONTRACT 60W75 REMOVAL
(Spans 8 thru 11 Looking Upstation)



CONTRACT 60W75 CONSTRUCTION
(Spans 8 thru 11 Looking Upstation)

LEGEND

 Indicates Removal of Existing Concrete Deck No. 4.

NOTES:

1. All dimensions are measured perpendicular to IL-171 unless noted otherwise.
2. The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See Sheet SF44 for Conduit Removal Details.
3. Do not anchor Temp. Concrete Barrier to existing deck.
4. See Roadway Plans for quantity of "Temporary Concrete Barrier".

* See Sheet SF12 and maintenance of traffic sheets for more information.

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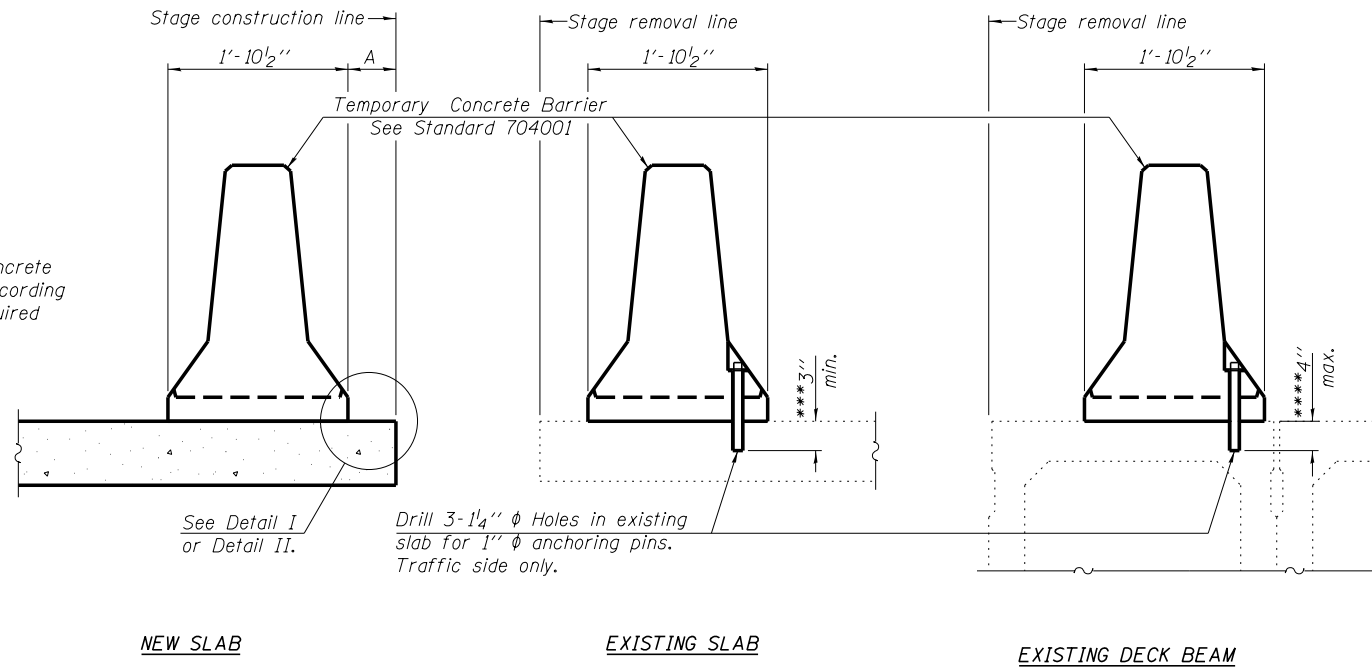
STAGE CONSTRUCTION DETAILS SPANS 8 THRU 11
STRUCTURE NO. 016-0487

SHEET NO. SF11 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	537
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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When "A" is 3'-1" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-1".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

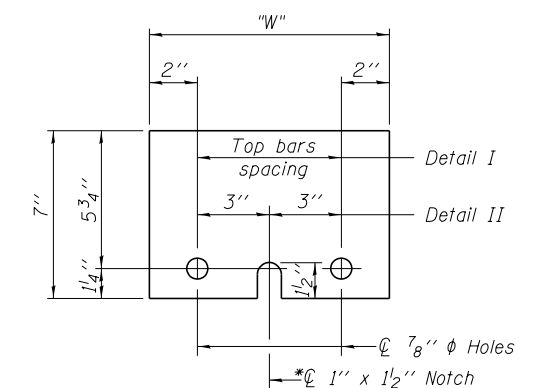
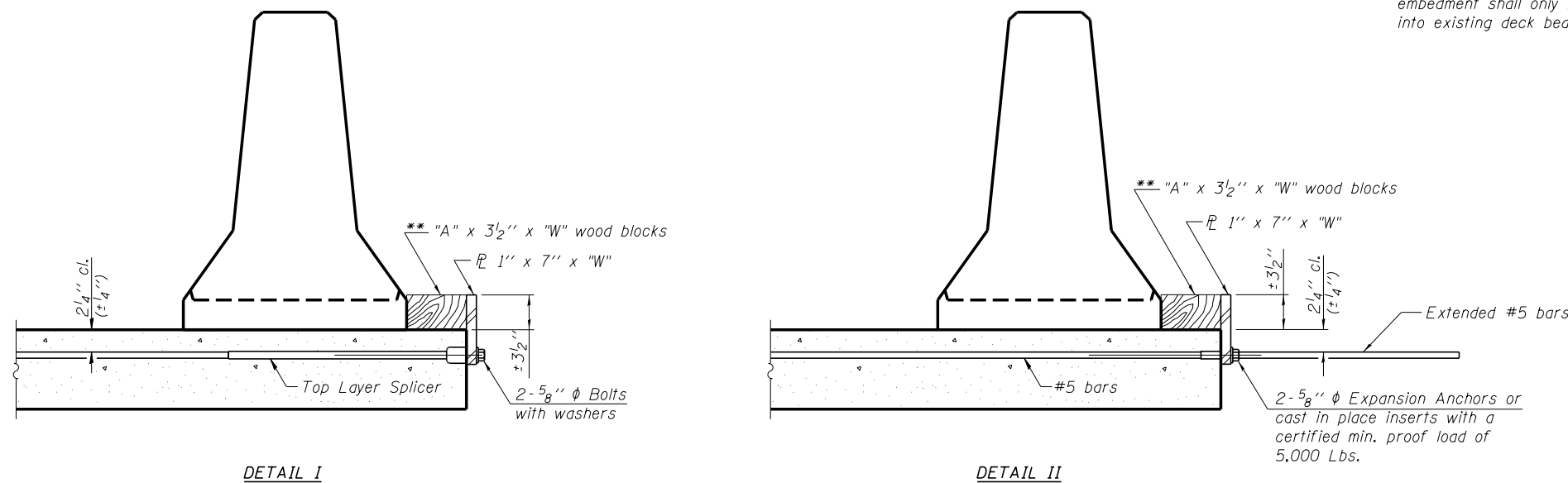
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

RETAINER ASSEMBLY

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



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R-27

1-12-15

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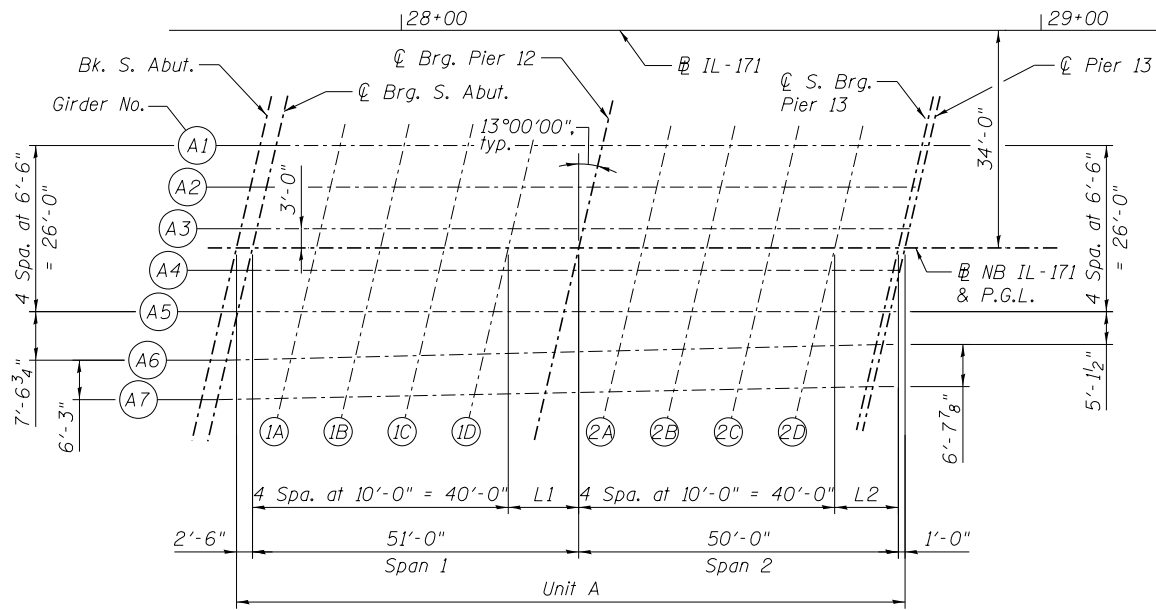
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 016-0487**

SHEET NO. SF12 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	538
CONTRACT NO. 60W75				

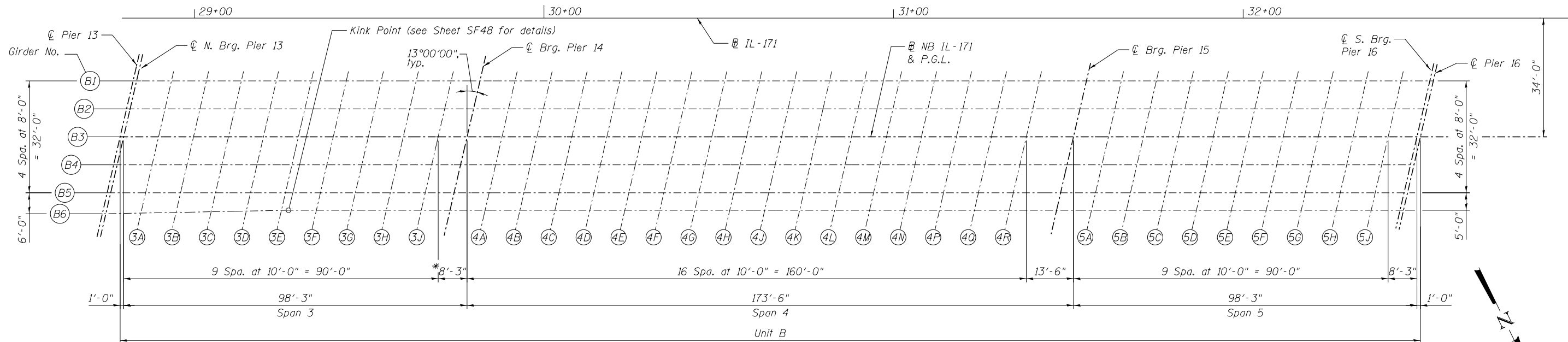
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PLAN - UNIT A

SCREED SPACING
(Unit A)

LOCATION	L1	L2
Beams A1-A5	11'-0"	10'-0"
NB IL-171 & P.G.L.	11'-0"	10'-0"
Beam A6	11'-3 ⁹ / ₁₆ "	10'-3 ¹ / ₂ "
Beam A7	11'-3"	10'-2 ⁷ / ₈ "



PLAN - UNIT B

*8'-5³/₄" at Girder B6

NOTES:

1. All screed spacing is measured along girder/beam centerline.
2. All girder/beam spacing is measured perpendicular to IL-171.
3. Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

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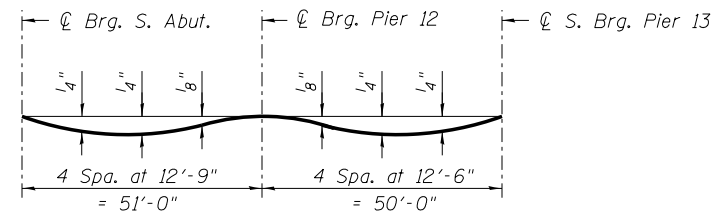
**STATE OF ILLINOIS
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**TOP OF SLAB ELEVATIONS PLAN SPAN 1 THRU 5
STRUCTURE NO. 016-0487**

F.A.P. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	539
CONTRACT NO. 60W75				

SHEET NO. SF13 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SF14 & SF15.

BEAM A1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+77.94	-16.00	626.87	626.87
☉ Brg. S. Abut.	27+80.44	-16.00	626.86	626.86
1A	27+90.44	-16.00	626.82	626.83
1B	28+00.44	-16.00	626.78	626.80
1C	28+10.44	-16.00	626.74	626.76
1D	28+20.44	-16.00	626.70	626.71
☉ Brg. Pier 12	28+31.44	-16.00	626.66	626.66
2A	28+41.44	-16.00	626.62	626.63
2B	28+51.44	-16.00	626.59	626.60
2C	28+61.44	-16.00	626.55	626.57
2D	28+71.44	-16.00	626.51	626.52
☉ S. Brg. Pier 13	28+81.44	-16.00	626.47	626.47
☉ Pier 13	28+82.44	-16.00	626.47	626.47

BEAM A2

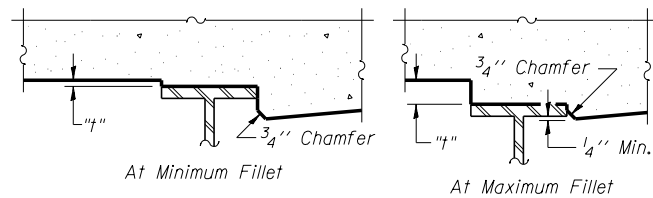
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+76.44	-9.50	626.99	626.99
☉ Brg. S. Abut.	27+78.94	-9.50	626.98	626.98
1A	27+88.94	-9.50	626.94	626.96
1B	27+98.94	-9.50	626.90	626.93
1C	28+08.94	-9.50	626.86	626.88
1D	28+18.94	-9.50	626.83	626.84
☉ Brg. Pier 12	28+29.94	-9.50	626.78	626.78
2A	28+39.94	-9.50	626.75	626.75
2B	28+49.94	-9.50	626.71	626.73
2C	28+59.94	-9.50	626.67	626.69
2D	28+69.94	-9.50	626.63	626.65
☉ S. Brg. Pier 13	28+79.94	-9.50	626.59	626.59
☉ Pier 13	28+80.94	-9.50	626.59	626.59

BEAM A3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+74.94	-3.00	627.09	627.09
☉ Brg. S. Abut.	27+77.44	-3.00	627.08	627.08
1A	27+87.44	-3.00	627.04	627.06
1B	27+97.44	-3.00	627.01	627.03
1C	28+07.44	-3.00	626.97	626.99
1D	28+17.44	-3.00	626.93	626.94
☉ Brg. Pier 12	28+28.44	-3.00	626.89	626.89
2A	28+38.44	-3.00	626.85	626.86
2B	28+48.44	-3.00	626.81	626.83
2C	28+58.44	-3.00	626.77	626.79
2D	28+68.44	-3.00	626.74	626.75
☉ S. Brg. Pier 13	28+78.44	-3.00	626.70	626.70
☉ Pier 13	28+79.44	-3.00	626.69	626.69

☉ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+74.24	0.00	627.14	627.14
☉ Brg. S. Abut.	27+76.74	0.00	627.13	627.13
1A	27+86.74	0.00	627.09	627.11
1B	27+96.74	0.00	627.05	627.08
1C	28+06.74	0.00	627.02	627.04
1D	28+16.74	0.00	626.98	626.99
☉ Brg. Pier 12	28+27.74	0.00	626.94	626.94
2A	28+37.74	0.00	626.90	626.90
2B	28+47.74	0.00	626.86	626.88
2C	28+57.74	0.00	626.82	626.84
2D	28+67.74	0.00	626.78	626.80
☉ S. Brg. Pier 13	28+77.74	0.00	626.74	626.74
☉ Pier 13	28+78.74	0.00	626.74	626.74



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

NOTE:

Offset measured from ☉ NB IL-171 & P.G.L.

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	540
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

BEAM A4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+73.43	3.50	627.09	627.09
☉ Brg. S. Abut.	27+75.93	3.50	627.08	627.08
1A	27+85.93	3.50	627.04	627.06
1B	27+95.93	3.50	627.00	627.03
1C	28+05.93	3.50	626.97	626.99
1D	28+15.93	3.50	626.93	626.94
☉ Brg. Pier 12	28+26.93	3.50	626.89	626.89
2A	28+36.93	3.50	626.85	626.85
2B	28+46.93	3.50	626.81	626.83
2C	28+56.93	3.50	626.77	626.79
2D	28+66.93	3.50	626.73	626.75
☉ S. Brg. Pier 13	28+76.93	3.50	626.70	626.70
☉ Pier 13	28+77.93	3.50	626.69	626.69

BEAM A5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+71.93	10.00	627.00	627.00
☉ Brg. S. Abut.	27+74.43	10.00	626.99	626.99
1A	27+84.43	10.00	626.95	626.97
1B	27+94.43	10.00	626.91	626.94
1C	28+04.43	10.00	626.87	626.90
1D	28+14.43	10.00	626.84	626.85
☉ Brg. Pier 12	28+25.43	10.00	626.79	626.79
2A	28+35.43	10.00	626.76	626.76
2B	28+45.43	10.00	626.72	626.73
2C	28+55.43	10.00	626.68	626.70
2D	28+65.43	10.00	626.64	626.65
☉ S. Brg. Pier 13	28+75.43	10.00	626.60	626.60
☉ Pier 13	28+76.43	10.00	626.60	626.60

BEAM A6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+70.18	17.61	626.86	626.86
☉ Brg. S. Abut.	27+72.69	17.56	626.85	626.85
1A	27+82.74	17.31	626.82	626.84
1B	27+92.79	17.07	626.79	626.81
1C	28+02.85	16.83	626.75	626.78
1D	28+12.90	16.59	626.72	626.73
☉ Brg. Pier 12	28+23.97	16.32	626.68	626.68
2A	28+34.02	16.08	626.65	626.66
2B	28+44.08	15.84	626.62	626.63
2C	28+54.13	15.60	626.58	626.60
2D	28+64.18	15.36	626.55	626.56
☉ S. Brg. Pier 13	28+74.25	15.13	626.52	626.52
☉ Pier 13	28+75.25	15.09	626.51	626.51

BEAM A7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	27+68.73	23.86	626.74	626.74
☉ Brg. S. Abut.	27+71.24	23.81	626.74	626.74
1A	27+81.28	23.61	626.70	626.72
1B	27+91.32	23.41	626.67	626.69
1C	28+01.37	23.21	626.63	626.66
1D	28+11.41	23.01	626.60	626.61
☉ Brg. Pier 12	28+22.48	22.78	626.56	626.56
2A	28+32.52	22.58	626.53	626.53
2B	28+42.56	22.39	626.49	626.51
2C	28+52.60	22.19	626.46	626.48
2D	28+62.64	21.98	626.42	626.44
☉ S. Brg. Pier 13	28+72.71	21.78	626.39	626.39
☉ Pier 13	28+73.71	21.76	626.38	626.38

NOTE:

Offset measured from @ NB IL-171 & P.G.L.



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Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160487_60W75_015_TOS.Elev.land2.dgn	USER NAME =	jsurber	DESIGNED -	MLM	REVISED -	
				CHECKED -	JLS	REVISED -	
				PLOT SCALE =		REVISED -	
				DRAWN -	RMG	REVISED -	
				CHECKED -	JLS	REVISED -	
				PLOT DATE =	6/12/2015		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 1 AND 2 (2 OF 2)
STRUCTURE NO. 016-0487**

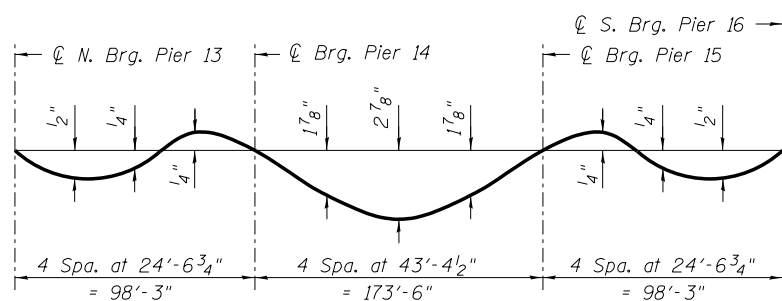
SHEET NO. SF15 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	541
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

Y:\chicago\100005\10093\Eng_Docs_Phase_1\SN_016_0486_0487_1st_Ave_cover_Canal\Final\Final_0487\0160487_60W75_015_TOS.Elev.land2.dgn 5:43:01 PM 6/12/2015

GIRDER B1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 13	28+82.43	-16.00	626.47	626.47
☉ N. Brg. Pier 13	28+83.43	-16.00	626.46	626.46
3A	28+93.43	-16.00	626.42	626.45
3B	29+03.43	-16.00	626.39	626.42
3C	29+13.43	-16.00	626.35	626.39
3D	29+23.43	-16.00	626.31	626.35
3E	29+33.43	-16.00	626.27	626.29
3F	29+43.43	-16.00	626.23	626.24
3G	29+53.43	-16.00	626.20	626.18
3H	29+63.43	-16.00	626.16	626.14
3J	29+73.43	-16.00	626.12	626.11
☉ Brg. Pier 14	29+81.68	-16.00	626.09	626.09
4A	29+91.68	-16.00	626.05	626.08
4B	30+01.68	-16.00	626.01	626.07
4C	30+11.68	-16.00	625.97	626.07
4D	30+21.68	-16.00	625.93	626.08
4E	30+31.68	-16.00	625.90	626.07
4F	30+41.68	-16.00	625.86	626.06
4G	30+51.68	-16.00	625.82	626.05
4H	30+61.68	-16.00	625.78	626.02
4J	30+71.68	-16.00	625.74	625.98
4K	30+81.68	-16.00	625.71	625.94
4L	30+91.68	-16.00	625.67	625.88
4M	31+01.68	-16.00	625.63	625.82
4N	31+11.68	-16.00	625.59	625.75
4P	31+21.68	-16.00	625.55	625.67
4Q	31+31.68	-16.00	625.51	625.59
4R	31+41.68	-16.00	625.48	625.51
☉ Brg. Pier 15	31+55.18	-16.00	625.42	625.42
5A	31+65.18	-16.00	625.39	625.37
5B	31+75.18	-16.00	625.35	625.33
5C	31+85.18	-16.00	625.31	625.30
5D	31+95.18	-16.00	625.27	625.28
5E	32+05.18	-16.00	625.23	625.26
5F	32+15.18	-16.00	625.20	625.23
5G	32+25.18	-16.00	625.16	625.20
5H	32+35.18	-16.00	625.12	625.15
5J	32+45.18	-16.00	625.08	625.10
☉ S. Brg. Pier 16	32+53.43	-16.00	625.05	625.05
☉ Pier 16	32+54.43	-16.00	625.05	625.05



DEAD LOAD DEFLECTION DIAGRAM (GIRDERS 1 THRU 5)

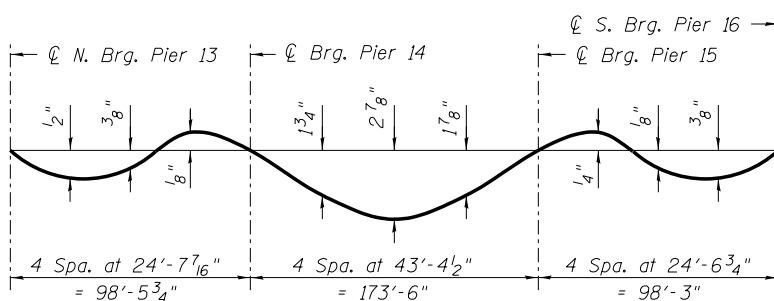
(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SF16 & SF17.

GIRDER B2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 13	28+80.58	-8.00	626.61	626.61
☉ N. Brg. Pier 13	28+81.58	-8.00	626.61	626.61
3A	28+91.58	-8.00	626.57	626.59
3B	29+01.58	-8.00	626.53	626.57
3C	29+11.58	-8.00	626.50	626.54
3D	29+21.58	-8.00	626.46	626.49
3E	29+31.58	-8.00	626.42	626.44
3F	29+41.58	-8.00	626.38	626.38
3G	29+51.58	-8.00	626.34	626.33
3H	29+61.58	-8.00	626.30	626.29
3J	29+71.58	-8.00	626.27	626.25
☉ Brg. Pier 14	29+79.83	-8.00	626.23	626.23
4A	29+89.83	-8.00	626.20	626.22
4B	29+99.83	-8.00	626.16	626.22
4C	30+09.83	-8.00	626.12	626.22
4D	30+19.83	-8.00	626.08	626.22
4E	30+29.83	-8.00	626.04	626.22
4F	30+39.83	-8.00	626.01	626.21
4G	30+49.83	-8.00	625.97	626.19
4H	30+59.83	-8.00	625.93	626.17
4J	30+69.83	-8.00	625.89	626.13
4K	30+79.83	-8.00	625.85	626.08
4L	30+89.83	-8.00	625.81	626.03
4M	30+99.83	-8.00	625.78	625.96
4N	31+09.83	-8.00	625.74	625.89
4P	31+19.83	-8.00	625.70	625.82
4Q	31+29.83	-8.00	625.66	625.74
4R	31+39.83	-8.00	625.62	625.66
☉ Brg. Pier 15	31+53.33	-8.00	625.57	625.57
5A	31+63.33	-8.00	625.53	625.52
5B	31+73.33	-8.00	625.50	625.48
5C	31+83.33	-8.00	625.46	625.45
5D	31+93.33	-8.00	625.42	625.42
5E	32+03.33	-8.00	625.38	625.40
5F	32+13.33	-8.00	625.34	625.38
5G	32+23.33	-8.00	625.30	625.35
5H	32+33.33	-8.00	625.27	625.30
5J	32+43.33	-8.00	625.23	625.25
☉ S. Brg. Pier 16	32+51.58	-8.00	625.20	625.20
☉ Pier 16	32+52.58	-8.00	625.19	625.19



DEAD LOAD DEFLECTION DIAGRAM (GIRDER 6)

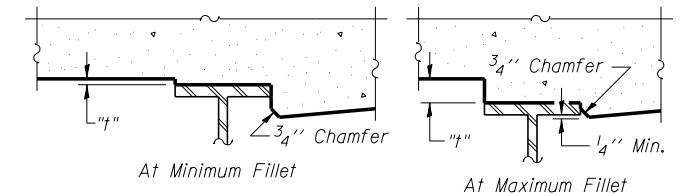
(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SF17.

GIRDER B3 & @ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 13	28+78.74	0.00	626.74	626.74
☉ N. Brg. Pier 13	28+79.74	0.00	626.74	626.74
3A	28+89.74	0.00	626.70	626.72
3B	28+99.74	0.00	626.66	626.70
3C	29+09.74	0.00	626.62	626.66
3D	29+19.74	0.00	626.58	626.62
3E	29+29.74	0.00	626.55	626.57
3F	29+39.74	0.00	626.51	626.51
3G	29+49.74	0.00	626.47	626.46
3H	29+59.74	0.00	626.43	626.41
3J	29+69.74	0.00	626.39	626.38
☉ Brg. Pier 14	29+77.99	0.00	626.36	626.36
4A	29+87.99	0.00	626.32	626.35
4B	29+97.99	0.00	626.29	626.35
4C	30+07.99	0.00	626.25	626.35
4D	30+17.99	0.00	626.21	626.35
4E	30+27.99	0.00	626.17	626.35
4F	30+37.99	0.00	626.13	626.34
4G	30+47.99	0.00	626.09	626.32
4H	30+57.99	0.00	626.06	626.29
4J	30+67.99	0.00	626.02	626.26
4K	30+77.99	0.00	625.98	626.21
4L	30+87.99	0.00	625.94	626.16
4M	30+97.99	0.00	625.90	626.09
4N	31+07.99	0.00	625.87	626.02
4P	31+17.99	0.00	625.83	625.94
4Q	31+27.99	0.00	625.79	625.86
4R	31+37.99	0.00	625.75	625.79
☉ Brg. Pier 15	31+51.49	0.00	625.70	625.70
5A	31+61.49	0.00	625.66	625.65
5B	31+71.49	0.00	625.62	625.60
5C	31+81.49	0.00	625.58	625.57
5D	31+91.49	0.00	625.55	625.55
5E	32+01.49	0.00	625.51	625.53
5F	32+11.49	0.00	625.47	625.51
5G	32+21.49	0.00	625.43	625.47
5H	32+31.49	0.00	625.39	625.43
5J	32+41.49	0.00	625.36	625.37
☉ S. Brg. Pier 16	32+49.74	0.00	625.32	625.32
☉ Pier 16	32+50.74	0.00	625.32	625.32



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted For Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

NOTE:

Offset measured from @ NB IL-171 & P.G.L.

benesch
engineers · scientists · planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISIED -
		CHECKED - JLS	REVISIED -
		DRAWN - RMG	REVISIED -
		CHECKED - JLS	REVISIED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 3 THRU 5 (1 OF 2)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	542
CONTRACT NO. 60W75				

SHEET NO. SF16 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT

GIRDER B4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Pier 13	28+76.90	8.00	626.63	626.63
℄ N. Brg. Pier 13	28+77.90	8.00	626.62	626.62
3A	28+87.90	8.00	626.59	626.61
3B	28+97.90	8.00	626.55	626.58
3C	29+07.90	8.00	626.51	626.55
3D	29+17.90	8.00	626.47	626.51
3E	29+27.90	8.00	626.43	626.45
3F	29+37.90	8.00	626.39	626.40
3G	29+47.90	8.00	626.36	626.34
3H	29+57.90	8.00	626.32	626.30
3J	29+67.90	8.00	626.28	626.27
℄ Brg. Pier 14	29+76.15	8.00	626.25	626.25
4A	29+86.15	8.00	626.21	626.24
4B	29+96.15	8.00	626.17	626.23
4C	30+06.15	8.00	626.13	626.24
4D	30+16.15	8.00	626.10	626.24
4E	30+26.15	8.00	626.06	626.23
4F	30+36.15	8.00	626.02	626.23
4G	30+46.15	8.00	625.98	626.21
4H	30+56.15	8.00	625.94	626.18
4J	30+66.15	8.00	625.90	626.14
4K	30+76.15	8.00	625.87	626.10
4L	30+86.15	8.00	625.83	626.04
4M	30+96.15	8.00	625.79	625.98
4N	31+06.15	8.00	625.75	625.91
4P	31+16.15	8.00	625.71	625.83
4Q	31+26.15	8.00	625.68	625.75
4R	31+36.15	8.00	625.64	625.68
℄ Brg. Pier 15	31+49.65	8.00	625.59	625.59
5A	31+59.65	8.00	625.55	625.53
5B	31+69.65	8.00	625.51	625.49
5C	31+79.65	8.00	625.47	625.46
5D	31+89.65	8.00	625.43	625.44
5E	31+99.65	8.00	625.39	625.42
5F	32+09.65	8.00	625.36	625.39
5G	32+19.65	8.00	625.32	625.36
5H	32+29.65	8.00	625.28	625.32
5J	32+39.65	8.00	625.24	625.26
℄ S. Brg. Pier 16	32+47.90	8.00	625.21	625.21
℄ Pier 16	32+48.90	8.00	625.21	625.21

GIRDER B5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Pier 13	28+75.05	16.00	626.49	626.49
℄ N. Brg. Pier 13	28+76.05	16.00	626.49	626.49
3A	28+86.05	16.00	626.45	626.47
3B	28+96.05	16.00	626.41	626.45
3C	29+06.05	16.00	626.38	626.42
3D	29+16.05	16.00	626.34	626.37
3E	29+26.05	16.00	626.30	626.32
3F	29+36.05	16.00	626.26	626.26
3G	29+46.05	16.00	626.22	626.21
3H	29+56.05	16.00	626.19	626.17
3J	29+66.05	16.00	626.15	626.13
℄ Brg. Pier 14	29+74.30	16.00	626.12	626.12
4A	29+84.30	16.00	626.08	626.10
4B	29+94.30	16.00	626.04	626.10
4C	30+04.30	16.00	626.00	626.10
4D	30+14.30	16.00	625.96	626.10
4E	30+24.30	16.00	625.92	626.10
4F	30+34.30	16.00	625.89	626.09
4G	30+44.30	16.00	625.85	626.07
4H	30+54.30	16.00	625.81	626.05
4J	30+64.30	16.00	625.77	626.01
4K	30+74.30	16.00	625.73	625.96
4L	30+84.30	16.00	625.70	625.91
4M	30+94.30	16.00	625.66	625.85
4N	31+04.30	16.00	625.62	625.77
4P	31+14.30	16.00	625.58	625.70
4Q	31+24.30	16.00	625.54	625.62
4R	31+34.30	16.00	625.50	625.54
℄ Brg. Pier 15	31+47.80	16.00	625.45	625.45
5A	31+57.80	16.00	625.41	625.40
5B	31+67.80	16.00	625.38	625.36
5C	31+77.80	16.00	625.34	625.33
5D	31+87.80	16.00	625.30	625.30
5E	31+97.80	16.00	625.26	625.28
5F	32+07.80	16.00	625.22	625.26
5G	32+17.80	16.00	625.19	625.23
5H	32+27.80	16.00	625.15	625.18
5J	32+37.80	16.00	625.11	625.13
℄ S. Brg. Pier 16	32+46.05	16.00	625.08	625.08
℄ Pier 16	32+47.05	16.00	625.07	625.07

GIRDER B6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Pier 13	28+73.67	22.02	626.38	626.38
℄ N. Brg. Pier 13	28+74.67	22.00	626.38	626.38
3A	28+84.71	21.81	626.34	626.36
3B	28+94.75	21.61	626.31	626.35
3C	29+04.79	21.43	626.27	626.32
3D	29+14.83	21.23	626.24	626.28
3E	29+24.88	21.04	626.20	626.23
3F	29+34.89	21.00	626.17	626.18
3G	29+44.89	21.00	626.13	626.12
3H	29+54.89	21.00	626.09	626.07
3J	29+64.89	21.00	626.05	626.04
℄ Brg. Pier 14	29+73.15	21.00	626.02	626.02
4A	29+83.15	21.00	625.98	626.01
4B	29+93.15	21.00	625.94	626.00
4C	30+03.15	21.00	625.91	626.00
4D	30+13.15	21.00	625.87	626.00
4E	30+23.15	21.00	625.83	626.00
4F	30+33.15	21.00	625.79	625.99
4G	30+43.15	21.00	625.75	625.98
4H	30+53.15	21.00	625.71	625.95
4J	30+63.15	21.00	625.68	625.92
4K	30+73.15	21.00	625.64	625.87
4L	30+83.15	21.00	625.60	625.81
4M	30+93.15	21.00	625.56	625.75
4N	31+03.15	21.00	625.52	625.68
4P	31+13.15	21.00	625.49	625.60
4Q	31+23.15	21.00	625.45	625.52
4R	31+33.15	21.00	625.41	625.45
℄ Brg. Pier 15	31+46.65	21.00	625.36	625.36
5A	31+56.65	21.00	625.32	625.30
5B	31+66.65	21.00	625.28	625.26
5C	31+76.65	21.00	625.24	625.23
5D	31+86.65	21.00	625.20	625.21
5E	31+96.65	21.00	625.17	625.18
5F	32+06.65	21.00	625.13	625.16
5G	32+16.65	21.00	625.09	625.12
5H	32+26.65	21.00	625.05	625.08
5J	32+36.65	21.00	625.01	625.03
℄ S. Brg. Pier 16	32+44.90	21.00	624.98	624.98
℄ Pier 16	32+45.90	21.00	624.98	624.98

NOTE:

Offset measured from @ NB IL-171 & P.G.L.



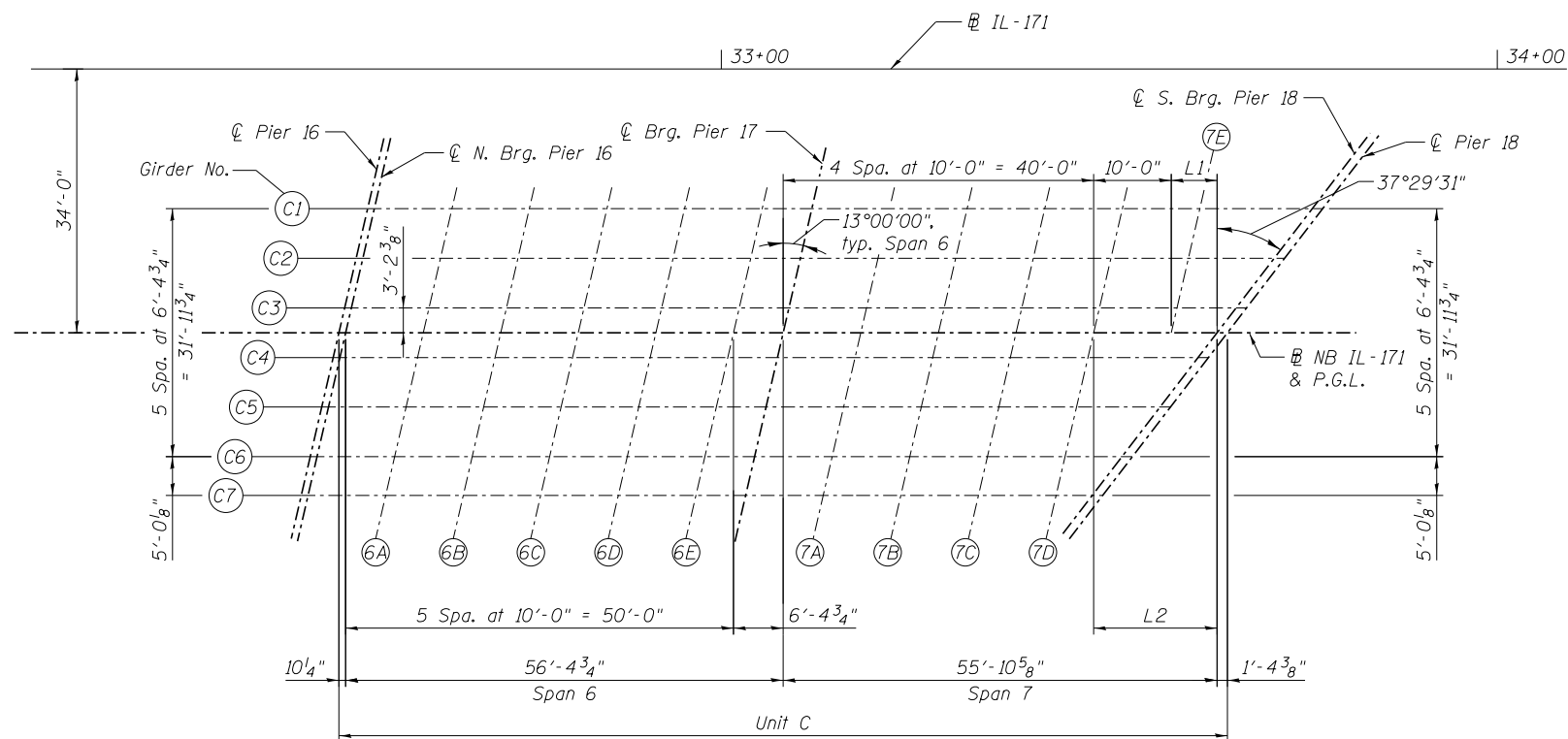
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		CHECKED - JLS	REVISED -
0160487.60W75.017.TOS.Elev.3thru5.dgn		DRAWN - RMG	REVISED -
		CHECKED - JLS	REVISED -
	PLOT SCALE =		
	PLOT DATE = 6/12/2015		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 3 THRU 5 (2 OF 2)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	543
CONTRACT NO. 60W75				
SHEET NO. SF17 OF SF96 SHEETS		ILLINOIS FED. AID PROJECT		

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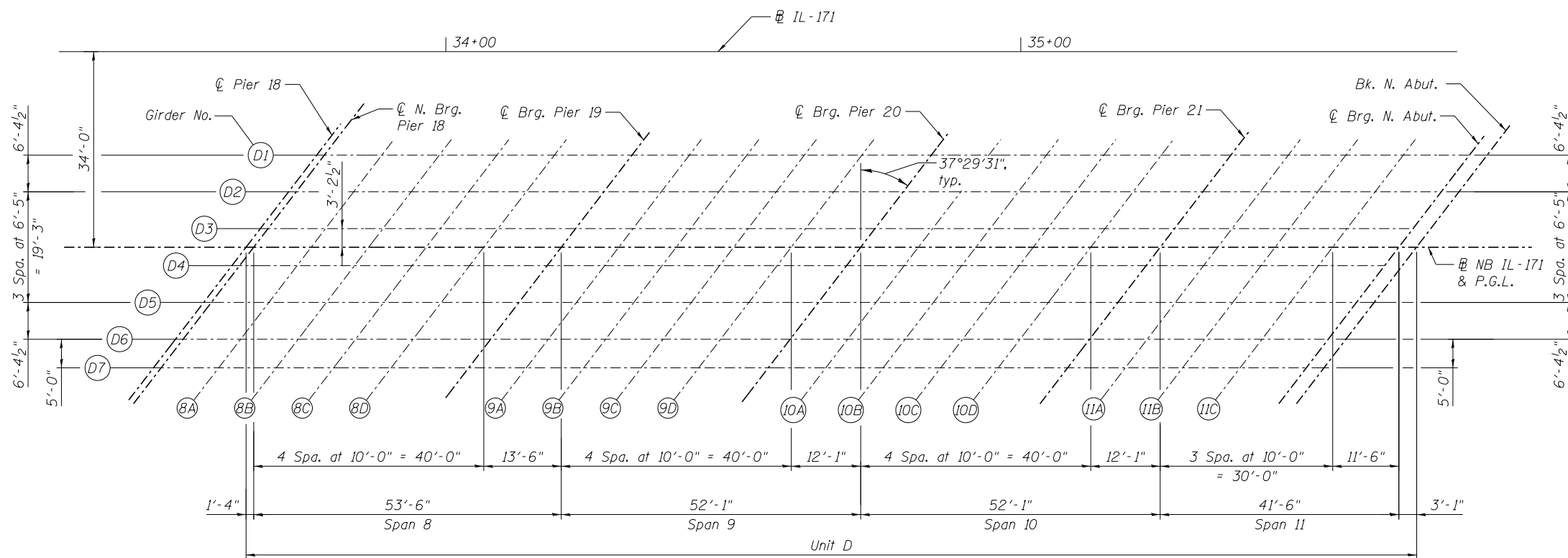


PLAN - UNIT C

SCREED SPACING

(Unit C)

LOCATION	L1	L2
Beam C1	14'-5 1/2"	---
Beam C2	11'-0 3/8"	---
Beam C3	7'-7 1/4"	---
⊕ NB IL-171 & P.G.L.	5'-10 5/8"	---
Beam C4	---	14'-2"
Beam C5	---	10'-8 7/8"
Beam C6	---	7'-3 3/4"
Beam C7	---	4'-7 1/2"



PLAN - UNIT D

NOTES:

1. All screed spacing is measured along girder/beam \mathcal{C} .
2. All girder/beam spacing is measured perpendicular to \mathcal{C} IL-171.
3. Contractor shall supply top of steel elevation survey data at all screed points to the Engineer for approval before beginning deck formwork operations.

benesch
engineers · scientists · planners

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
USER NAME = jsurber
DESIGNED - MLM
CHECKED - JLS/AJK
DRAWN - RMG
PLOT DATE = 8/18/2015

DESIGNED - MLM
CHECKED - JLS/AJK
DRAWN - RMG
CHECKED - JLS/AJK

REVISED -
REVISED -
REVISED -
REVISED -

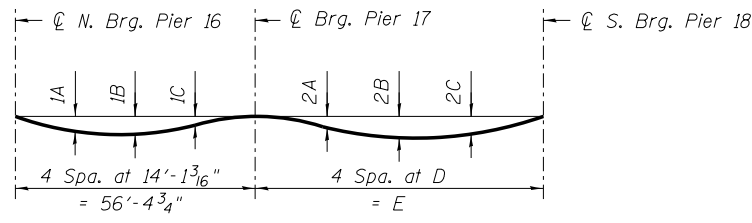
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN SPANS 6 THRU 11
STRUCTURE NO. 016-0487

SHEET NO. SF18 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	544
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

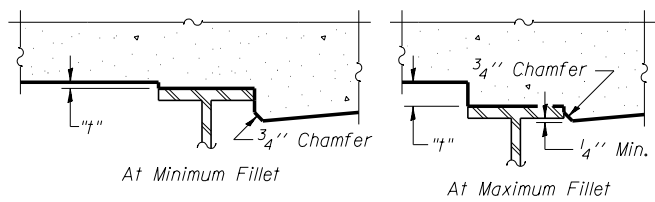
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SF19 & SF20.

DEAD LOAD DEFLECTION TABLE

Beam	1A	1B	1C	2A	2B	2C
C1 & C2	1/4"	1/4"	1/8"	3/8"	5/8"	1/2"
C3 & C4	3/8"	3/8"	1/8"	1/4"	1/2"	3/8"
C5 & C6	3/8"	1/2"	1/4"	1/8"	1/4"	1/4"
C7	3/8"	1/2"	1/4"	0"	1/8"	1/8"

SPAN 7 LENGTH TABLE

Beam	D	E
C1	16'-1 3/8"±	64'-5 9/16"
C2	15'-3 1/8"±	61'-0 3/8"
C3	14'-4 3/4"±	57'-7 3/16"
C4	13'-6 1/2"	54'-2"
C5	12'-8 1/4"±	50'-8 13/16"
C6	11'-9 7/8"±	47'-3 1/16"
C7	11'-1 1/8"	44'-7 1/2"



At Minimum Fillet

At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM C1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+54.44	-15.99	625.05	625.05
☉ N. Brg. Pier 16	32+55.29	-15.99	625.04	625.04
6A	32+65.29	-15.99	625.00	625.02
6B	32+75.29	-15.99	624.97	624.99
6C	32+85.29	-15.99	624.93	624.95
6D	32+95.29	-15.99	624.89	624.90
6E	33+05.29	-15.99	624.85	624.85
☉ Brg. Pier 17	33+11.69	-15.99	624.83	624.83
7A	33+21.69	-15.99	624.79	624.80
7B	33+31.69	-15.99	624.75	624.79
7C	33+41.69	-15.99	624.71	624.77
7D	33+51.69	-15.99	624.67	624.73
7E	33+61.69	-15.99	624.64	624.68
☉ S. Brg. Pier 18	33+76.15	-15.99	624.58	624.58
☉ Pier 18	33+77.51	-15.99	624.58	624.58

BEAM C2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+52.96	-9.59	625.17	625.17
☉ N. Brg. Pier 16	32+53.81	-9.59	625.16	625.16
6A	32+63.81	-9.59	625.13	625.14
6B	32+73.81	-9.59	625.09	625.11
6C	32+83.81	-9.59	625.05	625.07
6D	32+93.81	-9.59	625.01	625.02
6E	33+03.81	-9.59	624.97	624.97
☉ Brg. Pier 17	33+10.21	-9.59	624.95	624.95
7A	33+20.21	-9.59	624.91	624.93
7B	33+30.21	-9.59	624.87	624.91
7C	33+40.21	-9.59	624.83	624.89
7D	33+50.21	-9.59	624.80	624.85
7E	33+60.21	-9.59	624.76	624.79
☉ S. Brg. Pier 18	33+71.24	-9.59	624.72	624.72
☉ Pier 18	33+72.60	-9.59	624.71	624.71

BEAM C3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+51.48	-3.20	625.27	625.27
☉ N. Brg. Pier 16	32+52.33	-3.20	625.27	625.27
6A	32+62.33	-3.20	625.23	625.25
6B	32+72.33	-3.20	625.19	625.22
6C	32+82.33	-3.20	625.15	625.18
6D	32+92.33	-3.20	625.11	625.13
6E	33+02.33	-3.20	625.07	625.08
☉ Brg. Pier 17	33+08.73	-3.20	625.05	625.05
7A	33+18.73	-3.20	625.01	625.02
7B	33+28.73	-3.20	624.97	625.00
7C	33+38.73	-3.20	624.94	624.97
7D	33+48.73	-3.20	624.90	624.93
7E	33+58.73	-3.20	624.86	624.88
☉ S. Brg. Pier 18	33+66.33	-3.20	624.83	624.83
☉ Pier 18	33+67.70	-3.20	624.83	624.83

☉ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+50.74	0.00	625.32	625.32
☉ N. Brg. Pier 16	32+51.59	0.00	625.32	625.32
6A	32+61.59	0.00	625.28	625.30
6B	32+71.59	0.00	625.24	625.27
6C	32+81.59	0.00	625.20	625.23
6D	32+91.59	0.00	625.16	625.18
6E	33+01.59	0.00	625.13	625.13
☉ Brg. Pier 17	33+07.99	0.00	625.10	625.10
7A	33+17.99	0.00	625.06	625.07
7B	33+27.99	0.00	625.02	625.05
7C	33+37.99	0.00	624.99	625.03
7D	33+47.99	0.00	624.95	624.98
7E	33+57.99	0.00	624.91	624.93
☉ S. Brg. Pier 18	33+63.88	0.00	624.89	624.89
☉ Pier 18	33+65.24	0.00	624.88	624.88

NOTE:

Offset measured from ☉ NB IL-171 & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160487.60W75.019.TOS.Elev.6and7.dgn
USER NAME =	jsurber
PLOT SCALE =	
PLOT DATE =	6/12/2015

DESIGNED -	MLM	REVISED -	
CHECKED -	JLS	REVISED -	
DRAWN -	RMG	REVISED -	
CHECKED -	JLS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 6 AND 7 (1 OF 2)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	545
CONTRACT NO. 60W75				

SHEET NO. SF19 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT

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BEAM C4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+50.00	3.20	625.27	625.27
☉ N. Brg. Pier 16	32+50.85	3.20	625.27	625.27
6A	32+60.85	3.20	625.23	625.25
6B	32+70.85	3.20	625.19	625.23
6C	32+80.85	3.20	625.16	625.19
6D	32+90.85	3.20	625.12	625.14
6E	33+00.85	3.20	625.08	625.08
☉ Brg. Pier 17	33+07.25	3.20	625.06	625.06
7A	33+17.25	3.20	625.02	625.03
7B	33+27.25	3.20	624.98	625.01
7C	33+37.25	3.20	624.94	624.98
7D	33+47.25	3.20	624.90	624.94
☉ S. Brg. Pier 18	33+61.42	3.20	624.85	624.85
☉ Pier 18	33+62.78	3.20	624.84	624.84

BEAM C5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+48.52	9.59	625.18	625.18
☉ N. Brg. Pier 16	32+49.38	9.59	625.18	625.18
6A	32+59.38	9.59	625.14	625.17
6B	32+69.38	9.59	625.10	625.14
6C	32+79.38	9.59	625.07	625.10
6D	32+89.38	9.59	625.03	625.05
6E	32+99.38	9.59	624.99	625.00
☉ Brg. Pier 17	33+05.77	9.59	624.97	624.97
7A	33+15.77	9.59	624.93	624.93
7B	33+25.77	9.59	624.89	624.90
7C	33+35.77	9.59	624.85	624.87
7D	33+45.77	9.59	624.81	624.83
☉ S. Brg. Pier 18	33+56.51	9.59	624.77	624.77
☉ Pier 18	33+57.88	9.59	624.77	624.77

BEAM C6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+47.04	15.99	625.07	625.07
☉ N. Brg. Pier 16	32+47.90	15.99	625.07	625.07
6A	32+57.90	15.99	625.03	625.06
6B	32+67.90	15.99	624.99	625.03
6C	32+77.90	15.99	624.96	624.99
6D	32+87.90	15.99	624.92	624.94
6E	32+97.90	15.99	624.88	624.89
☉ Brg. Pier 17	33+04.29	15.99	624.86	624.86
7A	33+14.29	15.99	624.82	624.82
7B	33+24.29	15.99	624.78	624.79
7C	33+34.29	15.99	624.74	624.76
7D	33+44.29	15.99	624.70	624.71
☉ S. Brg. Pier 18	33+51.60	15.99	624.67	624.67
☉ Pier 18	33+52.97	15.99	624.67	624.67

BEAM C7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 16	32+45.89	21.00	624.98	624.98
☉ N. Brg. Pier 16	32+46.74	21.00	624.98	624.98
6A	32+56.74	21.00	624.94	624.96
6B	32+66.74	21.00	624.90	624.94
6C	32+76.74	21.00	624.86	624.90
6D	32+86.74	21.00	624.82	624.85
6E	32+96.74	21.00	624.78	624.79
☉ Brg. Pier 17	33+03.14	21.00	624.76	624.76
7A	33+13.14	21.00	624.72	624.72
7B	33+23.14	21.00	624.68	624.69
7C	33+33.14	21.00	624.65	624.65
7D	33+43.14	21.00	624.61	624.61
☉ S. Brg. Pier 18	33+47.76	21.00	624.59	624.59
☉ Pier 18	33+49.13	21.00	624.58	624.58

NOTE:

Offset measured from @ NB IL-171 & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160487_60W75_020_T05_Elev_6and7.dgn	USER NAME =	jsurber	DESIGNED -	MLM	REVISED -	
		CHECKED -	JLS			REVISED -	
		PLOT SCALE =		DRAWN -	RMG	REVISED -	
		PLOT DATE =	6/12/2015	CHECKED -	JLS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 6 AND 7 (2 OF 2)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	546
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60W75	

SHEET NO. SF20 OF SF96 SHEETS

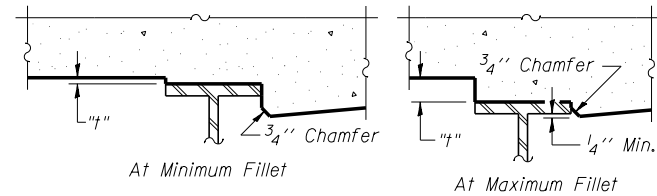
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BEAM D1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+77.51	-16.00	624.58	624.58
☉ N. Brg. Pier 18	33+78.84	-16.00	624.57	624.57
8A	33+88.84	-16.00	624.53	624.56
8B	33+98.84	-16.00	624.49	624.53
8C	34+08.84	-16.00	624.46	624.49
8D	34+18.84	-16.00	624.42	624.44
☉ Brg. Pier 19	34+32.34	-16.00	624.37	624.37
9A	34+42.34	-16.00	624.33	624.33
9B	34+52.34	-16.00	624.29	624.30
9C	34+62.34	-16.00	624.25	624.26
9D	34+72.34	-16.00	624.21	624.22
☉ Brg. Pier 20	34+84.43	-16.00	624.17	624.17
10A	34+94.43	-16.00	624.13	624.14
10B	35+04.43	-16.00	624.09	624.11
10C	35+14.43	-16.00	624.05	624.07
10D	35+24.43	-16.00	624.01	624.03
☉ Brg. Pier 21	35+36.51	-16.00	623.97	623.97
11A	35+46.51	-16.00	623.93	623.94
11B	35+56.51	-16.00	623.89	623.90
11C	35+66.51	-16.00	623.85	623.86
☉ Brg. N. Abut.	35+78.01	-16.00	623.81	623.81
Bk. N. Abut.	35+81.09	-16.00	623.80	623.80

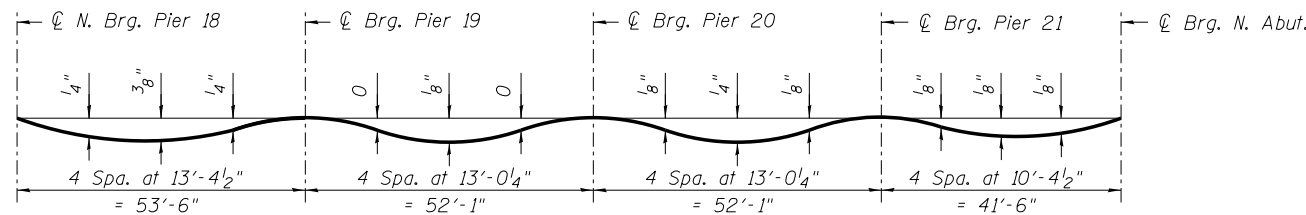
BEAM D2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+72.63	-9.63	624.71	624.71
☉ N. Brg. Pier 18	33+73.96	-9.63	624.70	624.70
8A	33+83.96	-9.63	624.67	624.69
8B	33+93.96	-9.63	624.63	624.66
8C	34+03.96	-9.63	624.59	624.62
8D	34+13.96	-9.63	624.55	624.57
☉ Brg. Pier 19	34+27.46	-9.63	624.50	624.50
9A	34+37.46	-9.63	624.46	624.46
9B	34+47.46	-9.63	624.42	624.43
9C	34+57.46	-9.63	624.39	624.40
9D	34+67.46	-9.63	624.35	624.35
☉ Brg. Pier 20	34+79.54	-9.63	624.30	624.30
10A	34+89.54	-9.63	624.26	624.27
10B	34+99.54	-9.63	624.22	624.24
10C	35+09.54	-9.63	624.19	624.21
10D	35+19.54	-9.63	624.15	624.16
☉ Brg. Pier 21	35+31.63	-9.63	624.10	624.10
11A	35+41.63	-9.63	624.06	624.07
11B	35+51.63	-9.63	624.03	624.03
11C	35+61.63	-9.63	623.99	624.00
☉ Brg. N. Abut.	35+73.13	-9.63	623.94	623.94
Bk. N. Abut.	35+76.21	-9.63	623.93	623.93



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown herein. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown herein, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on SF21 thru SF23.

NOTE:

Offset measured from @ NB IL-171 & P.G.L.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	0160487_60W75_021_T05.Elev_8thru11.dgn	USER NAME =	jsurber	DESIGNED -	MLM	REVISED -	
		CHECKED -	JLS	CHECKED -	JLS	REVISED -	
		PLOT SCALE =		DRAWN -	RMG	REVISED -	
		PLOT DATE =	6/12/2015	CHECKED -	JLS	REVISED -	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 8 THRU 11 (1 OF 3)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	547
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

SHEET NO. SF21 OF SF96 SHEETS

BEAM D3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+67.70	-3.21	624.82	624.82
☉ N. Brg. Pier 18	33+69.03	-3.21	624.82	624.82
8A	33+79.03	-3.21	624.78	624.80
8B	33+89.03	-3.21	624.74	624.78
8C	33+99.03	-3.21	624.71	624.74
8D	34+09.03	-3.21	624.67	624.69
☉ Brg. Pier 19	34+22.53	-3.21	624.62	624.62
9A	34+32.53	-3.21	624.58	624.58
9B	34+42.53	-3.21	624.54	624.55
9C	34+52.53	-3.21	624.50	624.51
9D	34+62.53	-3.21	624.46	624.47
☉ Brg. Pier 20	34+74.62	-3.21	624.42	624.42
10A	34+84.62	-3.21	624.38	624.39
10B	34+94.62	-3.21	624.34	624.36
10C	35+04.62	-3.21	624.30	624.32
10D	35+14.62	-3.21	624.26	624.27
☉ Brg. Pier 21	35+26.70	-3.21	624.22	624.22
11A	35+36.70	-3.21	624.18	624.18
11B	35+46.70	-3.21	624.14	624.15
11C	35+56.70	-3.21	624.10	624.11
☉ Brg. N. Abut.	35+68.20	-3.21	624.06	624.06
Bk. N. Abut.	35+71.28	-3.21	624.05	624.05

☉ NB IL-171 & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+65.24	0.00	624.88	624.88
☉ N. Brg. Pier 18	33+66.57	0.00	624.88	624.88
8A	33+76.57	0.00	624.84	624.86
8B	33+86.57	0.00	624.80	624.84
8C	33+96.57	0.00	624.76	624.80
8D	34+06.57	0.00	624.72	624.73
☉ Brg. Pier 19	34+20.07	0.00	624.67	624.67
9A	34+30.07	0.00	624.63	624.64
9B	34+40.07	0.00	624.60	624.60
9C	34+50.07	0.00	624.56	624.57
9D	34+60.07	0.00	624.52	624.53
☉ Brg. Pier 20	34+72.16	0.00	624.47	624.47
10A	34+82.16	0.00	624.44	624.44
10B	34+92.16	0.00	624.40	624.42
10C	35+02.16	0.00	624.36	624.38
10D	35+12.16	0.00	624.32	624.33
☉ Brg. Pier 21	35+24.24	0.00	624.28	624.28
11A	35+34.24	0.00	624.24	624.24
11B	35+44.24	0.00	624.20	624.21
11C	35+54.24	0.00	624.16	624.17
☉ Brg. N. Abut.	35+65.74	0.00	624.12	624.12
Bk. N. Abut.	35+68.82	0.00	624.10	624.10

BEAM D4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+62.78	3.21	624.84	624.84
☉ N. Brg. Pier 18	33+64.12	3.21	624.84	624.84
8A	33+74.12	3.21	624.80	624.82
8B	33+84.12	3.21	624.76	624.80
8C	33+94.12	3.21	624.72	624.76
8D	34+04.12	3.21	624.69	624.71
☉ Brg. Pier 19	34+17.62	3.21	624.63	624.63
9A	34+27.62	3.21	624.60	624.60
9B	34+37.62	3.21	624.56	624.57
9C	34+47.62	3.21	624.52	624.53
9D	34+57.62	3.21	624.48	624.49
☉ Brg. Pier 20	34+69.70	3.21	624.44	624.44
10A	34+79.70	3.21	624.40	624.41
10B	34+89.70	3.21	624.36	624.38
10C	34+99.70	3.21	624.32	624.34
10D	35+09.70	3.21	624.28	624.29
☉ Brg. Pier 21	35+21.78	3.21	624.24	624.24
11A	35+31.78	3.21	624.20	624.20
11B	35+41.78	3.21	624.16	624.17
11C	35+51.78	3.21	624.12	624.13
☉ Brg. N. Abut.	35+63.28	3.21	624.08	624.08
Bk. N. Abut.	35+66.36	3.21	624.07	624.07

NOTE:
Offset measured from ☉ NB IL-171 & P.G.L.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
		CHECKED - JLS	REVISED -
0160487.60W75.022.T05.Elev.8thrull.dgn		DRAWN - RMG	REVISED -
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	PLOT SCALE =		
	PLOT DATE = 6/12/2015		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 8 THRU 11 (2 OF 3)
STRUCTURE NO. 016-0487**

SHEET NO. SF22 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	548
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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BEAM D5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+57.85	9.63	624.77	624.77
☉ N. Brg. Pier 18	33+59.19	9.63	624.76	624.76
8A	33+69.19	9.63	624.72	624.75
8B	33+79.19	9.63	624.68	624.72
8C	33+89.19	9.63	624.65	624.68
8D	33+99.19	9.63	624.61	624.63
☉ Brg. Pier 19	34+12.69	9.63	624.56	624.56
9A	34+22.69	9.63	624.52	624.52
9B	34+32.69	9.63	624.48	624.49
9C	34+42.69	9.63	624.44	624.45
9D	34+52.69	9.63	624.40	624.41
☉ Brg. Pier 20	34+64.77	9.63	624.36	624.36
10A	34+74.77	9.63	624.32	624.33
10B	34+84.77	9.63	624.28	624.30
10C	34+94.77	9.63	624.24	624.26
10D	35+04.77	9.63	624.20	624.22
☉ Brg. Pier 21	35+16.85	9.63	624.16	624.16
11A	35+26.85	9.63	624.12	624.13
11B	35+36.85	9.63	624.08	624.09
11C	35+46.85	9.63	624.04	624.05
☉ Brg. N. Abut.	35+58.35	9.63	624.00	624.00
Bk. N. Abut.	35+61.43	9.63	623.99	623.99

BEAM D6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+52.97	16.00	624.67	624.67
☉ N. Brg. Pier 18	33+54.30	16.00	624.66	624.66
8A	33+64.30	16.00	624.63	624.65
8B	33+74.30	16.00	624.59	624.62
8C	33+84.30	16.00	624.55	624.58
8D	33+94.30	16.00	624.51	624.53
☉ Brg. Pier 19	34+07.80	16.00	624.46	624.46
9A	34+17.80	16.00	624.42	624.42
9B	34+27.80	16.00	624.38	624.39
9C	34+37.80	16.00	624.35	624.36
9D	34+47.80	16.00	624.31	624.31
☉ Brg. Pier 20	34+59.89	16.00	624.26	624.26
10A	34+69.89	16.00	624.22	624.23
10B	34+79.89	16.00	624.18	624.20
10C	34+89.89	16.00	624.15	624.17
10D	34+99.89	16.00	624.11	624.12
☉ Brg. Pier 21	35+11.97	16.00	624.06	624.06
11A	35+21.97	16.00	624.02	624.03
11B	35+31.97	16.00	623.99	623.99
11C	35+41.97	16.00	623.95	623.96
☉ Brg. N. Abut.	35+53.47	16.00	623.90	623.90
Bk. N. Abut.	35+56.55	16.00	623.89	623.89

BEAM D7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Pier 18	33+49.14	21.00	624.58	624.58
☉ N. Brg. Pier 18	33+50.47	21.00	624.58	624.58
8A	33+60.47	21.00	624.54	624.56
8B	33+70.47	21.00	624.50	624.53
8C	33+80.47	21.00	624.46	624.49
8D	33+90.47	21.00	624.43	624.44
☉ Brg. Pier 19	34+03.97	21.00	624.37	624.37
9A	34+13.97	21.00	624.34	624.34
9B	34+23.97	21.00	624.30	624.31
9C	34+33.97	21.00	624.26	624.27
9D	34+43.97	21.00	624.22	624.23
☉ Brg. Pier 20	34+56.05	21.00	624.18	624.18
10A	34+66.05	21.00	624.14	624.15
10B	34+76.05	21.00	624.10	624.12
10C	34+86.05	21.00	624.06	624.08
10D	34+96.05	21.00	624.02	624.03
☉ Brg. Pier 21	35+08.14	21.00	623.98	623.98
11A	35+18.14	21.00	623.94	623.94
11B	35+28.14	21.00	623.90	623.91
11C	35+38.14	21.00	623.86	623.87
☉ Brg. N. Abut.	35+49.64	21.00	623.82	623.82
Bk. N. Abut.	35+52.72	21.00	623.81	623.81

NOTE:
Offset measured from @ NB IL-171 & P.G.L.



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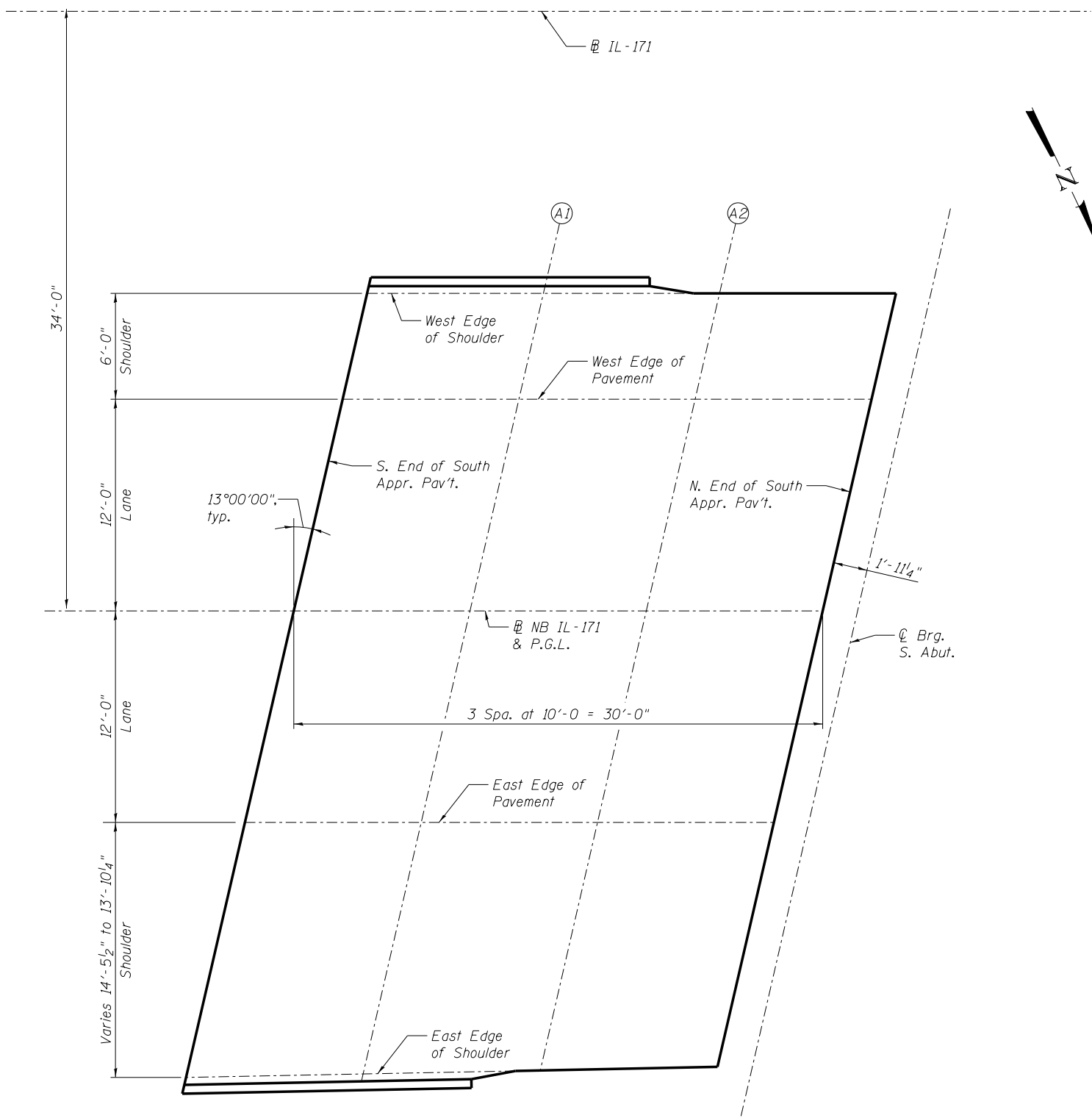
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS SPANS 8 THRU 11 (3 OF 3)
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	549
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

SHEET NO. SF23 OF SF96 SHEETS



PLAN

WEST EDGE OF SHOULDER

Location	Station (Along NB IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+48.91	-18.00	626.94
A1	27+58.91	-18.00	626.90
A2	27+68.91	-18.00	626.86
N. End of South Appr. Pav't	27+78.91	-18.00	626.82

WEST EDGE OF PAVEMENT

Location	Station (Along NB IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+47.52	-12.00	627.06
A1	27+57.52	-12.00	627.02
A2	27+67.52	-12.00	626.99
N. End of South Appr. Pav't	27+77.52	-12.00	626.95

NB IL-171 & P.G.L.

Location	Station (Along NB IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+44.75	0.00	627.25
A1	27+54.75	0.00	627.21
A2	27+64.75	0.00	627.18
N. End of South Appr. Pav't	27+74.75	0.00	627.14

EAST EDGE OF PAVEMENT

Location	Station (Along NB IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+41.98	12.00	627.08
A1	27+51.98	12.00	627.05
A2	27+61.98	12.00	627.01
N. End of South Appr. Pav't	27+71.98	12.00	626.97

EAST EDGE OF SHOULDER

Location	Station (Along NB IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of South Appr. Pav't	27+38.65	26.46	626.81
A1	27+48.69	26.26	626.77
A2	27+58.74	26.06	626.74
N. End of South Appr. Pav't	27+68.78	25.85	626.70

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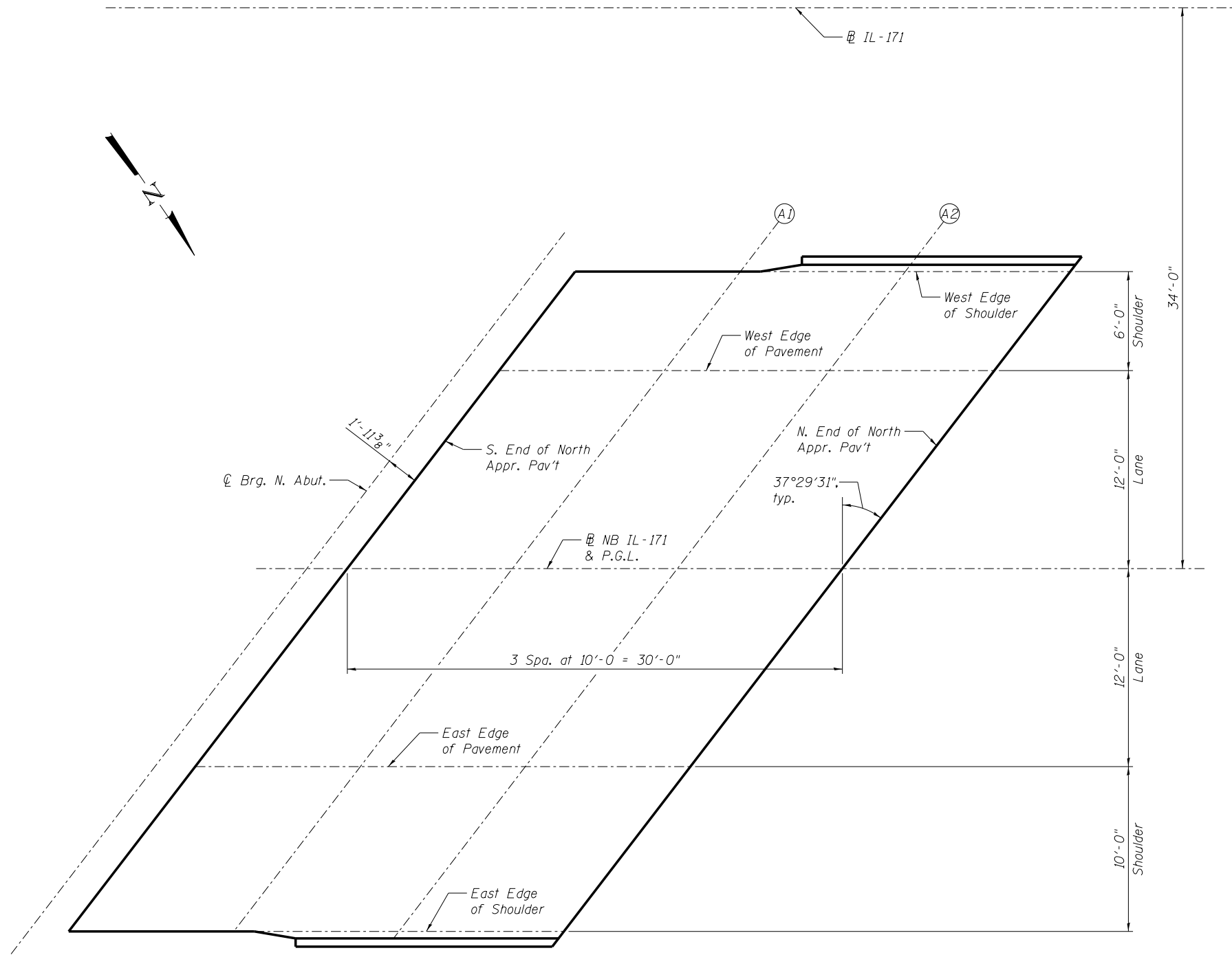
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-0487**

SHEET NO. SF24 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	550
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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PLAN

WEST EDGE OF SHOULDER

Location	Station (Along IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	35+82.00	-18.00	623.75
A1	35+92.00	-18.00	623.72
A2	36+02.00	-18.00	623.68
N. End of North Appr. Pav't	36+12.00	-18.00	623.64

WEST EDGE OF PAVEMENT

Location	Station (Along IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	35+77.40	-12.00	623.89
A1	35+87.40	-12.00	623.85
A2	35+97.40	-12.00	623.82
N. End of North Appr. Pav't	36+07.40	-12.00	623.78

NB IL-171 & P.G.L.

Location	Station (Along IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	35+68.19	0.00	624.11
A1	35+78.19	0.00	624.07
A2	35+88.19	0.00	624.03
N. End of North Appr. Pav't	35+98.19	0.00	623.99

EAST EDGE OF PAVEMENT

Location	Station (Along IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	35+58.99	12.00	623.96
A1	35+68.99	12.00	623.92
A2	35+78.99	12.00	623.89
N. End of North Appr. Pav't	35+88.99	12.00	623.85

EAST EDGE OF SHOULDER

Location	Station (Along IL-171)	Offset (from NB IL-171 & P.G.L.)	Theoretical Grade Elevations
S. End of North Appr. Pav't	35+51.31	22.00	623.79
A1	35+61.31	22.00	623.75
A2	35+71.31	22.00	623.72
N. End of North Appr. Pav't	35+81.31	22.00	623.68

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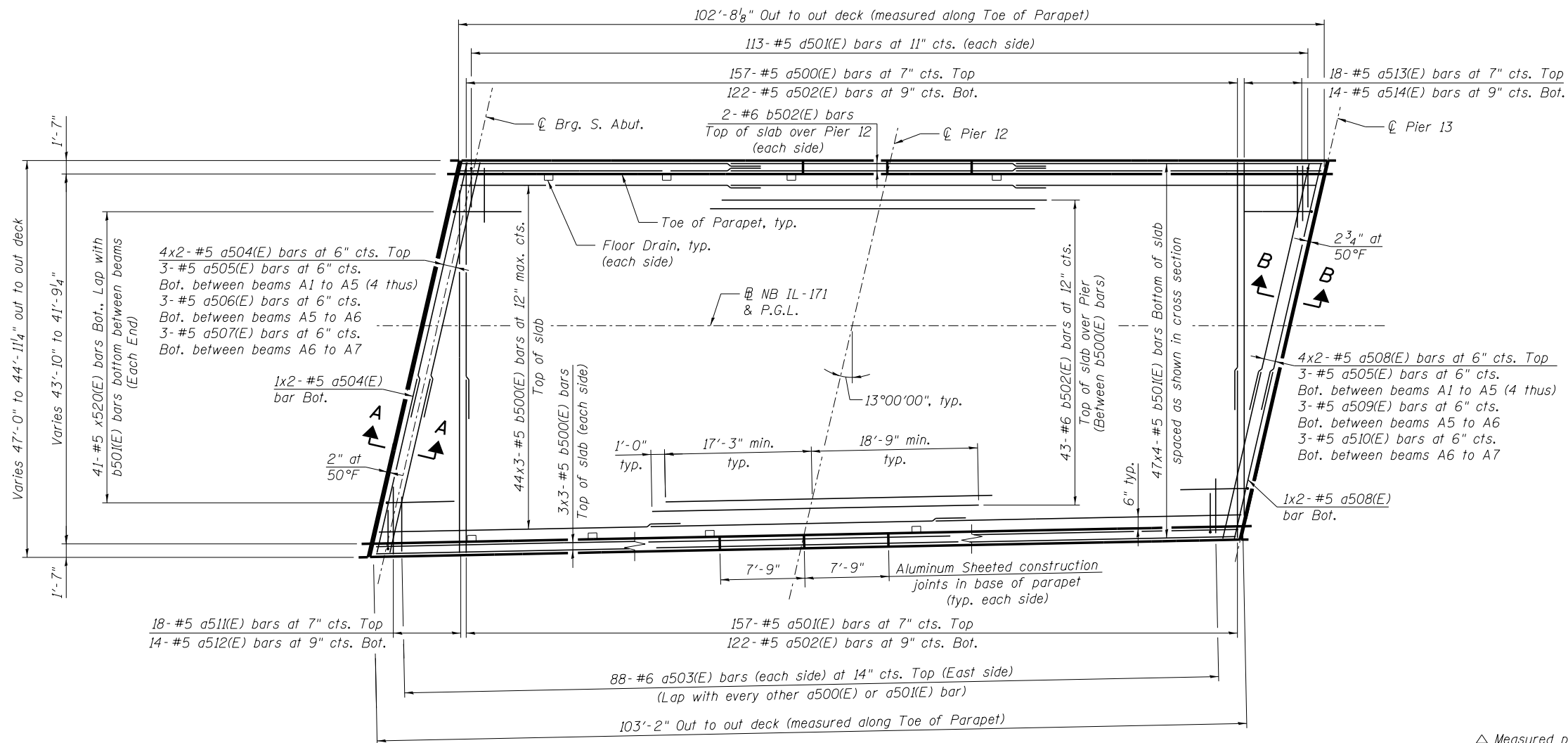
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DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-0487**

SHEET NO. SF25 OF SF96 SHEETS

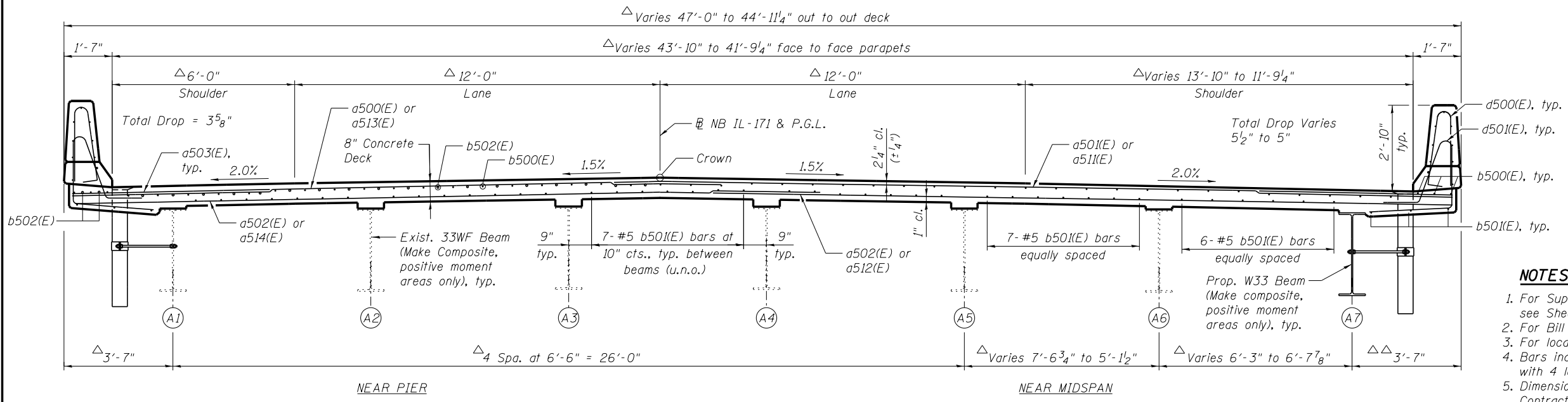
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	551
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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PLAN

△ Measured perpendicular to NB IL-171
 △△ Measured perpendicular to Beam A7



CROSS SECTION
 (Looking Upstasion/North)

MINIMUM BAR LAP
 (Slab)
 #5 bar = 3'-3"

- NOTES:**
1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
 2. For Bill of Material and Bar Bends, see Sheet SF35.
 3. For locations and spacing of Floor Drains, see Sheet SF2.
 4. Bars indicated thus 47x4-#5 etc. indicates 47 lines of bars with 4 lengths per line.
 5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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DEPARTMENT OF TRANSPORTATION

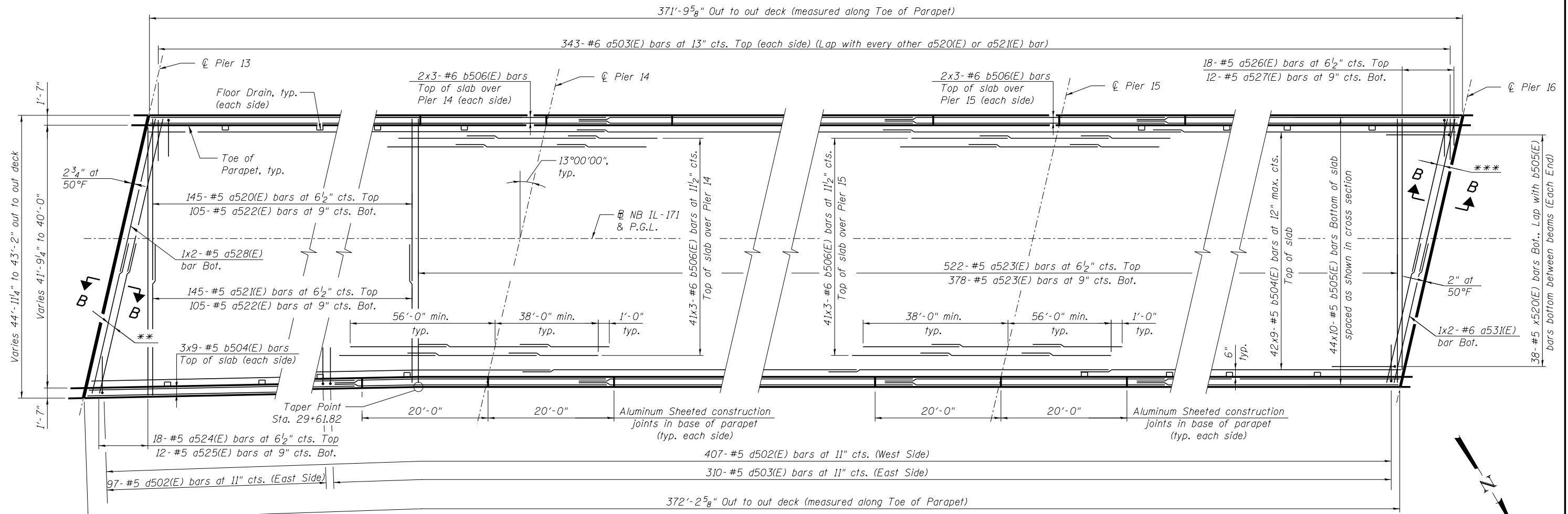
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STRUCTURE NO. 016-0487

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

SHEET NO. SF26 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT

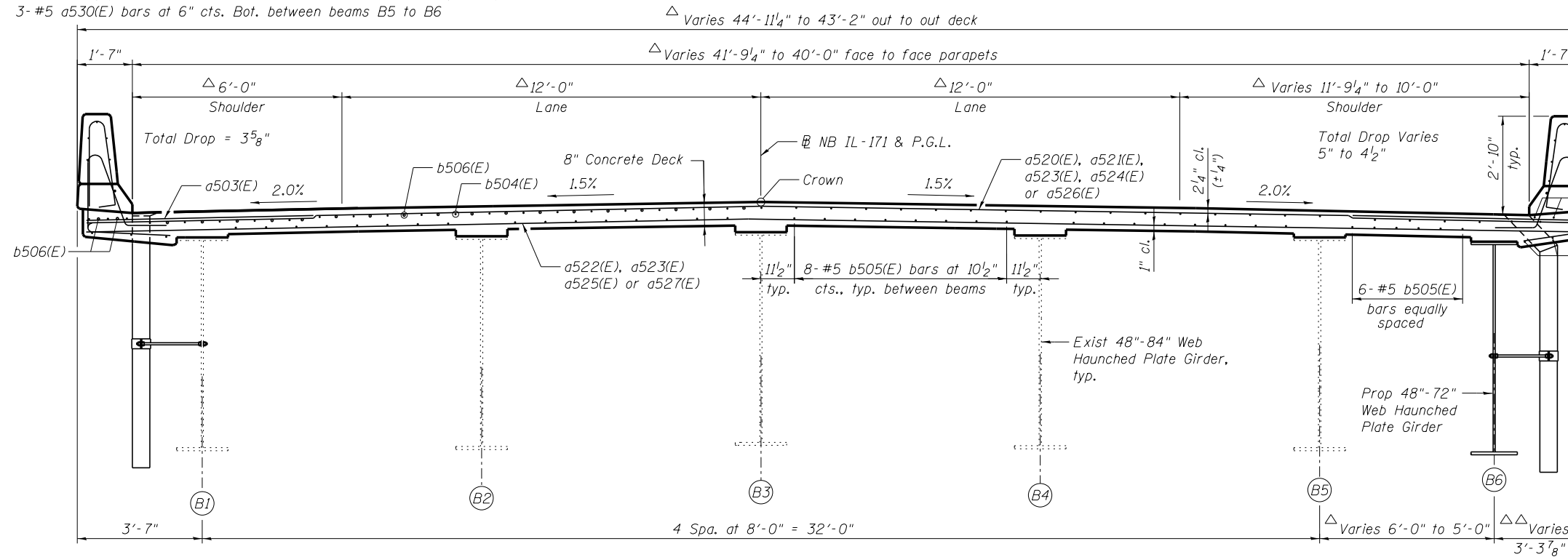
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PLAN

** 4x2-#5 a528(E) bars at 6" cts. Top
 3-#5 a529(E) bars at 6" cts. Bot. between beams B1 to B5 (4 thus)
 3-#5 a530(E) bars at 6" cts. Bot. between beams B5 to B6

*** 4x2-#5 a531(E) bars at 6" cts. Top
 3-#5 a529(E) bars at 6" cts. Bot. between beams B1 to B5 (4 thus)
 3-#5 a532(E) bars at 6" cts. Bot. between beams B5 to B6



CROSS SECTION
 (Looking Upstation/North)

MINIMUM BAR LAP
 (Slab)
 #5 bar = 3'-3"
 #6 bar = 3'-10"

- NOTES:**
1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
 2. For Bill of Material and Bar Bends, see Sheet SF35.
 3. For locations and spacing of Floor Drains, see Sheet SF2.
 4. Bars indicated thus 44x10-#5 etc. indicates 44 lines of bars with 10 lengths per line.
 5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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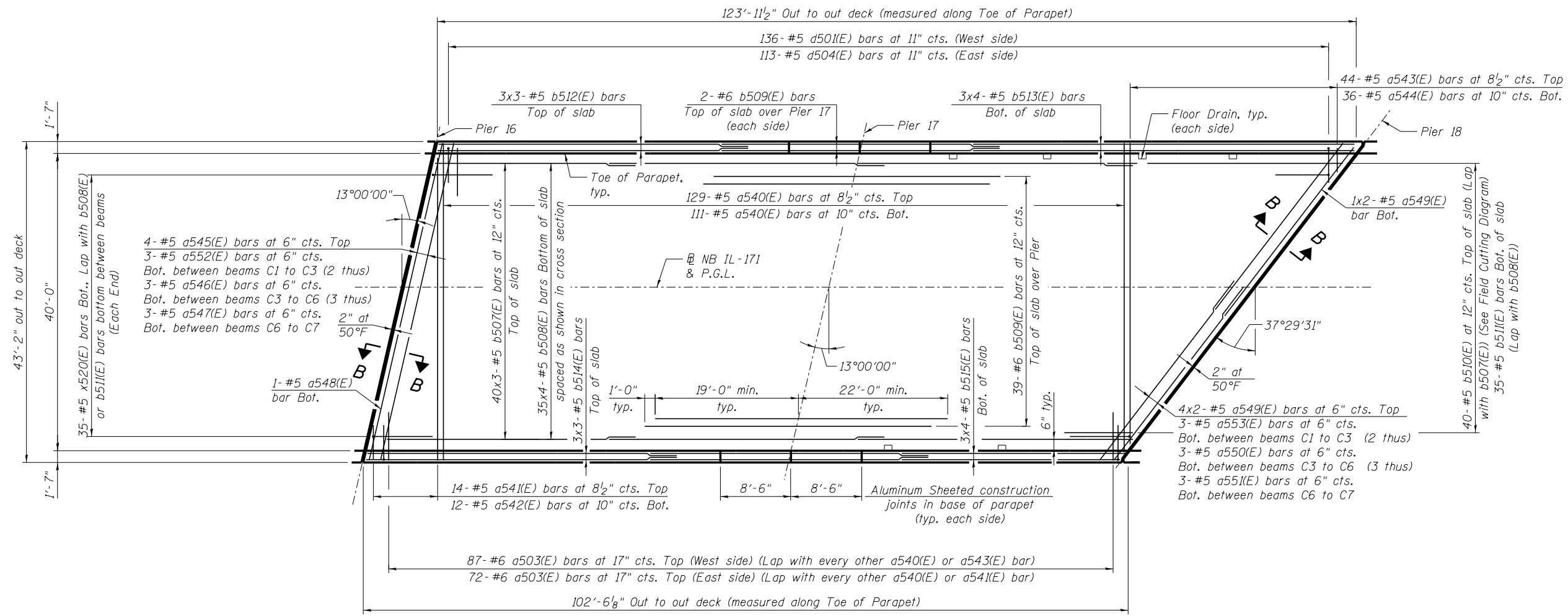
DECK PLAN AND CROSS SECTION SPANS 3 THRU 5
STRUCTURE NO. 016-0487

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

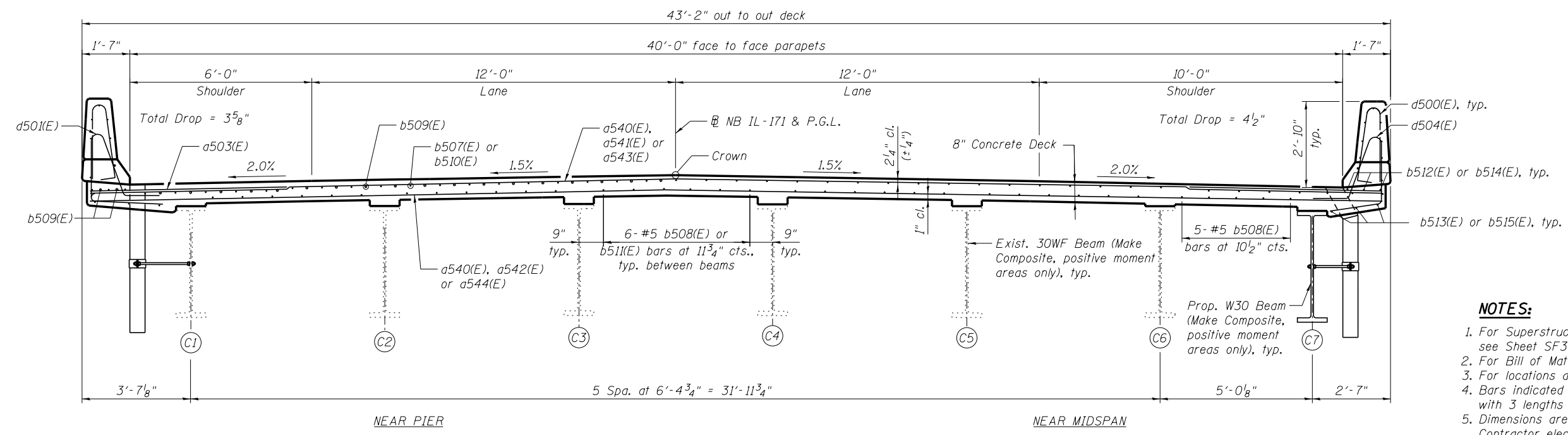
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PLAN



CROSS SECTION
(Looking Upstair/North)

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"

- NOTES:**
1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
 2. For Bill of Material and Bar Bends, see Sheet SF35.
 3. For locations and spacing of Floor Drains, see Sheet SF3.
 4. Bars indicated thus 54x3-#5 etc. indicates 54 lines of bars with 3 lengths per line.
 5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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DEPARTMENT OF TRANSPORTATION

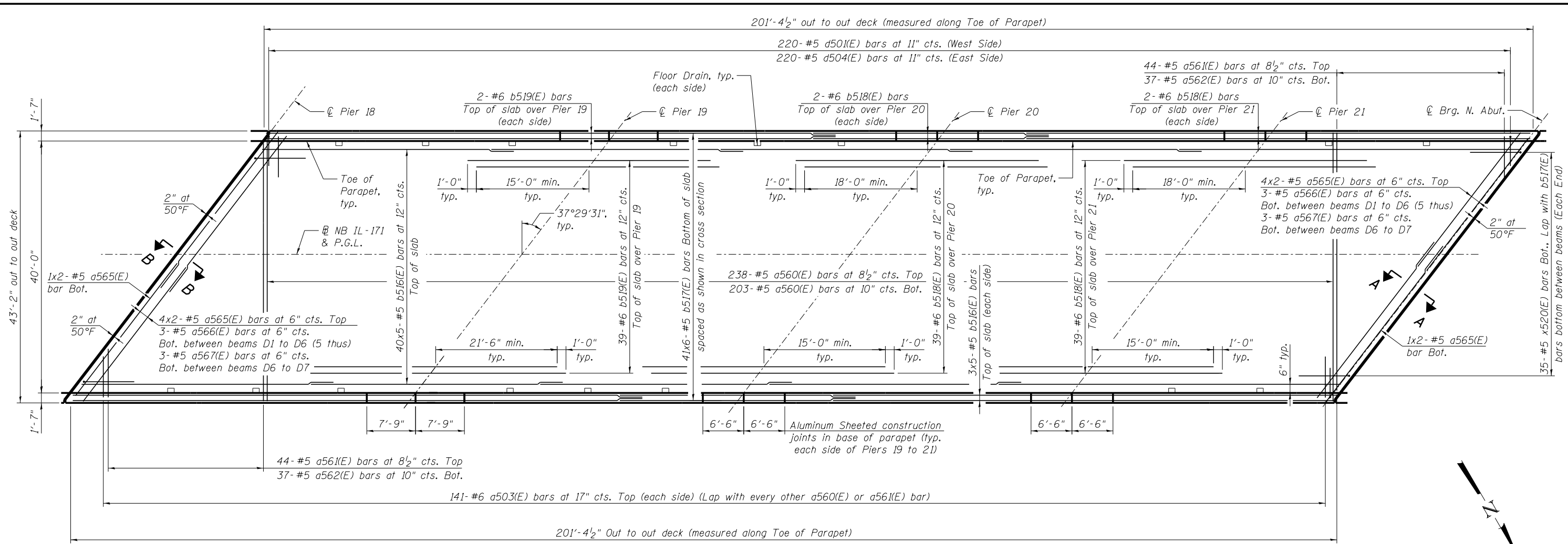
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STRUCTURE NO. 016-0487

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

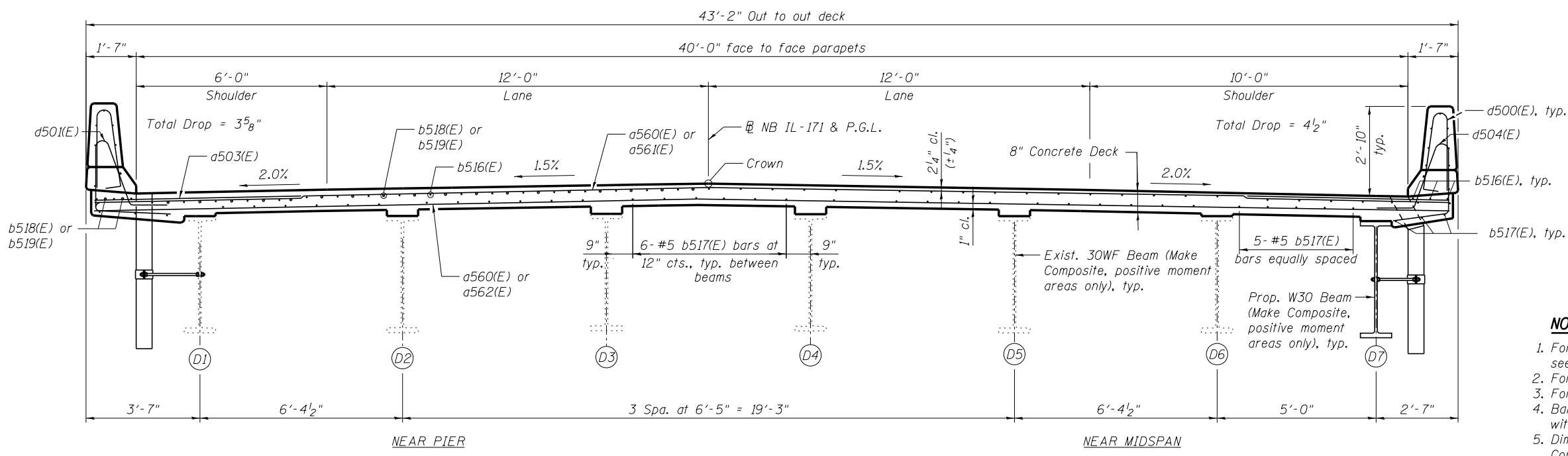
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PLAN



CROSS SECTION
(Looking Upstasion/North)

MINIMUM BAR LAP
(Slab)
#5 bar = 3'-3"

NOTES:

1. For Superstructure Details, Section A-A, and Section B-B, see Sheet SF34.
2. For Bill of Material and Bar Bends, see Sheet SF35.
3. For locations and spacing of Floor Drains, see Sheet SF3.
4. Bars indicated thus 54x3-#5 etc. indicates 54 lines of bars with 3 lengths per line.
5. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet SF37.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

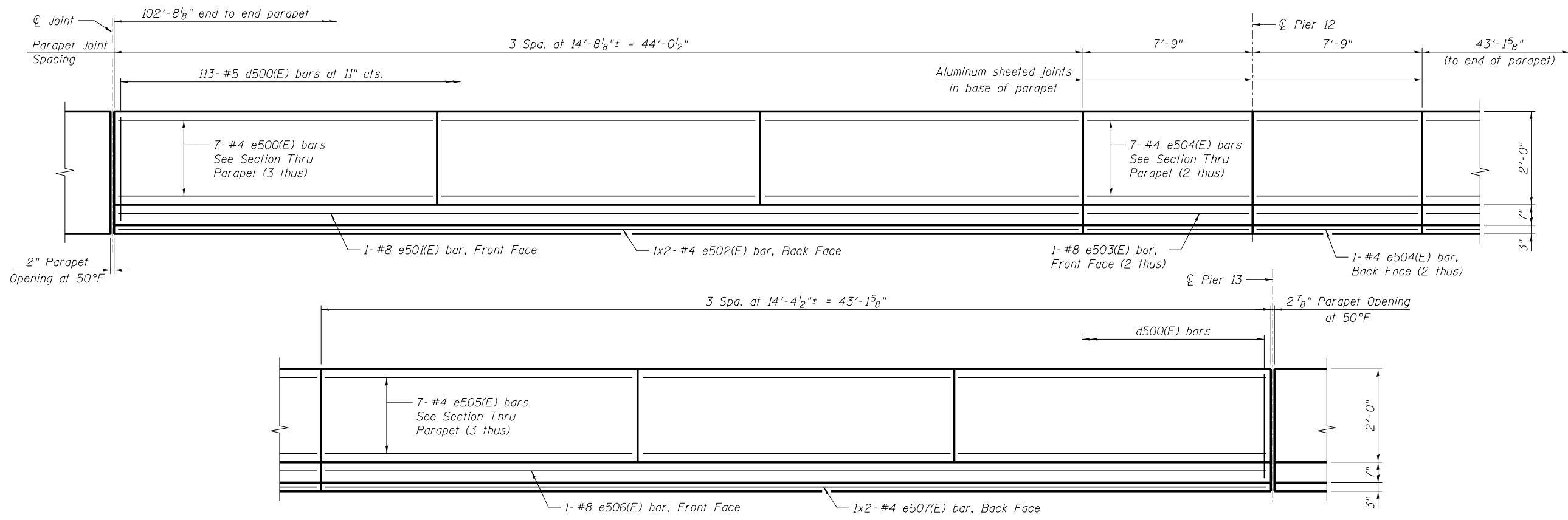
DECK PLAN AND CROSS SECTION SPANS 8 THRU 11
STRUCTURE NO. 016-0487

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

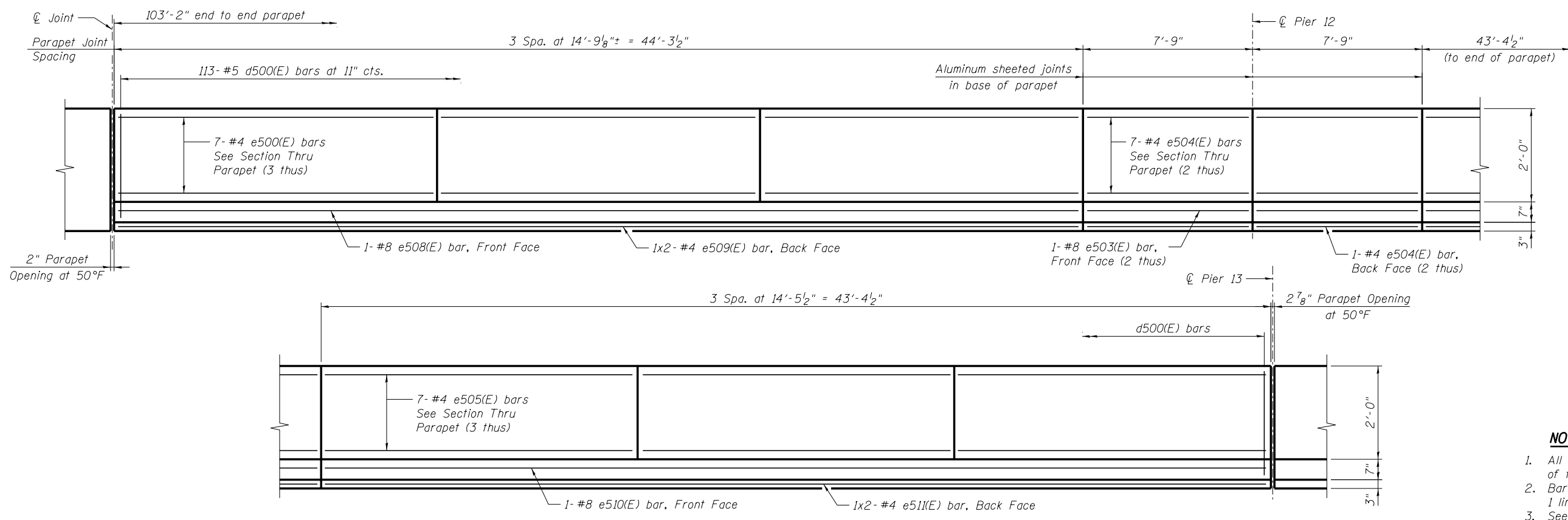
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INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP
#4 Bar = 2'-0"

- NOTES:**
- All dimensions shown are along the toe of the parapet (gutterline).
 - Bars indicated thus 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.
 - See Sheet SF34 for cross section thru parapet and parapet joint details.

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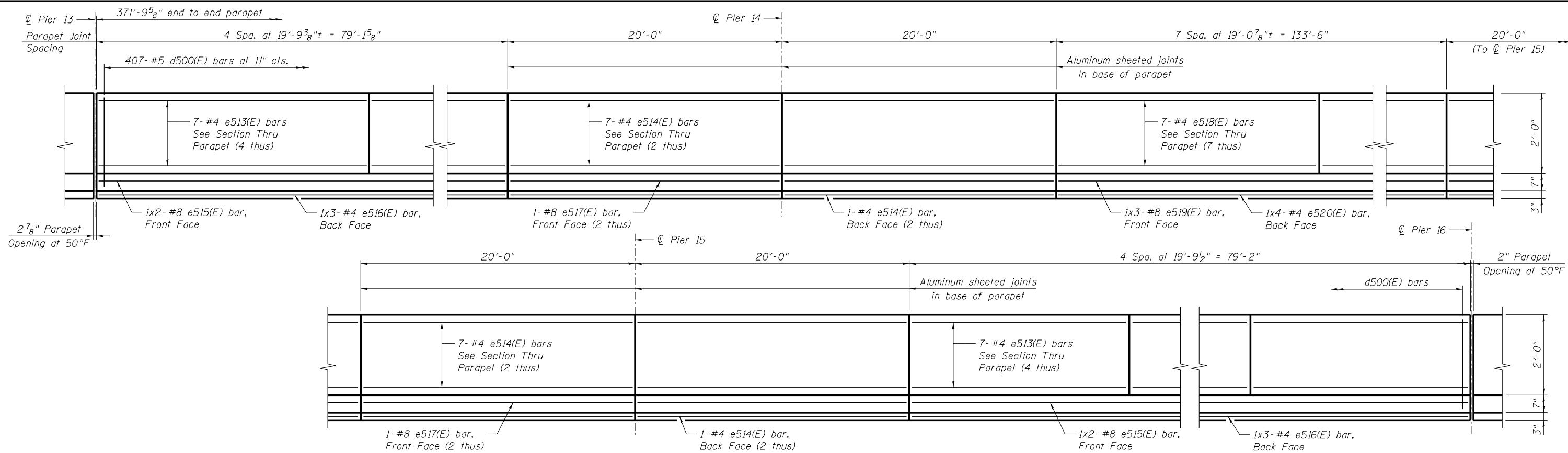
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PARAPET DETAILS SPANS 1 AND 2
STRUCTURE NO. 016-0487

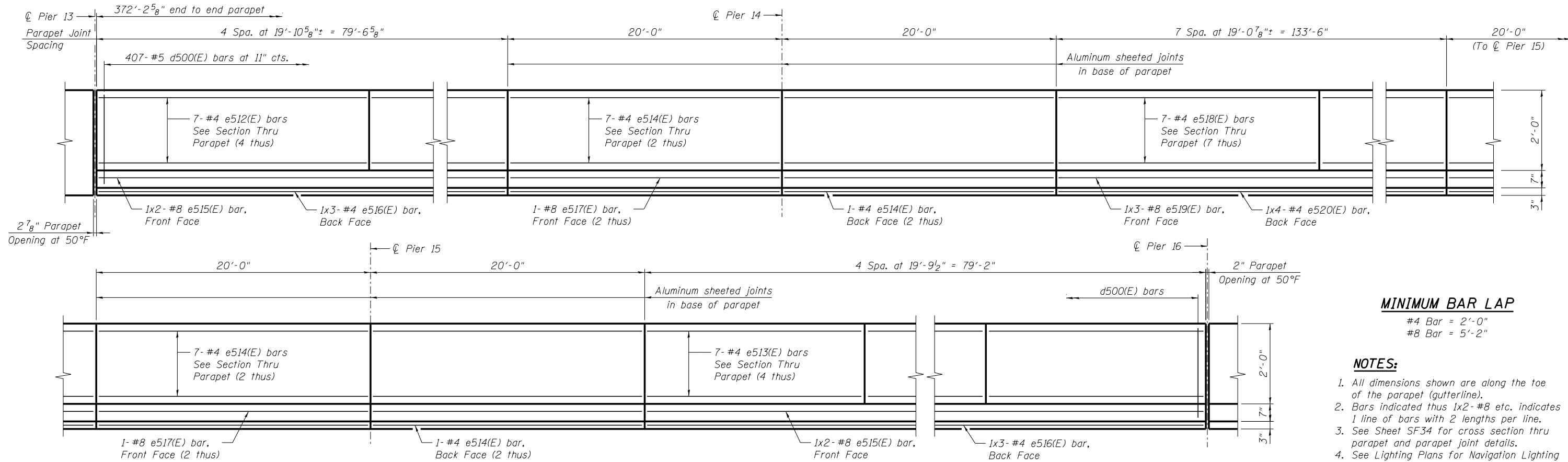
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

Y:\chicago\100005\100093\Eng_Docs_Phase_1\1\SN_016_0486_0487_1st_Ave.cover_Canal\Final\Final_0487_0160487_60W75_030_Parapet_Details_Span1_2.dgn 5:43:18 PM 6/12/2015



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
 (Reflected View Shown)

MINIMUM BAR LAP

#4 Bar = 2'-0"
 #8 Bar = 5'-2"

NOTES:

- All dimensions shown are along the toe of the parapet (gutterline).
- Bars indicated thus 1x2- #8 etc. indicates 1 line of bars with 2 lengths per line.
- See Sheet SF34 for cross section thru parapet and parapet joint details.
- See Lighting Plans for Navigation Lighting details.

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 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
		CHECKED - AJK	REVISED -
		DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

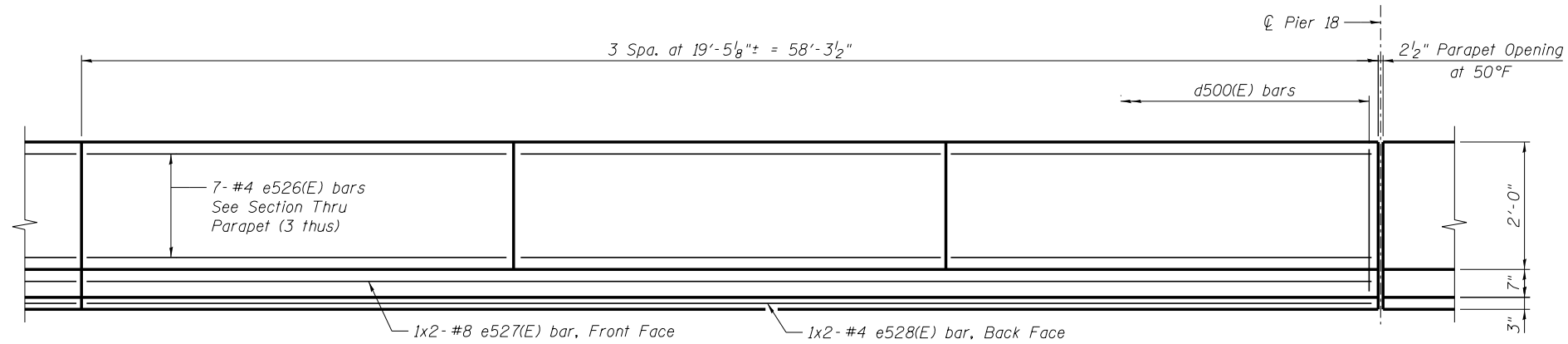
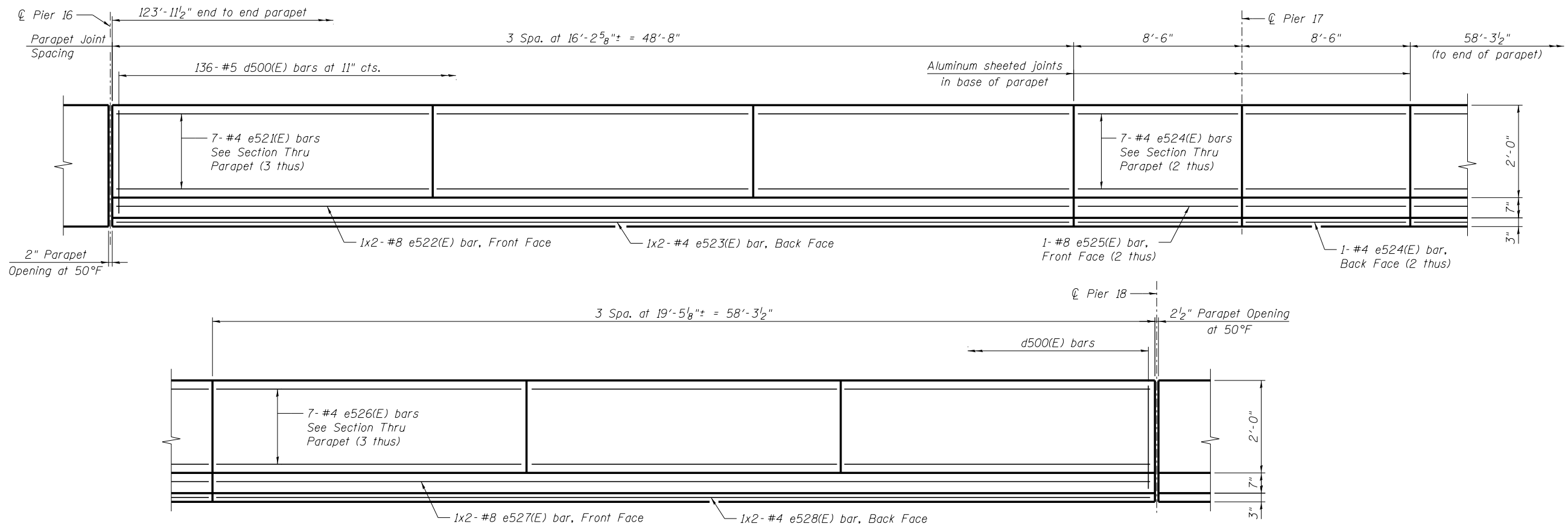
PARAPET DETAILS SPANS 3 THRU 5
STRUCTURE NO. 016-0487

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	557
CONTRACT NO. 60W75				

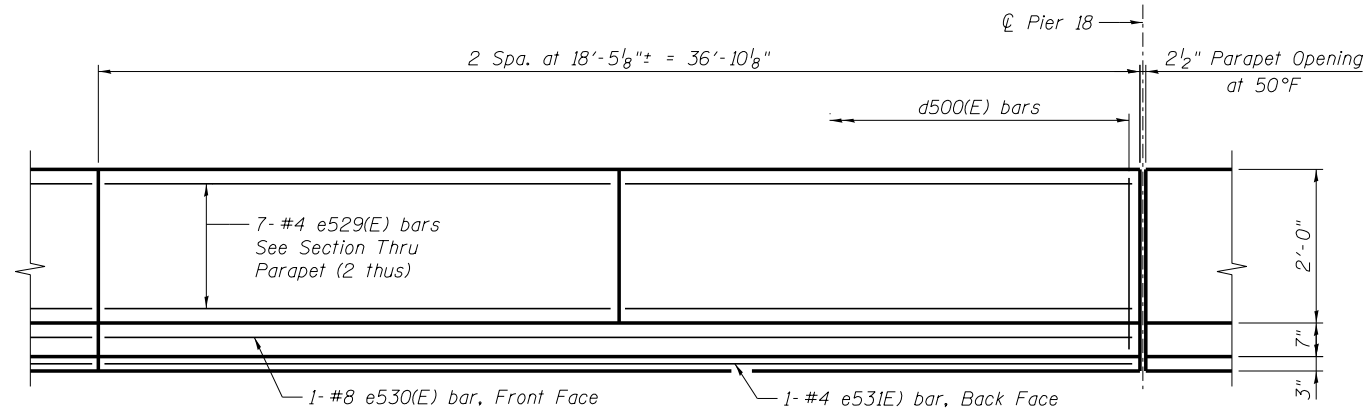
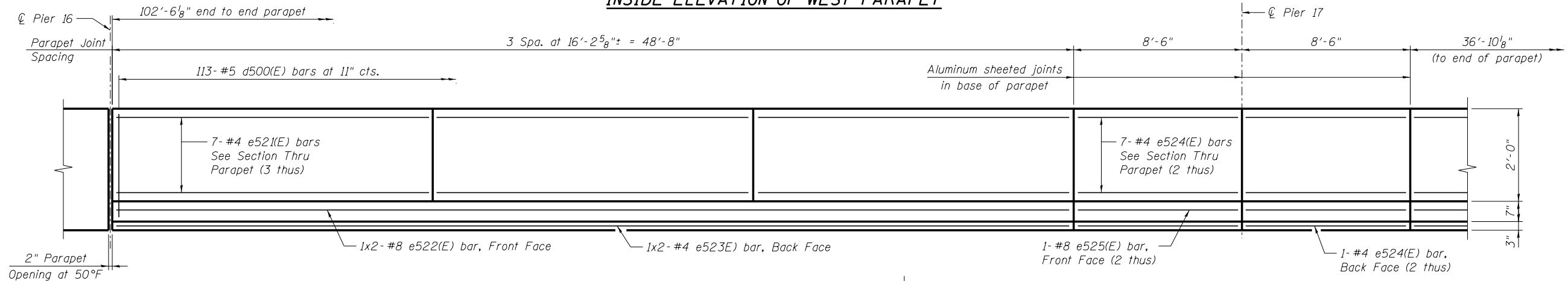
SHEET NO. SF31 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT

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INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP

- #4 Bar = 2'-0"
- #8 Bar = 5'-2"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated this 1x2- #8 etc. indicates 1 line of bars with 2 lengths per line.
3. See Sheet SF34 for cross section thru parapet and parapet joint details.

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 312-565-0450 Job No. 10093

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0160487.60W75.032.Parapet.Dtls.Spans6.7.dgn		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 6/12/2015	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

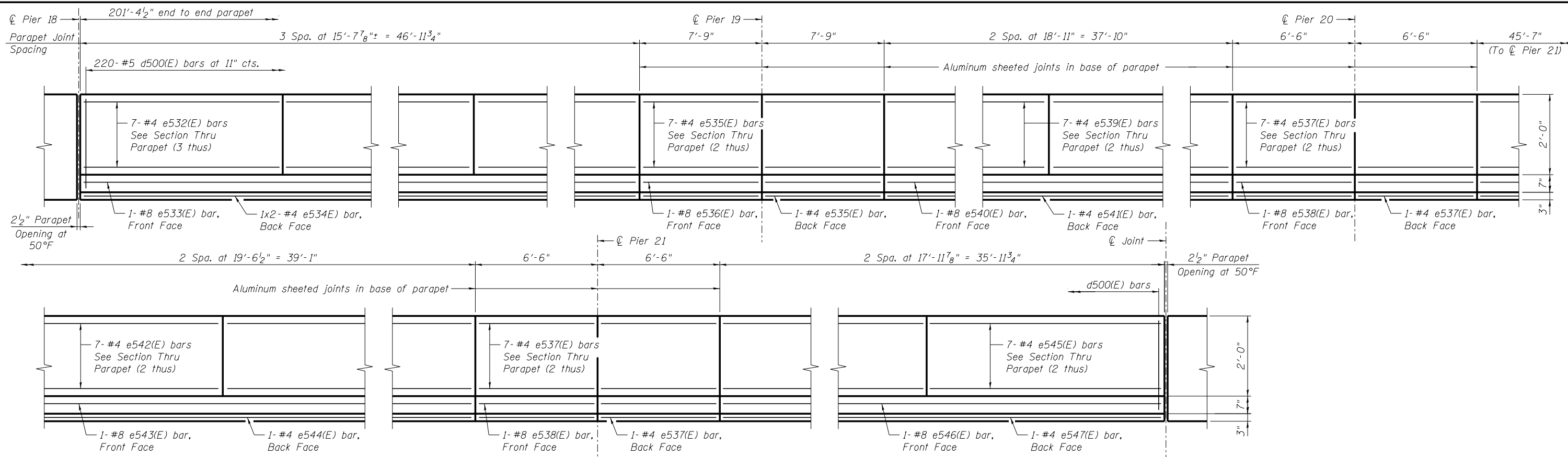
PARAPET DETAILS SPANS 6 AND 7
STRUCTURE NO. 016-0487

SHEET NO. SF32 OF SF96 SHEETS

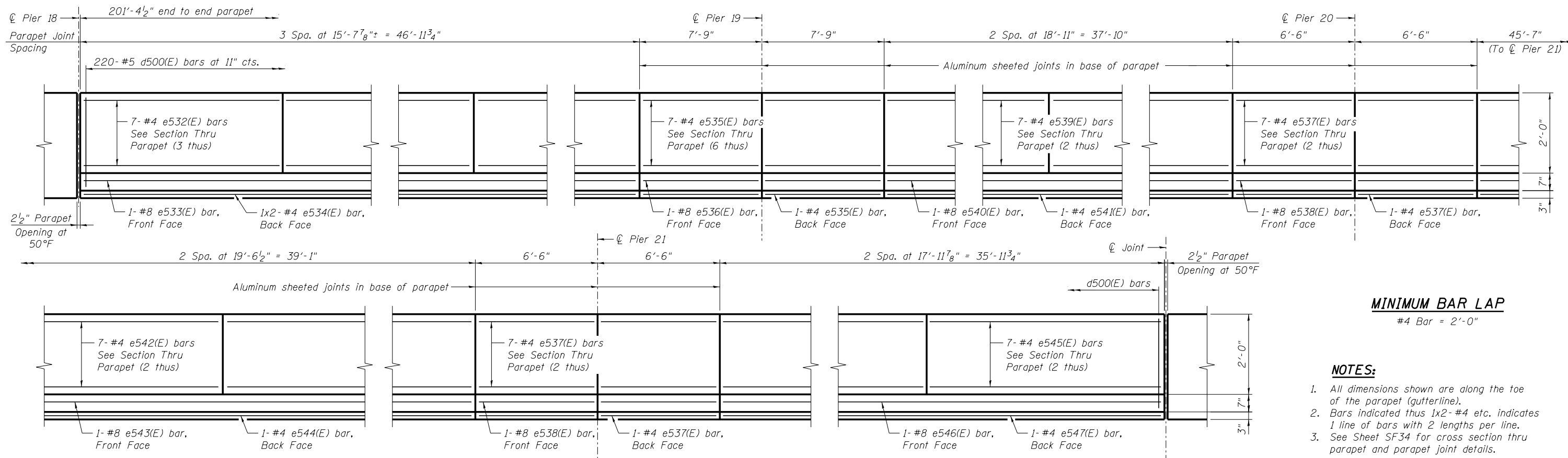
F.A.P. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	558
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

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 5:43:20 PM 6/12/2015



INSIDE ELEVATION OF WEST PARAPET



INSIDE ELEVATION OF EAST PARAPET
(Reflected View Shown)

MINIMUM BAR LAP
#4 Bar = 2'-0"

- NOTES:**
- All dimensions shown are along the toe of the parapet (gutterline).
 - Bars indicated thus 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.
 - See Sheet SF34 for cross section thru parapet and parapet joint details.

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0160487.60W75.033.Parapet.Dtls.Spans8.11	dbot SCALE =	CHECKED - AJK	REVISED -
	PLOT DATE = 6/12/2015	DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

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PARAPET DETAILS SPANS 8 THRU 11
STRUCTURE NO. 016-0487

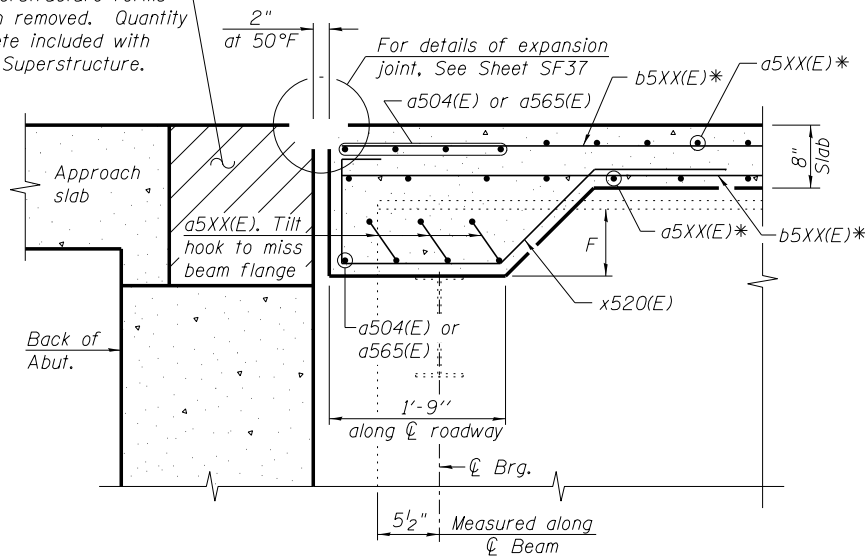
SHEET NO. SF33 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	559
CONTRACT NO. 60W75				

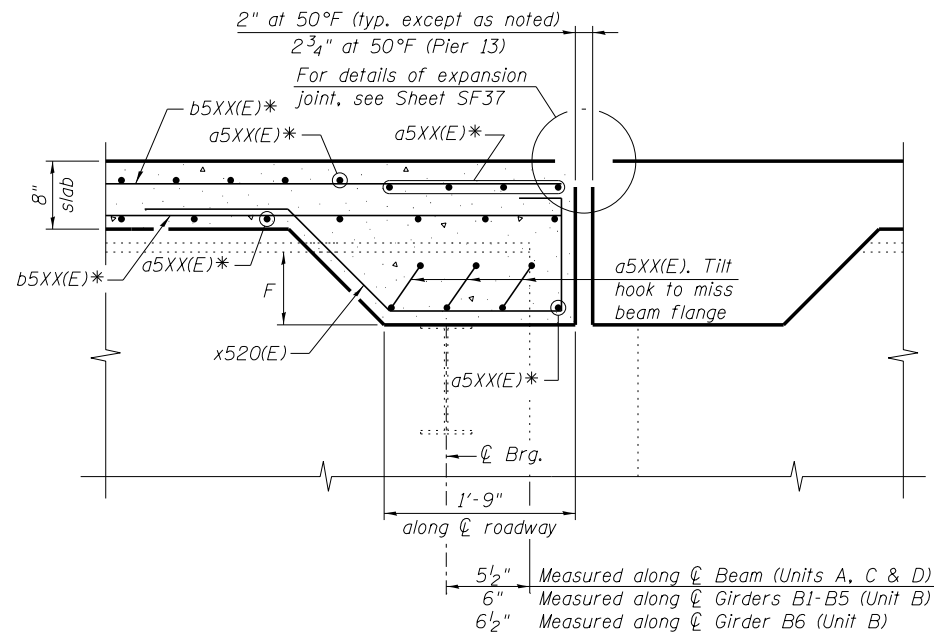
ILLINOIS FED. AID PROJECT

Y:\chicago\100005\100093\Eng_Docs\over_Canal\Final\Final_0487_1st_Ave_over_Canal\Final_0487_60W75_033.Parapet.Dtls.Spans8.11.dgn 5:43:21 PM 6/12/2015

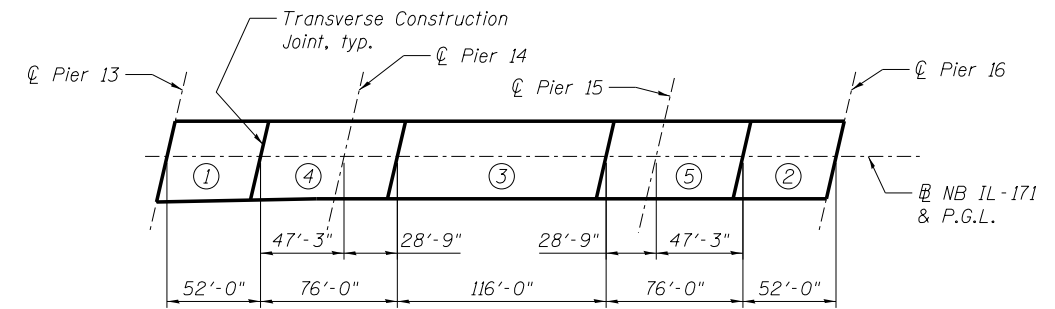
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.



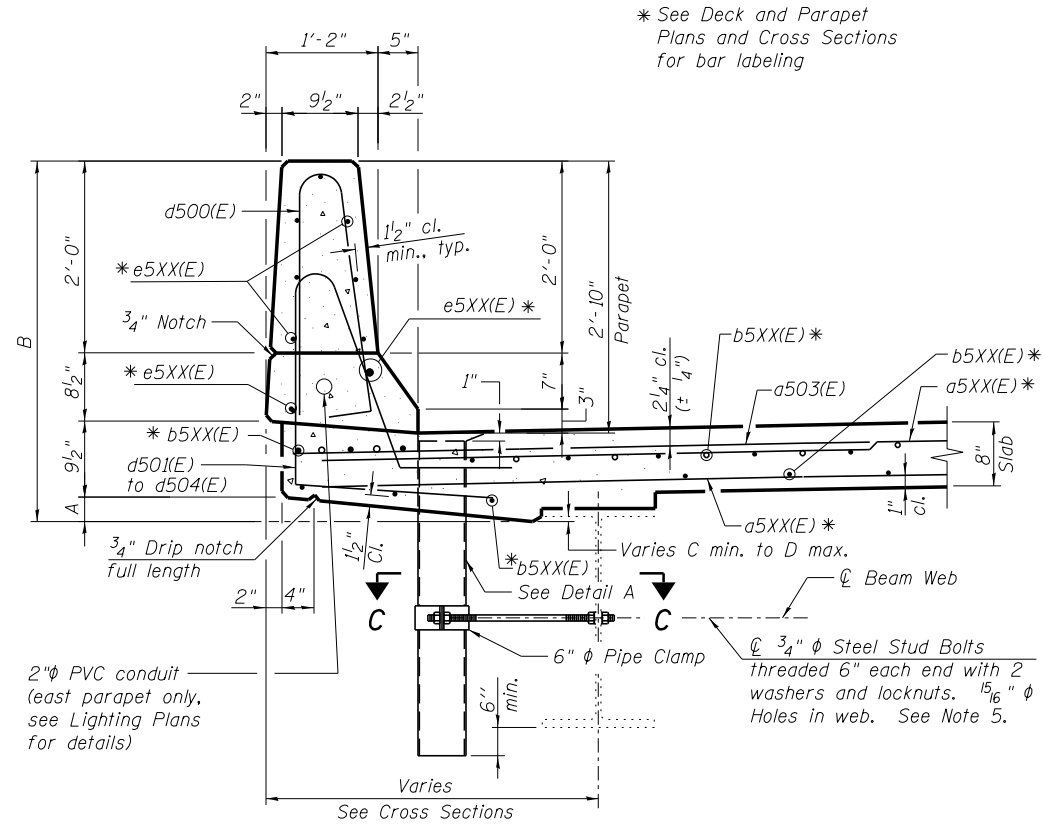
SECTION A-A
F Varies 2 1/2" to 5"



SECTION B-B
F Varies 2 1/2" to 5 1/2"



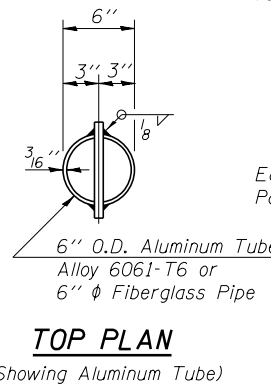
**SPANS 3 THRU 5
REQUIRED DECK POUR SEQUENCE**



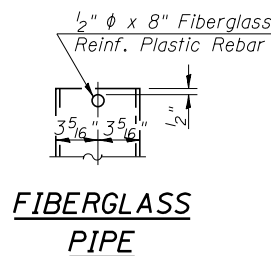
SECTION THRU PARAPET

Location	A	B	C	D
Spans 1-2	4"	3'-10"	1 1/2"	2 3/8"
Spans 3-5	5"	3'-11"	1"	3 3/8"
Spans 6-7	4"	3'-10"	1 1/4"	2 1/2"
Spans 8-11	4"	3'-10"	1 1/4"	2 5/8"

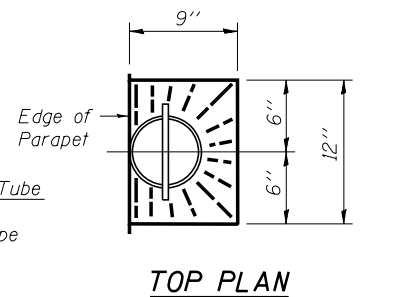
* See Deck and Parapet Plans and Cross Sections for bar labeling



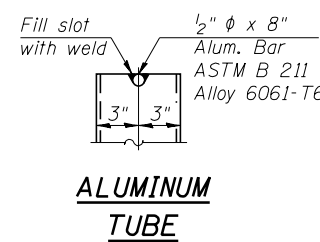
TOP PLAN
(Showing Aluminum Tube)



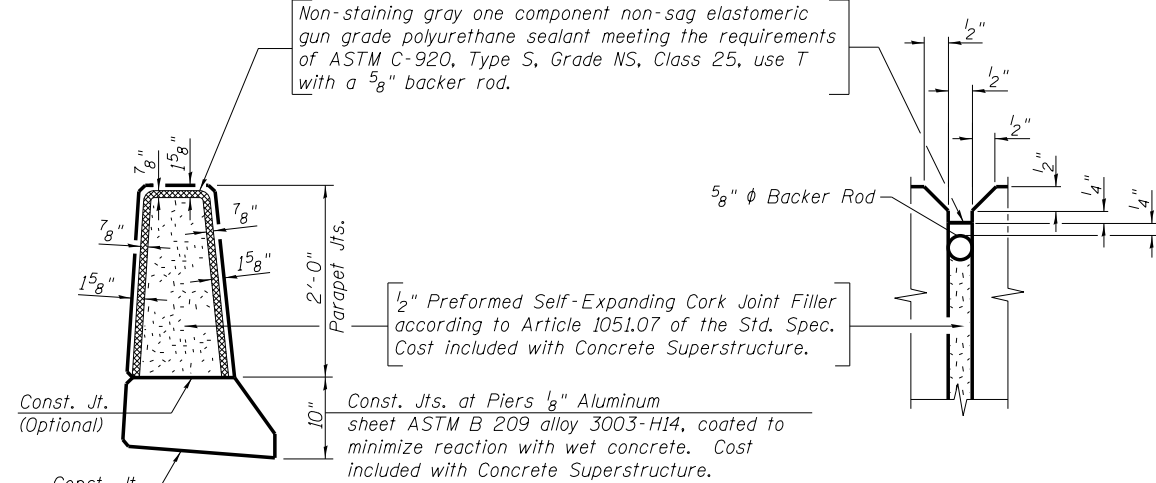
FIBERGLASS PIPE



TOP PLAN



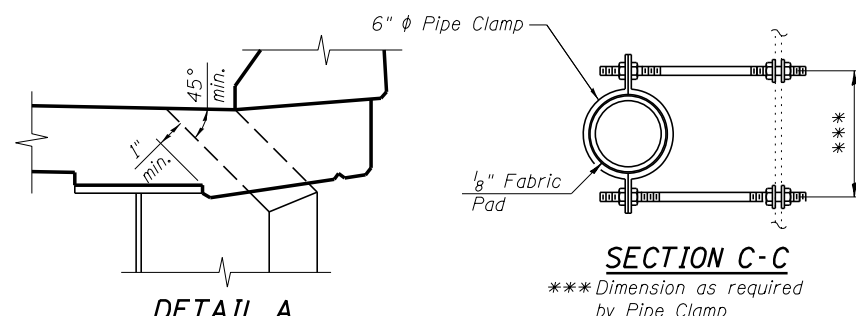
ALUMINUM TUBE



PARAPET JOINT DETAILS

NOTES:

- When the deck pour is stopped for the day at the transverse construction joints in the deck pouring sequence shown, the next pour shall not be made until both of the following are met:
 - At least 72 hours shall have elapsed from the end of the previous pour.
 - The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
- The Contractor is alerted that the dead load deflection values were developed based on the deck pouring sequence shown. Any deviation from this pouring sequence will result in changes to deck elevations. These changes shall be submitted to the Engineer to review and approve.
- Cleaning and painting of the exterior surfaces of the floor drains shall be performed under a separate painting contract.
- Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. Galvanize clamping device according to AASHTO M232. Cost of clamping device and galvanizing included with Floor Drains.
- Holes shall be drilled in field for existing beam and may be either field drilled or shop drilled for proposed beam.
- Floor drains shall be located clear of all diaphragms and cross frames.



DETAIL A
(Angle drain when necessary to maintain 1" cl. as shown)

SECTION C-C
*** Dimension as required by Pipe Clamp



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312-565-0450 Job No. 10093

FILE NAME = 0160487.60W75.034.Deck.Details.dgn

USER NAME = jsurber
DESIGNED - JLS
CHECKED - AJK
DRAWN - KMS
PLOT DATE = 6/12/2015

REVISOR -
REVISION -
REVISION -
REVISION -

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SUPERSTRUCTURE DETAILS
STRUCTURE NO. 016-0487

SHEET NO. SF34 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	560
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

**SPANS 1 AND 2
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a500(E)	157	#5	21'-3"	---
a501(E)	157	#5	28'-3"	---
a502(E)	244	#5	24'-9"	---
a503(E)	176	#6	6'-6"	---
a504(E)	10	#5	25'-8"	---
a505(E)	24	#5	6'-7"	---
a506(E)	3	#5	7'-8"	---
a507(E)	3	#5	6'-3"	---
a508(E)	10	#5	24'-6"	---
a509(E)	3	#5	5'-2"	---
a510(E)	3	#5	6'-8"	---
a511(E)	9	#5	47'-0"	---
a512(E)	7	#5	46'-4"	---
a513(E)	9	#5	46'-2"	---
a514(E)	7	#5	47'-2"	---
b500(E)	150	#5	36'-8"	---
b501(E)	188	#5	28'-3"	---
b502(E)	47	#6	37'-0"	---
d500(E)	226	#5	5'-7"	---
d501(E)	226	#5	8'-3"	---
e500(E)	42	#4	14'-4"	---
e501(E)	1	#8	43'-8"	---
e502(E)	2	#4	22'-10"	---
e503(E)	4	#8	7'-5"	---
e504(E)	32	#4	7'-5"	---
e505(E)	42	#4	14'-0"	---
e506(E)	1	#8	42'-9"	---
e507(E)	2	#4	22'-5"	---
e508(E)	1	#8	43'-11"	---
e509(E)	2	#4	23'-0"	---
e510(E)	1	#8	43'-0"	---
e511(E)	2	#4	22'-6"	---
x520(E)	82	#5	6'-5"	---
Concrete Superstructure	Cu. Yd.	151.7		
Bridge Deck Grooving	Sq. Yd.	466		
Protective Coat	Sq. Yd.	576		
Reinforcement Bars, Epoxy Coated	Pound	37,770		

**SPANS 3 THRU 5
BILL OF MATERIAL**

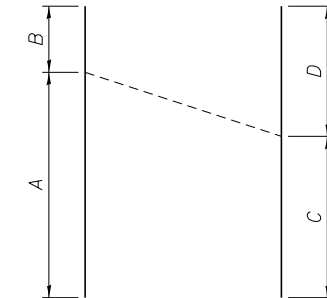
Bar	No.	Size	Length	Shape
a503(E)	686	#6	6'-6"	---
a520(E)	145	#5	16'-11"	---
a521(E)	145	#5	30'-6"	---
a522(E)	210	#5	23'-8"	---
a523(E)	900	#5	42'-6"	---
a524(E)	9	#5	46'-5"	---
a525(E)	6	#5	44'-4"	---
a526(E)	9	#5	44'-10"	---
a527(E)	6	#5	45'-2"	---
a528(E)	10	#5	24'-6"	---
a529(E)	24	#5	9'-1"	---
a530(E)	3	#5	7'-0"	---
a531(E)	10	#5	23'-8"	---
a532(E)	3	#5	6'-0"	---
b504(E)	432	#5	44'-5"	---
b505(E)	440	#5	40'-4"	---
b506(E)	270	#6	34'-3"	---
d500(E)	814	#5	5'-7"	---
d502(E)	504	#5	8'-0"	---
d503(E)	310	#5	7'-1"	---
e512(E)	28	#4	19'-7"	---
e513(E)	84	#4	19'-5"	---
e514(E)	64	#4	19'-8"	---
e515(E)	8	#8	42'-0"	---
e516(E)	12	#4	27'-8"	---
e517(E)	8	#8	19'-8"	---
e518(E)	98	#4	18'-9"	---
e519(E)	6	#8	47'-10"	---
e520(E)	8	#4	34'-10"	---
x520(E)	76	#5	6'-5"	---
Concrete Superstructure	Cu. Yd.	515.4		
Bridge Deck Grooving	Sq. Yd.	1,607		
Protective Coat	Sq. Yd.	2,002		
Reinforcement Bars, Epoxy Coated	Pound	130,950		

**SPANS 6 AND 7
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a503(E)	159	#6	6'-6"	---
a540(E)	240	#5	42'-6"	---
a541(E)	7	#5	44'-10"	---
a542(E)	6	#5	44'-8"	---
a543(E)	22	#5	44'-0"	---
a544(E)	18	#5	42'-5"	---
a545(E)	4	#5	43'-8"	---
a546(E)	9	#5	6'-6"	---
a547(E)	3	#5	5'-1"	---
a548(E)	1	#5	37'-7"	---
a549(E)	10	#5	28'-6"	---
a550(E)	9	#5	7'-10"	---
a551(E)	3	#5	6'-1"	---
a552(E)	6	#5	6'-2"	---
a553(E)	6	#5	7'-4"	---
b507(E)	120	#5	34'-0"	---
b508(E)	140	#5	27'-5"	---
b509(E)	43	#6	42'-0"	---
b510(E)	20	#5	29'-9"	---
b511(E)	18	#5	40'-3"	---
b512(E)	9	#5	43'-6"	---
b513(E)	12	#5	33'-6"	---
b514(E)	9	#5	36'-5"	---
b515(E)	12	#5	28'-1"	---
d500(E)	249	#5	5'-7"	---
d501(E)	136	#5	8'-3"	---
d504(E)	113	#5	7'-4"	---
e521(E)	42	#4	15'-10"	---
e522(E)	4	#8	26'-9"	---
e523(E)	4	#4	25'-2"	---
e524(E)	32	#4	8'-2"	---
e525(E)	4	#8	8'-2"	---
e526(E)	21	#4	19'-1"	---
e527(E)	2	#8	31'-7"	---
e528(E)	2	#4	30'-0"	---
e529(E)	14	#4	18'-1"	---
e530(E)	1	#8	36'-6"	---
e531(E)	1	#4	36'-6"	---
x520(E)	70	#5	6'-5"	---
Concrete Superstructure	Cu. Yd.	154.5		
Bridge Deck Grooving	Sq. Yd.	479		
Protective Coat	Sq. Yd.	599		
Reinforcement Bars, Epoxy Coated	Pound	35,030		

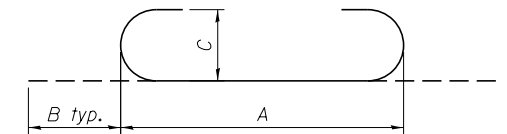
**SPANS 8 THRU 11
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a503(E)	282	#6	6'-6"	---
a560(E)	441	#5	42'-6"	---
a561(E)	44	#5	43'-10"	---
a562(E)	37	#5	43'-7"	---
a565(E)	20	#5	28'-6"	---
a566(E)	30	#5	7'-10"	---
a567(E)	6	#5	6'-1"	---
b516(E)	230	#5	42'-11"	---
b517(E)	246	#5	36'-4"	---
b518(E)	86	#6	34'-0"	---
b519(E)	43	#6	37'-6"	---
d500(E)	440	#5	5'-7"	---
d501(E)	220	#5	8'-3"	---
d504(E)	220	#5	7'-4"	---
e532(E)	42	#4	15'-4"	---
e533(E)	2	#8	46'-7"	---
e534(E)	4	#4	24'-4"	---
e535(E)	32	#4	7'-5"	---
e536(E)	4	#8	7'-5"	---
e537(E)	64	#4	6'-2"	---
e538(E)	8	#8	6'-2"	---
e539(E)	28	#4	18'-7"	---
e540(E)	2	#8	37'-6"	---
e541(E)	2	#4	37'-6"	---
e542(E)	28	#4	19'-2"	---
e543(E)	2	#8	38'-9"	---
e544(E)	2	#4	38'-9"	---
e545(E)	28	#4	17'-8"	---
e546(E)	2	#8	35'-7"	---
e547(E)	2	#4	35'-7"	---
x520(E)	70	#5	6'-5"	---
Concrete Superstructure	Cu. Yd.	275.8		
Bridge Deck Grooving	Sq. Yd.	851		
Protective Coat	Sq. Yd.	1,064		
Reinforcement Bars, Epoxy Coated	Pound	63,080		



CUTTING DIAGRAM
(See table for designations)

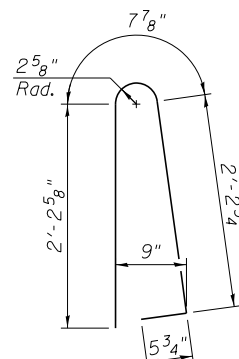
Bar	A	B	C	D
a511(E)	44'-10"	2'-2"	24'-9"	22'-3"
a512(E)	44'-2"	2'-2"	24'-9"	21'-7"
a513(E)	44'-1"	2'-1"	24'-4"	21'-10"
a514(E)	44'-1"	3'-1"	25'-2"	22'-0"
a524(E)	43'-1"	3'-4"	24'-5"	22'-0"
a525(E)	40'-0"	4'-4"	23'-9"	20'-7"
a526(E)	42'-4"	2'-6"	23'-8"	21'-2"
a527(E)	40'-6"	4'-8"	24'-2"	21'-0"
a541(E)	42'-4"	2'-6"	23'-11"	20'-11"
a542(E)	42'-2"	2'-6"	24'-1"	20'-7"
a543(E)	41'-10"	2'-2"	22'-6"	21'-6"
a544(E)	40'-2"	2'-3"	21'-9"	20'-8"
b510(E)	24'-6"	5'-3"	15'-3"	14'-6"
b511(E)	29'-9"	10'-6"	20'-6"	19'-9"
a561(E)	41'-9"	2'-1"	22'-5"	21'-5"
a562(E)	41'-4"	2'-3"	22'-4"	21'-3"



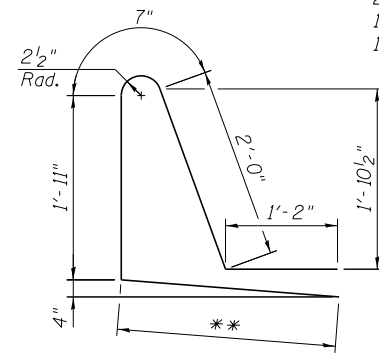
BAR DIAGRAM
(See table for designations)

Bar	A	B	C
a505(E)	5'-5"	7"	5"
a506(E)	6'-6"	7"	5"
a507(E)	5'-1"	7"	5"
a509(E)	4'-0"	7"	5"
a510(E)	5'-6"	7"	5"
a529(E)	7'-11"	7"	5"
a530(E)	5'-10"	7"	5"
a532(E)	4'-10"	7"	5"
a546(E)	5'-4"	7"	5"
a547(E)	3'-11"	7"	5"
a550(E)	6'-8"	7"	5"
a551(E)	4'-11"	7"	5"
a552(E)	5'-0"	7"	5"
a553(E)	6'-2"	7"	5"
a566(E)	6'-8"	7"	5"
a567(E)	4'-11"	7"	5"

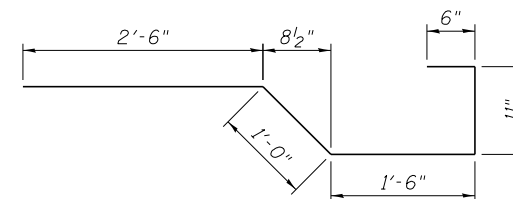
** 2'-7" at d501(E)
2'-4" at d502(E) (cut to fit)
1'-5" at d503(E)
1'-8" at d504(E)



BAR d500(E)



BAR d501(E) THRU d504(E)

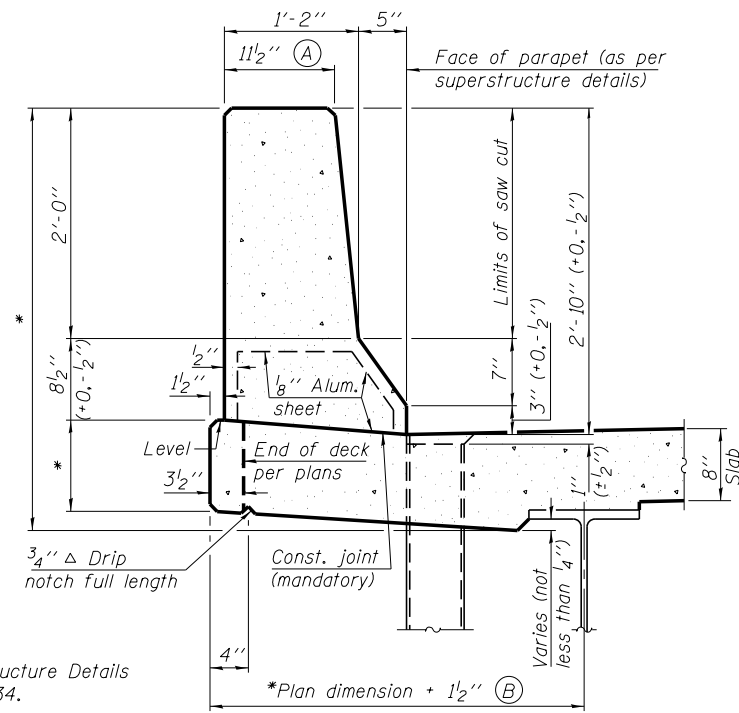


BAR x520(E)

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
0160487.60W75.035.Reinforcing.Details.1th	QUOTYSCALE =	CHECKED - AJK	REVISED -
	PLOT DATE = 6/12/2015	DRAWN - KMS	REVISED -
		CHECKED - AJK	REVISED -

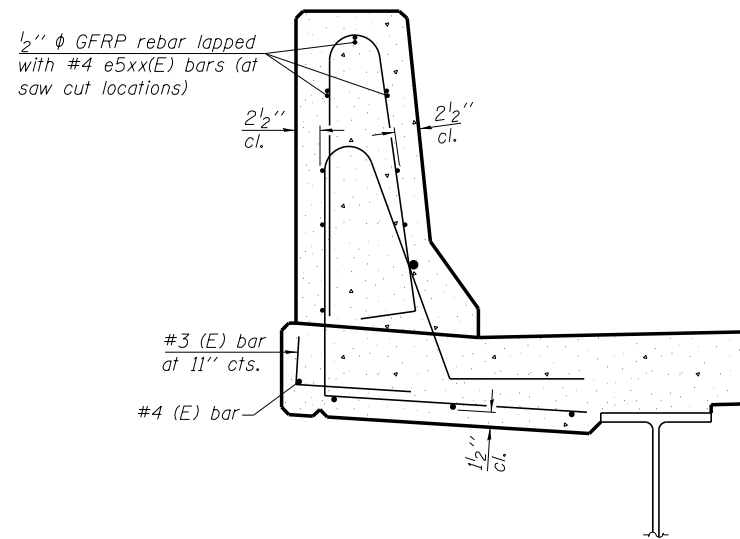
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	561
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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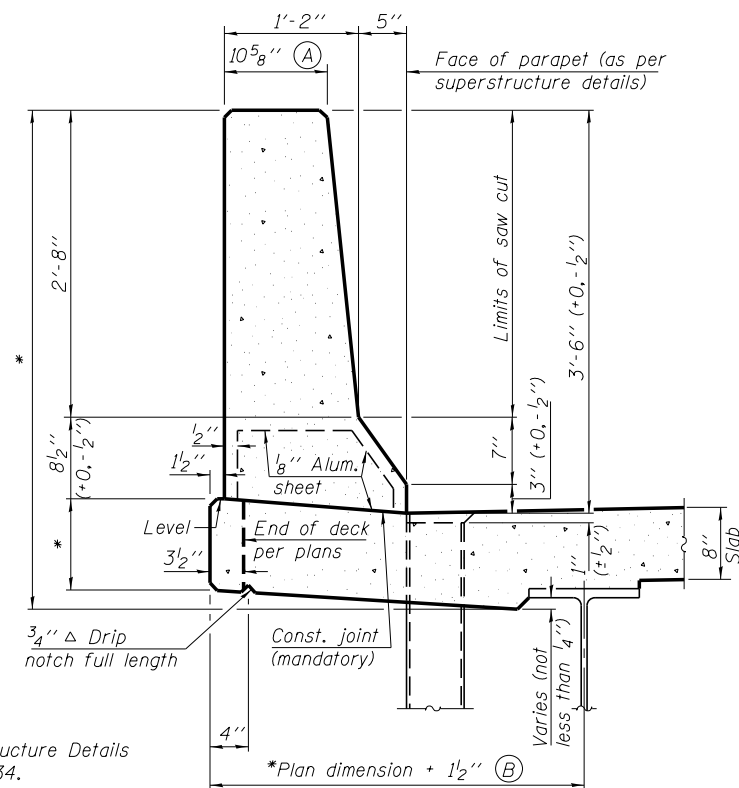
34" F SHAPE PARAPET SECTION
(Showing dimensions)

*See Superstructure Details on Sheet SF34.



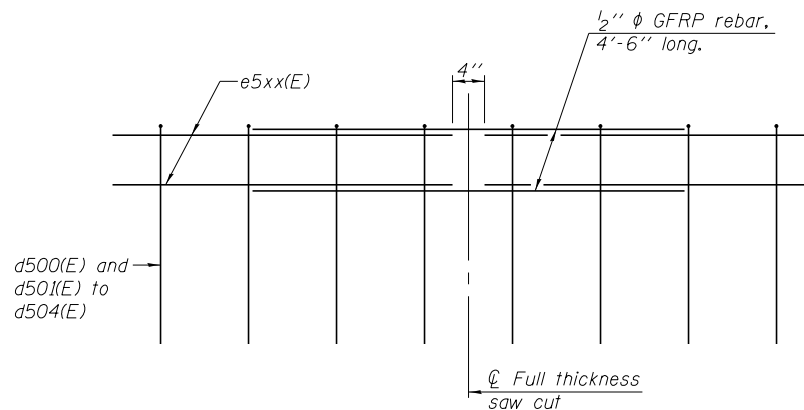
SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



42" F SHAPE PARAPET SECTION
(Showing dimensions)

*See Superstructure Details on Sheet SF34.

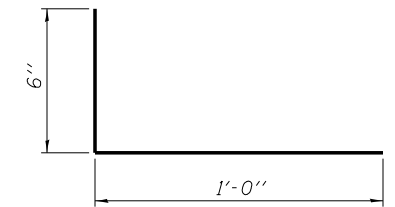


GFRP REBAR STIFFENING DETAIL

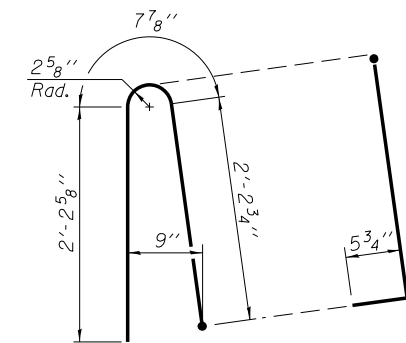
(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

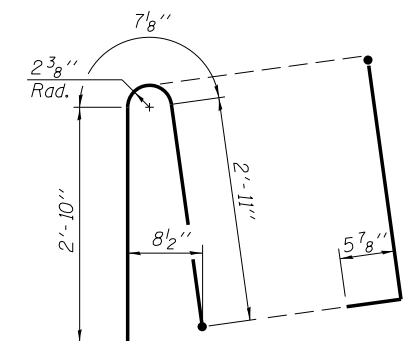
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.



#3 (E) BAR



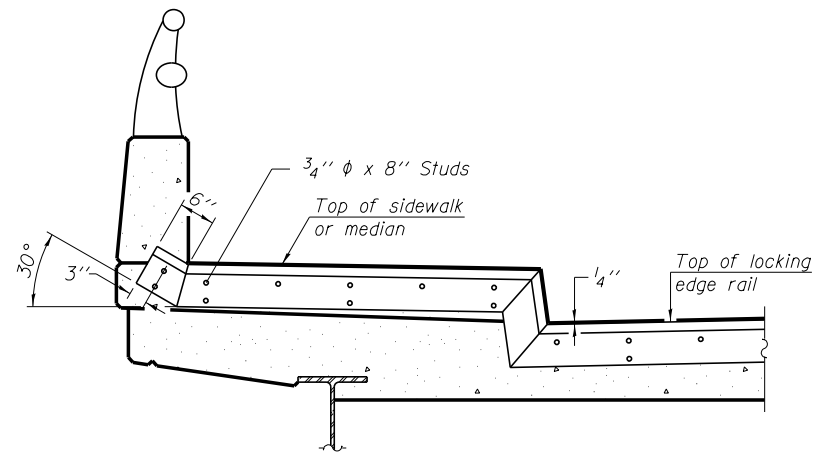
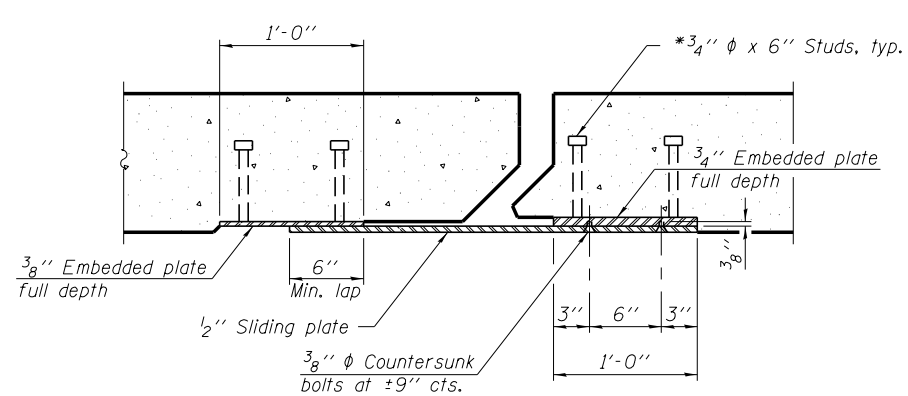
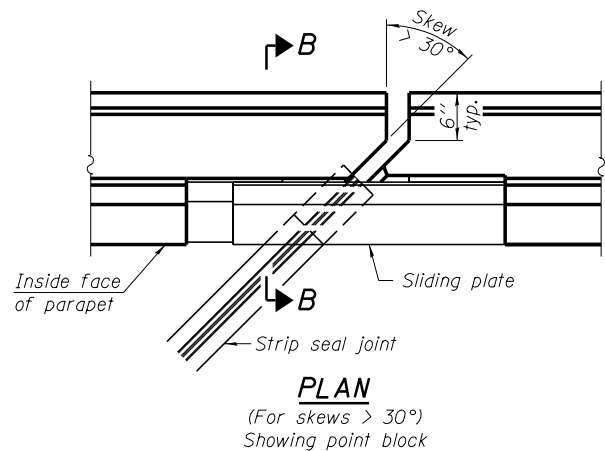
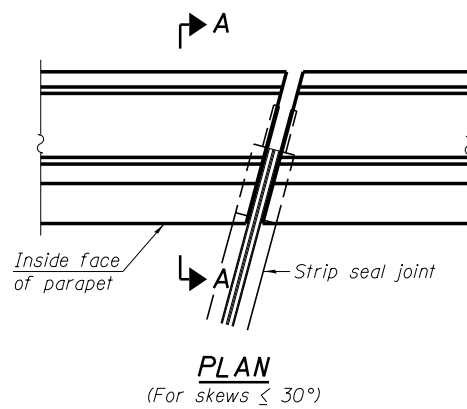
ALTERNATE BAR d500(E)
(For 34" parapet when conduit is present)



ALTERNATE BAR d500(E)
(For 42" parapet when conduit is present)

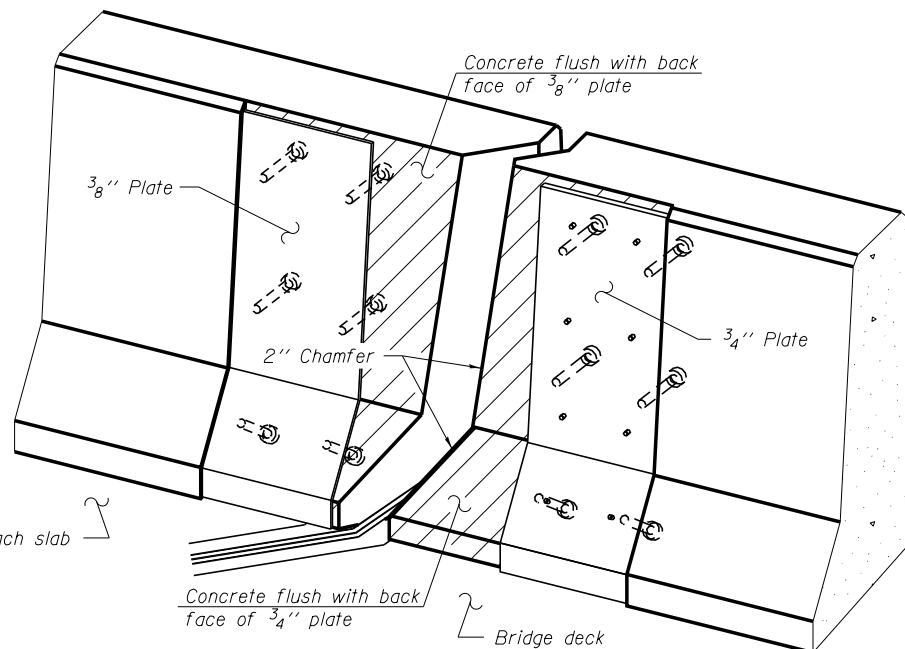
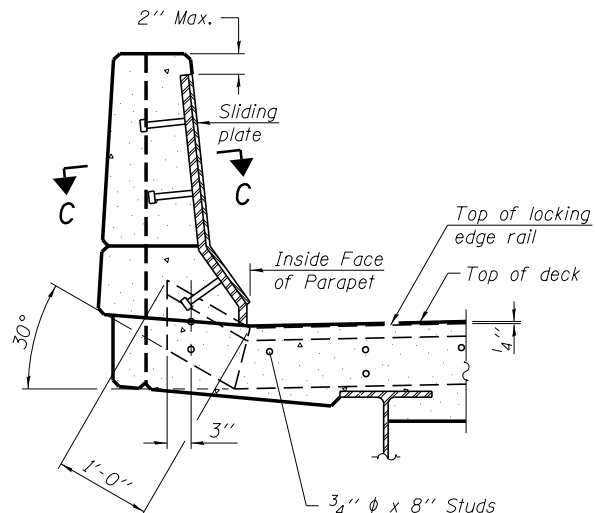
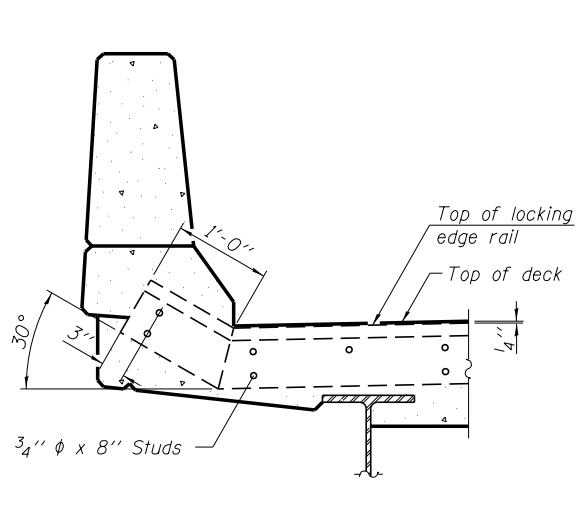
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	562
				CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT				



TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

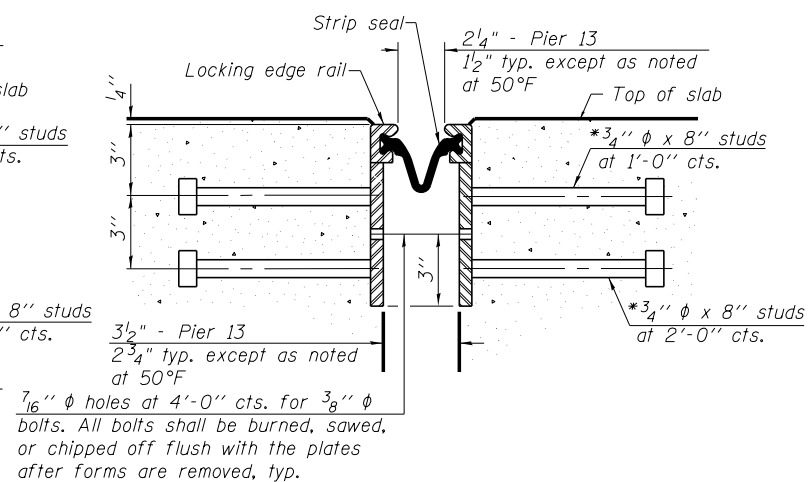
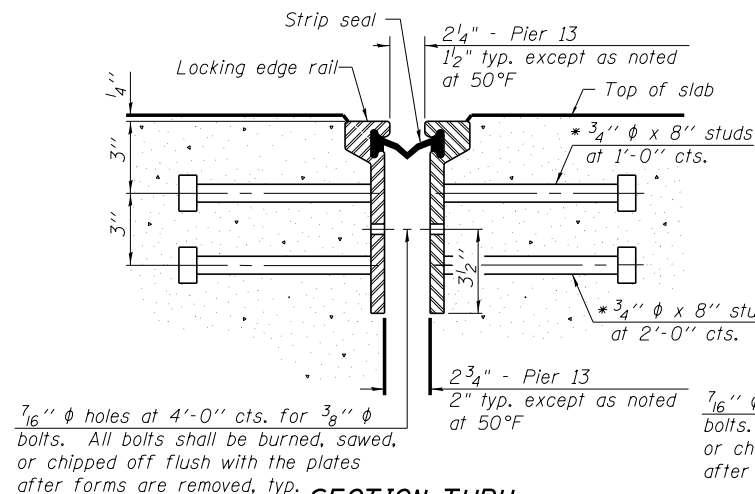
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

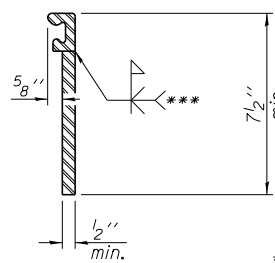
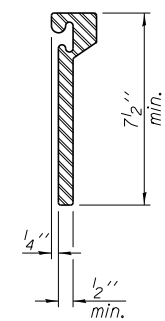
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments shall be 3/16".

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



ROLLED EXTRUDED RAIL

WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

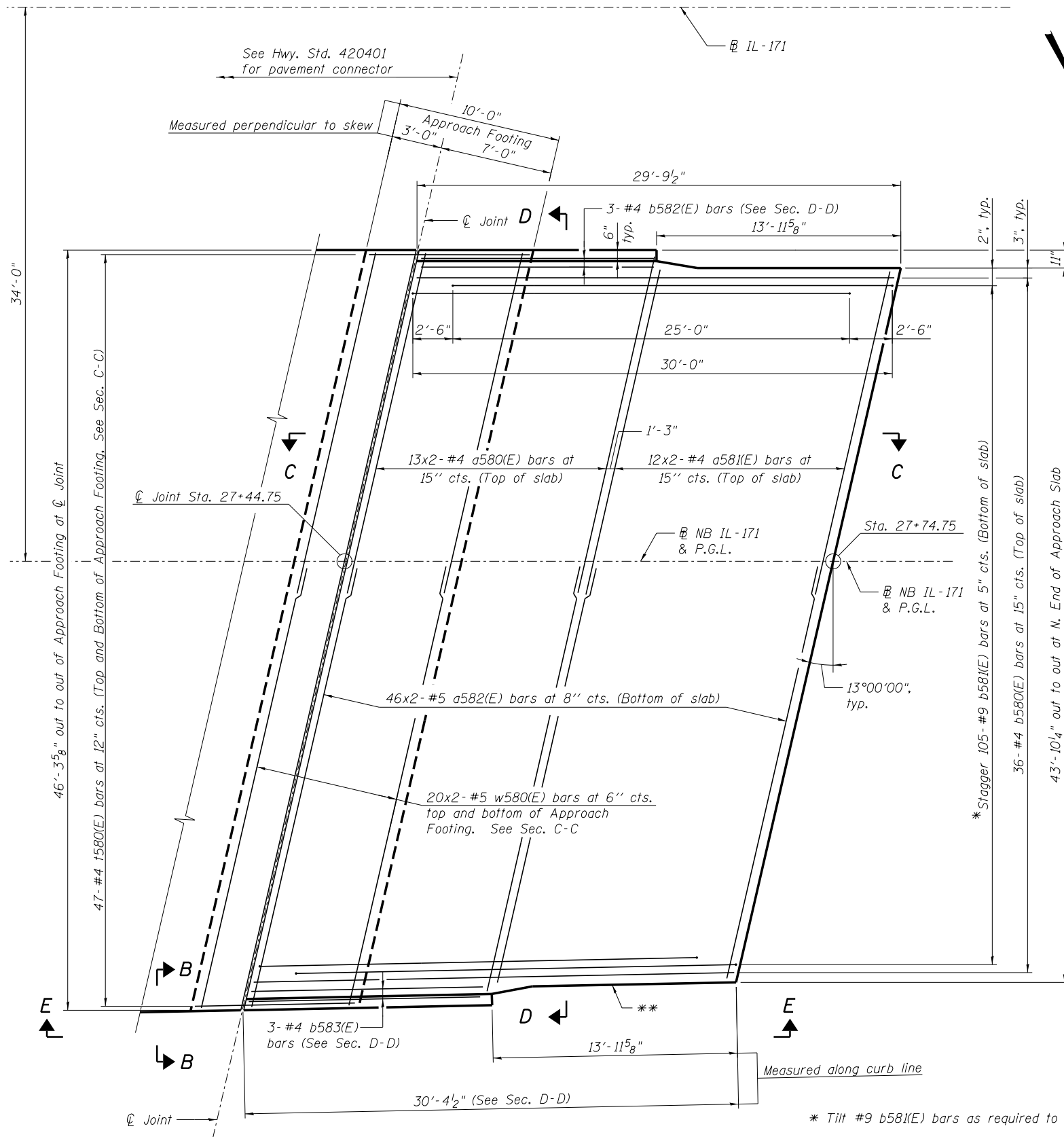
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	240.5

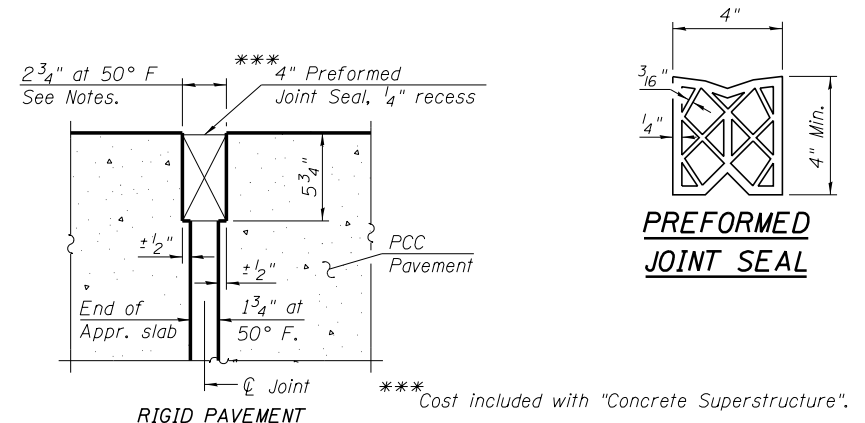
Note: Strip Seal at Pier 13 shall be installed when the temperature is between 30°F and 90°F.

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
		CHECKED - JLS	REVISED -
		DRAWN - RMG	REVISED -
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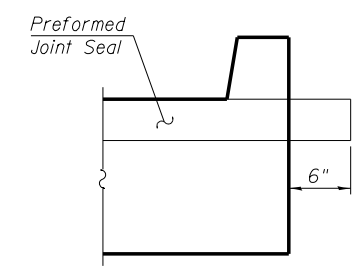
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	563
CONTRACT NO. 60W75				



PLAN



DETAIL A



MINIMUM BAR LAP (APPROACH)
 #4 bar = 2'-7"
 #5 bar = 3'-3"

- NOTES:**
1. See sheet SF39 for Sections C-C & D-D and View E-E.
 2. a580(E), a581(E) and a582(E) bar spacings measured along \varnothing Rdwy.
 3. The joint opening shall be determined per Article 520.04 of the Standard Specifications.
 4. All dimensions measured along or perpendicular to the \varnothing of Roadway, unless noted otherwise.

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		CHECKED - JLS	REVISED -
PLOT SCALE =		DRAWN - RMG	REVISED -
PLOT DATE = 6/12/2015		CHECKED - JLS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SOUTH BRIDGE APPROACH SLAB PLAN
 STRUCTURE NO. 016-0487**

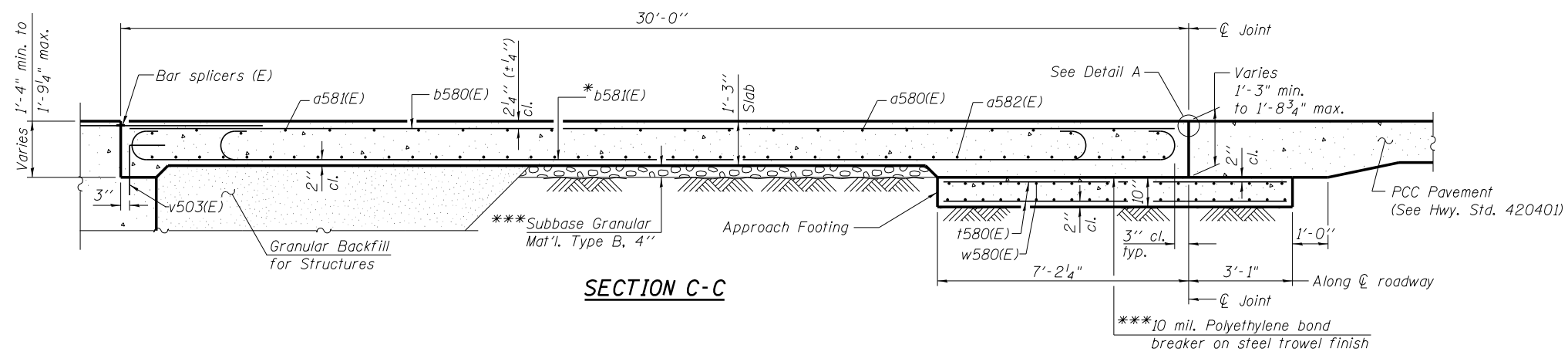
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

SHEET NO. SF38 OF SF96 SHEETS

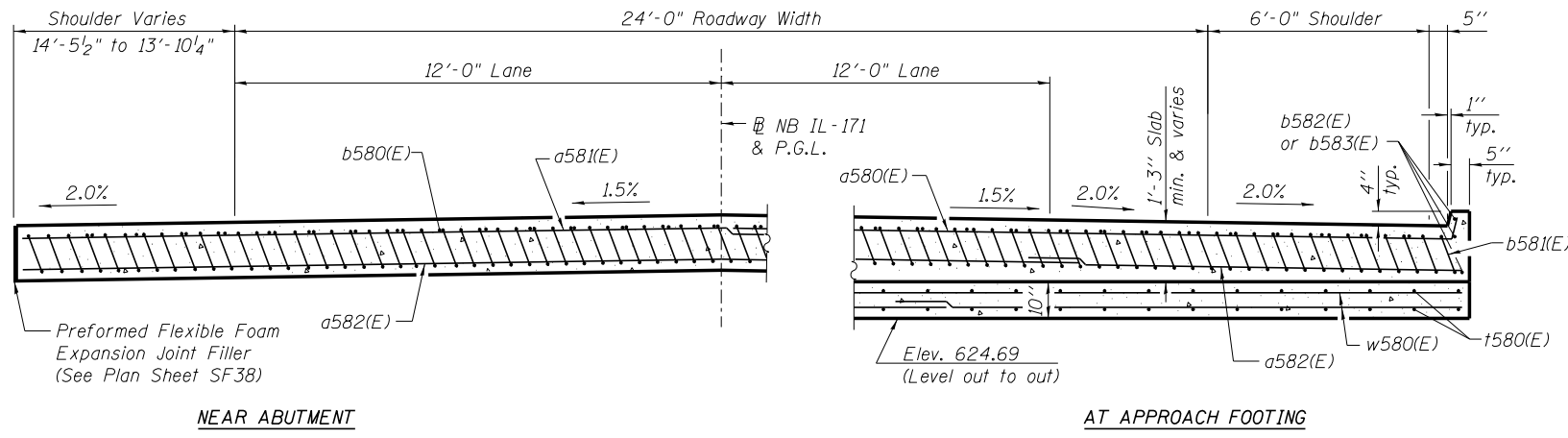
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**ONE APPROACH
BILL OF MATERIAL**

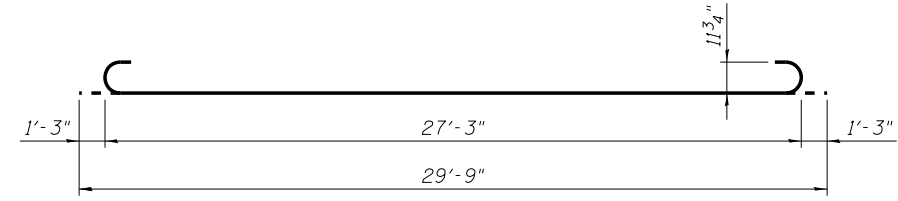
Bar	No.	Size	Length	Shape
a580(E)	26	#4	25'-5"	—
a581(E)	24	#4	24'-0"	—
a582(E)	92	#5	25'-5"	—
b580(E)	36	#4	29'-8"	—
b581(E)	105	#9	29'-9"	—
b582(E)	3	#4	15'-6"	—
b583(E)	3	#4	16'-1"	—
t580(E)	94	#4	9'-11"	—
w580(E)	80	#5	25'-4"	—
Bridge Deck Grooving		Sq. Yd.	142	
Protective Coat		Sq. Yd.	158	
Concrete Superstructure		Cu. Yd.	70.0	
Concrete Structures		Cu. Yd.	14.7	
Reinforcement Bars, Epoxy Coated		Pound	17,410	



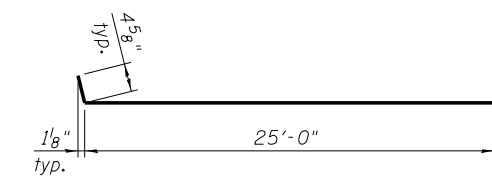
* Tilt #9 b581(E) bars as required to maintain clearance.
*** Cost included with "Concrete Superstructure".



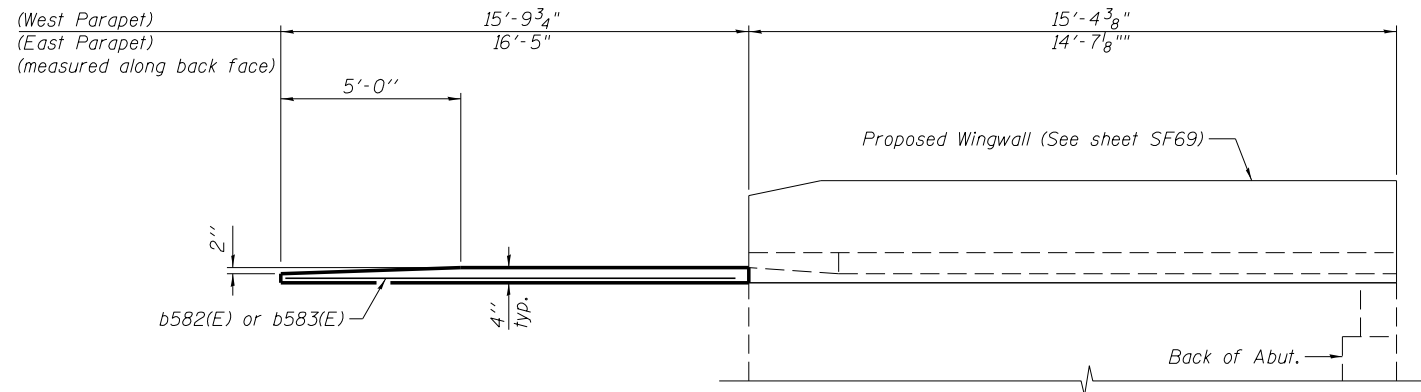
SECTION D-D
(See Plan for dimensions not shown)



BAR b581(E)



BAR a580(E)



VIEW E-E

NOTES:

- See sheet SF38 for Detail A.
- Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
- Approach footing concrete shall be paid for as Concrete Structures.
- Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
- For v503(E) bar details, see sheets SF67, SF68 and SF73.
- The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
- For bar splicer details, see sheet SF86.
- Cost of excavation for approach footing included with Concrete Structures.
- For Granular Backfill for Structures and drainage treatment details, see sheet SF73.
- For additional parapet details, see sheet SF69.

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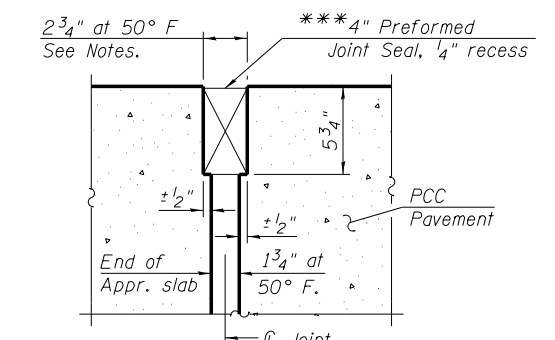
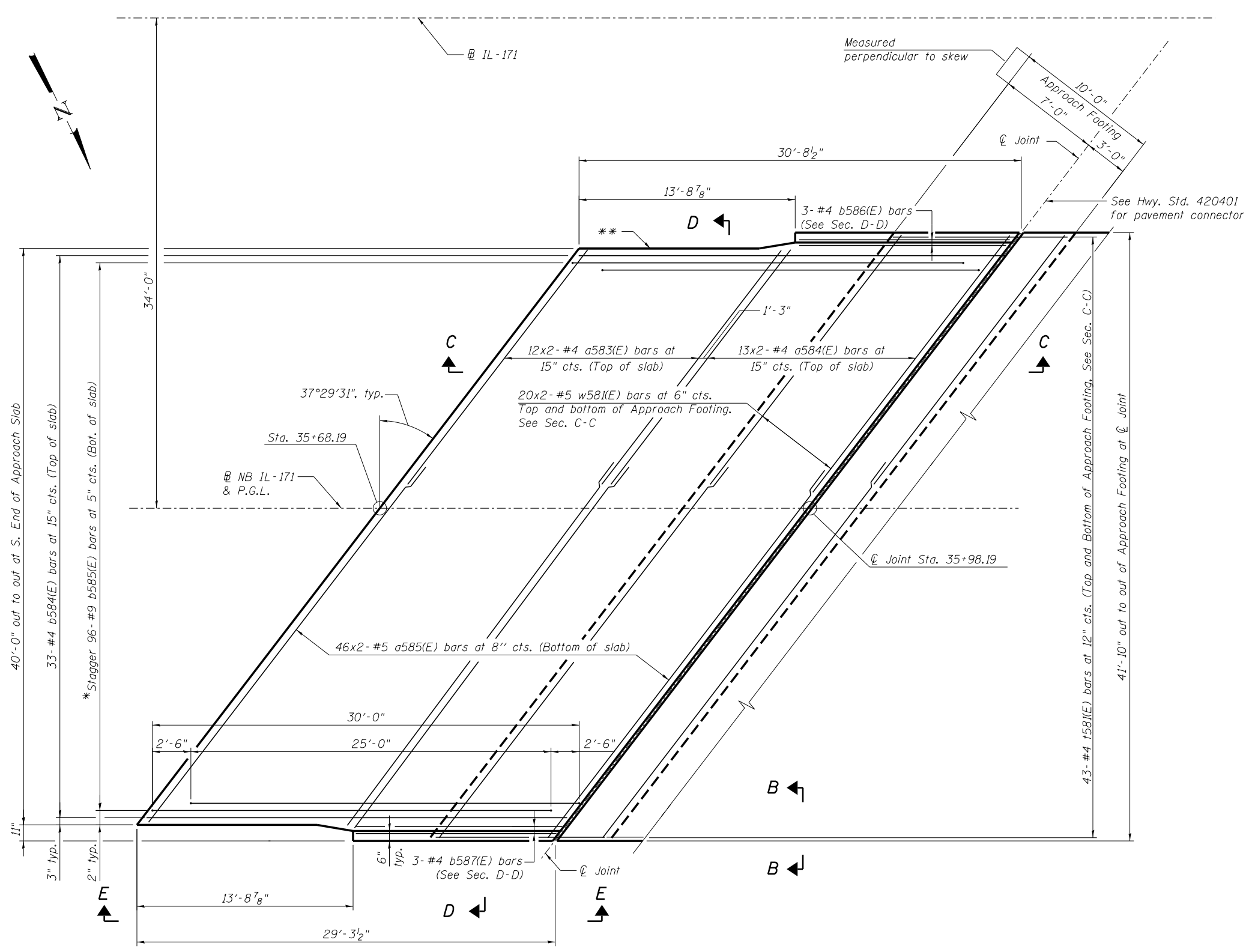
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-0487**

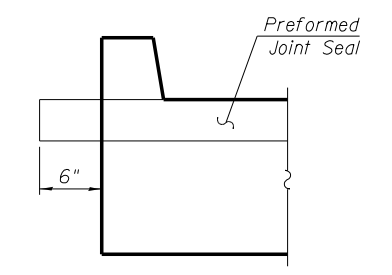
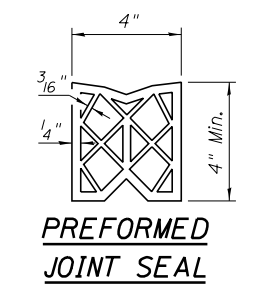
SHEET NO. SF39 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	565
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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**RIGID PAVEMENT
DETAIL A**
*** Cost included with "Concrete Superstructure".



VIEW B-B

**MINIMUM BAR LAP
(APPROACH)**
#4 bar = 2'-7"
#5 bar = 3'-3"

- NOTES:**
1. See sheet SF41 for Sections C-C & D-D and View E-E.
 2. a583(E), a584(E) and a585(E) bar spacings measured along \varnothing Rdwy.
 3. The joint opening shall be determined per Article 520.04 of the Standard Specifications.
 4. All dimensions measured along or perpendicular to \varnothing of Roadway, unless noted otherwise.

* Tilt #9 b585E) bars as required to maintain clearance.
** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications: Full depth of slab, full length of parapet. Typ. each parapet. Cost included with Concrete Superstructure.

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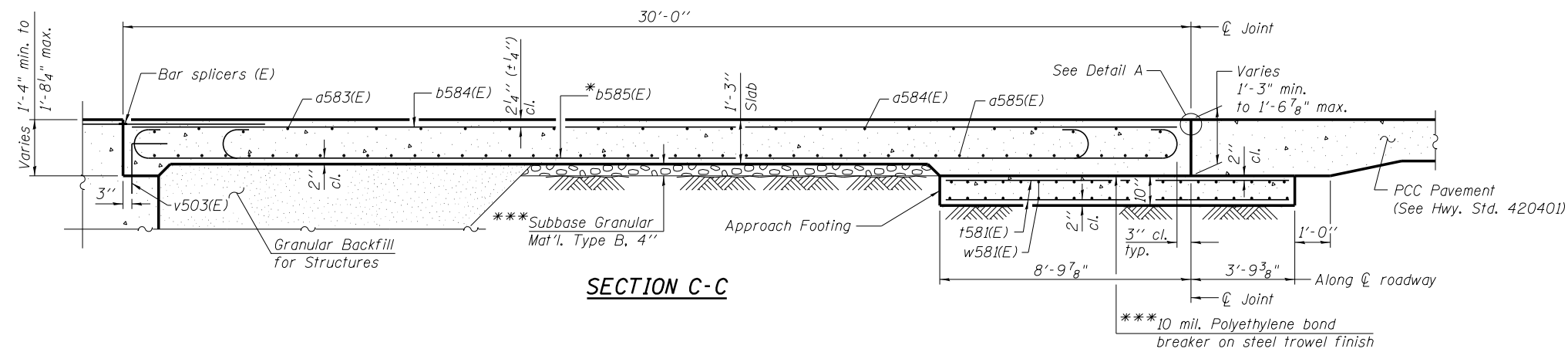
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 016-0487**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

SHEET NO. SF40 OF SF96 SHEETS

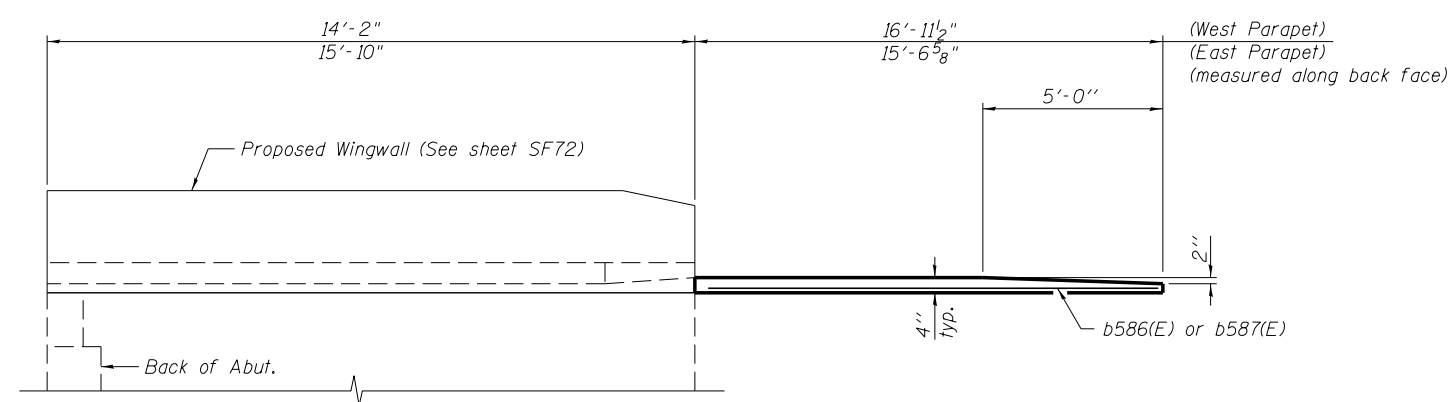
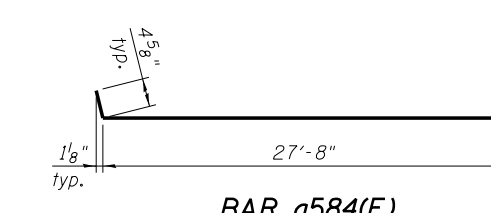
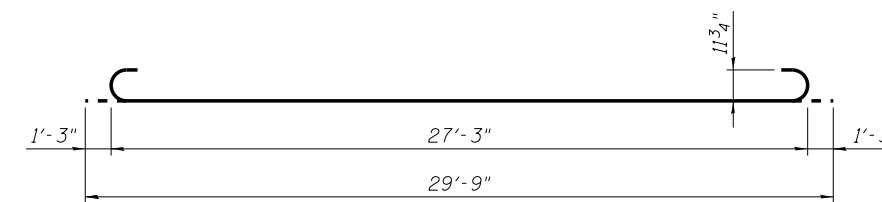
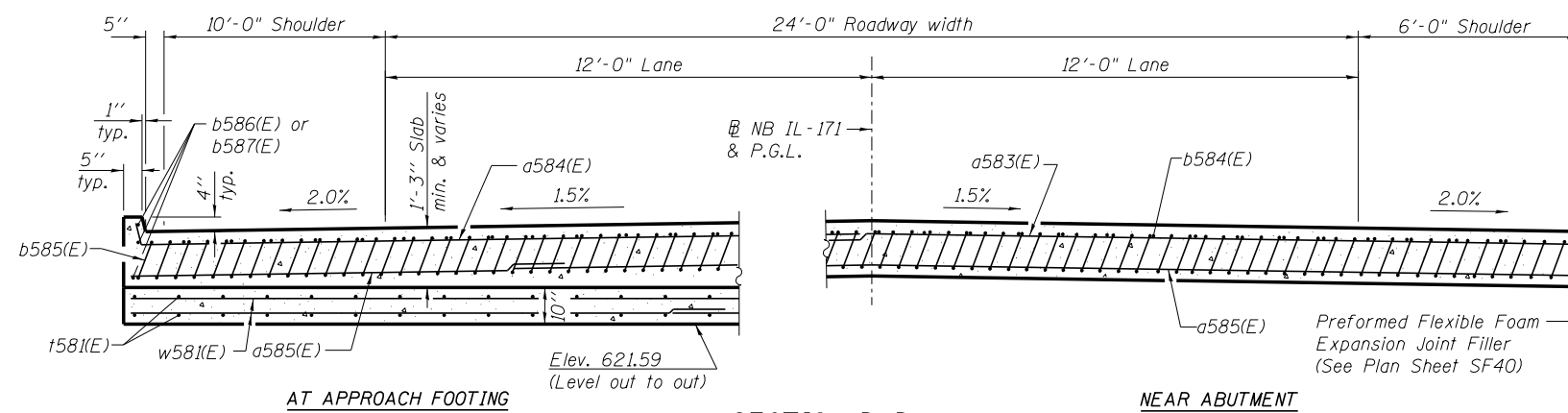
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**ONE APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a583(E)	24	#4	26'-6"	—	
a584(E)	26	#4	28'-1"	—	
a585(E)	92	#5	28'-0"	—	
b584(E)	33	#4	29'-8"	—	
b585(E)	96	#9	29'-9"	—	
b586(E)	3	#4	16'-7"	—	
b587(E)	3	#4	15'-3"	—	
t581(E)	86	#4	12'-3"	—	
w581(E)	80	#5	27'-11"	—	
Bridge Deck Grooving				Sq. Yd.	129
Protective Coat				Sq. Yd.	144
Concrete Superstructure				Cu. Yd.	63.7
Concrete Structures				Cu. Yd.	16.3
Reinforcement Bars, Epoxy Coated				Pound	17,070

* Tilt #9 b585(E) bars as required to maintain clearance.
*** Cost included with "Concrete Superstructure".



- NOTES:**
- See sheet SF40 for Detail A.
 - Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 - Approach footing concrete shall be paid for as Concrete Structures.
 - Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 - For v503(E) bar details, see sheets SF70, SF72 and SF73.
 - The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 - For bar splicer details, see sheet SF86.
 - Cost of excavation for approach footing included with Concrete Structures.
 - For Granular Backfill for Structures and drainage treatment details, see sheet SF73.
 - For additional parapet details, see sheet SF72.

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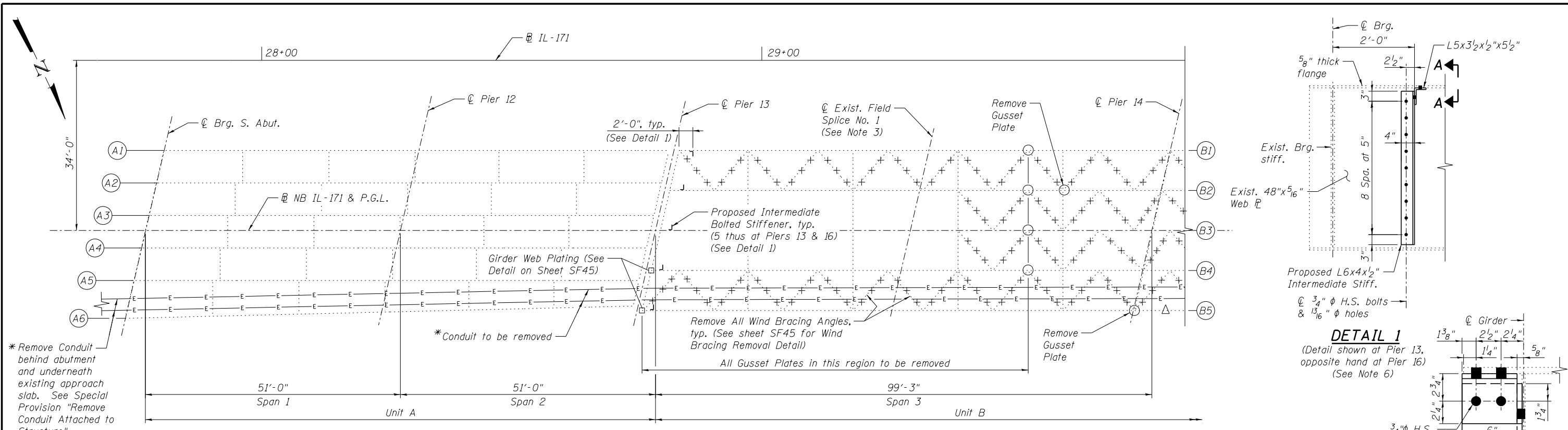
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 016-0487**

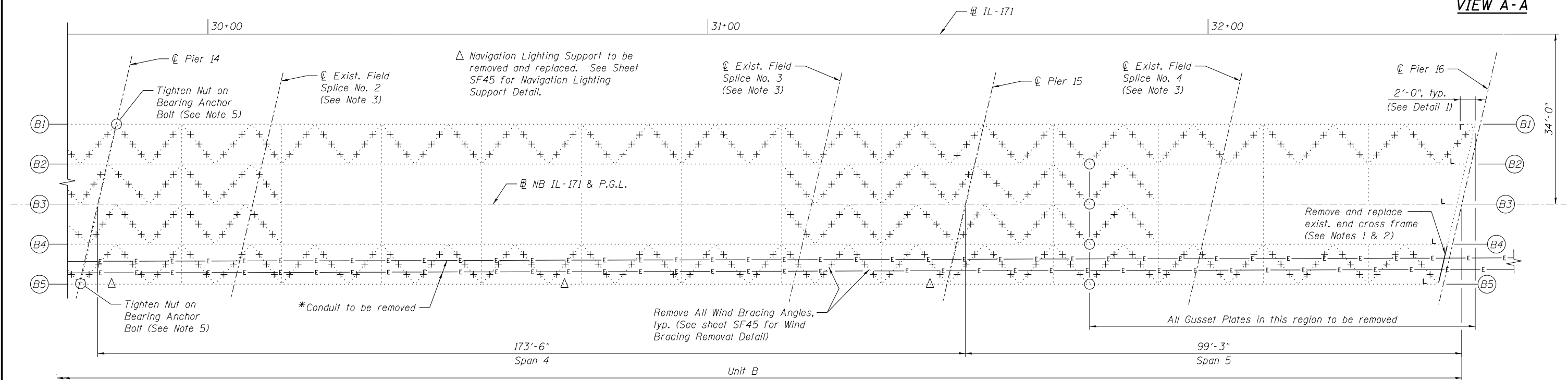
SHEET NO. SF41 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	567
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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EXISTING FRAMING PLAN - SPANS 1-3



EXISTING FRAMING PLAN - SPANS 4 & 5

*The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See sheet SF44 for Conduit Removal Details.

LEGEND

---x---x---x--- Remove existing steel

NOTES:

1. Removal of steel paid for as "Structural Steel Removal". Replacement of steel paid for as "Furnishing and Erecting Structural Steel".
2. See Sheet SF45 for End Cross Frame Removal and Replacement Details and Girder Web Plating Detail.
3. See Sheet SF44 for new studs added at Exist. Field Splice No. 1 thru No. 4 in Spans 3-5.

4. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".
5. Untightened nuts shall be tightened according to Article 521.06 of the Standard Specifications. Cost included with "Furnishing and Erecting Structural Steel".
6. Bolts for the connection of the new stiffener angle in Detail 1 shall be 3/4" dia., ASTM A325 Type 1, mechanically galvanized bolts in 1 3/16" dia. holes. Holes in the new steel shall be shop drilled. Holes in the existing steel shall be field drilled using the holes in the new steel as a template. The Contractor shall verify existing dimensions before ordering materials. Cost of field drilling and new steel in Detail 1 is included with "Furnishing and Erecting Structural Steel".

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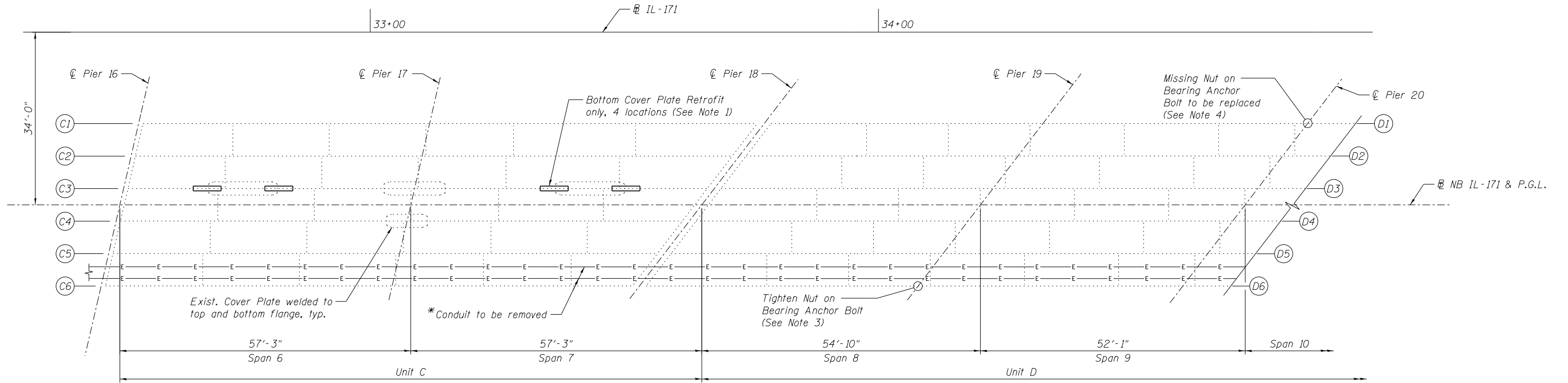
**STEEL REMOVAL AND REPAIR PLAN UNITS A & B
STRUCTURE NO. 016-0487**

SHEET NO. SF42 OF SF96 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				

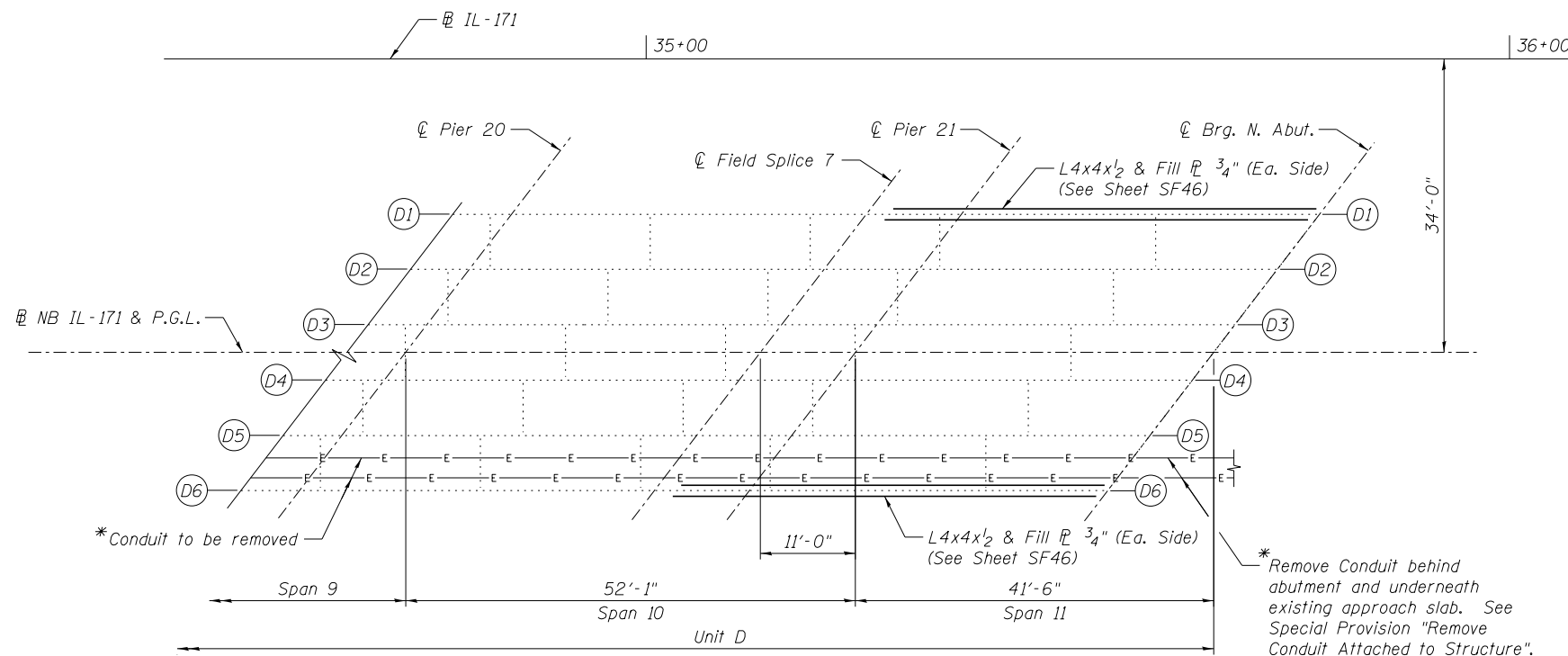
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EXISTING FRAMING PLAN - SPANS 6-9

*The existing conduit contains live electrical cables that power the existing navigation lighting attached to the fascia girder. Note that the navigation lighting must remain in service without interruption. See Lighting Plans for additional details and requirements. Coordinate the removal of the existing conduit with the installation of the new navigation lighting and corresponding new conduit and wiring. See sheet SF44 for Conduit Removal Details.



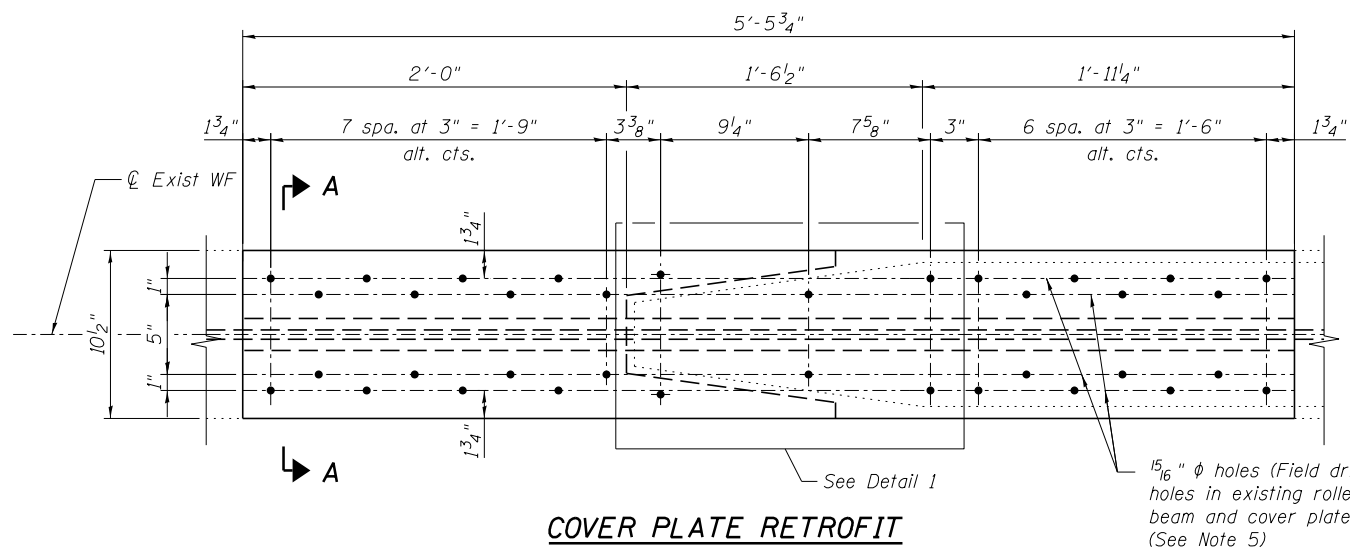
EXISTING FRAMING PLAN - SPANS 10 & 11

NOTES:

1. Place bolted cover plate at ends of existing cover plates where shown. See sheet SF44 for Cover Plate Retrofit Detail.
2. The Engineer will inspect all existing bearing anchor bolts to ascertain their condition. Any damaged anchor bolts shall be reported to the BBS for further direction. The Contractor shall provide all means and access for the Engineer to perform the anchor bolt inspections. All costs associated with providing the access shall be considered included in the unit price for "Furnishing and Erecting Structural Steel".
3. Untightened nuts shall be tightened according to Article 521.06 of the Standard Specifications. Cost included with "Furnishing and Erecting Structural Steel".
4. Replace missing nut and 2 1/2"x2 1/2"x5/16" plate washer for existing 1" dia. anchor bolt. Install per Section 521.06 of the Standard Specifications. Cost included with "Furnishing and Erecting Structural Steel".

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
0160487.60W75.043.Steel.Repair.Plan.Spans.6.thru.11.dgn	REDFR:BCR:JLS	CHECKED - TPS/AJK	REVISED -
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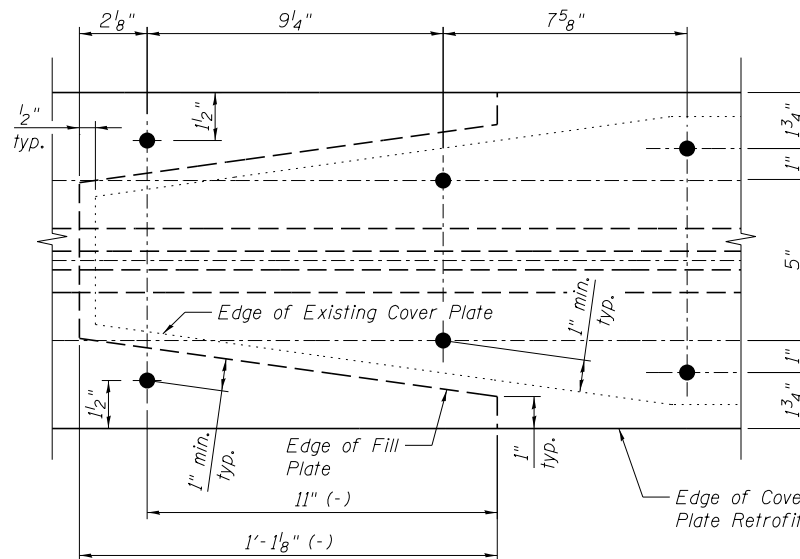
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	569
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	



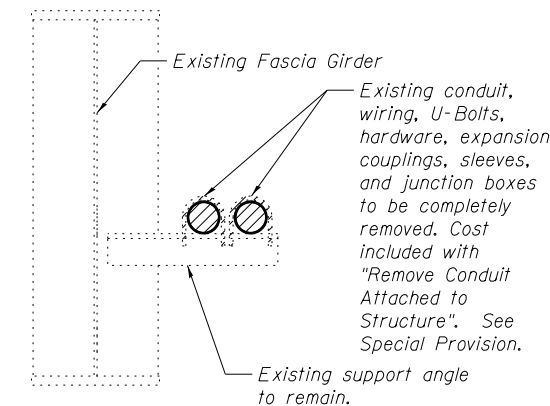
COVER PLATE RETROFIT

(See Note 2)
(36 bolts per retrofit)
(4 Locations, Bottom Flange only)

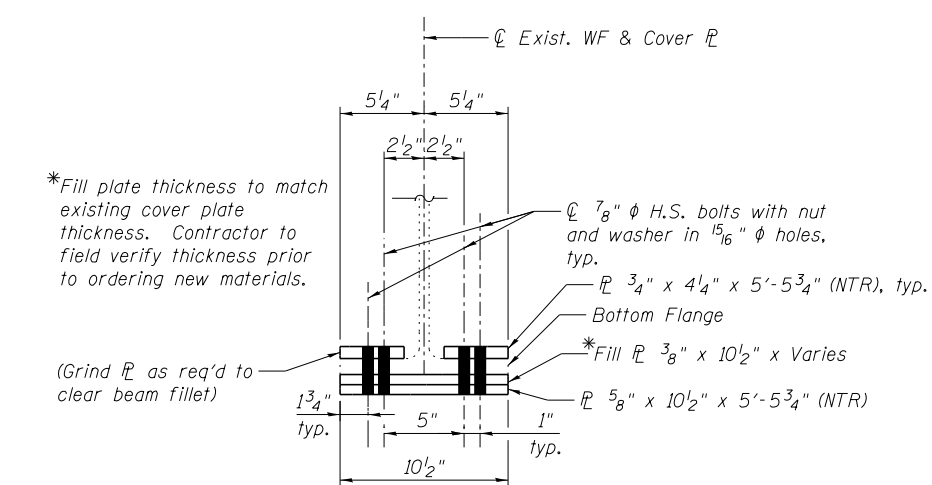
Note: Locations of Cover Plate Retrofit are symmetrical about the \bar{C} of the existing cover plate.



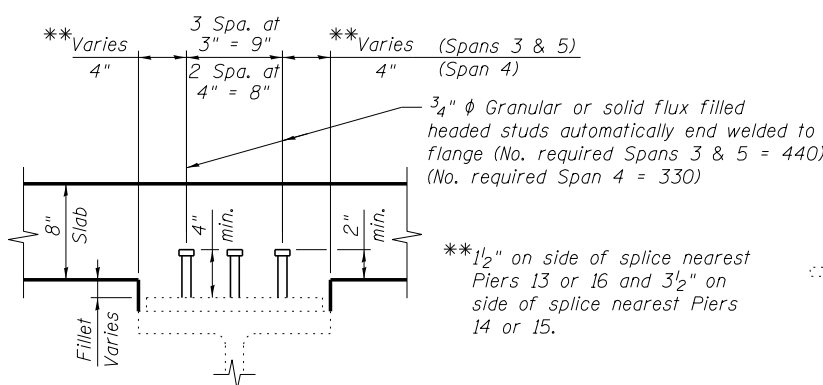
DETAIL 1



CONDUIT REMOVAL DETAIL
(Plate Girder Detail - Spans 3 thru 5)



SECTION A-A

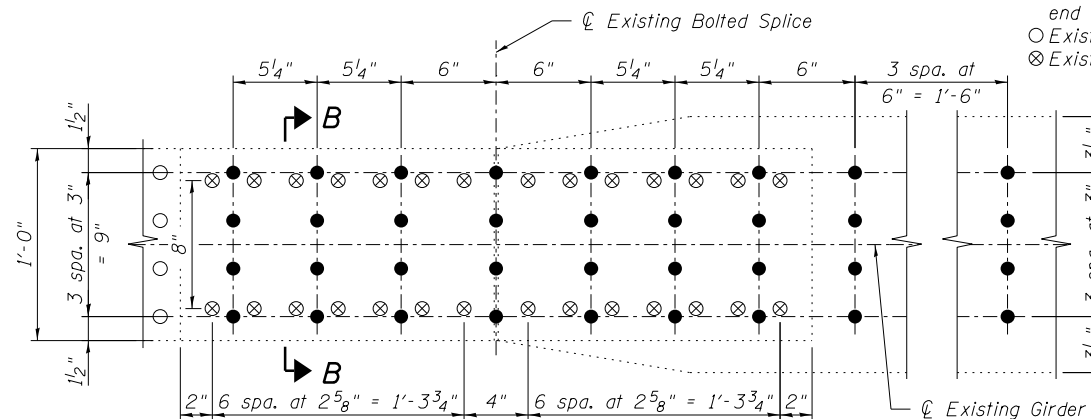


SECTION B-B

(Span 4 shown, Spans 3 & 5 similar.)

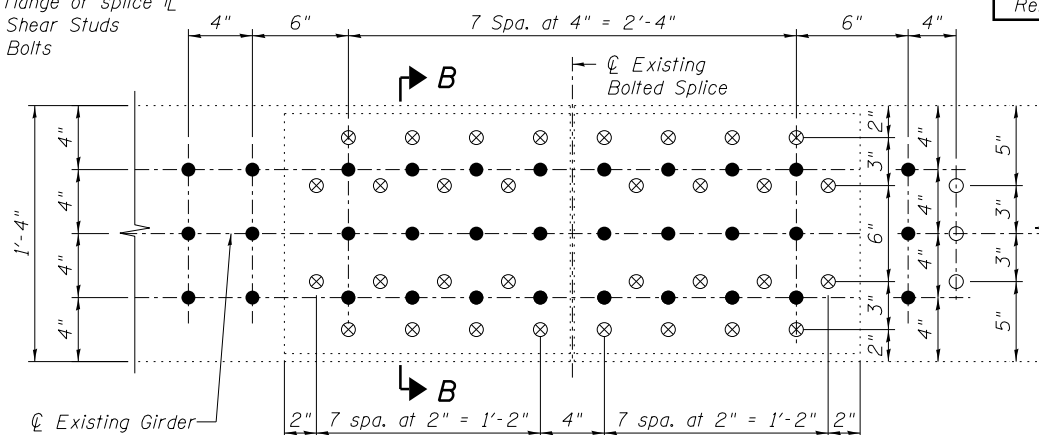
LEGEND FOR NEW STUD INSTALLATION

- Proposed $3/4"$ ϕ x $4"$ min. Granular or solid flux filled headed studs automatically end welded to flange or splice \bar{C}
- Existing $3/4"$ ϕ Shear Studs
- ⊗ Existing $7/8"$ ϕ Bolts



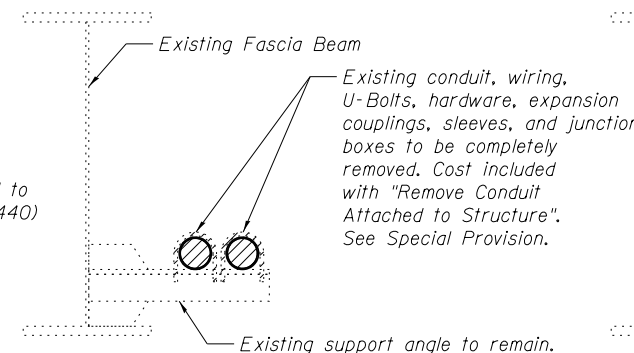
NEW STUD SPACING AT EXISTING BOLTED SPLICES SPANS 3 & 5

(Existing Field Splice No. 1 in Span 3 shown, Field Splice No. 4 in Span 5 opposite hand) (10 Locations)

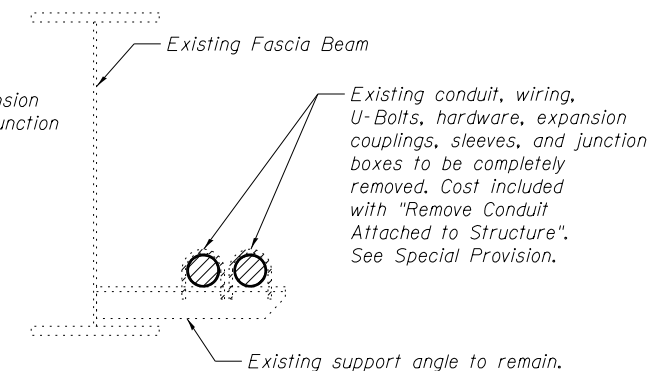


NEW STUD SPACING AT EXISTING BOLTED SPLICES SPAN 4

(Existing Field Splice No. 2 in Span 4 shown, Field Splice No. 3 in Span 4 opposite hand) (10 Locations)



CONDUIT REMOVAL DETAIL
(Wide Flange Detail - Spans 1, 2, 6 & 7)



CONDUIT REMOVAL DETAIL
(Wide Flange Detail - Spans 8 thru 11)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Removal	Pound	21,530
Structural Steel Repair	Pound	1,120
Remove Conduit Attached to Structure	Foot	1,689

NOTES:

1. See Sheet SF43 for locations of cover plate retrofit.
2. Cost of furnishing all labor, equipment, and materials necessary to furnish and install the cover plate retrofit detail shall be included with "Structural Steel Repair". See Special Provision. Quantity listed on this sheet is calculated for gross section of plate with voids for bolt holes not accounted for.
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
4. Structural Steel Plates for cover plate retrofit shall conform to the requirements of AASHTO M270 Grade 50.
5. Cost of field drilling for cover plate retrofit included with "Structural Steel Repair".
6. New $7/8"$ dia. fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts.



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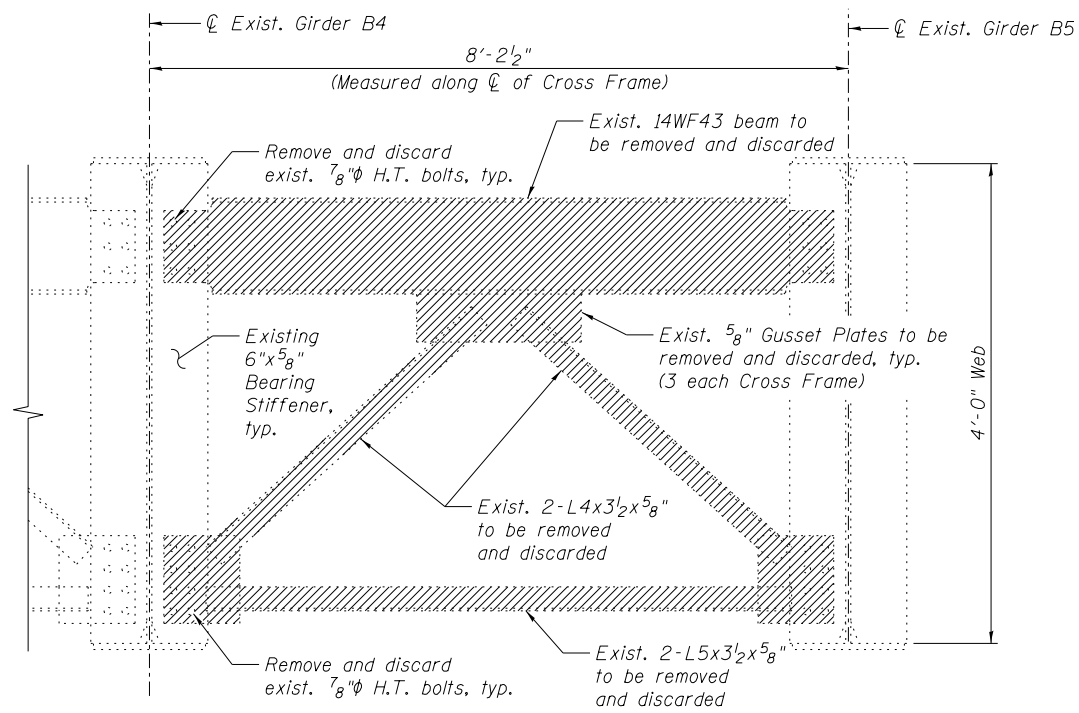
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		TPS	-
		RMG	-
		TPS	-

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STRUCTURAL STEEL REPAIR DETAILS (1 OF 3)
STRUCTURE NO. 016-0487

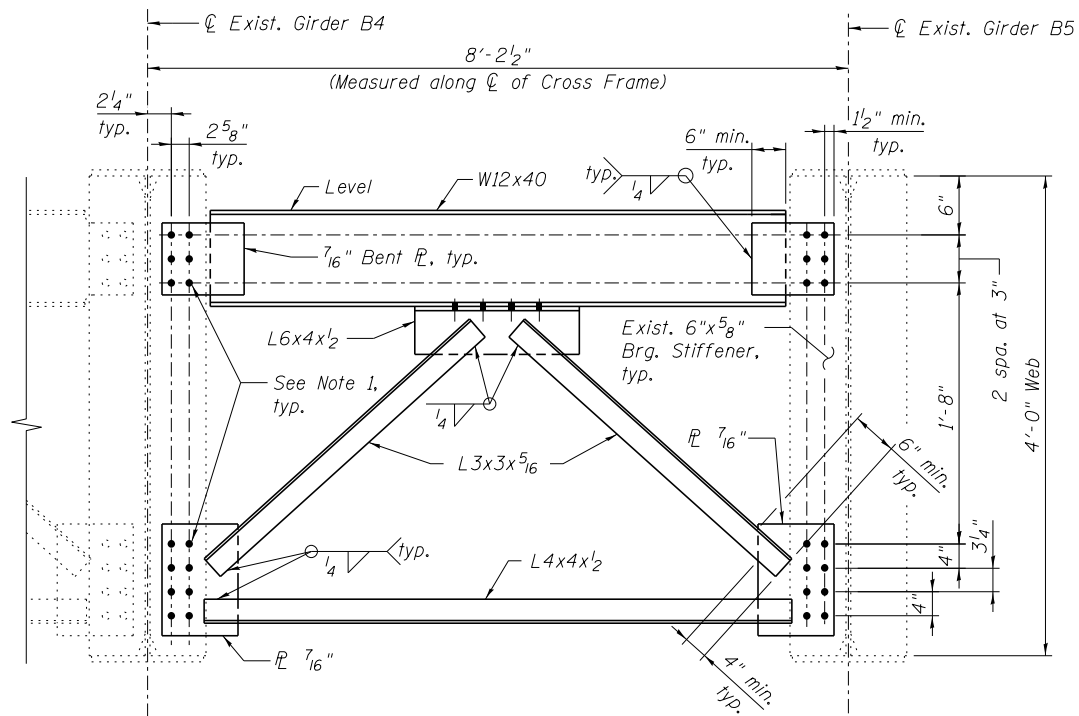
SHEET NO. SF44 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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				CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT				



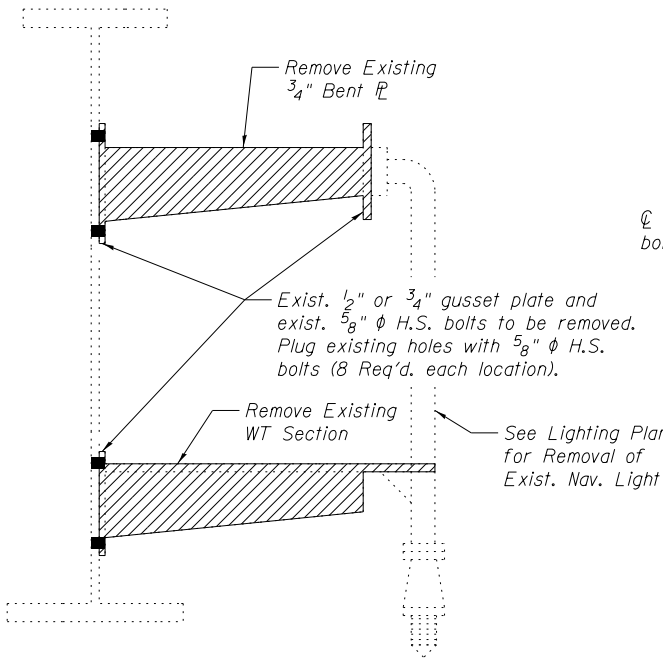
EXIST. END CROSS FRAME REMOVAL AT PIER 16

(One location)
(Steel removal is paid for as "Structural Steel Removal". See Special Provision.)



NEW END CROSS FRAME AT PIER 16

(One location)
(New steel is paid for as "Furnishing and Erecting Structural Steel".)

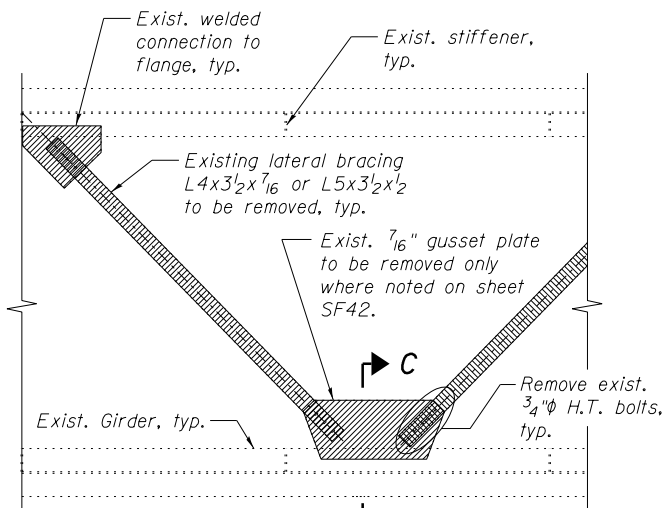


NAVIGATION LIGHTING SUPPORT DETAIL

(3 Locations)
Note: All Navigational Lighting Support Details shall be coordinated with Navigational Light Supplier. Steel removal is paid for as "Structural Steel Removal". See Special Provision. New steel is paid for as "Furnishing and Erecting Structural Steel".

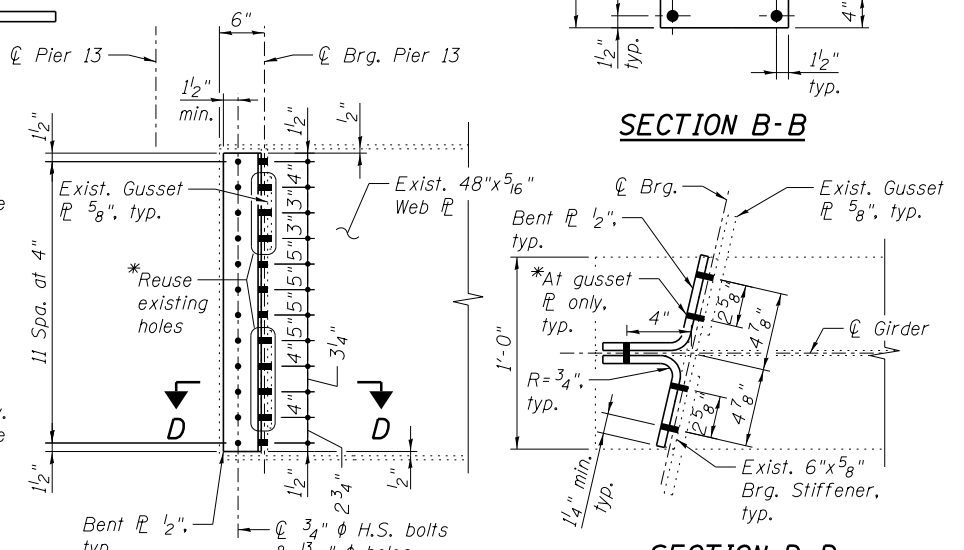
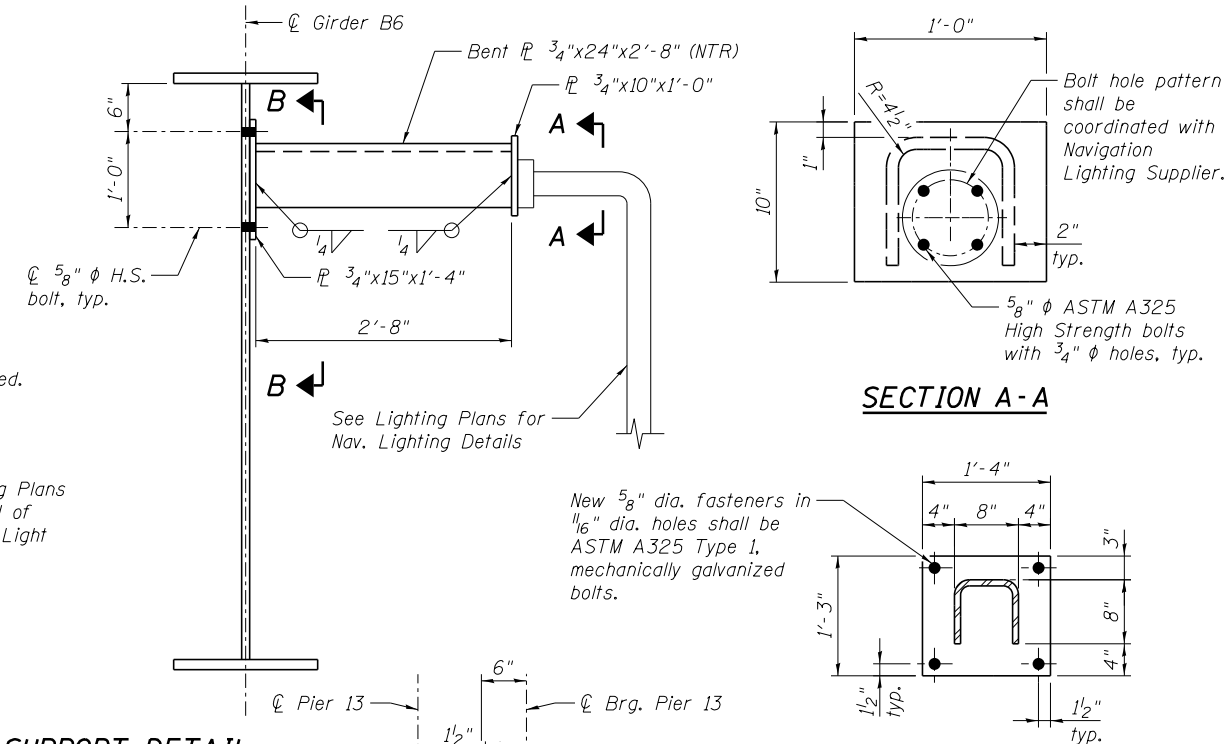
GIRDER WEB PLATING CONSTRUCTION SEQUENCE

1. Remove existing cross frames in Bays B3-B4 and B4-B5.
2. Install girder web plating detail at Girders B4 and B5 by connecting to web only.
3. Reinstall existing cross frames in Bays B3-B4 and B4-B5 on the stiffener face opposite of Pier 13. Install proposed cross frame in Bay B5-B6 similarly.



WIND BRACING REMOVAL DETAIL

(Removal of lateral bracing and gusset plates paid for as "Structural Steel Removal")

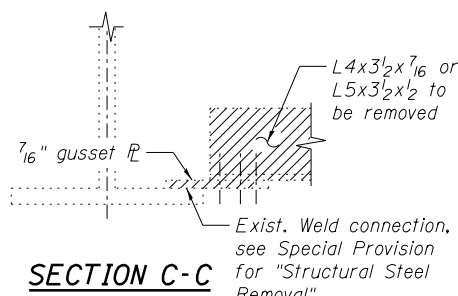


GIRDER WEB PLATING DETAIL

(Girders B4 & B5 at Pier 13)
(See Note 6)

NOTES:

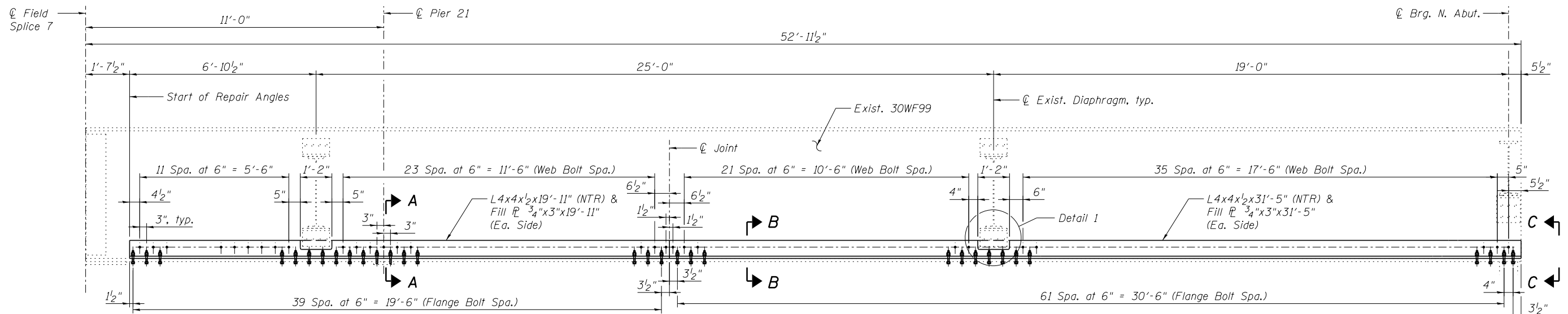
1. New 7/8" dia. fasteners for the cross frame shall be ASTM A325 Type I, mechanically galvanized bolts. Holes in new steel shall be field drilled using the 1 1/16" dia. holes in the existing steel as a template. Contractor to field verify location, size and spacing of existing fasteners and holes prior to ordering new materials. Cost of field drilling is included with "Furnishing and Erecting Structural Steel".
2. See Sheet SF42 for location of end cross frame replacement and removal and girder web plating.
3. See Sheet SF42 for location of wind bracing removal.
4. See Lighting Plans for location of Navigation Lighting Supports.
5. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
6. Bolts for the connection of the new bent plates shall be 3/4" dia., ASTM A325 Type I, mechanically galvanized bolts in 1 1/16" dia. holes, unless noted otherwise. Holes in the new steel shall be shop drilled unless noted otherwise. Holes in the existing steel shall be field drilled using the holes in the new steel as a template. The Contractor shall verify existing dimensions before ordering materials. Cost of field drilling, removal and reinstallation of cross frames and new steel in Girder Web Plating Detail is included with "Furnishing and Erecting Structural Steel".



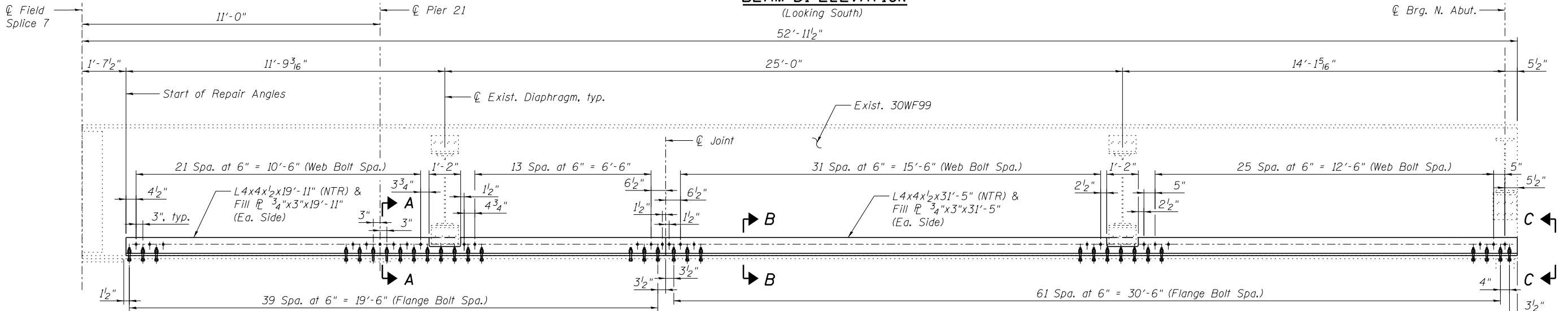
SECTION C-C

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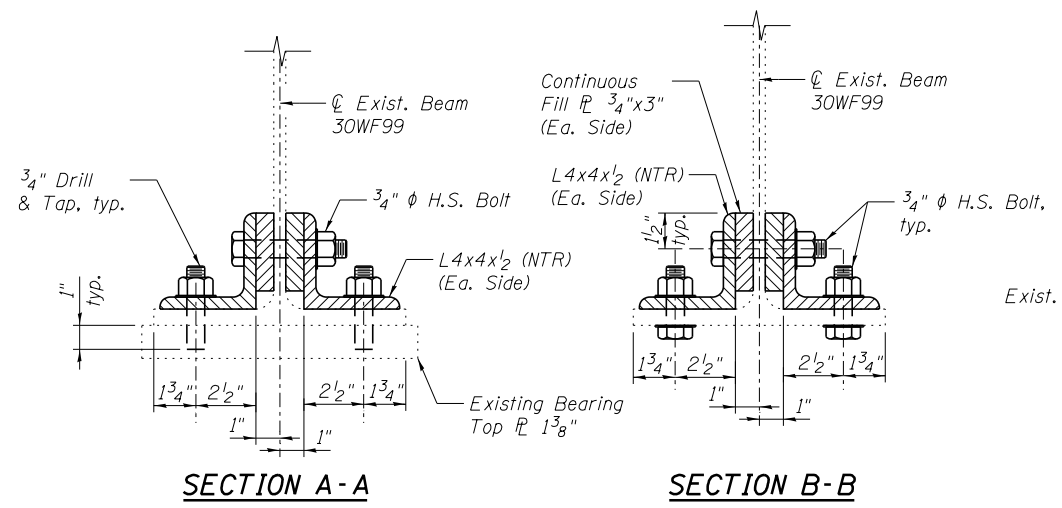
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	571
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				



BEAM D1 ELEVATION
(Looking South)

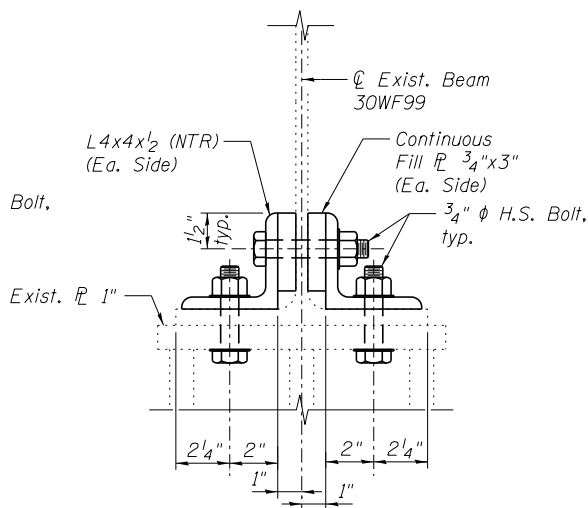


BEAM D6 ELEVATION
(Looking South)



SECTION A-A

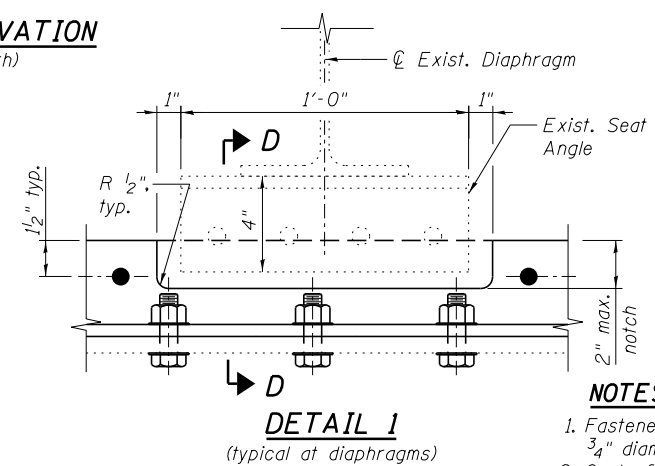
SECTION B-B



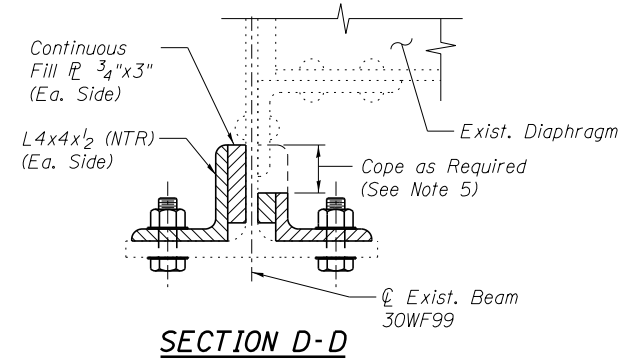
SECTION C-C

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	2,110



DETAIL 1
(typical at diaphragms)



SECTION D-D

NOTES:

- Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" diameter, holes 13/16" diameter.
- Cost of furnishing all labor, equipment and materials necessary to furnish and install the 2-L4x4x1/2 and 2 fill plates as shown, shall be included with "Structural Steel Repair". See Special Provision.
- Angles and fill plates shall conform to the requirements of AASHTO M270 Grade 50.
- Cost of field drilling included with "Structural Steel Repair".
- Contractor shall verify locations of existing diaphragms, dimensions and hole locations and make any necessary adjustments prior to construction or ordering of materials. The angles shall be notched as shown in Detail 1 if there is interference with the existing diaphragm seat angles or bolts. Cost included with "Structural Steel Repair".
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- For location of Steel Beam Repairs, see Sheet SF43.
- All steel repairs shall be done with no live load on the bridge.



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0160487.60W75.046.Steel.Repair_Details.3	PLT DATE = 6/16/2015	CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

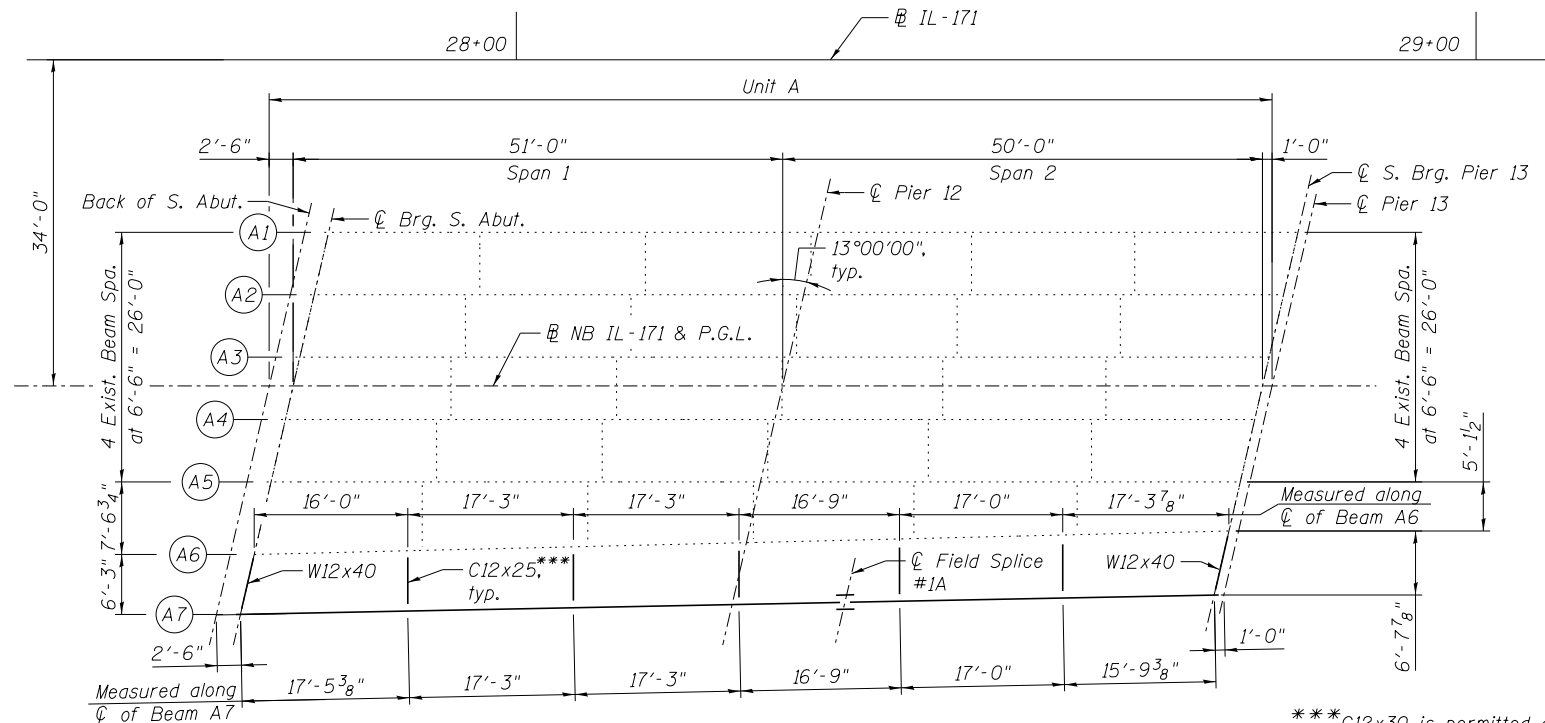
STRUCTURAL STEEL REPAIR DETAILS (3 OF 3)
STRUCTURE NO. 016-0487

SHEET NO. SF46 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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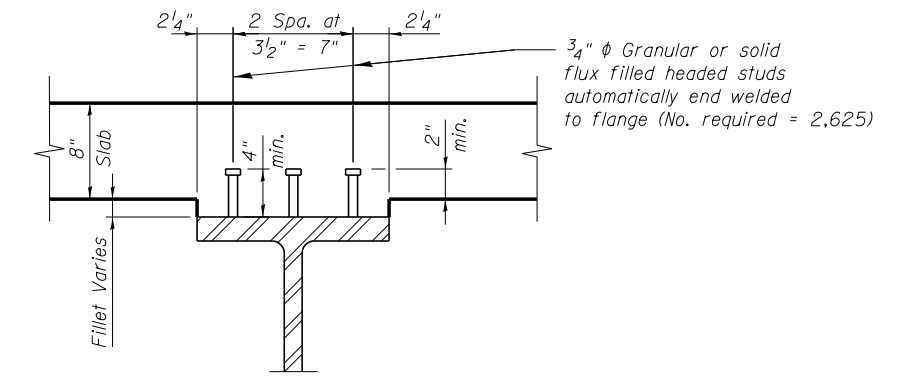
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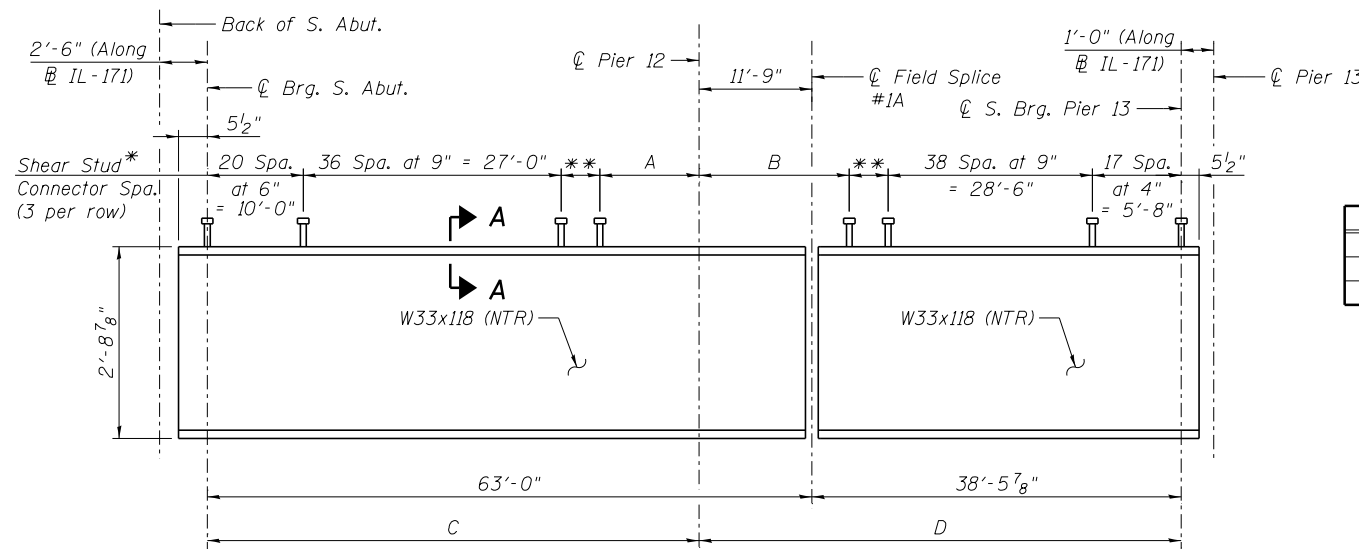


FRAMING PLAN (SPANS 1 & 2)

*** C12x30 is permitted as an alternate channel. Calculated weight of structural steel is based on the C12x25. If C12x30 is used, it shall be provided at no extra cost to the Department.



SECTION A-A



* Dimension String measured along C of Beam
 ** 6 Spa. at 4" = 2'-0"

BEAM A7 ELEVATION

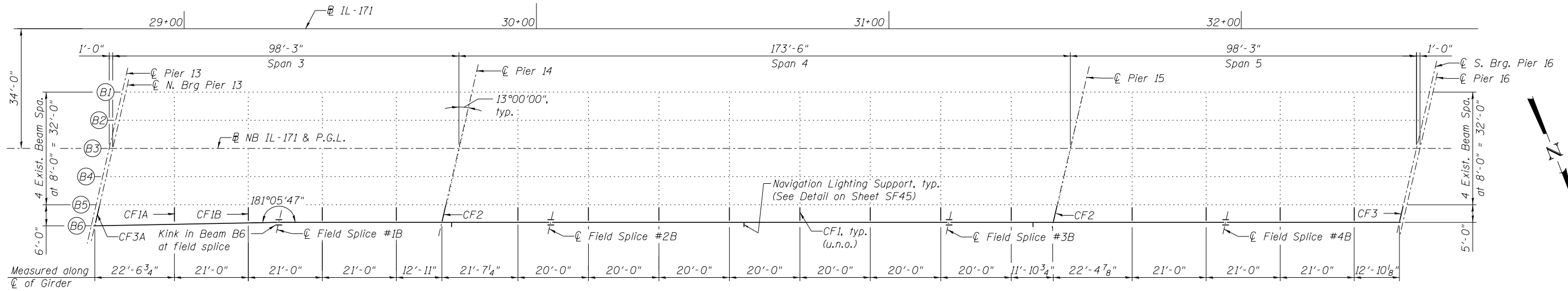
(Shear Stud Connector spacing also applicable for existing Beams A1-A6)

SHEAR STUD DIMENSIONS TABLE

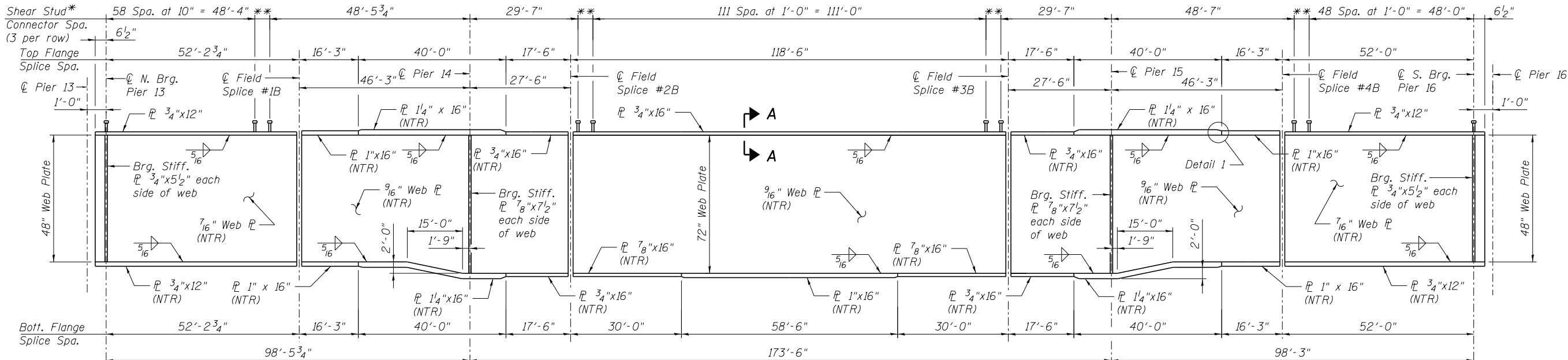
Beam	A	B	C	D
A1-A5	12'-0"	13'-10"	51'-0"	50'-0"
A6	12'-3 9/16"	14'-1 1/2"	51'-3 9/16"	50'-3 1/2"
A7	12'-3"	14'-0 7/8"	51'-3"	50'-2 7/8"

NOTES:

- Field verify location of all existing diaphragm connections on Beam A6 before fabricating proposed beams. Adjust locations of interior diaphragms so that connections to existing beam webs can be made.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All Rolled Beams shall be AASHTO Grade 50 Steel.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- See Sheet SF50 for diaphragm details.
- See Sheet SF52 for field bolted splice details.
- See Sheet SF42 for structural steel removal and repairs.

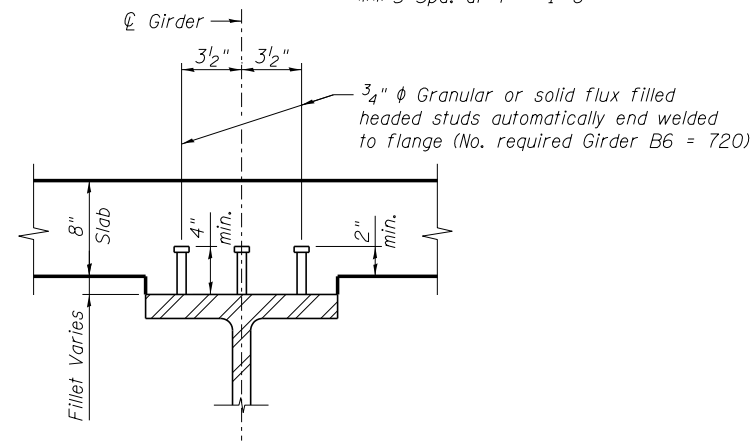


FRAMING PLAN (SPANS 3 THRU 5)

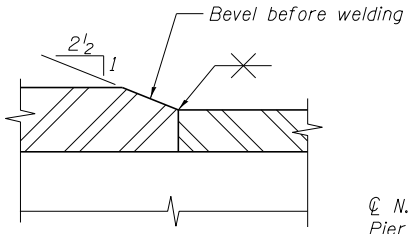


GIRDER B6 ELEVATION

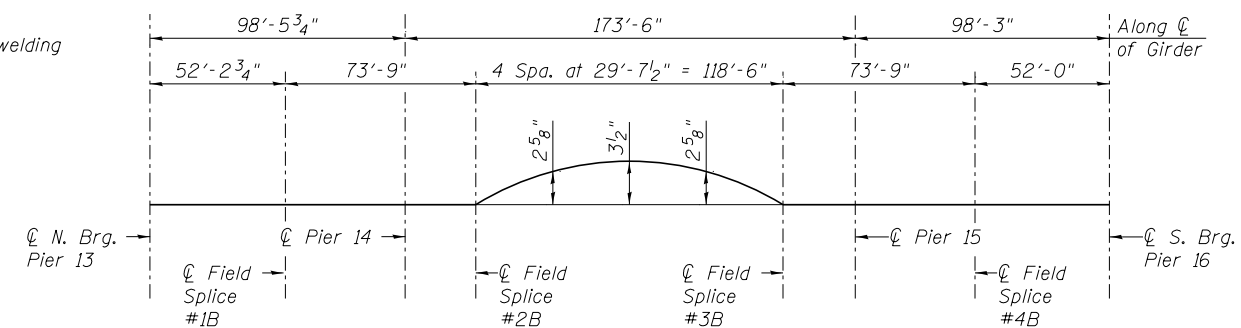
(See Sheet SF44 for additional proposed Shear Studs for existing Girders B1-B5)



SECTION A-A



DETAIL 1
(Typ. for all Flange Splices)



CAMBER DIAGRAM

NOTES:

1. Field verify location of all existing cross frame connections on Girder B5 before fabricating proposed girder. Adjust locations of cross frames so that connections to existing stiffener plates can be made.
2. Cross frames shall be placed perpendicular to Girder B5 between Girders B5 & B6. At all support locations, cross frames shall be placed parallel to \bar{C} Brg.
3. All cross frames shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
4. All flange plates and web plates shall be AASHTO Grade 50 Steel.
5. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
6. See Sheet SF51 for cross frame details.
7. See Sheet SF53 for field bolted splice details.
8. See Sheet SF42 for structural steel removal and repairs.

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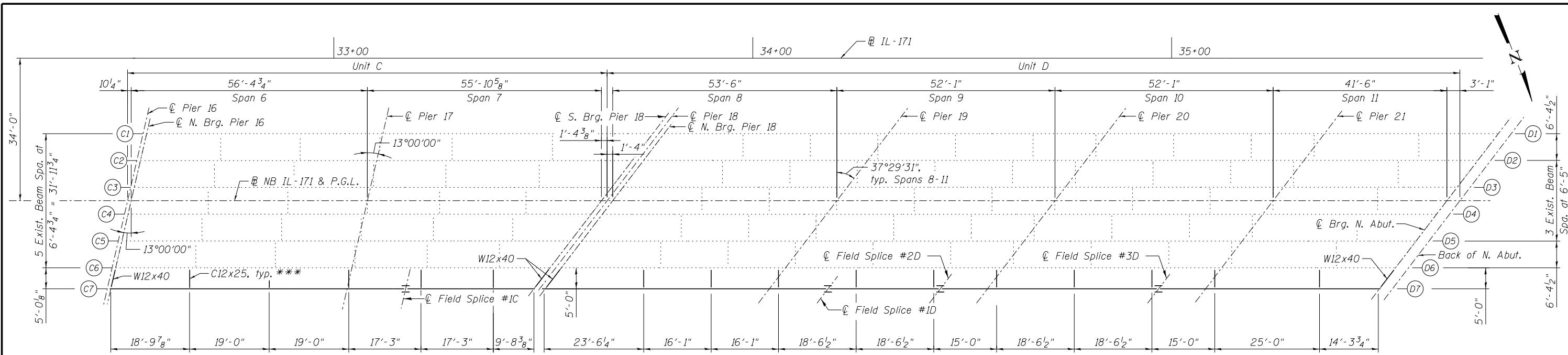
STATE OF ILLINOIS
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FRAMING PLAN AND GIRDER ELEVATION SPANS 3 THRU 5
STRUCTURE NO. 016-0487

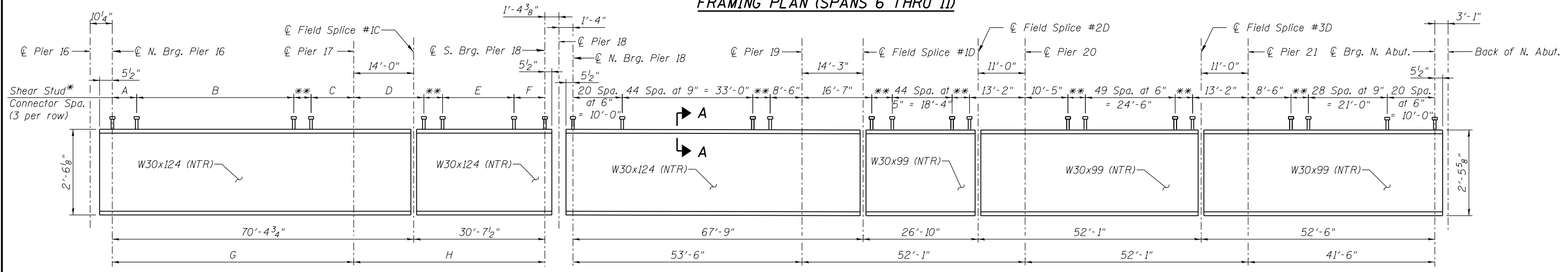
SHEET NO. SF48 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	574
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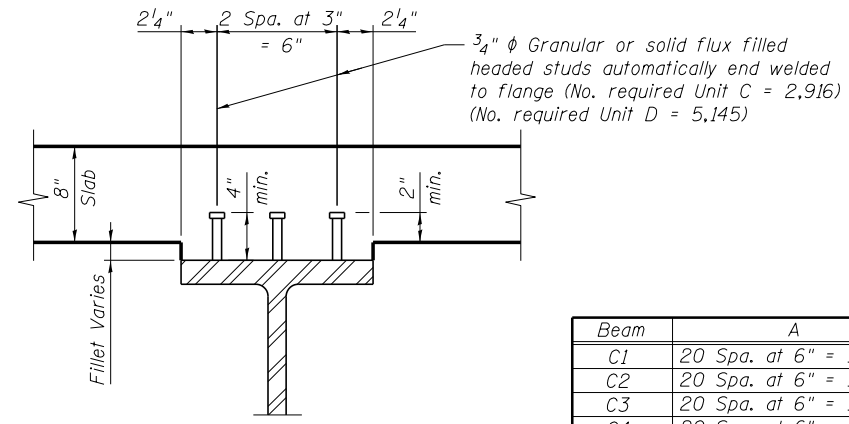


FRAMING PLAN (SPANS 6 THRU 11)



BEAM C7 & D7 ELEVATION

(Shear Stud Connector spacing also applicable for existing Beams C1-C6 & D1-D6)



SECTION A-A

*** C12x30 is permitted as an alternate channel. Calculated weight of structural steel is based on the C12x25. If C12x30 is used, it shall be provided at no extra cost to the Department.

SHEAR STUD DIMENSIONS TABLE

Beam	A	B	C	D	E	F	G	H
C1	20 Spa. at 6" = 10'-0"	46 Spa. at 8" = 30'-8"	13'-8 ³ / ₄ "	16'-5 ⁹ / ₁₆ "	54 Spa. at 8" = 36'-0"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	64'-5 ⁹ / ₁₆ "
C2	20 Spa. at 6" = 10'-0"	46 Spa. at 8" = 30'-8"	13'-8 ³ / ₄ "	16'-4 ³ / ₈ "	49 Spa. at 8" = 32'-8"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	61'-0 ³ / ₈ "
C3	20 Spa. at 6" = 10'-0"	44 Spa. at 9" = 33'-0"	11'-4 ³ / ₄ "	16'-11 ³ / ₁₆ "	43 Spa. at 8" = 28'-8"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	57'-7 ³ / ₁₆ "
C4	20 Spa. at 6" = 10'-0"	44 Spa. at 9" = 33'-0"	11'-4 ³ / ₄ "	16'-10"	38 Spa. at 8" = 25'-4"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	54'-2"
C5	20 Spa. at 6" = 10'-0"	46 Spa. at 9" = 34'-6"	9'-10 ³ / ₄ "	16'-8 ³ / ₁₆ "	33 Spa. at 8" = 22'-0"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	50'-8 ¹³ / ₁₆ "
C6	20 Spa. at 6" = 10'-0"	46 Spa. at 9" = 34'-6"	9'-10 ³ / ₄ "	17'-3 ¹ / ₁₆ "	27 Spa. at 8" = 18'-0"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	47'-3 ¹ / ₁₆ "
C7	20 Spa. at 6" = 10'-0"	47 Spa. at 9" = 35'-3"	9'-1 ¹ / ₂ "	17'-1 ¹ / ₂ "	31 Spa. at 6" = 15'-6"	20 Spa. at 6" = 10'-0"	56'-4 ³ / ₄ "	44'-7 ¹ / ₂ "

NOTES:

- Field verify location of all existing diaphragm connections on Beams C6 & D6 before fabricating proposed beams. Adjust locations of interior diaphragms so that connections to existing beam webs can be made.
- Diaphragms shall be placed perpendicular to Beams C7 & D7 between Beams C6 & C7 and Beams D6 & D7. At all support locations, diaphragms shall be placed parallel to \bar{C} Brg.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- All Rolled Beams shall be AASHTO Grade 50 Steel.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- See Sheet SF50 for diaphragm details.
- See Sheets SF52 & SF54 for field bolted splice details.
- See Sheet SF43 for structural steel removal and repairs.

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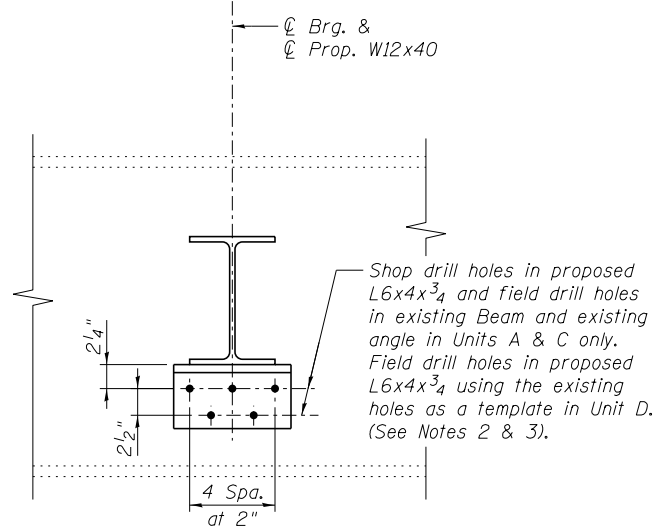
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND GIRDER ELEVATION SPANS 6 THRU 11
STRUCTURE NO. 016-0487

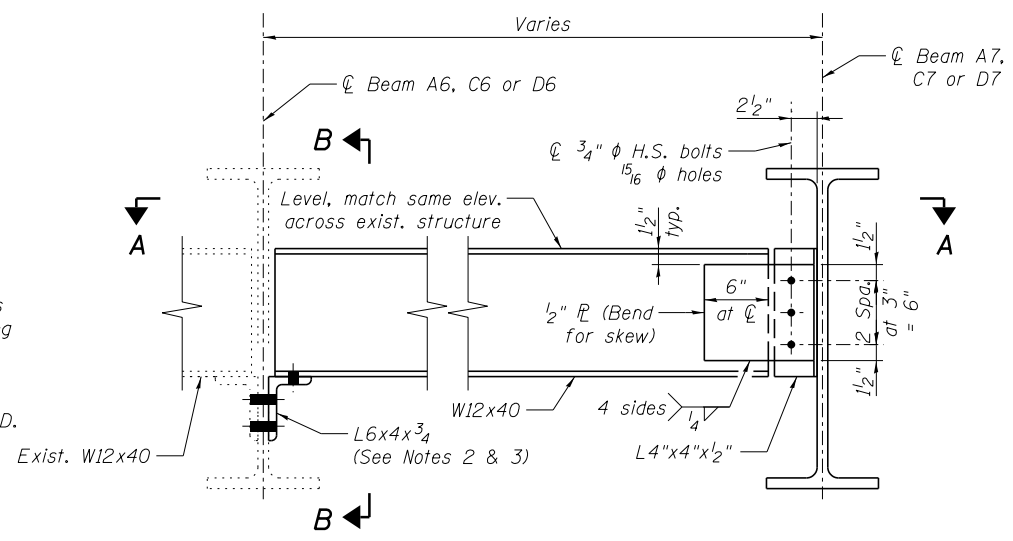
SHEET NO. SF49 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	575
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

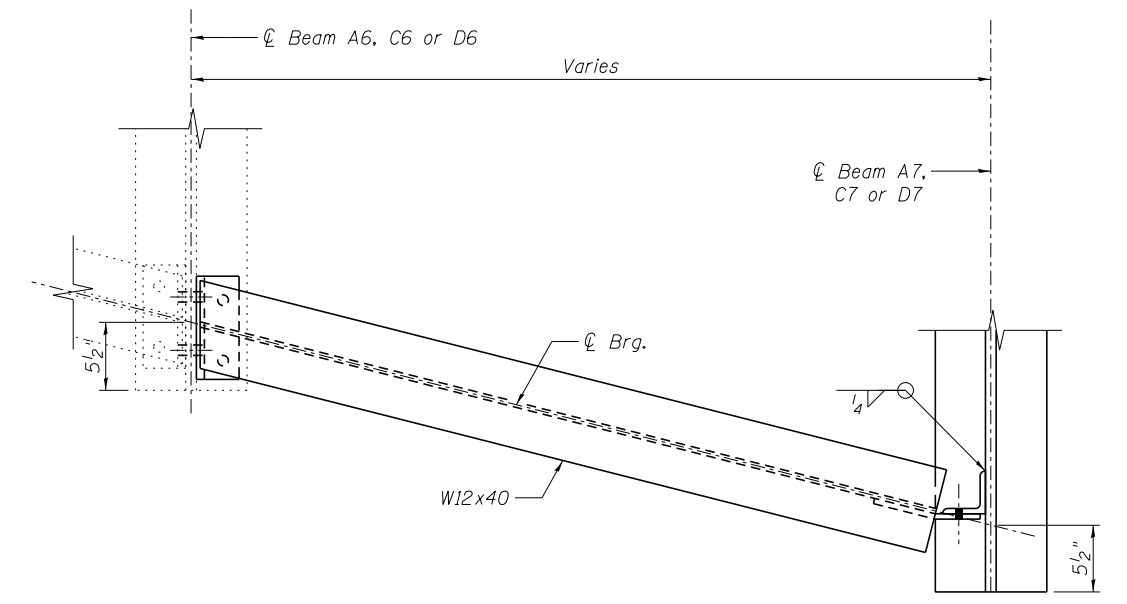
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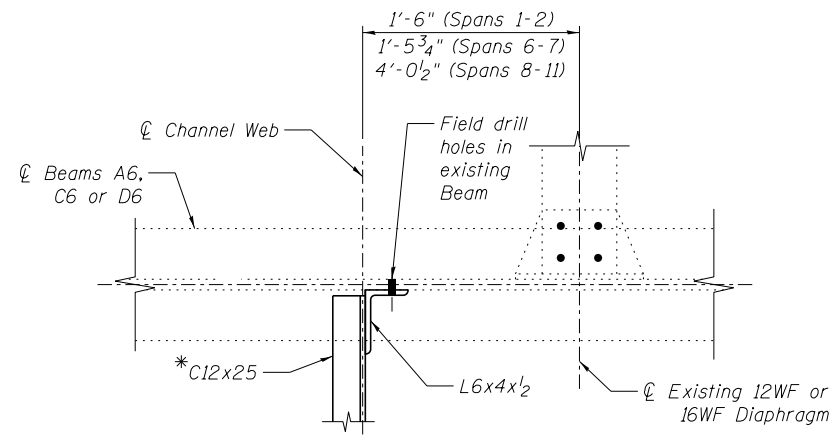
SECTION B-B



**PROPOSED END DIAPHRAGMS
UNITS A, C & D**
(No. of Locations = 6)

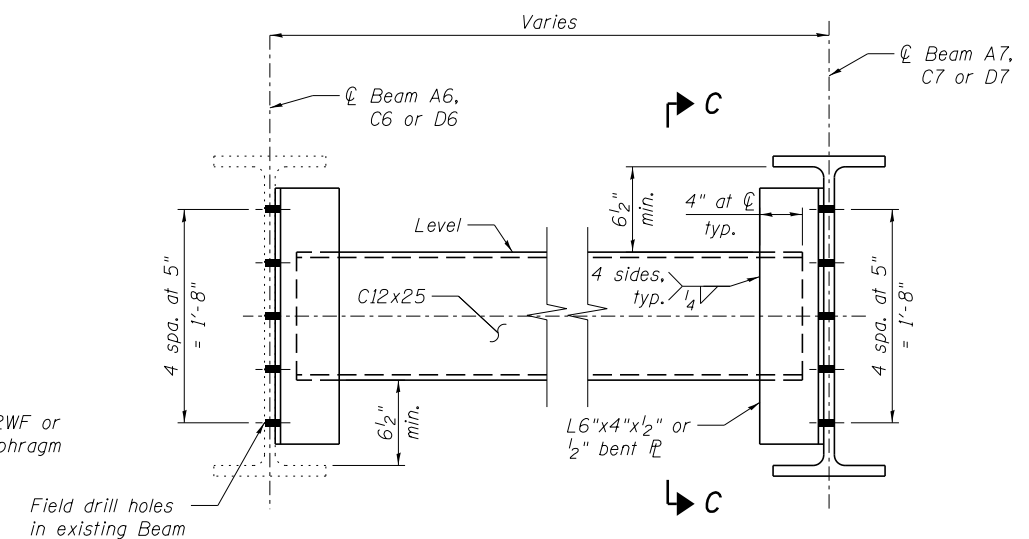


VIEW A-A
S. Abutment End Diaphragm shown,
all other End Diaphragms similar

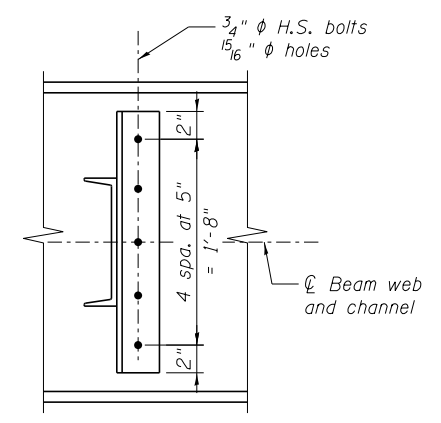


**PARTIAL PLAN OF EXISTING BEAM
AT DIAPHRAGM CONNECTIONS**

*C12x30 is permitted as an alternate channel. Calculated weight of structural steel is based on the C12x25. If C12x30 is used, it shall be provided at no extra cost to the Department.



**PROPOSED INTERIOR DIAPHRAGMS
UNITS A, C & D**
(No. of Locations = 20)



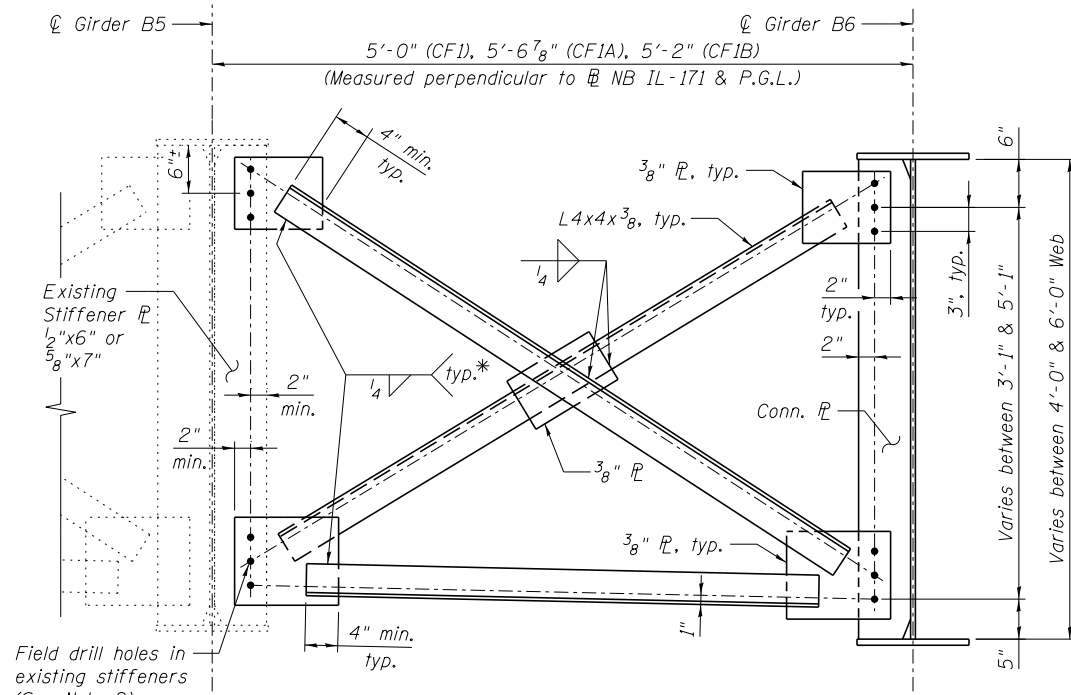
SECTION C-C

NOTES:

- Field verify all bolt hole locations in existing connection elements of end diaphragms to verify fit up before fabricating proposed diaphragms.
- For new structural steel elements connected to existing structural steel elements with preexisting holes, fasteners shall be Type I, mechanically galvanized bolts. Holes in new steel shall be field drilled using the 1 3/16 inch dia. holes in the existing steel as a template. Contractor to verify size of existing fasteners and holes prior to ordering new materials.
- Existing connection angles for end diaphragms are welded to Beam web in Units A & C and bolted to Beam web in Unit D. Contractor shall ensure that the adjacent existing diaphragm in Unit D is supported during installation of proposed diaphragm. Cost included with "Furnishing and Erecting Structural Steel".
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Cost of all field drilling included with "Furnishing and Erecting Structural Steel".
- For framing plans, see Sheets SF47 & SF49.
- Provide two hardened washers for each set of oversized holes.

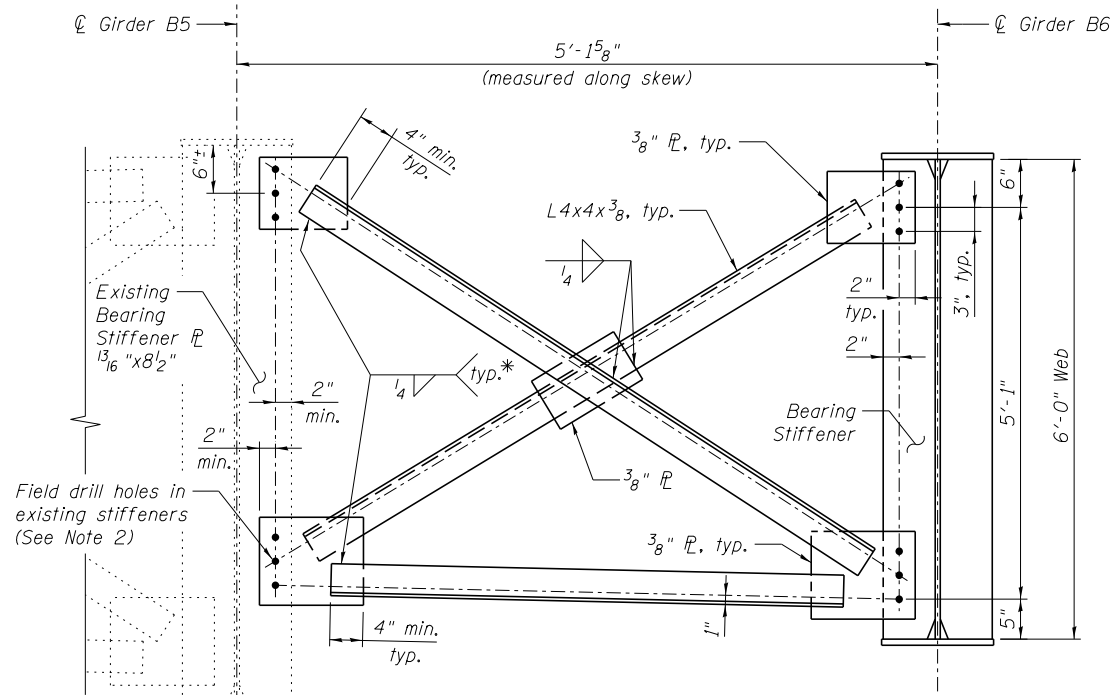
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		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -
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	PLOT DATE = 6/12/2015		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	576
				CONTRACT NO. 60W75
ILLINOIS FED. AID PROJECT				



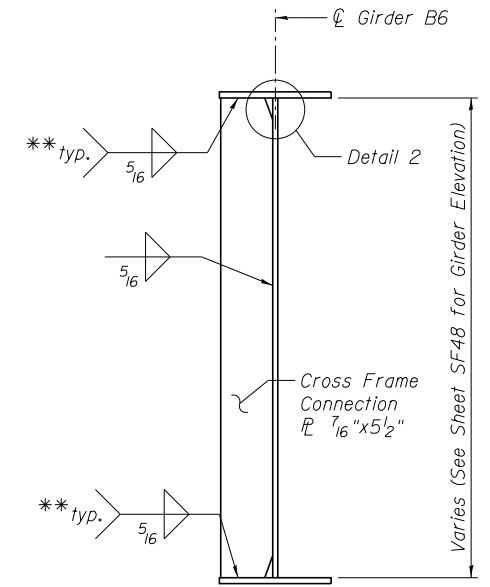
TYPE 1 (1A-1B) CROSS FRAME

(CF1 - 14 Req'd)
(CF1A - 1 Req'd)
(CF1B - 1 Req'd)



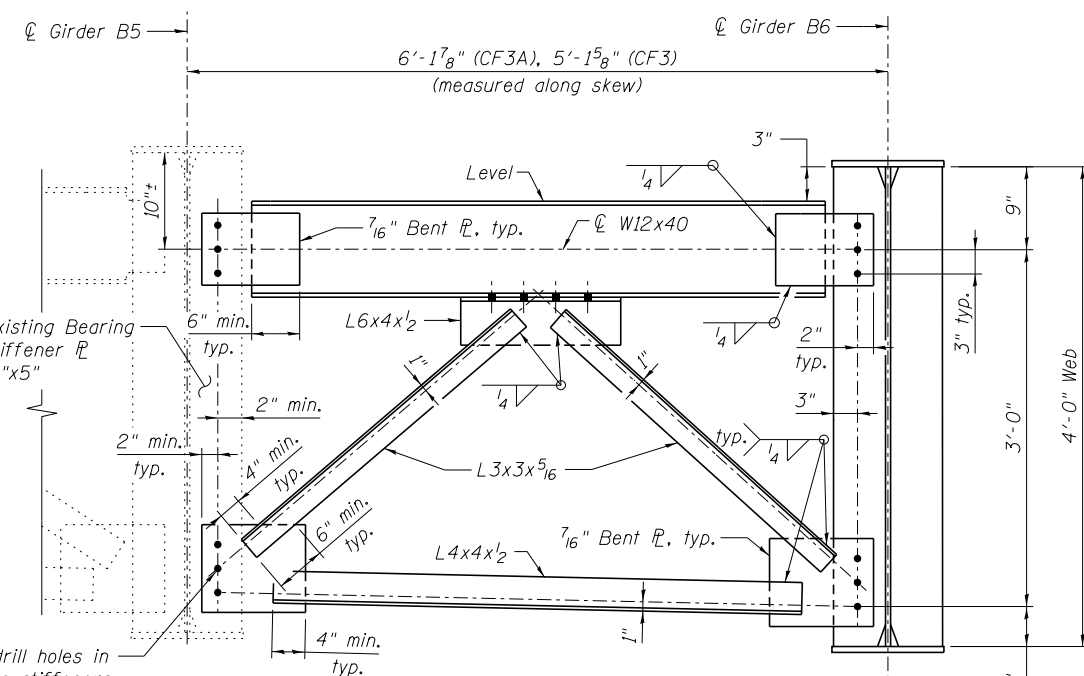
TYPE 2 CROSS FRAME AT PIERS 14 & 15

(CF2 - 2 Req'd)



CONNECTION PLATE DETAIL

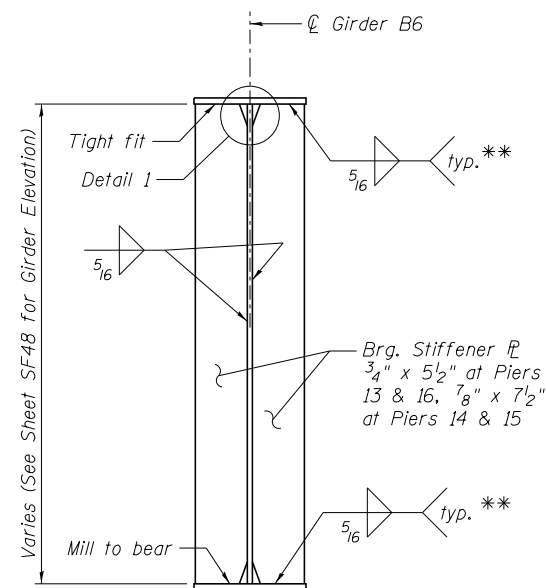
(No. of Connection Plates Req'd = 16)



TYPE 3 (3A) CROSS FRAME AT PIERS 13 & 16

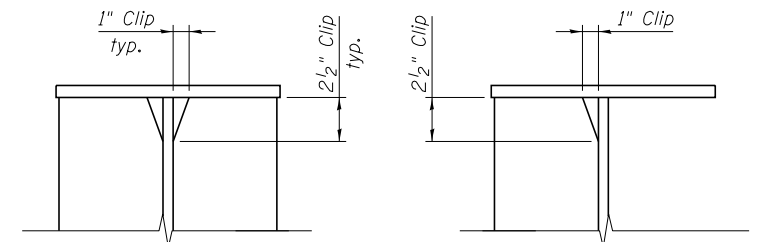
(CF3 - 1 Req'd)
(CF3A - 1 Req'd)

Note: Pier 16 shown. Gusset plates shall be connected to stiffener face opposite of ϕ Pier and horizontal angle legs shall face away from ϕ Pier. See Sheet SF45 for girder web plating detail at Pier 13.



BEARING STIFFENER

(No. of $3/4" \times 5 1/2"$ Plates Required = 4)
(No. of $7/8" \times 7 1/2"$ Plates Required = 4)



DETAIL 1
(Typical top & bottom flanges)

DETAIL 2
(Typical top & bottom flanges)

NOTES:

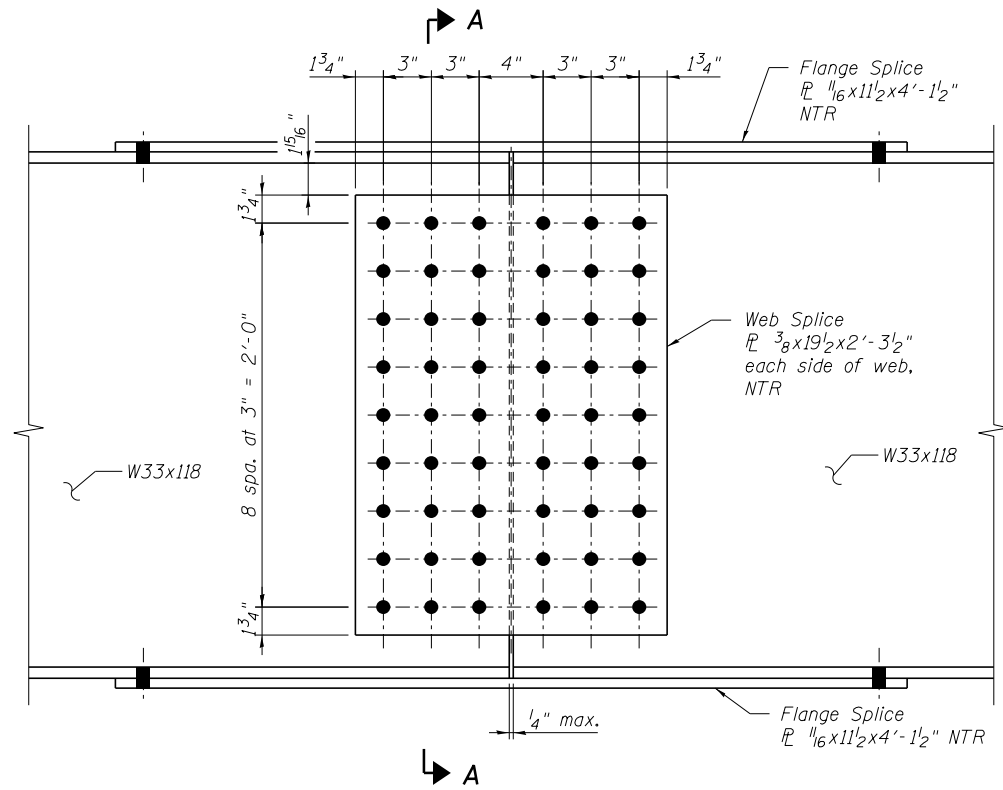
- All cross frames between girders shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
- Fasteners shall be $3/4" \phi$ ASTM A325 Type 1, mechanically galvanized bolts in $15/16" \phi$ holes. Holes in new steel shall be shop drilled. Holes in existing steel shall be field drilled using holes in new steel as a template. Provide two hardened washers required for each set of oversized holes. Cost of field drilling is included with "Furnishing and Erecting Structural Steel".
- Structural steel for new cross frames may be AASHTO M270 Grade 36. Bearing Stiffeners shall be AASHTO M270 Grade 50.

* Fillet weld angles along 3 sides on one face of gusset plate.
** Terminate weld $1/4"$ from edges of stiffener ϕ .

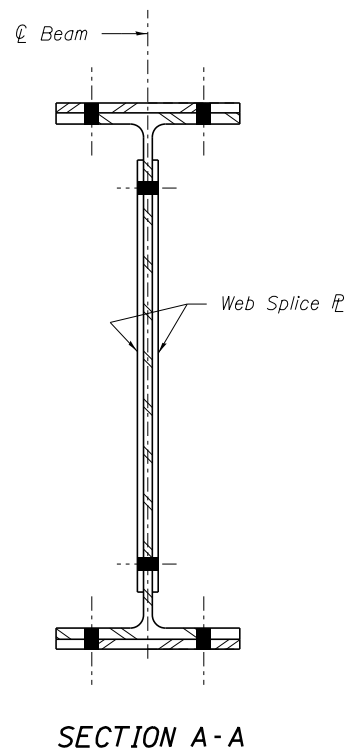
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	577
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

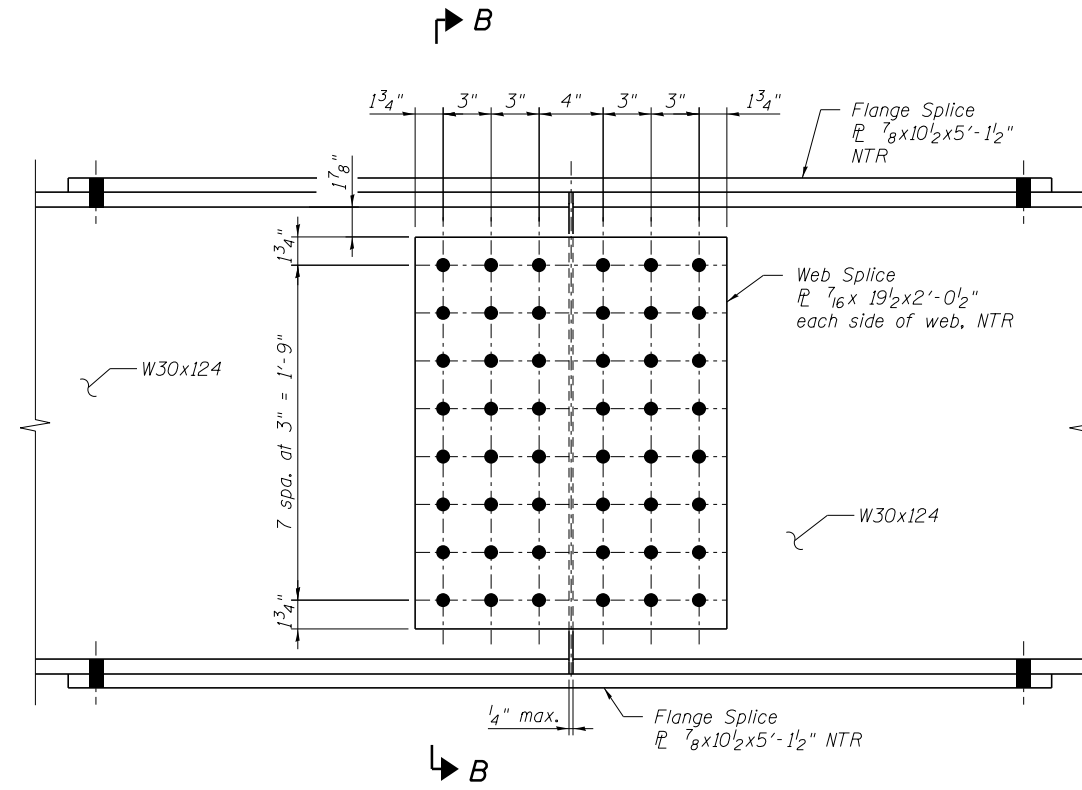
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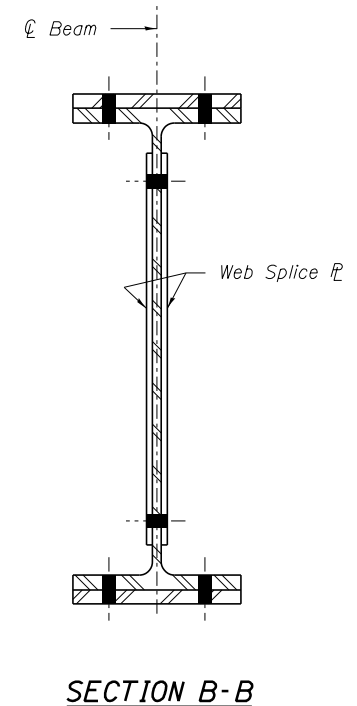
ELEVATION - FIELD SPLICE #1A - BEAM A7
(54 Bolts per Web Splice)



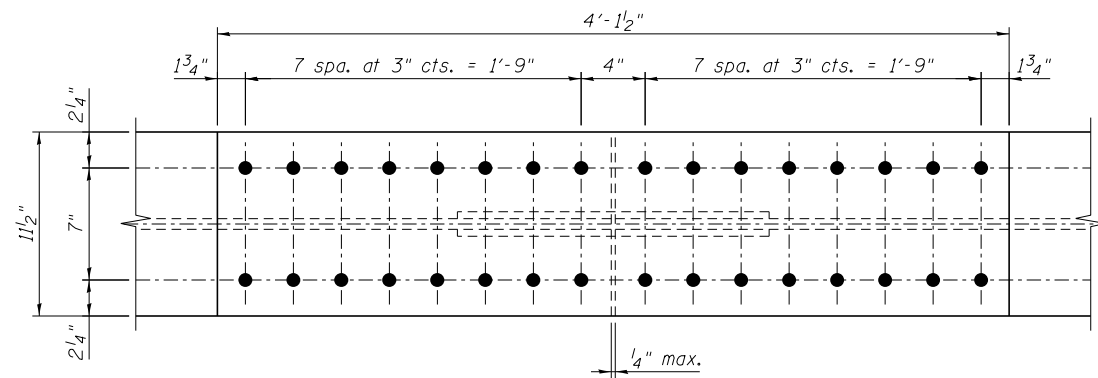
SECTION A-A



ELEVATION - FIELD SPLICE #1C - BEAM C7
(48 Bolts per Web Splice)



SECTION B-B

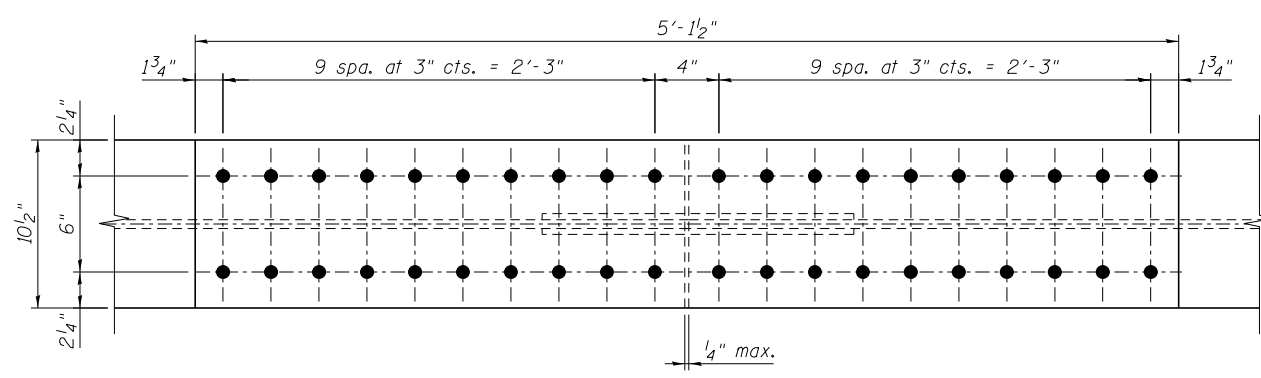


FLANGE SPLICE #1A - BEAM A7
(Top & Bottom Flanges)
(32 Bolts per Flange Splice)

TOP OF BEAM A7 ELEVATIONS

Location	Beam A7
⊕ Brg. S. Abut.	625.96
⊕ Pier 12	625.76
⊕ Field Splice #1A	625.72
⊕ S. Brg. Pier 13	625.57

For fabricator use only.



FLANGE SPLICE #1C - BEAM C7
(Top & Bottom Flanges)
(40 Bolts per Flange Splice)

TOP OF BEAM C7 ELEVATIONS

Location	Beam C7
⊕ N. Brg. Pier 16	624.18
⊕ Pier 17	623.96
⊕ Field Splice #1C	623.91
⊕ S. Brg. Pier 18	623.80

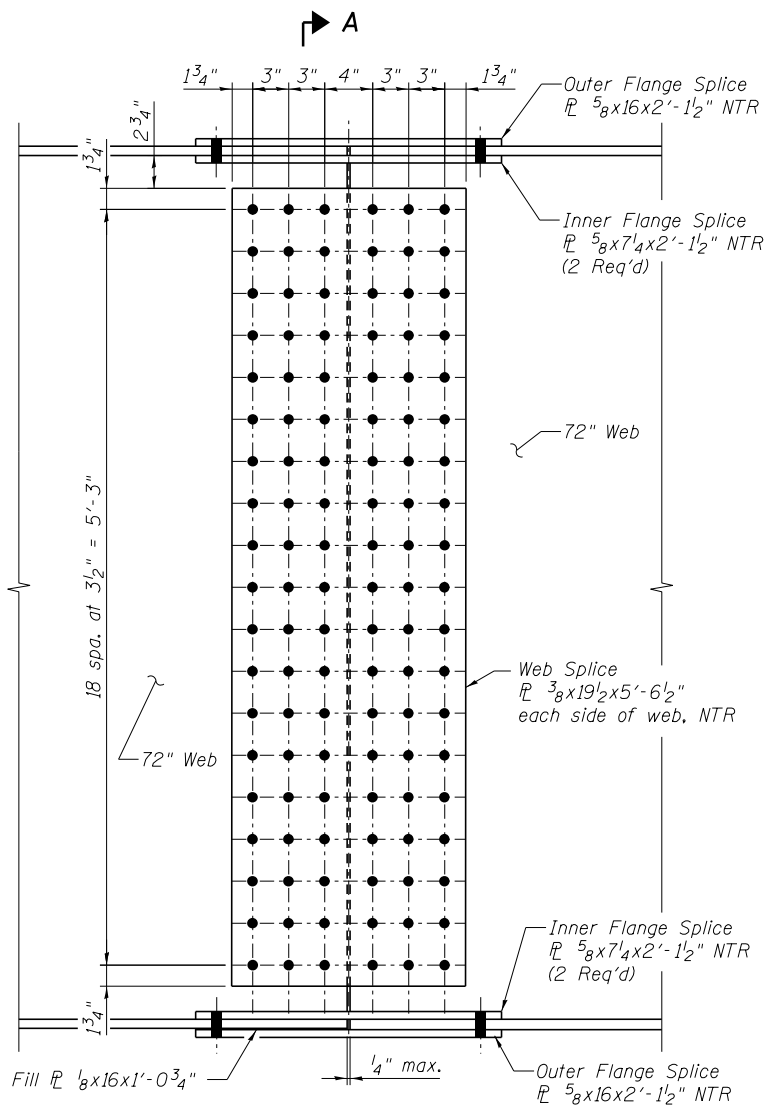
For fabricator use only.

NOTES:

- All Splice Plates shall be AASHTO M270 Grade 50 steel.
- All Splice Bolts shall be 7/8" φ ASTM A325 High Strength with 15/16" φ holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- All splices are symmetrical about ⊕ splice.
- See sheet SF47 for Spans 1-2 framing plan.
- See sheet SF49 for Spans 6-7 framing plan.

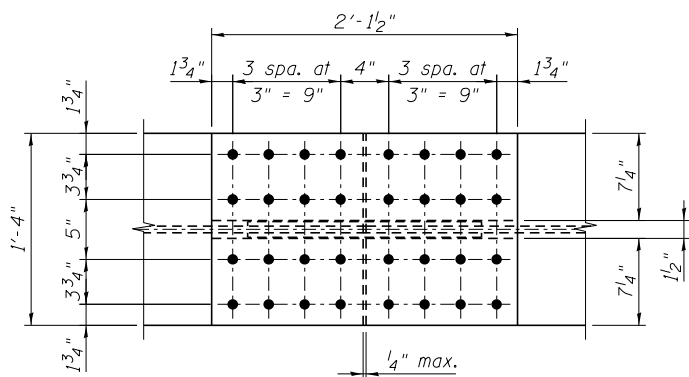
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	PLOT DATE = 6/12/2015	DRAWN - RMG	REVISED -
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	578
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	



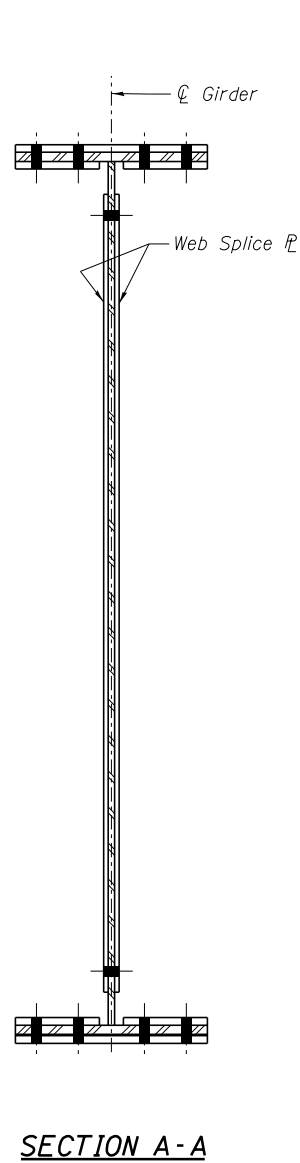
ELEVATION - FIELD SPLICES #2B & #3B - GIRDER B6

(114 Bolts per Web Splice)
(Splice #2B shown, Splice #3B opp. hand)

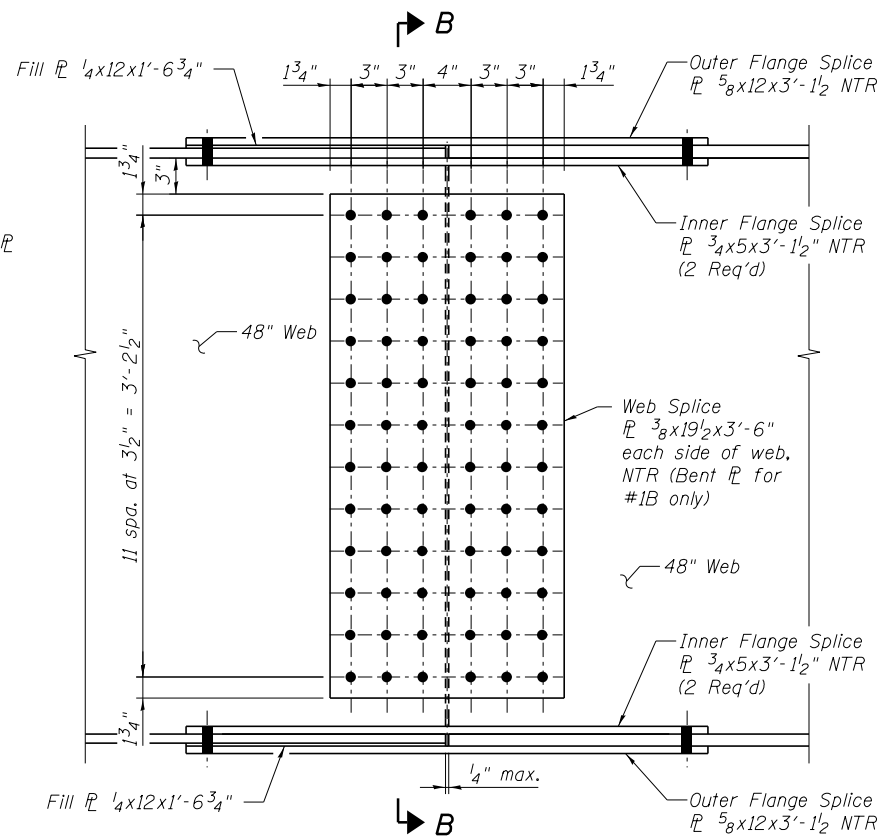


FLANGE SPLICES #2B & #3B - GIRDER B6

(Top & Bottom Flanges)
(32 Bolts per Flange Splice)

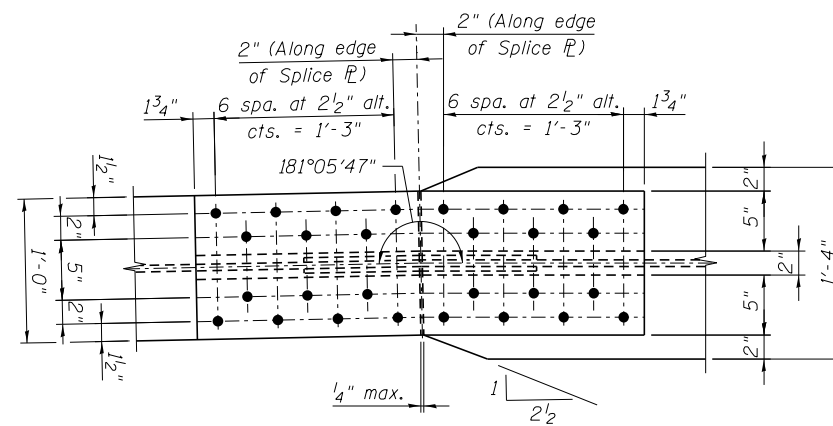


SECTION A-A



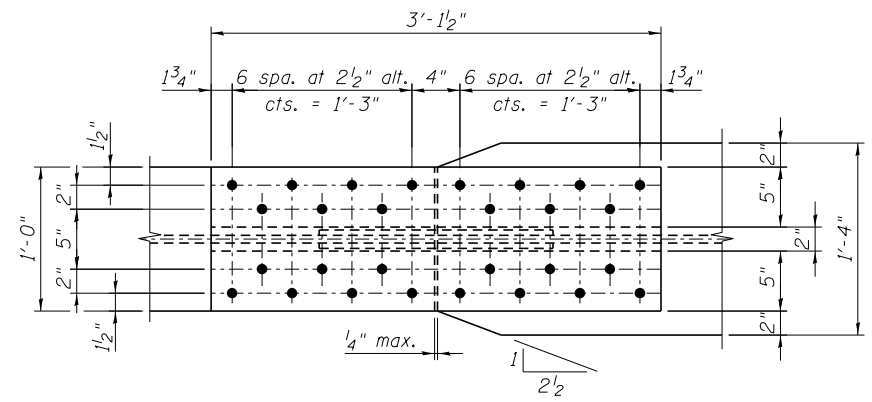
ELEVATION - FIELD SPLICES #1B & #4B - GIRDER B6

(72 Bolts per Web Splice)
(Splice #1B shown, Splice #4B opp. hand)



FLANGE SPLICE #1B - GIRDER B6

(Top & Bottom Flanges)
(28 Bolts per Flange Splice)



FLANGE SPLICE #4B - GIRDER B6

(Top & Bottom Flanges)
(28 Bolts per Flange Splice)

TOP OF GIRDER B6 WEB ELEVATIONS

Location	Girder B6
⊕ N. Brq. Pier 13	625.52
⊕ Field Splice #1B	625.24
⊕ Pier 14	625.15
⊕ Field Splice #2B	625.09
⊕ Field Splice #3B	624.64
⊕ Pier 15	624.49
⊕ Field Splice #4B	624.22
⊕ S. Brq. Pier 16	624.13

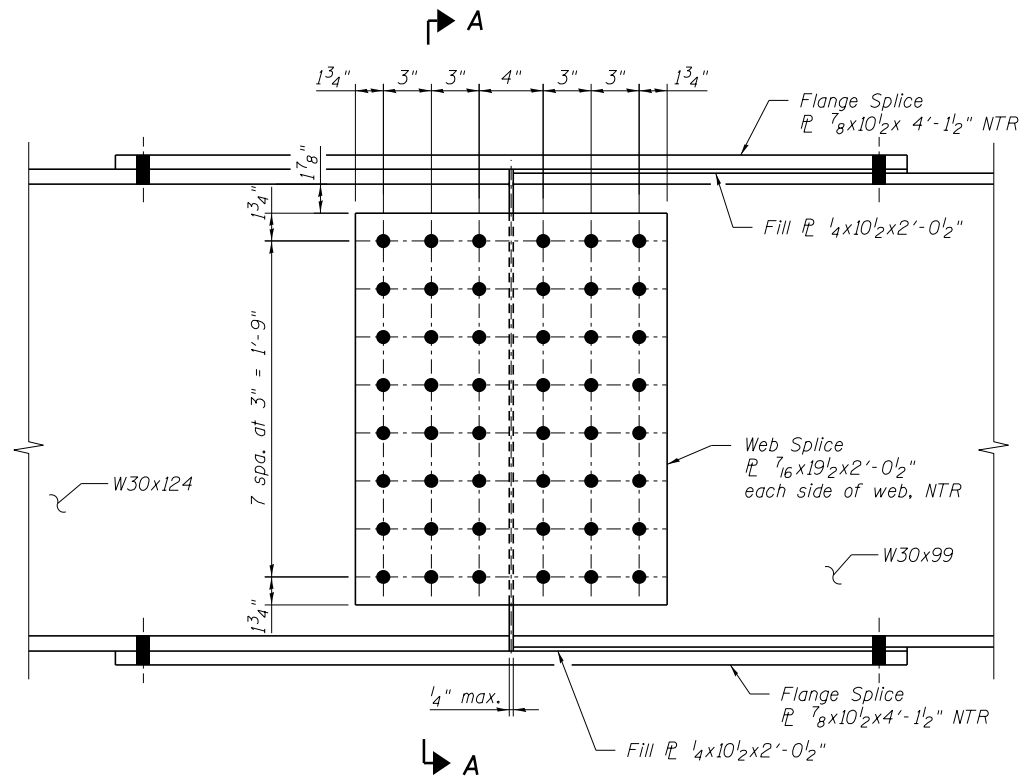
For fabricator use only.

NOTES:

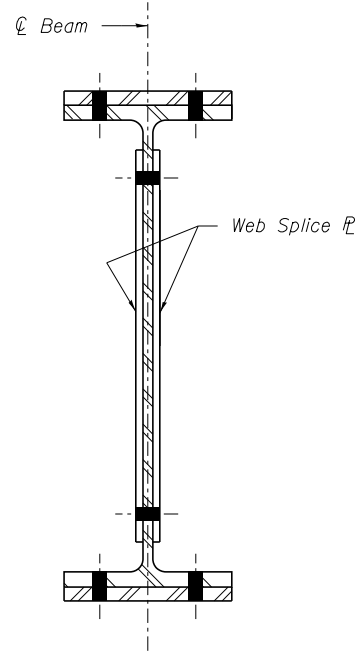
- All Splice Plates shall be AASHTO M270 Grade 50 steel.
- All Splice Bolts shall be 7/8" ⌀ ASTM A325 High Strength with 15/16" ⌀ holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- See sheet SF48 for Spans 3-5 framing plan.

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	PLOT DATE = 6/12/2015	DRAWN - RMG	REVISIONS -
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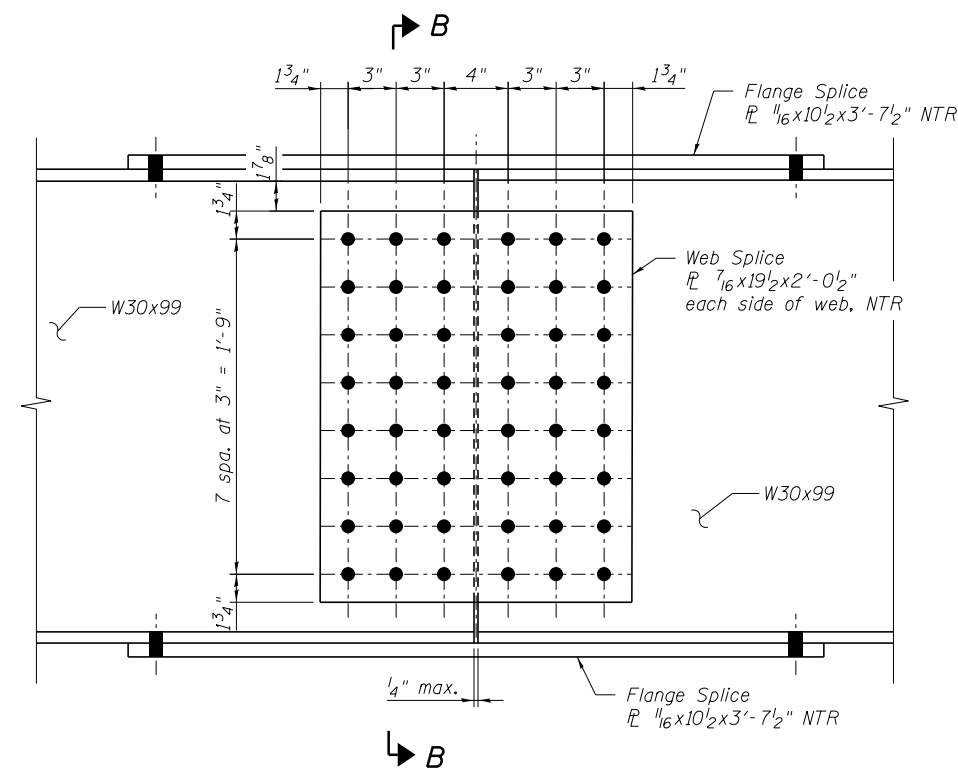
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373	2013-037B-R	COOK	787	579
CONTRACT NO. 60W75				



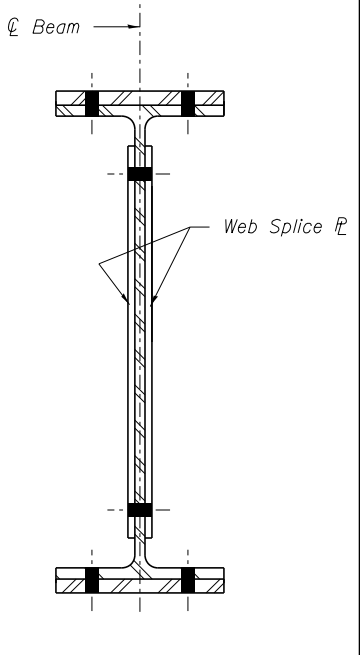
ELEVATION - FIELD SPLICE #1D - BEAM D7
(48 Bolts per Web Splice)



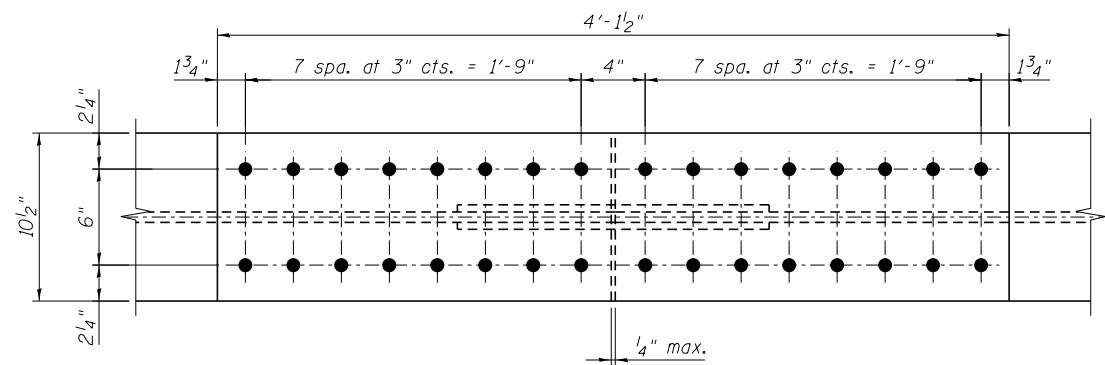
SECTION A-A



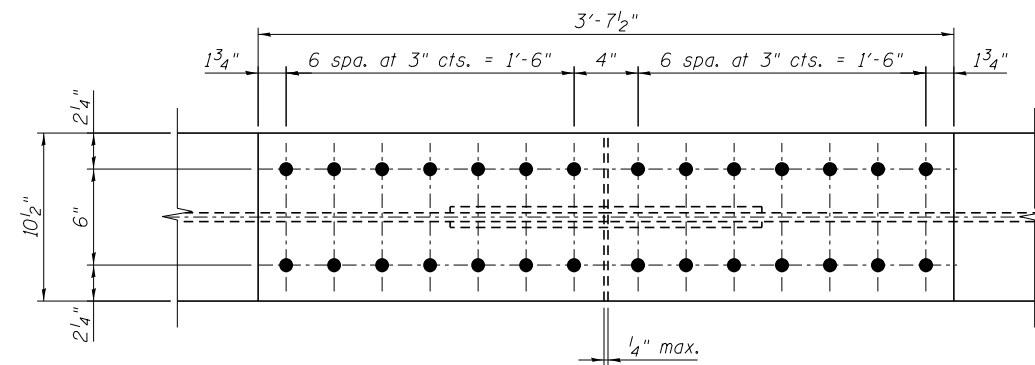
ELEVATION - FIELD SPLICES #2D & #3D - BEAM D7
(48 Bolts per Web Splice)



SECTION B-B



FLANGE SPLICE #1D - BEAM D7
(Top & Bottom Flanges)
(32 Bolts per Flange Splice)



FLANGE SPLICES #2D & #3D - BEAM D7
(Top & Bottom Flanges)
(28 Bolts per Flange Splice)

TOP OF BEAM D7 ELEVATIONS

Location	Beam D7
℄ N. Brq. Pier 18	623.78
℄ Pier 19	623.57
℄ Field Splice #1D	623.52
℄ Field Splice #2D	623.42
℄ Pier 20	623.38
℄ Field Splice #3D	623.22
℄ Pier 21	623.18
℄ Brq. N. Abut.	623.02

For fabricator use only.

NOTES:

- All Splice Plates shall be AASHTO M270 Grade 50 steel.
- All Splice Bolts shall be 7/8" ϕ ASTM A325 High Strength with 15/16" ϕ holes.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- All splices are symmetrical about ϕ splice.
- See sheet SF49 for Spans 8-11 framing plan.

benesch
engineers · scientists · planners
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
		CHECKED - AJK	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER SPLICE DETAILS (3 OF 3)
STRUCTURE NO. 016-0487

SHEET NO. SF54 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	580
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

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UNIT A - BEAM A3

EXISTING INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 1	Pier 12	0.6 Span 2
I_s	(in ⁴)	5,900	5,900	5,900
$I_c(n)$	(in ⁴)	16,360	----	16,360
$I_c(3n)$	(in ⁴)	12,255	----	12,255
S_s	(in ³)	359	359	359
$S_c(n)$	(in ³)	535	----	535
$S_c(3n)$	(in ³)	486	----	486
Z	(in ³)	----	415	----
ρ	(k/')	0.804	0.933	0.804
$M \rho$	('k)	149.4	286.7	139.6
$s \rho$	(k/')	0.129	----	0.129
$M_s \rho$	('k)	27.1	----	25.5
$M \ddagger$	('k)	324.7	162.6	315.8
$M \text{I}$	('k)	92.3	46.3	90.2
$\ddagger_3 [M \ddagger + \text{I}]$	('k)	695	348	677
M_o	('k)	1132.8	825.5	1094.4
M_u	('k)	2221.0	1245.0	2221.0
$f_s \rho$ non-comp	(ksi)	5.0	9.6	4.7
$f_s \rho$ (comp)	(ksi)	0.7	----	0.6
$f_s \ddagger_3 [M \ddagger + M \text{I}]$	(ksi)	15.6	11.7	15.2
f_s (Overload)	(ksi)	21.3	21.2	20.5
f_s (Total)	(ksi)	----	----	----
VR	(k)	52.6	----	52.5

INTERIOR GIRDER REACTION TABLE				
		S. Abut.	Pier 12	Pier 13
R ρ	(k)	18.5	58.5	17.9
R \ddagger	(k)	38.1	44.1	38.0
R I	(k)	10.8	9.8	10.9
R Total	(k)	67.5	112.3	66.8

* Compact section
 ** Braced non-compact and partially braced section

UNIT A - BEAM A7

PROPOSED EXTERIOR GIRDER MOMENT TABLE				
		0.4 Span 1	Pier 12	0.6 Span 2
I_s	(in ⁴)	5,900	5,900	5,900
$I_c(n)$	(in ⁴)	16,439	----	16,503
$I_c(3n)$	(in ⁴)	12,339	----	12,406
S_s	(in ³)	359	359	359
$S_c(n)$	(in ³)	535	----	536
$S_c(3n)$	(in ³)	487	----	488
Z	(in ³)	----	----	----
ρ	(k/')	0.918	1.053	0.930
$M \rho$	('k)	171.7	327.7	163.7
$s \rho$	(k/')	0.129	----	0.129
$M_s \rho$	('k)	27.4	----	25.8
$M \ddagger$	('k)	311.5	158.5	309.4
$M \text{I}$	('k)	88.4	45.1	88.3
$\ddagger_3 [M \ddagger + \text{I}]$	('k)	667	339	663
M_o	('k)	1125.4	867.1	1108.1
M_u	('k)	2398.6	----	2403.4
$f_s \rho$ non-comp	(ksi)	5.7	11.0	5.5
$f_s \rho$ (comp)	(ksi)	0.7	----	0.6
$f_s \ddagger_3 [M \ddagger + M \text{I}]$	(ksi)	14.9	11.4	14.8
f_s (Overload)	(ksi)	21.4	22.3	20.9
f_s (Total)	(ksi)	----	29.0	----
VR	(k)	44.8	----	46.0

EXTERIOR GIRDER REACTION TABLE				
		S. Abut.	Pier 12	Pier 13
R ρ	(k)	20.8	66.4	20.5
R \ddagger	(k)	32.0	38.7	33.0
R I	(k)	9.1	8.5	9.4
R Total	(k)	61.9	113.6	62.9

* Compact section
 ** Braced non-compact and partially braced section

UNIT B - GIRDER B3

EXISTING INTERIOR GIRDER MOMENT TABLE						
		0.4 Span 3	Pier 14	0.5 Span 4	Pier 15	0.6 Span 5
I_s	(in ⁴)	14,156	109,549	74,921	109,549	14,156
$I_c(n)$	(in ⁴)	40,432	----	165,874	----	40,432
$I_c(3n)$	(in ⁴)	31,180	----	122,238	----	31,180
S_s	(in ³)	651	2533	2274	2533	651
$S_c(n)$	(in ³)	895	----	2887	----	895
$S_c(3n)$	(in ³)	840	----	2674	----	840
Z	(in ³)	----	----	----	----	----
ρ	(k/')	0.969	1.332	1.145	1.332	0.969
$M \rho$	('k)	237.2	2598.2	1912.8	2598.2	237.2
$s \rho$	(k/')	0.150	----	0.150	----	0.150
$M_s \rho$	('k)	58.8	----	276.7	----	58.8
$M \ddagger$	('k)	809.4	1200.6	1689.8	1200.6	809.4
$M \text{I}$	('k)	181.3	230.1	283.0	230.1	181.3
$\ddagger_3 [M \ddagger + \text{I}]$	('k)	1651	2385	3288	2385	1651
M_o	('k)	2531.1	6477.5	7120.8	6477.5	2531.1
M_u	('k)	3693.6	----	10367.9	----	3693.6
$f_s \rho$ non-comp	(ksi)	4.4	12.3	10.1	12.3	4.4
$f_s \rho$ (comp)	(ksi)	0.8	----	1.2	----	0.8
$f_s \ddagger_3 [M \ddagger + M \text{I}]$	(ksi)	22.1	11.3	13.7	11.3	22.1
f_s (Overload)	(ksi)	27.4	23.6	25.0	23.6	27.4
f_s (Total)	(ksi)	----	30.7	----	30.7	----
VR	(k)	68.8	----	58.4	----	68.8

INTERIOR GIRDER REACTION TABLE					
		Pier 13	Pier 14	Pier 15	Pier 16
R ρ	(k)	30.0	194.8	194.8	30.0
R \ddagger	(k)	50.5	93.8	93.8	50.5
R I	(k)	11.3	11.8	11.8	11.3
R Total	(k)	91.8	300.5	300.5	91.8

* Compact section
 ** Braced non-compact and partially braced section

UNIT B - GIRDER B6

PROPOSED EXTERIOR GIRDER MOMENT TABLE						
		0.4 Span 3	Pier 14	0.5 Span 4	Pier 15	0.6 Span 5
I_s	(in ⁴)	14,727	71,157	54,374	71,157	14,727
$I_c(n)$	(in ⁴)	35,687	----	113,035	----	34,449
$I_c(3n)$	(in ⁴)	26,805	----	82,604	----	25,639
S_s	(in ³)	595	1910	1560	1910	595
$S_c(n)$	(in ³)	828	----	2066	----	819
$S_c(3n)$	(in ³)	757	----	1860	----	746
Z	(in ³)	----	----	----	----	----
ρ	(k/')	0.842	1.061	0.870	1.061	0.759
$M \rho$	('k)	254.0	2167.1	1430.2	2083.1	201.2
$s \rho$	(k/')	0.150	----	0.150	----	0.150
$M_s \rho$	('k)	57.8	----	272.0	----	56.6
$M \ddagger$	('k)	575.3	761.2	1057.1	748.4	551.6
$M \text{I}$	('k)	128.7	145.8	177.1	143.5	123.5
$\ddagger_3 [M \ddagger + \text{I}]$	('k)	1173	1512	2057	1486	1125
M_o	('k)	1930.6	4782.5	4886.7	4640.3	1797.8
M_u	('k)	4435.4	----	7610.5	----	4313.6
$f_s \rho$ non-comp	(ksi)	5.1	13.6	11.0	13.1	4.1
$f_s \rho$ (comp)	(ksi)	0.9	----	1.8	----	0.9
$f_s \ddagger_3 [M \ddagger + M \text{I}]$	(ksi)	17.0	9.5	11.9	9.3	16.5
f_s (Overload)	(ksi)	23.1	23.1	24.7	22.4	21.5
f_s (Total)	(ksi)	----	30.0	----	29.2	----
VR	(k)	44.8	----	36.5	----	39.9

EXTERIOR GIRDER REACTION TABLE					
		Pier 13	Pier 14	Pier 15	Pier 16
R ρ	(k)	28.4	161.5	157.6	24.7
R \ddagger	(k)	33.0	59.1	58.5	28.9
R I	(k)	7.4	7.4	7.4	6.5
R Total	(k)	68.8	228.0	223.5	60.1

* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M \ddagger$: Un-factored live load moment (kip-ft.).

$M \text{I}$: Un-factored moment due to impact (kip-ft.).

M_o : Factored design moment (kip-ft.).

M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

$M \rho + M_s \rho + \frac{5}{8} (M \ddagger + M \text{I})$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).

$1.3 [M \rho + M_s \rho + \frac{5}{8} (M \ddagger + M \text{I})]$

VR: Maximum \ddagger + impact shear range within the composite portion of the span for stud shear connector design (kips).



Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM/JLS	REVISED -
		CHECKED - AJK	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES (1 OF 2)
 STRUCTURE NO. 016-0487

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	581
CONTRACT NO. 60W75				

SHEET NO. SF55 OF SF96 SHEETS

ILLINOIS FED. AID PROJECT

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UNIT C - BEAM C3

EXISTING INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 6	Pier 17	0.6 Span 7
I_s	(in ⁴)	5,770	5,770	5,770
$I_c(n)$	(in ⁴)	15,647	----	15,647
$I_c(3n)$	(in ⁴)	11,566	----	11,566
S_s	(in ³)	381	381	381
$S_c(n)$	(in ³)	562	----	562
$S_c(3n)$	(in ³)	508	----	508
Z	(in ³)	----	----	----
ρ	(k/')	0.807	0.936	0.807
$M \rho$	('k)	178.2	367.0	191.5
$s \rho$	(k/')	0.129	----	0.129
$M_s \rho$	('k)	32.3	----	34.4
$M \ddot{L}$	('k)	368.0	193.6	378.8
M_I	('k)	101.4	53.2	103.7
$\ddot{S}_3 [M \ddot{L} + M_I]$	('k)	782	411	804
M_o	('k)	1290.9	1011.8	1339.0
M_u	('k)	1659.4	----	1654.0
$f_s \rho$ non-comp	(ksi)	5.6	11.6	6.0
$f_s \rho$ (comp)	(ksi)	0.8	----	0.8
$f_s \ddot{S}_3 [M \ddot{L} + M_I]$	(ksi)	16.7	13.0	17.2
f_s (Overload)	(ksi)	23.1	24.5	24.0
f_s (Total)	(ksi)	----	31.9	----
VR	(k)	52.8	----	52.6

INTERIOR GIRDER REACTION TABLE				
		Pier 16	Pier 17	Pier 18
$R \rho$	(k)	20.3	66.2	20.9
$R \ddot{L}$	(k)	38.3	44.0	38.5
R_I	(k)	10.6	9.2	10.5
R_{Total}	(k)	69.1	119.4	69.9

* Compact section
 ** Braced non-compact and partially braced section

UNIT C - BEAM C7

PROPOSED EXTERIOR GIRDER MOMENT TABLE				
		0.4 Span 6	Pier 17	0.6 Span 7
I_s	(in ⁴)	5,360	5,360	5,360
$I_c(n)$	(in ⁴)	13,905	----	13,905
$I_c(3n)$	(in ⁴)	10,131	----	10,131
S_s	(in ³)	355	355	355
$S_c(n)$	(in ³)	517	----	517
$S_c(3n)$	(in ³)	465	----	465
Z	(in ³)	----	----	----
ρ	(k/')	0.719	0.848	0.719
$M \rho$	('k)	180.0	271.6	77.4
$s \rho$	(k/')	0.129	----	0.129
$M_s \rho$	('k)	35.2	----	16.8
$M \ddot{L}$	('k)	285.7	132.0	204.8
M_I	('k)	78.7	37.6	60.4
$\ddot{S}_3 [M \ddot{L} + M_I]$	('k)	607	283	442
M_o	('k)	1069.4	720.4	696.8
M_u	('k)	2386.6	----	2417.3
$f_s \rho$ non-comp	(ksi)	6.1	9.2	2.6
$f_s \rho$ (comp)	(ksi)	0.9	----	0.4
$f_s \ddot{S}_3 [M \ddot{L} + M_I]$	(ksi)	14.1	9.6	10.3
f_s (Overload)	(ksi)	21.1	18.7	13.3
f_s (Total)	(ksi)	----	24.4	----
VR	(k)	36.2	----	36.0

EXTERIOR GIRDER REACTION TABLE				
		Pier 16	Pier 17	Pier 18
$R \rho$	(k)	19.4	53.8	13.1
$R \ddot{L}$	(k)	26.5	30.9	25.0
R_I	(k)	7.3	6.8	7.4
R_{Total}	(k)	53.2	91.5	45.4

* Compact section
 ** Braced non-compact and partially braced section

UNIT D - BEAM D3

EXISTING INTERIOR GIRDER MOMENT TABLE								
		0.4 Span 8	Pier 19	0.5 Span 9	Pier 20	0.5 Span 10	Pier 21	0.6 Span 11
I_s	(in ⁴)	5,360	5,360	3,990	3,990	3,990	3,990	3,990
$I_c(n)$	(in ⁴)	14,804	----	11,905	----	11,905	----	11,905
$I_c(3n)$	(in ⁴)	10,994	----	8,973	----	8,973	----	8,973
S_s	(in ³)	355	355	269	269	269	269	269
$S_c(n)$	(in ³)	528	----	417	----	417	----	417
$S_c(3n)$	(in ³)	478	----	379	----	379	----	379
Z	(in ³)	----	408	----	312	----	312	----
ρ	(k/')	0.800	0.929	0.772	0.901	0.772	0.901	0.772
$M \rho$	('k)	179.9	269.4	65.1	182.0	96.0	196.8	90.4
$s \rho$	(k/')	0.129	----	0.129	----	0.129	----	0.129
$M_s \rho$	('k)	31.5	----	16.0	----	20.3	----	17.2
$M \ddot{L}$	('k)	343.8	169.2	269.4	143.6	285.6	134.3	233.0
M_I	('k)	96.3	47.6	76.1	40.6	80.7	39.1	69.9
$\ddot{S}_3 [M \ddot{L} + M_I]$	('k)	734	361	576	307	610	289	505
M_o	('k)	1228.3	820.0	853.9	635.6	944.7	631.5	796.3
M_u	('k)	2141.7	1224.0	1777.8	936.0	1777.8	936.0	1777.8
$f_s \rho$ non-comp	(ksi)	6.1	9.1	2.9	8.1	4.3	8.8	4.0
$f_s \rho$ (comp)	(ksi)	0.8	----	0.5	----	0.6	----	0.5
$f_s \ddot{S}_3 [M \ddot{L} + M_I]$	(ksi)	16.7	12.2	16.6	13.7	17.6	12.9	14.5
f_s (Overload)	(ksi)	23.6	21.3	20.0	21.8	22.5	21.7	19.1
f_s (Total)	(ksi)	----	----	----	----	----	----	----
VR	(k)	52.2	----	37.6	----	39.0	----	49.7

INTERIOR GIRDER REACTION TABLE						
		Pier 18	Pier 19	Pier 20	Pier 21	N. Abut.
$R \rho$	(k)	20.2	55.4	45.0	47.2	14.3
$R \ddot{L}$	(k)	38.0	43.6	42.8	42.6	35.7
R_I	(k)	10.6	9.4	9.3	9.7	10.7
R_{Total}	(k)	68.8	108.4	97.2	99.6	60.7

* Compact section
 ** Braced non-compact and partially braced section

UNIT D - BEAM D7

PROPOSED EXTERIOR GIRDER MOMENT TABLE								
		0.4 Span 8	Pier 19	0.5 Span 9	Pier 20	0.5 Span 10	Pier 21	0.6 Span 11
I_s	(in ⁴)	5,360	5,360	3,990	3,990	3,990	3,990	3,990
$I_c(n)$	(in ⁴)	13,901	----	11,229	----	11,229	----	11,229
$I_c(3n)$	(in ⁴)	10,127	----	8,265	----	8,265	----	8,265
S_s	(in ³)	355	355	269	269	269	269	269
$S_c(n)$	(in ³)	517	----	409	----	409	----	409
$S_c(3n)$	(in ³)	465	----	368	----	368	----	368
Z	(in ³)	----	----	----	----	----	----	----
ρ	(k/')	0.719	0.848	0.693	0.822	0.693	0.822	0.693
$M \rho$	('k)	161.7	245.9	58.3	165.9	86.1	179.4	81.0
$s \rho$	(k/')	0.129	----	0.129	----	0.129	----	0.129
$M_s \rho$	('k)	31.2	----	15.5	----	19.9	----	17.0
$M \ddot{L}$	('k)	266.8	134.1	208.7	113.7	220.6	106.2	181.3
M_I	('k)	74.7	37.7	58.9	32.1	62.3	30.9	54.4
$\ddot{S}_3 [M \ddot{L} + M_I]$	('k)	569	286	446	243	471	229	393
M_o	('k)	990.7	692.1	675.8	531.4	750.6	530.2	638.2
M_u	('k)	2395.2	----	1992.5	----	1992.5	----	1897.6
$f_s \rho$ non-comp	(ksi)	5.5	8.3	2.6	7.4	3.8	8.0	3.6
$f_s \rho$ (comp)	(ksi)	0.8	----	0.5	----	0.6	----	0.6
$f_s \ddot{S}_3 [M \ddot{L} + M_I]$	(ksi)	13.2	9.7	13.1	10.8	13.8	10.2	11.5
f_s (Overload)	(ksi)	19.5	18.0	16.2	18.3	18.3	18.2	15.7
f_s (Total)	(ksi)	----	23.4	----	23.7	----	23.7	----
VR	(k)	36.4	----	29.1	----	30.4	----	34.4

EXTERIOR GIRDER REACTION TABLE						
		Pier 18	Pier 19	Pier 20	Pier 21	N. Abut.
$R \rho$	(k)	18.4	50.5	41.0	43.0	13.0
$R \ddot{L}$	(k)	26.2	30.7	30.2	30.2	24.3
R_I	(k)	7.3	6.7	6.6	6.9	7.3
R_{Total}	(k)	51.9	87.9	77.8	80.1	44.6

* Compact section
 ** Braced non-compact and partially braced section

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
 $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).
 $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
 Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
 ρ : Un-factored non-composite dead load (kips/ft.).
 $M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).
 $s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
 $M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 $M \ddot{L}$: Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_o : Factored design moment (kip-ft.).
 $1.3 [M \rho + M_s \rho + \frac{5}{8} (M \ddot{L} + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M \rho + M_s \rho + \frac{5}{8} (M \ddot{L} + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M \rho + M_s \rho + \frac{5}{8} (M \ddot{L} + M_I)]$
 VR: Maximum \ddot{L} + impact shear range within the composite portion of the span for stud shear connector design (kips).



Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM/JLS	REVISED -
		CHECKED - AJK	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

DESIGNED - MLM/JLS	REVISED -
CHECKED - AJK	REVISED -
DRAWN - RMG	REVISED -
CHECKED - AJK	REVISED -

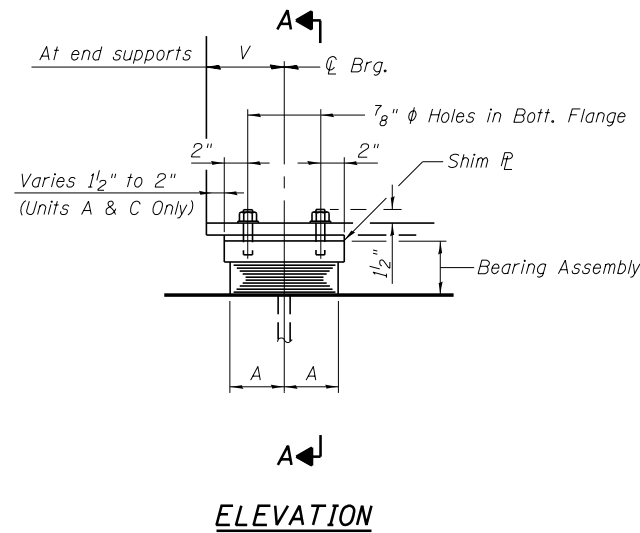
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT AND REACTION TABLES (2 OF 2)
 STRUCTURE NO. 016-0487

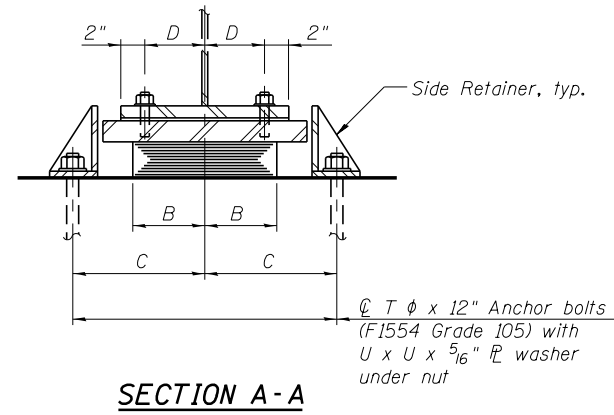
SHEET NO. SF56 OF SF96 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	582
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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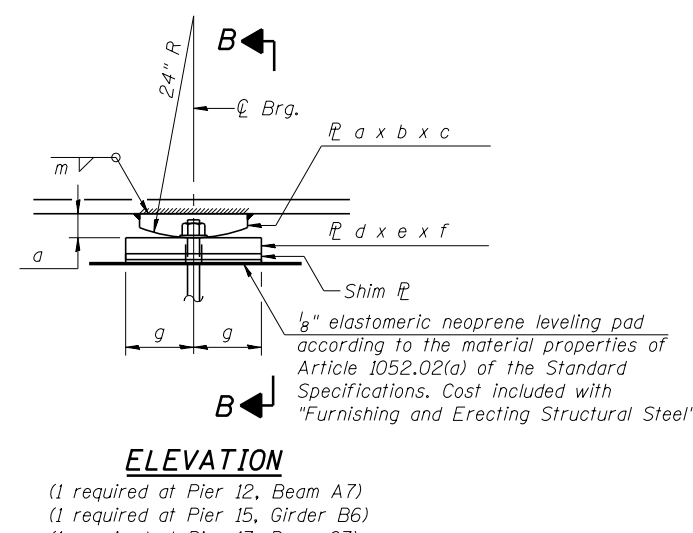


ELEVATION



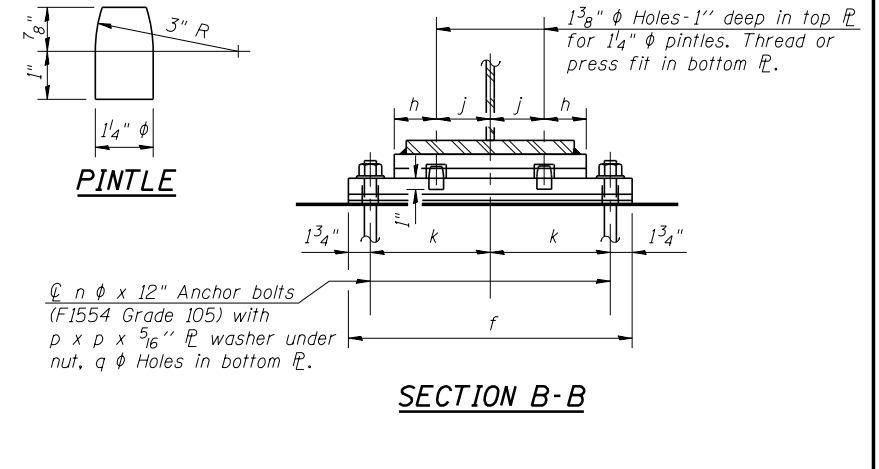
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.
(7 required, see Table)



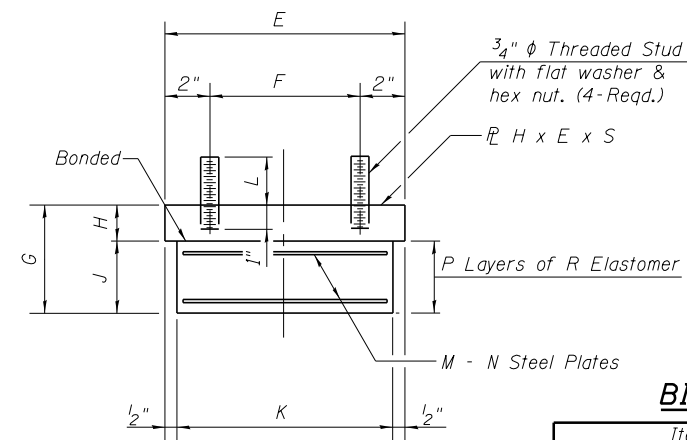
ELEVATION

(1 required at Pier 12, Beam A7)
(1 required at Pier 15, Girder B6)
(1 required at Pier 17, Beam C7)
(1 required at Pier 20, Beam D7)



SECTION B-B

FIXED BEARING



BEARING ASSEMBLY

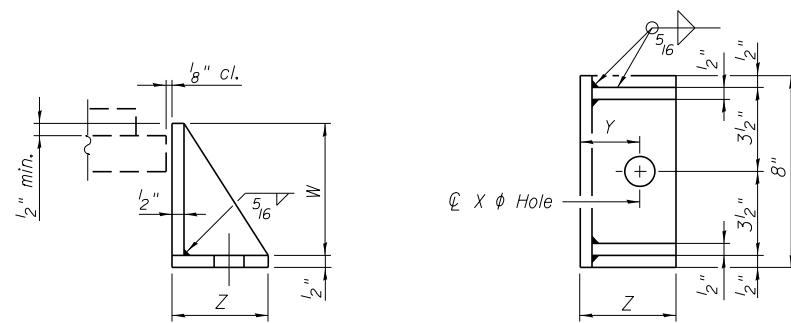
Note:
Shim plates shall not be placed under Bearing Assembly.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	7
Anchor Bolts, 3/4"	Each	18
Anchor Bolts, 1"	Each	4

TYPE I ELASTOMERIC EXPANSION BEARINGS

Location	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z
Beam A7 S. Abut.	3 1/2"	6"	9"	3 3/4"	8"	4"	3 1/4"	1 1/2"	1 3/4"	7"	2 1/2"	3	3 3/2"	4	3 8"	14"	3 4"	2"	5 1/2"	3 1/2"	1"	1 7/8"	3 3/8"
Beam A7 S. Brg. Pier 13	3 1/2"	6"	9"	3 3/4"	8"	4"	3 1/4"	1 1/2"	1 3/4"	7"	2 1/2"	3	3 3/2"	4	3 8"	14"	3 4"	2"	5 1/2"	3 1/2"	1"	1 7/8"	3 3/8"
Girder B6 Pier 14	7 1/2"	12"	15 1/4"	6"	16"	12"	7 9/16"	2 1/8"	5 7/16"	15"	3"	5	3 1/6"	6	3 4"	26"	1"	2 1/4"	---	7 7/8"	1 1/4"	2 1/8"	4"
Beam C7 N. Brg. Pier 16	3 1/2"	6"	9"	3 1/4"	8"	4"	3 1/4"	1 1/2"	1 3/4"	7"	2 3/4"	3	3 3/2"	4	3 8"	14"	3 4"	2"	5 1/2"	3 1/2"	1"	1 7/8"	3 3/8"
Beam C7 S. Brg. Pier 18	3"	5"	8"	3 1/4"	7"	3"	3 3/8"	1 1/2"	1 7/8"	6"	2 3/4"	4	14 ga.	5	5 1/6"	12"	3 4"	2"	5 1/2"	3 5/8"	1"	1 7/8"	3 3/8"
Beam D7 Pier 19	4 1/2"	6"	9"	3 1/4"	10"	6"	3 3/4"	1 1/2"	2 1/4"	9"	2 3/4"	4	3 3/2"	5	3 8"	14"	3 4"	2"	---	4"	1"	1 7/8"	3 3/8"
Beam D7 Pier 21	4 1/2"	6"	9"	3 1/4"	10"	6"	3 3/4"	1 1/2"	2 1/4"	9"	2 1/2"	4	3 3/2"	5	3 8"	14"	3 4"	2"	---	4"	1"	1 7/8"	3 3/8"

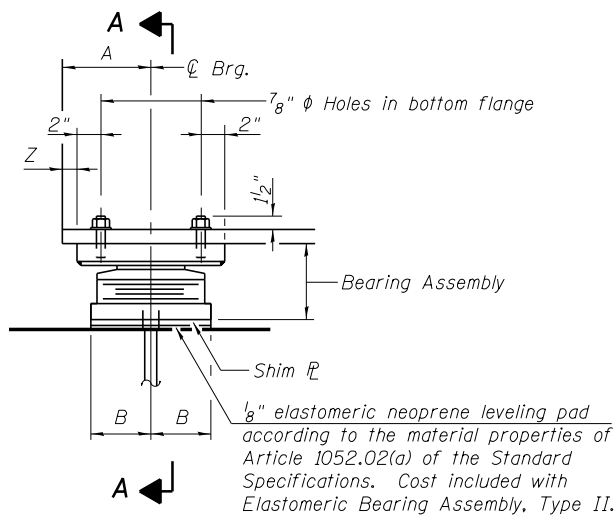


SIDE RETAINER

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

NOTES:

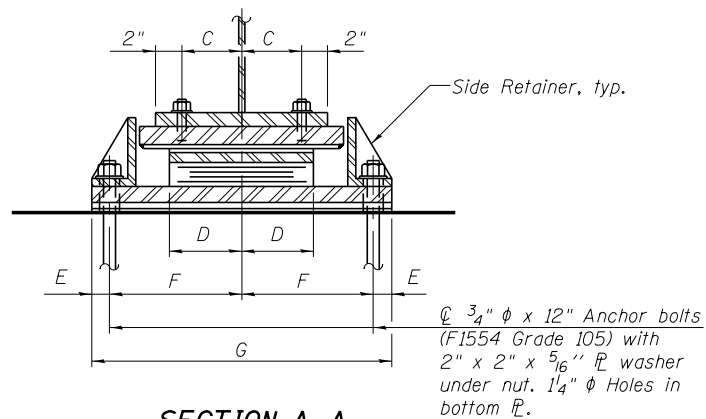
- Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers and other steel members required for the elastomeric bearing assemblies shall be included in the cost of Elastomeric Bearing Assembly, Type I.
- Steel members required for fixed bearing assembly shall be included with cost of Furnishing and Erecting Structural Steel.
- The structural steel plates and pintles of the fixed bearings shall meet the requirements of AASHTO M270 Grade 50.
- The structural steel plates of the elastomeric bearing assemblies shall meet the requirements of AASHTO M270 Grade 50.



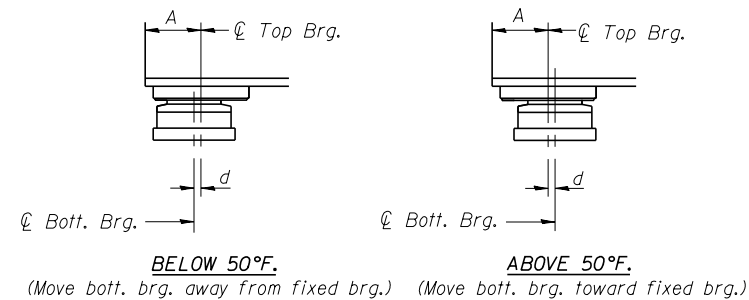
ELEVATION

TYPE II ELASTOMERIC EXP. BRG.

(4 required, see Table)



SECTION A-A

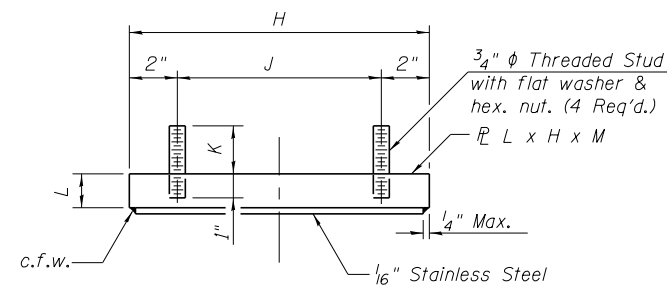


SETTING ANCHOR BOLTS AT EXP. BRG.

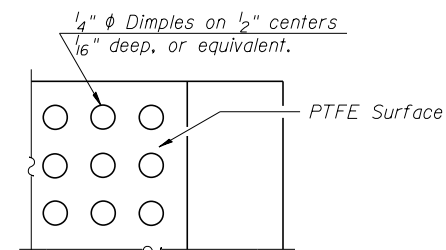
$d = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

NOTES:

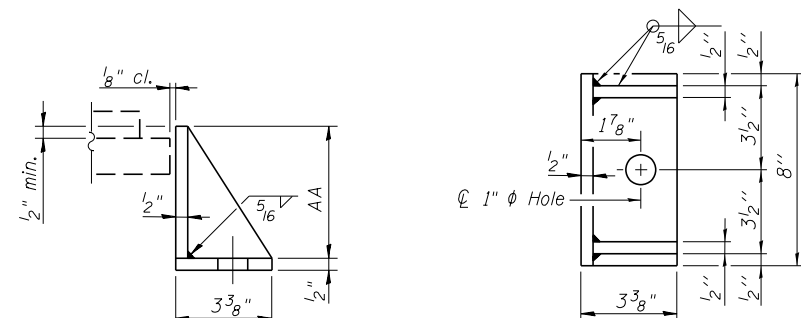
- Two $\frac{1}{8}$ " adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
- The $\frac{1}{8}$ " PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of $\frac{1}{8}$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- The structural steel plates of the elastomeric bearing assemblies shall meet the requirements of AASHTO M270 Grade 50.



TOP BEARING ASSEMBLY

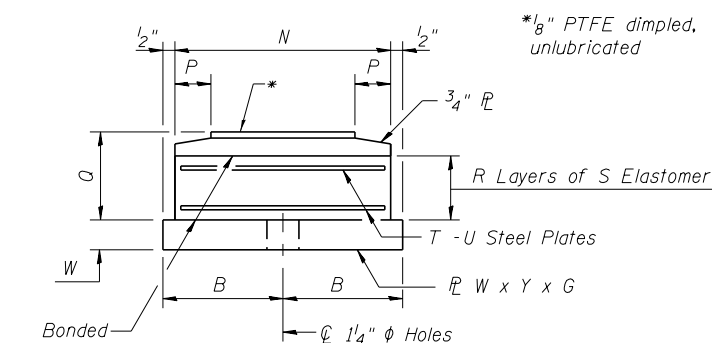


PLAN-PTFE SURFACE

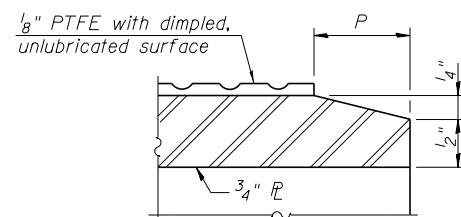


SIDE RETAINER

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



BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

BILL OF MATERIAL

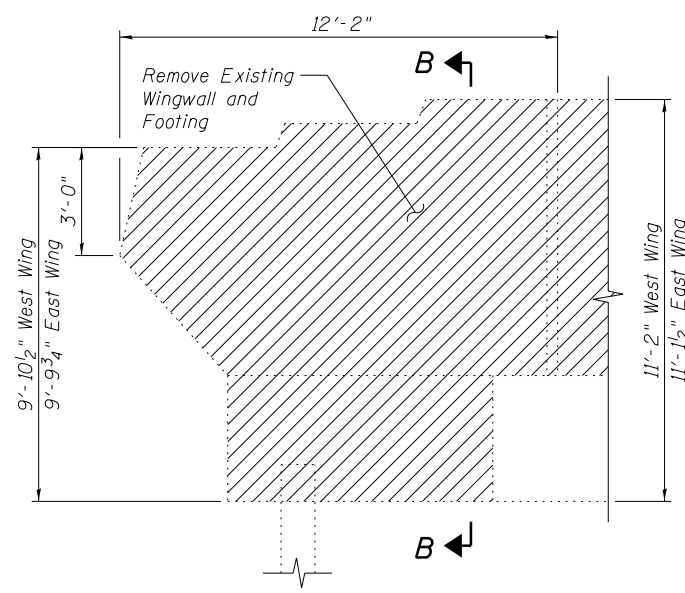
Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	4
Anchor Bolts, 3/4"	Each	8

TYPE II ELASTOMERIC EXPANSION BEARINGS

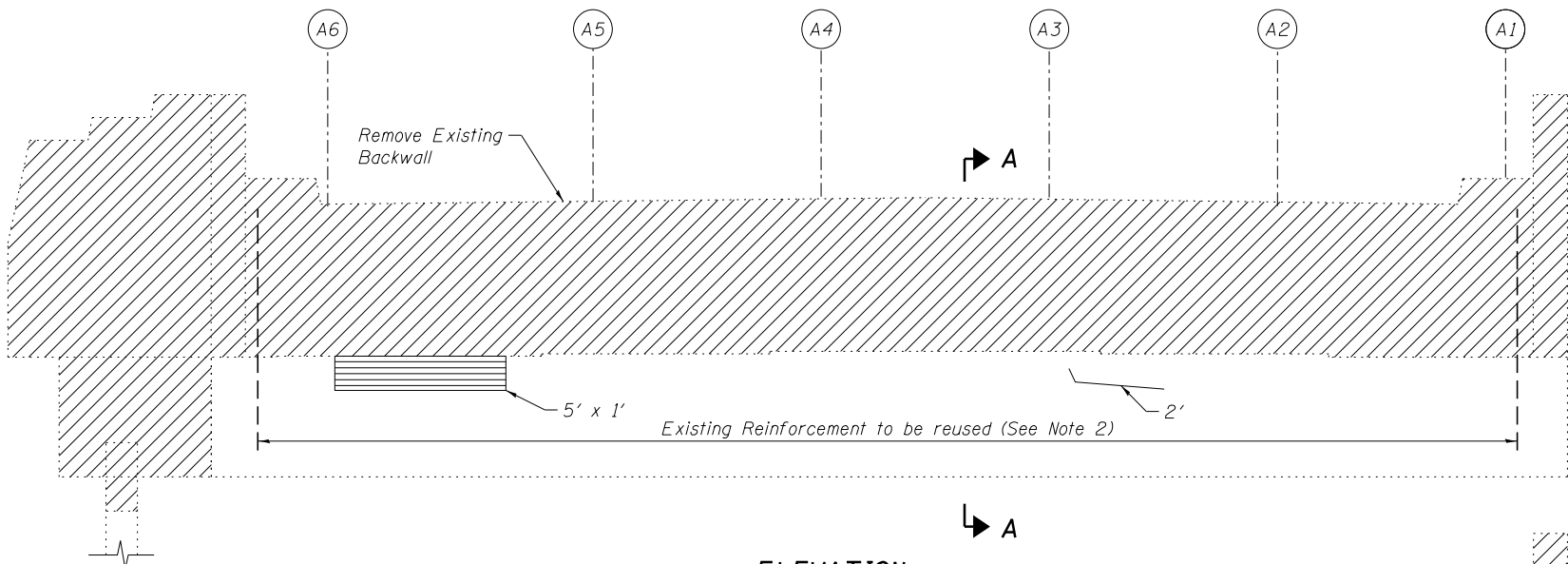
Location	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	W	Y	Z	AA
Girder B6 N. Brg. Pier 13	6 1/2"	5 1/2"	4"	7"	1 1/2"	10"	23"	12 1/2"	8 1/2"	2 1/4"	1 1/2"	16"	10"	1 1/2"	5 1/4"	8	7 1/6"	7	1 1/8"	1"	11"	1 1/4"	6 7/8"
Girder B6 S. Brg. Pier 16	6 1/2"	4"	4"	6"	1 1/2"	9"	21"	8 1/4"	4 1/4"	2 1/4"	1 1/2"	14"	7"	1"	2 5/8"	4	3 3/8"	3	3 3/32"	1"	8"	2 3/8"	4 1/4"
Beam D7 N. Brg. Pier 18	5 1/2"	3 1/2"	3 1/4"	5"	1 1/2"	8"	19"	8"	4"	2 1/2"	1 1/2"	12"	6"	1"	2 3/4"	5	3 1/6"	4	14 ga.	1"	7"	1 1/2"	4 3/8"
Beam D7 N. Abut.	5 1/2"	3 1/2"	3 1/4"	5"	1 1/2"	8"	19"	8"	4"	2 1/4"	1 1/2"	12"	6"	1"	2 3/4"	5	3 1/6"	4	14 ga.	1"	7"	1 1/2"	4 3/8"

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
		CHECKED - JLS	REVISED -
		DRAWN - RMG	REVISED -
		CHECKED - JLS	REVISED -

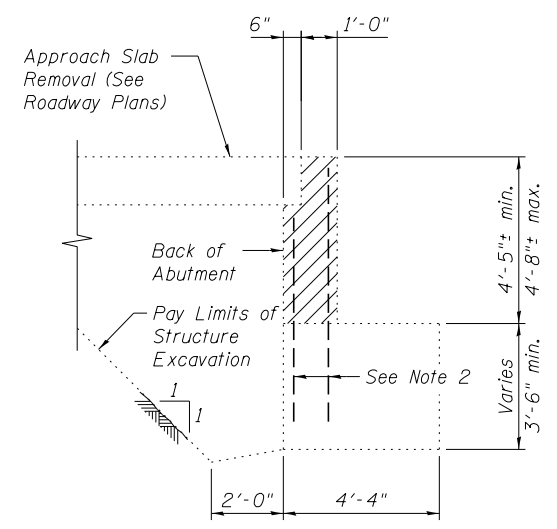
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	584
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	



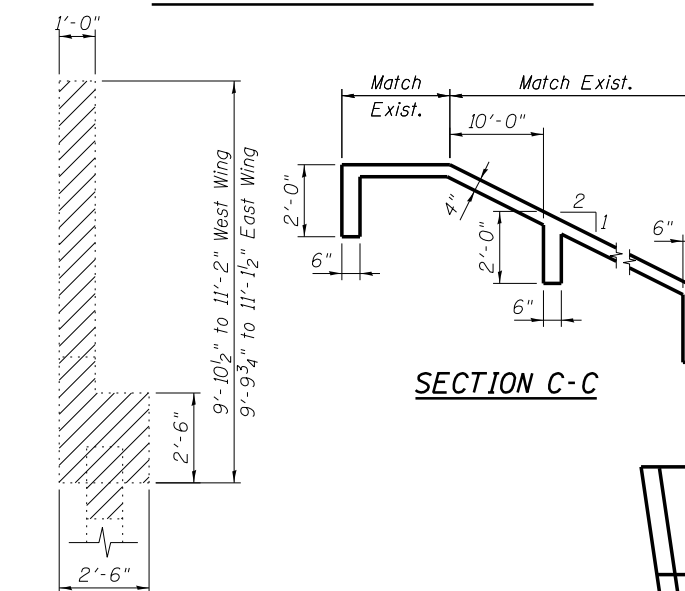
TYPICAL WINGWALL ELEVATION



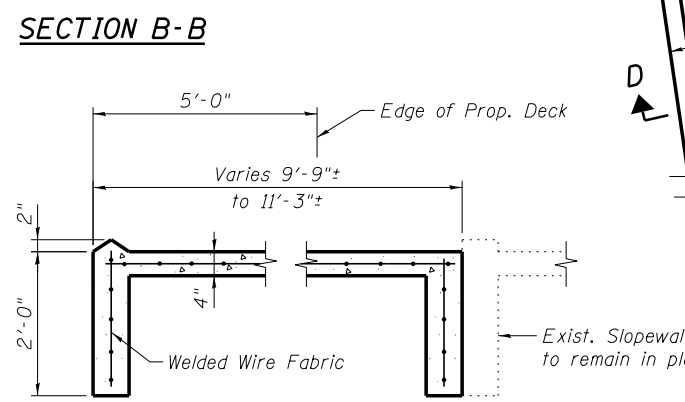
ELEVATION



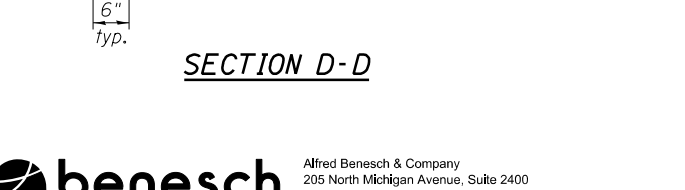
SECTION A-A



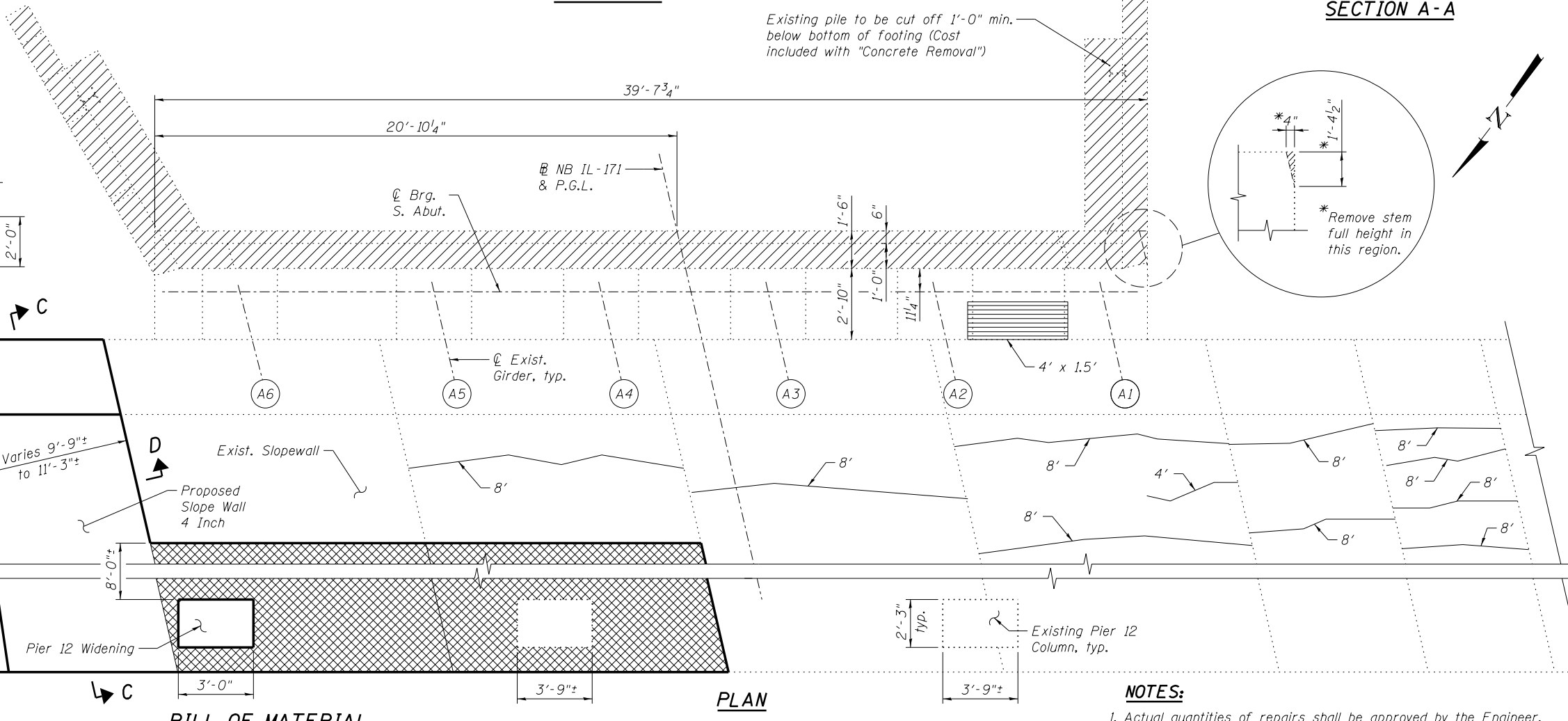
SECTION C-C



SECTION B-B



SECTION D-D



PLAN

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	19.4
Slope Wall Removal	Sq. Yd.	40
Slope Wall 4 Inch	Sq. Yd.	110
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	11
Epoxy Crack Injection	Foot	86

LEGEND

	Concrete Removal		Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
	Slope Wall Removal & Slope Wall 4 Inch		Epoxy Crack Injection

- NOTES:**
- Actual quantities of repairs shall be approved by the Engineer.
 - Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - Sloped wall shall be reinforced with welded wire fabric, 6 in. X 6 in. W4.0 x W4.0, weighing 58 lbs per 100 sq ft.
 - Embankment required for the sloped wall widening shall be paid for as "Furnished Excavation". See Roadway Plans.
 - Crack widths are 1/8" ± 1/16" unless otherwise noted.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISIONS -
0160487.60W75.058.Sabutrepair.dgn		CHECKED - AJK	REVISIONS -
		DRAWN - RMG	REVISIONS -
		CHECKED - AJK	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

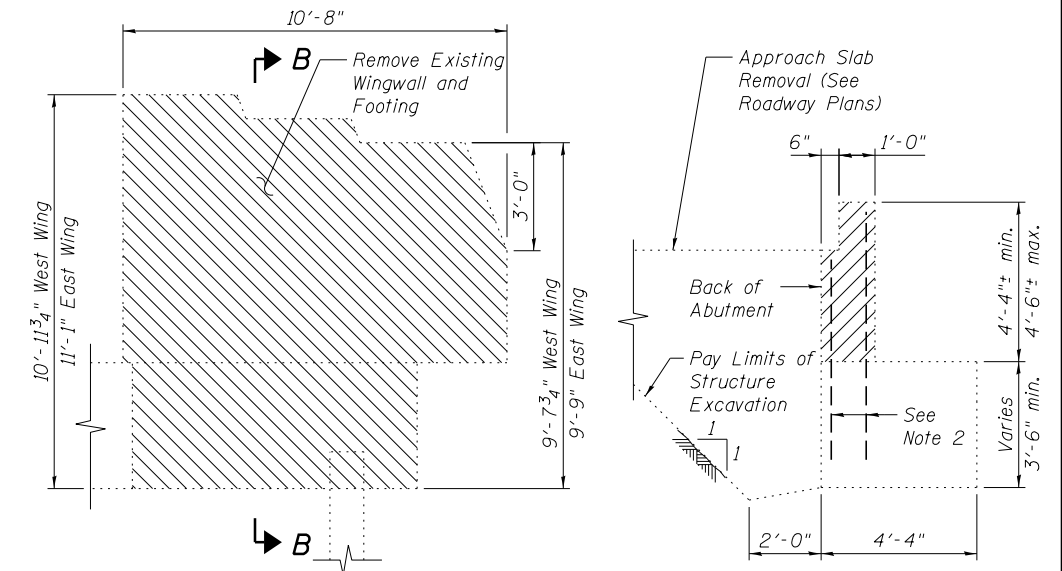
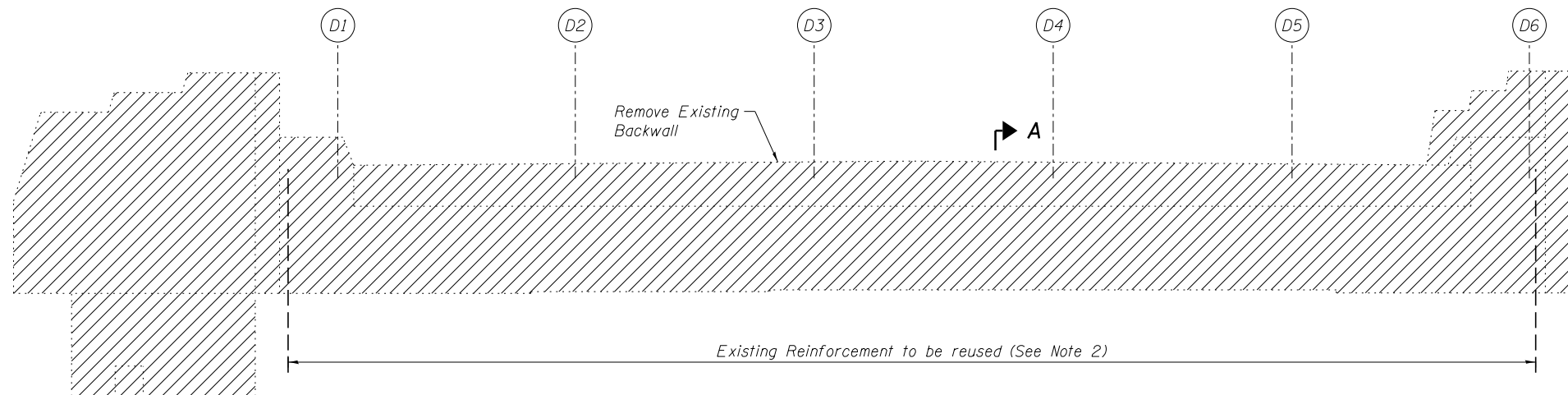
SOUTH ABUTMENT CONCRETE REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-0487

SHEET NO. SF59 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	585
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

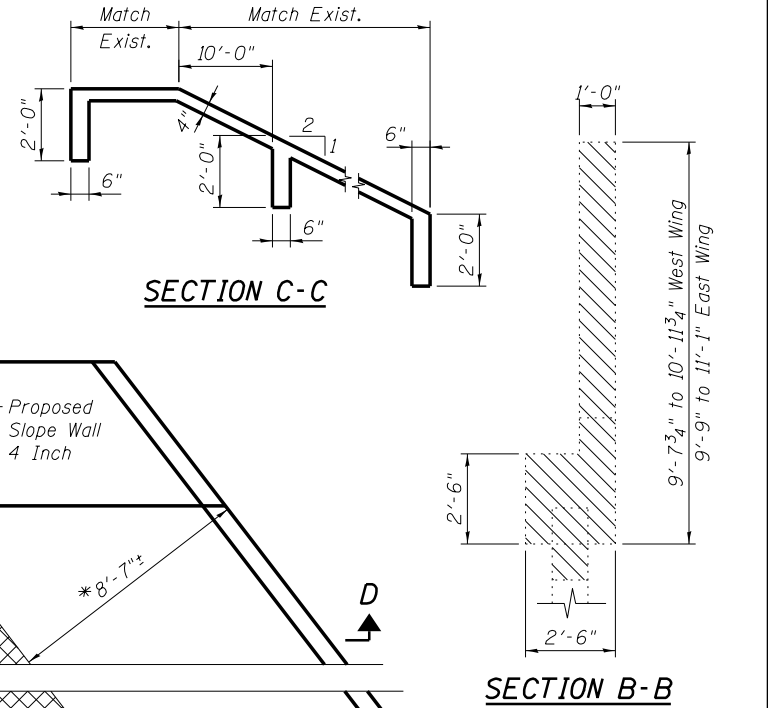
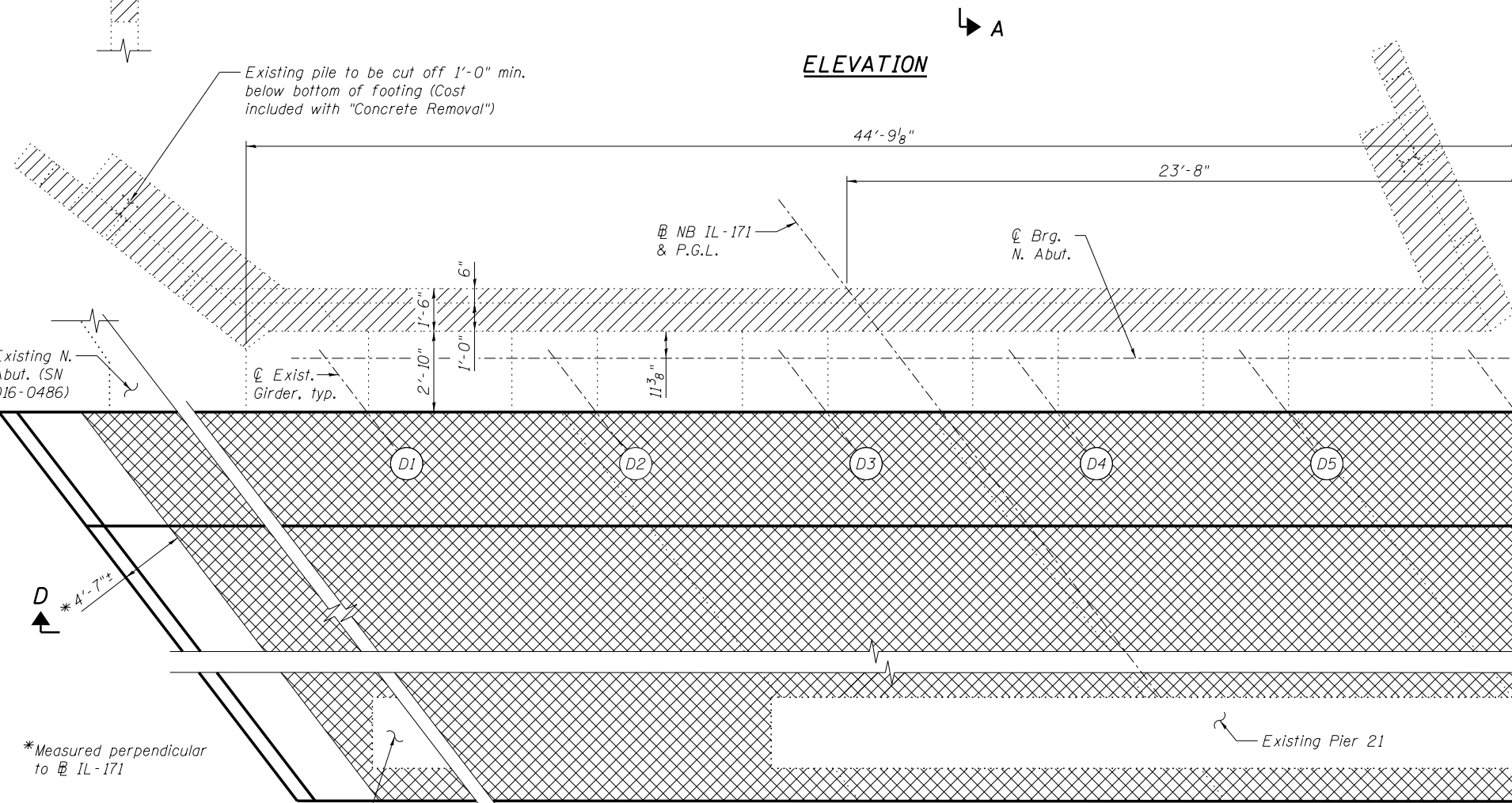
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ELEVATION

TYPICAL WINGWALL ELEVATION

SECTION A-A



SECTION C-C

SECTION B-B

PLAN

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	18.5
Slope Wall Removal	Sq. Yd.	553
Slope Wall 4 Inch	Sq. Yd.	603

LEGEND

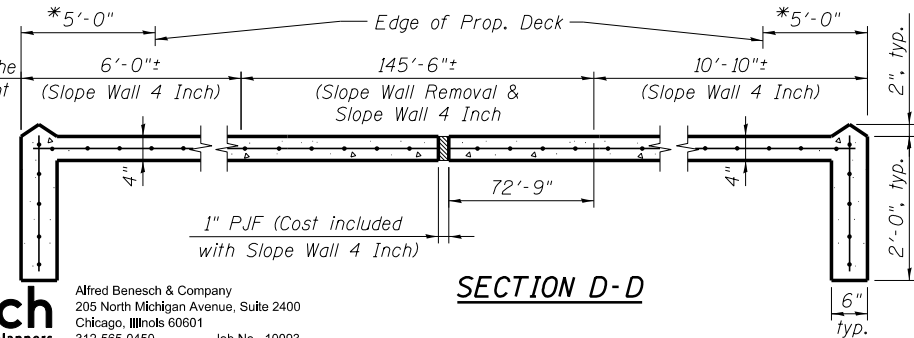
- Concrete Removal
- Slope Wall Removal & Slope Wall 4 Inch

NOTES:

1. Actual quantities of repairs shall be approved by the Engineer.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
3. Slope wall shall be reinforced with welded wire fabric, 6 in. X 6 in. W4.0 x W4.0, weighing 58 lbs per 100 sq ft.
4. Embankment required for the slope wall widening shall be paid for as "Furnished Excavation". See Roadway Plans. Embankment required for the existing slope wall repair shall be placed and compacted to the satisfaction of the Engineer prior to pouring the new slope wall. Cost included with "Slope Wall 4 Inch".

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SECTION D-D



FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISIONS -
0160487.60W75.059.Nabutrepair.dgn		CHECKED - AJK	REVISIONS -
	PLOT SCALE =	DRAWN - RMG	REVISIONS -
	PLOT DATE = 6/12/2015	CHECKED - AJK	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

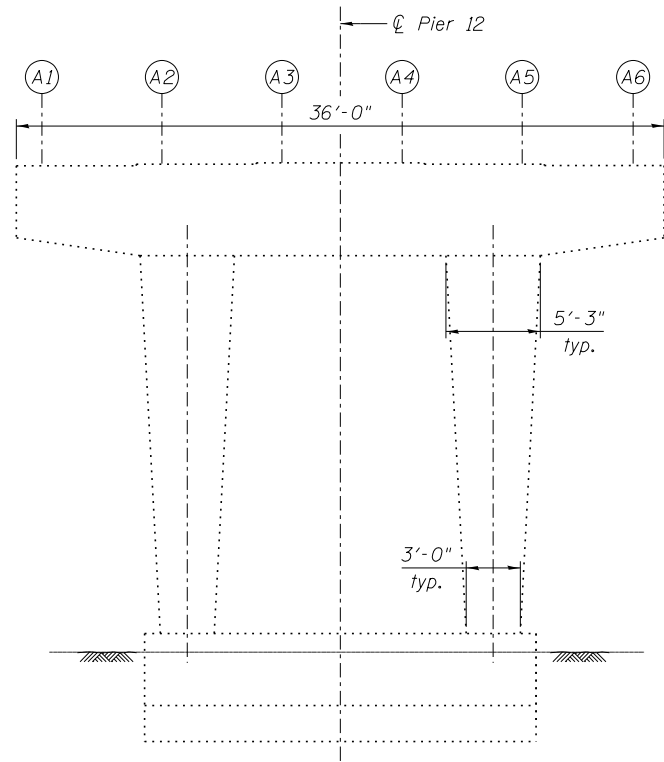
**NORTH ABUTMENT CONCRETE REMOVAL AND REPAIR DETAILS
STRUCTURE NO. 016-0487**

SHEET NO. SF60 OF SF96 SHEETS

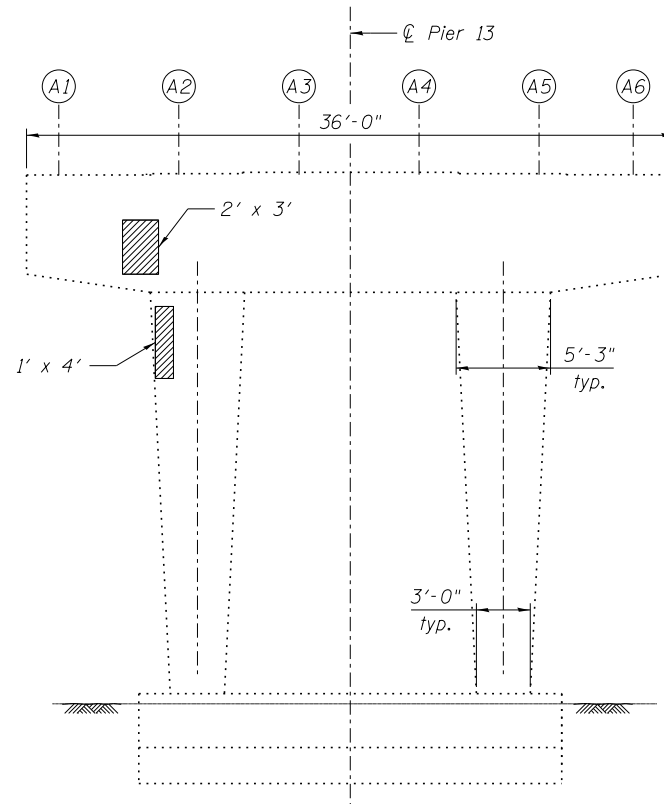
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	586
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

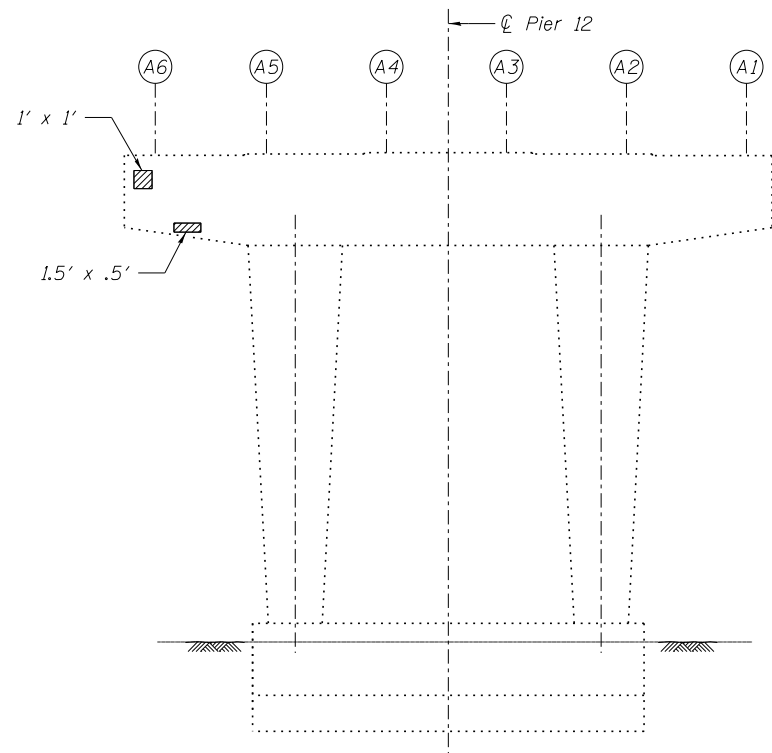
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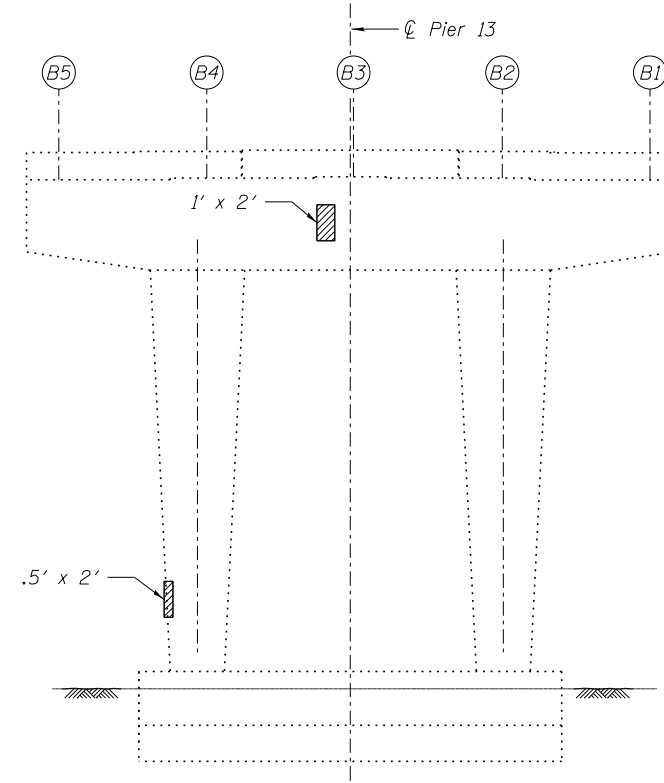
PIER 12
Looking West



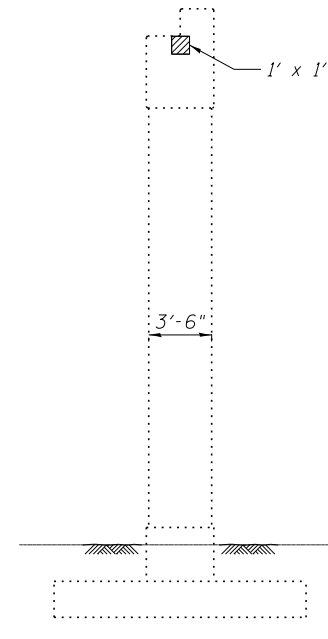
PIER 13
Looking West



PIER 12
Looking East



PIER 13
Looking East



PIER 13
Looking North

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	16

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)

NOTE:

Actual quantities of repairs shall be approved by the Engineer.



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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
0160487.60W75.060.pierrepair12-13.dgn

USER NAME = jsurber
PLOT SCALE =
PLOT DATE = 6/12/2015

DESIGNED - MLM
CHECKED - JLS/AJK
DRAWN - RMG
CHECKED - JLS/AJK

REVISED -
REVISED -
REVISED -
REVISED -

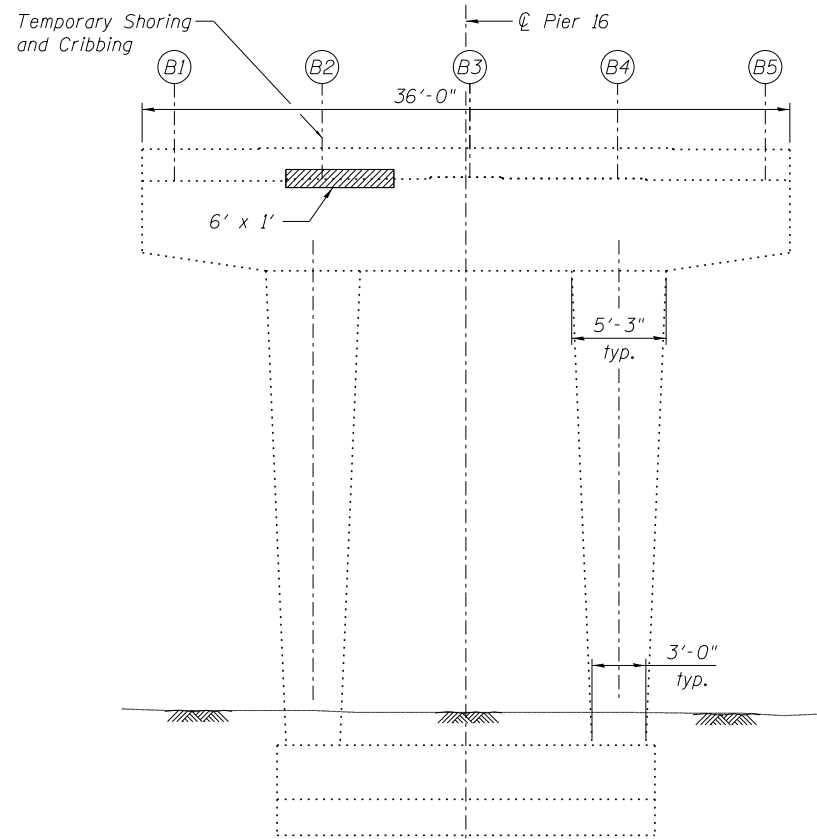
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIERS 12 AND 13 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-0487**

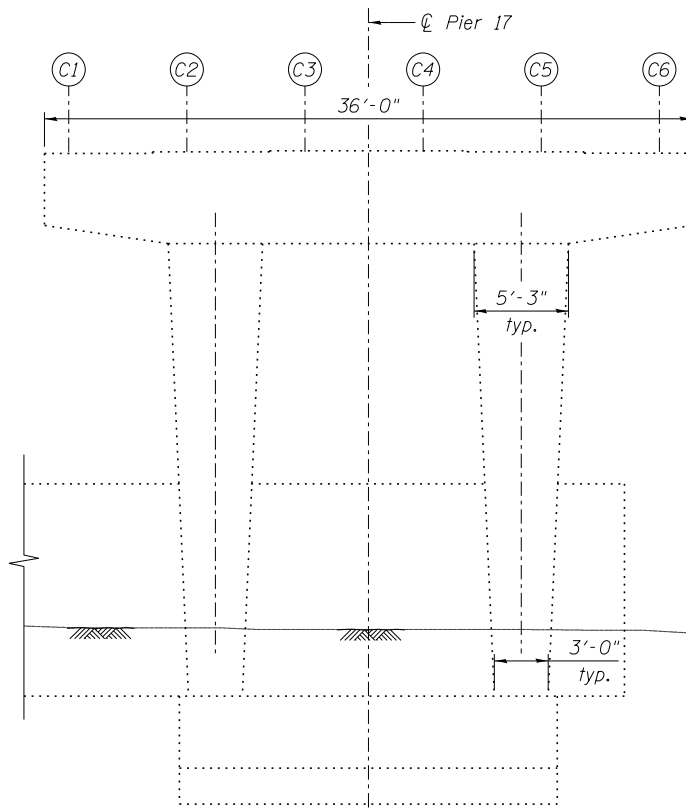
SHEET NO. SF61 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	587
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

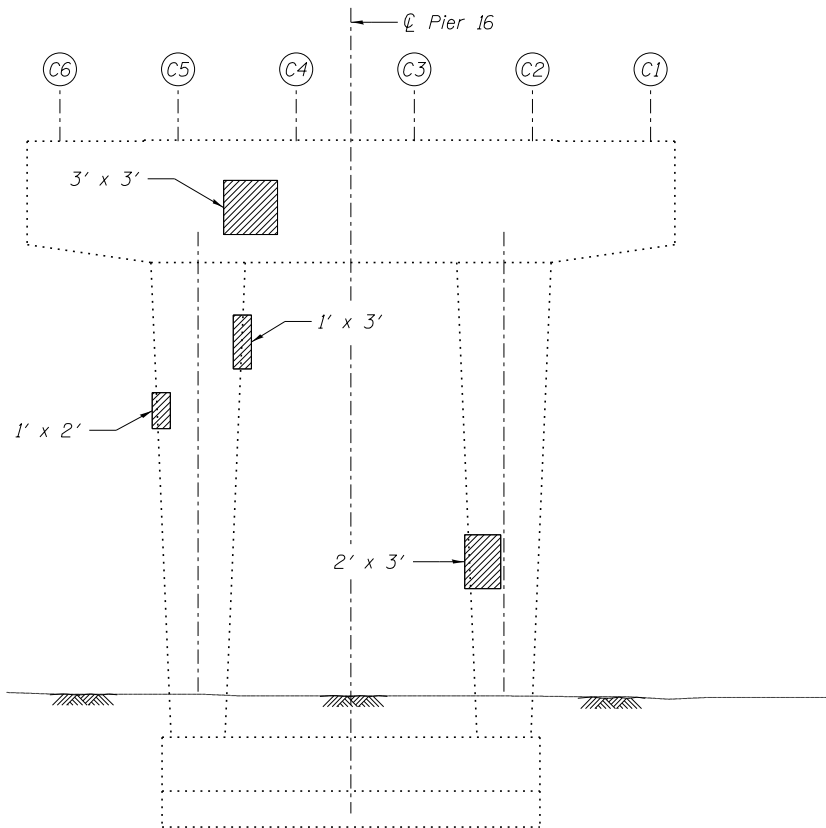
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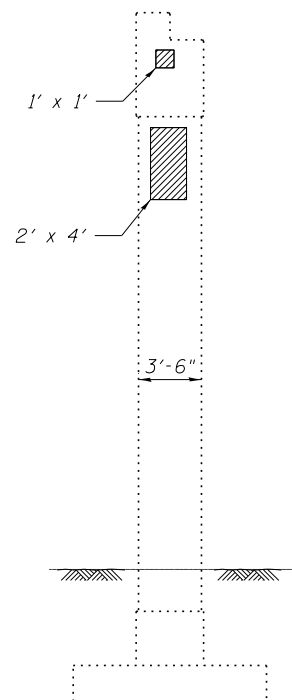
PIER 16
Looking West



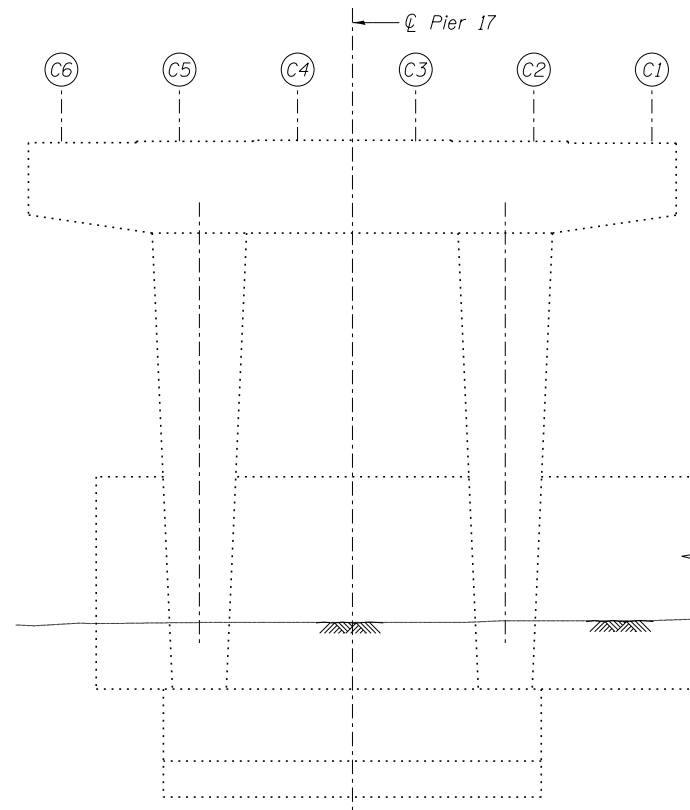
PIER 17
Looking West



PIER 16
Looking East



PIER 16
Looking North



PIER 17
Looking East

UNFACTORED BEAM REACTIONS (KIPS)

LOCATION	DEAD LOAD
Pier 16 - Girder B2	10.0

Repairs shall be completed when the deck is removed. Dead Load represents steel weight only.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	35
Temporary Shoring and Cribbing	Each	1

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

NOTE:

Actual quantities of repairs shall be approved by the Engineer.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =
0160487.60W75.062.pierrepair16-17.dgn

USER NAME = jsurber
PLOT SCALE =
PLOT DATE = 6/12/2015

DESIGNED - MLM
CHECKED - JLS/AJK
DRAWN - RMG
CHECKED - JLS/AJK
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

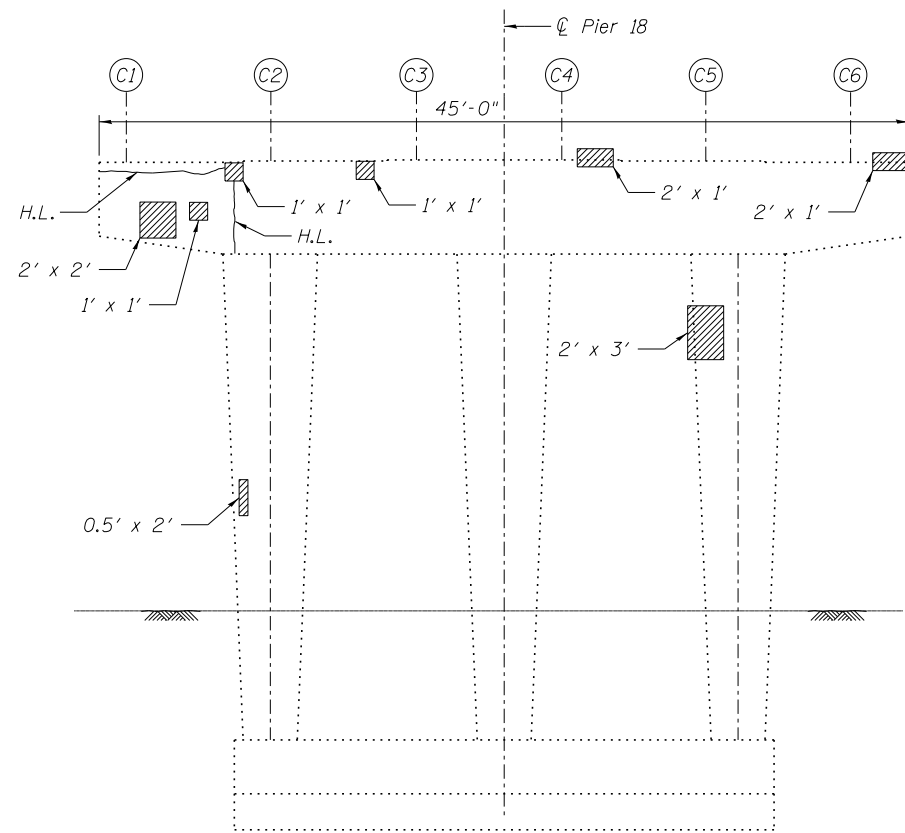
**PIERS 16 AND 17 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-0487**

SHEET NO. SF63 OF SF96 SHEETS

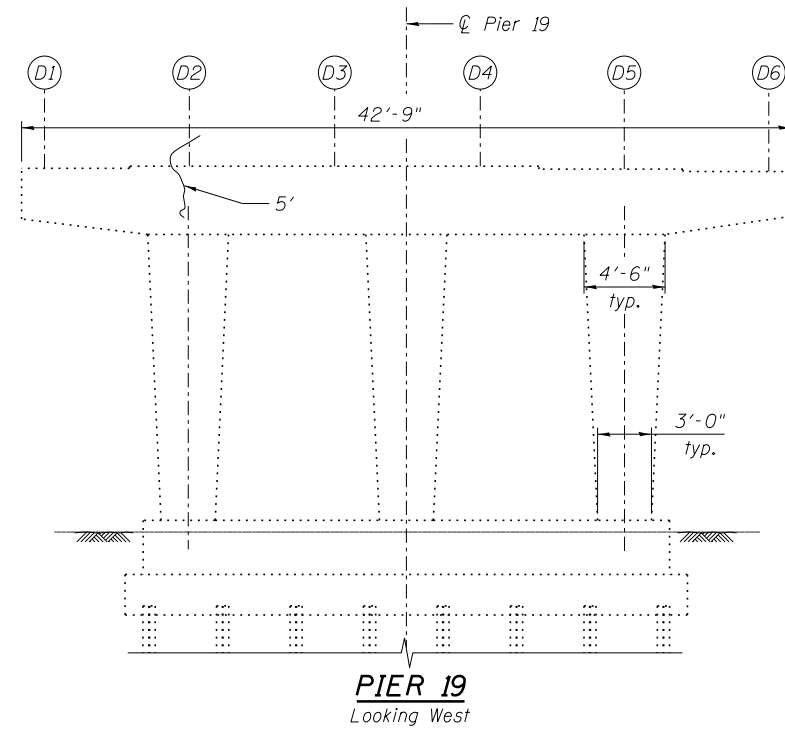
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	589
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

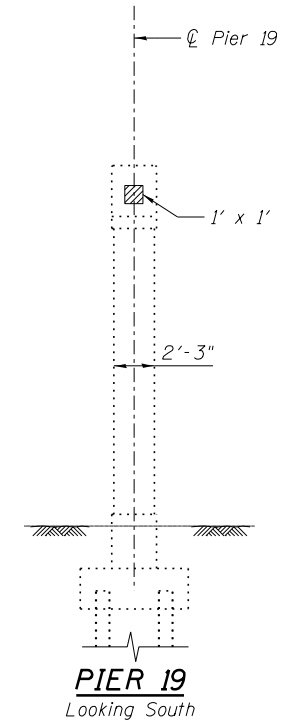
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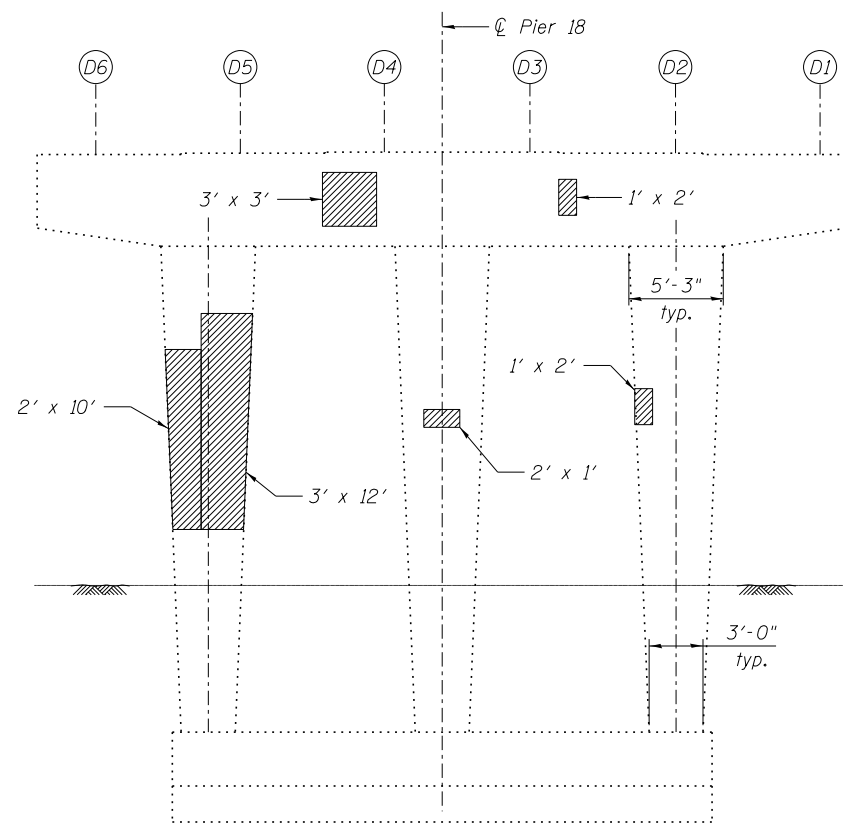
PIER 18
Looking West



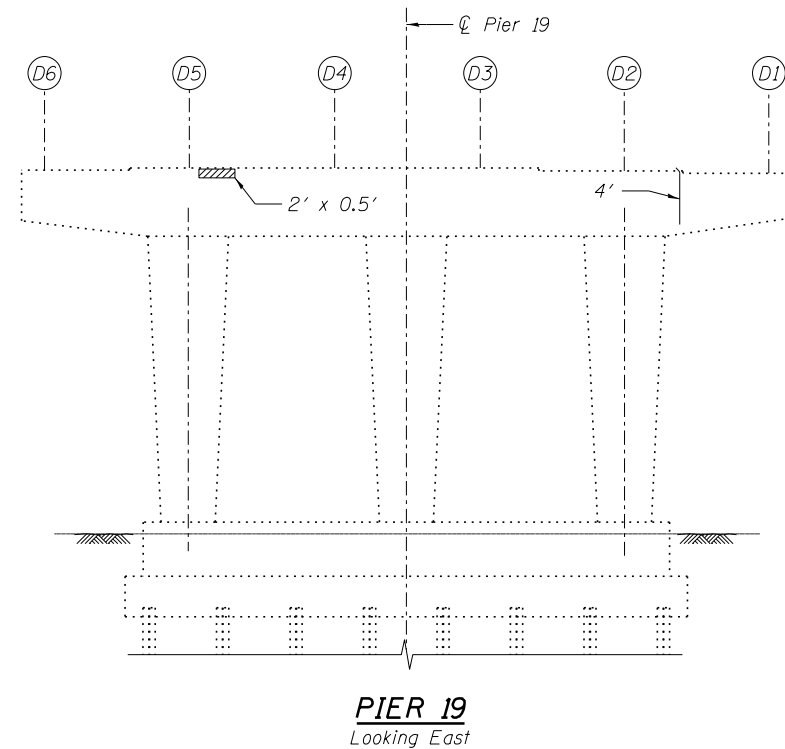
PIER 19
Looking West



PIER 19
Looking South



PIER 18
Looking East



PIER 19
Looking East

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	91
Epoxy Crack Injection	Foot	9

LEGEND

- Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)
- H.L. Hairline Crack (not to be repaired)
- Epoxy Crack Injection

NOTES:

1. Actual quantities of repairs shall be approved by the Engineer.
2. Repairs at Pier 18 shall be completed when the deck is removed from Unit C and Unit D.

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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
0160487.60W75.063.pierrepair18-19.dgn		CHECKED - JLS/AJK	REVISED -
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	PLOT DATE = 6/12/2015	CHECKED - JLS/AJK	REVISED -

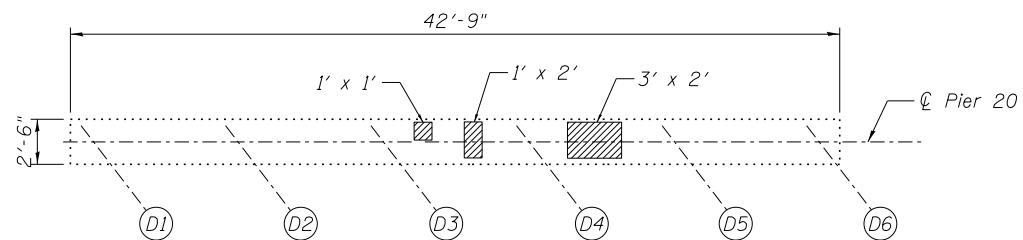
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 18 AND 19 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-0487

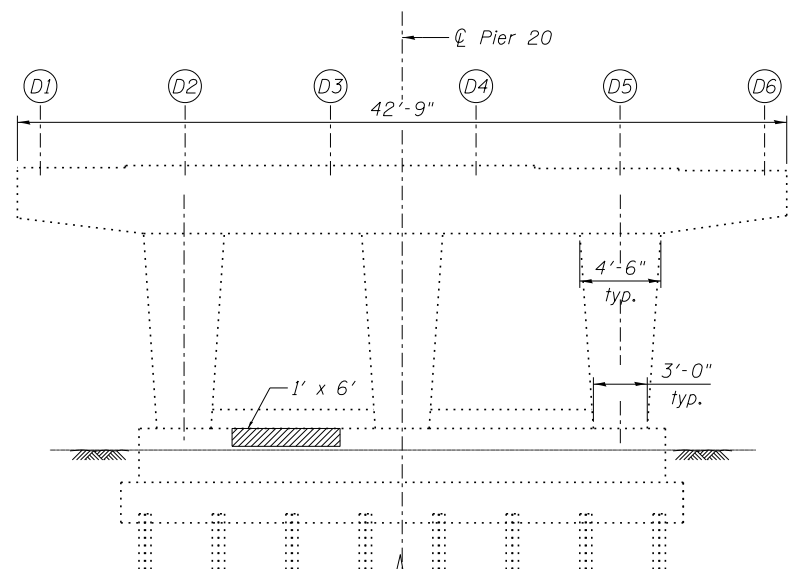
SHEET NO. SF64 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

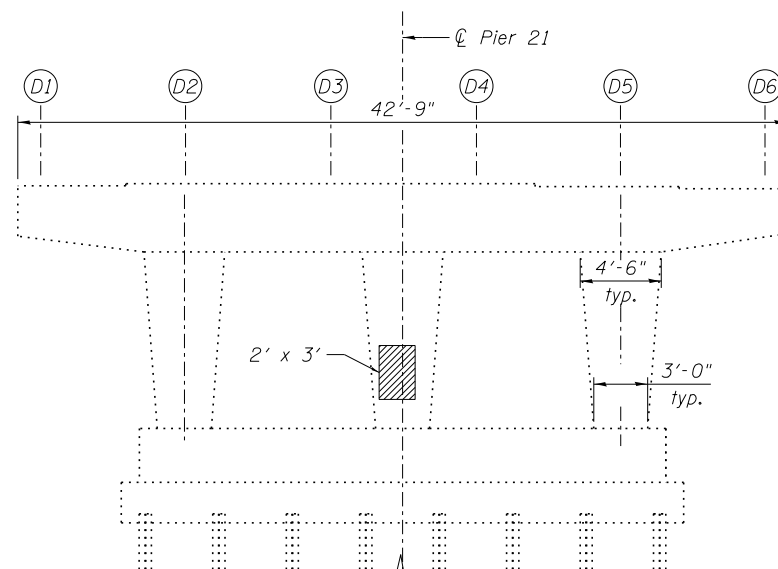
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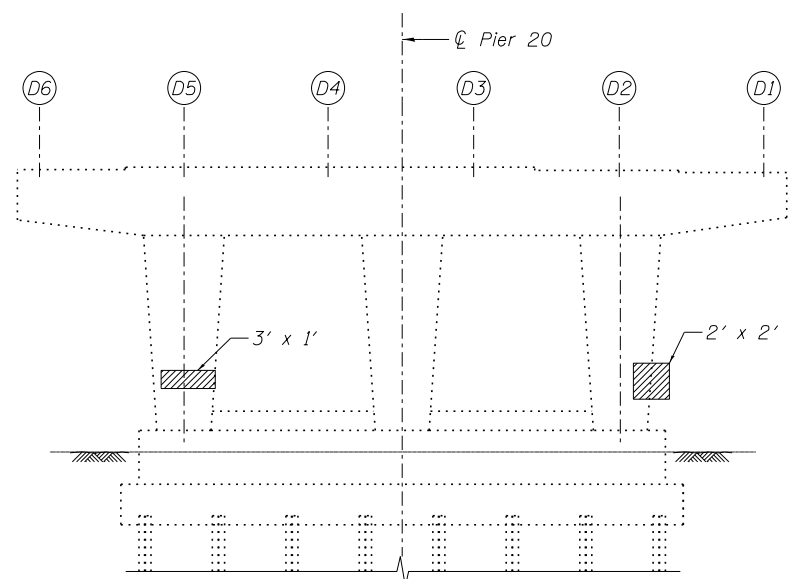
PLAN PIER 20 (TOP OF PIER CAP)



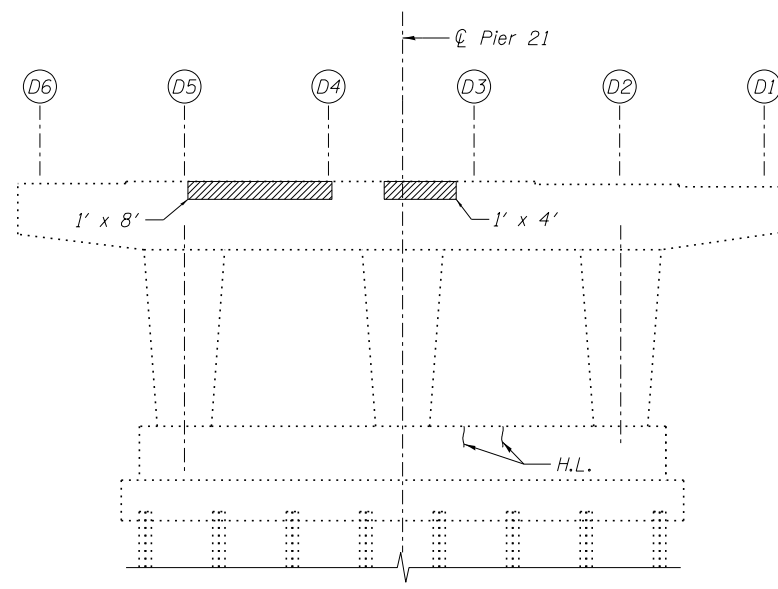
PIER 20
Looking West



PIER 21
Looking West



PIER 20
Looking East



PIER 21
Looking East

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	40

LEGEND

- Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)
- H.L. Hairline Crack (not to be repaired)

NOTE:

Actual quantities of repairs shall be approved by the Engineer.



Alfred Benesch & Company
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312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM	REVISED -
0160487.60W75.064.pierrepair20-21.dgn		CHECKED - JLS/AJK	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 6/12/2015	CHECKED - JLS/AJK	REVISED -

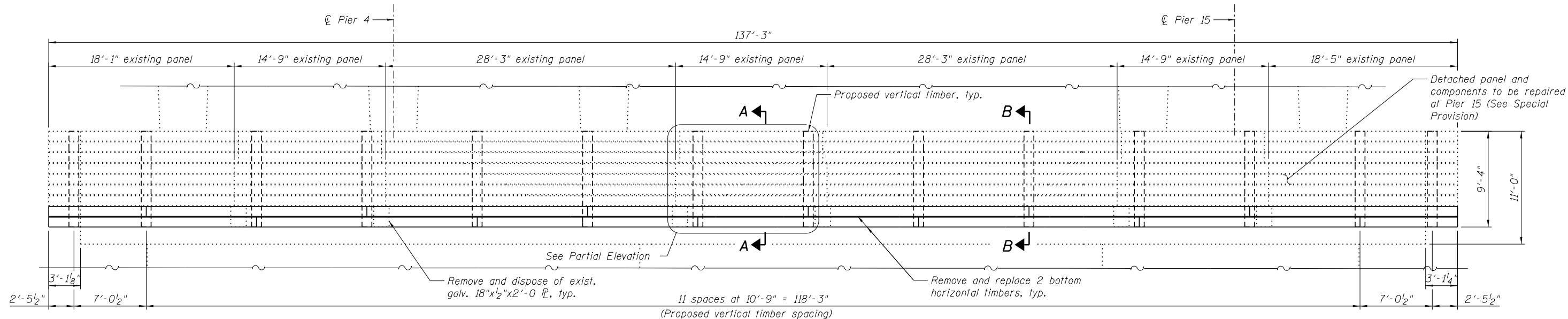
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 20 AND 21 CONCRETE REPAIR DETAILS
STRUCTURE NO. 016-0487

SHEET NO. SF65 OF SF96 SHEETS

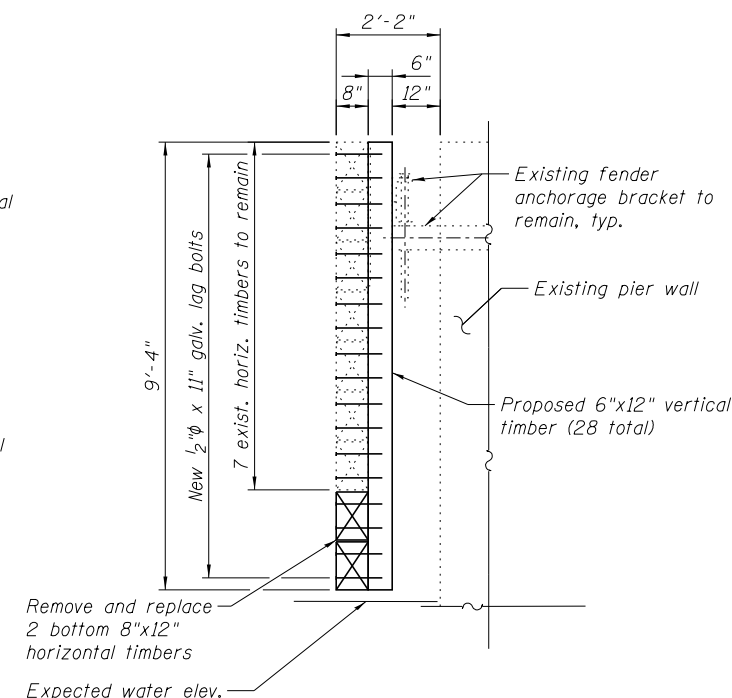
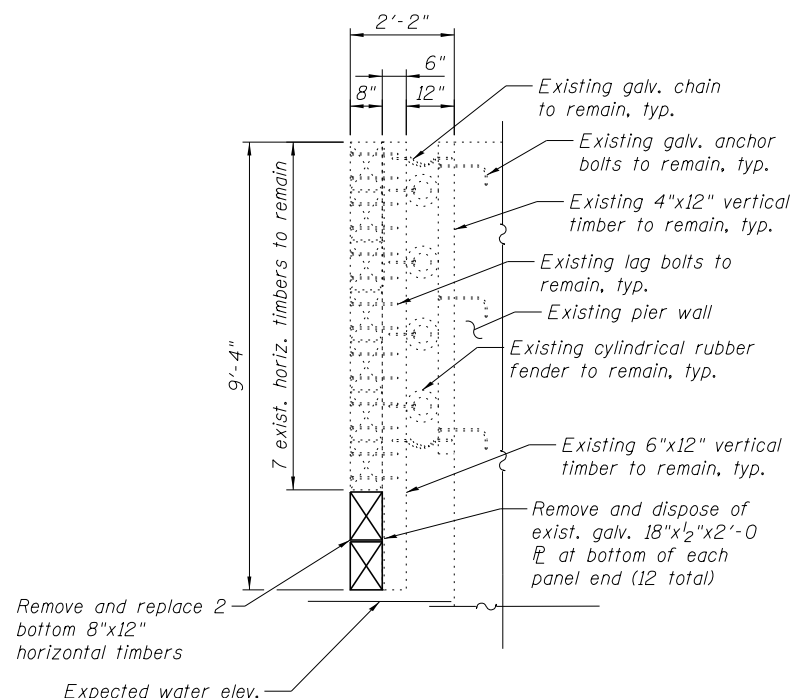
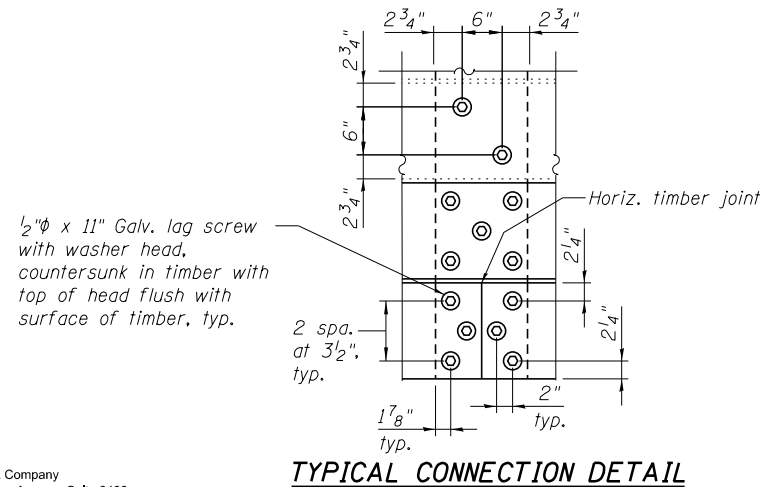
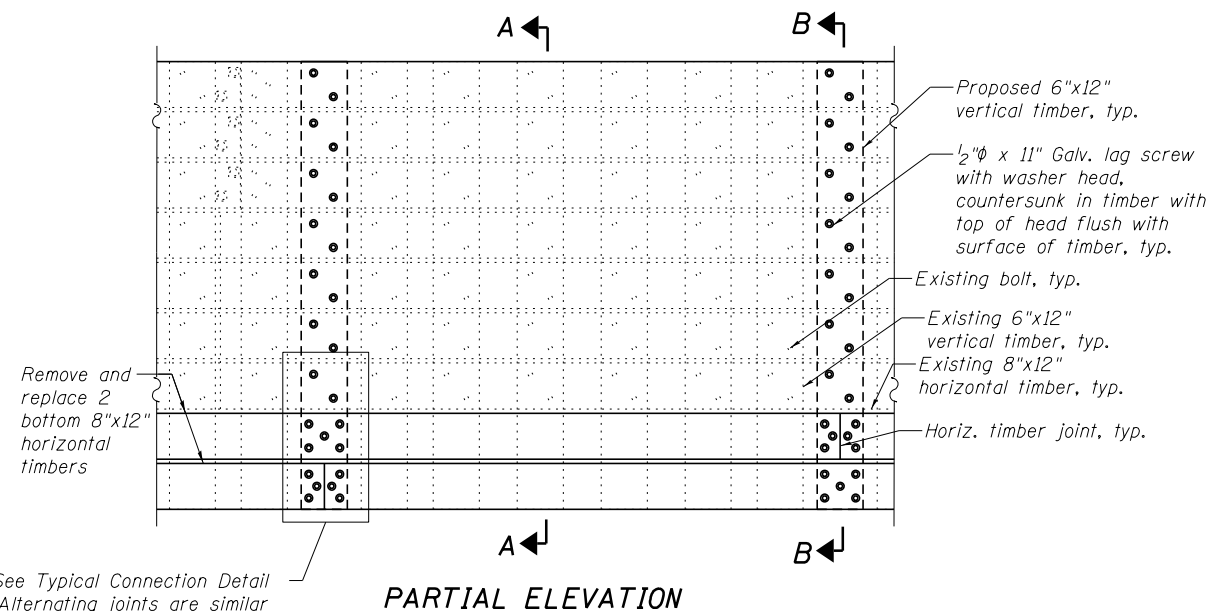
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	591
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT



FENDER SYSTEM ELEVATION

Southbound IL 171 Pier 4 & Northbound IL 171 Pier 15 shown, looking west
 Southbound IL 171 Pier 3 & Northbound IL 171 Pier 14 similar, looking east



NOTES:

- Any portions of the existing fender system exposed by removal of existing timbers shall be protected using temporary bumpers or other means as approved by the Engineer for the duration of the exposure. See Special Provision for "Fender System" for more information.
- All existing dimensions shall be measured and verified in the field prior to ordering of the timbers.
- Proposed timbers shall be creosoted Dense Structural 65 Grade Southern Yellow Pine conforming to the "Grading Rules for Southern Pine Lumber of the Southern Pine Inspection Bureau". See Special Provision for "Fender System" for more information.
- Lag screws shall be ASTM A307 Grade A and shall be hot dipped galvanized according to AASHTO M 232, Class C.
- Horizontal timbers shall be continuous over at least one proposed vertical timber (i.e. the horizontal timbers shall be connected to a minimum of 3 different proposed vertical timbers).
- Cost of furnishing all labor, tools, equipment, materials and incidentals necessary to remove, install or reattach all components of the fender system as detailed shall be included with "Fender System". See Special Provision.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Fender System	L Sum	0.75

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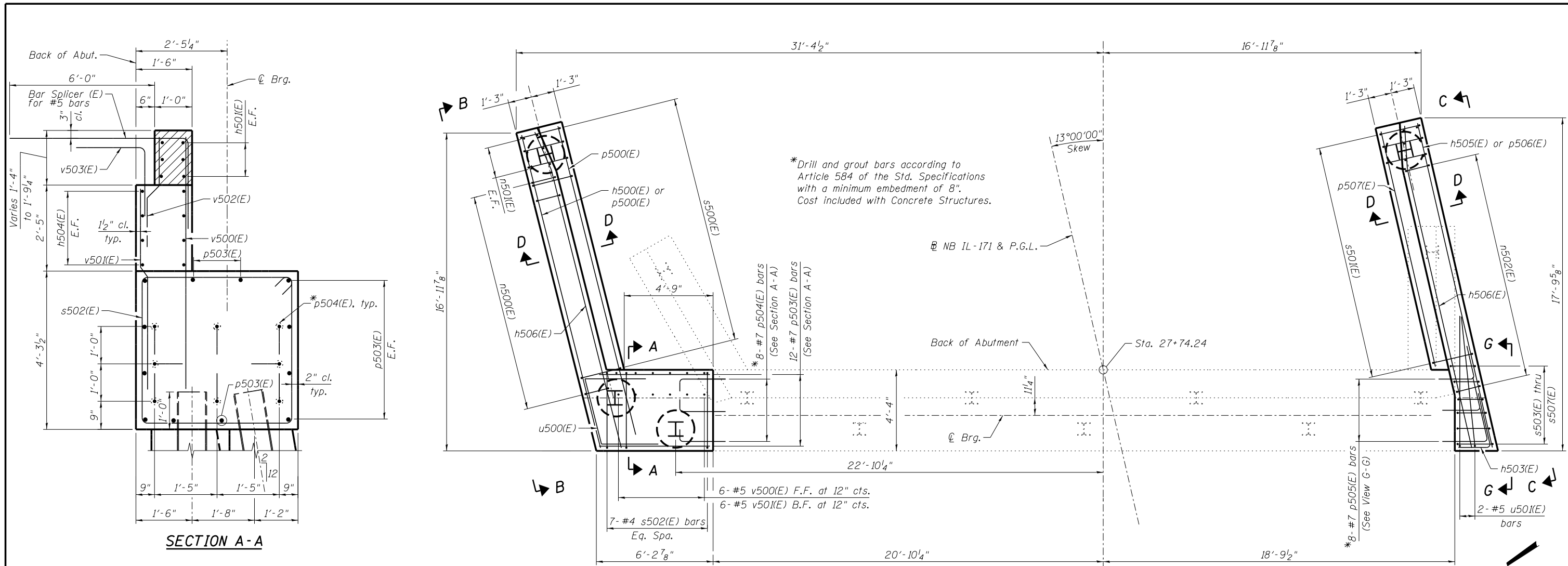
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 DEPARTMENT OF TRANSPORTATION**

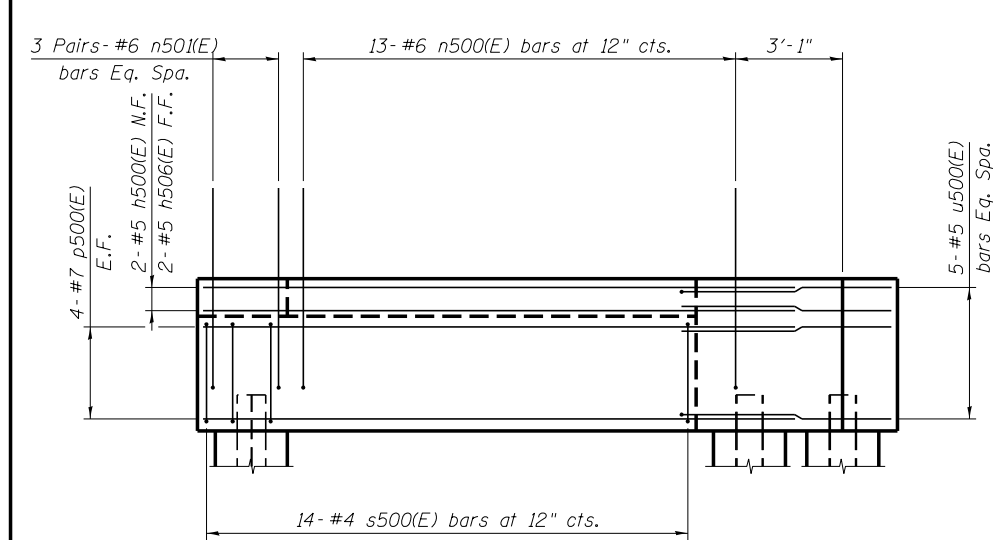
**FENDER SYSTEM REPAIR DETAILS
 STRUCTURE NO. 016-0487**

SHEET NO. SF66 OF SF96 SHEETS

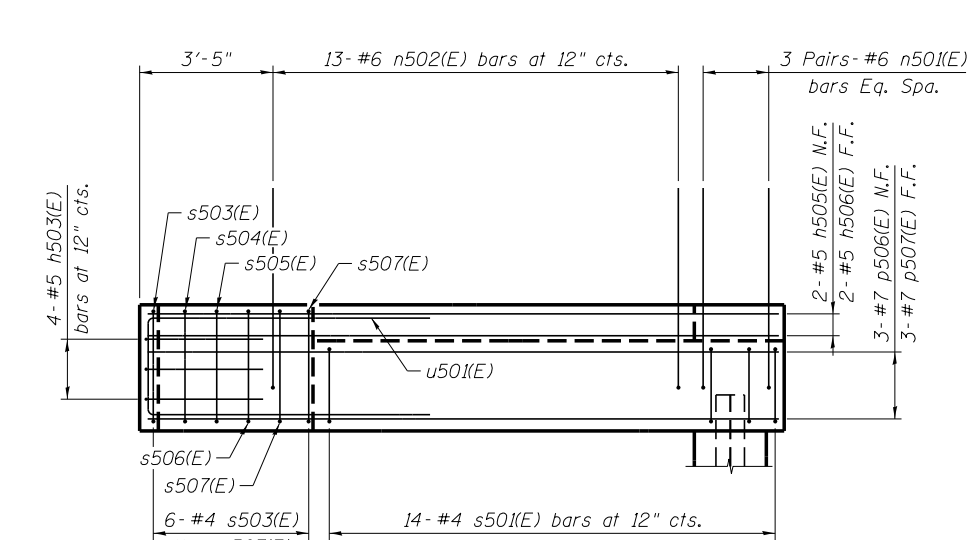
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	592
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	



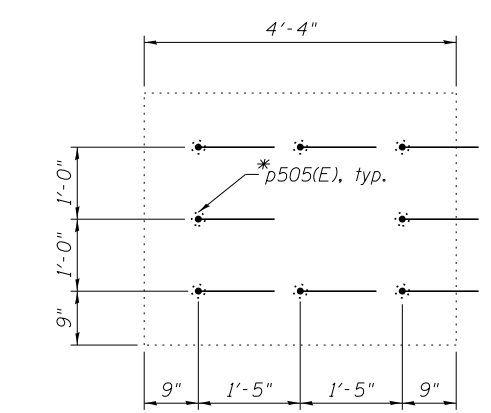
PLAN - PILE CAP



VIEW B-B



VIEW C-C



VIEW G-G

- NOTES:**
1. For Pile Layout and additional dimensions see Foundation Layout on Sheet SF5.
 2. For Section D-D, see Sheet SF69.
 3. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure on Sheet SF35.

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0160487_60W75_065_S.Abut.Widening-Detail	ALB@benesch.com	CHECKED - AJK	REVISED -
	PLOT DATE = 6/12/2015	DRAWN - RMG	REVISED -
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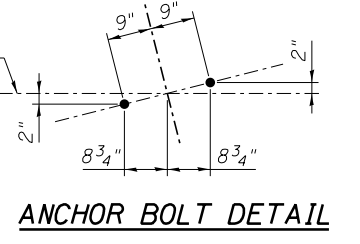
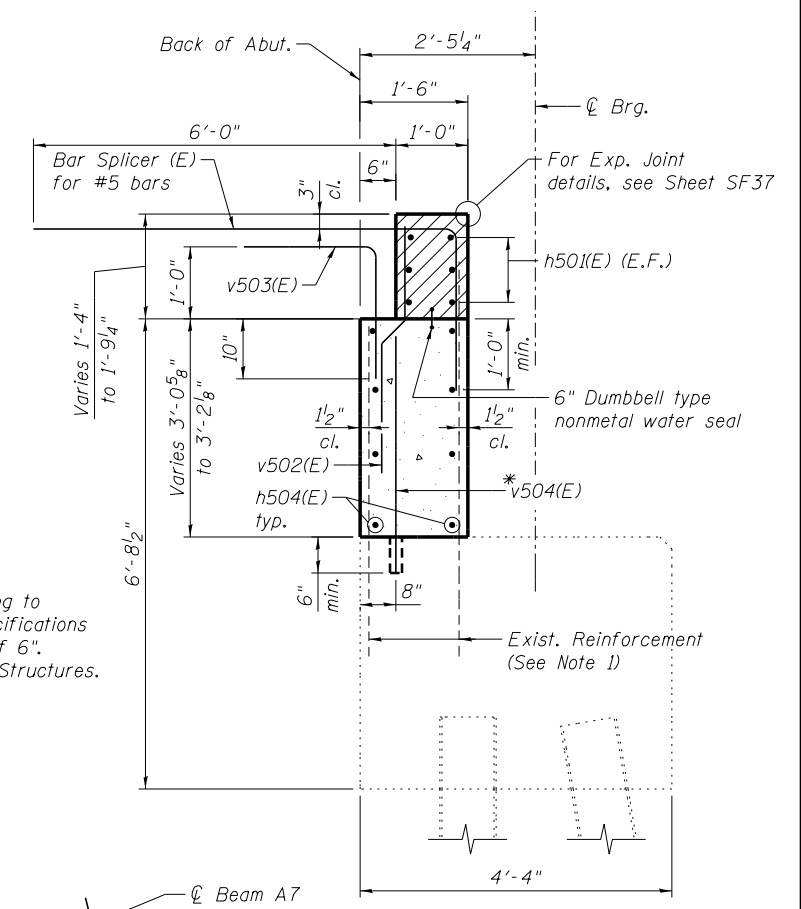
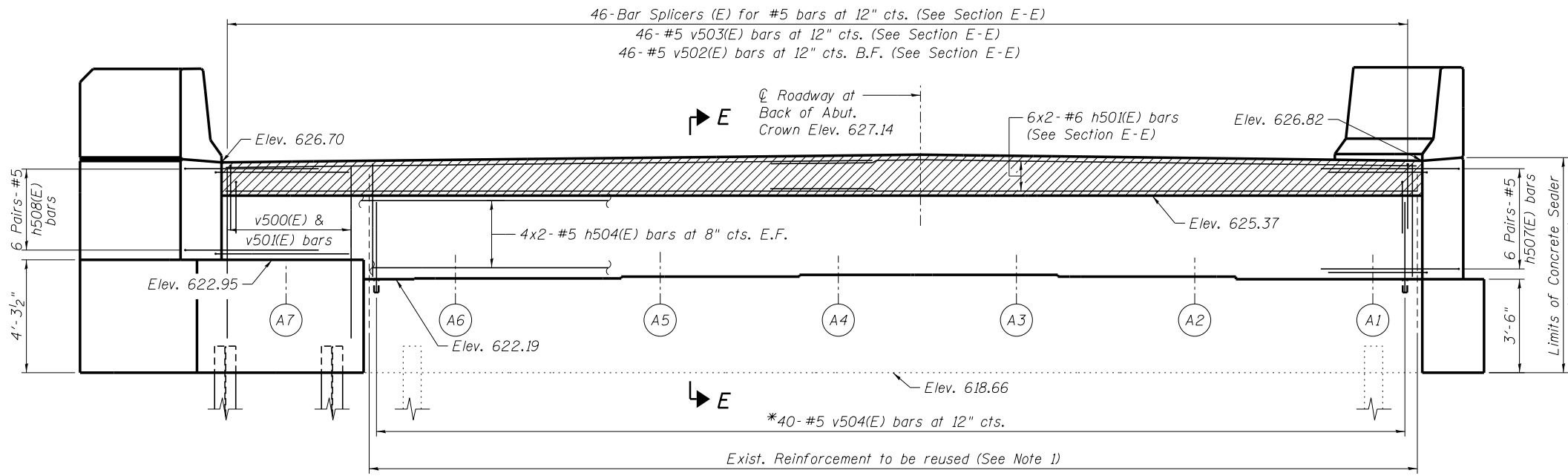
SOUTH ABUTMENT WIDENING DETAILS (1 OF 3)
STRUCTURE NO. 016-0487

SHEET NO. SF67 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	593
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT

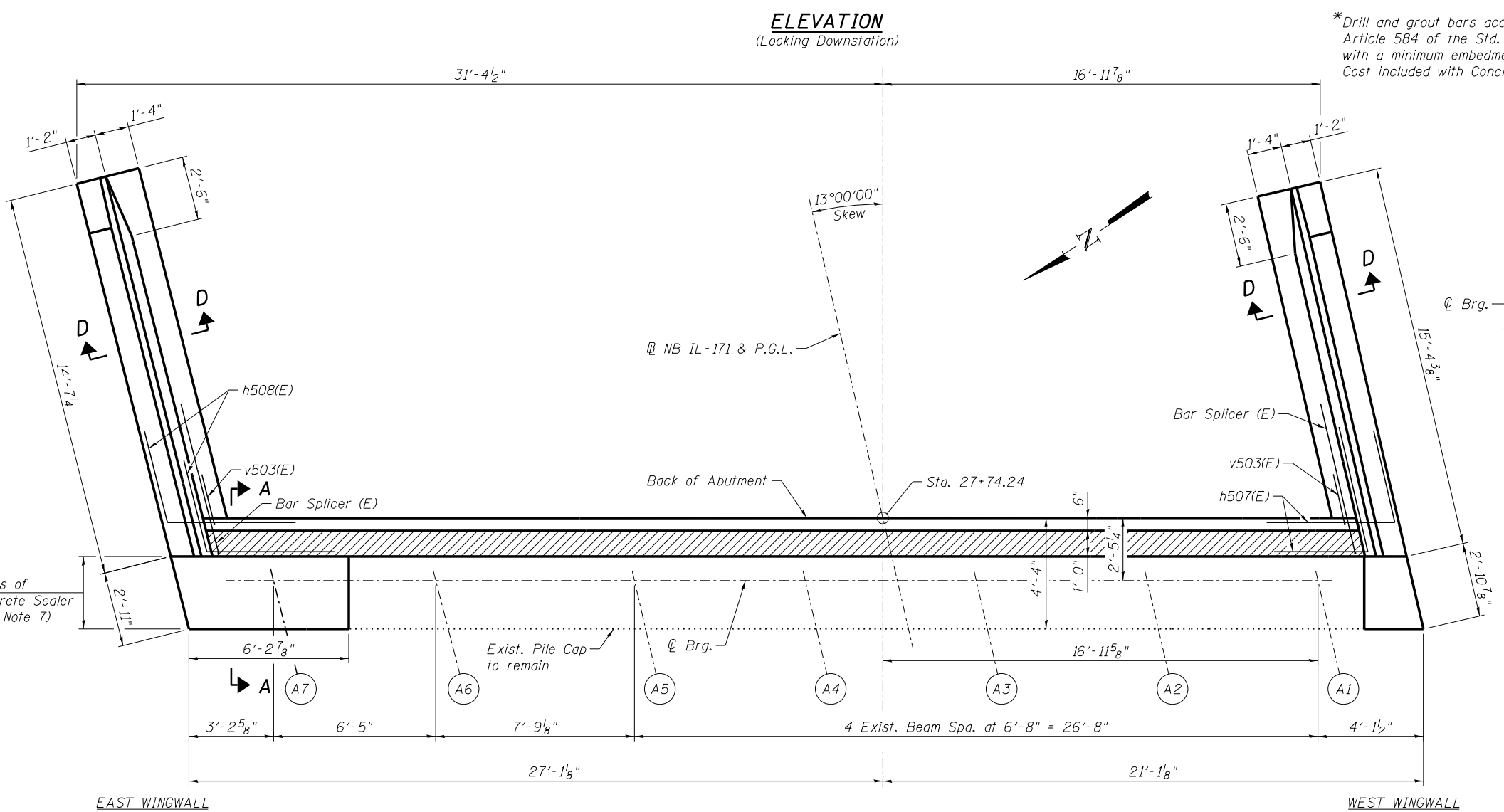
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SECTION E-E
(Thru exist. Abutment)

MINIMUM BAR LAP
#5 bar - 3'-3"
#6 bar - 3'-10"

- NOTES:**
- Existing reinforcement shall be cleaned and incorporated in the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - See Sheet SF67 for footing reinforcement for Wingwalls.
 - See Sheet SF69 for Wingwall reinforcement.
 - See Sheet SF69 for Section D-D.
 - See Sheet SF67 for Section A-A.
 - See Sheet SF73 for reinforcing bar bends & Bill of Material.
 - Concrete Sealer shall be applied to the area of the bearing seat and the exposed front face of the abutment pile cap for the newly placed concrete only. Concrete Sealer shall also be applied to the area of the backwall and the vertical faces of both wingwalls underneath the parapet and in line with the backwall. Concrete Sealer does not need to be applied to existing concrete.
 - Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure on Sheet SF35.
 - Space reinforcement in cap to miss anchor bolts.



ELEVATION
(Looking Downstation)

PLAN

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FILE NAME =	USER NAME = jsurber	DESIGNED - JLS	REVISED -
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		DRAWN - RMG	REVISED -
	PLT DATE = 6/12/2015	CHECKED - AJK	REVISED -

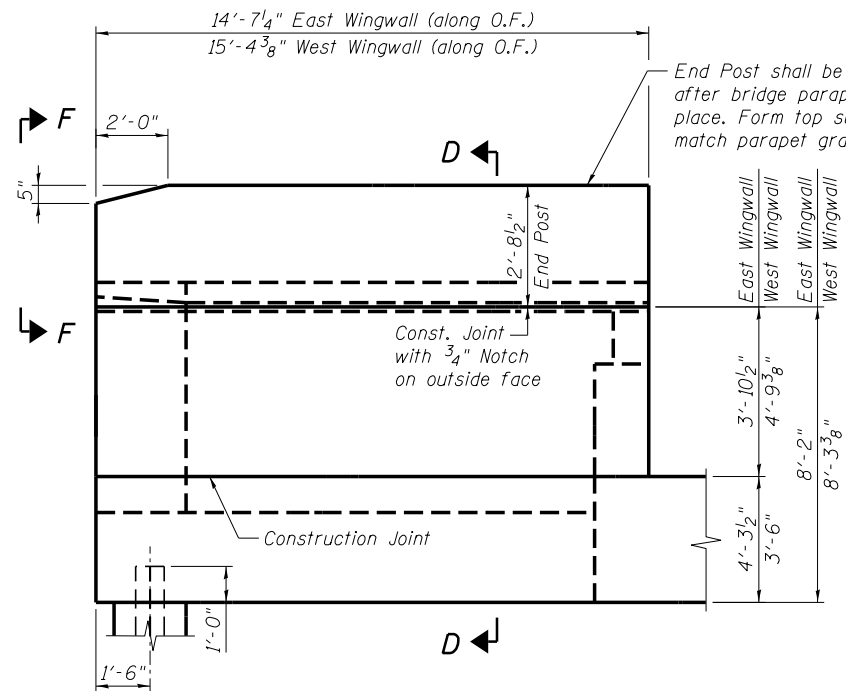
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT WIDENING DETAILS (2 OF 3)
STRUCTURE NO. 016-0487

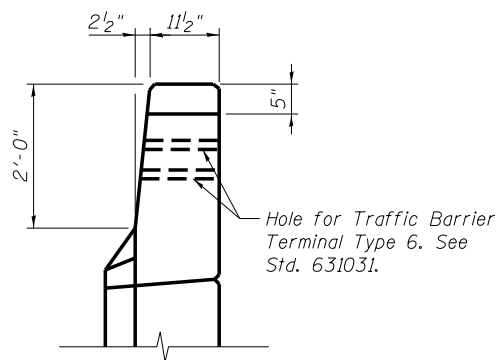
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	594
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

SHEET NO. SF68 OF SF96 SHEETS

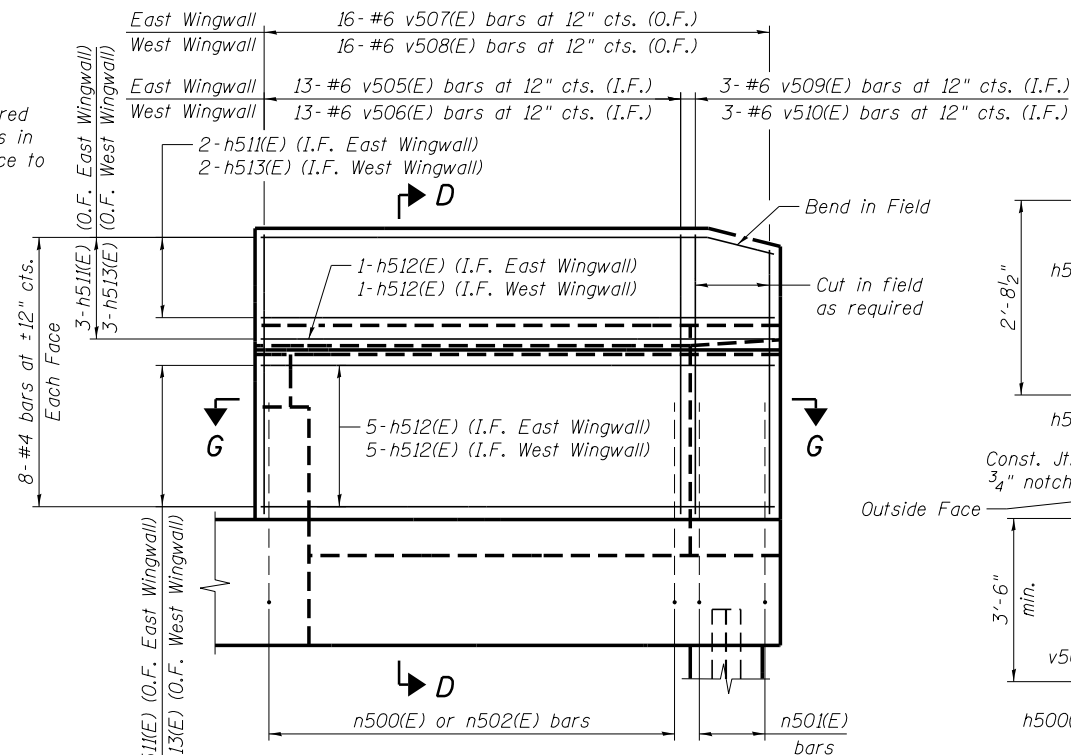
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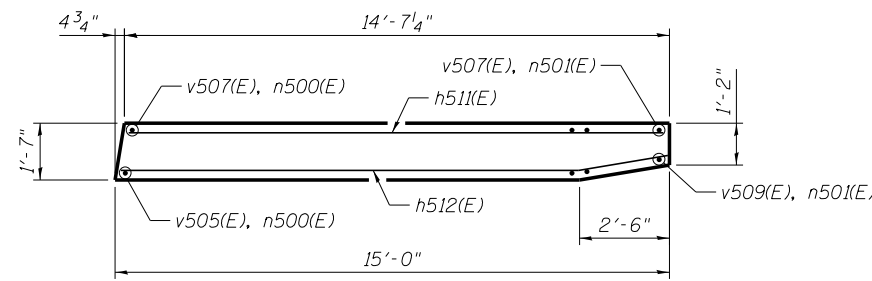
WINGWALL ELEVATION
Showing Dimensions



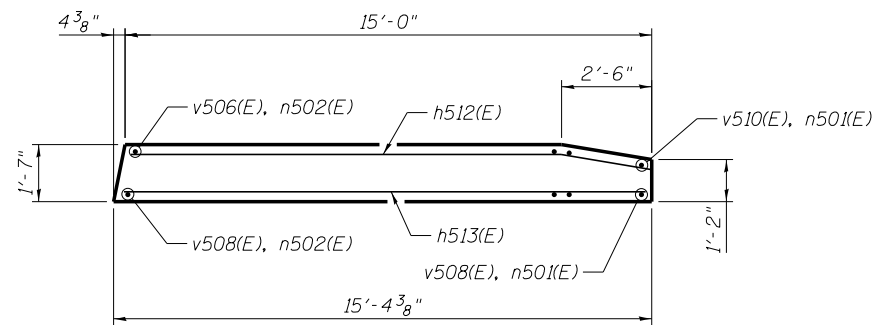
VIEW F-F



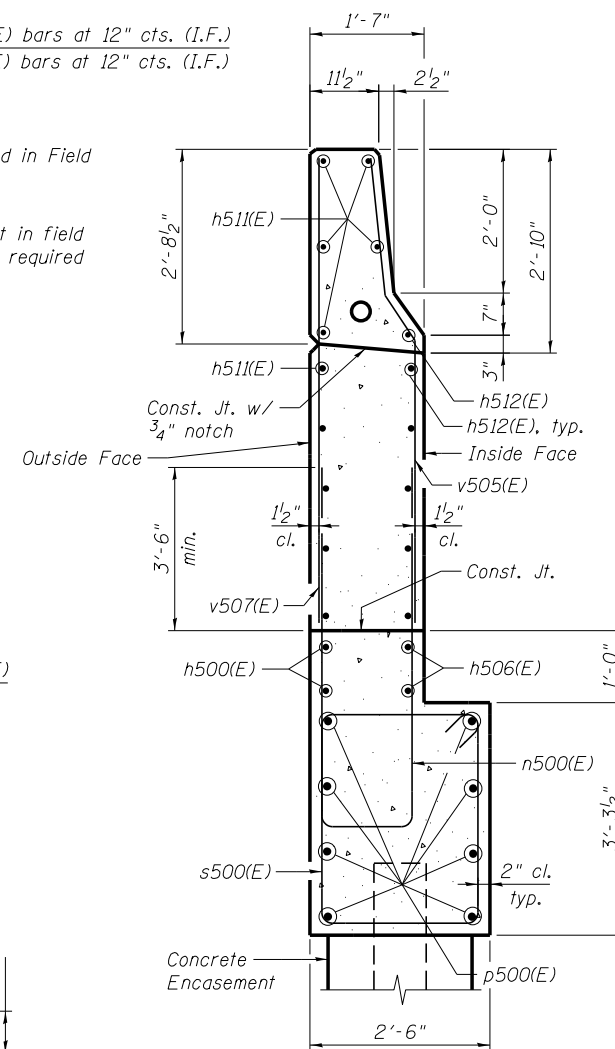
WINGWALL ELEVATION
Showing Reinforcement
(See Sheet SF67 for additional reinforcement in Wingwall Footings)



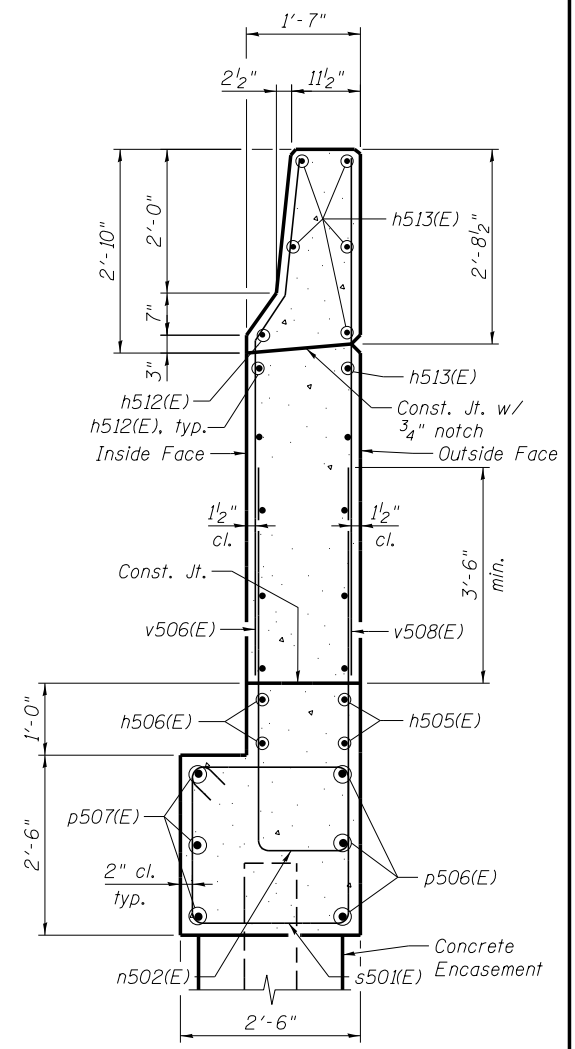
SECTION G-G
East Wingwall



SECTION G-G
West Wingwall



SECTION D-D
East Wingwall
(1-2"φ PVC Conduit. See Lighting Plans for details.)



SECTION D-D
West Wingwall

NOTE:
Quantity of concrete in end posts included with Concrete Superstructure on Sheet SF39.

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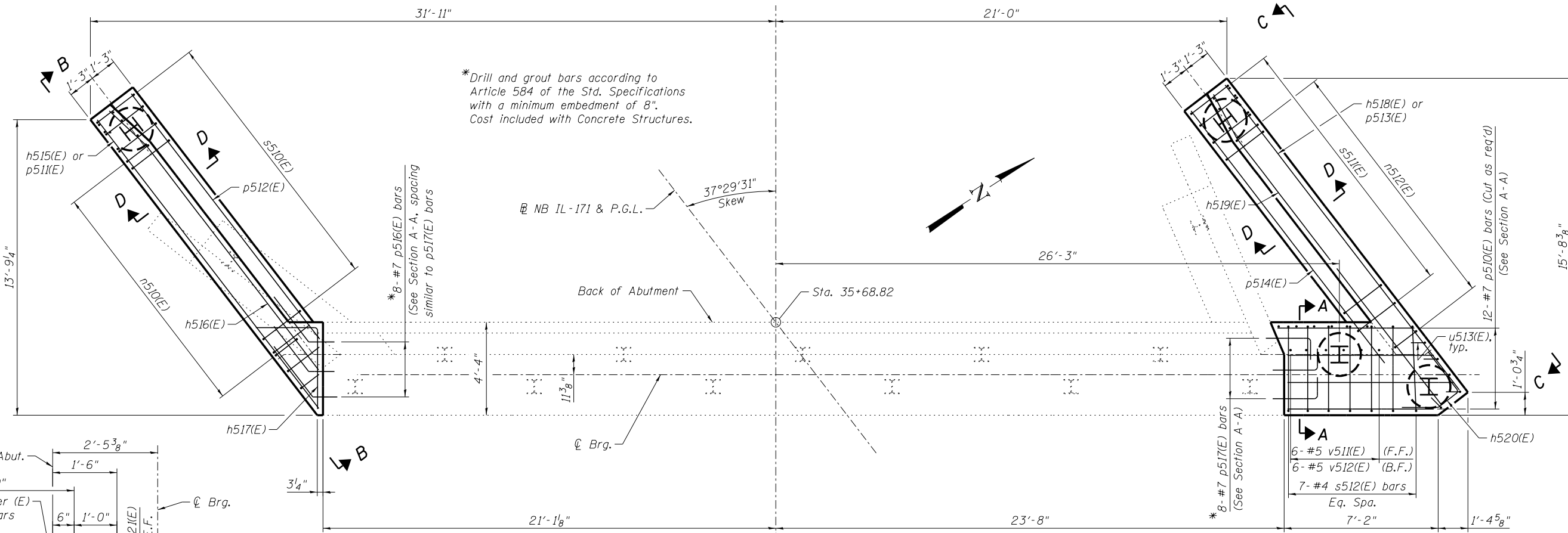
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT WIDENING DETAILS (3 OF 3)
STRUCTURE NO. 016-0487

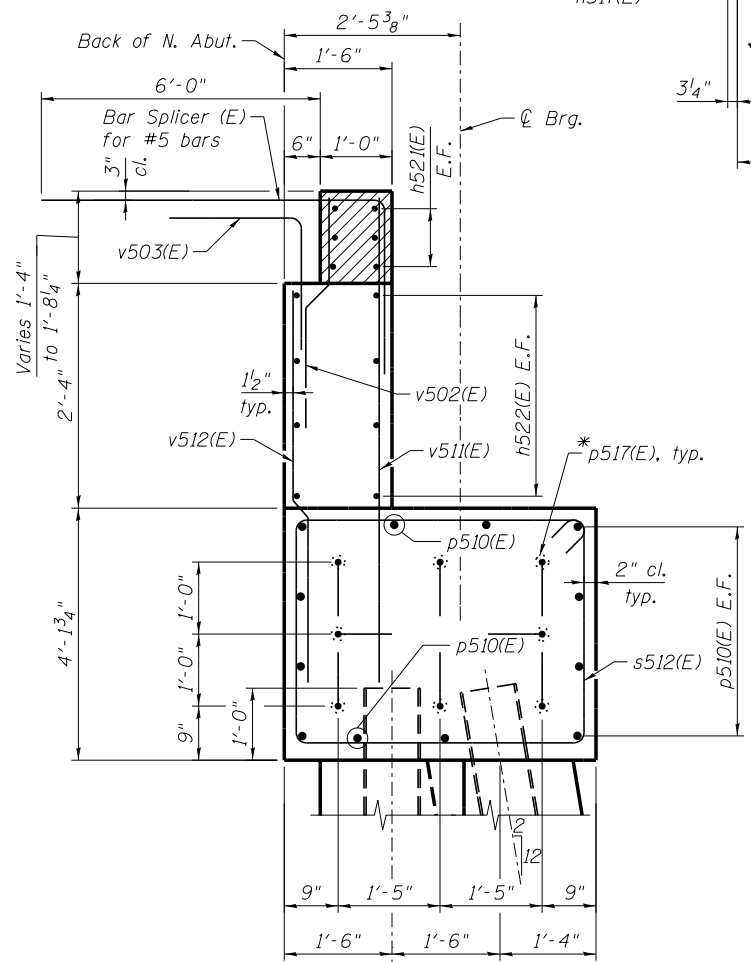
SHEET NO. SF69 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

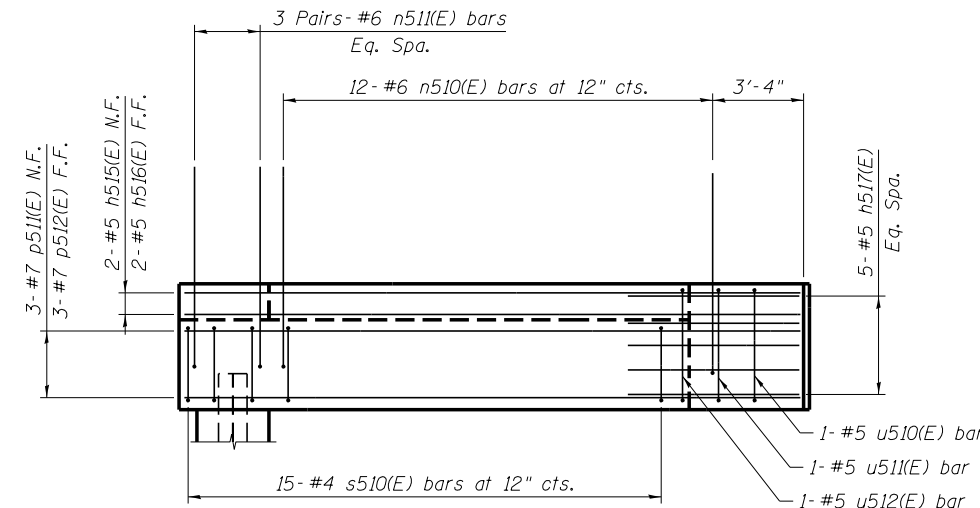
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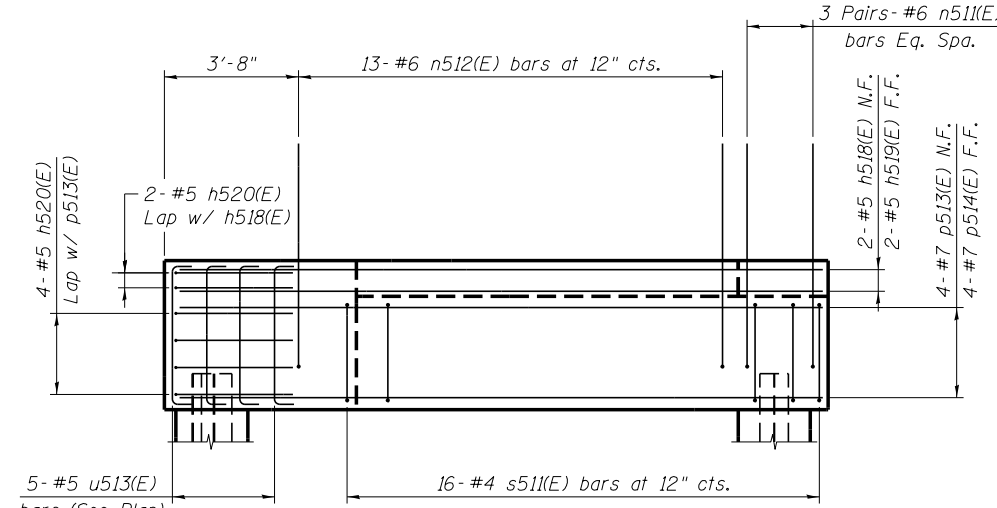
PLAN - PILE CAP



SECTION A-A



VIEW B-B



VIEW C-C

- NOTES:**
1. For Pile Layout and additional dimensions see Foundation Layout on Sheet SF7.
 2. For Section D-D, see Sheet SF72.
 3. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure on Sheet SF35.

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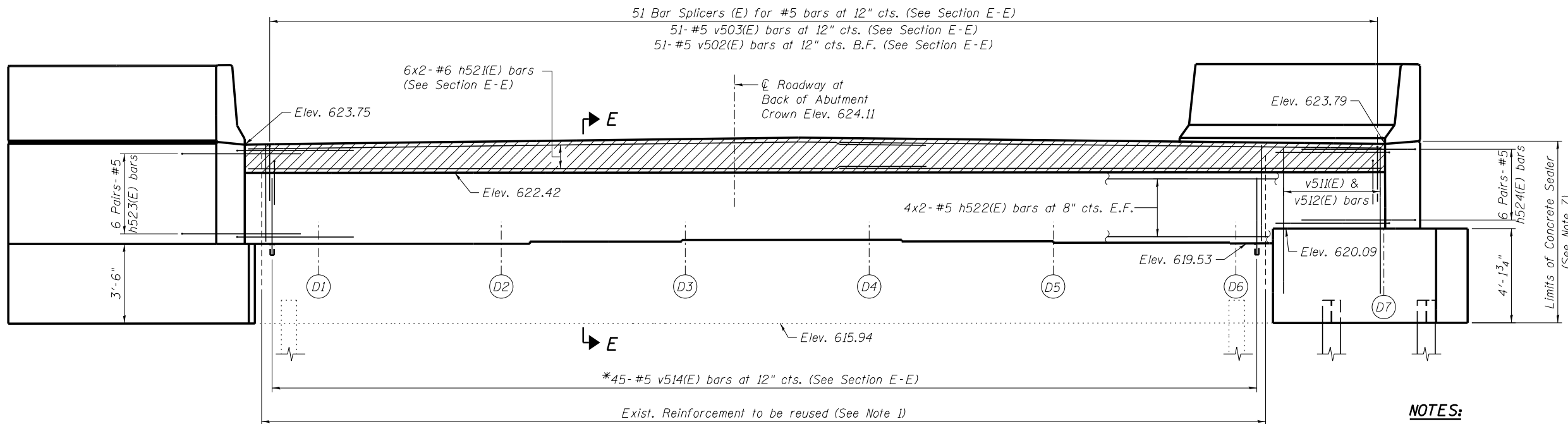
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT WIDENING DETAILS (1 OF 3)
STRUCTURE NO. 016-0487**

SHEET NO. SF70 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	596
CONTRACT NO. 60W75			ILLINOIS FED. AID PROJECT	

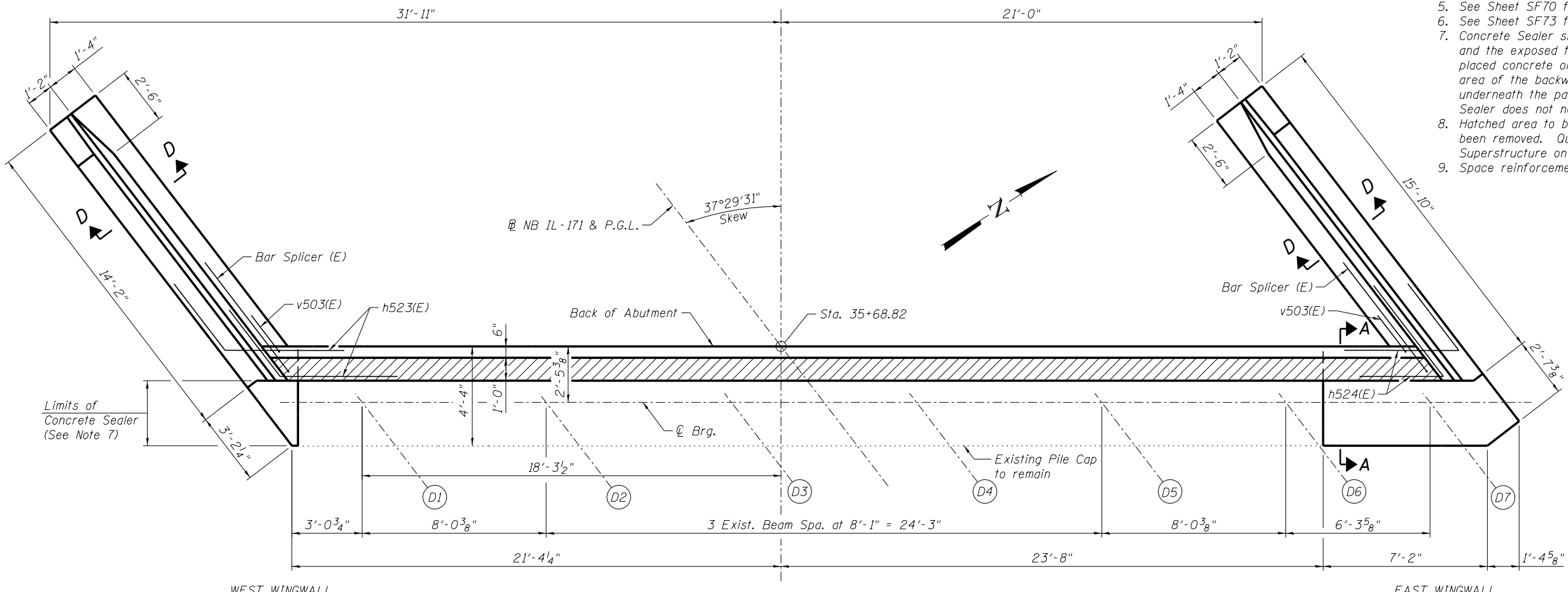


ELEVATION

*Drill and grout bars according to Article 584 of the Std. Specifications with a minimum embedment of 6". Cost included with Concrete Structures.

NOTES:

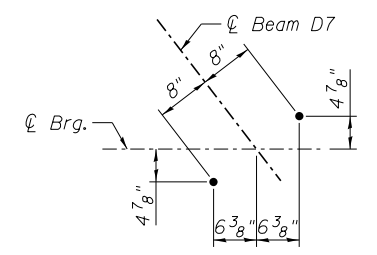
- Existing reinforcement shall be cleaned and incorporated in the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- See Sheet SF70 for footing reinforcement for Wingwalls.
- See Sheet SF72 for Wingwall reinforcement.
- See Sheet SF72 for Sections D-D and E-E.
- See Sheet SF70 for Section A-A.
- See Sheet SF73 for reinforcing bar bends & Bill of Material.
- Concrete Sealer shall be applied to the area of the bearing seat and the exposed front face of the abutment pile cap for the newly placed concrete only. Concrete Sealer shall also be applied to the area of the backwall and the vertical faces of both wingwalls underneath the parapet and in line with the backwall. Concrete Sealer does not need to be applied to existing concrete.
- Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure on Sheet SF35.
- Space reinforcement in cap to miss anchor bolts.



PLAN

MINIMUM BAR LAP

#5 bar - 3'-3"
#6 bar - 3'-10"



ANCHOR BOLT DETAIL

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

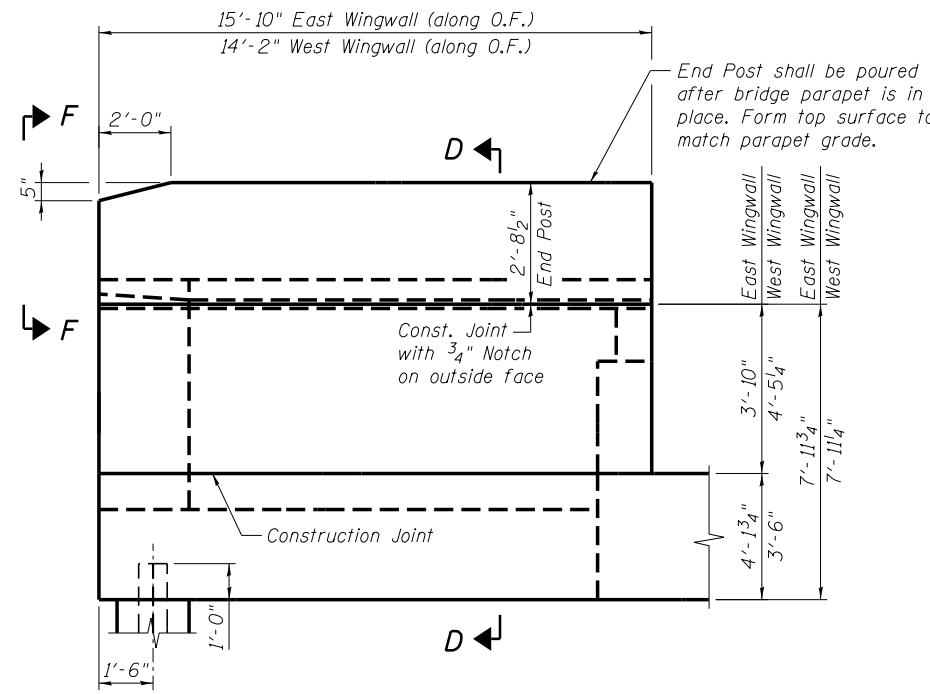
**NORTH ABUTMENT WIDENING DETAILS (2 OF 3)
STRUCTURE NO. 016-0487**

SHEET NO. SF71 OF SF96 SHEETS

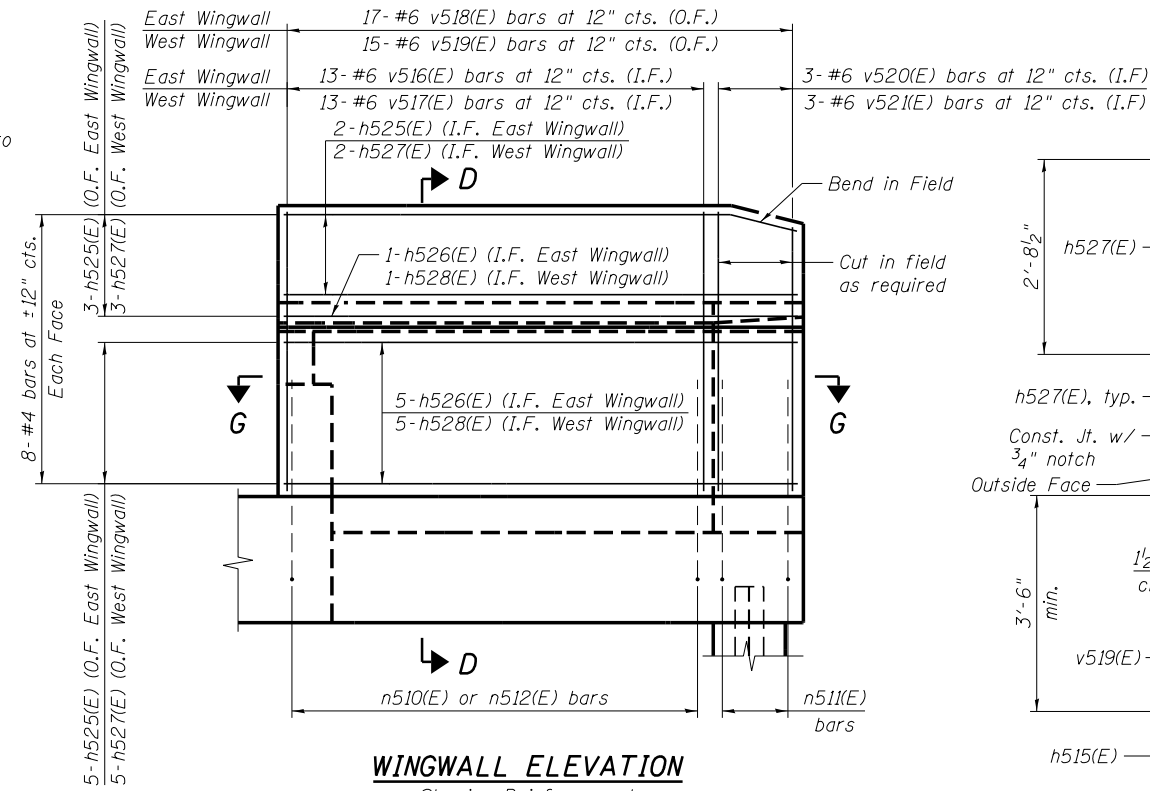
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	597
CONTRACT NO. 60W75				

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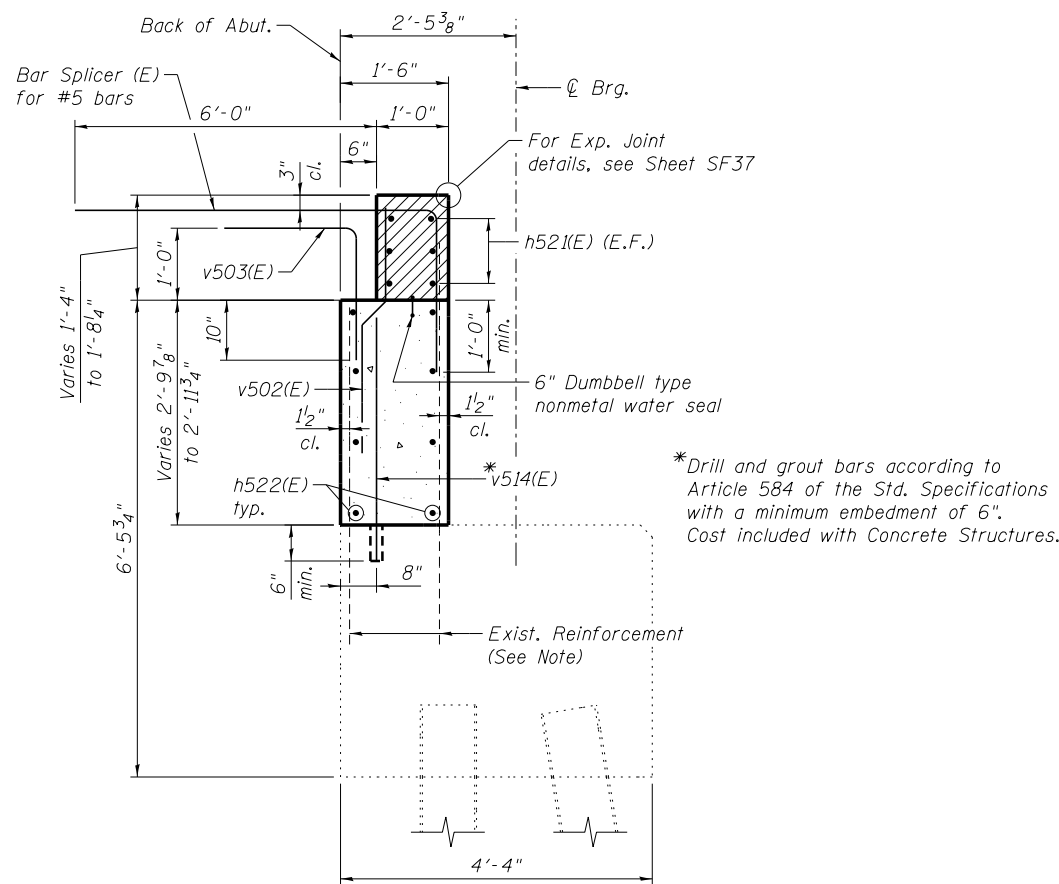
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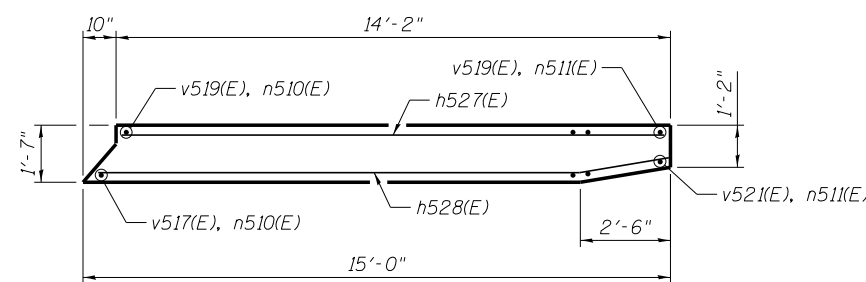
WINGWALL ELEVATION
Showing Dimensions



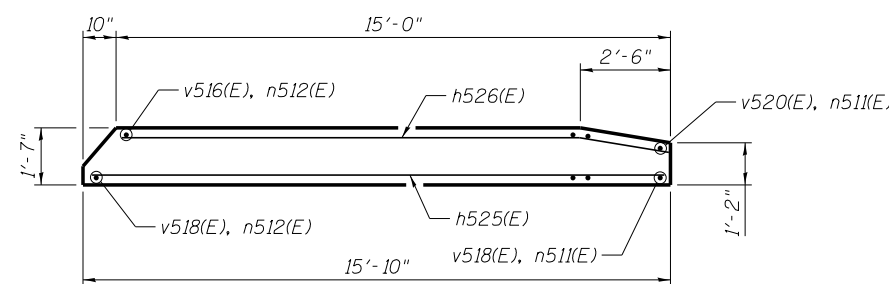
WINGWALL ELEVATION
Showing Reinforcement
(See Sheet SF70 for additional reinforcement in Wingwall Footings)



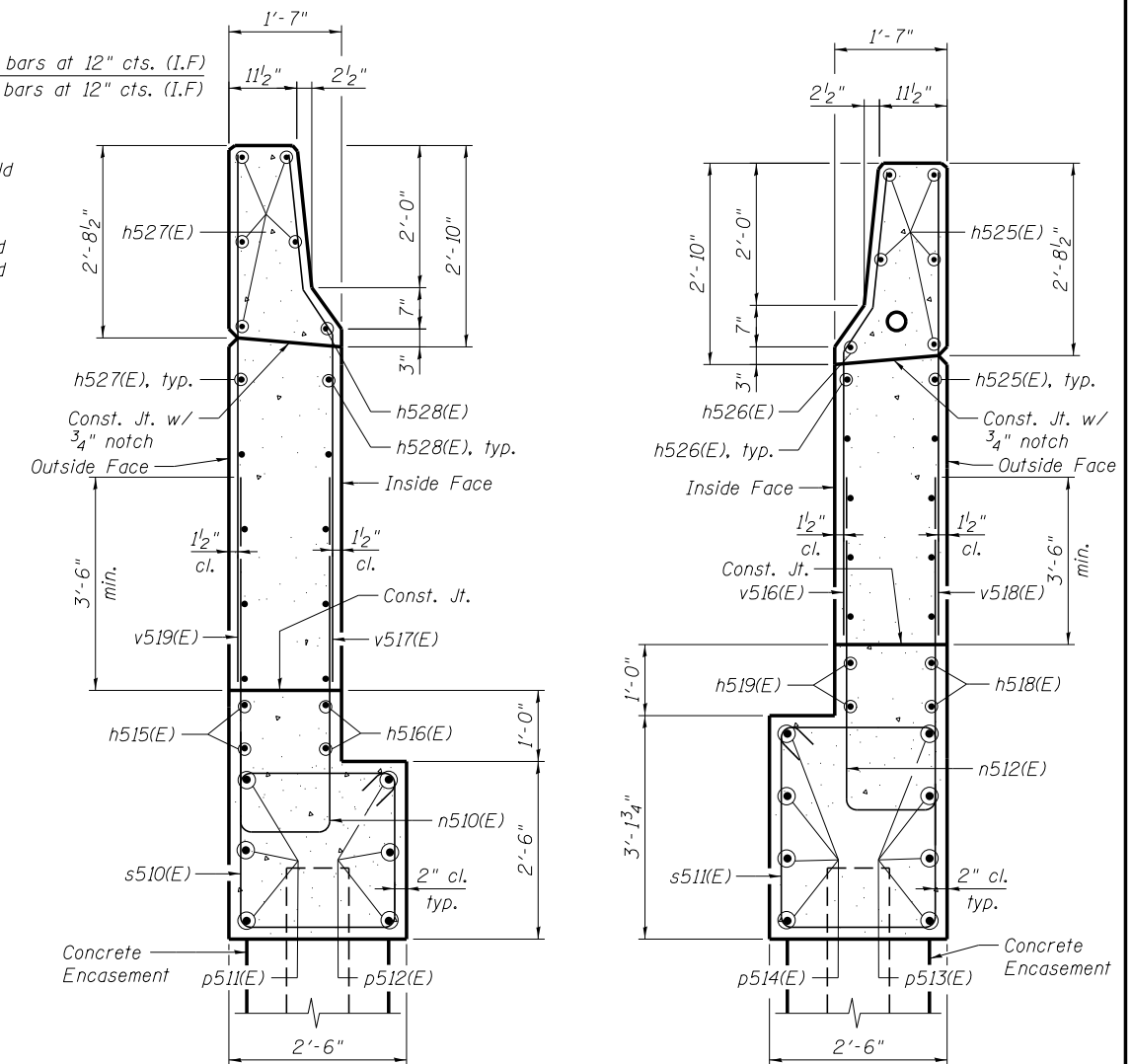
SECTION E-E
(Thru exist. Abutment)



SECTION G-G
West Wingwall

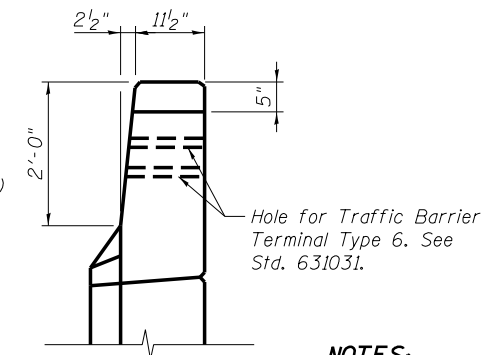


SECTION G-G
East Wingwall



SECTION D-D
West Wingwall

SECTION D-D
East Wingwall
(1-2" PVC Conduit. See Lighting Plans for details.)



VIEW F-F

- NOTES:**
- Existing reinforcement shall be cleaned and incorporated in the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
 - Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure on Sheet SF35.
 - Quantity of concrete in end posts included with Concrete Superstructure on Sheet SF41.

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	PLOT DATE = 6/12/2015	DRAWN - RMG	REVISED -
		CHECKED - AJK	REVISED -

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NORTH ABUTMENT WIDENING DETAILS (3 OF 3)
STRUCTURE NO. 016-0487

SHEET NO. SF72 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	598
CONTRACT NO. 60W75				
ILLINOIS FED. AID PROJECT				

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**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h500(E)	2	#5	17'-2"	
h501(E)	12	#6	24'-6"	
h503(E)	4	#5	5'-2"	
h504(E)	8	#5	24'-3"	
h505(E)	2	#5	17'-11"	
h506(E)	4	#5	17'-7"	
h507(E)	12	#5	9'-6"	
h508(E)	12	#5	9'-6"	
h511(E)	10	#4	14'-3"	
h512(E)	12	#4	14'-8"	
h513(E)	10	#4	15'-0"	
n500(E)	13	#6	14'-8"	
n501(E)	12	#6	7'-4"	
n502(E)	13	#6	12'-10"	
p500(E)	8	#7	17'-2"	
p503(E)	12	#7	5'-10"	
p504(E)	8	#7	4'-11"	
p505(E)	8	#7	4'-0"	
p506(E)	3	#7	17'-11"	
p507(E)	3	#7	12'-11"	
s500(E)	14	#4	10'-11"	
s501(E)	14	#4	9'-5"	
s502(E)	7	#4	16'-7"	
s503(E)	1	#4	10'-9"	
s504(E)	1	#4	10'-5"	
s505(E)	1	#4	10'-1"	
s506(E)	1	#4	9'-9"	
s507(E)	2	#4	9'-7"	
v500(E)	6	#5	7'-2"	
v501(E)	6	#5	5'-5"	
v502(E)	46	#5	3'-3"	
v503(E)	46	#5	3'-9"	
v504(E)	40	#5	3'-4"	
v505(E)	13	#6	6'-6"	
v506(E)	13	#6	7'-5"	
v507(E)	16	#6	6'-5"	
v508(E)	16	#6	7'-4"	
v509(E)	3	#6	6'-0"	
v510(E)	3	#6	7'-0"	
u500(E)	5	#5	10'-6"	
u501(E)	2	#5	13'-1"	
Structure Excavation	Cu. Yd.		139	
Concrete Structures	Cu. Yd.		29.8	
Reinforcement Bars, Epoxy Coated	Pound		4,400	
Furnishing Steel Piles HP12x53	Foot		123	
Driving Piles	Foot		123	
Test Pile Steel HP12x53	Each		1	
Pile Shoes	Each		4	
Concrete Encasement	Cu. Yd.		1.4	
Concrete Sealer	Sq. Ft.		264	
Granular Backfill for Structures	Cu. Yd.		60	

PILE DATA

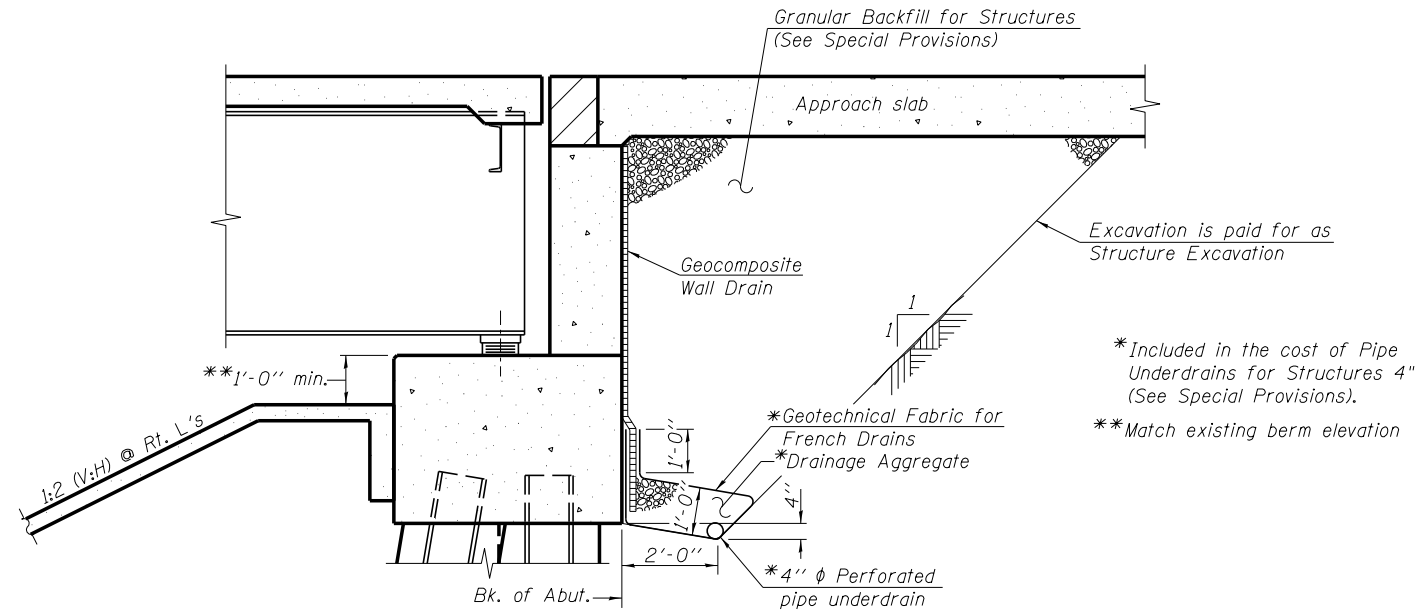
Type: HP12x53 with Pile Shoes
Nominal Required Bearing: 311 kips
Allowable Resistance Available: 104 kips
Est. Length: 41 ft.
No. Production Piles: 3
No. Test Piles: 1

**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h515(E)	2	#5	17'-0"	
h516(E)	2	#5	15'-5"	
h517(E)	5	#5	7'-0"	
h518(E)	2	#5	18'-1"	
h519(E)	2	#5	17'-11"	
h520(E)	6	#5	6'-3"	
h521(E)	12	#6	27'-3"	
h522(E)	8	#5	27'-0"	
h523(E)	12	#5	9'-6"	
h524(E)	12	#5	9'-6"	
h525(E)	10	#4	15'-6"	
h526(E)	6	#4	14'-9"	
h527(E)	10	#4	13'-10"	
h528(E)	6	#4	14'-7"	
n510(E)	12	#6	13'-4"	
n511(E)	12	#6	7'-2"	
n512(E)	13	#6	15'-4"	
p510(E)	12	#7	7'-8"	
p511(E)	3	#7	17'-0"	
p512(E)	3	#7	13'-3"	
p513(E)	4	#7	18'-1"	
p514(E)	4	#7	15'-6"	
p516(E)	8	#7	3'-4"	
p517(E)	8	#7	5'-2"	
s510(E)	15	#4	9'-5"	
s511(E)	16	#4	10'-7"	
s512(E)	7	#4	16'-3"	
v502(E)	51	#5	3'-3"	
v503(E)	51	#5	3'-9"	
v511(E)	6	#5	6'-0"	
v512(E)	6	#5	5'-0"	
v514(E)	45	#5	3'-2"	
v516(E)	13	#6	6'-5"	
v517(E)	13	#6	7'-0"	
v518(E)	17	#6	6'-4"	
v519(E)	15	#6	6'-11"	
v520(E)	3	#6	6'-0"	
v521(E)	3	#6	6'-7"	
u510(E)	1	#5	5'-2"	
u511(E)	1	#5	6'-8"	
u512(E)	1	#5	7'-2"	
u513(E)	5	#5	5'-9"	
Structure Excavation	Cu. Yd.		147	
Concrete Structures	Cu. Yd.		28.9	
Reinforcement Bars, Epoxy Coated	Pound		4,510	
Furnishing Steel Piles HP12x53	Foot		141	
Driving Piles	Foot		141	
Test Pile Steel HP12x53	Each		1	
Pile Shoes	Each		4	
Concrete Encasement	Cu. Yd.		1.4	
Concrete Sealer	Sq. Ft.		285	
Granular Backfill for Structures	Cu. Yd.		64	

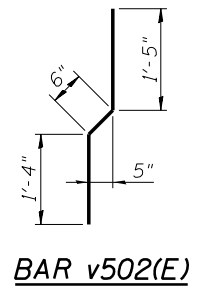
PILE DATA

Type: HP12x53 with Pile Shoes
Nominal Required Bearing: 244 kips
Allowable Resistance Available: 81 kips
Est. Length: 47 ft.
No. Production Piles: 3
No. Test Piles: 1

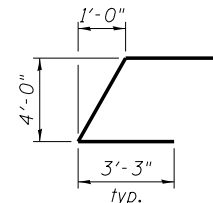


BACKFILL AND DRAINAGE DETAIL

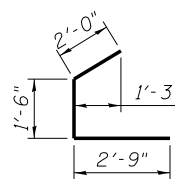
Note:
All drainage system components shall extend parallel to the abutment backwall until they intersect the wingwalls. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls (See Article 601.05 of the Standard Specifications and Highway Standard 60110).



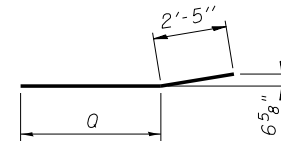
BAR v502(E)



BAR u500(E)

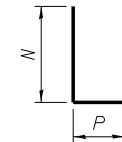


BAR h520(E)



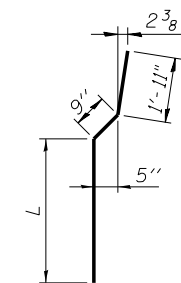
BARS h506(E), h512(E), h516(E), h519(E), h526(E) & h528(E)

Bar	Q
h506(E)	15'-2"
h512(E)	12'-3"
h516(E)	13'-0"
h519(E)	15'-6"
h526(E)	12'-4"
h528(E)	12'-2"



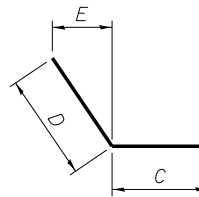
BARS n500(E), n502(E), n510(E), n512(E) & u501(E), u510(E) THRU u513(E)

Bar	N	P
n500(E)	6'-8"	1'-4"
n502(E)	5'-9"	1'-4"
n510(E)	6'-0"	1'-4"
n512(E)	7'-0"	1'-4"
u501(E)	5'-0"	3'-1"
u510(E)	1'-0"	3'-2"
u512(E)	2'-0"	3'-2"
u513(E)	1'-0"	3'-9"



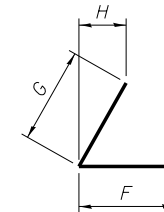
BARS v505(E), v506(E), v516(E) & v517(E)

Bar	L
v505(E)	3'-10"
v506(E)	4'-9"
v516(E)	3'-9"
v517(E)	4'-4"



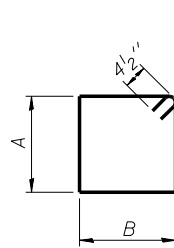
BARS h508(E), h523(E) & p516(E)

Bar	C	D	E
h508(E)	4'-9"	4'-9"	1'-0 3/4"
h523(E)	4'-9"	4'-9"	2'-10 3/4"
p516(E)	1'-4"	2'-0"	1'-3"



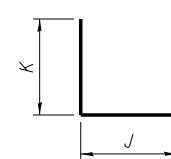
BARS h503(E), h507(E), h524(E) & p505(E)

Bar	F	G	H
h503(E)	1'-11"	3'-3"	8 3/4"
h507(E)	4'-9"	4'-9"	1'-0 3/4"
h524(E)	4'-9"	4'-9"	2'-10 3/4"
p505(E)	2'-0"	2'-0"	5 1/2"



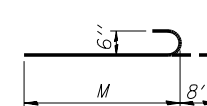
BARS s500(E) THRU s507(E) & s510(E) THRU s512(E)

Bar	A	B
s500(E)	2'-11"	2'-2"
s501(E)	2'-2"	2'-2"
s502(E)	3'-11"	4'-0"
s503(E)	1'-10"	3'-2"
s504(E)	1'-8"	3'-2"
s505(E)	1'-6"	3'-2"
s506(E)	1'-4"	3'-2"
s507(E)	1'-3"	3'-2"
s510(E)	2'-2"	2'-2"
s511(E)	2'-9"	2'-2"
s512(E)	3'-9"	4'-0"



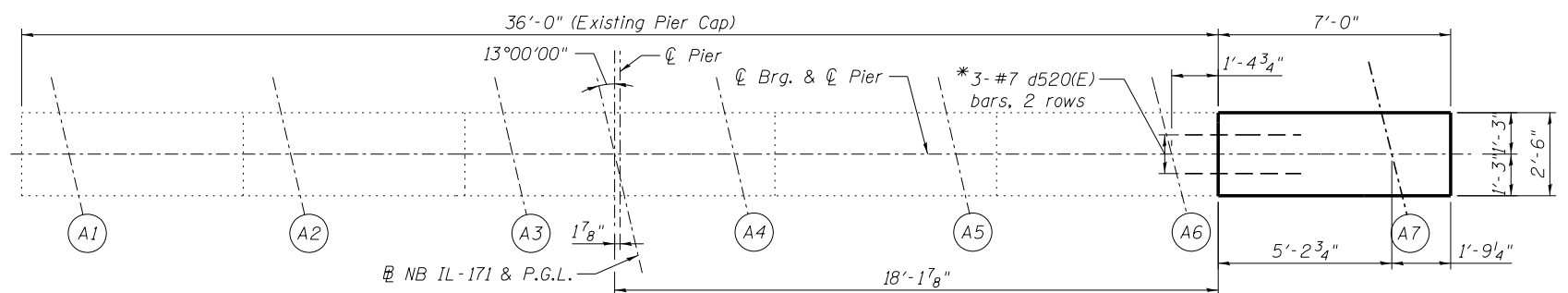
BARS h517(E), p504(E), p517(E) & v503(E)

Bar	J	K
h517(E)	4'-0"	3'-0"
p504(E)	3'-9"	1'-2"
p517(E)	4'-0"	1'-2"
v503(E)	1'-11"	1'-10"

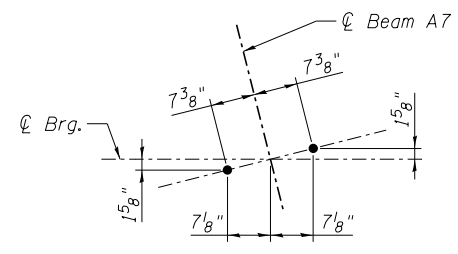


BARS n501(E) & n511(E)

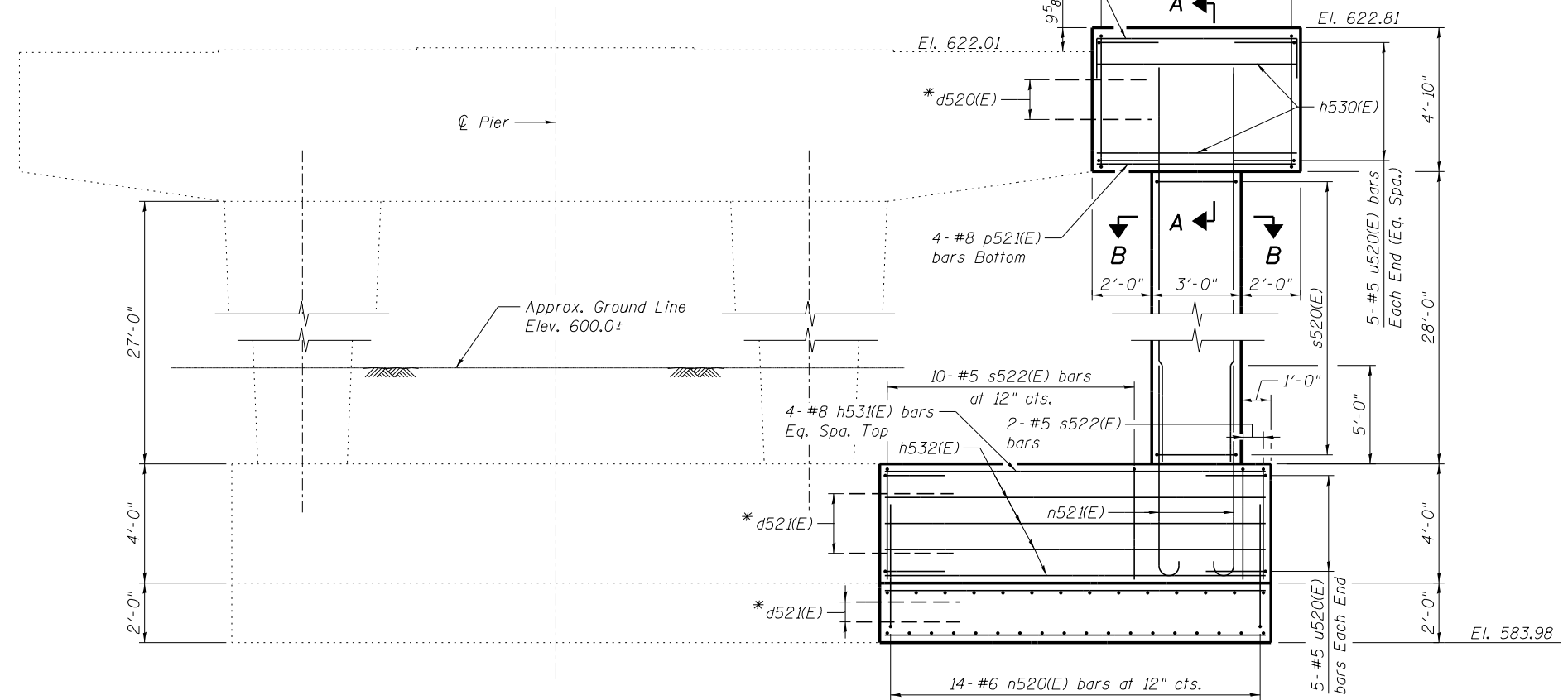
Bar	M
n501(E)	6'-8"
n511(E)	6'-6"



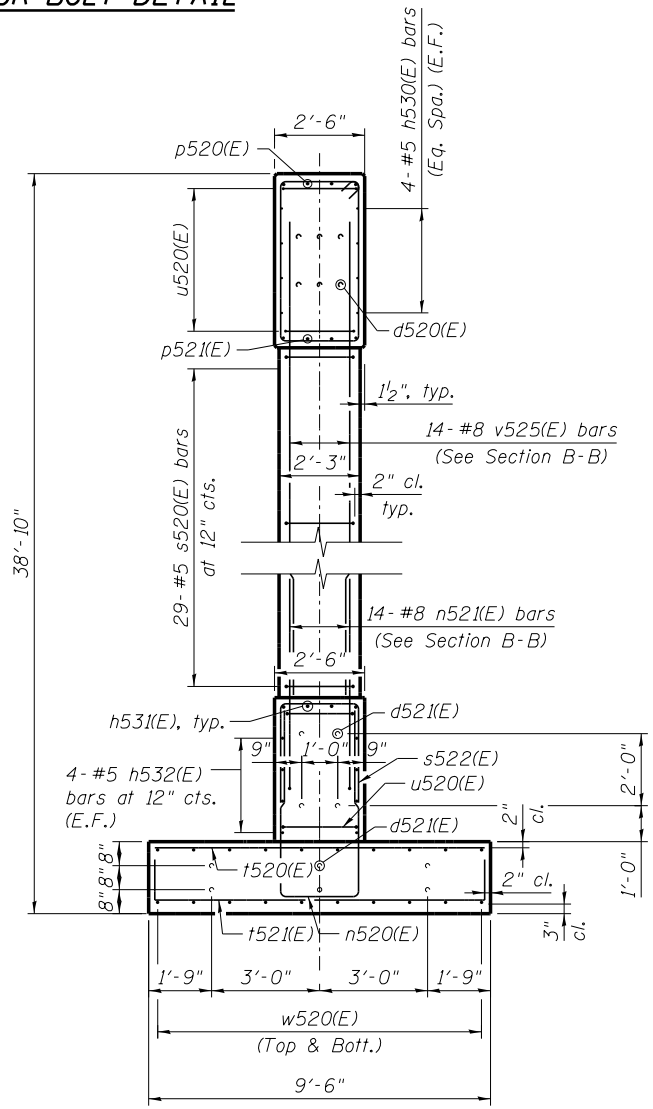
TOP PLAN



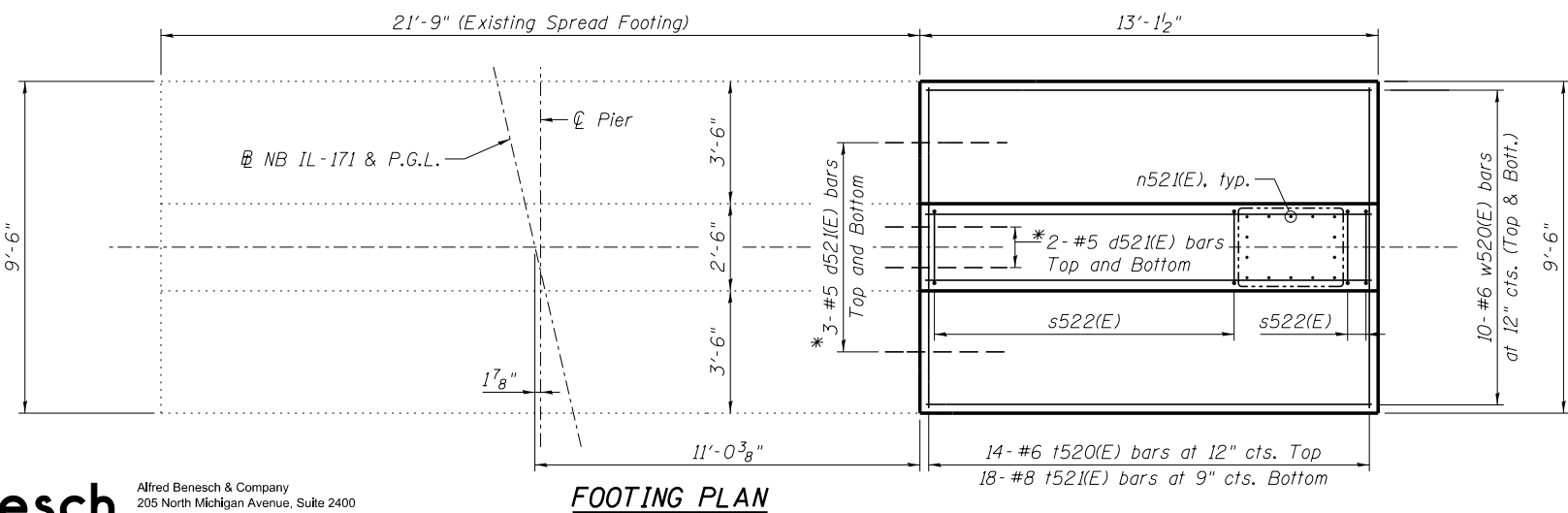
ANCHOR BOLT DETAIL



ELEVATION
(Looking Upstation)



END VIEW



FOOTING PLAN

NOTES:

1. See Sheet SF76 for Sections A-A and B-B.
2. See Sheet SF76 for Bar Bends and Bill of Material.
3. Space reinforcement in cap to miss anchor bolts.

* Drill and grout according to Article 584 of the Standard Specifications with a minimum embedment of 6" (#5 bars) or 8" (#7 bars). Cost included with Concrete Structures.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10093

FILE NAME =	USER NAME = jsurber	DESIGNED - MLM/MWG	REVISED -
0160487.60W75.072.Pier.12.Widening.dgn		CHECKED - JLS	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 6/12/2015	CHECKED - JLS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 12 WIDENING
STRUCTURE NO. 016-0487

SHEET NO. SF74 OF SF96 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
373	2013-037B-R	COOK	787	600
CONTRACT NO. 60W75				

ILLINOIS FED. AID PROJECT