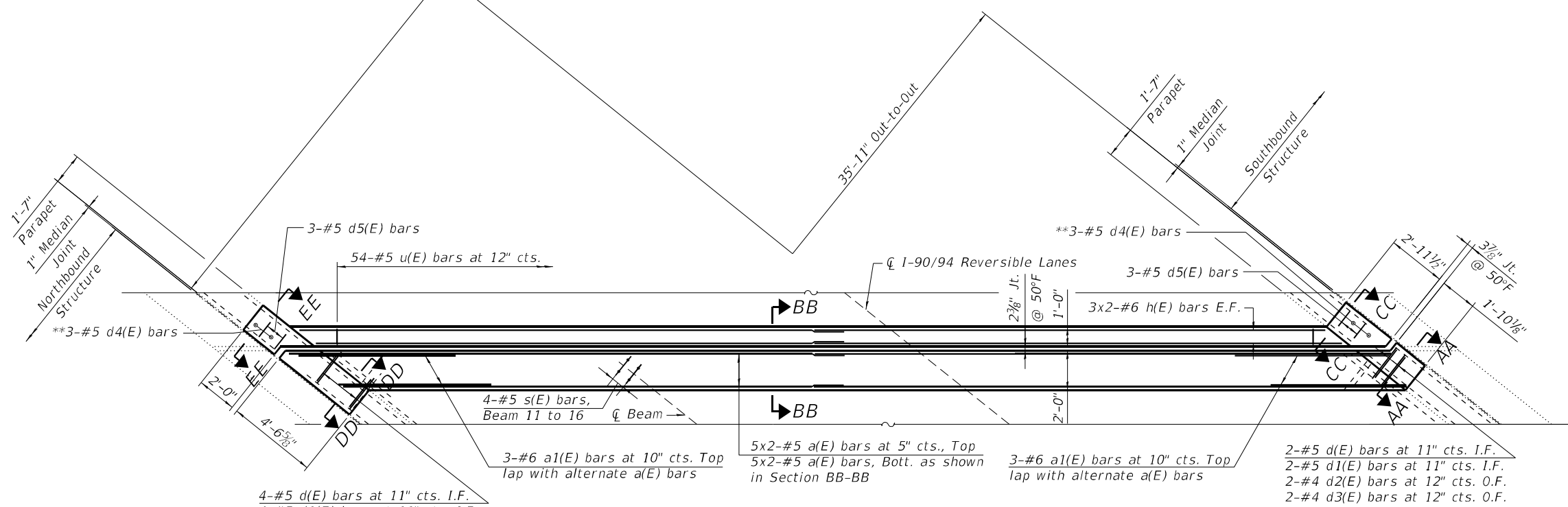


SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

NOTES:

- 1 For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S12-06.
- 2 For sections D-D, E-E, DD-DD and EE-EE, see sheet S12-07.

MODEL: sMODELNAME
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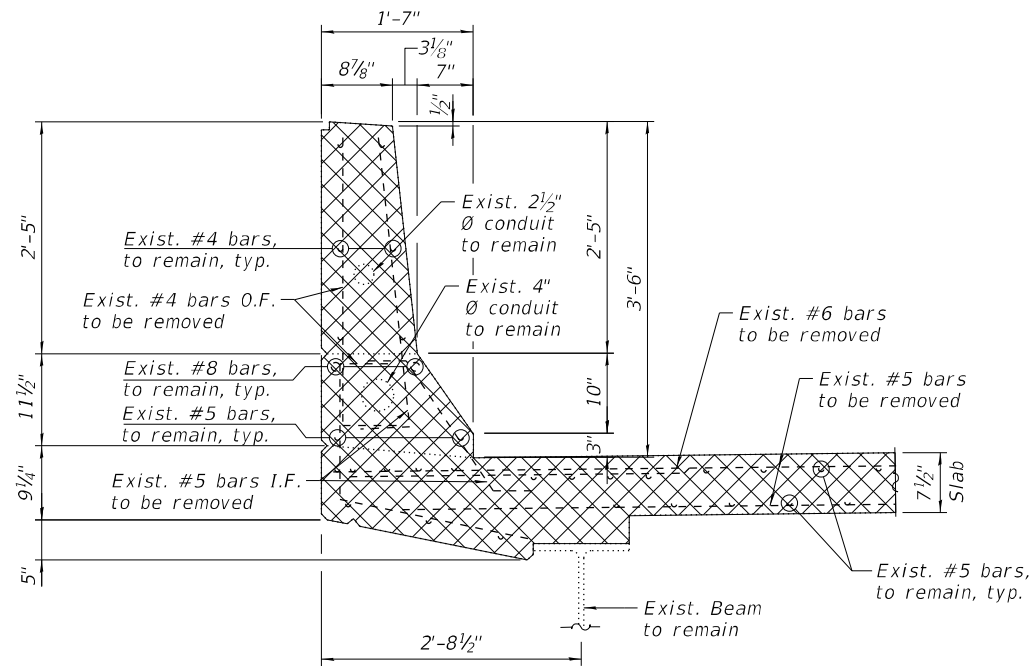
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	CHECKED - H.A.	REVISIONS -
PLOT SCALE =	DRAWN - J.T.B.	REVISIONS -
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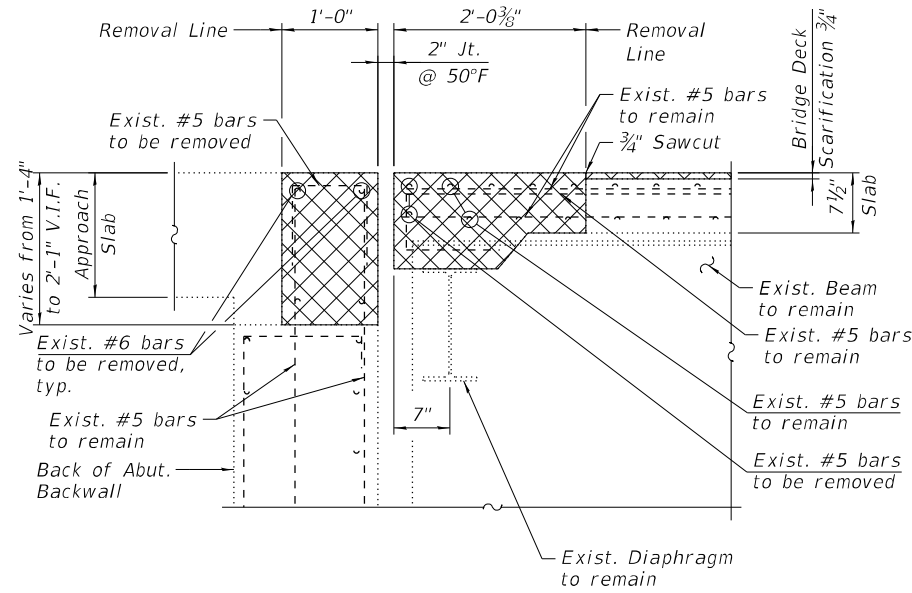
**SOUTH ABUTMENT EXPANSION JOINT DETAILS I
 SN 016-0131 (REV)**

SHEET S12-05 OF S12-18 SHEETS

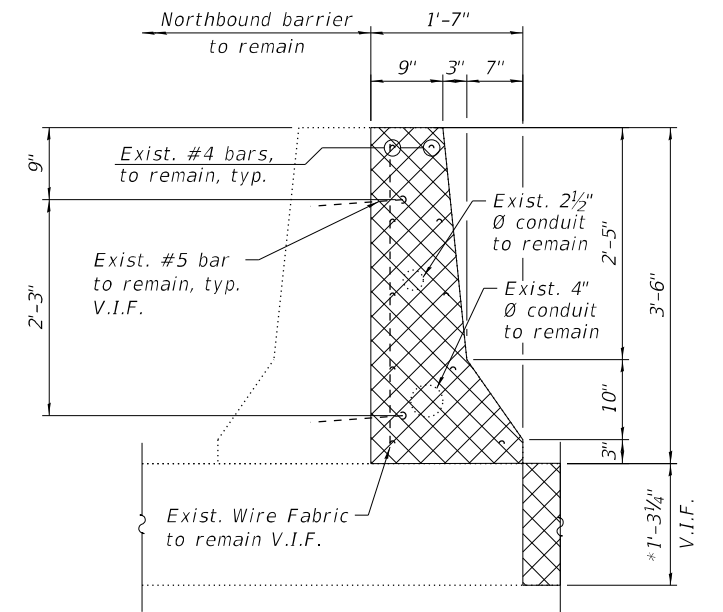
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90	2020-004-BR	COOK	1492	901
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



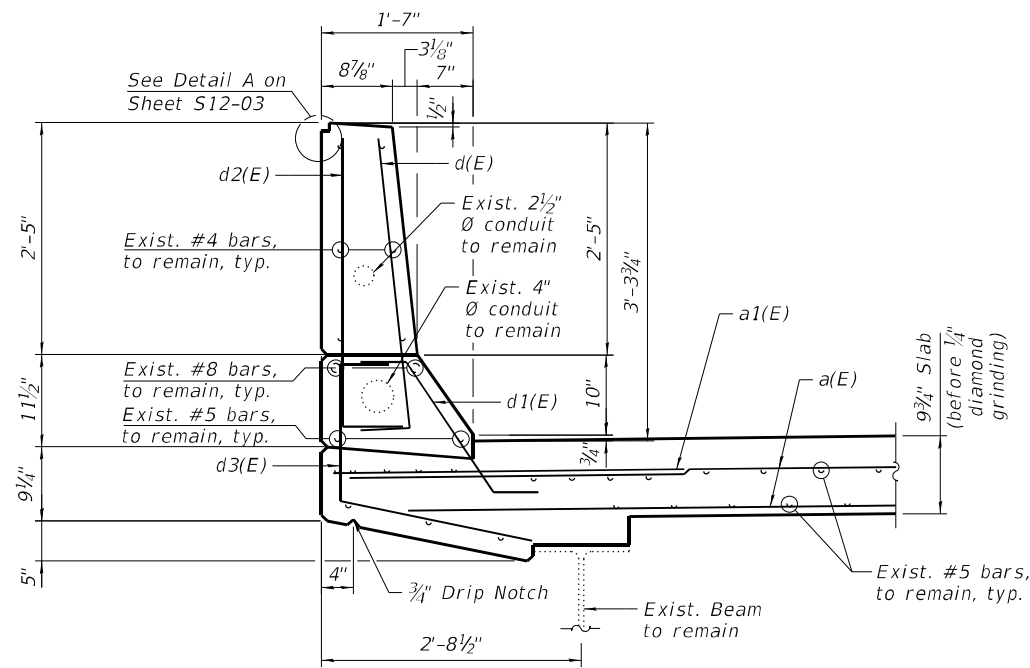
SECTION A-A
(West parapet removal)



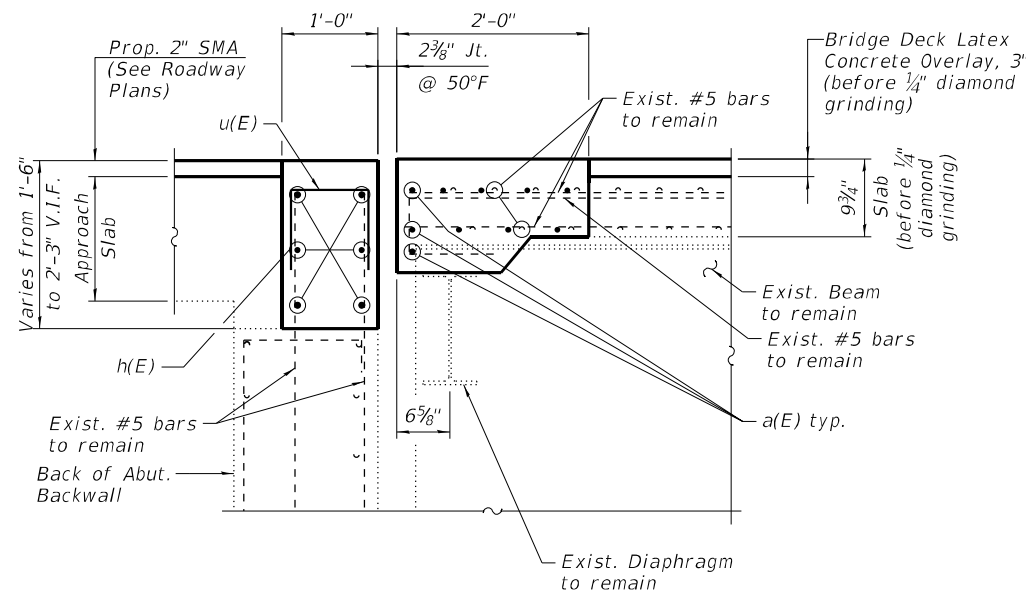
SECTION B-B



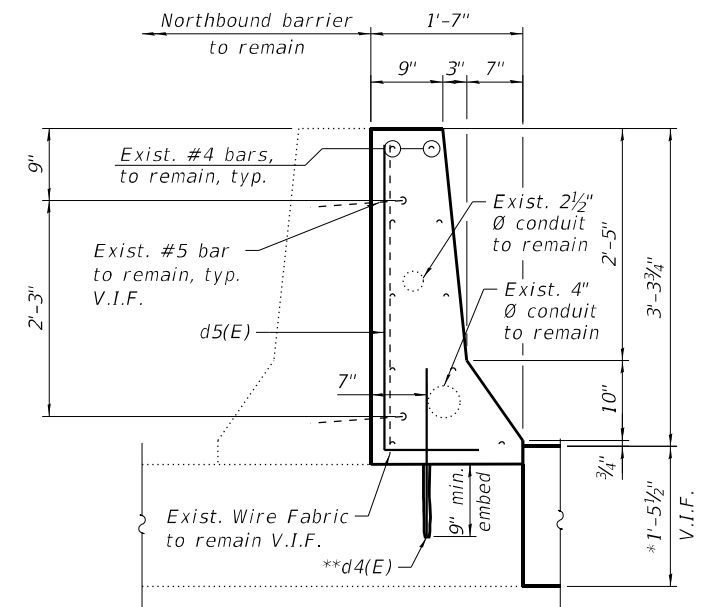
SECTION C-C
(West parapet removal)



SECTION AA-AA
(West parapet reconstruction)



SECTION BB-BB




SECTION CC-CC
(West parapet reconstruction)

* Dimension is taken at the Back of Abut.

** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

-  Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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STATE OF ILLINOIS
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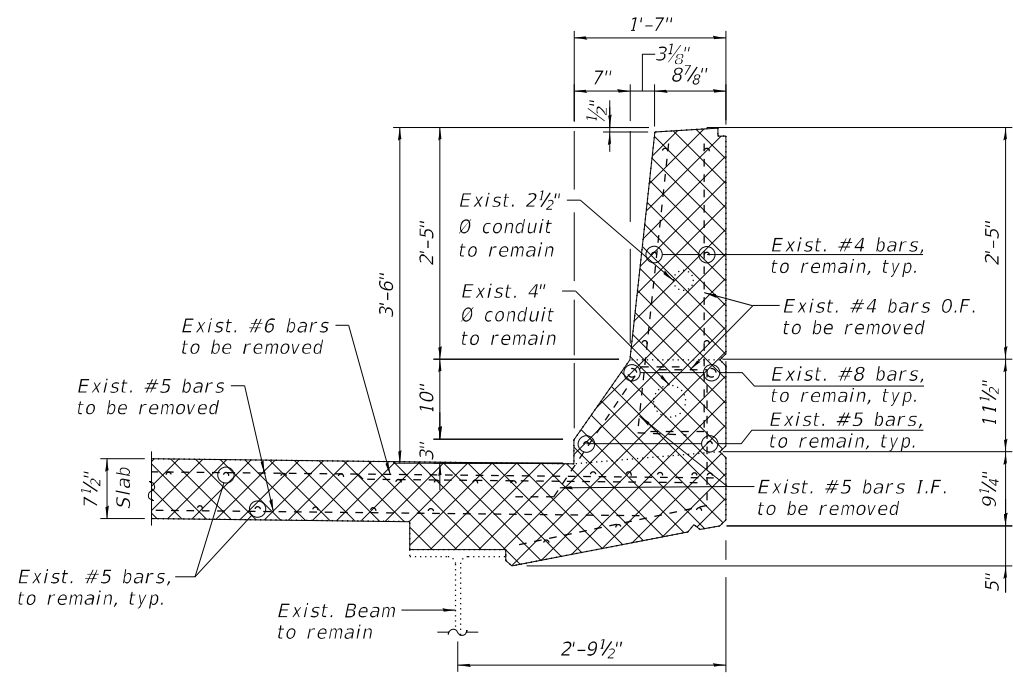
SOUTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0131 (REV)

SHEET S12-06 OF S12-18 SHEETS

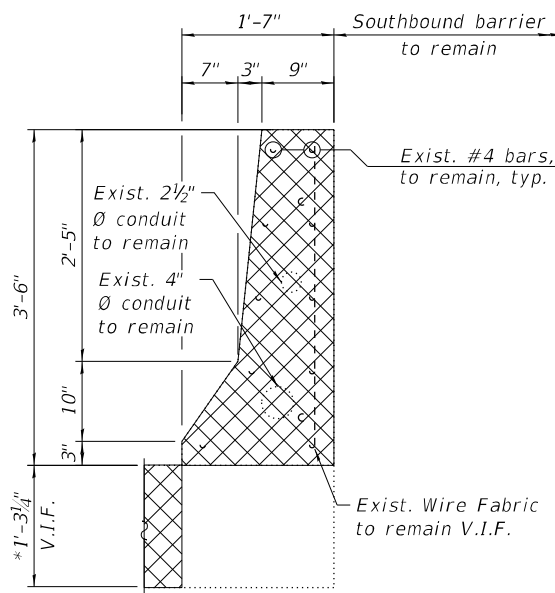
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
SOUTH ABUTMENT**

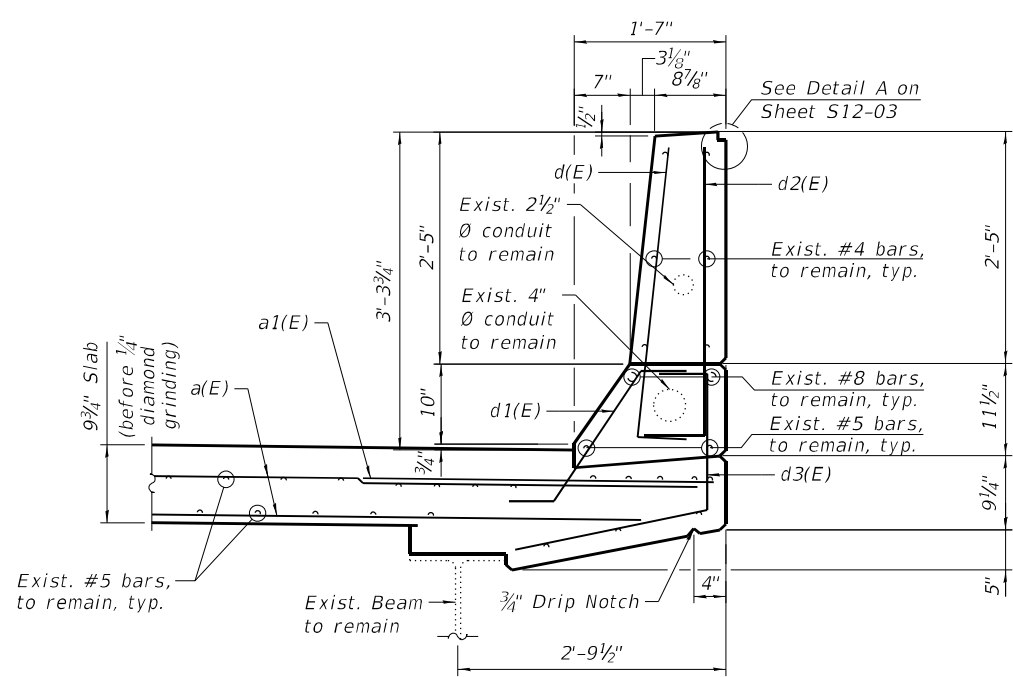
Bar	No.	Size	Length	Shape
a(E)	20	#5	29'-7"	—
a1(E)	6	#6	6'-6"	—
d(E)	6	#5	3'-8"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	6	#4	3'-8"	┌
d3(E)	6	#4	3'-11"	┌
d4(E)	6	#5	1'-10"	┌
d5(E)	6	#5	4'-2"	┌
h(E)	12	#6	31'-0"	—
s(E)	24	#5	3'-0"	┌
u(E)	54	#5	2'-5"	┌
Concrete Removal			Cu Yd	9.4
Reinforcement Bars, Epoxy Coated			Pound	1,570
Concrete Superstructure			Cu Yd	10.4



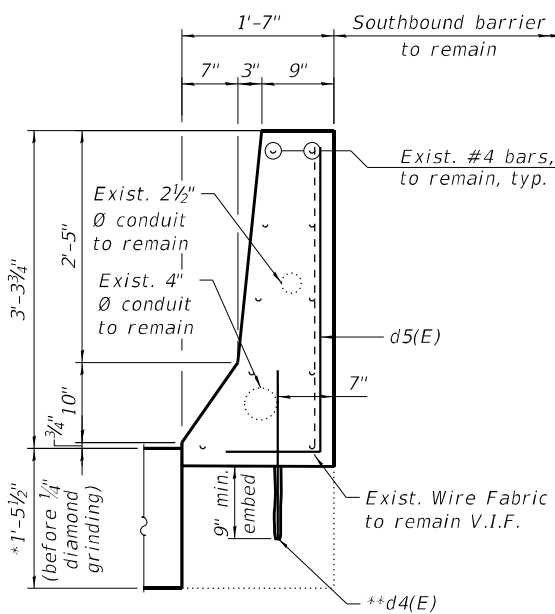
SECTION D-D
(East parapet removal)



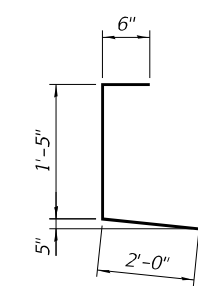
SECTION E-E
(East parapet removal)



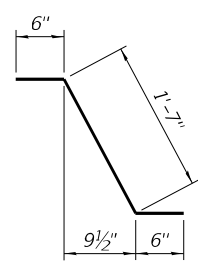
SECTION DD-DD
(East parapet reconstruction)



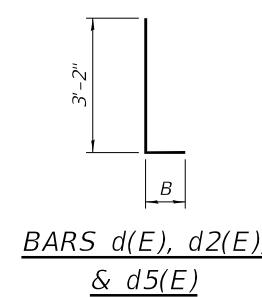
SECTION EE-EE
(East parapet reconstruction)



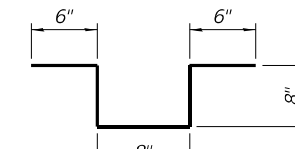
BAR d3(E)



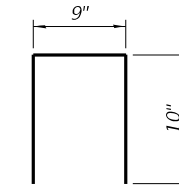
BAR d1(E)



Bar	B
d(E)	6"
d2(E)	6"
d5(E)	1'-0"



BAR s(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S12-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

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GRAEF
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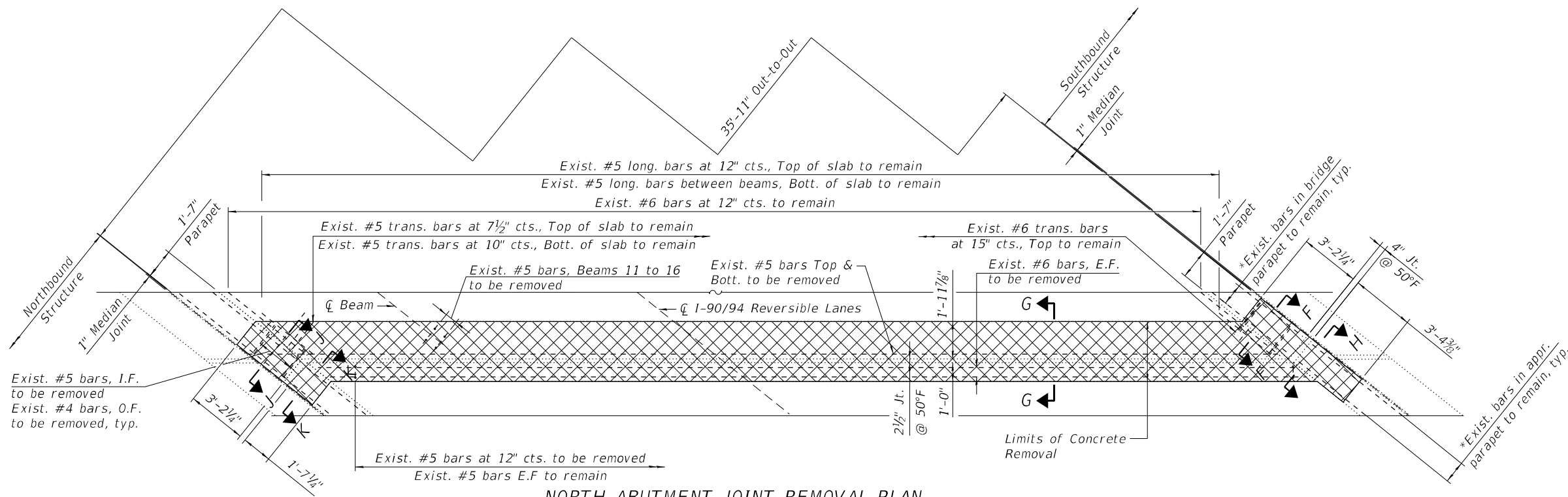
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DEPARTMENT OF TRANSPORTATION**

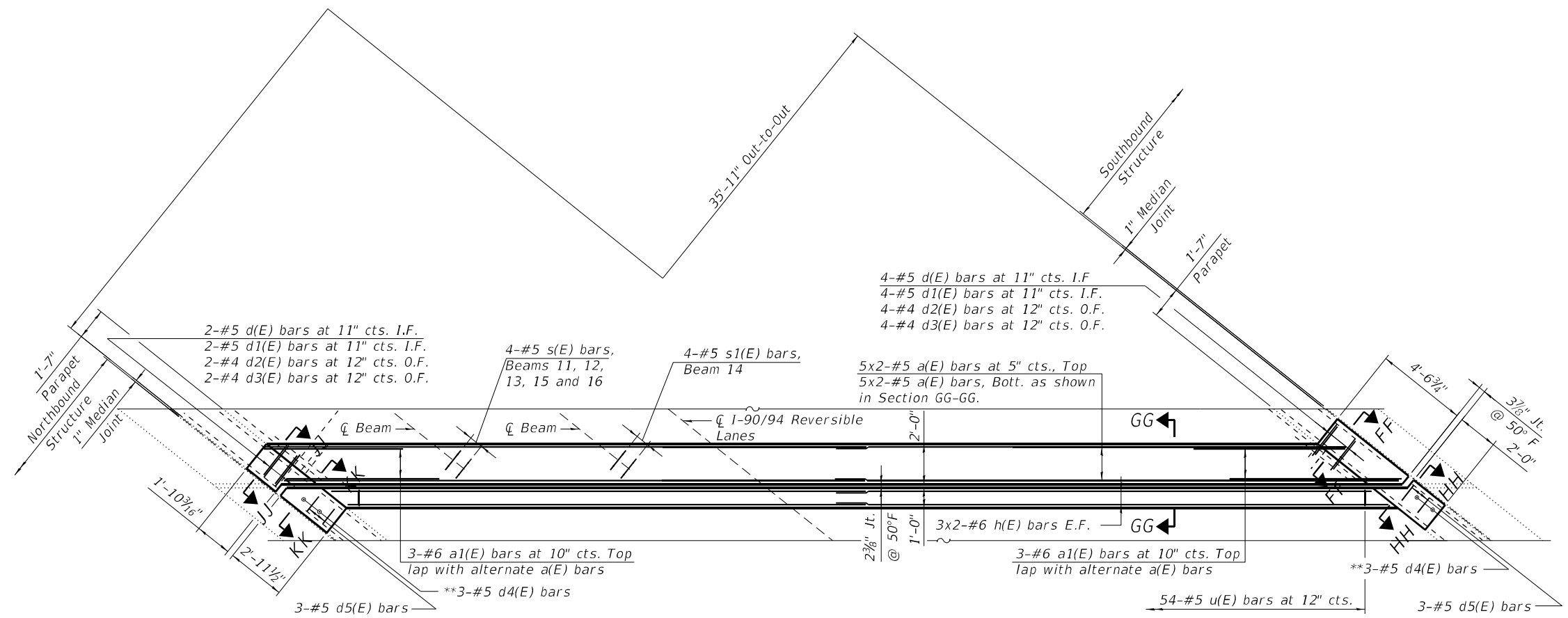
**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0131 (REV)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	903
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S12-07 OF S12-18 SHEETS



NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required
- ** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

NOTES:

1. For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S12-09.
2. For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S12-10.

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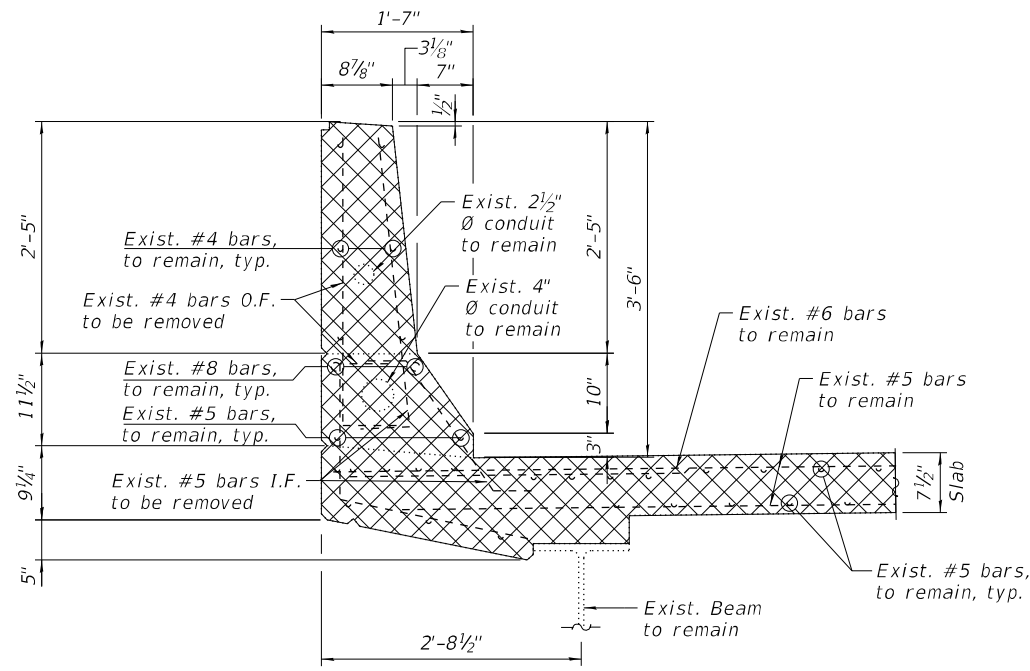
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

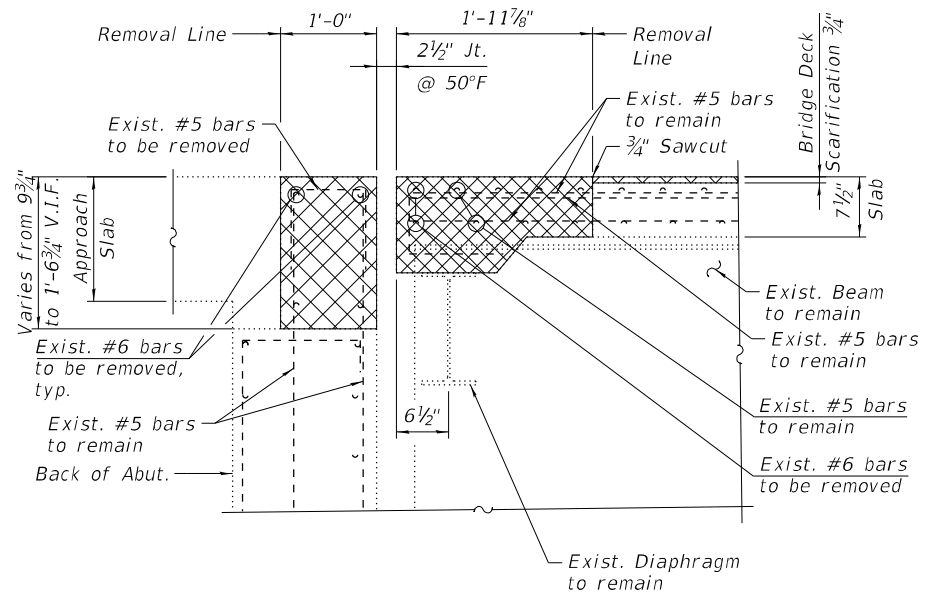
**NORTH ABUTMENT EXPANSION JOINT DETAILS I
 SN 016-0131 (REV)**

SHEET S12-08 OF S12-18 SHEETS

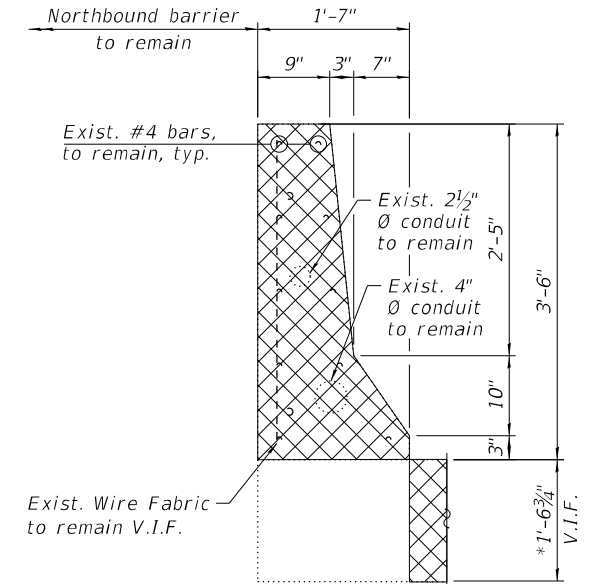
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



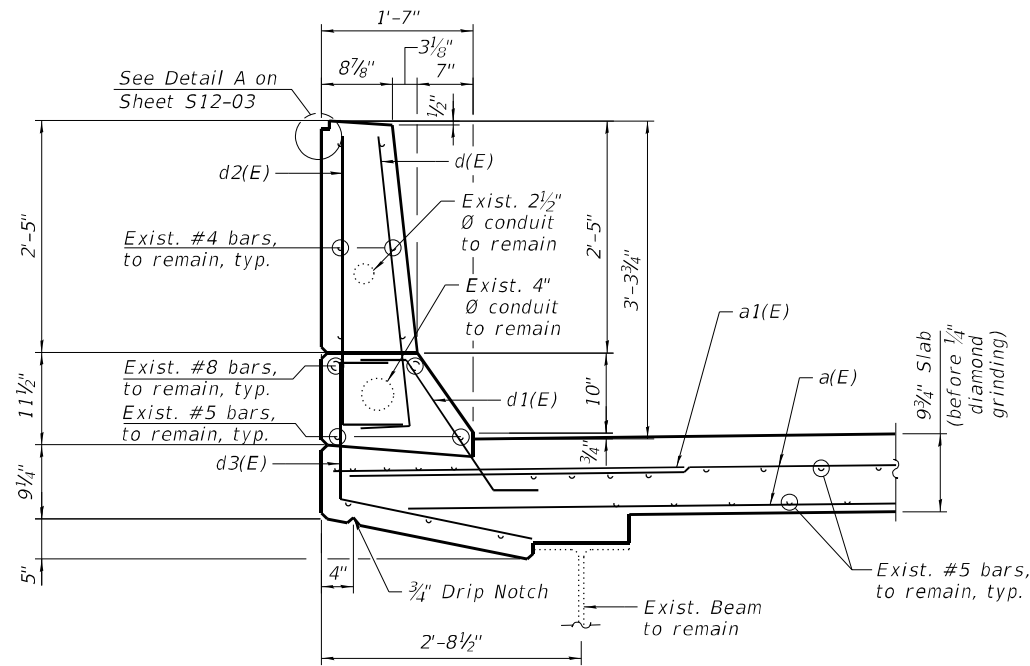
SECTION F-F
(West parapet removal)



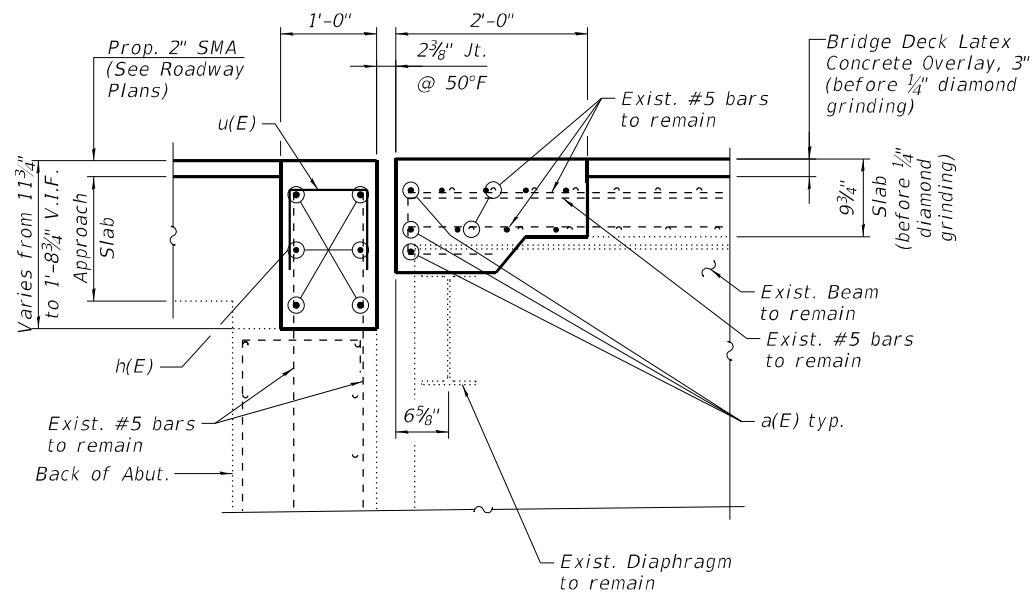
SECTION G-G



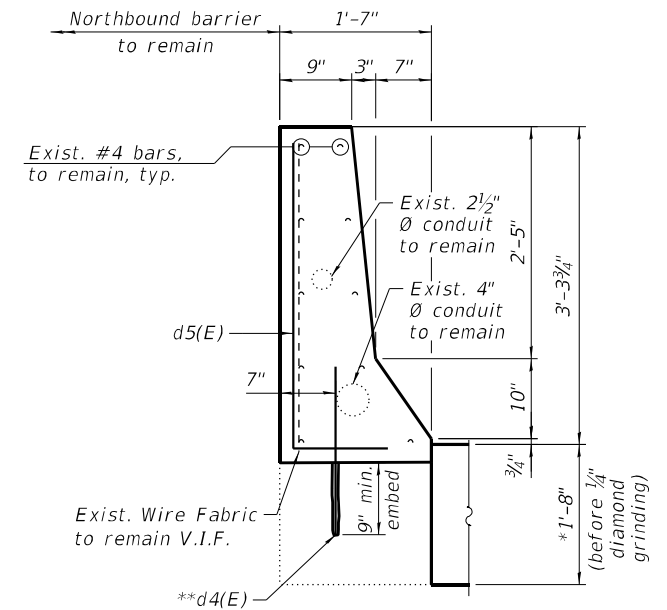
SECTION H-H
(West parapet removal)



SECTION FF-FF
(West parapet reconstruction)



SECTION GG-GG




SECTION HH-HH
(West parapet reconstruction)

* Dimension is taken at the Back of Abut.

** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

-  Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

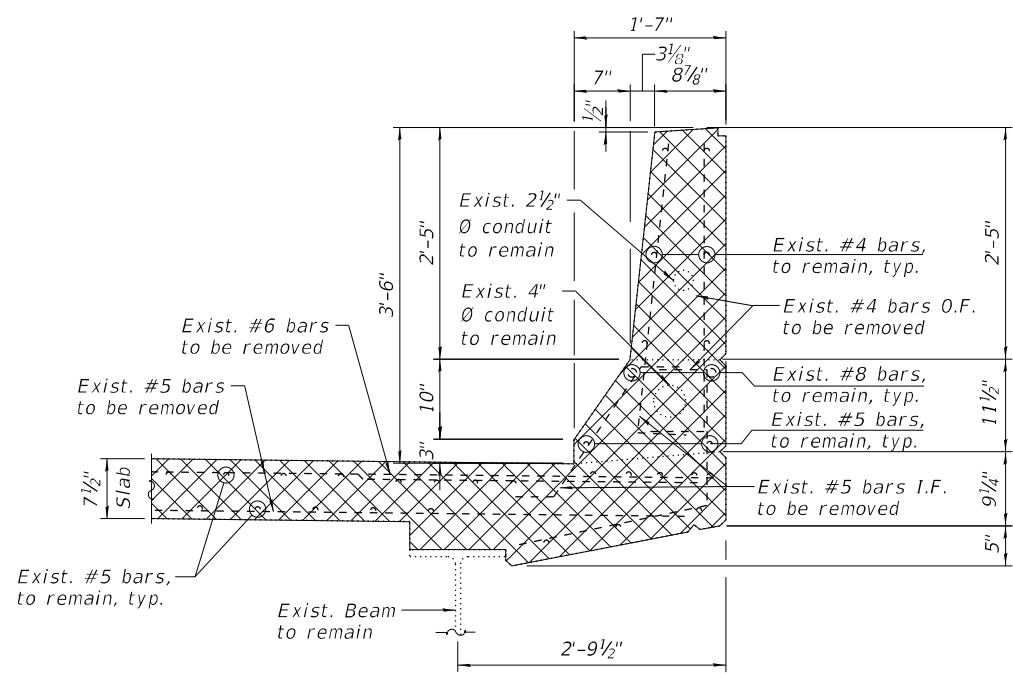
NORTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0131 (REV)

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			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

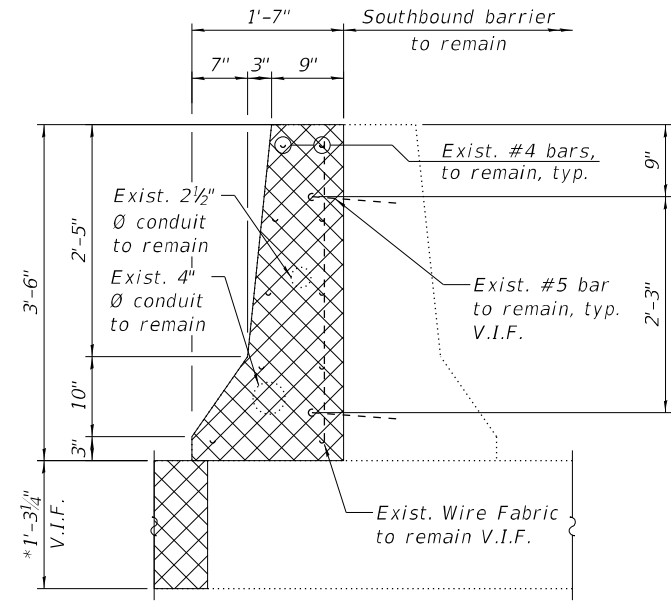
SHEET S12-09 OF S12-18 SHEETS

**BILL OF MATERIAL
NORTH ABUTMENT**

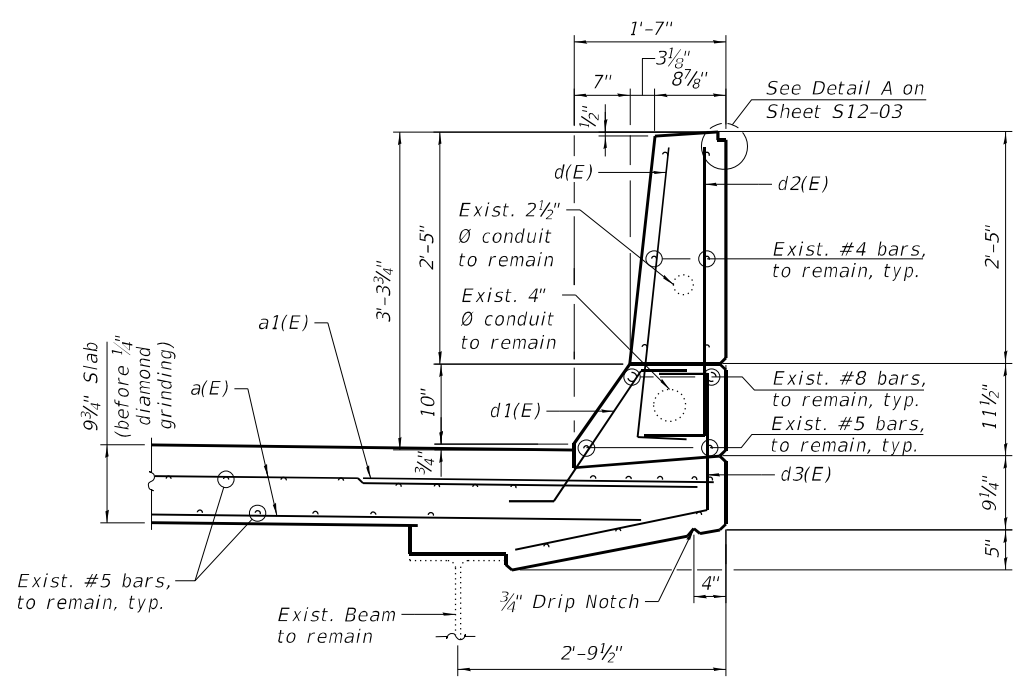
Bar	No.	Size	Length	Shape
a(E)	20	#5	29'-7"	—
a1(E)	6	#6	6'-6"	—
d(E)	6	#5	3'-8"	┌┐
d1(E)	6	#5	2'-7"	┌┐
d2(E)	6	#4	3'-8"	┌┐
d3(E)	6	#4	3'-11"	┌┐
d4(E)	6	#5	1'-10"	┌┐
d5(E)	6	#5	4'-2"	┌┐
h(E)	12	#6	31'-0"	—
s(E)	20	#5	3'-0"	┌┐
s1(E)	4	#5	3'-4"	┌┐
u(E)	54	#5	2'-5"	┌┐
Concrete Removal			Cu Yd	8.3
Reinforcement Bars, Epoxy Coated			Pound	1,580
Concrete Superstructure			Cu Yd	9.4



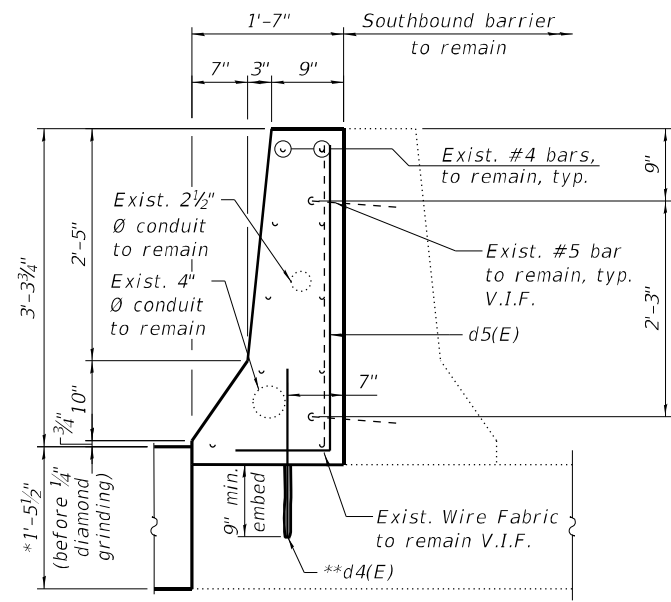
SECTION J-J
(East parapet removal)



SECTION K-K
(East parapet removal)

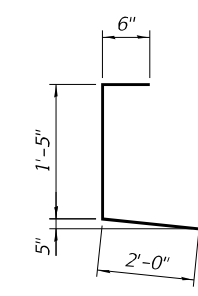


SECTION JJ-JJ
(East parapet reconstruction)

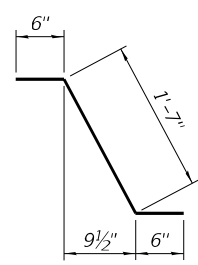


SECTION KK-KK
(East parapet reconstruction)

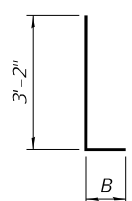
- * Dimension is taken at the Back of Abutment
- ** Epoxy grout #5 d4(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



BAR d3(E)

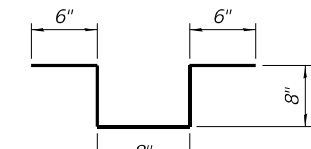


BAR d1(E)

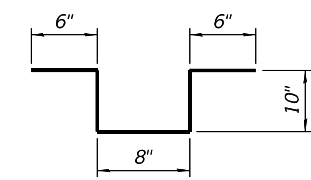


BARS d(E), d2(E), & d5(E)

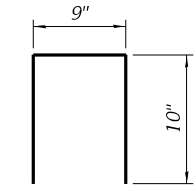
Bar	B
d(E)	6"
d2(E)	6"
d5(E)	1'-0"



BAR s(E)



BAR s1(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S12-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

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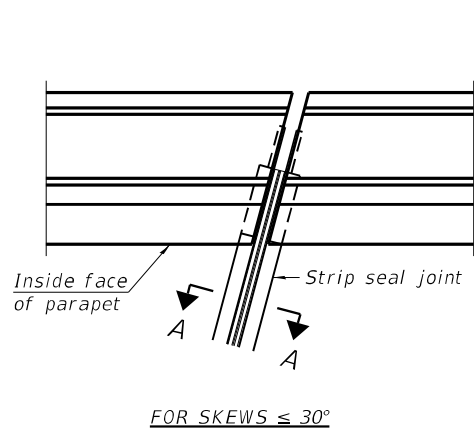
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

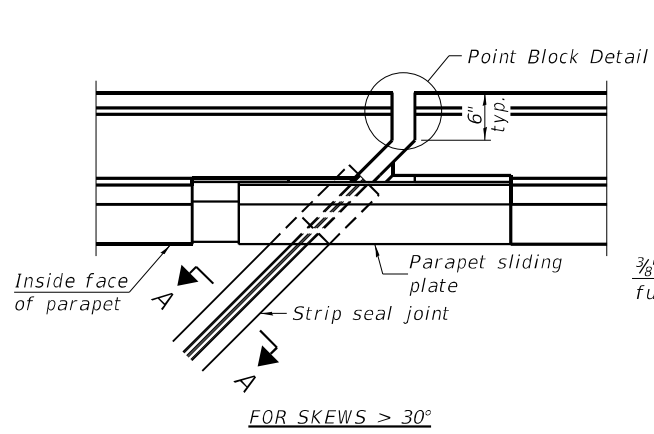
**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0131 (REV)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

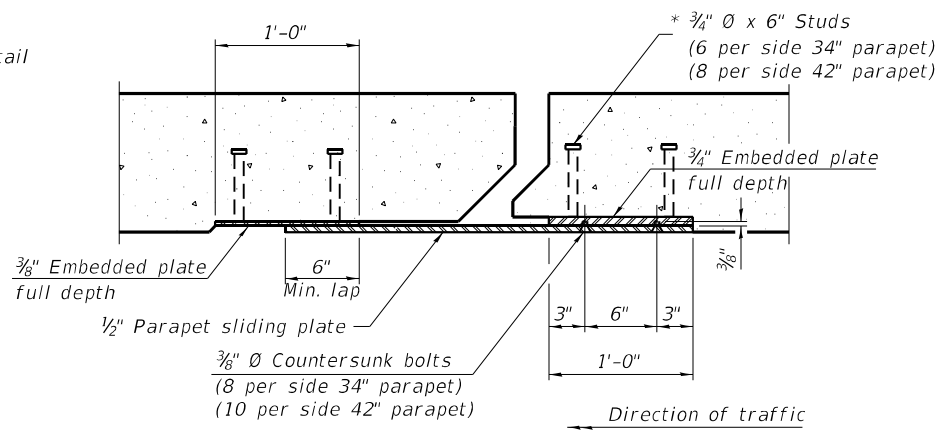
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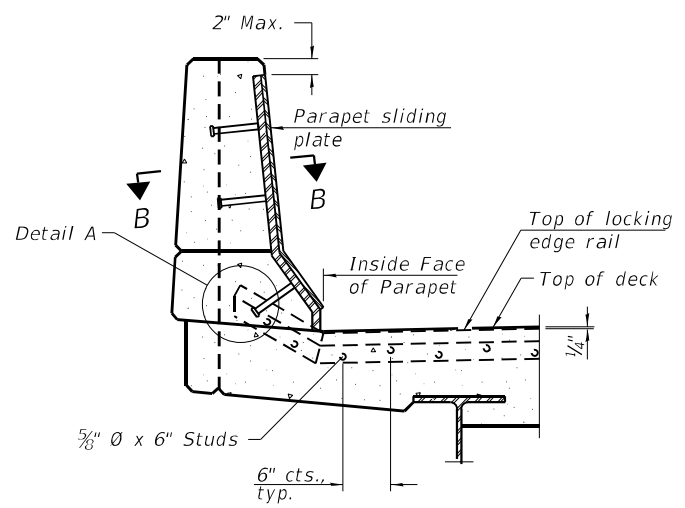
PLAN AT PARAPET



PLAN AT PARAPET

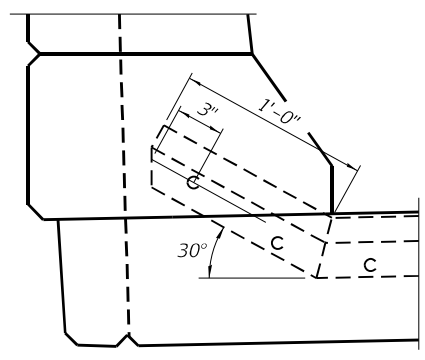


SECTION B-B

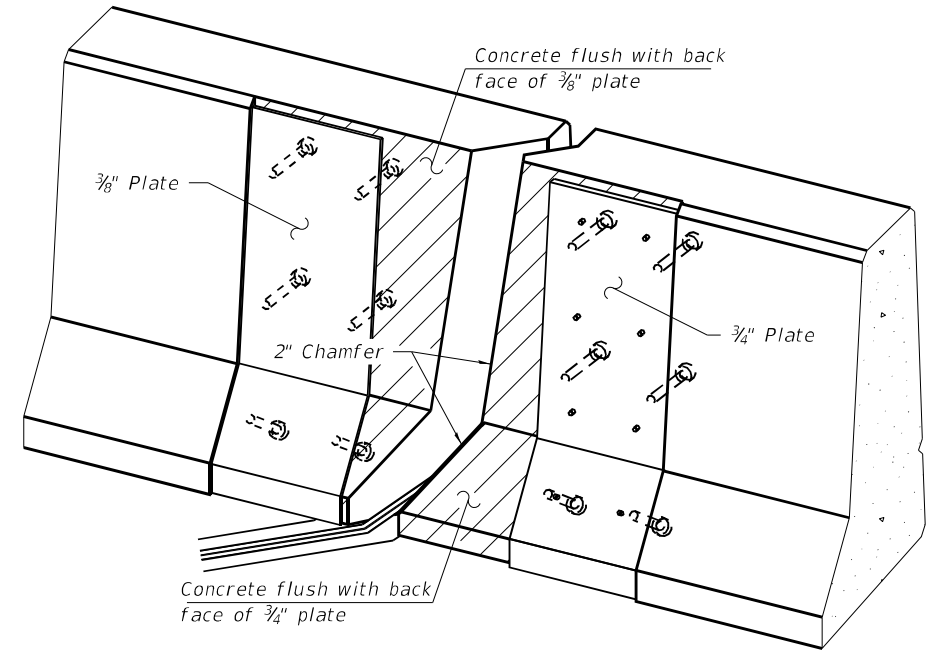


ELEVATION AT PARAPET

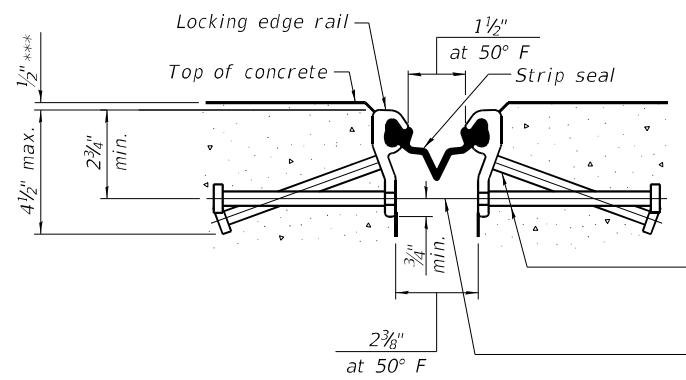
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



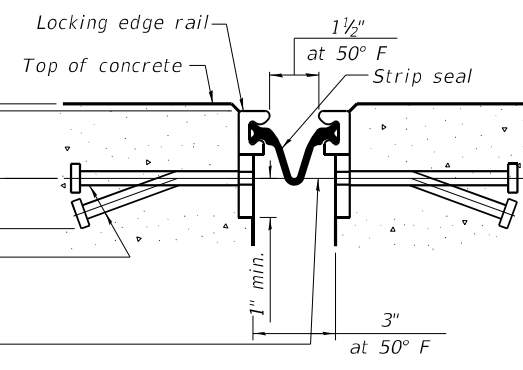
TRIMETRIC VIEW (Showing embedded plates only)



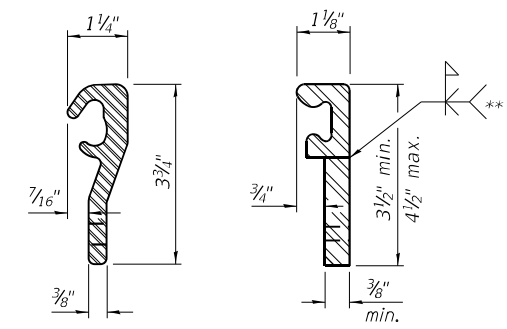
SHOWING ROLLED RAIL JOINT

* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

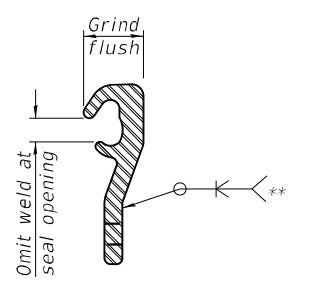


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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

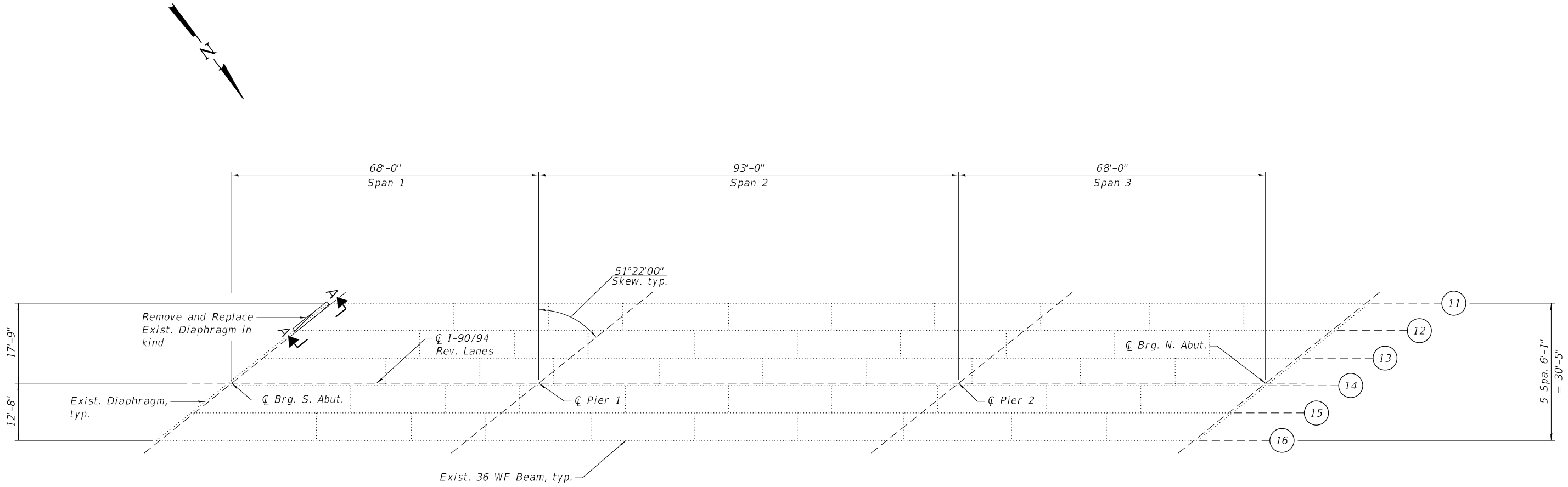


LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	116



FRAMING PLAN

NOTES:

- 1. For Section A-A, see Sheet S12-13.

LEGEND

Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	400
Structural Steel Removal	Pound	400

MODEL: sMODELNAME5
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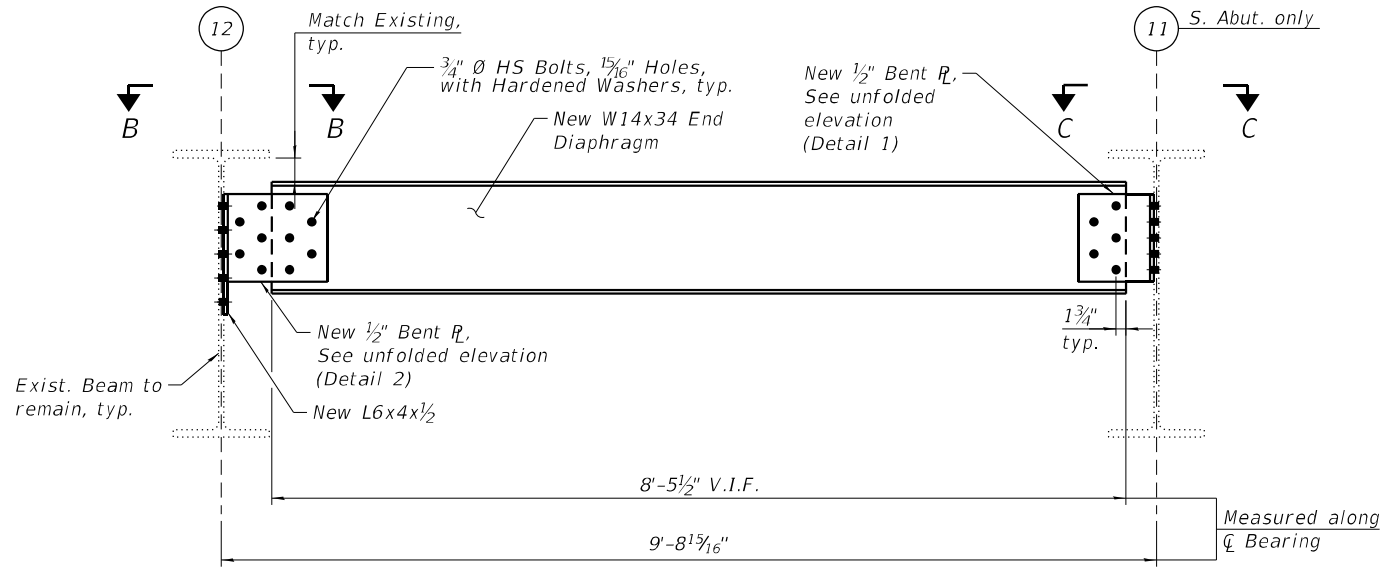
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN
 SN 016-0131 (REV)**

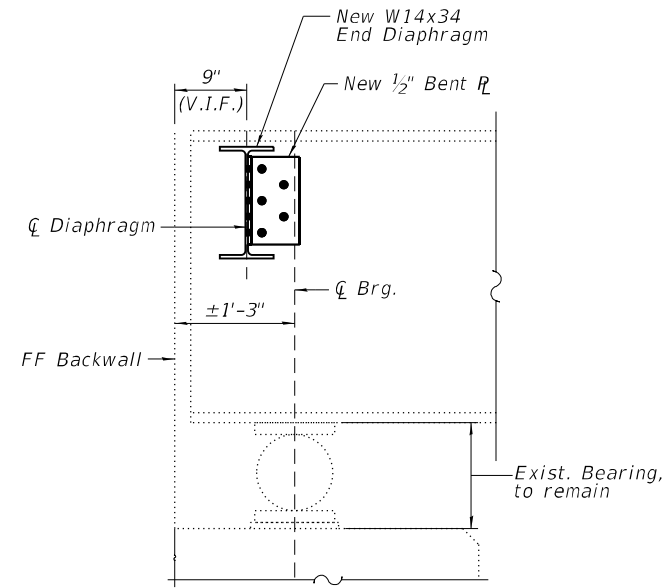
SHEET S12-12 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	908
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

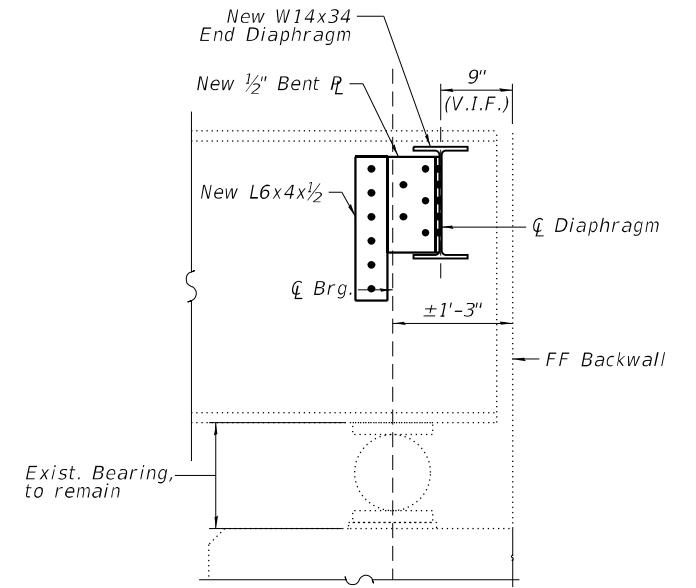
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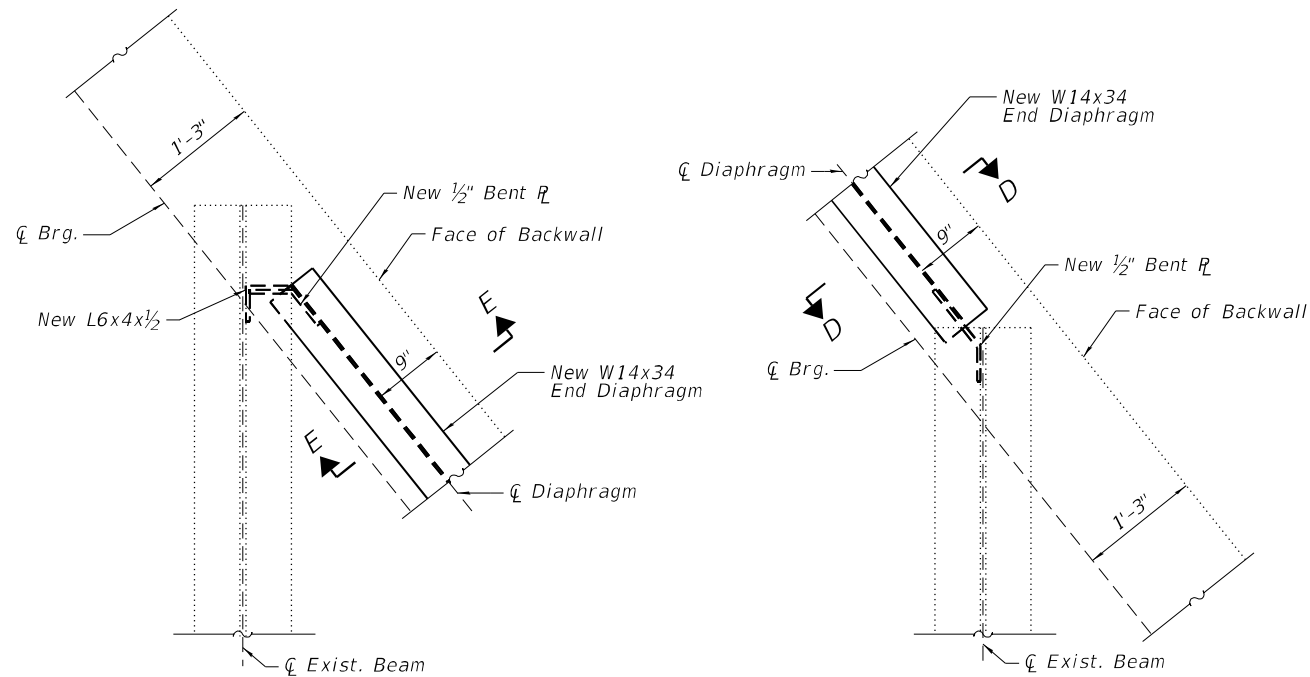
SECTION A-A
 South Abutment shown.
 (1 Required)



SECTION D-D

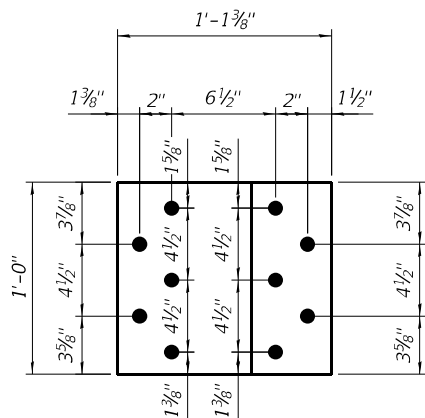


SECTION E-E

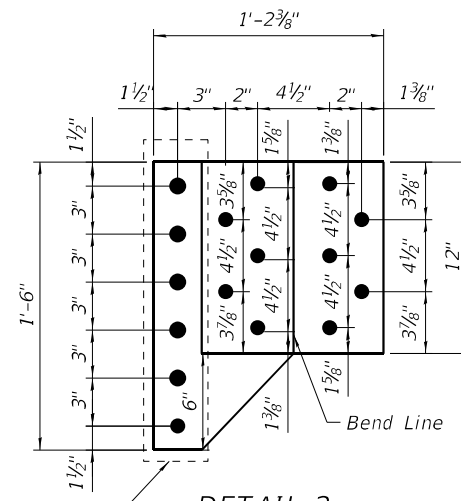


SECTION B-B

SECTION C-C



DETAIL 1
 (Unfolded Elevation)



DETAIL 2
 (Unfolded Elevation)
 Field Drill holes in plate using girder holes as a template

NOTES

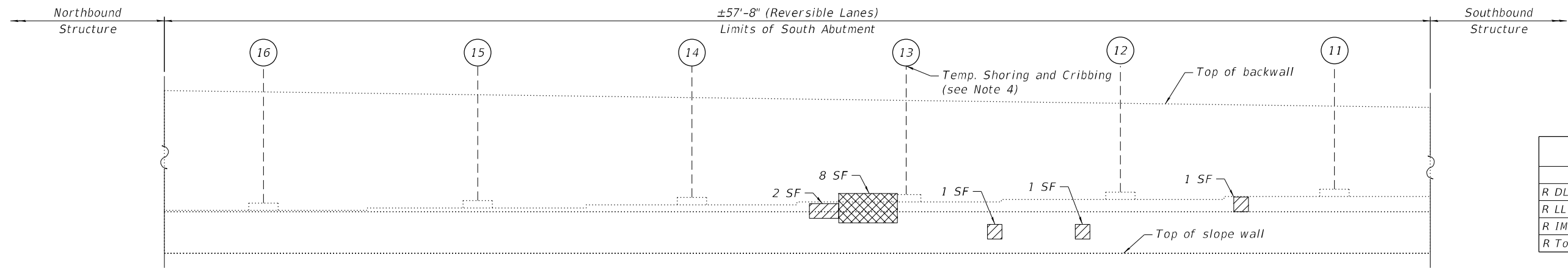
1. For location of Diaphragm Repair and Bill of Material, see Sheet S12-12.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimension shall be verified in the field prior to fabrication.

LEGEND

- Shop drill holes in new steel. Use new steel as a template to field drill holes in existing steel.

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	909
CONTRACT NO. 62K74				



SUMMARY OF REACTIONS	
	Beam 13
R DL (k)	27.6
R LL (k)	37.4
R IM (k)	9.7
R Total (k)	74.7

ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall Repairs, see Sheet S12-18.
- Temporary Shoring and Cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- Structural Repair of Concrete (Depth greater than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	318
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	5
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	8
Temporary Shoring and Cribbing	Each	1

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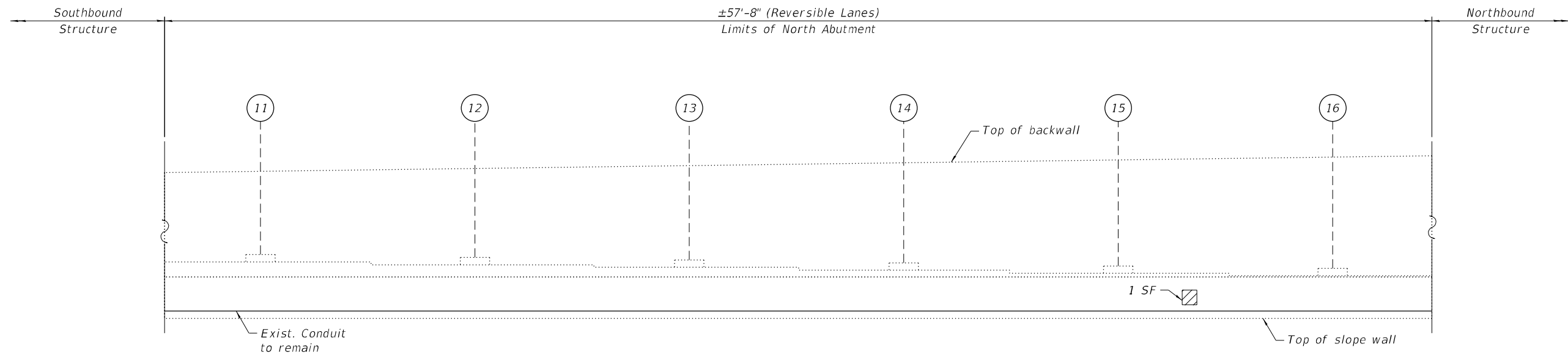
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS
SN 016-0131 (REV)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	910
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

SHEET S12-14 OF S12-18 SHEETS



ELEVATION - NORTH ABUTMENT
(Looking North)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S12-18.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	318
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	1

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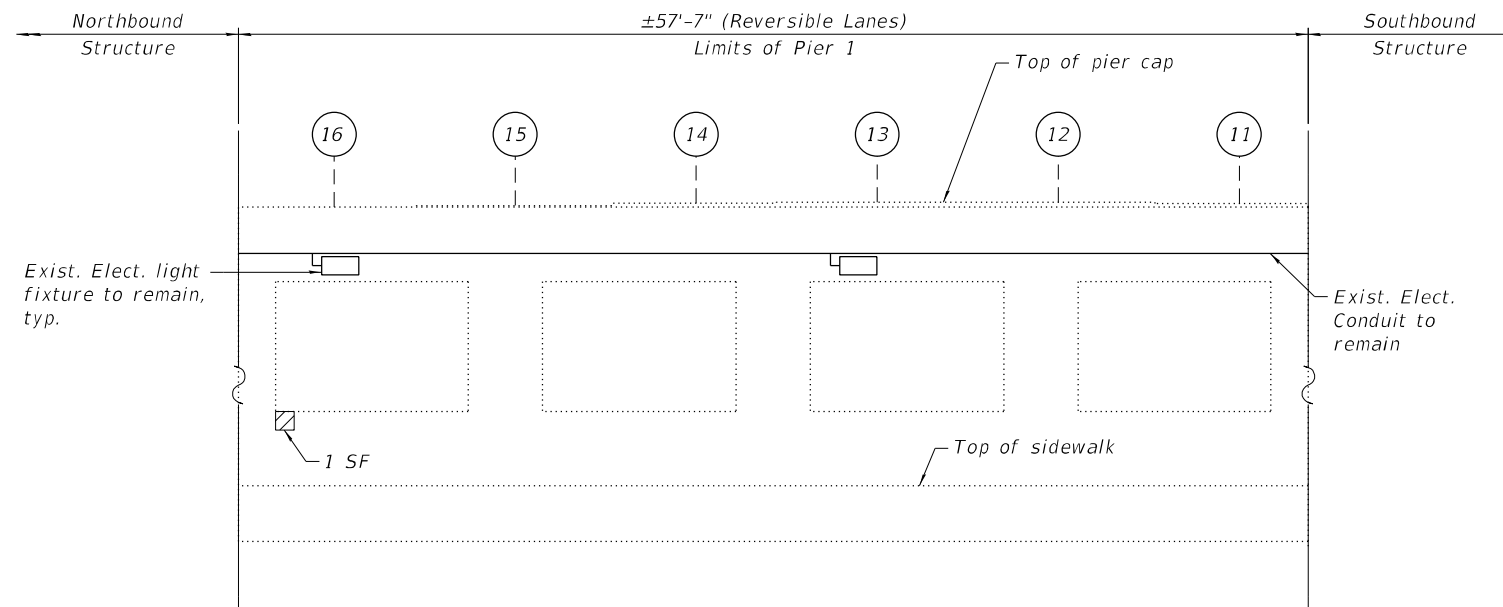
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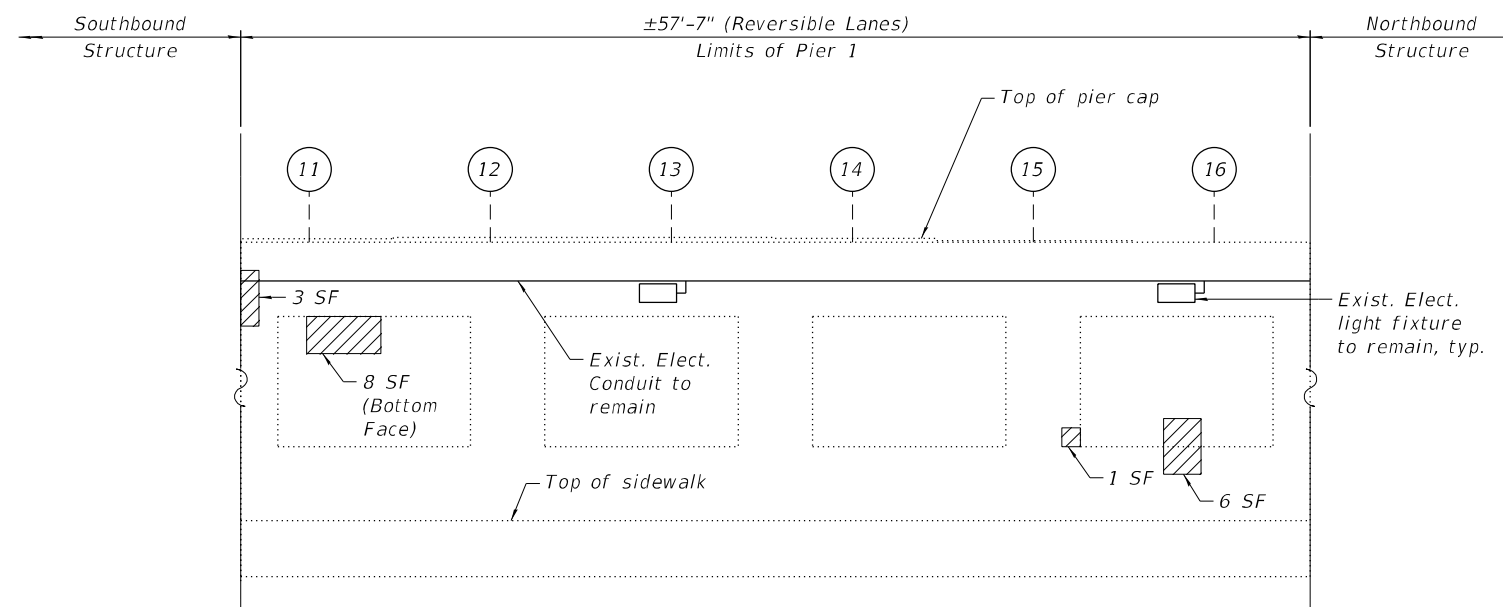
**NORTH ABUTMENT REPAIRS
SN 016-0131 (REV)**

SHEET S12-15 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	911
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking South)



ELEVATION - PIER 1
(Looking North)



EXISTING LIGHTING: PIER 1
(Looking Southeast)



EXISTING LIGHTING: PIER 1
(Looking Northeast)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

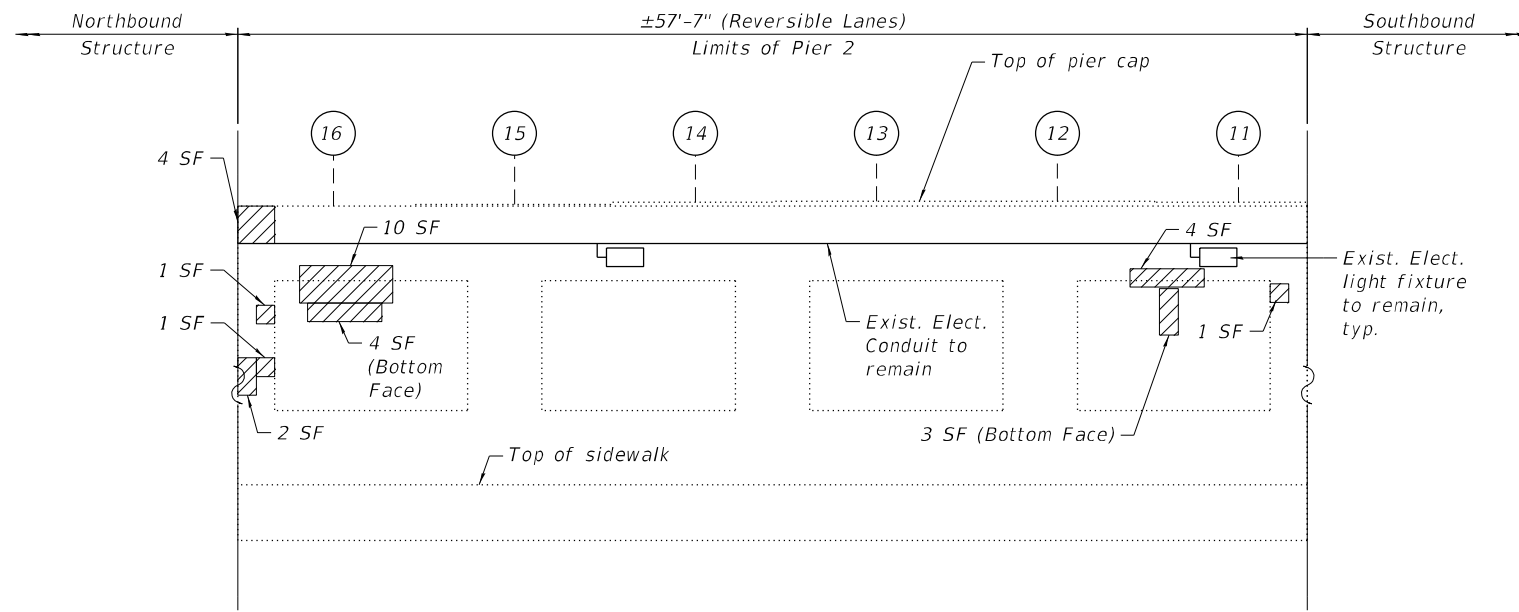
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	19

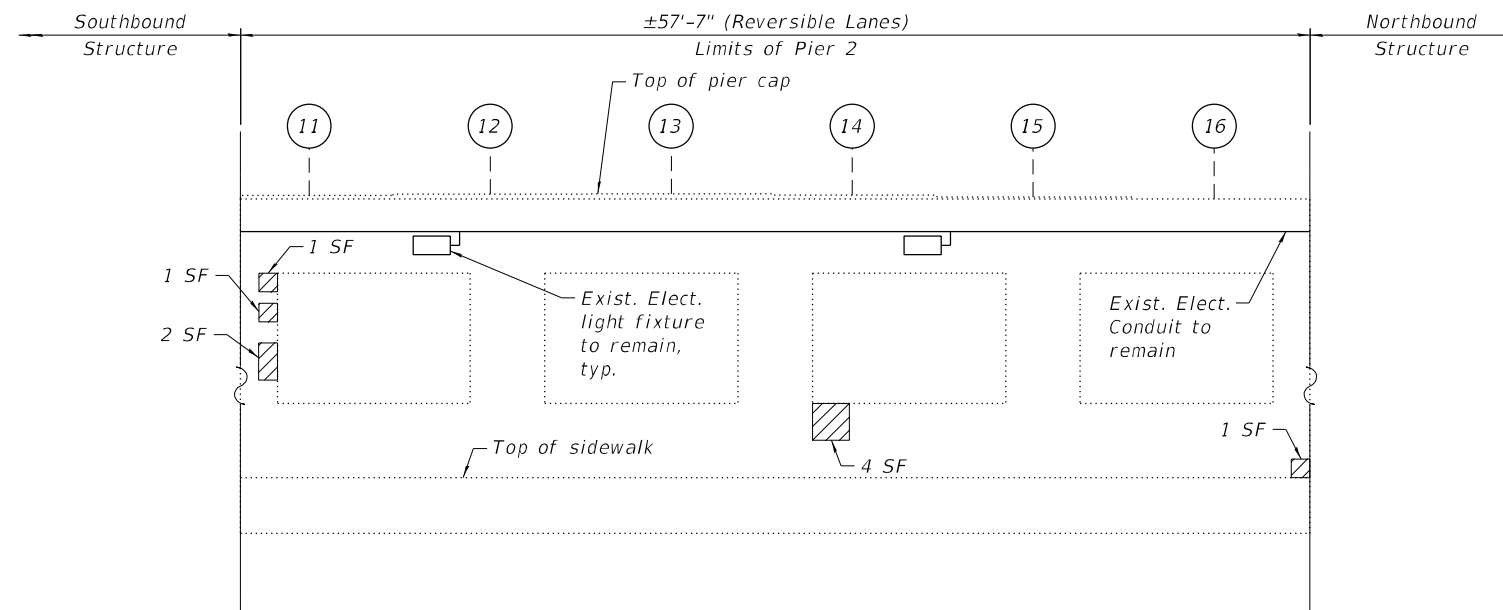
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	912
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 2
(Looking South)



ELEVATION - PIER 2
(Looking North)



EXISTING LIGHTING: PIER 2
(Looking Southeast)



EXISTING LIGHTING: PIER 2
(Looking Northeast)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	39

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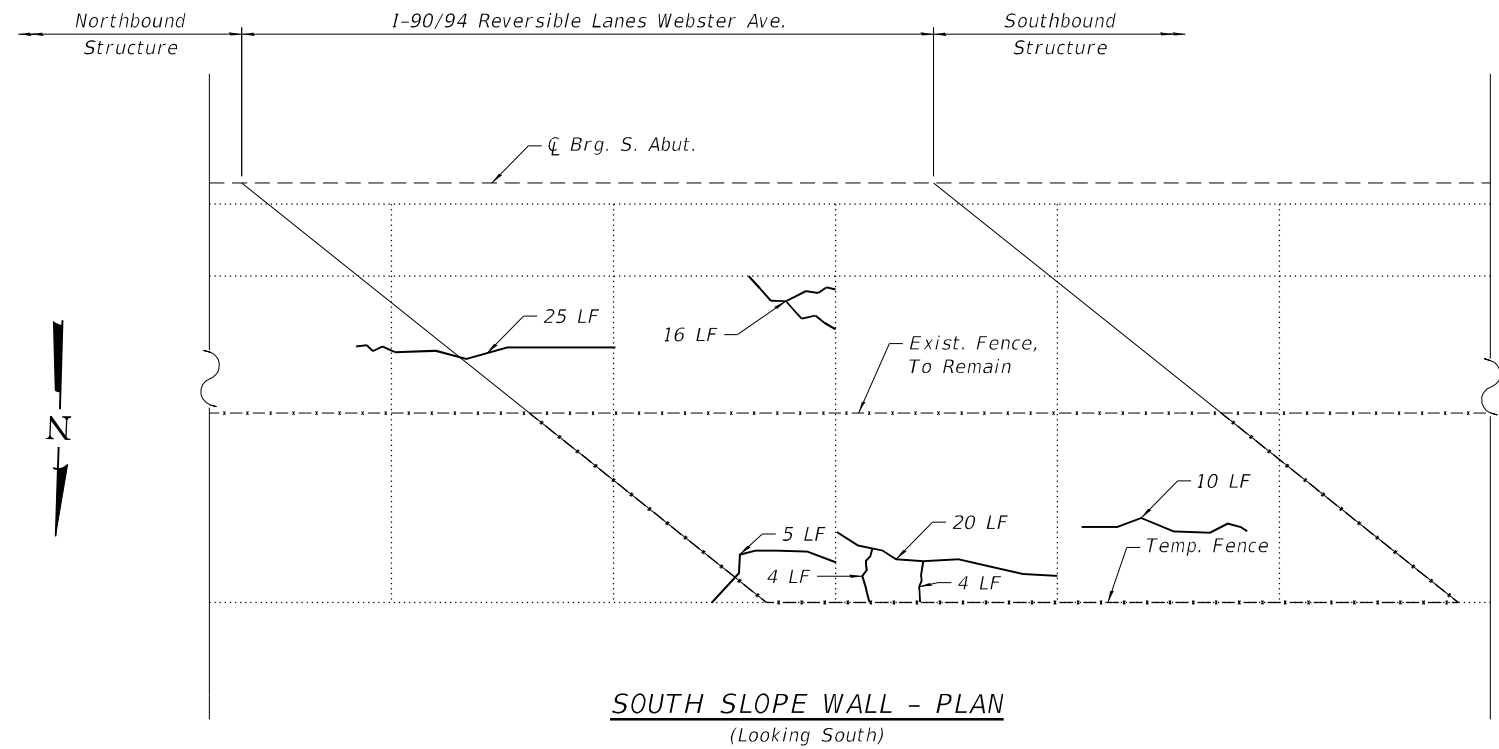
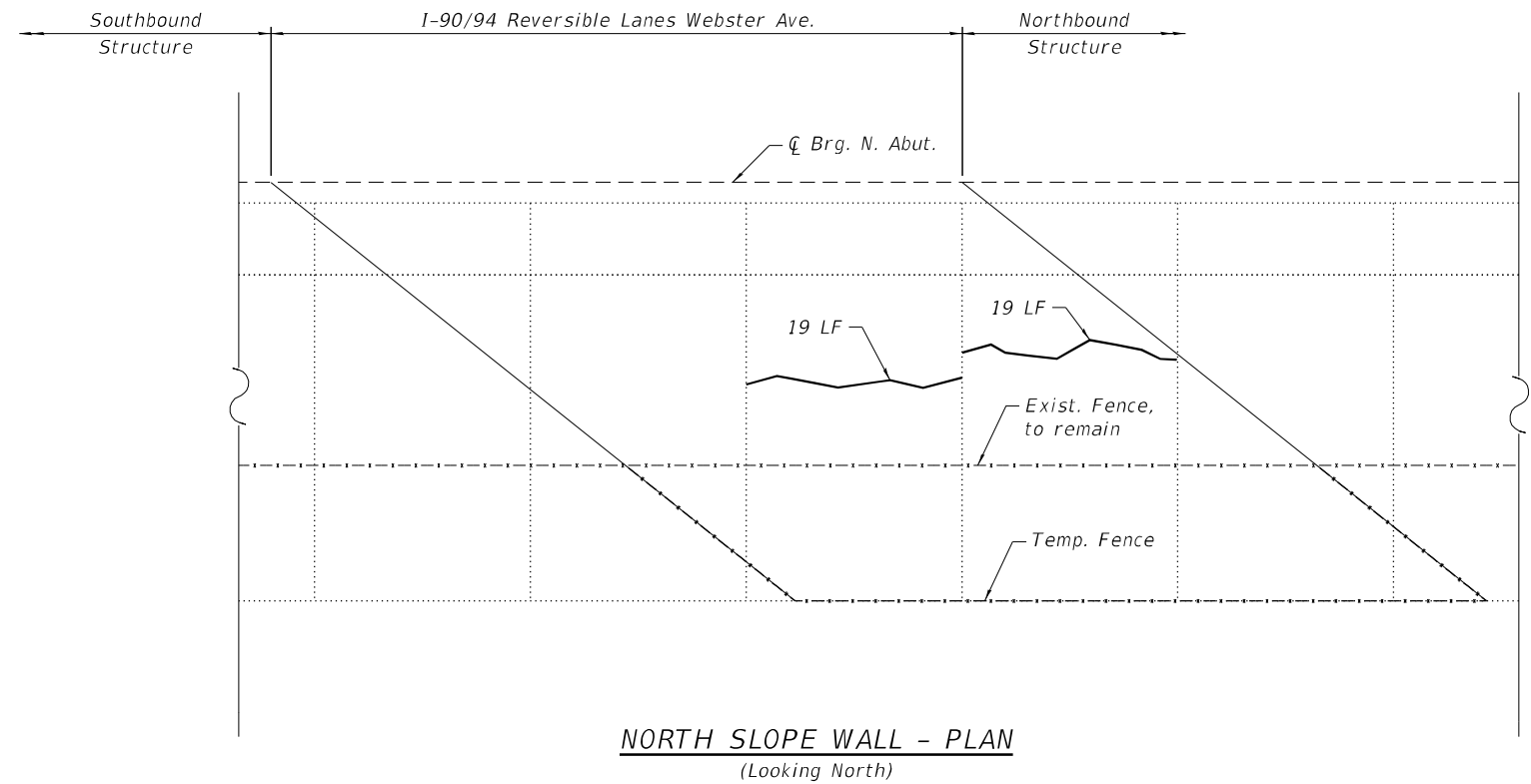
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DEPARTMENT OF TRANSPORTATION**

**PIER 2 REPAIRS
SN 016-0131 (REV)**

SHEET S12-17 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	913
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



- NOTES:**
- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
 - 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

LEGEND

LF	Linear Foot
	Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Ft	122

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 DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
 SN 016-0131 (REV)**

SHEET S12-18 OF S12-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	914
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

Existing Structure: S.N. 016-0130 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 200'-4½" and an out-to-out deck width of 71'-0½". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 54'-6", 83'-8", and 54'-6". The substructure consists of reinforced concrete abutments and piers supported on cast-in-place concrete piles.

Traffic will be maintained utilizing stage construction.

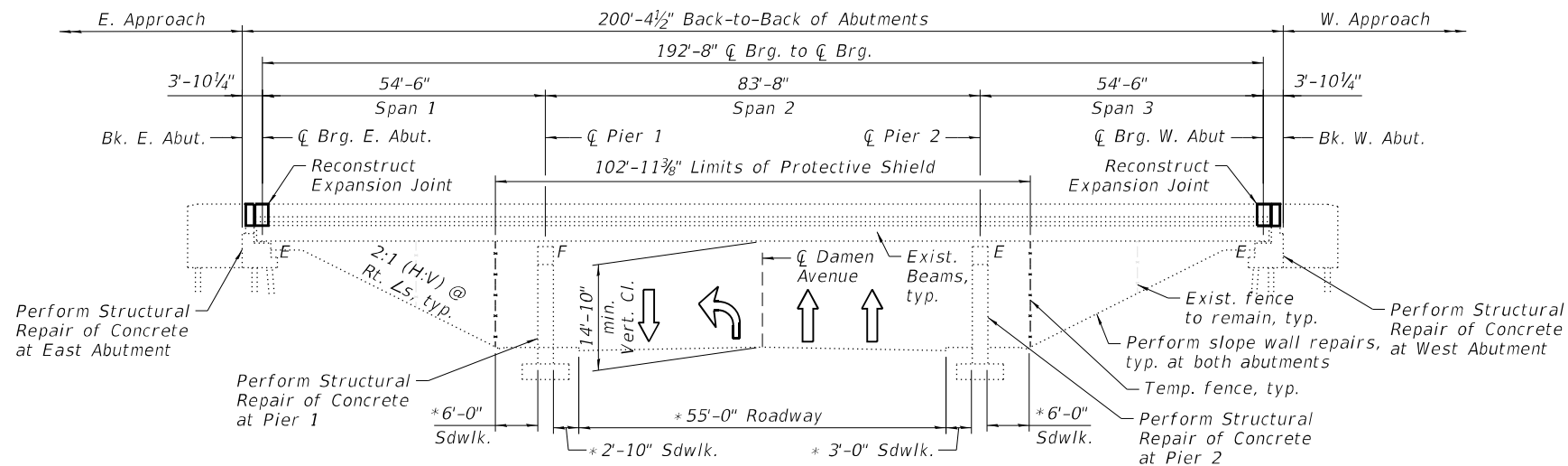
No salvage.

LOADING

HS20-44 and alternate military loading

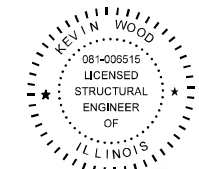
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition



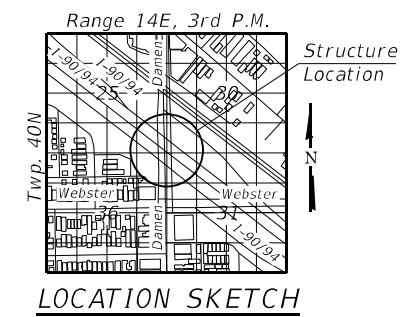
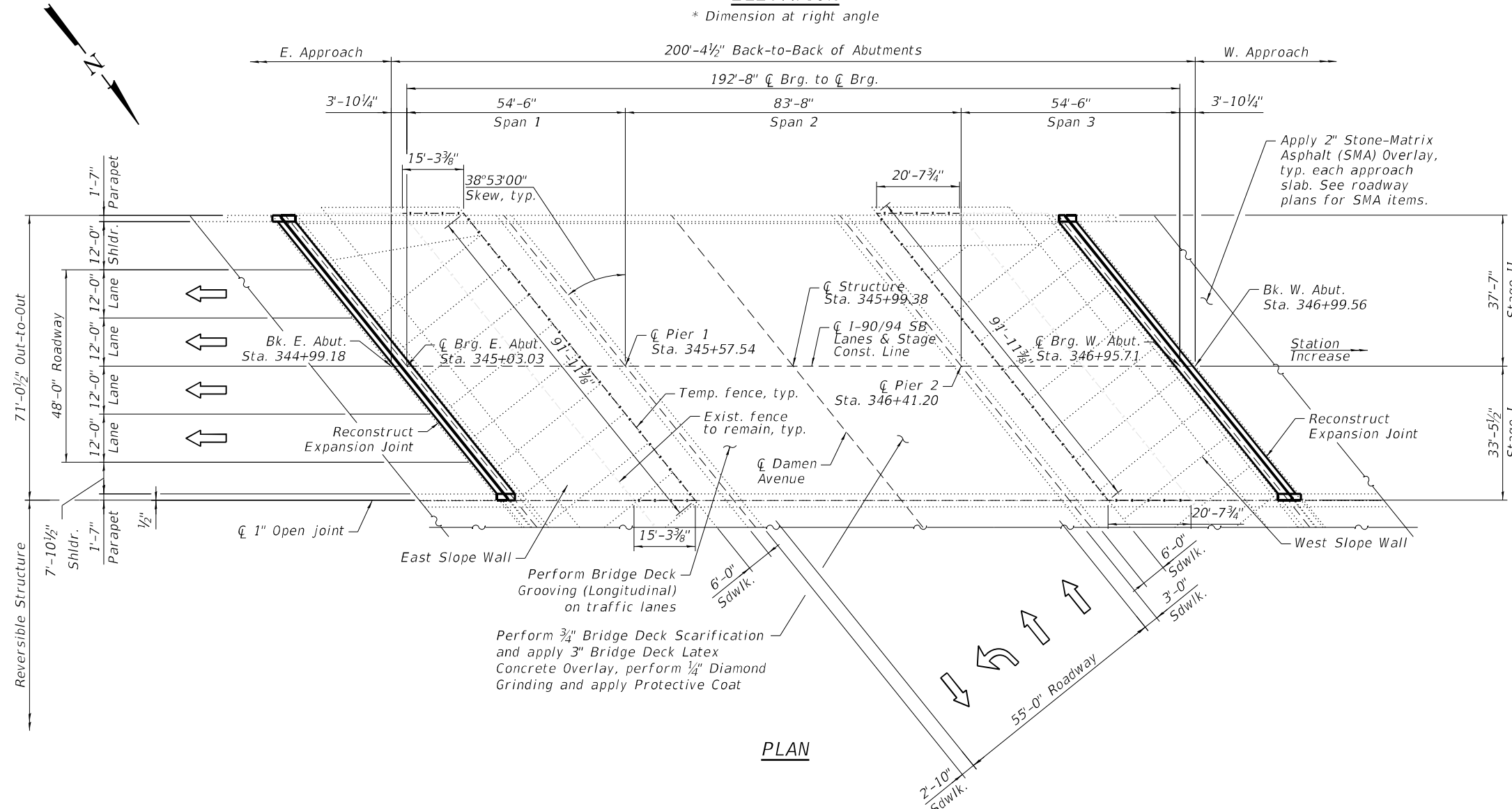
NOTE:

1. All stations are to the Ctr. I-90/94 SB Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
Illinois Registered Engineer No. 081-006515
Registration Expires 11. 30, 2024



GENERAL PLAN AND ELEVATION
SB I-90 OVER DAMEN AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 395+99.38
STRUCTURE NO. 016-0130 (SB)

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SHEET S13-01 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	915
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Fasteners shall be ASTM A325 Type 1, galvanized according to ASTM F 2329. Bolts 3/4 in., holes 13/16 in., unless otherwise noted. Diaphragm connection holes be 15/16" for 3/4" bolts. Two hardened washers shall be required at diaphragm connections.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or 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 Concrete Removal pay item. 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" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Sheets.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50°F.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanized for Structural Steel".
- Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
- The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

S13-01	General Plan & Elevation
S13-02	General Data
S13-03-S13-04	Stage Construction Details I & II
S13-05	Temporary Concrete Barrier
S13-06	Bridge Deck Repair Plan and Details
S13-07-S13-09	East Abutment Expansion Joint Details I, II & III
S13-10-S13-12	West Abutment Expansion Joint Details I, II & III
S13-13	Preformed Joint Strip Seal
S13-14	Framing Plan
S13-15-S13-17	Structural Steel Repair Details I, II & III
S13-18	East Abutment Repairs
S13-19	West Abutment Repairs
S13-20	Pier 1 Repairs
S13-21	Pier 2 Repairs
S13-22	Slope Wall Repairs
S13-23	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at east and west abutments, and install new Preformed Joint Strip Seals.
- Repair steel diaphragms as shown on the plans.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Perform slope wall repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	31.2		31.2
Protective Shield	Sq Yd	813		813
Concrete Superstructure	Cu Yd	38.1		38.1
Protective Coat	Sq Yd	1,682		1,682
Furnishing and Erecting Structural Steel	Pound	2,050		2,050
Reinforcement Bars, Epoxy Coated	Pound	4,860		4,860
Bar Splicers	Each	32		32
Preformed Joint Strip Seal	Foot	179		179
Concrete Sealer	Sq Ft		1,084	1,084
Slope Wall Crack Sealing	Foot		60	60
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,041		1,041
Structural Steel Removal	Pound	2,050		2,050
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,436		1,436
Bridge Deck Scarification 3/4"	Sq Yd	1,436		1,436
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		437	437
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.6		0.6
Deck Slab Repair (Full Depth, Type II)	Sq Yd	1.0		1.0
Diamond Grinding (Bridge Section)	Sq Yd	1,472		1,472
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		256	256

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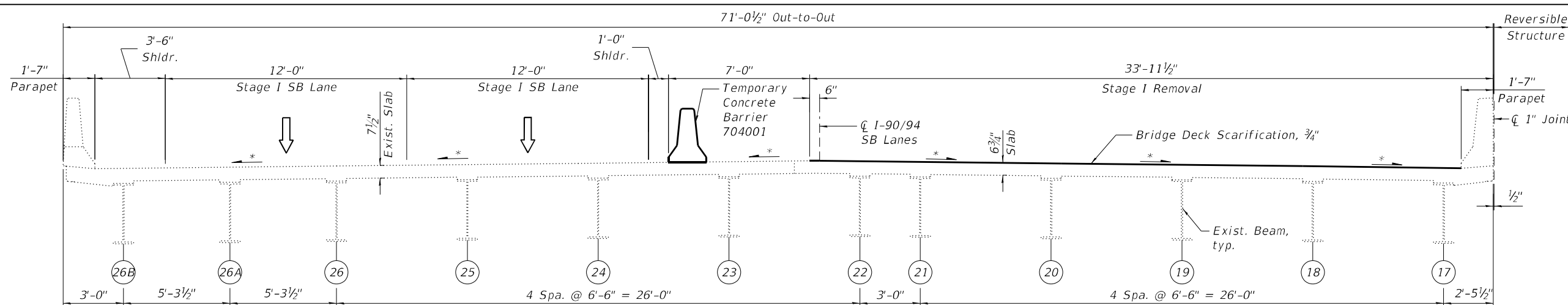
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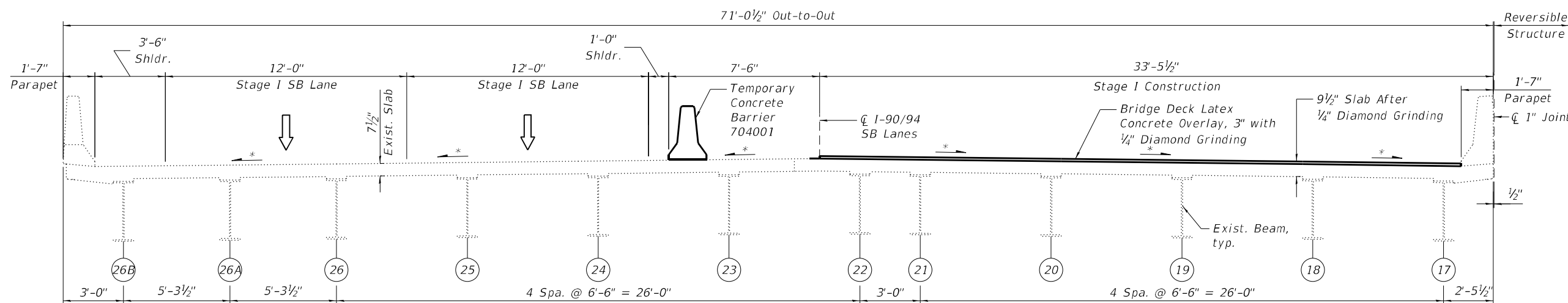
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**GENERAL DATA
SN 016-0130 (SB)**

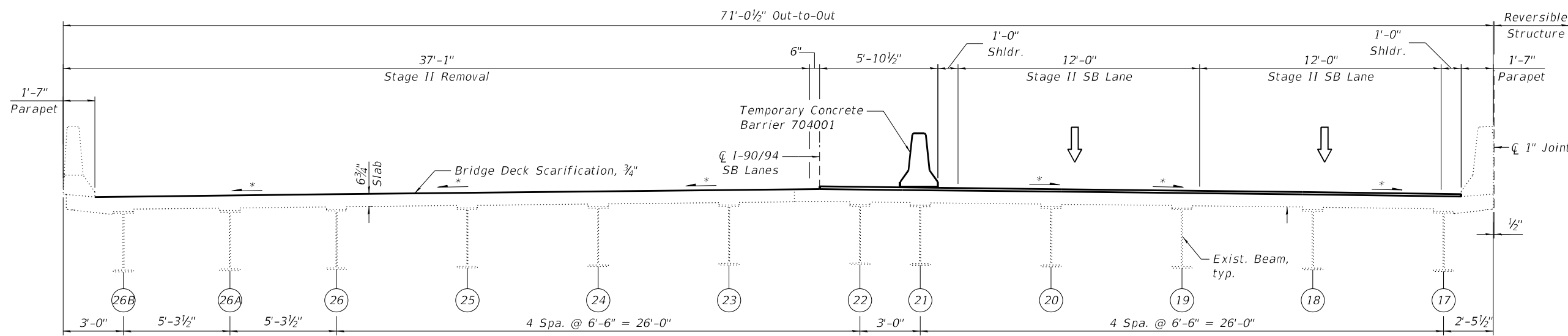
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90	2020-004-BR	COOK	1492	916
			CONTRACT NO. 62K74	
SHEET S13-02 OF S13-23 SHEETS		ILLINOIS FED. AID PROJECT		



STAGE I REMOVAL
(Looking West)



STAGE I CONSTRUCTION
(Looking West)



STAGE II REMOVAL
(Looking West)

* Match existing deck surface profile

STAGE I REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the south side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

STAGE I CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
9. Perform slope wall repairs as shown in the plans

STAGE II REMOVAL

1. Install Temporary Concrete Barrier as shown to locate traffic on the north side of the existing structure.
2. Scarify 3/4" from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

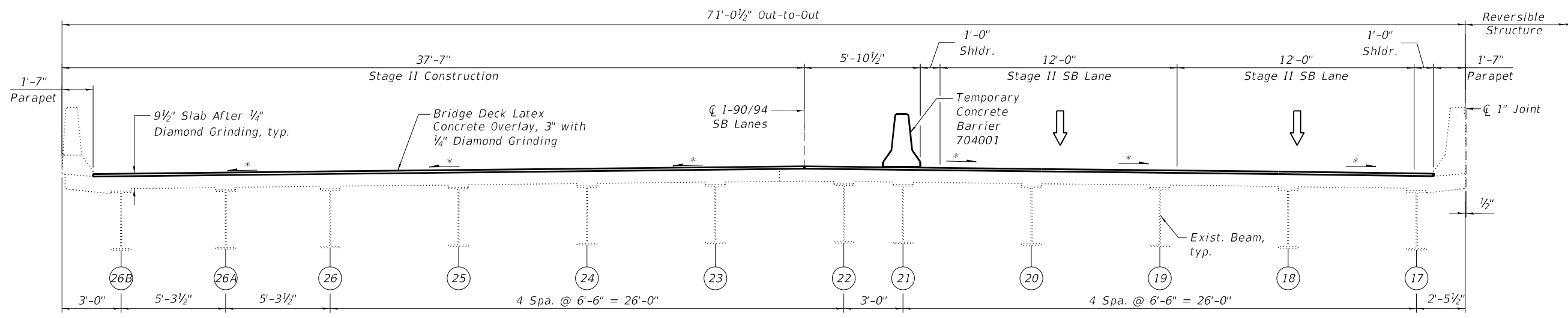
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STAGE CONSTRUCTION DETAILS I
SN 016-0130 (SB)

SHEET S13-03 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	917
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

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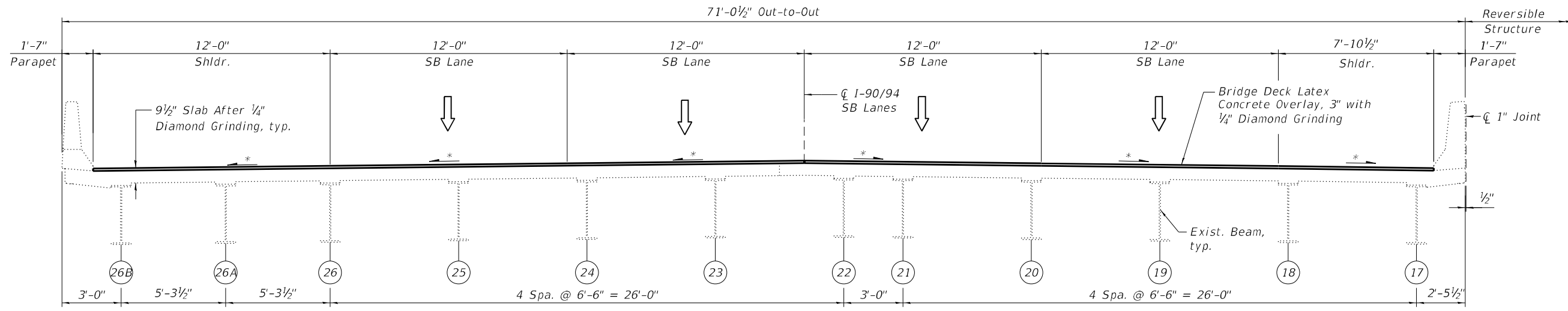


STAGE II CONSTRUCTION
(Looking West)

STAGE II CONSTRUCTION

1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
9. Perform slope wall repairs as shown in the plans

* Match existing deck surface profile



FINAL CROSS SECTION
(Looking West)

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PLOT DATE =	CHECKED - K.G.W.	REVISED -

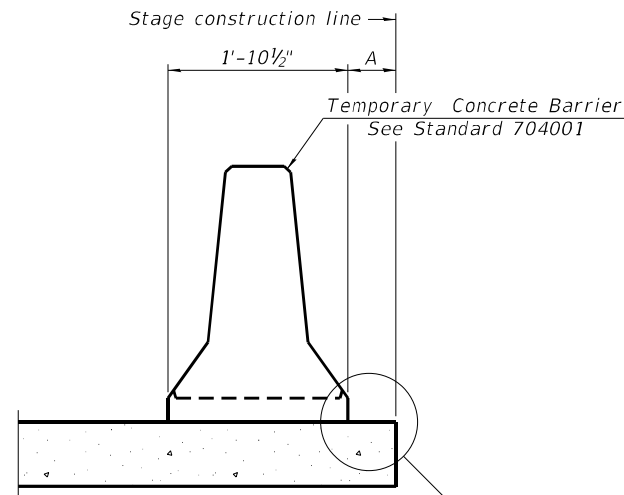
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS II
SN 016-0130 (SB)**

SHEET S13-04 OF S13-23 SHEETS

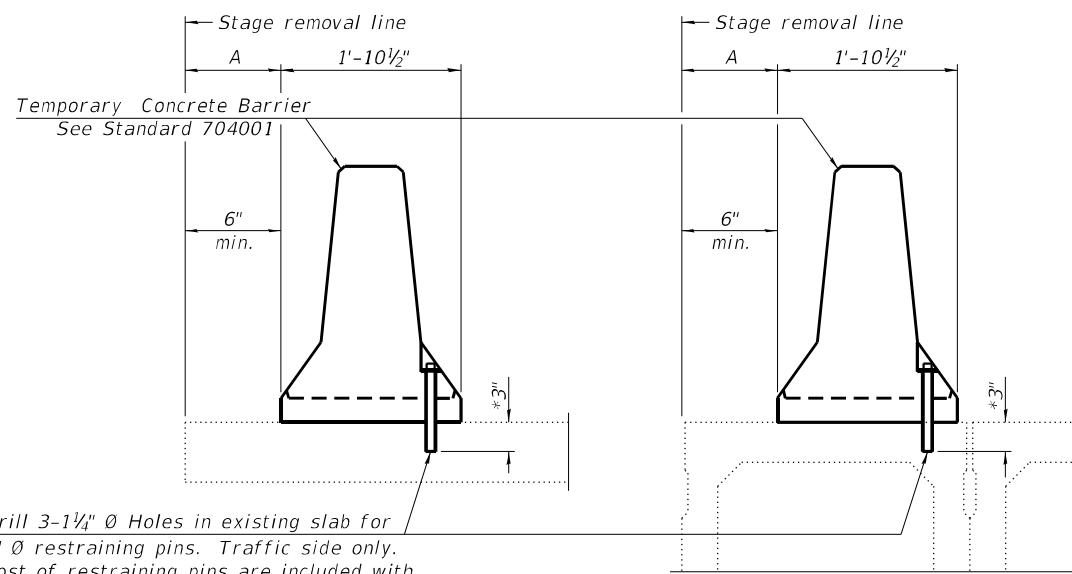
F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 918
			CONTRACT NO. 62K74	

ILLINOIS FED. AID PROJECT



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

NEW SLAB OR NEW DECK BEAM

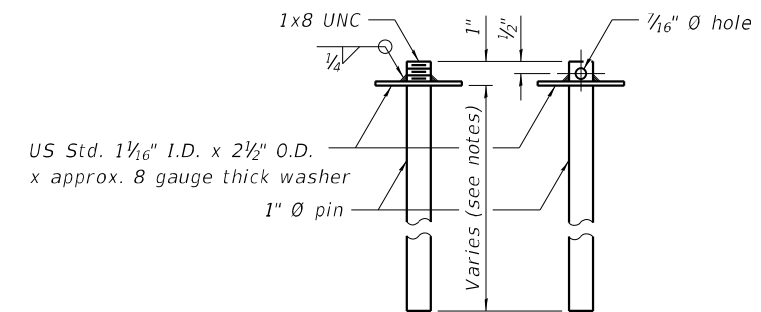


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

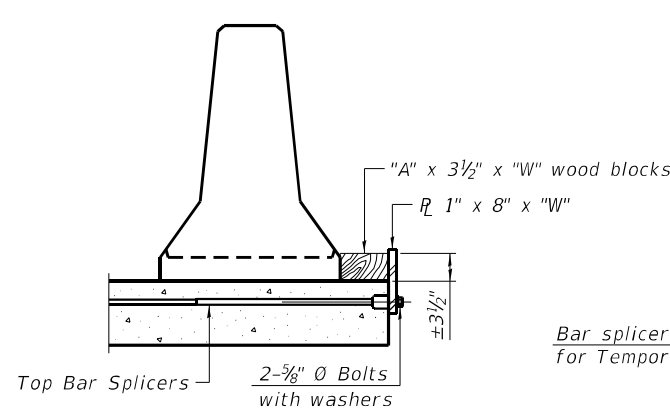
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

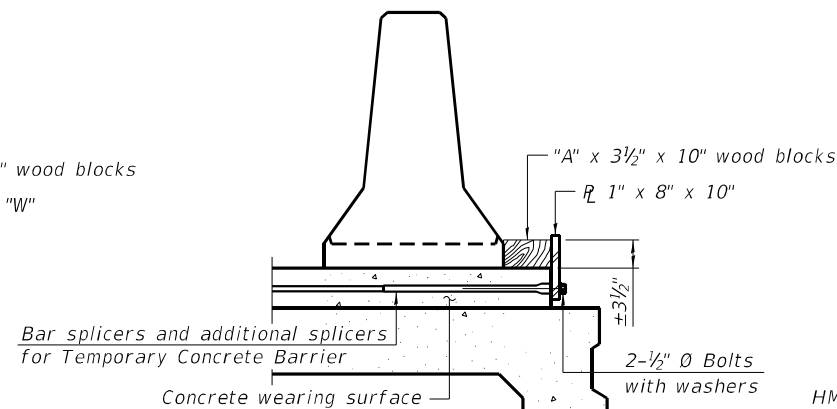


RESTRAINING PIN

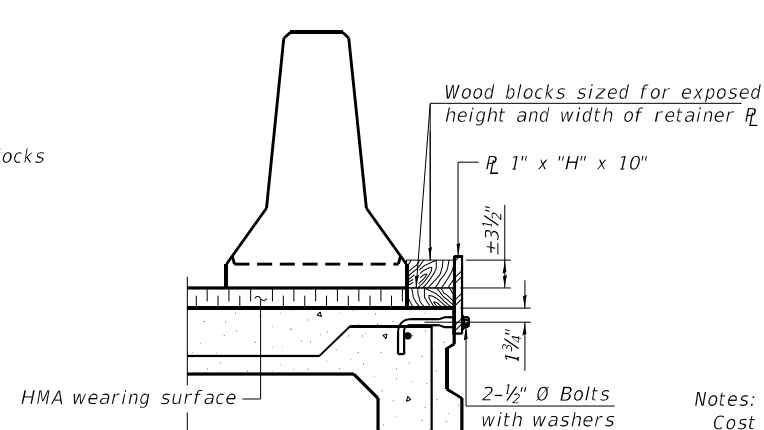
SECTIONS THRU SLAB OR DECK BEAM



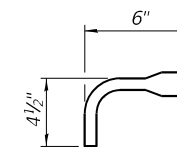
DETAIL I



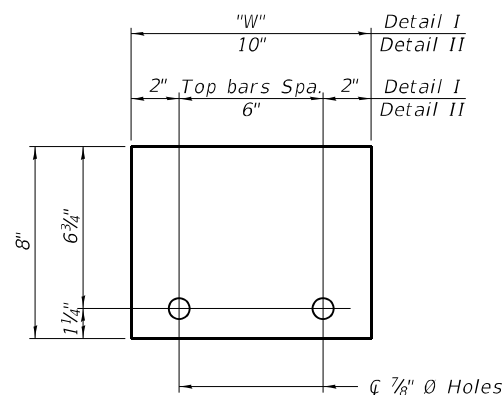
DETAIL II



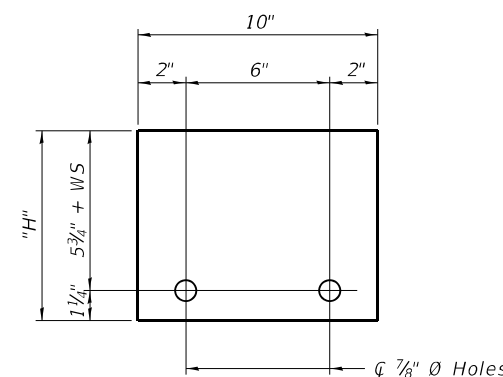
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W" (Detail I and II)



STEEL RETAINER R 1" x "H" x 10" (Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate \bar{c} of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6' to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
 Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
 Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

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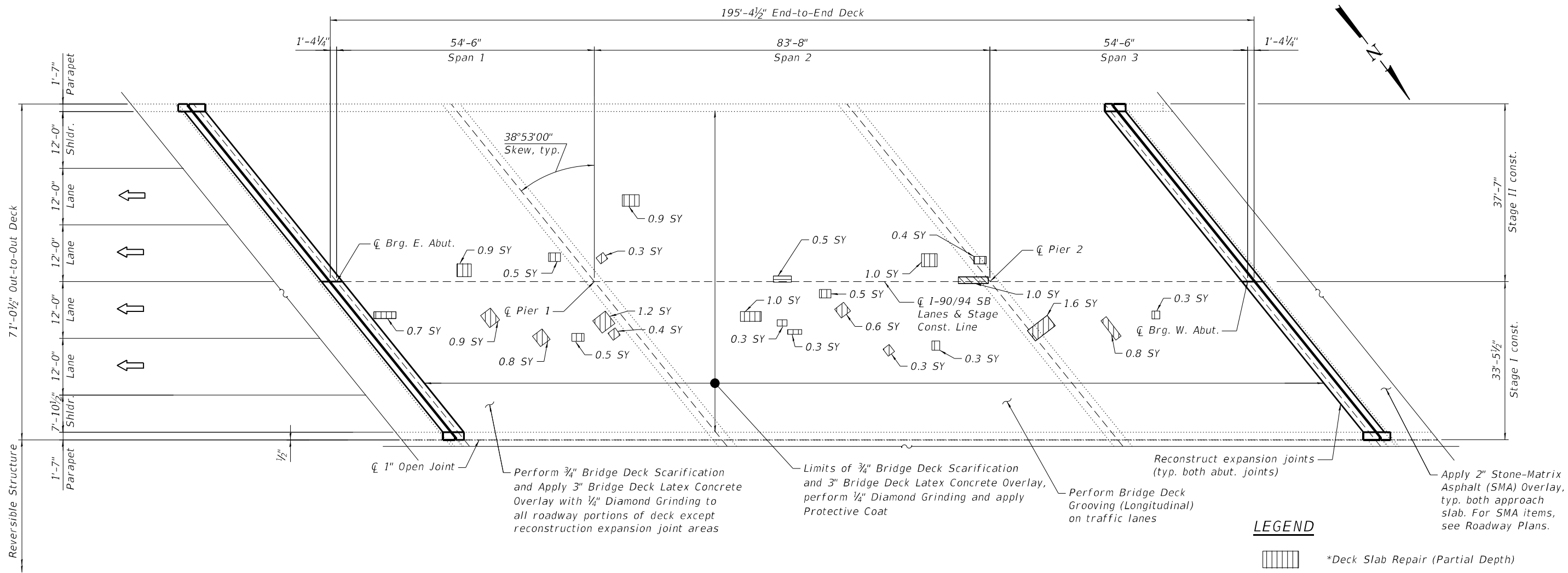
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TEMPORARY CONCRETE BARRIER
 SN 016-0130 (SB)

SHEET S13-05 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	919
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



DECK PLAN

LEGEND

- *Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type I)
- Deck Slab Repair (Full Depth, Type II)
- SY Square Yard

* Areas of Deck Slab Repair (Partial) Are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

NOTES:

1. Deck repair areas are estimated based on visual inspection and will be paid for as specified in the Special Provision. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans. Engineer shall sound deck after deck scarification.
2. Protective Coat shall be applied to the top of reconstructed transverse joints, the bridge overlay and front and top faces of the new and existing parapets.
3. All dimensions are perpendicular to CL I-90/94 Bridge Deck.
4. Protective Shield shall be placed over traffic lanes and sidewalks for Damen Ave.
5. For bridge deck final cross section, see Sheet S13-04.
6. For east and west transverse joint removal and reconstruction, see Sheets S13-07 thru S13-12.
7. Perform $\frac{1}{4}$ " Diamond Grinding to top of bridge deck and abutment hatched block.
8. Perform Bridge Deck Grooving (Longitudinal) for Bridge Deck Latex Concrete Overlay, 3" Inches and the roadway portions of the reconstructed transverse joints.
9. 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.
10. The Contractor shall exercise extreme caution during concrete removal operations to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	813
Protective Coat	Sq Yd	1,682
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,041
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,436
Bridge Deck Scarification 3/4"	Sq Yd	1,436
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.6
Deck Slab Repair (Full Depth, Type II)	Sq Yd	1.0
Diamond Grinding (Bridge Section)	Sq Yd	1,472
Maintenance of Lighting System	Cal Mo	6

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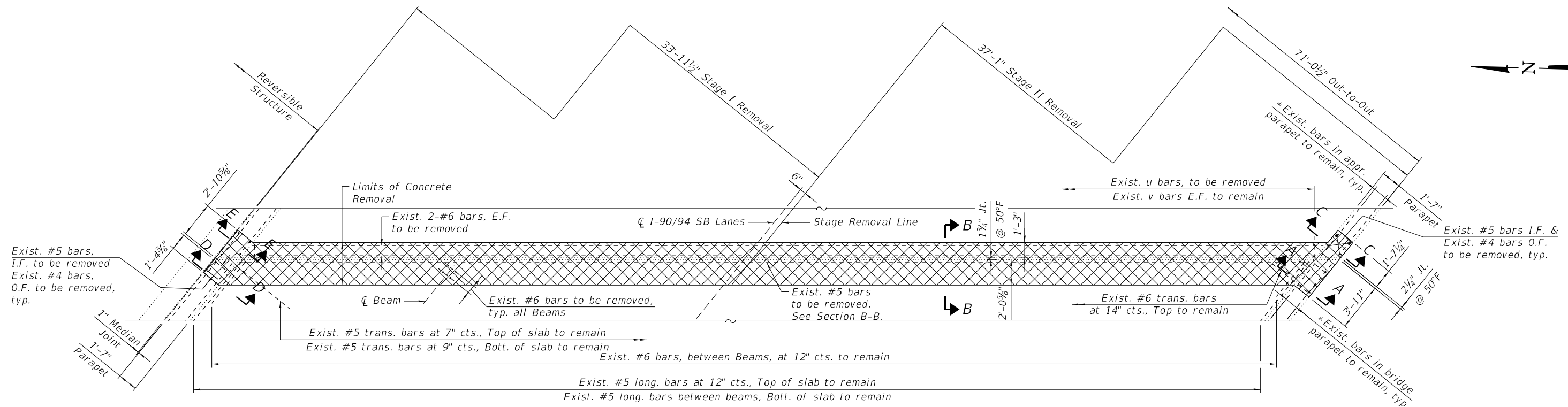
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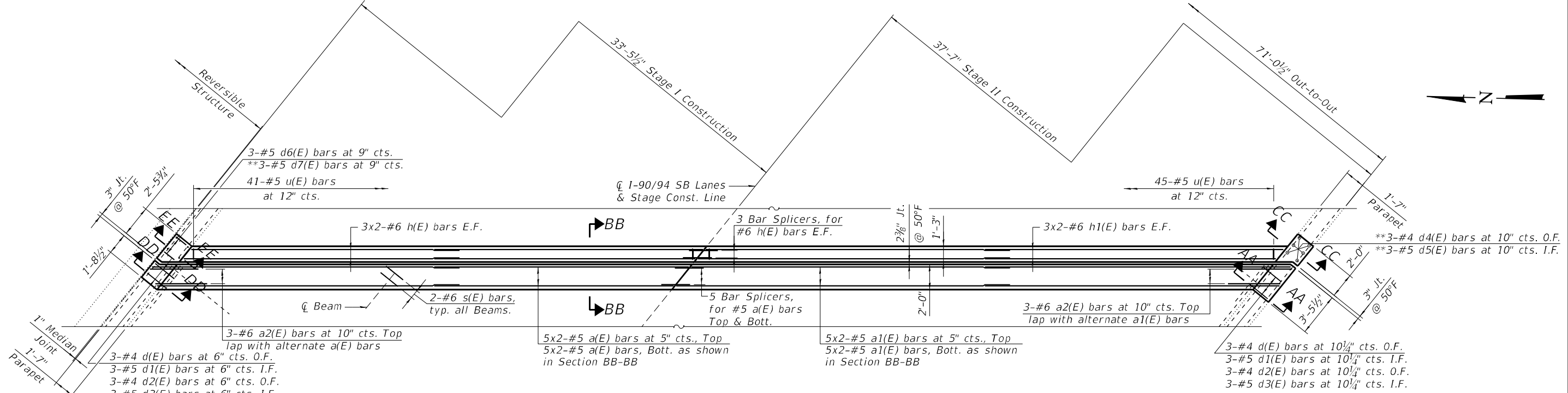
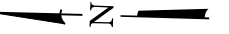
**BRIDGE DECK REPAIR PLAN AND DETAILS
 SN 016-0130 (SB)**

SHEET S13-06 OF S13-23 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 920
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				



EAST ABUTMENT JOINT REMOVAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S13-08.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S13-09.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required.
- ** Epoxy grout #4 d4(E) and #5 d5(E) and d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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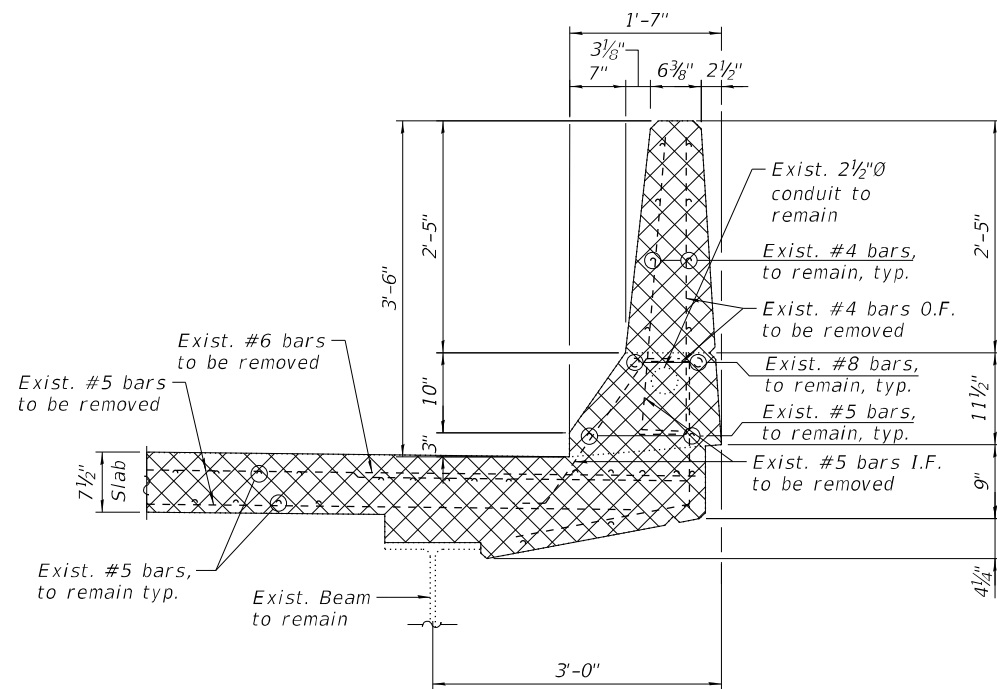
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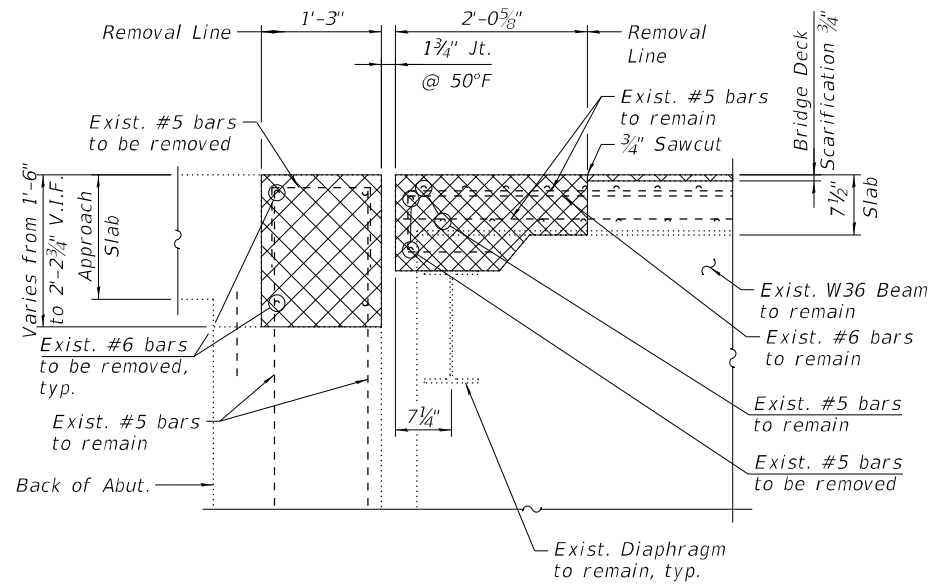
STATE OF ILLINOIS
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EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0130 (SB)
 SHEET S13-07 OF S13-23 SHEETS

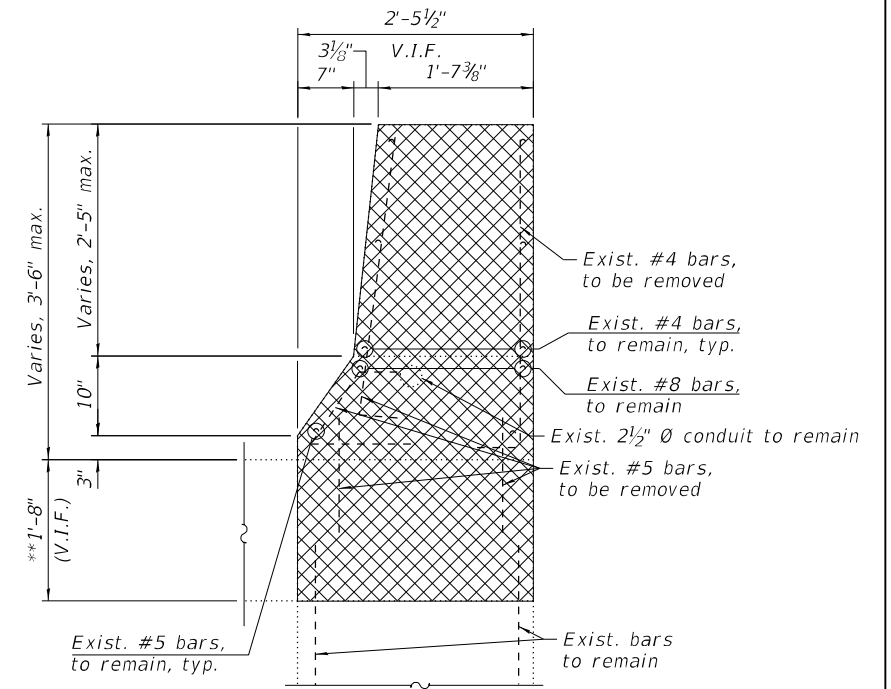
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



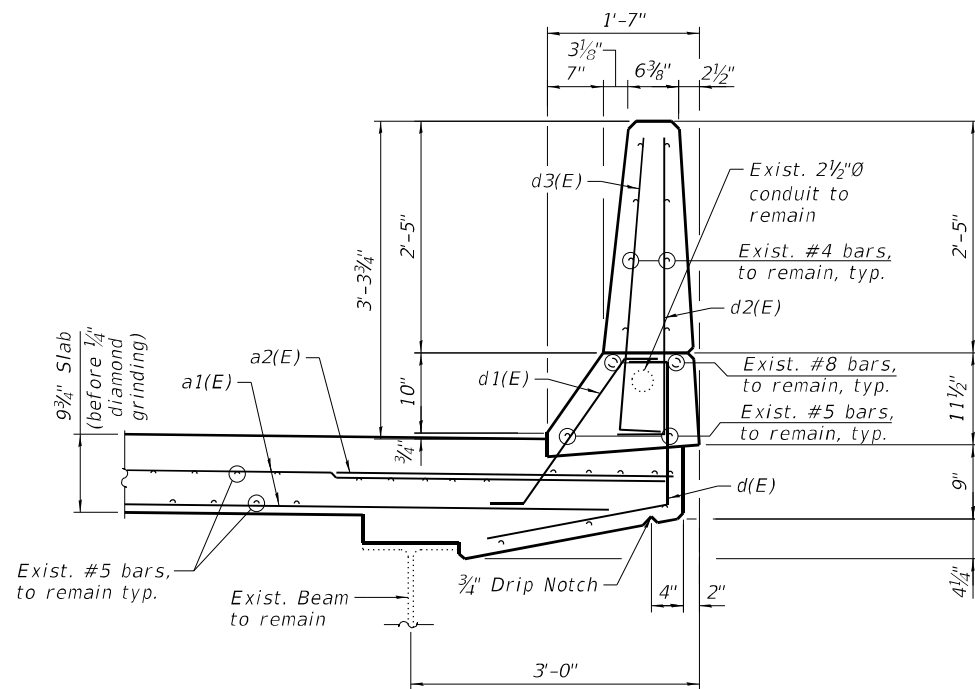
SECTION A-A
(South parapet removal)



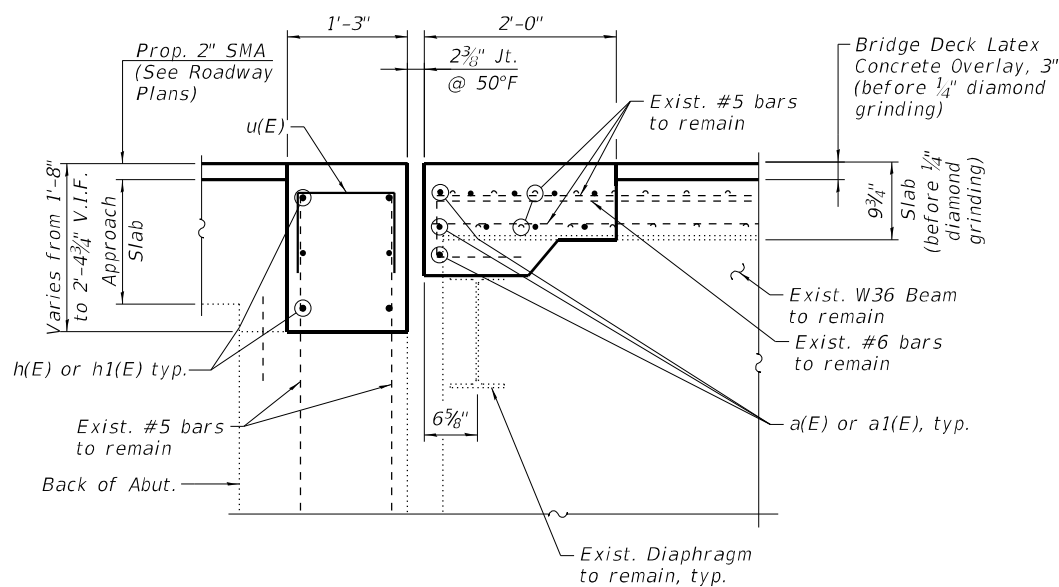
SECTION B-B



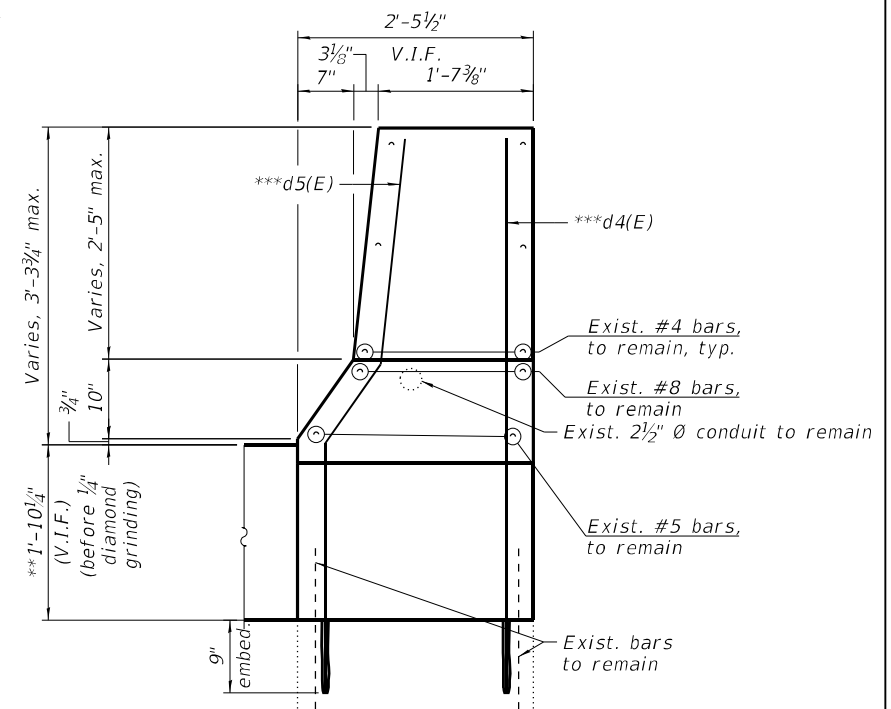
SECTION C-C
(South parapet removal)



SECTION AA-AA
(South parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(South parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

** Dimension is taken at the Back of Abut.

*** Epoxy grout #4 d4(E) & #5 d5(E) bars in 9" min. holes accordance in with Section 508 of the Standard Specifications.

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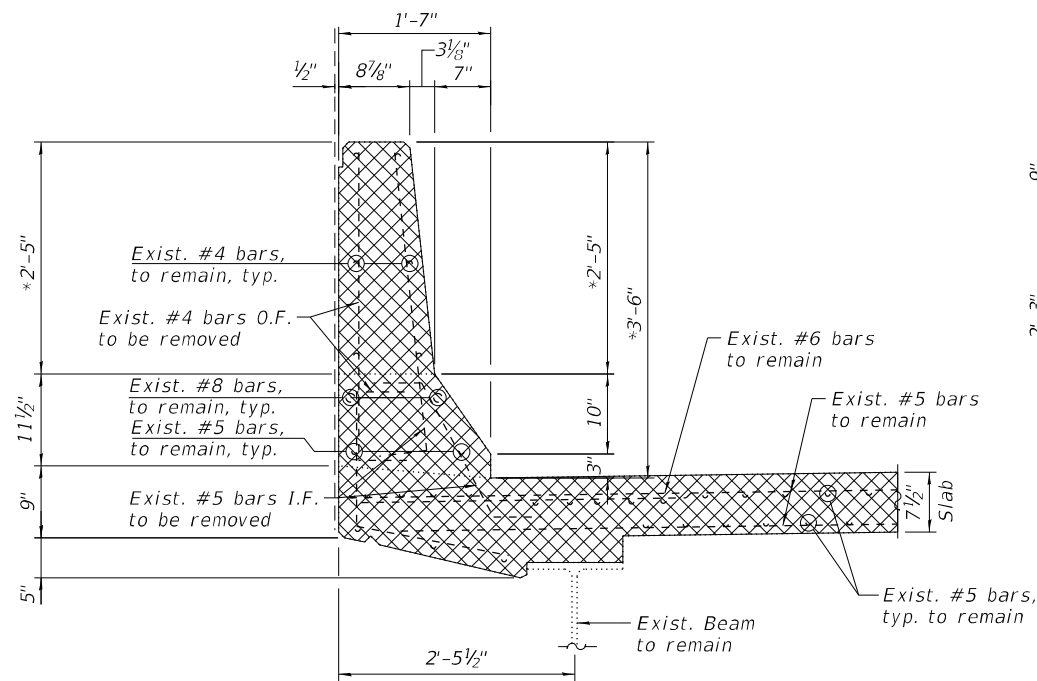
**EAST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0130 (SB)**

SHEET S13-08 OF S13-23 SHEETS

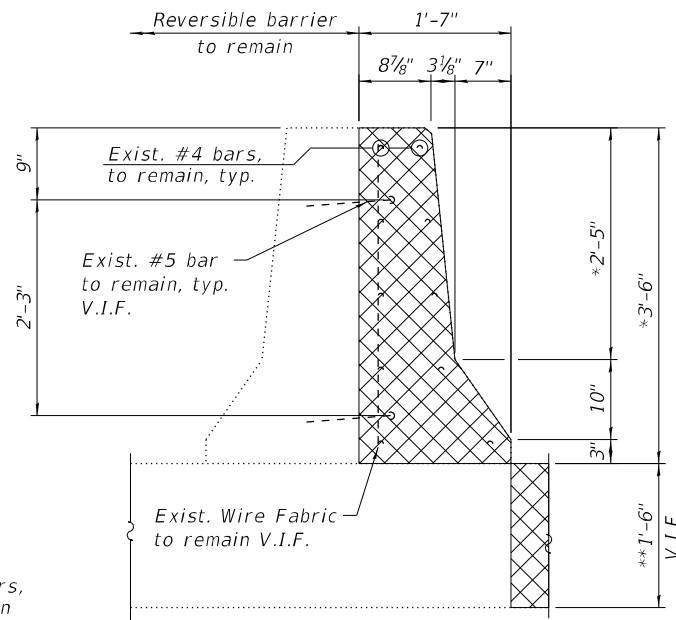
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90	2020-004-BR	COOK	1492	922
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
EAST ABUTMENT**

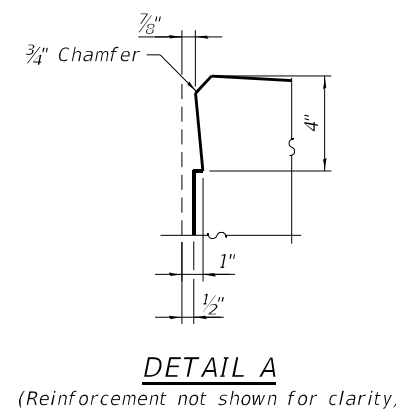
Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-7"	—
a1(E)	20	#5	26'-2"	—
a2(E)	6	#6	4'-0"	—
d(E)	6	#4	3'-11"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	6	#4	3'-8"	┌
d3(E)	6	#5	3'-8"	┌
d4(E)	3	#4	5'-10"	┌
d5(E)	3	#5	6'-0"	┌
d6(E)	3	#5	4'-2"	┌
d7(E)	3	#5	1'-10"	┌
h(E)	12	#6	22'-7"	—
h1(E)	12	#6	25'-3"	—
s(E)	24	#6	3'-1"	┌
u(E)	86	#5	2'-11"	┌
Concrete Removal		Cu Yd	15.5	
Reinforcement Bars, Epoxy Coated		Pound	2,430	
Concrete Superstructure		Cu Yd	18.9	



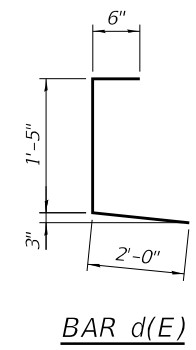
SECTION D-D
(North parapet removal)



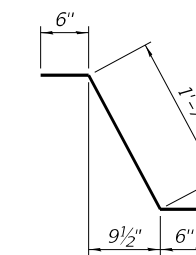
SECTION E-E
(North parapet removal)



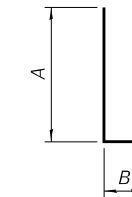
DETAIL A
(Reinforcement not shown for clarity)



BAR d(E)

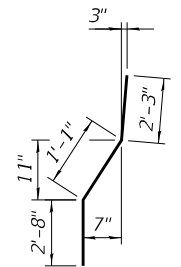


BAR d1(E)

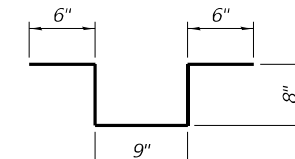


BARS d2(E), d3(E), & d6(E)

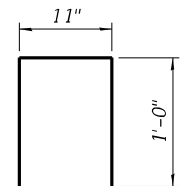
Bar	A	B
d2(E)	3'-2"	6"
d3(E)	3'-2"	6"
d6(E)	3'-2"	1'-0"



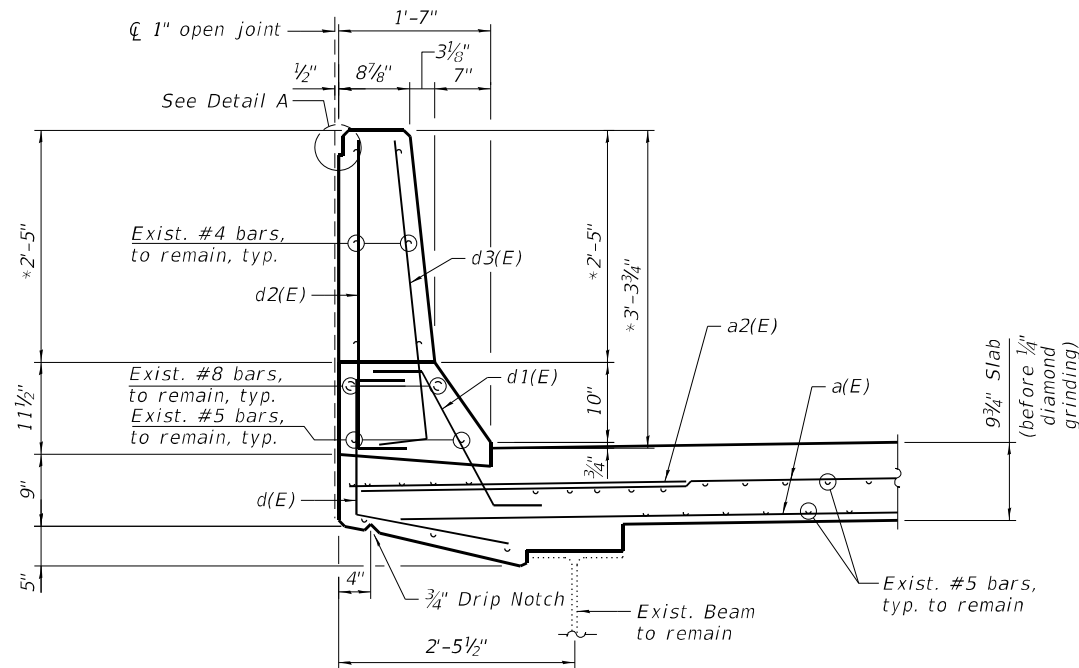
BAR d5(E)



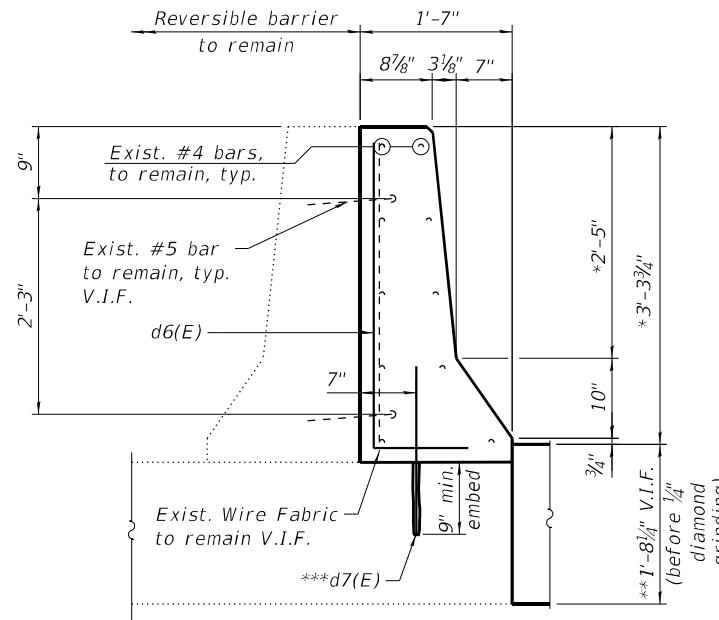
BAR s(E)



BAR u(E)



SECTION DD-DD
(North parapet reconstruction)



SECTION EE-EE
(North parapet reconstruction)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S13-13.
- For Bar Splicer Assembly details, see sheet S13-23.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #5 d7(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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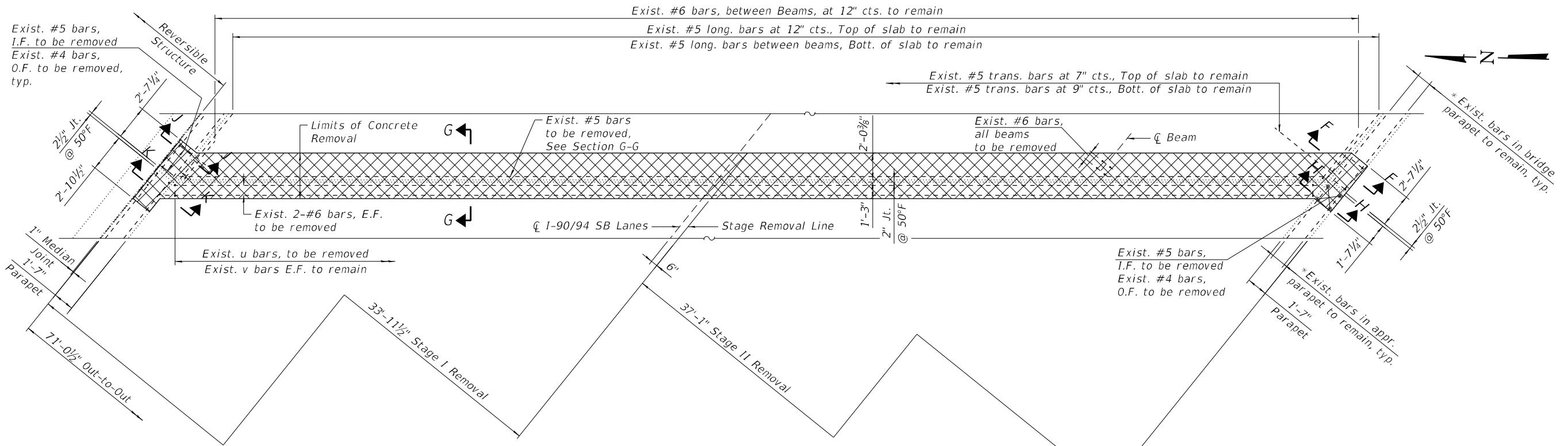
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

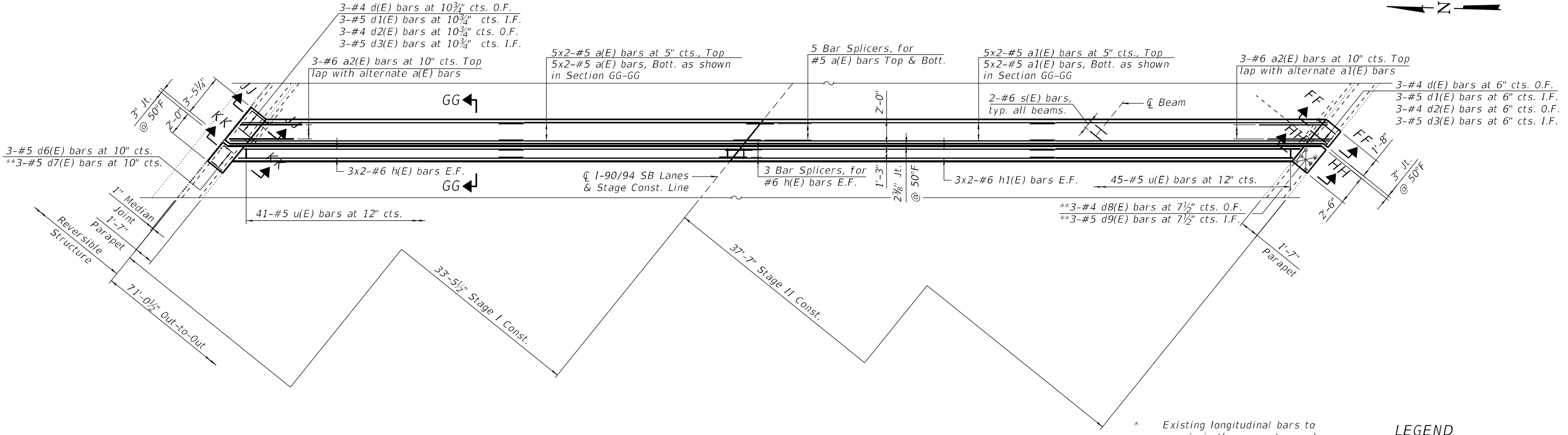
**EAST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0130 (SB)**

SHEET S13-09 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	923
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S13-11.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S13-12.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required.
- ** Epoxy grout #4 d8(E) and #5 d7(E) and d9(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
E.F.	Each Face

MODEL: SMODELNAME5
FILE NAME: X:\OHA\2020\20200221-03\Design\Structural\Design Files\CADD\SH1016-0130_Damem\SB0160130-62K74-5010-EXP.dgn

GR&EF
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Chicago, Illinois 60631; (773) 399-0112

USER NAME =	DESIGNED -	W.A.R.	REVISED -
PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	D.C.P.	REVISED -
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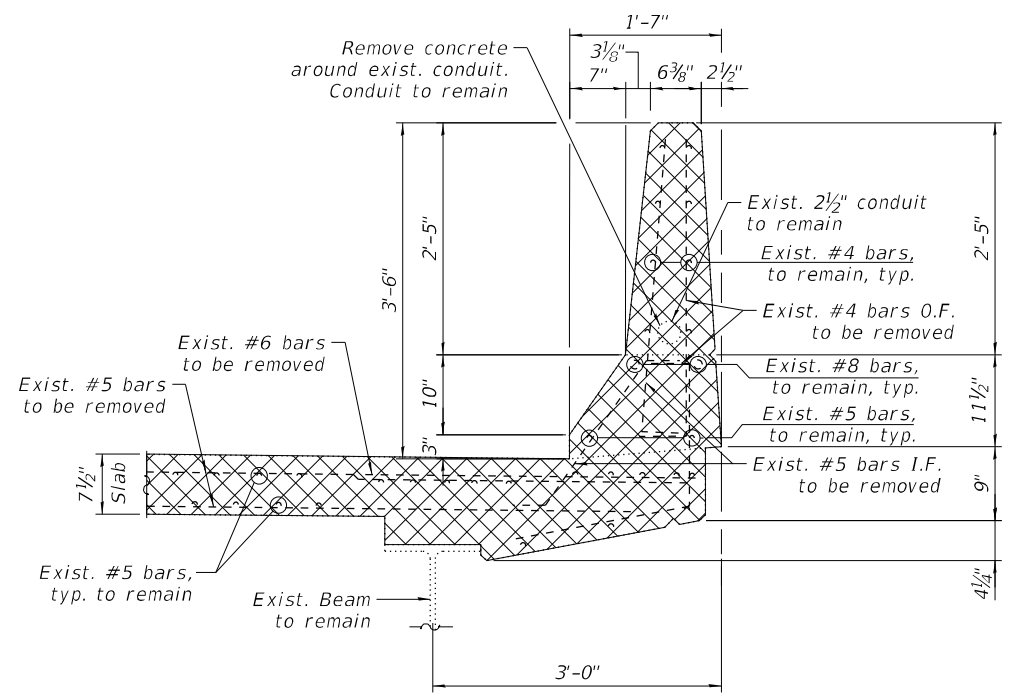
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0130 (SB)**

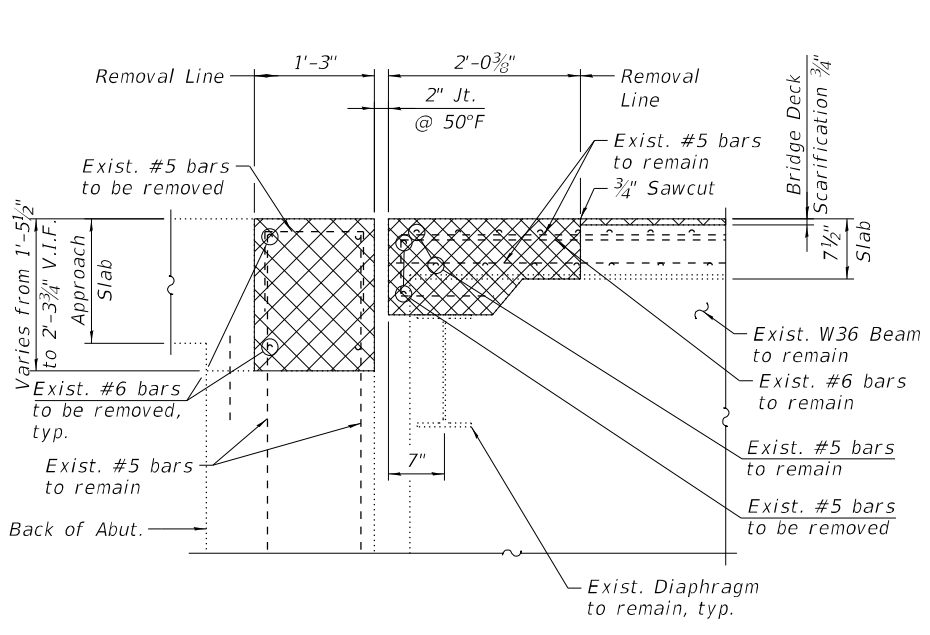
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			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

SHEET S13-10 OF S13-23 SHEETS

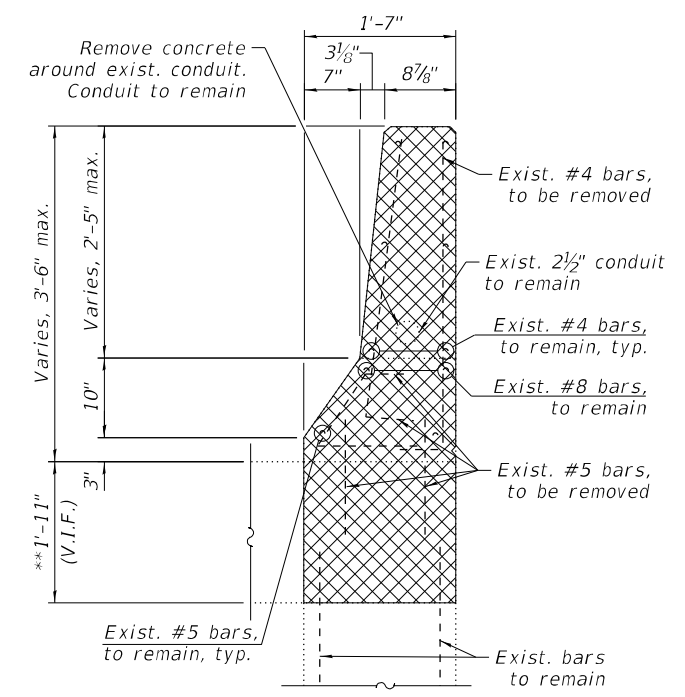
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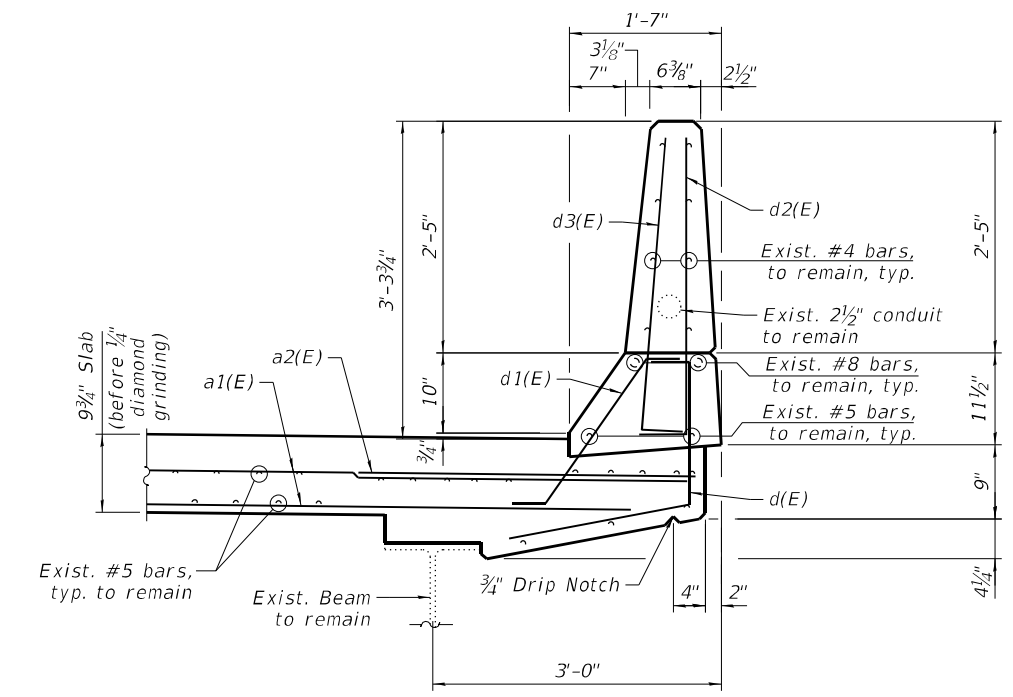
SECTION F-F
(South parapet removal)



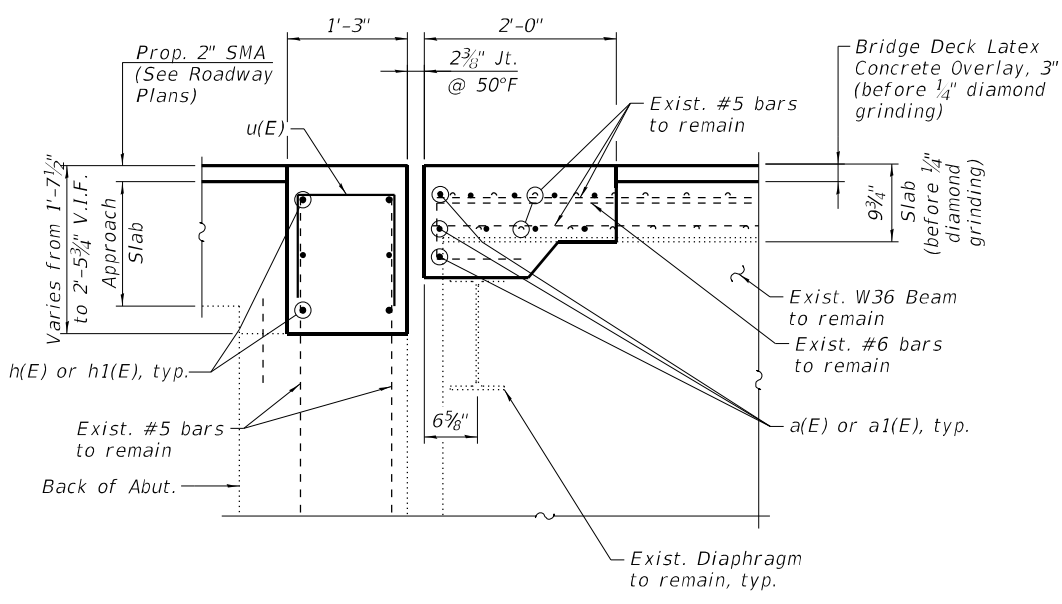
SECTION G-G



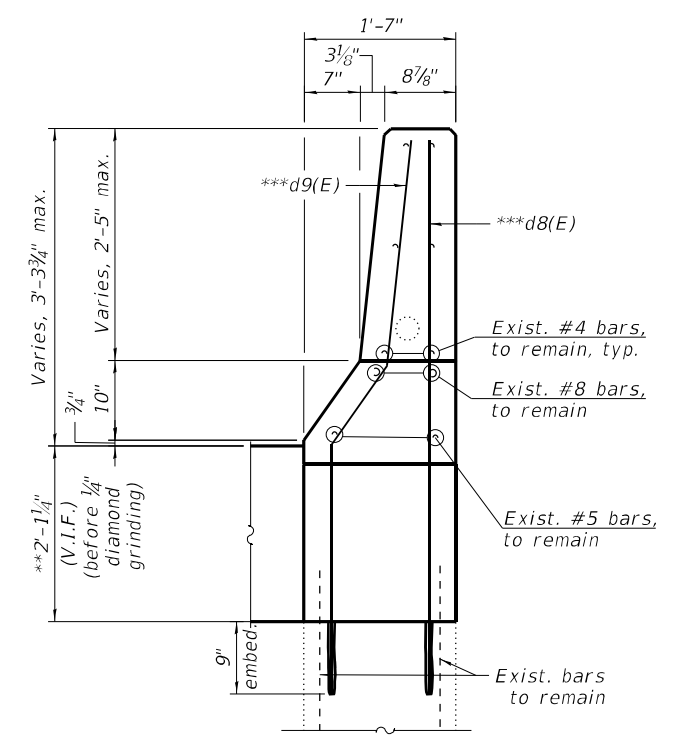
SECTION H-H
(South parapet removal)



SECTION FF-FF
(South parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(South parapet reconstruction)

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

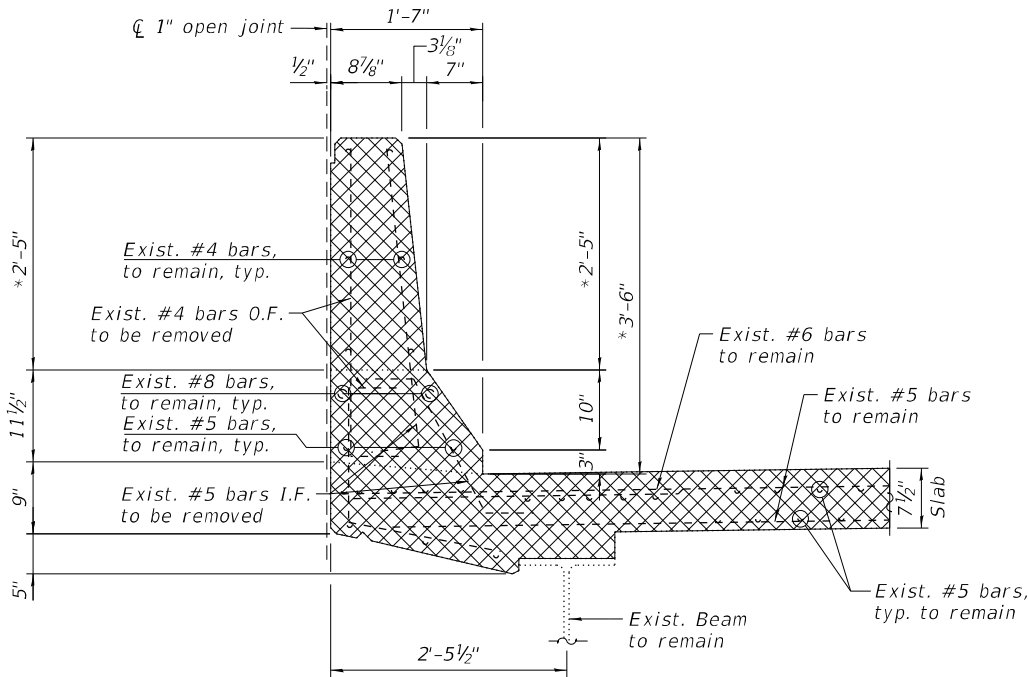
** Dimension is taken at the Back of Abut.

*** Epoxy grout #4 d8(E) & #5 d9(E) bars in 9" min. holes accordance in with Section 508 of the Standard Specifications.

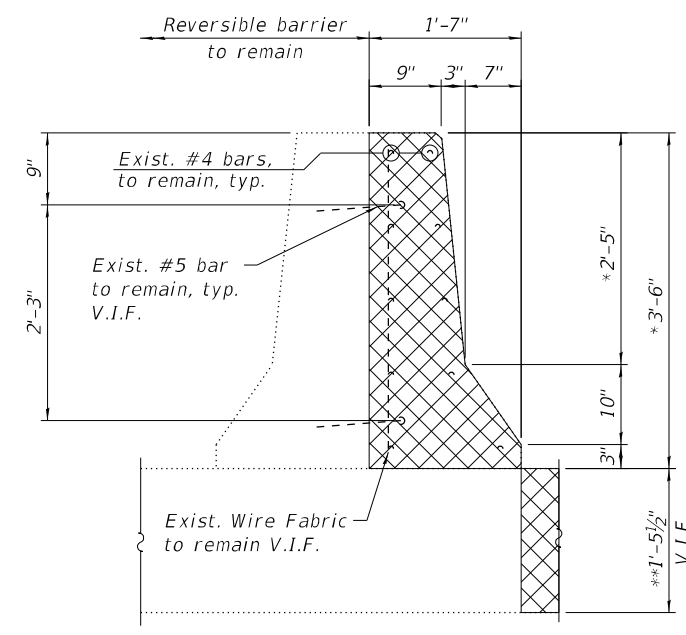
GRAEF 8501 W. Higgins Road, Suite 280 Chicago, Illinois 60631; (773) 399-0112	USER NAME =	DESIGNED - W.A.R.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT EXPANSION JOINT DETAILS II SN 016-0130 (SB)	F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 925	
	PLOT SCALE =	DRAWN - D.C.P.	REVISED -			CONTRACT NO. 62K74					
	PLOT DATE =	CHECKED - K.G.W.	REVISED -			SHEET S13-11 OF S13-23 SHEETS					
						ILLINOIS		FED. AID PROJECT			

**BILL OF MATERIAL
WEST ABUTMENT**

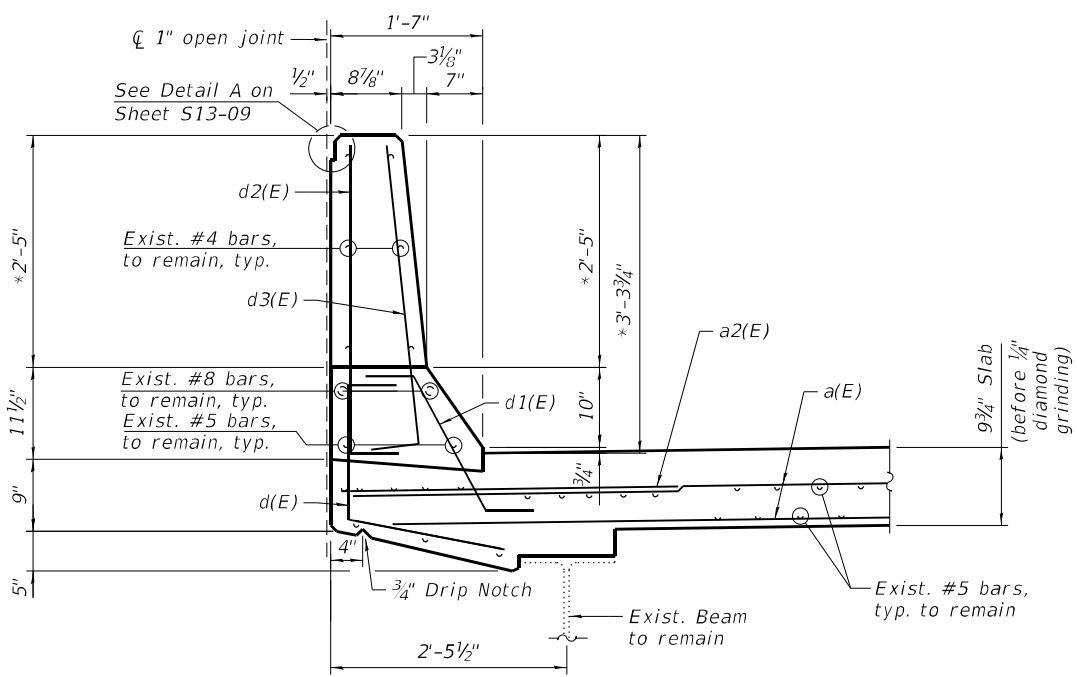
Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-7"	—
a1(E)	20	#5	26'-2"	—
a2(E)	6	#6	4'-0"	—
d(E)	6	#4	3'-11"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	6	#4	3'-8"	┌
d3(E)	6	#5	3'-8"	┌
d6(E)	3	#5	4'-2"	┌
d7(E)	3	#5	1'-10"	┌
d8(E)	3	#4	6'-1"	┌
d9(E)	3	#5	6'-3"	┌
h(E)	12	#6	22'-7"	—
h1(E)	12	#6	25'-3"	—
s(E)	24	#6	3'-1"	┌
u(E)	86	#5	2'-11"	┌
Concrete Removal		Cu Yd	15.7	
Reinforcement Bars, Epoxy Coated		Pound	2,430	
Concrete Superstructure		Cu Yd	19.1	



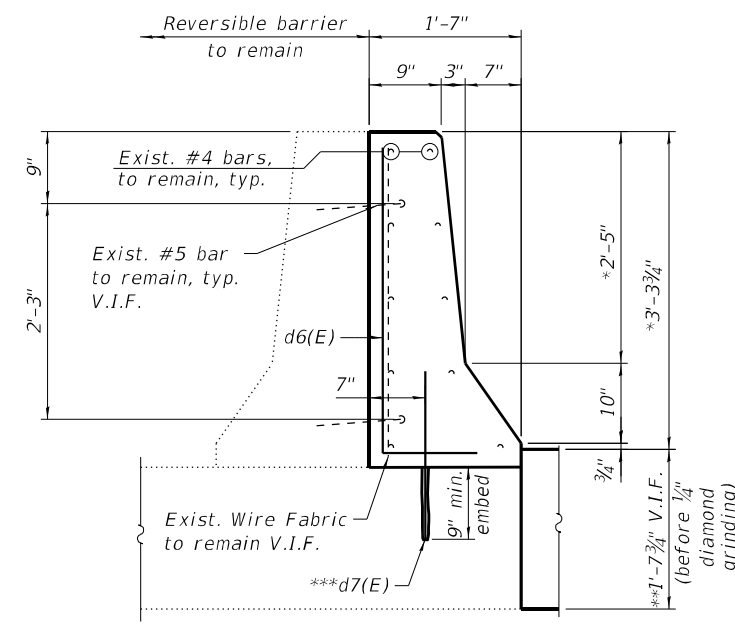
SECTION J-J
(North parapet removal)



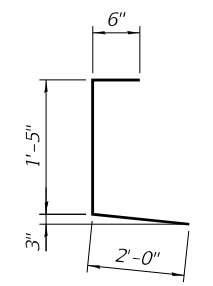
SECTION K-K
(North parapet removal)



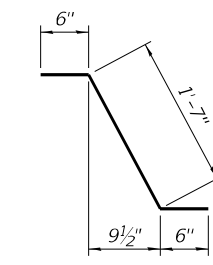
SECTION JJ-JJ
(North parapet reconstruction)



SECTION KK-KK
(North parapet reconstruction)



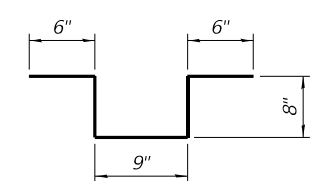
BAR d(E)



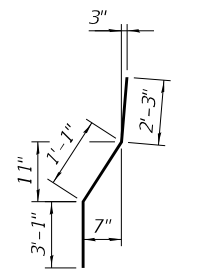
BAR d1(E)

BARS d2(E), d3(E), & d6(E)

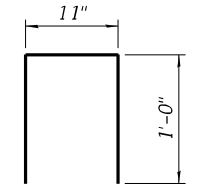
Bar	A	B
d2(E)	3'-2"	6"
d3(E)	3'-2"	6"
d6(E)	3'-2"	1'-0"



BAR s(E)



BAR d9(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S13-13.
 - For Bar Splicer Assembly details, see sheet S13-23.
 - Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
 - Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.
- * Adjust in field as required to match reversible parapet
 ** Dimension is taken at the Back of Abut.
 *** Epoxy grout #5 d7(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

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GRAEF
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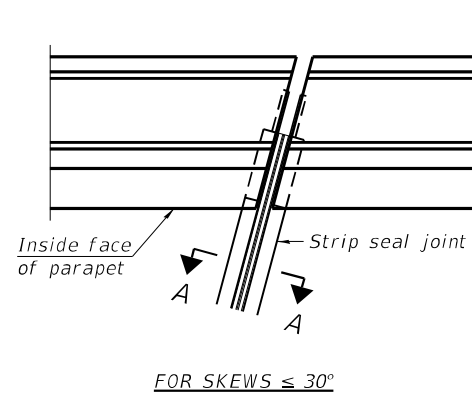
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0130 (SB)**

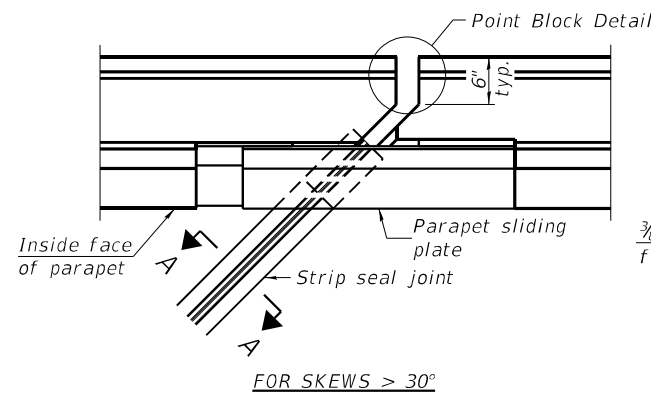
SHEET S13-12 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	926
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

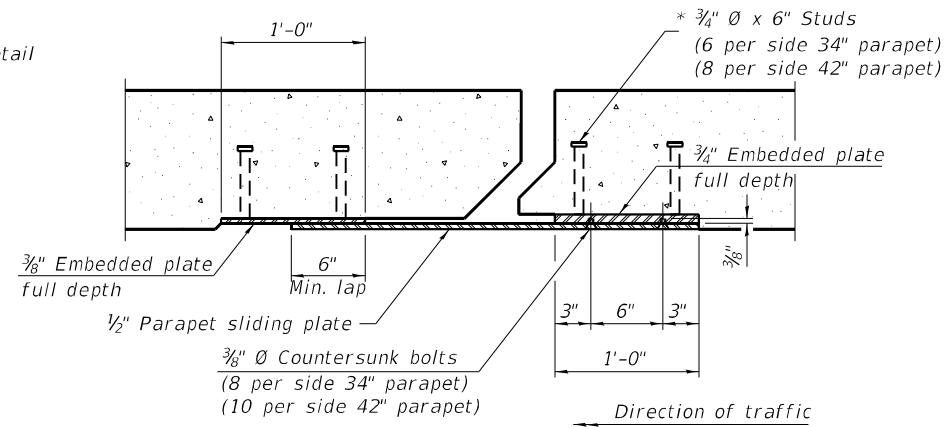


FOR SKEWS $\leq 30^\circ$

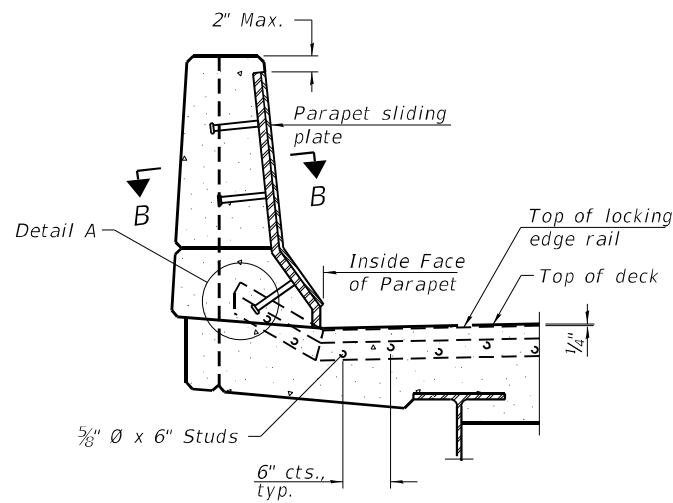
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

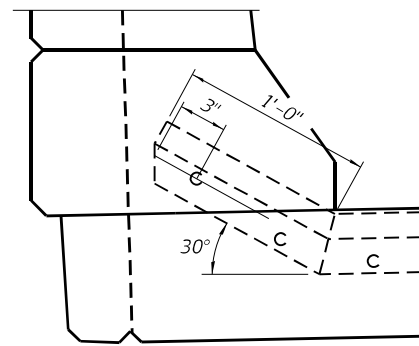


SECTION B-B

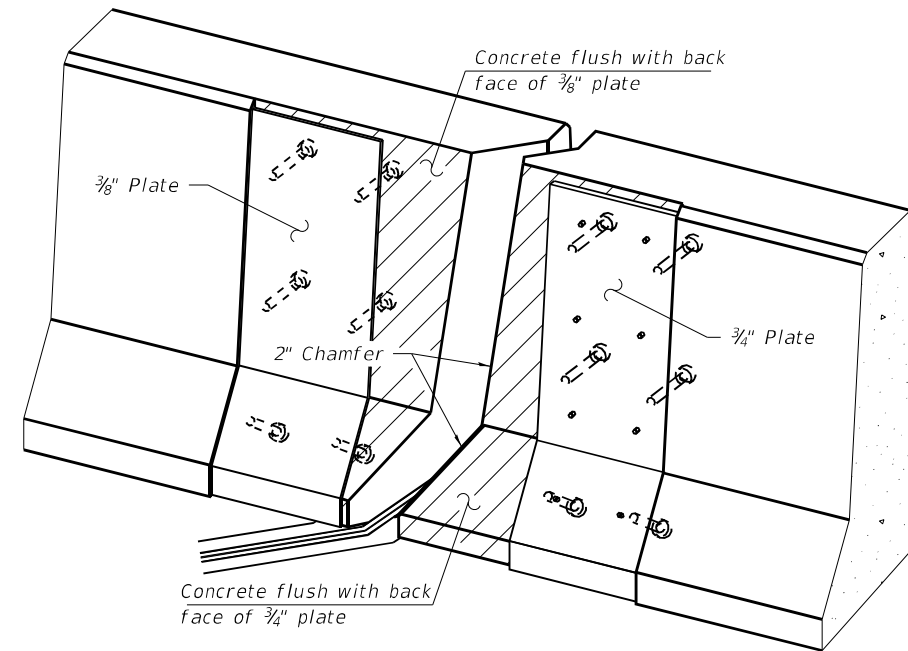


ELEVATION AT PARAPET

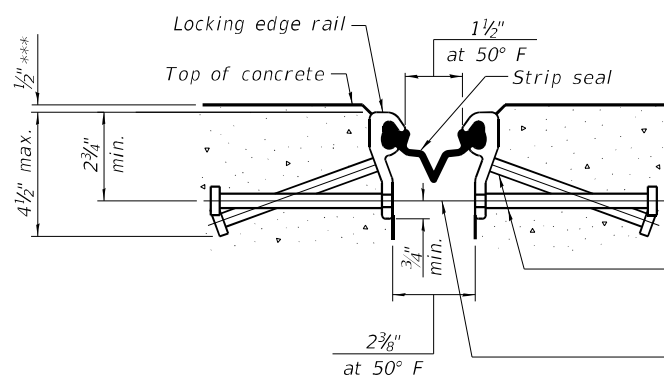
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A

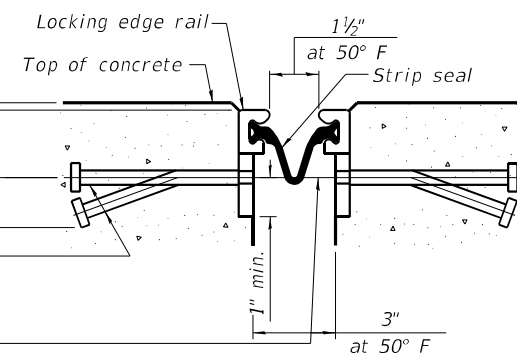


TRIMETRIC VIEW
(Showing embedded plates only)

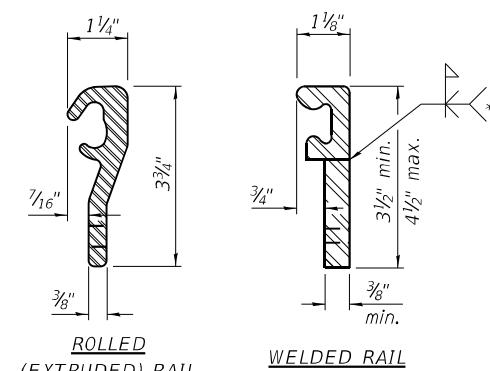


SHOWING ROLLED RAIL JOINT

* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 $3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4"-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

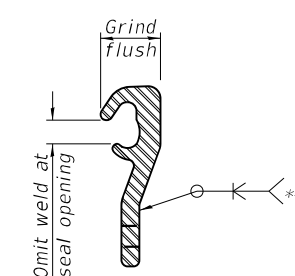


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** 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.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	179

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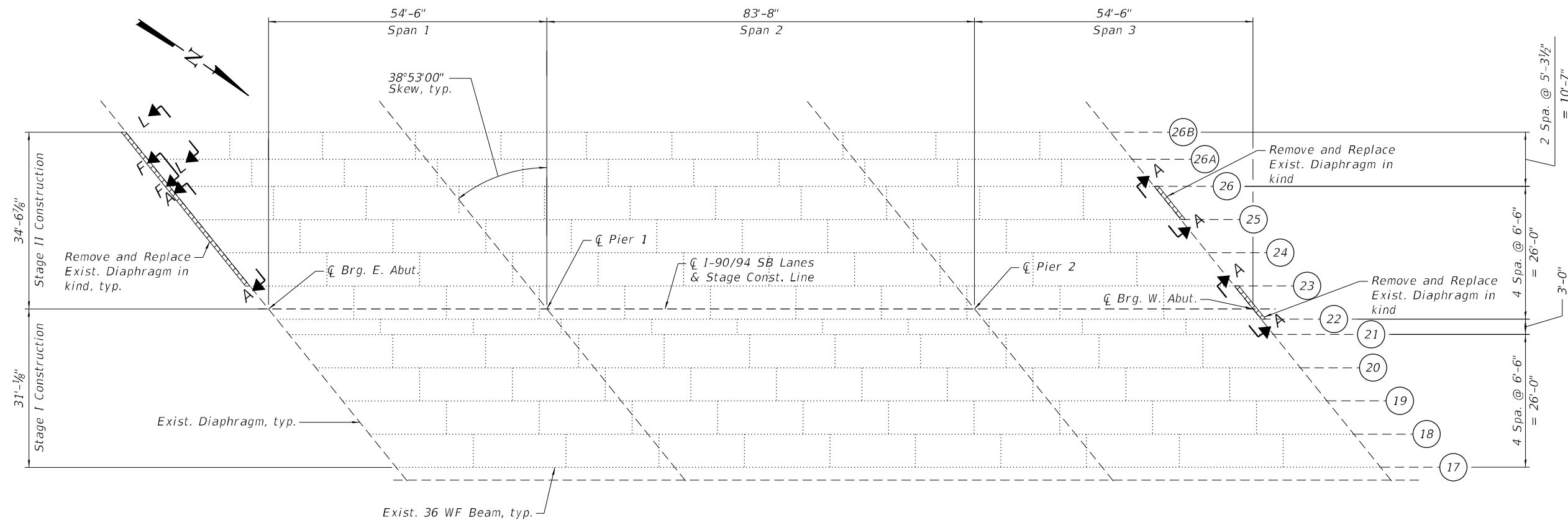
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PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
 SN 016-0130 (SB)

SHEET S13-13 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	927
			CONTRACT NO. 62K74	
ILLINOIS		FED. AID PROJECT		



FRAMING PLAN

NOTES:

1. All work is to be performed utilizing staged construction. See Sheets S13-03 and S13-04 for details.
2. For Diaphragm Removal and Replacement Details, see Sheets S13-15 thru S13-17.

LEGEND

Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	Pound	2,050
Structural Steel Removal	Pound	2,050

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USER NAME =	DESIGNED -	W.A.R.	REVISED -
	CHECKED -	H.A.	REVISED -
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

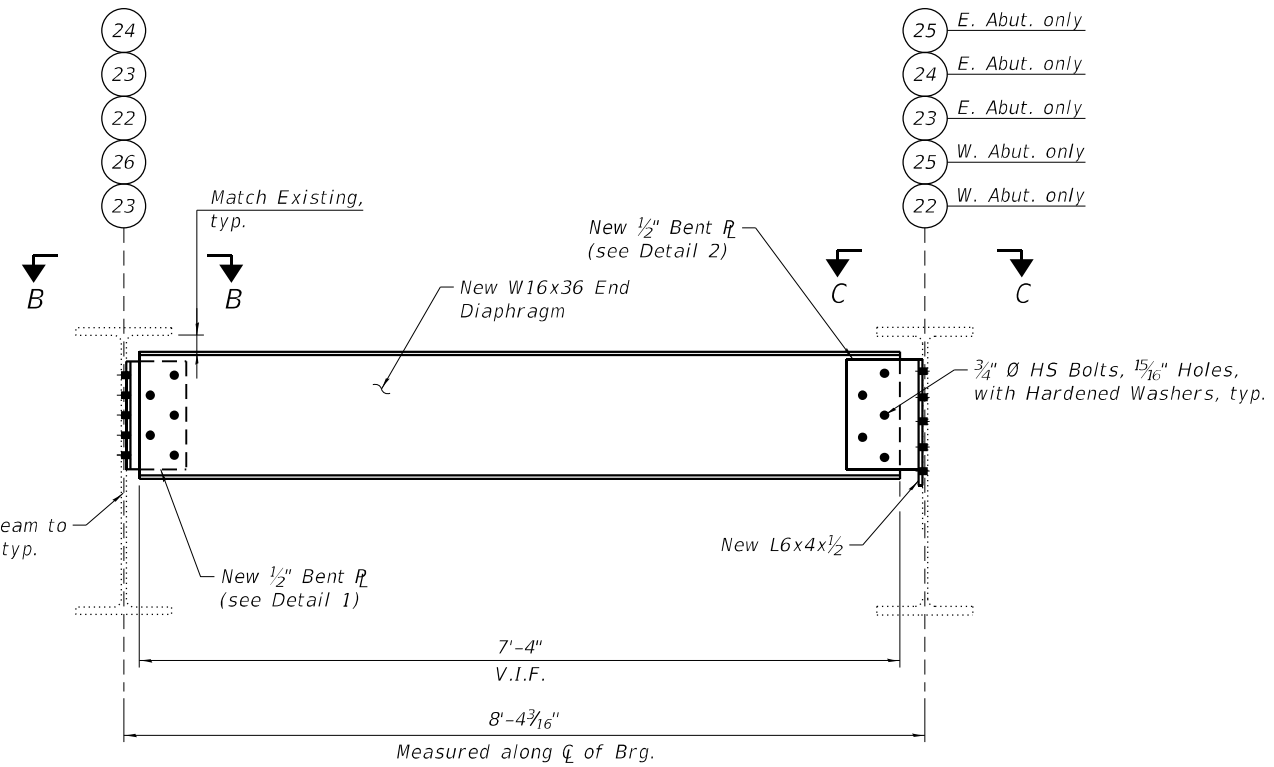
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
SN 016-0130 (SB)

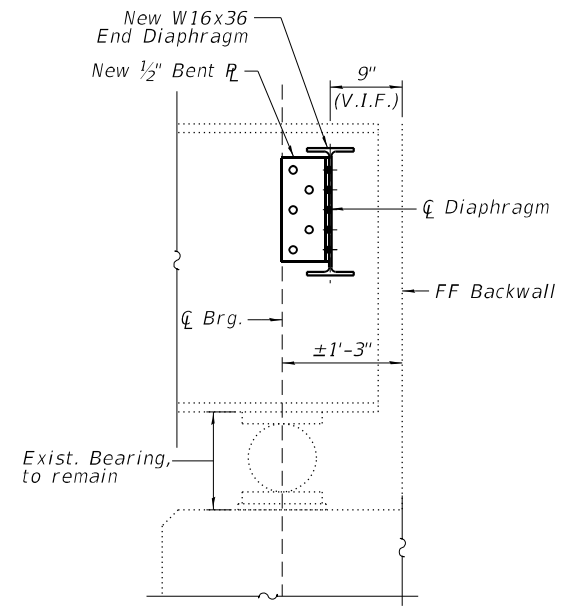
SHEET S13-14 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

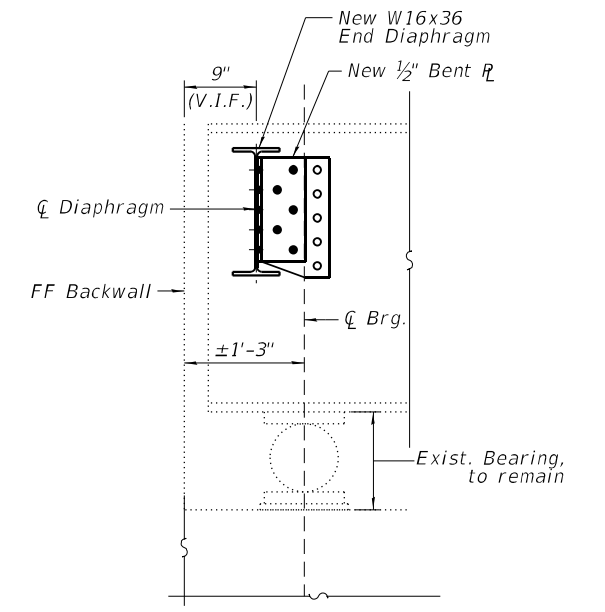
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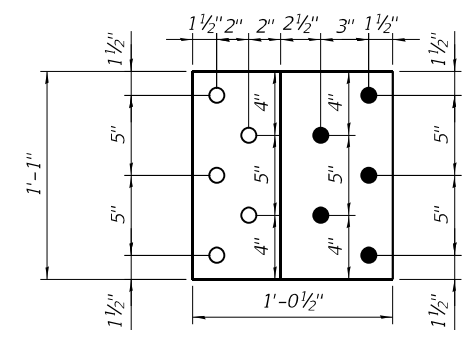
SECTION A-A
 West Abutment shown, East Abutment similar and opposite hand
 (5 Required)



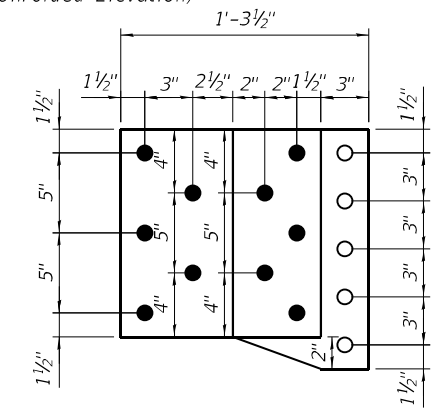
SECTION D-D



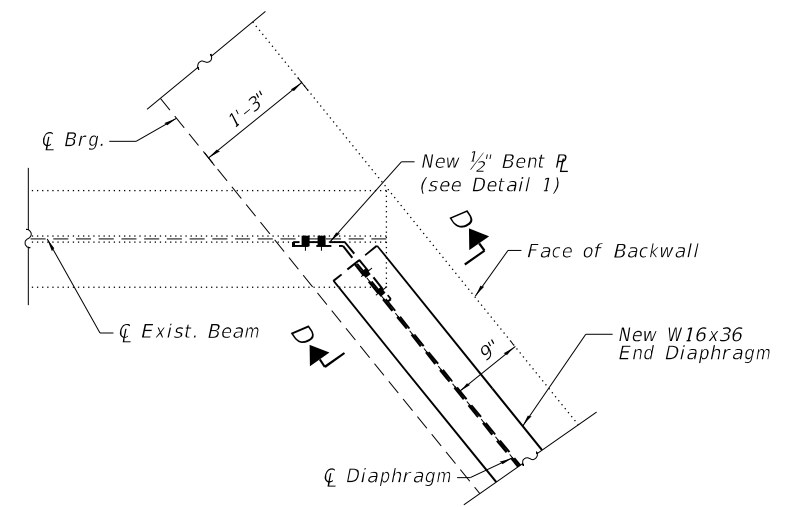
SECTION E-E



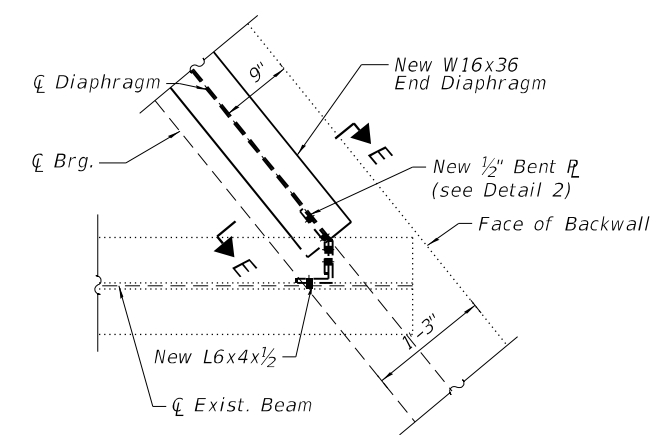
DETAIL 1
 (Unfolded Elevation)



DETAIL 2
 (Unfolded Elevation)



SECTION B-B



SECTION C-C

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S13-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.
- Shop Drill holes



USER NAME =	DESIGNED -	W.A.R.	REVISED -
PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	J.T.B.	REVISED -
	CHECKED -	K.G.W.	REVISED -

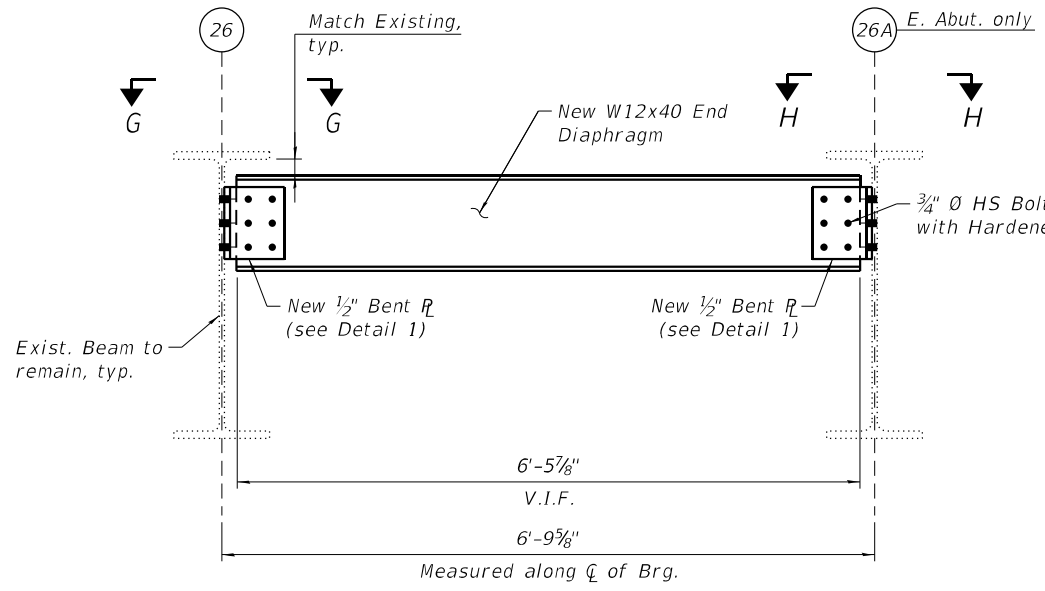
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS I
SN 016-0130 (SB)

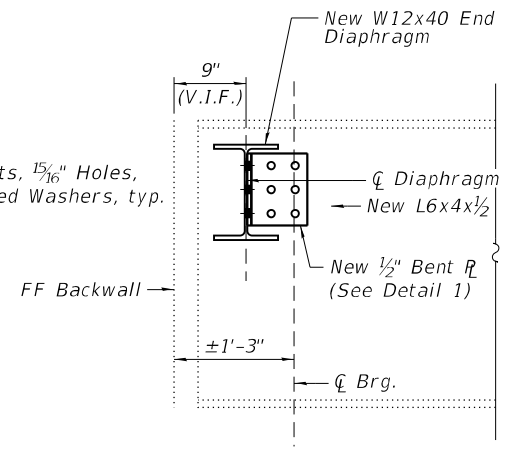
SHEET S13-15 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				

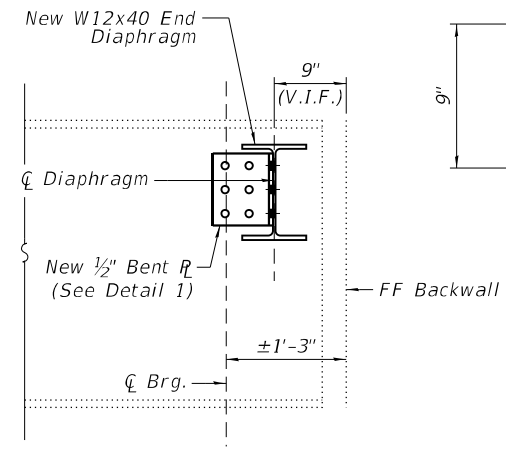
ILLINOIS FED. AID PROJECT



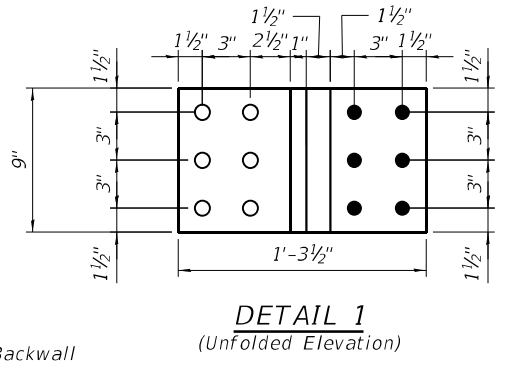
SECTION F-F
(1 Required)



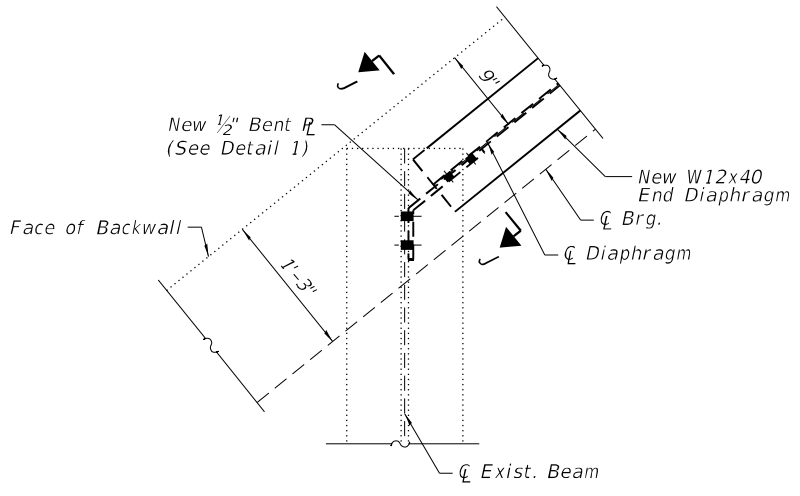
SECTION J-J



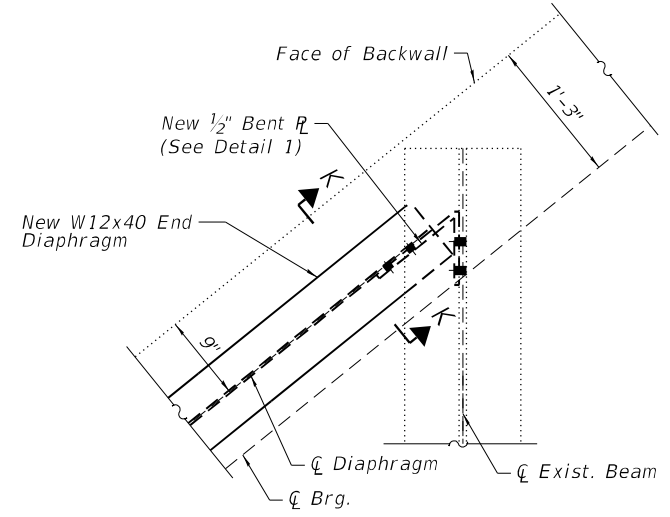
SECTION K-K



DETAIL 1
(Unfolded Elevation)



SECTION G-G



SECTION H-H

NOTES

- For location of Diaphragm Repair and Bill of Material, see Sheet S13-14.
- All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
- All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
- The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
- Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
- All proposed steel dimensions shall be verified in the field prior to fabrication.

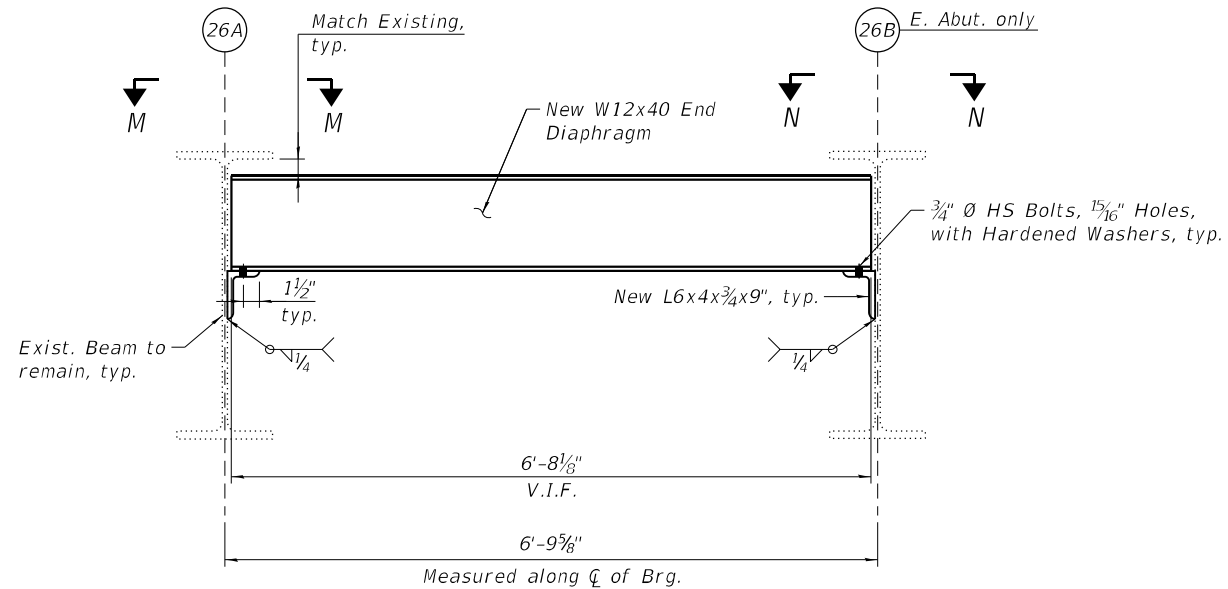
LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.
- Shop Drill holes

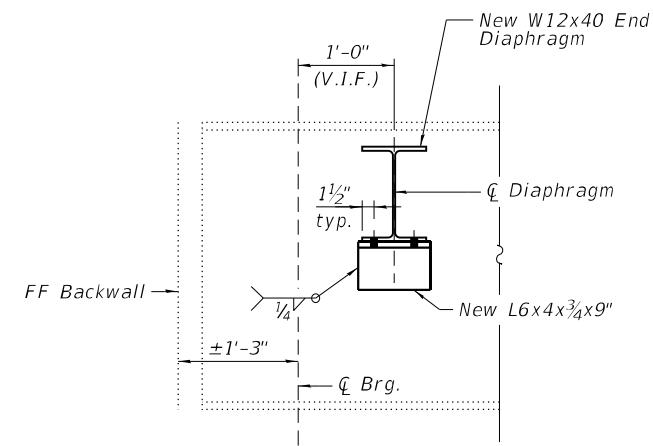
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

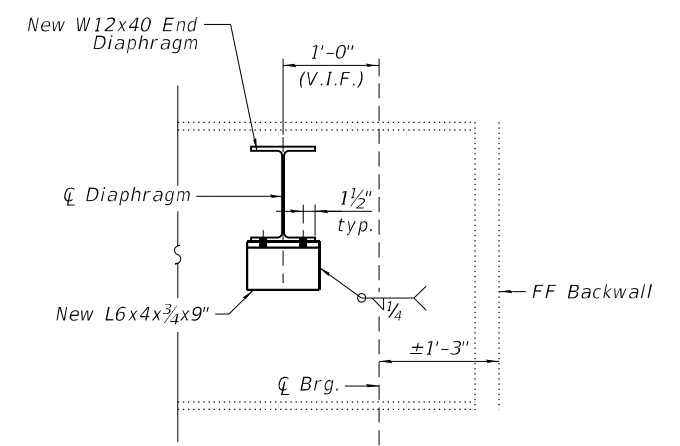
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90	2020-004-BR	COOK	1492	930
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		



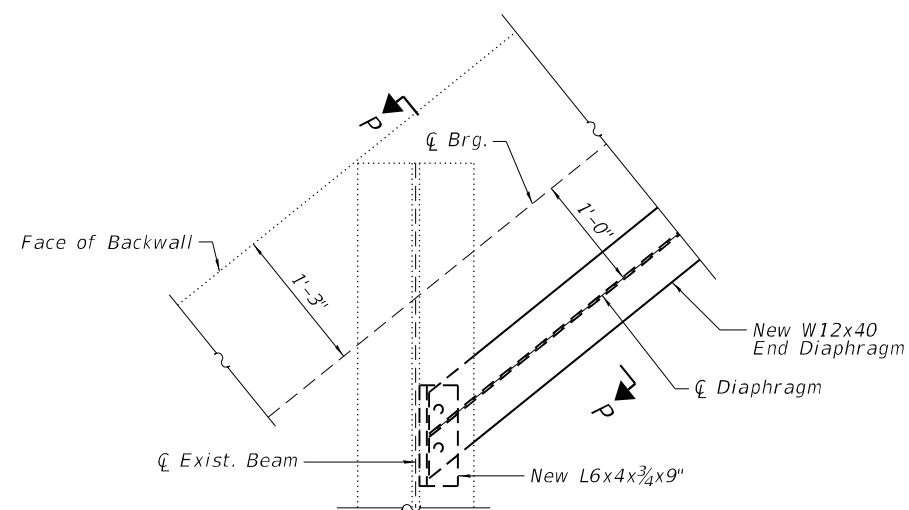
SECTION L-L
(1 Required)



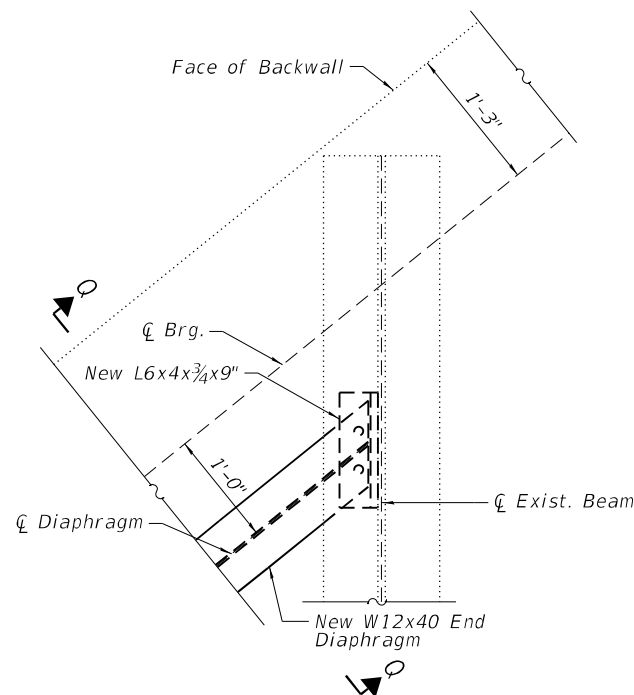
SECTION P-P



SECTION Q-Q



SECTION M-M



SECTION N-N

NOTES

1. For location of Diaphragm Repair and Bill of Material, see Sheet S13-14.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.

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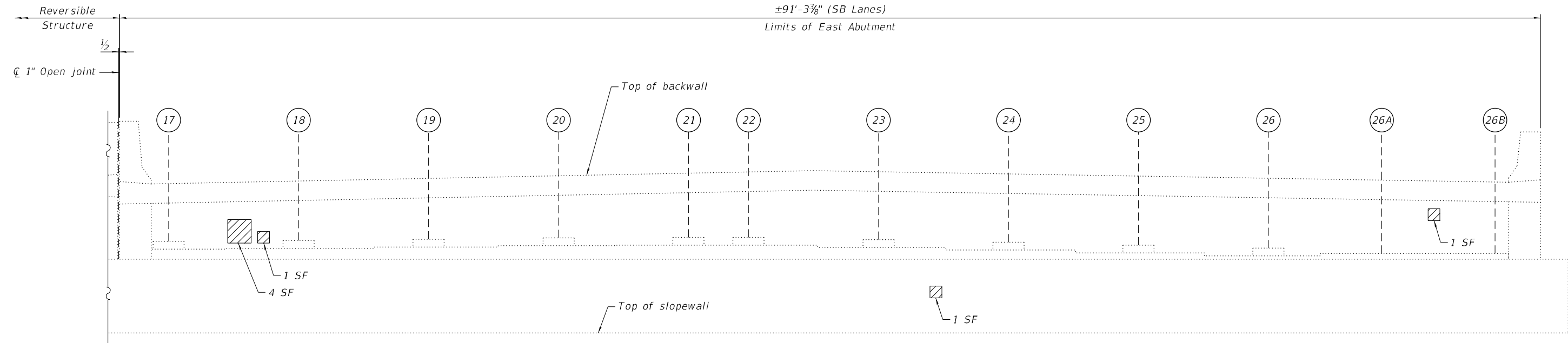
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	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS III
SN 016-0130 (SB)**

SHEET S13-17 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	931
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - EAST ABUTMENT
(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S13-22.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	545
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	7

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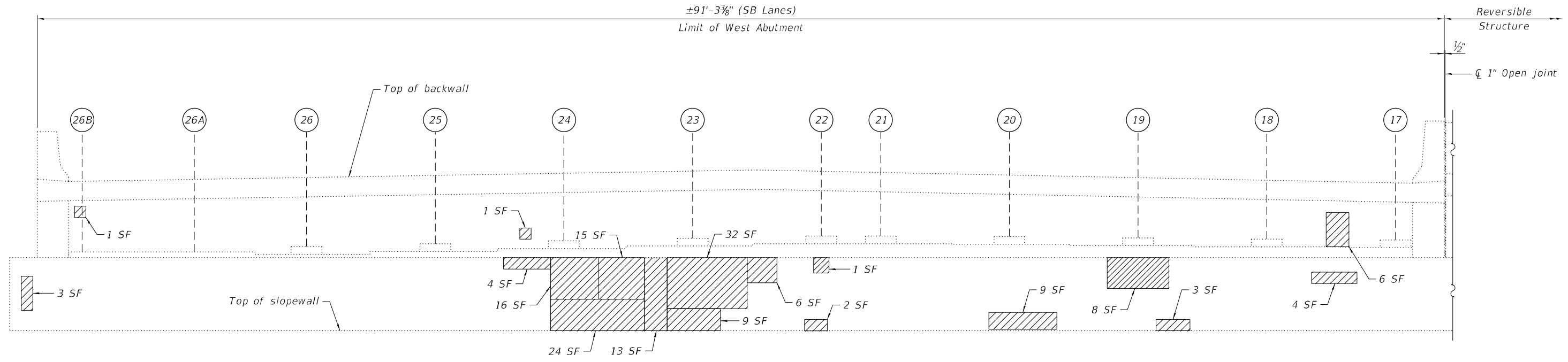
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
SN 016-0130 (SB)**

SHEET S13-18 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	932
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - WEST ABUTMENT
(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S13-22.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	539
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	157

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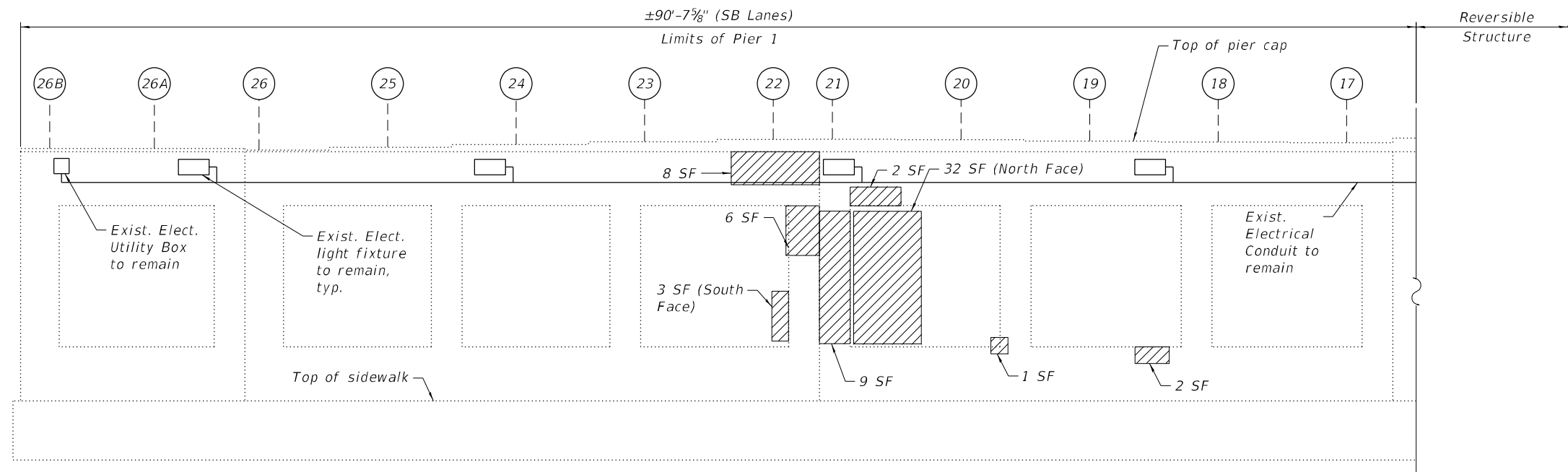
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

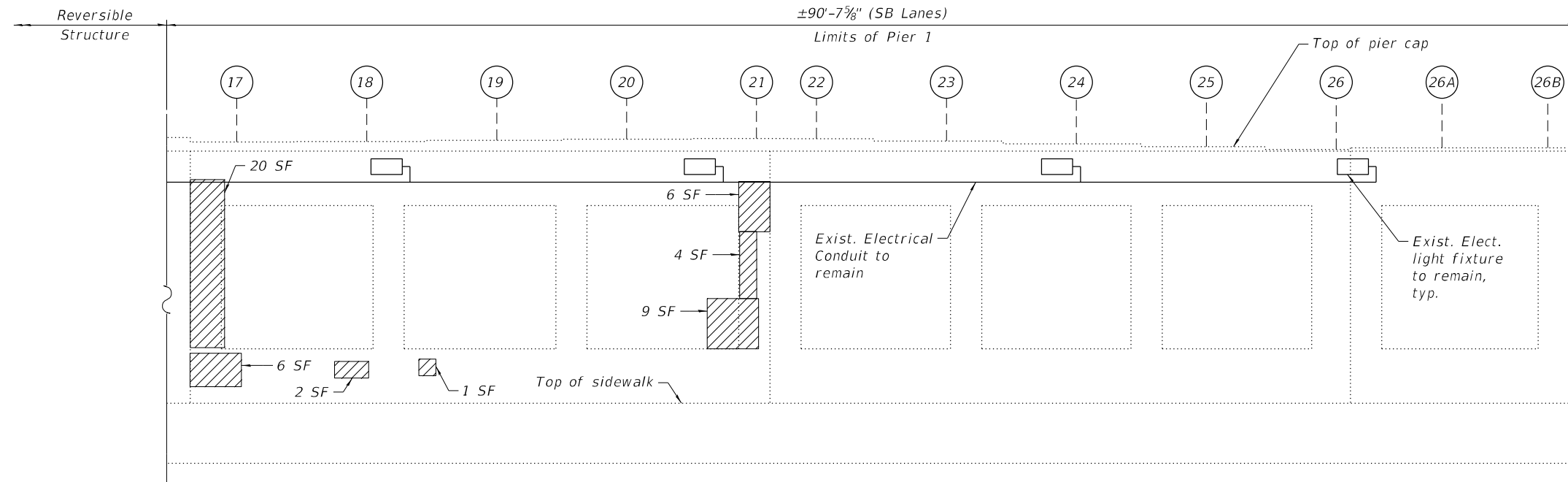
**WEST ABUTMENT REPAIRS
SN 016-0130 (SB)**

SHEET S13-19 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	933
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Southwest)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

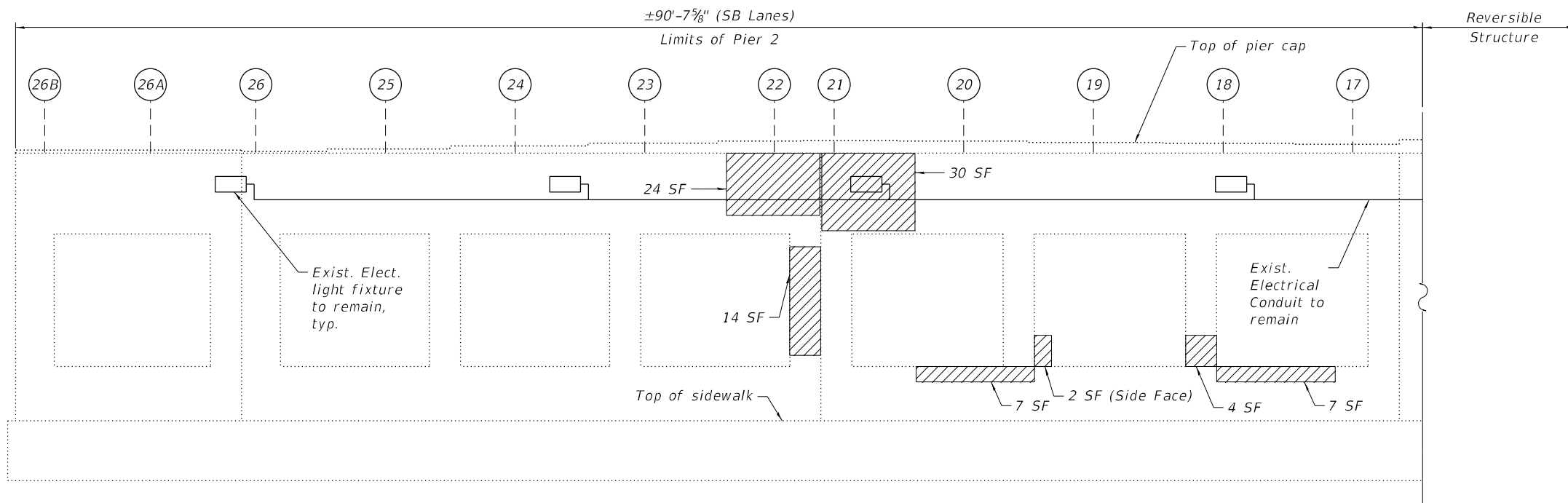
LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	111

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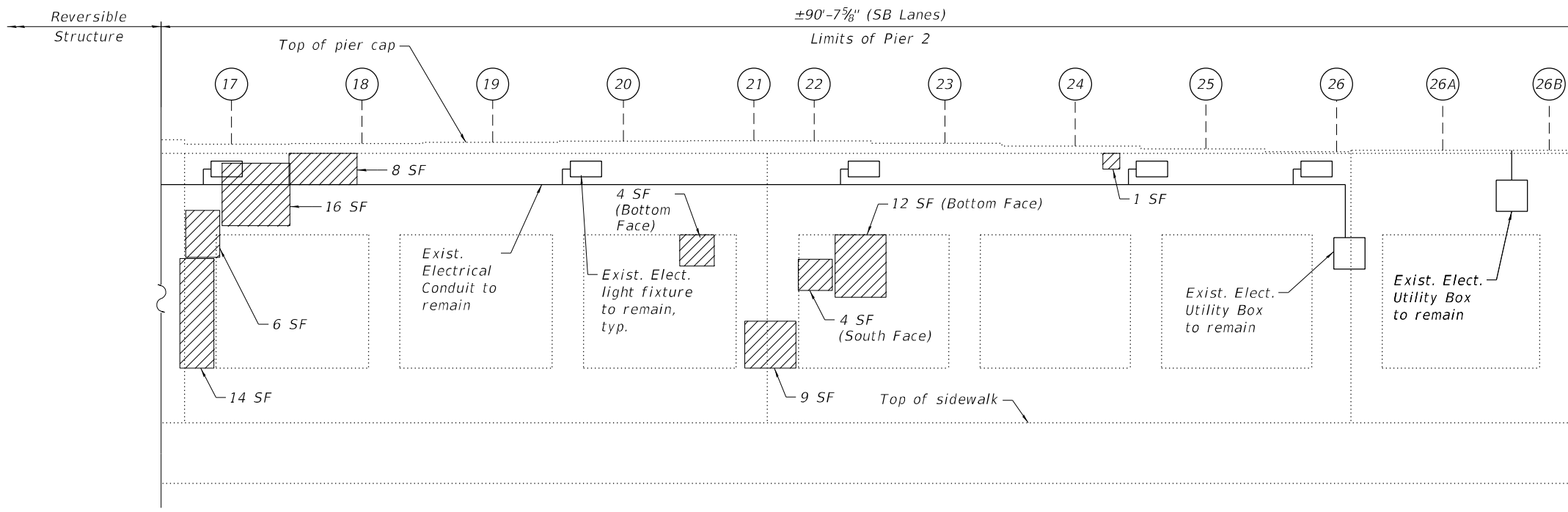
ELEVATION - PIER 2
(Looking West)



EXISTING LIGHTING: PIER 2
(Looking Northwest)



EXISTING LIGHTING: PIER 2
(Looking Southeast)



ELEVATION - PIER 2
(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

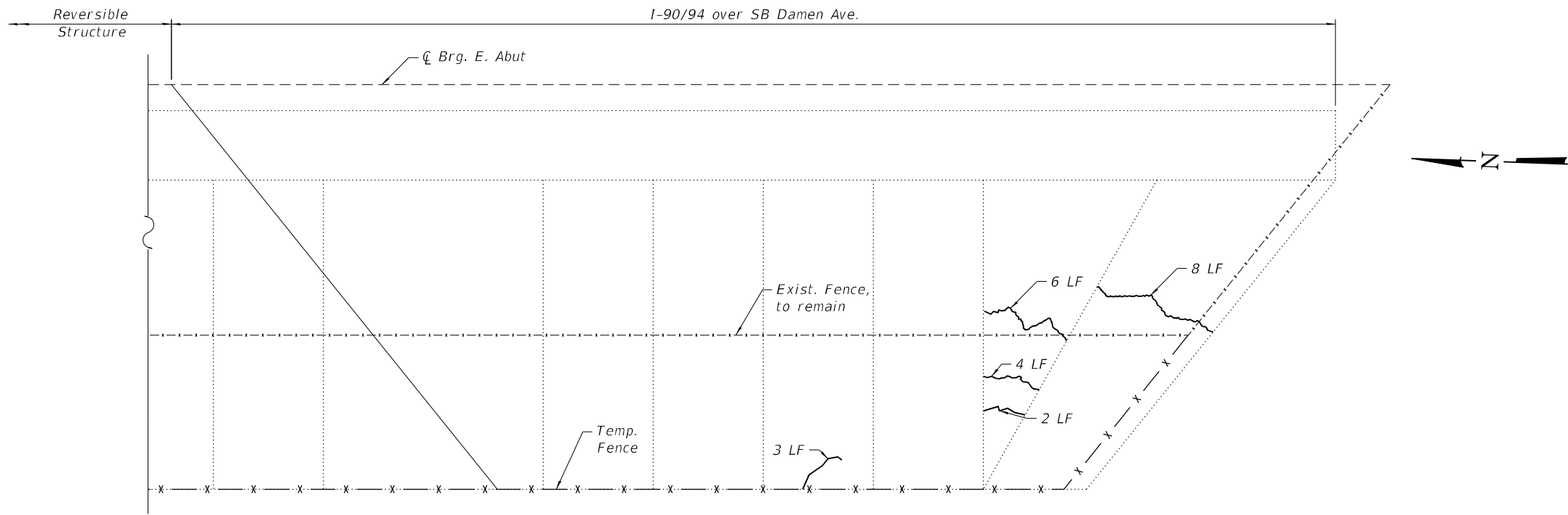
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	162

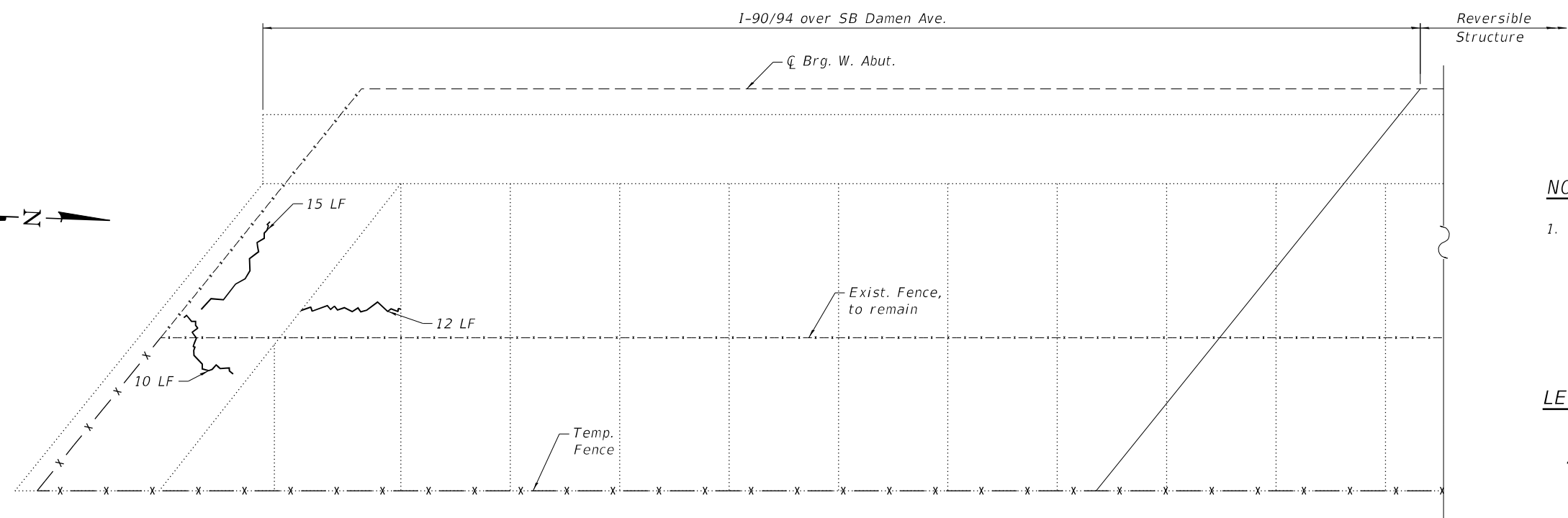
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	935
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



EAST SLOPE WALL - PLAN
(Looking East)



WEST SLOPE WALL - PLAN
(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- LF Linear Foot
- Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Ft	60

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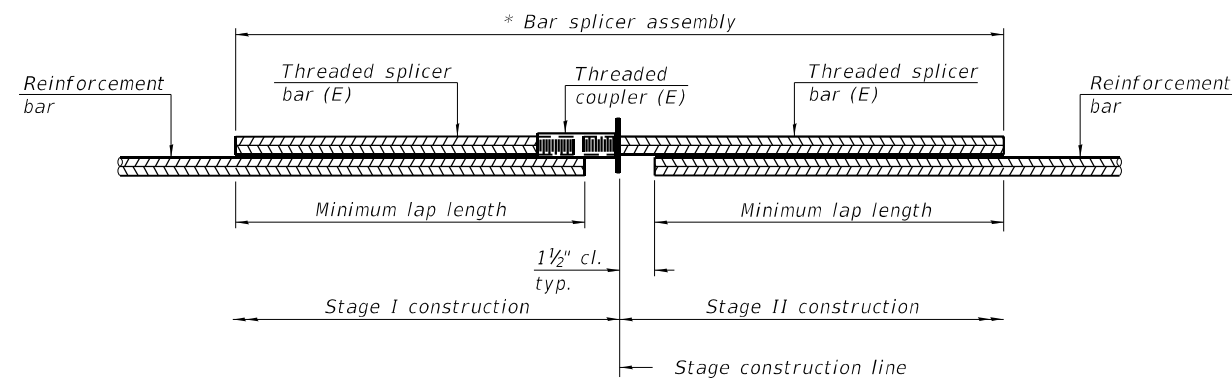
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS
SN 016-0130 (SB)
SHEET S13-22 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	936
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

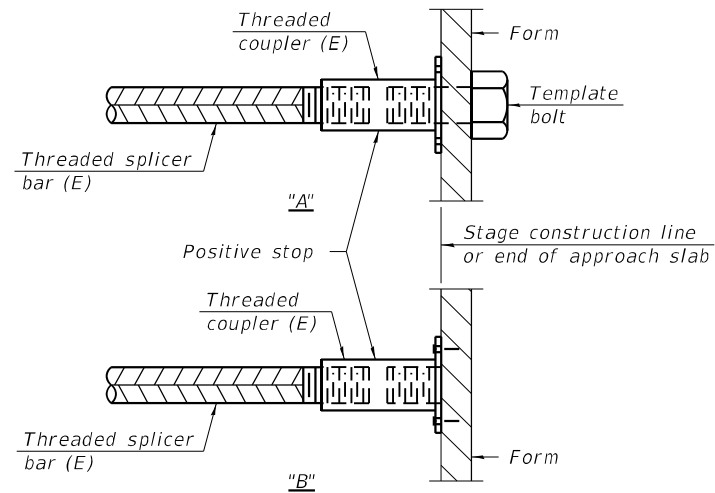


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

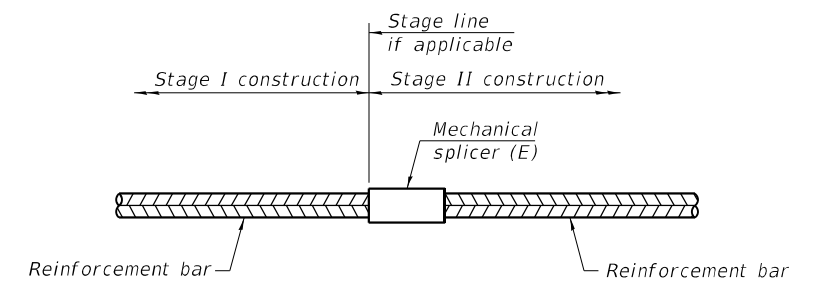
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
East Abutment	#5	10	3'-6"
Exp. Jt.	#6	6	4'-0"
West Abutment	#5	10	3'-6"
Exp. Jt.	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 016-0130 (SB)**

SHEET S13-23 OF S13-23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	937
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

Existing Structure: S.N. 016-0130 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 204'-4½" and an out-to-out deck width of 35'-11". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 54'-6", 83'-8", and 54'-6". The substructure consists of reinforced concrete abutments and piers supported on cast-in-place concrete piles.

The reversible lanes will be closed to traffic during construction.

No salvage.

LOADING

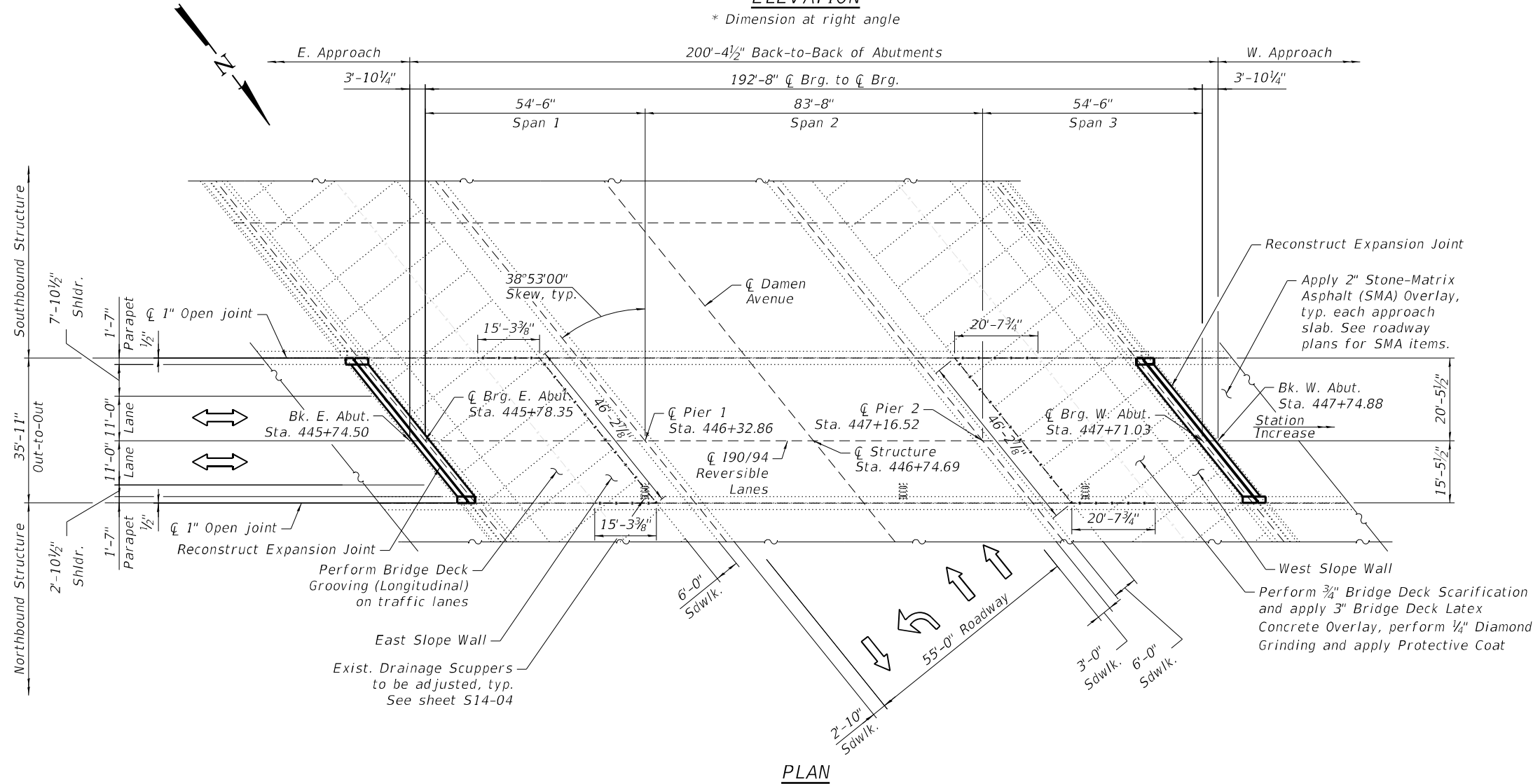
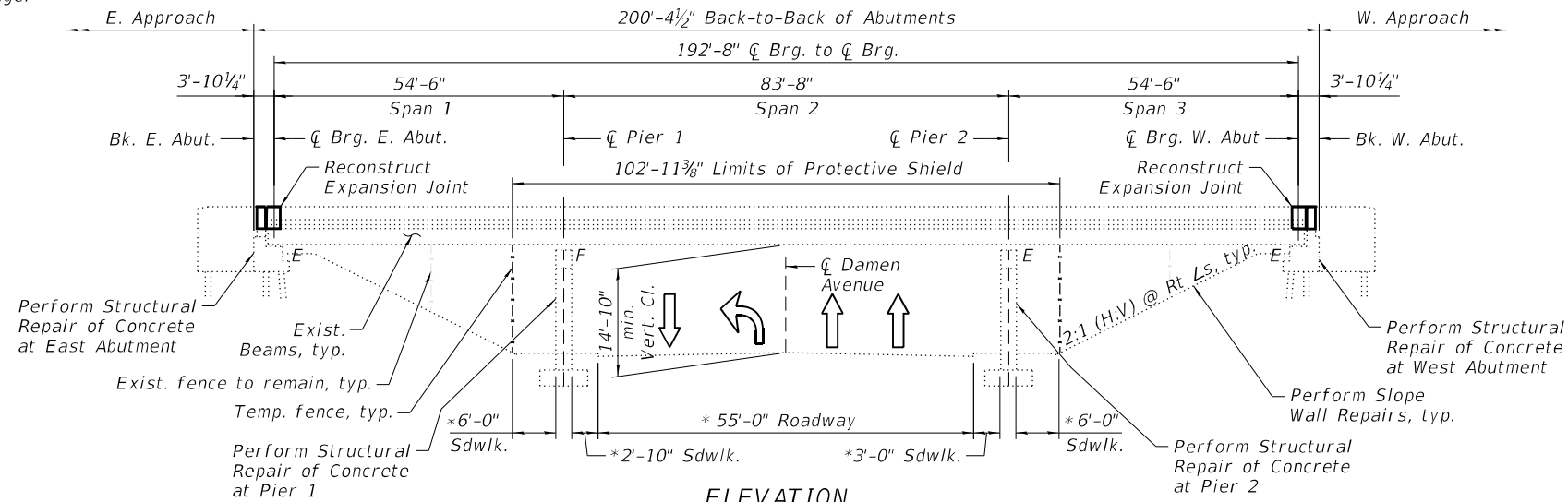
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

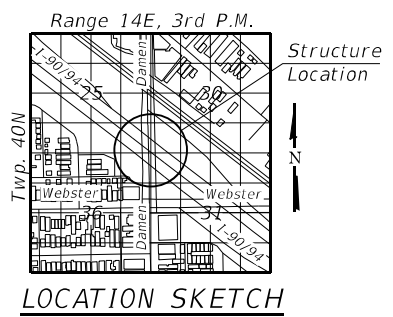
NOTE:

- All stations are to the C I-90/94 Reversible Roadway and taken from existing plans.
- No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
Illinois Registered Engineer No. 081-006515
Registration Expires 11. 30, 2024



**GENERAL PLAN AND ELEVATION
REVERSIBLE I-90 OVER DAMEN AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 446+74.69
STRUCTURE NO. 016-0130 (REV)**

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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHEET S14-01 OF S14-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	938
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Fasteners shall be ASTM A325 Type 1, galvanized according to ASTM F 2329. Bolts 3/4 in., holes 13/16 in., unless otherwise noted. Diaphragm connection holes be 15/16" for 3/4" bolts. Two hardened washers shall be required at diaphragm connections.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or 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 Concrete Removal pay item. 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" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50°F.
- Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanized for Structural Steel".
- Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

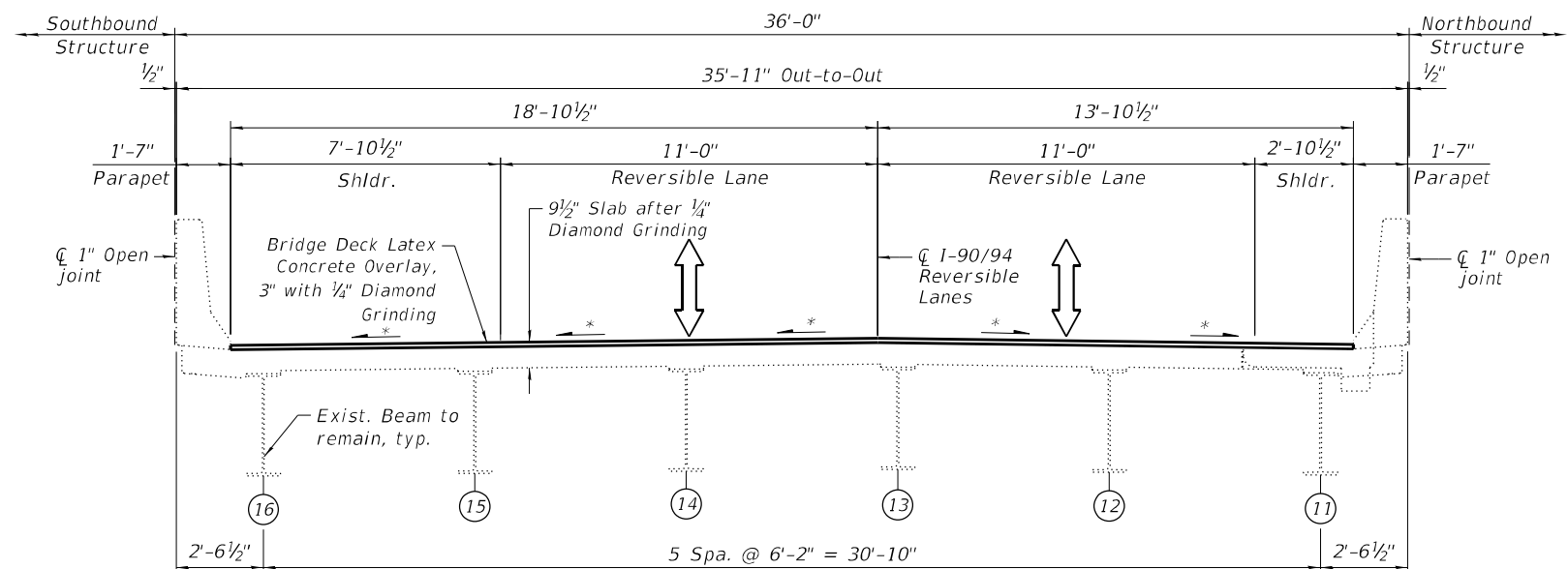
- S14-01 General Plan & Elevation
- S14-02 General Data
- S14-03 Bridge Deck Repair Plan and Details
- S14-04 Drainage Scupper Type C Adjustment Details
- S14-05-S14-07 East Abutment Expansion Joint Details I, II & III
- S14-08-S14-10 West Abutment Expansion Joint Details I, II & III
- S14-11 Preformed Joint Strip Seal
- S14-12 Framing Plan
- S14-13 Structural Steel Repair Details
- S14-14 East Abutment Repairs
- S14-15 West Abutment Repairs
- S14-16 Pier 1 Repairs
- S14-17 Pier 2 Repairs
- S14-18 Slope Wall Repairs

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at east and west abutments, and install new Preformed Joint Strip Seals.
- Repair steel diaphragms as shown on the plans.
- Adjust Drainage Scuppers.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Perform slope wall repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	14.9		14.9
Protective Shield	Sq Yd	528		528
Concrete Superstructure	Cu Yd	16.8		16.8
Protective Coat	Sq Yd	914		914
Furnishing and Erecting Structural Steel	Pound	270		270
Reinforcement Bars, Epoxy Coated	Pound	2,520		2,520
Preformed Joint Seal 2 1/2	Foot	196		196
Preformed Joint Strip Seal	Foot	89		89
Concrete Sealer	Sq Ft		592	592
Slope Wall Crack Sealing	Foot		10	10
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	478		478
Structural Steel Removal	Pound	270		270
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	693		693
Cleaning Drainage System	L Sum	0.05		0.05
Bridge Deck Scarification 3/4"	Sq Yd	693		693
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		153	153
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.5		3.5
Drainage Scuppers to be Adjusted	Each	1		1
Diamond Grinding (Bridge Section)	Sq Yd	720		720
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		165	165



FINAL CROSS SECTION

(Looking West)

* Match existing deck surface profile

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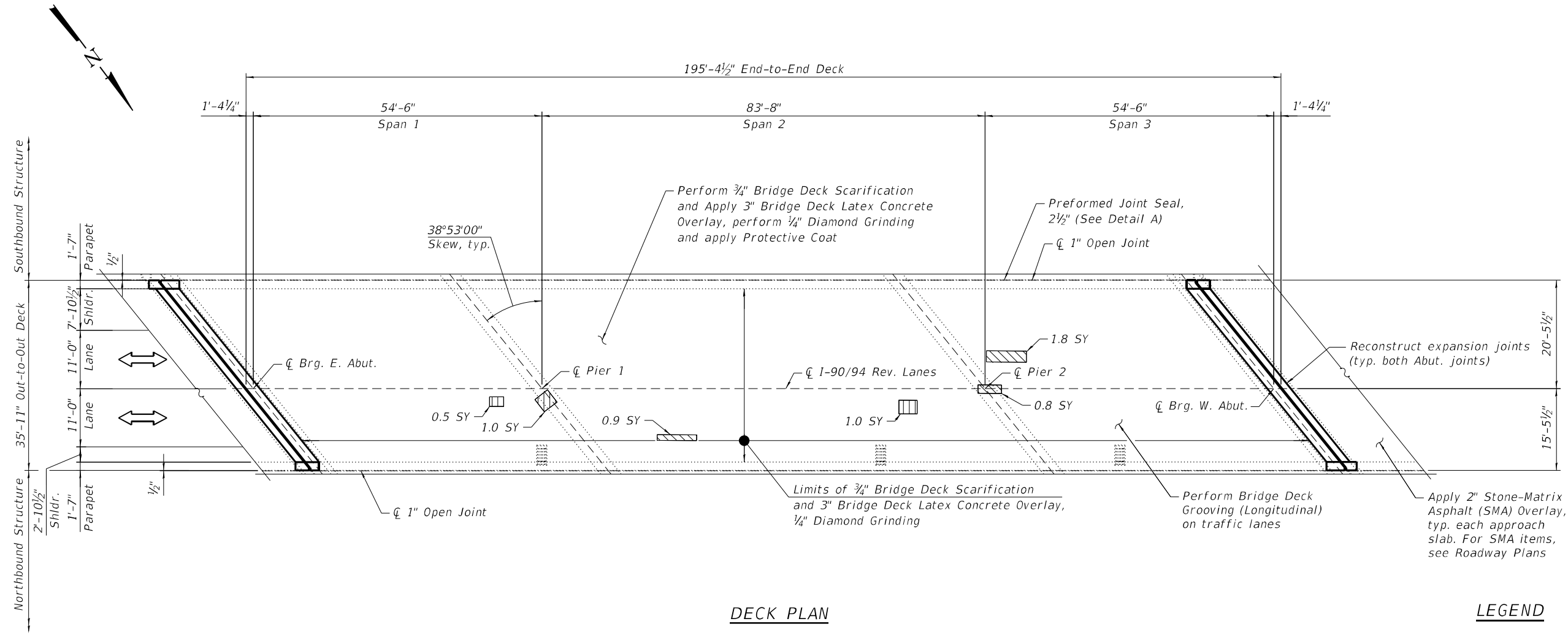
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	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
SN 016-0130 (REV)**

SHEET S14-02 OF S14-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	939
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



DECK PLAN

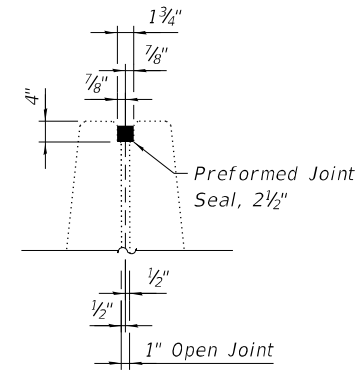
LEGEND

- *Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type II)
- SY Square Yard

* Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	528
Protective Coat	Sq Yd	914
Preformed Joint Seal 2 1/2"	Foot	196
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	478
Bridge Deck Latex Concrete Overlay, 3"	Sq Yd	693
Bridge Deck Scarification 3/4"	Sq Yd	693
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.5
Diamond Grinding (Bridge Section)	Sq Yd	720
Maintenance of Lighting System	Cal Mo	6



DETAIL A

(Reinforcement not shown for clarity)

NOTES:

1. Deck repair areas are estimated based on visual inspection and will be paid for as specified in the Special Provision. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans. Engineer shall sound deck after deck scarification.
2. Protective Coat shall be applied to the bridge overlay and front and top faces of the new and existing parapets.
3. All dimensions are perpendicular to ϕ I-90/94 Bridge Deck.
4. Protective Shield shall be placed over sidewalks and traffic lanes for Damen Ave.
5. For bridge deck final cross section, see Sheet S14-02.
6. For east and west transverse joint removal and reconstruction, see Sheets S14-05 thru S14-10.
7. Perform 3/4" Diamond Grinding to top of bridge deck and abutment hatched block.
8. Perform Bridge Deck Grooving (Longitudinal) for the Bridge Deck Latex Concrete Overlay, 3 Inches and the roadway portions of the reconstructed transverse joints.
9. 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.
10. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

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8501 N. Higgins Road, Suite 280
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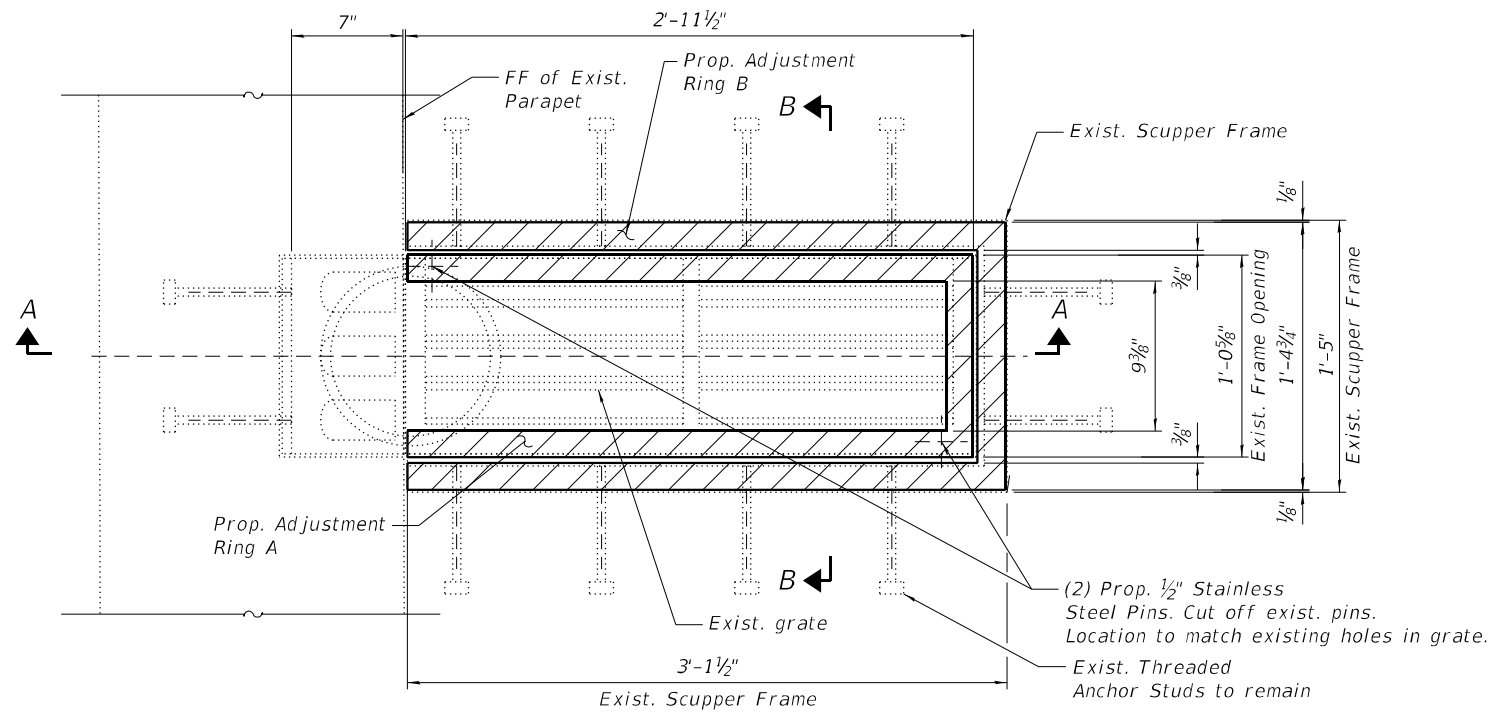
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0130 (REV)**

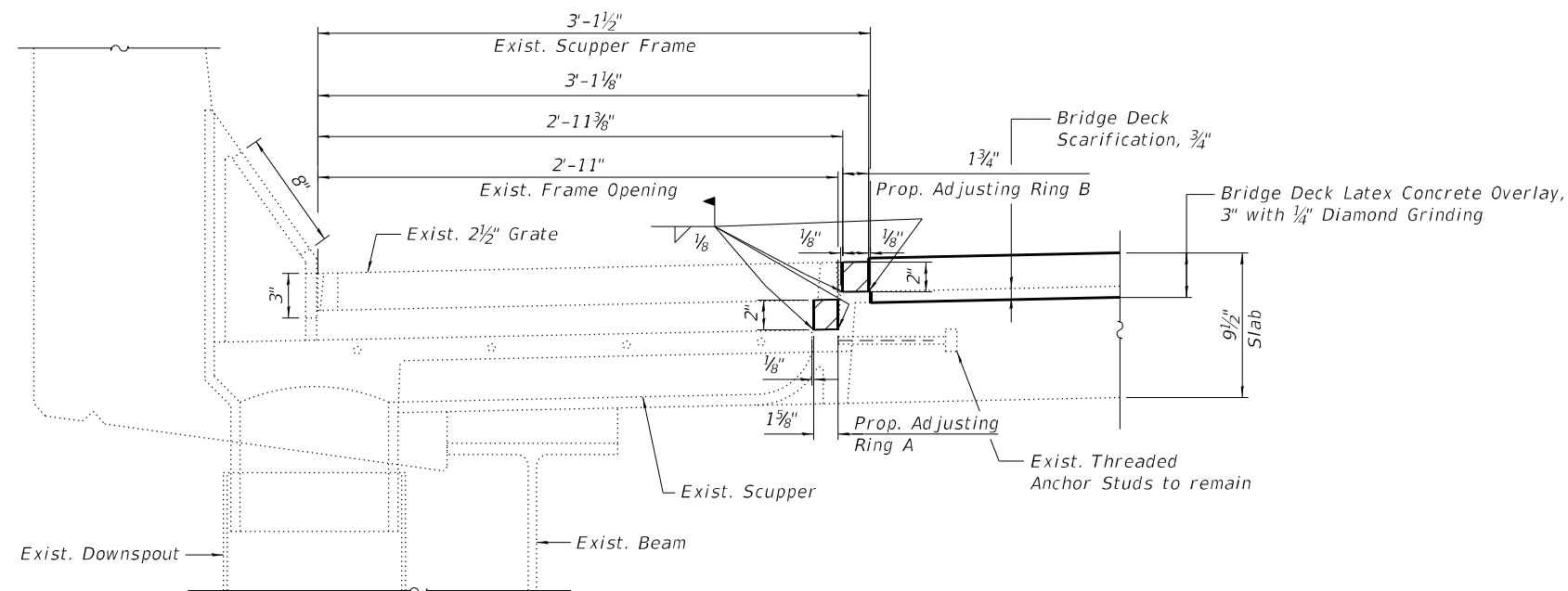
SHEET S14-03 OF S14-18 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 940
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

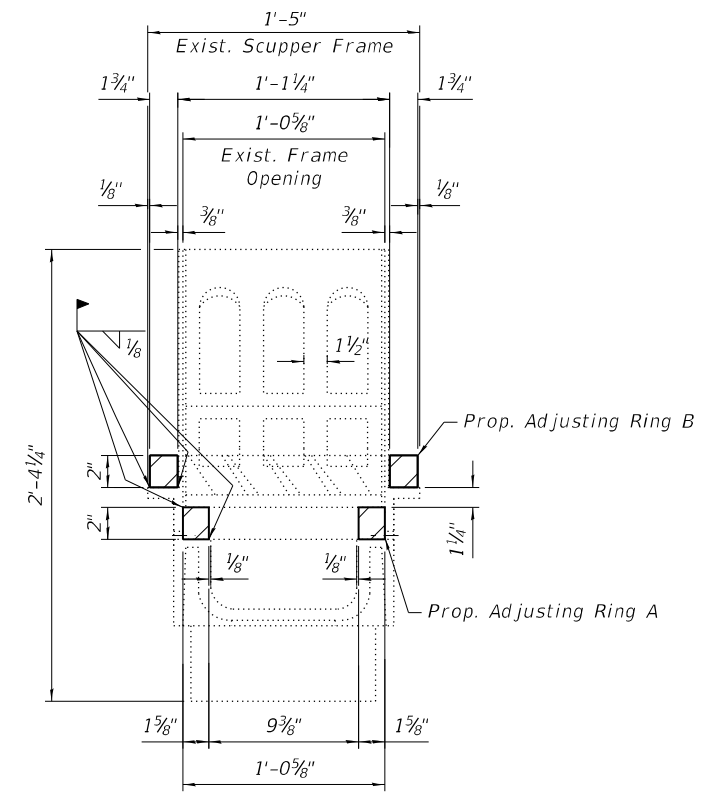


TYPICAL SCUPPER TYPE C PLAN

(3 Locations)



SECTION A-A



SECTION B-B

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Ring or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B and AASHTO M306.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Ring shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a 1/8" Fillet Weld along edges of new Adjusting Rings to secure to existing Scupper.
7. Stainless steel hardware shall be according to Article 1006.29(d) of the Standard Specifications.
8. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning Drainage System	L Sum	0.05
Drainage Scuppers To Be Adjusted	Each	1

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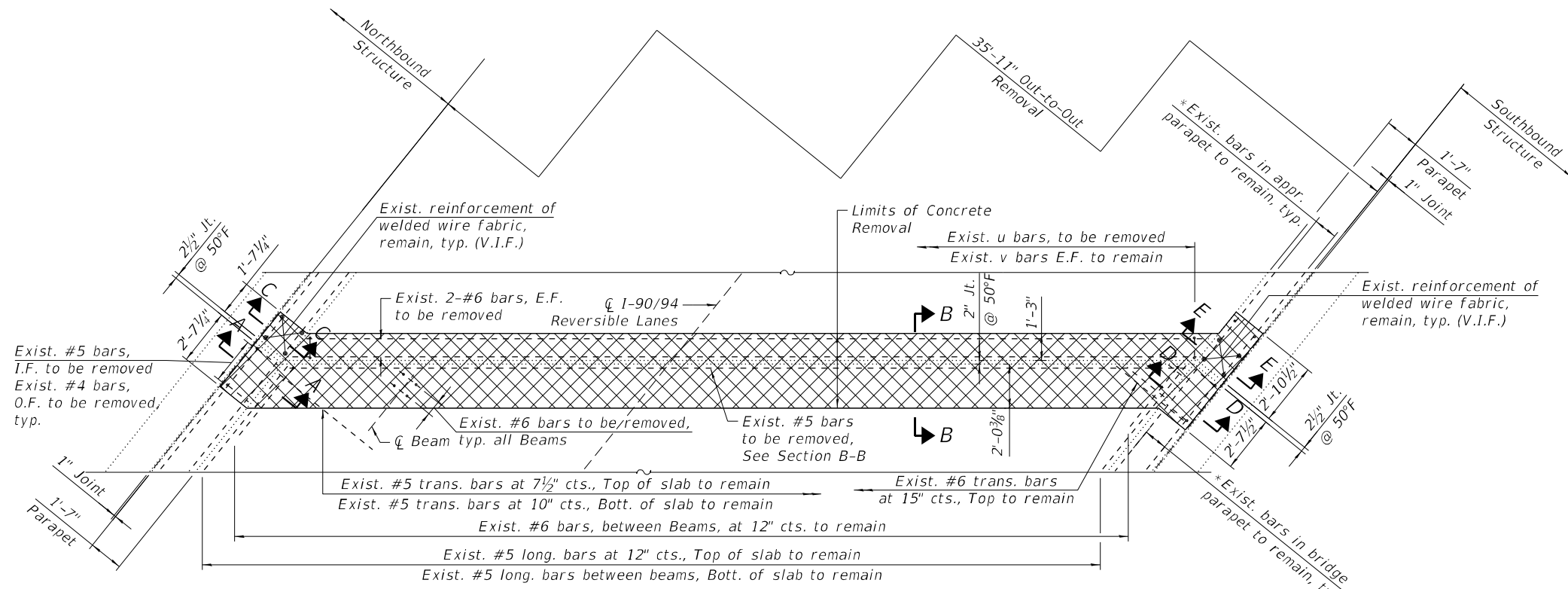
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

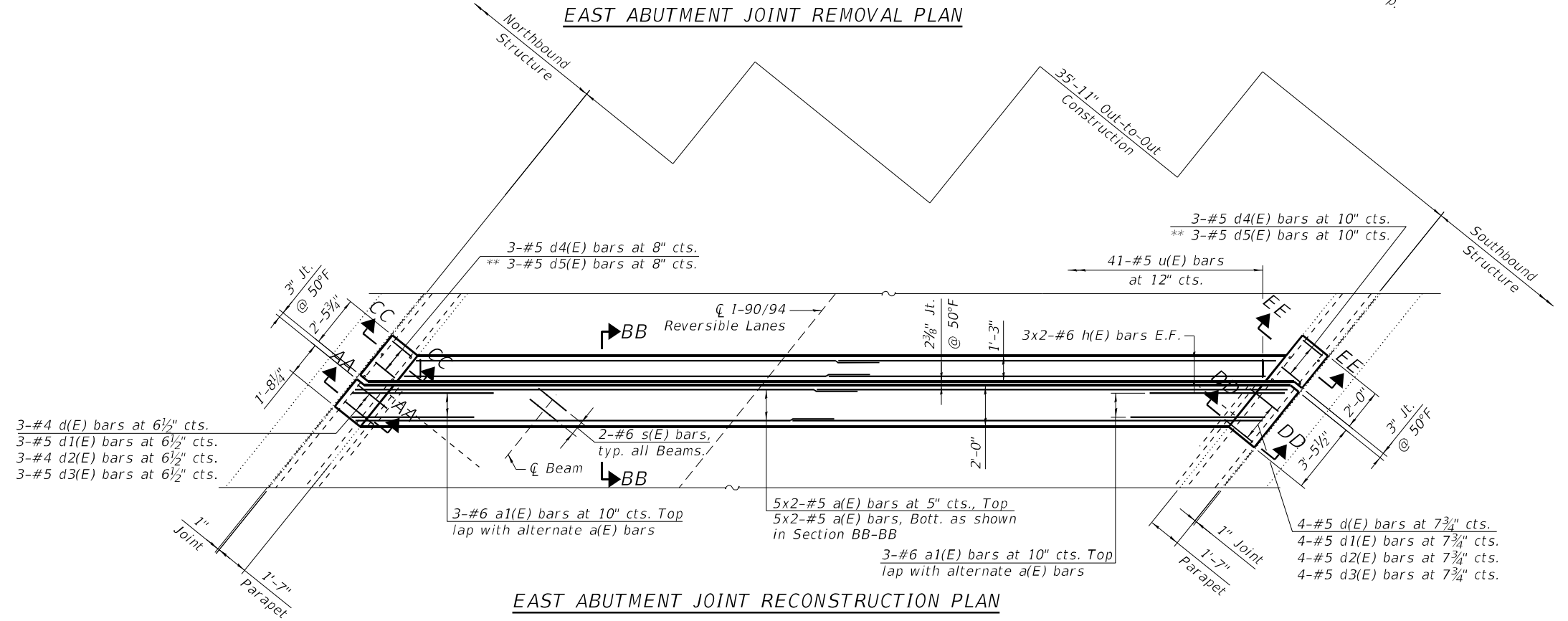
**DRAINAGE SCUPPER TYPE C ADJUSTMENT DETAILS
 SN 016-0130 (REV)**

SHEET S14-04 OF S14-18 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 941
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



EAST ABUTMENT JOINT REMOVAL PLAN




EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S14-06.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S14-07.

- * Existing longitudinal bars to remain in the parapets can be cut in the field as required.
- ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

-  Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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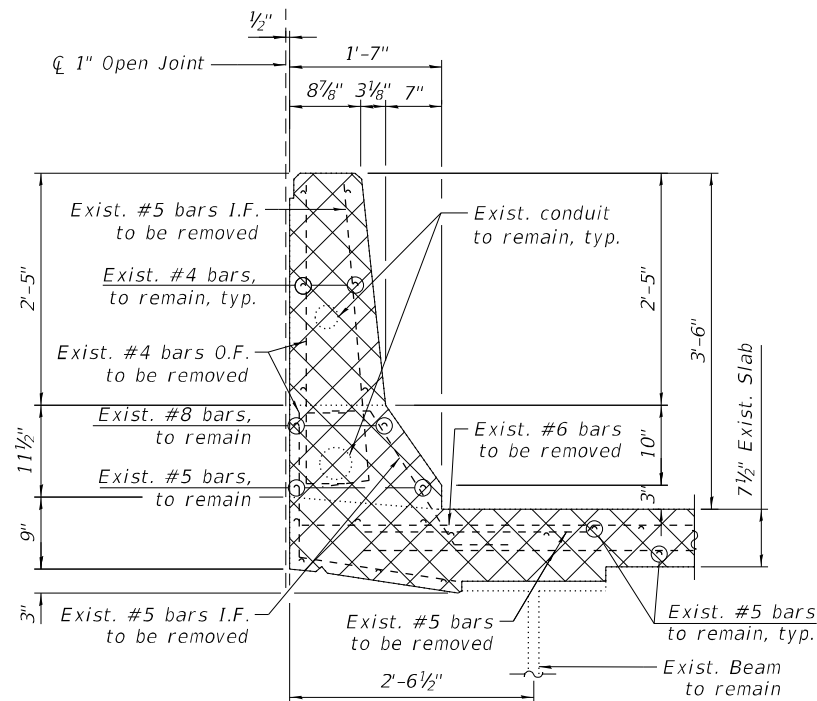
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DEPARTMENT OF TRANSPORTATION**

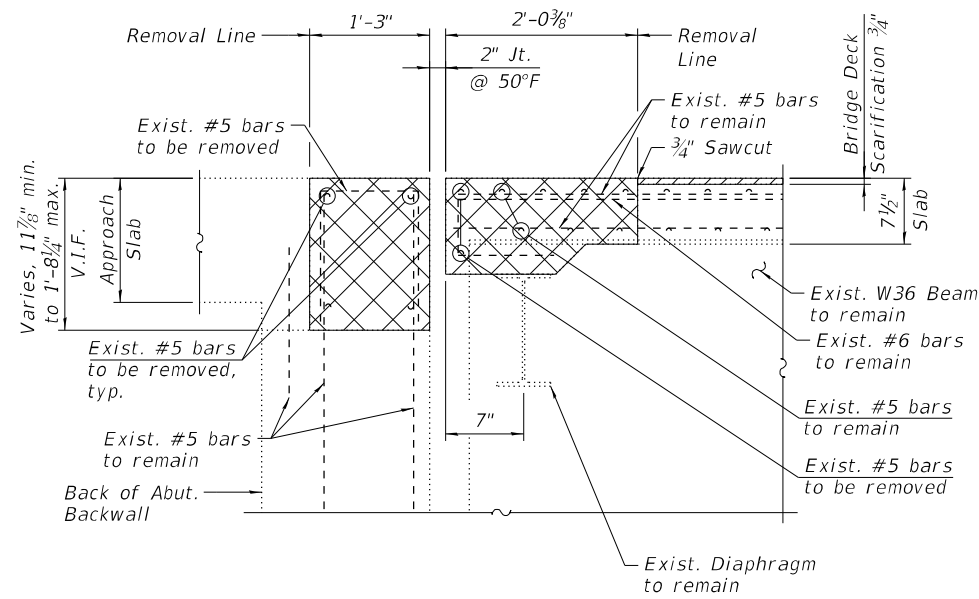
**EAST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0130 (REV)**

SHEET S14-05 OF S14-18 SHEETS

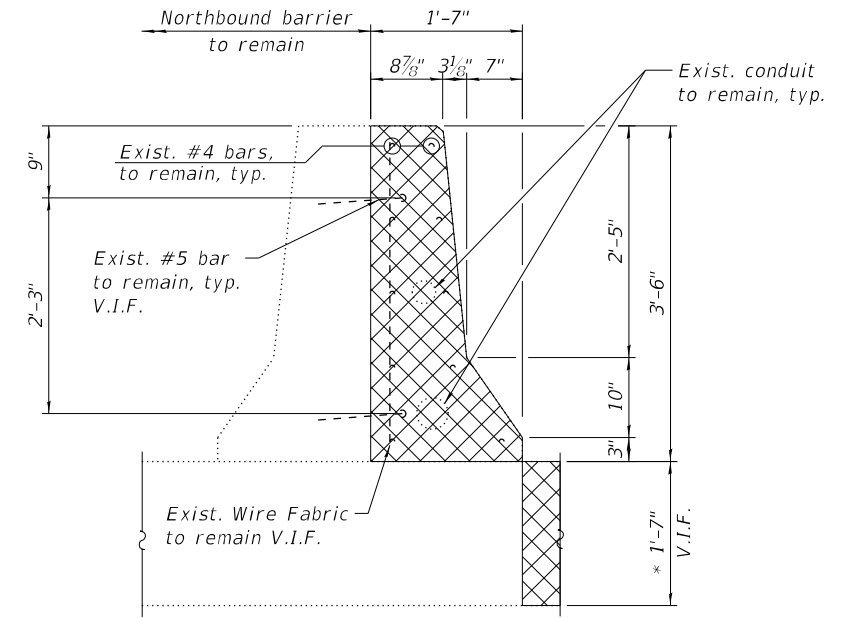
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



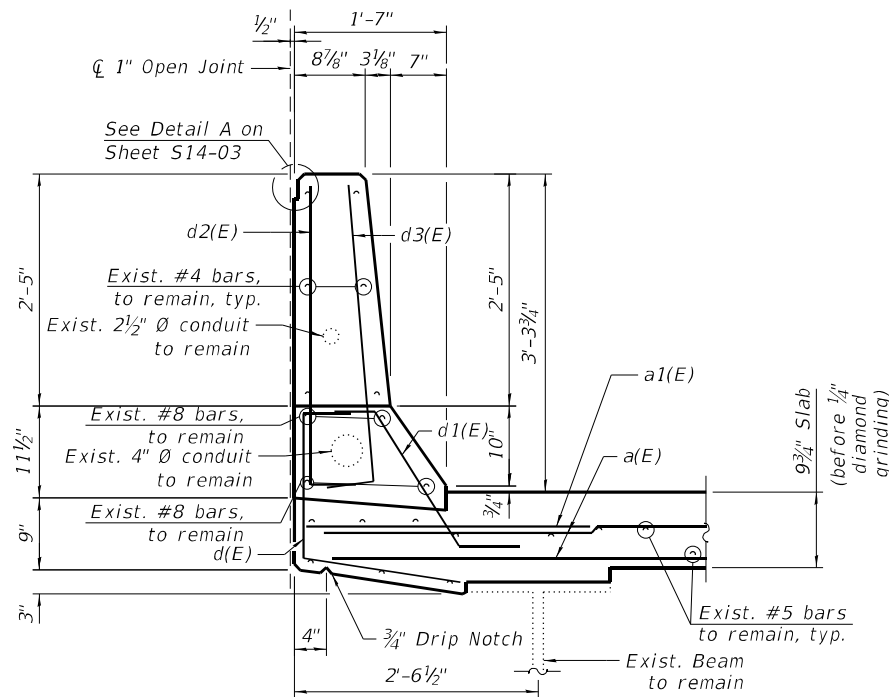
SECTION A-A
(North parapet removal)



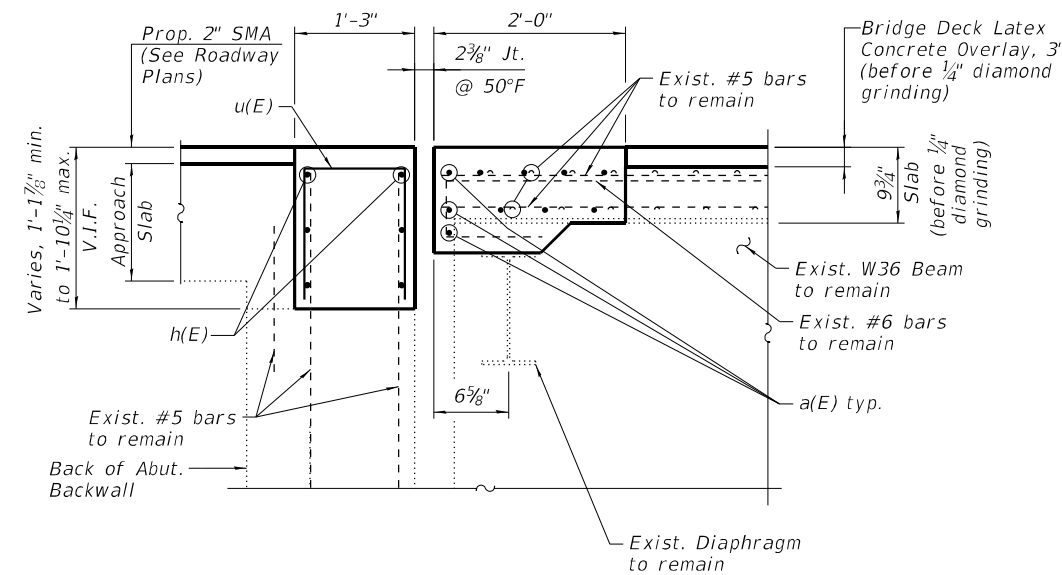
SECTION B-B



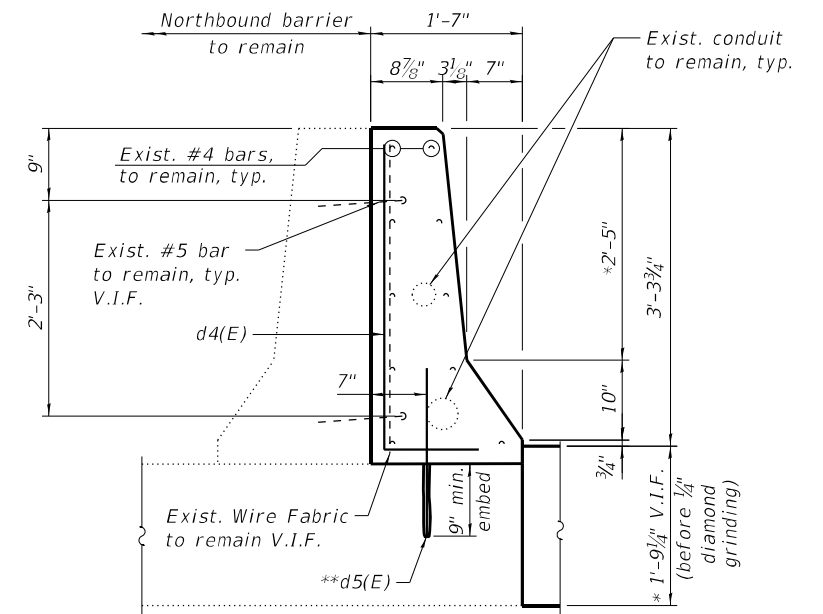
SECTION C-C
(North parapet removal)



SECTION AA-AA
(North parapet reconstruction)



SECTION BB-BB



SECTION CC-CC
(North parapet reconstruction)

LEGEND

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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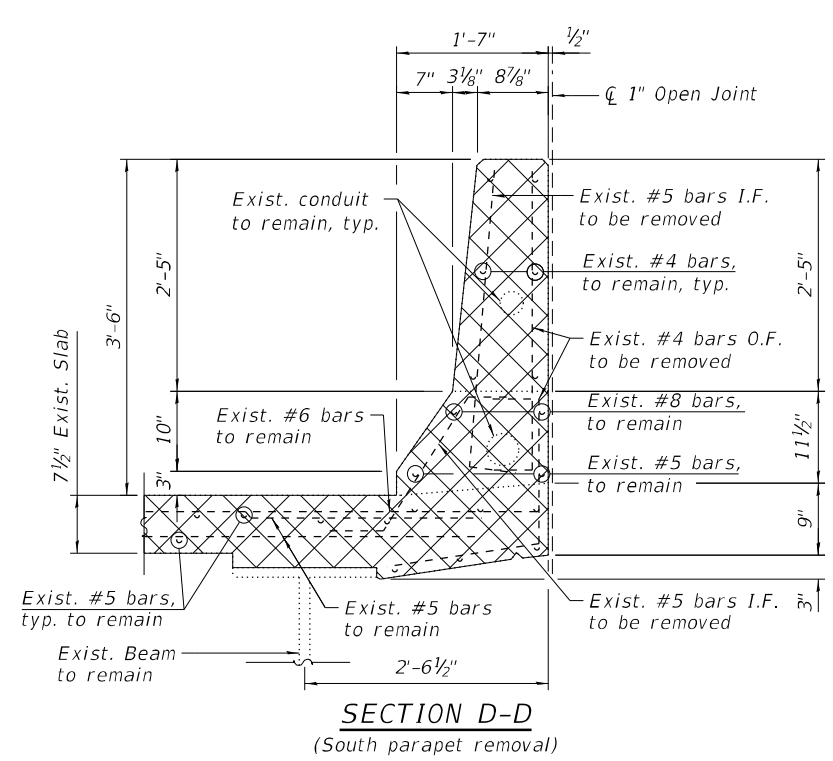
EAST ABUTMENT EXPANSION JOINT DETAILS II
 SN 016-0130 (REV)

SHEET S14-06 OF S14-18 SHEETS

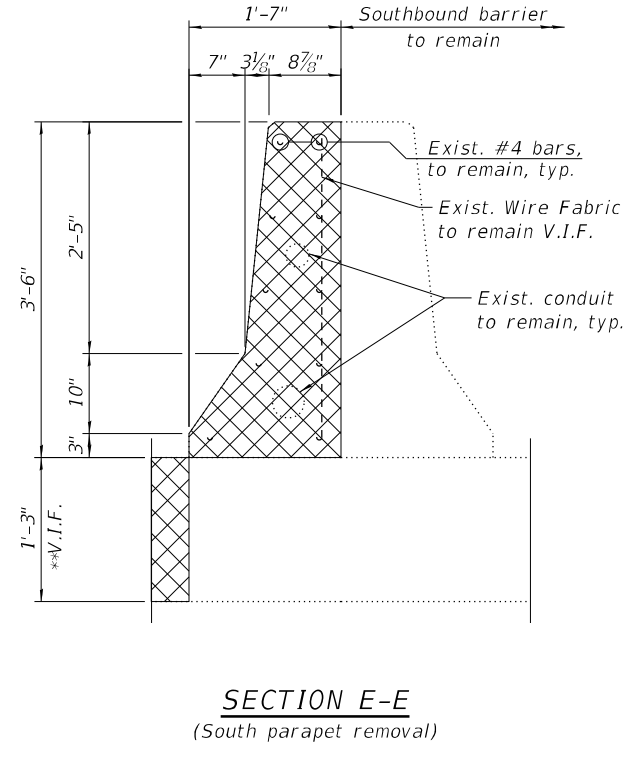
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			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

**BILL OF MATERIAL
EAST ABUTMENT**

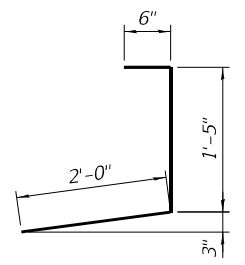
Bar	No.	Size	Length	Shape
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a1(E)	6	#6	4'-0"	—
d(E)	7	#4	3'-11"	┘
d1(E)	7	#5	2'-7"	┘
d2(E)	7	#4	3'-8"	┘
d3(E)	7	#5	3'-8"	┘
d4(E)	6	#5	4'-2"	┘
d5(E)	6	#5	1'-10"	┘
h(E)	12	#6	23'-0"	—
s(E)	12	#6	3'-1"	┘
u(E)	41	#5	2'-11"	┘
Concrete Removal			Cu Yd	7.6
Reinforcement Bars, Epoxy Coated			Pound	1,260
Concrete Superstructure			Cu Yd	8.5



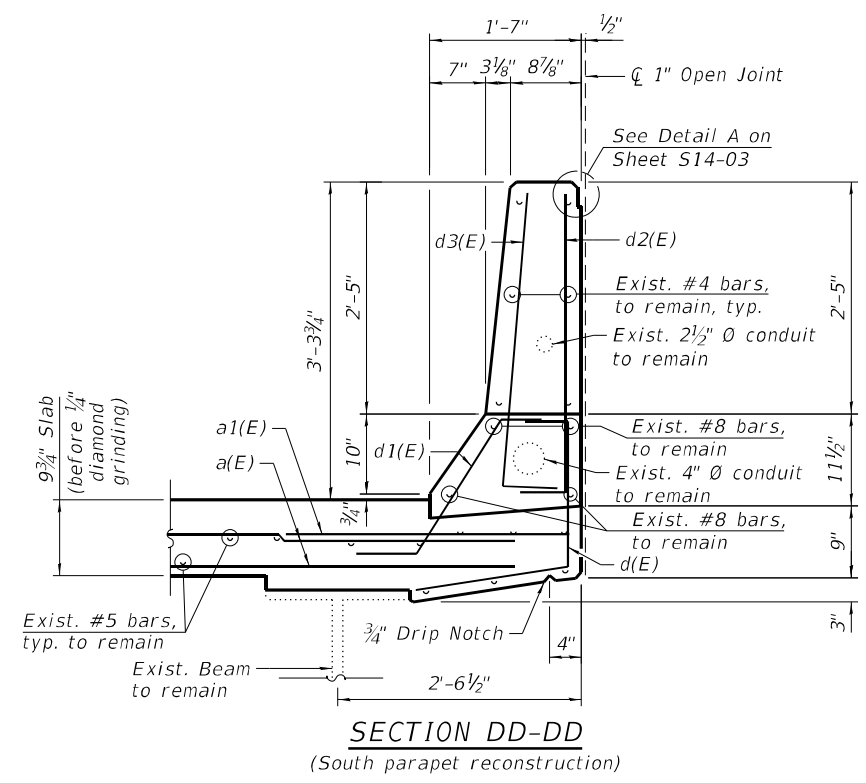
SECTION D-D
(South parapet removal)



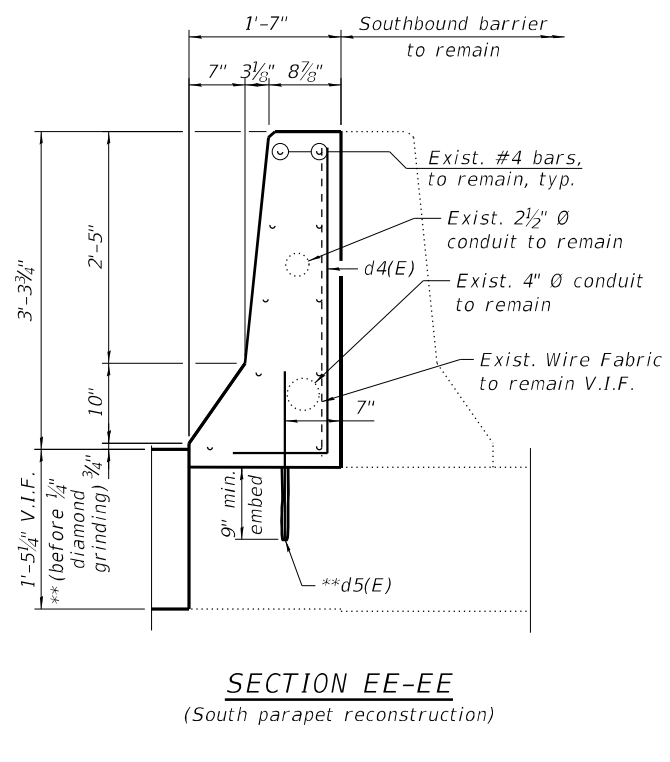
SECTION E-E
(South parapet removal)



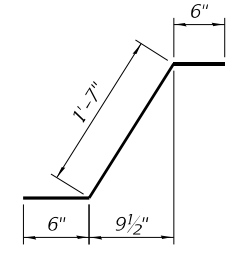
BAR d(E)



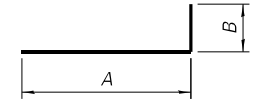
SECTION DD-DD
(South parapet reconstruction)



SECTION EE-EE
(South parapet reconstruction)

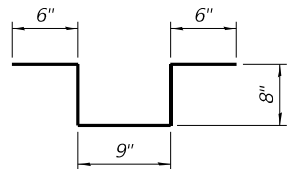


BAR d1(E)

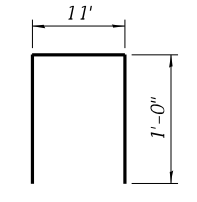


**BARS d2(E),
d3(E), & d4(E)**

Bar	A	B
d2(E)	3'-2"	6"
d3(E)	3'-2"	6"
d4(E)	3'-2"	1'-0"



BAR s(E)



BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S14-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

MIN BAR LAPS

#5	3'-6"
#6	4'-0"

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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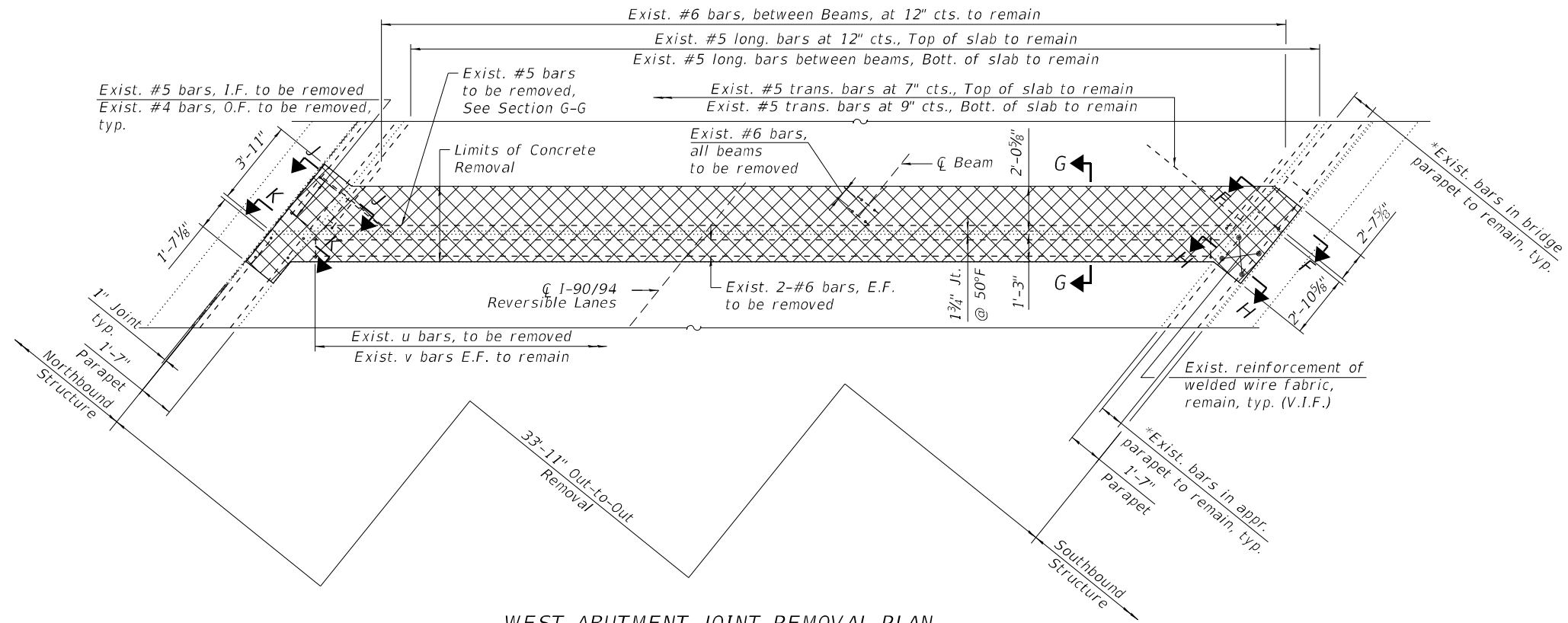
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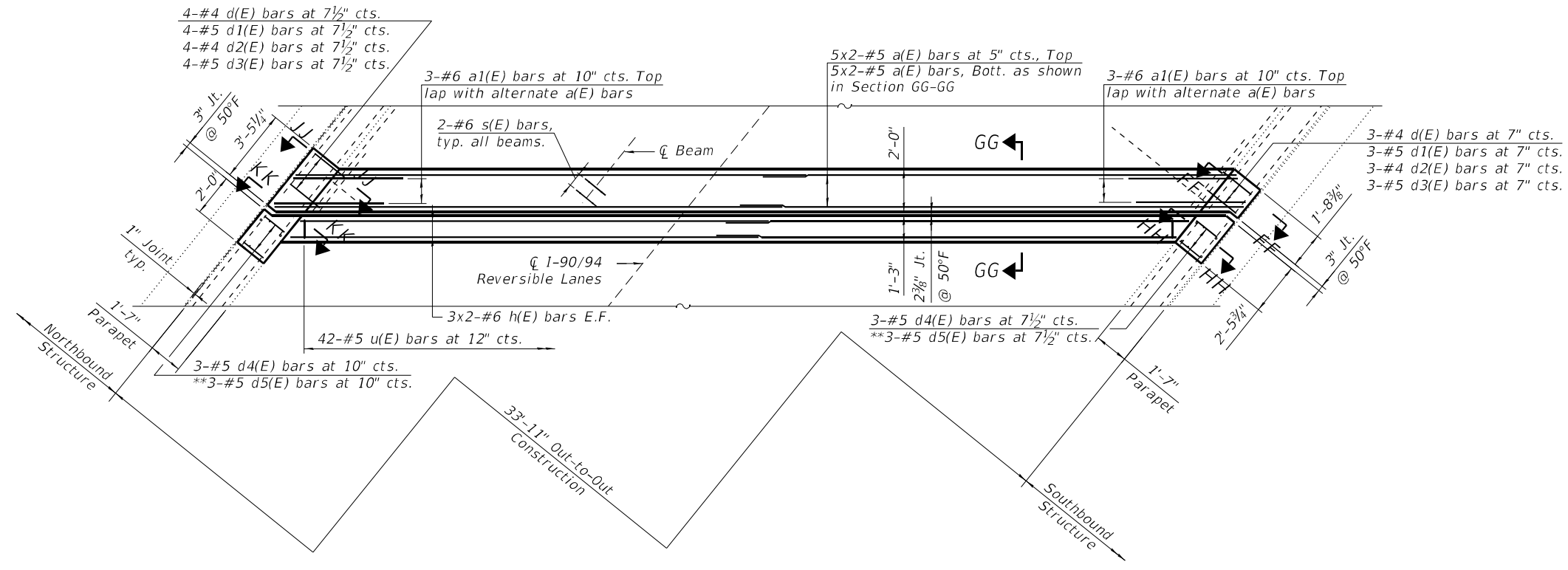
**EAST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0130 (REV)**

SHEET S14-07 OF S14-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	944
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



WEST ABUTMENT JOINT REMOVAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S14-09.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S14-10.

- LEGEND**
- * Existing longitudinal bars to remain in the parapets can be cut in the field
 - ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.
 - Concrete Removal
 - I.F. Inside Face
 - O.F. Outside Face
 - E.F. Each Face

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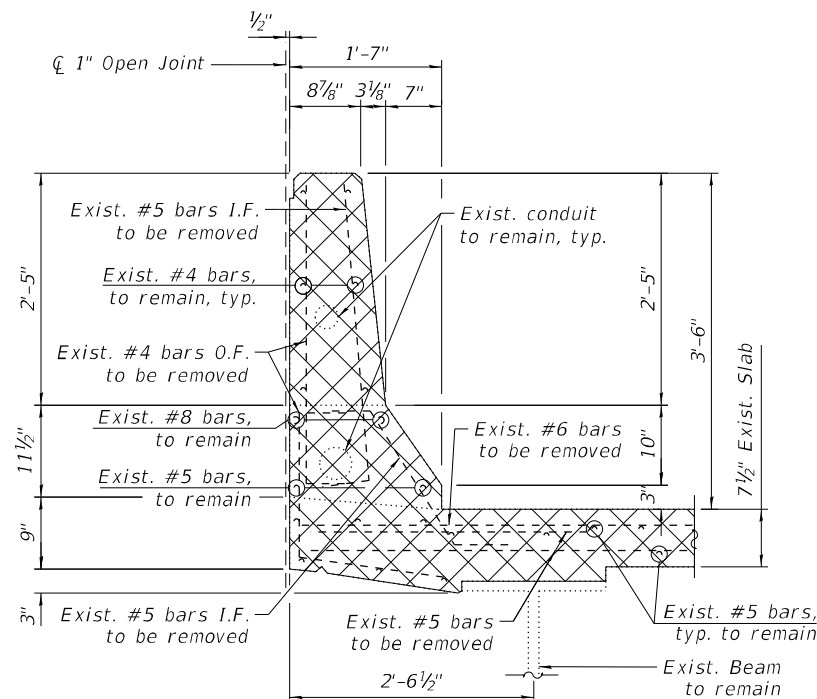
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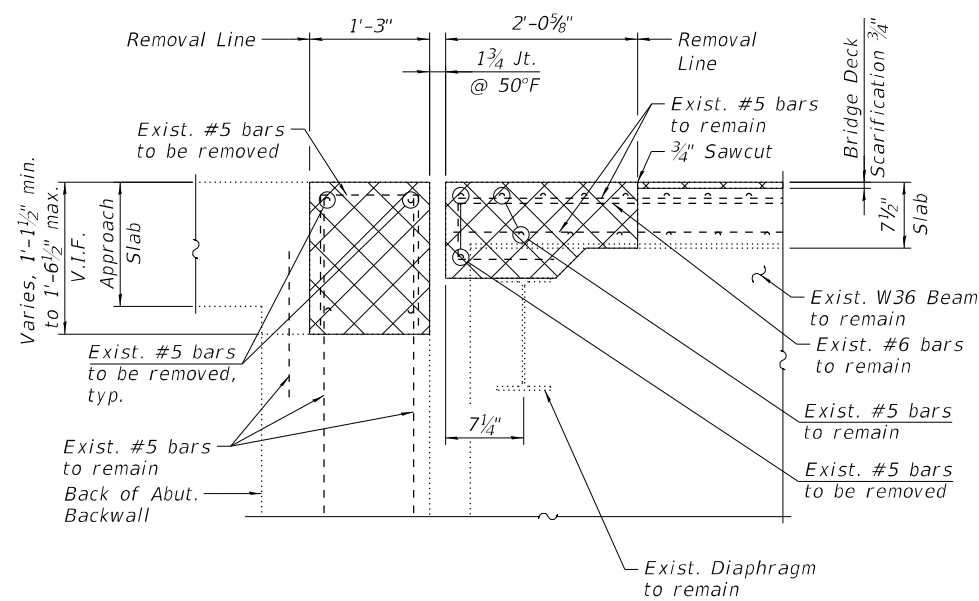
**WEST ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0130 (REV)**

SHEET S14-08 OF S14-18 SHEETS

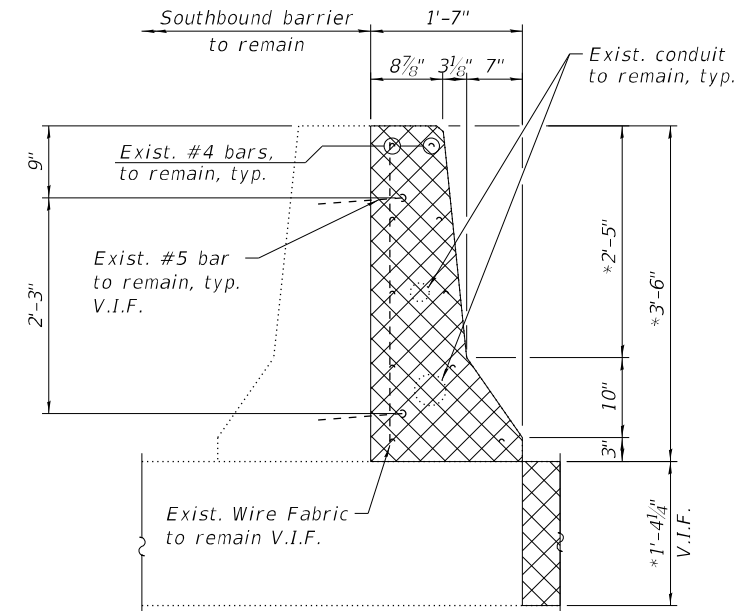
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



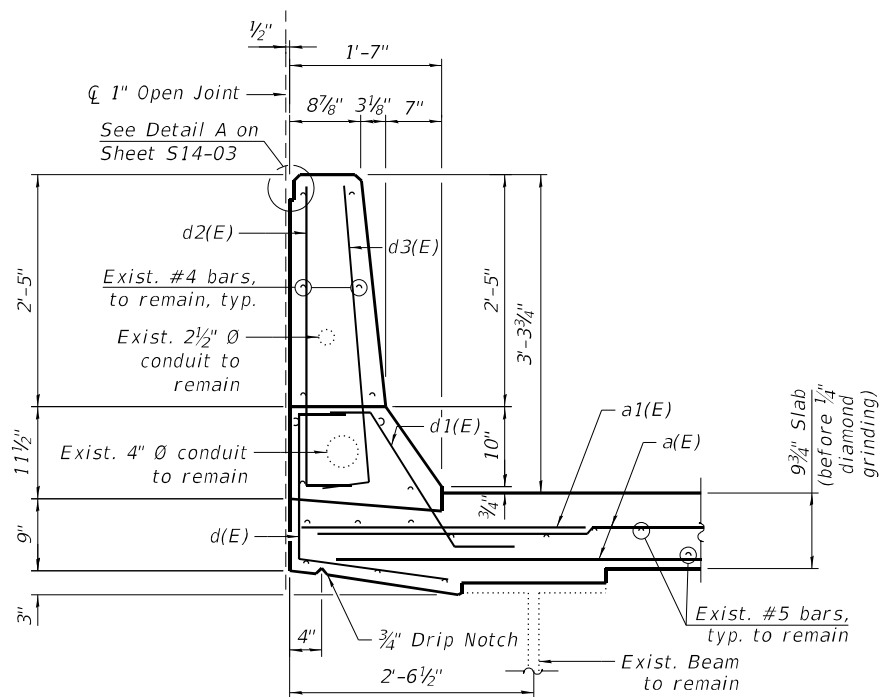
SECTION F-F
(South parapet removal)



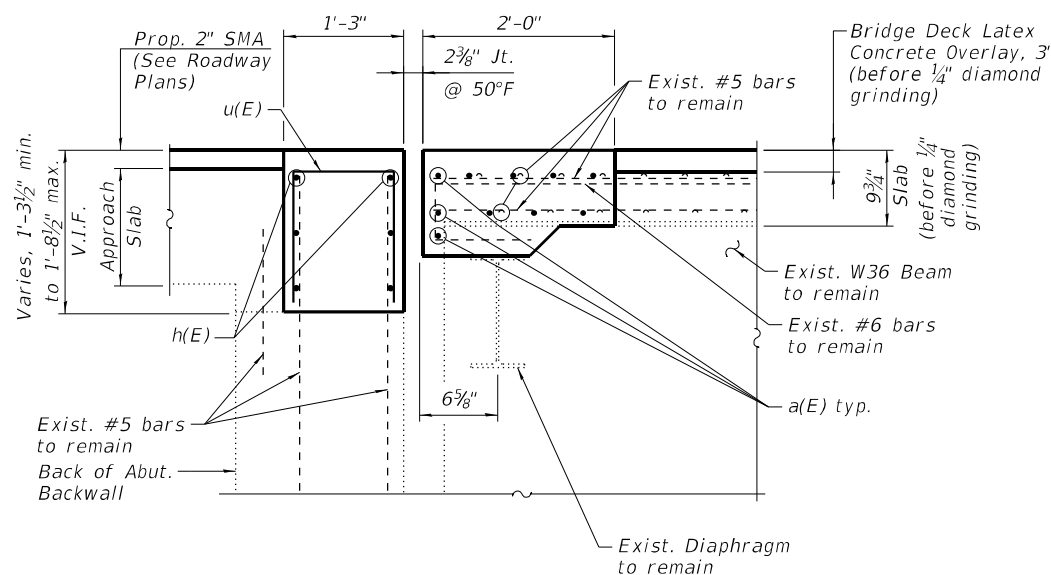
SECTION G-G



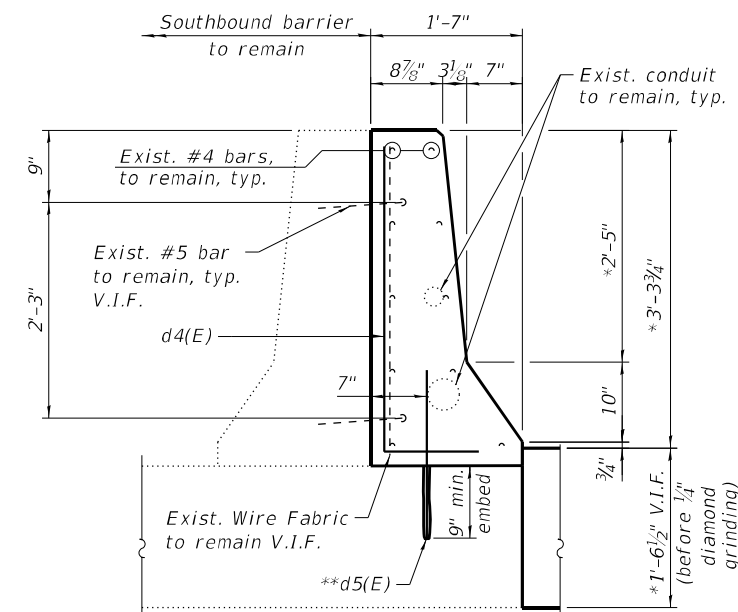
SECTION H-H
(South parapet removal)



SECTION FF-FF
(South parapet reconstruction)



SECTION GG-GG



SECTION HH-HH
(South parapet reconstruction)

LEGEND

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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DEPARTMENT OF TRANSPORTATION

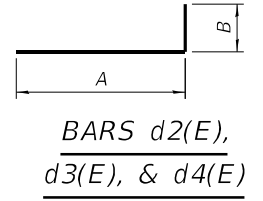
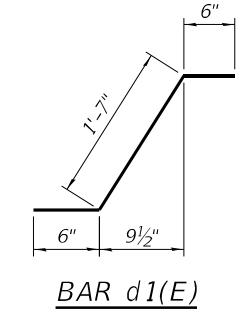
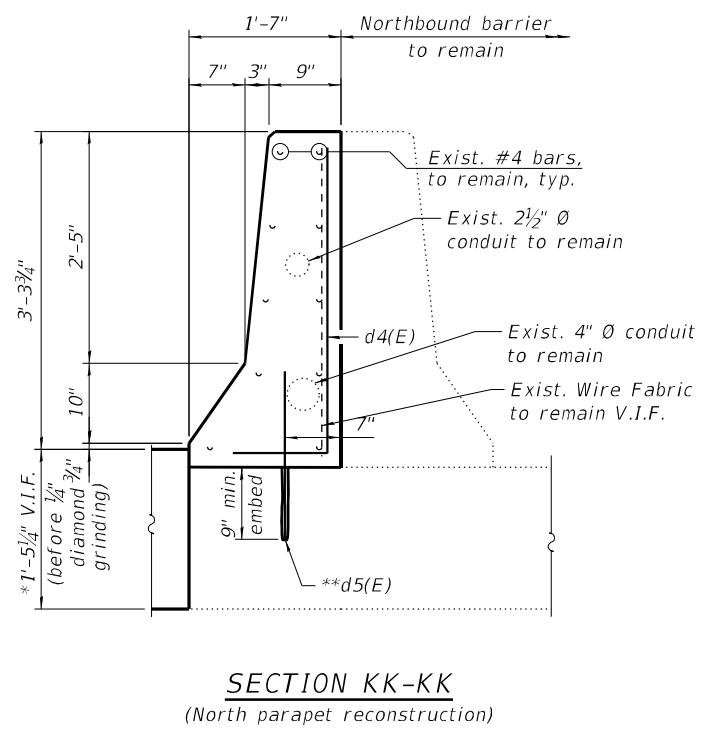
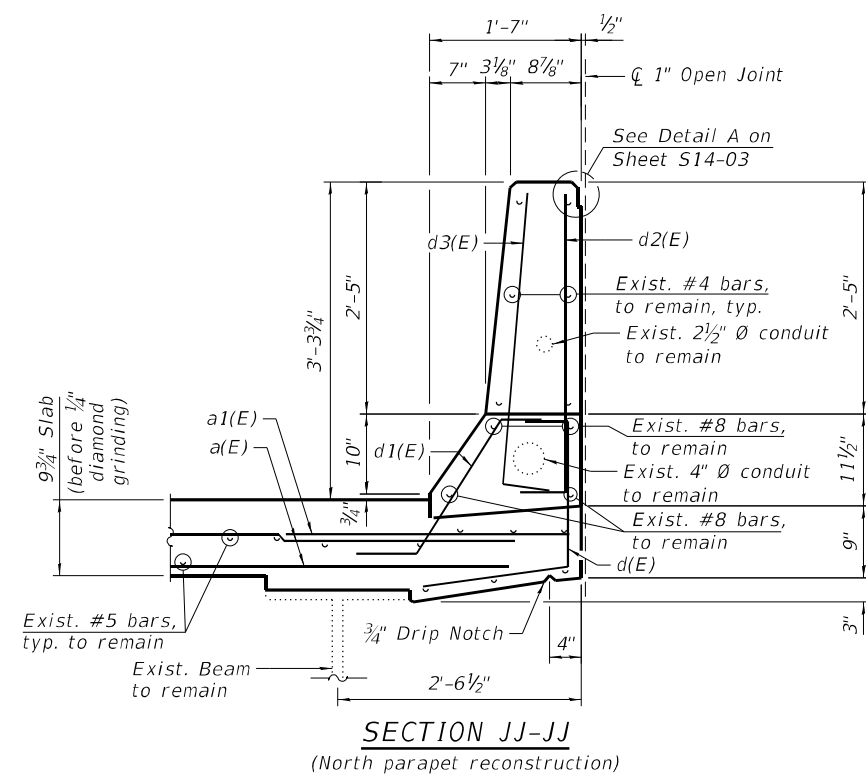
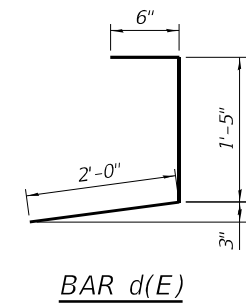
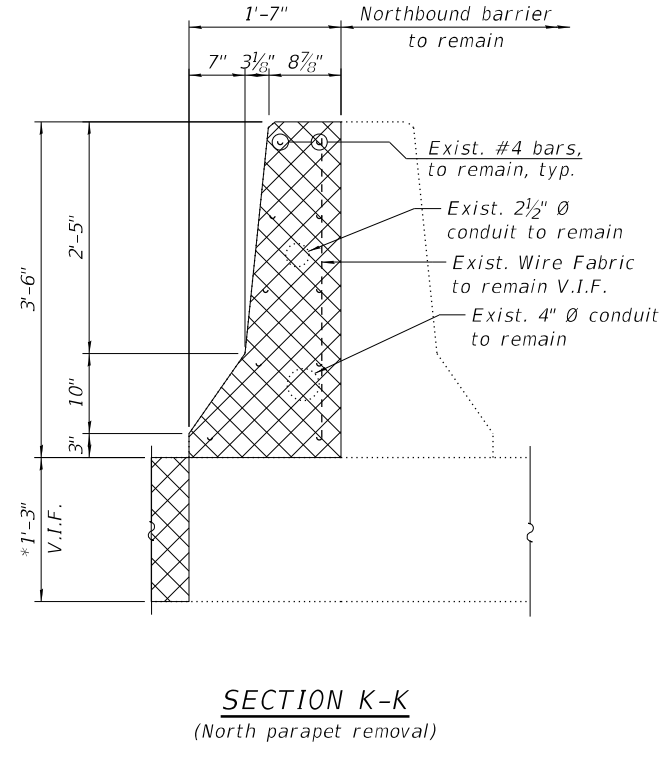
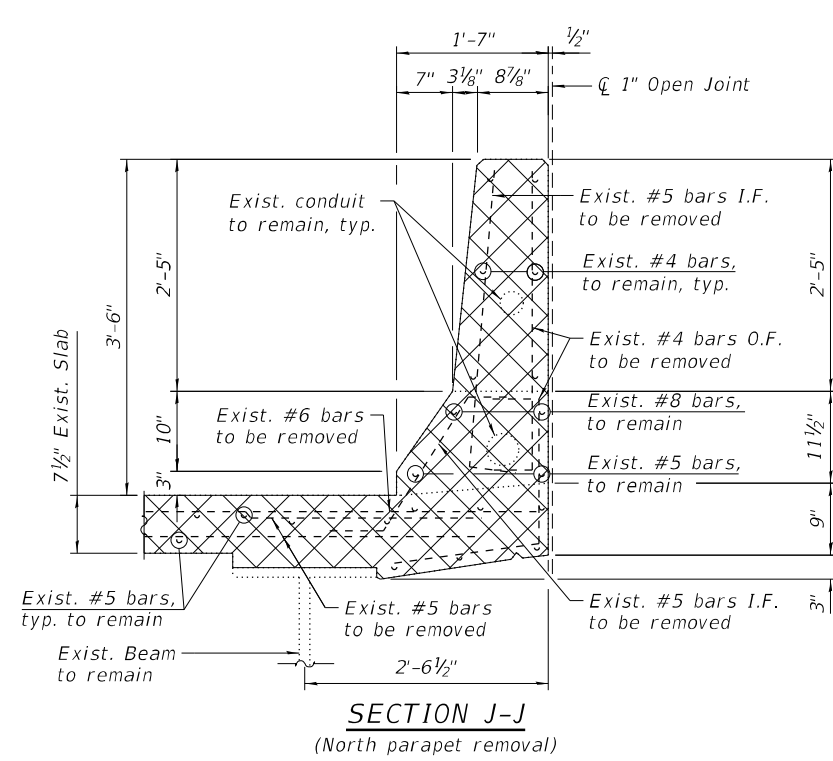
WEST ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0130 (REV)

SHEET S14-09 OF S14-18 SHEETS

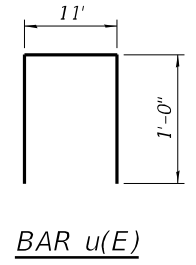
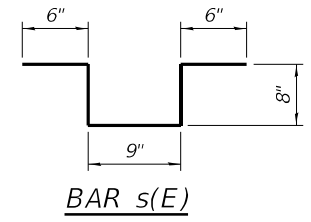
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	946
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

**BILL OF MATERIAL
WEST ABUTMENT**

Bar	No.	Size	Length	Shape
a(E)	20	#5	24'-10"	—
a1(E)	6	#6	4'-0"	—
d(E)	7	#4	3'-11"	┘
d1(E)	7	#5	2'-7"	┘
d2(E)	7	#4	3'-8"	┘
d3(E)	7	#5	3'-8"	┘
d4(E)	6	#5	4'-2"	┘
d5(E)	6	#5	1'-10"	┘
h(E)	12	#6	23'-0"	—
s(E)	12	#6	3'-1"	┘
u(E)	42	#5	2'-11"	┘
Concrete Removal			Cu Yd	7.4
Reinforcement Bars, Epoxy Coated			Pound	1,260
Concrete Superstructure			Cu Yd	8.3



Bar	A	B
d2(E)	3'-2"	6"
d3(E)	3'-2"	6"
d4(E)	3'-2"	1'-0"



NOTES:

- For Preformed Joint Strip Seal details, see sheet S14-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal of Existing Expansion Joint will not be paid for separately but will be included in the cost of Concrete Removal.

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #5 d5(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

MIN BAR LAPS

#5	3'-6"
#6	4'-0"

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MODEL: SMODELNAMES
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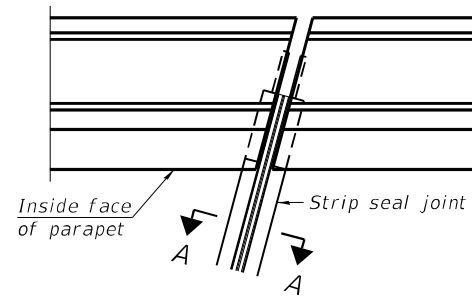
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0130 (REV)**

SHEET S14-10 OF S14-18 SHEETS

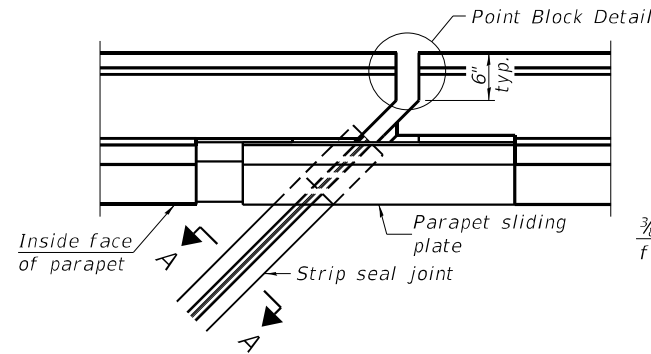
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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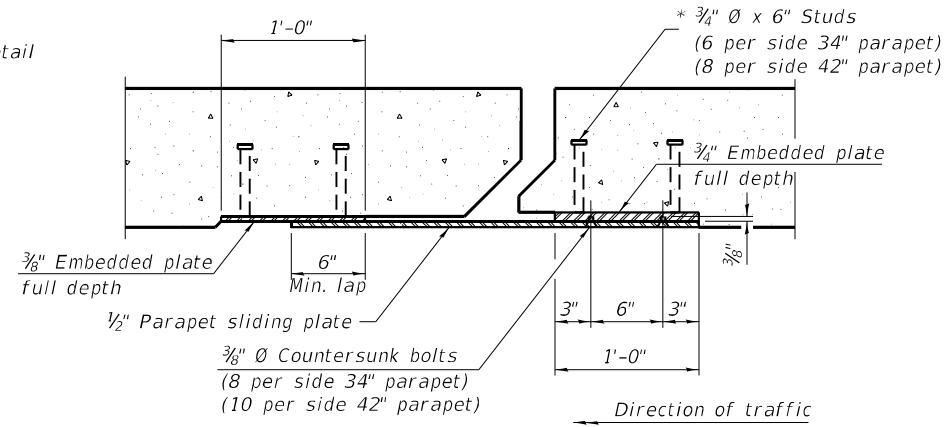


FOR SKEWS $\leq 30^\circ$

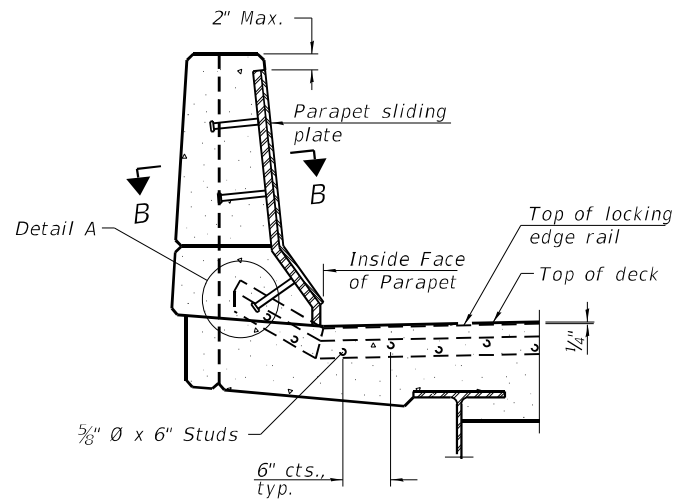
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

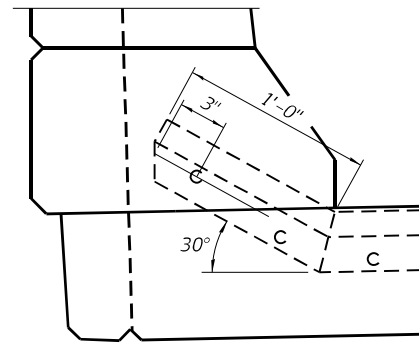


SECTION B-B

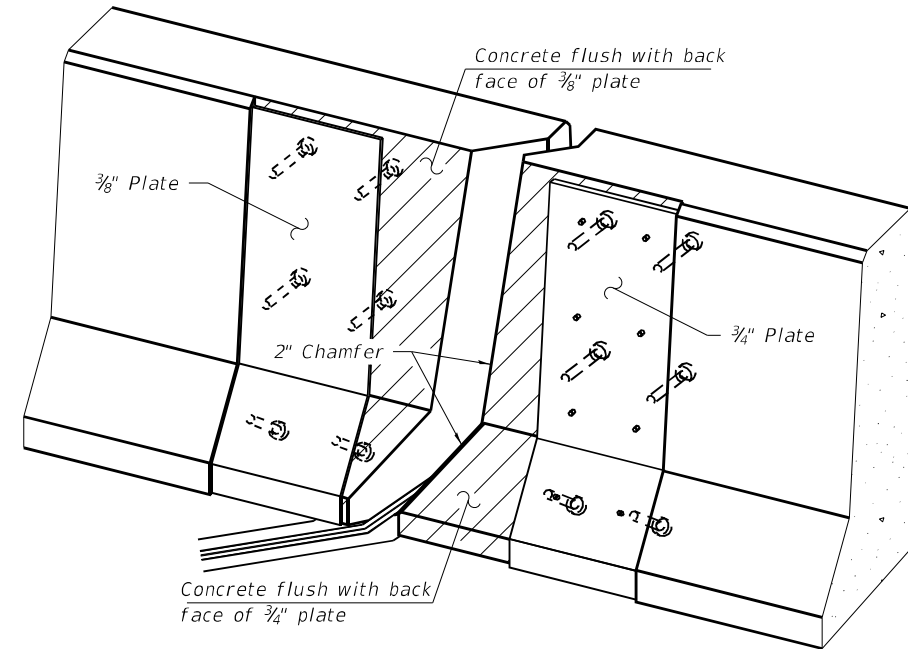


ELEVATION AT PARAPET

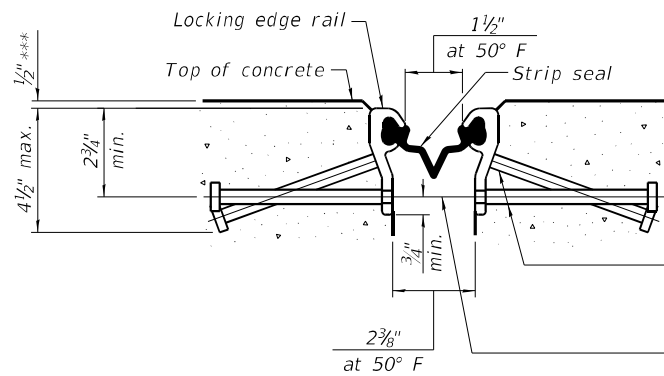
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



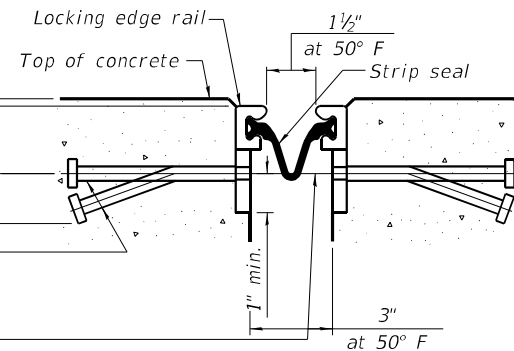
TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

* $\frac{3}{8}$ " ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$\frac{3}{8}$ " ϕ threaded rods in $\frac{1}{16}$ " ϕ holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

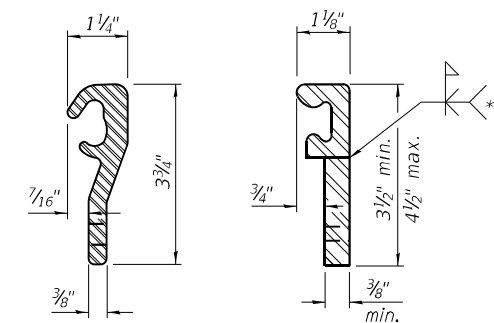


SHOWING WELDED RAIL JOINT

SECTION A-A

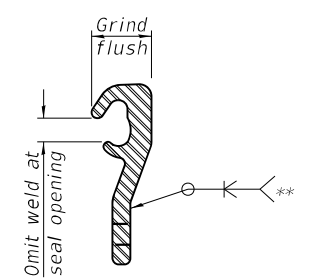
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

*** Before $\frac{1}{4}$ " Diamond Grinding.



LOCKING EDGE RAILS

** 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.

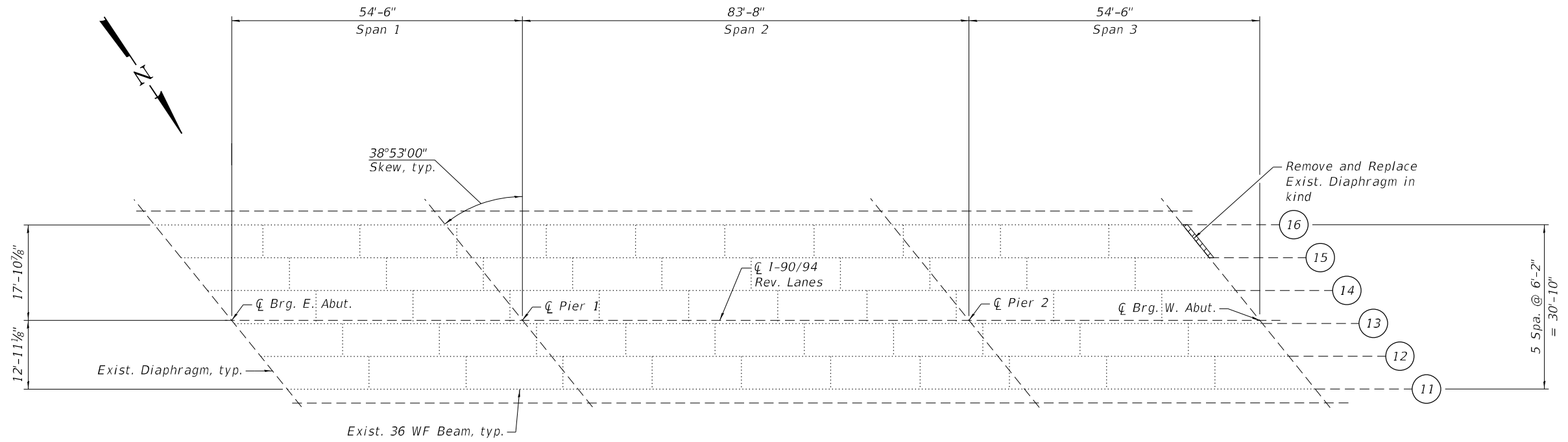
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	89

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". 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 configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 34" F-shape barrier shown, 42" F-shape similar as noted.
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	948
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



FRAMING PLAN

NOTES:

- For typical section, see Sheet S14-02.
- For Diaphragm Removal and Replacement Details, see Sheet S14-13.

LEGEND

 Remove and Replace Exist. Diaphragm

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing And Erecting Structural Steel	Pound	270
Structural Steel Removal	Pound	270

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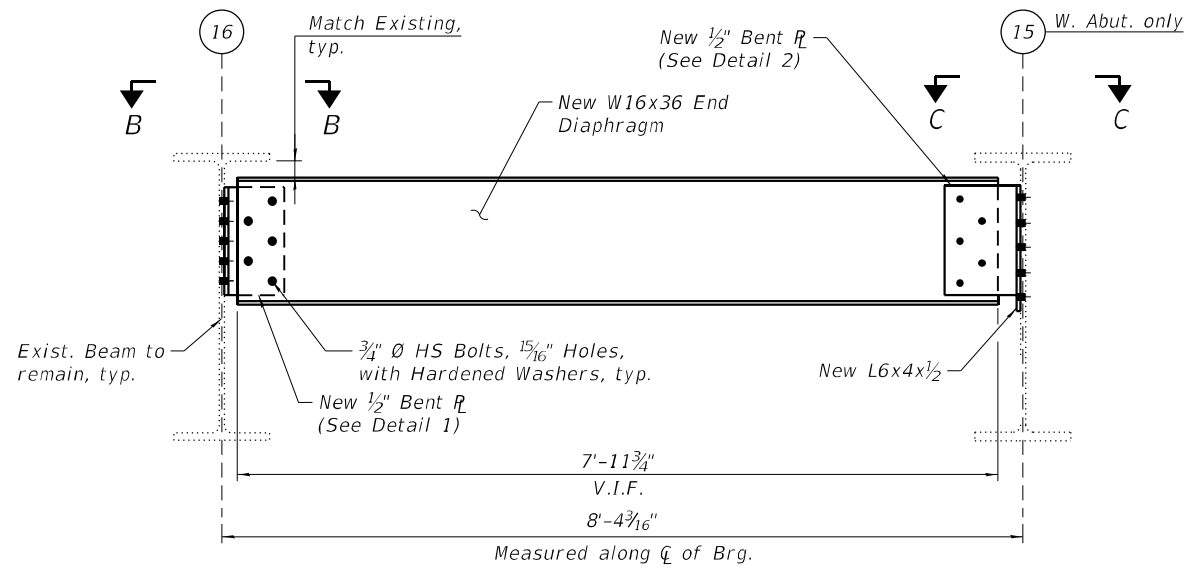
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

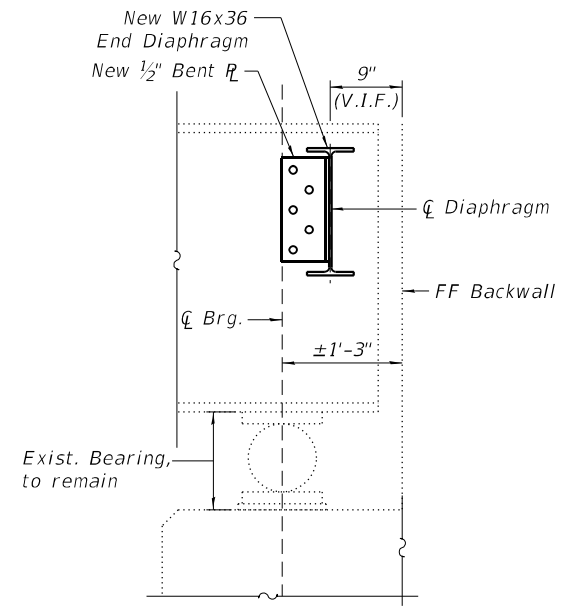
FRAMING PLAN
SN 016-0130 (REV)

SHEET S14-12 OF S14-18 SHEETS

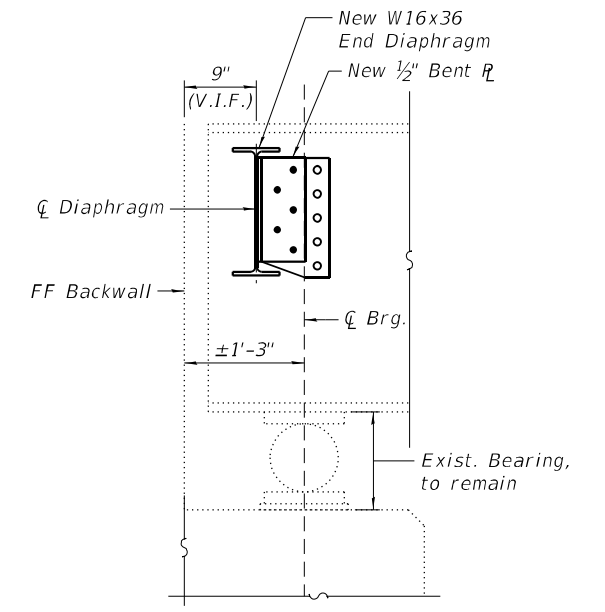
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



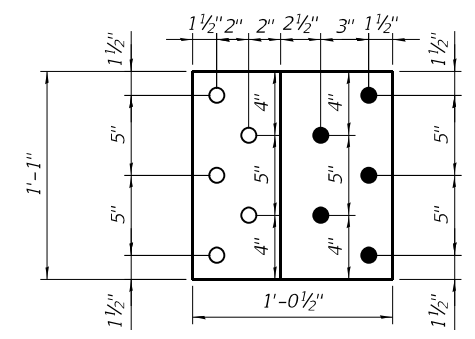
SECTION A-A
West Abutment shown.
(1 Required)



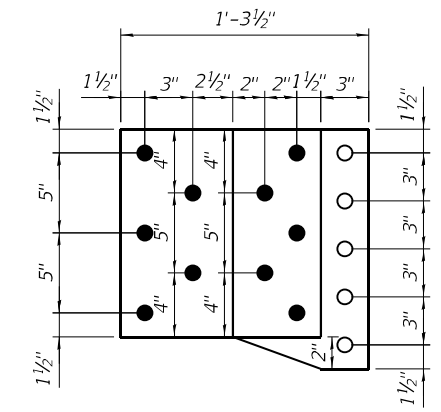
SECTION D-D



SECTION E-E



DETAIL 1



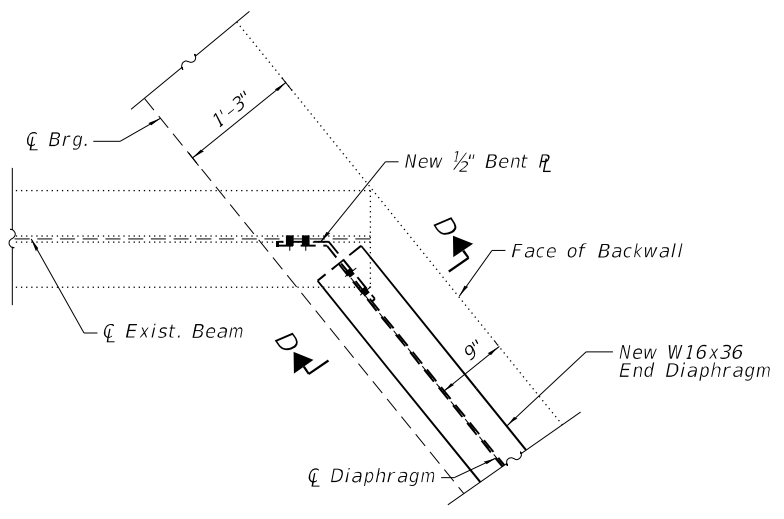
DETAIL 2

NOTES

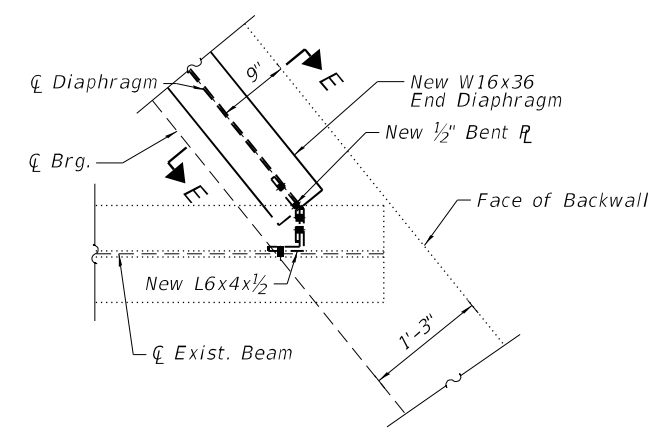
1. For location of Diaphragm Repair and Bill of Material, see Sheet S14-12.
2. All proposed diaphragm repair plates and angles shall conform to the requirements of AASHTO M270 Grade 36.
3. All proposed diaphragm repair plates, angles, bolts, nuts and washers shall be paid for as Furnishing and Erecting Structural Steel.
4. The cost of all field drilling shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection. Cost shall be included with Furnishing and Erecting Structural Steel.
6. Existing diaphragm and connection angle removal shall be paid for as Structural Steel Removal.
7. All proposed steel dimensions shall be verified in the field prior to fabrication.

LEGEND

- Field drill holes in new steel. Use existing steel as a template to field drill holes in new steel.
- Shop Drill holes



SECTION B-B

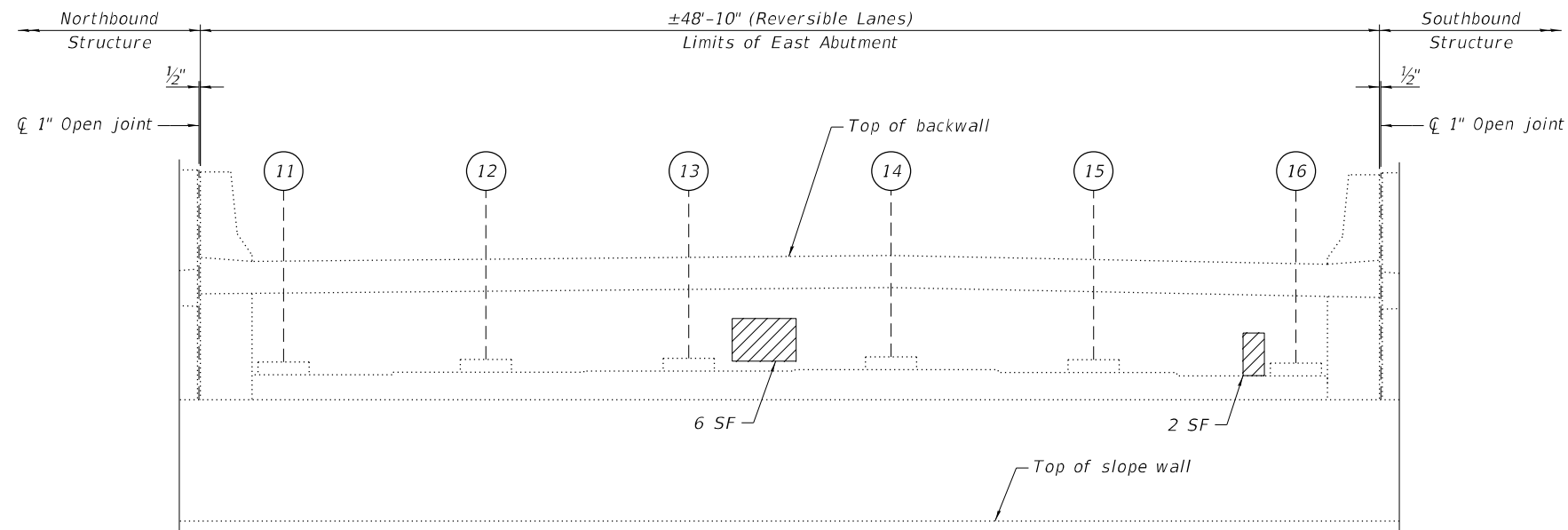


SECTION C-C

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	950
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		




ELEVATION - EAST ABUTMENT
(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S14-18.

LEGEND

-  Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	296
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	8

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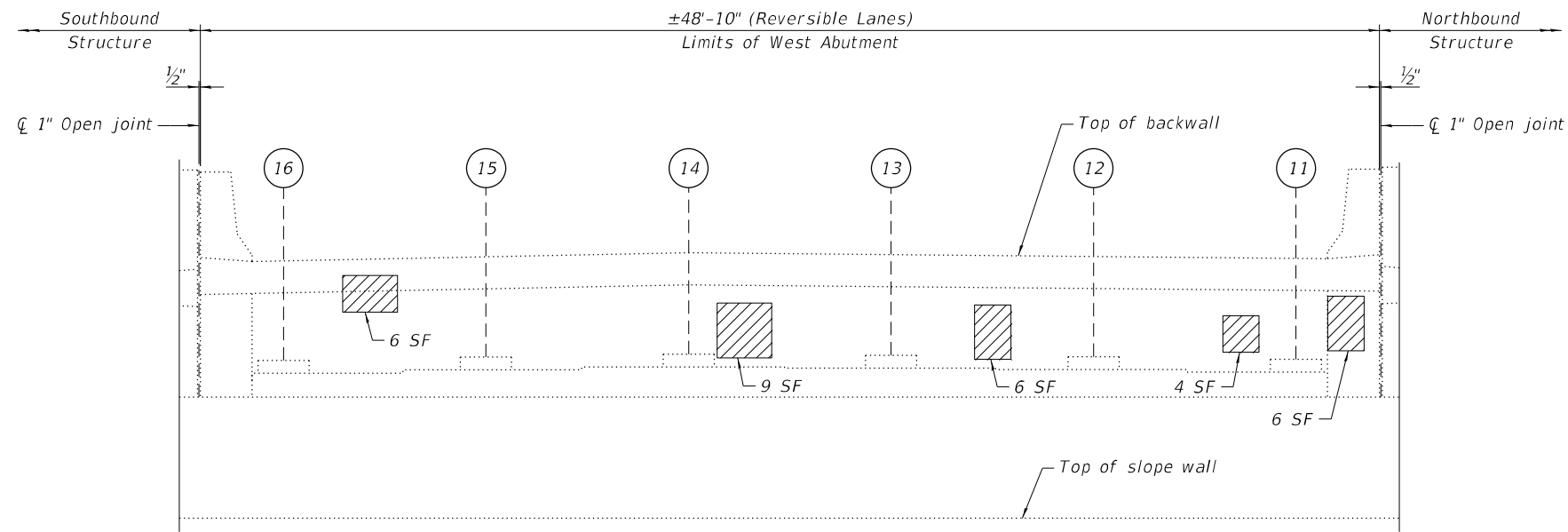
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
SN 016-0130 (REV)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	951
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S14-14 OF S14-18 SHEETS



ELEVATION - WEST ABUTMENT
(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- For Slope Wall repairs, see Sheet S14-18.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

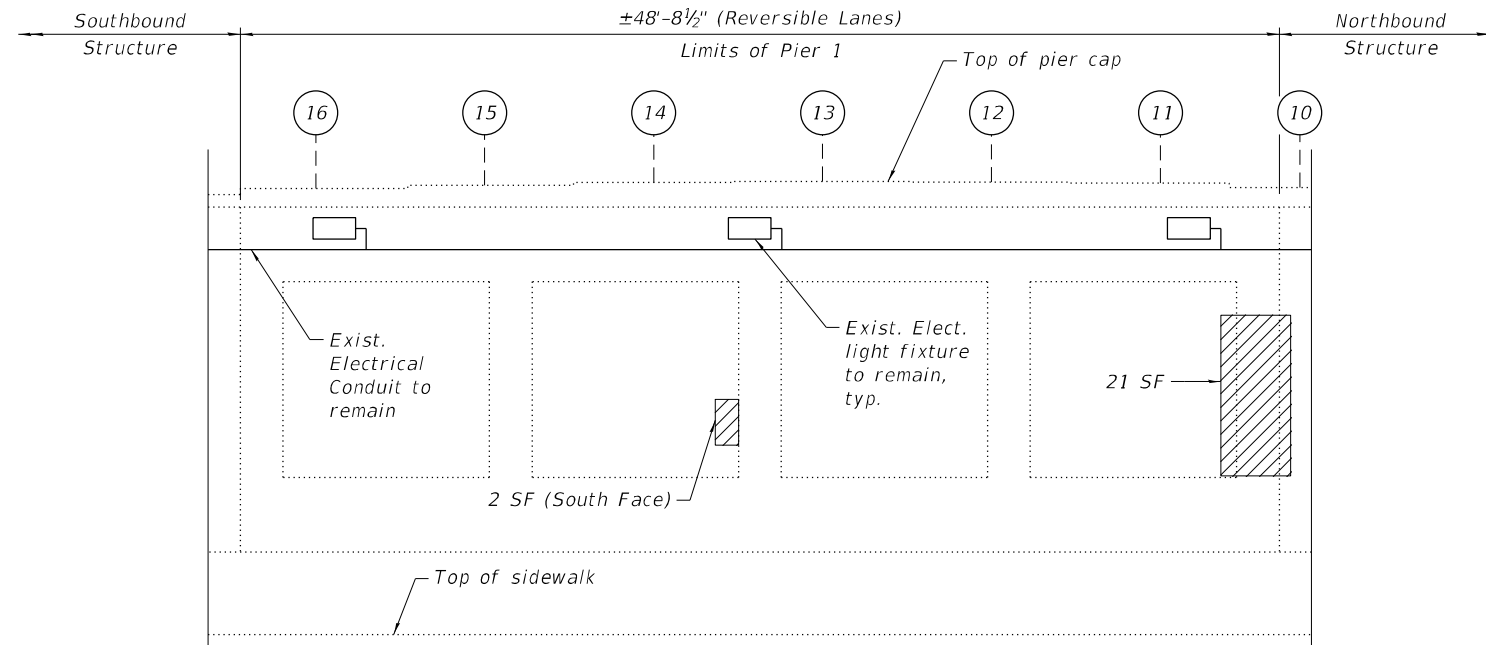
BILL OF MATERIAL

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Concrete Sealer	Sq Ft	296
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	31

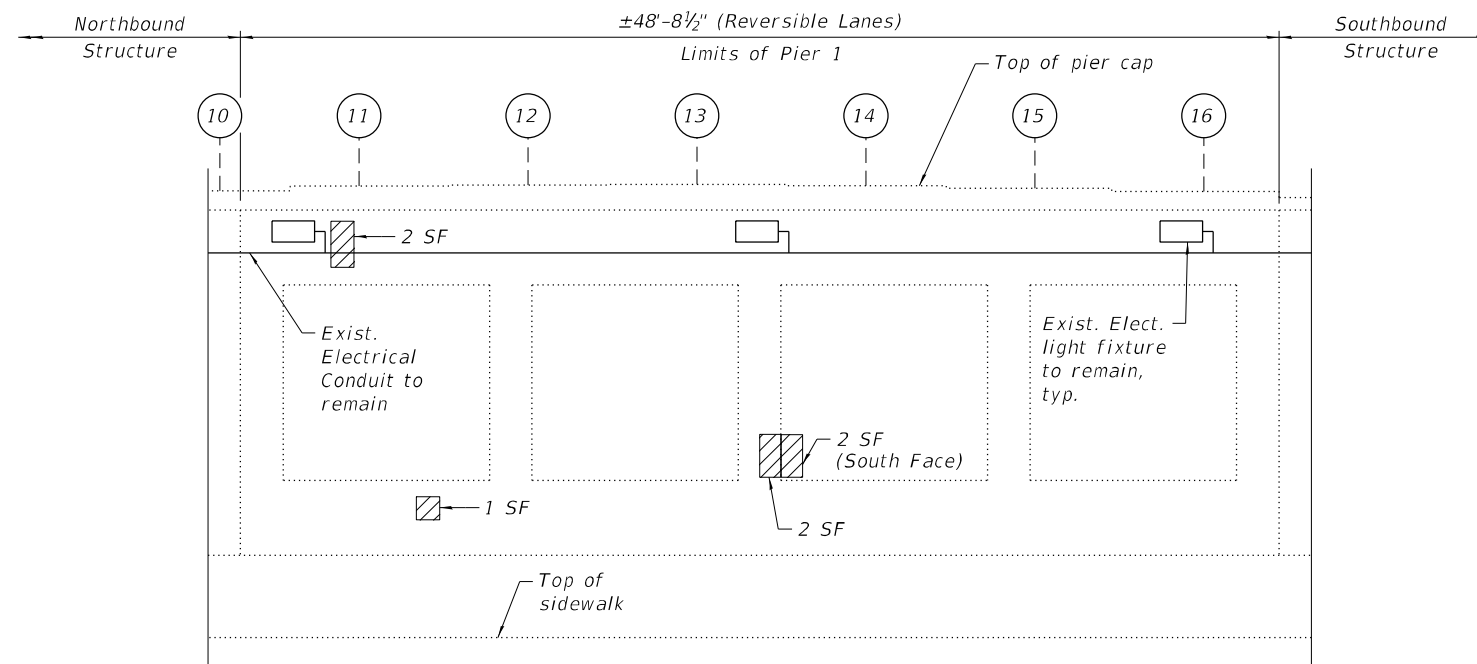
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	952
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(Looking Northwest)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

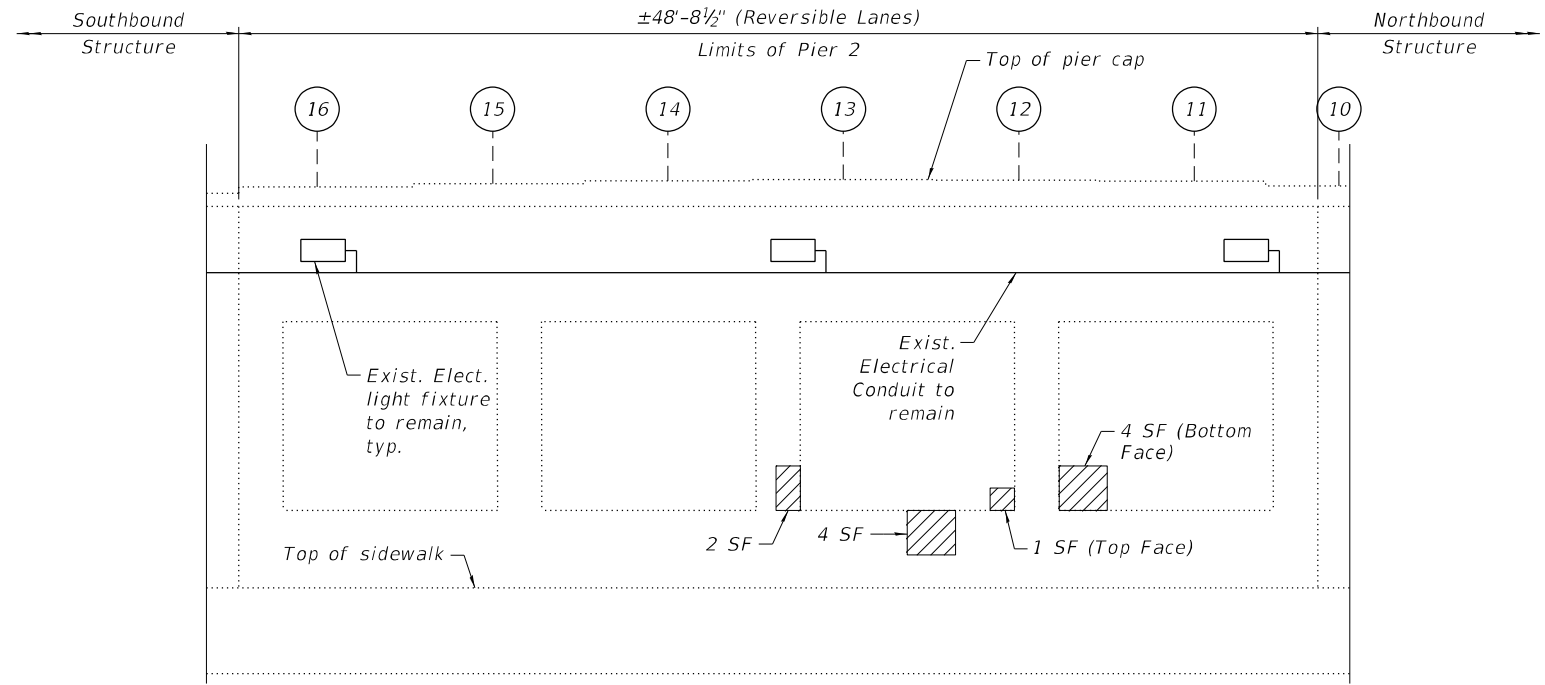
BILL OF MATERIAL

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Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	30

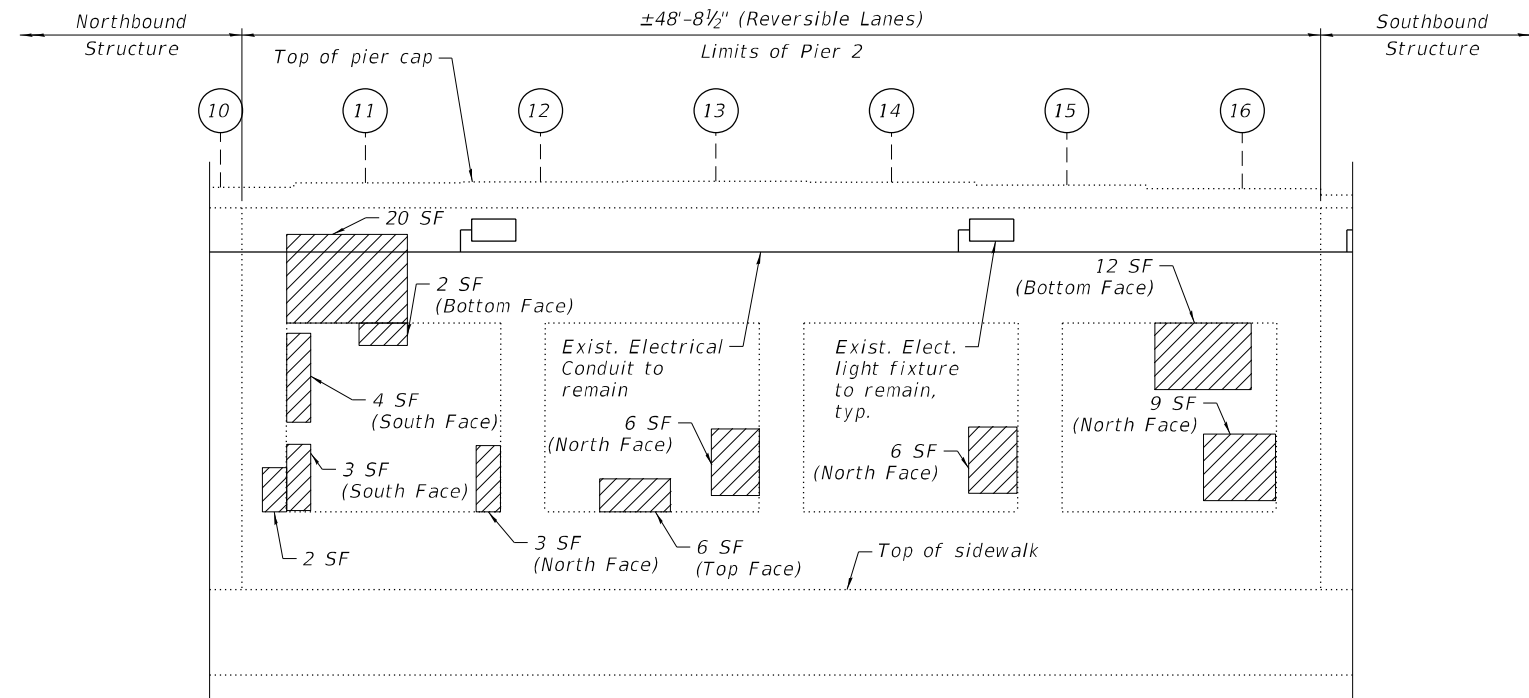
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	953
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



ELEVATION - PIER 2
(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Northwest)



EXISTING LIGHTING: PIER 2
(Looking Southeast)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- SF Square Foot

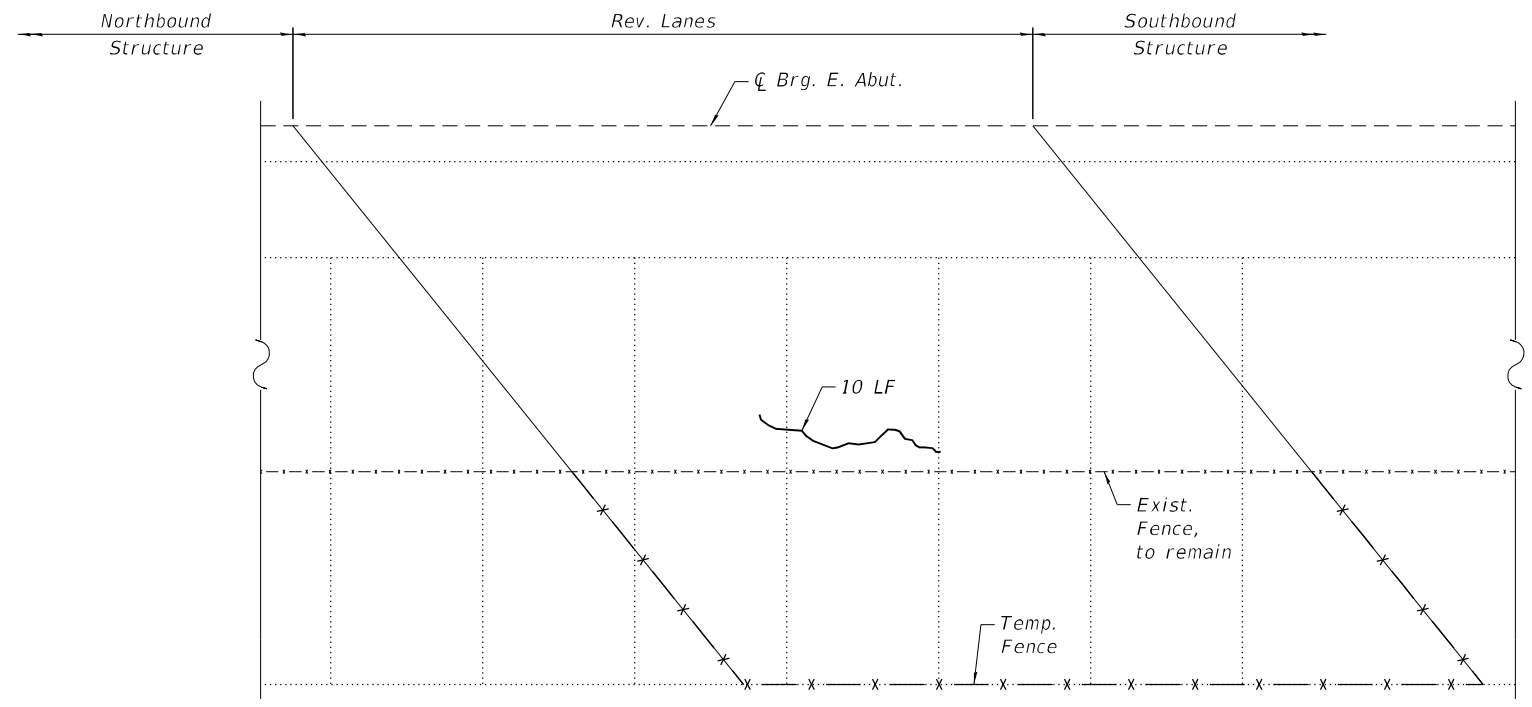
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	84

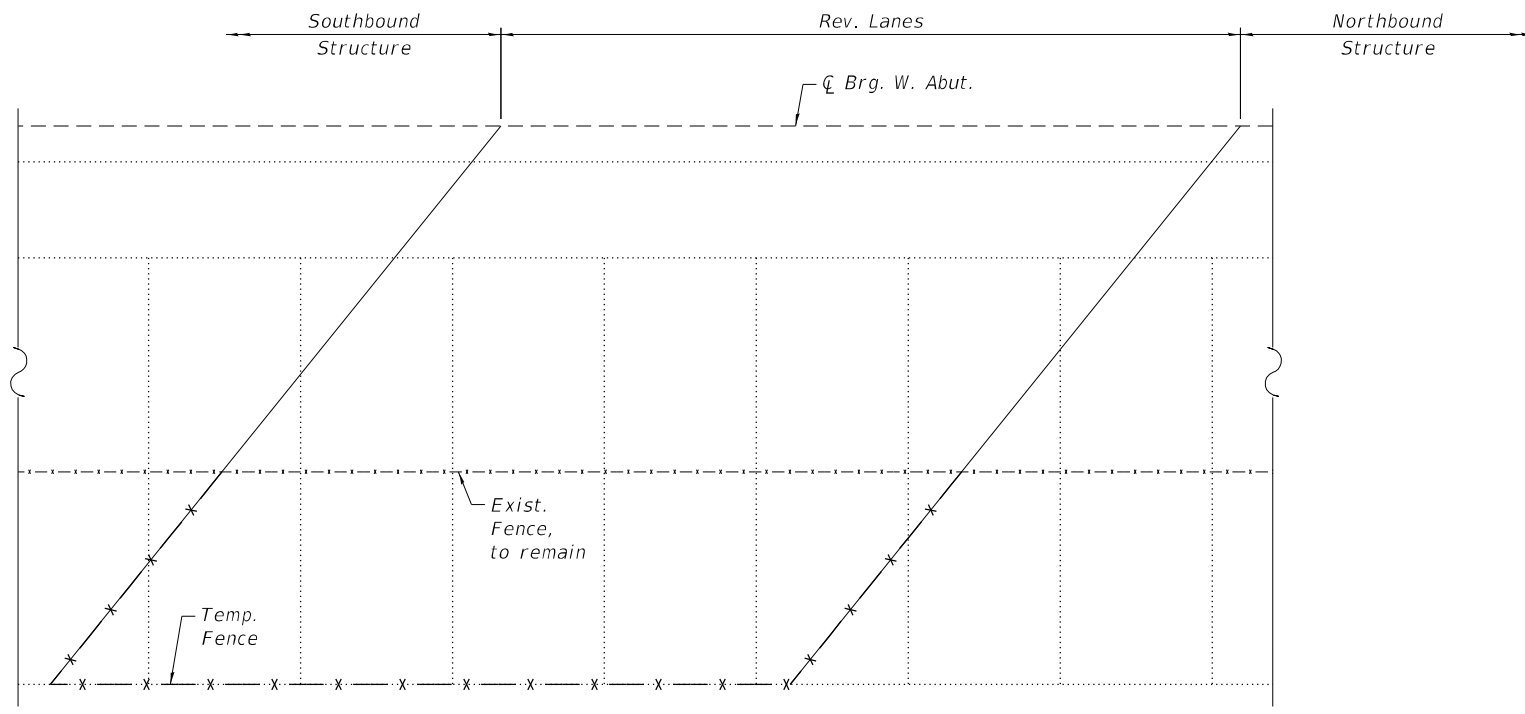
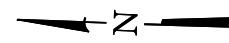
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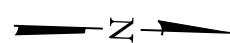
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90	2020-004-BR	COOK	1492	954
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



EAST SLOPE WALL - PLAN
(Looking East)



WEST SLOPE WALL - PLAN
(Looking West)



NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- LF Linear Foot
- Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Ft	10

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
SN 016-0130 (REV)**

SHEET S14-18 OF S14-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	955
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

Existing Structure: S.N. 016-0129 was originally built in 1958 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 290'-11½" and an out-to-out deck width of 71'-0½". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 81'-3", 120'-4½", and 81'-3". The substructure consists of reinforced concrete abutments and piers supported on cast-in-place concrete piles.

Traffic will be maintained utilizing stage construction.

No salvage.

LOADING

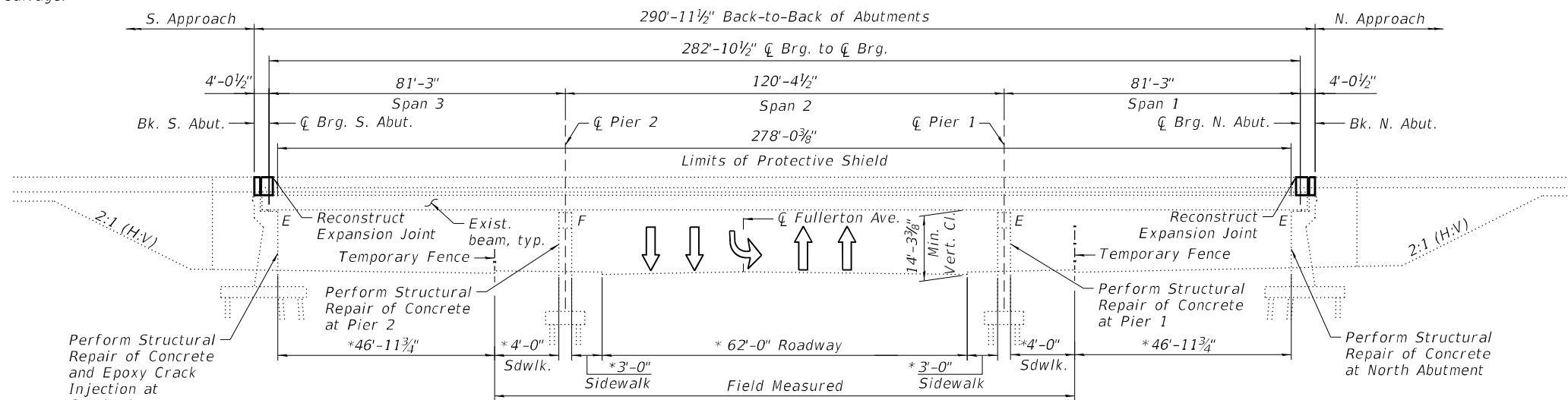
HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

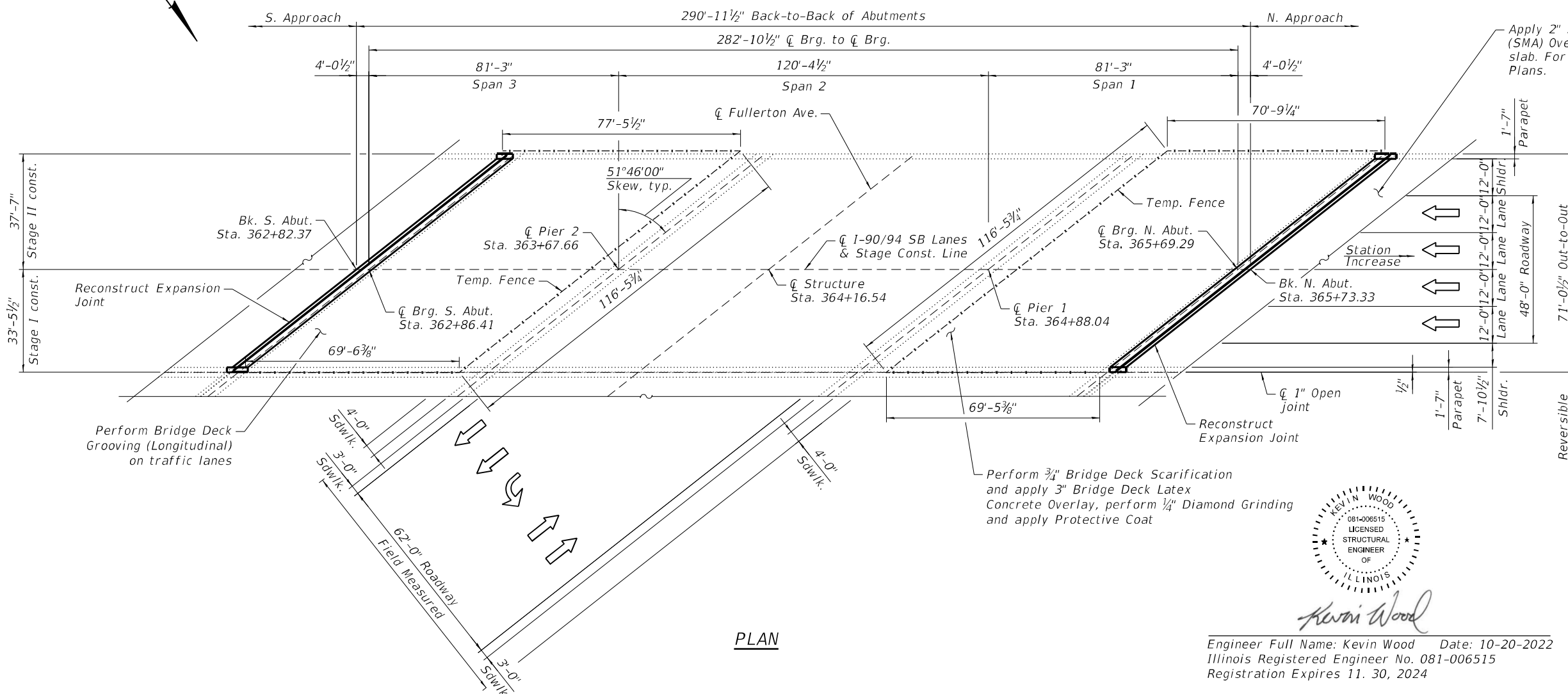
NOTE:

1. All stations are to the CL I-90/94 SB Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



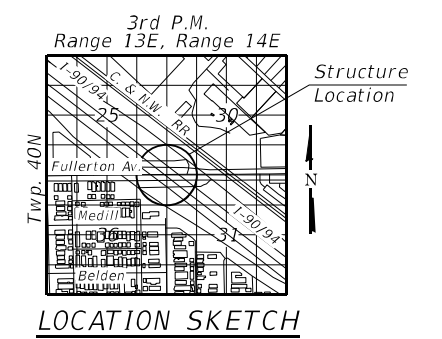
ELEVATION

* Dimension at right angle

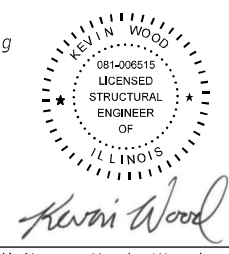


PLAN

Apply 2" Stone-Matrix Asphalt (SMA) Overlay, typ. each approach slab. For SMA items see Roadway Plans.



LOCATION SKETCH



Engineer Full Name: Kevin Wood Date: 10-20-2022
 Illinois Registered Engineer No. 081-006515
 Registration Expires 11. 30, 2024

GENERAL PLAN AND ELEVATION
SB I-90 OVER FULLERTON AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 364+16.54
STRUCTURE NO. 016-0129 (SB)

MODEL: sMODELNAME5
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	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET S15-01 OF S15-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	956
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or 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 Concrete Removal pay item. 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" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50°F.
- Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
- The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.
- Only one of the accident investigation sites at North and South abutments can be closed at a time and the other shall be kept open for public use.

INDEX OF SHEETS

- S15-01 General Plan & Elevation
- S15-02 General Data
- S15-03-S15-04 Stage Construction Details I & II
- S15-05 Temporary Concrete Barrier
- S15-06 Bridge Deck Repair Plan and Details
- S15-07-S15-09 South Abutment Expansion Joint Details I, II & III
- S15-10-S15-12 North Abutment Expansion Joint Details I, II & III
- S15-13 Preformed Joint Strip Seal
- S15-14 South Abutment Repairs
- S15-15 North Abutment Repairs
- S15-16 Pier 1 Repairs
- S15-17 Pier 2 Repairs
- S15-18 Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck.
- Perform deck repairs.
- Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Epoxy crack injection at the abutments for cracks greater than hairline.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	37.6		37.6
Protective Shield	Sq Yd	2,195		2,195
Concrete Superstructure	Cu Yd	41.9		41.9
Protective Coat	Sq Yd	2,473		2,473
Reinforcement Bars, Epoxy Coated	Pound	6,230		6,230
Bar Splicers	Each	32		32
Preformed Joint Strip Seal	Foot	224		224
Concrete Sealer	Sq Ft		1,336	1,336
Epoxy Crack Injection	Foot		58	58
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,530		1,530
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,117		2,117
Bridge Deck Scarification 3/4"	Sq Yd	2,117		2,117
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft		485	485
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft		15	15
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1.9		1.9
Diamond Grinding (Bridge Section)	Sq Yd	2,163		2,163
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		514	514
Temporary Shoring and Cribbing	Each		1	1

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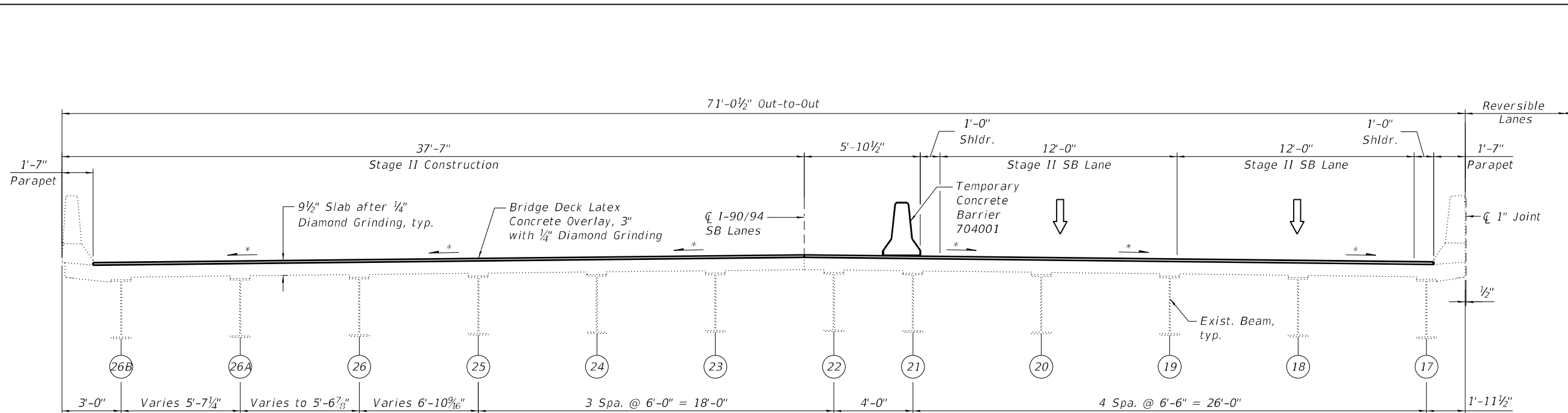
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
SN 016-0129 (SB)**

SHEET S15-02 OF S15-18 SHEETS

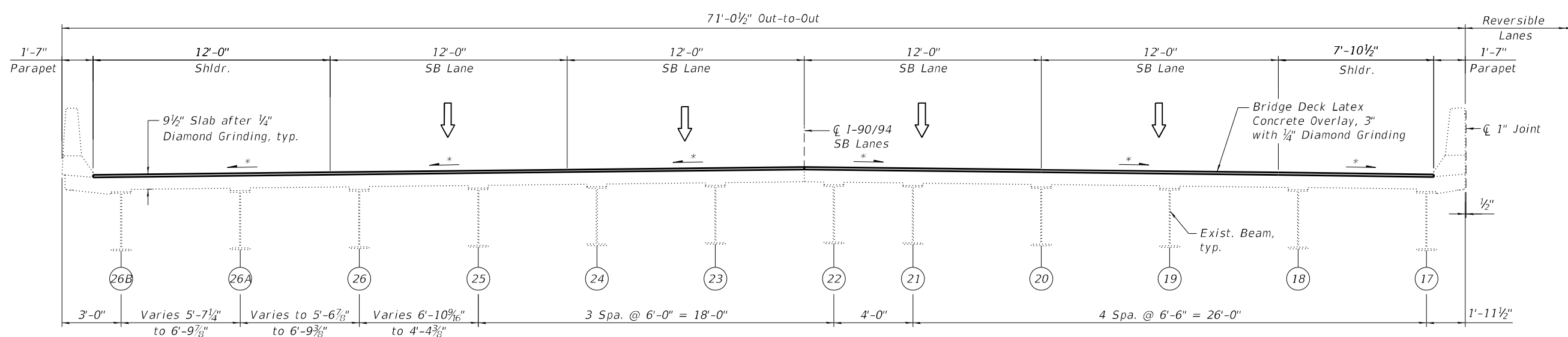
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90	2020-004-BR	COOK	1492	957
			CONTRACT NO. 62K74	
ILLINOIS		FED. AID PROJECT		



STAGE II CONSTRUCTION
(Looking North)

STAGE II CONSTRUCTION

1. Perform Deck Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at north and south abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete and Epoxy Crack Injection at abutments.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.



FINAL CROSS SECTION
(Looking North)

* Match existing deck surface profile

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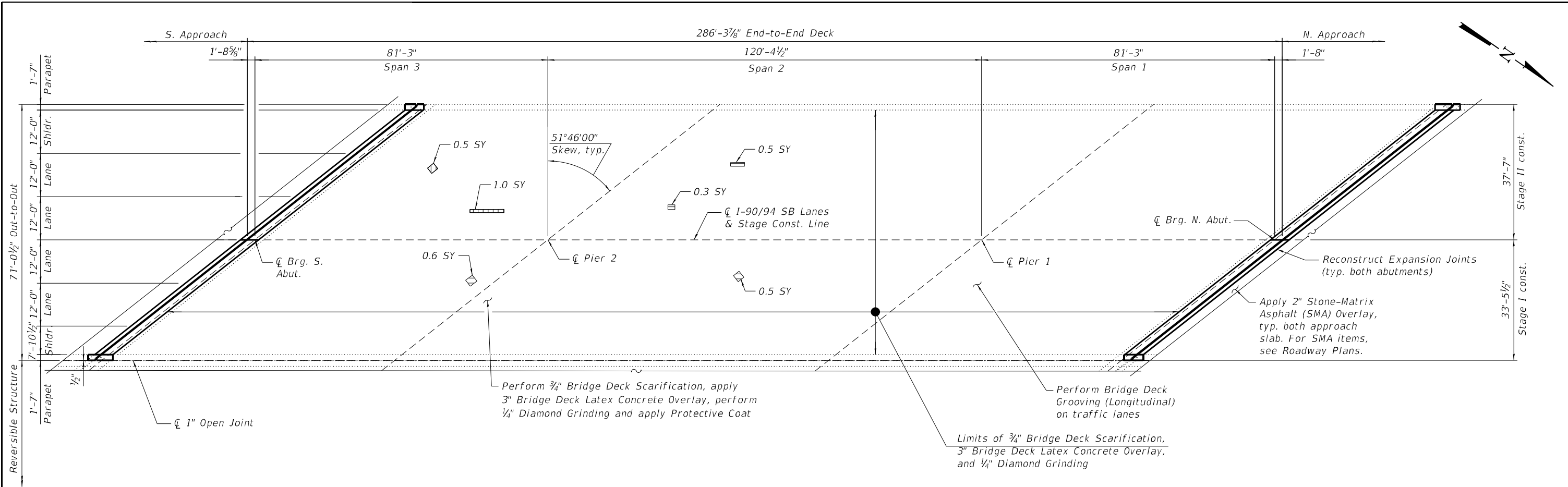
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STAGE CONSTRUCTION DETAILS II
SN 016-0129 (SB)

SHEET S15-04 OF S15-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	959
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



DECK PLAN

LEGEND

- *Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type I)
- SY Square Yard

* Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S15-04.
3. For North and South transverse joint removal and reconstruction, see Sheet S15-07 thru S15-12.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. The cost of repair or replacement shall be included in the cost of Concrete Removal.
8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	2,195
Protective Coat	Sq Yd	2,473
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,530
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,117
Bridge Deck Scarification 3/4"	Sq Yd	2,117
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1.9
Diamond Grinding (Bridge Section)	Sq Yd	2,163
Maintenance of Lighting System	Cal Mo	6

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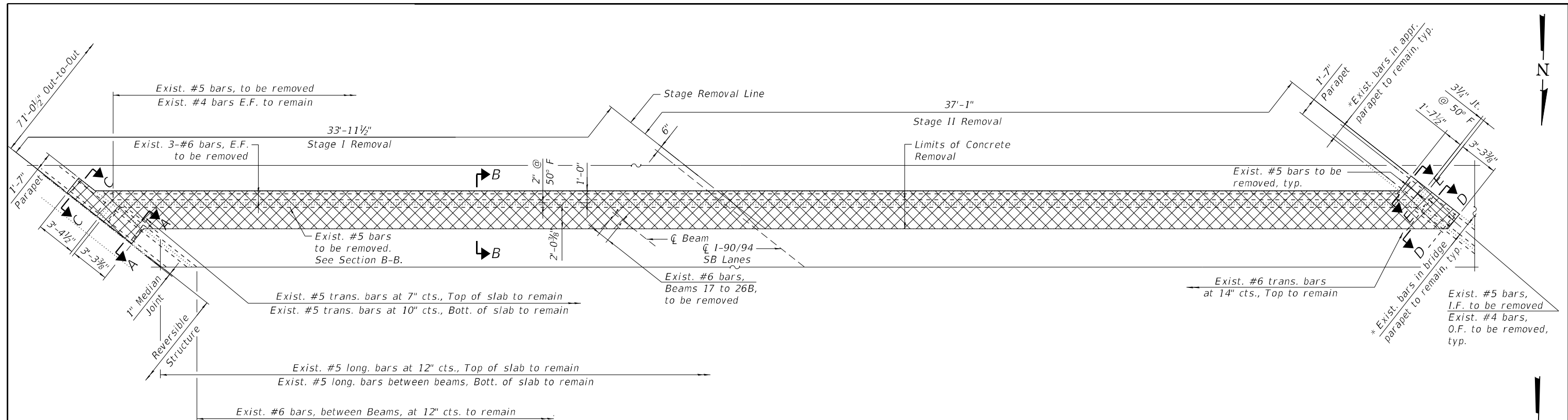
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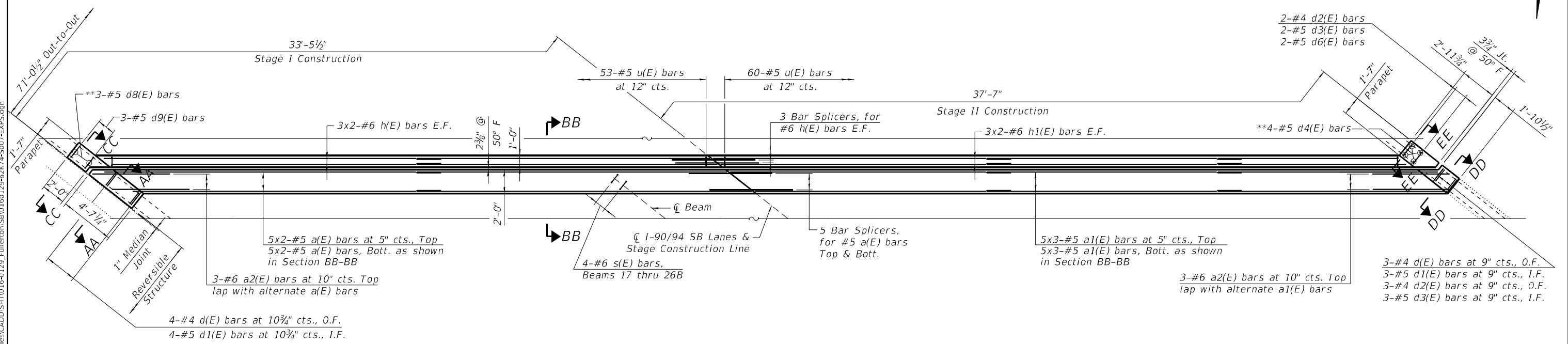
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK REPAIR PLAN AND DETAILS
 SN 016-0129 (SB)**

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 961
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S15-08.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S15-09.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

** Epoxy grout #5 d4(E) and d8(E) bars, in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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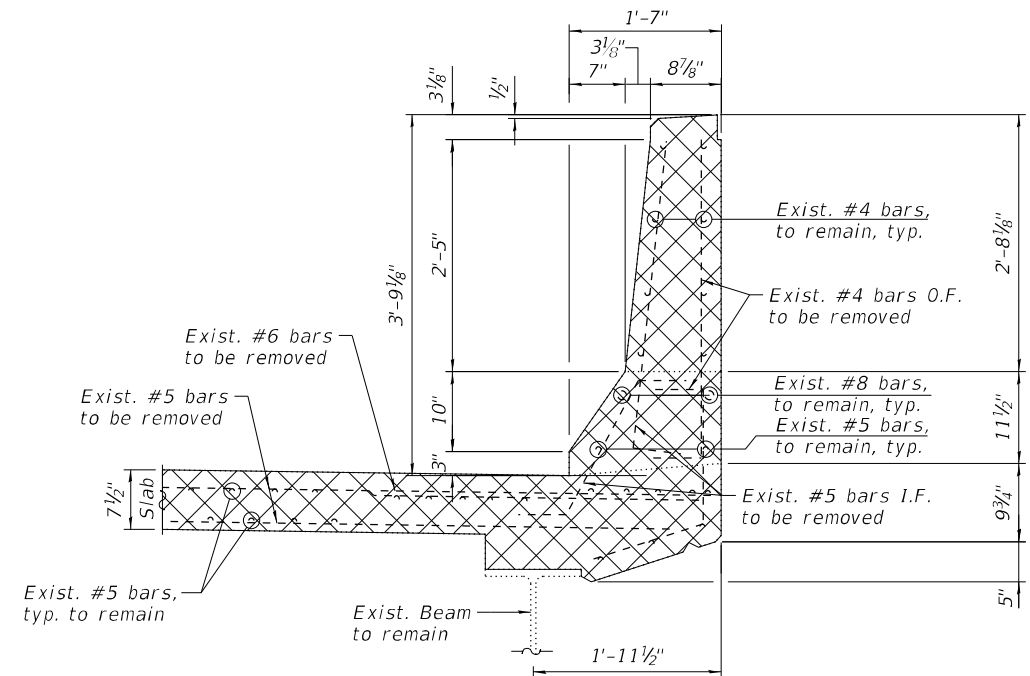
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

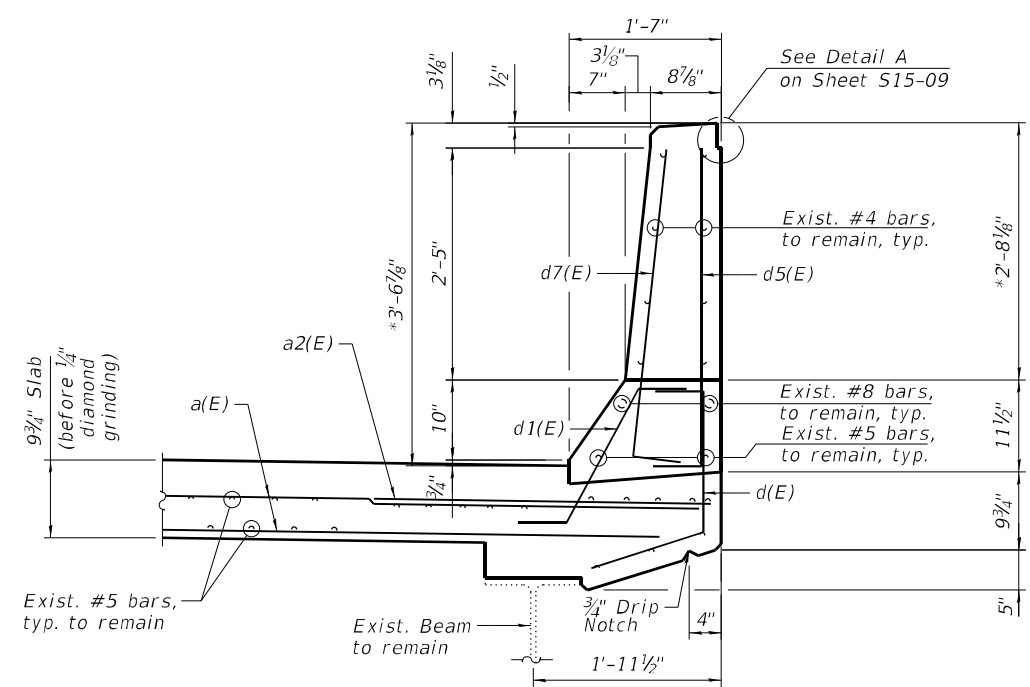
**SOUTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0129 (SB)**

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ILLINOIS FED. AID PROJECT				

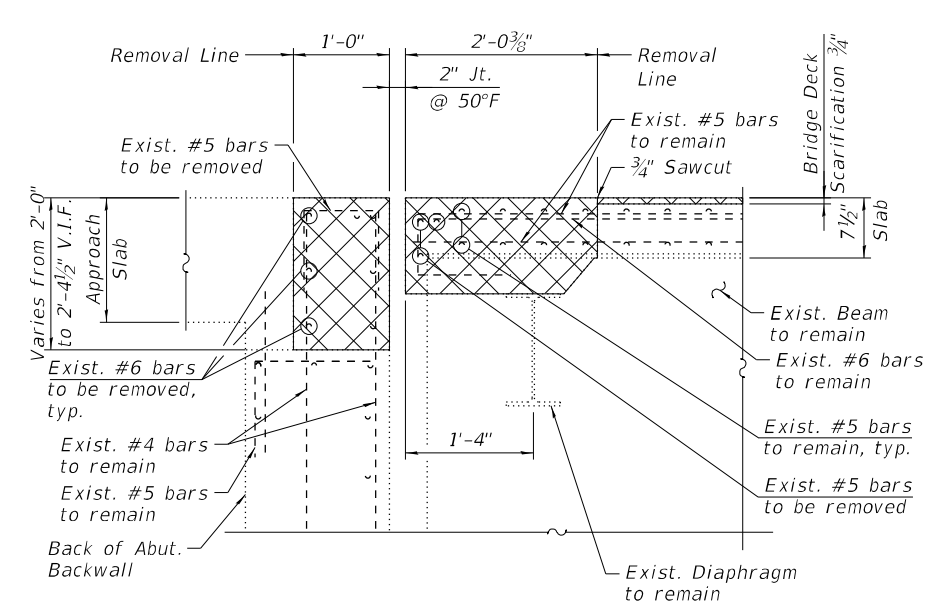
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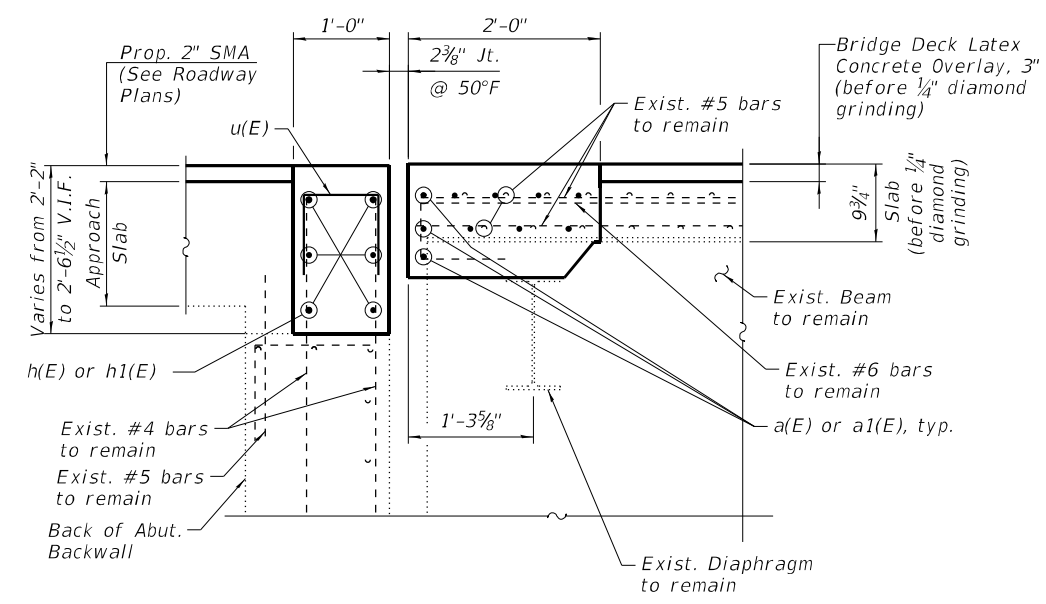
SECTION A-A
(East parapet removal)



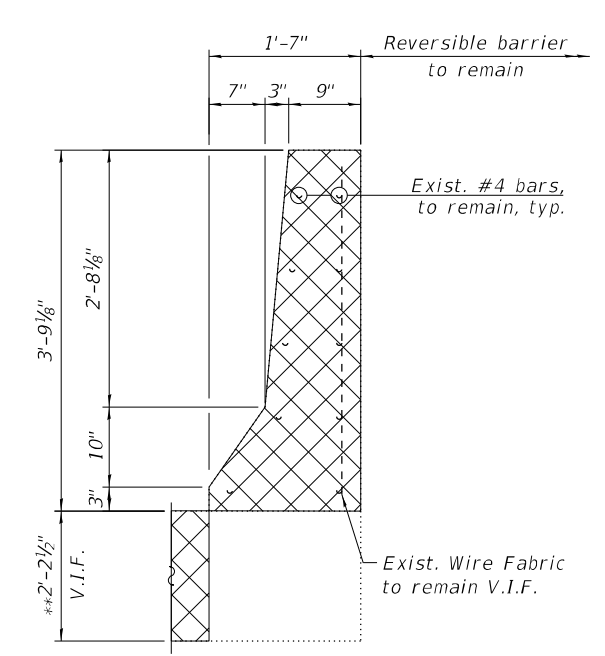
SECTION AA-AA
(East parapet reconstruction)



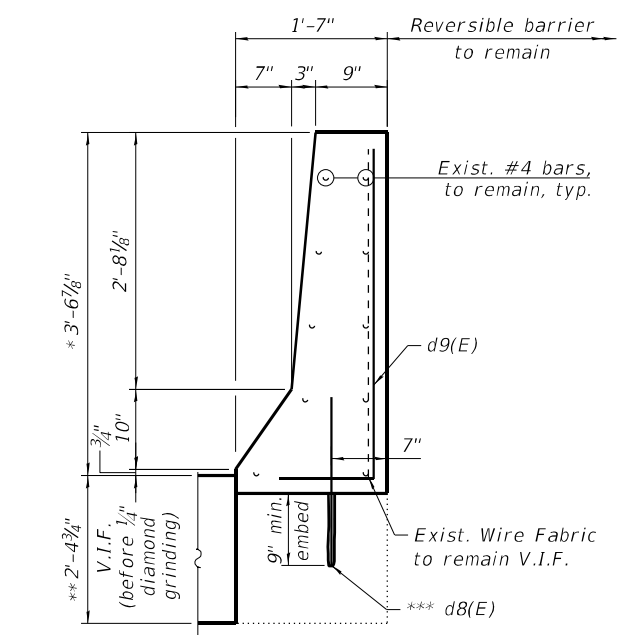
SECTION B-B



SECTION BB-BB



SECTION C-C
(East parapet removal)



SECTION CC-CC
(East parapet reconstruction)

NOTES

- For notes, see Sheet S15-09.
- Adjust in field as required to match reversible parapet
- Dimension is taken at the Back of Abut.
- Epoxy grout #5 d8(E) bars, in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

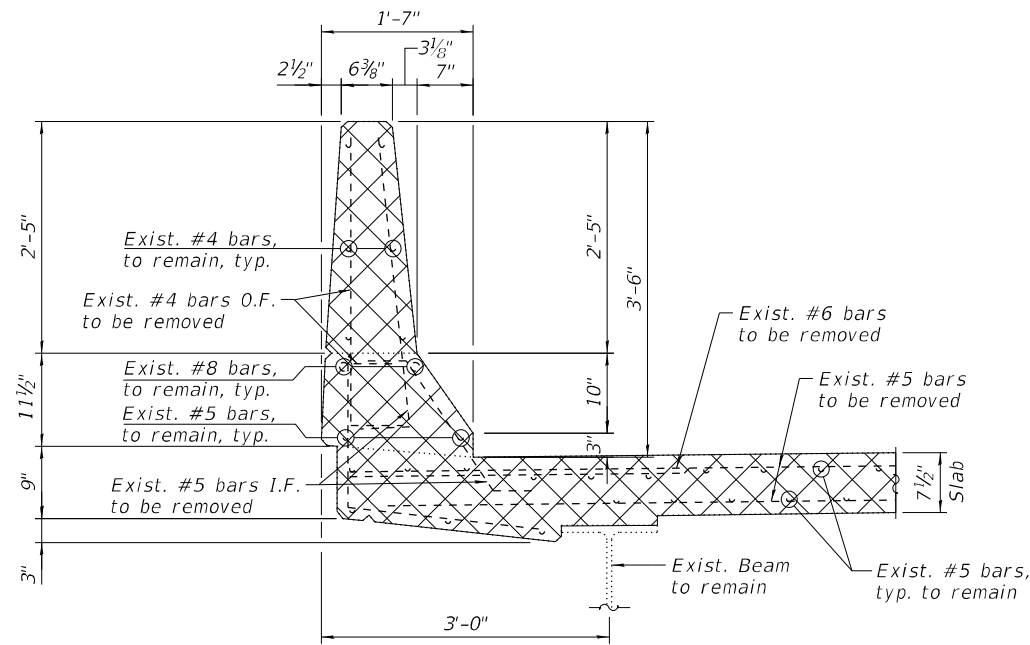
- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

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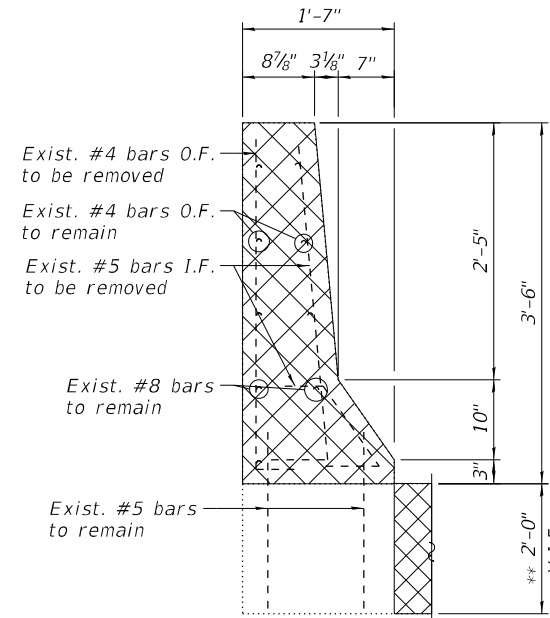
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
SOUTH ABUTMENT**

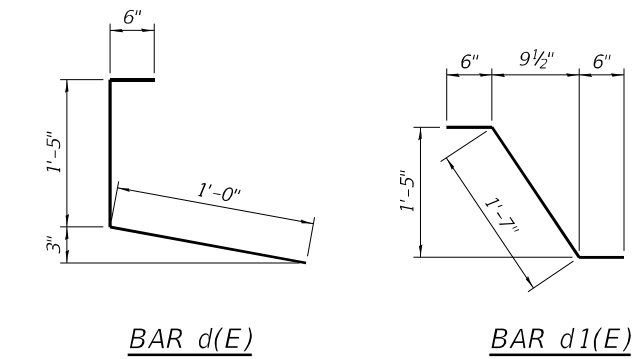
Bar	No.	Size	Length	Shape
a(E)	20	#5	28'-3"	—
a1(E)	30	#5	22'-9"	—
a2(E)	6	#6	6'-6"	—
d(E)	7	#4	2'-11"	┌
d1(E)	7	#5	2'-7"	┌
d2(E)	5	#4	3'-8"	┌
d3(E)	5	#5	3'-8"	┌
d4(E)	4	#5	2'-4"	┌
d5(E)	4	#4	4'-0"	┌
d6(E)	2	#5	2'-0"	┌
d7(E)	4	#5	4'-0"	┌
d8(E)	3	#5	1'-9"	┌
d9(E)	3	#5	4'-6"	┌
h(E)	12	#6	28'-5"	—
h1(E)	12	#6	31'-9"	—
s(E)	48	#6	3'-0"	┌
u(E)	113	#5	2'-10"	┌
Concrete Removal			Cu Yd	18.9
Reinforcement Bars, Epoxy Coated			Pound	3,120
Concrete Superstructure			Cu Yd	20.9



SECTION D-D
(West parapet removal)

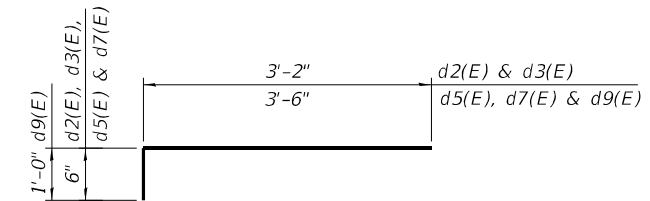


SECTION E-E
(West parapet removal)

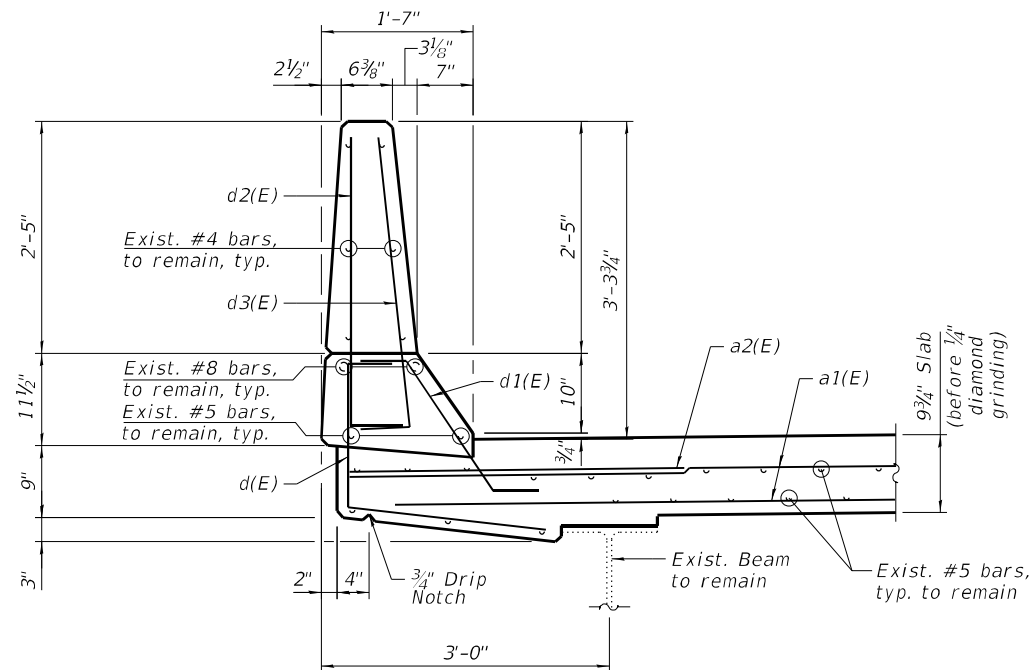


BAR d(E)

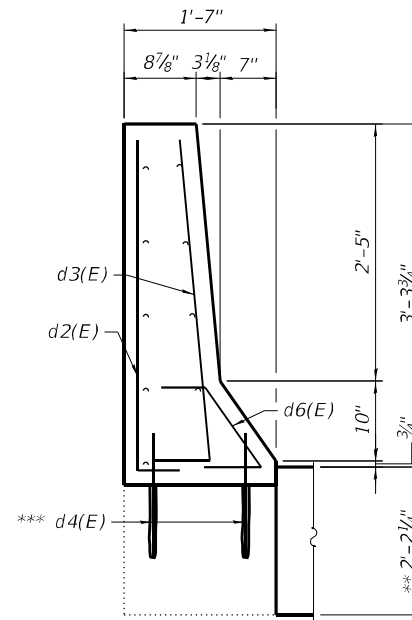
BAR d1(E)



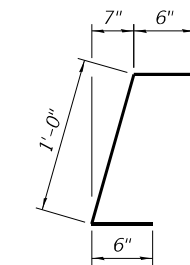
BAR d2(E), d3(E), d5(E), d7(E) & d9(E)



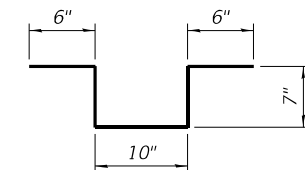
SECTION DD-DD
(West parapet reconstruction)



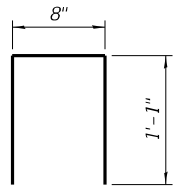
SECTION EE-EE
(West parapet reconstruction)



BAR d6(E)



BAR s(E)



BAR u(E)

NOTES:

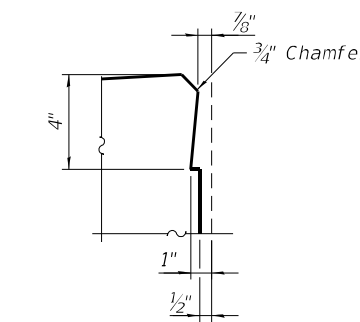
- For Preformed Joint Strip Seal details, see sheet S15-13.
- For Bar Splicer Assembly details, see sheet S15-18.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"



DETAIL A

(Reinforcement not shown for clarity)

- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0129 (SB)**

SHEET S15-09 OF S15-18 SHEETS

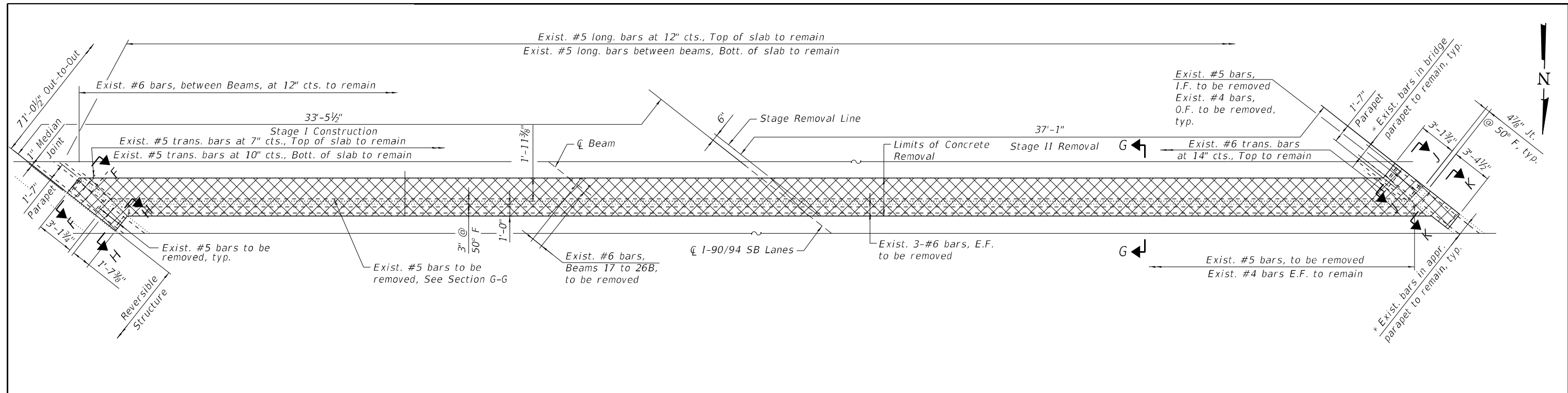
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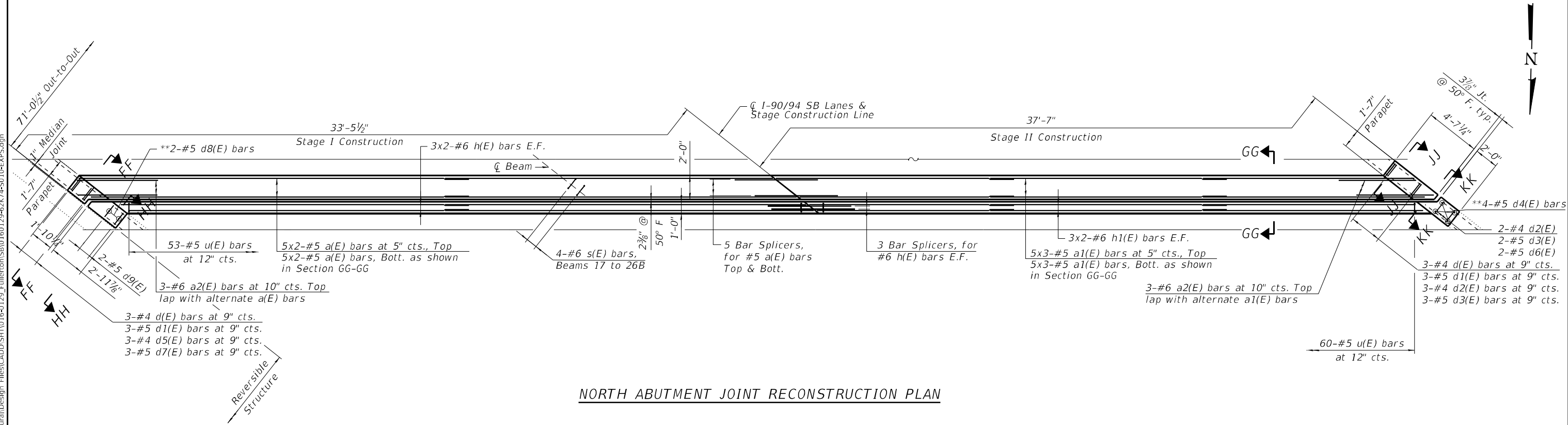
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NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN


NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S15-11.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S15-12.

* Existing longitudinal bars to remain in the parapets can be cut in the field as required

** Epoxy grout #5 d4(E) and d8(E) bars, in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

-  Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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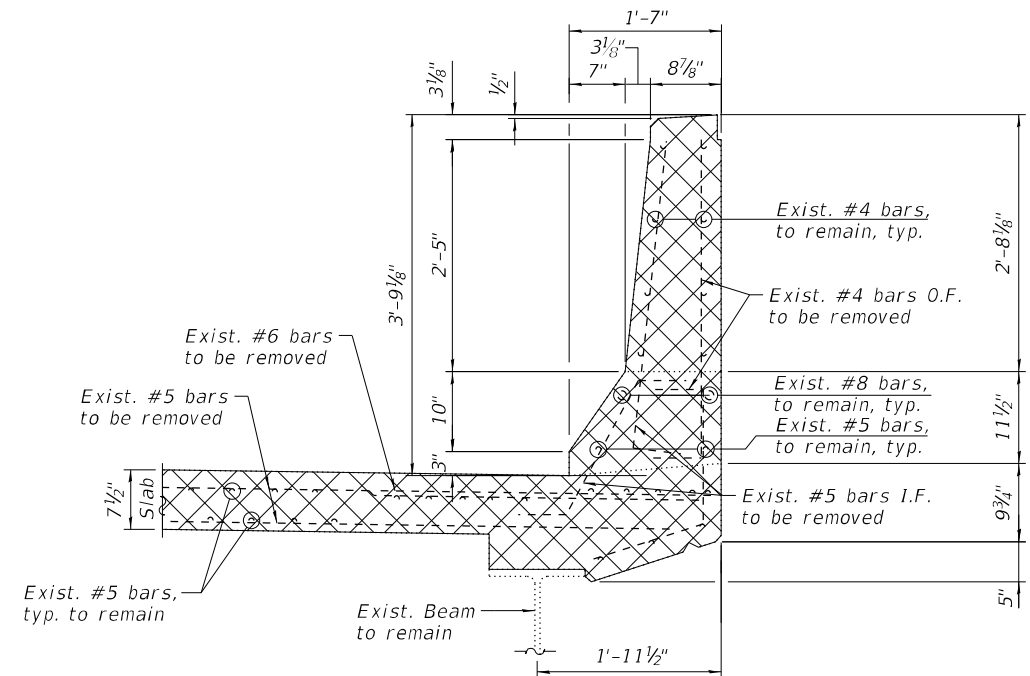
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DEPARTMENT OF TRANSPORTATION**

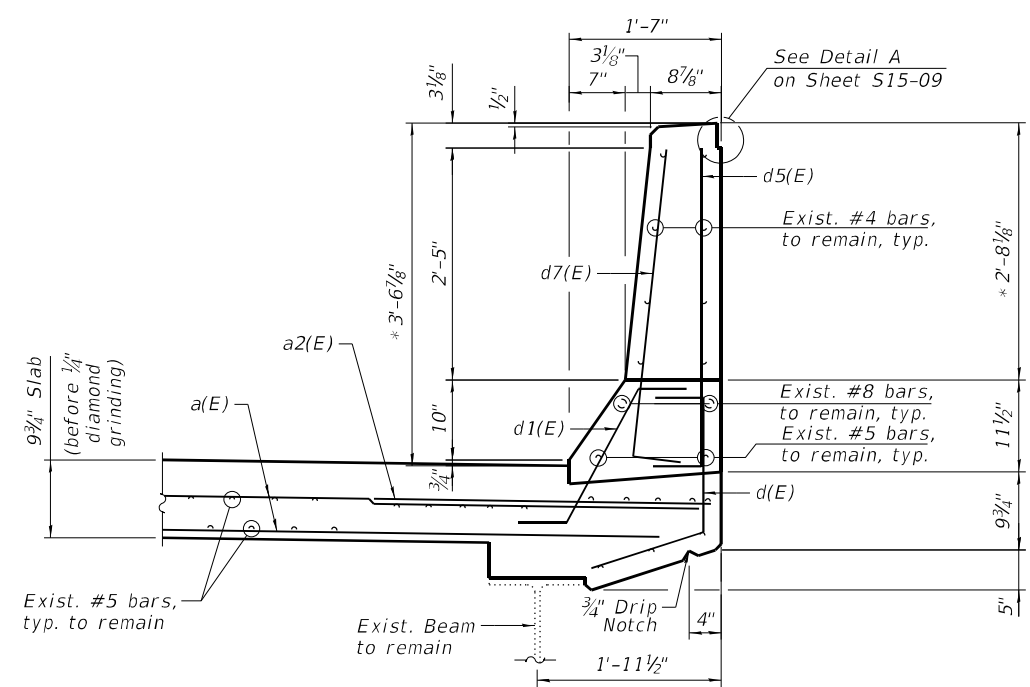
**NORTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0129 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	965
CONTRACT NO. 62K74			ILLINOIS FED. AID PROJECT	

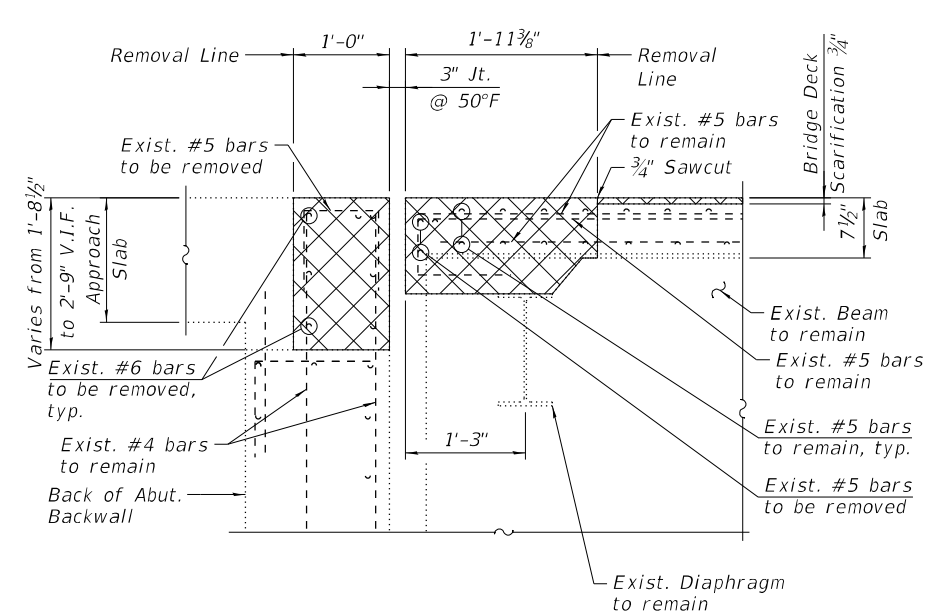
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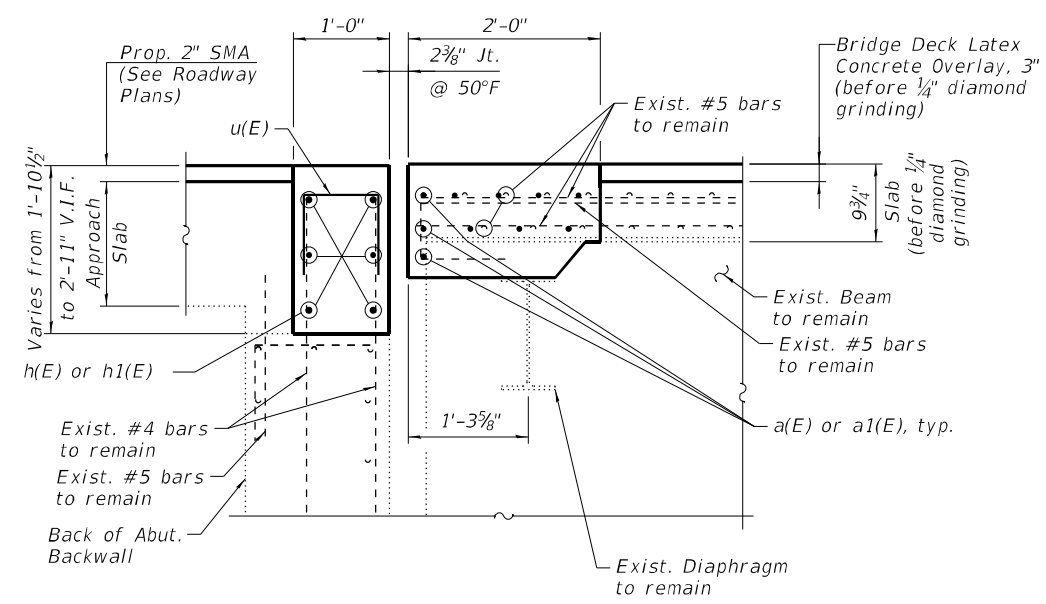
SECTION F-F
(East parapet removal)



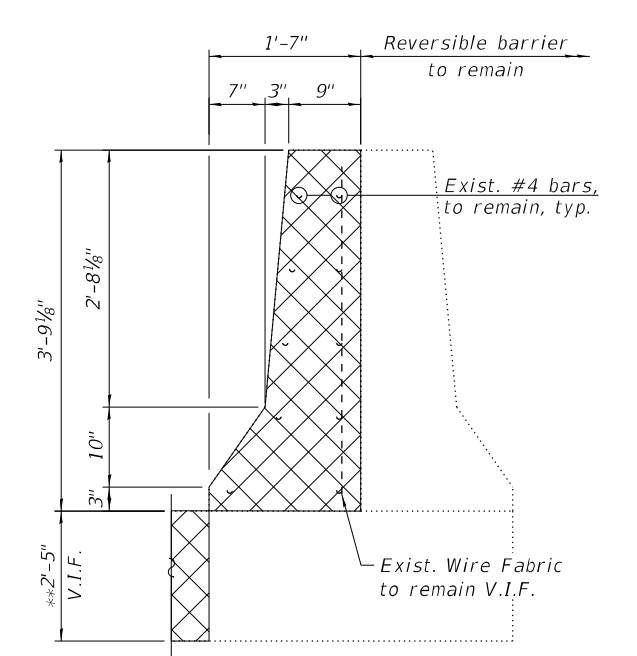
SECTION FF-FF
(East parapet reconstruction)



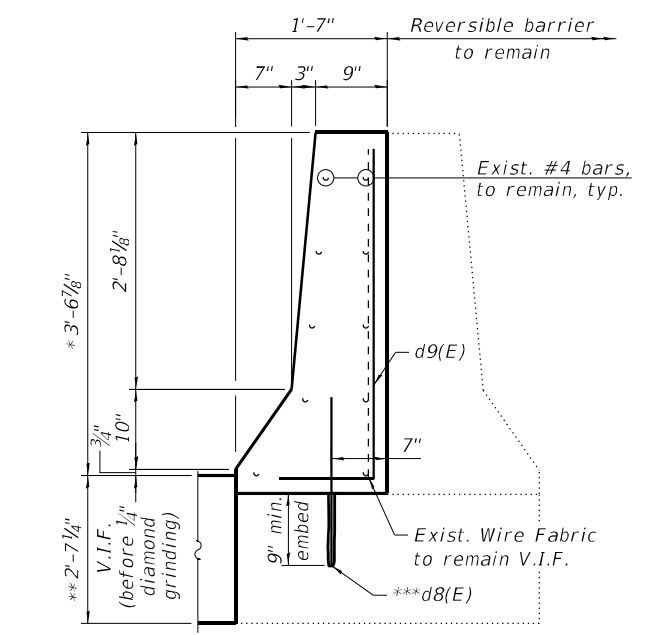
SECTION G-G



SECTION GG-GG



SECTION H-H
(East parapet removal)



SECTION HH-HH
(East parapet reconstruction)

NOTES

- For notes, see Sheet S15-12.
- * Adjust in field as required to match reversible parapet
- ** Dimension is taken at the Back of Abut.
- *** Epoxy grout #5 d8(E) bars, in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

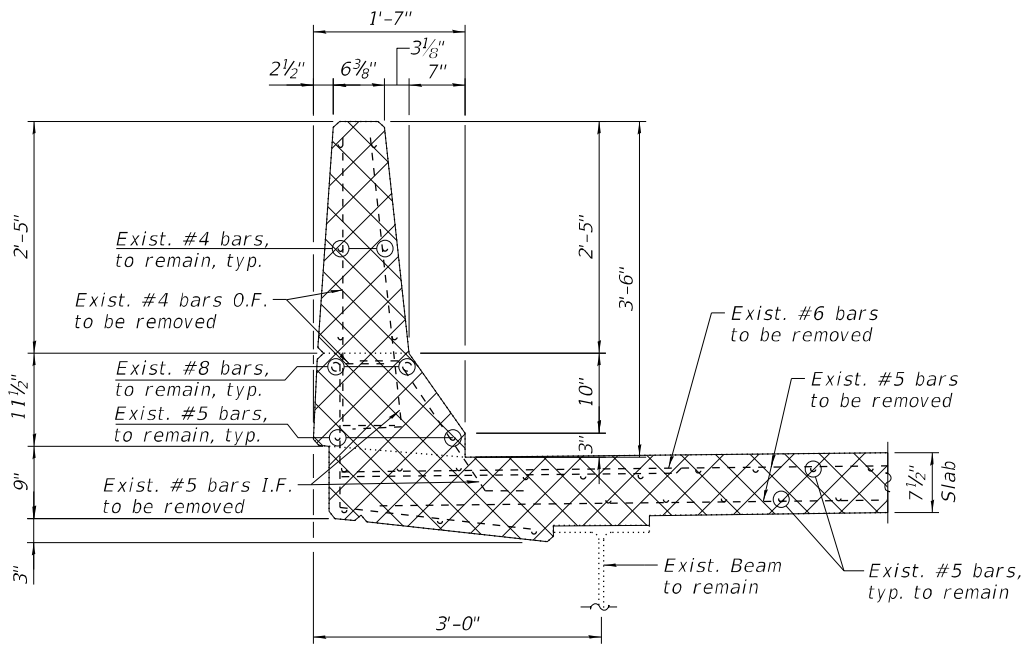
	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
V.I.F.	Verify in Field

USER NAME =	DESIGNED - F.B.	REVISED -
PLOT SCALE =	CHECKED - H.A.	REVISED -
PLOT DATE =	DRAWN - F.B.	REVISED -
	CHECKED - K.G.W.	REVISED -

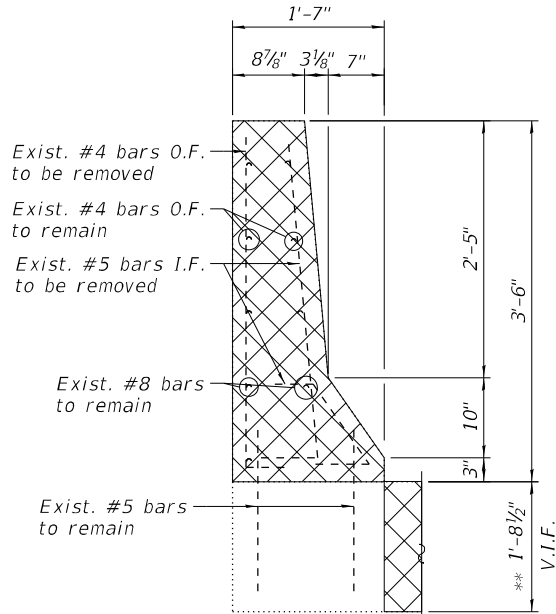
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	966
CONTRACT NO. 62K74				

**BILL OF MATERIAL
NORTH ABUTMENT**

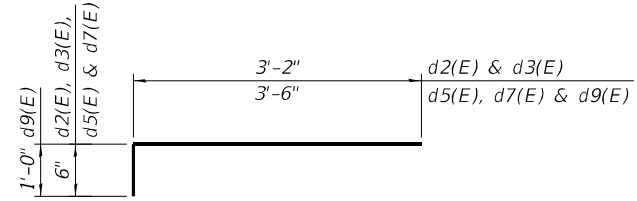
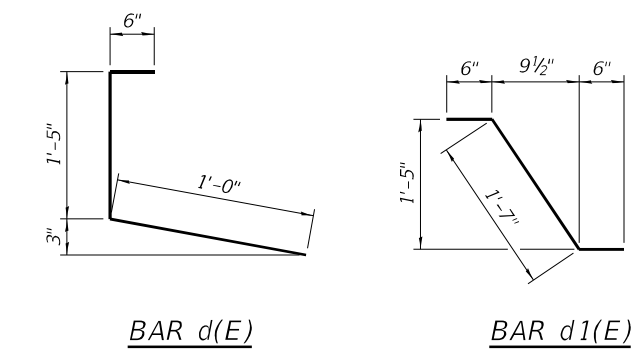
Bar	No.	Size	Length	Shape
a(E)	20	#5	28'-3"	—
a1(E)	30	#5	22'-9"	—
a2(E)	6	#6	6'-6"	—
d(E)	6	#4	2'-11"	┌
d1(E)	6	#5	2'-7"	┌
d2(E)	5	#4	3'-8"	┌
d3(E)	5	#5	3'-8"	┌
d4(E)	4	#5	2'-4"	┌
d5(E)	3	#4	4'-0"	┌
d6(E)	2	#5	2'-0"	┌
d7(E)	3	#5	4'-0"	┌
d8(E)	2	#5	1'-9"	┌
d9(E)	2	#5	4'-6"	┌
h(E)	12	#6	28'-5"	—
h1(E)	12	#6	31'-9"	—
s(E)	48	#6	3'-0"	┌
u(E)	113	#5	2'-10"	┌
Concrete Removal			Cu Yd	18.7
Reinforcement Bars, Epoxy Coated			Pound	3,110
Concrete Superstructure			Cu Yd	21.0



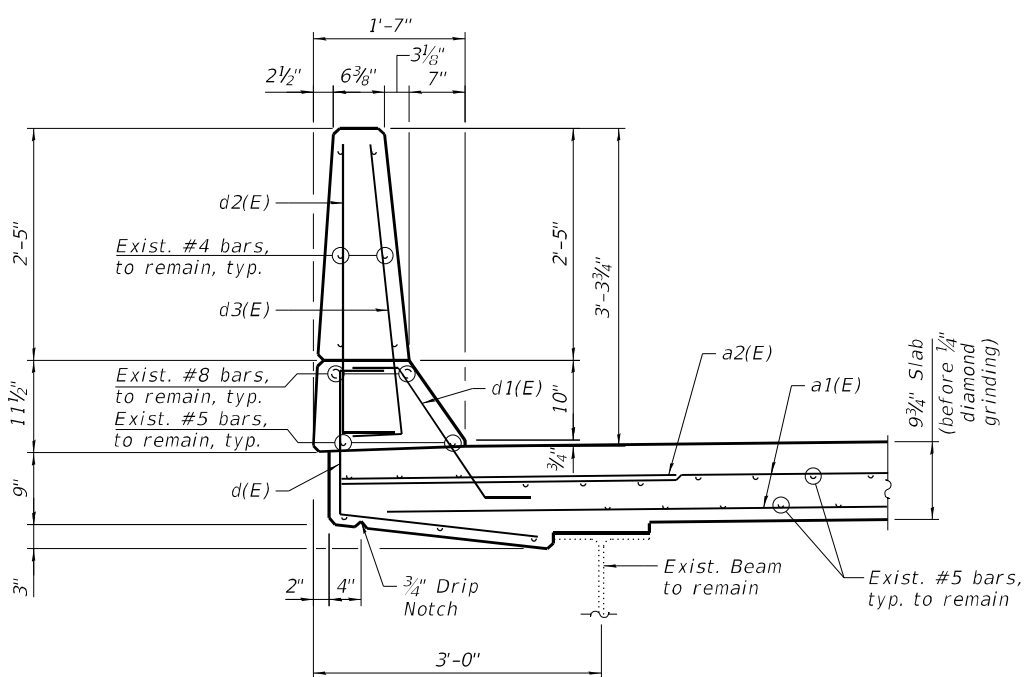
SECTION J-J
(West parapet removal)



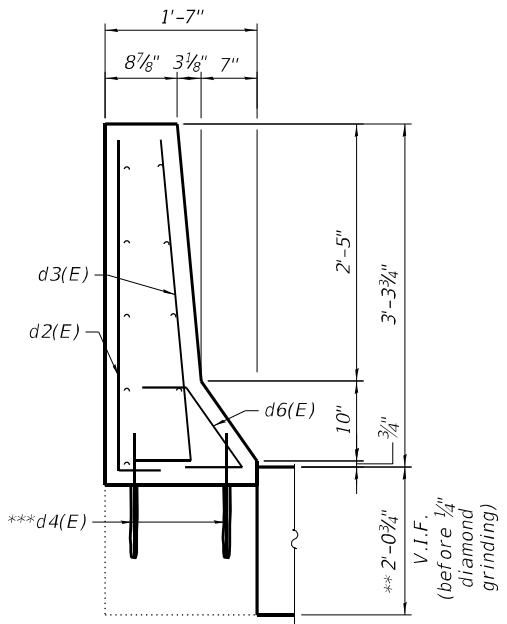
SECTION K-K
(West parapet removal)



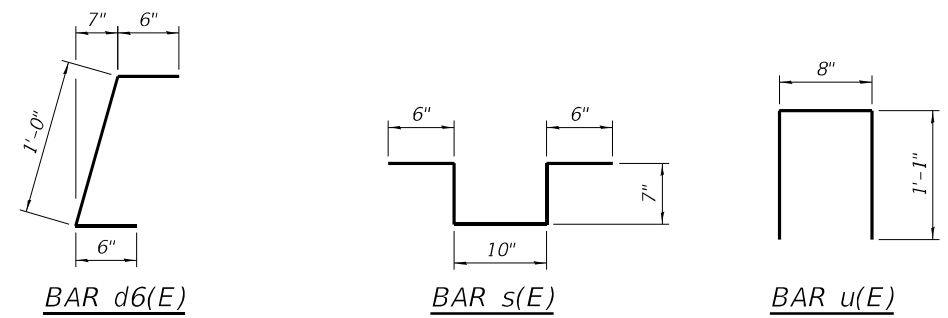
BAR d2(E), d3(E), d5(E), d7(E) & d9(E)



SECTION JJ-JJ
(West parapet reconstruction)



SECTION KK-KK
(West parapet reconstruction)



NOTES:

- For Preformed Joint Strip Seal details, see sheet S15-13.
- For Bar Splicer Assembly details, see sheet S15-18.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

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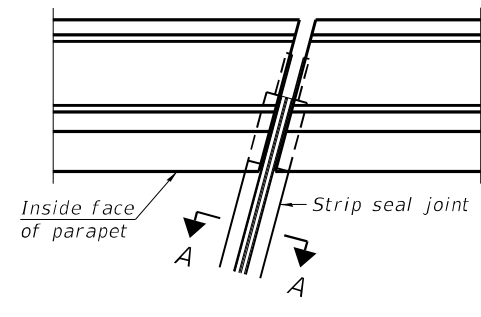
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0129 (SB)**

SHEET S15-12 OF S15-18 SHEETS

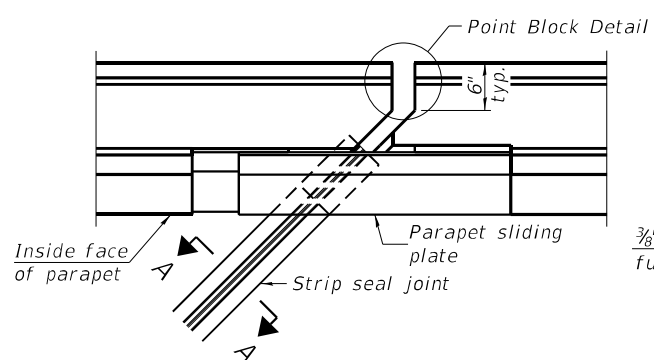
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90	2020-004-BR	COOK	1492	967
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

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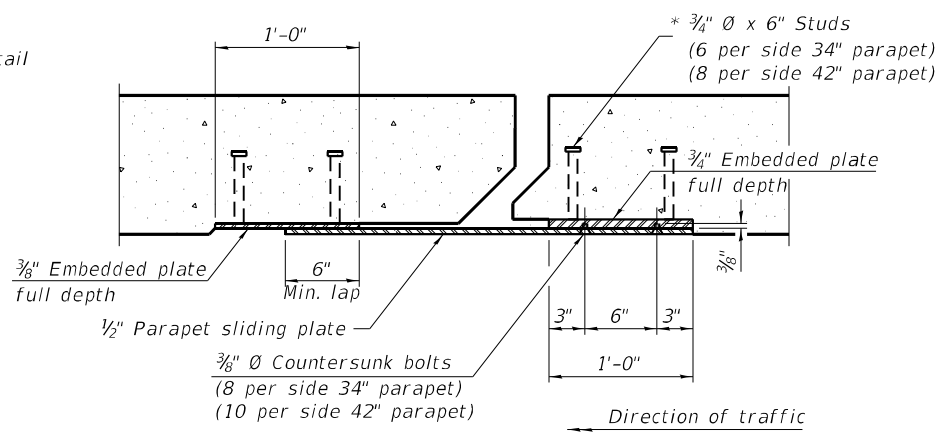


FOR SKEWS $\leq 30^\circ$

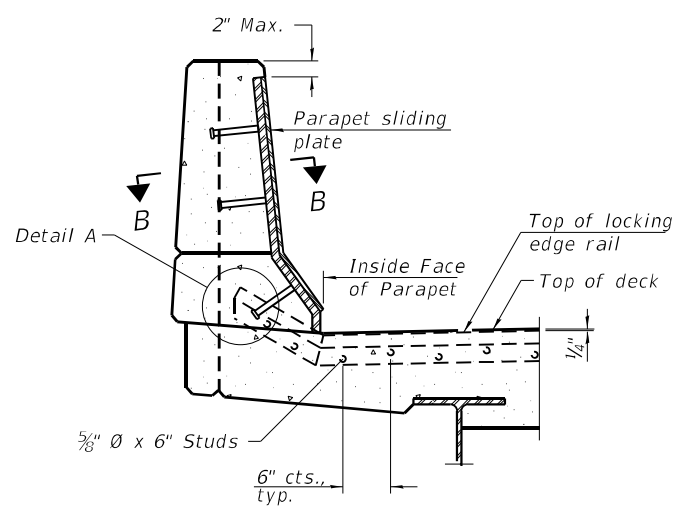
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

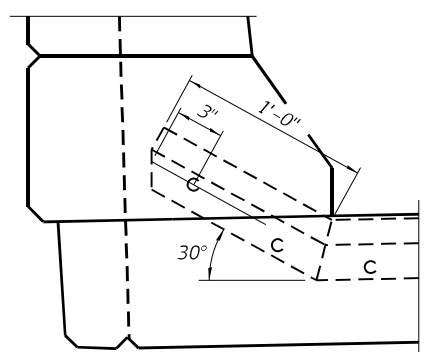


SECTION B-B

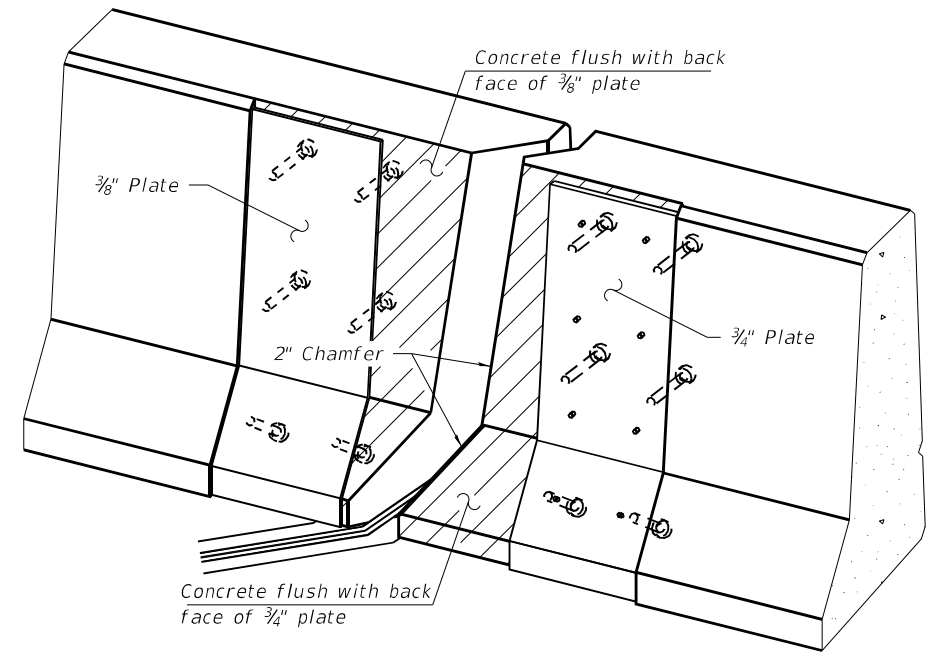


ELEVATION AT PARAPET

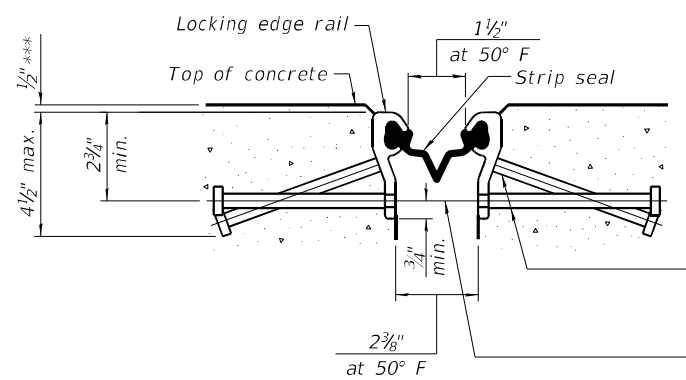
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A



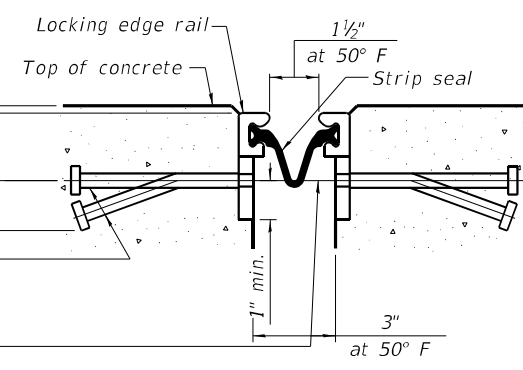
TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

* $3/8"$ ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$ ϕ threaded rods in $1/16"$ ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

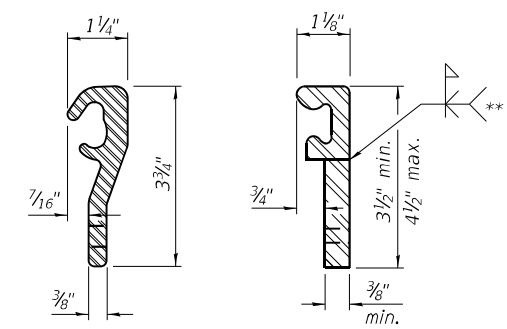


SHOWING WELDED RAIL JOINT

SECTION A-A

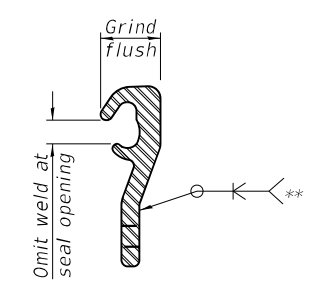
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

*** Before $1/4"$ Diamond Grinding.



LOCKING EDGE RAILS

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

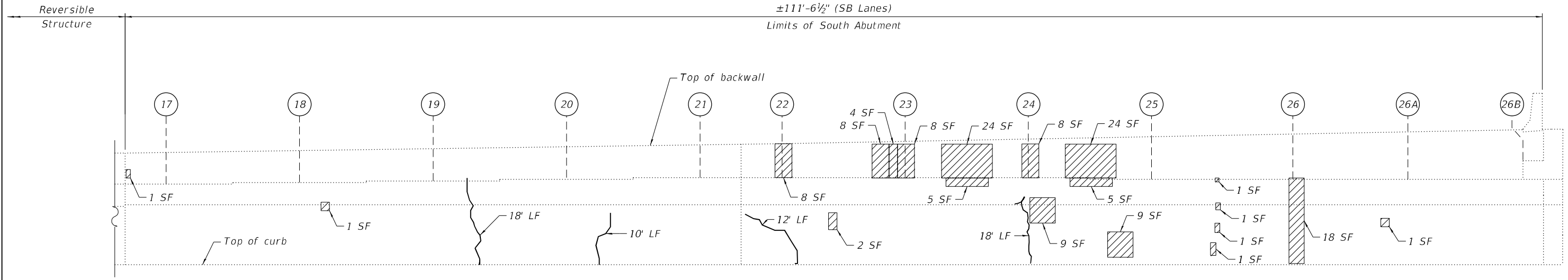


LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	224



ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- 6' LF Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	652
Epoxy Crack Injection	Foot	58
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	139

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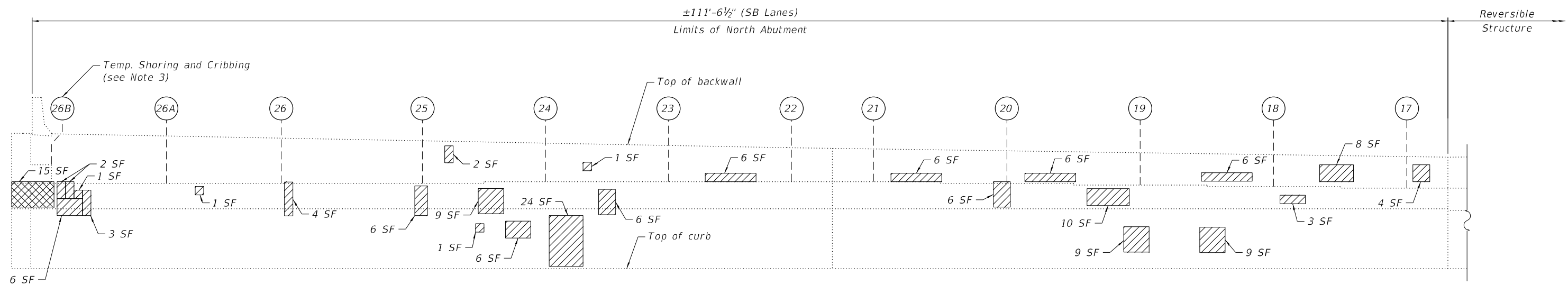
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PLOT DATE =	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS
SN 016-0129 (SB)**

SHEET S15-14 OF S15-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	969
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - NORTH ABUTMENT
(Looking North)

SUMMARY OF REACTIONS	
	Beam 26B
R DL (k)	25.5
R LL (k)	39.9
R IM (k)	9.7
R Total (k)	75.1

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- Temporary Shoring and Cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- Structural Repair of Concrete (Depth Greater Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	684
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	147
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	15
Temporary Shoring and Cribbing	Each	1

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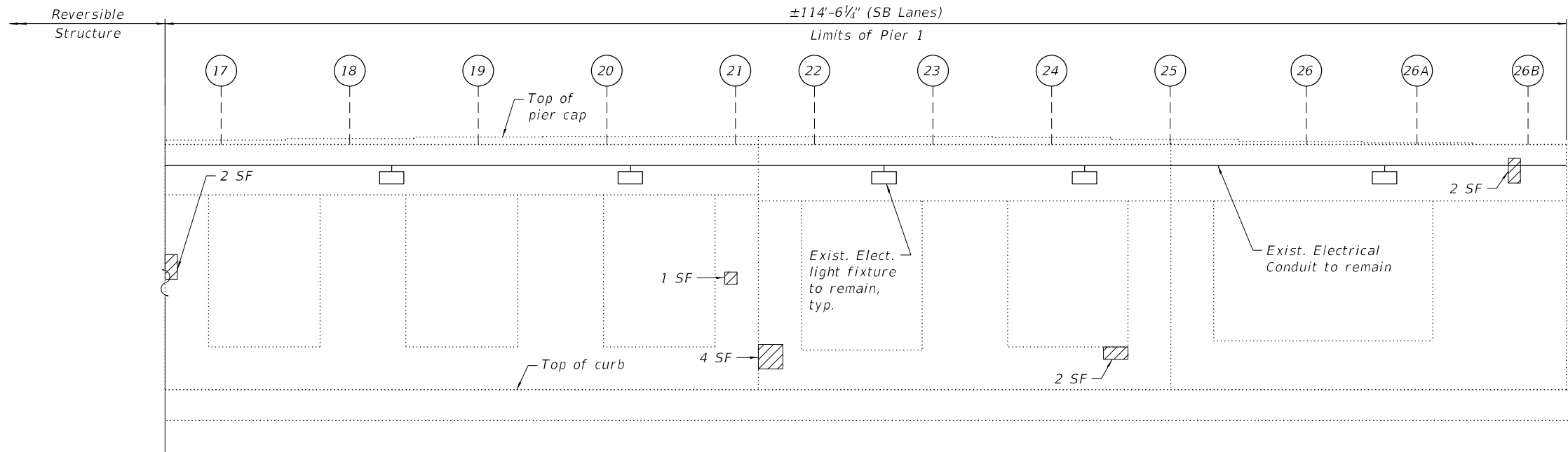
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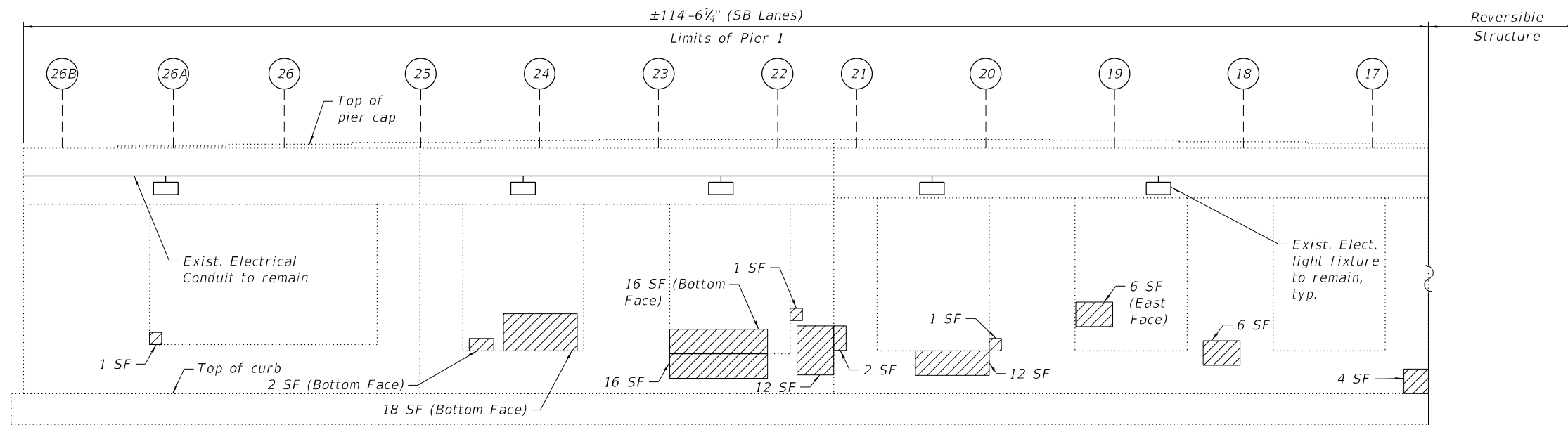
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT REPAIRS
SN 016-0129 (SB)**

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 970
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 1
(Looking South)



ELEVATION - PIER 1
(Looking North)



EXISTING LIGHTING: PIER 1
(Looking Southwest)



EXISTING LIGHTING: PIER 1
(Looking Northwest)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	108

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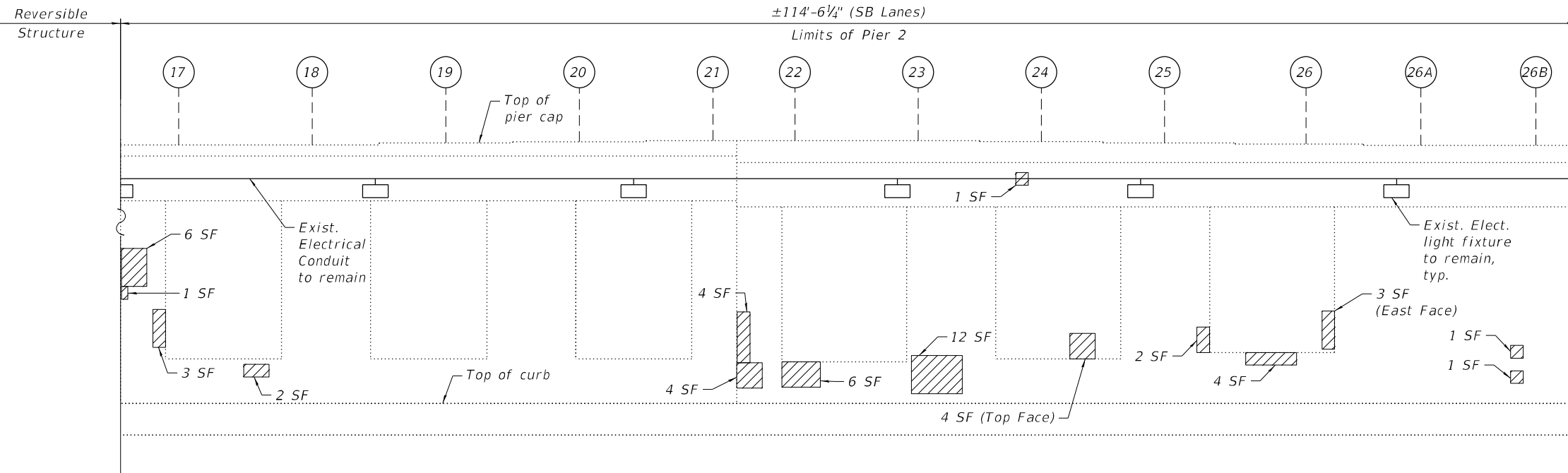
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DEPARTMENT OF TRANSPORTATION

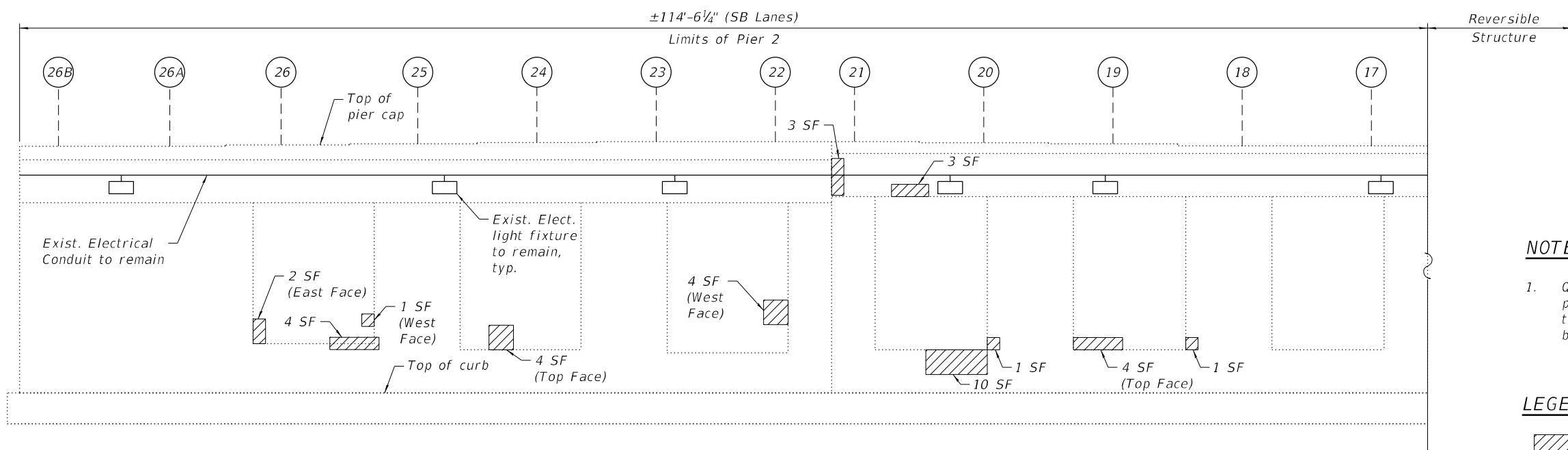
PIER 1 REPAIRS
SN 016-0129 (SB)

SHEET S15-16 OF S15-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	971
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



ELEVATION - PIER 2
(Looking South)



ELEVATION - PIER 2
(Looking North)



EXISTING LIGHTING: PIER 2
(Looking Southeast)



EXISTING LIGHTING: PIER 2
(Looking Northwest)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

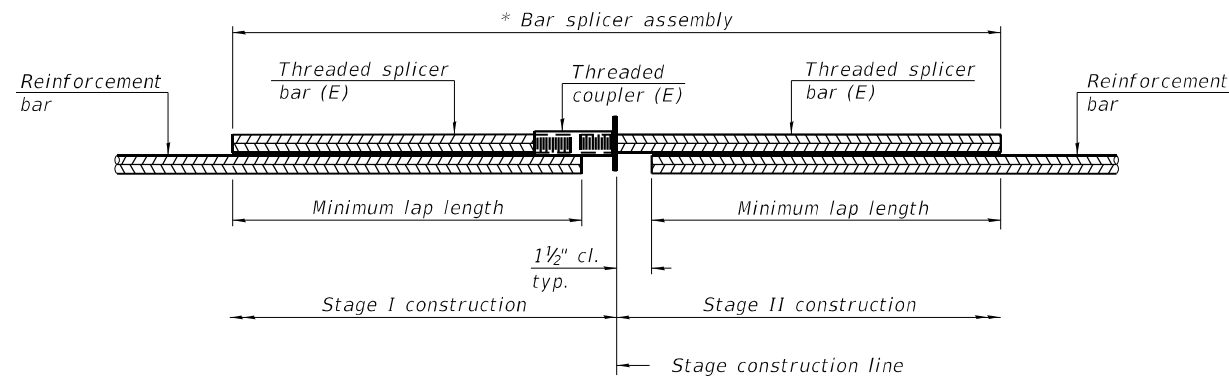
LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	91

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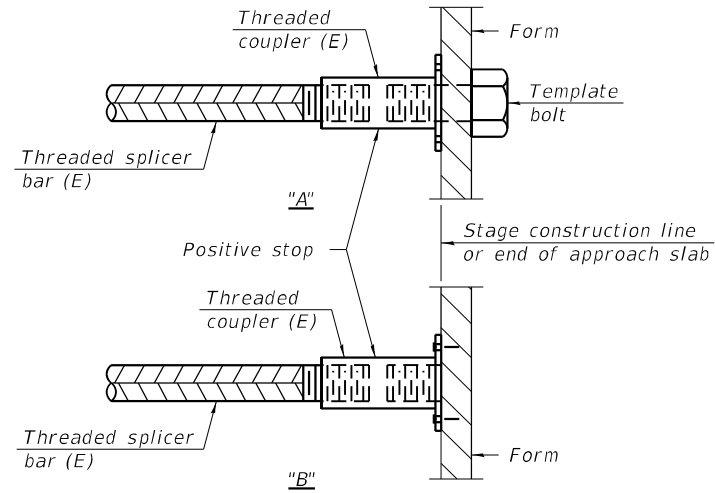


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

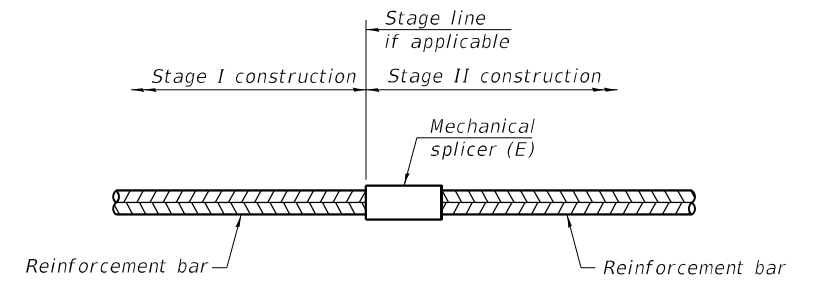
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
South Abutment Exp. Jt.	#5	10	3'-6"
North Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

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BSD-1

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 016-0129 (SB)**

SHEET S15-18 OF S15-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	973
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 62K74

Existing Structure: S.N. 016-0129 was originally built in 1958 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 290'-11½" and an out-to-out deck width of 35'-11". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 81'-3", 120'-4½", and 81'-3". The substructure consists of reinforced concrete abutments and piers supported on cast-in-place concrete piles.

The reversible lanes will be closed to traffic during construction.

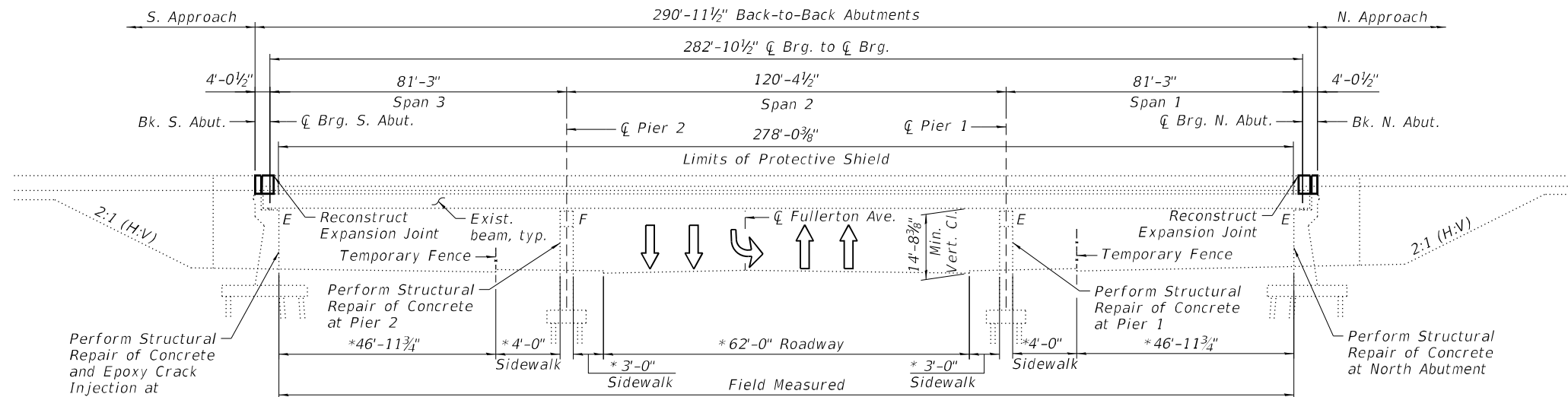
No salvage.

LOADING

HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

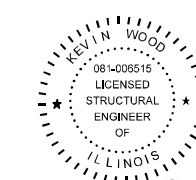


ELEVATION

* Dimension at right angle

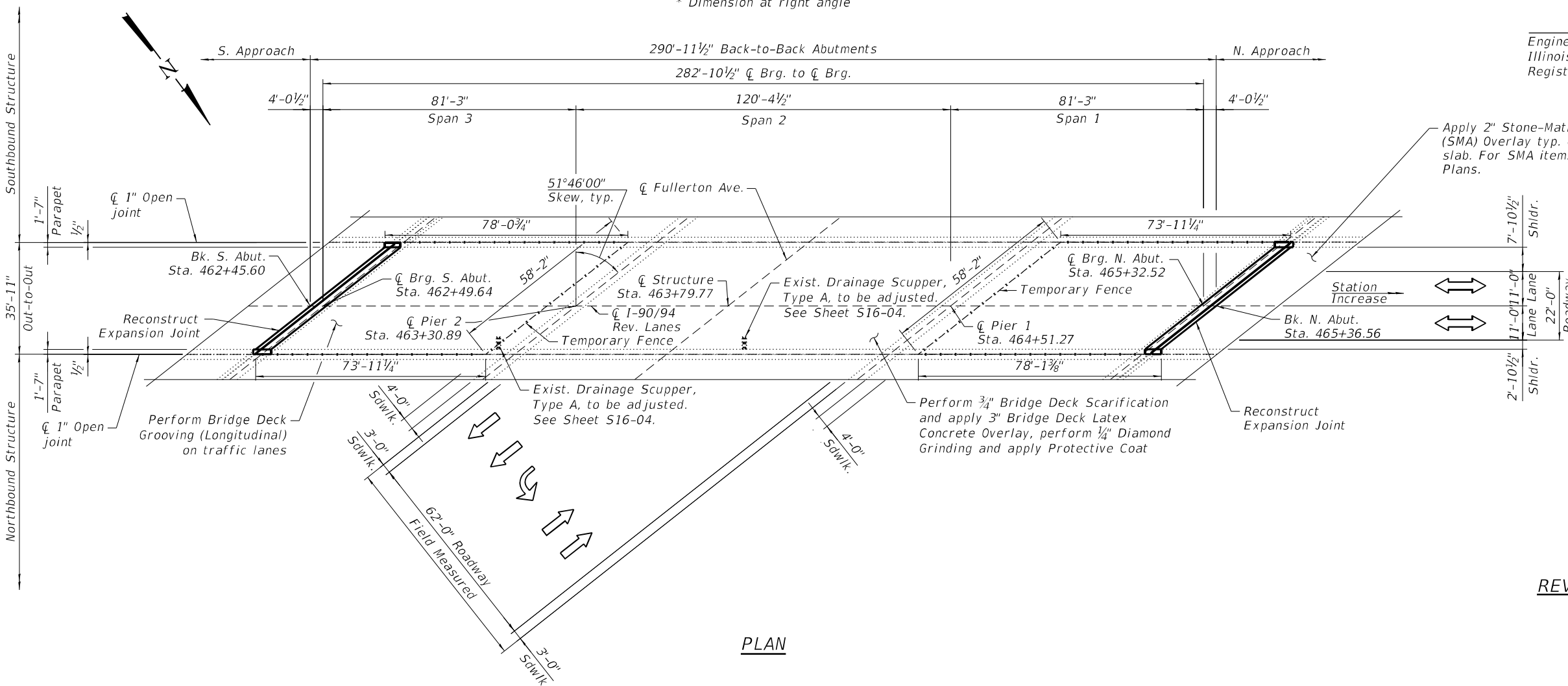
NOTE:

1. All stations are to the C I-90/94 Reversible Roadway and taken from existing plans.
2. No Future Wearing Surface is allowed.



Kevin Wood

Engineer Full Name: Kevin Wood Date: 10-20-2022
 Illinois Registered Engineer No. 081-006515
 Registration Expires 11. 30, 2024



PLAN

GENERAL PLAN AND ELEVATION
REVERSIBLE I-90 OVER FULLERTON AVE
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 463+79.77
STRUCTURE NO. 016-0129 (REV)

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DEPARTMENT OF TRANSPORTATION

SHEET S16-01 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	974
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or 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 Concrete Removal pay item. 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" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
- Plan dimensions and details relative to the 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 furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50°F.
- Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.
- Only one of the accident investigation sites at North and South abutments can be closed at a time and the other shall be kept open for public use.

INDEX OF SHEETS

S16-01	General Plan & Elevation
S16-02	General Data
S16-03	Bridge Deck Repair Plan and Details
S16-04	Drainage Scupper Type A Adjustment Details
S16-05-S16-07	South Abutment Expansion Joint Details I, II & III
S16-08-S16-10	North Abutment Expansion Joint Details I, II & III
S16-11	Preformed Joint Strip Seal
S16-12	South Abutment Repairs
S16-13	North Abutment Repairs
S16-14	Pier 1 Repairs
S16-15	Pier 2 Repairs

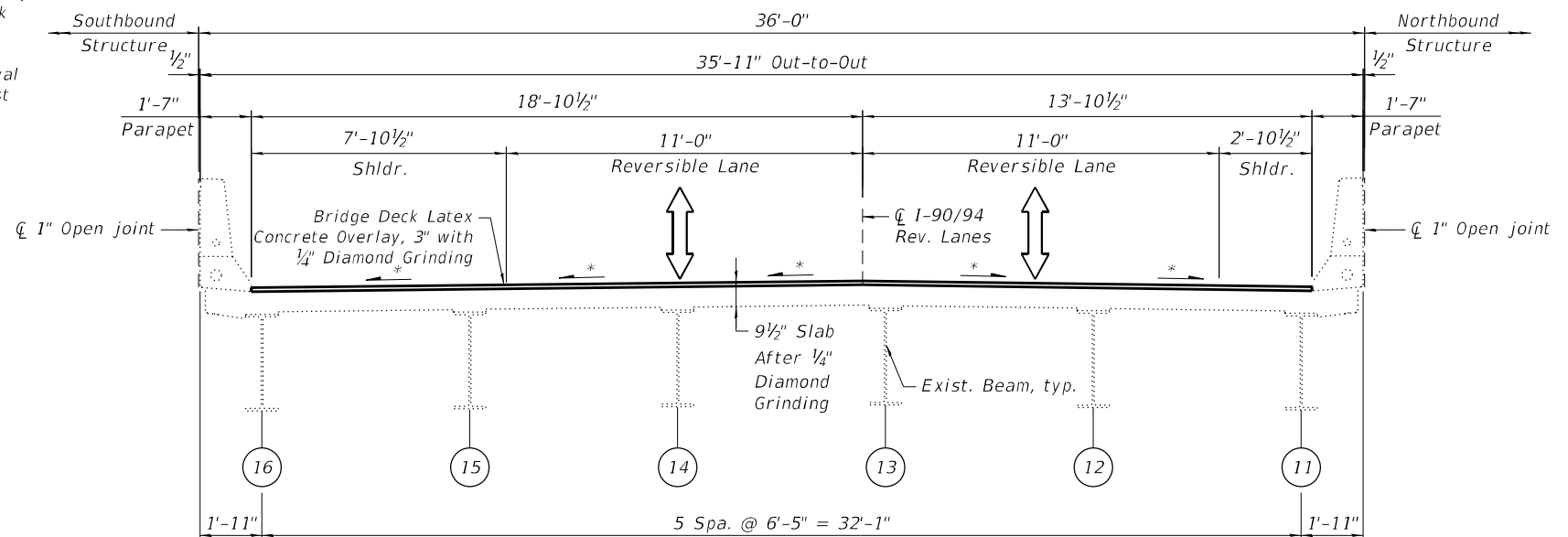
SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.
- Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Adjust Drainage Scuppers.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- Perform Structural Concrete repairs to the Abutments and Piers as noted in the plans.
- Perform slope wall repairs.
- Install 2 1/2" Longitudinal Preformed Joint Strip Seal along top of parapet between Reversible and SB lanes

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	18.3		18.3
Protective Shield	Sq Yd	1,110		1,110
Concrete Superstructure	Cu Yd	20.6		20.6
Protective Coat	Sq Yd	1,335		1,335
Reinforcement Bars, Epoxy Coated	Pound	3,140		3,140
Preformed Joint Seal 2 1/2"	Foot	288		288
Preformed Joint Strip Seal	Foot	110		110
Concrete Sealer	Sq Ft		620	620
Epoxy Crack Injection	Foot		70	70
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	701		701
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,022		1,022
Cleaning Drainage System	L Sum	0.05		0.05
Bridge Deck Scarification 3/4"	Each	1,022		1,022
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft		170	170
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.5		0.5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.2		3.2
Drainage Scupper to be Adjusted	Each	2		2
Diamond Grinding (Bridge Section)	Sq Yd	1,044		1,044
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		421	421

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FINAL CROSS SECTION
(Looking North)

* Match existing deck surface profile

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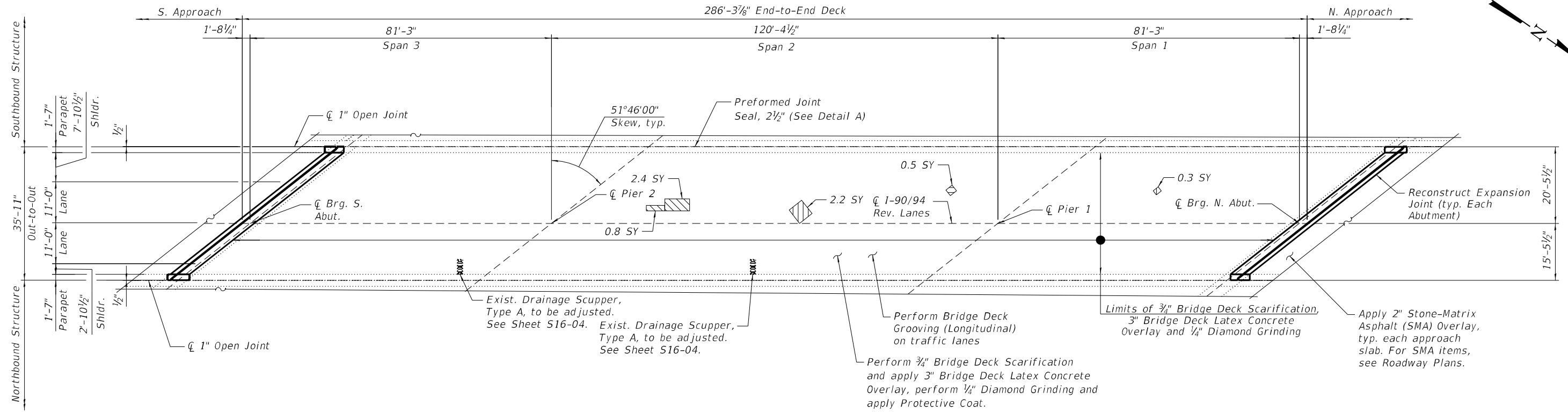
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	CHECKED - K.G.W.	REVISED -

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**GENERAL DATA
SN 016-0129 (REV)**

SHEET S16-02 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	975
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



DECK PLAN

LEGEND

- *Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type I)
- Deck Slab Repair (Full Depth, Type II)
- Square Yard

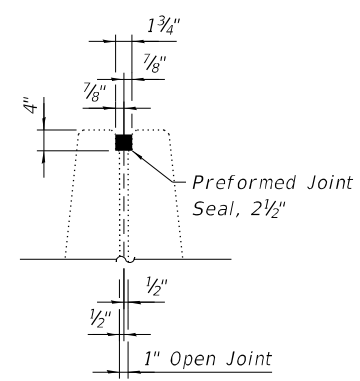
* Areas of Deck Slab Repair (Partial Depth) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3 Inches

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S16-02.
3. For North and South transverse joint removal and reconstruction, see Sheet S16-05 thru S16-10.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	1,110
Protective Coat	Sq Yd	1,335
Preformed Joint Seal 2 1/2"	Foot	288
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	701
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,022
Bridge Deck Scarification 3/4"	Sq Yd	1,022
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.2
Diamond Grinding (Bridge Section)	Sq Yd	1,044
Maintenance of Lighting System	Cal Mo	6



DETAIL A

(Reinforcement not shown for clarity)

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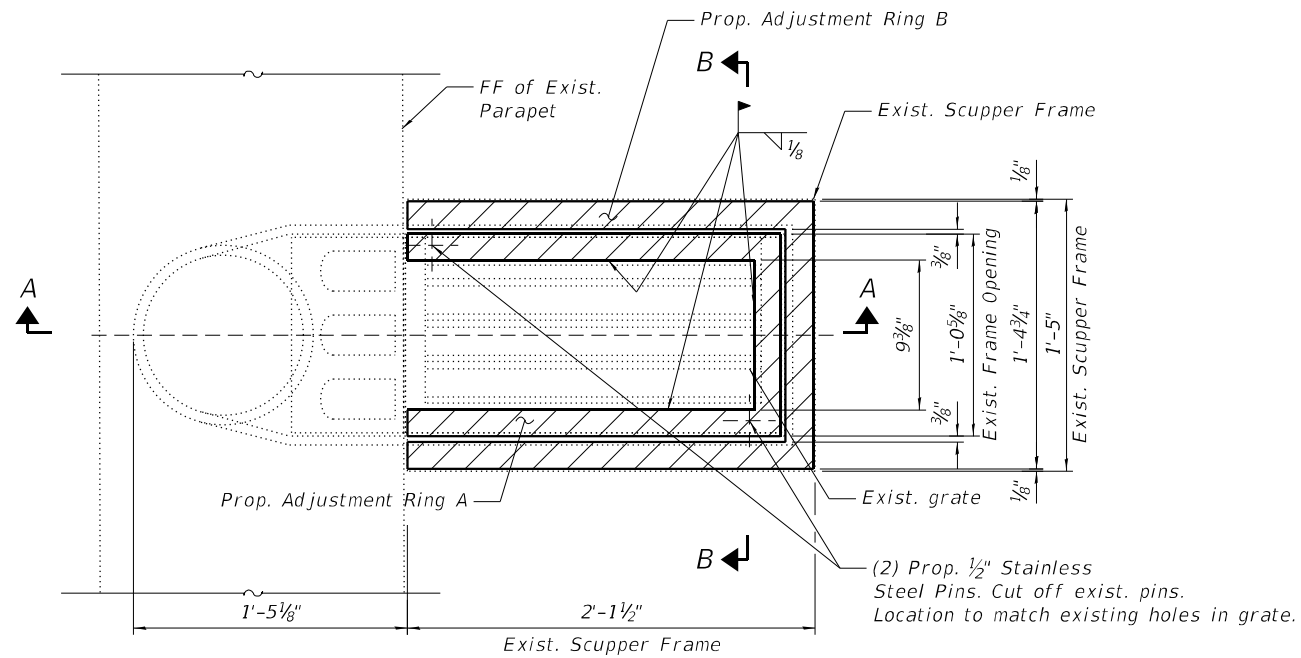
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PLOT DATE =	DRAWN - F.B.	REVISED -
	CHECKED - K.G.W.	REVISED -

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**BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0129 (REV)**

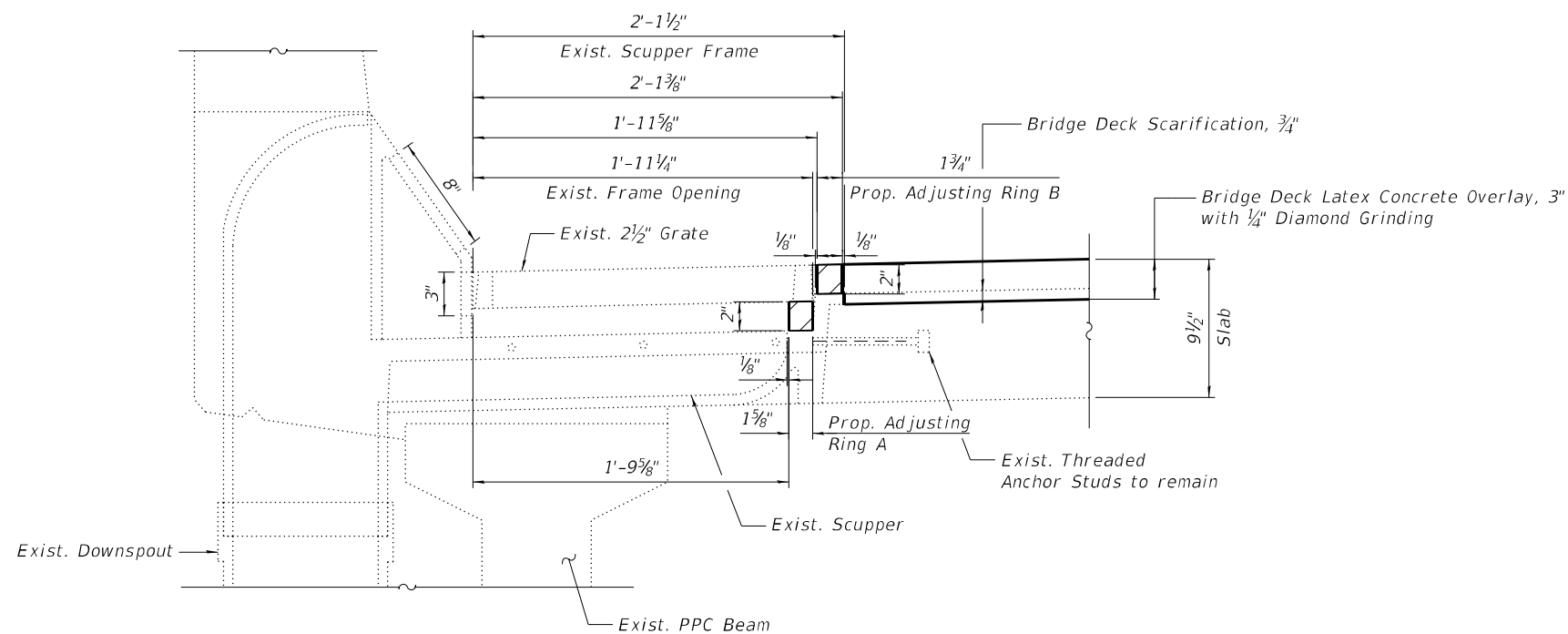
SHEET S16-03 OF S16-15 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 976
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

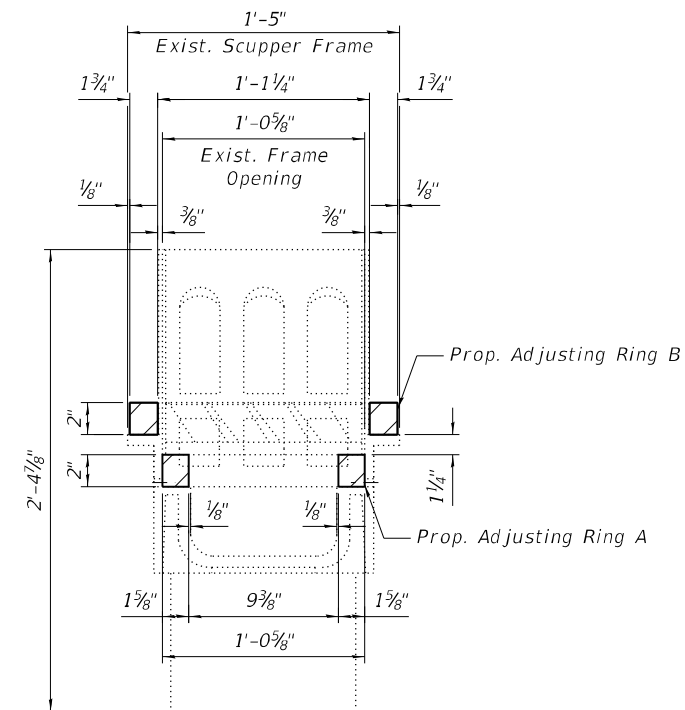


TYPICAL SCUPPER TYPE A PLAN

(2 Locations)



SECTION A-A



SECTION B-B

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Ring or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Ring shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a 1/8" Fillet Weld around perimeter of new Adjusting Ring to secure to existing Scupper.
7. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning Drainage System	L Sum	0.05
Drainage Scuppers To Be Adjusted	Each	2

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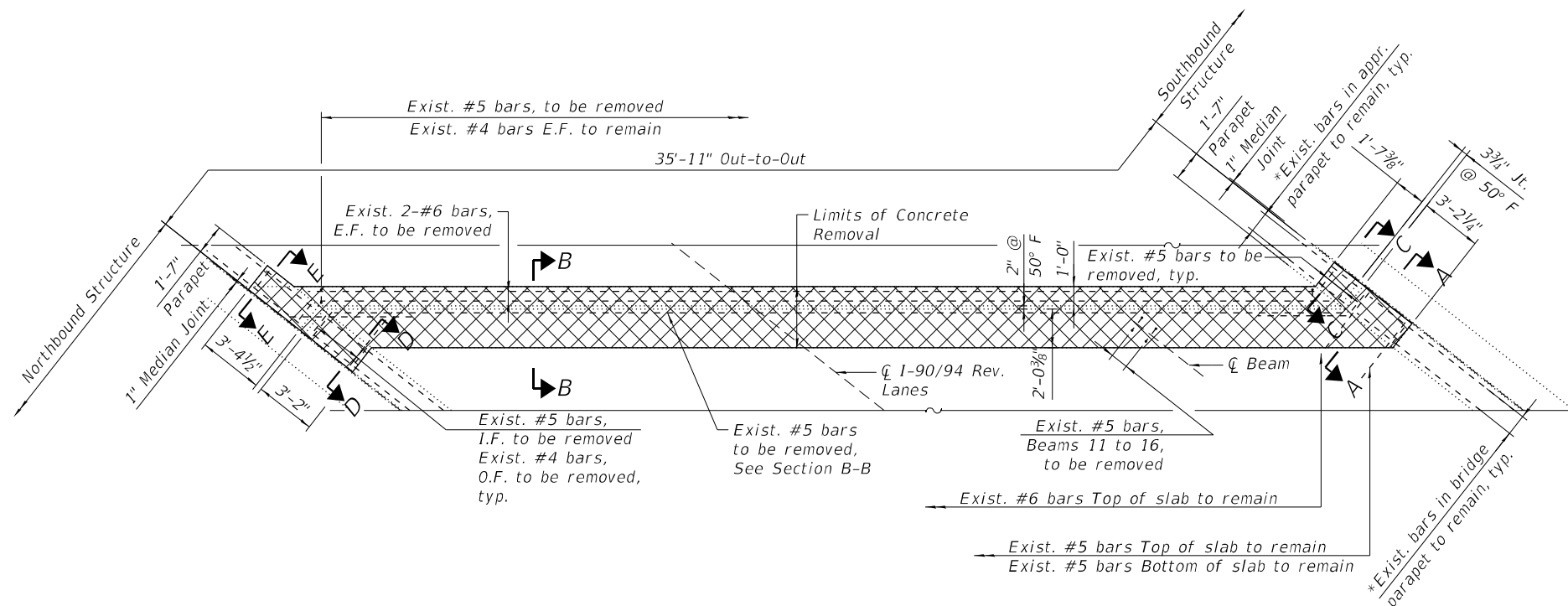
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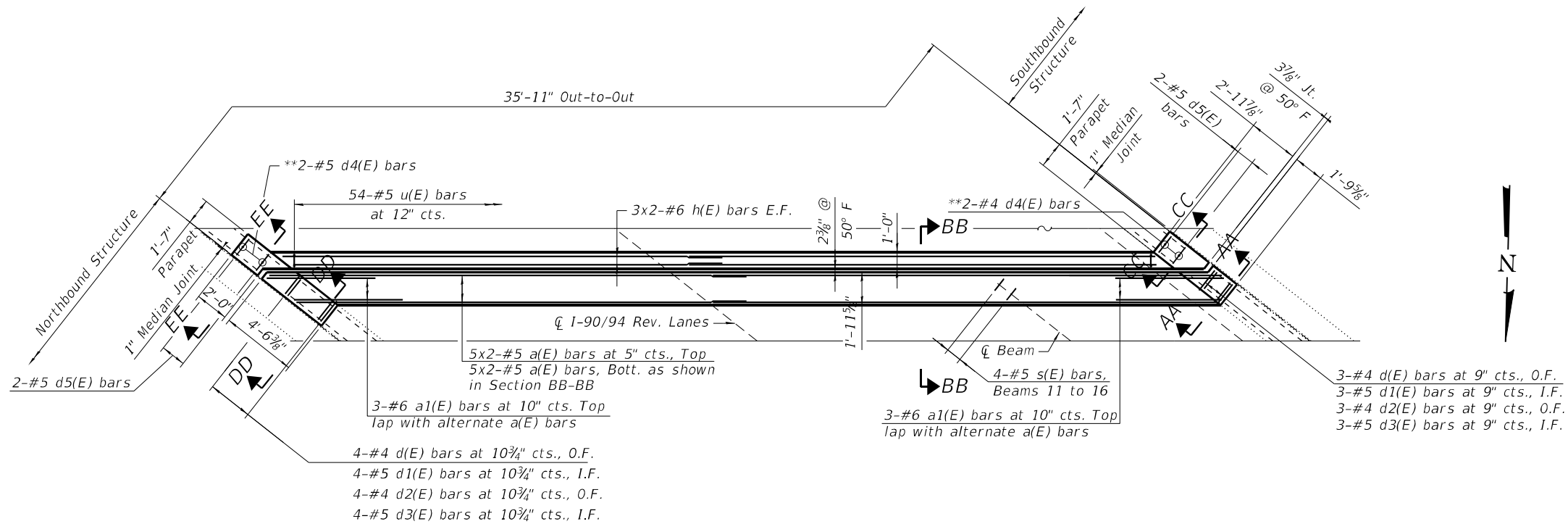
DRAINAGE SCUPPER TYPE A ADJUSTMENT DETAILS
SN 016-0129 (REV)

SHEET S16-04 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	977
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



SOUTH ABUTMENT JOINT REMOVAL PLAN



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S16-06.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S16-07.

* Existing longitudinal bars to remain in the parameters can be cut in the field as required.

** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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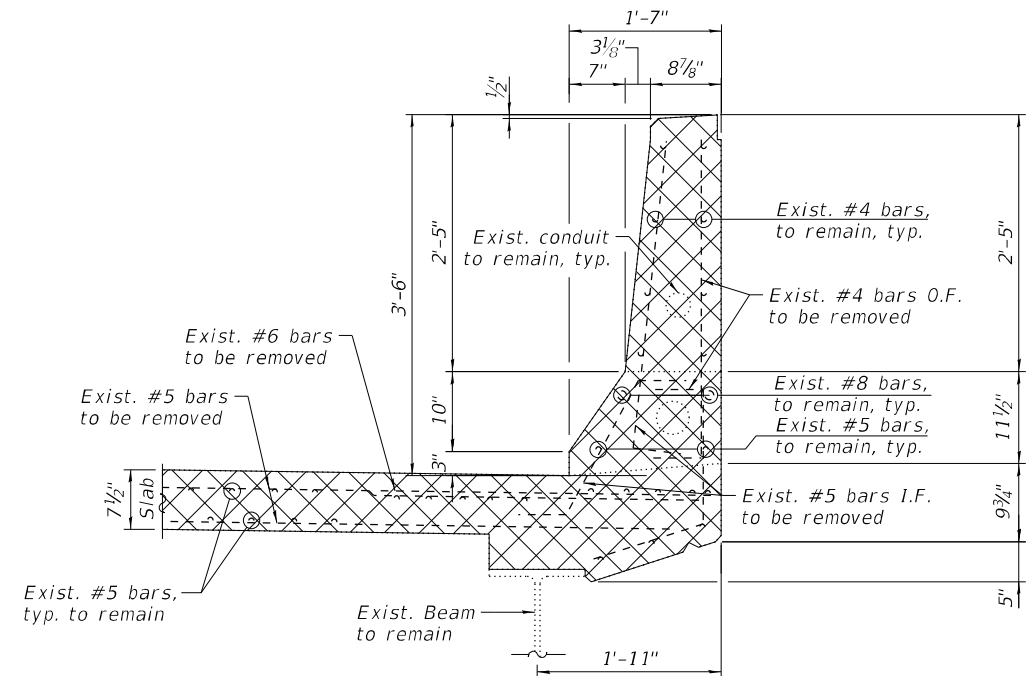
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DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0129 (REV)**

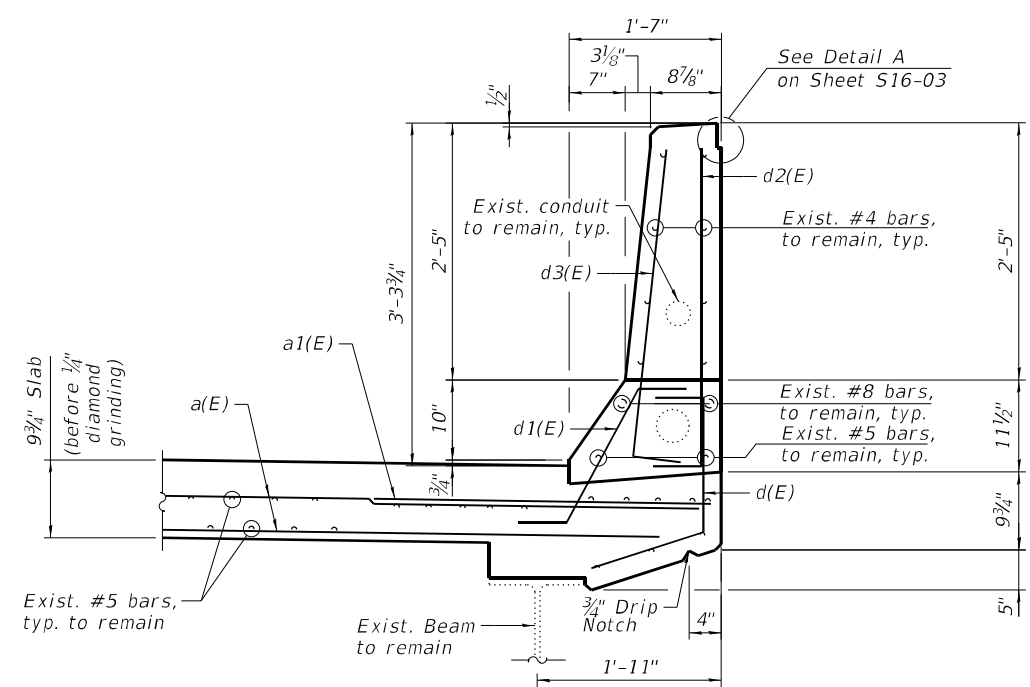
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

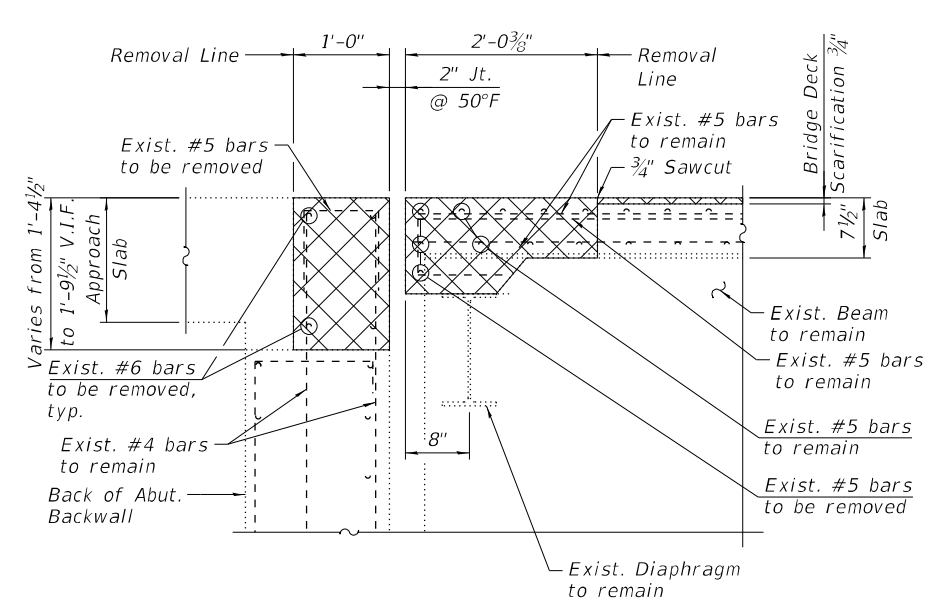
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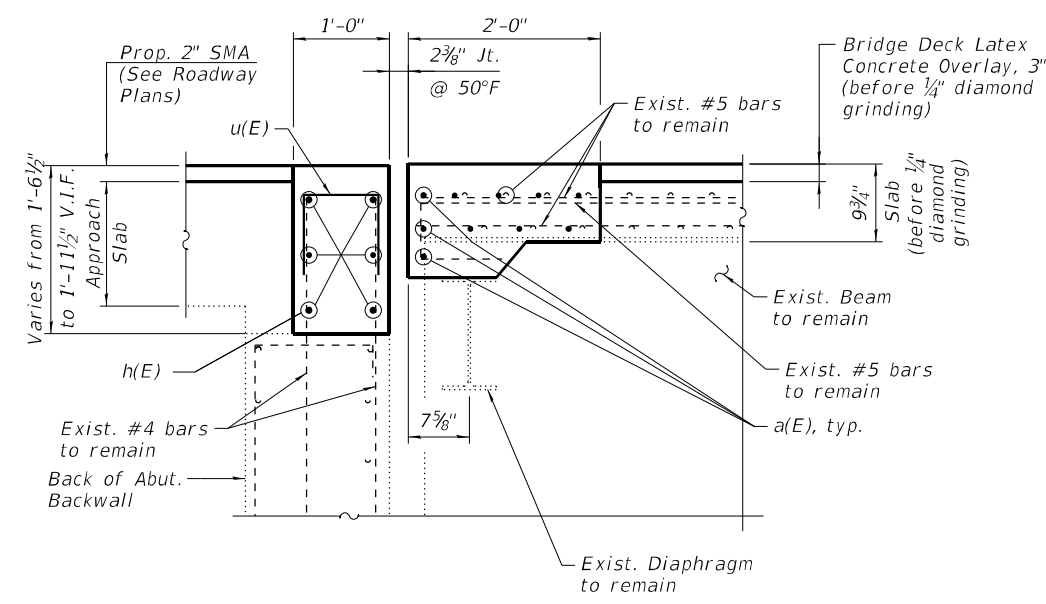
SECTION A-A
(West parapet removal)



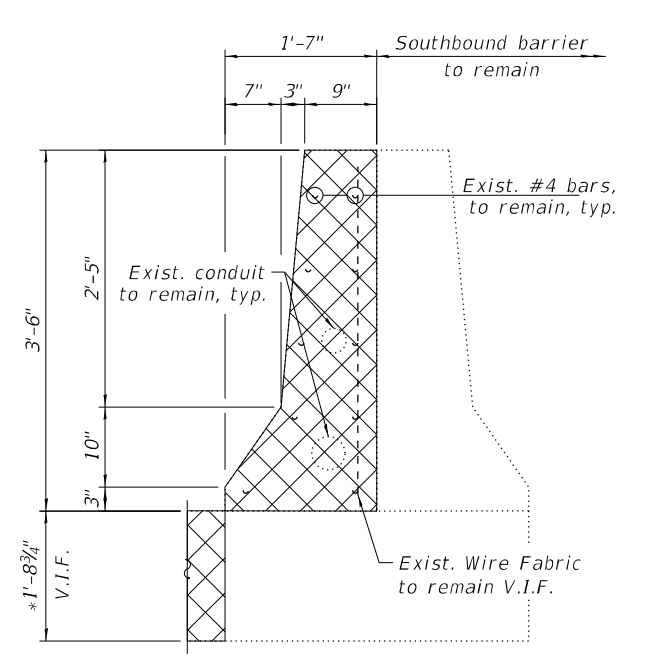
SECTION AA-AA
(West parapet reconstruction)



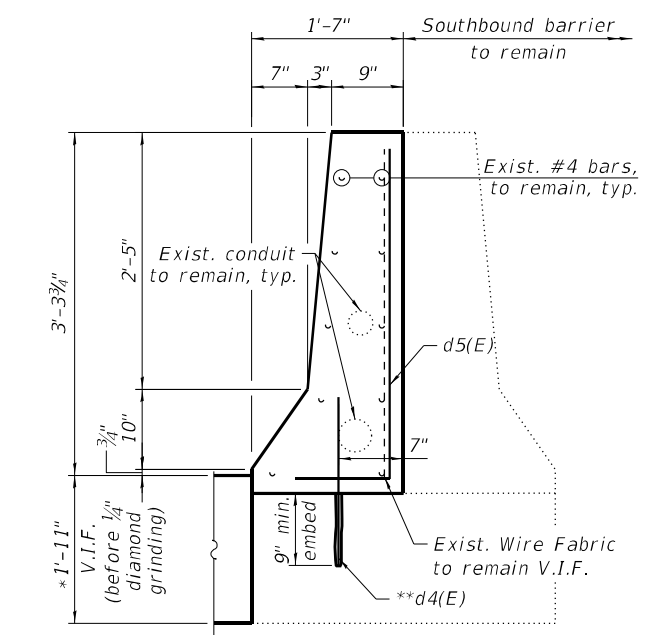
SECTION B-B



SECTION BB-BB



SECTION C-C
(West parapet removal)



SECTION CC-CC
(West parapet reconstruction)

NOTES

- For notes, see Sheet S16-07.
- * Dimension is taken at the Back of Abutment.
- ** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
V.I.F.	Verify in Field

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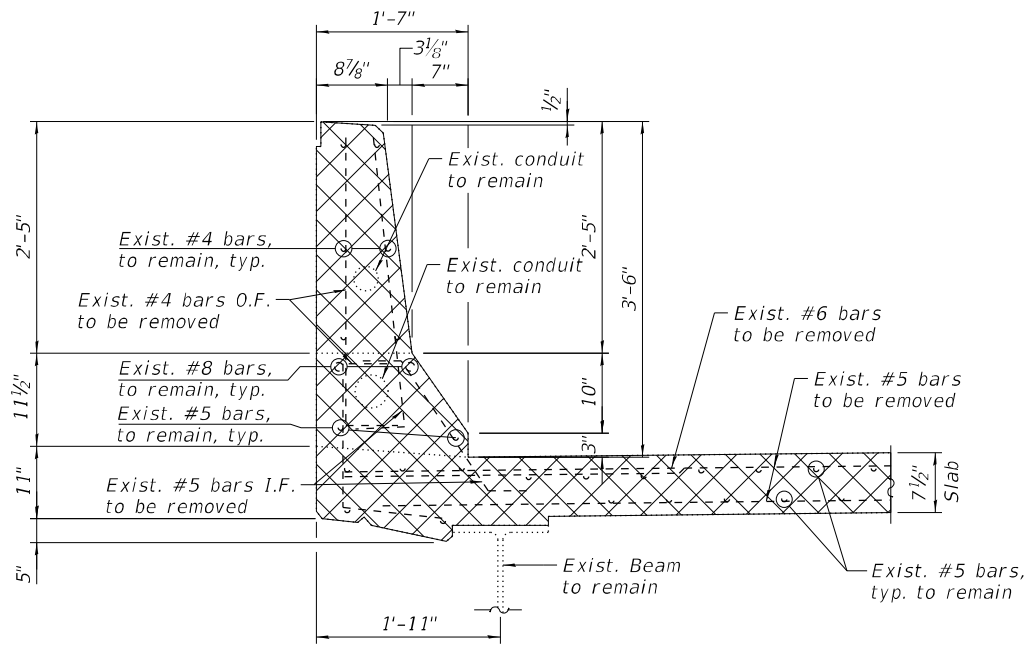
SOUTH ABUTMENT EXPANSION JOINT DETAILS II
SN 016-0129 (REV)

SHEET S16-06 OF S16-15 SHEETS

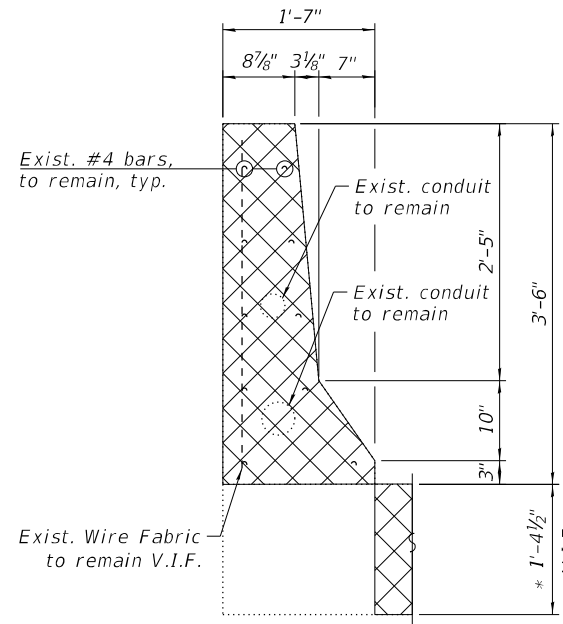
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
SOUTH ABUTMENT**

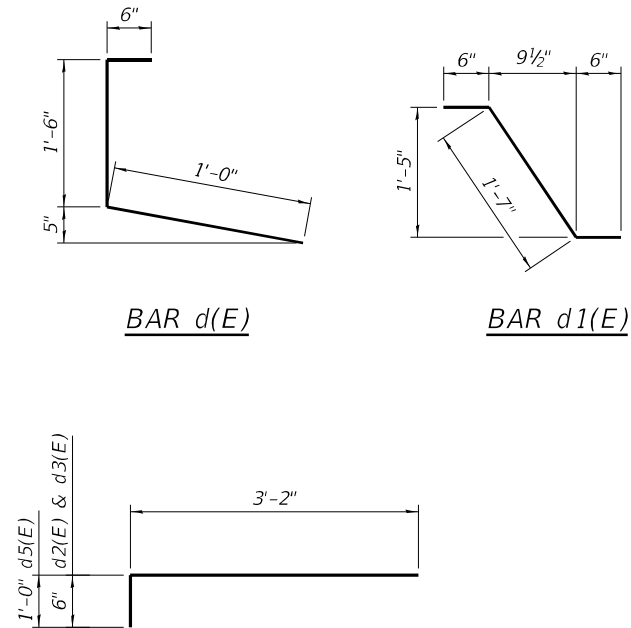
Bar	No.	Size	Length	Shape
a(E)	20	#5	30'-0"	—
a1(E)	6	#6	6'-6"	—
d(E)	7	#4	3'-0"	⌋
d1(E)	7	#5	2'-7"	⌋
d2(E)	7	#4	3'-8"	⌋
d3(E)	7	#5	3'-8"	⌋
d4(E)	4	#5	2'-4"	⌋
d5(E)	4	#5	4'-2"	⌋
h(E)	12	#6	30'-0"	—
s(E)	24	#5	3'-0"	⌋
u(E)	54	#5	2'-10"	⌋
Concrete Removal			Cu Yd	9.5
Reinforcement Bars, Epoxy Coated			Pound	1,570
Concrete Superstructure			Cu Yd	10.5



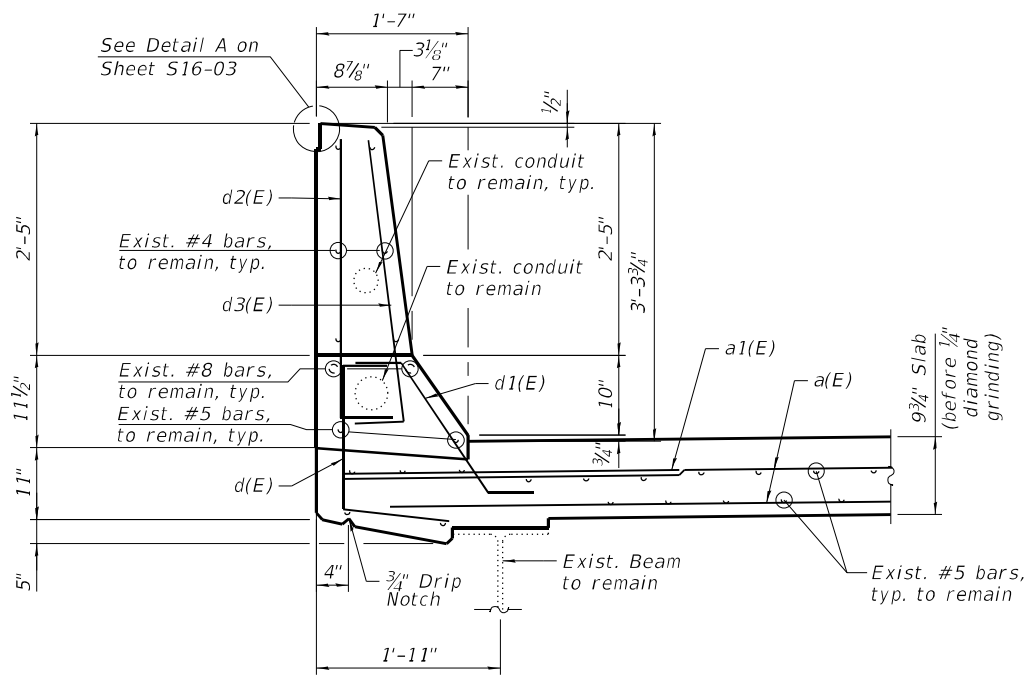
SECTION D-D
(East parapet removal)



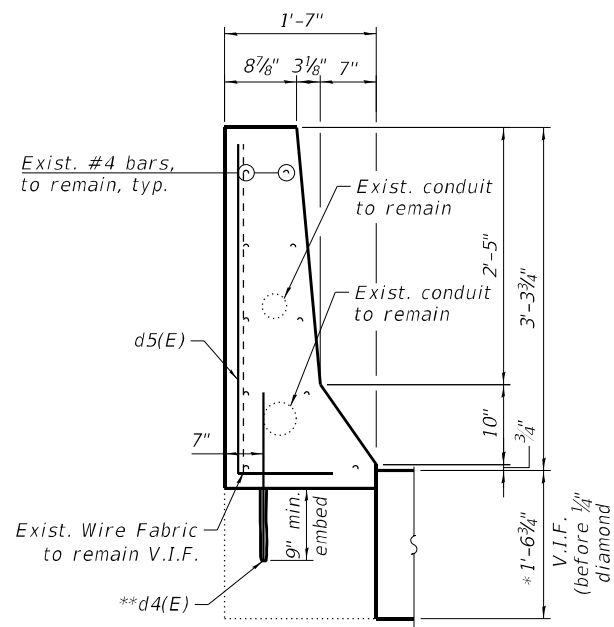
SECTION E-E
(East parapet removal)



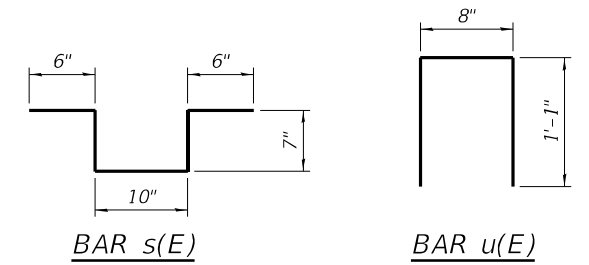
BAR d2(E), d3(E) & d5(E)



SECTION DD-DD
(East parapet reconstruction)



SECTION EE-EE
(East parapet reconstruction)



BAR s(E)

BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S16-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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**SOUTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0129 (REV)**

SHEET S16-07 OF S16-15 SHEETS

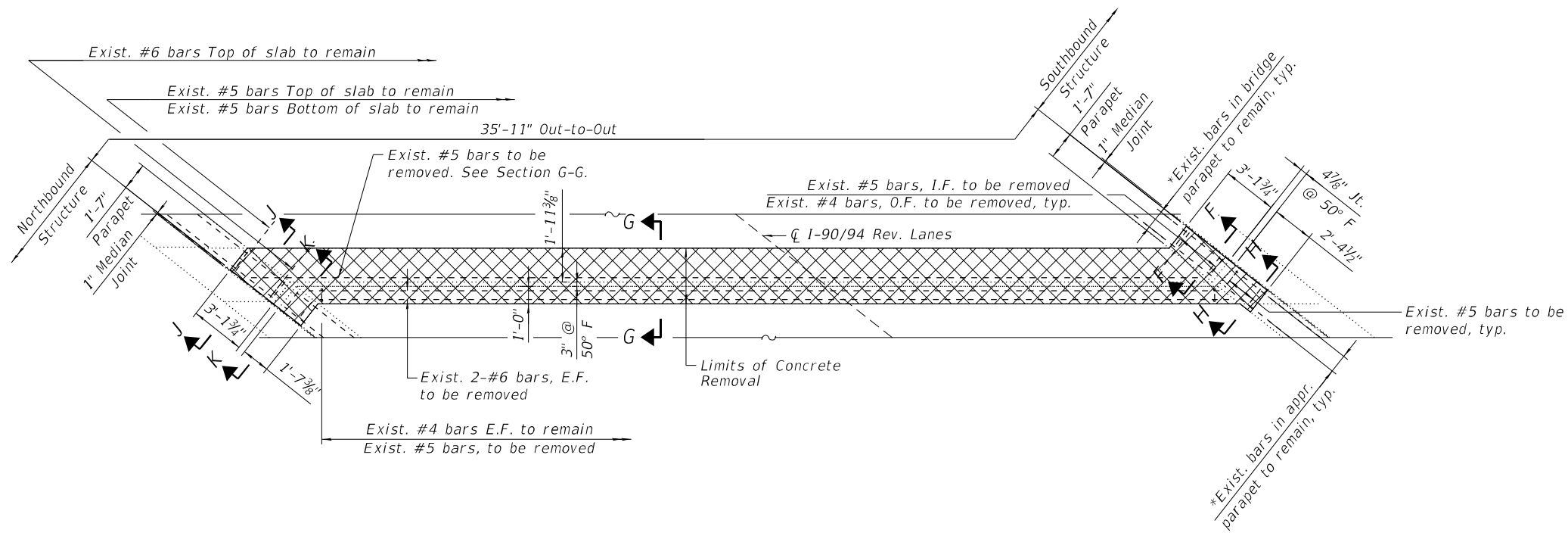
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CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

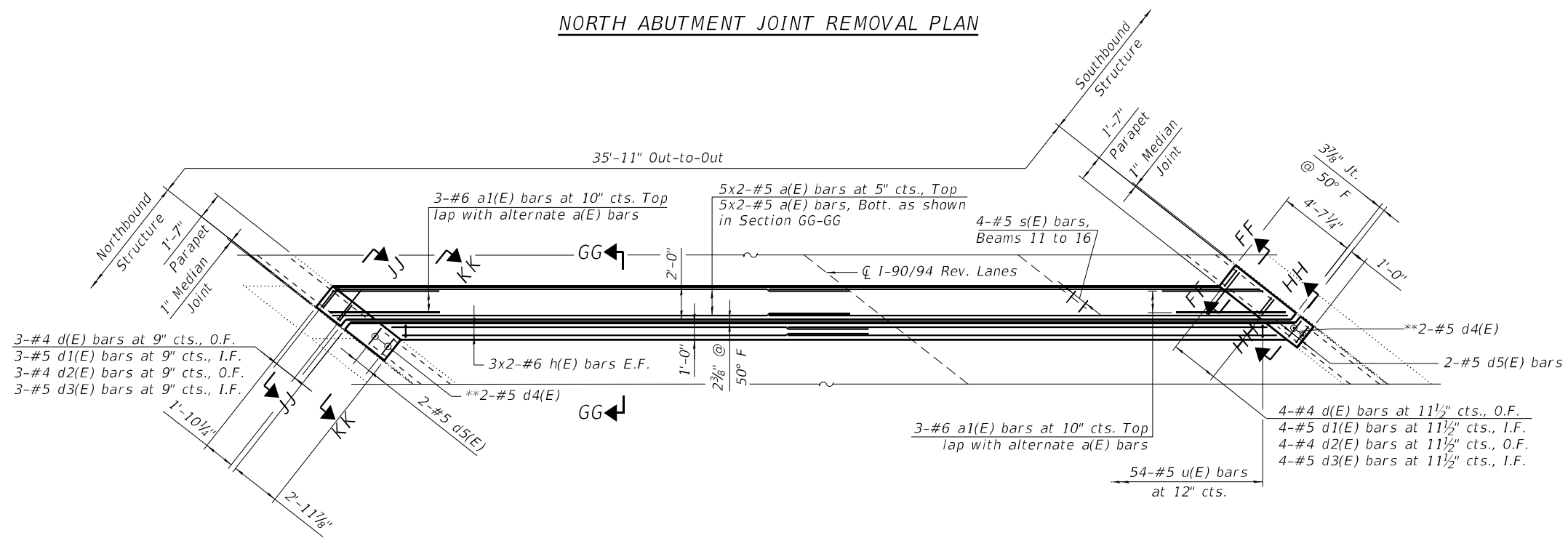
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=	H.A.	-
=	F.B.	-
=	K.G.W.	-



NORTH ABUTMENT JOINT REMOVAL PLAN



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S16-09.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S16-10.

* Existing longitudinal bars to remain in the parameters can be cut in the field as required.

** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- E.F. Each Face

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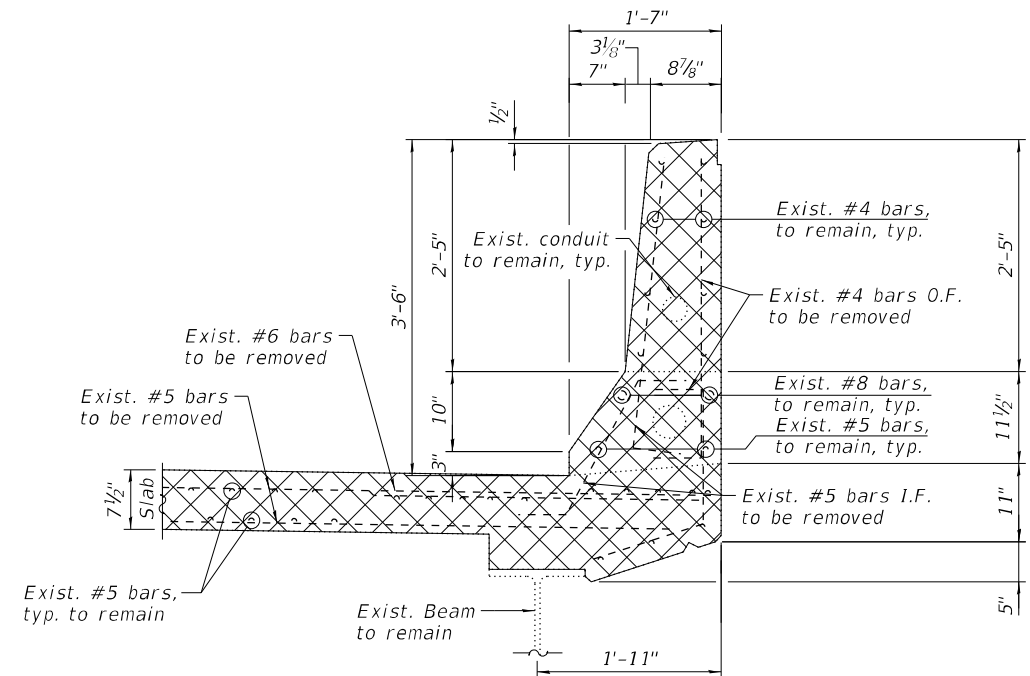
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

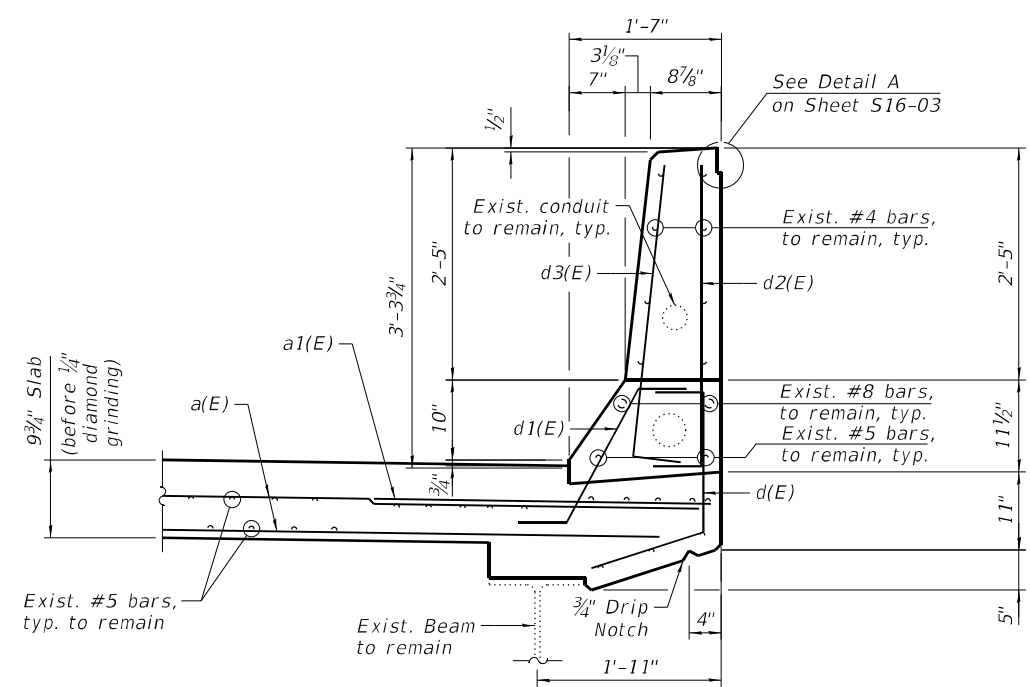
NORTH ABUTMENT EXPANSION JOINT DETAILS I
SN 016-0129 (REV)
SHEET S16-08 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	981
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

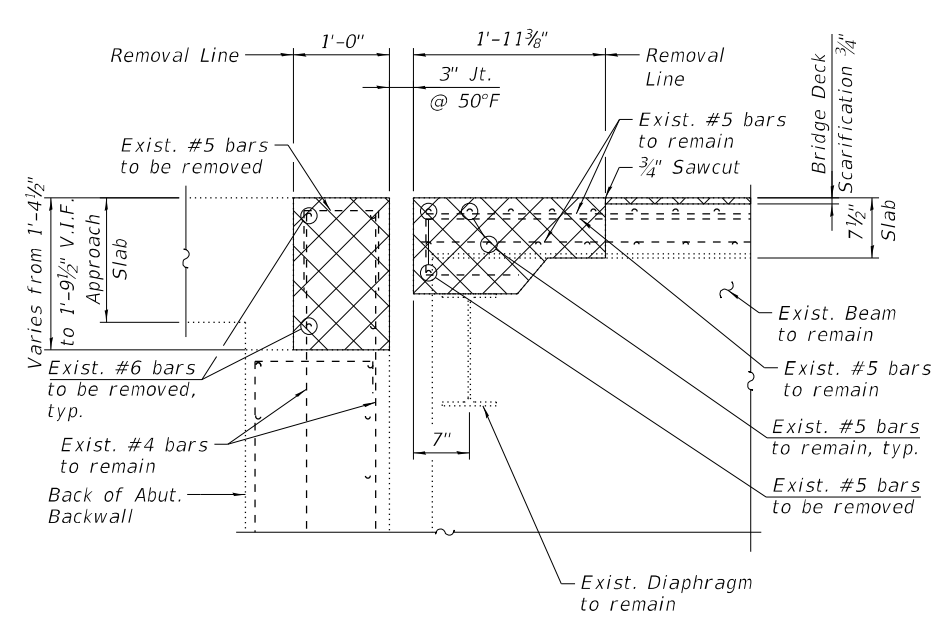
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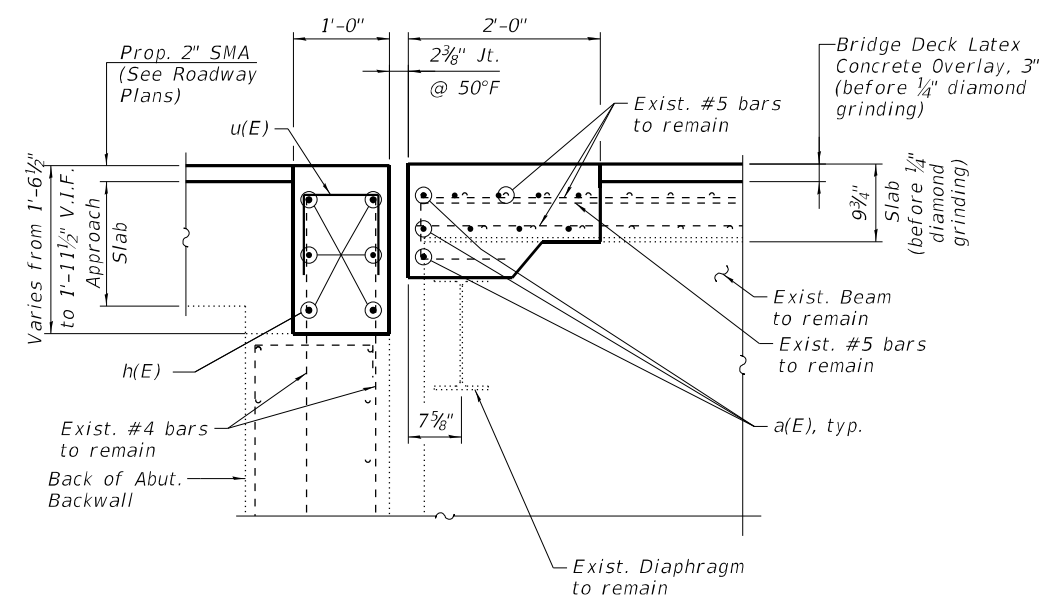
SECTION F-F
(West parapet removal)



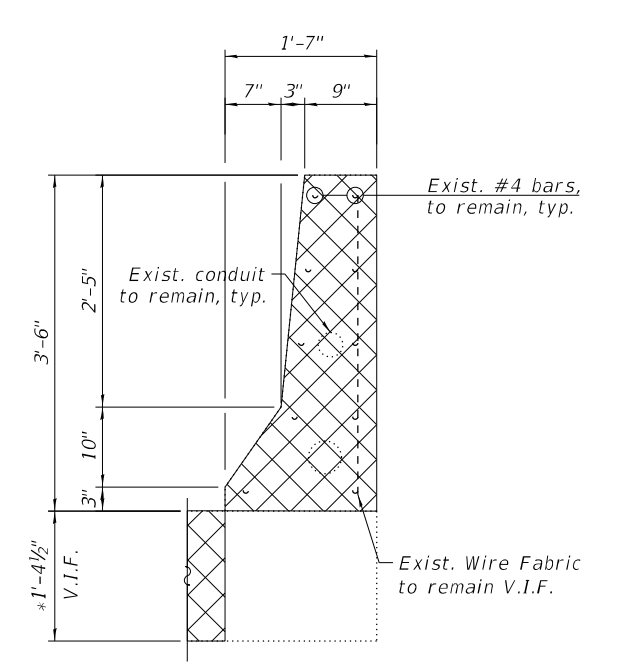
SECTION FF-FF
(West parapet reconstruction)



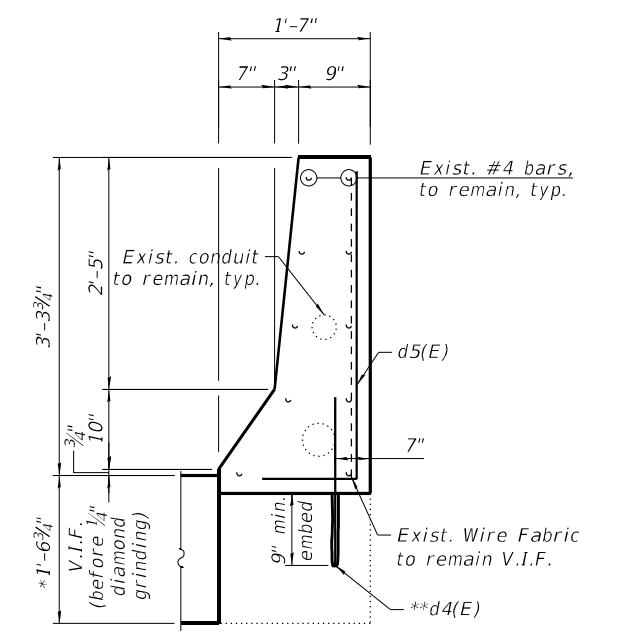
SECTION G-G



SECTION GG-GG



SECTION H-H
(West parapet removal)



SECTION HH-HH
(West parapet reconstruction)

NOTES

- For notes, see Sheet S16-10.
- Dimension is taken at the Back of Abut.
- Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

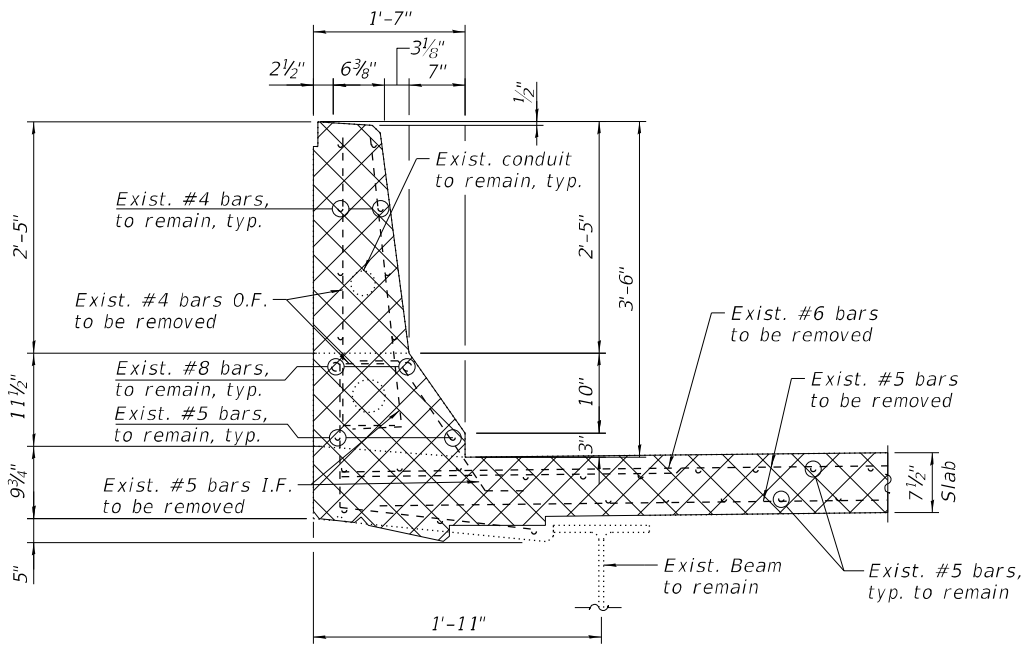
	Concrete Removal
I.F.	Inside Face
O.F.	Outside Face
V.I.F.	Verify in Field

USER NAME =	DESIGNED - F.B.	REVISED -
PLOT SCALE =	CHECKED - H.A.	REVISED -
PLOT DATE =	DRAWN - F.B.	REVISED -
	CHECKED - K.G.W.	REVISED -

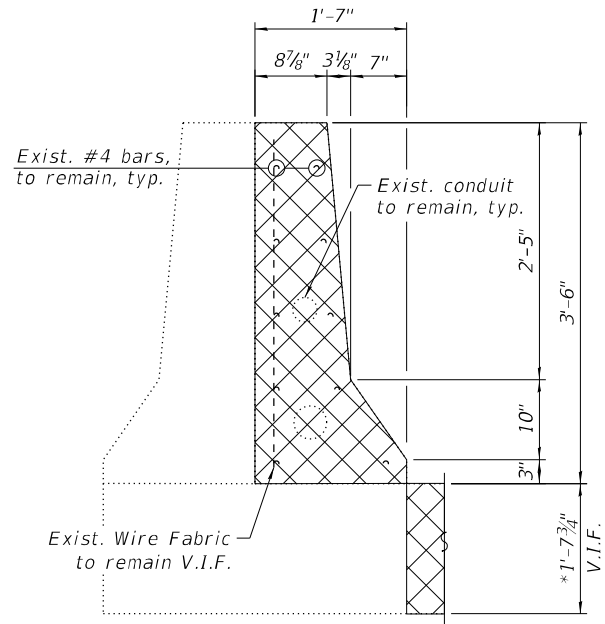
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	982
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL
NORTH ABUTMENT**

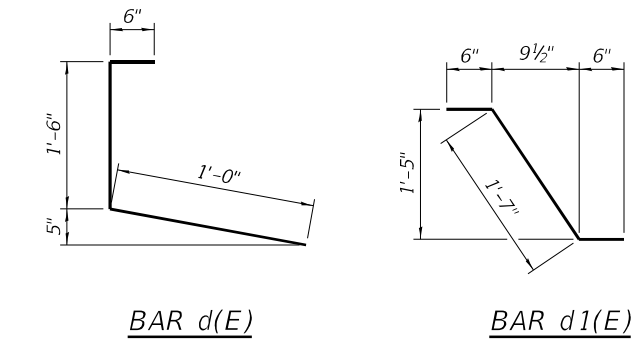
Bar	No.	Size	Length	Shape
a(E)	20	#5	30'-0"	—
a1(E)	6	#6	6'-6"	—
d(E)	7	#4	3'-0"	⌋
d1(E)	7	#5	2'-7"	⌋
d2(E)	7	#4	3'-8"	⌋
d3(E)	7	#5	3'-8"	⌋
d4(E)	4	#5	2'-4"	⌋
d5(E)	4	#5	4'-2"	⌋
h(E)	12	#6	30'-0"	—
s(E)	24	#5	3'-0"	⌋
u(E)	54	#5	2'-10"	⌋
Concrete Removal			Cu Yd	8.9
Reinforcement Bars, Epoxy Coated			Pound	1,570
Concrete Superstructure			Cu Yd	10.1



SECTION J-J
(East parapet removal)

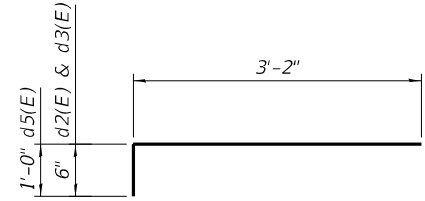


SECTION K-K
(East parapet removal)

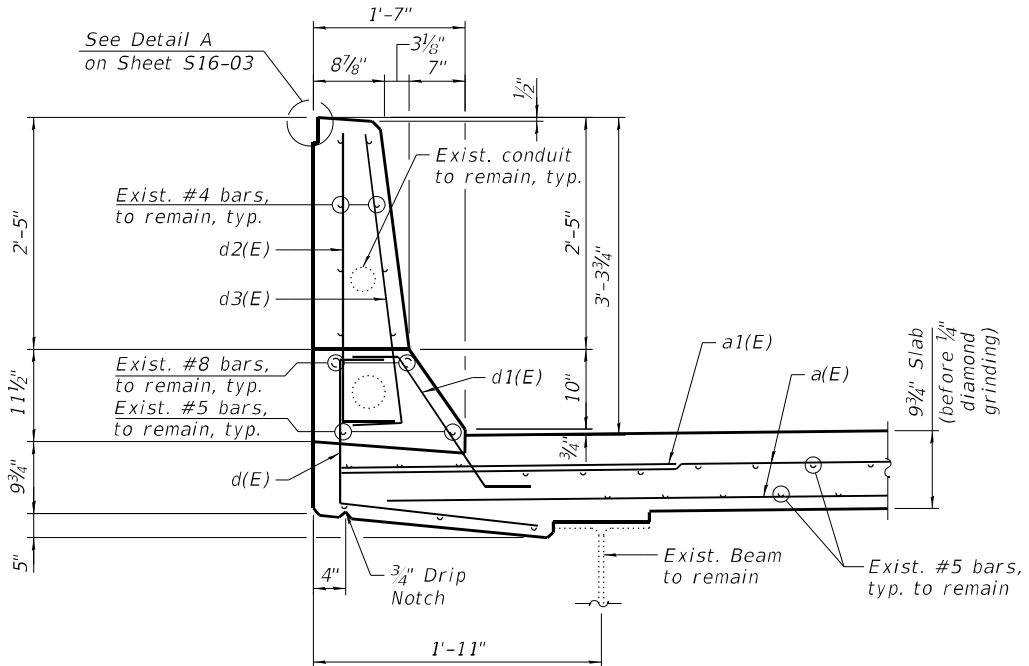


BAR d(E)

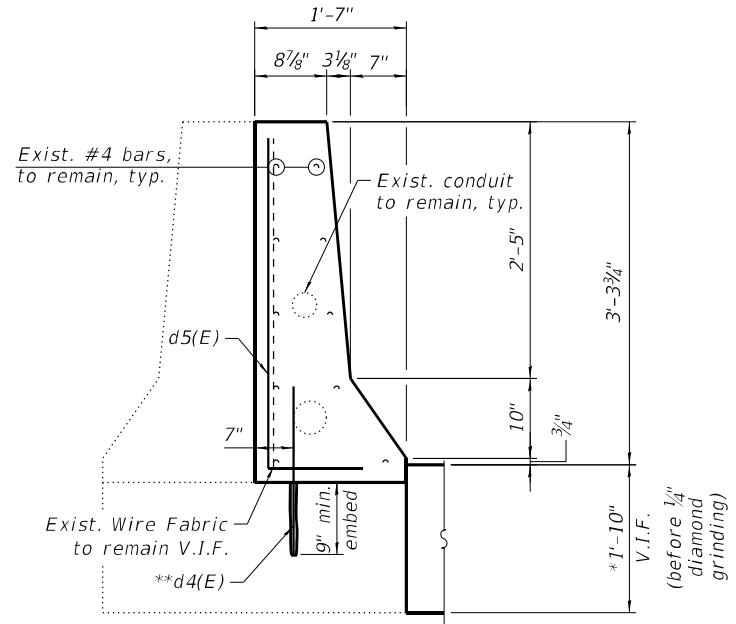
BAR d1(E)



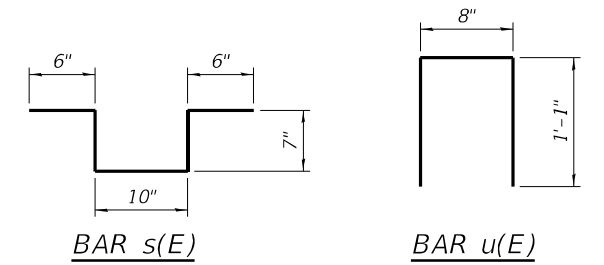
BAR d2(E), d3(E) & d5(E)



SECTION JJ-JJ
(East parapet reconstruction)



SECTION KK-KK
(East parapet reconstruction)



BAR s(E)

BAR u(E)

NOTES:

- For Preformed Joint Strip Seal details, see sheet S16-11.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

- Concrete Removal
- I.F. Inside Face
- O.F. Outside Face
- V.I.F. Verify in Field

MIN BAR LAPS

- #5 3'-6"
- #6 4'-0"

* Dimension is taken at the Back of Abutment
 ** Epoxy grout #5 d4(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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PLOT DATE =	DRAWN - F.B.	REVISED -
	CHECKED - K.G.W.	REVISED -

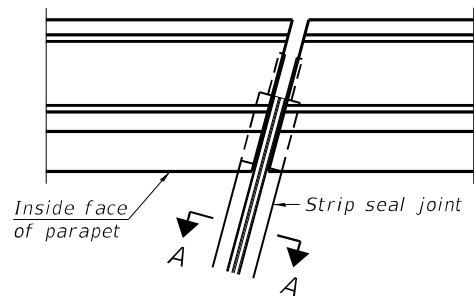
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT EXPANSION JOINT DETAILS III
SN 016-0129 (REV)**

SHEET S16-10 OF S16-15 SHEETS

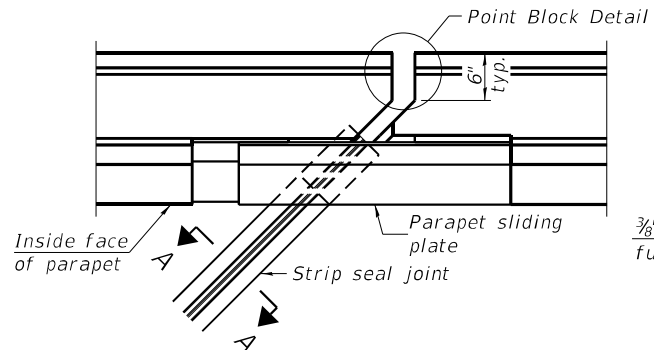
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			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

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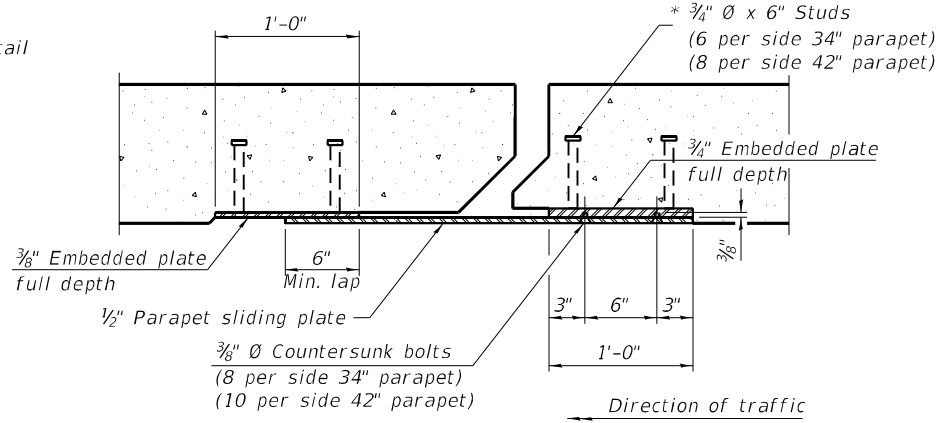


FOR SKEWS $\leq 30^\circ$

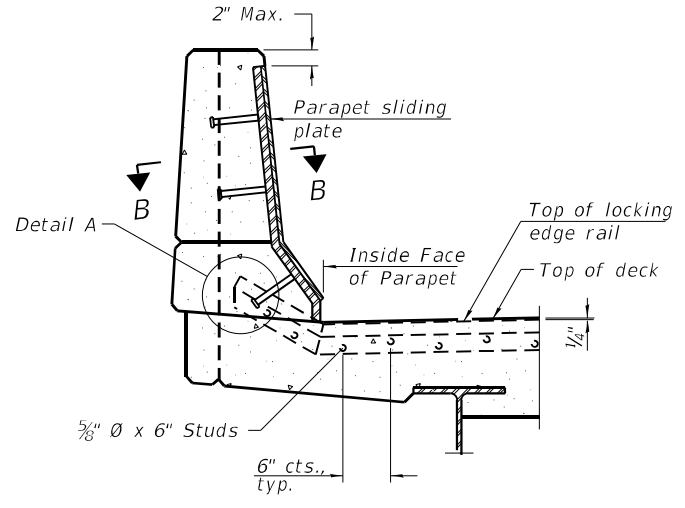
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

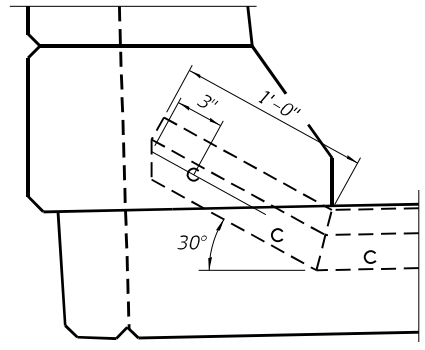


SECTION B-B

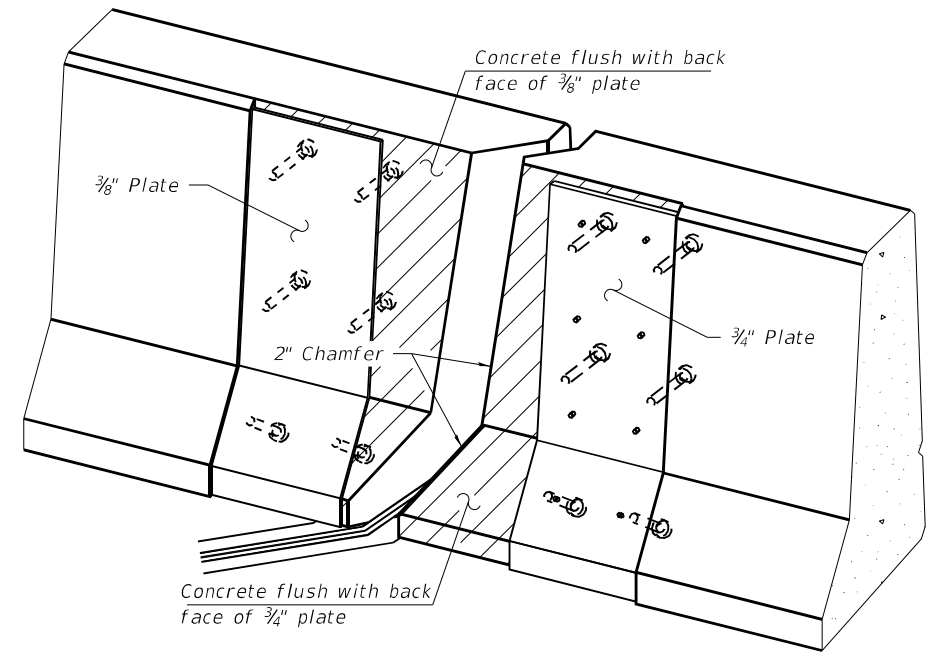


ELEVATION AT PARAPET

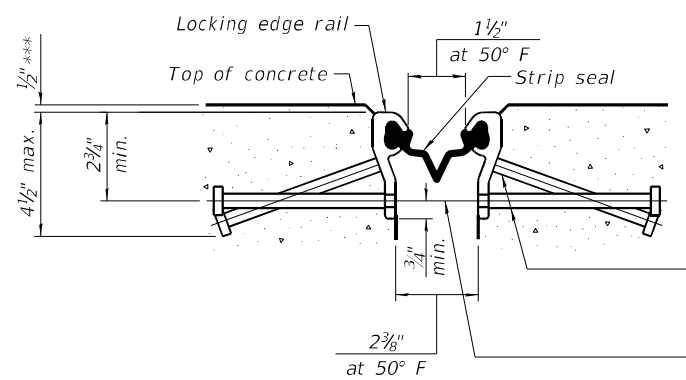
(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)



DETAIL A

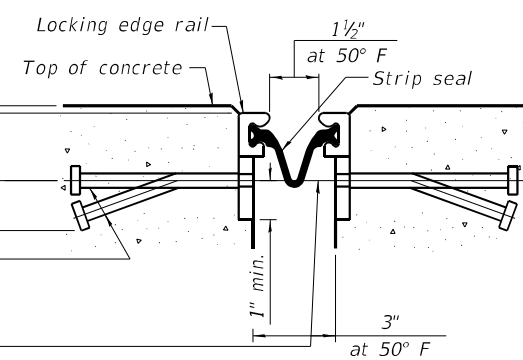


TRIMETRIC VIEW
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

* $\frac{3}{8}$ " ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 $\frac{3}{8}$ " ϕ threaded rods in $\frac{1}{16}$ " ϕ holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

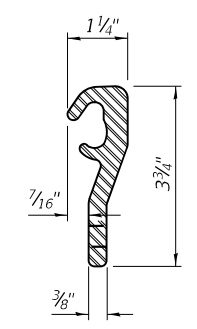


SHOWING WELDED RAIL JOINT

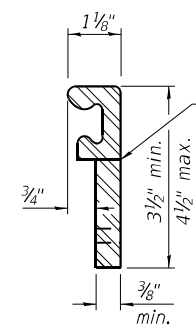
SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

*** Before $\frac{1}{4}$ " Diamond Grinding.



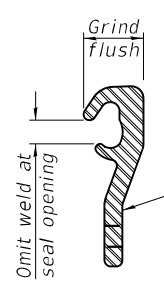
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

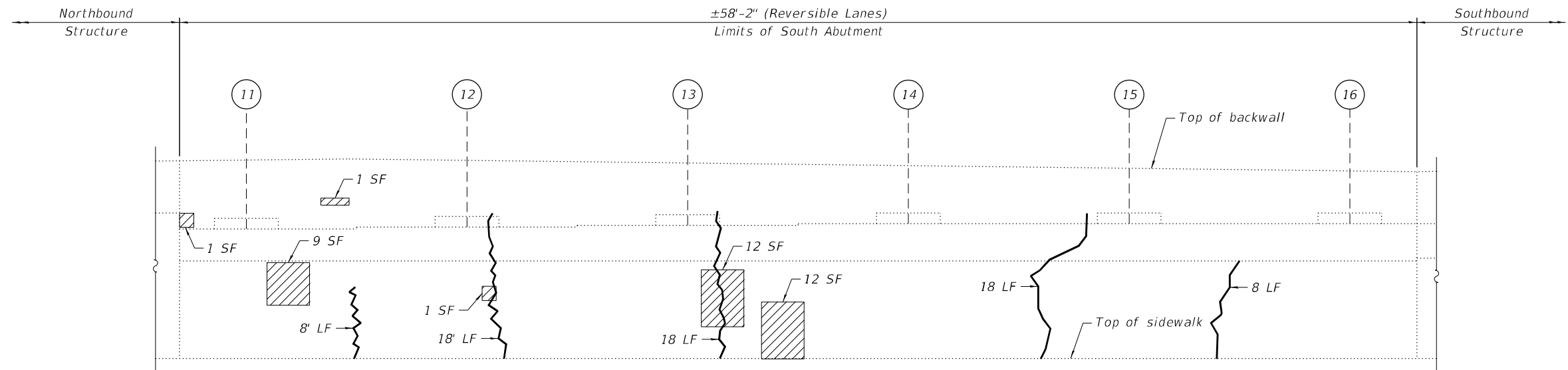
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	110

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PLOT SCALE =	CHECKED -	H.A.	REVISED -
PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	984
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



ELEVATION - SOUTH ABUTMENT
(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5 Inches)
- 6' LF Epoxy Crack Injection (Width > 0.06")
- SF Square Foot
- LF Linear Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	310
Epoxy Crack Injection	Foot	70
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	36

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GRāEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

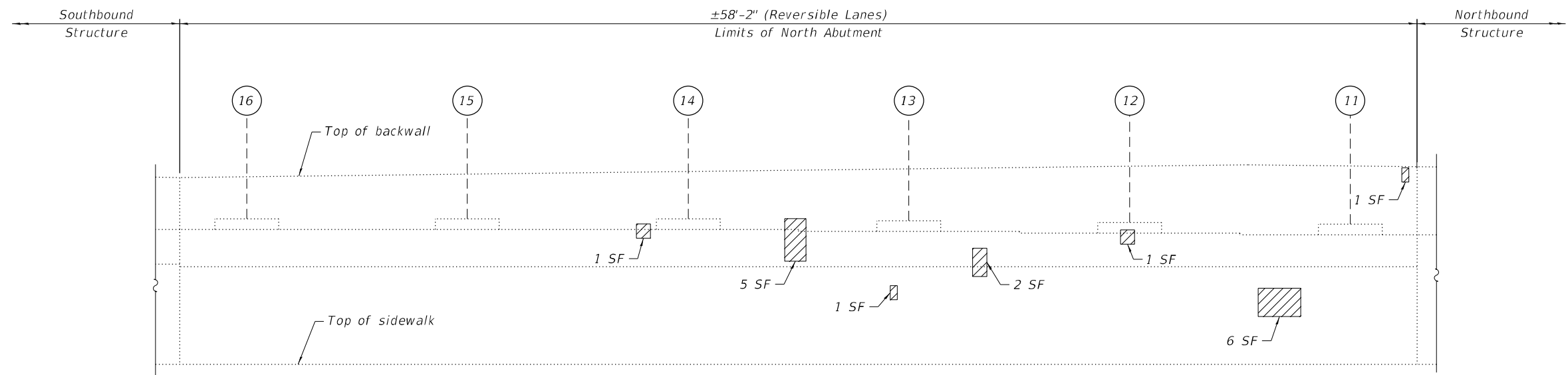
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PLOT DATE =	CHECKED - K.G.W.	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT REPAIRS
SN 016-0129 (REV)**

SHEET S16-12 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	985
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	



ELEVATION - NORTH ABUTMENT
(Looking North)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	310
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	17

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Chicago, Illinois 60631; (773) 399-0112

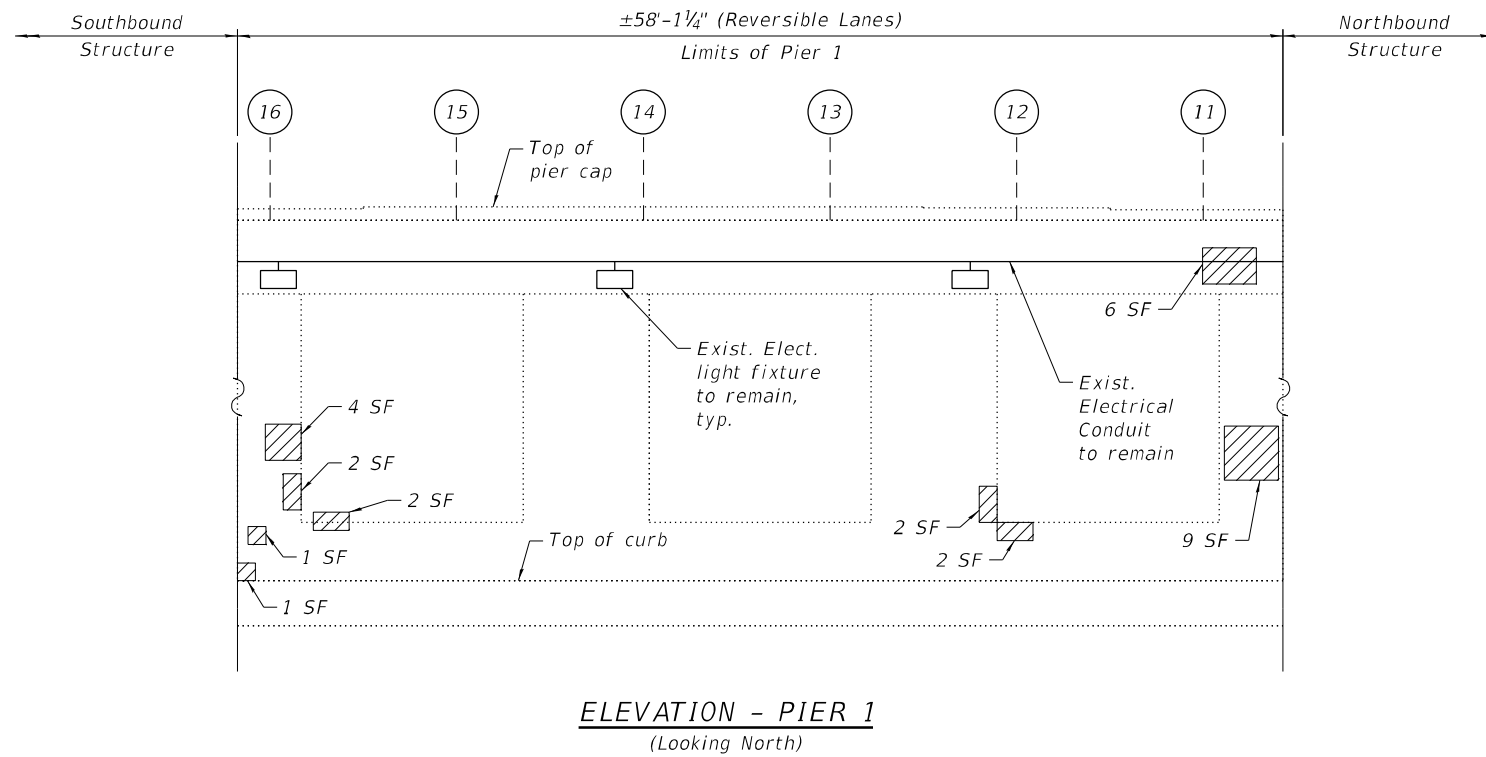
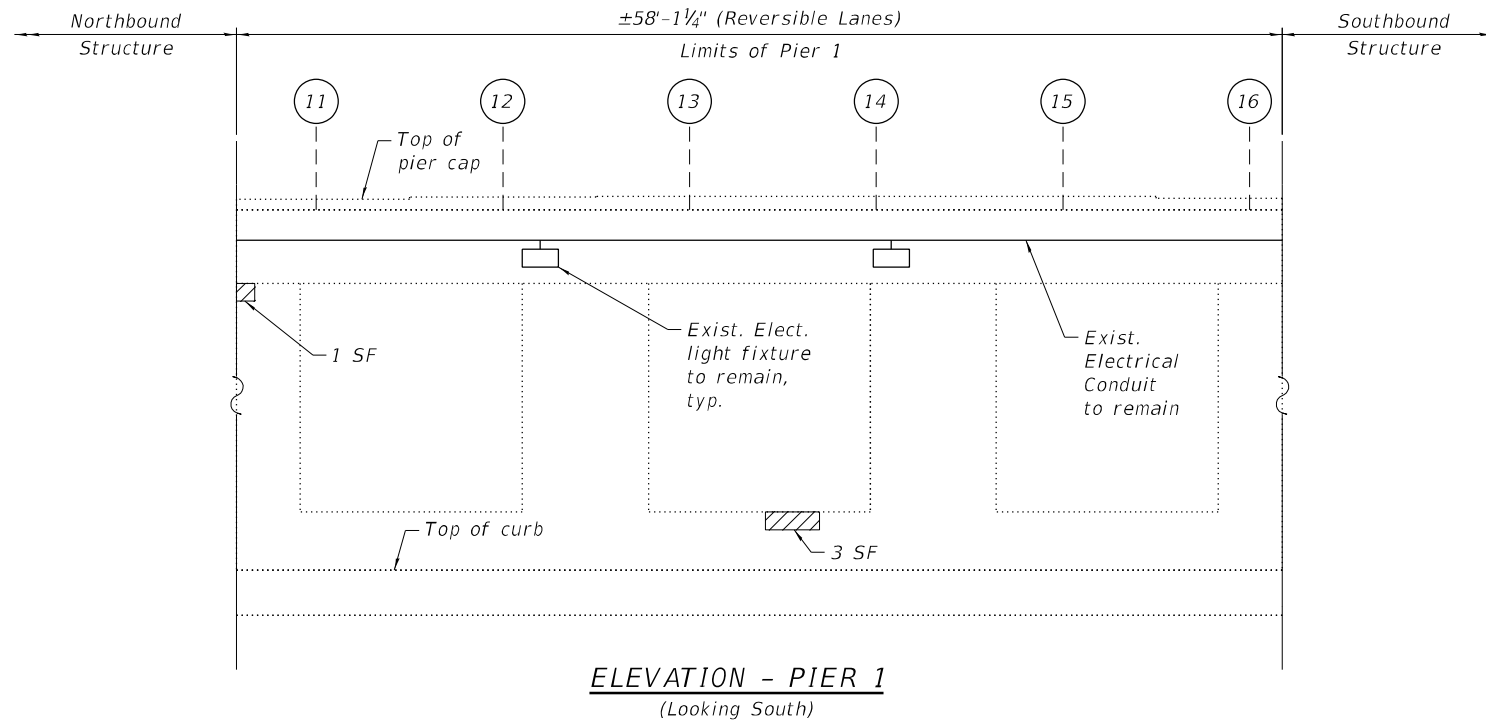
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT REPAIRS
SN 016-0129 (REV)**

SHEET S16-13 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	986
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



EXISTING LIGHTING: PIER 1
(Looking Southeast)



EXISTING LIGHTING: PIER 1
(Looking Northwest)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	33

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GRÄEF
8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

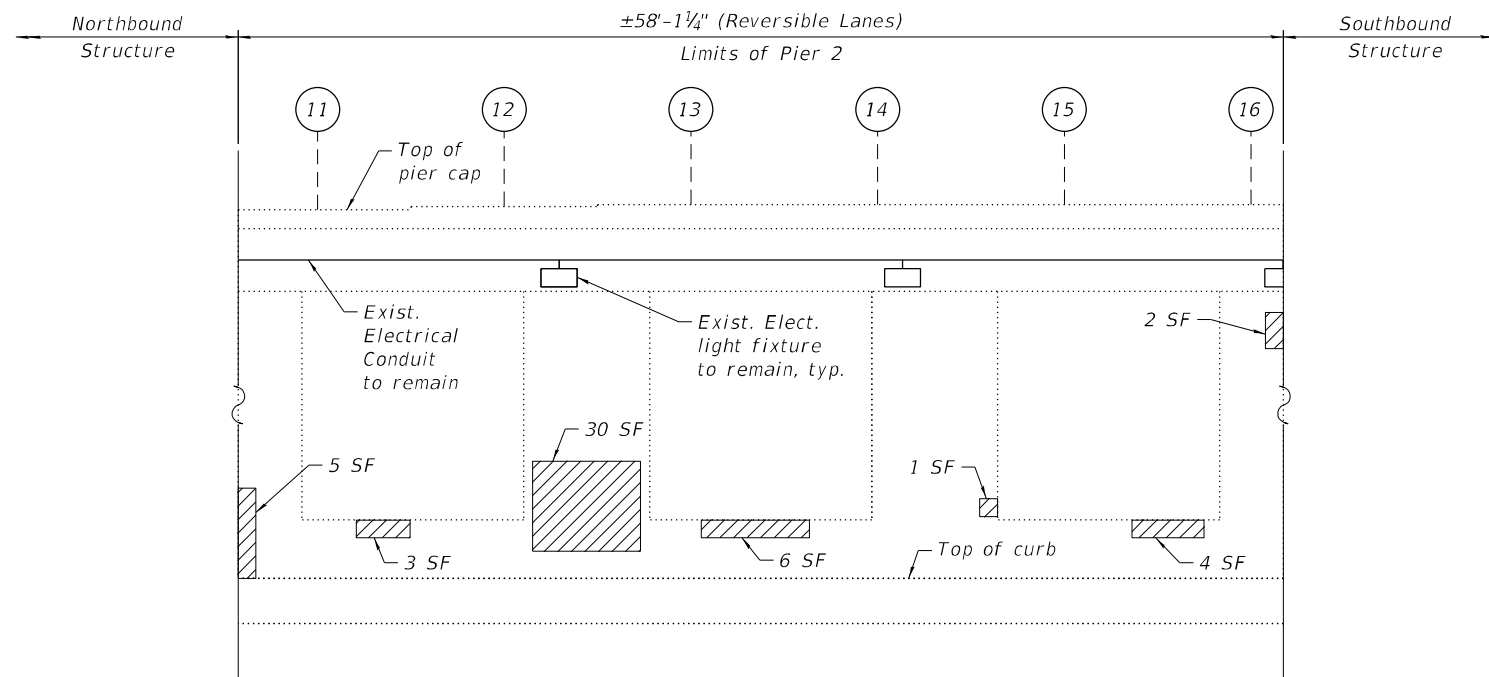
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

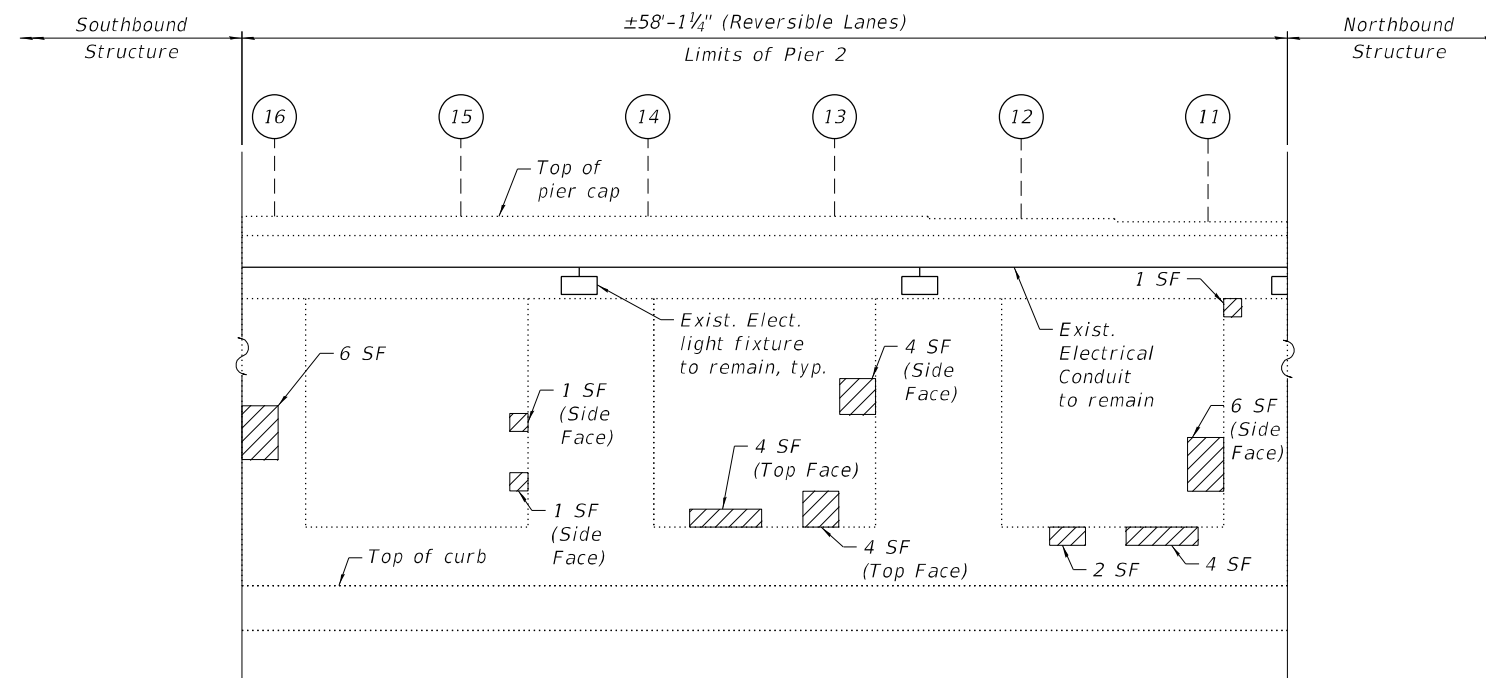
PIER 1 REPAIRS
SN 016-0129 (REV)

SHEET S16-14 OF S16-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	987
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



ELEVATION - PIER 2
(Looking South)



ELEVATION - PIER 2
(Looking North)



EXISTING LIGHTING: PIER 2
(Looking Southeast)



EXISTING LIGHTING: PIER 2
(Looking Northwest)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	84

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PLOT SCALE =	DRAWN - D.C.P.	REVISED -
PLOT DATE =	CHECKED - K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	988
CONTRACT NO. 62K74				

Existing Structure: S.N. 016-0128 was originally built in 1957 and reconstructed in 1990. The structure has a back-to-back abutment length of 268'-7½" and an out-to-out deck width that varies from 71'-0½" to 76'-10½". The superstructure consists of a 7½" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 79'-7", 102'-8" and 79'-7". The substructure consists of reinforced concrete abutments on piles and multi-column piers on caissons.

Traffic is to be maintained utilizing stage construction.

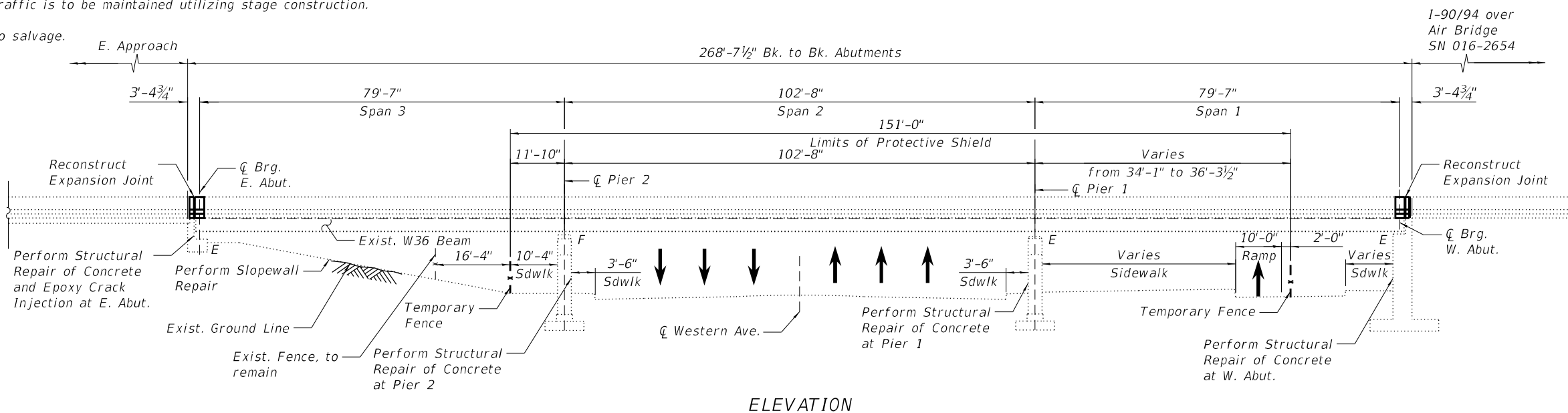
No salvage.

DESIGN SPECIFICATION

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

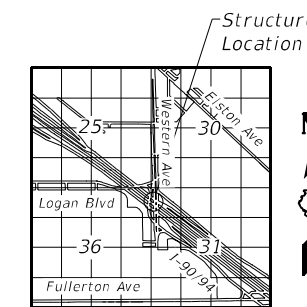
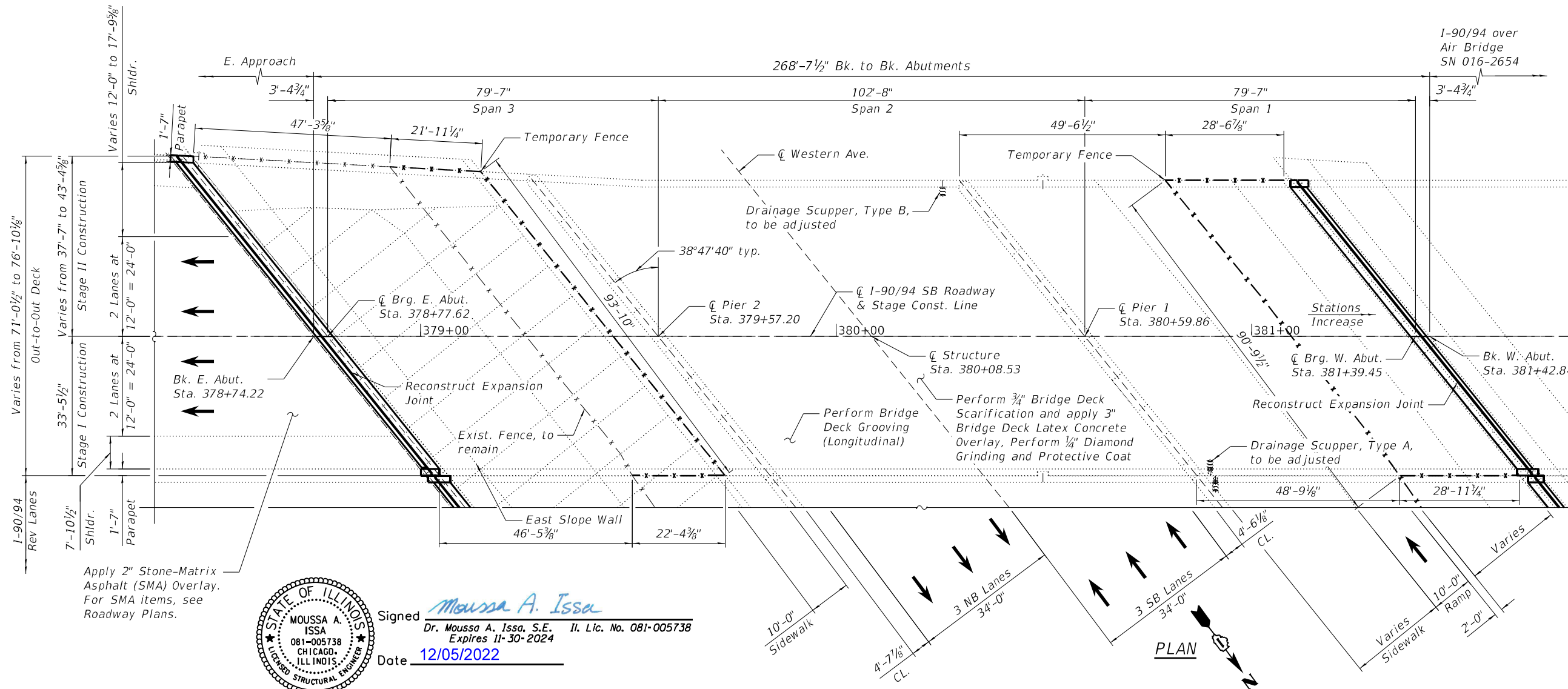
RECONSTRUCTION 1990

AASHTO (1983) with 1984 & 1988 Interim Specifications



NOTES:

- All stations are to the C I-90/94 SB Roadway and taken from existing plans.
- No Future Wearing Surface is allowed.



**GENERAL PLAN AND ELEVATION
SB I-90/94
OVER WESTERN AVE
F.A.I. ROUTE 90/94
SECTION 2020-004-BR
COOK COUNTY
STATION 380+08.53
S.N. 016-0128 (SB)**



Signed Moussa A. Issa
 Dr. Moussa A. Issa, S.E.
 Expires 11-30-2024
 Il. Lic. No. 081-005738
 Date 12/05/2022

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0128 (SB)

SHEET S17-01 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	989
			CONTRACT NO. 62K74	

ILLINOIS FED. AID PROJECT

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HBM
ENGINEERING GROUP, LLC

USER NAME =	DESIGNED - LAB, HMI	REVISIONS -
PLOT SCALE =	CHECKED - MI	REVISIONS -
PLOT DATE =	DRAWN - HMI	REVISIONS -
	DATE - 12/5/2022	REVISIONS -

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. 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.
3. Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
4. All exposed concrete edges shall have a 3/4"x45° chamfer except where shown otherwise.
5. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.
6. For SMA overlay on Approach Slab, see Roadway Sheets.
7. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside faces of parapets, and top of Latex Concrete Overlay.
8. Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.
9. Prior to pouring the new concrete deck for expansion joint reconstruction and deck slab repairs, 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" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. 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.
10. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
11. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
12. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
13. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
14. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
15. The Contractor is responsible to protect the existing conduit embedded in the parapet during concrete removal and construction. Any damage to the existing conduit shall be repaired by the Contractor at no additional cost to the Department.
16. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to ride above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
17. Any adjustment done to the Protective Shield System must not change the load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
18. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
19. The intent of the temporary fence is to deny access of any unauthorized personnel under the bridge during construction. Actual fence installations may vary from what is shown on the plans. All fence installations must be approved by the Engineer.
20. Concrete Sealer shall be applied to the designated areas of abutments.
21. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleanings included in the cost of Concrete Sealer.

INDEX OF SHEETS

- S17-01 General Plan and Elevation
- S17-02 General Notes, Index of Sheets & TBOM
- S17-03 Stage Construction (Sheet 1 of 2)
- S17-04 Stage Construction (Sheet 2 of 2)
- S17-05 Temporary Concrete Barrier
- S17-06 Deck Repair Plan
- S17-07 Drainage Scupper Type A Adjustment Details
- S17-08 Drainage Scupper Type B Adjustment Details
- S17-09 E. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S17-10 E. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S17-11 E. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S17-12 W. Abut. Joint Removal & Replacement (Sht. 1 of 3)
- S17-13 W. Abut. Joint Removal & Replacement (Sht. 2 of 3)
- S17-14 W. Abut. Joint Removal & Replacement (Sht. 3 of 3)
- S17-15 Preformed Joint Strip Seal
- S17-16 Framing Plan
- S17-17 Structural Steel Repair Details (Sheet 1 of 2)
- S17-18 Structural Steel Repair Details (Sheet 2 of 2)
- S17-19 East Abutment Repairs
- S17-20 West Abutment Repairs
- S17-21 Pier 1 Repairs
- S17-22 Pier 2 Repairs
- S17-23 East Slope Wall Repairs
- S17-24 Bar Splicer Assembly And Mechanical Splicer Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	-	0.5	0.5
Concrete Removal	Cu Yd	23.5	-	23.5
Slope Wall Removal	Sq Yd	-	1.1	1.1
Protective Shield	Sq Yd	1,226	-	1,226
Concrete Superstructure	Cu Yd	27.2	-	27.2
Protective Coat	Sq Yd	2,296	-	2,296
Furnishing And Erecting Structural Steel	Pound	1,510	-	1,510
Reinforcement Bars, Epoxy Coated	Pound	4,820	-	4,820
Bar Splicers	Each	30	-	30
Slope Wall 4 Inch	Sq Yd	-	1.1	1.1
Preformed Joint Seal 2 1/2"	Foot	9	-	9
Preformed Joint Strip Seal	Foot	189	-	189
Concrete Sealer	Sq Ft	-	983	983
Epoxy Crack Injection	Foot	7	-	7
Slope Wall Crack Sealing	Foot	-	122	122
Protect And Maintain Existing Underpass Luminaire	L Sum	0.022	-	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,411	-	1,411
Structural Steel Removal	Pound	1,470	-	1,470
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,990	-	1,990
Cleaning Drainage System	L Sum	0.05	-	0.05
Bridge Deck Scarification 3/4"	Sq Yd	1,990	-	1,990
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	-	317	317
Structural Repair Of Concrete (Depth Greater Than 5 Inches)	Sq Ft	-	47	47
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2	-	2
Deck Slab Repair (Full Depth, Type II)	Sq Yd	5	-	5
Drainage Scuppers To Be Adjusted	Each	2	-	2
Diamond Grinding (Bridge Section)	Sq Yd	2,058	-	2,058
Maintenance Of Lighting System	Cal Mo	6	-	6
Temporary Construction Fence	Foot	289	-	289
Temporary Shoring And Cribbing	Each	-	5	5

SCOPE OF WORK

1. Provide Protective Shield within limits indicated on the plans.
2. Scarify 3/4" from the bridge deck slab.
3. Perform Deck Slab Repairs and adjust existing scuppers and inlets as required.
4. Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.
5. Adjust drain scuppers types A and B.
6. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
7. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
8. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
9. Perform Bridge Deck Grooving (Longitudinal).
10. Apply protective coat to the top of reconstructed transverse joint areas and top and inside faces of parapets and top of Latex Overlay.
11. Perform structural concrete repairs for the abutments and piers as noted on the plans.
12. Perform Slope Wall repairs.
13. Repair steel diaphragms as shown on the plans.

GENERAL NOTES (CONT.):

22. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

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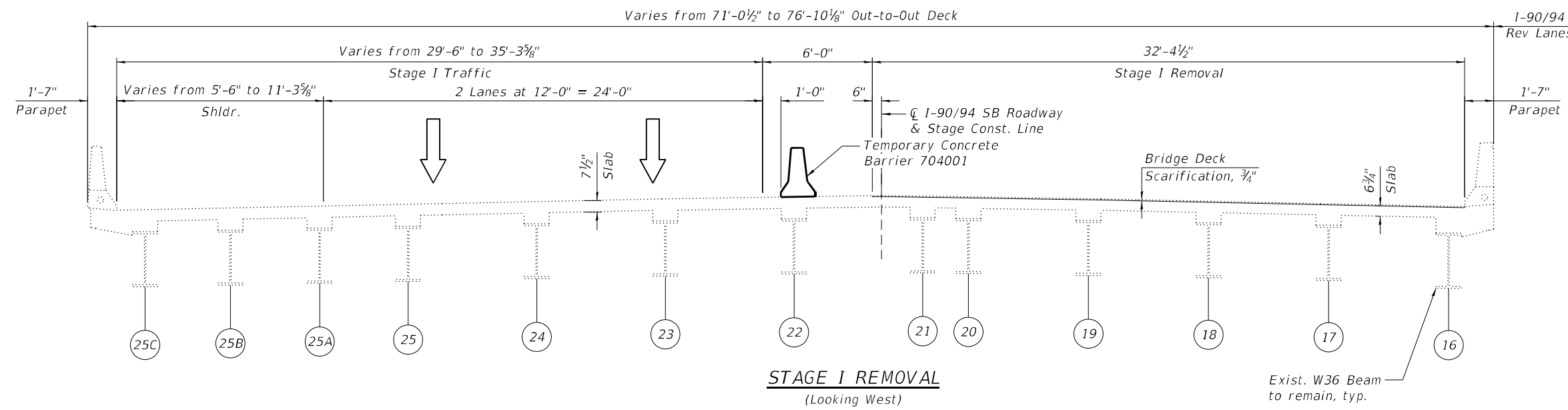
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, INDEX OF SHEETS & TBOM
STRUCTURE NO. 016-0128 (SB)**

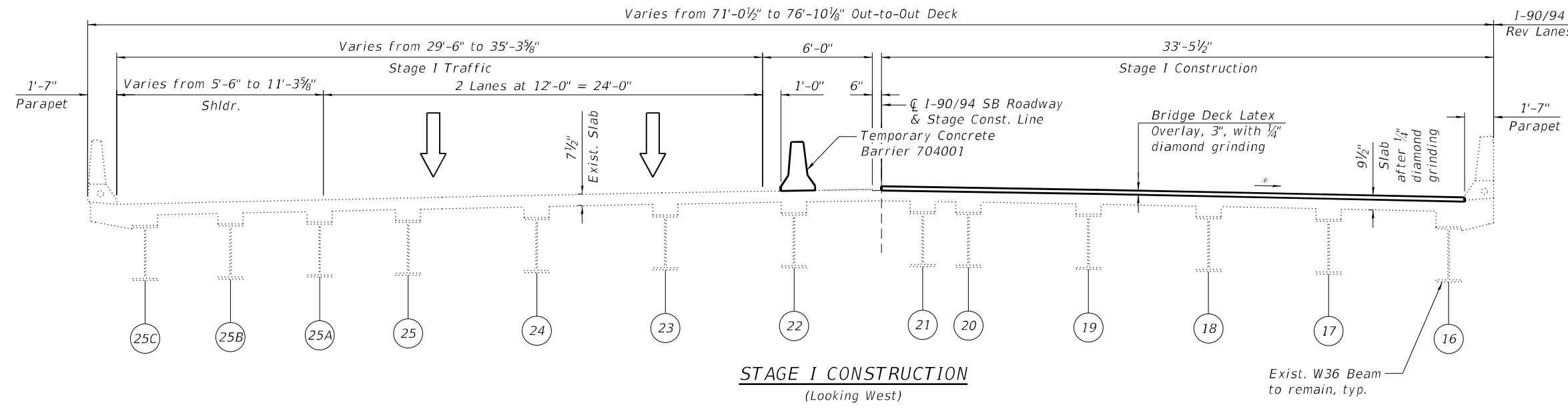
SHEET S17-02 OF S17-24 SHEETS

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CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

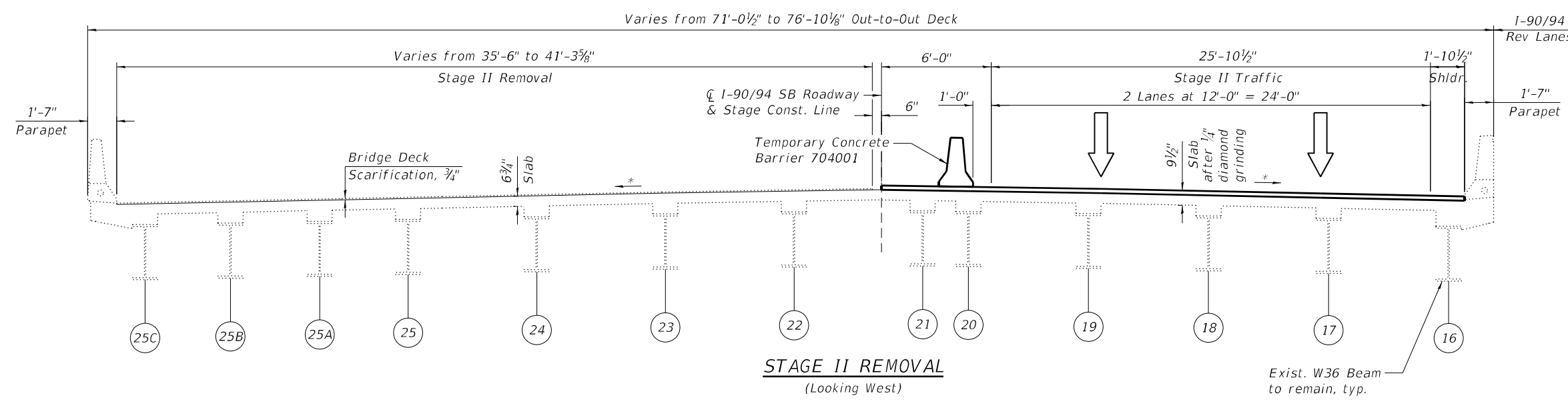
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- STAGE I REMOVAL**
1. Install temporary concrete barrier as shown to locate traffic on the north side of the existing structure.
 2. Perform $\frac{3}{4}$ " bridge deck scarification.
 3. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
 4. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the East and West Abutments.
 5. Perform temporary shoring and cribbing at locations shown on the plans within the limits of Stage II Removal.

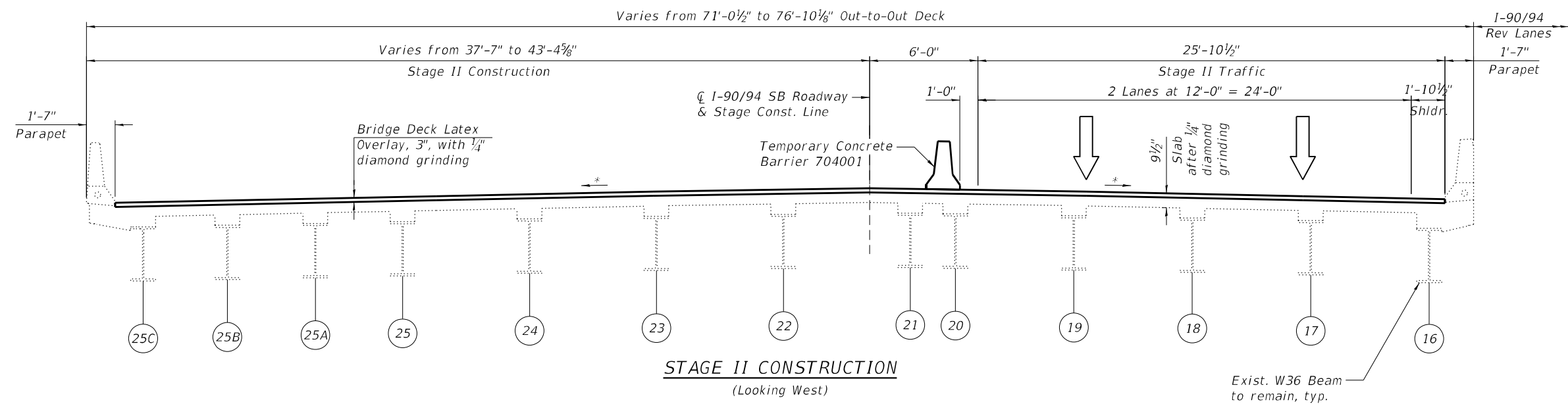


- STAGE I CONSTRUCTION**
1. Perform bridge deck slab repairs.
 2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
 3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
 4. Apply 3" bridge deck latex concrete overlay.
 5. Perform $\frac{1}{4}$ " diamond grinding to bridge deck and abutment hatched block.
 6. Perform bridge deck grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed abutment expansion joint areas.
 7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
 8. Apply protective coat to top and inside faces of south parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
 9. Perform Slope wall repairs as shown on the plans.



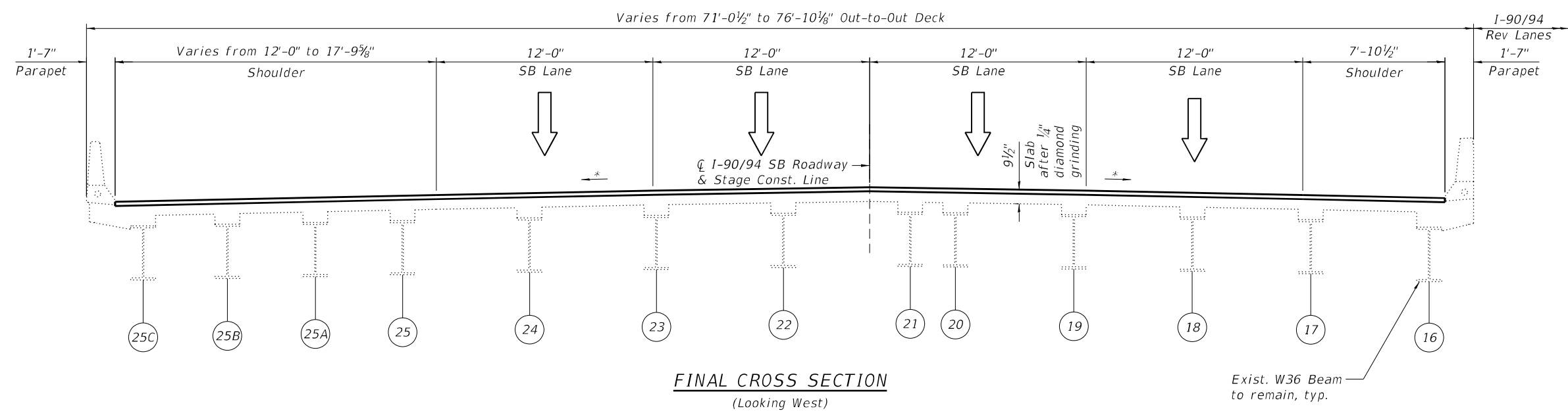
- STAGE II REMOVAL**
1. Install temporary concrete barrier as shown to locate traffic on the south side of the existing structure.
 2. Perform $\frac{3}{4}$ " bridge deck scarification.
 3. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
 4. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the East and West Abutments.
 5. Perform temporary shoring and cribbing at locations shown on the plans within the limits of Stage III Removal.
- *Match Existing Cross-slopes

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STAGE II CONSTRUCTION
 (Looking West)

Exist. W36 Beam to remain, typ.



FINAL CROSS SECTION
 (Looking West)

Exist. W36 Beam to remain, typ.

*Match Existing Cross-slopes

STAGE II CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform 1/4" diamond grinding to bridge deck and abutment hatched block.
6. Perform bridge deck grooving (Longitudinal) for the 3" bridge deck latex concrete overlay and reconstructed abutment expansion joint areas.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach slab and taper into existing roadway. See Roadway Plans.
8. Apply protective coat to top and inside faces of south parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform Slope wall repairs as shown on the plans.



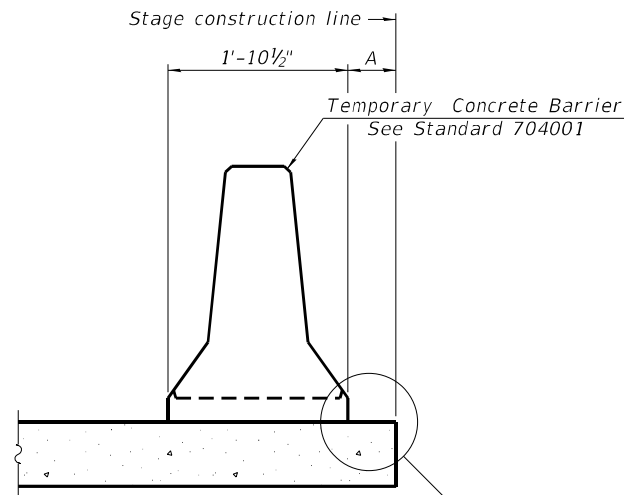
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION (SHEET 2 OF 2)
 STRUCTURE NO. 016-0128 (SB)**

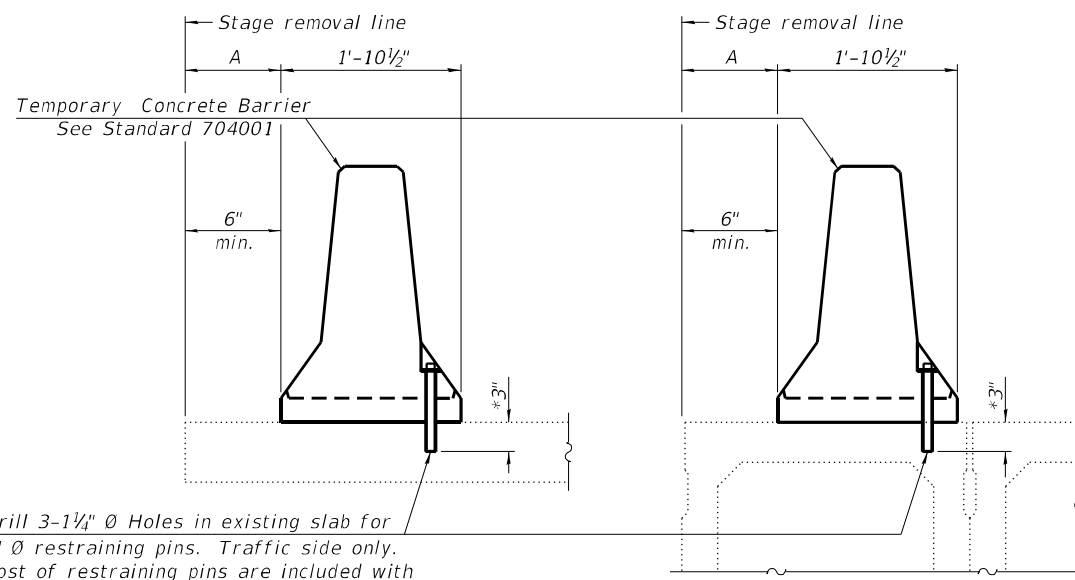
SHEET S17-04 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	992
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



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

NEW SLAB OR NEW DECK BEAM

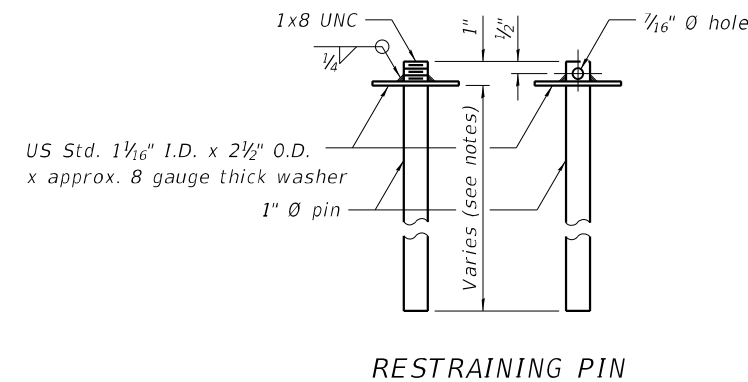


Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

EXISTING DECK BEAM

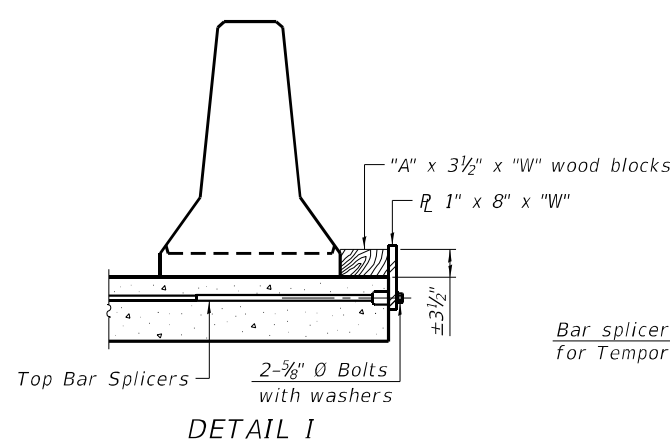
SECTIONS THRU SLAB OR DECK BEAM



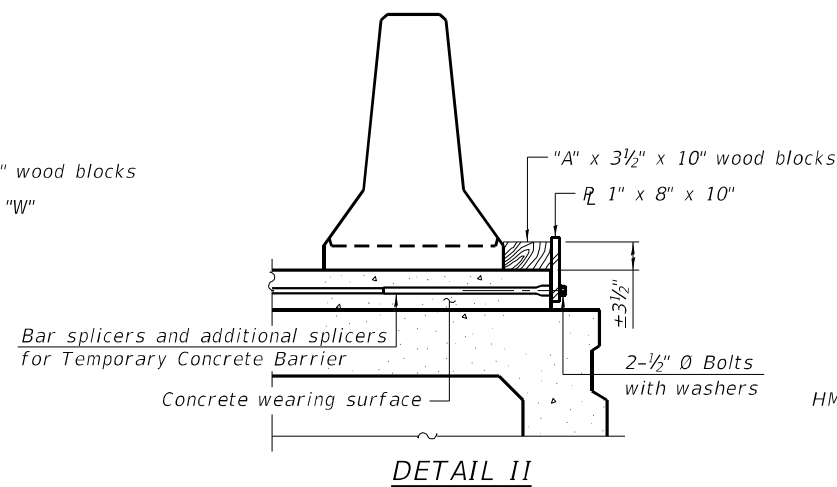
US Std. 1 1/16" I.D. x 2 1/2" O.D. x approx. 8 gauge thick washer

RESTRAINING PIN

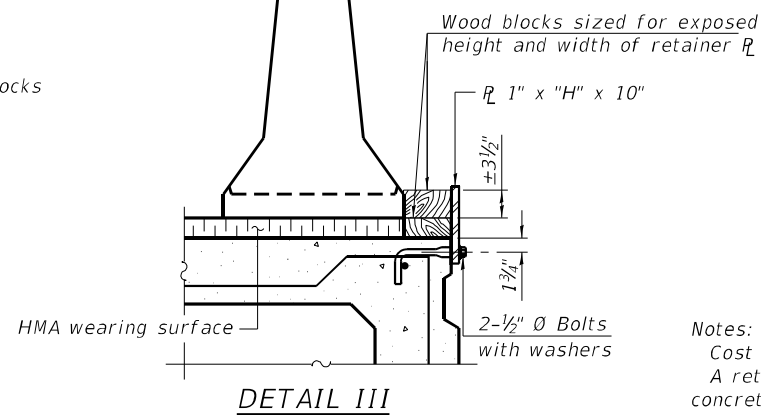
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.



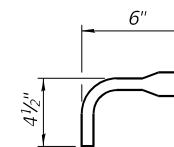
DETAIL I



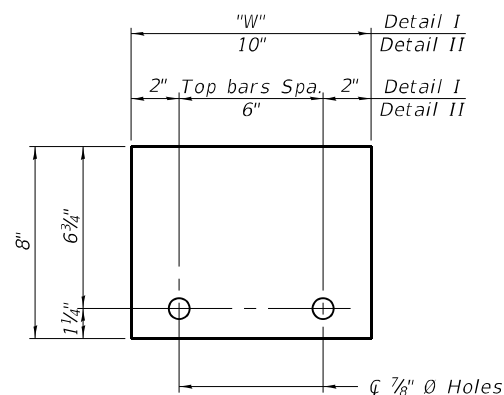
DETAIL II



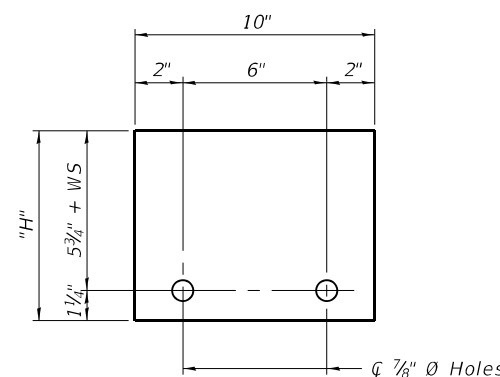
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER 1" x 8" x "W" (Detail I and II)



STEEL RETAINER 1" x "H" x 10" (Detail III)

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate \bar{c} of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
 Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
 Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

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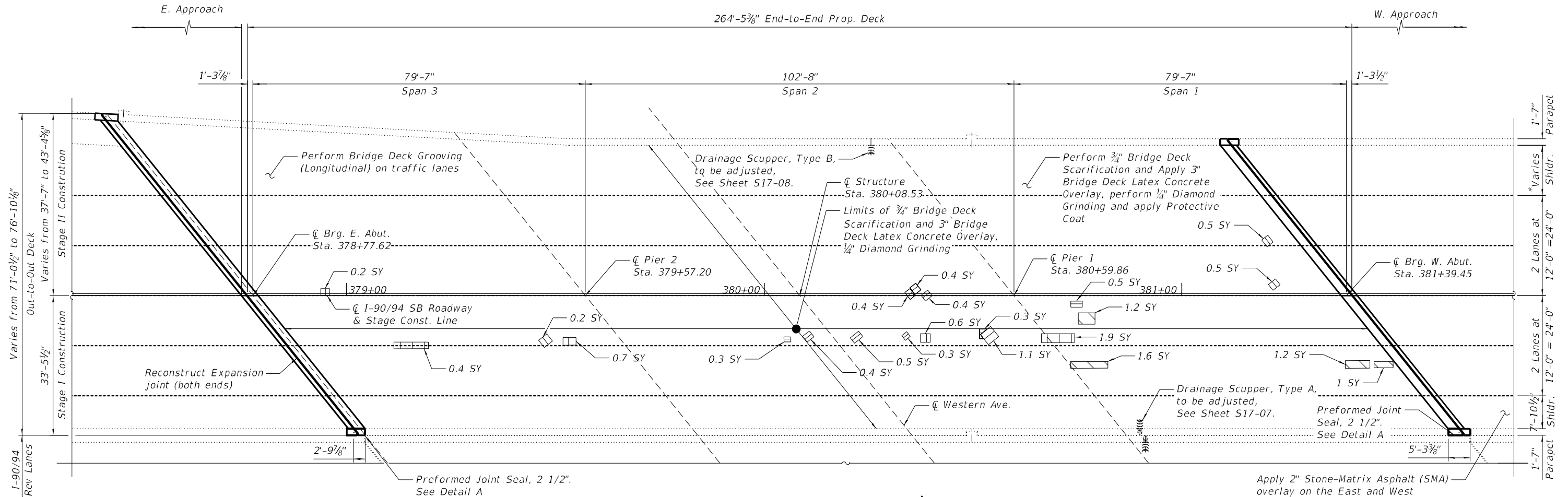
TEMPORARY CONCRETE BARRIER
 STRUCTURE NO. 016-0128 (SB)

SHEET S17-05 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	993
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	2,296
Preformed Joint Seal 2 1/2"	Foot	9
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,411
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,990
Bridge Deck Scarification 3/4"	Sq Yd	1,990
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2
Deck Slab Repair (Full Depth, Type II)	Sq Yd	5
Diamond Grinding (Bridge Section)	Sq Yd	2058

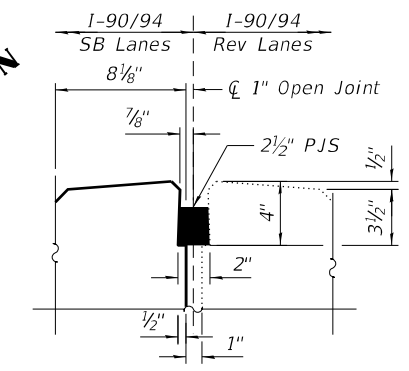


Apply 2" Stone-Matrix Asphalt (SMA) overlay on the East and West Approach Slabs (see Roadway Plans)

NOTES:

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S17-04.
3. For West and East transverse joint removal and replacement, see Sheets S17-09 thru S17-14.
4. Perform bridge deck grooving (Longitudinal) on traffic lanes.
5. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
6. Protective coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of Latex Concrete Overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.

DECK PLAN



DETAIL A
(Reinforcement not shown for clarity)

*Shoulder Varies from 12'-0" to 17'-9 5/8"

**Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 3"

LEGEND:

- **Deck Slab Repair (Partial Depth)
- Deck Slab Repair (Full Depth, Type I)
- Deck Slab Repair (Full Depth, Type II)

SY Square Yard

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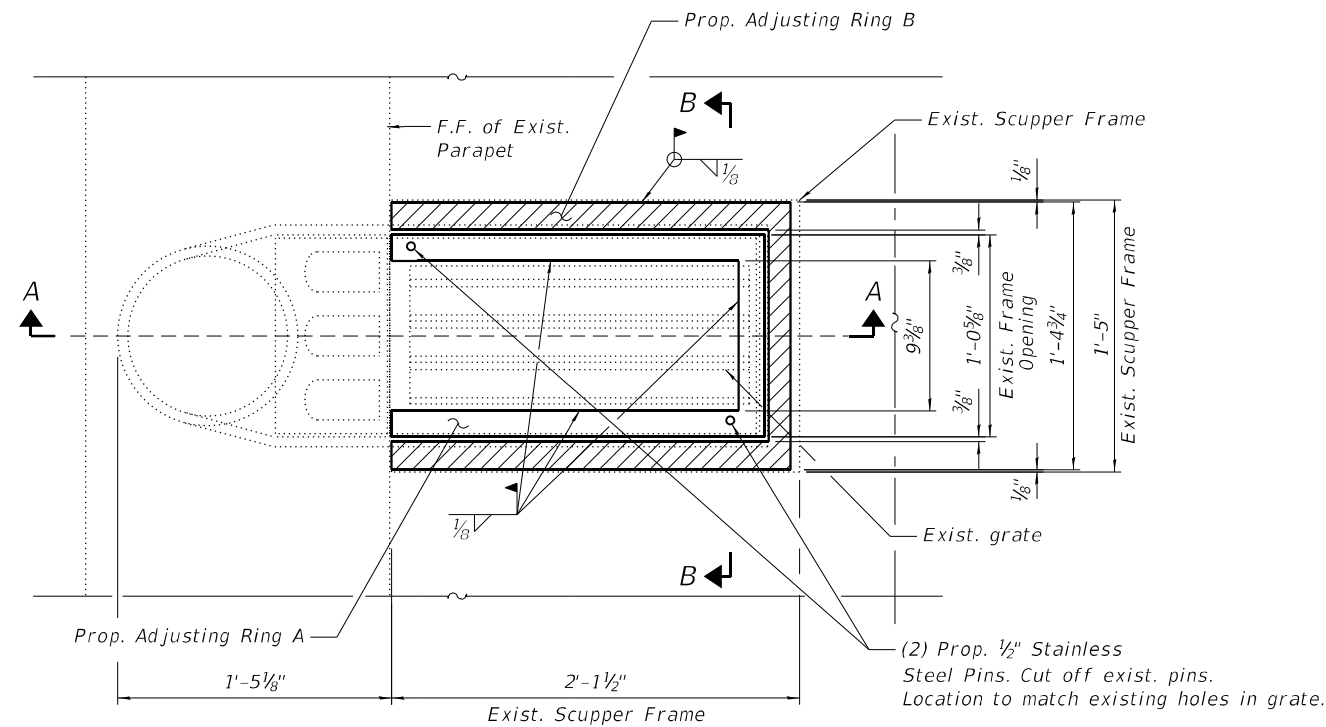
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**DECK REPAIR PLAN
STRUCTURE NO. 016-0128 (SB)**

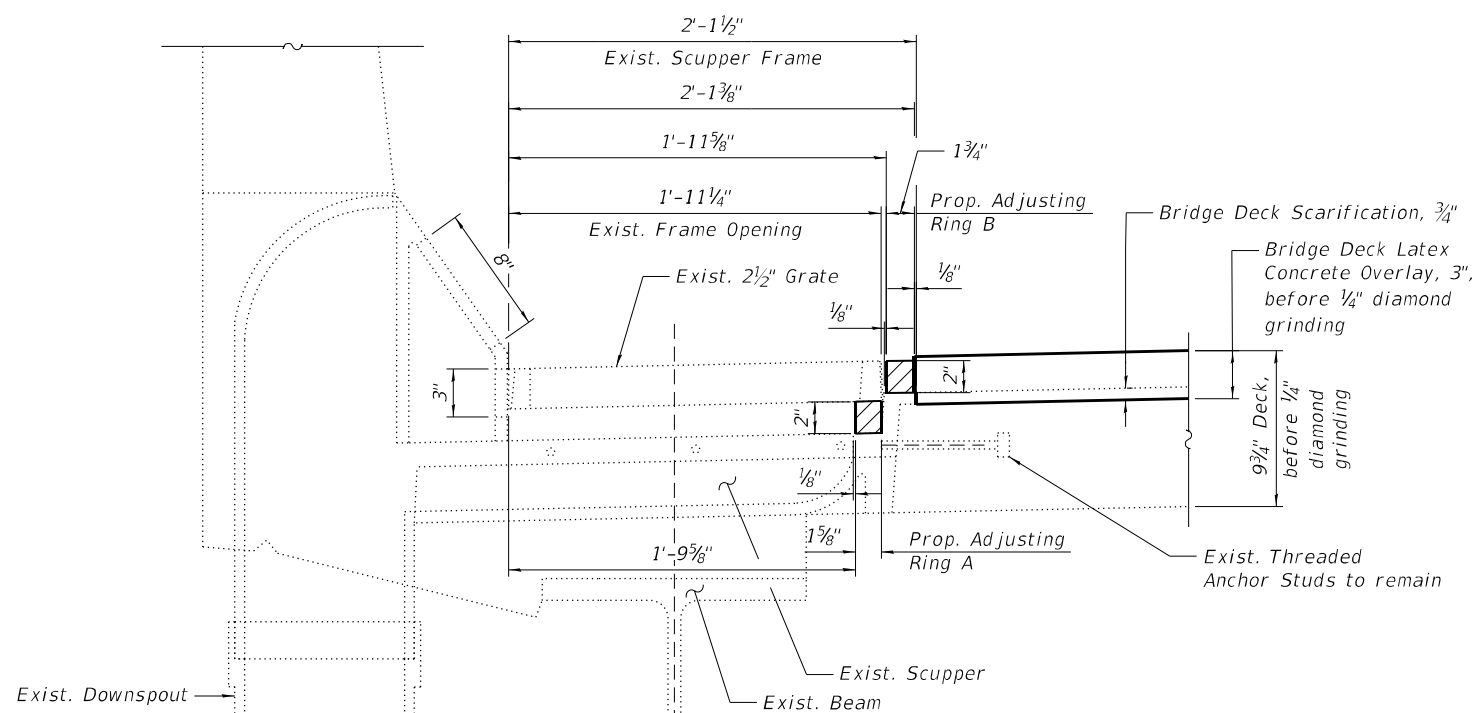
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ILLINOIS FED. AID PROJECT				

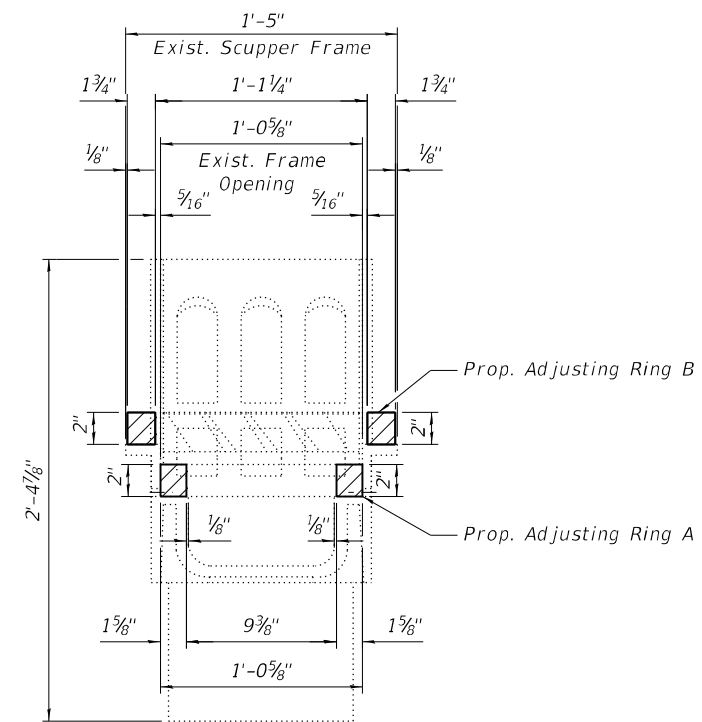


TYPICAL SCUPPER TYPE A PLAN

(1 Locations)



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scuppers To Be Adjusted	Each	1

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Rings or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing scupper.
7. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.

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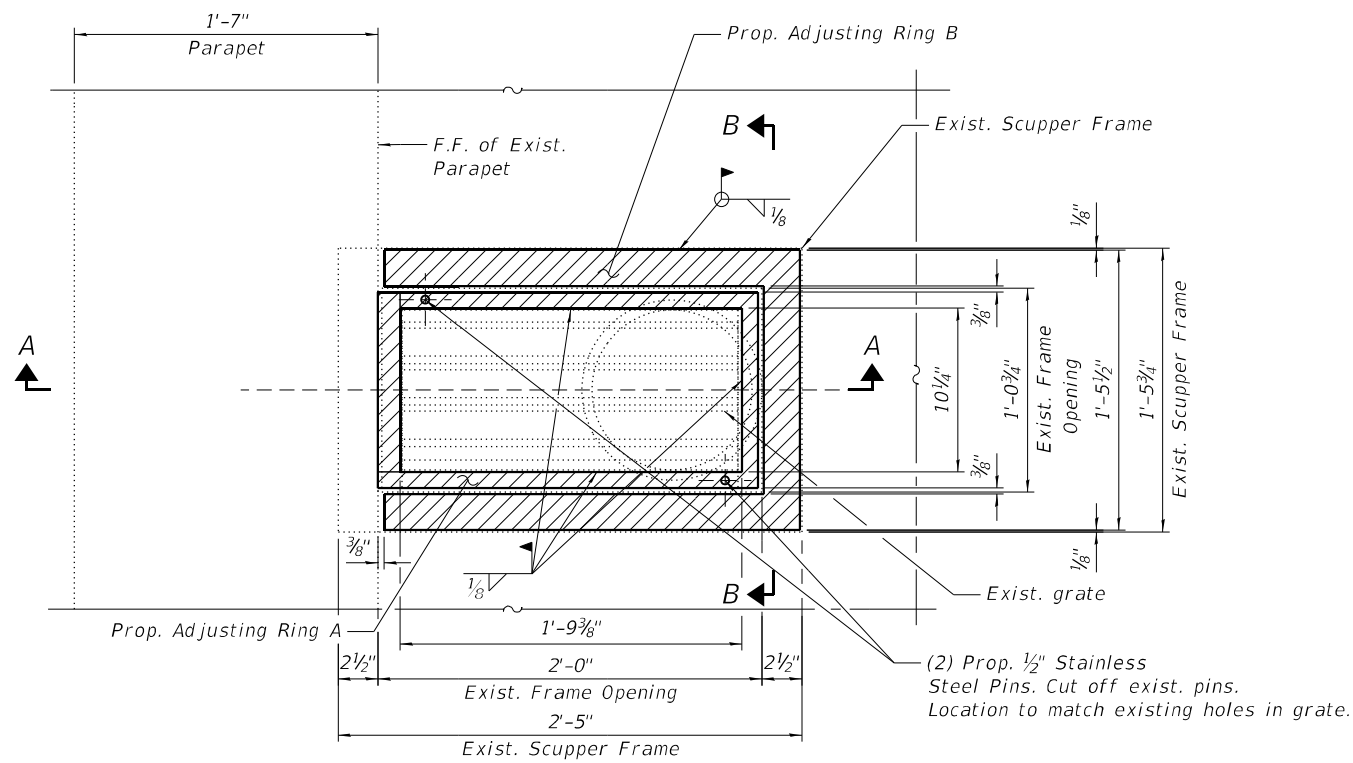
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SCUPPER TYPE A ADJUSTMENT DETAILS
STRUCTURE NO. 016-0128 (SB)**

SHEET S17-07 OF S17-24 SHEETS

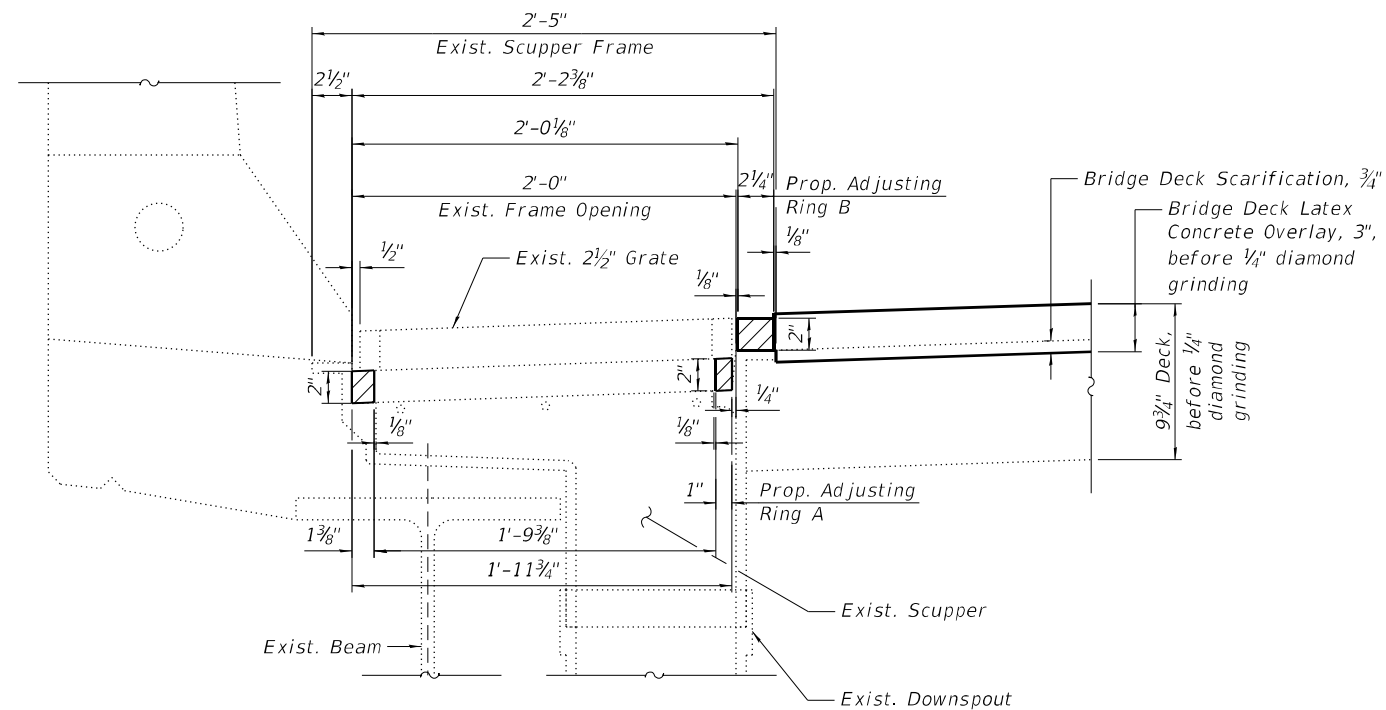
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



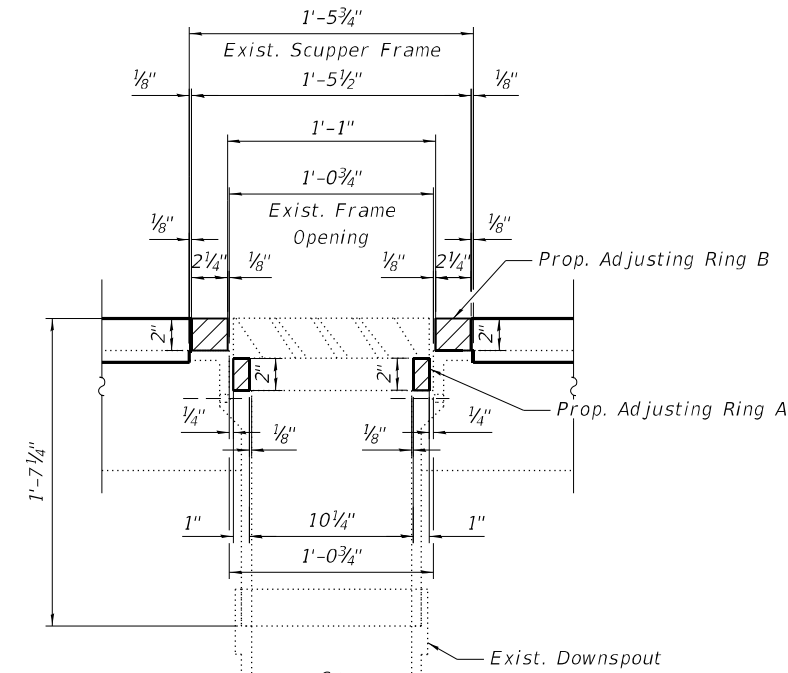
TYPICAL SCUPPER TYPE B PLAN
(1 Location)

NOTES

1. The Contractor shall field verify Existing Dimensions and Details of the Existing Scuppers and make necessary adjustments prior to construction of New Adjusting Rings or ordering of material for Adjusting Drainage Scuppers.
2. All Cast Iron Parts shall be Grey Iron conforming to the requirements of AASHTO M 105, Class 35B.
3. Cast Iron Parts shall be unfinished.
4. The Contractor shall take appropriate measures to ensure that Protective Coat is not applied to the scuppers.
5. Adjusting Rings shall be from Neenah or approved equal. Structural steel weldments or equal section and of the same configuration may be submitted in place of Cast Iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.
6. Provide a 1/8" Fillet Weld around perimeter of new Adjusting Rings to secure to existing Scupper.
7. Cost of all labor and materials necessary to clean all existing floor drains and scuppers, install adjusting scupper rings, remove and reinstall grates is included in the cost for Drainage Scupper to be Adjusted.



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scuppers To Be Adjusted	Each	1

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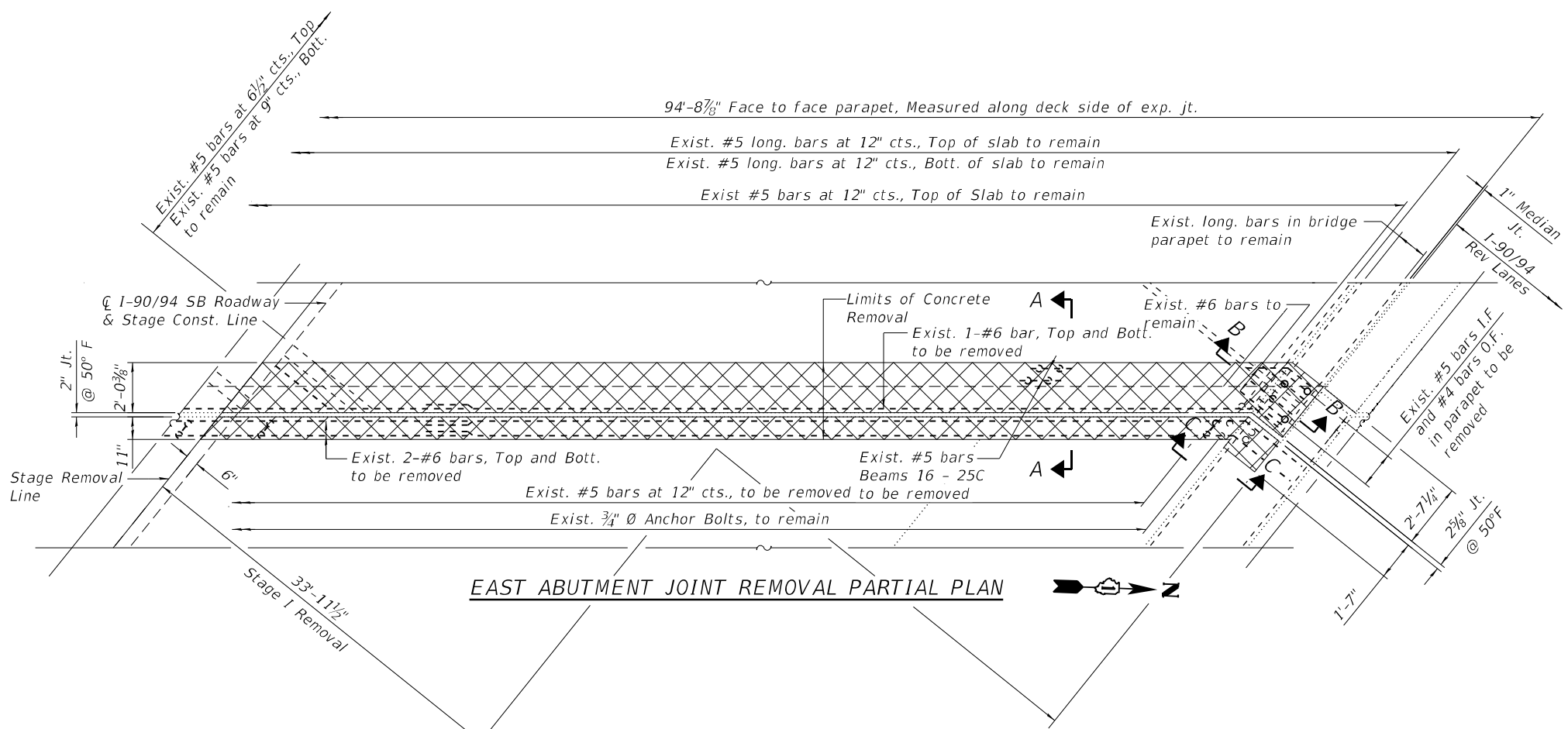
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SCUPPER TYPE B ADJUSTMENT DETAILS
STRUCTURE NO. 016-0128 (SB)**

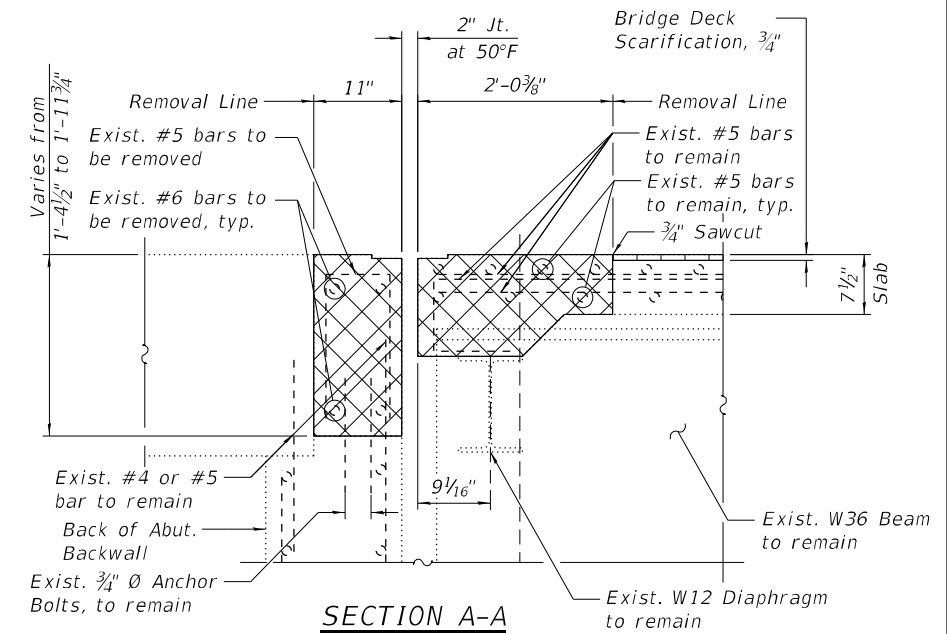
SHEET S17-08 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	996
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

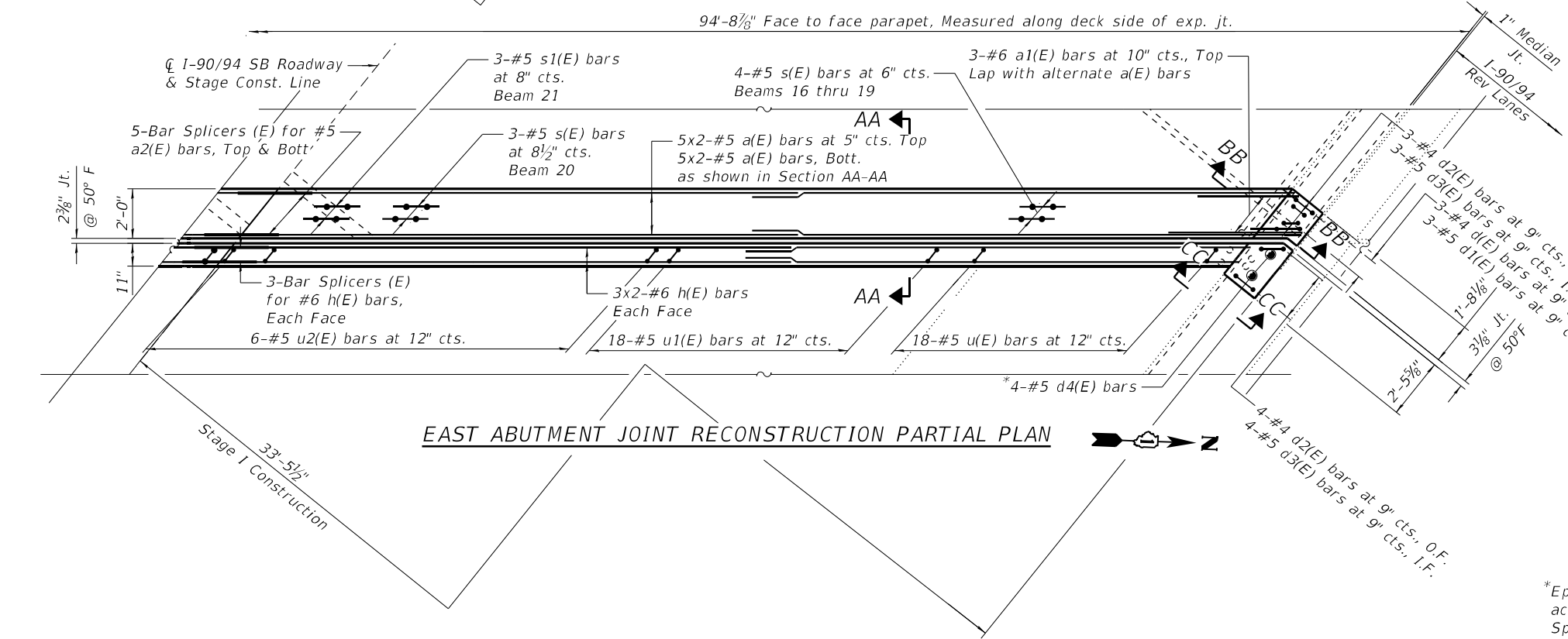
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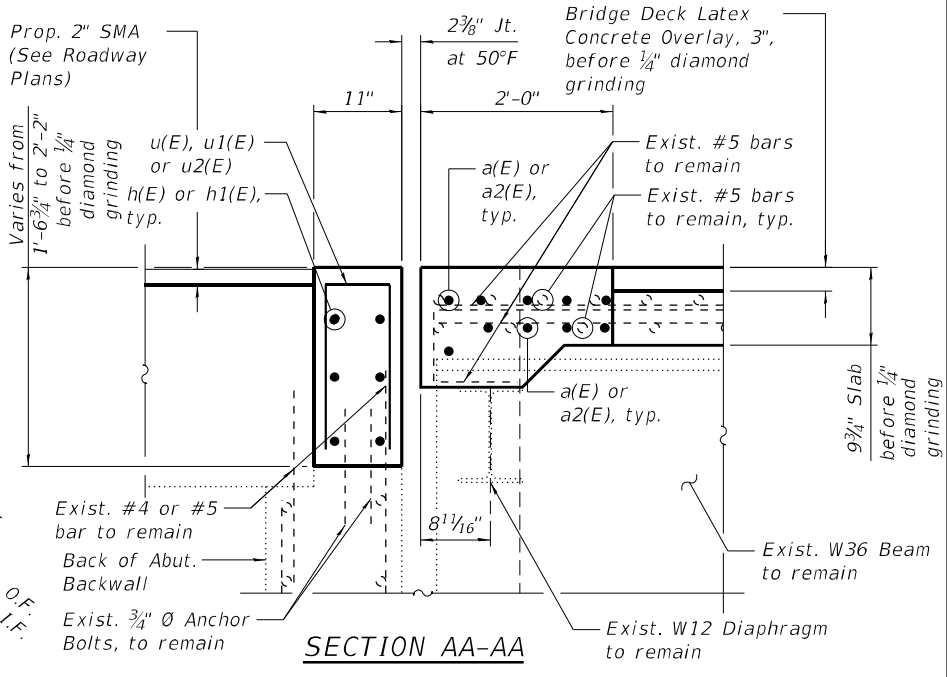
EAST ABUTMENT JOINT REMOVAL PARTIAL PLAN



SECTION A-A



EAST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN



SECTION AA-AA

NOTE:

1. For Sections B-B, C-C, BB-BB and CC-CC, Bar Diagrams, additional Notes and Bill of Material, see Sheet S17-11.

*Epoxy grout #5 d4(E) bar in 9" min. holes according to Section 584 of the Standard Specification

LEGEND

	Concrete Removal
E.F.	Each Face
I.F.	Inside Face
O.F.	Outside Face



USER NAME =	DESIGNED - SK, FL	REVISED -
	CHECKED - MI	REVISED -
PLOT SCALE =	DRAWN - FL, AMS	REVISED -
PLOT DATE =	DATE - 8/30/2022	REVISED -

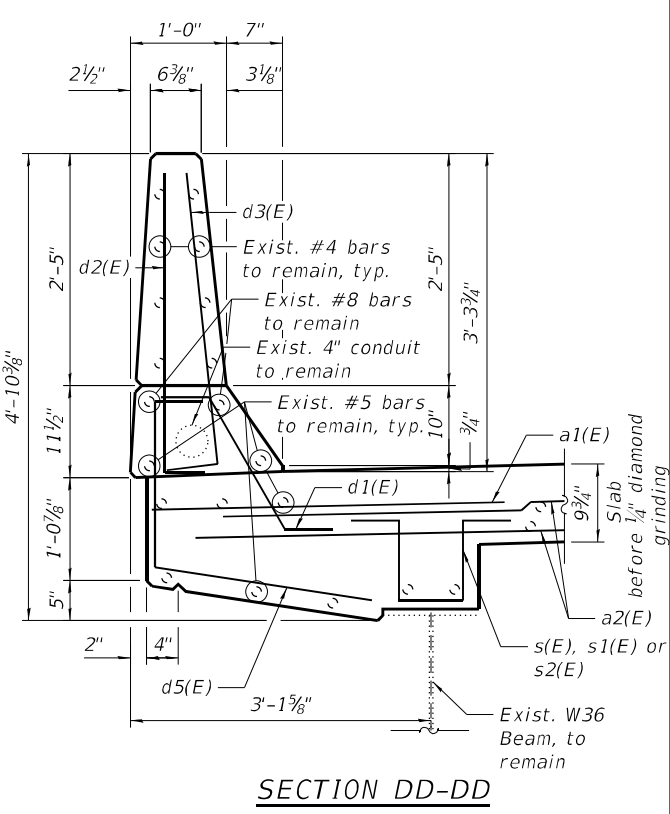
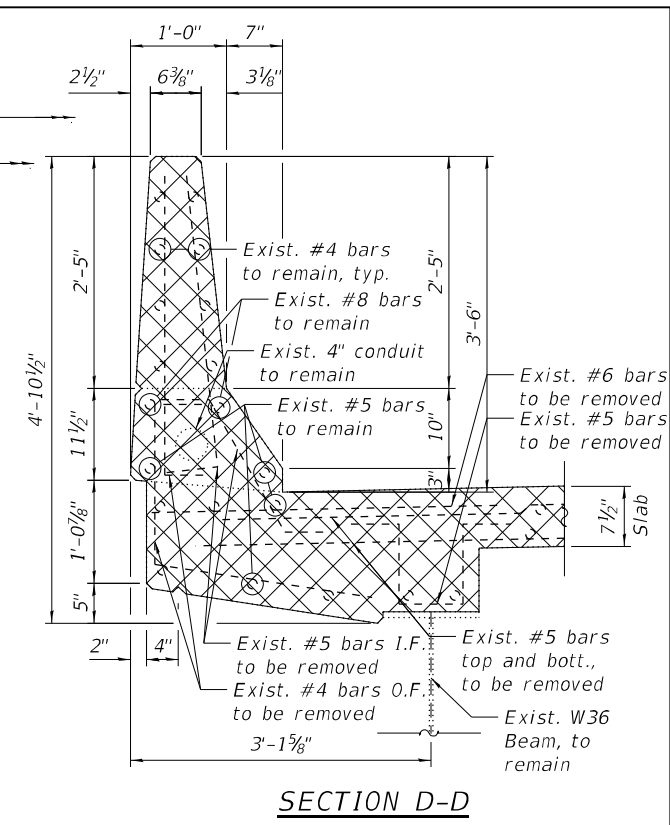
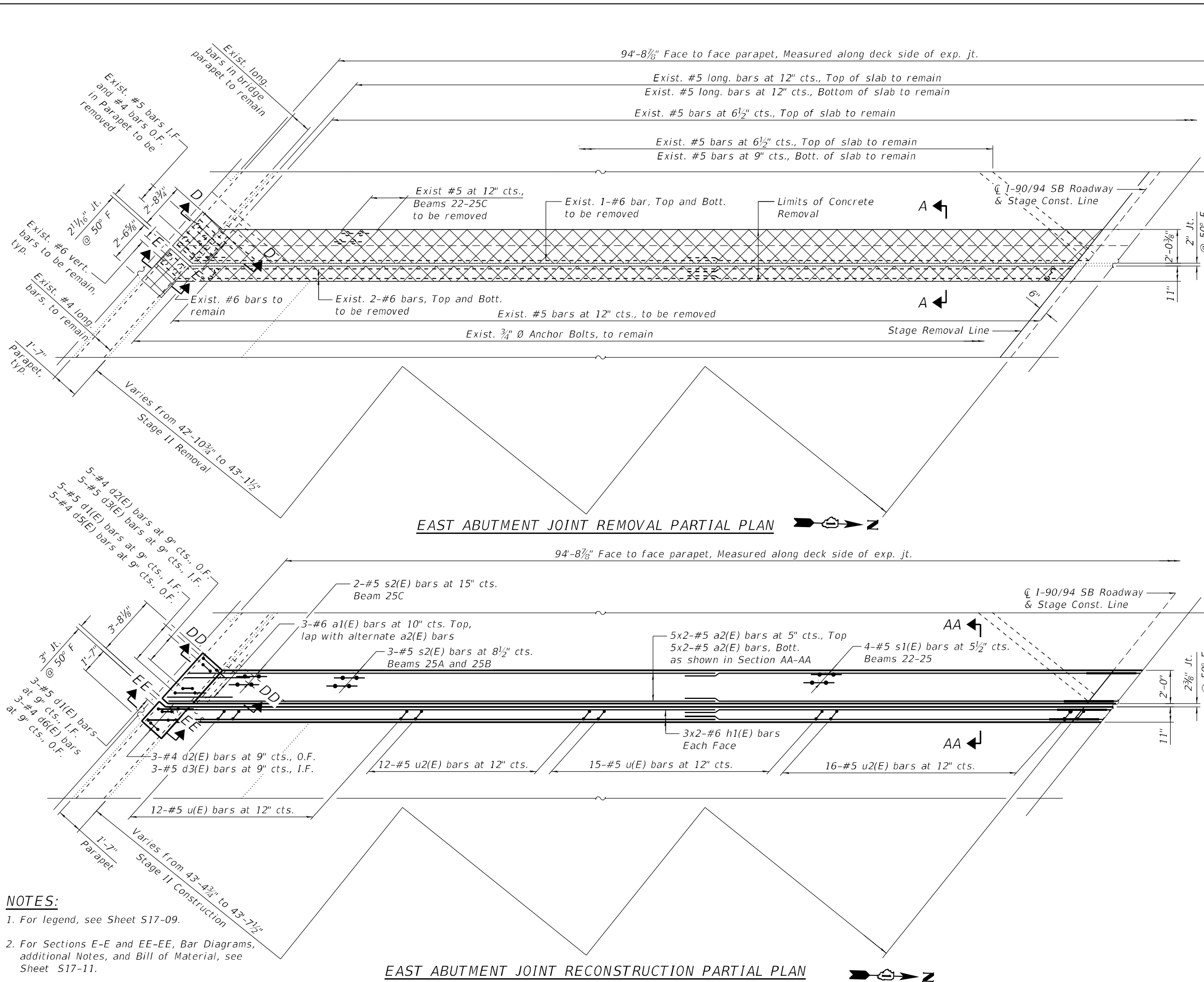
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
STRUCTURE NO. 016-0128 (SB)**

SHEET S17-09 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	997
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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- NOTES:**
- For legend, see Sheet S17-09.
 - For Sections E-E and EE-EE, Bar Diagrams, additional Notes, and Bill of Material, see Sheet S17-11.
 - For Section A-A and AA-AA, see Sheet S17-09.



USER NAME =	DESIGNED - SK, FL	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - FL, AMS	REVISED -
	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

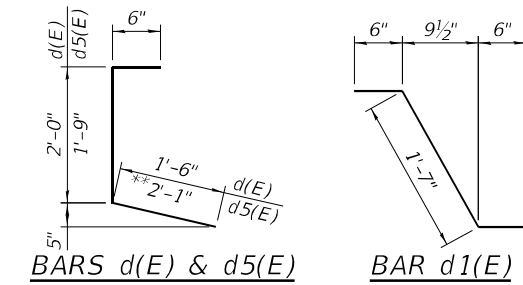
**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)
 STRUCTURE NO. 016-0128 (SB)**

F.A.I. RTE. 90/94	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 998
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

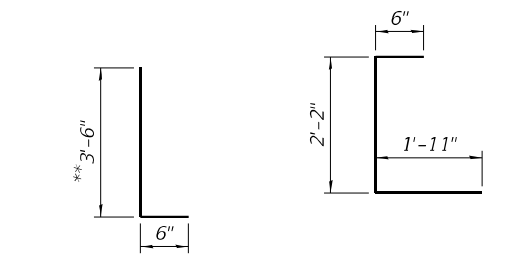
SHEET S17-10 OF S17-24 SHEETS

BILL OF MATERIAL

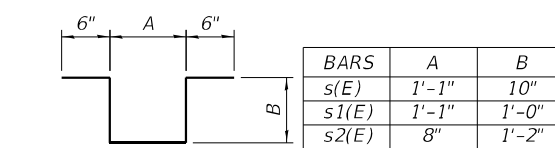
Bar	No.	Size	Length	Shape
a(E)	20	#5	22'-10"	
a1(E)	6	#6	6'-6"	
a2(E)	20	#5	29'-4"	
d(E)	3	#4	4'-0"	┌┐
d1(E)	11	#5	2'-7"	┌┐
d2(E)	15	#4	4'-0"	┌┐
d3(E)	15	#5	4'-0"	┌┐
d4(E)	4	#5	2'-9"	┌┐
d5(E)	5	#4	4'-4"	┌┐
d6(E)	3	#5	4'-7"	┌┐
h(E)	12	#6	22'-1"	
h1(E)	12	#6	28'-7"	
s(E)	19	#5	3'-9"	┌┐
s1(E)	19	#5	4'-1"	┌┐
s2(E)	8	#5	4'-0"	┌┐
u(E)	45	#5	3'-4"	┌┐
u1(E)	18	#5	3'-8"	┌┐
u2(E)	34	#5	4'-0"	┌┐
Concrete Removal		Cu Yd	14.1	
Concrete Superstructure		Cu Yd	16	
Protective Coat		Sq Yd	35	
Reinforcement Bars, Epoxy Coated		Pound	2,790	



BARS d(E) & d5(E)
**Cut end bar in the field to fit



BARS d2(E) & d3(E)
**Cut end bar in the field to fit

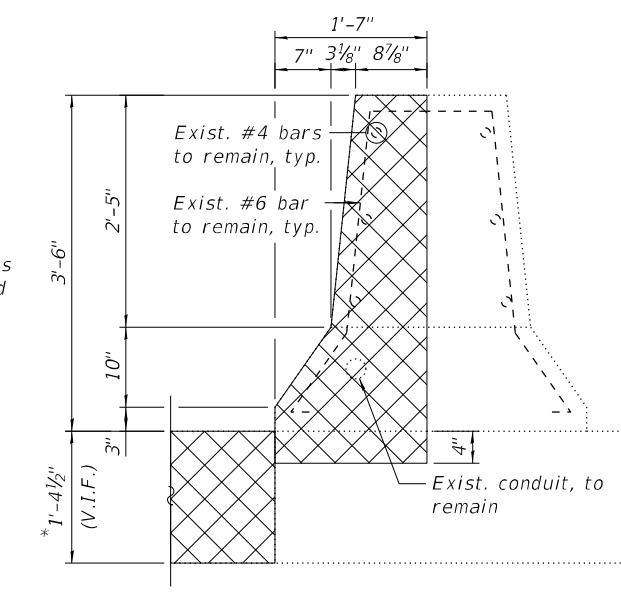


BARS s(E), s1(E) or s2(E)

BARS	A	B
s(E)	1'-1"	10"
s1(E)	1'-1"	1'-0"
s2(E)	8"	1'-2"

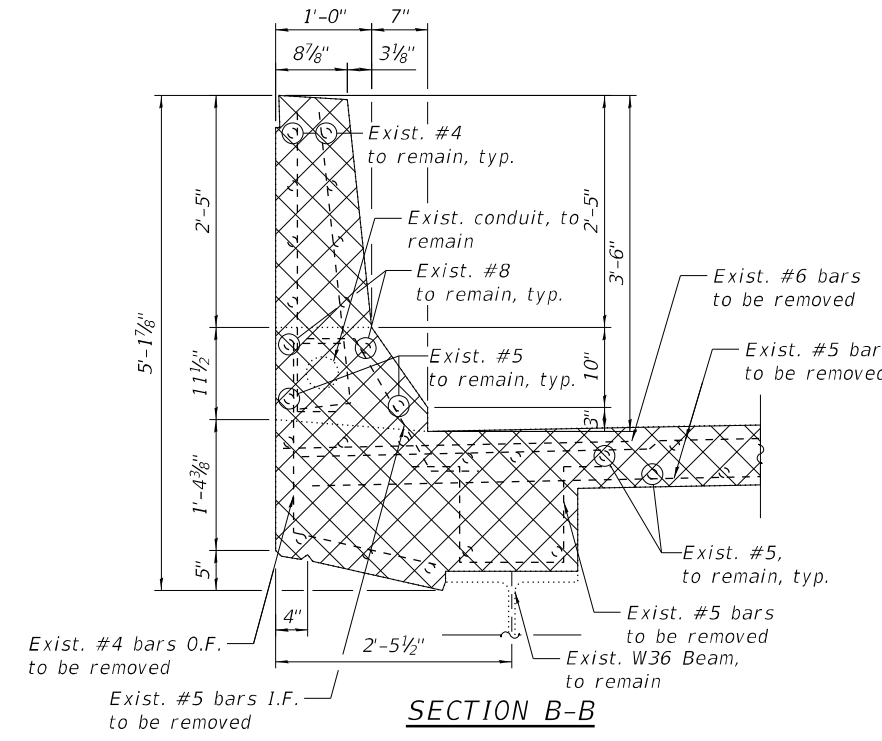
MIN BAR LAPS

#5	3'-6"
#6	4'-0"



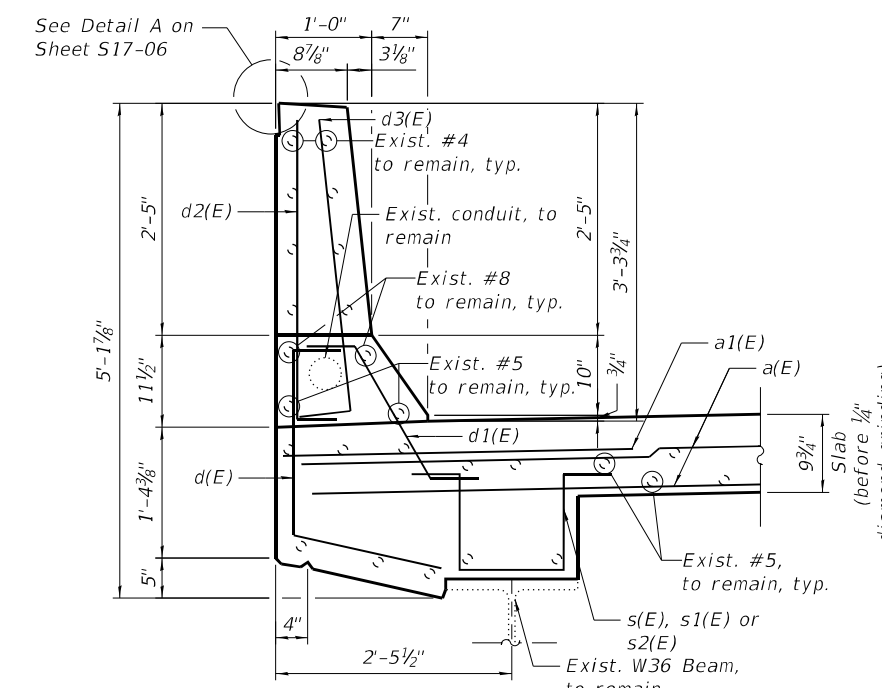
SECTION C-C

(Reinforcement in the pour strip not shown for clarity)



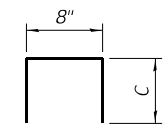
SECTION B-B

See Detail A on Sheet S17-06

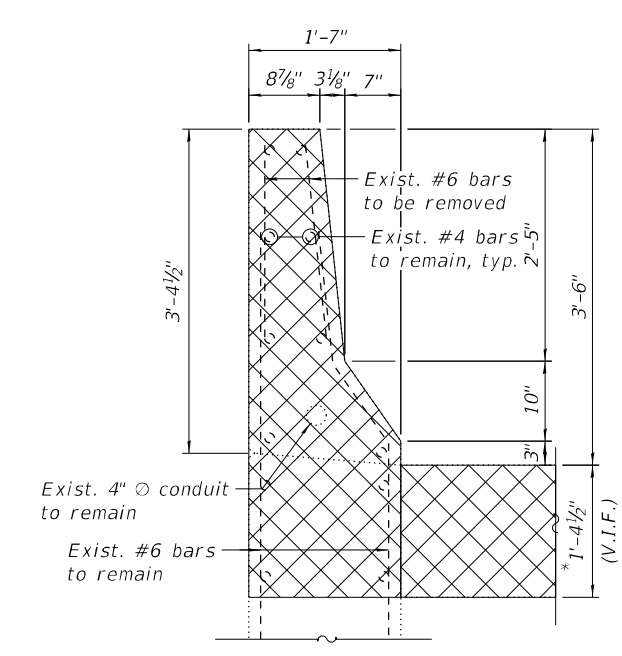


SECTION BB-BB

BARS u(E), u1(E), u2(E)



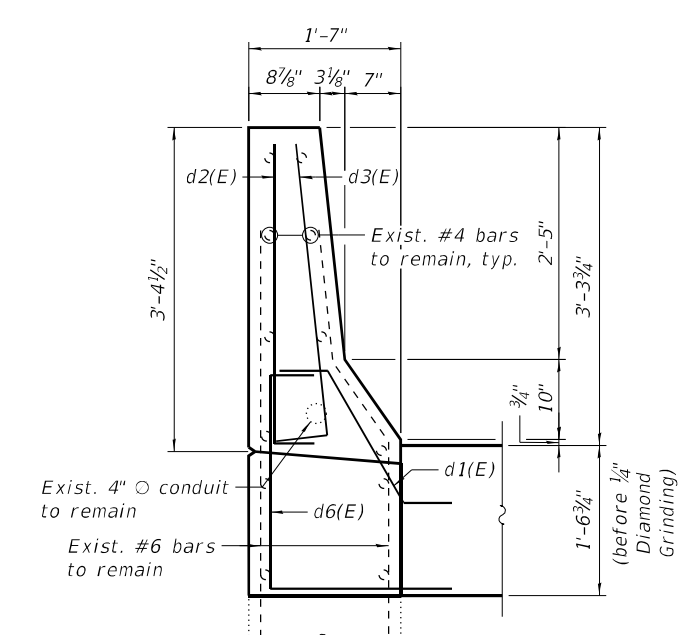
BARS	C
u(E)	1'-4"
u1(E)	1'-6"
u2(E)	1'-8"



SECTION E-E

(Reinforcement in the pour strip not shown for clarity)

*Dimension is taken at the Back of Abutment



SECTION EE-EE

(Reinforcement in the pour strip not shown for clarity)

NOTES:

1. For legend, see Sheet S17-09.
2. For Preformed Joint Strip Seal details, see Sheet S17-15.
3. For bar splicer assembly details, see Sheet S17-24.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. Epoxy grout d4(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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USER NAME =	DESIGNED - SK, FL	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - FL, AMS	REVISED -
	DATE - 8/30/2022	REVISED -

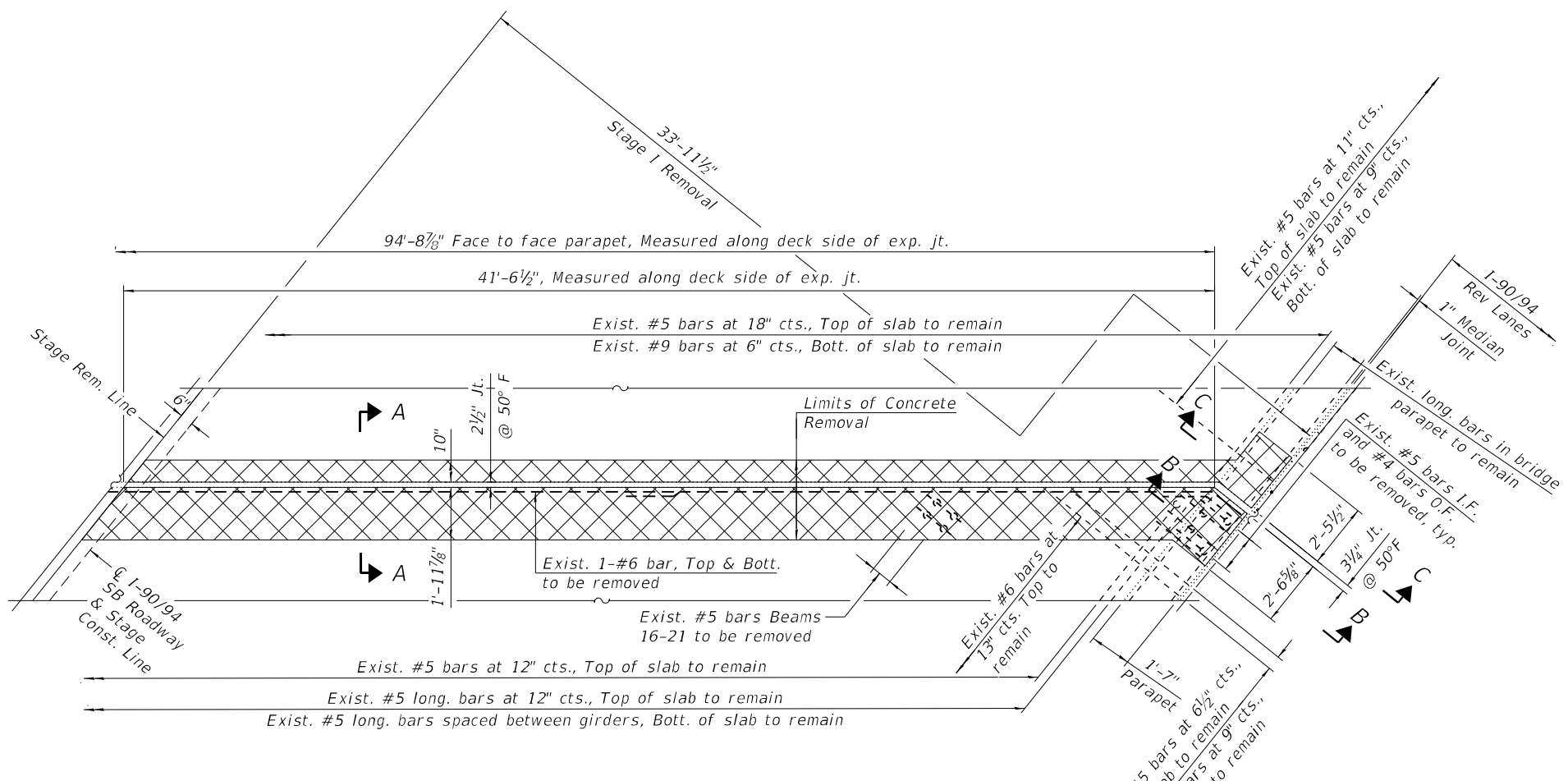
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)
STRUCTURE NO. 016-0128 (SB)**

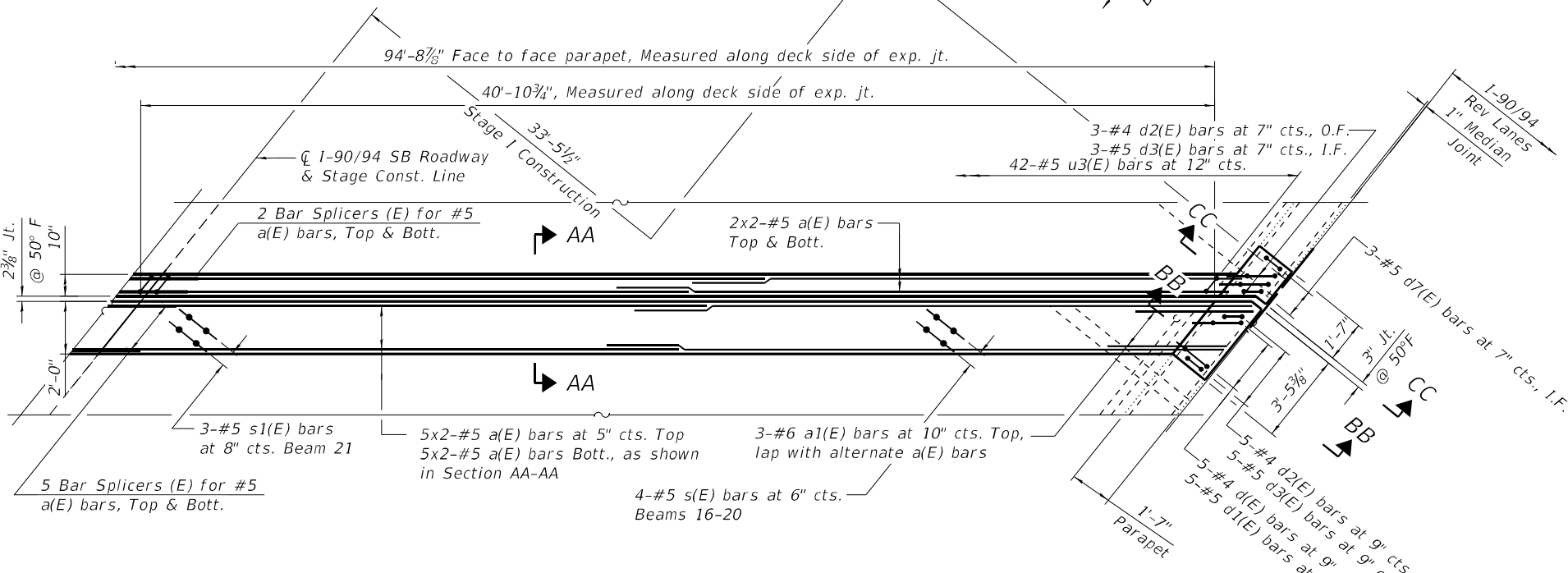
SHEET S17-11 OF S17-24 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	999
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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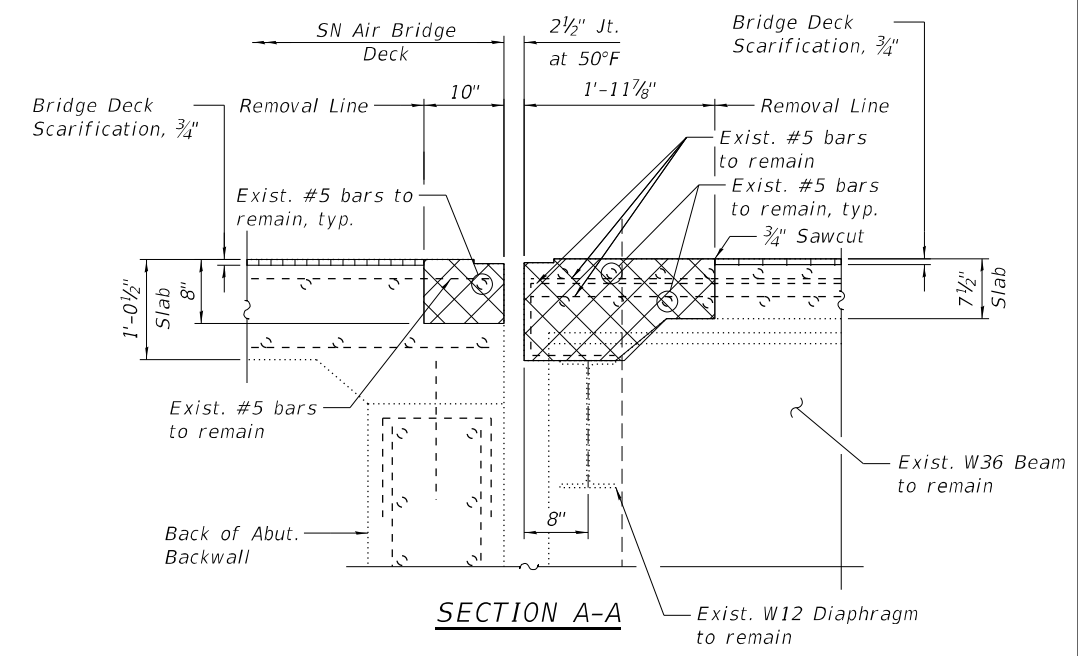


WEST ABUTMENT JOINT REMOVAL PARTIAL PLAN

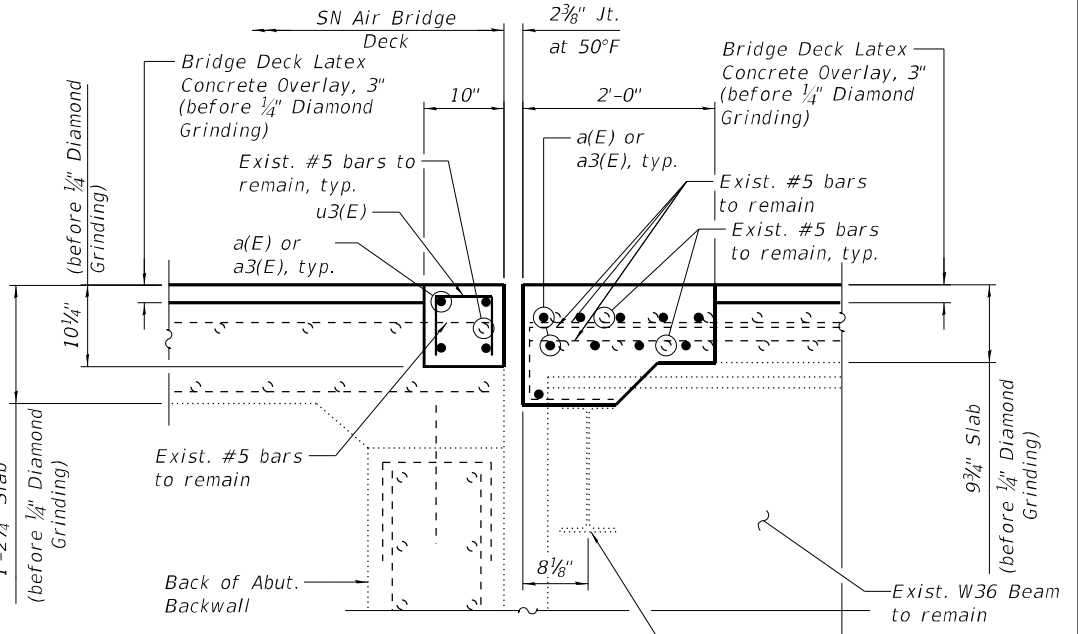


WEST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN

NOTE:
 1. For Sections B-B, C-C, BB-BB, and CC-CC, Bar Diagrams, Notes and Bill of Material, see Sheet S17-14.



SECTION A-A



SECTION AA-AA

LEGEND

	Concrete Removal
E.F.	Each Face
I.F.	Inside Face
O.F.	Outside Face



USER NAME =	DESIGNED - SK, FL	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - FL, AMS	REVISED -
	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)
 STRUCTURE NO. 016-0128 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1000
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S17-12 OF S17-24 SHEETS