

**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.

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S40-06	Deck Repair Plan
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**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.
4. Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.
5. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
6. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway plans.
8. Perform Bridge Deck Grooving (Longitudinal).
9. Apply protective coat to the top of reconstructed transverse joint areas, top and inside faces of parapets and top of Latex Overlay.
10. Perform structural concrete repairs for the abutments and piers as noted on the plans.
11. Perform Slope Wall repairs.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	37.1	-	37.1
Protective Shield	Sq Yd	1,090	-	1,090
Concrete Superstructure	Cu Yd	42.9	-	42.9
Protective Coat	Sq Yd	2,219	-	2,219
Reinforcement Bars, Epoxy Coated	Pound	6,110	-	6,110
Bar Splicers	Each	32	-	32
Preformed Joint Seal 2 1/2"	Foot	11	-	11
Preformed Joint Strip Seal	Foot	232	-	232
Concrete Sealer	Sq Ft	-	1088	1,088
Epoxy Crack Injection	Foot	-	14	14
Slope Wall Crack Sealing	Foot	-	221	221
Protect And Maintain Existing Underpass Luminaire	L Sum	0.022	-	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,674	-	1,674
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,950	-	1,950
Bridge Deck Scarification 3/4"	Sq Yd	1,950	-	1,950
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	-	118	118
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2.5	-	2.5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	6.5	-	6.5
Diamond Grinding (Bridge Section)	Sq Yd	2,023	-	2,023
Maintenance Of Lighting System	Cal Mo	6	-	6
Temporary Construction Fence	Foot	-	331	331
Temporary Shoring And Cribbing	Each	-	2	2

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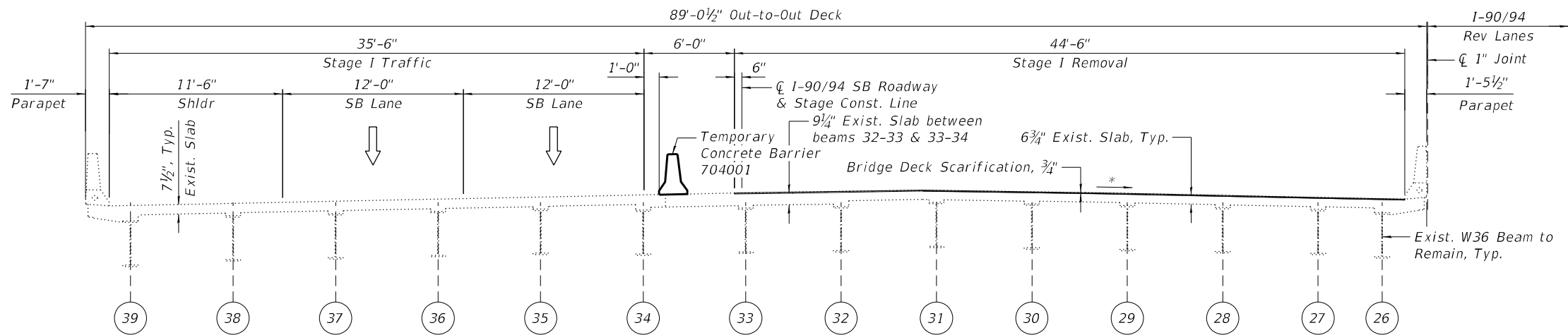
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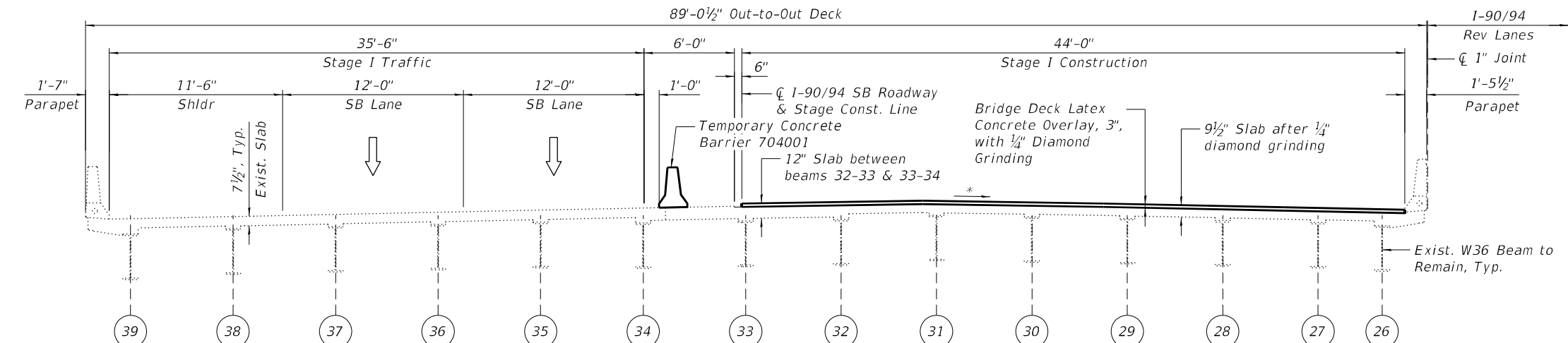
**GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-0112 (SB)**

SHEET S40-02 OF S40-19 SHEETS

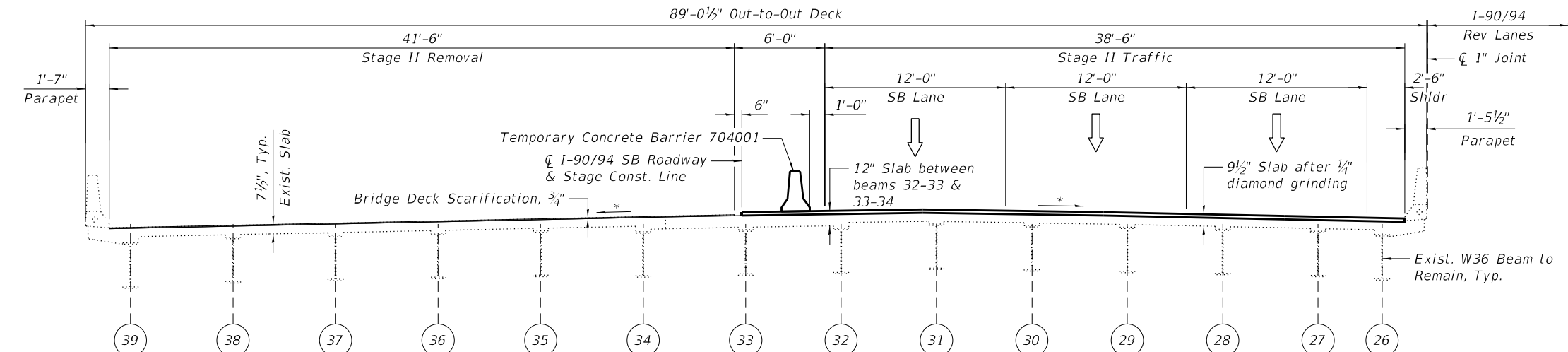
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CONTRACT NO. 62K74				
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**STAGE I REMOVAL**  
(Looking West)



**STAGE I CONSTRUCTION**  
(Looking West)



**STAGE II REMOVAL**  
(Looking West)

**STAGE I REMOVAL**

1. Install temporary concrete barrier as shown to locate traffic on north side of the structure.
2. Perform 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 plan with 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 II 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 hatch 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 north parapet, reconstructed transverse abutment 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 north side of structure.
2. Perform 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 plan with the limits of Stage III removal.

\* Match existing cross slopes

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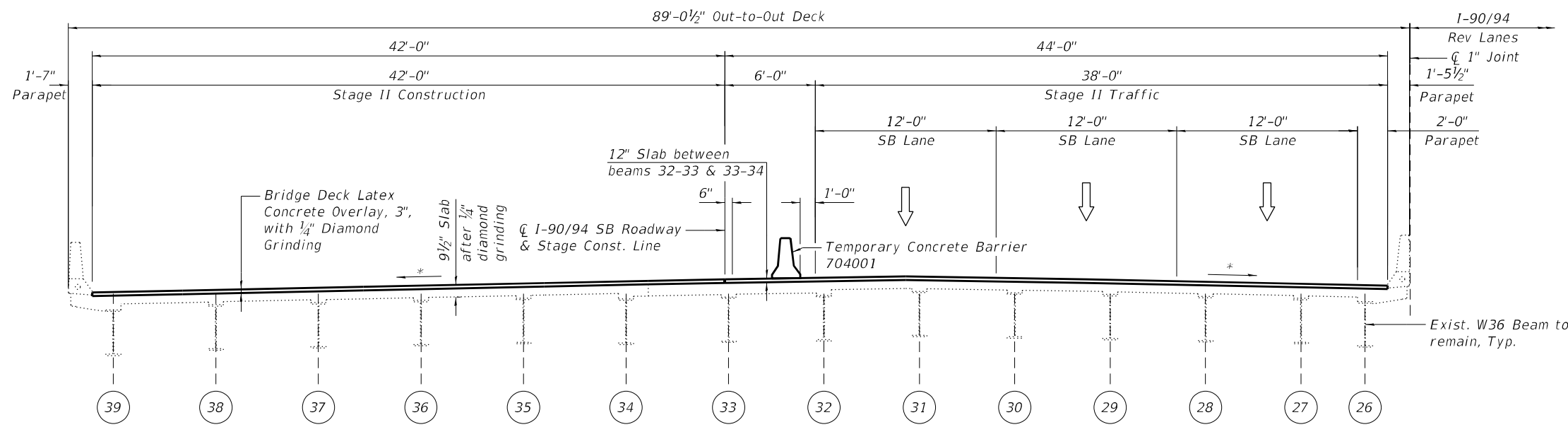
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DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION (SHEET 1 OF 2)  
STRUCTURE NO. 016-0112 (SB)**

SHEET S40-03 OF S40-19 SHEETS

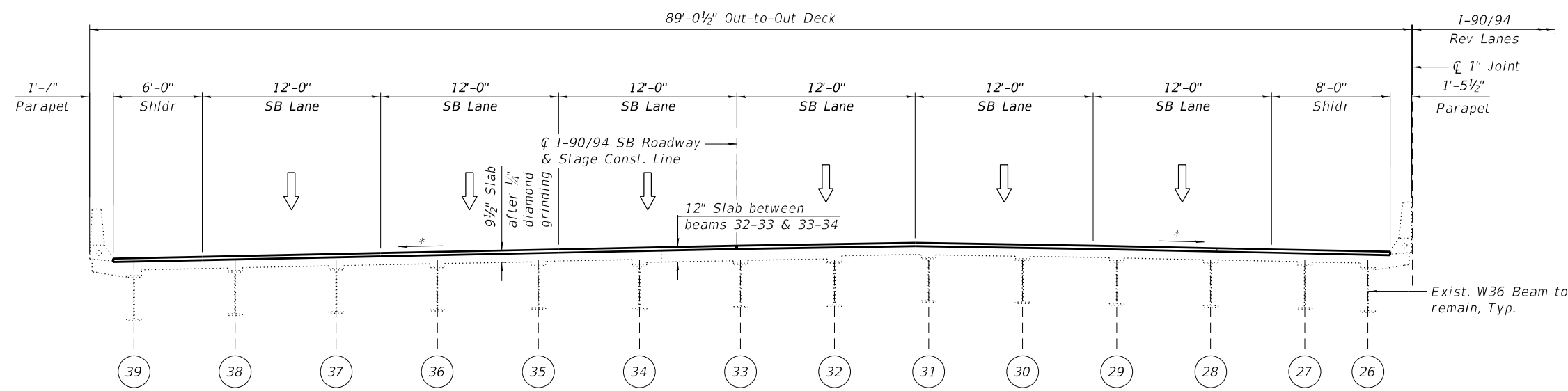
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CONTRACT NO. 62K74				
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**STAGE II CONSTRUCTION**  
(Looking West)

- 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 III 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 hatch 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 abutment expansion joints and to the surfaces of the new overlay.
  9. Perform slope wall repairs as shown on the plans
- \* Match existing cross slopes



**FINAL CROSS SECTION**  
(Looking West)

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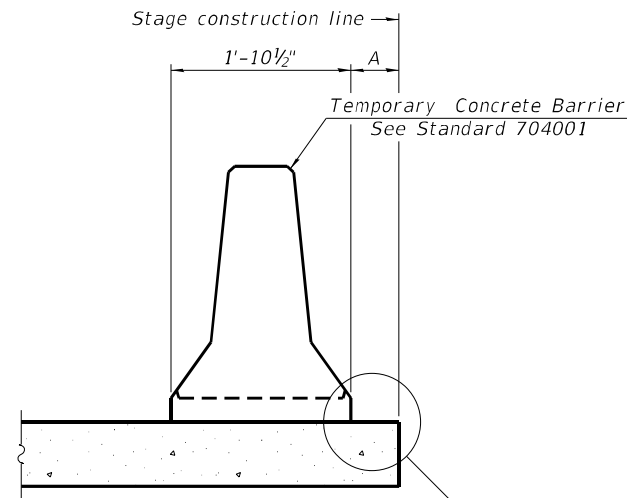
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**STAGE CONSTRUCTION (SHEET 2 OF 2)  
STRUCTURE NO. 016-0112 (SB)**

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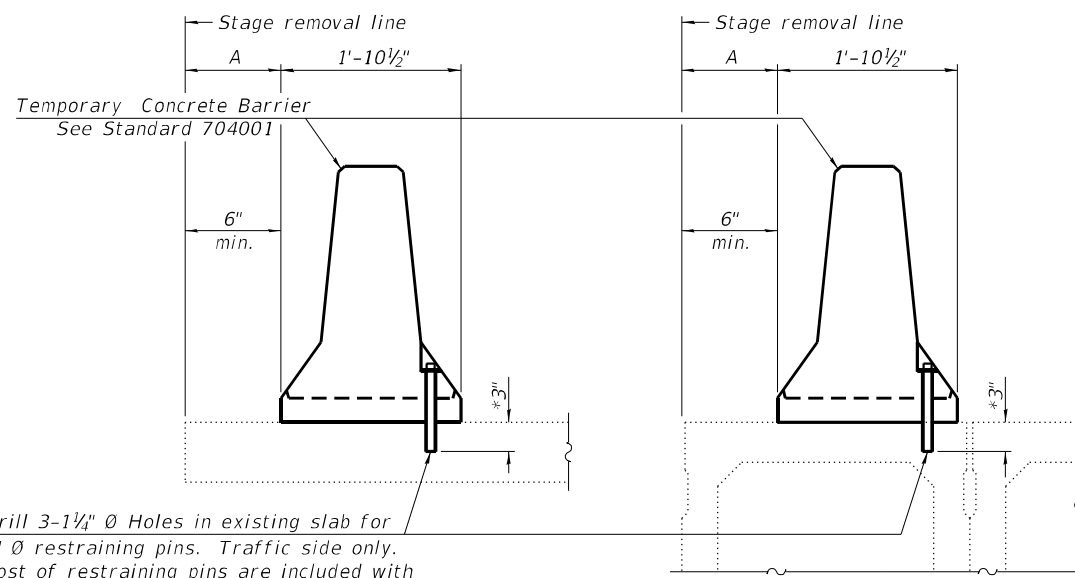
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When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

**NEW SLAB OR NEW DECK BEAM**

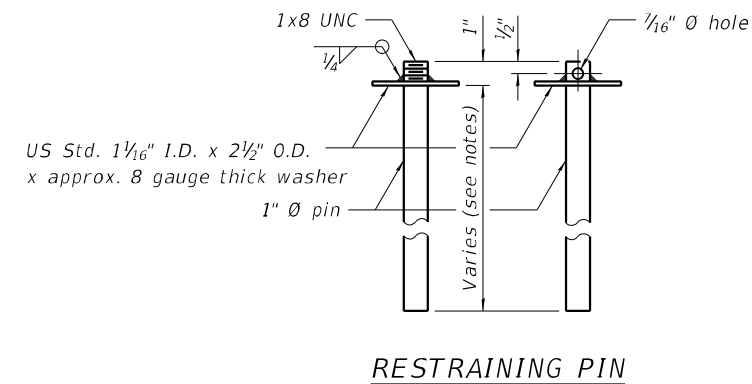


Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**

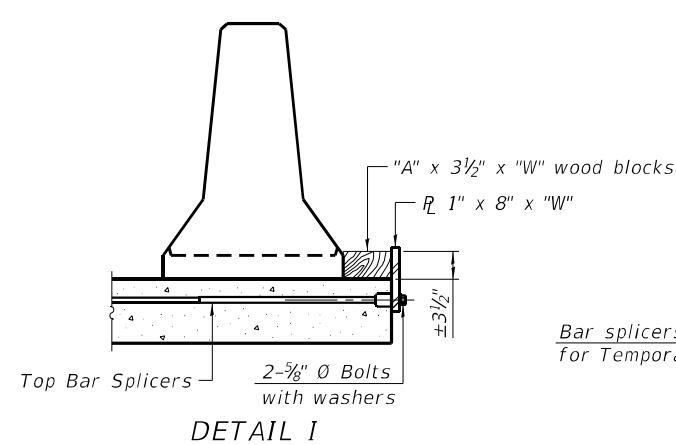
**EXISTING DECK BEAM**

**SECTIONS THRU SLAB OR DECK BEAM**

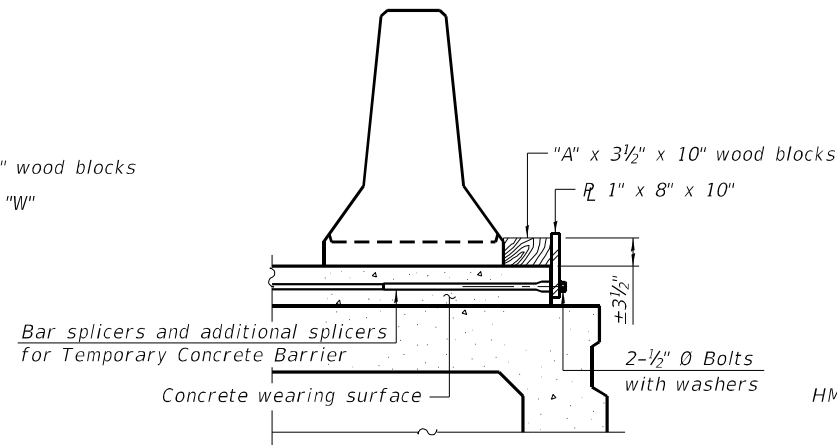


**RESTRAINING PIN**

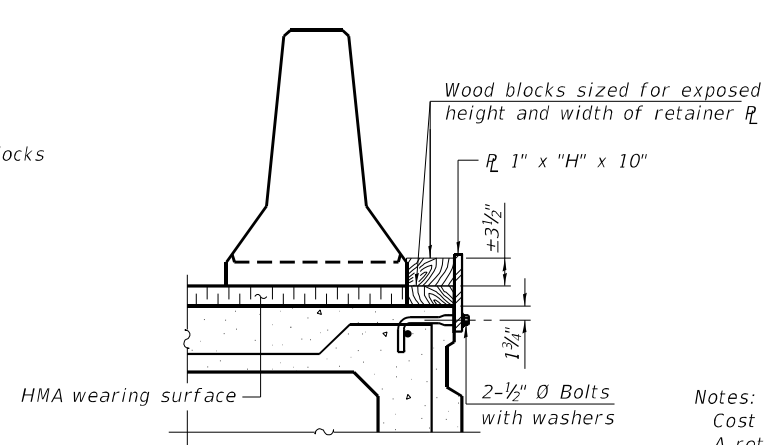
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.



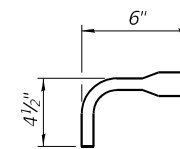
**DETAIL I**



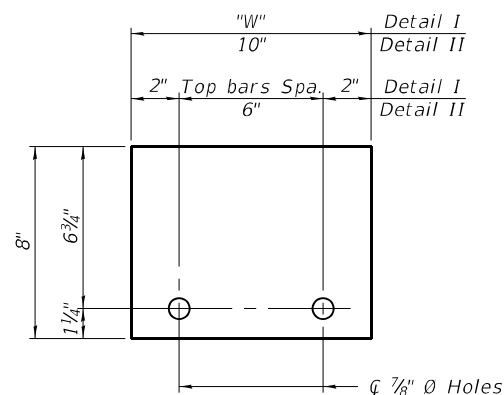
**DETAIL II**



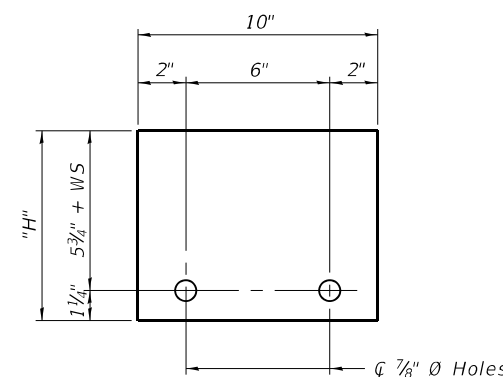
**DETAIL III**



**BAR SPLICER FOR #4 BAR - DETAIL III**



**STEEL RETAINER 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 center 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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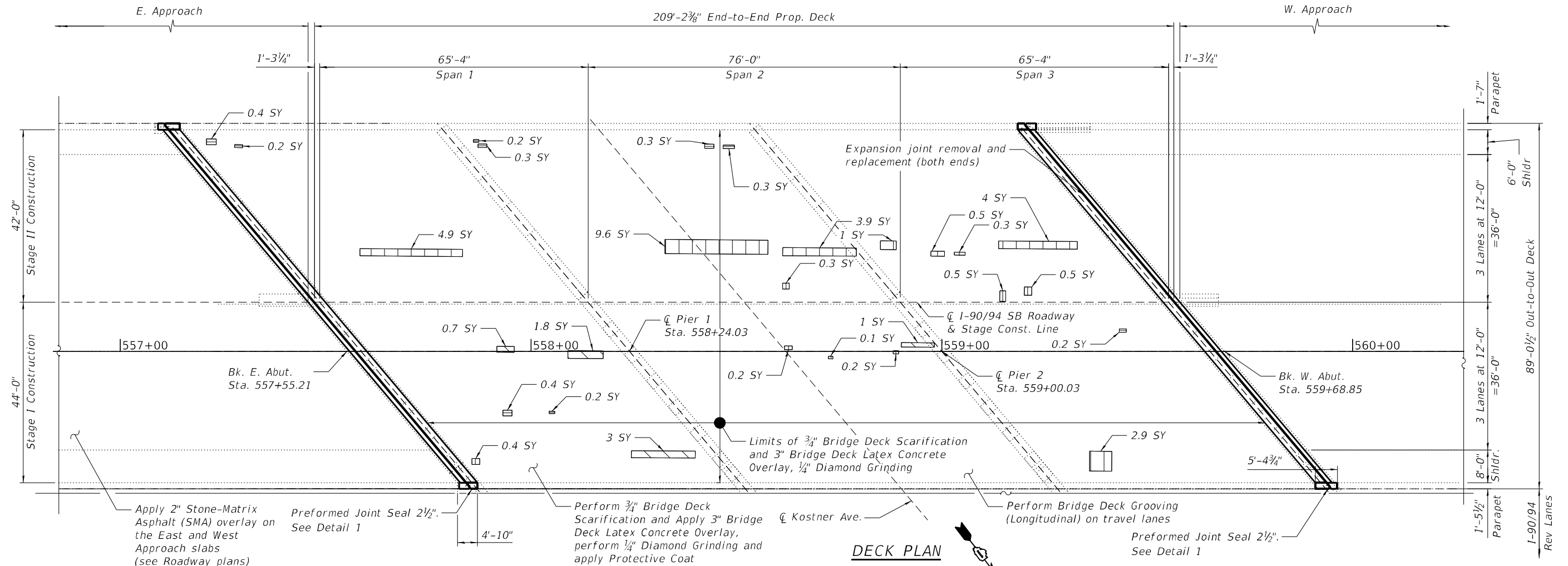
**TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 016-0112 (SB)**

SHEET S40-05 OF S40-19 SHEETS

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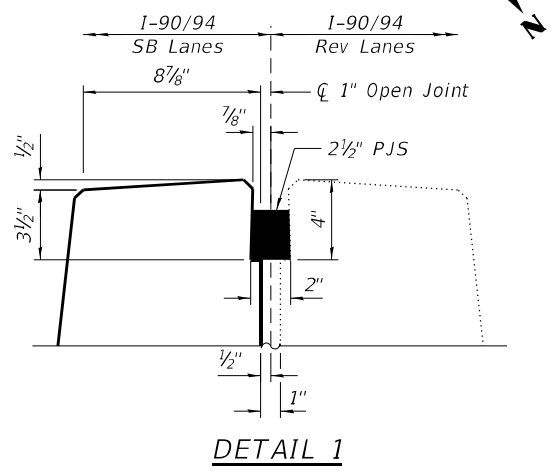
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	2,219
Preformed Joint Seal 2 1/2"	Foot	11
Bridge Deck Grooving (Longitudinal)	Sq Yd	1674
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1950
Bridge Deck Scarification 3/4"	Sq Yd	1950
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2.5
Deck Slab Repair (Full Depth, Type II)	Sq Yd	6.5
Diamond Grinding (Bridge Section)	Sq Yd	2023



**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 S40-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S40-07 thru S40-12.
4. Perform bridge Deck Grooving (Longitudinal) on the traffic lanes for the bridge deck latex concrete overlay and the portions of the reconstructed transverse joints.
5. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched area.
6. Protective coat shall be applied to the top and inside face of parapets and top of latex concrete overlay.
7. 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.
8. 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.



\*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:**

- [Hatched Box] \*Deck Slab Repair (Partial Depth)
- [Solid Box] Deck Slab Repair (Full Depth, Type I)
- [Diagonal Lines Box] Deck Slab Repair (Full Depth, Type II)
- SY - Square Yard



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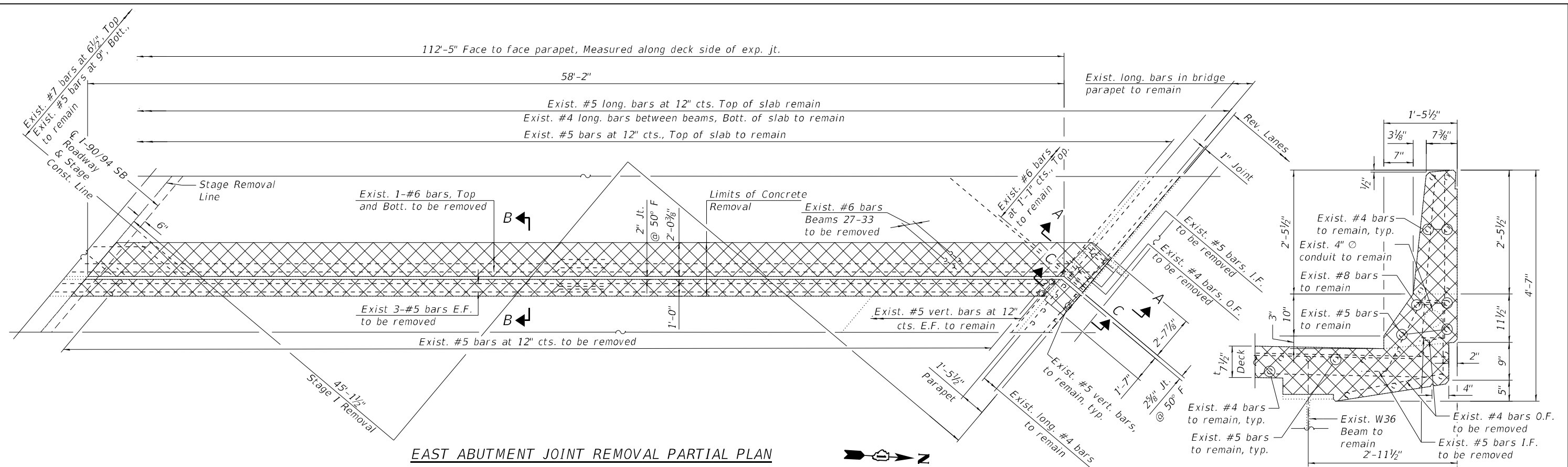
**DECK REPAIR PLAN  
STRUCTURE NO. 016-0112 (SB)**

SHEET S40-06 OF S40-19 SHEETS

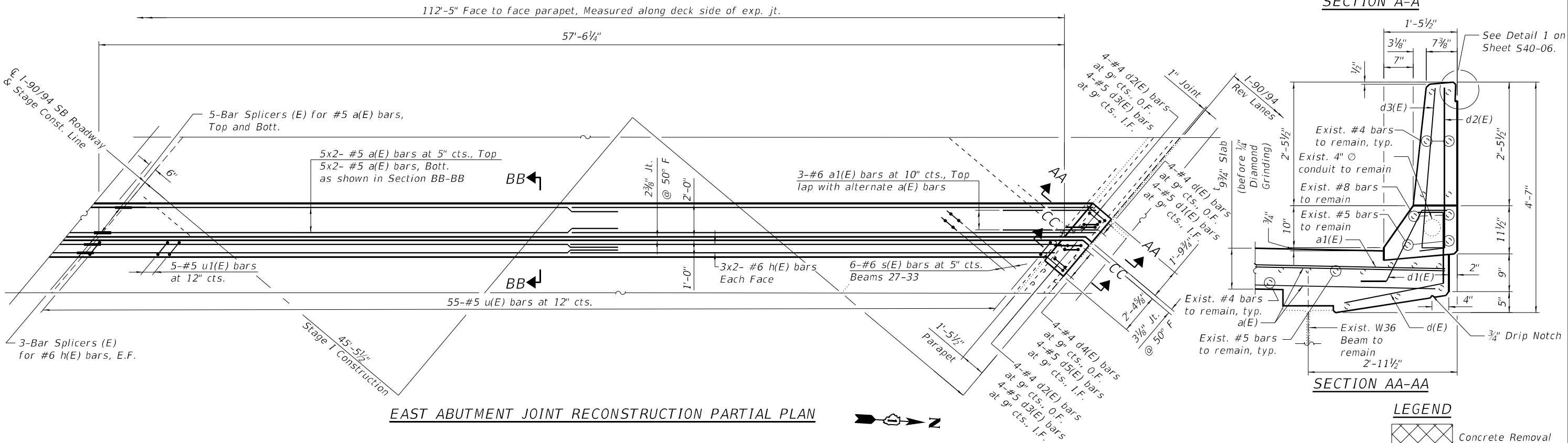
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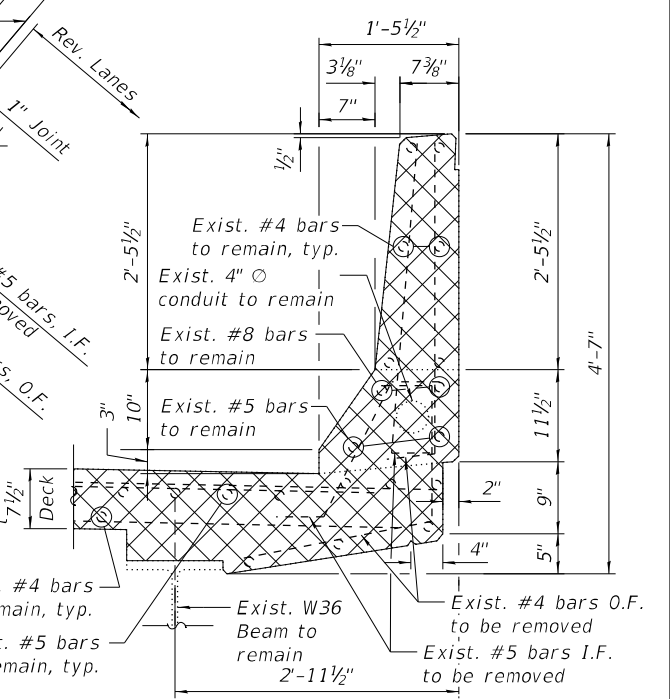
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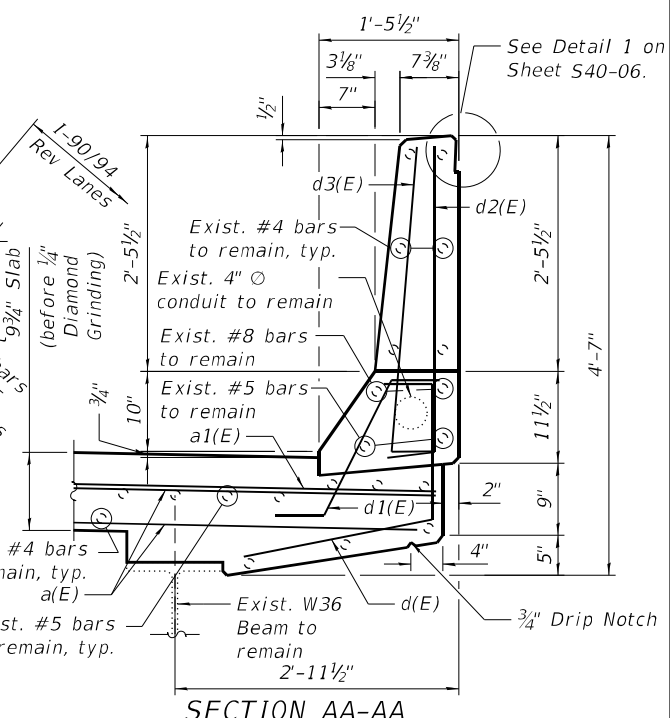
**EAST ABUTMENT JOINT REMOVAL PARTIAL PLAN**



**EAST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN**



**SECTION A-A**



**SECTION AA-AA**

**LEGEND**

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

**NOTE:**  
 1. For Sections B-B, C-C, BB-BB and CC-CC, Bar Diagrams, additional Notes and Bill of Material, see Sheet S40-09.

The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after diamond grinding between beams 32 & 33, and 33 & 34 only.



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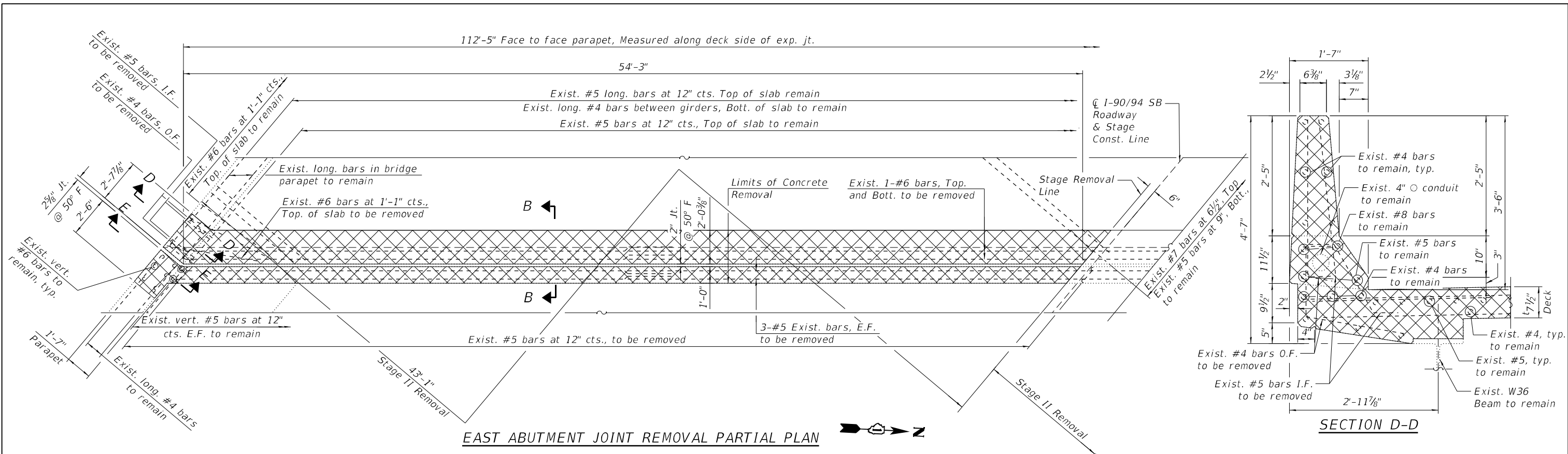
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**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)  
 STRUCTURE NO. 016-0112 (SB)**

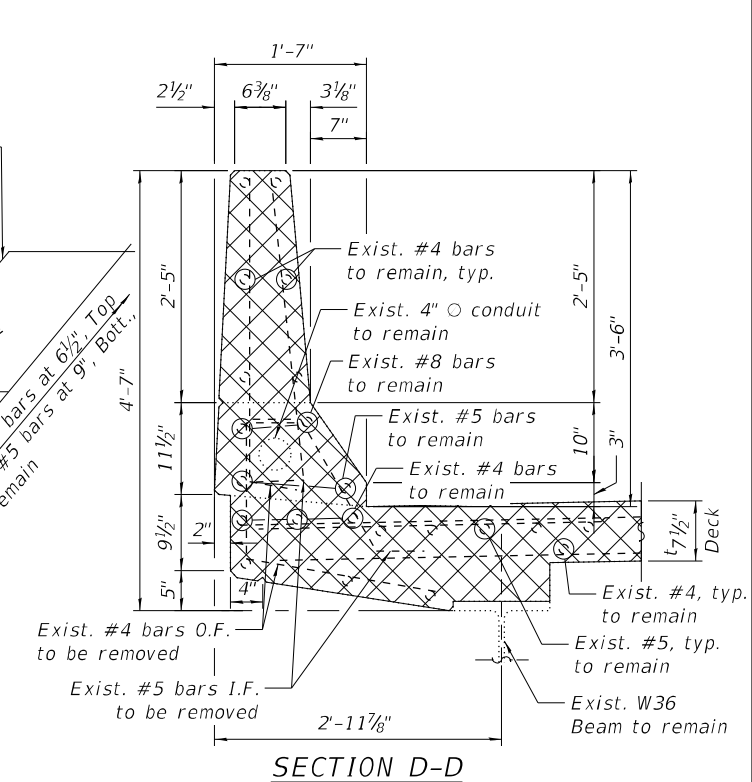
SHEET S40-07 OF S40-19 SHEETS

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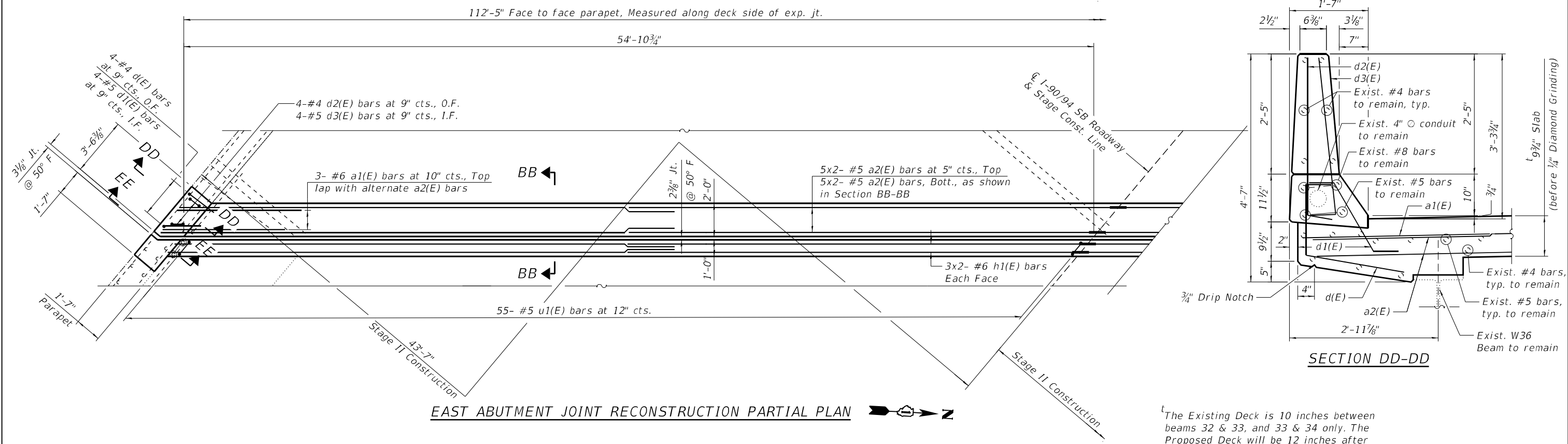
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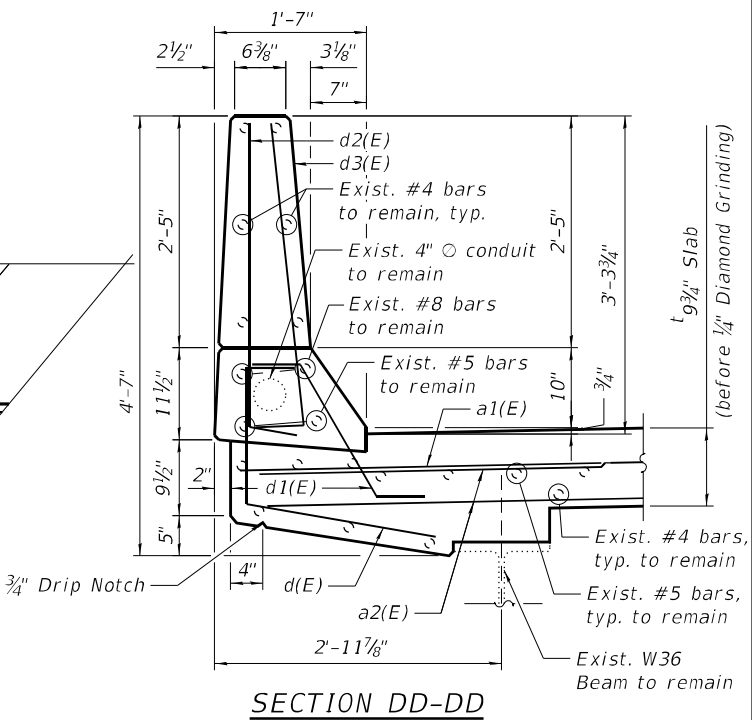
**EAST ABUTMENT JOINT REMOVAL PARTIAL PLAN**



**SECTION D-D**



**EAST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN**



**SECTION DD-DD**

†The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after diamond grinding between beams 32 & 33, and 33 & 34 only.

**NOTES:**

1. For legend, see Sheet S40-07.
2. For Sections B-B, E-E, BB-BB and EE-EE, Bar Diagrams, additional Notes and Bill of Material, see Sheet S40-09.



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

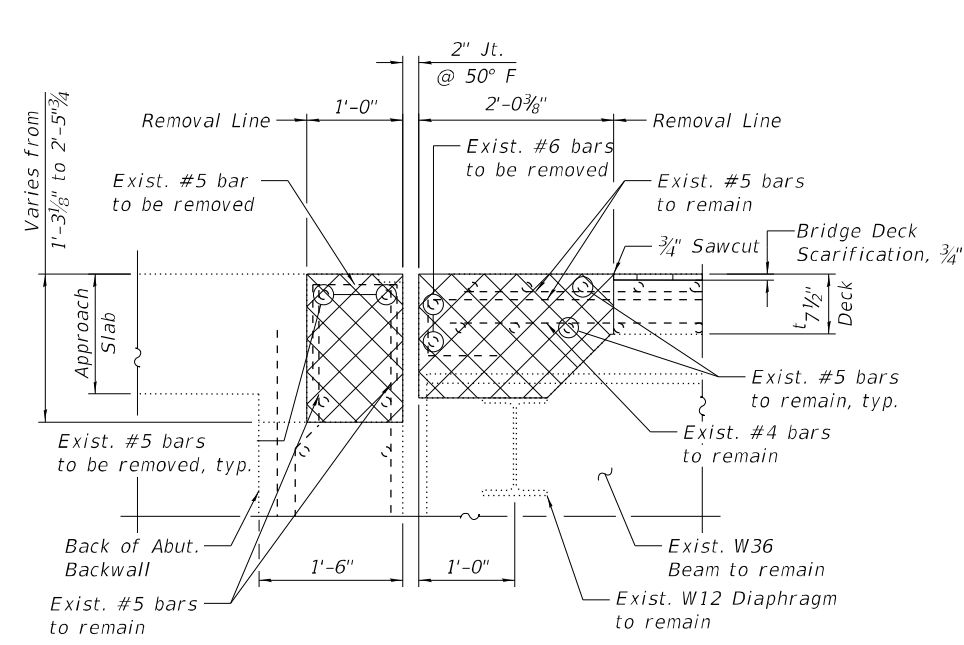
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)**  
**STRUCTURE NO. 016-0112 (SB)**

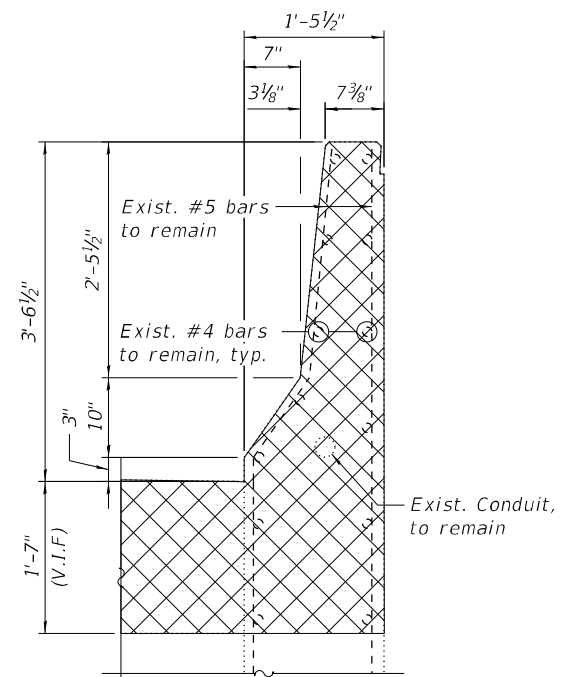
SHEET S40-08 OF S40-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1407
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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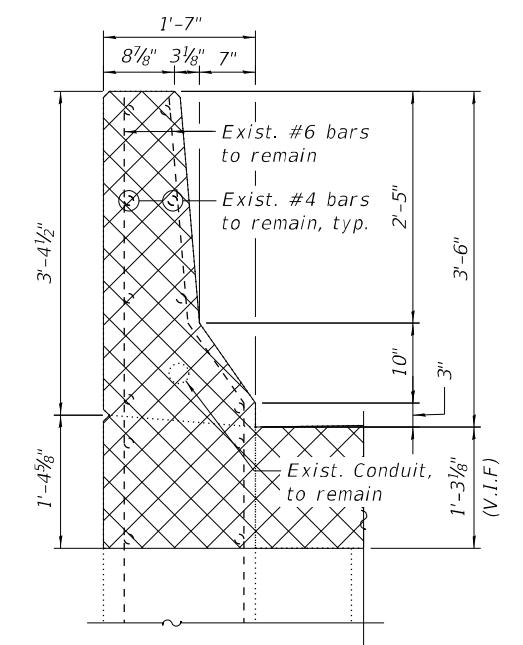


**SECTION B-B**



**SECTION C-C**

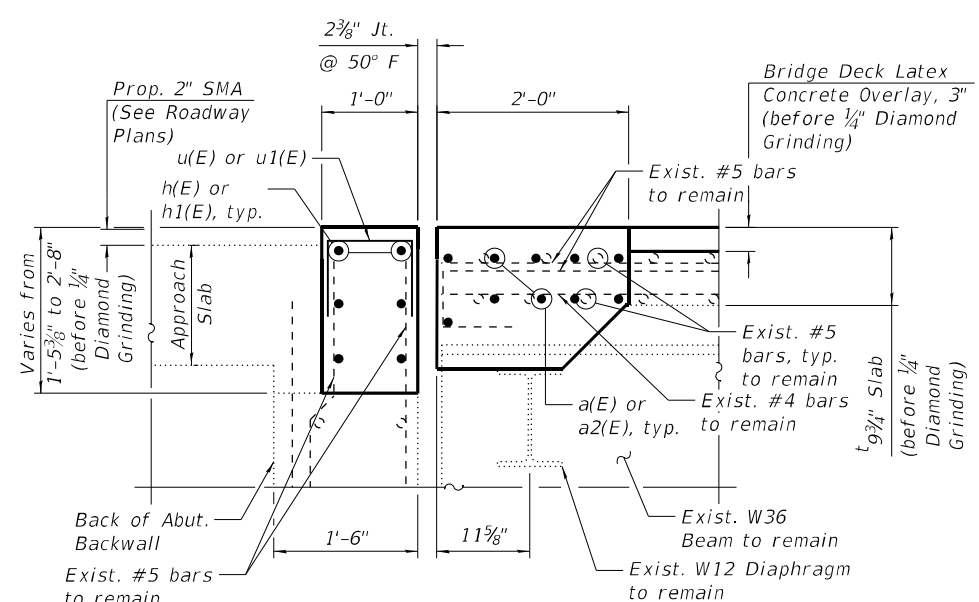
(Reinforcement in the pour strip not shown for clarity)



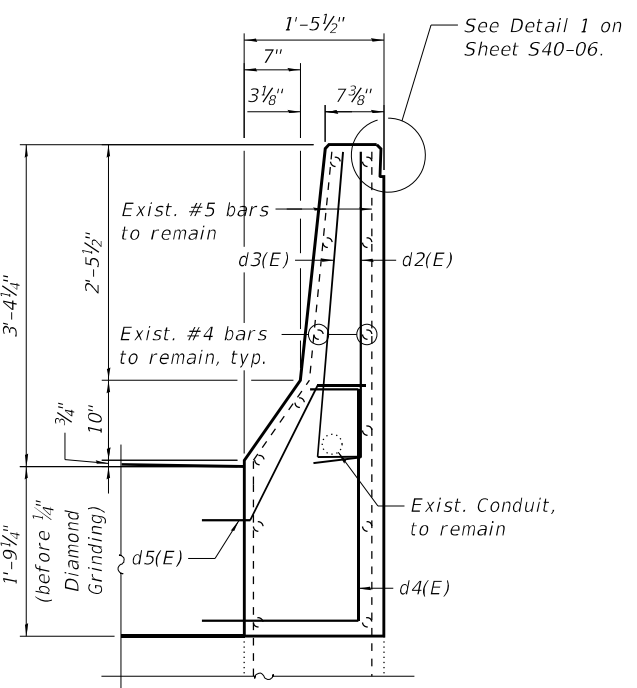
**SECTION E-E**

(Reinforcement in the pour strip not shown for clarity)

† The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after diamond grinding between beams 32 & 33, and 33 & 34 only.

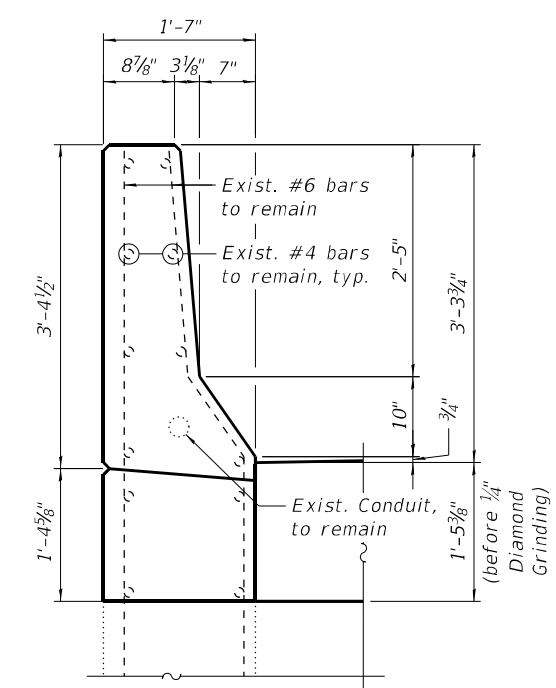


**SECTION BB-BB**



**SECTION CC-CC**

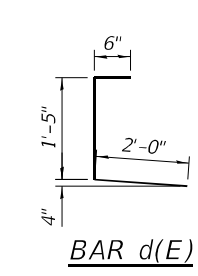
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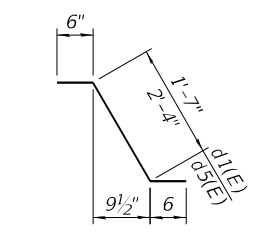
**SECTION EE-EE**

(Reinforcement in the pour strip not shown for clarity)

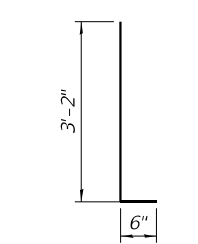
BILL OF MATERIAL				
ITEM	NO	SIZE	LENGTH	SHAPE
a(E)	20	#5	29'-11"	—
a1(E)	6	#6	6'-6"	—
a2(E)	20	#5	31'-2"	—
d(E)	8	#4	3'-11"	┌
d1(E)	8	#5	2'-7"	┌
d2(E)	12	#4	3'-8"	┌
d3(E)	12	#5	3'-8"	┌
d4(E)	4	#4	3'-7"	┌
d5(E)	4	#5	3'-4"	┌
h(E)	12	#6	29'-1"	—
h1(E)	12	#6	30'-5"	—
u(E)	55	#5	3'-8"	┐
u1(E)	60	#5	3'-0"	┐
s(E)	42	#6	3'-4"	┐
Concrete Removal			Cu Yd	18.8
Concrete Superstructure			Cu Yd	21.9
Protective Coat			Sq Yd	42
Reinforcement Bars, Epoxy Coated			Pound	3,150



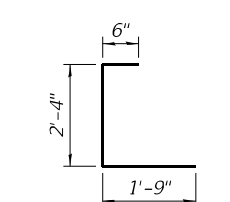
**BAR d(E)**



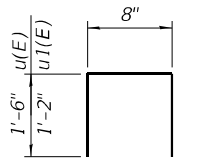
**BAR d1(E) & d5(E)**



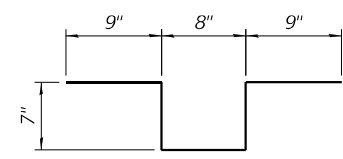
**BARS d2(E) & d3(E)**



**BAR d4(E)**



**BARS u(E) & u1(E)**



**BAR s(E)**

**NOTES:**

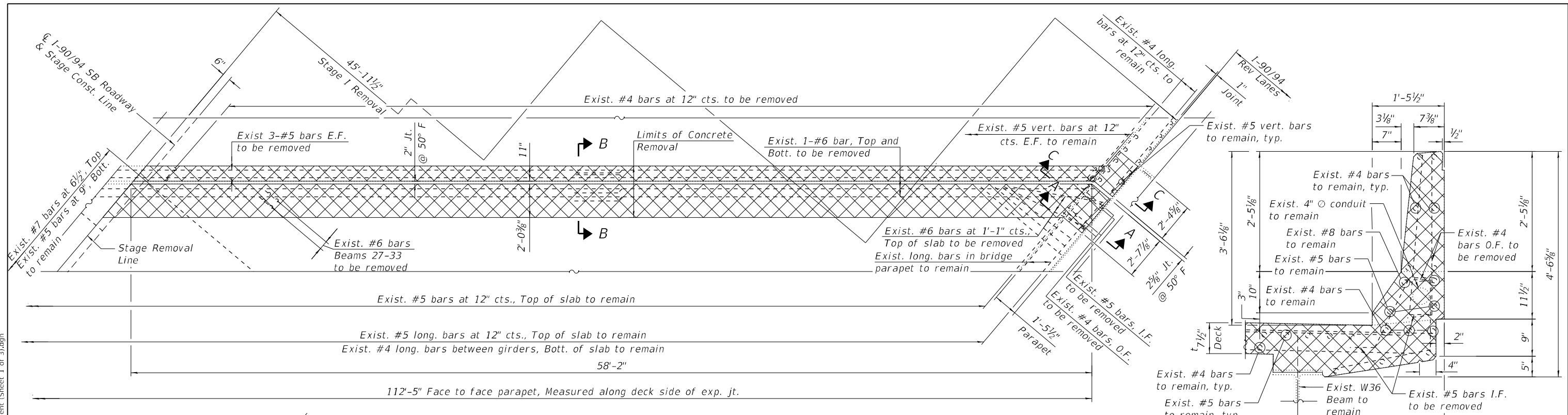
- For legend, see Sheet S40-07.
- For preformed joint strip seal details, see Sheet S40-13.
- For bar splicer assembly details, see Sheet S40-19.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

**MIN BAR LAPS**

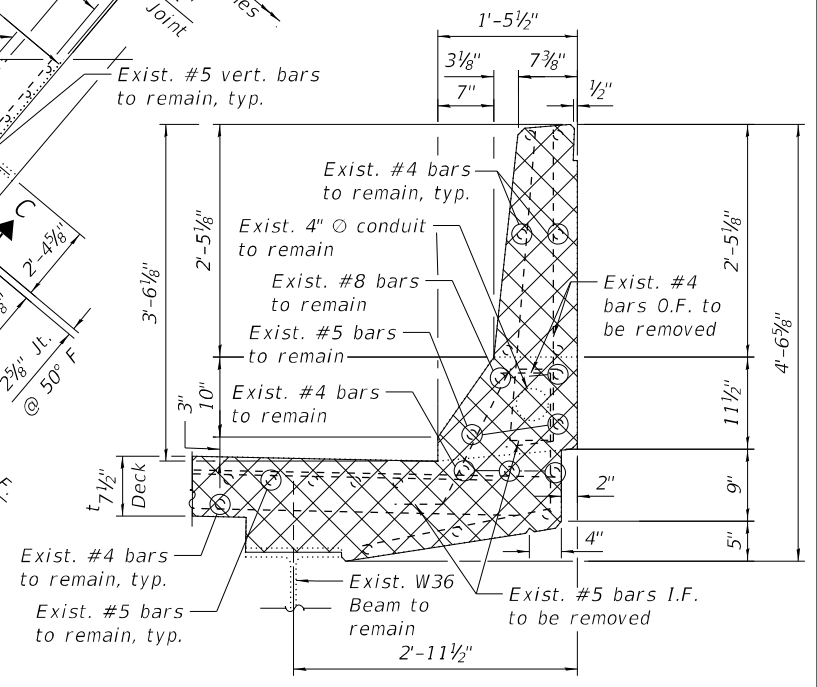
- #5 3'-6"
- #6 4'-0"

	USER NAME =	DESIGNED - SK, JMI	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>E. ABUT. JOINT REMOVAL &amp; REPLACEMENT (SHT. 3 OF 3)</b> <b>STRUCTURE NO. 016-0112 (SB)</b>	F.A.I. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
	PLOT SCALE =	DRAWN - AMS, JMI	REVISED -			90/94	2020-004-BR	COOK	1492	1408
	PLOT DATE =	DATE - 8/30/2022	REVISED -	SHEET S40-09 OF S40-19 SHEETS		ILLINOIS		FED. AID PROJECT		

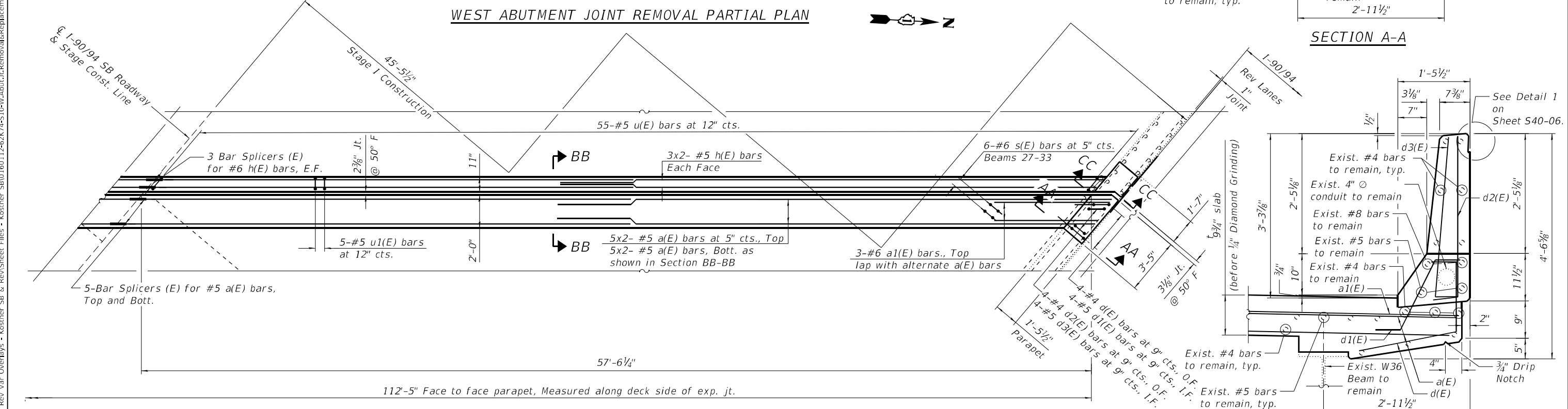
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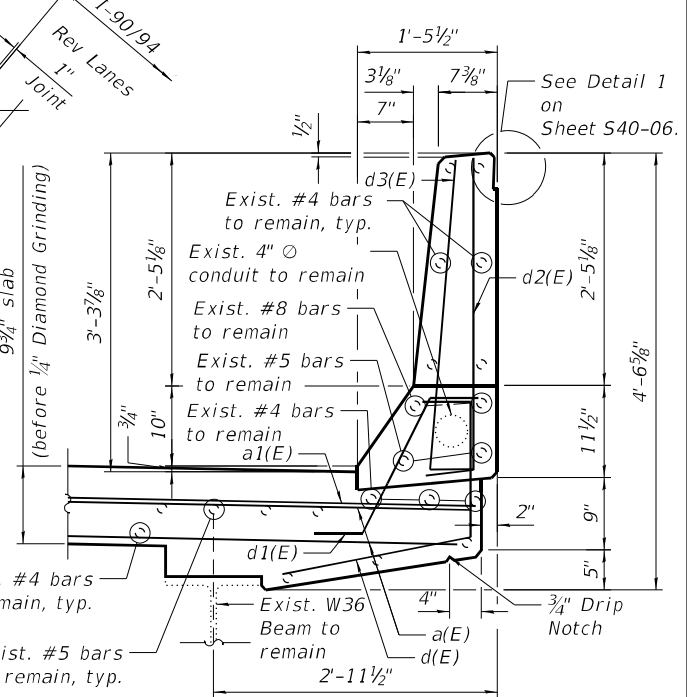
**WEST ABUTMENT JOINT REMOVAL PARTIAL PLAN**



**SECTION A-A**



**WEST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN**



**SECTION AA-AA**

**LEGEND**

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

**NOTE:**

1. For Sections B-B, C-C, BB-BB and CC-CC, Bar Diagrams, additional Notes and Bill of Material, see Sheet S40-12.

The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after 1/4" diamond grinding between beams 32 & 33, and 33 & 34 only.



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

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

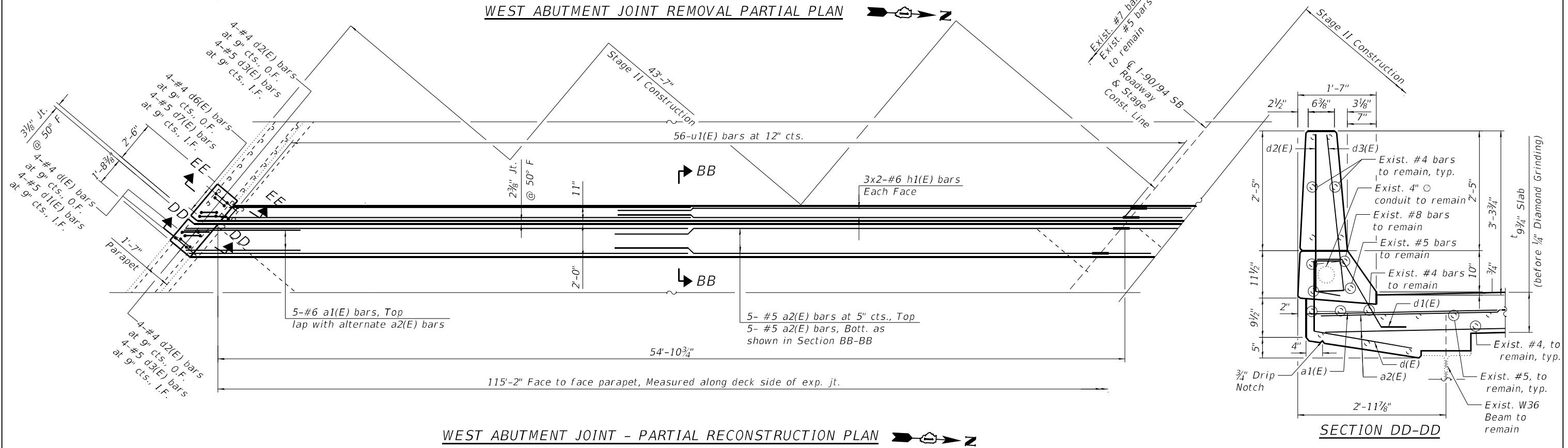
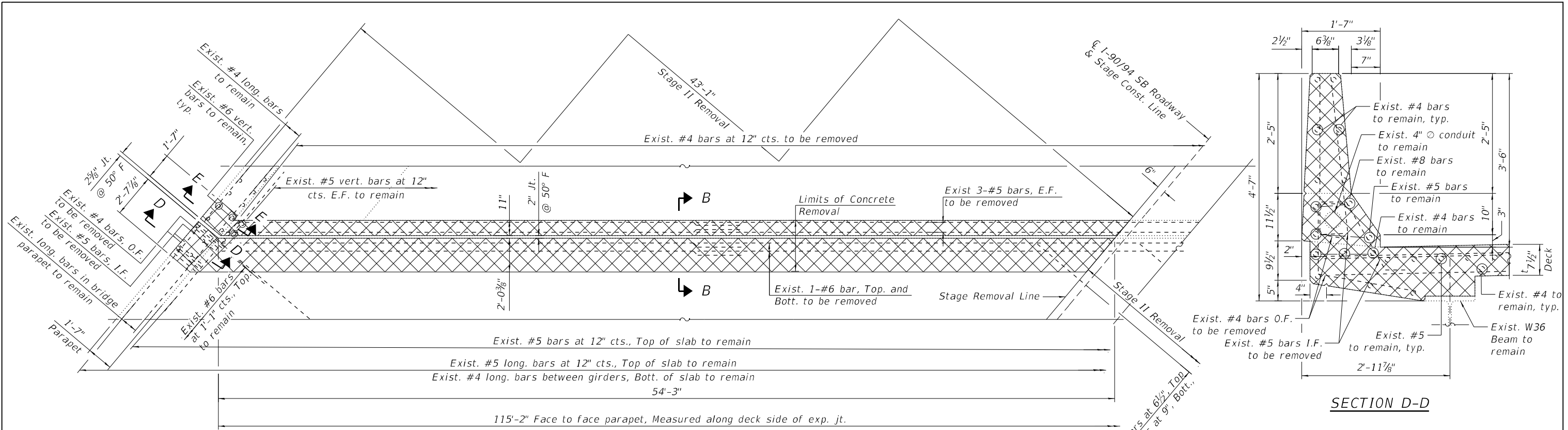
**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 3)  
 STRUCTURE NO. 016-0112 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1409
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S40-10 OF S40-19 SHEETS



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**NOTES:**

1. For legend, see Sheet S40-10.
2. For Sections B-B, E-E, BB-BB and EE-EE, bar diagrams, additional Notes and Bill of Material, see Sheet S40-12.

<sup>t</sup>The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after 1/4" diamond grinding between beams 32 & 33, and 33 & 34 only.



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

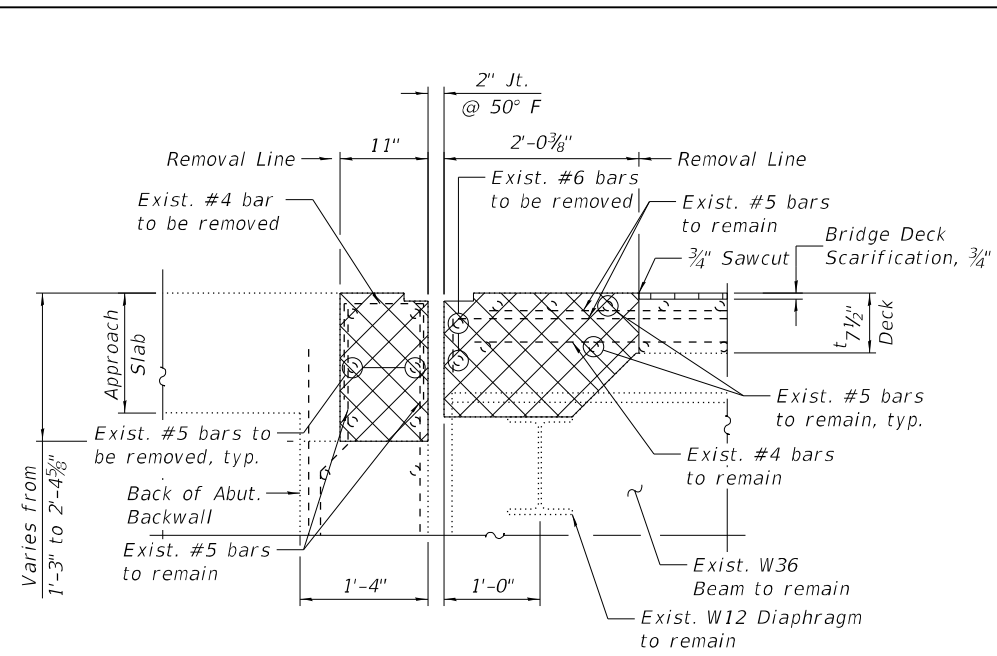
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL AND REPLACEMENT (SHEET 2 OF 3)  
 STRUCTURE NO. 016-0112 (SB)**

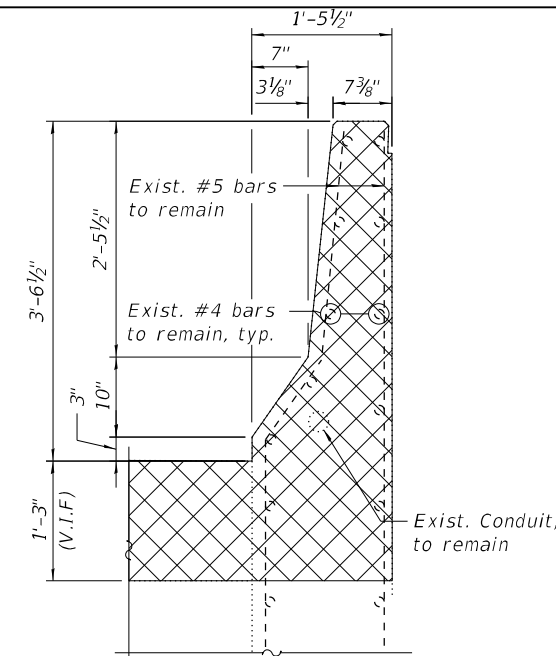
SHEET S40-11 OF S40-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1410
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

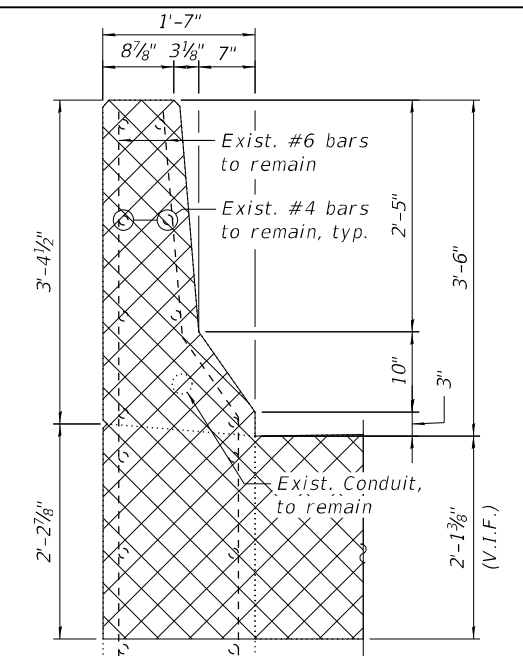
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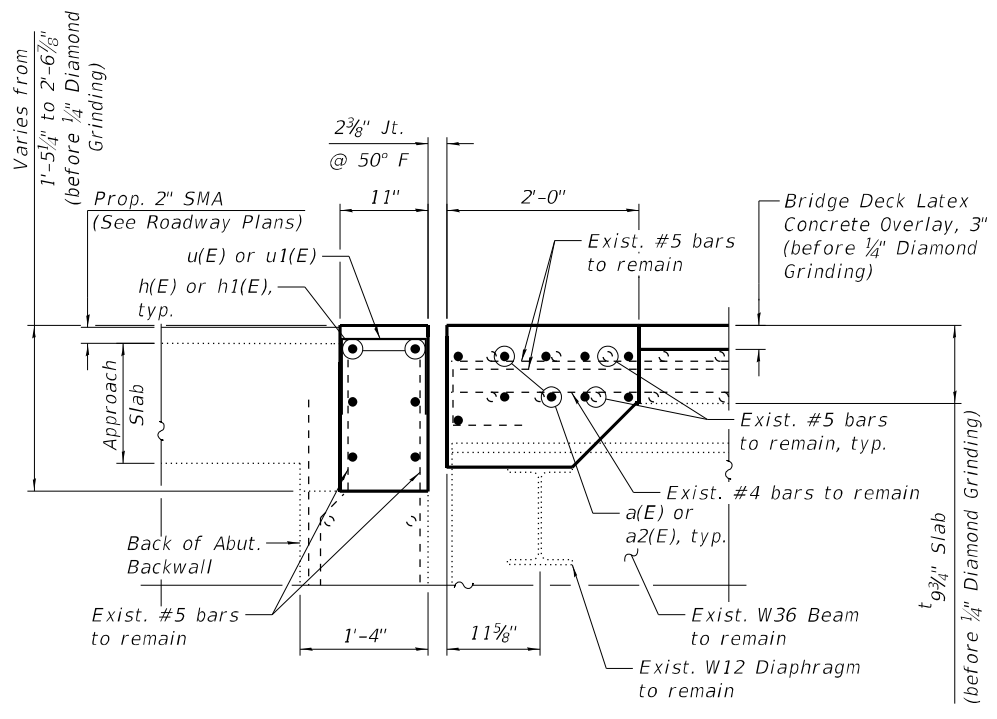
**SECTION B-B**



**SECTION C-C**  
 (Reinforcement in the pour strip not shown for clarity)

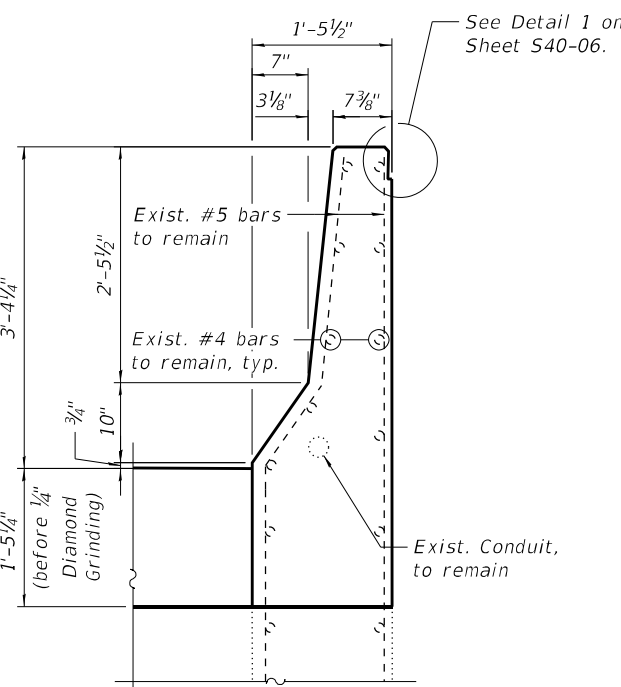


**SECTION E-E**  
 (Reinforcement in the pour strip not shown for clarity)

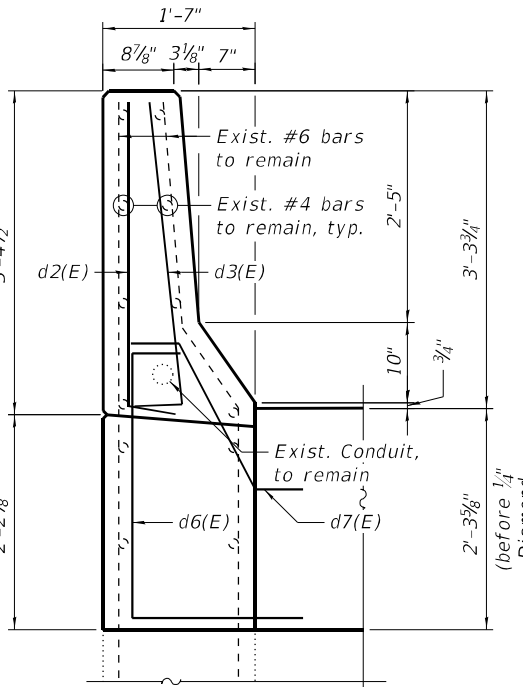


**SECTION BB-BB**

The Existing Deck is 10 inches between beams 32 & 33, and 33 & 34 only. The Proposed Deck will be 12 inches after 1/4" diamond grinding between beams 32 & 33, and 33 & 34 only.



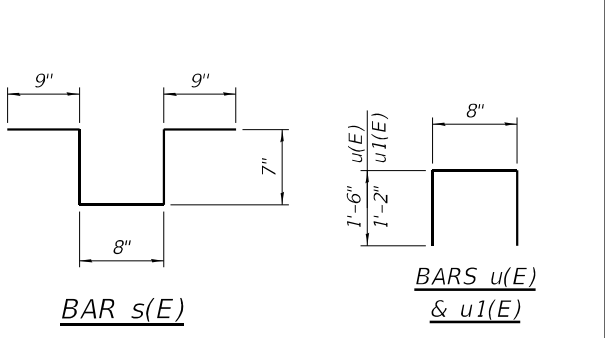
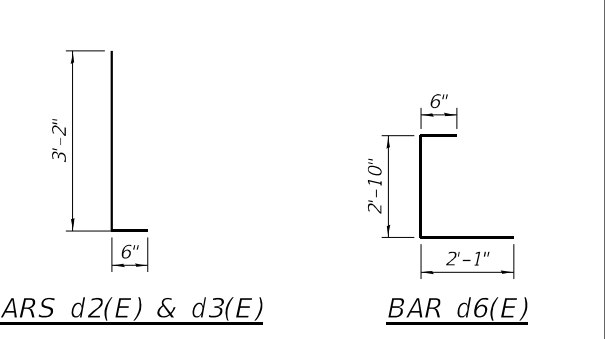
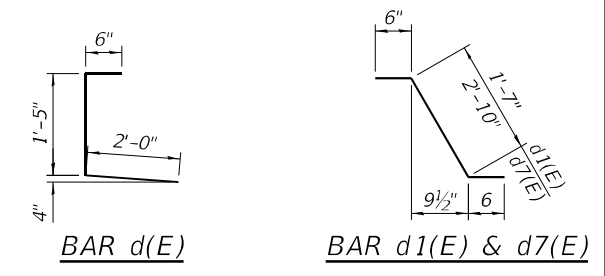
**SECTION CC-CC**  
 (Reinforcement in the pour strip not shown for clarity)



**SECTION EE-EE**  
 (Reinforcement in the pour strip not shown for clarity)

**BILL OF MATERIAL**

ITEM	NO	SIZE	LENGTH	SHAPE
a(E)	20	#5	29'-11"	—
a1(E)	6	#6	6'-6"	—
a2(E)	20	#5	31'-2"	—
d(E)	8	#4	3'-11"	⌋
d1(E)	8	#5	2'-7"	⌋
d2(E)	12	#4	3'-8"	⌋
d3(E)	12	#5	3'-8"	⌋
d6(E)	4	#4	5'-5"	⌋
d7(E)	4	#5	3'-10"	⌋
h(E)	12	#6	29'-1"	—
h1(E)	12	#6	30'-5"	—
u(E)	55	#5	3'-8"	⌋
u1(E)	61	#5	3'-0"	⌋
s(E)	42	#6	3'-4"	⌋
Concrete Removal			Cu Yd	18.3
Concrete Superstructure			Cu Yd	21.0
Protective Coat			Sq Yd	40
Reinforcement Bars, Epoxy Coated			Pound	2,960



- NOTES:**
- For legend, see Sheet S40-10.
  - For preformed joint strip seal details, see Sheet S40-13.
  - For bar splicer assembly details, see Sheet S40-19.
  - Removal and disposal of the existing expansion joints is included with Concrete Removal.

**MIN BAR LAPS**

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



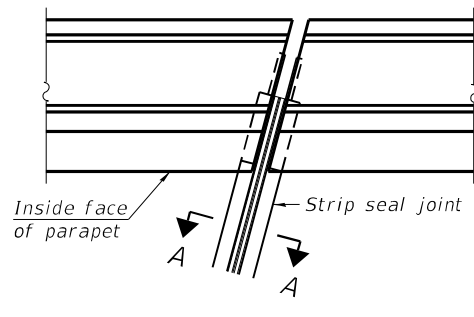
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PLOT DATE =	DRAWN - AMS, JMI	REVISED -
	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
 STRUCTURE NO. 016-0112 (SB)**

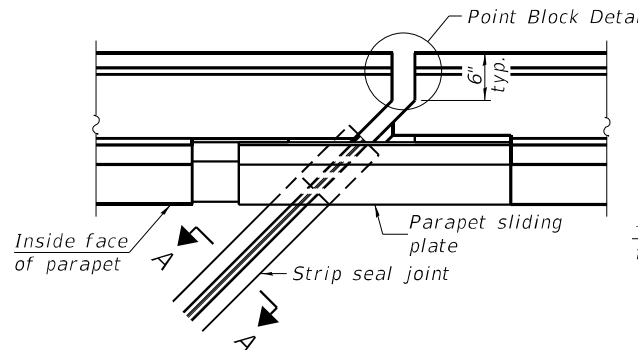
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90/94	2020-004-BR	COOK	1492	1411
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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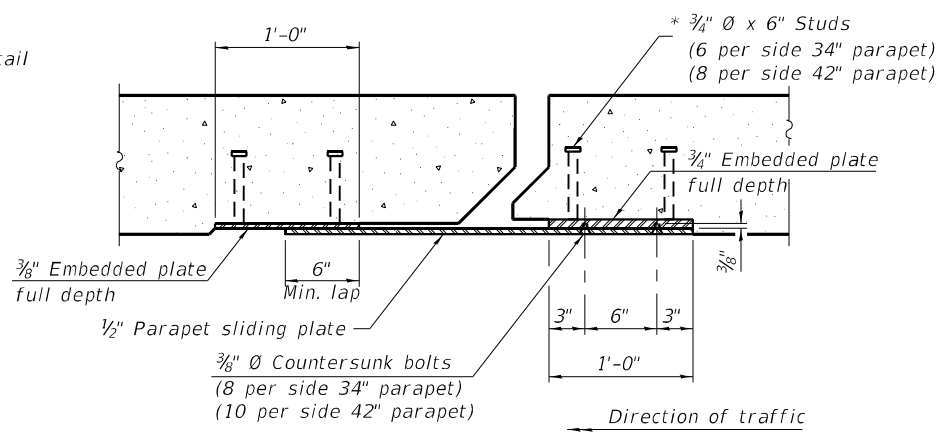


FOR SKEWS  $\leq 30^\circ$

**PLAN AT PARAPET**

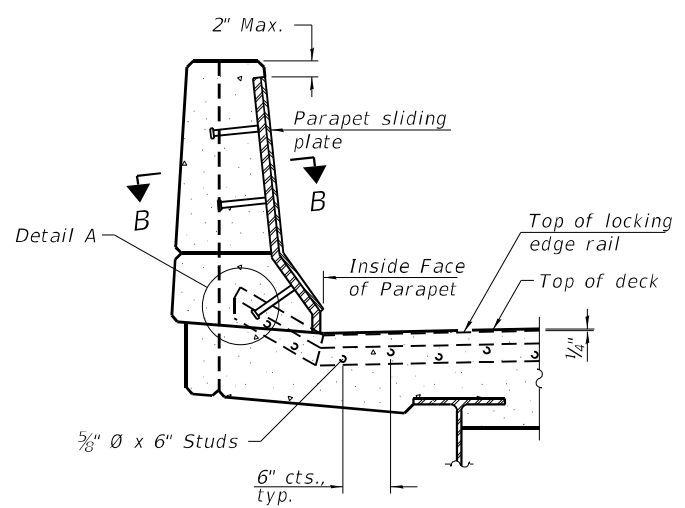


FOR SKEWS  $> 30^\circ$



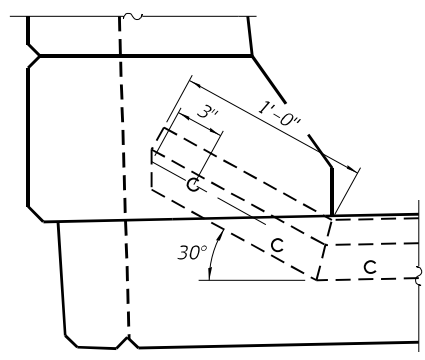
**SECTION B-B**

**Notes:**  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The locking edge rails depicted are 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 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 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.

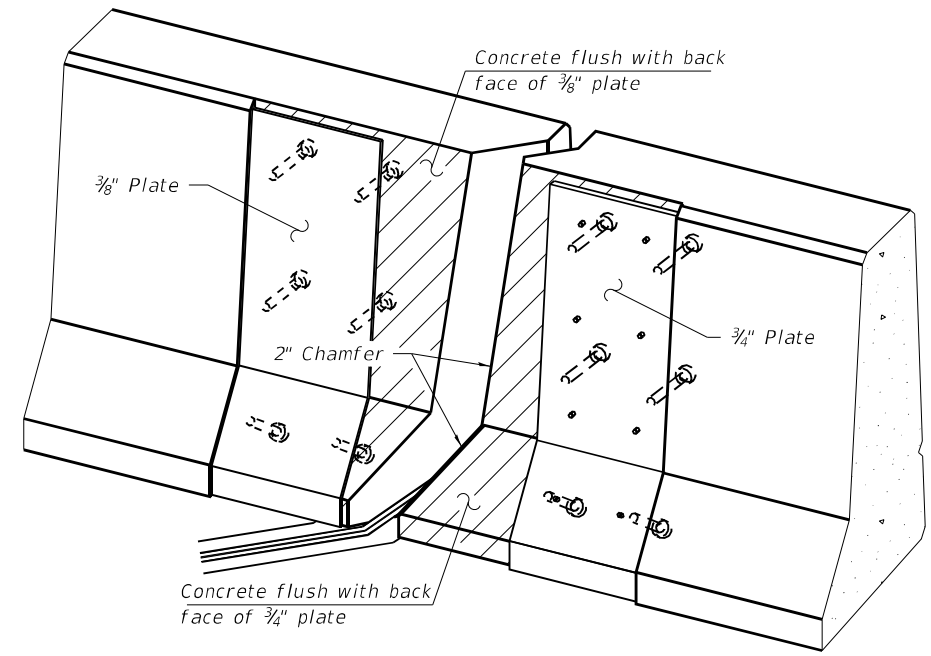


**ELEVATION AT PARAPET**

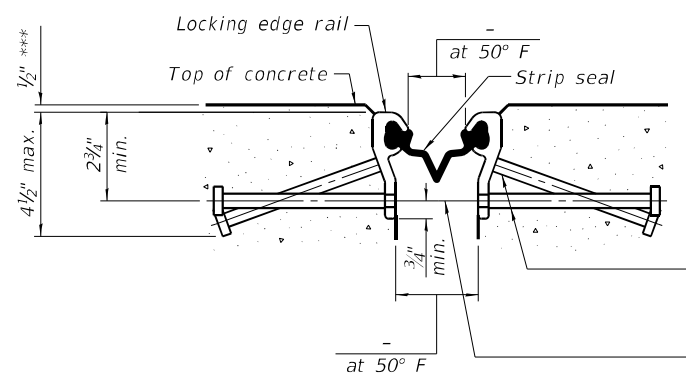
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



**DETAIL A**



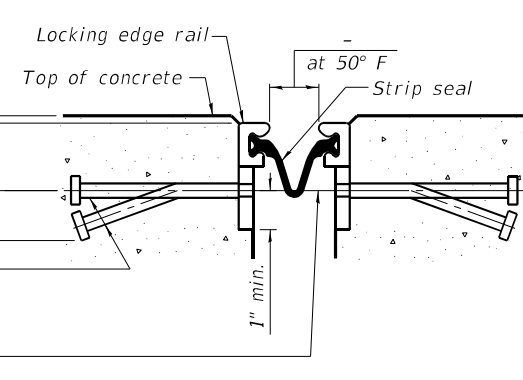
**TRIMETRIC VIEW**  
(Showing embedded plates only)



**SHOWING ROLLED RAIL JOINT**

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

3/8" Ø threaded rods in 1/16" 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.

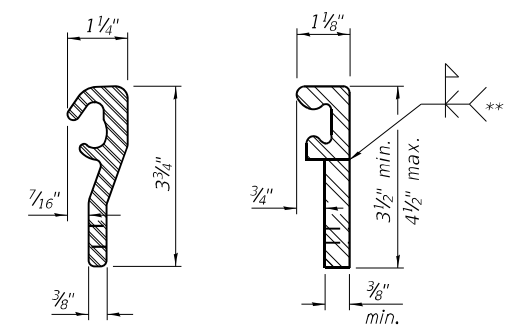


**SHOWING WELDED RAIL JOINT**

**SECTION A-A**

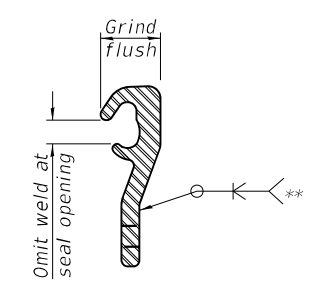
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

\*\*\* 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	QUANTITY
Preformed Joint Strip Seal	Foot	232



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

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

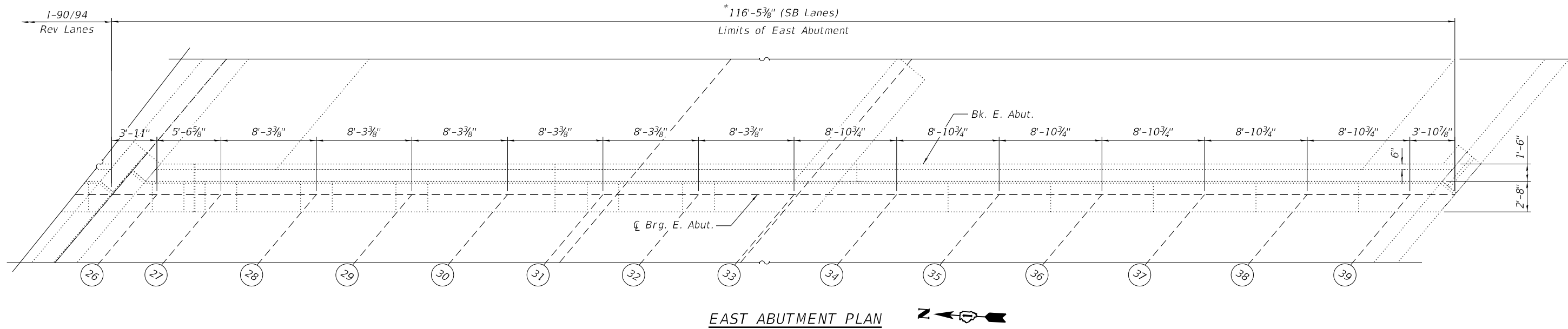
PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 016-0112 (SB)

SHEET S40-13 OF S40-19 SHEETS

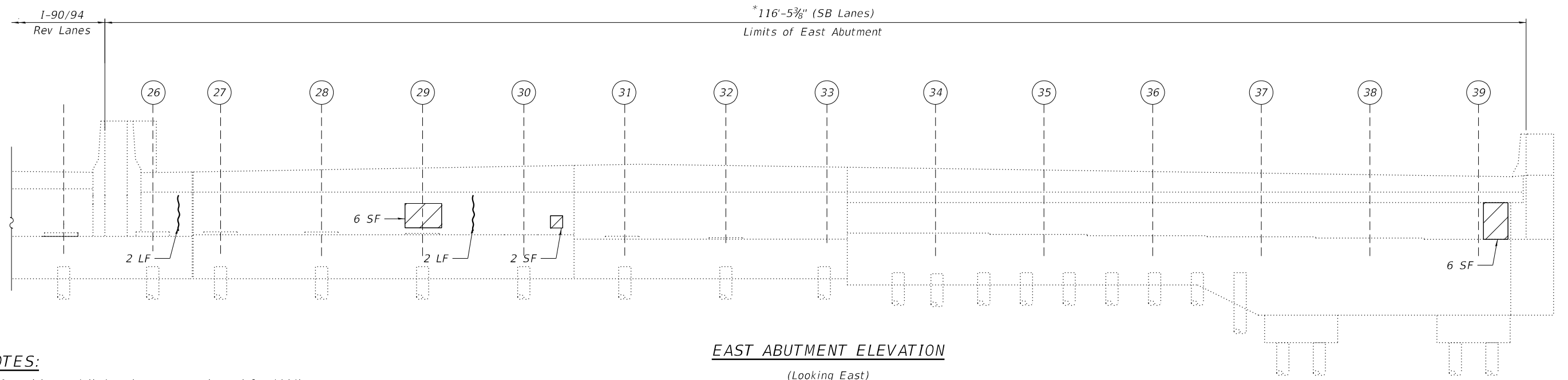
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1412
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	544
Epoxy Crack Injection	Foot	4
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	14





\* Length is measured along  $\bar{c}$  Brg. E. Abut.



**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 shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.
- For Slope wall repairs, see Sheet S40-18.

**LEGEND**

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

MODEL: Default  
FILE NAME: P:\2004-824 PTB195-010-GRAEF\WO#5 I-90\_SB & Rev. Var. Overlays - Kostner\_SB & Rev. Sheet Files - Kostner\_SB\0160112-62K74-S14-E.Abut.Repairs.dgn



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

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS  
STRUCTURE NO. 016-0112 (SB)**

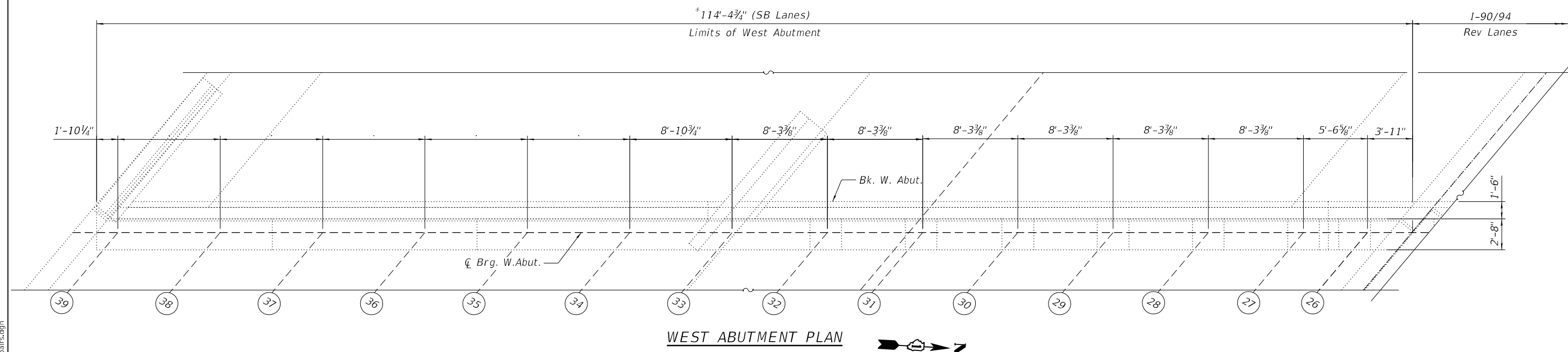
SHEET S40-14 OF S40-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1413
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

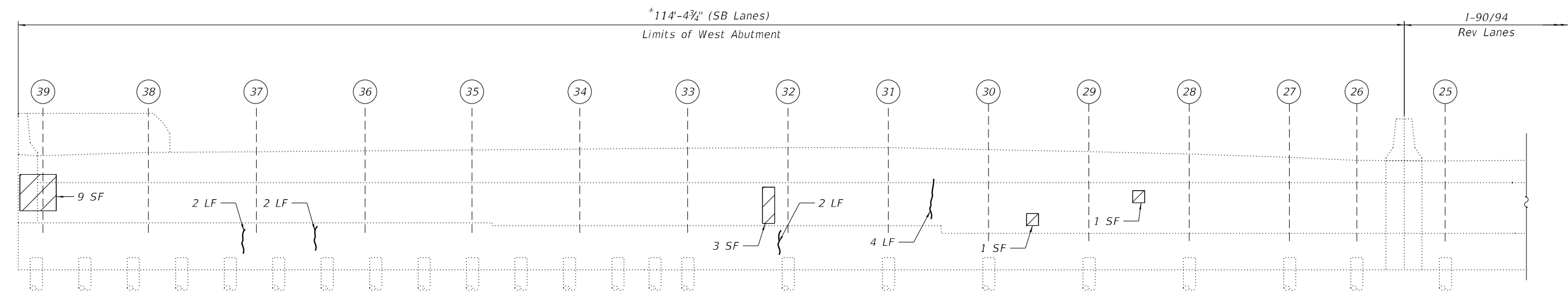
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	544
Epoxy Crack Injection	Foot	10
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	14



**WEST ABUTMENT PLAN**

\* Length is measured along  $\phi$  Brg. W. Abut.



**WEST ABUTMENT ELEVATION**  
(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 shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.
  - For Slope wall repairs, see Sheet S40-18.

**LEGEND**

	Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
	Epoxy Crack injection (Width > 0.06")
SF	- Square Foot
LF	- Linear Foot

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT REPAIRS  
STRUCTURE NO. 016-0112 (SB)**

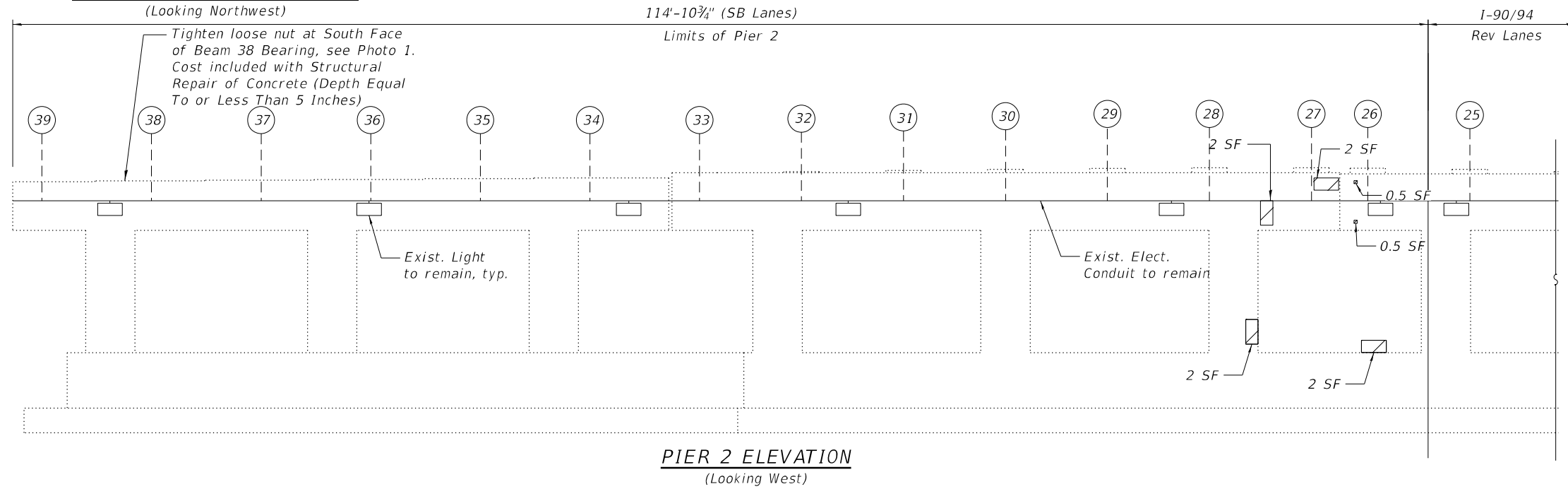
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90/94	2020-004-BR	COOK	1492	1414
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S40-15 OF S40-19 SHEETS



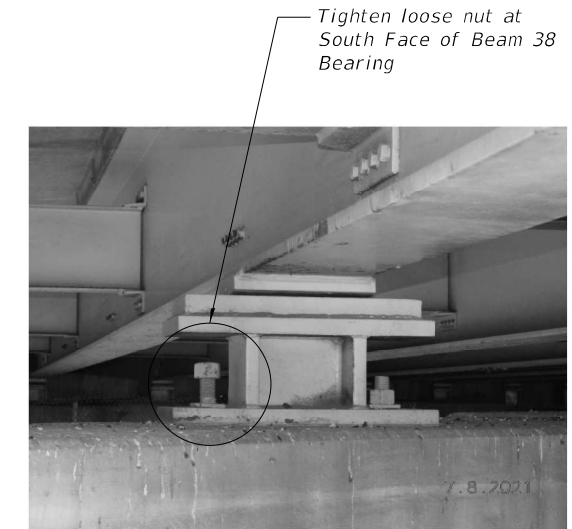


**EXISTING LIGHTING: PIER 2**  
(Looking Northwest)



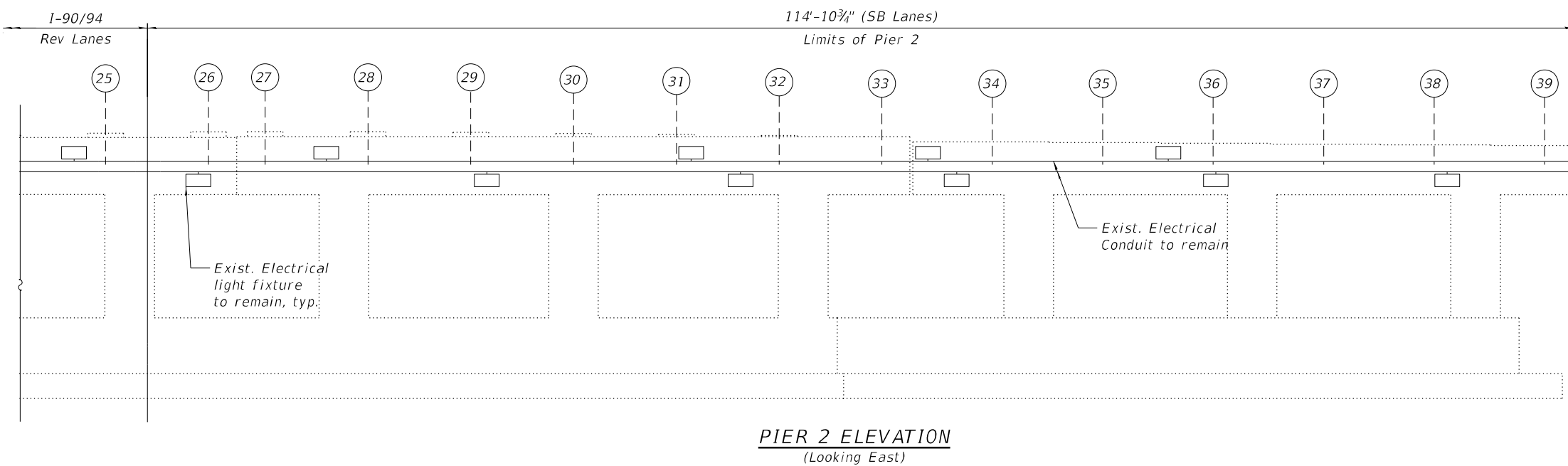
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	9



**PHOTO 1: PIER 2**

- 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.
  - The cost for tightening the base nut at the South Face of Beam 38 will not be paid separately and shall be included with the structural repair of concrete (Depth Equal To or Less Than 5 Inches).



**EXISTING LIGHTING: PIER 2**  
(Looking Southeast)

**LEGEND**

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

MODEL: Default  
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PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 2 REPAIRS  
STRUCTURE NO. 016-0112 (SB)**

SHEET S40-17 OF S40-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1416
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				







Existing Structure: S.N. 016-0112 was originally build in 1957. The bridge was widened between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 213'-7 $\frac{3}{4}$ " and an out-to-out deck width of 39'-0 $\frac{1}{2}$ ". The superstructure consists of a 7 $\frac{1}{2}$ " thick reinforced concrete deck supported on three span continuous steel beams of span lengths 65'-4", 76'-0", and 65'-4". The substructure consists of reinforced concrete abutments and multi-column piers on footings supported by concrete piles.

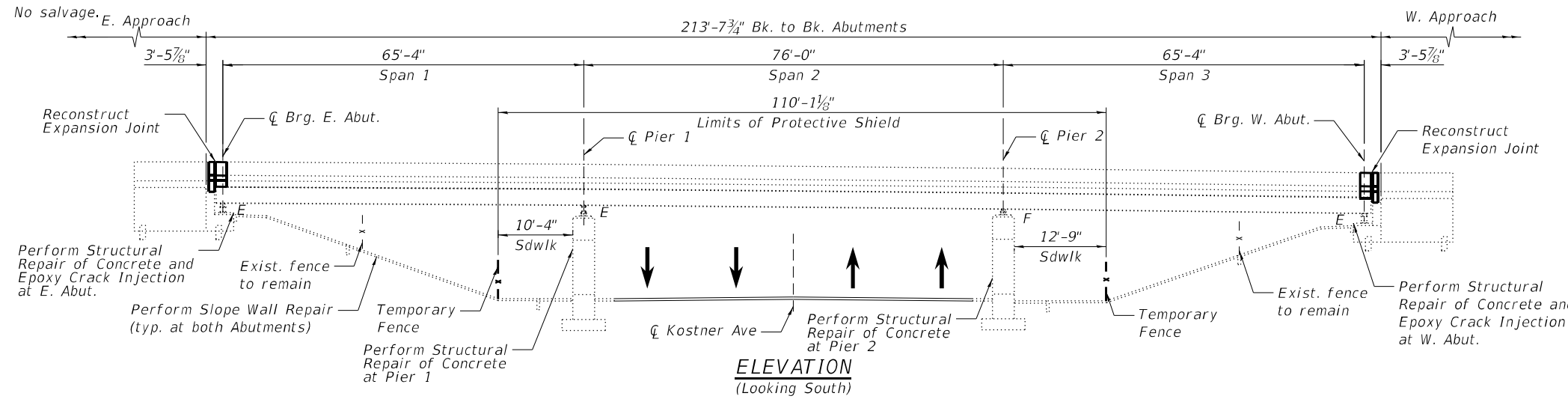
The reversible lanes will be closed during construction.

**NOTES:**

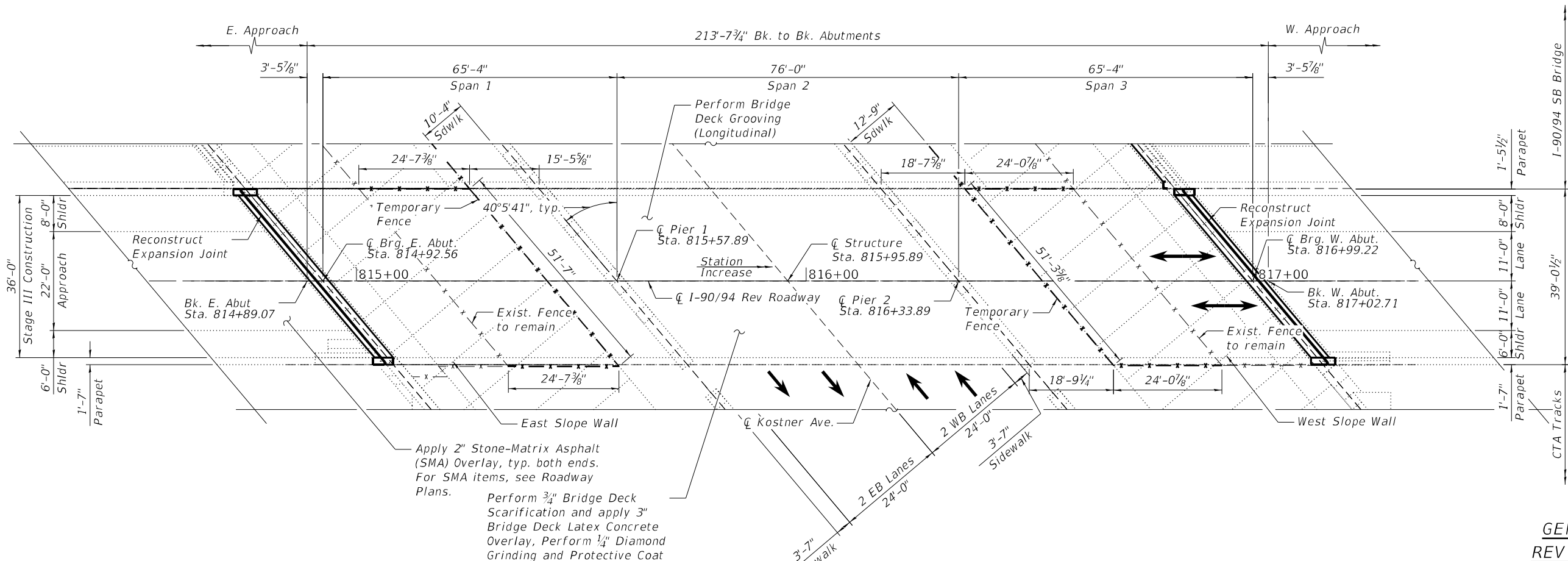
- All stations are to the  $\text{C I-90/94 Rev.}$  Roadway and taken from existing plans.
- No Future Wearing Surface is allowed.

**DESIGN SPECIFICATION**

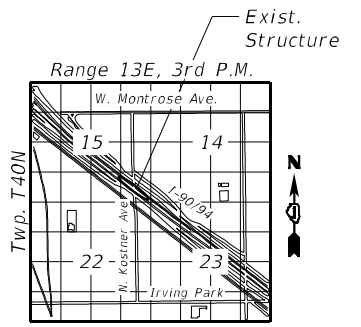
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition  
**RECONSTRUCTION 2013**  
 2002 AASHTO Standard Specifications for Highway Bridges  
**RECONSTRUCTION 1993**  
 1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications



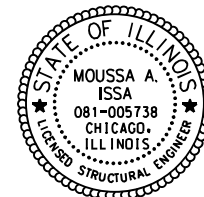
**ELEVATION**  
(Looking South)



**PLAN**



**LOCATION SKETCH**



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

**GENERAL PLAN AND ELEVATION  
 REV I-90/94 OVER KOSTNER AVE.**

F.A.I. ROUTE 90/94  
 SECTION 2020-004-BR  
 COOK COUNTY  
 STATION 815+95.89  
 S.N. 016-0112 (REV)

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0112 (REV)

SHEET S41-01 OF S41-14 SHEETS

USER NAME =	DESIGNED - LAB, CP	REVISED -
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PLOT SCALE =	DRAWN - LAB, CP	REVISED -
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1419
CONTRACT NO. 62K74				

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ILLINOIS FED. AID PROJECT

**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 CTA and I-90/94 SB bridges are 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 the 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**

- S41-01 General Plan And Elevation
- S41-02 General Notes, Index of Sheets & TBOM
- S41-03 Stage I Construction
- S41-04 Deck Repair Plan
- S41-05 E. Abut. Joint Removal & Replacement (Sht. 1 of 2)
- S41-06 E. Abut. Joint Removal & Replacement (Sht. 2 of 2)
- S41-07 W. Abut. Joint Removal & Replacement (Sht. 1 of 2)
- S41-08 W. Abut. Joint Removal & Replacement (Sht. 2 of 2)
- S41-09 Preformed Joint Strip Seal
- S41-10 East Abutment Repairs
- S41-11 West Abutment Repairs
- S41-12 Pier 1 Repairs
- S41-13 Pier 2 Repairs
- S41-14 Slope Wall Repairs

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	-	1	1
Concrete Removal	Cu Yd	13.2	-	13.2
Slope Wall Removal	Sq Yd	-	1	1
Protective Shield	Sq Yd	478	-	478
Concrete Superstructure	Cu Yd	14.1	-	14.1
Protective Coat	Sq Yd	1,037	-	1,037
Reinforcement Bars, Epoxy Coated	Pound	3,050	-	3,050
Slope Wall 4 Inch	Sq Yd	-	1	1
Preformed Joint Seal 2 1/2"	Foot	220	-	220
Preformed Joint Strip Seal	Foot	78	-	78
Concrete Sealer	Sq Ft	-	479	479
Epoxy Crack Injection	Foot	-	107	107
Slope Wall Crack Sealing	Foot	-	88	88
Protect And Maintain Existing Underpass Luminaire	L Sum	0.022	-	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	512	-	512
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	816	-	816
Bridge Deck Scarification 3/4"	Sq Yd	816	-	816
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	-	40	40
Deck Slab Repair (Full Depth, Type II)	Sq Yd	12	-	12
Diamond Grinding (Bridge Section)	Sq Yd	847	-	847
Maintenance Of Lighting System	Cal Mo	6	-	6
Temporary Construction Fence	Foot	-	201	201
Temporary Shoring And Cribbing	Each	-	1	1

**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.
4. Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.
5. Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
6. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway plans.
8. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
9. Apply protective coat to the top of reconstructed transverse joint areas and top and inside faces of parapets and top of Latex Overlay.
10. Perform structural concrete repairs for the abutments and piers as noted on the plans.
11. Perform Slope Wall repairs.
12. Install 2 1/2" Preformed Joint Seal along top of parapet between I-90/94 SB and Reversible lanes.

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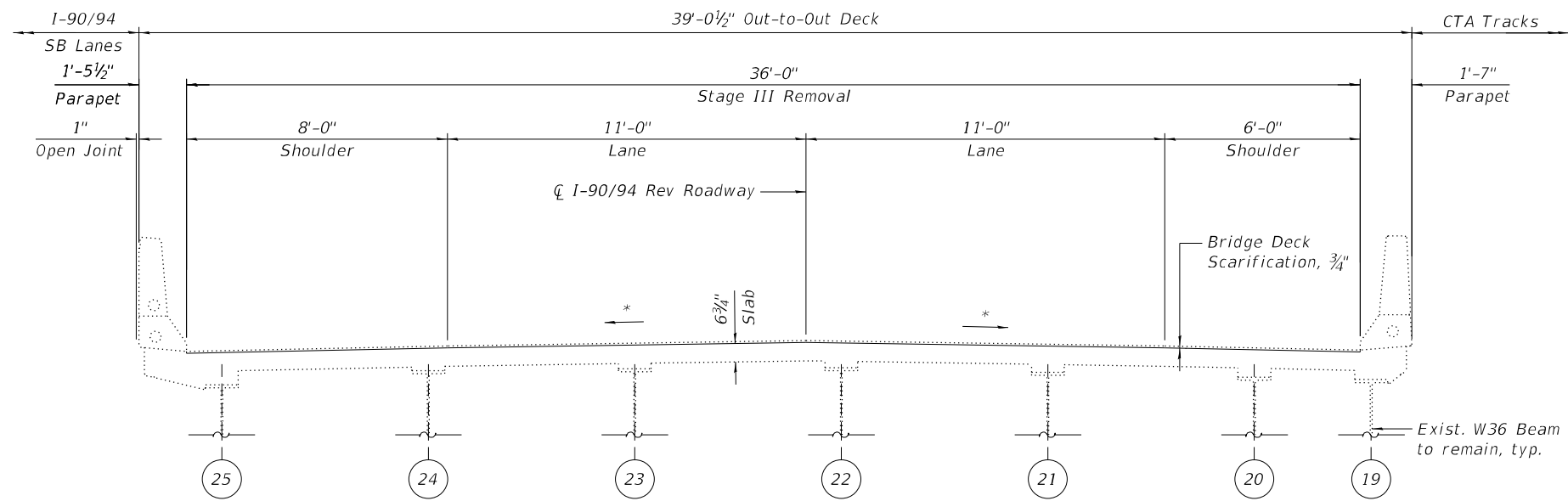
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DEPARTMENT OF TRANSPORTATION**

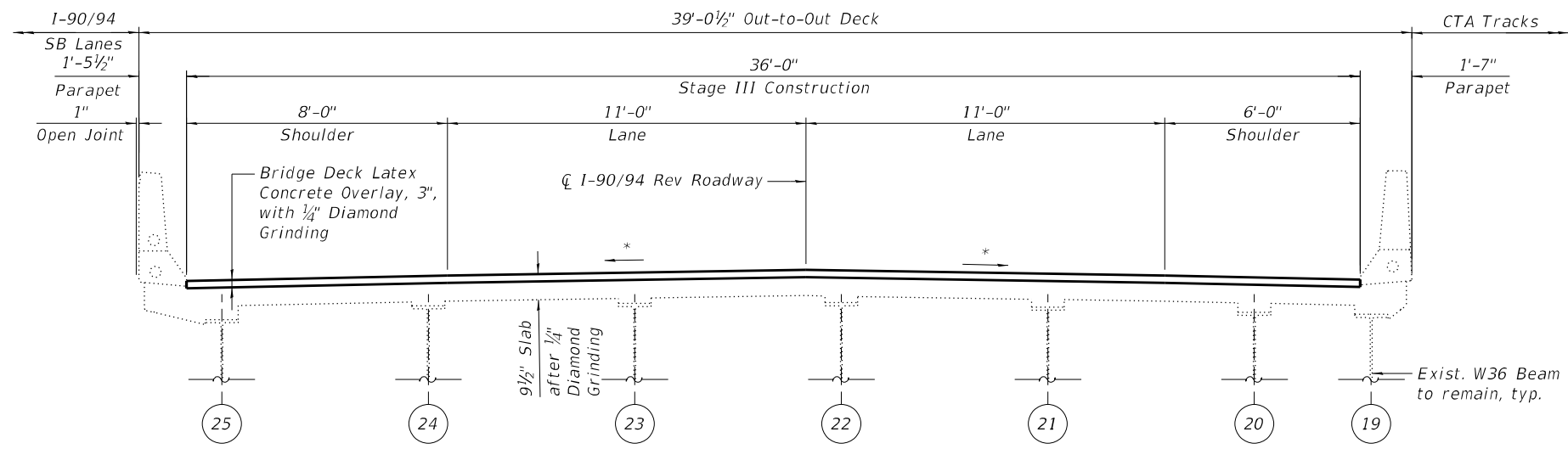
**GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-02 OF S41-14 SHEETS

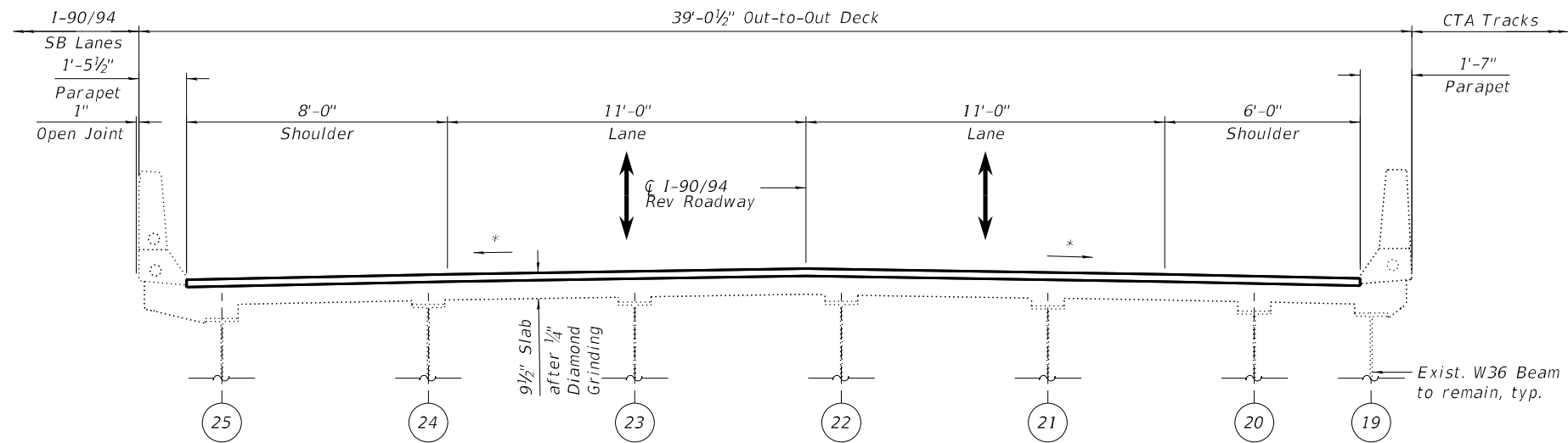
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90/94	2020-004-BR	COOK	1492	1420
CONTRACT NO. 62K74				
		ILLINOIS	FED. AID PROJECT	



**STAGE III REMOVAL**  
(Looking West)



**STAGE III CONSTRUCTION**  
(Looking West)



**FINAL CROSS SECTION**  
(Looking West)

**STAGE III REMOVAL**

1. Perform 3/4" bridge deck scarification.
2. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
3. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the East and West Abutments.
4. Perform temporary shoring and cribbing at locations shown on the plan.

**STAGE III CONSTRUCTION**

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals.
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 hatch 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 north and south parapets, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.

\*Match existing cross slopes

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DEPARTMENT OF TRANSPORTATION**

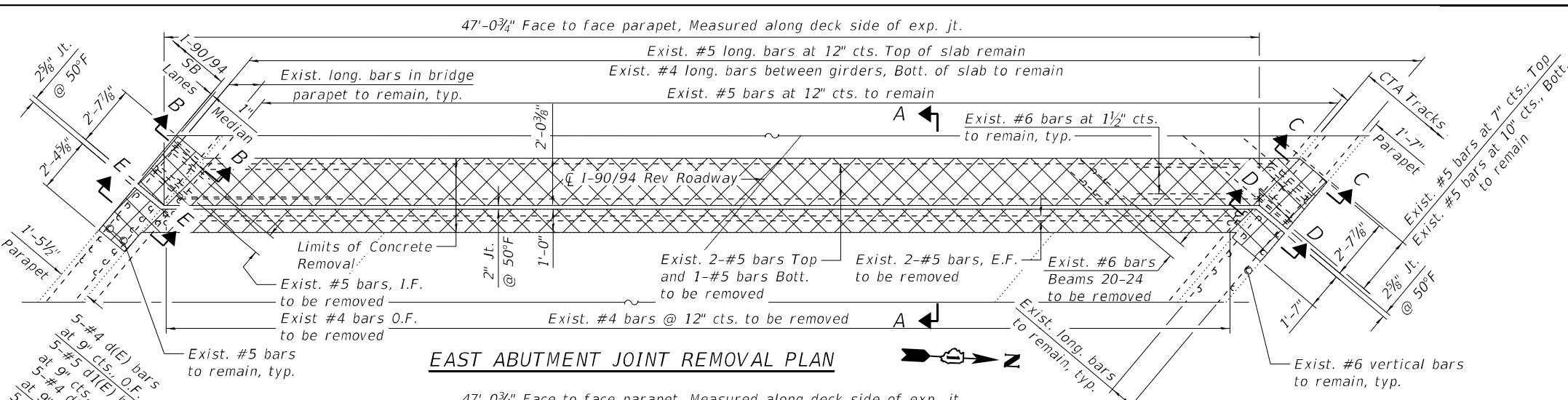
**STAGE I CONSTRUCTION  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-03 OF S41-14 SHEETS

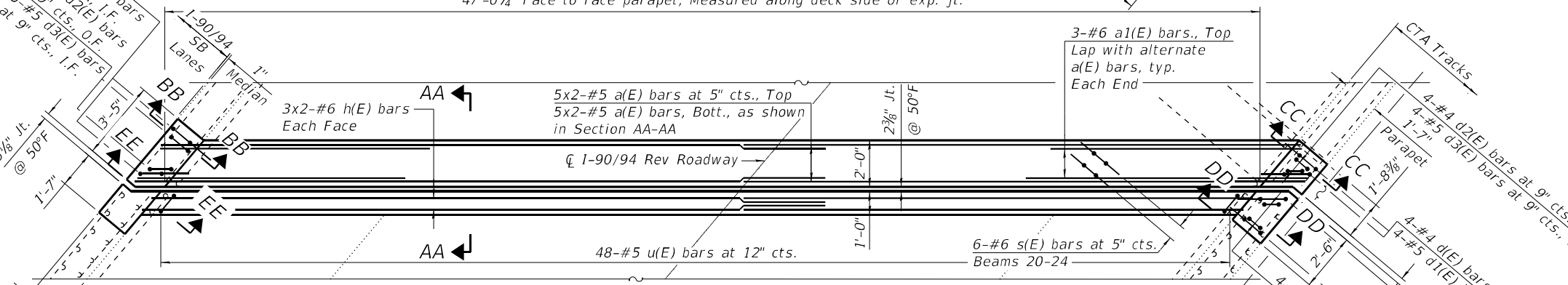
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90/94	2020-004-BR	COOK	1492	1421
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



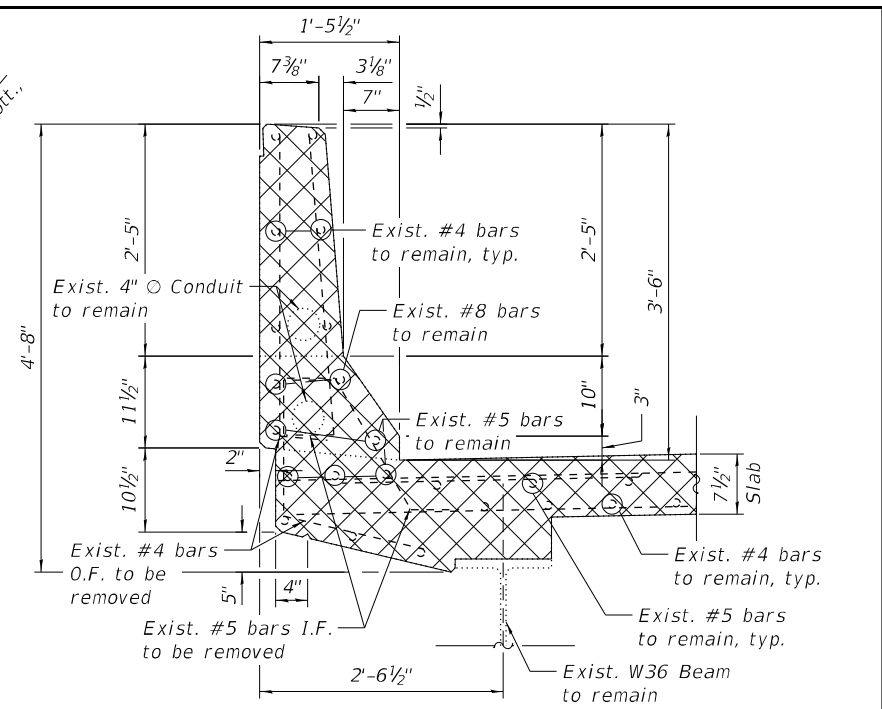
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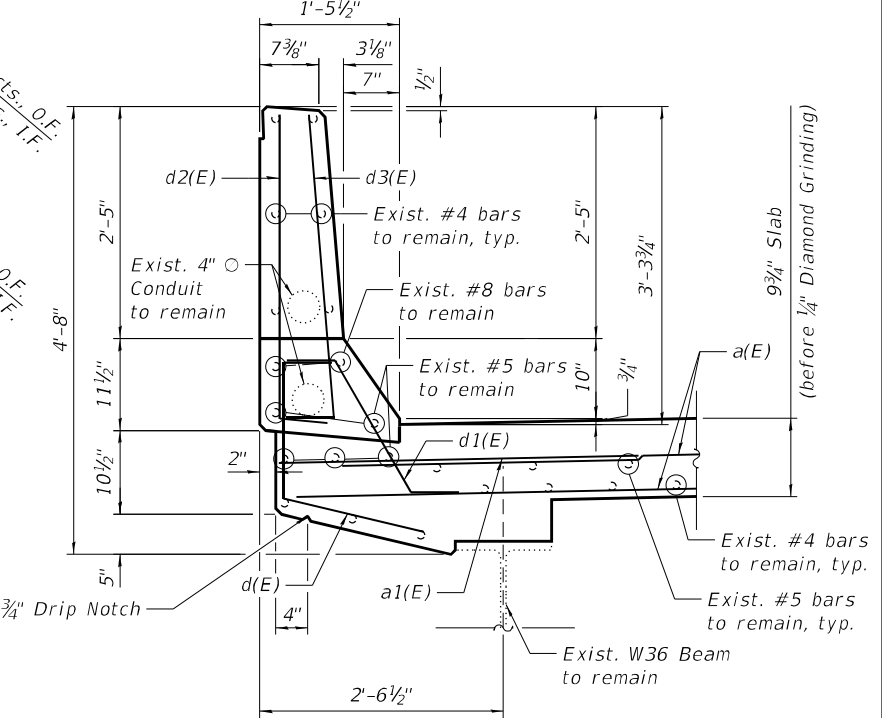
**EAST ABUTMENT JOINT REMOVAL PLAN**



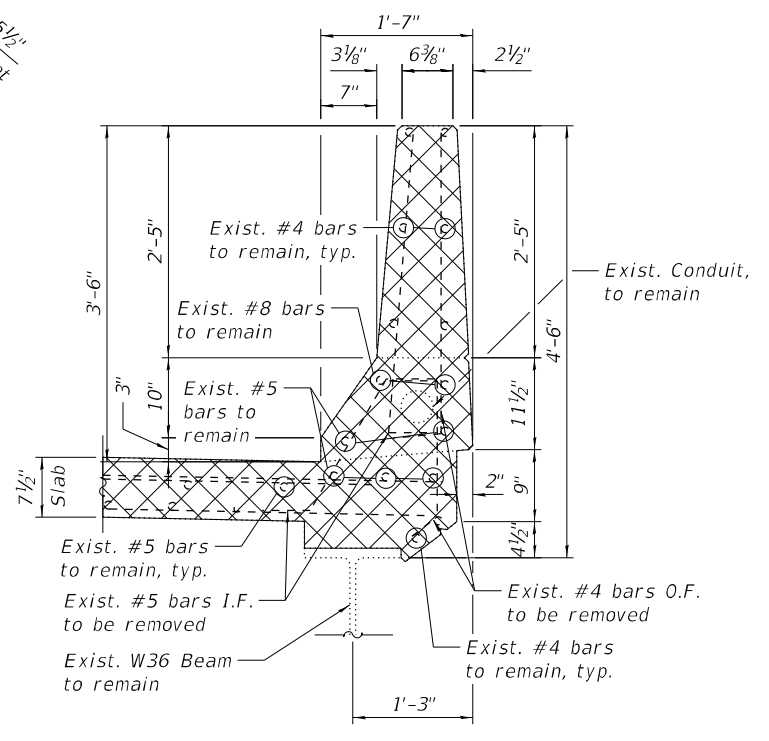
**EAST ABUTMENT JOINT RECONSTRUCTION PLAN**



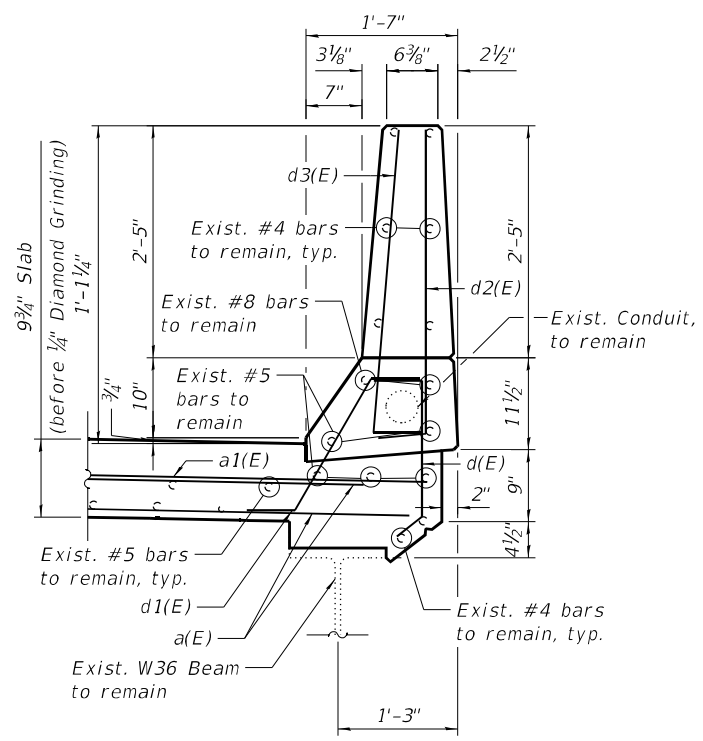
**SECTION B-B**



**SECTION BB-BB**



**SECTION C-C**



**SECTION CC-CC**

**LEGEND**

	Concrete Removal
	Bridge Deck Scarification, 3/4"
E.F.	Each Face
I.F.	Inside Face
O.F.	Outside Face

**NOTE:**  
 1. For Sections A-A, D-D, E-E, AA-AA, DD-DD, and EE-EE, Bar Diagrams, additional Notes and Bill of Material see Sheet S41-06.



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 DEPARTMENT OF TRANSPORTATION**

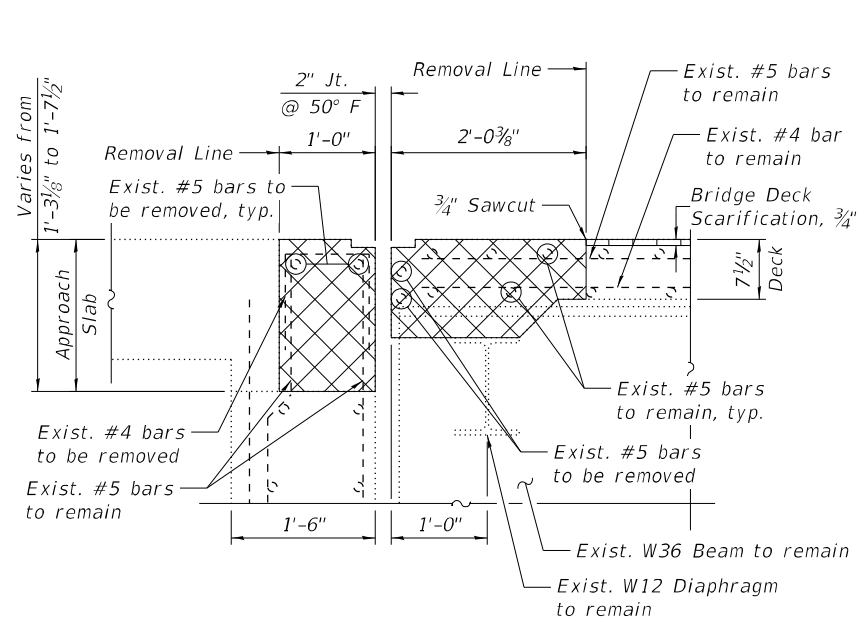
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 STRUCTURE NO. 016-0112 (REV)**

SHEET S41-05 OF S41-14 SHEETS

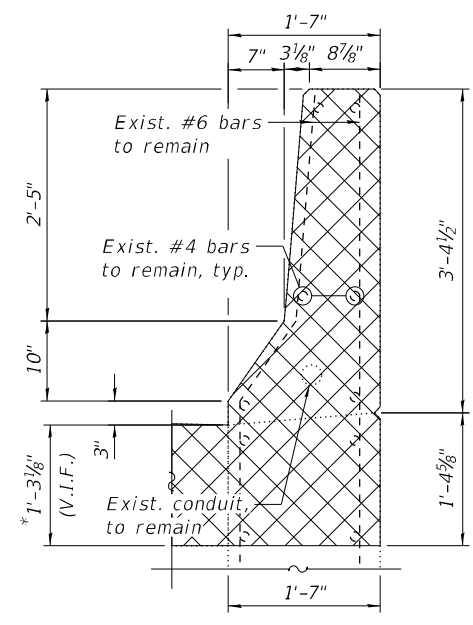
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



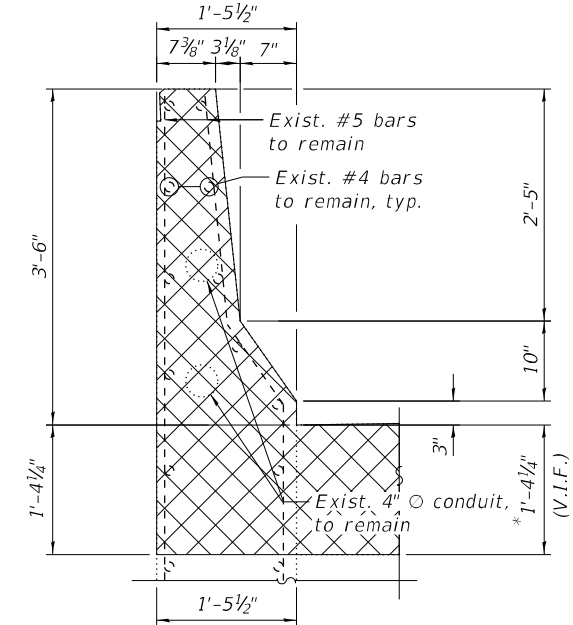
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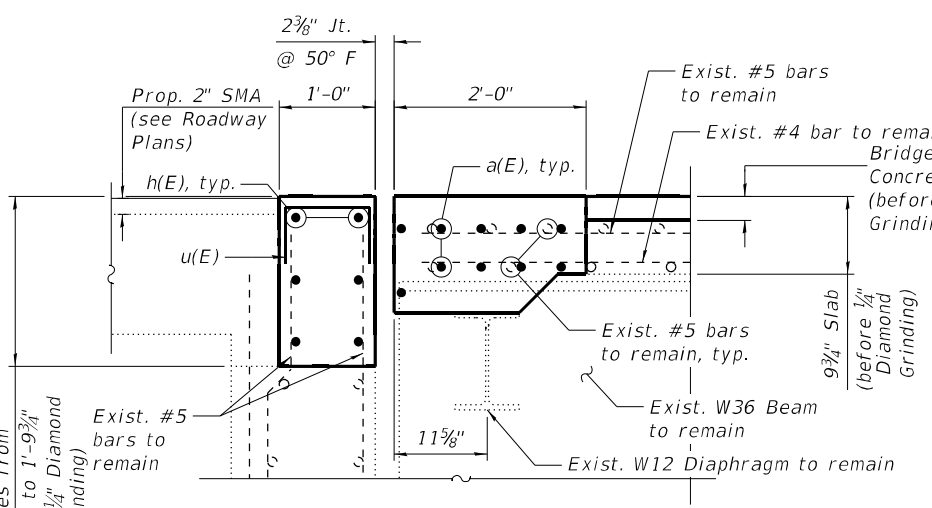
**SECTION A-A**



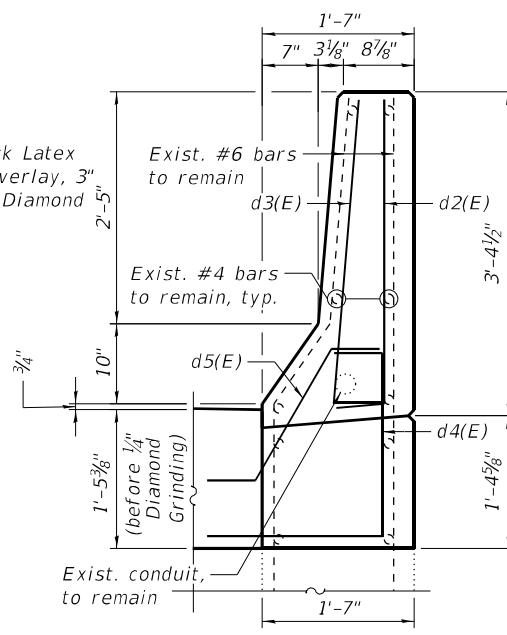
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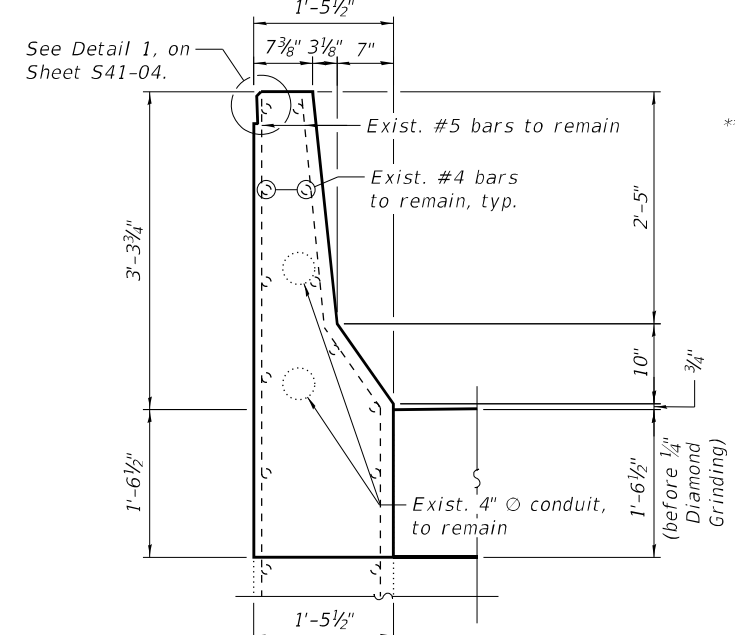
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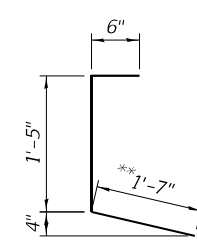
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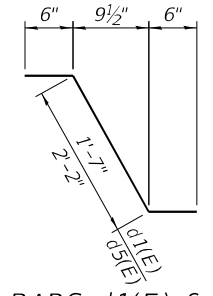
**SECTION DD-DD**  
(Reinforcement in pour strip not shown for clarity)



**SECTION EE-EE**  
(Reinforcement in pour strip not shown for clarity)

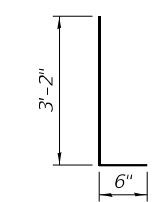


**BAR d(E)**

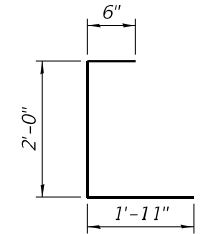


**BARS d1(E) & d5(E)**

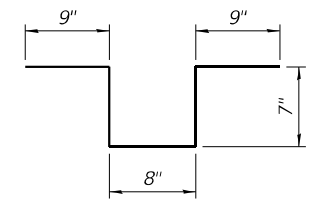
\*\*Cut end bar in the field to fit



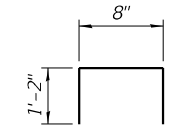
**BARS d2(E) & d3(E)**



**BAR d4(E)**



**BAR s(E)**



**BAR u(E)**

**BILL OF MATERIAL**

ITEM	NO	SIZE	LENGTH	SHAPE
a(E)	20	#5	26'-8"	
a1(E)	6	#6	6'-6"	
d(E)	9	#4	3'-6"	
d1(E)	9	#5	2'-7"	
d2(E)	13	#4	3'-8"	
d3(E)	13	#5	3'-8"	
d4(E)	4	#4	4'-5"	
d5(E)	4	#5	3'-2"	
h(E)	12	#6	25'-3"	
s(E)	30	#6	3'-4"	
u(E)	48	#5	3'-0"	
Concrete Removal			Cu Yd	6.6
Concrete Superstructure			Cu Yd	7.1
Protective Coat			Sq Yd	23
Reinforcement Bars, Epoxy Coated			Pound	1,520

**NOTES:**

- For legend, see Sheet S41-05.
- For preformed joint strip seal details, see Sheet S41-09.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

**MIN. BAR LAPS**

- #5 3'-6"
- #6 4'-10"



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

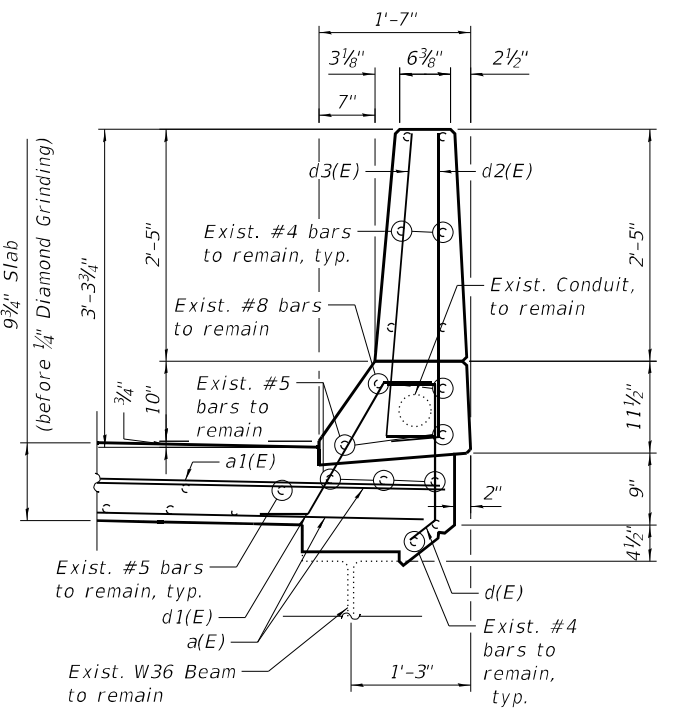
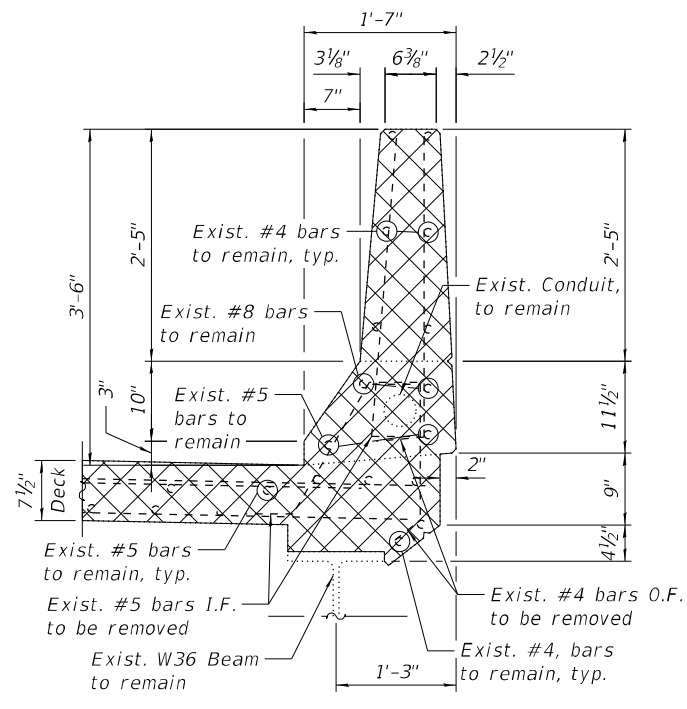
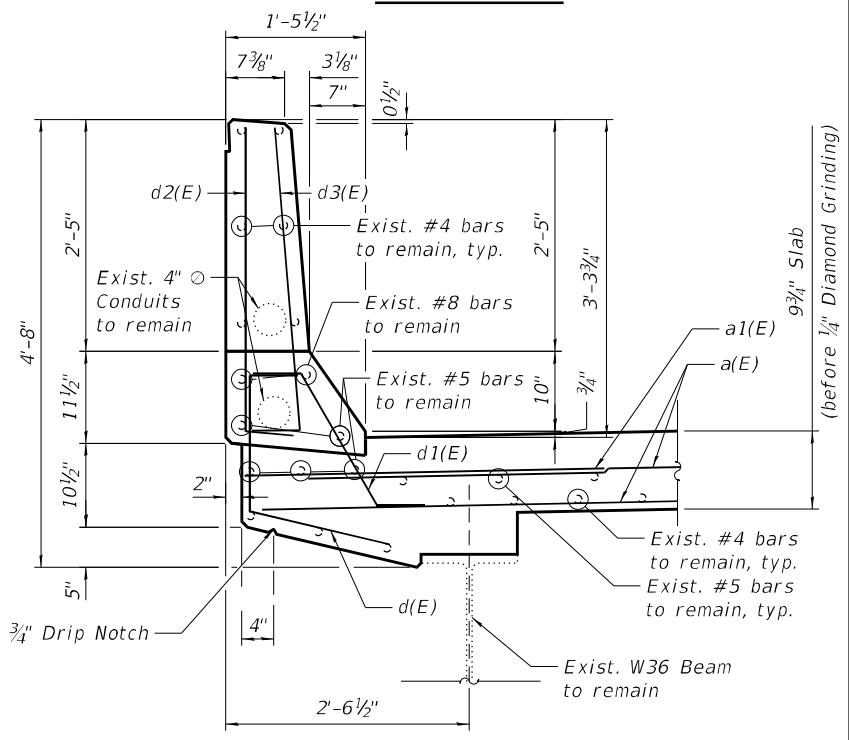
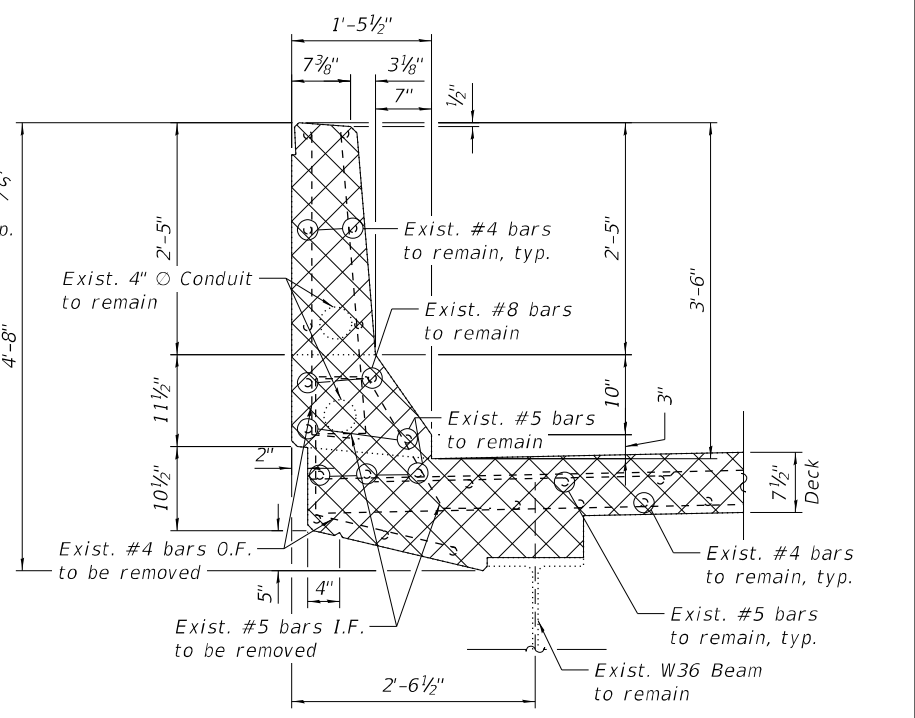
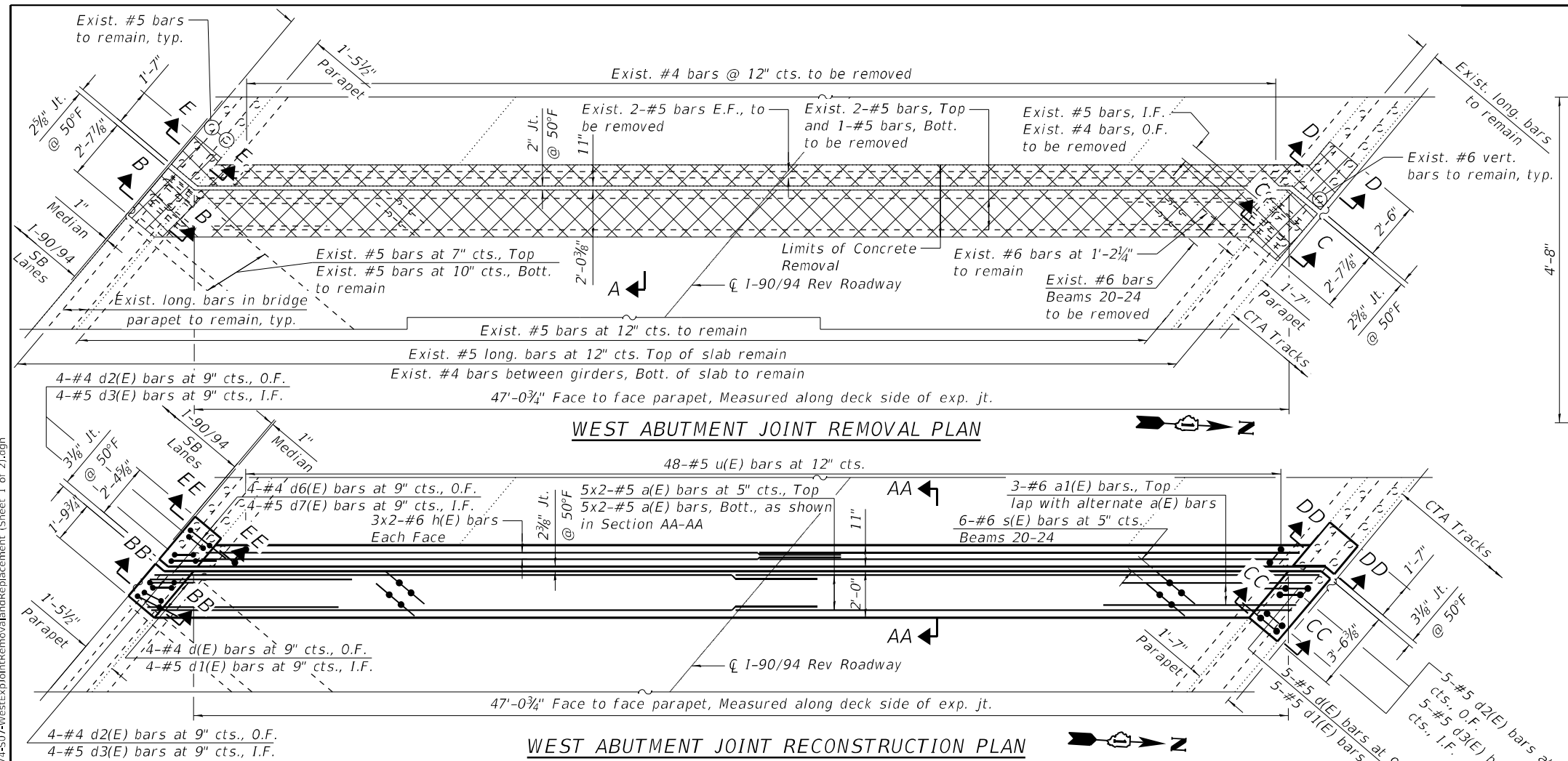
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 2)  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-06 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1424
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

MODEL: Default  
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**LEGEND**

	Concrete Removal
	Bridge Deck Scarification, 3/4"
E.F.	Each Face
I.F.	Inside Face
O.F.	Outside Face

**NOTE:**  
 1. For Sections A-A, D-D, E-E, AA-AA, DD-DD and EE-EE, Bar Diagrams, additional Notes and Bill of Material see Sheet S41-08.



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

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

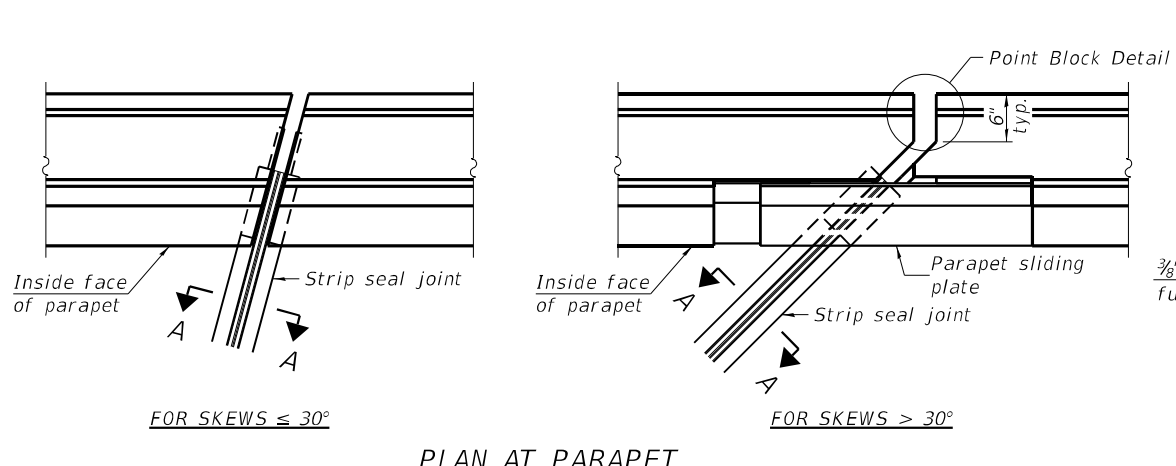
**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 2)  
 STRUCTURE NO. 016-0112 (REV)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1425
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

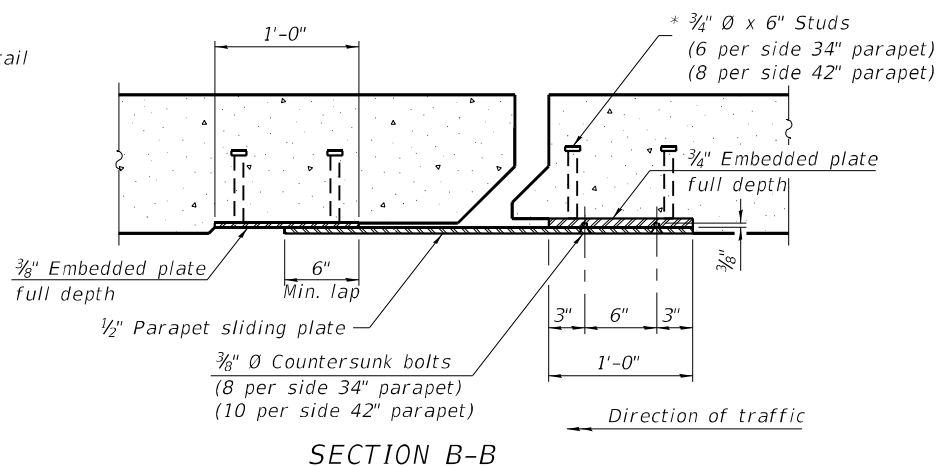
SHEET S41-07 OF S41-14 SHEETS



MODEL: Default  
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 8/30/2022 3:23:10 PM

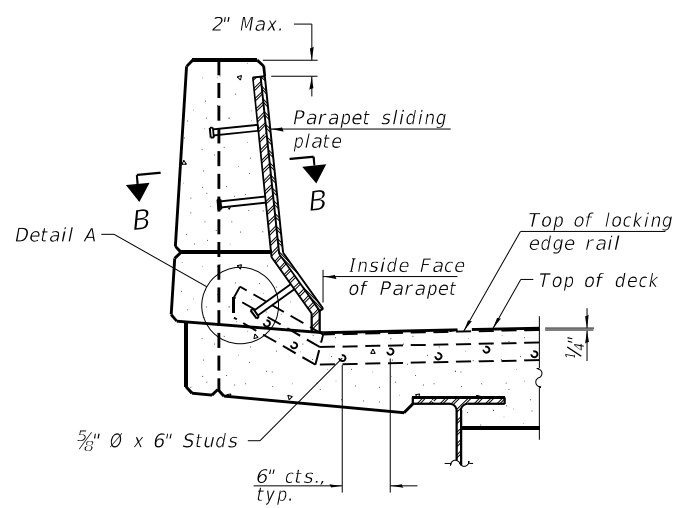


PLAN AT PARAPET



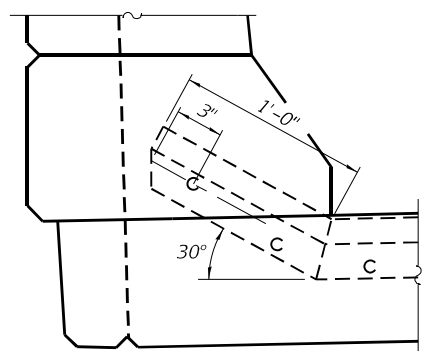
SECTION B-B

Notes:  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
 The locking edge rails depicted are 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 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 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.

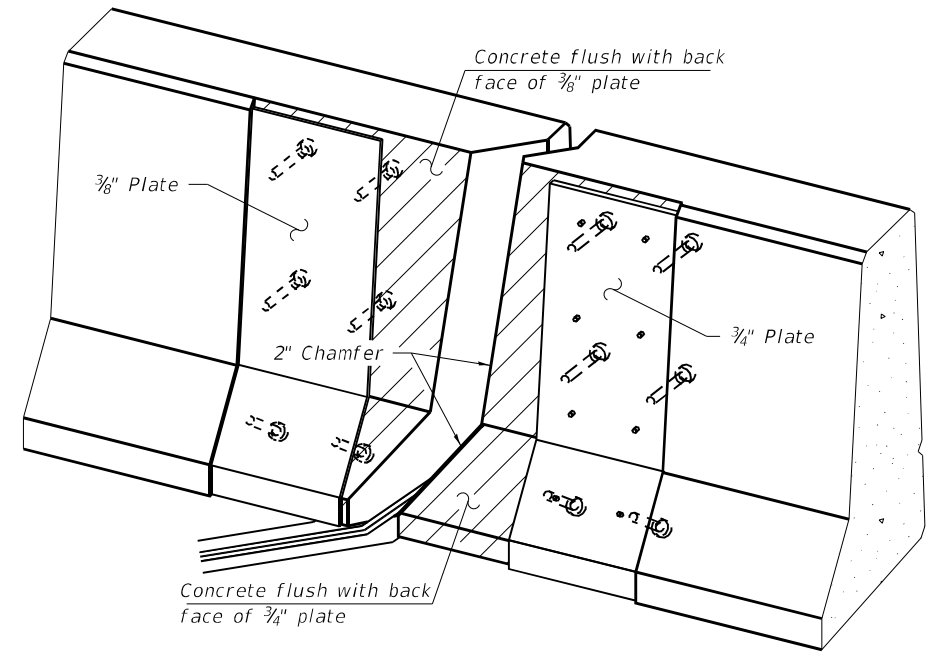


ELEVATION AT PARAPET

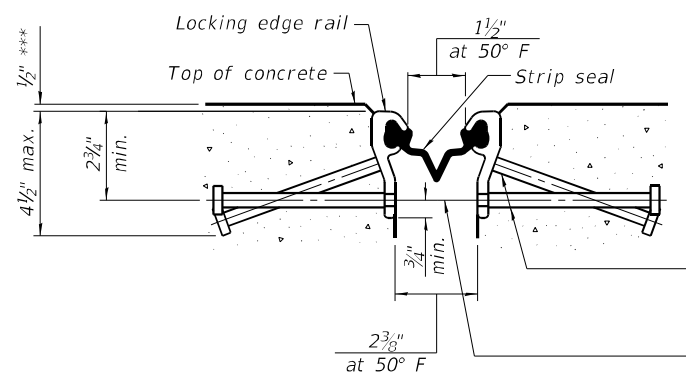
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A

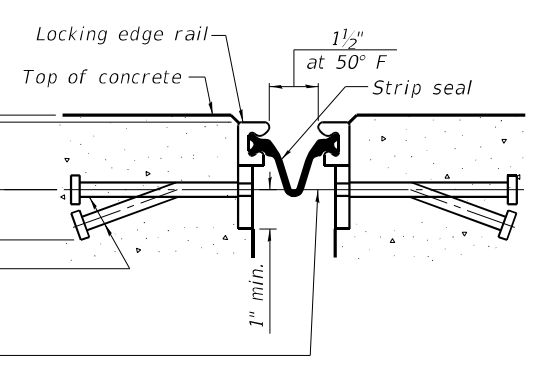


TRIMETRIC VIEW  
 (Showing embedded plates only)

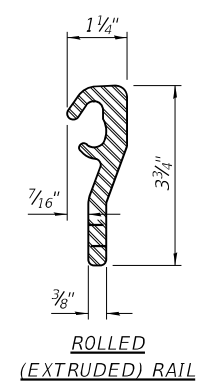


SHOWING ROLLED RAIL JOINT

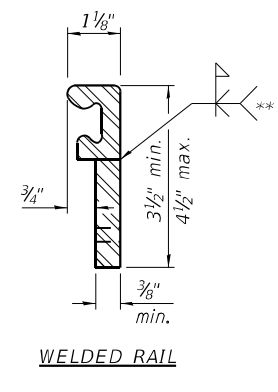
\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)  
 3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



SHOWING WELDED RAIL JOINT



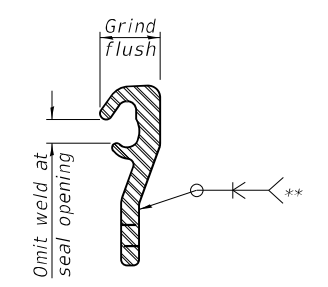
ROLLED (EXTRUDED) RAIL



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	78



USER NAME =	DESIGNED - SK, CP	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - CP	REVISED -
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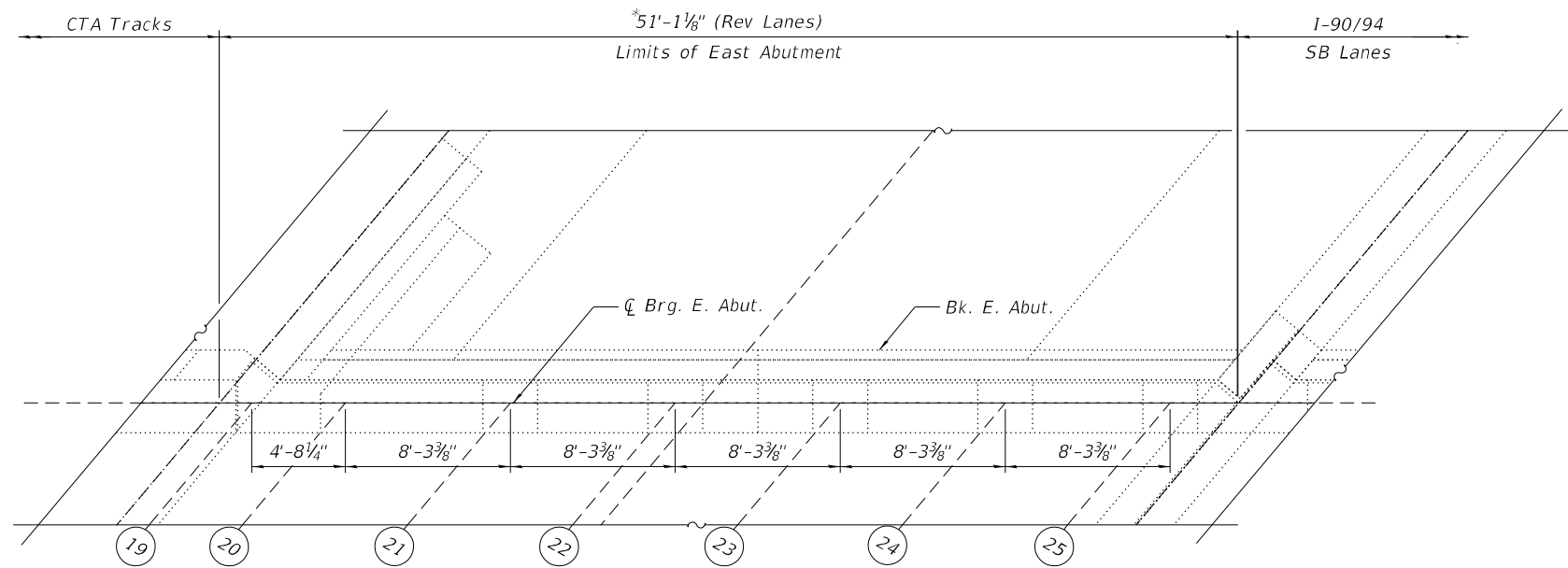
PREFORMED JOINT STRIP SEAL  
 STRUCTURE NO. 016-0112 (REV)

SHEET S41-09 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1427
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	239
Epoxy Crack Injection	Foot	20
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	10
Temporary Shoring And Cribbing	Each	1

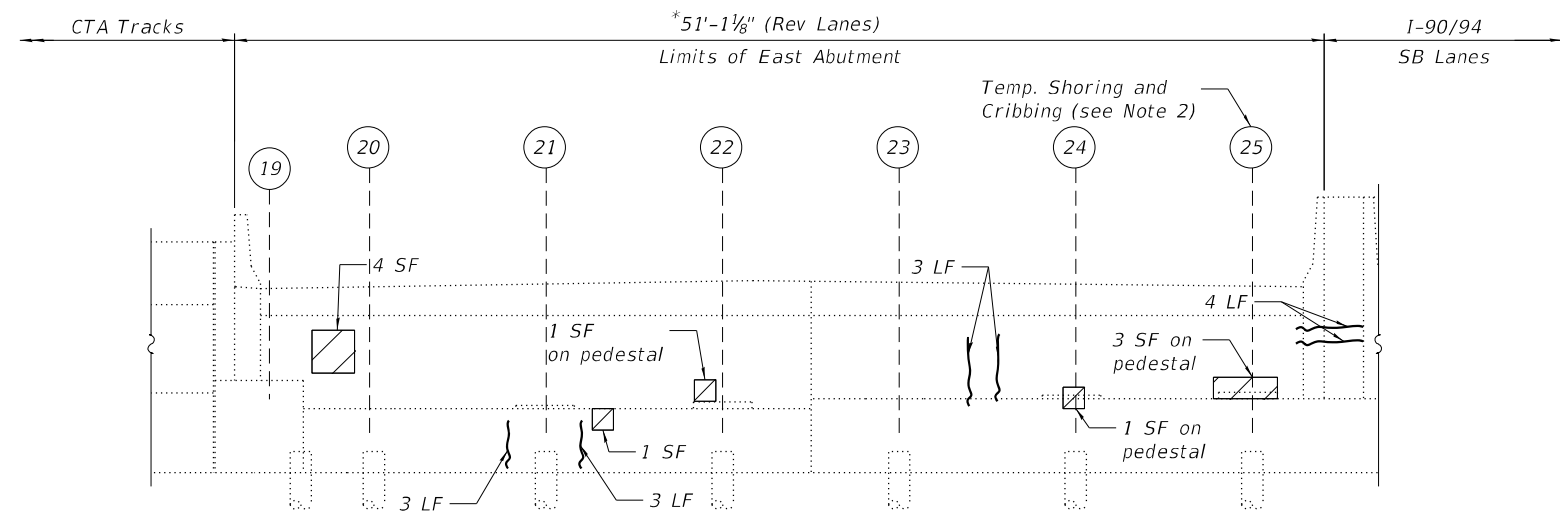


**EAST ABUTMENT PLAN**

**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.
- 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.
- Concrete Sealer shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.
- For Slope Wall repairs, see Sheet S41-14.

\*Length is measured along C Brg. E. Abut.



**EAST ABUTMENT ELEVATION**  
(Looking East)

SUMMARY OF REACTIONS EAST ABUTMENT BEAM 25	
R DL	(k) 29.4
R LL	(k) 38.7
R IM	(k) 10.2
R Total	(k) 78.3

**LEGEND**

- Structural Repair of Concrete (Depth Equal to or Less than 5 inches)
- Epoxy Crack Injection (Width > 0.06")
- SF - Square Foot

MODEL: Default  
FILE NAME: P:\2004-824 PTB195-010-GRAEF\WO#5 I-90\_SB & Rev. Var. Overlays - Kostner\_SB & Rev. Sheet Files - Kostner\_Rev(0160112-62K74-5)1-East\_AbutmentRepairs.dgn



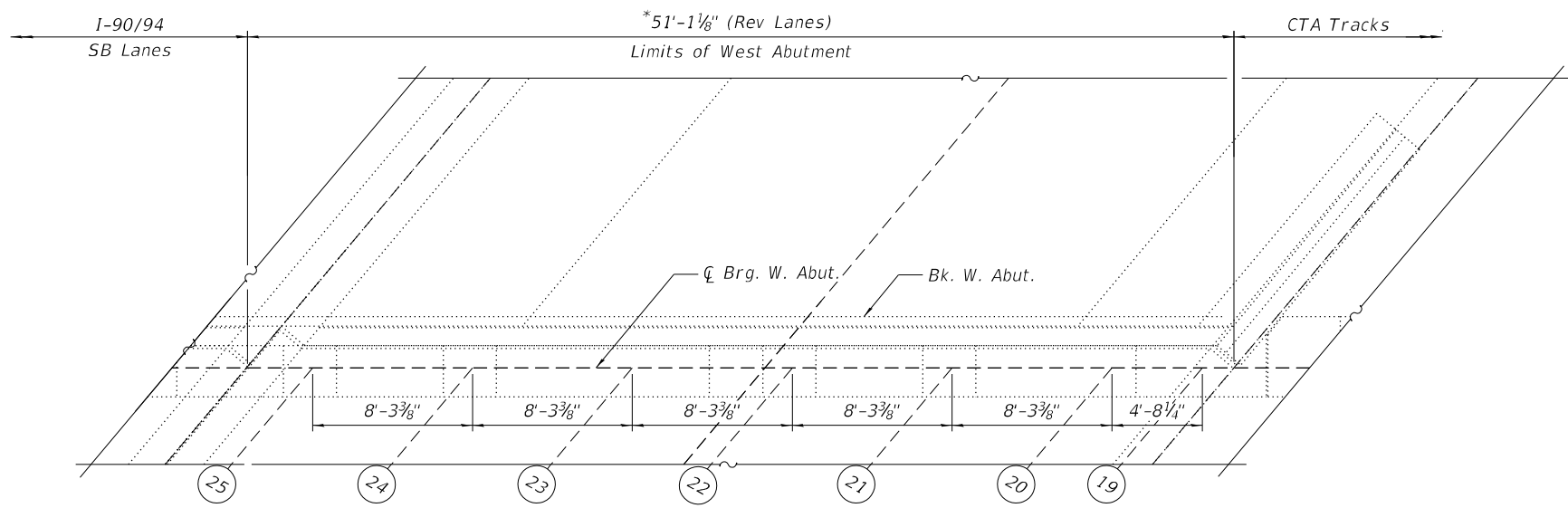
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PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-10 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1428
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				



**WEST ABUTMENT PLAN**



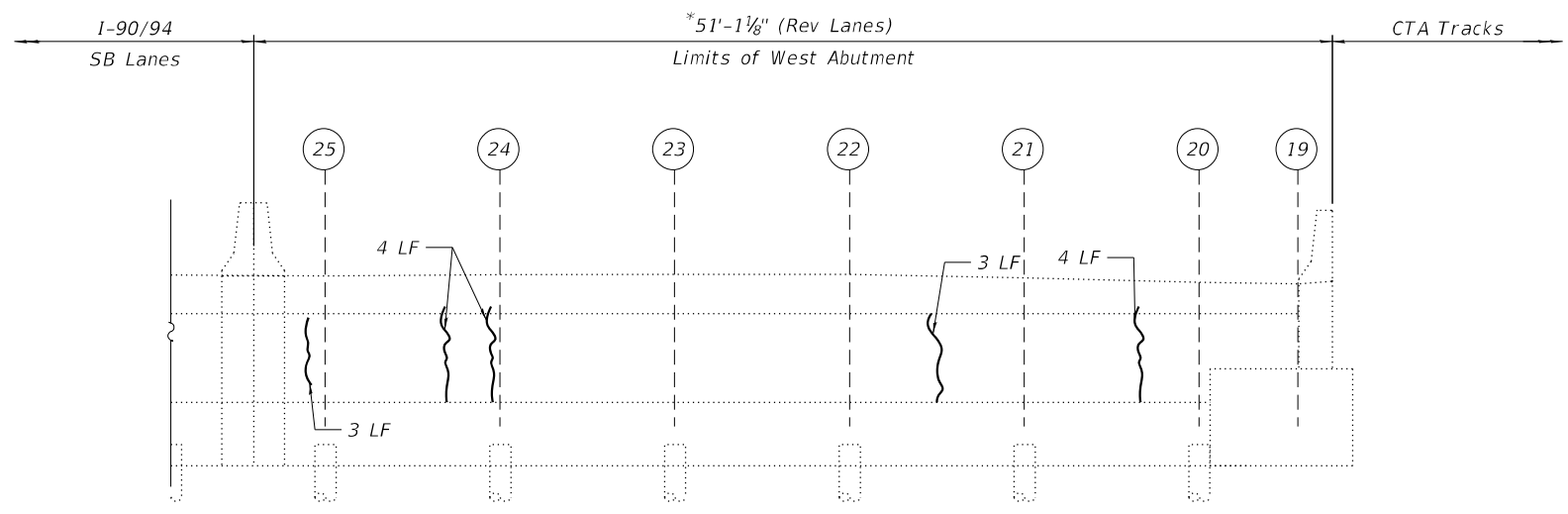
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	240
Epoxy Crack Injection	Foot	18

**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 shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.
- For Slope Wall repairs, see Sheet S41-14.

\* Length is measured along  $\text{C} \text{ Brg. Abut.}$



**WEST ABUTMENT ELEVATION**

(Looking West)

**LEGEND**

- Epoxy Crack Injection (Width > 0.06")
- SF - Square Foot

MODEL: Default  
FILE NAME: P:\2004-824 PTB195-010-GRAEF\WO#5 1-90\_SB & Rev. Var. Overlays - Kostner\_SB & Rev. Sheet Files - Kostner\_Rev(0160112-62K74-5)12-West\_AbutmentRepairs.dgn  
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PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

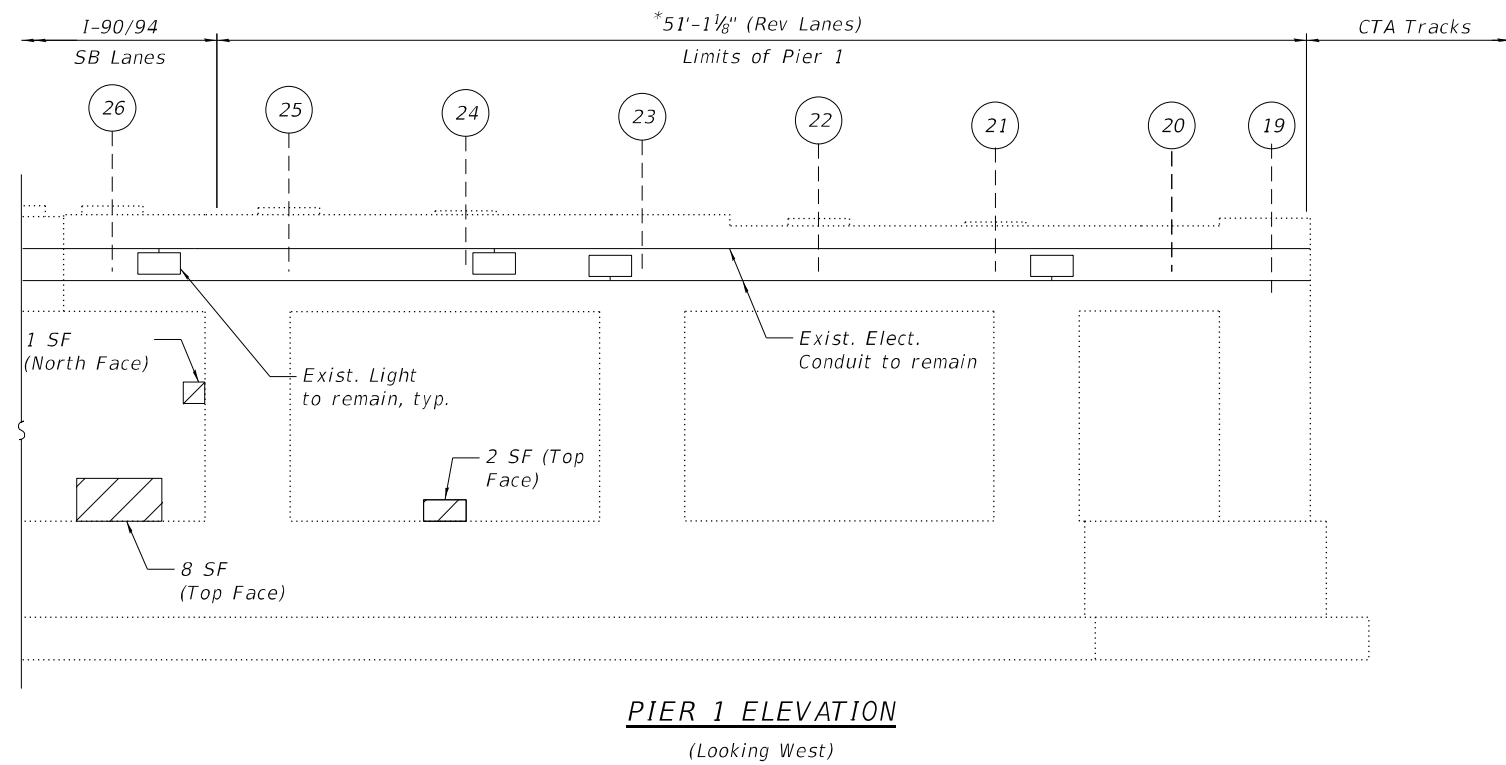
**WEST ABUTMENT REPAIRS  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-11 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1429
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

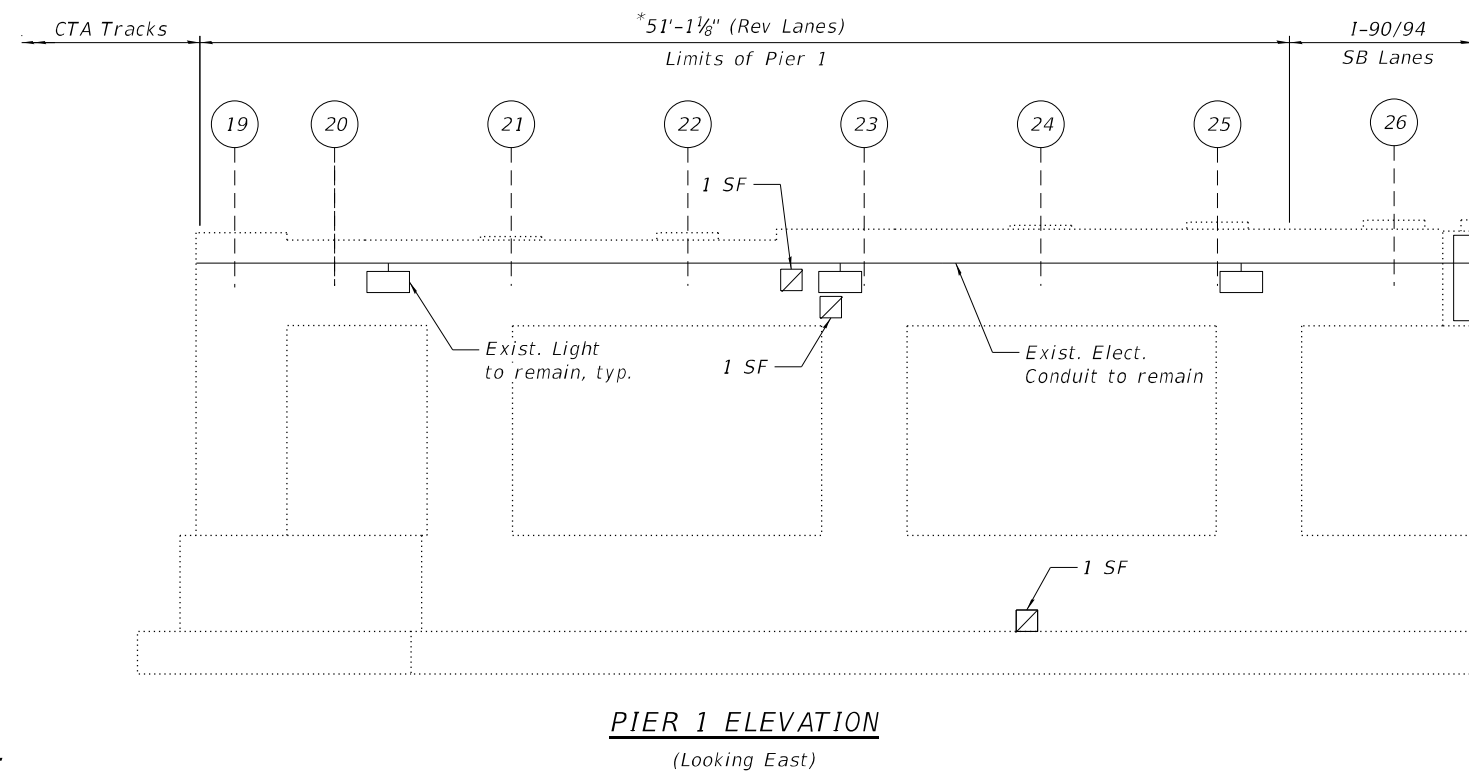
ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	14



**EXISTING LIGHTING: PIER 1**  
(Looking West)



Abandoned Utility Box



**EXISTING LIGHTING: PIER 1**  
(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.
- The cost for removing the abandoned utility box at the South Face of Beam 21 will not be paid separately and shall be included with the structural repair of concrete (Depth Equal To or Less Than 5 Inches)

\*Length measured along the centerline of the pier.

**LEGEND**



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF - Square Foot

MODEL: Default  
FILE NAME: P:\2004-824 PTB\195-010-GRAEF\WO#5 I-90 SB & Rev Var Overlays - Kostner\_SB & Rev Sheet Files - Kostner\_Rev\0160112-62K74-5\3-Pier1Repairs.dgn  
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	CHECKED - MI	REVISED -
PLOT SCALE =	DRAWN - AMS, JMI	REVISED -
PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 1 REPAIRS  
STRUCTURE NO. 016-0112 (REV)**

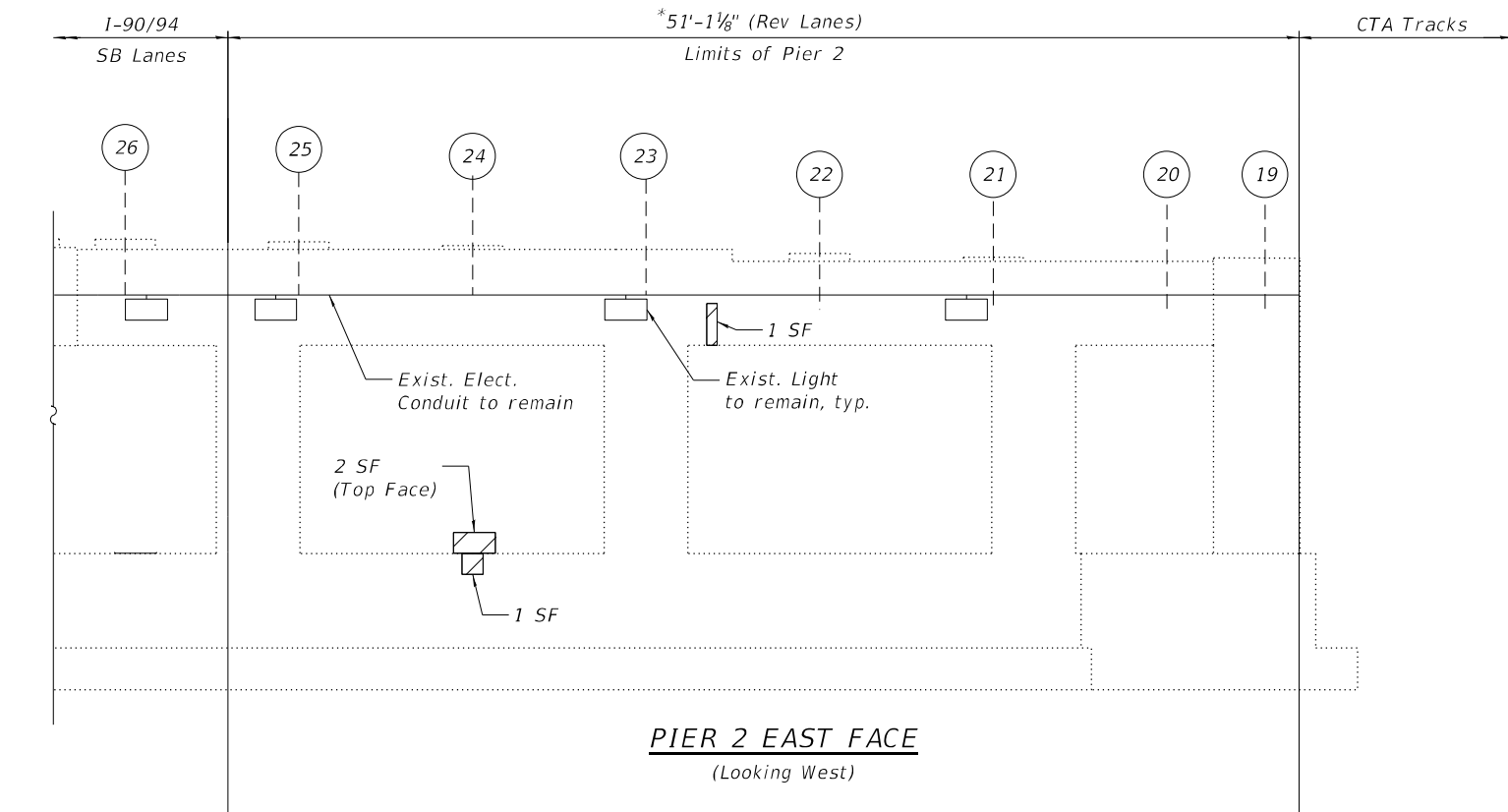
SHEET S41-12 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1430
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		

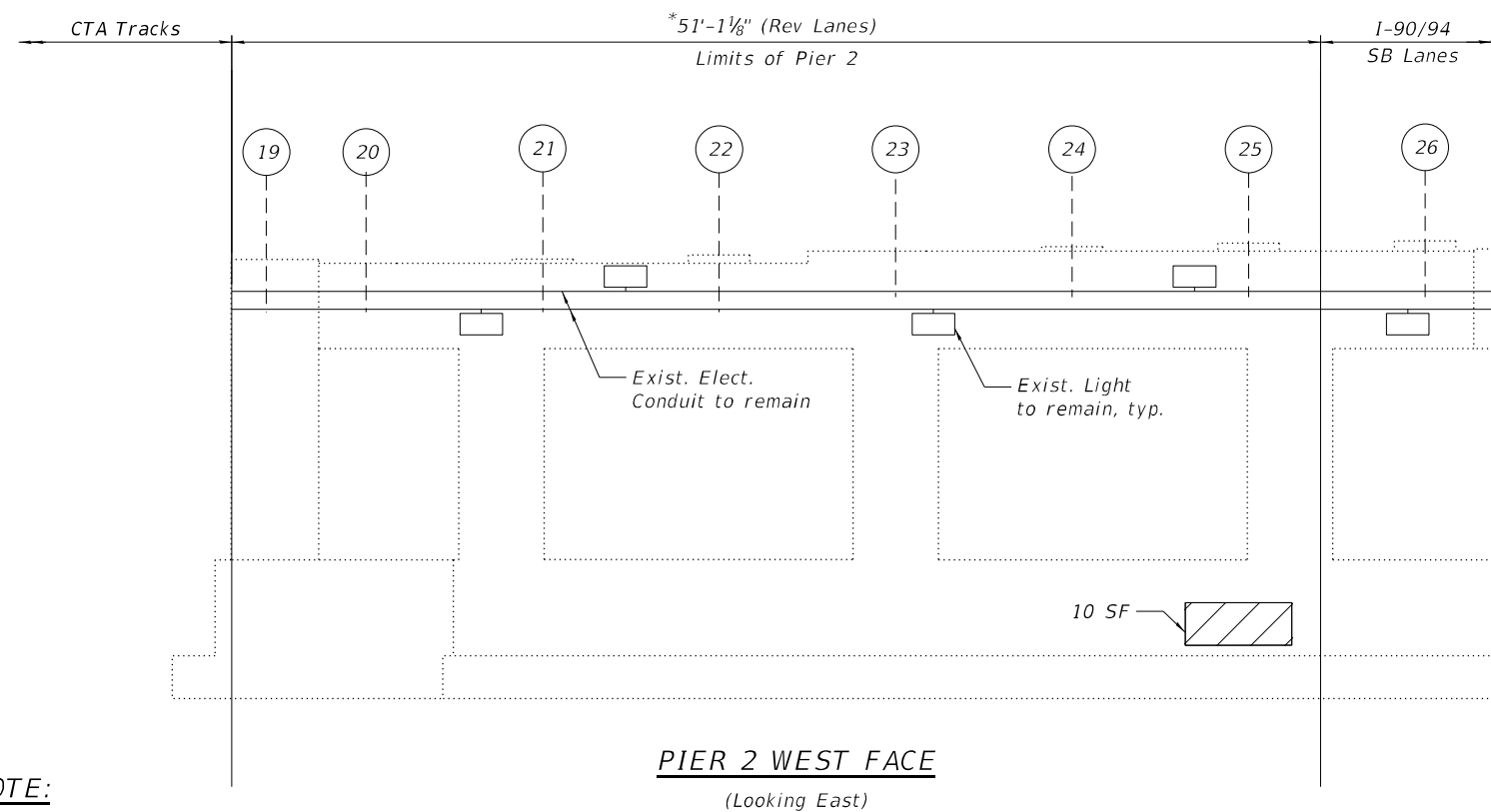


**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	14



**EXISTING LIGHTING: Pier 2**  
(Looking East)



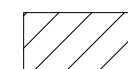
**EXISTING LIGHTING: Pier 2**  
(Looking West)

**NOTE:**

1. 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.

\*Length measured along the centerline of the pier.

**LEGEND**



Structural Repair of Concrete (Depth Equal to or Less than 5 inches)

SF - Square Foot

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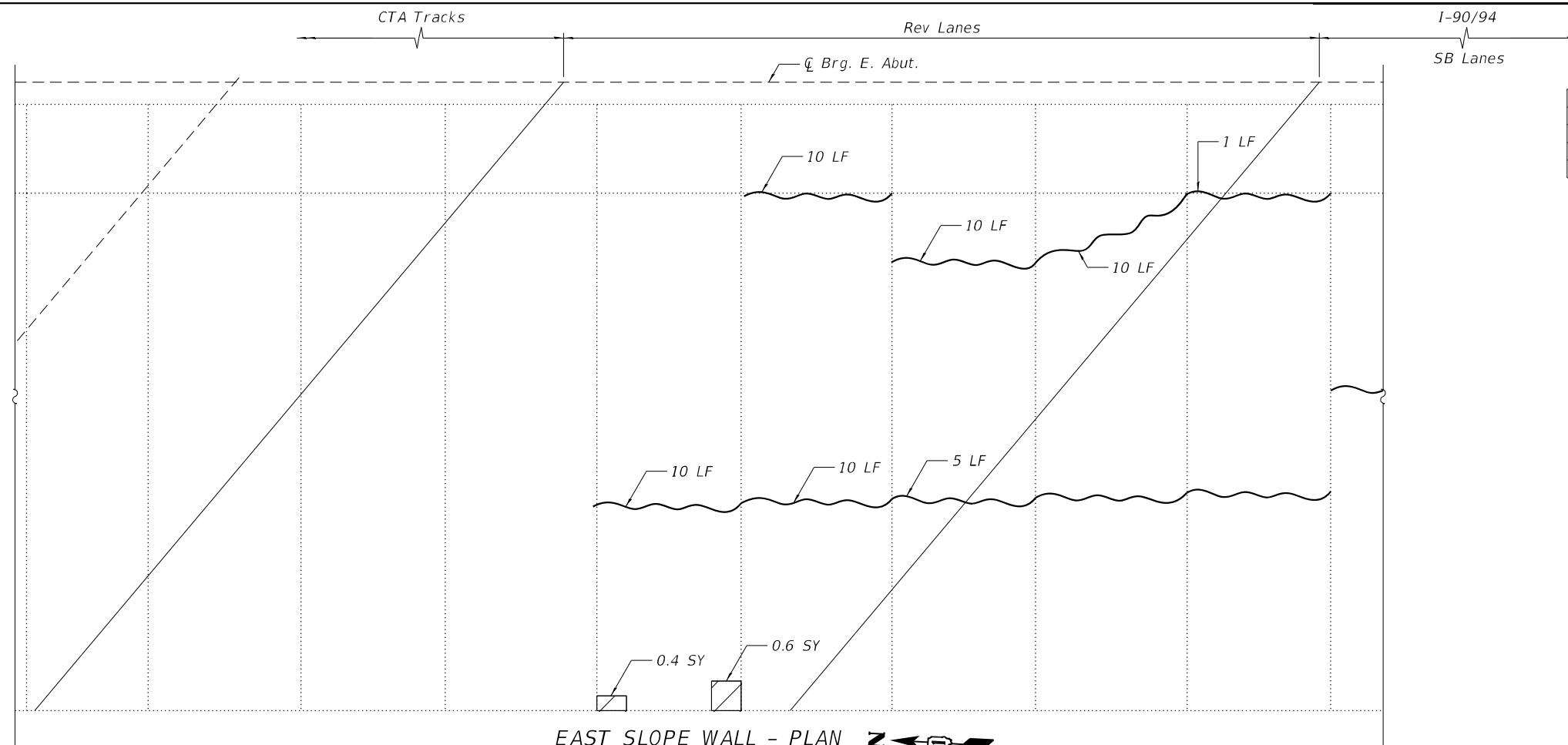
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PLOT SCALE =	DRAWN - AMS, JMI	REVISED -
PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

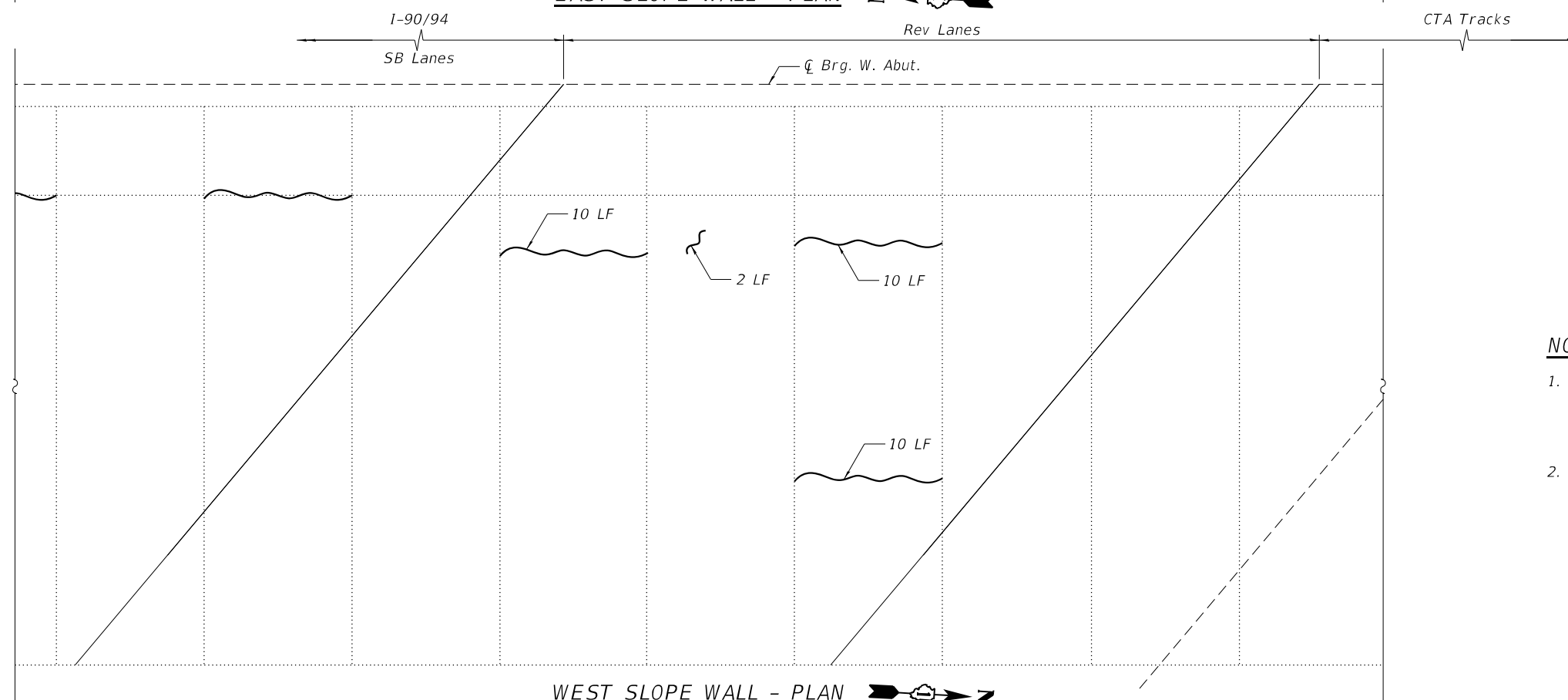
**PIER 2 REPAIRS**  
**STRUCTURE NO. 016-0112 (REV)**

SHEET S41-13 OF S41-14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1431
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



**EAST SLOPE WALL - PLAN**



**WEST SLOPE WALL - PLAN**



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	1
Slope Wall Removal	Sq Yd	1
Slope Wall 4 Inch	Sq Yd	1
Slope Wall Crack Sealing	Foot	88

**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**

-  Slope Wall Removal and Replacement with 4 Inch Slope Wall
-  Slope Wall Crack Sealing
- LF Linear Foot

MODEL: Default  
FILE NAME: P:\2004-824 PTB\195-010-GRAEF\WO#5 I-90 SB & Rev. Var. Overlays - Kostner SB & Rev Sheet Files - Kostner Rev\0160112-62K74-515-5\ppc wall.dgn



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	CHECKED - MI	REVISED -
PLOT SCALE =	DRAWN - AMS	REVISED -
PLOT DATE =	DATE - 8/30/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS  
STRUCTURE NO. 016-0112 (REV)**

SHEET S41-14 OF S41-14 SHEETS

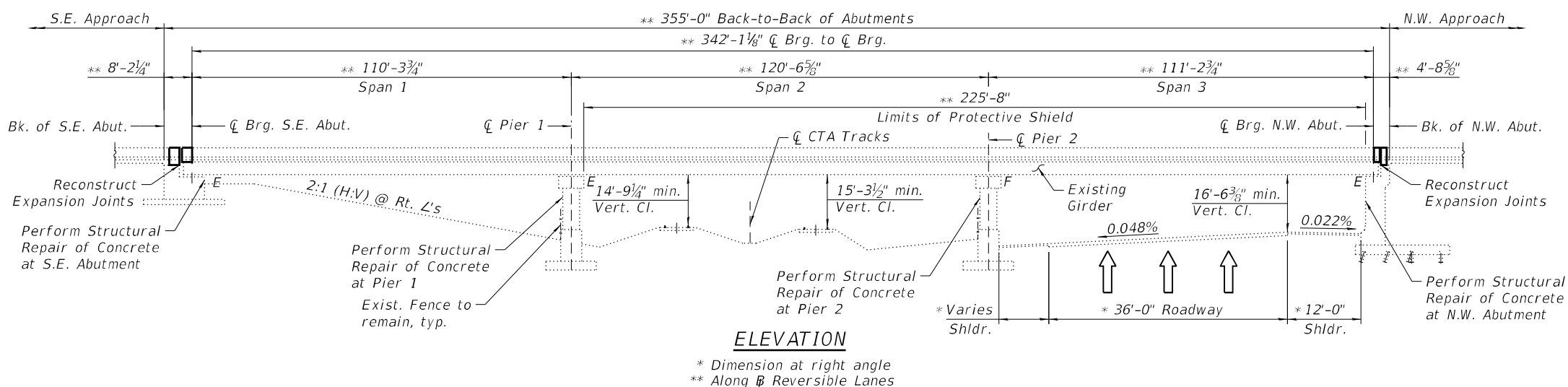
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1432
CONTRACT NO. 62K74				

ILLINOIS FED. AID PROJECT

Existing Structure: S.N. 016-0110 was originally built in 1957. The bridge consists of a continuous 3-span steel superstructure supported by reinforced concrete piers and abutments founded on piles. The structure carries all reversible traffic exiting or entering the Kennedy Expressway at the south end of the Edens Expressway. In 1966, the original structure deck was repaired and received expansion joints. In 1994, structure was reconfigured and reconstructed.

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:**

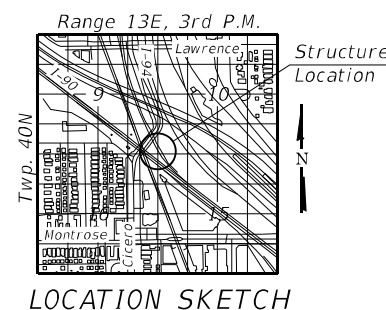
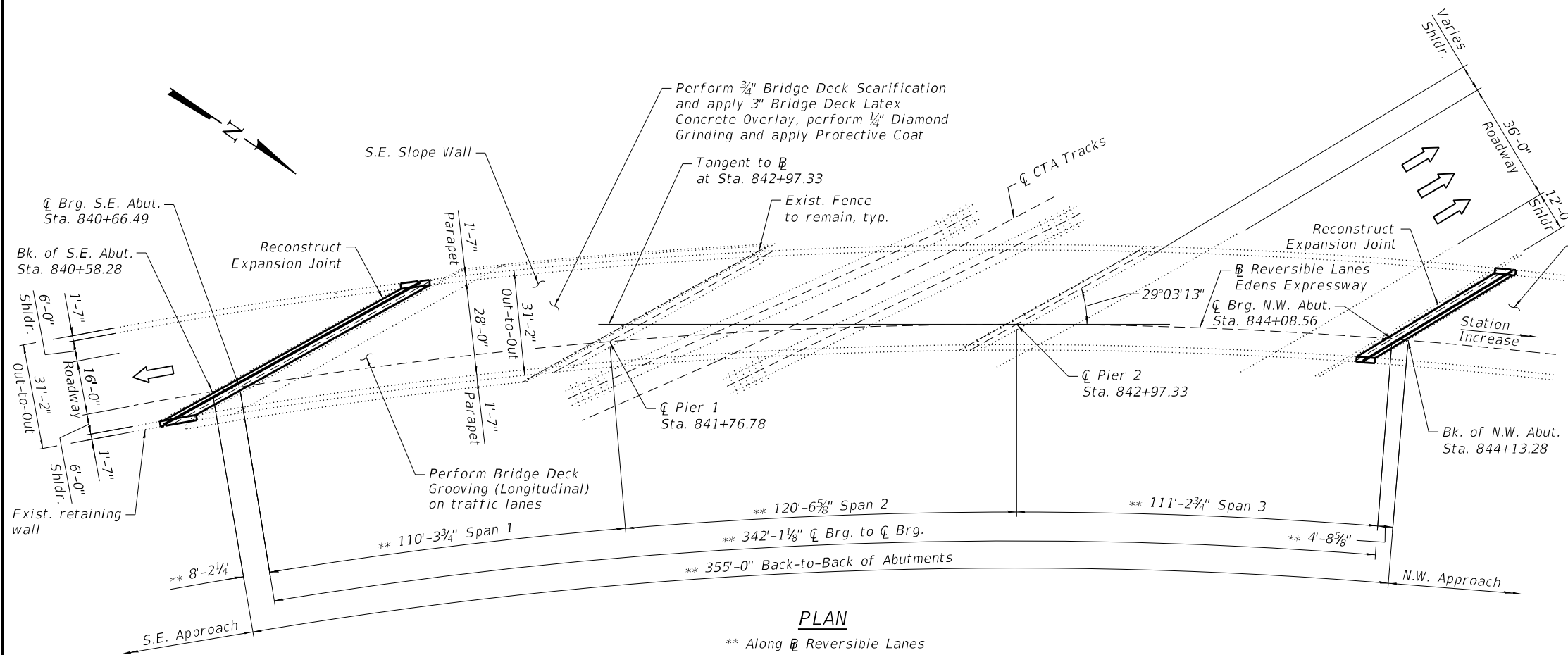
- All stations are to the Reversible Lanes Edens Expressway and taken from existing plans.
- No Future Wearing Surface is allowed.



*Kevin Wood*

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

MODEL: SMODELNAME5  
 FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH1016-0110\_FK\_CTA10160110-62K74-5001-GPER.dgn



**GENERAL PLAN AND ELEVATION**  
**REVERSIBLE LANES F.A.I. 94 OVER F.A.I. 90**  
**F.A.I. SEC 2020-004-BR**  
**COOK COUNTY**  
**STATION: 842+97.33**  
**STRUCTURE NO. 016-0110**

**GR&E**  
 8501 W. Higgins Road, Suite 280  
 Chicago, Illinois 60631; (773) 399-0112

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

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SHEET S43-01 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1433
CONTRACT NO. 62K74				

**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.
- The Contractor shall take the necessary precautions for the protection of passing vehicles, and CTA 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**

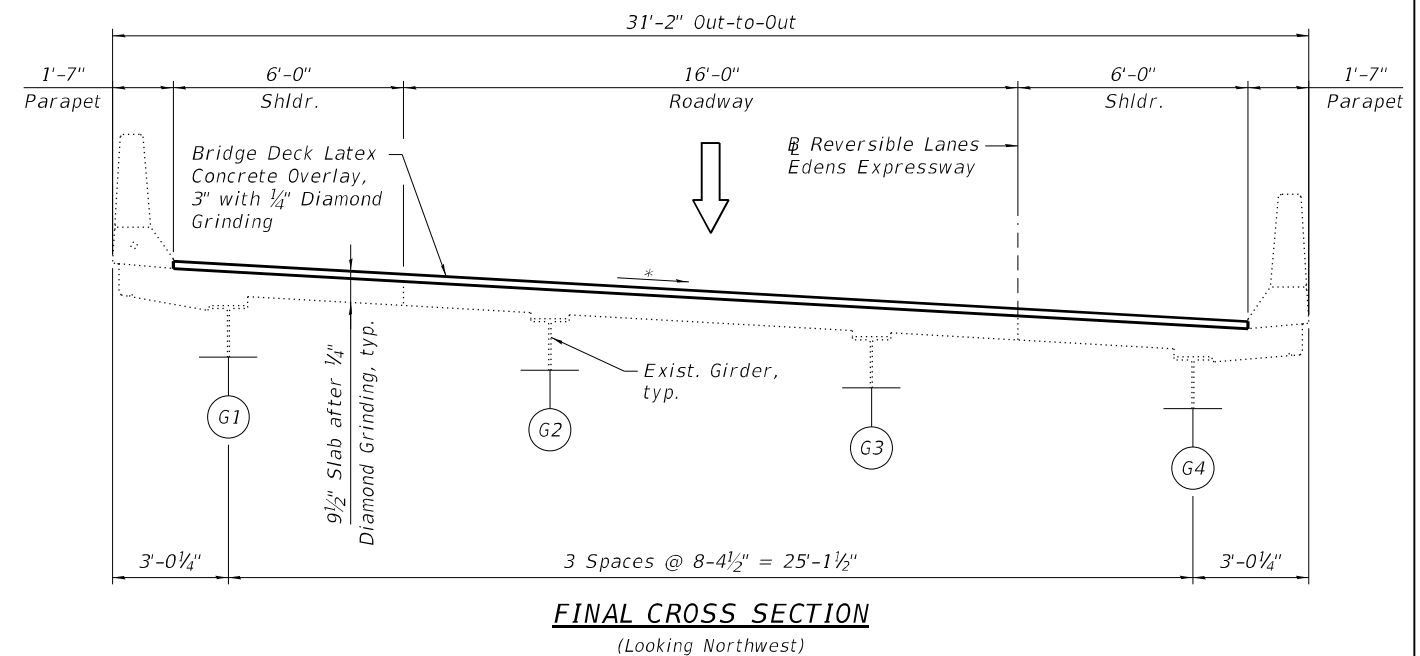
- S43-01 General Plan & Elevation
- S43-02 General Data
- S43-03 Bridge Deck Repair Plan and Details
- S43-04-S43-06 Southeast Abutment Expansion Joint Details I, II & III
- S43-07-S43-09 Northwest Abutment Expansion Joint Details I, II & III
- S43-10 Preformed Joint Strip Seal
- S43-11 Southeast Abutment Repairs
- S43-12 Northwest Abutment Repairs
- S43-13 Pier 1 Repairs
- S43-14 Pier 2 Repairs
- S43-15 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 southeast and northwest 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.
- 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.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	23.2		23.2
Protective Shield	Sq Yd	885		885
Concrete Superstructure	Cu Yd	26.3		26.3
Protective Coat	Sq Yd	1,438		1,438
Reinforcement Bars, Epoxy Coated	Pound	3,750		3,750
Preformed Joint Strip Seal	Foot	132		132
Concrete Sealer	Sq Ft		741	741
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	620		620
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,058		1,058
Bridge Deck Scarification 3/4"	Sq Yd	1,058		1,058
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		35	35
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.9		0.9
Deck Slab Repair (Full Depth, Type II)	Sq Yd	68.4		68.4
Diamond Grinding (Bridge Section)	Sq Yd	1,085		1,085
Maintenance of Lighting System	Cal Mo		6	6



**FINAL CROSS SECTION**  
(Looking Northwest)

\* Match existing deck surface profile

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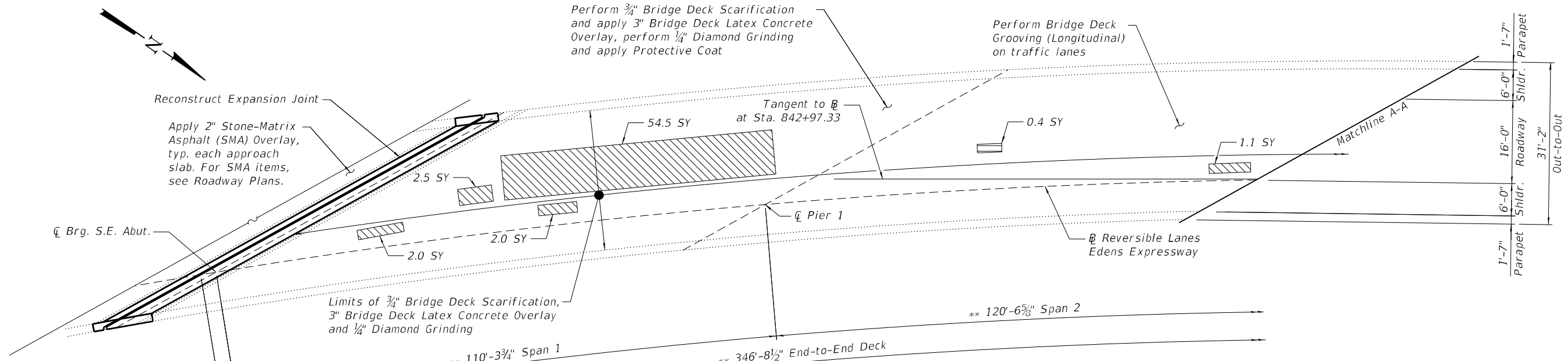
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
SN 016-0110**

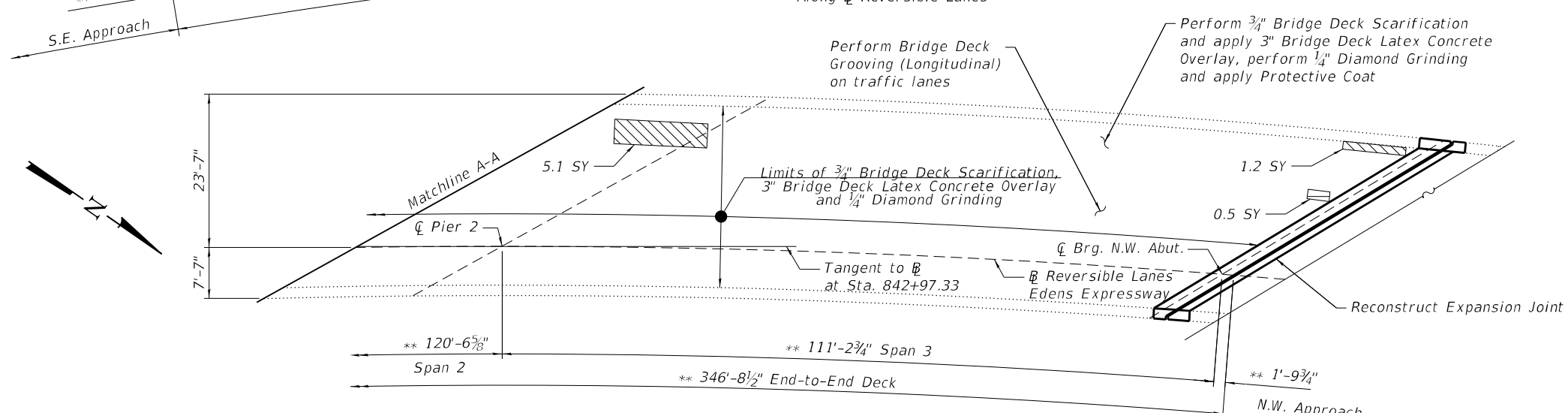
SHEET S43-02 OF S43-15 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1434
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**DECK PLAN**

\*\* Along  $\bar{R}$  Reversible Lanes



**DECK PLAN**

\*\* Along  $\bar{R}$  Reversible Lanes

**LEGEND**

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

**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 S43-02.
3. For Southeast and Northwest transverse joint removal and reconstruction, see Sheet S43-04 thru S43-09.
4. Perform  $\frac{1}{4}$ " 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.

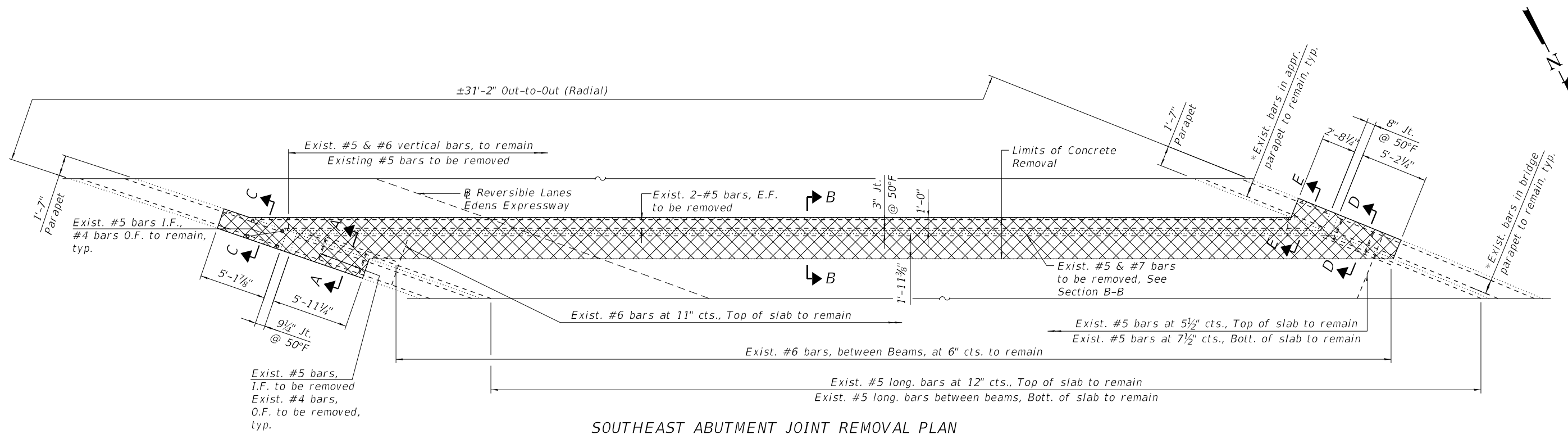
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	885
Protective Coat	Sq Yd	1,438
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	620
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,058
Bridge Deck Scarification 3/4"	Sq Yd	1,058
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.9
Deck Slab Repair (Full Depth, Type II)	Sq Yd	68.4
Diamond Grinding (Bridge Section)	Sq Yd	1,085
Maintenance of Lighting System	Cal Mo	6

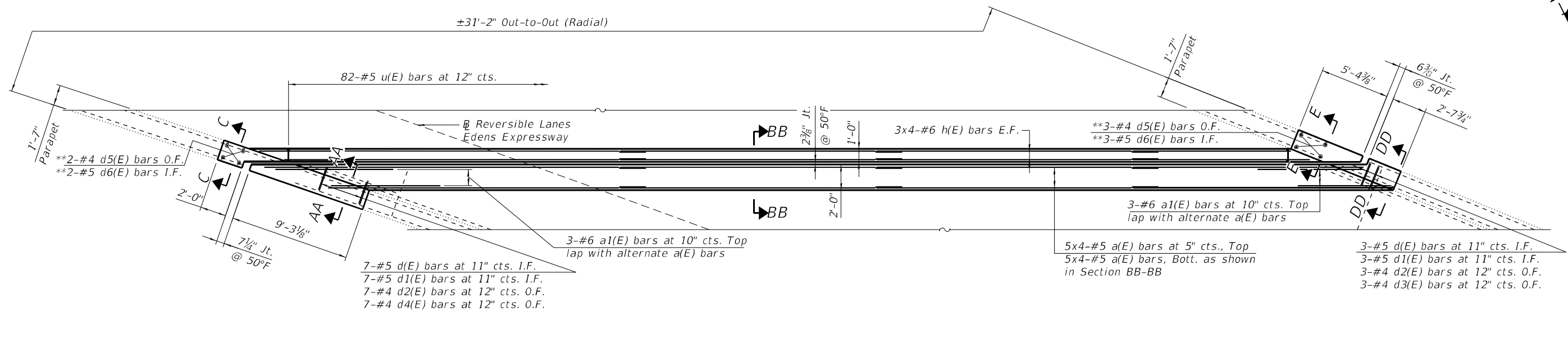
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1435
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



**SOUTHEAST ABUTMENT JOINT REMOVAL PLAN**



**SOUTHEAST ABUTMENT JOINT RECONSTRUCTION PLAN**

**NOTES:**

1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S43-05.
2. For sections D-D, E-E, DD-DD and EE-EE, see sheet S43-06.

- \* Existing longitudinal bars to remain in the parapets can be cut in the field as required
- \*\* Epoxy grout #4 d5(E) #5 d6(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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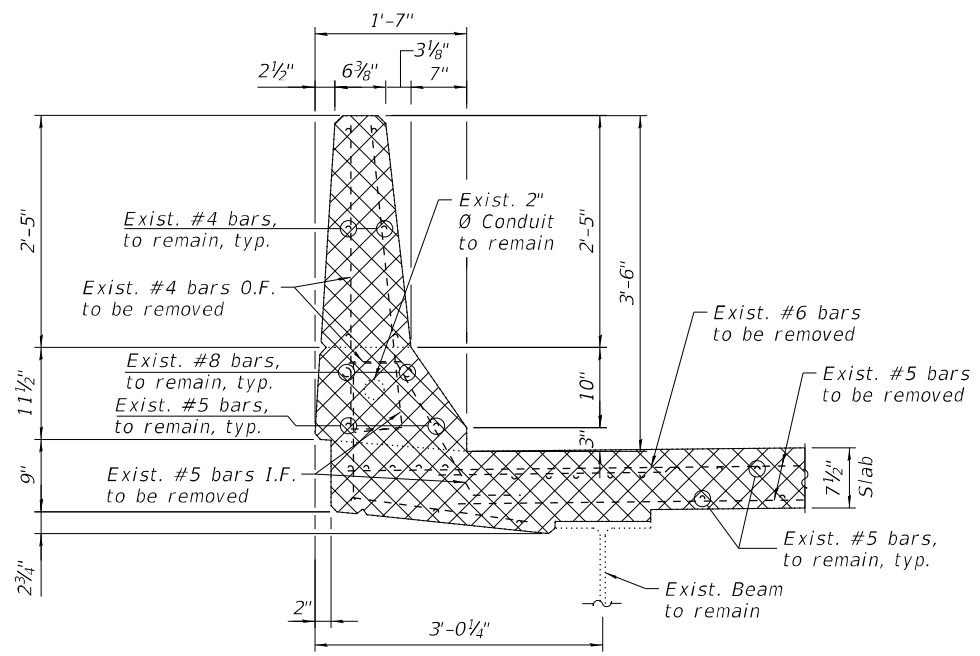
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 DEPARTMENT OF TRANSPORTATION**

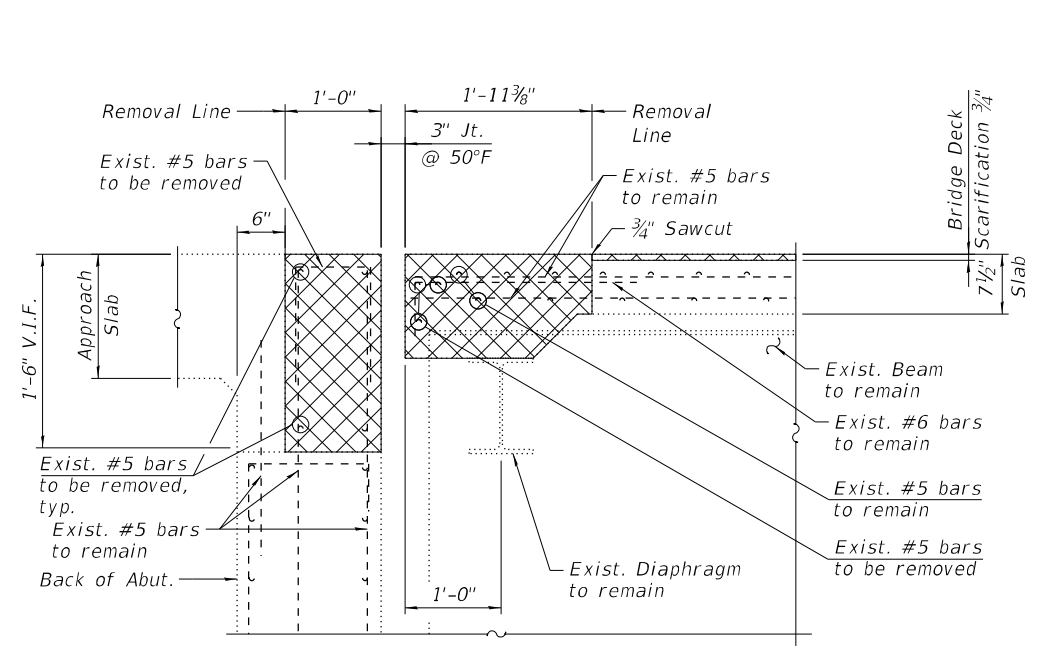
**SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS I  
 SN 016-0110**

SHEET S43-04 OF S43-15 SHEETS

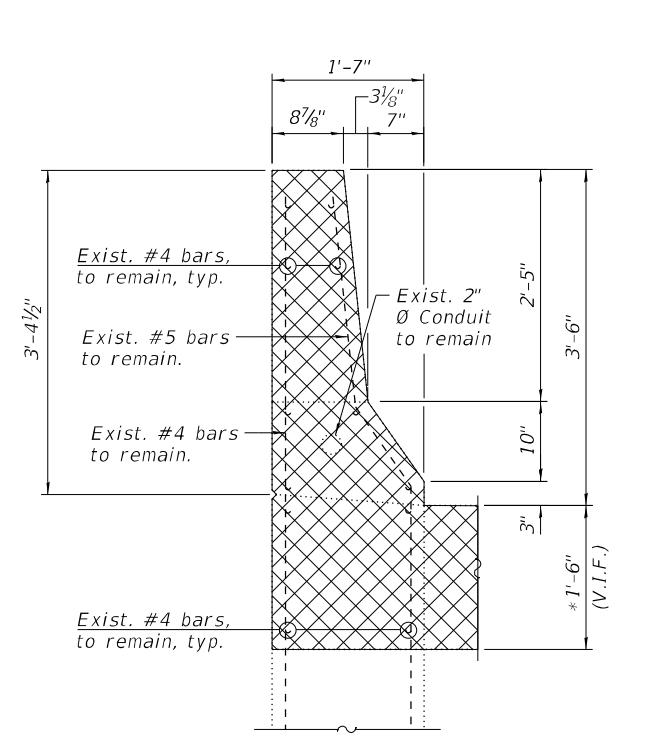
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



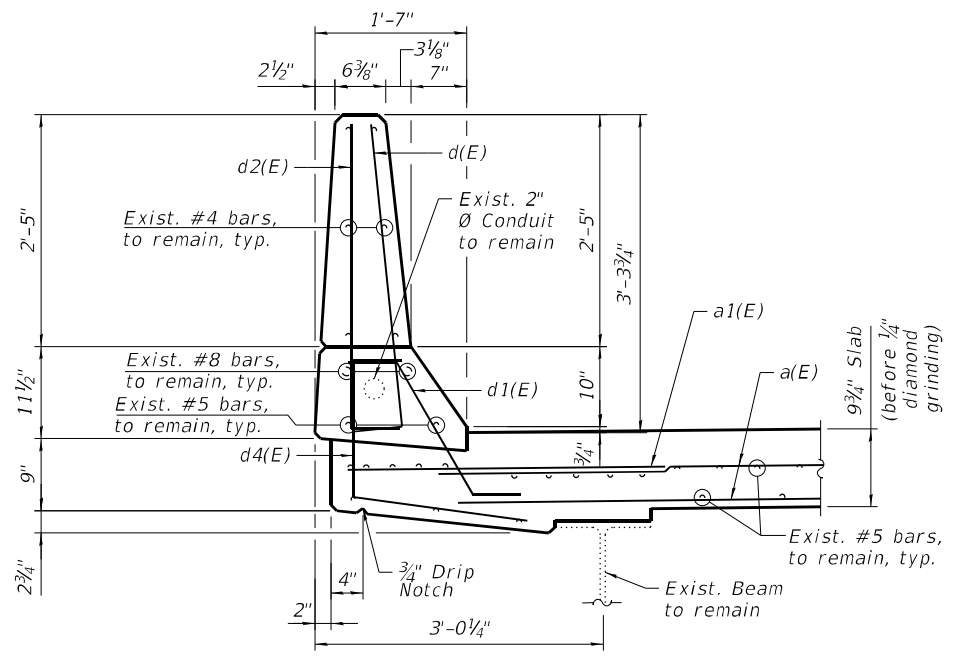
**SECTION A-A**  
(East parapet removal)



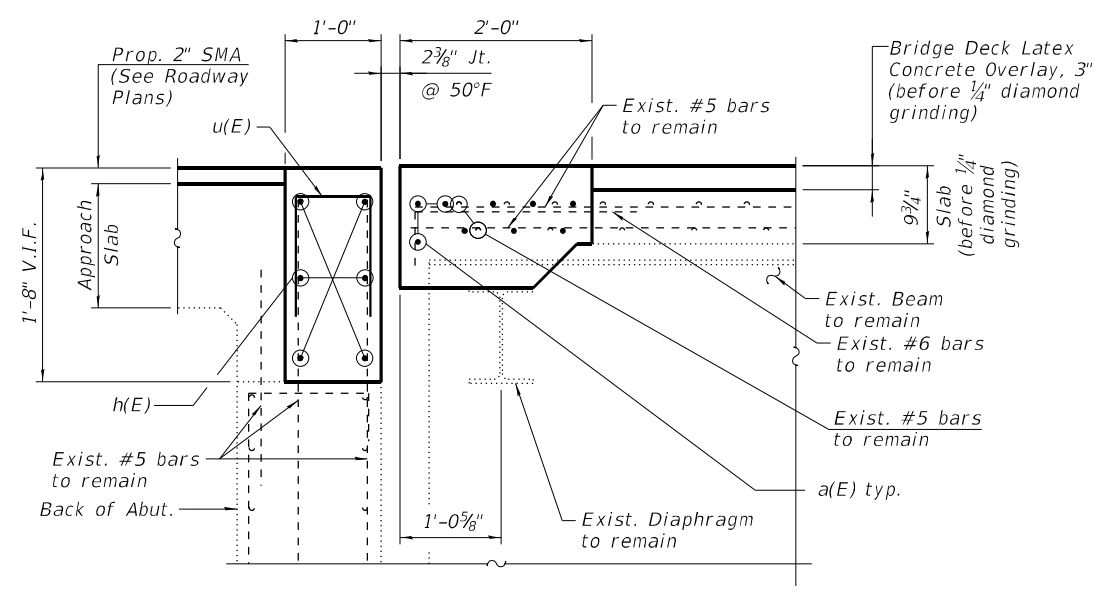
**SECTION B-B**



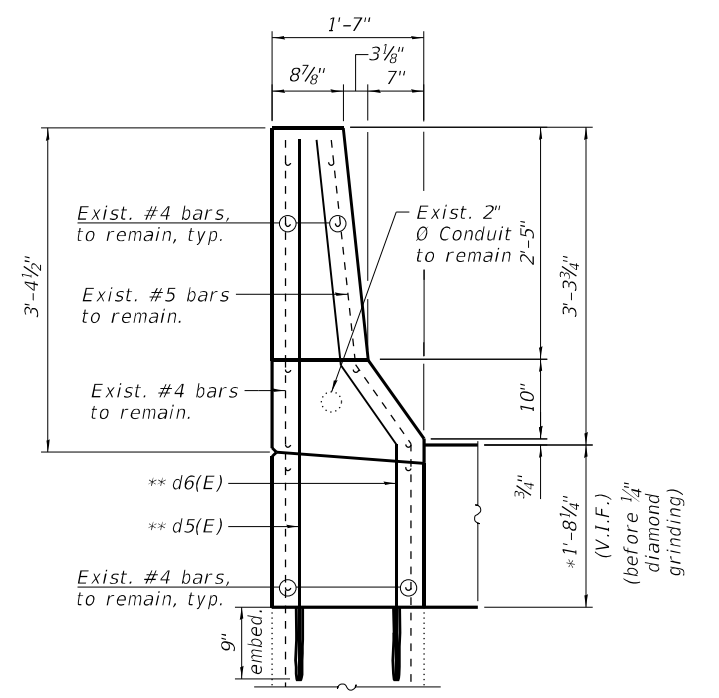
**SECTION C-C**  
(East parapet removal)



**SECTION AA-AA**  
(East parapet reconstruction)



**SECTION BB-BB**



**SECTION CC-CC**  
(East parapet reconstruction)

**LEGEND**

- \* Dimension is taken at the Back of Abut.
- \*\* Epoxy grout #4 d5(E) & #5 d6(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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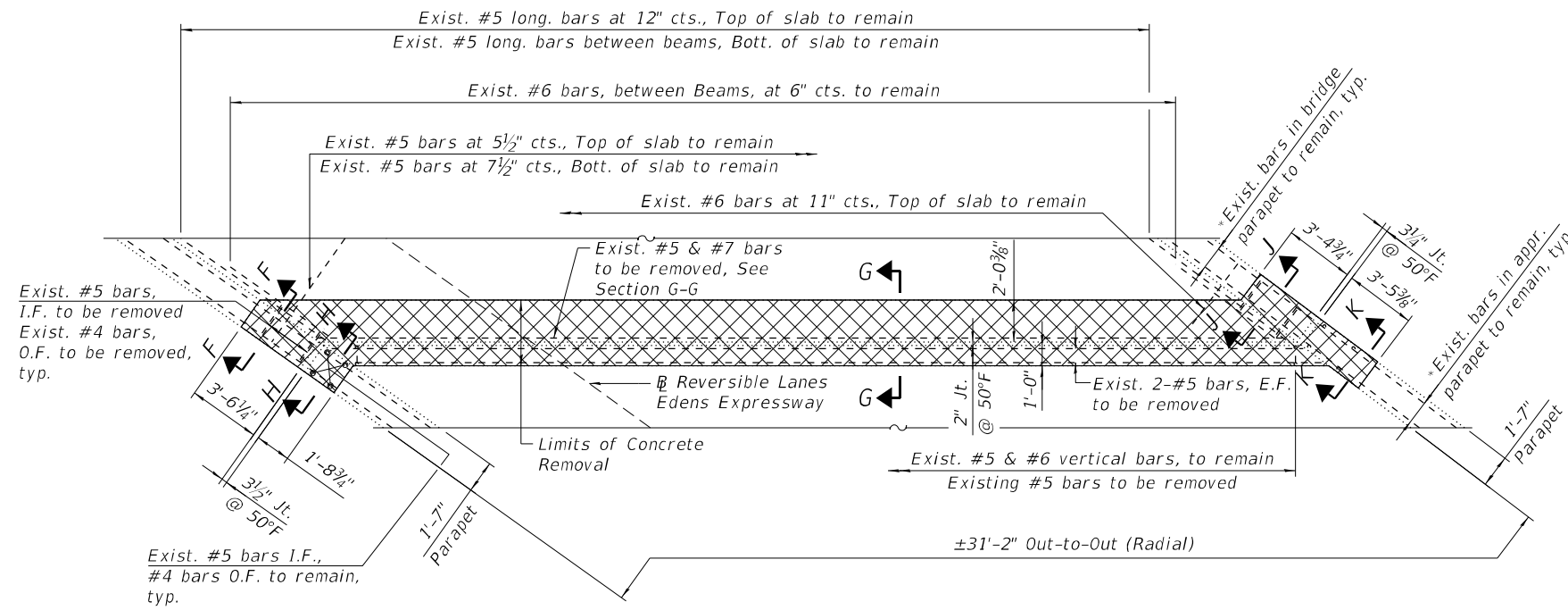
**SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS II  
SN 016-0110**

SHEET S43-05 OF S43-15 SHEETS

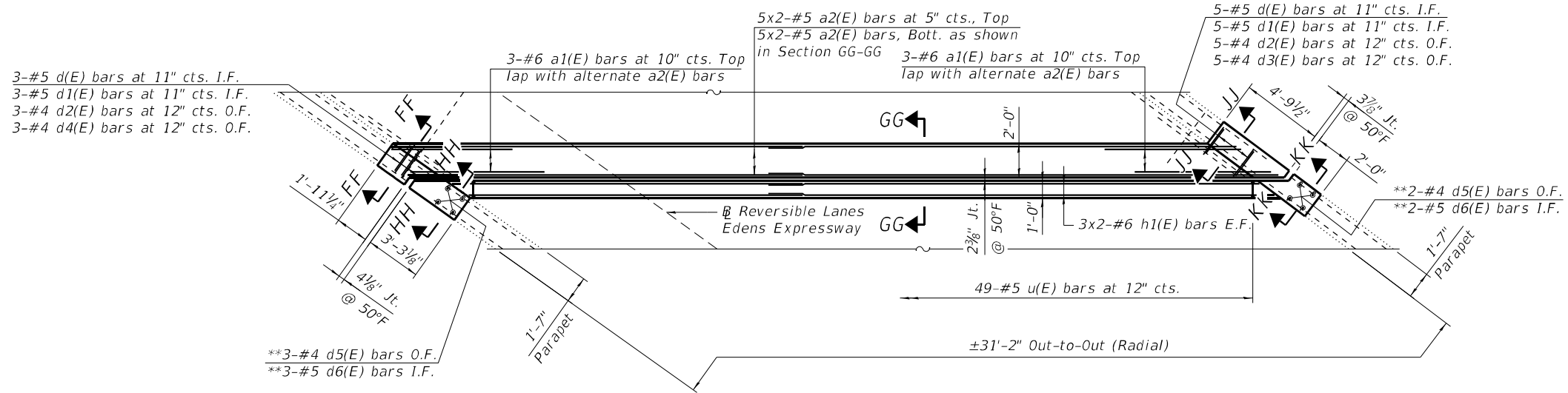
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				







**NORTHWEST ABUTMENT JOINT REMOVAL PLAN**



**NORTHWEST ABUTMENT JOINT RECONSTRUCTION PLAN**

**NOTES:**

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S43-08.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S43-09.

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

\*\* Epoxy grout #4 d5(E) #5 d6(E) bars in 9\"/>

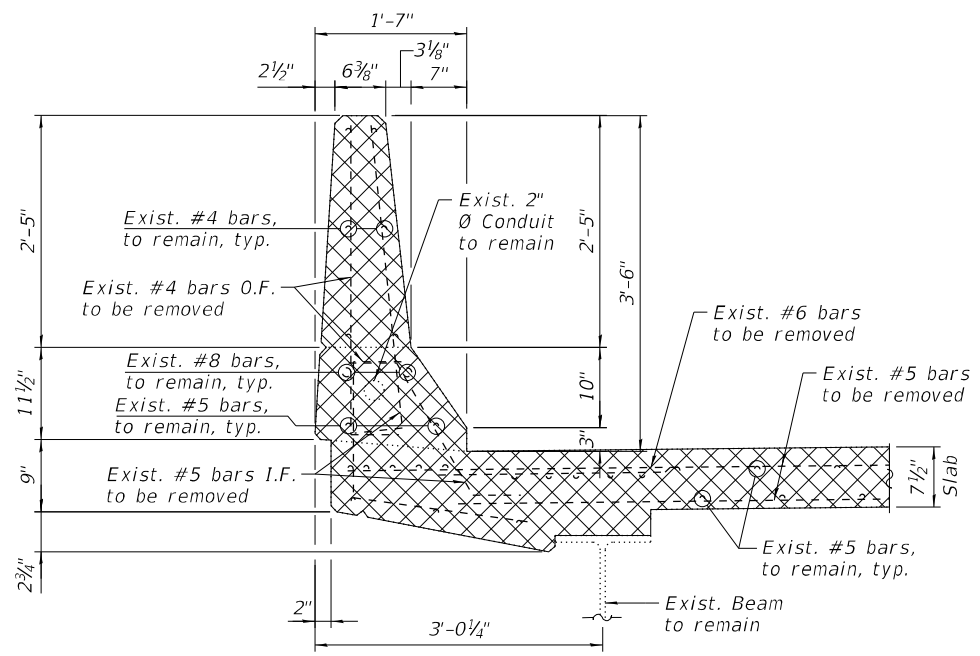
**LEGEND**

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

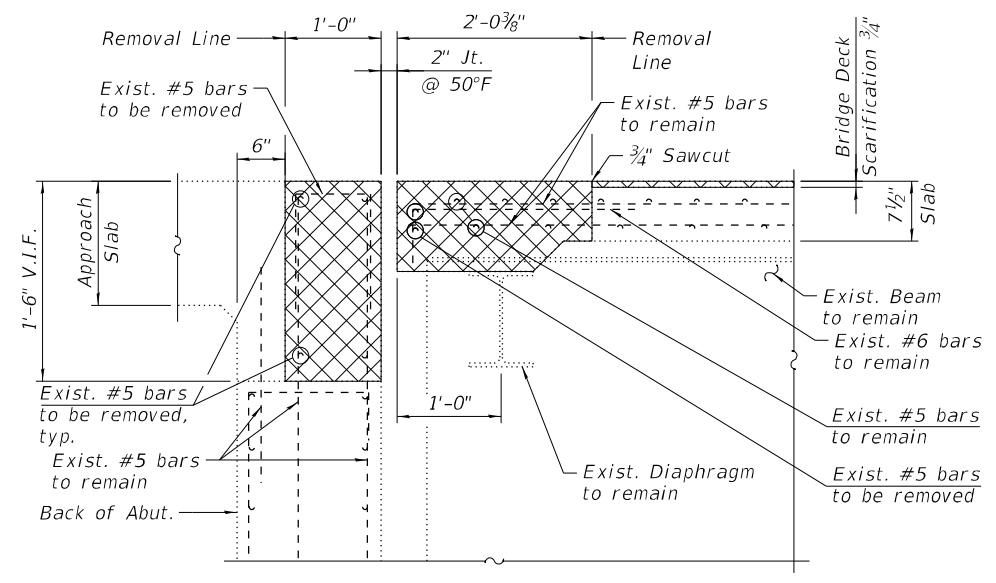
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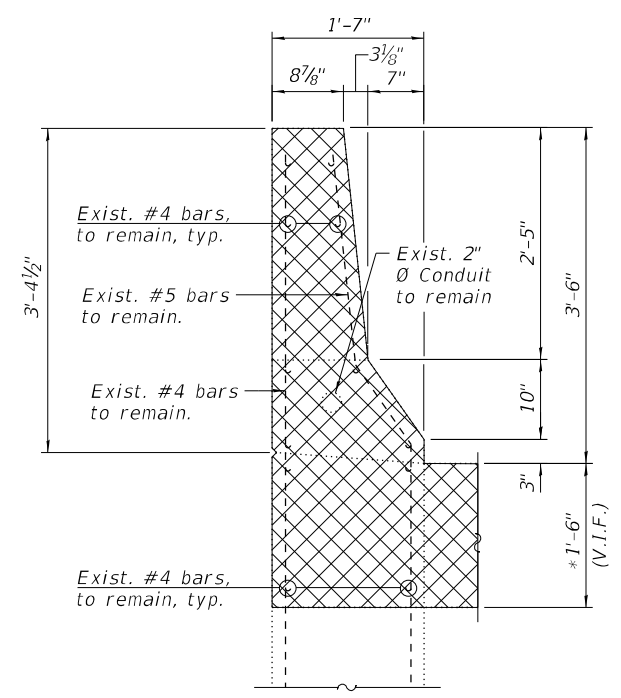
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



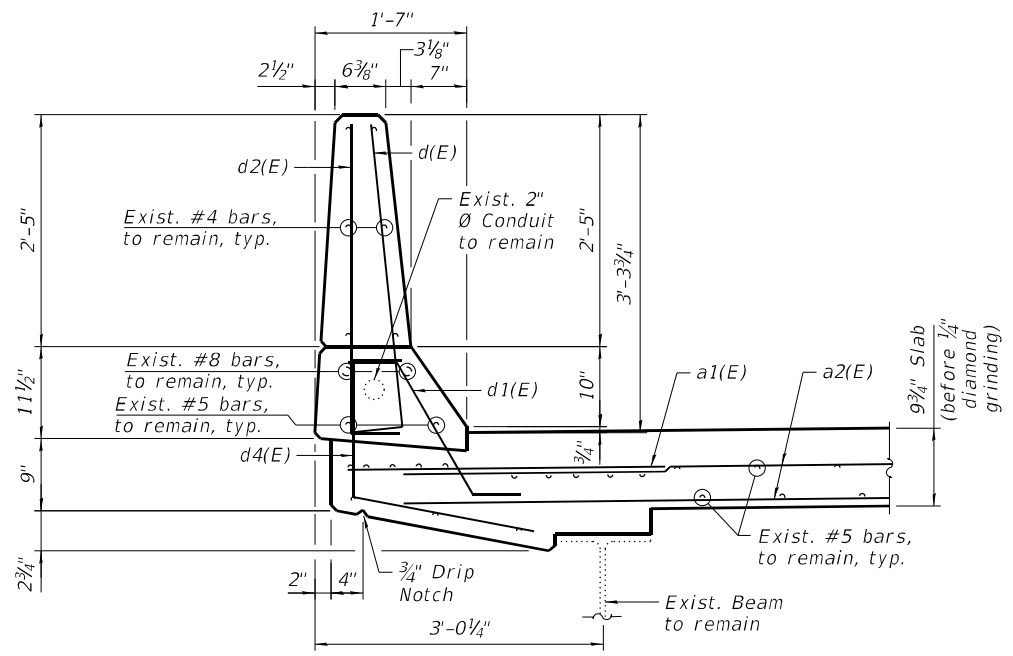
**SECTION F-F**  
(East parapet removal)



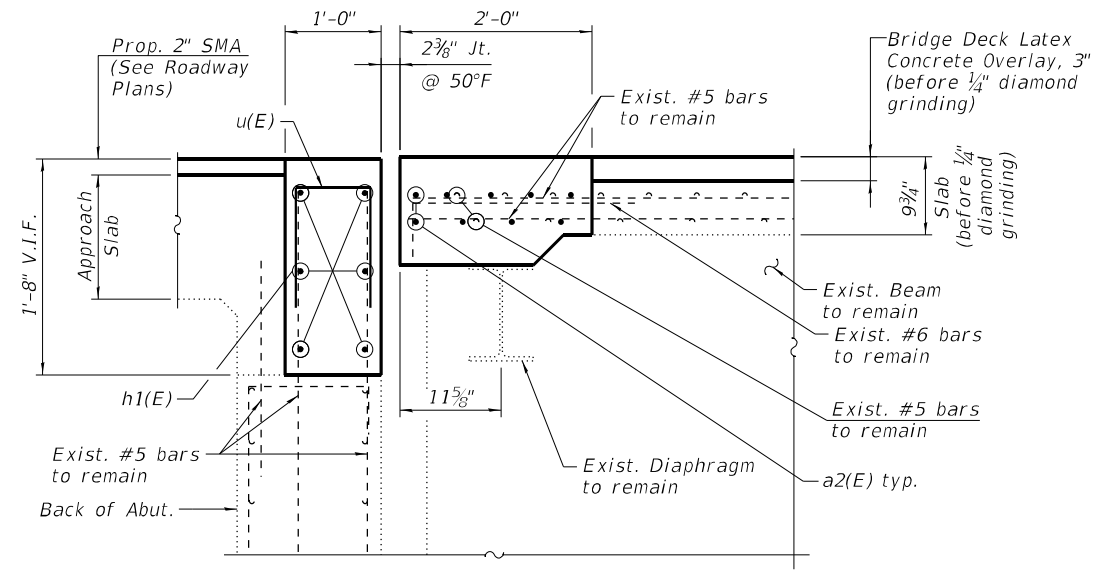
**SECTION G-G**



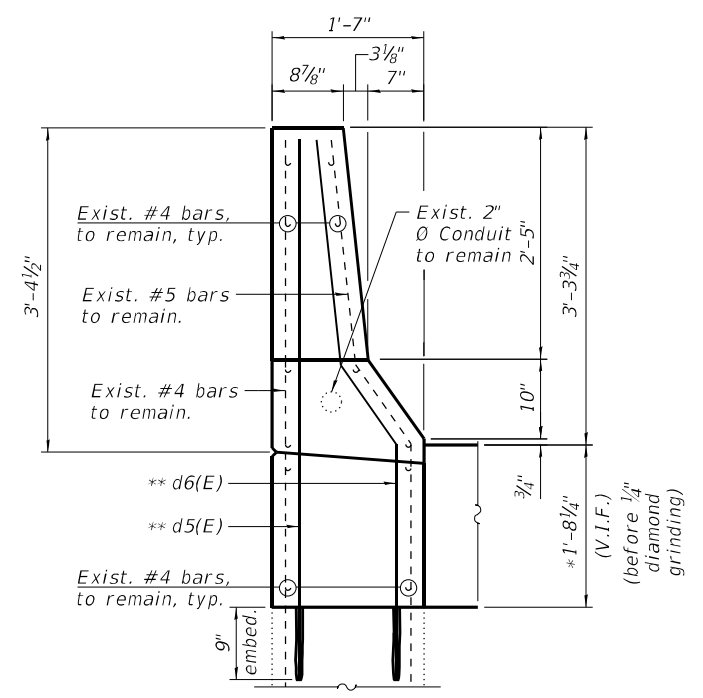
**SECTION H-H**  
(East parapet removal)



**SECTION FF-FF**  
(East parapet reconstruction)



**SECTION GG-GG**



**SECTION HH-HH**  
(East parapet reconstruction)

**LEGEND**

- \* Dimension is taken at the Back of Abut.
- \*\* Epoxy grout #4 d5(E) & #5 d6(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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**STATE OF ILLINOIS  
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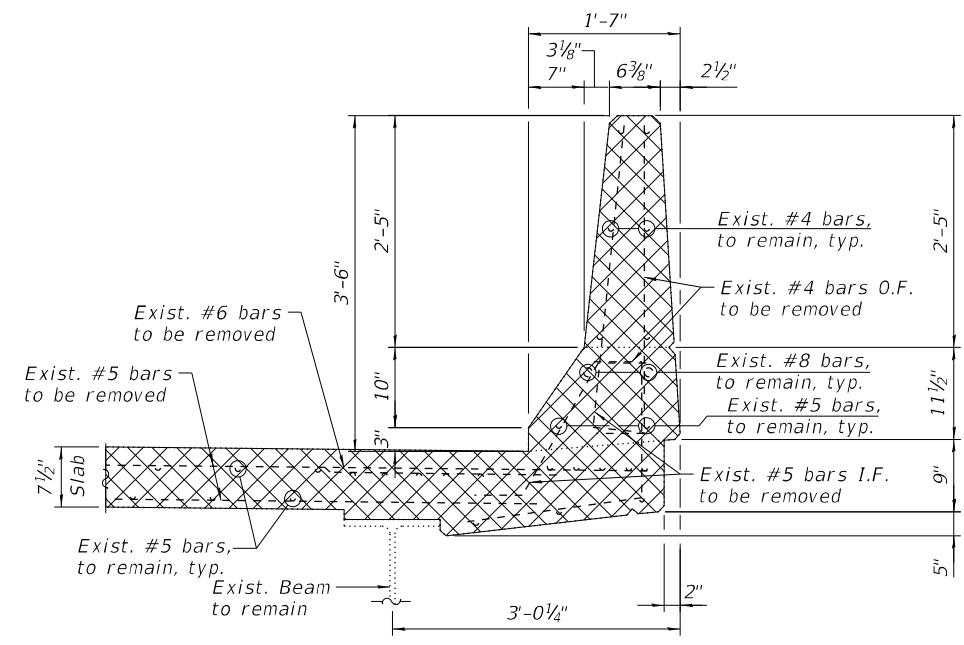
**NORTHWEST ABUTMENT EXPANSION JOINT DETAILS II  
 SN 016-0110**

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ILLINOIS FED. AID PROJECT				

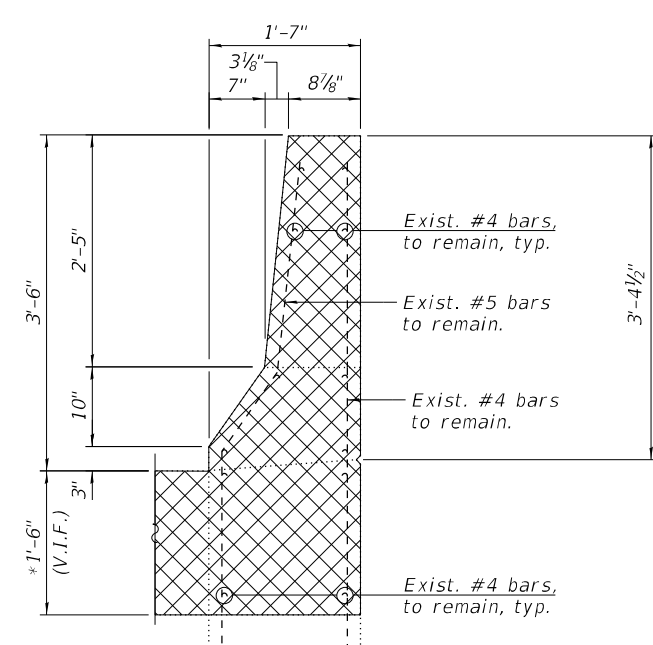
SHEET S43-08 OF S43-15 SHEETS

**BILL OF MATERIAL  
NORTHWEST ABUTMENT**

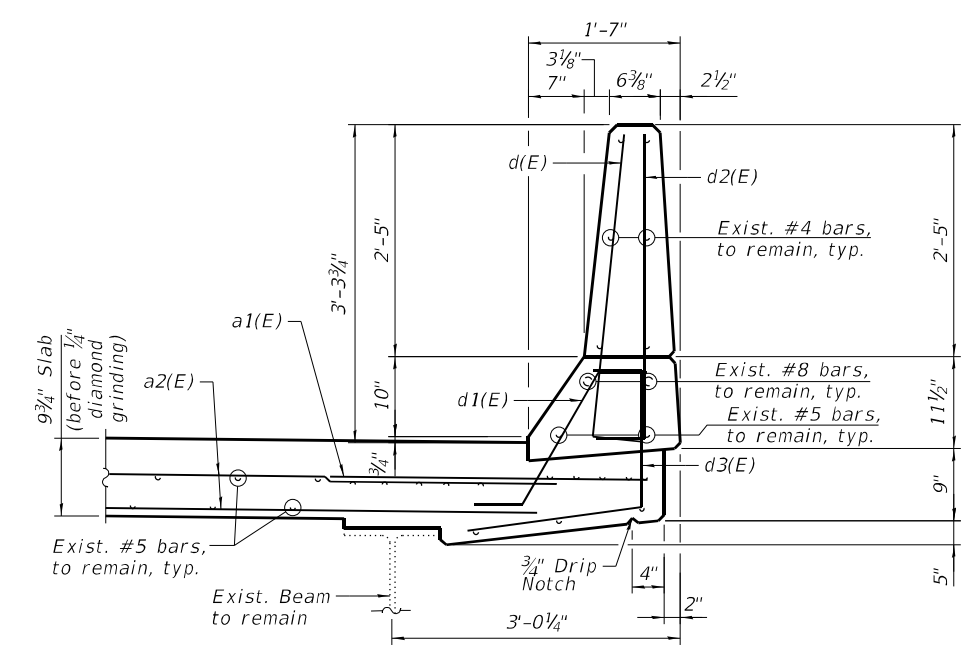
Bar	No.	Size	Length	Shape
a1(E)	6	#6	6'-6"	—
a2(E)	20	#5	27'-9"	—
d(E)	8	#5	3'-8"	┌
d1(E)	8	#5	2'-7"	┌
d2(E)	8	#4	3'-8"	┌
d3(E)	5	#4	3'-9"	┌
d4(E)	3	#4	3'-9"	┌
d5(E)	5	#4	5'-7"	┌
d6(E)	5	#5	5'-10"	┌
h1(E)	12	#6	28'-0"	—
u(E)	49	#5	1'-11"	┌
Concrete Removal			Cu Yd	9.2
Reinforcement Bars, Epoxy Coated			Pound	1,390
Concrete Superstructure			Cu Yd	10.3



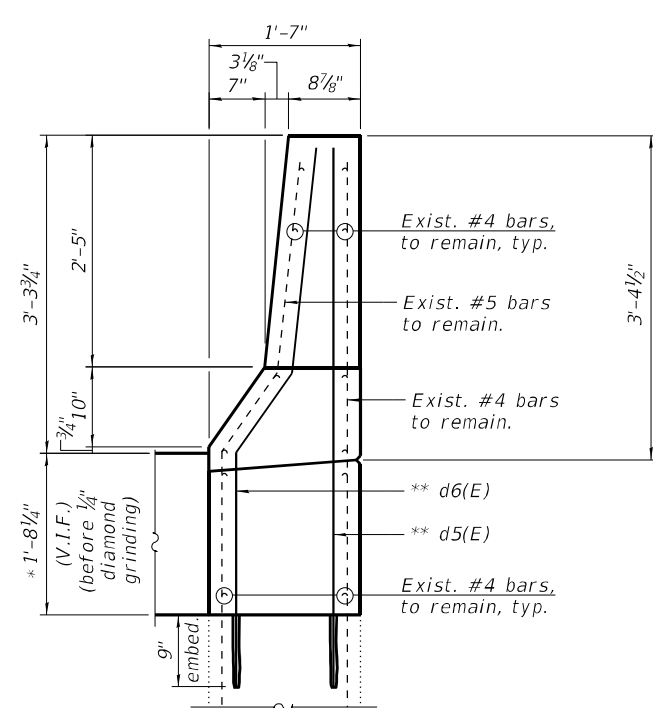
**SECTION J-J**  
(West parapet removal)



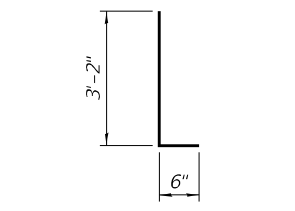
**SECTION K-K**  
(West parapet removal)



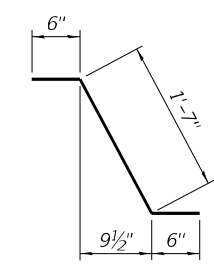
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(West parapet reconstruction)



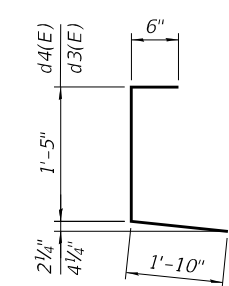
**SECTION KK-KK**  
(West parapet reconstruction)



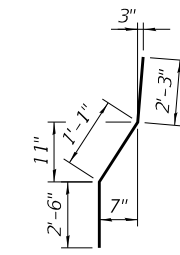
**BARS d(E) & d2(E)**



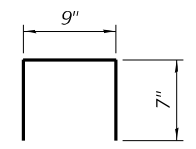
**BAR d1(E)**



**BAR d3(E) & d4(E)**



**BAR d6(E)**



**BARS u(E)**

**NOTES:**

- For Preformed Joint Strip Seal details, see sheet S43-10.
- 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 #4 d5(E) & #5 d6(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

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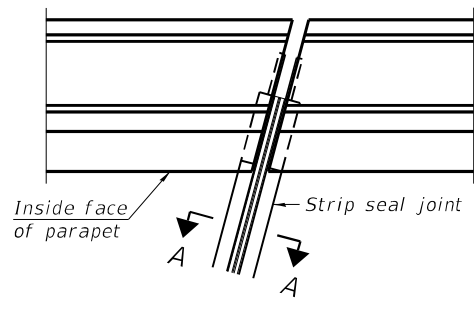
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTHWEST ABUTMENT EXPANSION JOINT DETAILS III  
SN 016-0110**

SHEET S43-09 OF S43-15 SHEETS

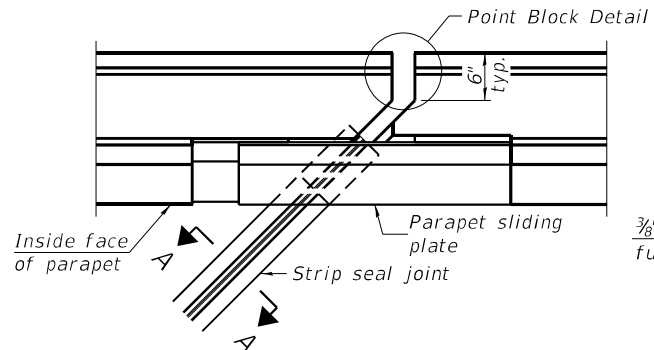
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1441
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

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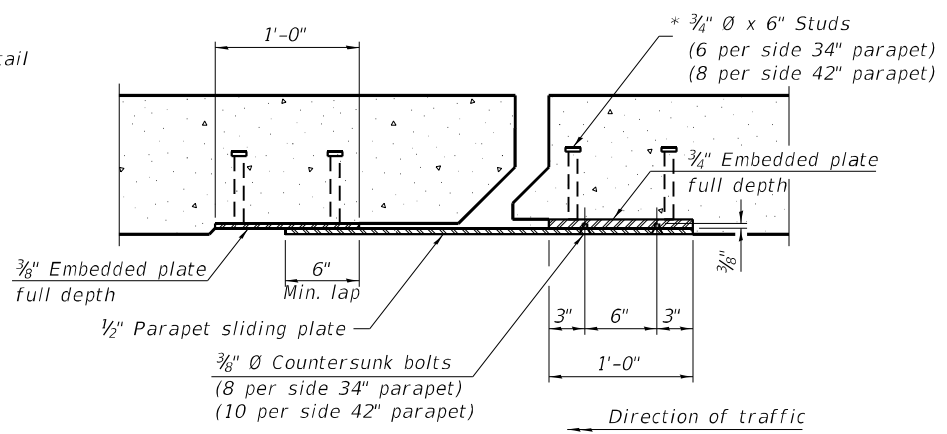


FOR SKEWS  $\leq 30^\circ$

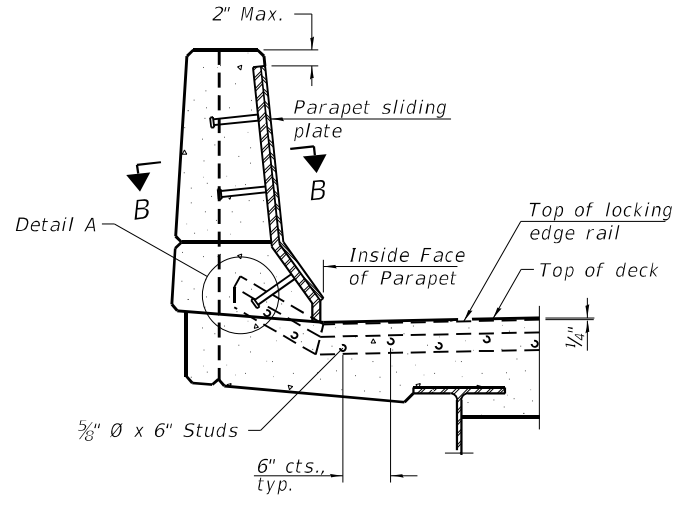
**PLAN AT PARAPET**



FOR SKEWS  $> 30^\circ$

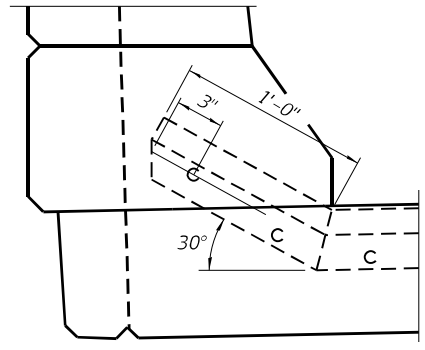


**SECTION B-B**

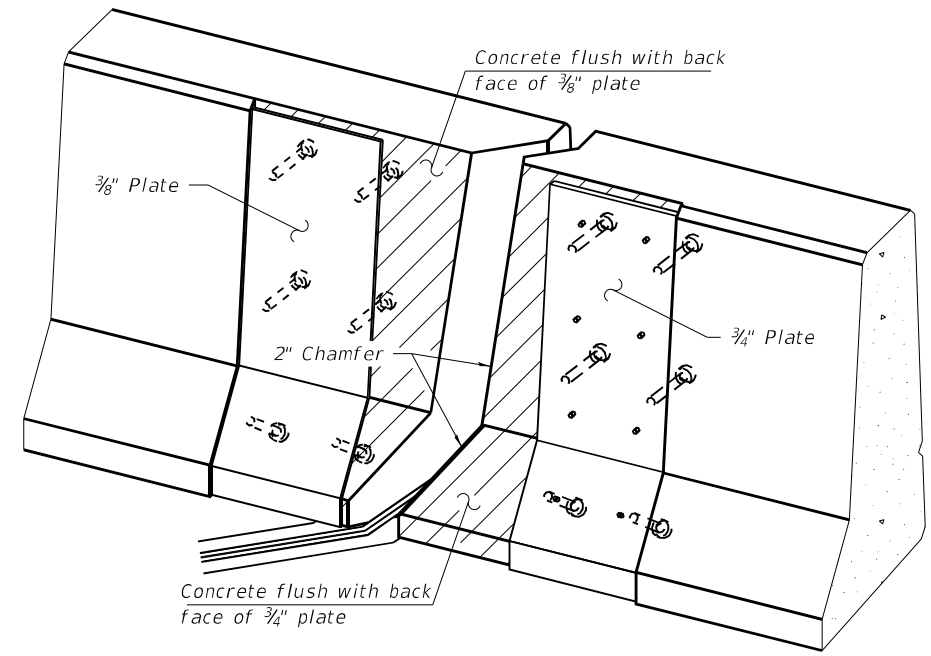


**ELEVATION AT PARAPET**

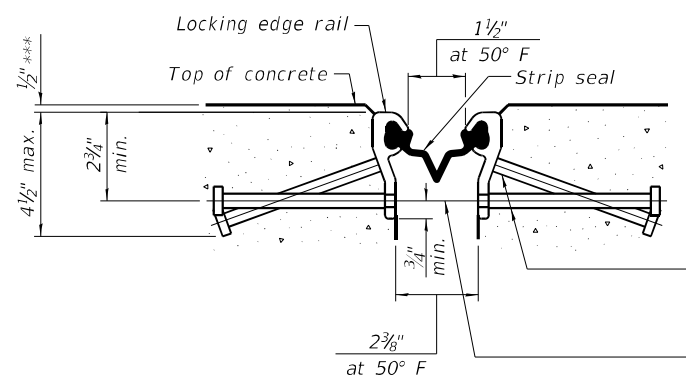
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



**DETAIL A**

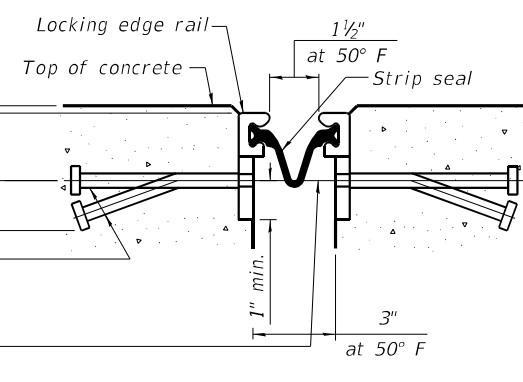


**TRIMETRIC VIEW**  
(Showing embedded plates only)



**SHOWING ROLLED RAIL JOINT**

\* 5/8"  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)  
 3/8"  $\phi$  threaded rods in 1/16"  $\phi$  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.

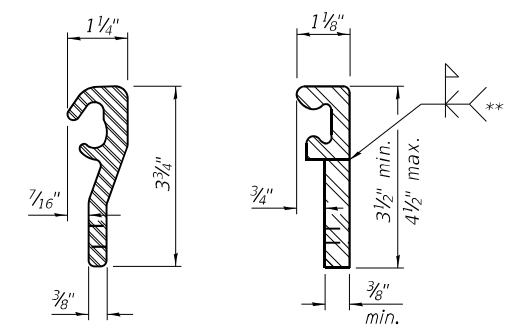


**SHOWING WELDED RAIL JOINT**

**SECTION A-A**

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

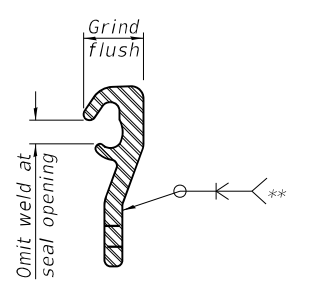
\*\*\* Before 1/4" Diamond Grinding.



**ROLLLED (EXTRUDED) RAIL** and **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	132



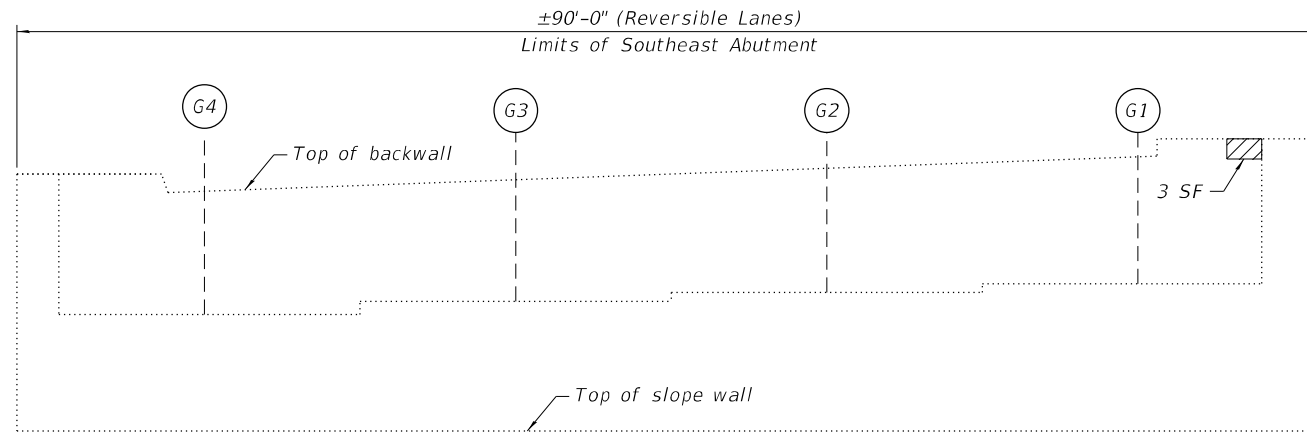
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

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**DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL**  
**SN 016-0110**

SHEET S43-10 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1442
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



**ELEVATION - SOUTHEAST 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 S43-15.

**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	446
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	3

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

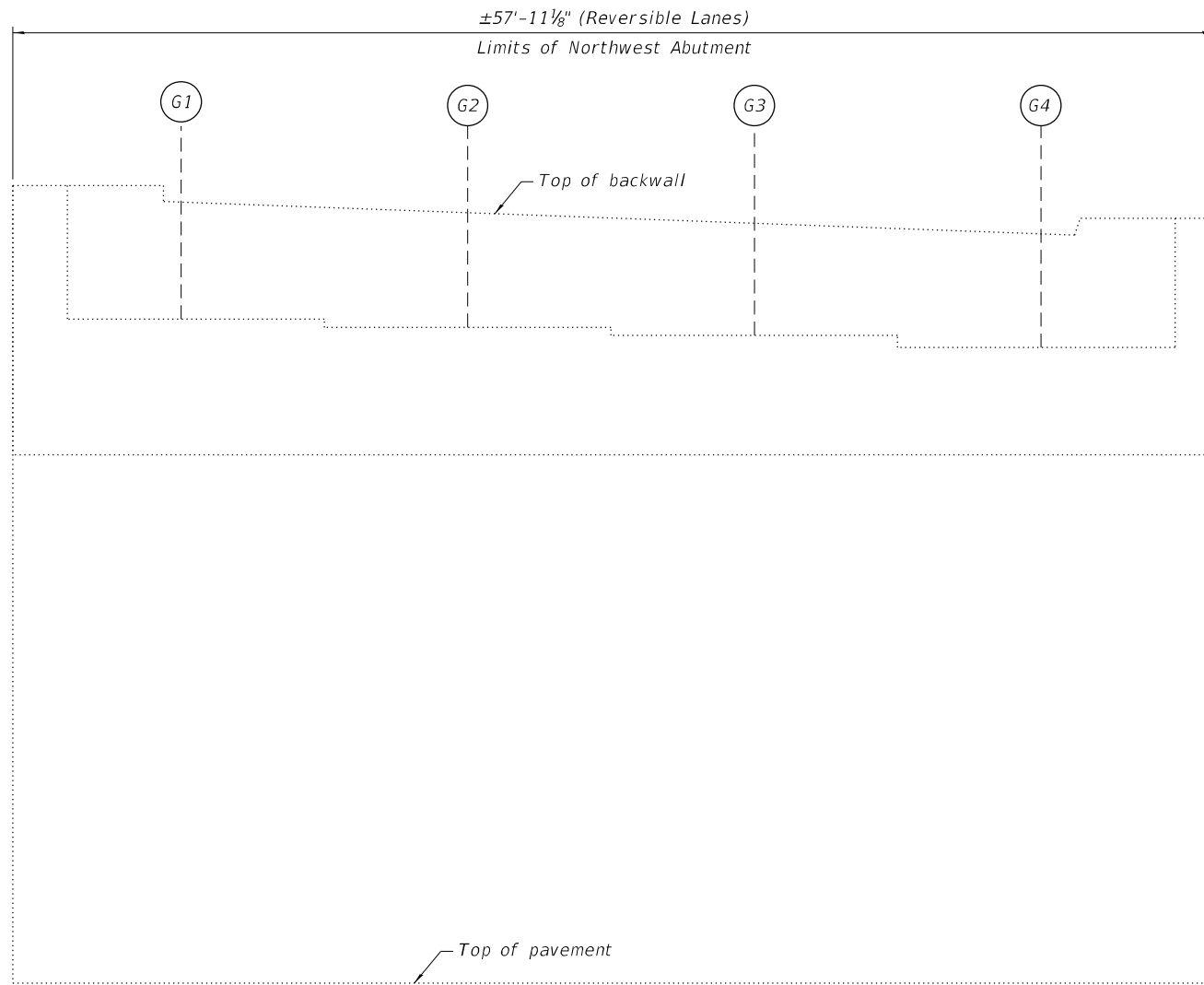
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

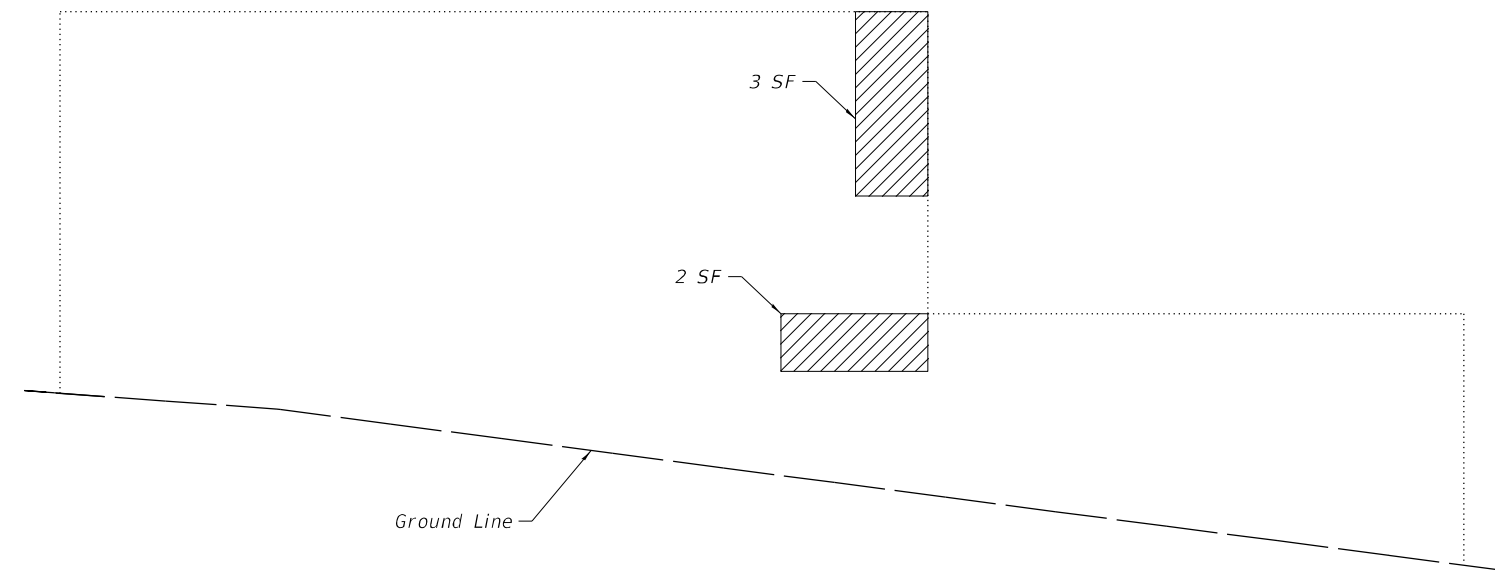
**SOUTHEAST ABUTMENT REPAIRS  
SN 016-0110**

SHEET S43-11 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1443
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**ELEVATION - NORTHWEST ABUTMENT**  
(Looking North)



**ELEVATION - NORTHWEST WINGWALL**  
(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.

**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	295
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	5

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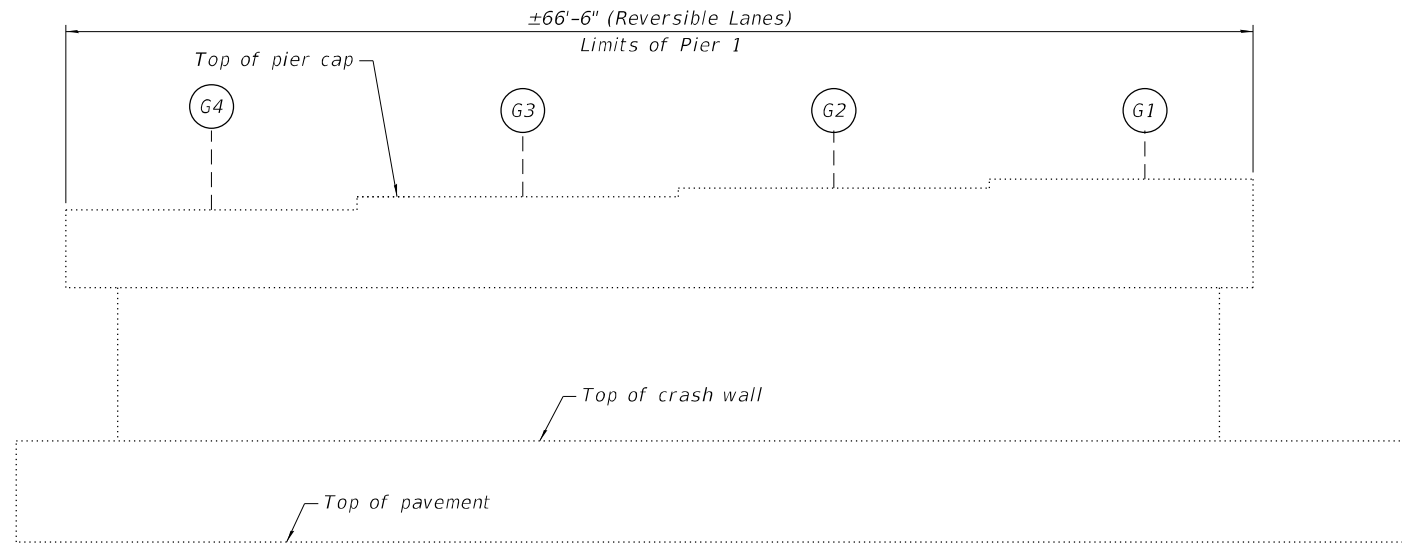
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**STATE OF ILLINOIS  
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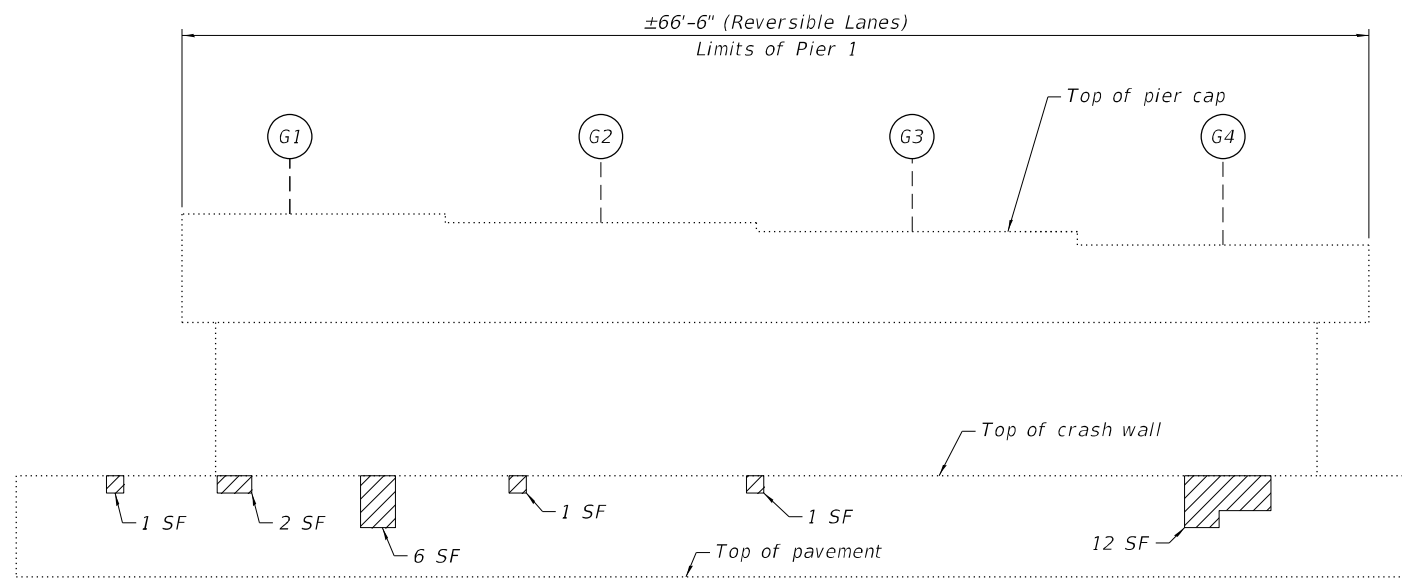
**NORTHWEST ABUTMENT REPAIRS  
SN 016-0110**

SHEET S43-12 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1444
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**ELEVATION - PIER 1**  
(Looking South)



**ELEVATION - PIER 1**  
(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.

**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	23

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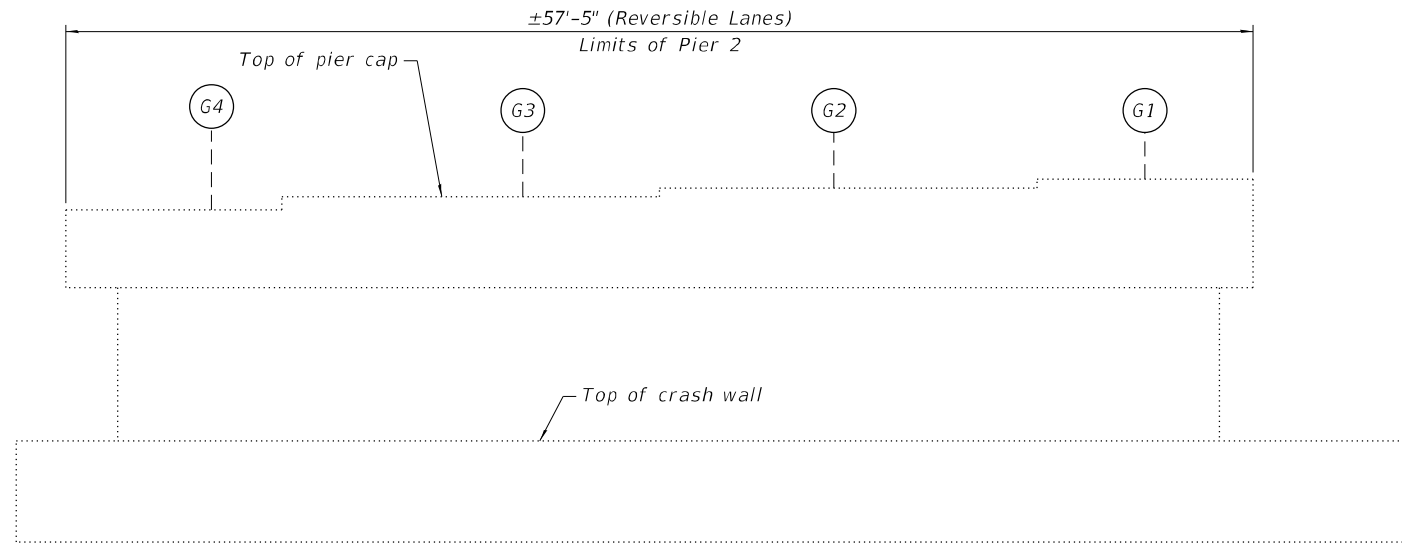
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

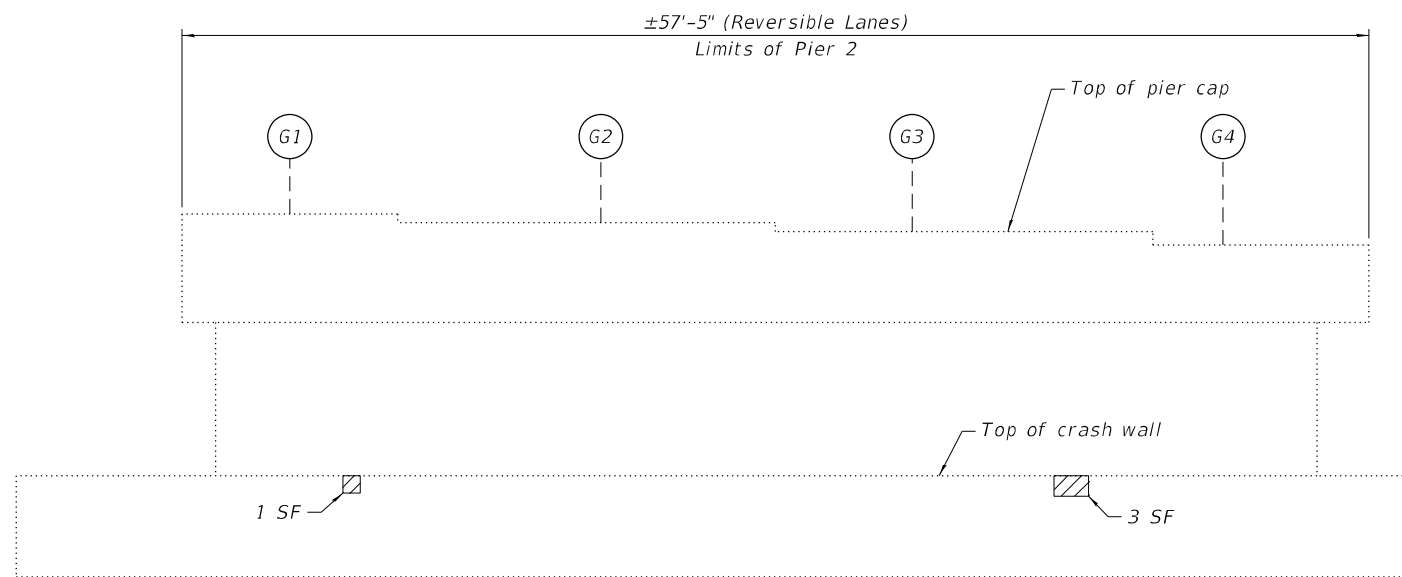
**PIER 1 REPAIRS  
SN 016-0110**

SHEET S43-13 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1445
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**ELEVATION - PIER 2**  
(Looking South)



**ELEVATION - PIER 2**  
(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.

**LEGEND**

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

**BILL OF MATERIAL**

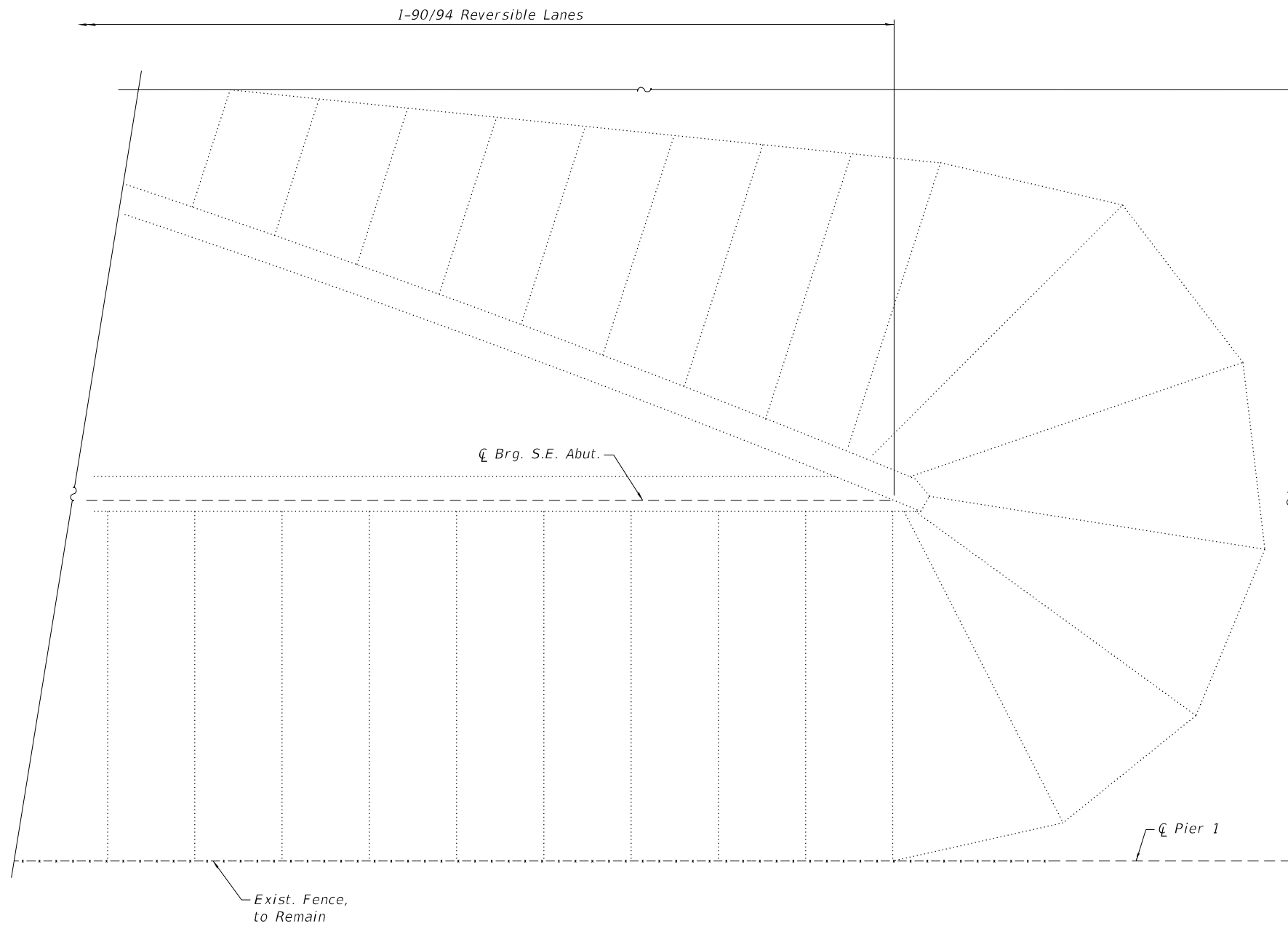
ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	4

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1446
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	





**NOTES:**

1. 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.
2. 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

**SOUTHEAST SLOPE WALL - PLAN**

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

**SLOPE WALL REPAIRS  
 SN 016-0110**  
 SHEET S43-15 OF S43-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1447
ILLINOIS			FED. AID PROJECT	



**GENERAL NOTES**

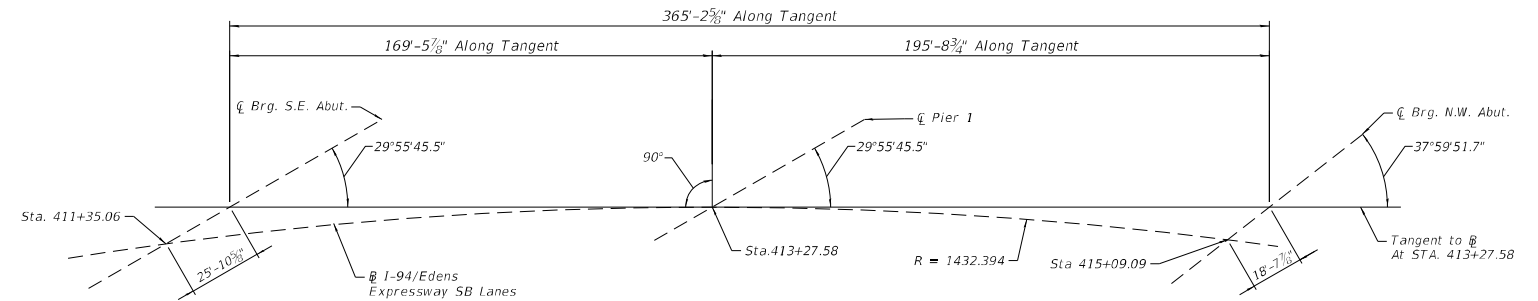
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with 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.

**INDEX OF SHEETS**

S42-01	General Plan & Elevation
S42-02	General Data
S42-03-S42-04	Stage Construction Details I & II
S42-05	Temporary Concrete Barrier
S42-06	Bridge Deck Repair Plan and Details
S42-07-S42-10	Southeast Abutment Expansion Joint Details I, II, III & IV
S42-11-S42-13	Northwest Abutment Expansion Joint Details I, II & III
S42-14	Preformed Joint Strip Seal
S42-15	Southeast Abutment Repairs
S42-16	Northwest Abutment Repairs
S42-17	Pier 1 Repairs
S42-18	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 southeast and northwest 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.
- 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.



**OFFSET SKETCH**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	37.9		37.9
Protective Shield	Sq Yd	1,833		1,833
Concrete Superstructure	Cu Yd	46.7		46.7
Protective Coat	Sq Yd	2,845		2,845
Reinforcement Bars, Epoxy Coated	Pound	6,050		6,050
Bar Splicers	Each	32		32
Preformed Joint Strip Seal	Foot	237		237
Concrete Sealer	Sq Ft		1,154	1,154
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,525		1,525
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,391		2,391
Bridge Deck Scarification 3/4"	Sq Yd	2,391		2,391
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		35	35
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.4		0.4
Deck Slab Repair (Full Depth, Type II)	Sq Yd	132.7		132.7
Diamond Grinding (Bridge Section)	Sq Yd	2,457		2,457
Maintenance of Lighting System	Cal Mo		6	6

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8501 N. Higgins Road, Suite 280  
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
SN 016-2574 (SB)**

SHEET S42-02 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1449
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

**STAGE I REMOVAL**

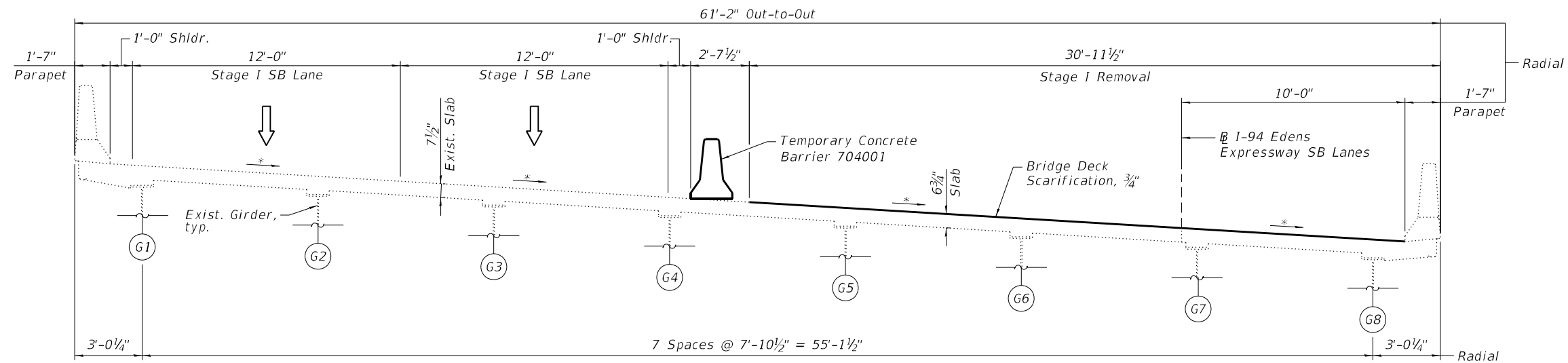
1. Install Temporary Concrete Barrier as shown to locate traffic on the east side of the existing structure.
2. Scarify  $\frac{3}{4}$ " from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.

**STAGE I CONSTRUCTION**

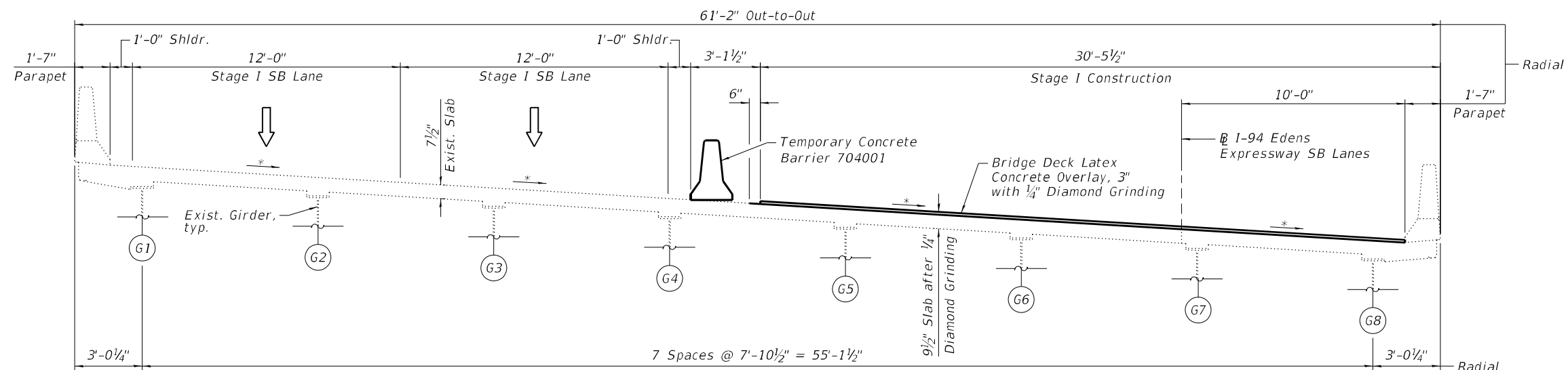
1. Perform Deck Slab Repairs at the locations shown in the plans.
2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at southeast and northwest abutments and replace associated reinforcement and concrete adjacent to the joint.
3. Perform Structural Repair of Concrete at abutments and pier.
4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck.
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 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.

**STAGE II REMOVAL**

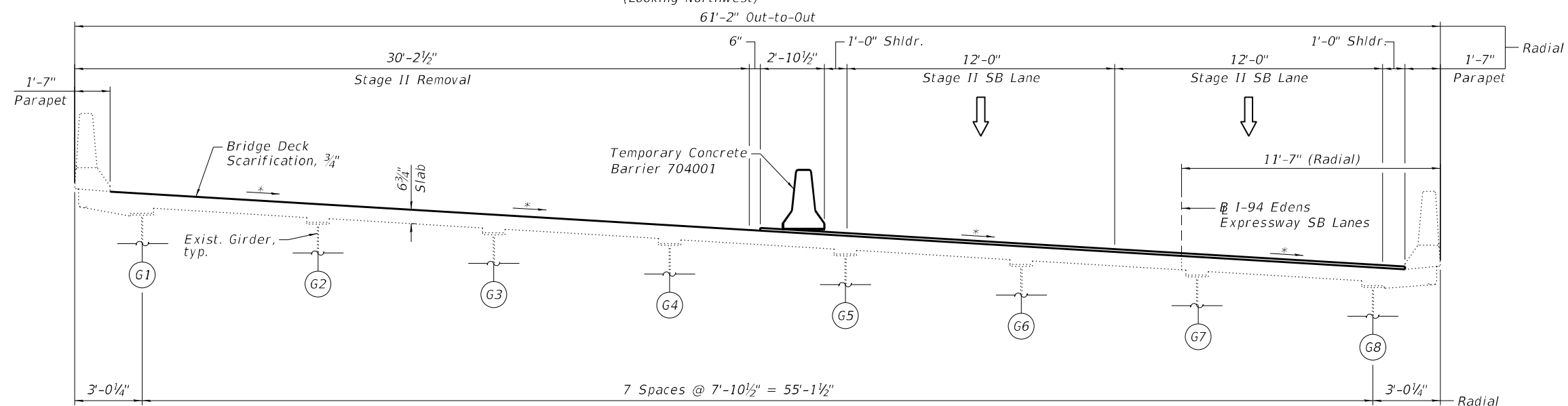
1. Install Temporary Concrete Barrier as shown to locate traffic on the west side of the existing structure.
2. Scarify  $\frac{3}{4}$ " from the top of the deck.
3. Remove portions of bridge deck adjacent to abutment joints, as shown in the plans.



**STAGE I REMOVAL**  
(Looking Northwest)



**STAGE I CONSTRUCTION**  
(Looking Northwest)



**STAGE II REMOVAL**  
(Looking Northwest)

\* Match existing deck surface profile

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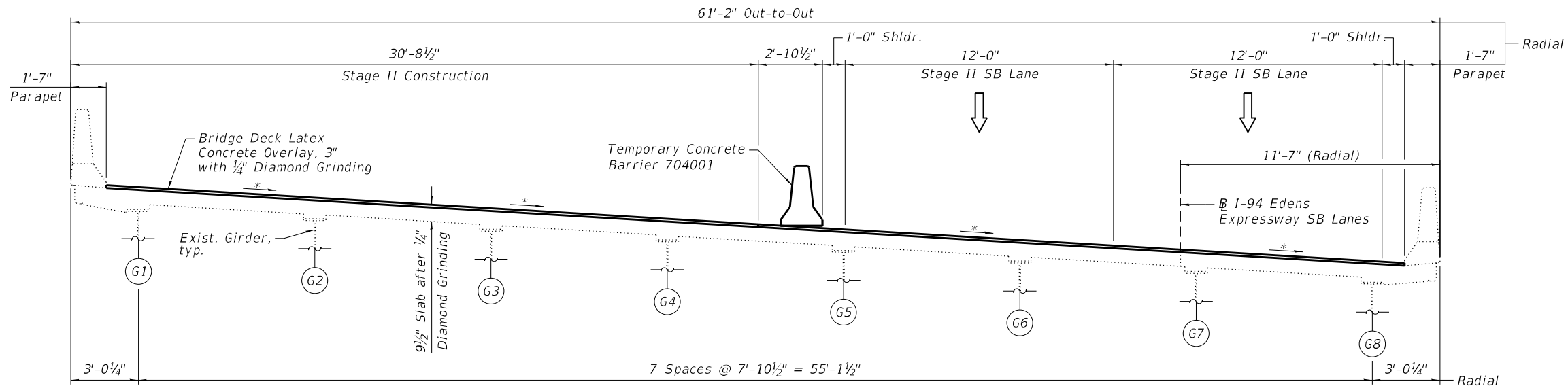
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS I  
SN 016-2574 (SB)**

SHEET S42-03 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1450
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ILLINOIS FED. AID PROJECT				

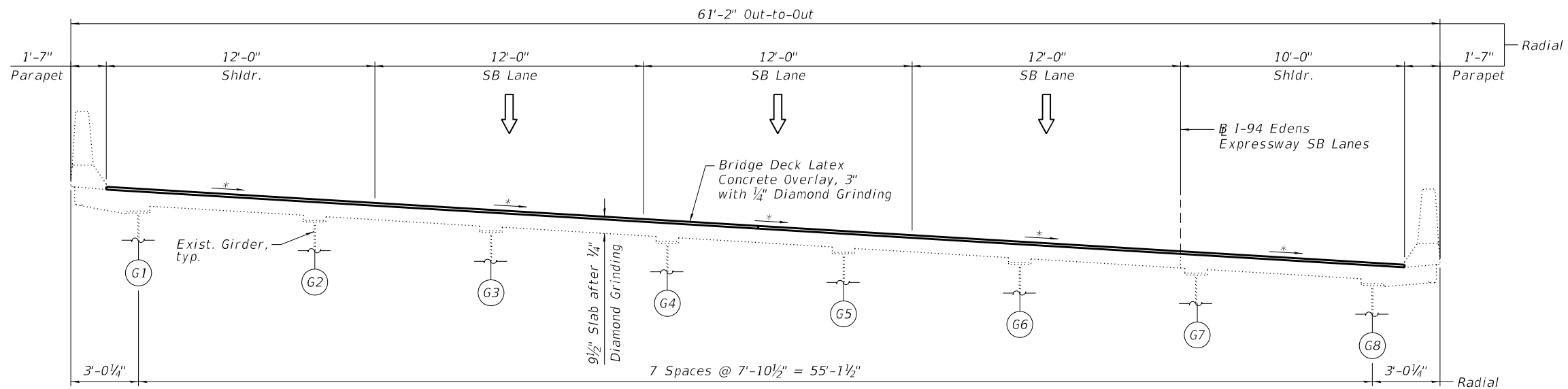


**STAGE II CONSTRUCTION**

(Looking Northwest)

**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 southeast and northwest 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.
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 Northwest)

\* Match existing deck surface profile

MODEL: sMODELNAME5  
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**GR&EF**  
 8501 N. Higgins Road, Suite 280  
 Chicago, Illinois 60631; (773) 399-0112

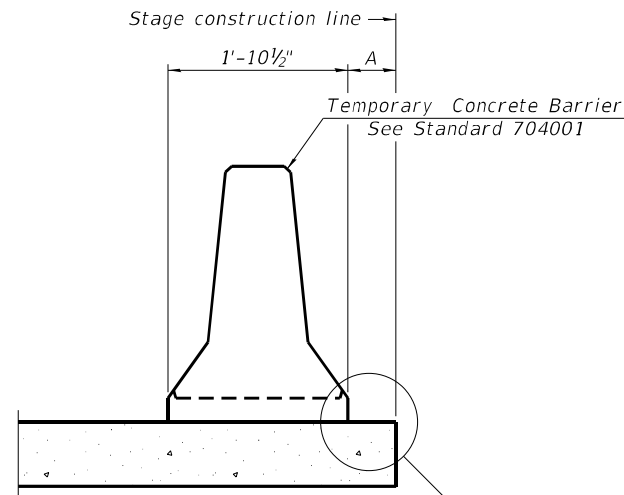
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS II  
 SN 016-2574 (SB)**

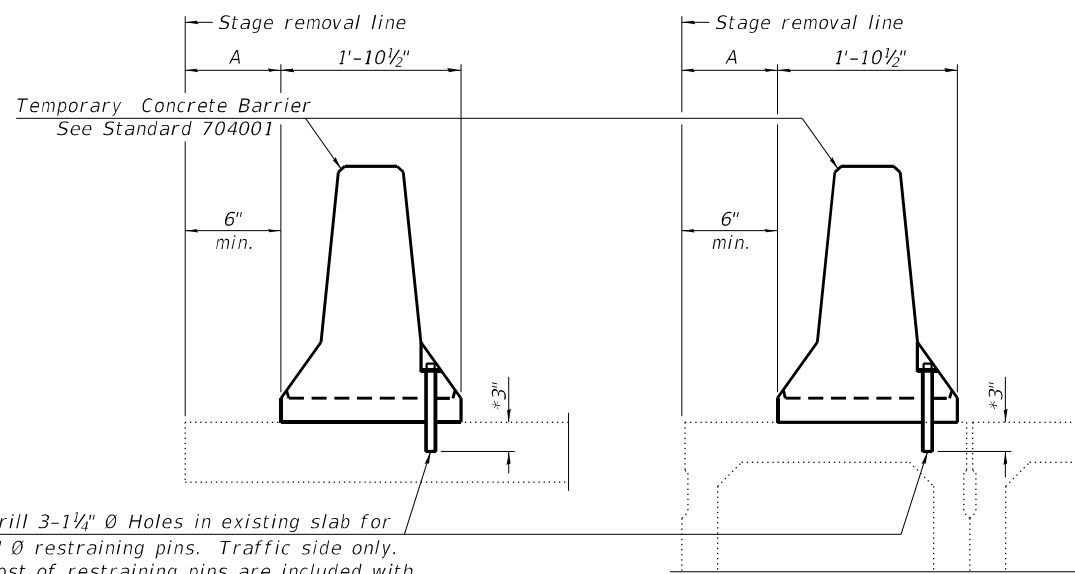
SHEET S42-04 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1451
			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

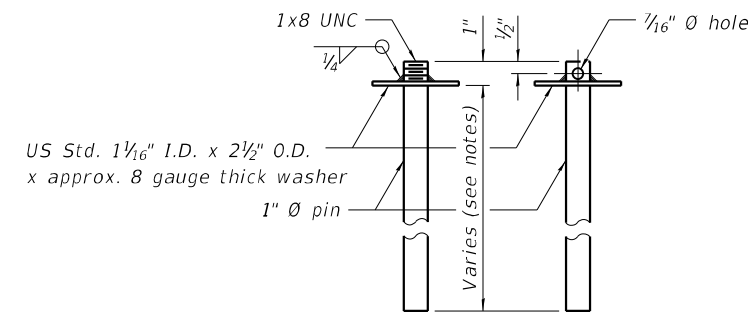


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

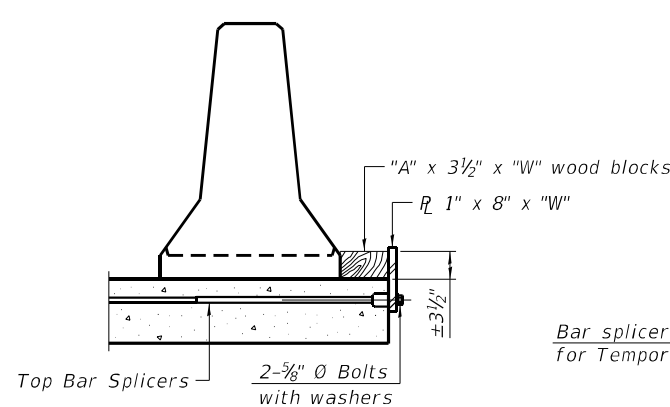
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

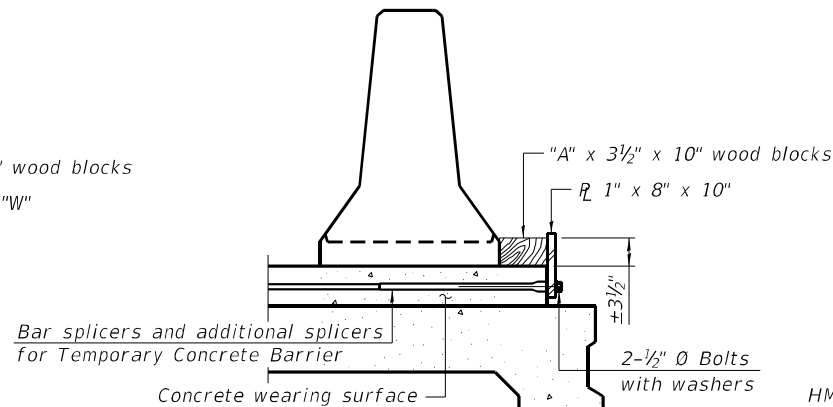


RESTRAINING PIN

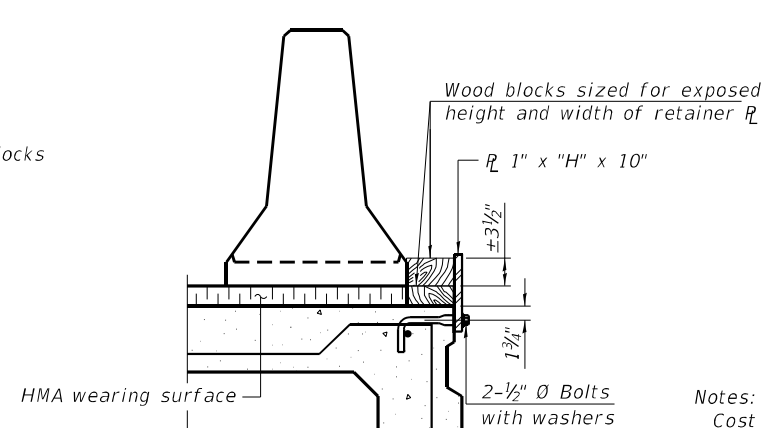
SECTIONS THRU SLAB OR DECK BEAM



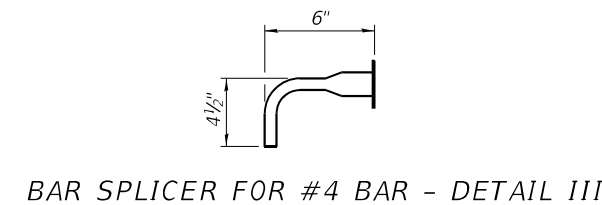
DETAIL I



DETAIL II



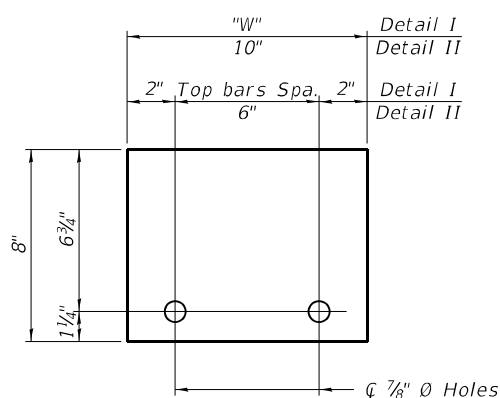
DETAIL III



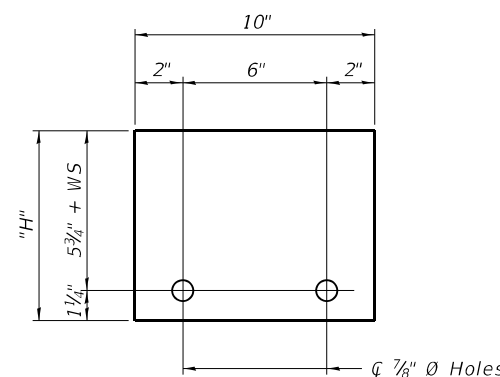
BAR SPLICER FOR #4 BAR - DETAIL III

Notes:  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate  $\frac{1}{2}$  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.



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



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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

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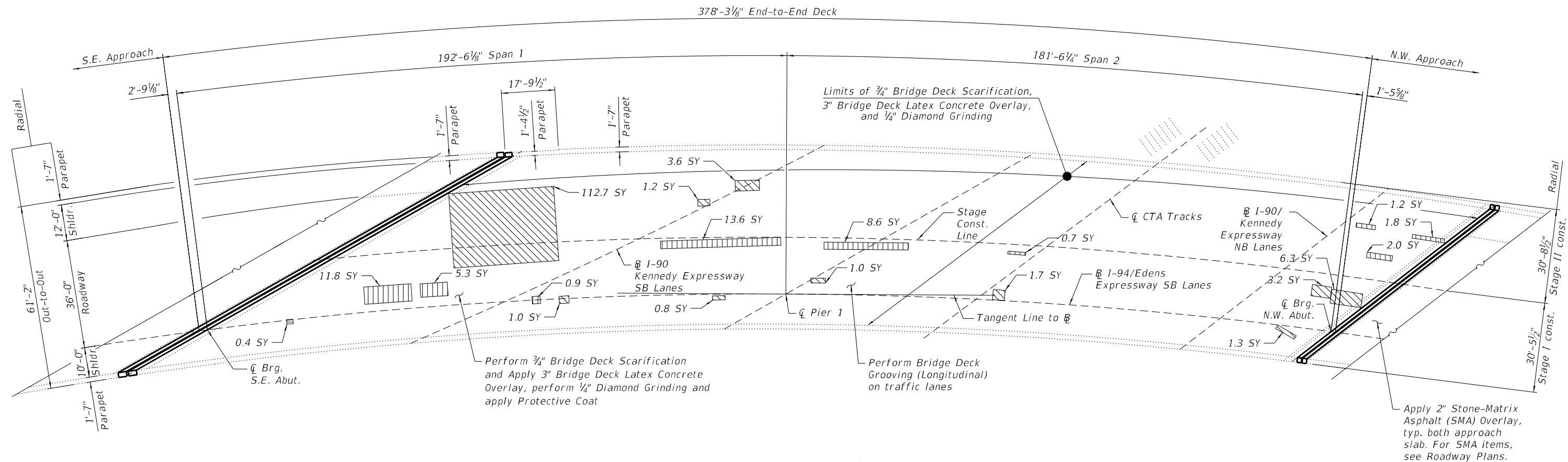
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
SN 016-2574 (SB)

SHEET S42-05 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1452
			CONTRACT NO. 62K74	
		ILLINOIS FED. AID PROJECT		



**DECK PLAN**

**NOTES:**

- 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.
- 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.
- All dimensions are perpendicular to  $\text{CL}$  I-94 Bridge Deck.
- Protective Shield shall be placed over traffic lanes for the Kennedy Expressway and CTA Tracks.
- For bridge deck final cross section, see Sheet S42-04.
- For Southeast and Northwest Transverse Joint Removal and Reconstruction, see Sheets S42-07 thru S42-13.
- Perform  $\frac{1}{4}$ " Diamond Grinding to top of bridge deck and abutment hatched block.
- Perform Bridge Deck Grooving (Longitudinal) for Bridge Deck Latex Concrete Overlay, 3 Inches and the roadway portions of the reconstructed transverse joints.
- 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.
- 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.

**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 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	1,833
Protective Coat	Sq Yd	2,845
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,525
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,391
Bridge Deck Scarification 3/4"	Sq Yd	2,391
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.4
Deck Slab Repair (Full Depth, Type II)	Sq Yd	132.7
Diamond Grinding (Bridge Section)	Sq Yd	2,457
Maintenance of Lighting System	Cal Mo	6

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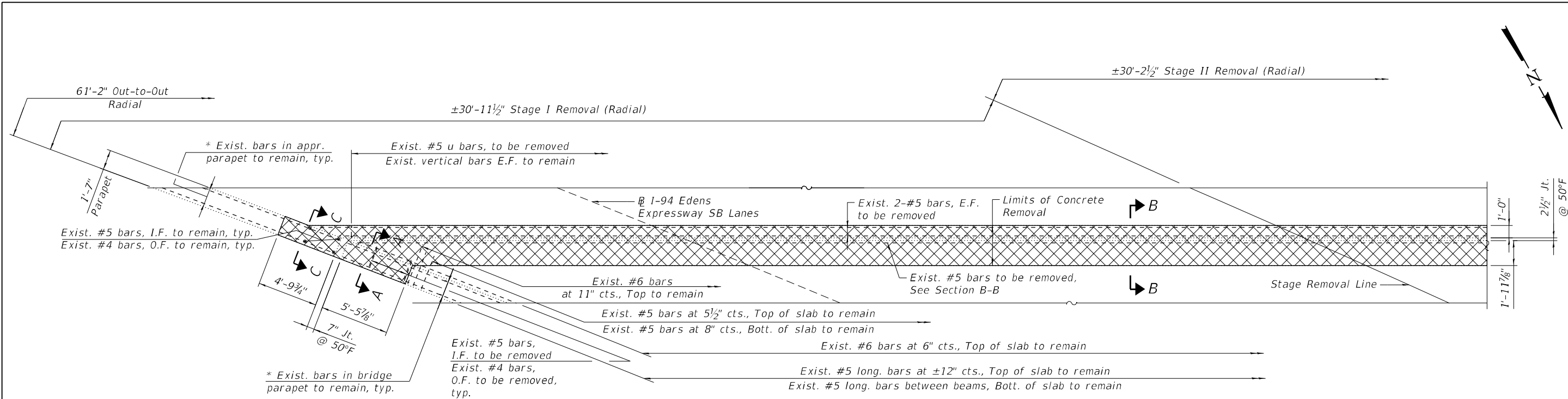
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

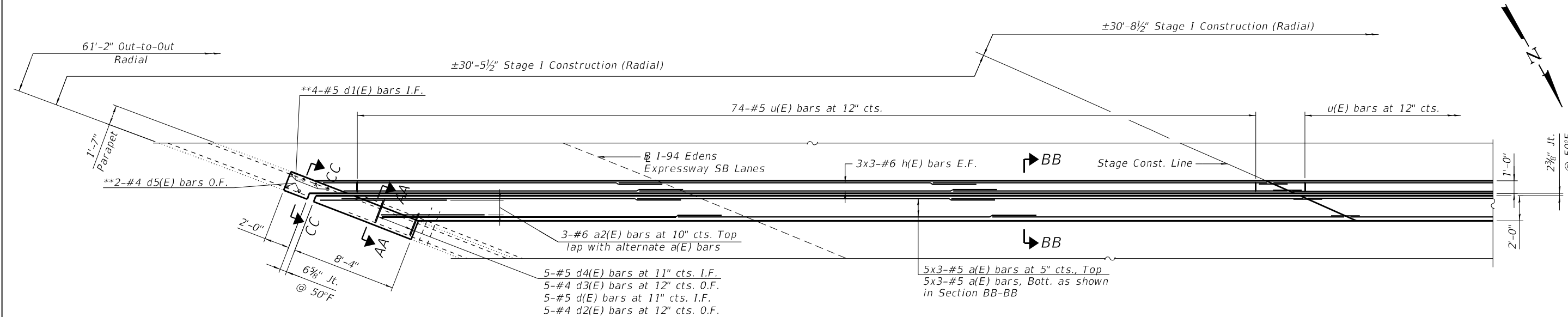
**BRIDGE DECK REPAIR PLAN AND DETAILS  
SN 016-2574 (SB)**

SHEET S42-06 OF S42-18 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1453
			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				



**SOUTHEAST ABUTMENT JOINT PARTIAL REMOVAL PLAN**



**SOUTHEAST ABUTMENT JOINT PARTIAL RECONSTRUCTION PLAN**


**NOTES:**

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S42-09.

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

\*\* Epoxy grout #4 d5(E) bars and #5 d1(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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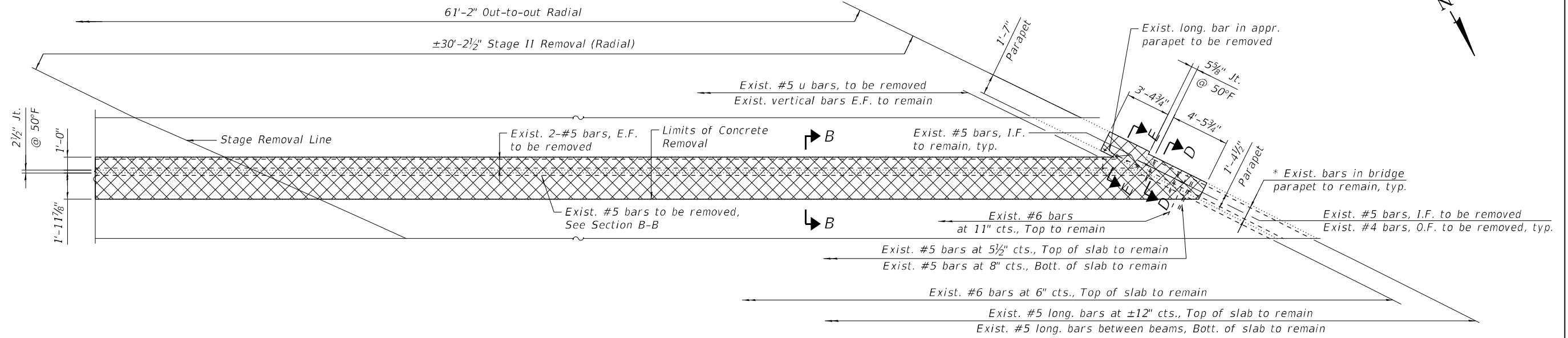
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS I  
SN 016-2574 (SB)**

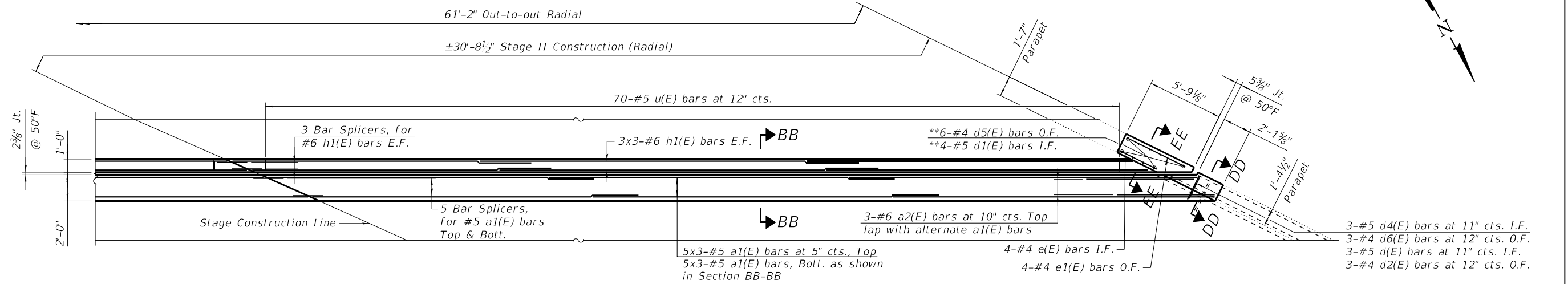
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90	2020-004-BR	COOK	1492	1454
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S42-07 OF S42-18 SHEETS





**SOUTHEAST ABUTMENT JOINT PARTIAL REMOVAL PLAN**



**SOUTHEAST ABUTMENT JOINT PARTIAL RECONSTRUCTION PLAN**


**NOTES:**

1. For sections B-B and BB-BB see sheet S42-09.
2. For sections D-D, E-E DD-DD and EE-EE, see sheet S42-10

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

\*\* Epoxy grout #4 d5(E) bars and #5 d1(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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**GR&EF**  
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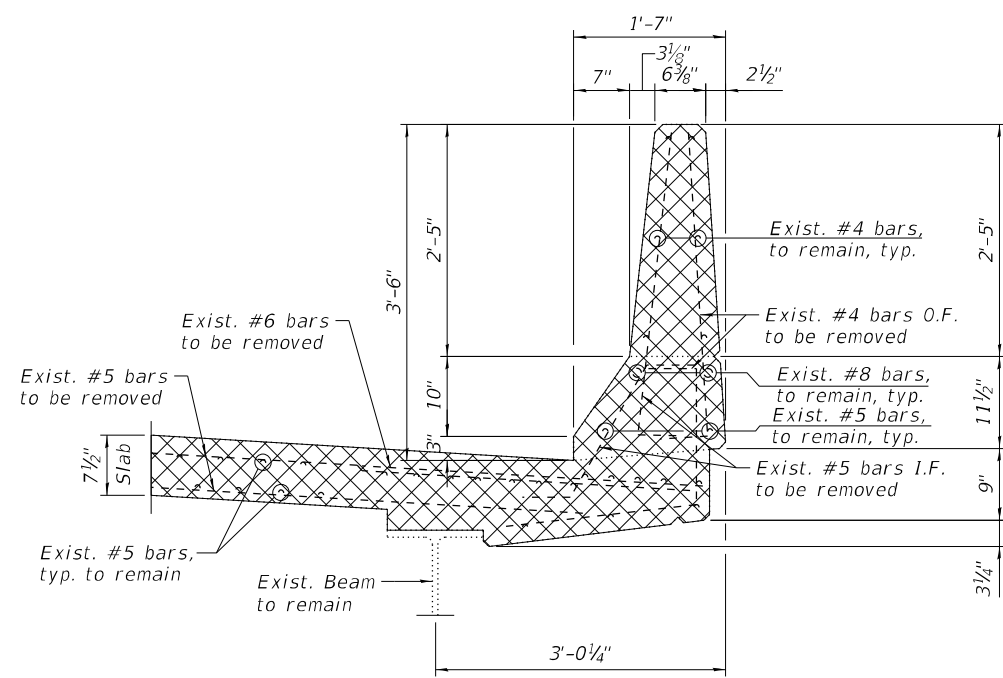
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS II  
SN 016-2574 (SB)**

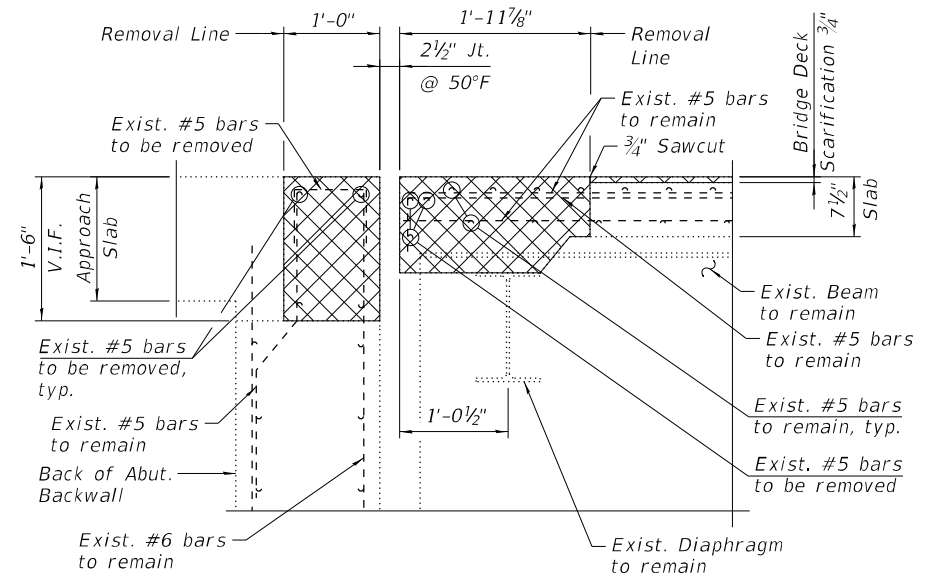
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S42-08 OF S42-18 SHEETS

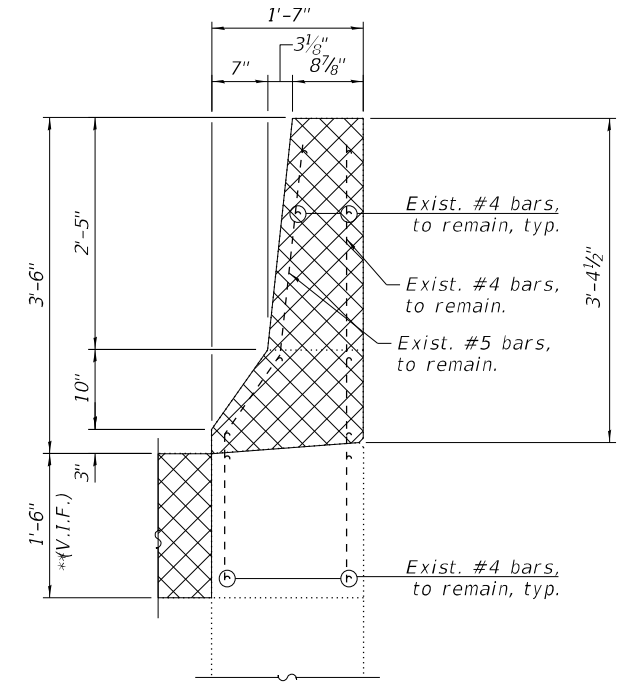
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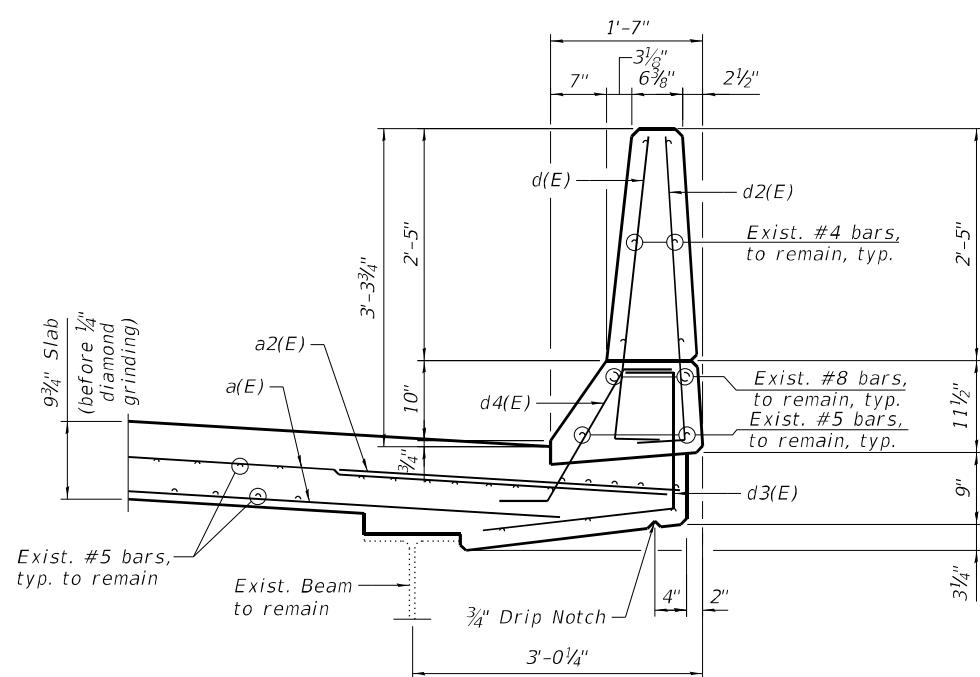
SECTION A-A  
(East parapet removal)



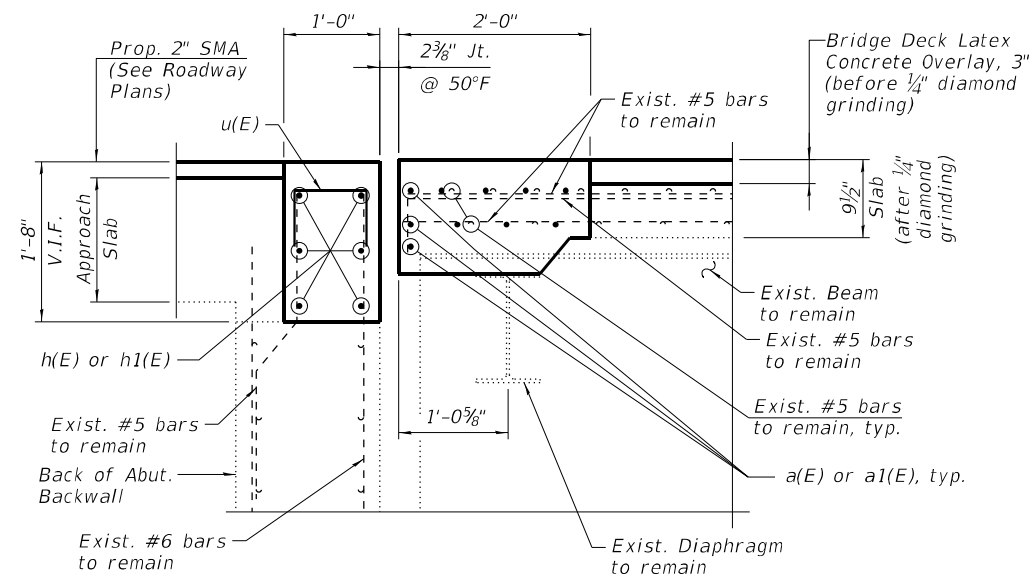
SECTION B-B



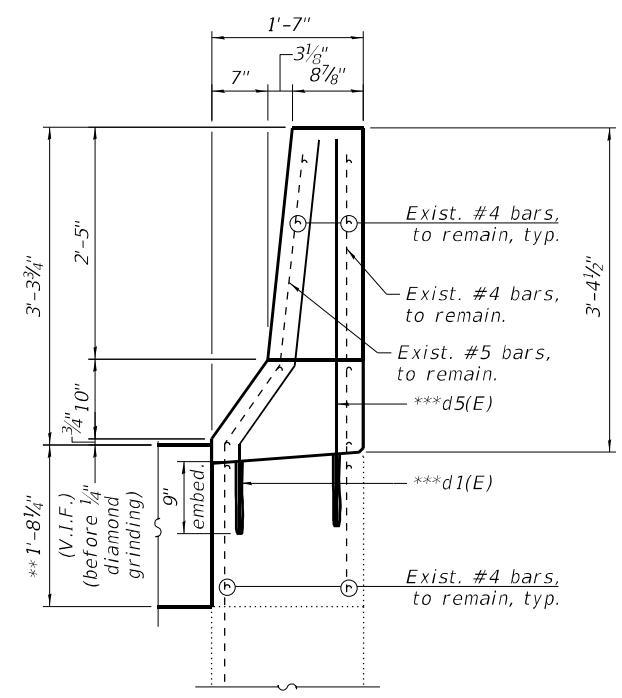
SECTION C-C  
(East parapet removal)



SECTION AA-AA  
(East parapet reconstruction)



SECTION BB-BB



SECTION CC-CC  
(East parapet reconstruction)

**LEGEND**

\*\* Dimension is taken at the Back of Abut.

\*\*\* Epoxy grout #4 d5(E) & #5 d1(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

Concrete Removal (hatched pattern)

I.F. Inside Face

O.F. Outside Face

V.I.F. Verify in Field



USER NAME =	DESIGNED -	W.A.R.	REVISED -
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 DEPARTMENT OF TRANSPORTATION

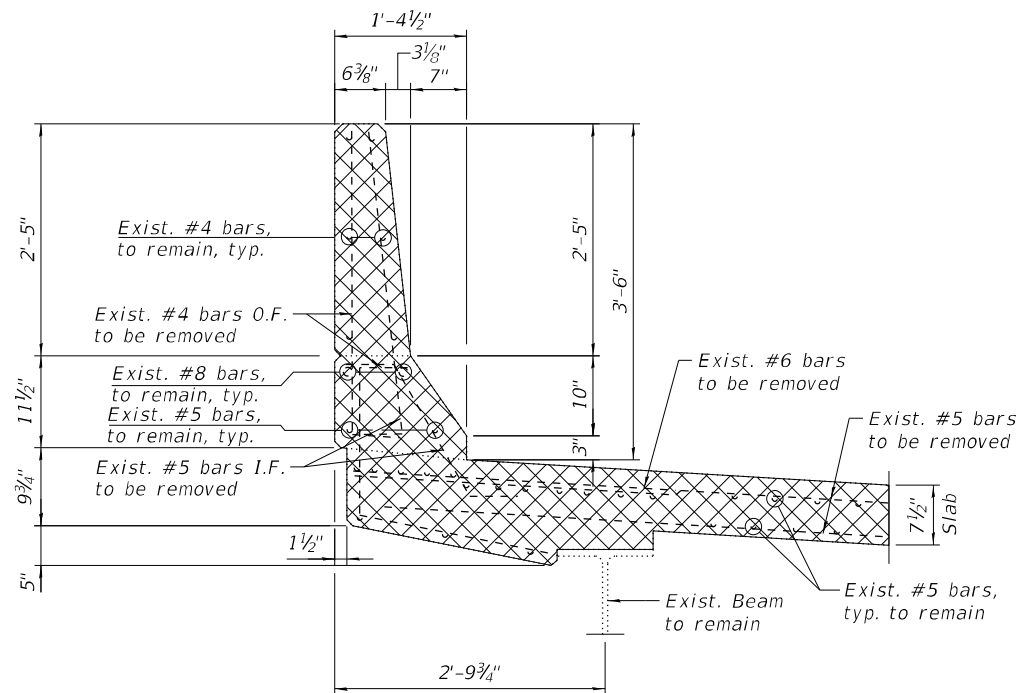
SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS III  
 SN 016-2574 (SB)

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

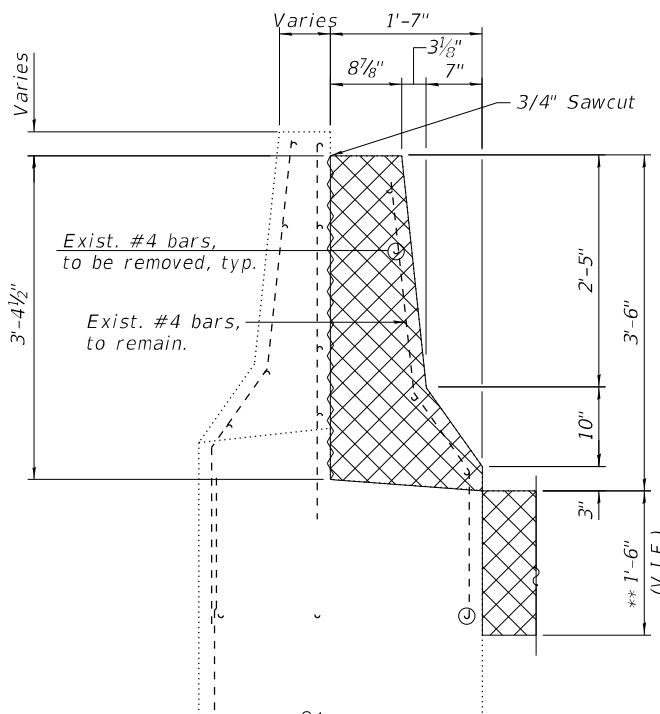
SHEET S42-09 OF S42-18 SHEETS

**BILL OF MATERIAL**  
**SOUTHEAST ABUTMENT**

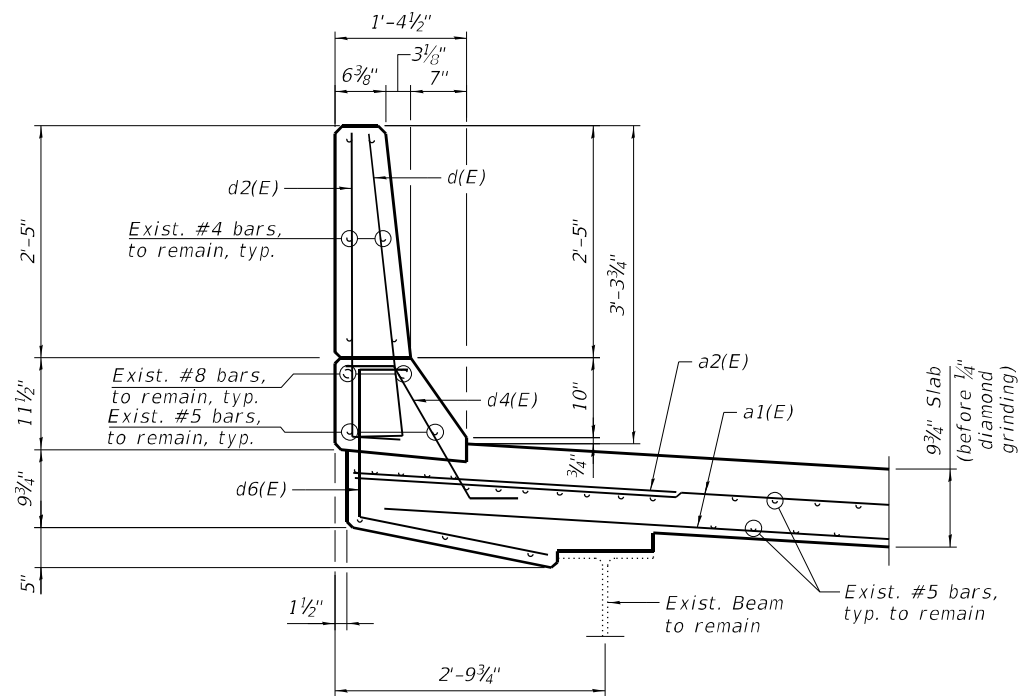
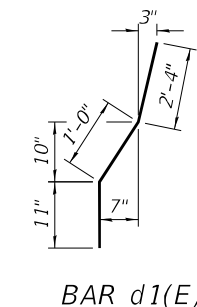
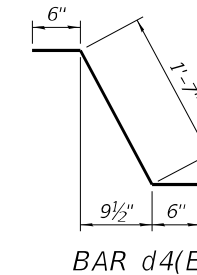
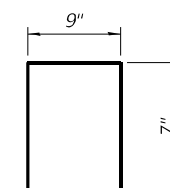
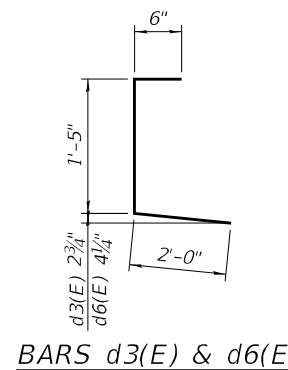
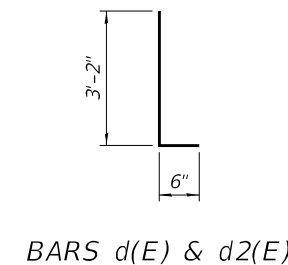
Bar	No.	Size	Length	Shape
a(E)	30	#5	30'-4"	—
a1(E)	30	#5	27'-10"	—
a2(E)	6	#6	4'-0"	—
d(E)	7	#5	3'-8"	┘
d1(E)	8	#5	4'-3"	┘
d2(E)	7	#4	3'-8"	┘
d3(E)	5	#4	3'-11"	┘
d4(E)	7	#5	2'-7"	┘
d5(E)	8	#4	4'-0"	┘
d6(E)	2	#4	3'-11"	┘
e(E)	4	#4	3'-5"	—
e1(E)	4	#4	5'-4"	—
h(E)	18	#6	29'-6"	—
h1(E)	18	#6	27'-3"	—
u(E)	144	#5	1'-11"	┘
Concrete Removal		Cu Yd	24.3	
Reinforcement Bars, Epoxy Coated		Pound	3,860	
Concrete Superstructure		Cu Yd	29.9	



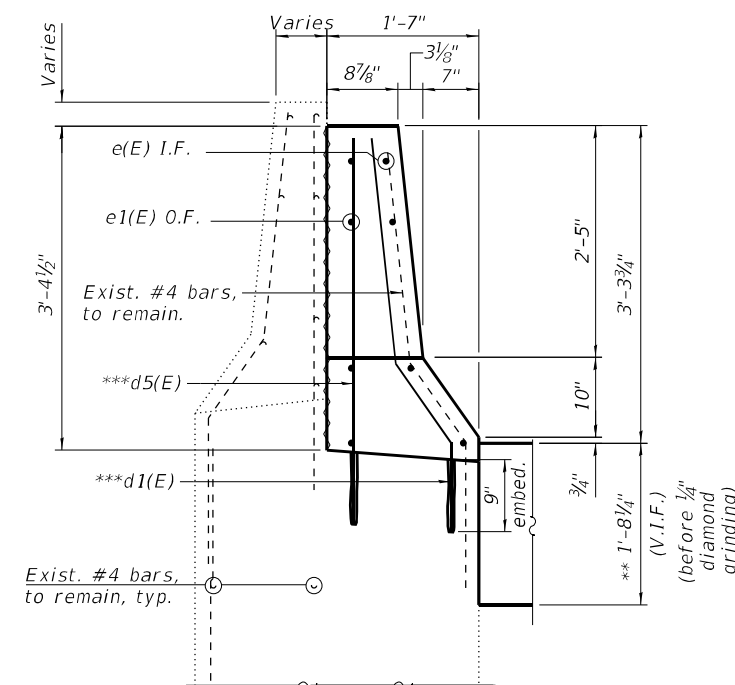
**SECTION D-D**  
(West parapet removal)



**SECTION E-E**  
(West parapet removal)



**SECTION DD-DD**  
(West parapet reconstruction)



**SECTION EE-EE**  
(West parapet reconstruction)

**NOTES:**

- For Preformed Joint Strip Seal details, see sheet S42-14.
- For Bar Splicer Assembly details, see sheet S42-18.
- 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

\*\* Dimension is taken at the Back of Abut.

\*\*\* Epoxy grout #4 d5(E) & #5 d1(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

**MIN BAR LAPS**

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

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**GRAF**  
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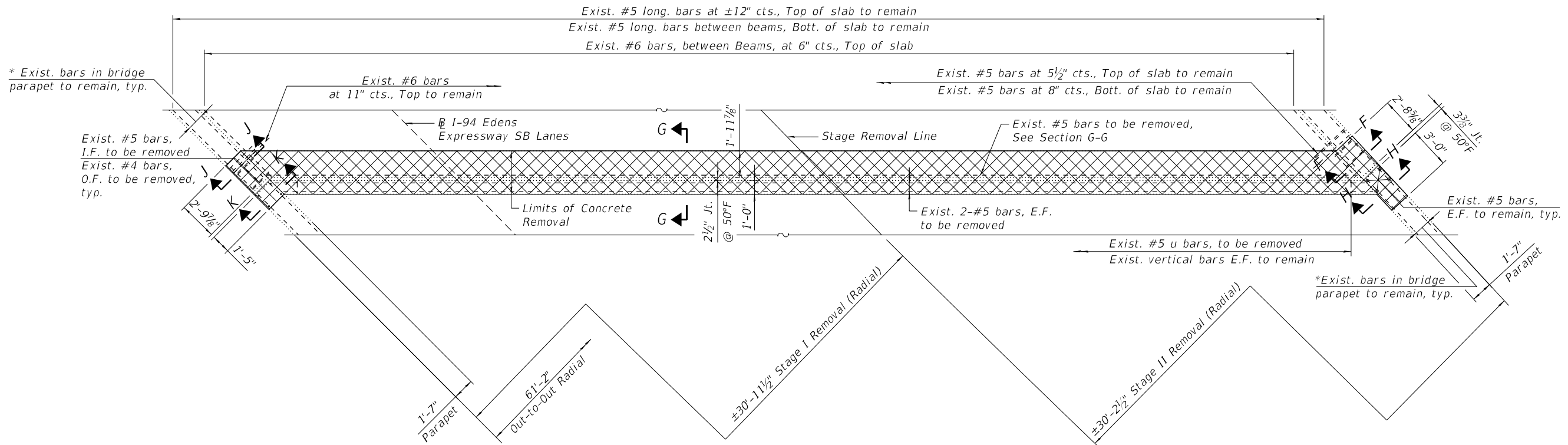
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**DEPARTMENT OF TRANSPORTATION**

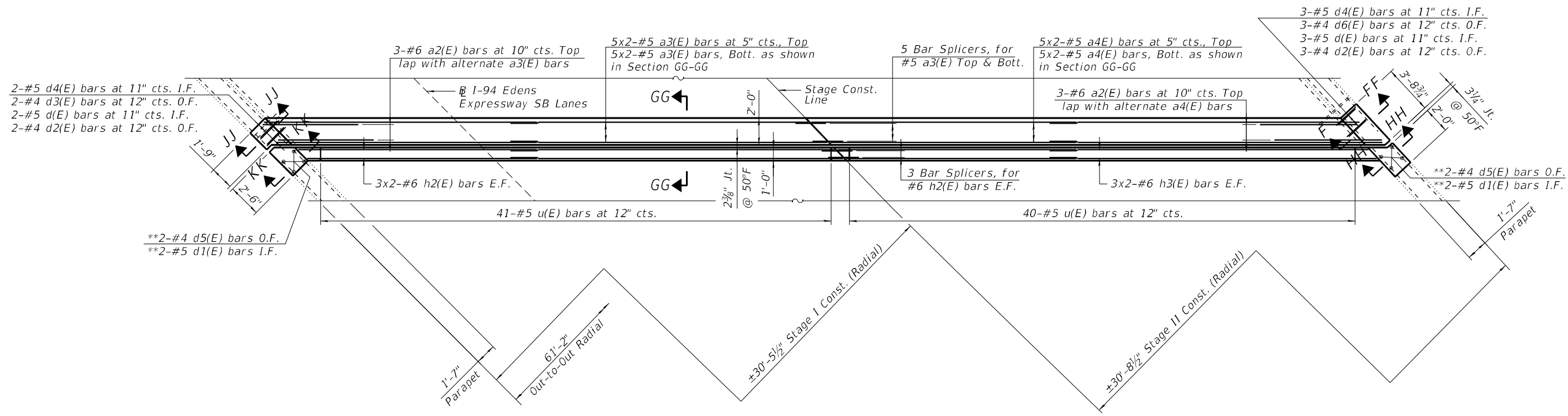
**SOUTHEAST ABUTMENT EXPANSION JOINT DETAILS IV**  
**SN 016-2574 (SB)**

SHEET S42-10 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1457
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



**NORTHWEST ABUTMENT JOINT REMOVAL PLAN**



**NORTHWEST ABUTMENT JOINT RECONSTRUCTION PLAN**

**NOTES:**

- For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S42-12.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S42-13.

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

\*\* Epoxy grout #4 d1(E) bars and #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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	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTHWEST ABUTMENT EXPANSION JOINT DETAILS I  
SN 016-2574 (SB)**

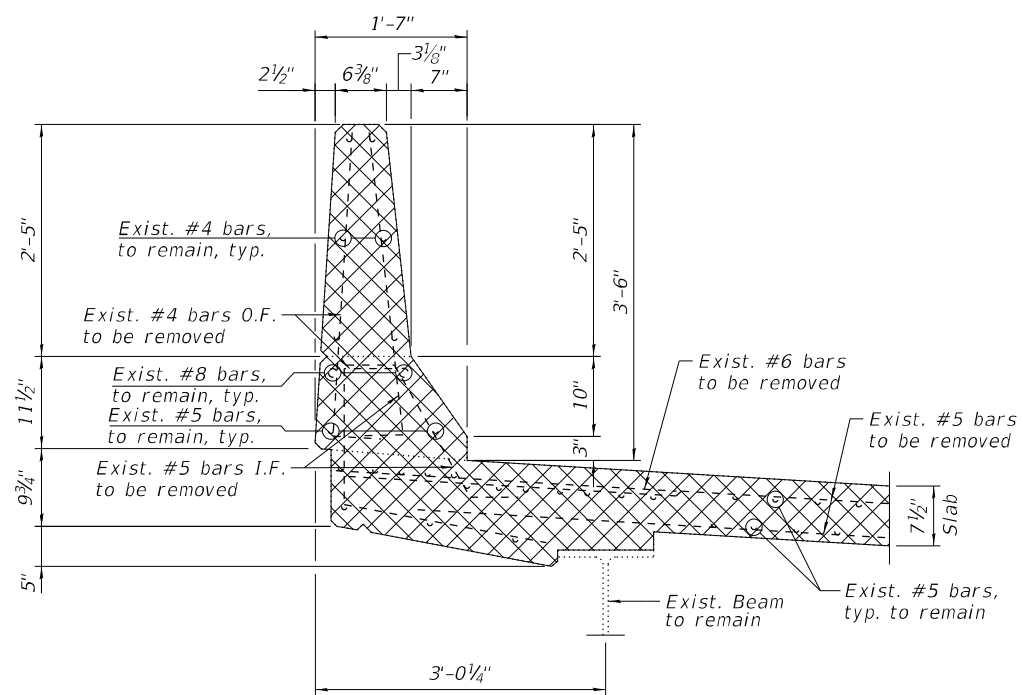
SHEET S42-11 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1458
CONTRACT NO. 62K74				
ILLINOIS		FED. AID PROJECT		

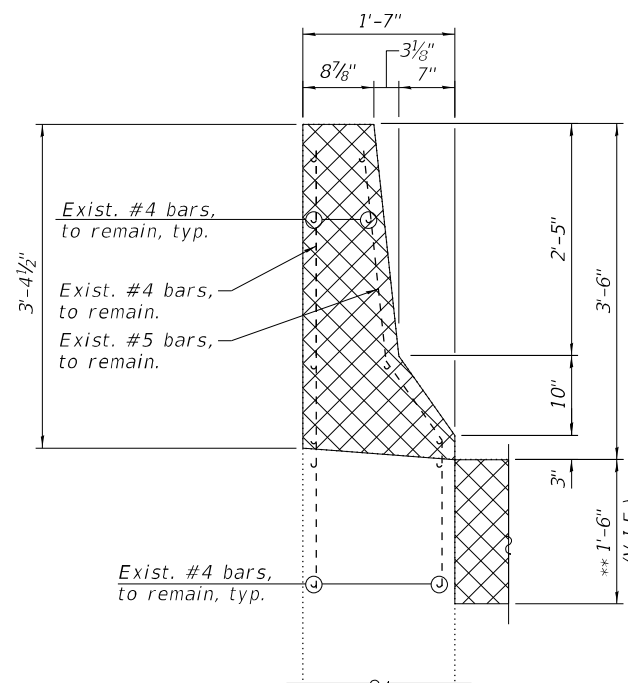


**BILL OF MATERIAL  
NORTHWEST ABUTMENT**

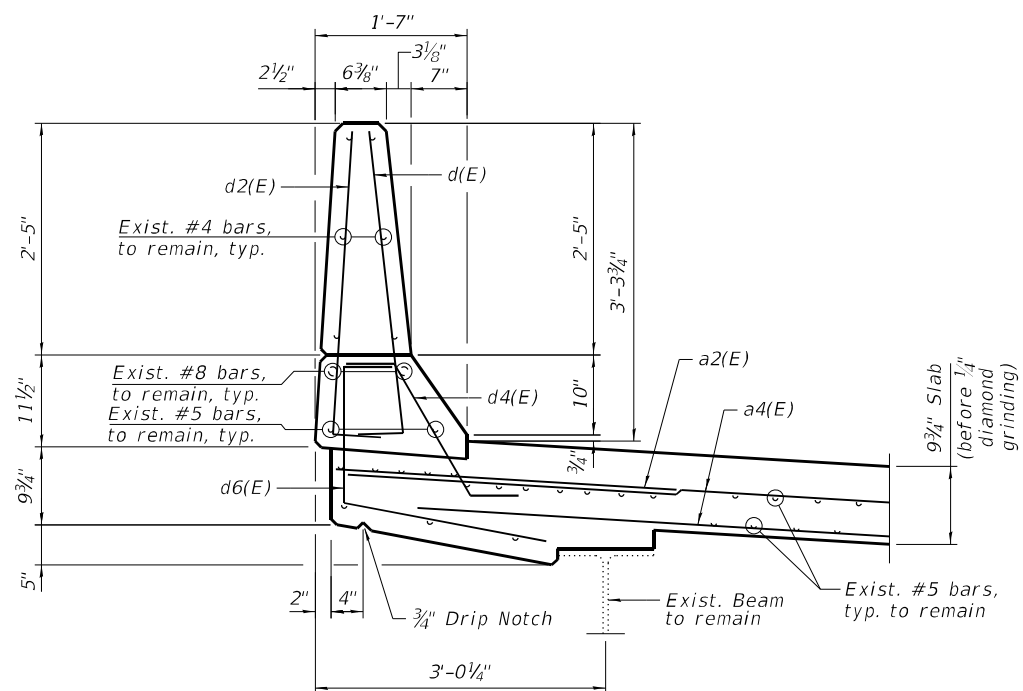
Bar	No.	Size	Length	Shape
a2(E)	6	#6	4'-0"	—
a3(E)	20	#5	23'-4"	—
a4(E)	20	#5	23'-2"	—
d(E)	5	#5	3'-8"	┌
d1(E)	4	#5	4'-3"	┌
d2(E)	5	#4	3'-8"	┌
d3(E)	2	#4	3'-11"	┌
d4(E)	5	#5	2'-7"	┌
d5(E)	4	#4	4'-0"	┌
d6(E)	3	#4	3'-11"	┌
h2(E)	12	#6	22'-6"	—
h3(E)	12	#6	22'-4"	—
u(E)	81	#5	1'-11"	┌
Concrete Removal			Cu Yd	13.6
Reinforcement Bars, Epoxy Coated			Pound	2,190
Concrete Superstructure			Cu Yd	16.8



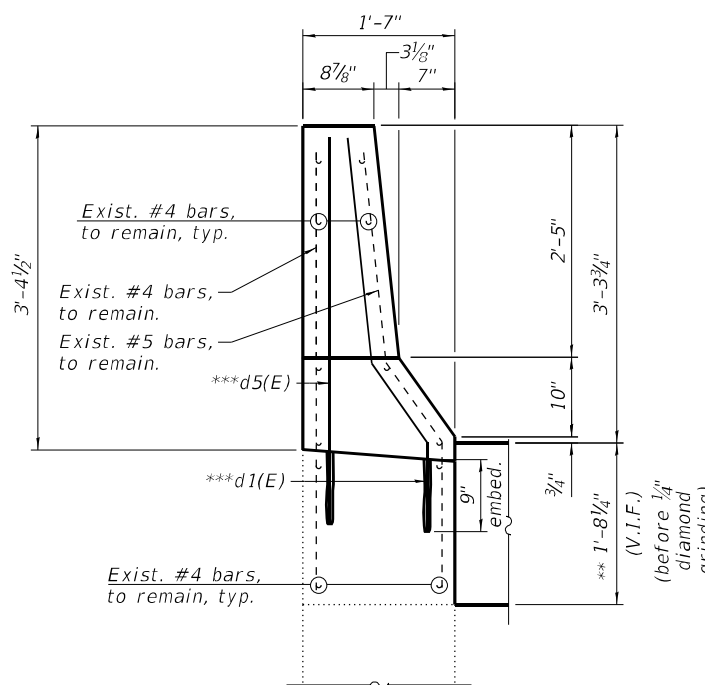
**SECTION J-J**  
(West parapet removal)



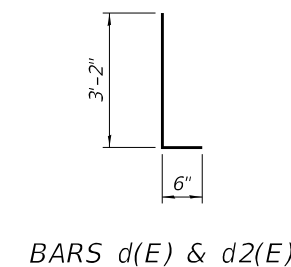
**SECTION K-K**  
(West parapet removal)



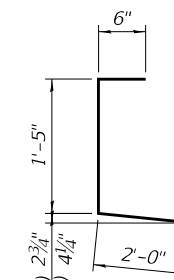
**SECTION JJ-JJ**  
(West parapet reconstruction)



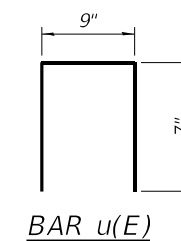
**SECTION KK-KK**  
(West parapet reconstruction)



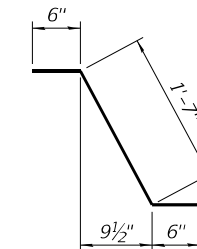
**BARS d(E) & d2(E)**



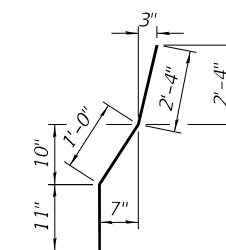
**BARS d3(E) & d6(E)**



**BAR u(E)**



**BAR d4(E)**



**BAR d1(E)**

**NOTES:**

- For Preformed Joint Strip Seal details, see sheet S42-14.
- For Bar Splicer Assembly details, see sheet S42-18.
- 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"

- \*\* Dimension is taken at the Back of Abutment.
- \*\*\* Epoxy grout #4 d5(E) & #5 d1(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

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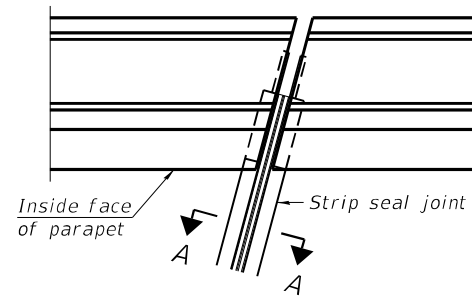
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PLOT DATE =	DRAWN -	D.C.P.	REVISED -
	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTHWEST ABUTMENT EXPANSION JOINT DETAILS III  
SN 016-2574 (SB)**

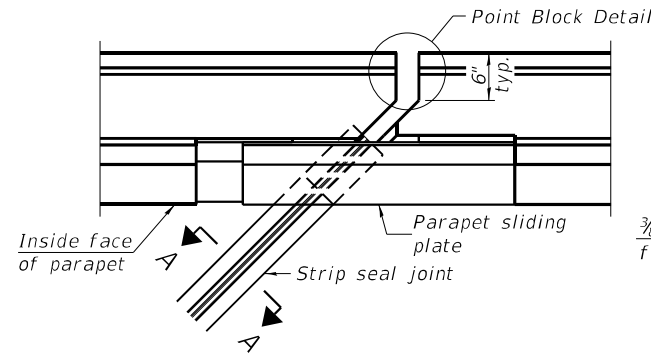
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

SHEET S42-13 OF S42-18 SHEETS

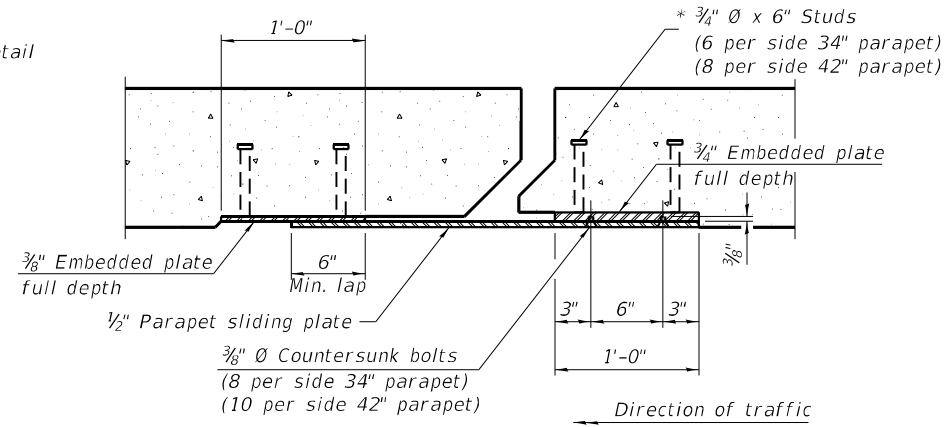


FOR SKEWS  $\leq 30^\circ$

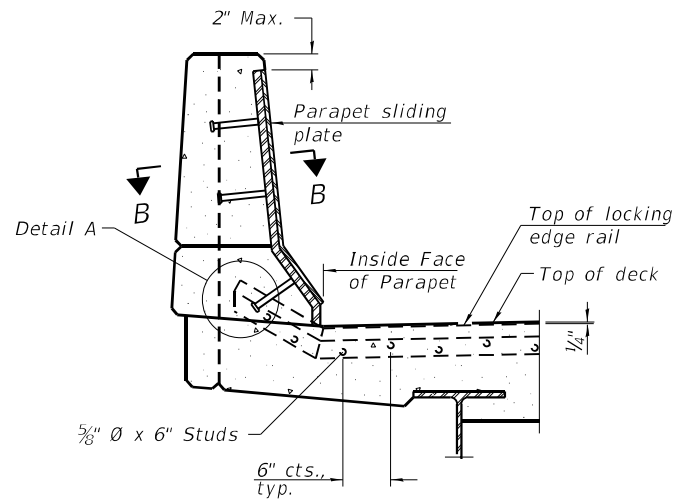
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

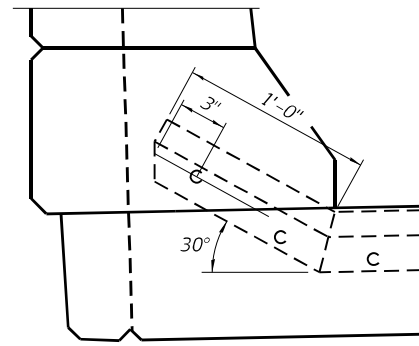


SECTION B-B

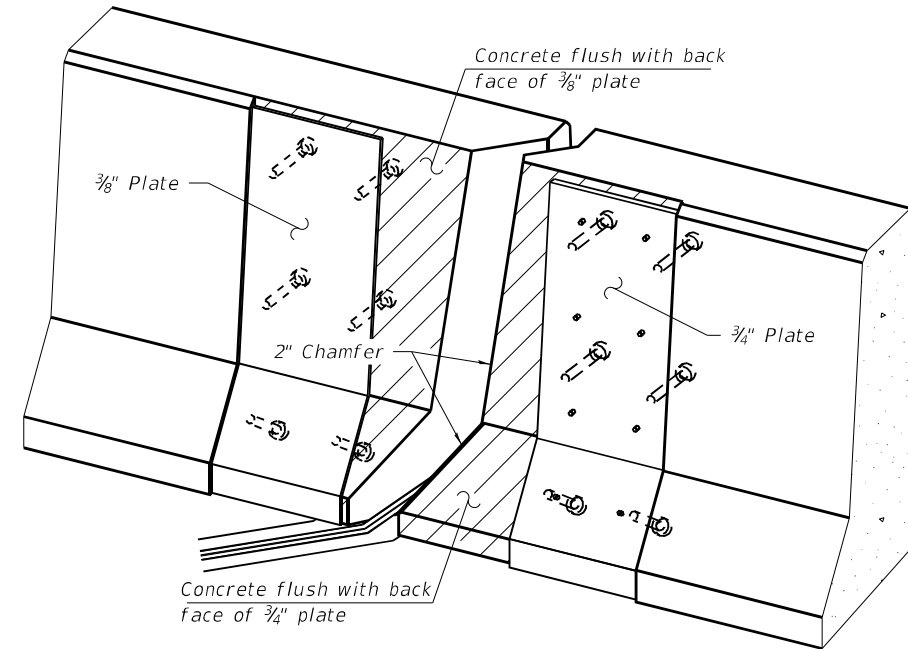


ELEVATION AT PARAPET

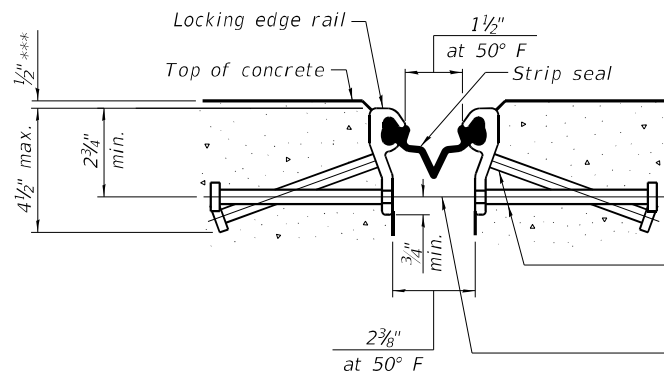
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

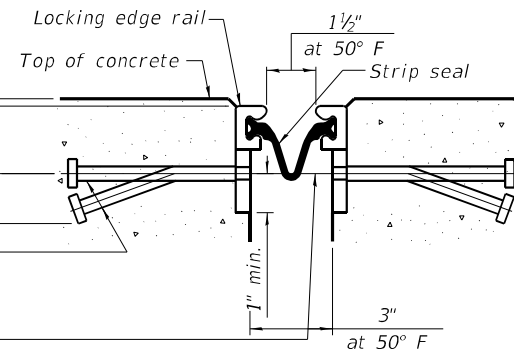
\*  $3/8"$   $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

$3/8"$   $\phi$  threaded rods in  $1/16"$   $\phi$  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.

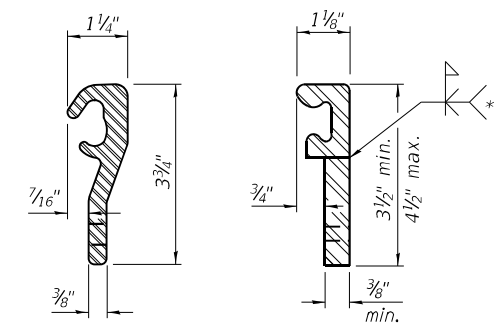
SECTION A-A

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

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



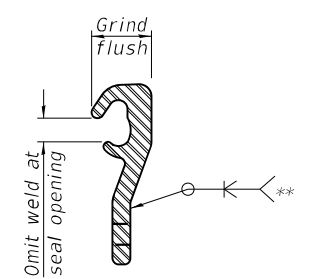
SHOWING WELDED RAIL JOINT



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

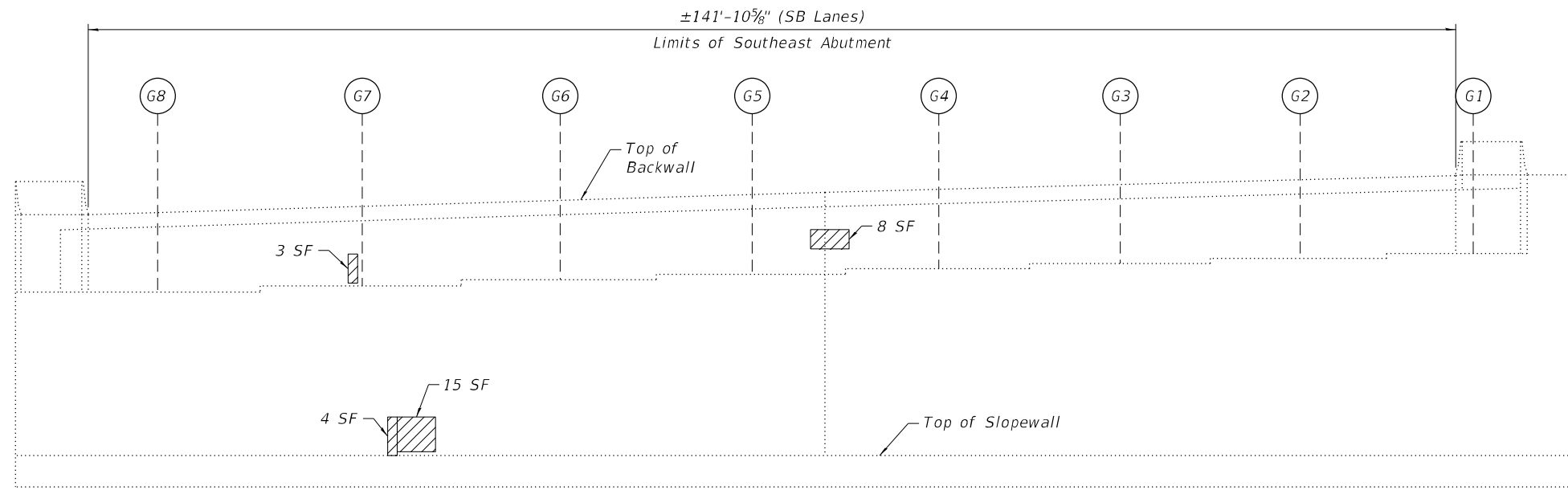
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	237

USER NAME =	DESIGNED -	W.A.R.	REVISED -
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	1461
			CONTRACT NO. 62K74	
ILLINOIS		FED. AID PROJECT		



**ELEVATION - SOUTHEAST ABUTMENT**  
(Looking South)

**NOTES:**

1. 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.
2. 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	714
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	30

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

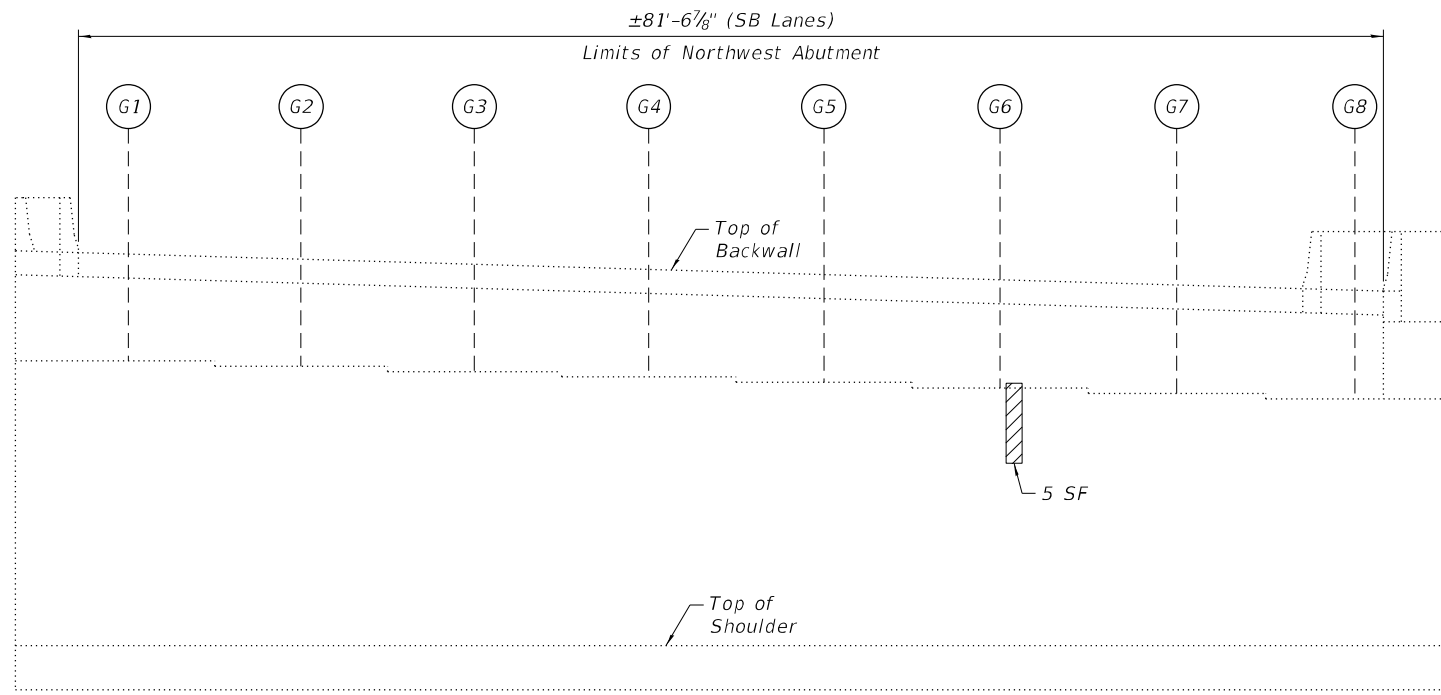
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTHEAST ABUTMENT REPAIRS  
SN 016-2574 (SB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1462
			CONTRACT NO. 62K74	
		ILLINOIS	FED. AID PROJECT	





**ELEVATION - NORTHWEST ABUTMENT**  
(Looking North)

**NOTES:**

1. 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.
2. 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

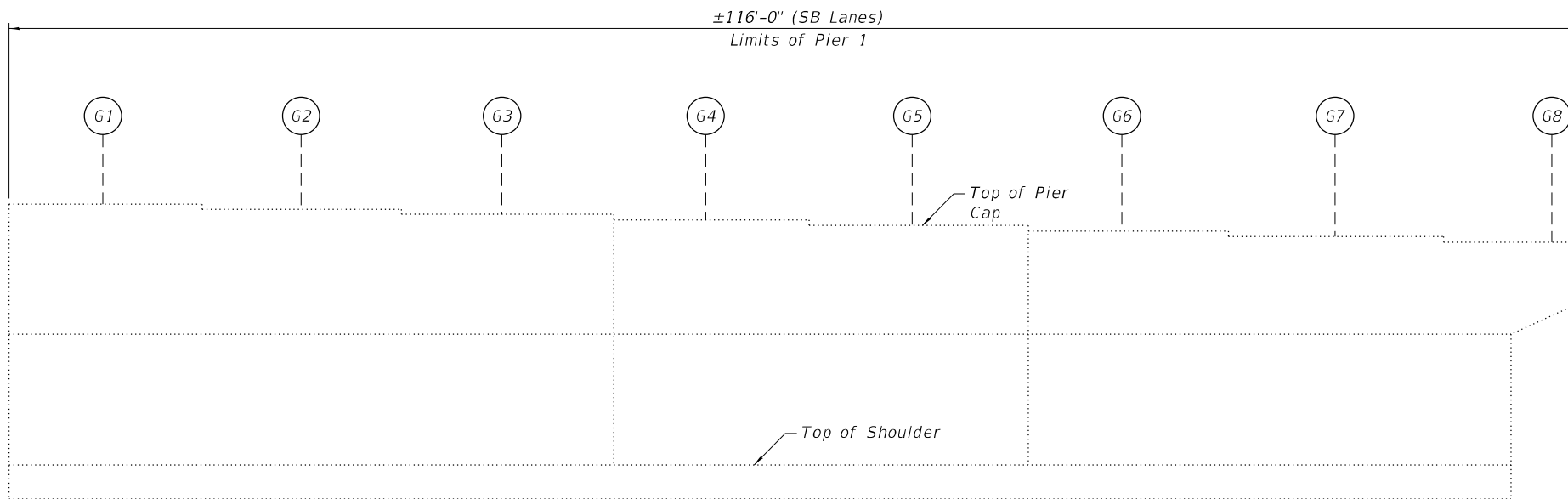
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	440
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	5

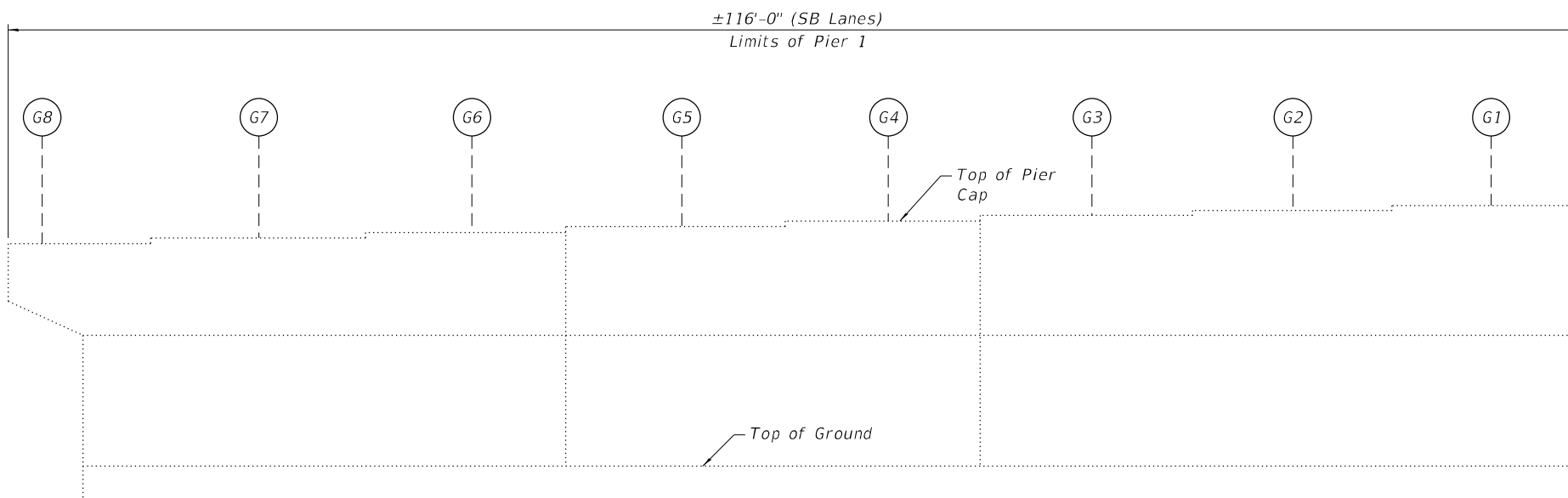
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1463
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	



**ELEVATION - PIER 1**  
(Looking North)



**ELEVATION - PIER 1**  
(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.

**LEGEND**

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

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**GRÄEF**  
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Chicago, Illinois 60631; (773) 399-0112

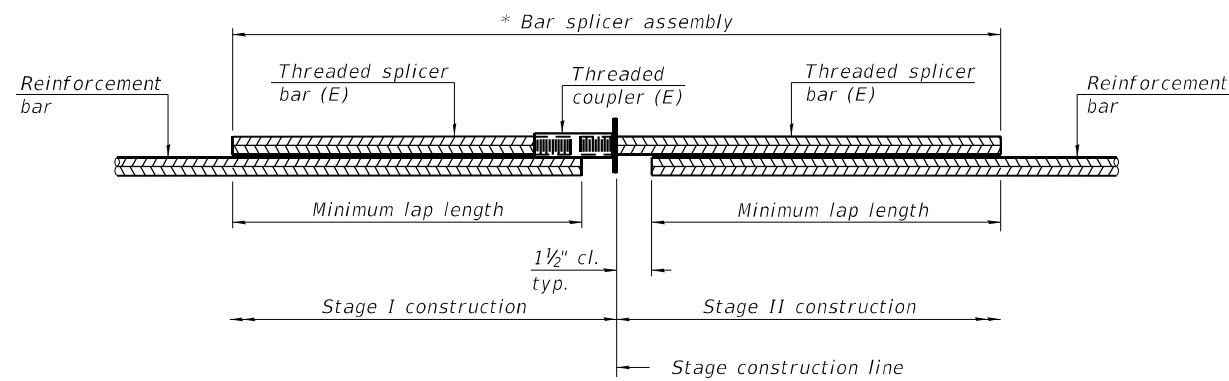
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER 1 REPAIRS**  
**SN 016-2574 (SB)**

SHEET S42-17 OF S42-18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1464
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K74	

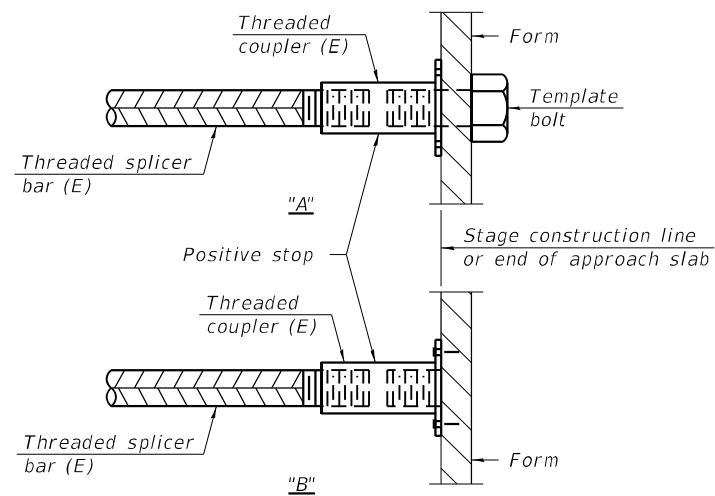


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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

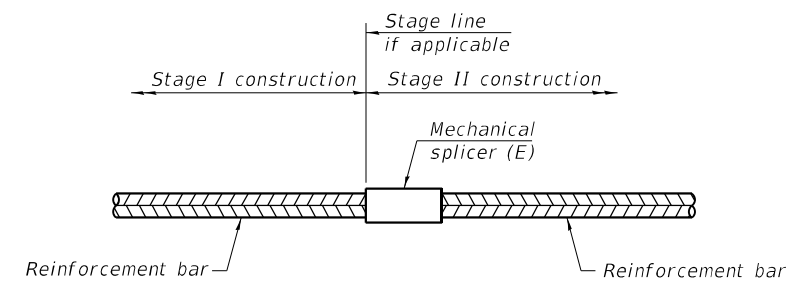
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Southeast Abut. Exp. Jt.	#5	10	3'-6"
Northwest Abut. Exp. Jt.	#6	6	4'-0"
Southeast Abut. Exp. Jt.	#5	6	3'-6"
Northwest Abut. 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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**GRÄEF**  
 8501 N. 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**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 SN 016-2574 (SB)**

SHEET S42-18 OF S42-18 SHEETS

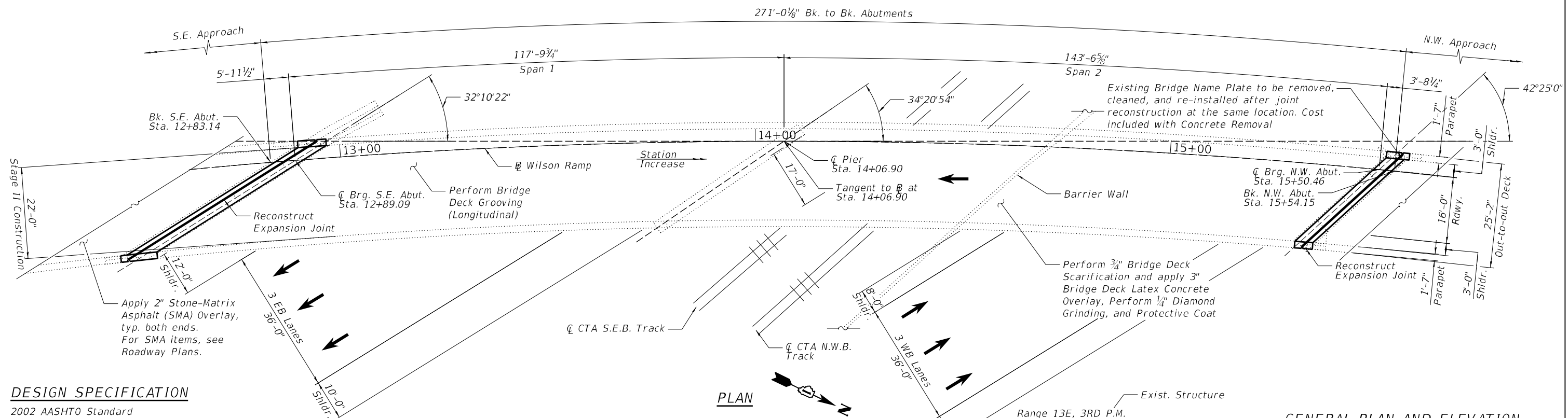
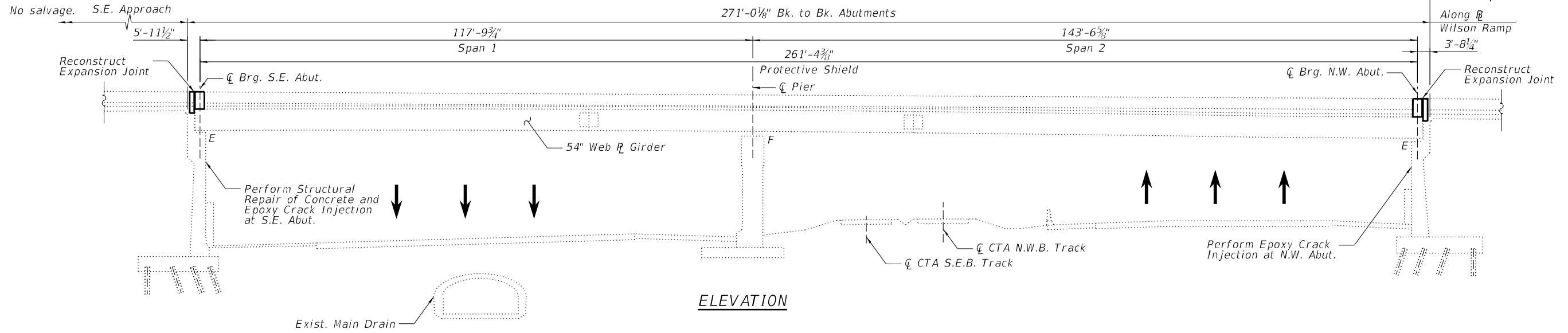
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1465
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 62K74

Existing Structure: S.N. 016-2594 was originally build in 1992. The structure carries traffic from Wilson Avenue to EB I-94 which transitions into the southeastbound portion of the I-90 Kennedy Expressway. The bridge has a back-to-back abutment length of 271'-0<sup>1</sup>/<sub>8</sub>" and an out-to-out deck width of 25'-2". The superstructure consists of a 7<sup>1</sup>/<sub>2</sub>" thick reinforced concrete deck supported on continuous two-span steel plate girders with span lengths of 117'-9<sup>3</sup>/<sub>4</sub>", and 143'-6<sup>5</sup>/<sub>8</sub>". The substructure consists of reinforced concrete pier and abutments founded on piles.

**NOTE:**  
1. No Future Wearing Surface is allowed.

Wilson Ramp will be closed during construction.



**DESIGN SPECIFICATION**

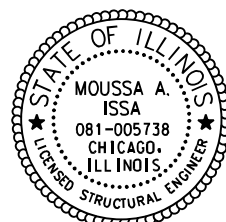
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

**RECONSTRUCTION 2013**

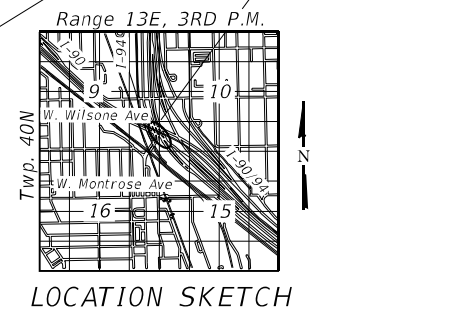
2002 AASHTO Standard Specifications for Highway Bridges

**ORIGINAL CONSTRUCTION 1992**

1989 AASHTO Standard Specifications for Highway Bridges



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



**GENERAL PLAN AND ELEVATION**  
**WILSON ENTRANCE RAMP TO SB I-94/90**  
**OVER I-90/94 & CTA**  
**F.A.I. ROUTE 90/94**  
**SECTION 2020-004-BR**  
**COOK COUNTY**  
**STATION 14+06.90**  
**S.N. 016-2594**

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	DATE - 12/5/2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STRUCTURE NO. 016-2594**

SHEET S44-01 OF S44-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1466
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

- Reinforcement bars designated (E) shall be epoxy coated.
- 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.
- Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
- All exposed concrete edges shall have a 3/4"x45° chamfer except where shown otherwise.
- 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.
- 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 faces of parapets, and top of Latex Concrete Overlay.
- 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.
- 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.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 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 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.
- 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.
- 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.
- 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.
- Concrete Sealer shall be applied to the designated areas of the abutments and backwalls.
- 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**

S44-01	General Plan And Elevation
S44-02	General Notes, Index of Sheets & TBOM
S44-03	Stage Construction
S44-04	Deck Repair Plan
S44-05	S.E. Abut. Joint Removal & Replacement (Sht. 1 of 3)
S44-06	S.E. Abut. Joint Removal & Replacement (Sht. 2 of 3)
S44-07	S.E. Abut. Joint Removal & Replacement (Sht. 3 of 3)
S44-08	N.W. Abut. Joint Removal & Replacement (Sht. 1 of 3)
S44-09	N.W. Abut. Joint Removal & Replacement (Sht. 2 of 3)
S44-10	N.W. Abut. Joint Removal & Replacement (Sht. 3 of 3)
S44-11	Preformed Joint Strip Seal
S44-12	Southeast Abutment Repairs
S44-13	Northwest Abutment Repairs

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	17.8	-	17.8
Protective Shield	Sq Yd	731	-	731
Concrete Superstructure	Cu Yd	19.6	-	19.6
Protective Coat	Sq Yd	958	-	958
Reinforcement Bars, Epoxy Coated	Pound	2,570	-	2,570
Preformed Joint Strip Seal	Foot	85	-	85
Concrete Sealer	Sq Ft	-	482	482
Epoxy Crack Injection	Foot	-	266	266
Protect And Maintain Existing Underpass Luminaire	L Sum	0.022	-	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	472	-	472
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	631	-	631
Bridge Deck Scarification 3/4"	Sq Yd	631	-	631
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	-	16	16
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1	-	1
Diamond Grinding (Bridge Section)	Sq Yd	657	-	657
Maintenance Of Lighting System	Cal Mo	6	-	6

**SCOPE OF WORK**

- Provide Protective Shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform Deck Slab Repairs as required.
- Reconstruct Expansion Joints at the Southeast and Northwest abutments and install new preformed joint strip seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
- Perform 1/4" Diamond Grinding (Bridge Section) to top of bridge deck and abutment hatched block.
- Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply protective coat to the top of reconstructed transverse joint areas, top and inside faces of parapets and top of Latex Overlay.
- Perform structural concrete repairs for the abutments as noted on the plans.

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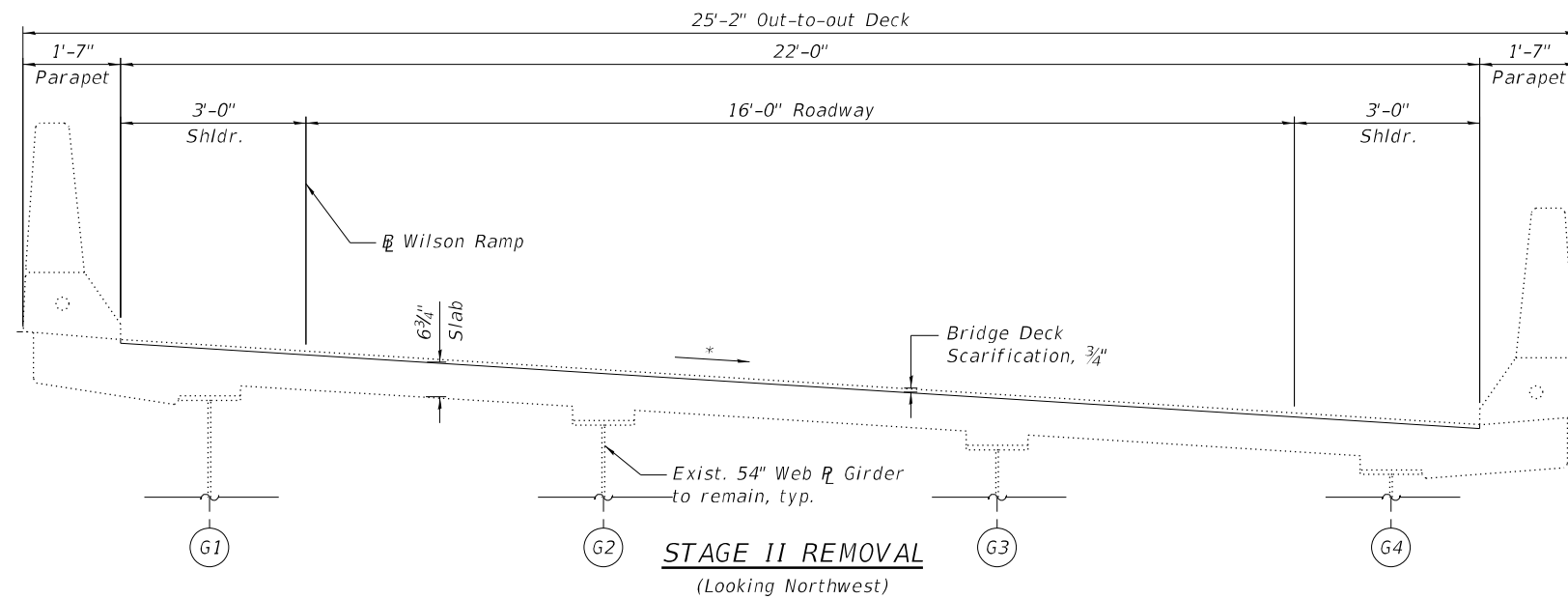
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

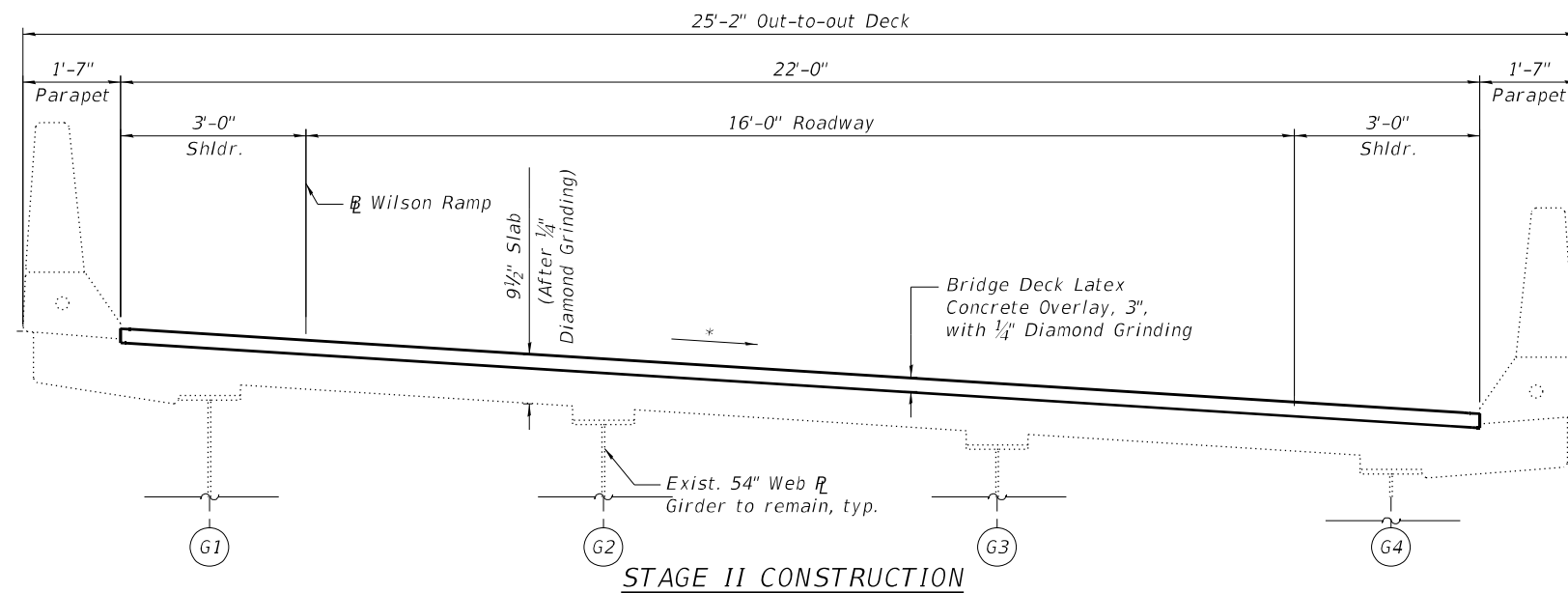
**GENERAL NOTES, INDEX OF SHEETS & TBOM  
STRUCTURE NO. 016-2594**

SHEET S44-02 OF S44-13 SHEETS

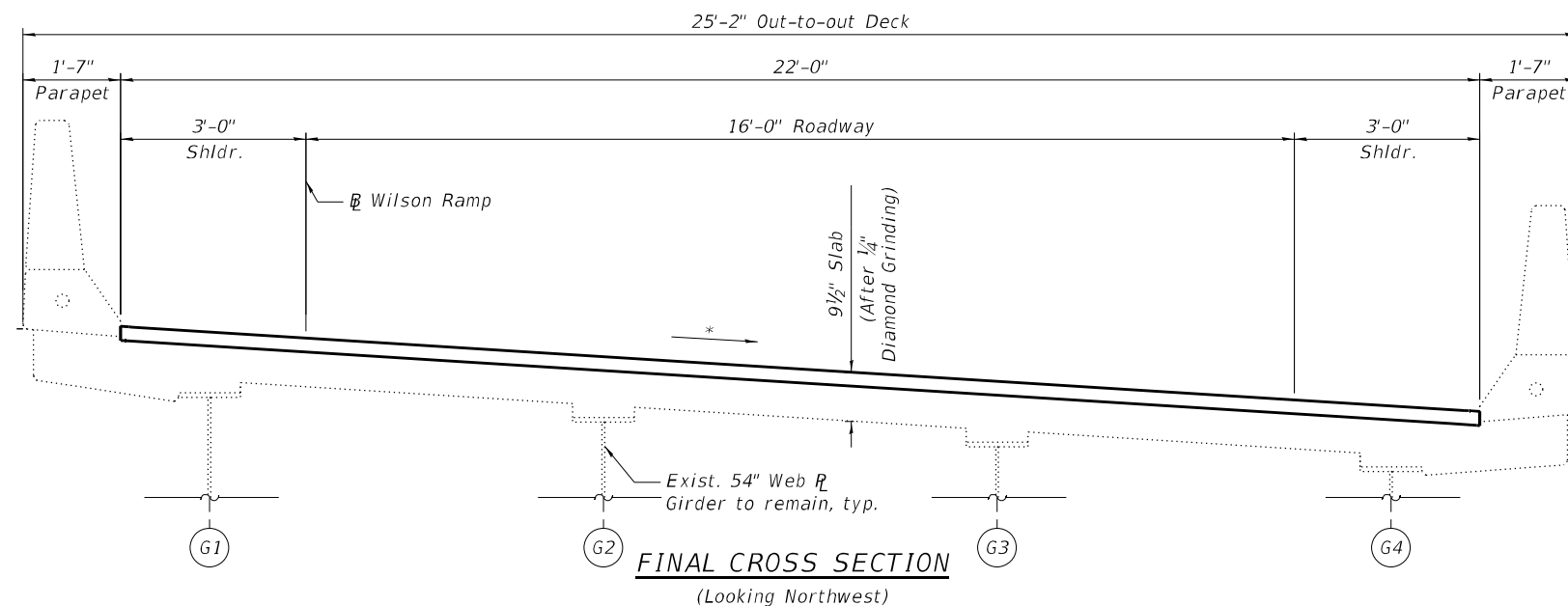
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1467
CONTRACT NO. 62K74				
		ILLINOIS	FED. AID PROJECT	



**STAGE II REMOVAL**  
(Looking Northwest)



**STAGE II CONSTRUCTION**  
(Looking Northwest)



**FINAL CROSS SECTION**  
(Looking Northwest)

**STAGE II REMOVAL**

1. Perform  $\frac{3}{4}$ " bridge deck scarification.
2. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
3. Remove portions of bridge concrete deck/approach slab adjacent to expansion joints at the Southeast and Northwest Abutments.

**STAGE II CONSTRUCTION**

1. Perform bridge deck slab repairs.
2. Reconstruct expansion joints and install new preformed joint strip seals.
3. Perform structural concrete repairs and epoxy crack injection for the abutments as noted on the plans.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform  $\frac{1}{4}$ " diamond grinding (bridge section) to bridge deck and abutment hatch block.
6. Perform bridge deck grooving (longitudinal) to the 3" bridge deck latex concrete overlay for the 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 east and west parapets, reconstructed abutment expansion joints and to the surfaces of the new overlay.

\* Match existing cross slope

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

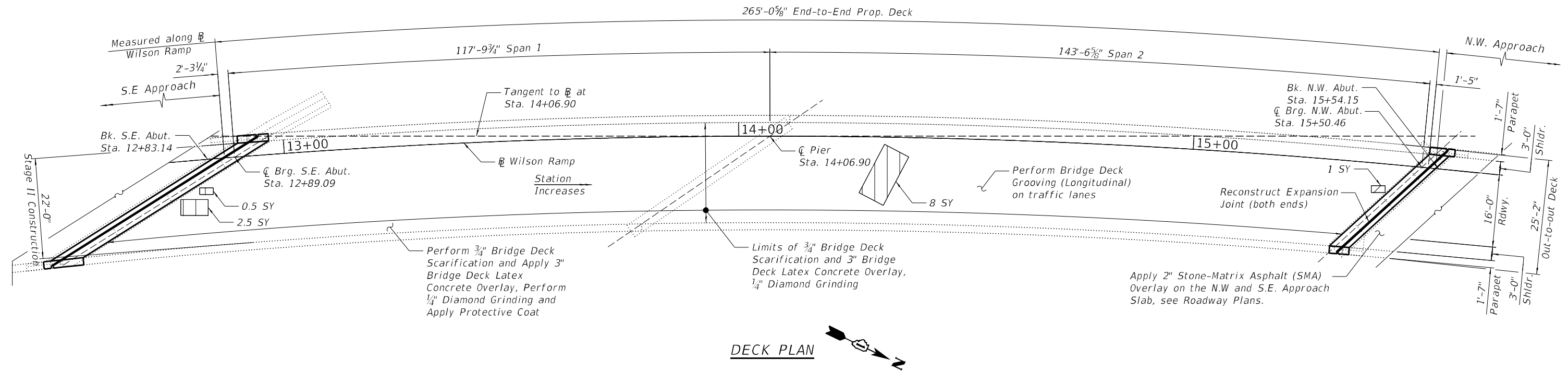
STAGE CONSTRUCTION  
STRUCTURE NO. 016-2594

SHEET S44-03 OF S44-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1468
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	915
Bridge Deck Grooving (Longitudinal)	Sq Yd	472
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	631
Bridge Deck Scarification 3/4"	Sq Yd	631
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Diamond Grinding (Bridge Section)	Sq Yd	657



**DECK PLAN**

**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 S44-03.
3. For SE and NW transverse joint removal and reconstruction, see Sheets S44-05 thru S44-10.
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 the transverse joints 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.

\*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)
- SY Square Yard

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	DATE - 9/23/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN  
STRUCTURE NO. 016-2594**

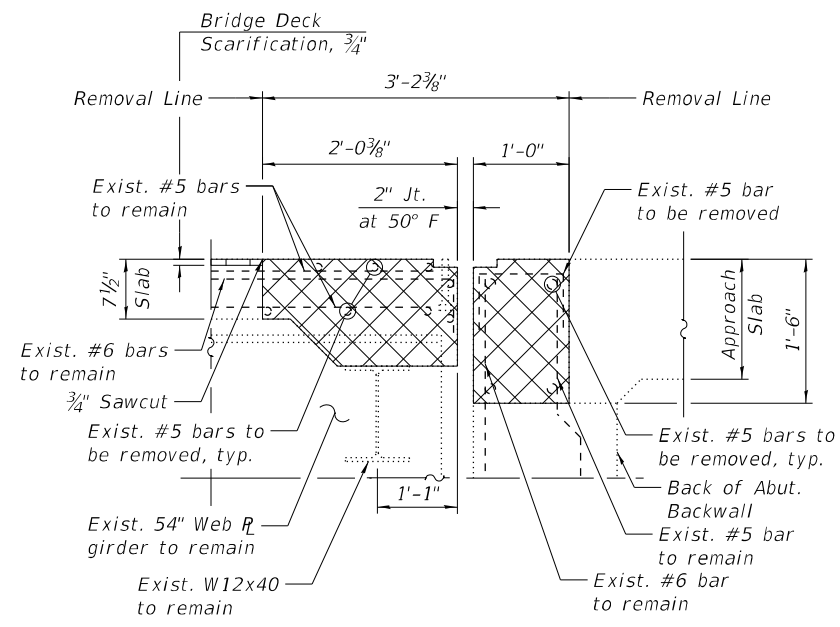
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

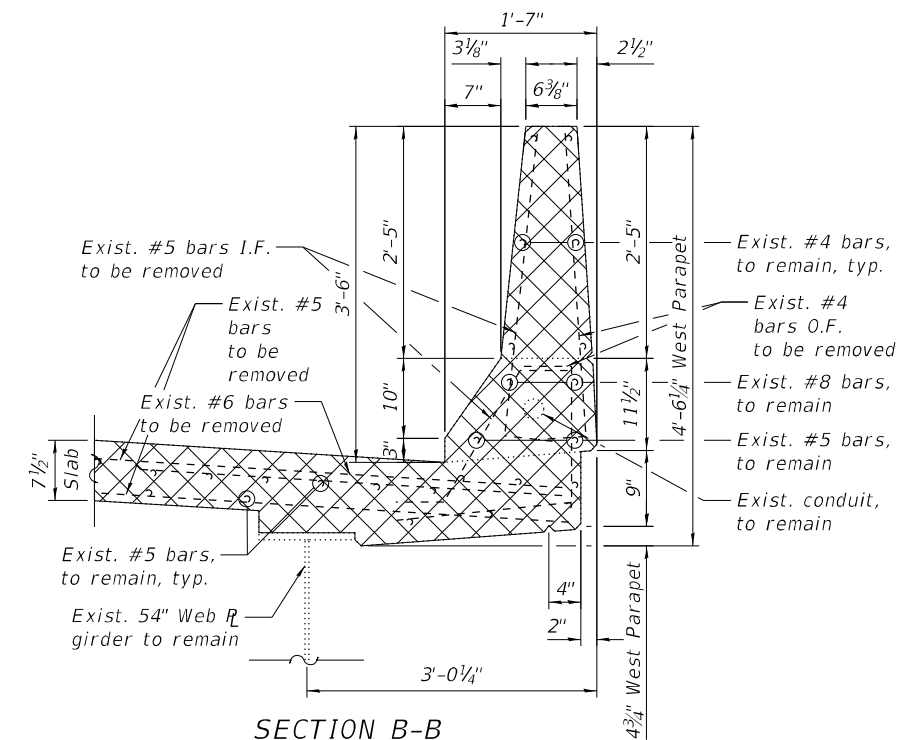




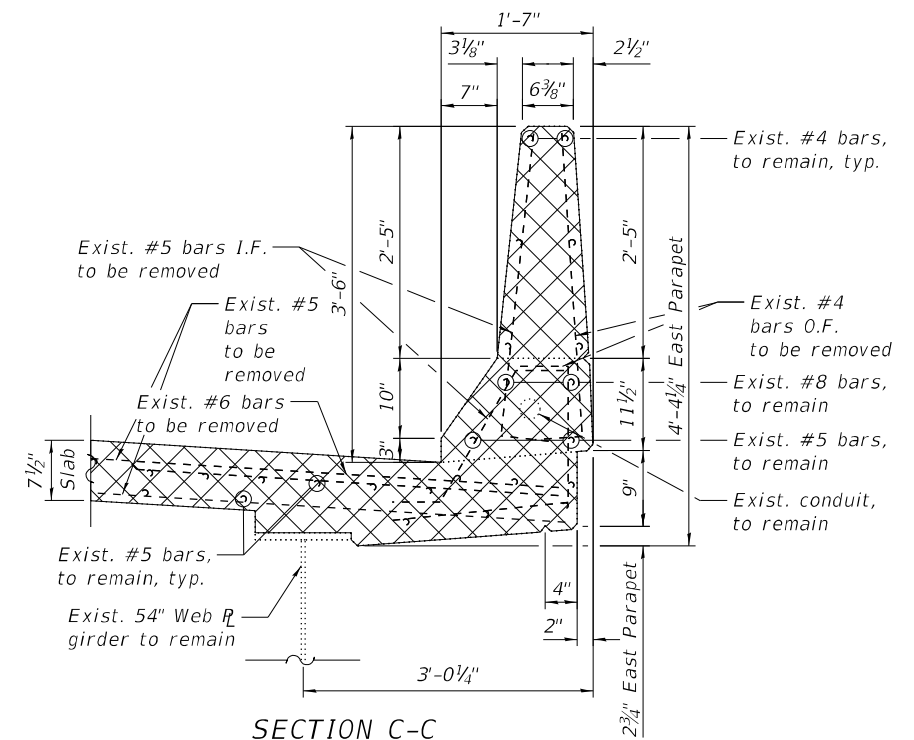
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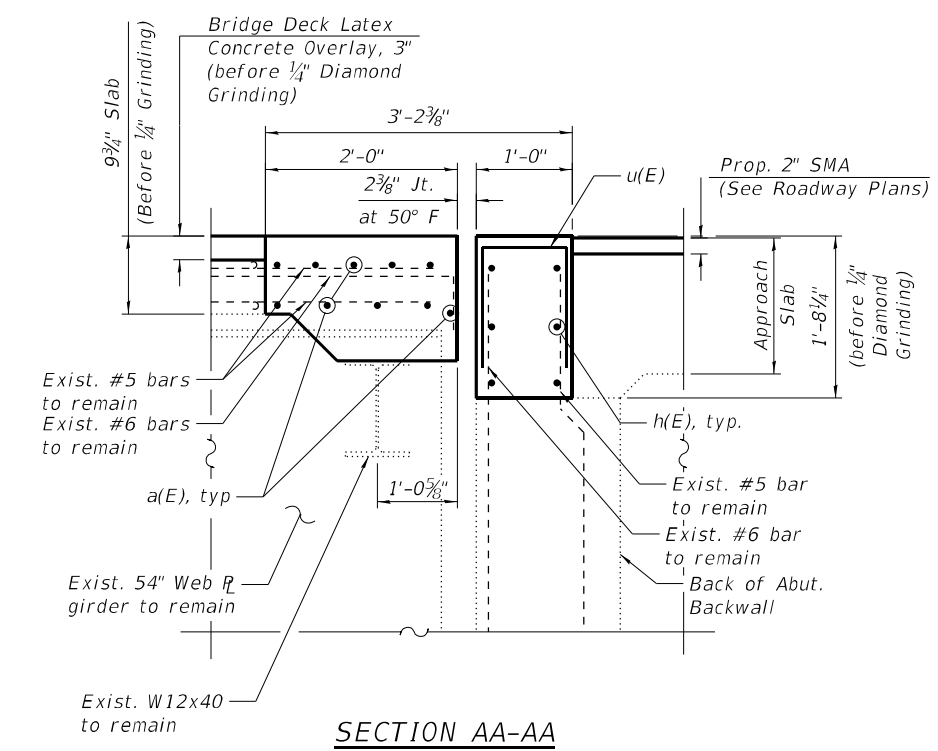
SECTION A-A



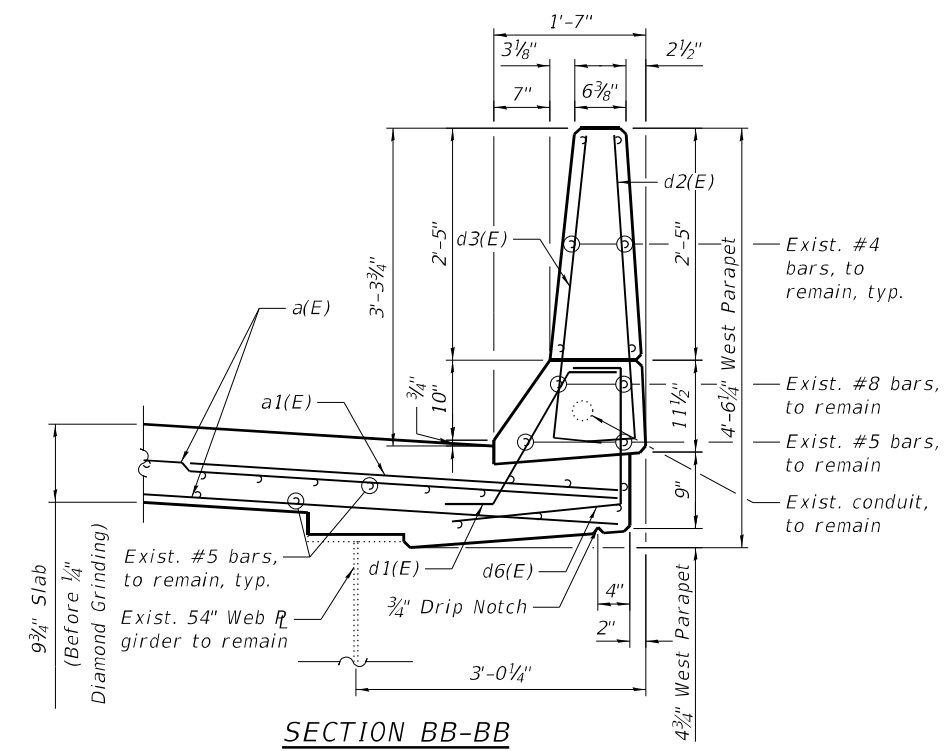
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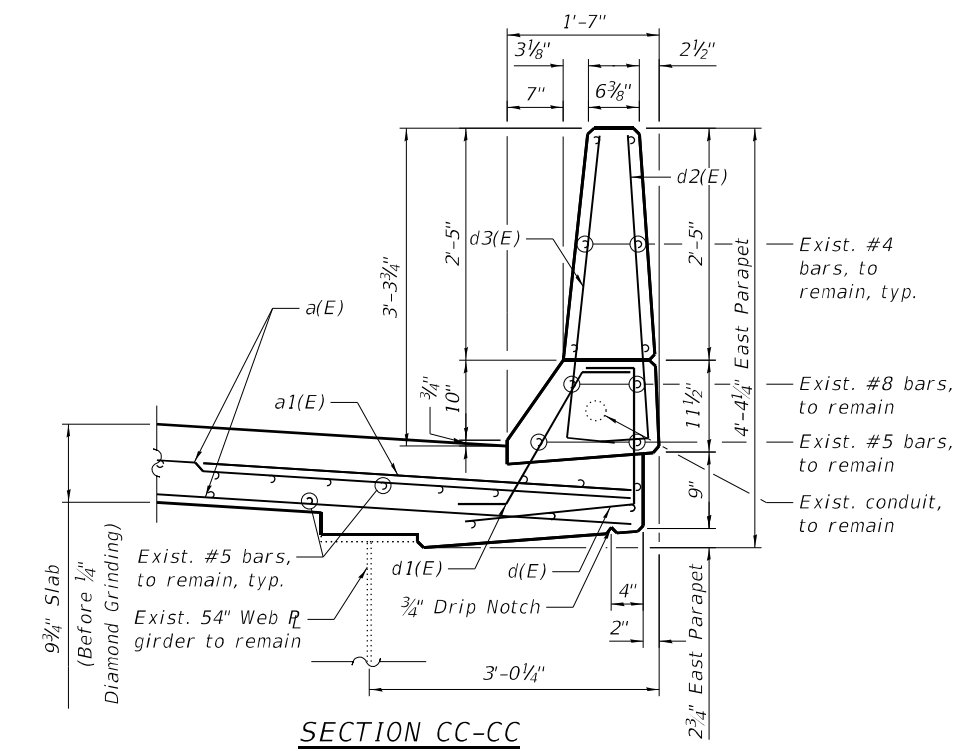
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

**NOTES:**

- For legend, see Sheet S44-05.
- For Sections D-D and DD-DD, additional Notes, Bar Diagrams and Bill of Material, see Sheet S44-07.



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STATE OF ILLINOIS  
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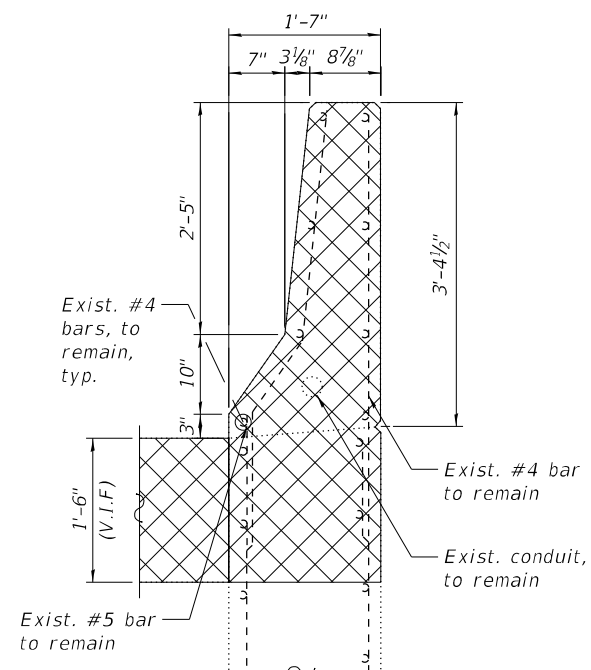
S.E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 3)  
 STRUCTURE NO. 016-2594

SHEET S44-06 OF S44-13 SHEETS

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

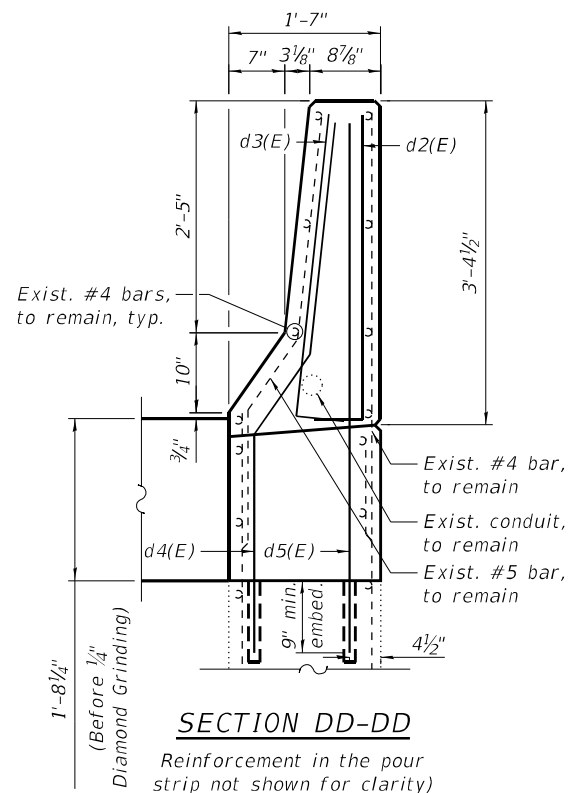
**BILL OF MATERIAL**

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d(E)	8	#4	3'-9"	┌
d1(E)	11	#5	2'-7"	┌
d2(E)	19	#4	3'-8"	┌
d3(E)	19	#5	3'-8"	┌
d4(E)	8	#5	5'-9"	┌
d5(E)	8	#5	5'-7"	┌
d6(E)	3	#5	3'-9"	┌
h(E)	12	#6	25'-11"	—
u(E)	50	#5	3'-4"	⊏
Concrete Removal			Cu Yd	11
Concrete Superstructure			Cu Yd	12.1
Protective Coat			Sq Yd	26
Reinforcement Bars, Epoxy Coated			Pound	1,550



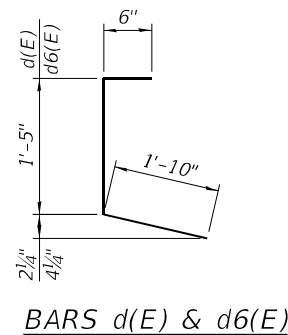
**SECTION D-D**

Reinforcement in the pour strip not shown for clarity

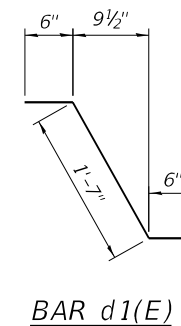


**SECTION DD-DD**

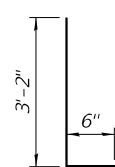
Reinforcement in the pour strip not shown for clarity



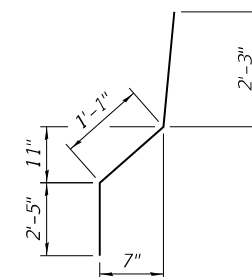
**BARS d(E) & d6(E)**



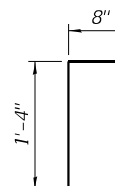
**BAR d1(E)**



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



**BAR d4(E)**



**BAR u(E)**

**NOTES:**

1. For legend, see Sheet S44-05.
2. For preformed joint strip seal details see Sheet S44-11.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.
4. Epoxy grout d4(E) and d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

**MIN BAR LAPS**

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

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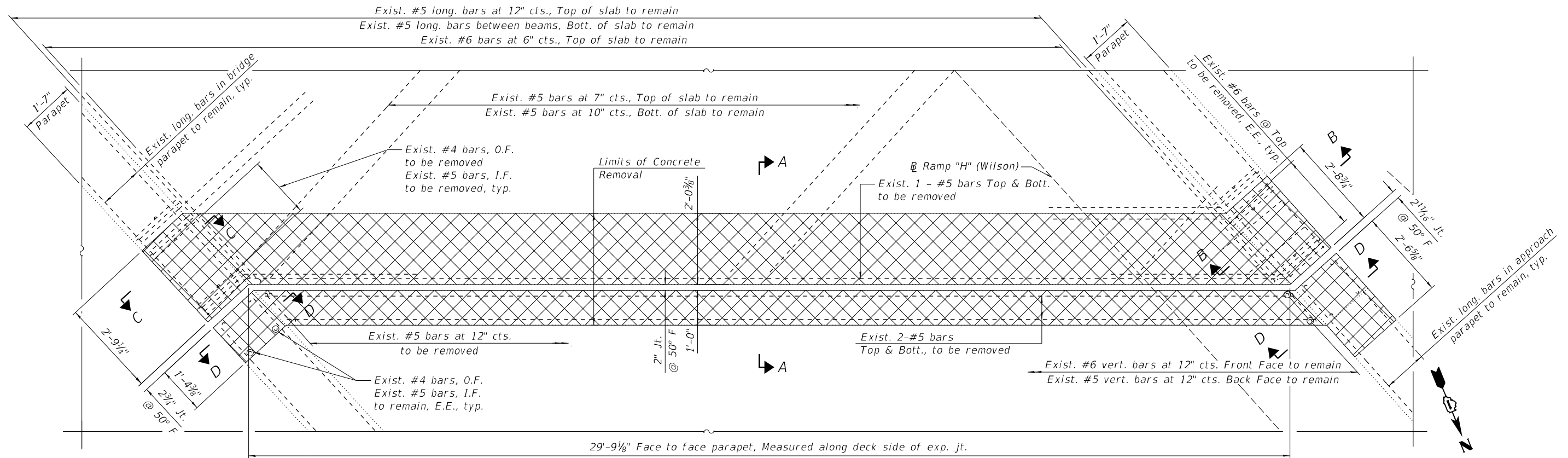
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

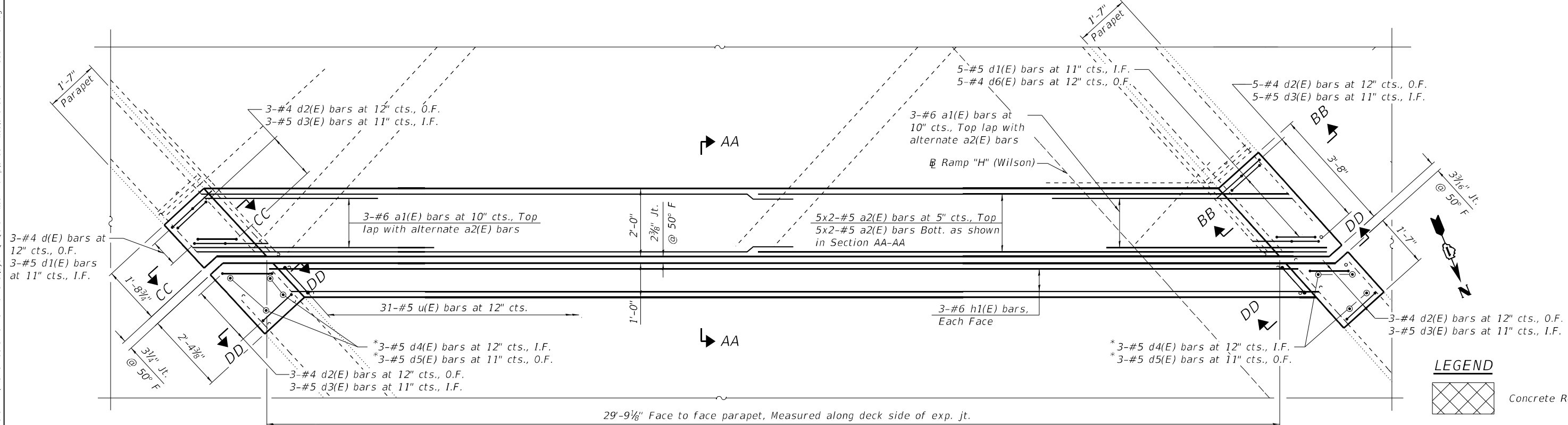
**S.E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 3)  
STRUCTURE NO. 016-2594**

SHEET S44-07 OF S44-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1472
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



**NW ABUTMENT JOINT REMOVAL PLAN**



**NW ABUTMENT JOINT RECONSTRUCTION PLAN**

**NOTES:**

- For Sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC See Sheet S44-09.
- For Sections D-D and DD-DD, Bar Diagrams, additional Notes and Bill of Material, see Sheet S44-10.

\*Epoxy grout d4(E) and d5(E) bars in 9" min. holes according to Section 584 of the Standard Specifications.

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

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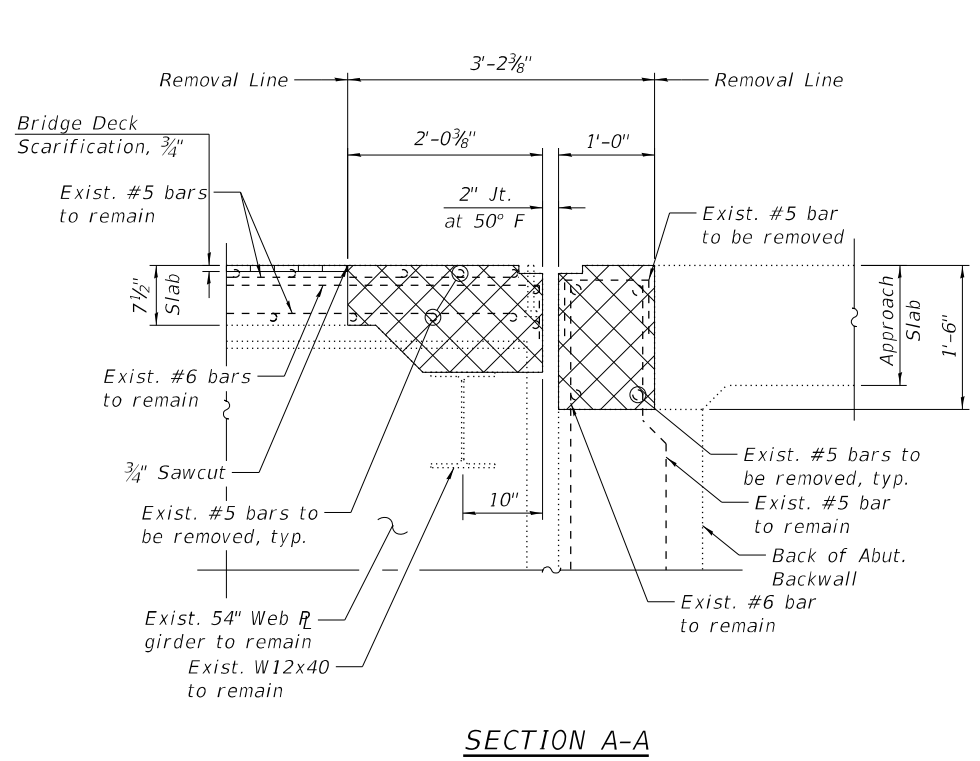
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

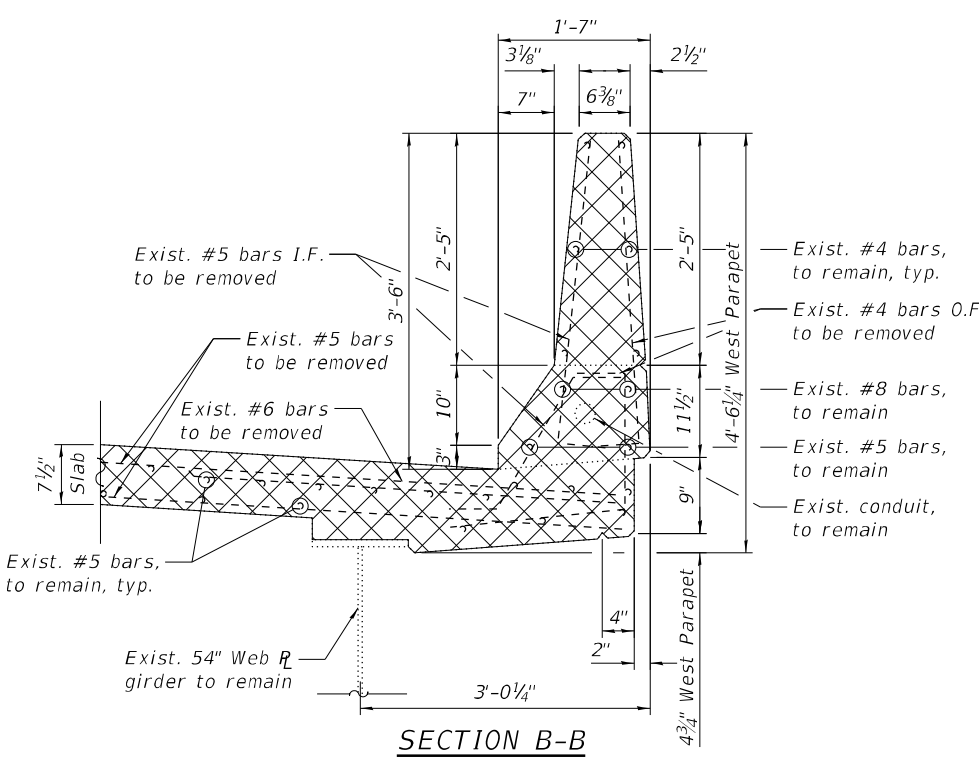
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STRUCTURE NO. 016-2594**

SHEET S44-08 OF S44-13 SHEETS

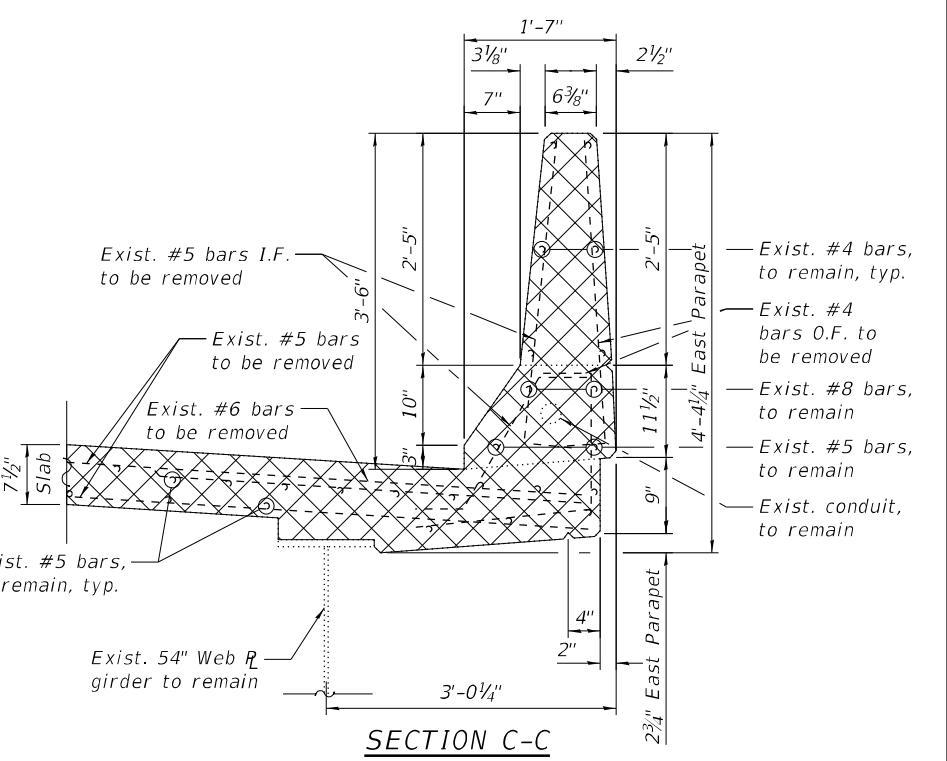
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			CONTRACT NO. 62K74	
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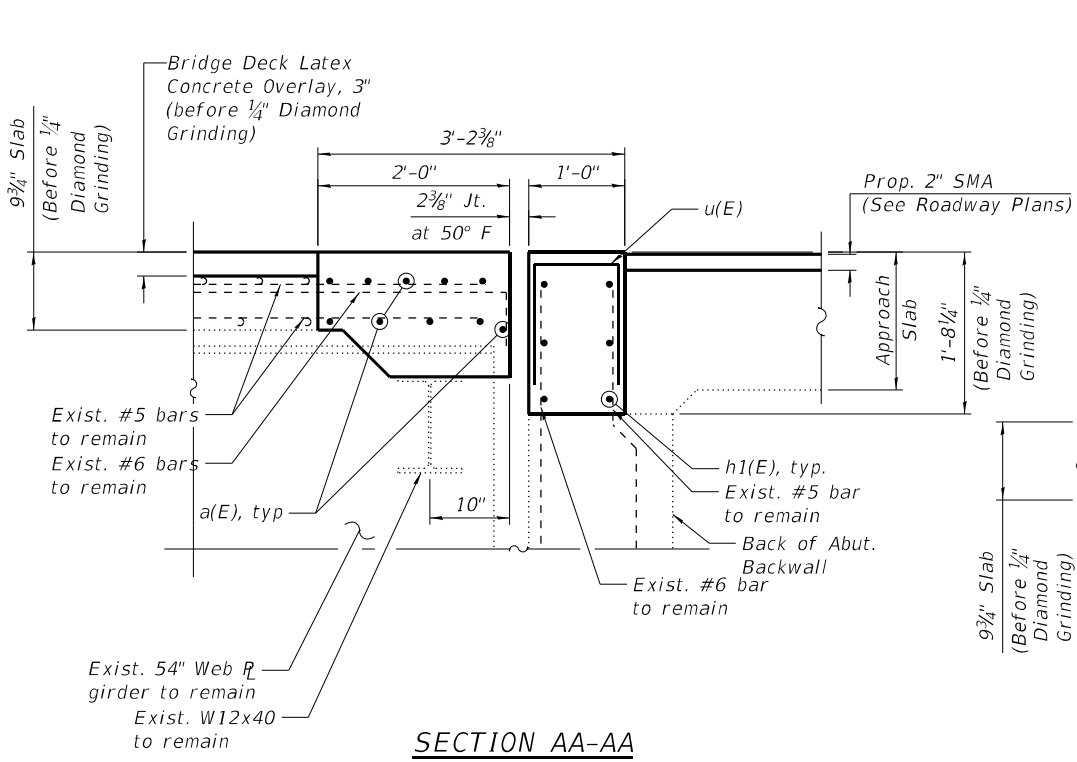
SECTION A-A



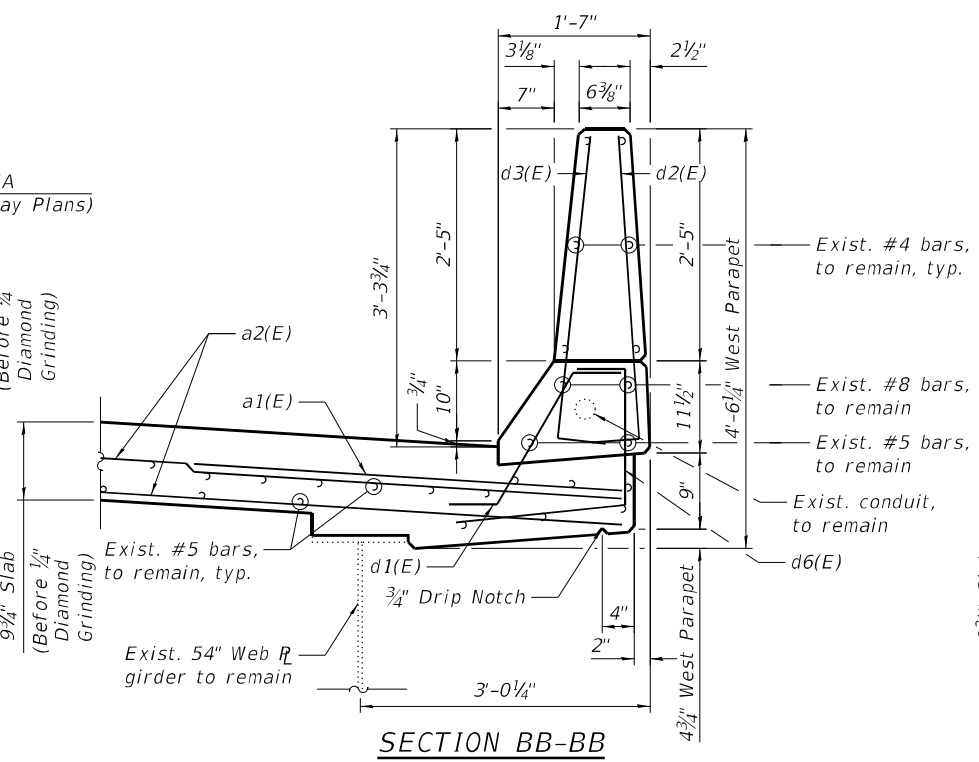
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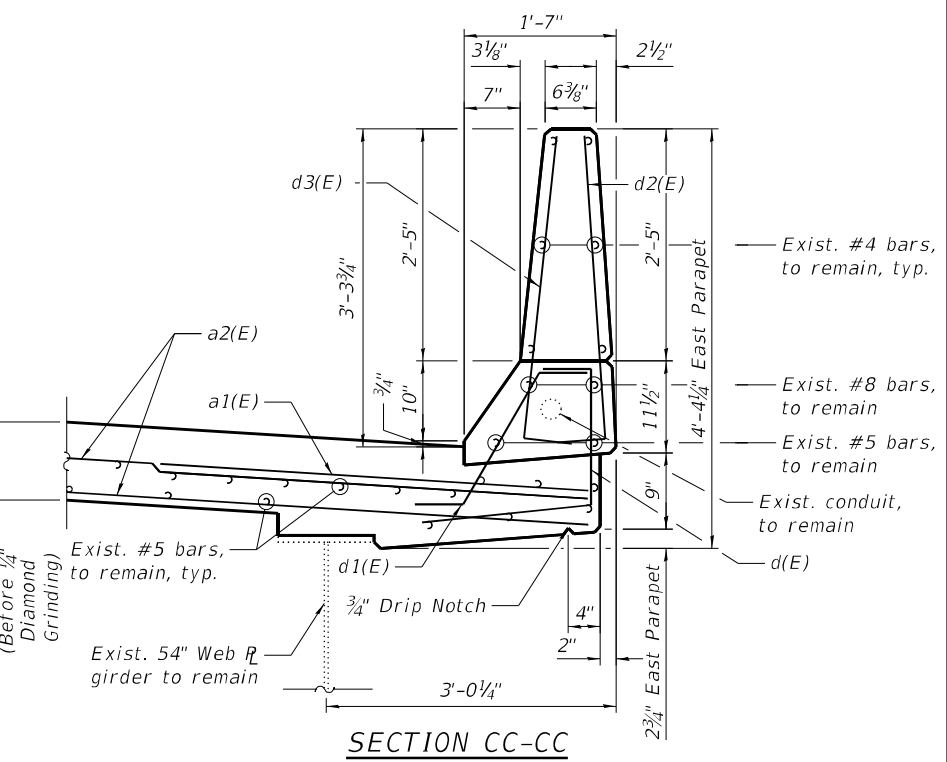
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

**NOTES**

1. For legend, see Sheet S44-08.
2. For Sections D-D and DD-DD, additional Notes, Bar Diagrams and Bill of Material, see Sheet S44-10.

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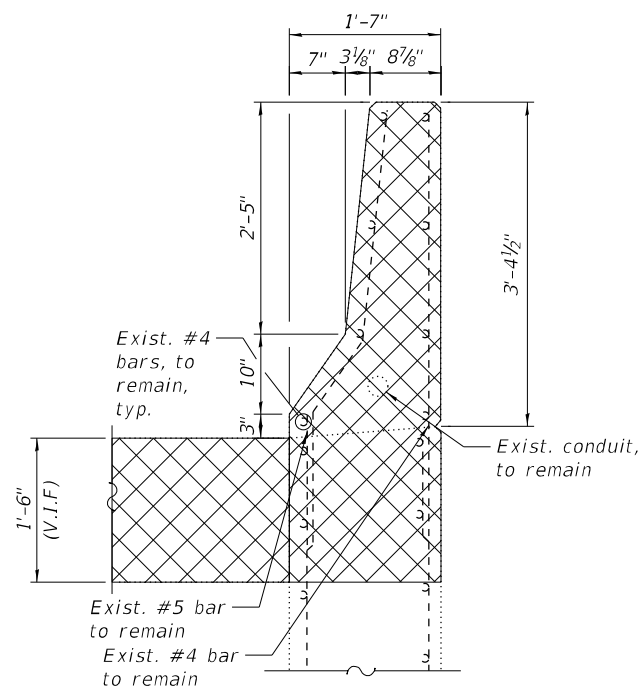
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STRUCTURE NO. 016-2594

SHEET S44-09 OF S44-13 SHEETS

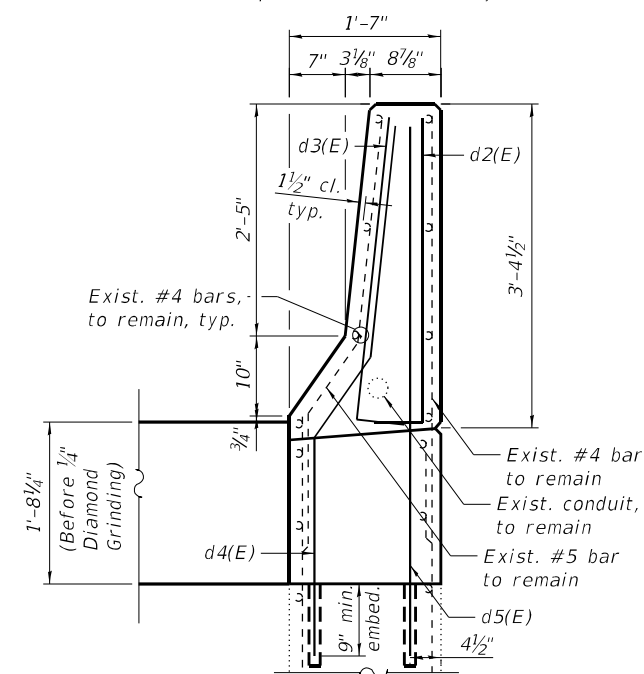
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CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

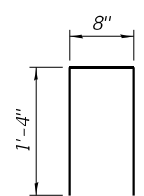
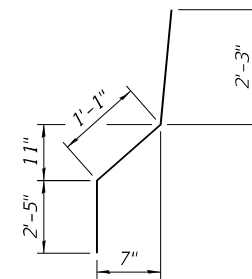
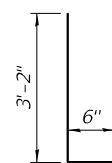
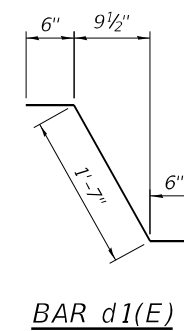
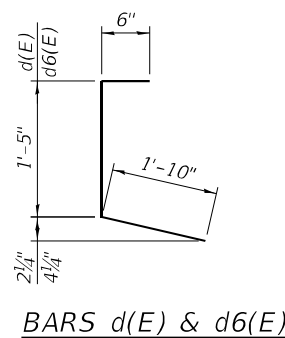
Bar	No.	Size	Length	Shape
a1(E)	6	#6	6'-6"	—
a2(E)	20	#5	18'-1"	—
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d1(E)	8	#5	2'-7"	┌
d2(E)	14	#4	3'-8"	┌
d3(E)	14	#5	3'-8"	┌
d4(E)	6	#5	5'-9"	┌
d5(E)	6	#5	5'-7"	—
d6(E)	5	#5	3'-9"	┌
h1(E)	6	#6	29'-5"	—
u(E)	31	#5	3'-4"	▢
Concrete Removal			Cu Yd	6.8
Concrete Superstructure			Cu Yd	7.5
Protective Coat			Sq Yd	17
Reinforcement Bars, Epoxy Coated			Pound	1,020



**SECTION D-D**  
Reinforcement in the pour strip not shown for clarity)



**SECTION DD-DD**  
Reinforcement in the pour strip not shown for clarity)



**NOTES:**

- For legend, see Sheet S44-08.
- For preformed joint strip seal details see Sheet S44-11.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- Epoxy grout d3(E) and d4(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

**MIN BAR LAPS**

#5 3'-6"

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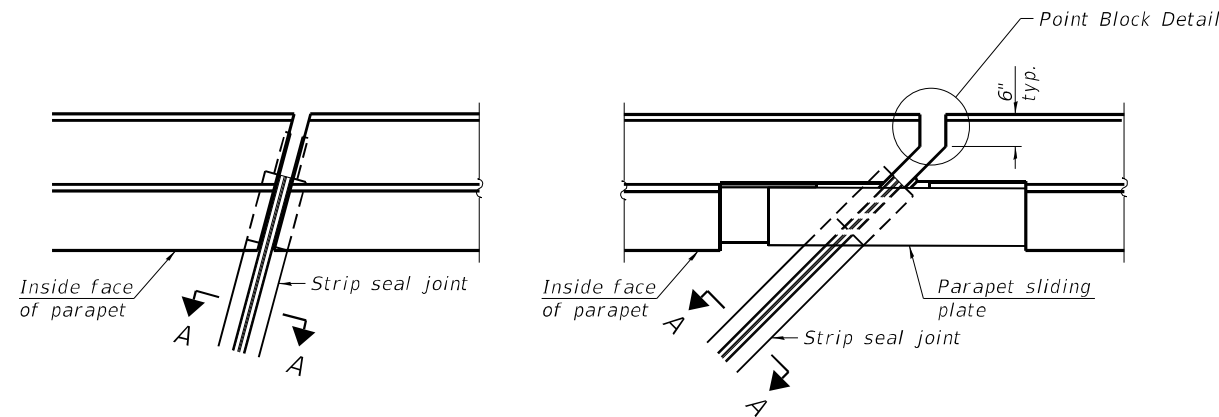
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

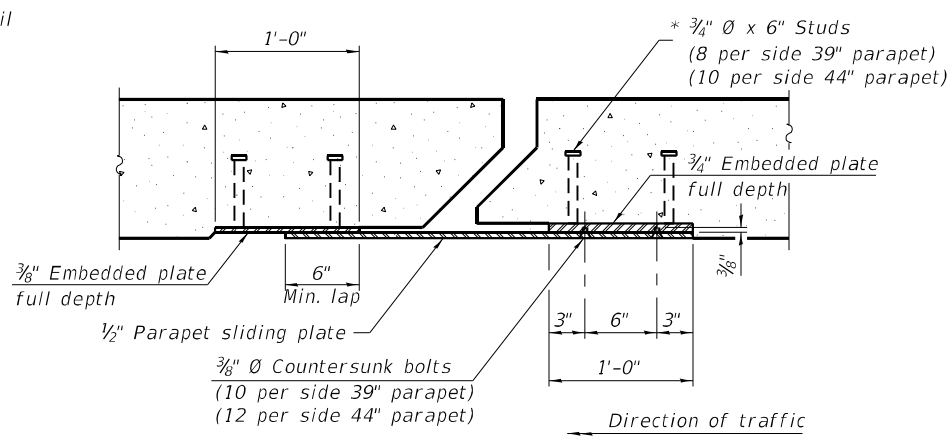
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STRUCTURE NO. 016-2594**

SHEET S44-10 OF S44-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1475
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				



PLAN AT PARAPET



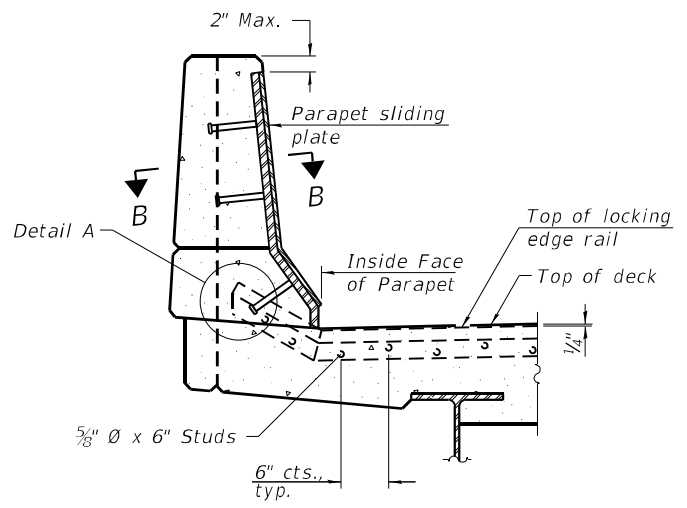
SECTION B-B

Notes:

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

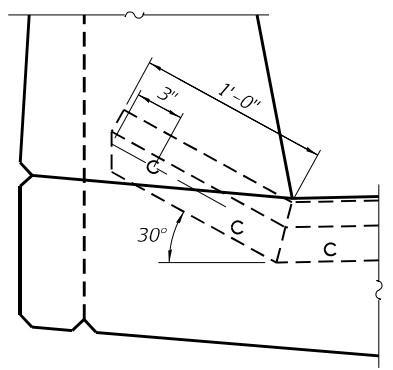
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 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.

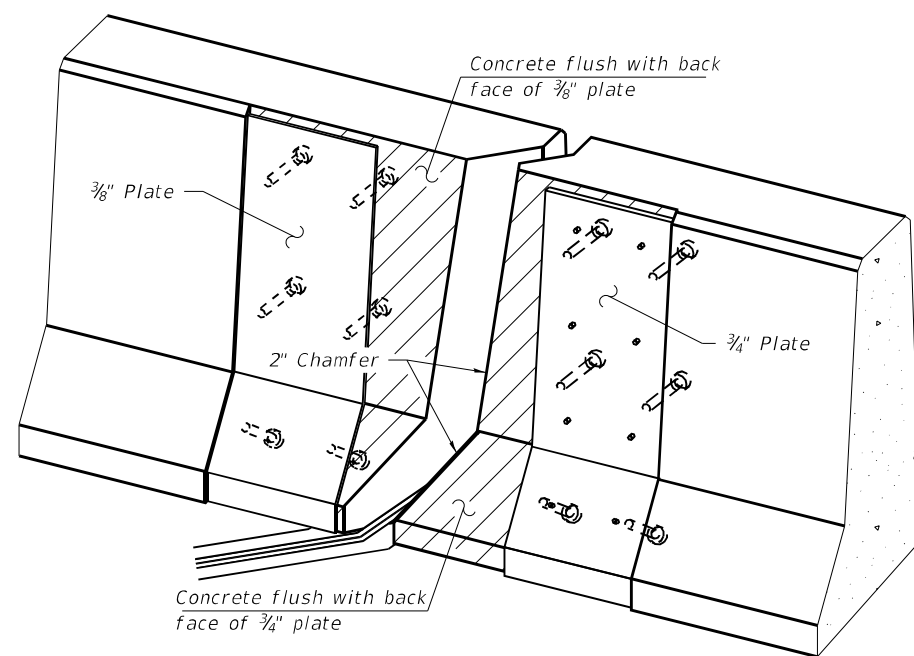


SECTION A-A

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



DETAIL A



TRIMETRIC VIEW (Showing embedded plates only)

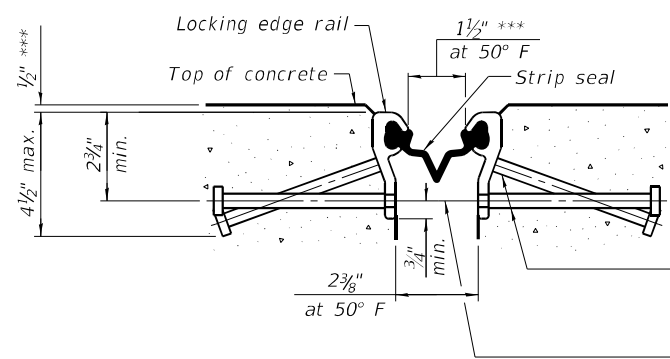
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 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.



SHOWING ROLLED RAIL JOINT

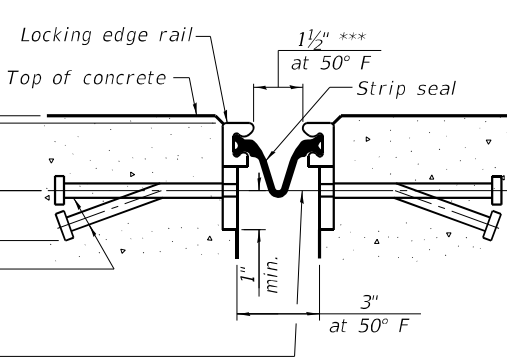
\* 3/8"  $\emptyset$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

3/8"  $\phi$  threaded rods in 1/16"  $\phi$  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.

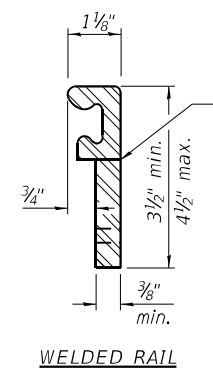
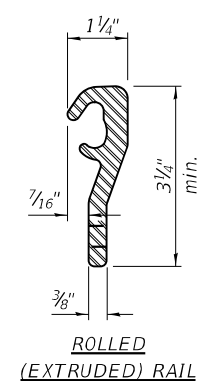
SECTION A-A

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

\*\*\* Before 1/4" Diamond Grinding

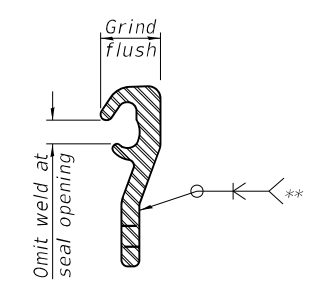


SHOWING WELDED RAIL JOINT



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	85

MODEL: Default  
 FILE NAME: P:\2004-824-PTB195-010-GRAEF\WO#3 1-90\_SB & Rev. Var. Overlays - QAQC & Wilson Ramp\Sheet\_Files\0162594-62K74-511-PreformedJointStripSeal.dgn  
 9/23/2022 11:06:34 AM



USER NAME =	DESIGNED - MA, SK	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - MA, AMS	REVISED -
	DATE - 9/23/2022	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

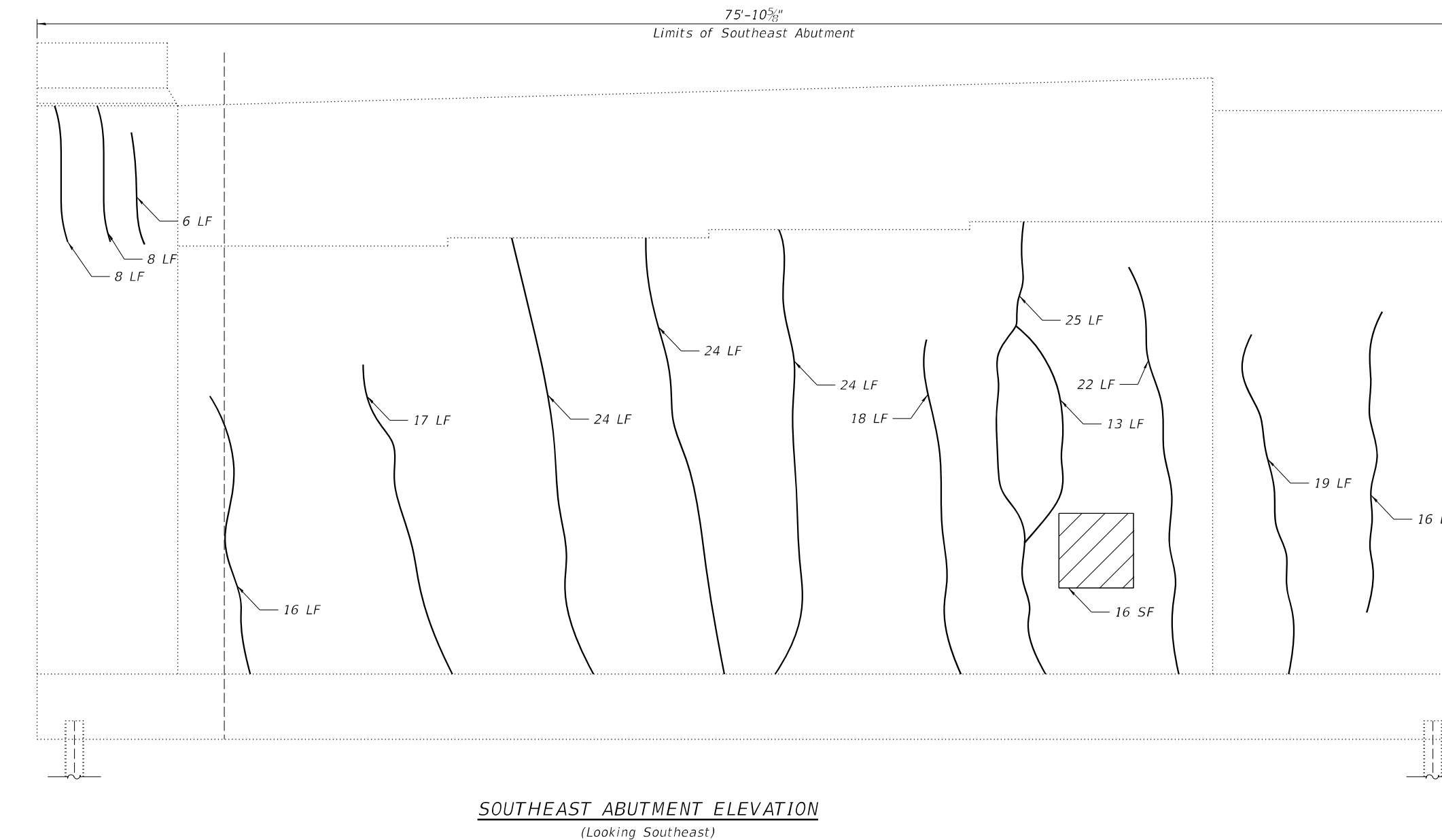
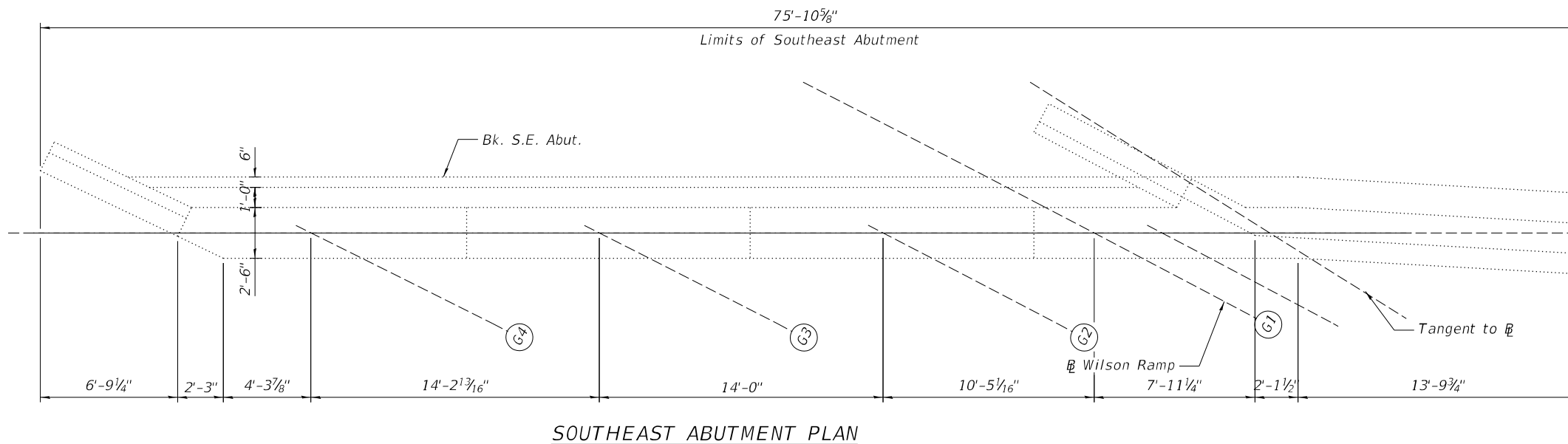
PREFORMED JOINT STRIP SEAL  
 STRUCTURE NO. 016-2594

SHEET S44-11 OF S44-13 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1476
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

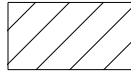

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	342
Epoxy Crack Injection	Foot	240
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	16



**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 shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.

**LEGEND**

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

MODEL: Default  
FILE NAME: P:\2004-824 PTB195-010-GRAEF\WO#3 I-90\_SB & Rev. Var. Overlays - QAQC & Wilson Ramp\Sheet\_Files\0162594-62K74-512-5E Abut. Repair.dgn  
9/23/2022 11:06:35 AM



USER NAME =	DESIGNED - MA	REVISED -
CHECKED - MI	REVISED -	
PLOT SCALE =	DRAWN - MA	REVISED -
PLOT DATE =	DATE - 9/23/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

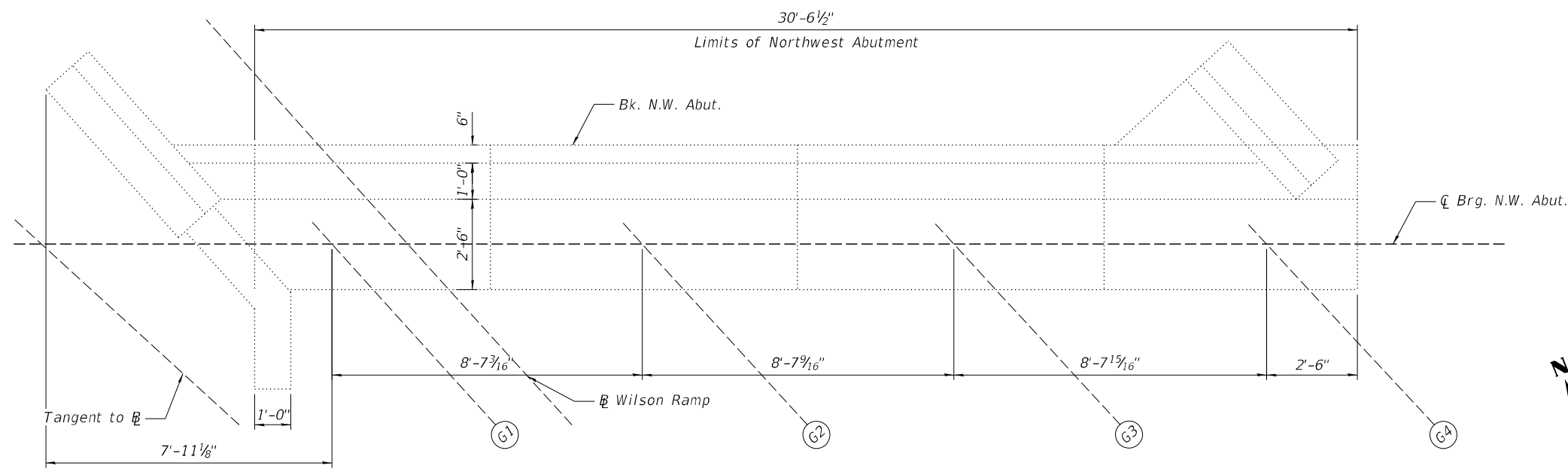
**SOUTHEAST ABUTMENT REPAIRS  
STRUCTURE NO. 016-2594**

SHEET S44-12 OF S44-13 SHEETS

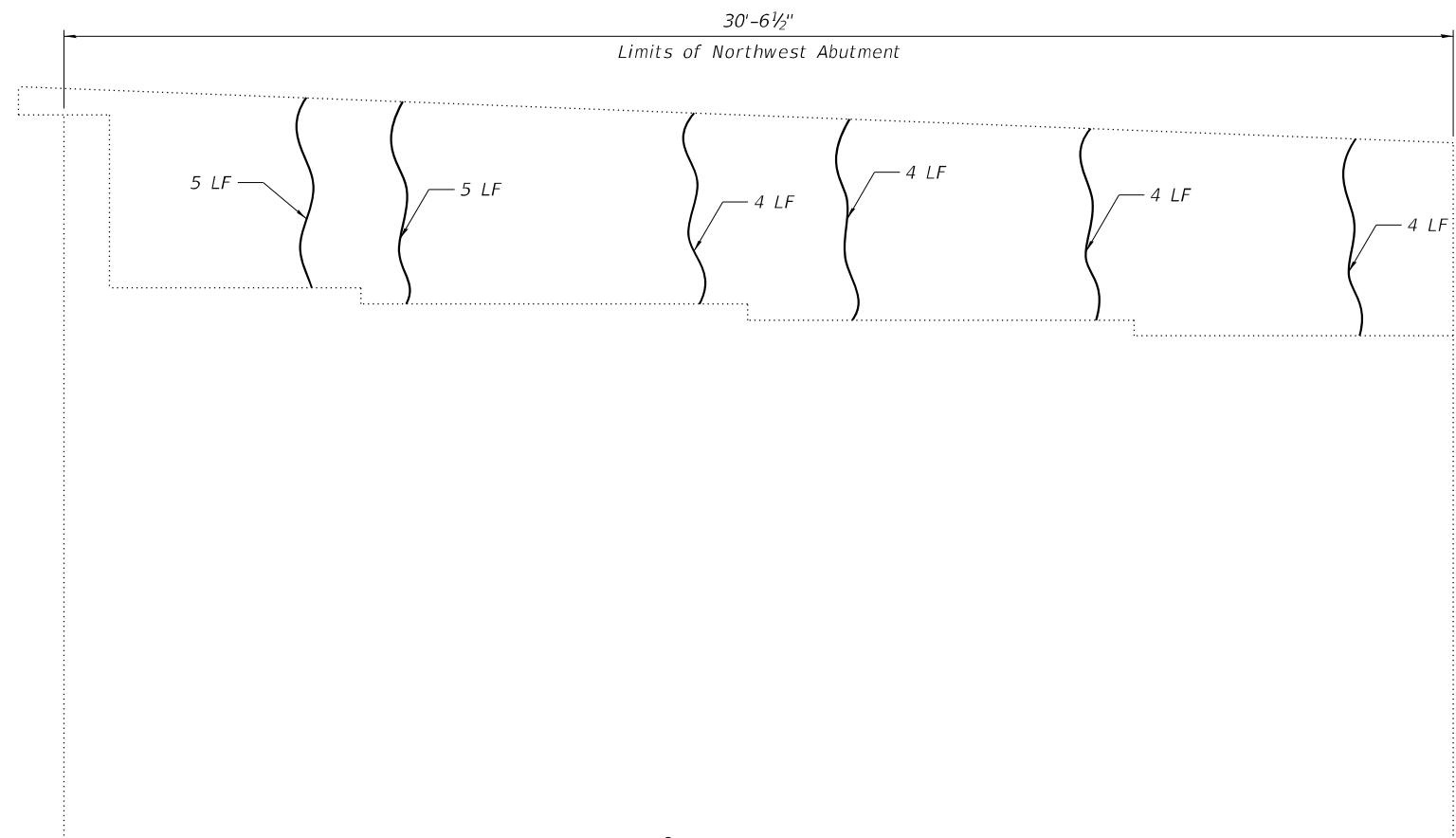
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90/94	2020-004-BR	COOK	1492	1477
CONTRACT NO. 62K74				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	140
Epoxy Crack Injection	Foot	26



**NORTHWEST ABUTMENT PLAN**



**NORTHWEST ABUTMENT ELEVATION**  
(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.
- Concrete Sealer shall be applied to the abutment seat and the bottom 2 feet of the abutment backwall.

**LEGEND**

- Epoxy Crack Injection (Width > 0.06")
- Linear Foot

MODEL: Default  
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USER NAME =	DESIGNED - MA	REVISED -
	CHECKED - MI	REVISED -
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PLOT DATE =	DATE - 9/23/2022	REVISED -

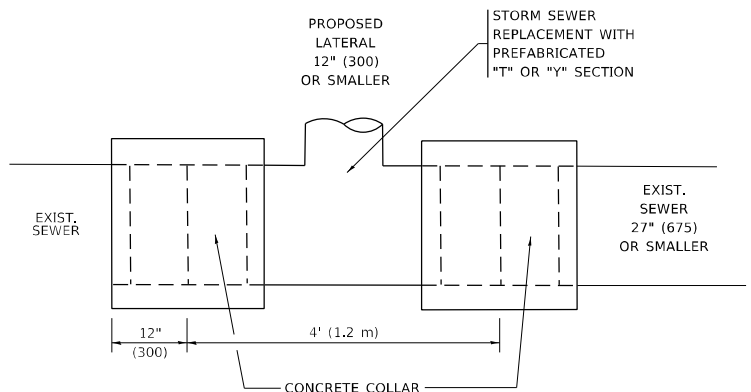
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**NORTHWEST ABUTMENT REPAIRS  
STRUCTURE NO. 016-2594**

SHEET S44-13 OF S44-13 SHEETS

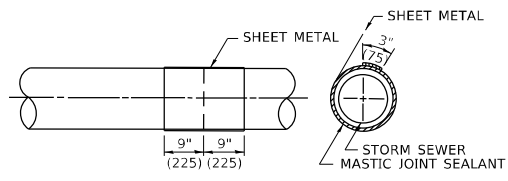
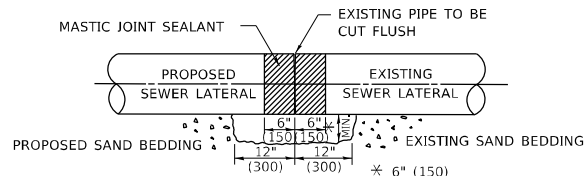
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-004-BR	COOK	1492	1478
CONTRACT NO. 62K74				
		ILLINOIS FED. AID PROJECT		





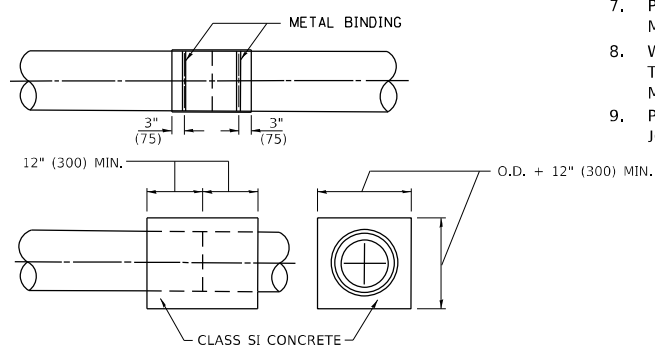
**DETAIL "A"**

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER



**DETAIL "B"**

CLASS SI CONCRETE COLLAR

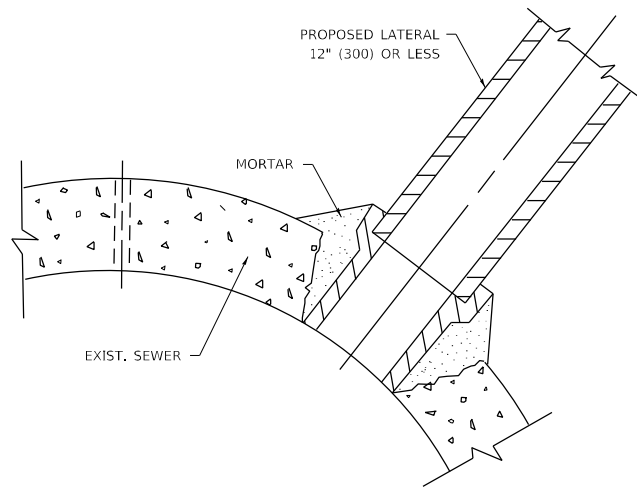


**DETAIL "C"**

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

**CONSTRUCTION SEQUENCE**

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT, BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12' x 6' (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



**NOTES:**

**MATERIAL**

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

**CONSTRUCTION METHODS**

1. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
2. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
  - A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
  - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

**GENERAL**

1. CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.
2. CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

**BASIS OF PAYMENT**

1. TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.
2. REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.
3. TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.
4. CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

\* ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

MODEL Path: \\s:\projects\2020\2020-004-BR\2020-004-BR.dgn

USER NAME = demanchelt	DESIGNED - M. DE YONG	REVISED - R. SHAH 09-09-94
	DRAWN -	REVISED - R. SHAH 10-25-94
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED - R. SHAH 06-12-96
PLOT DATE = 2/2/2022	DATE - 07-25-90	REVISED - K. SMITH 02-01-22

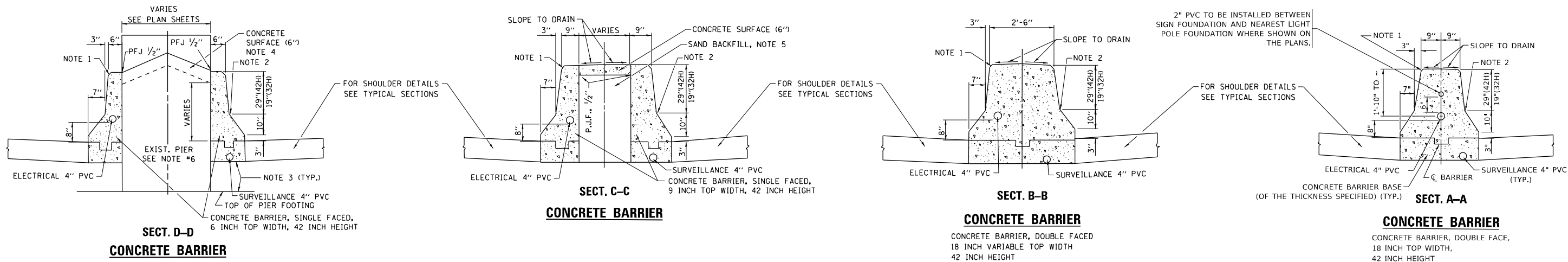
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DETAIL OF STORM SEWER CONNECTION TO EXISTING SEWER</b>			
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA.	TO STA.

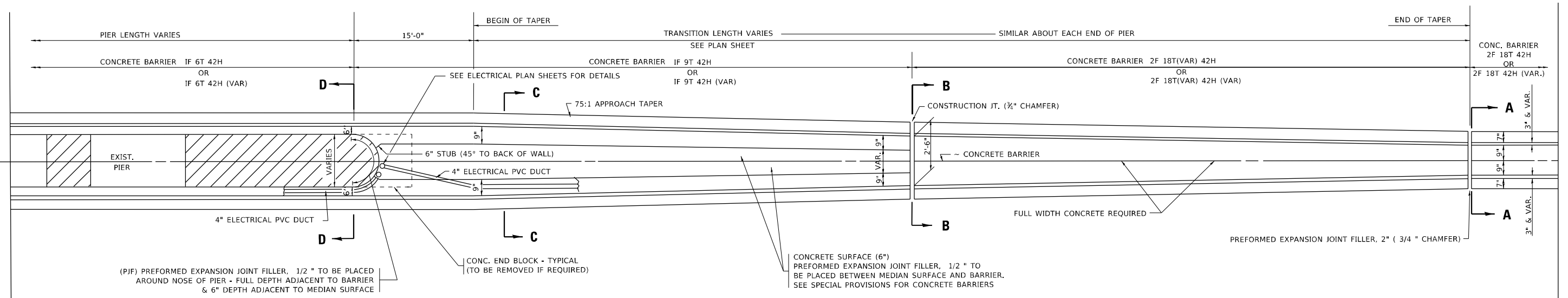
F.A. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1479
<b>BD500-01 (BD-07)</b>		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				



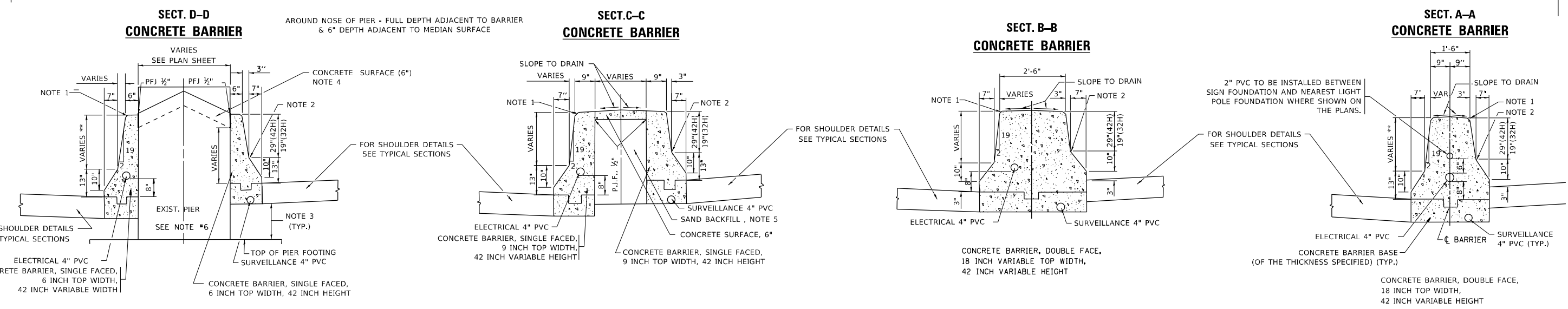
TANGENT CONDITION



PLAN VIEW OF CONCRETE BARRIER TRANSITION



(SUPER ELEVATION CONDITION)



**GENERAL NOTES**

- FOR UNDERDRAIN DETAILS SEE TYPICAL SECTIONS.
- FOR KEYWAY (F) DIMENSIONS, SEE TYPICAL SECTIONS.
- IF USING JOINTED CONCRETE BARRIER BASE, CONTRACTORS WILL HAVE THE OPTION OF USING A KEYWAY OR #\_\_\_ TIE BARS AT \_\_\_ O.C.
- MAINTAIN SLOPE OF FACE AS SHOWN ON DETAIL. HEIGHT AND WIDTH OF BARRIER INCREASE WHERE A DIFFERENCE IN MEDIAN EDGE-OF-PAVEMENT GRADE ELEVATION EXISTS.

**NOTES:**

- 3/4" CHAMFER OR 1" RADIUS (OPTIONAL)
- 10" RADIUS (OPTIONAL)
- EXTEND BOTTOM OF BARRIER TO FOOTING ONLY WHEN DEPTH IS 6" OR LESS, OTHERWISE MAINTAIN SAME DEPTH AS BOTTOM OF SHOULDER
- PIER FILLER MATERIAL TO BE CONCRETE IF MINIMUM 6" THICKNESS WILL BE MAINTAINED. IF 6" THICKNESS CANNOT BE MAINTAINED USE ASPHALT FILLER MATERIAL AS DIRECTED BY THE ENGINEER.
- SAND BACKFILL AND CONCRETE SURFACE WILL BE REQUIRED. FILLING WITH CONCRETE WILL NOT BE ALLOWED.
- IF PIER IS NEW CONSTRUCTION BARRIER WALL MAY BE MONOLITHIC

**BASIS OF PAYMENT**

- COST OF SAND BACKFILL, CONCRETE SURFACE (6"), AND PIER FILLER MATERIAL WILL BE PAID FOR SEPERATELY.
- PREFORMED JOINT FILLER SHALL BE INCLUDED IN THE UNIT COST FOR THE CONCRETE BARRIER OF THE TYPE INVOLVED.
- CONCRETE BARRIER BASE PAY ITEM IS TO BE INCLUDED IF THE BARRIER IS CONSTRUCTED MONOLITHIC OR JOINTED TO BASE. #\_\_\_ TIE BARS AT \_\_\_ O.C.
- REMOVAL OF CONCRETE BLOCK SHALL BE INCLUDED IN THE UNIT COST OF CONCRETE BARRIER.

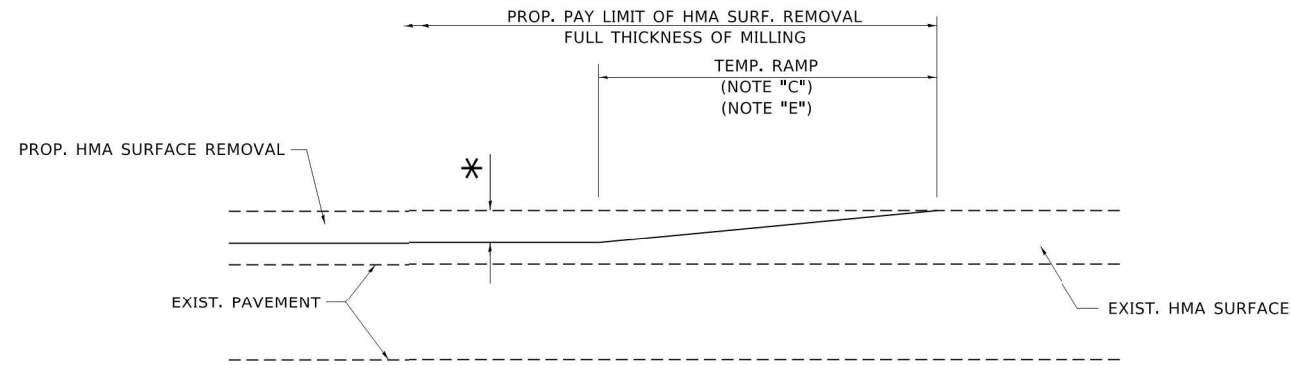
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USER NAME = demanchell	DESIGNED - FORD	REVISED - FORD 12-06-88
DRAWN -	REVISED - K. SMITH 02-01-22	
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 2/2/2022	DATE - 09-09-88	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>CONCRETE BARRIER TRANSITION &amp; GENERAL DETAILS, CONCRETE BARRIER BASE</b>			
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. TO STA.	

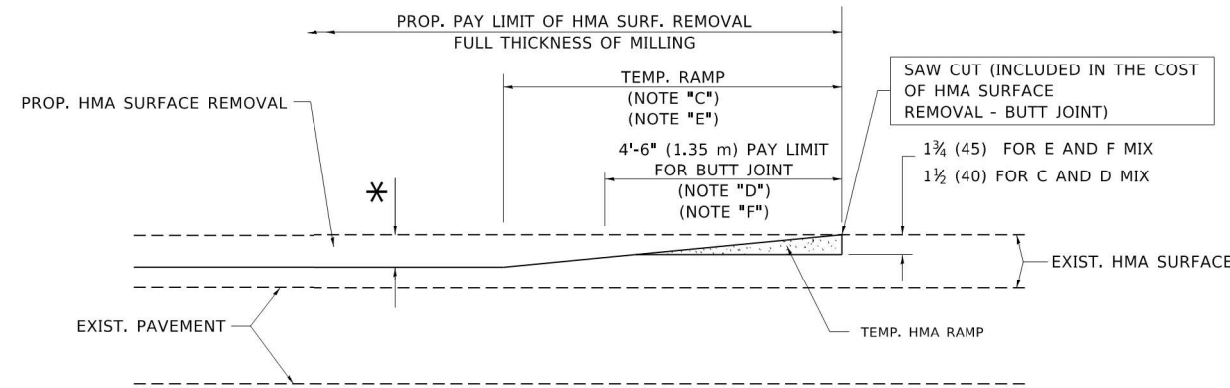
F.A. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1481
<b>BD-27</b>		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				



**MILLED TEMPORARY RAMP**

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 1**

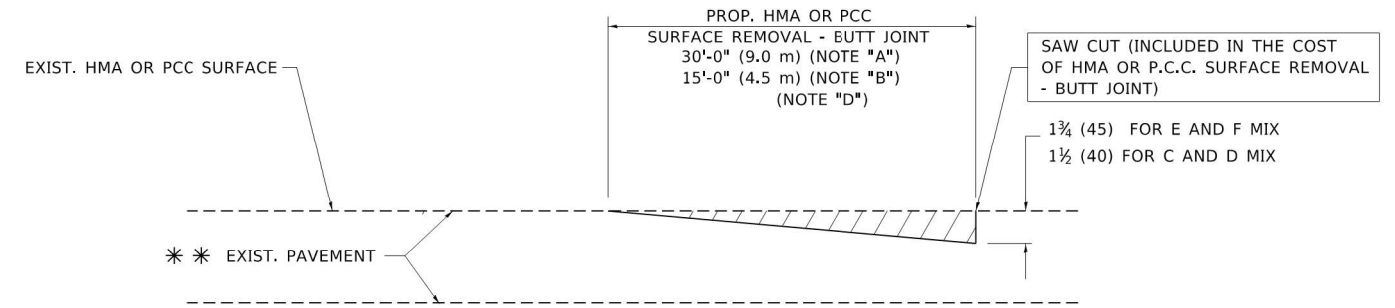


**HMA CONSTRUCTED TEMPORARY RAMP**

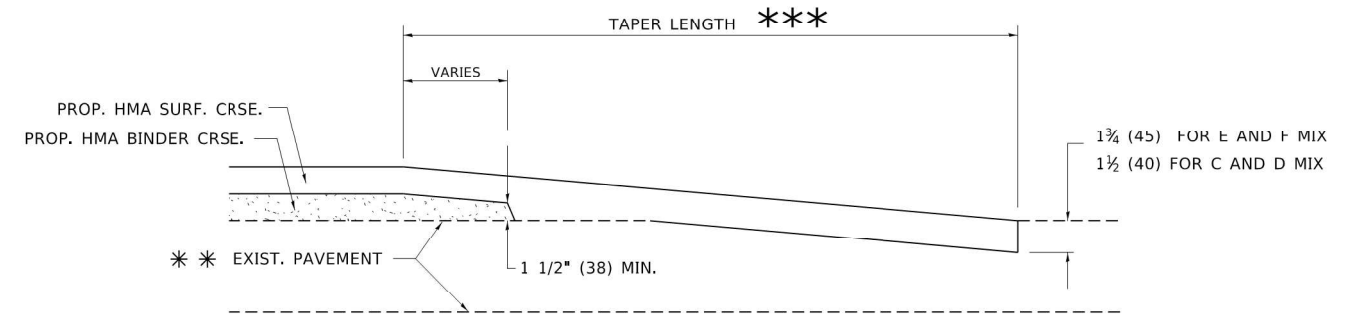
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

**OPTION 2**

**TYPICAL TEMPORARY RAMP**



**BUTT JOINT DETAIL**



**HMA TAPER DETAIL**

**TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY**

\*\*\* PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

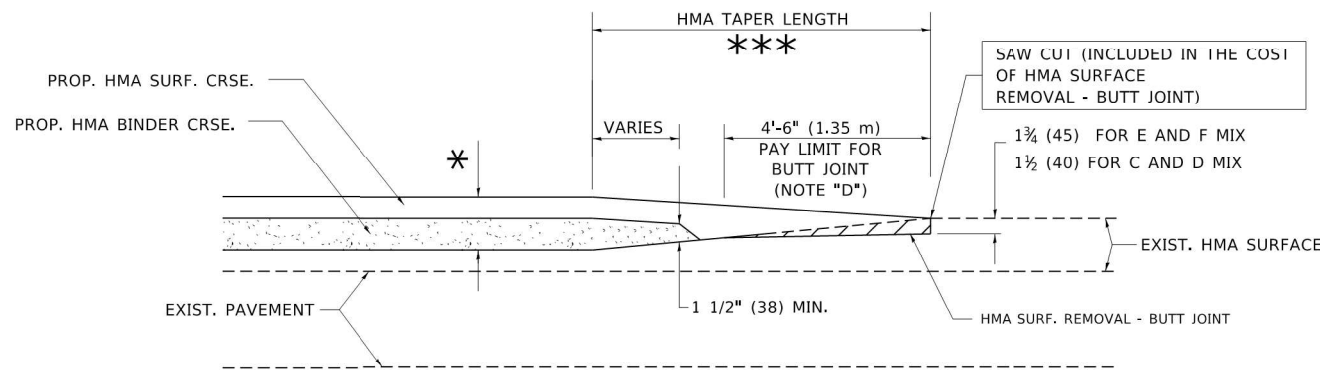
**NOTES**

- A. MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B. MINOR SIDE ROADS.
- C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E. TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F. INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT.  
\* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- G. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".  
\*\*\* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")  
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

**BASIS OF PAYMENT**

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.



**BUTT JOINT AND HMA TAPER**

**TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING**

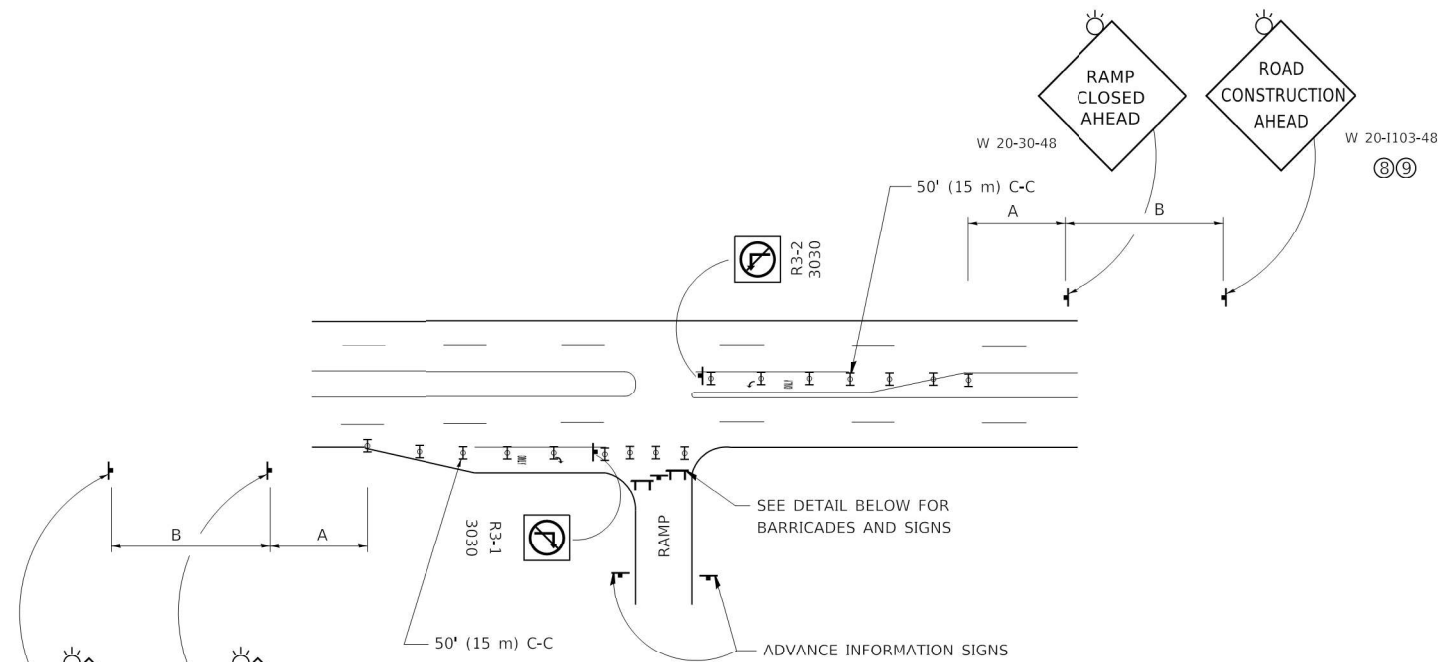
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND  
HMA TAPER DETAILS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1482
BD400-05 BD32		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				

USER NAME = footemj	DESIGNED - M. DE YONG	REVISED - R. SHAH 10-25-94
PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED - A. ABBAS 03-21-97
PLOT DATE = 3/27/2019	CHECKED -	REVISED - M. GOMEZ 04-06-01
	DATE - 06-13-90	REVISED - R.BORO 01-01-07

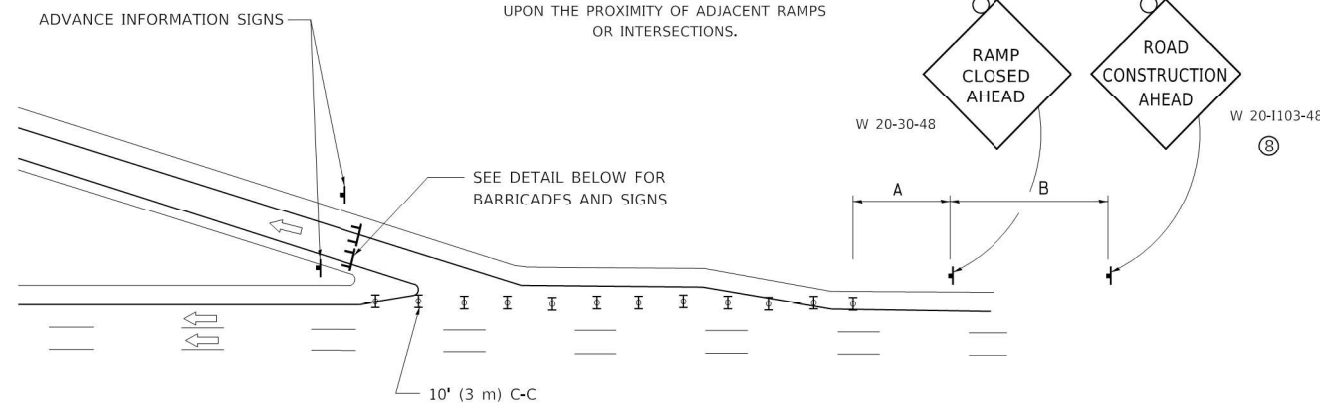
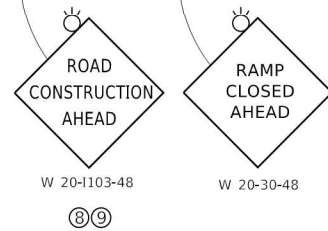


**ENTRANCE RAMP CLOSURE**

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

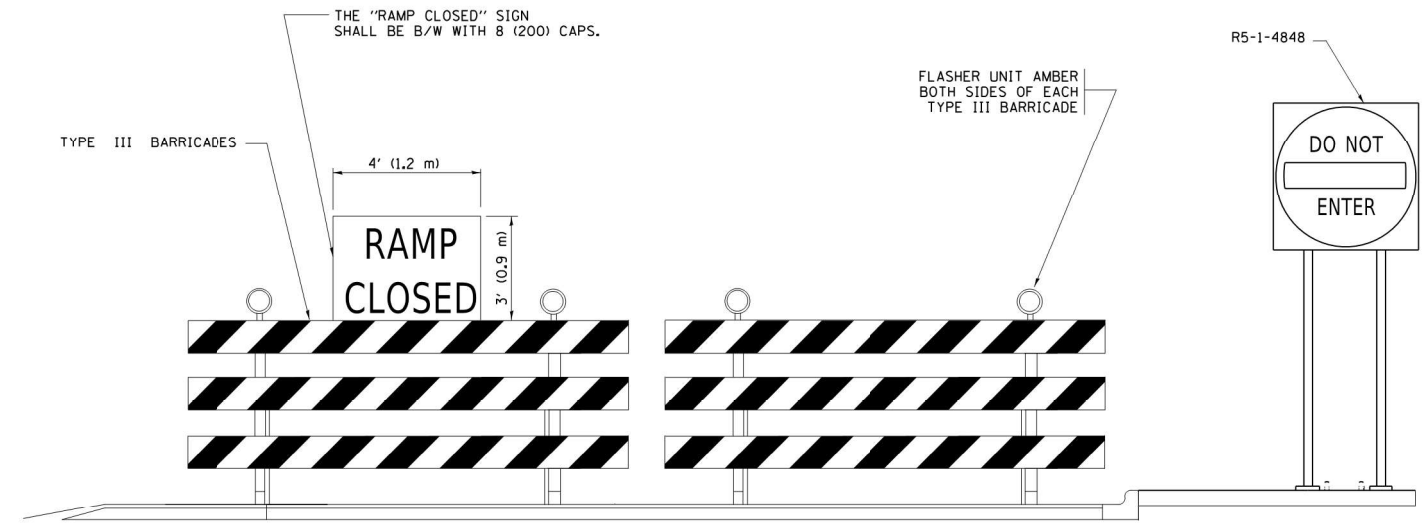
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



**EXIT RAMP CLOSURE**

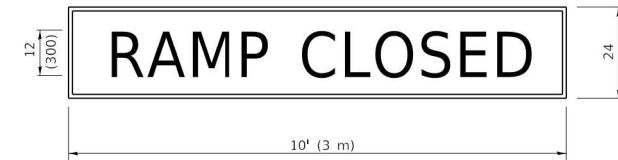
**SYMBOLS**

- ▬ TYPE II BARRICADE OR DRUM
- ▬ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



**DETAIL FOR REQUIRED BARRICADES & SIGNS**

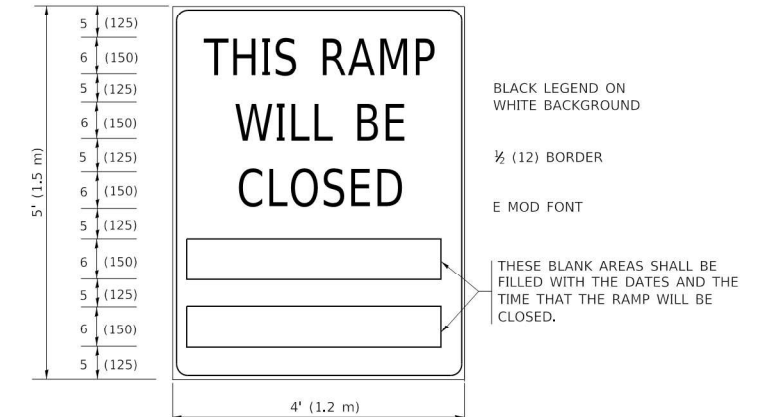
**RAMP CLOSURE ADVANCE WARNING SIGN**



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY E MOD FONT 1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

**RAMP CLOSURE ADVANCE INFORMATION SIGN**



BLACK LEGEND ON WHITE BACKGROUND

1/2 (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

**GENERAL NOTES:**

- 1 CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- 2 VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- 3 A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- 4 ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- 5 THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- 6 AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- 7 THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH.
- 8 ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- 9 ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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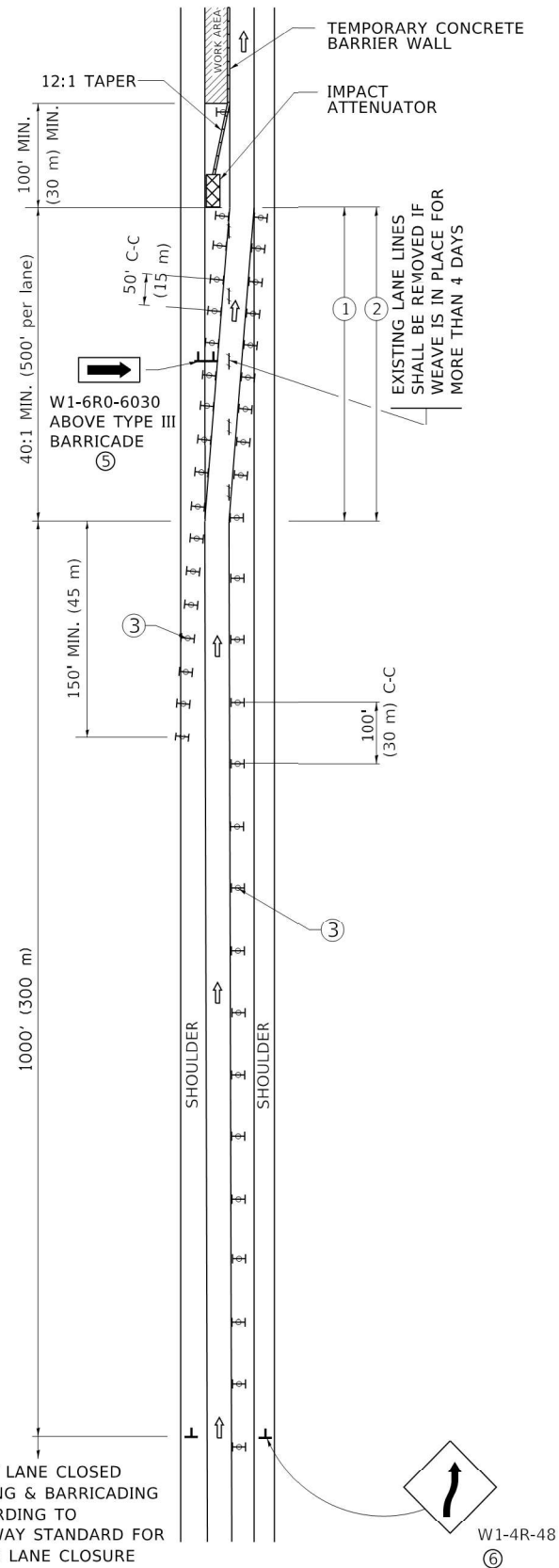
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP  
CLOSURE DETAILS**

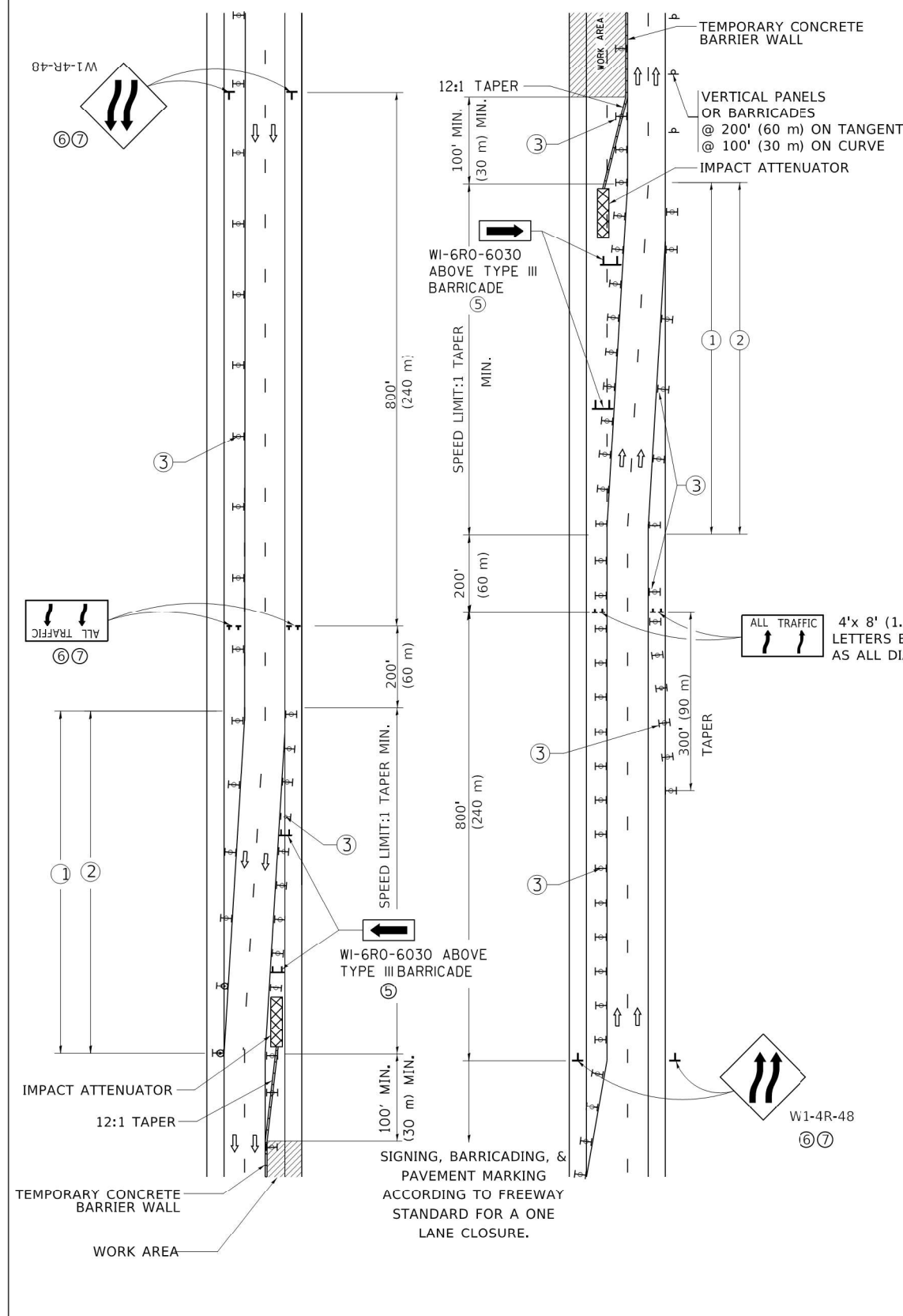
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1483
<b>TC-08</b>			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

# SINGLE LANE WEAVE



# MULTI-LANE WEAVE



### GENERAL NOTES:

- ① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- ② CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- ③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ⑤ TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- ⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- ⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

### SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48
- W24-1-48

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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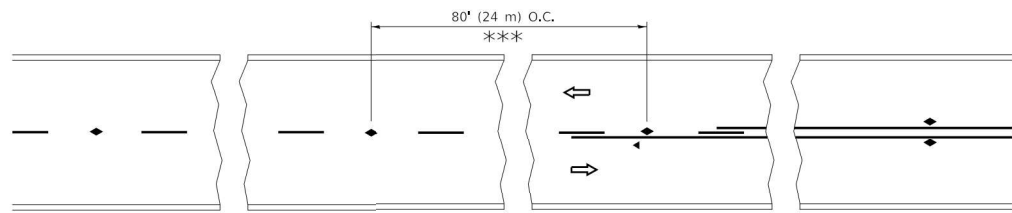
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PLOT DATE = 3/4/2019	DATE - 02-87	REVISED - M.D. 06-13

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR  
FREEWAY SINGLE & MULTI-LANE WEAVE

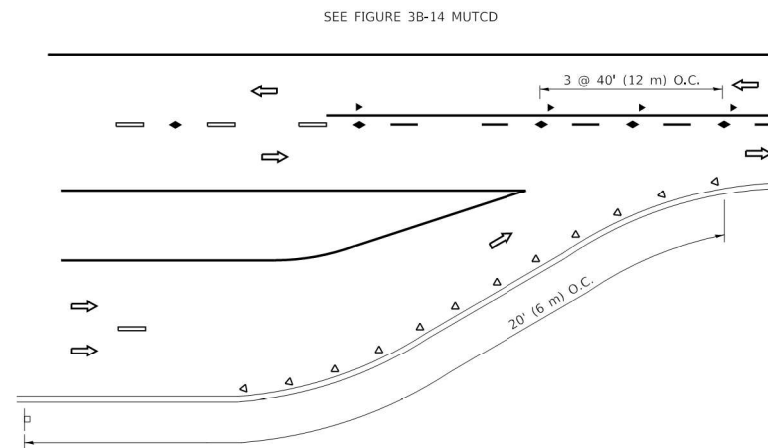
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-09		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				

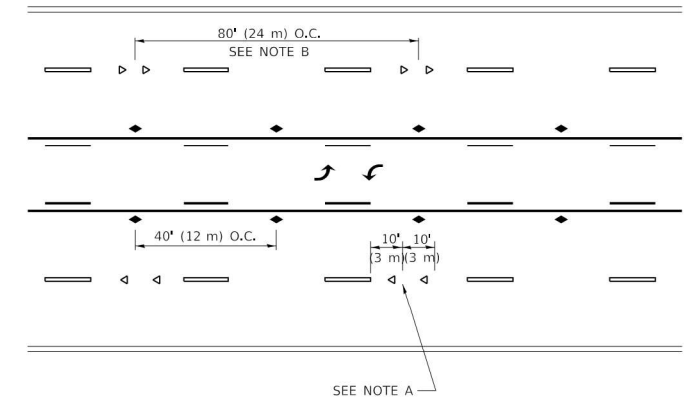


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

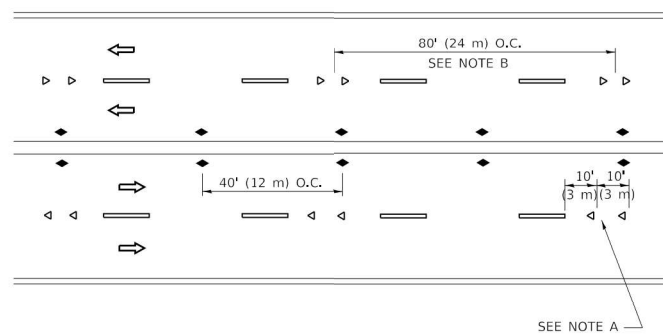
### TWO-LANE/TWO-WAY



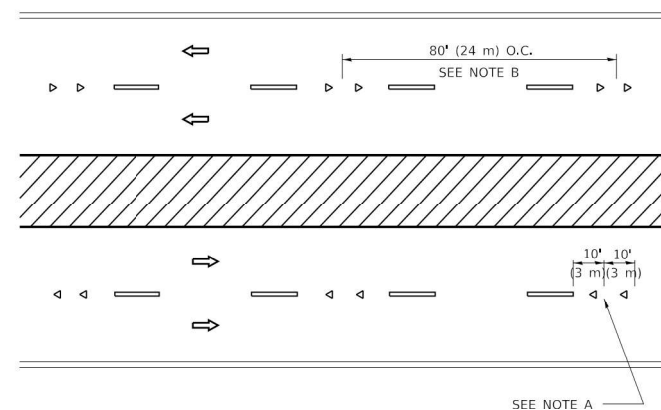
### LANE REDUCTION TRANSITION



### TWO-WAY LEFT TURN



### MULTI-LANE/UNDIVIDED



### MULTI-LANE/DIVIDED

### GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

### SYMBOLS

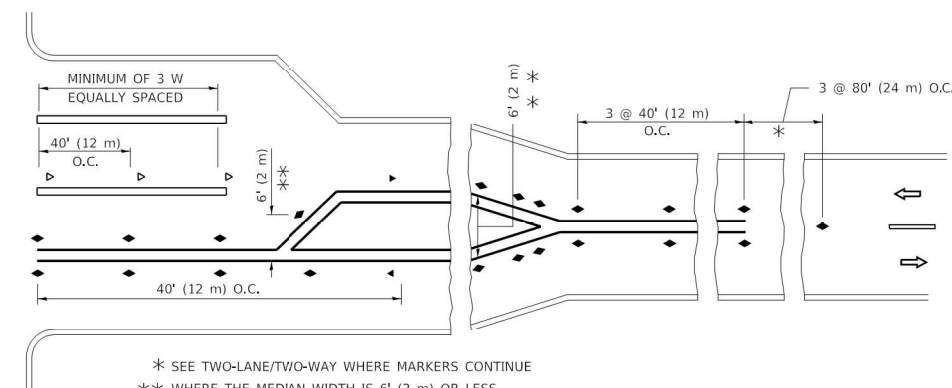
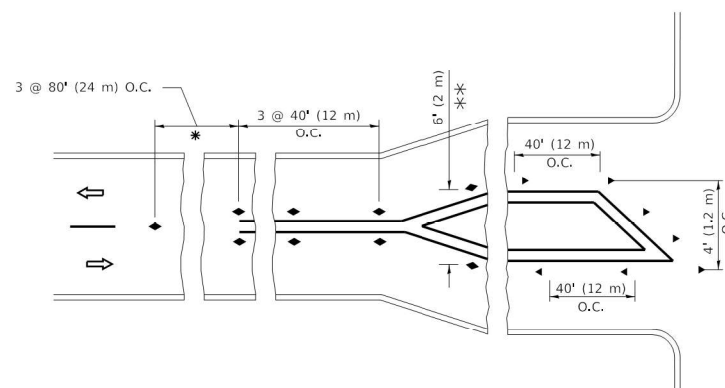
- YELLOW STRIPE
- WHITE STRIP
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

### LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

### DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

### TURN LANES

All dimensions are in inches (millimeters) unless otherwise shown.

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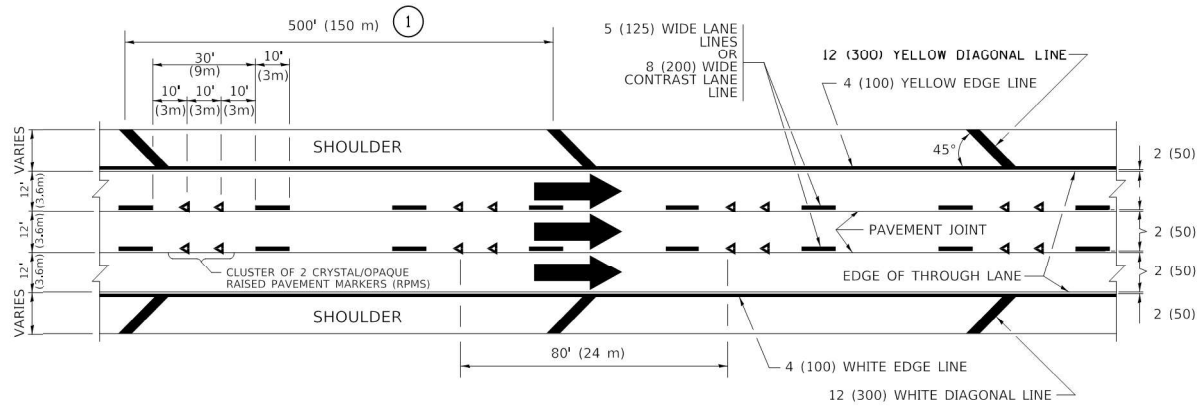
### STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

### TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-11		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				

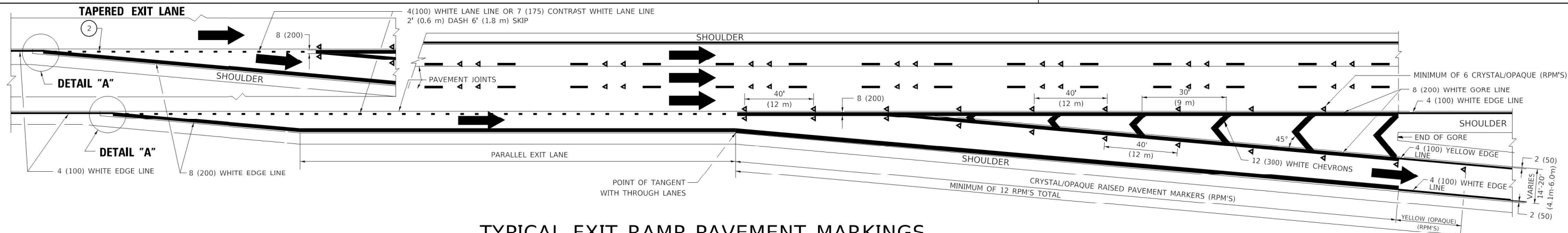




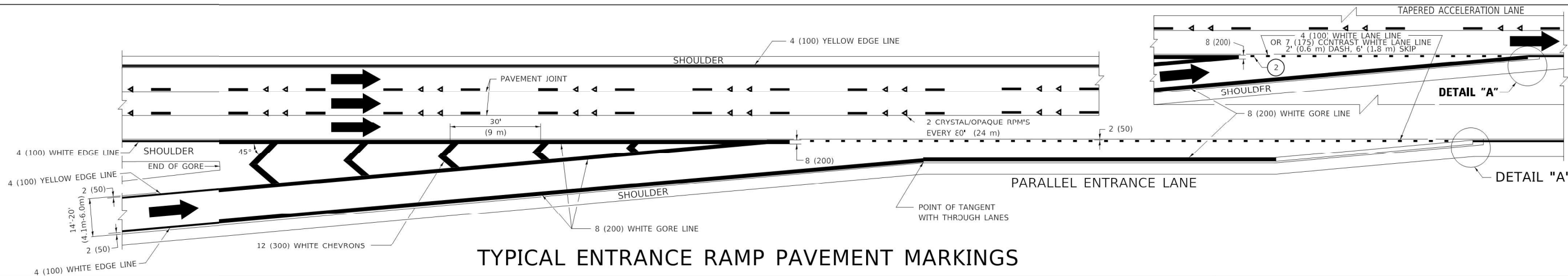
TYPICAL EDGE LINES & LANE LINES

**PAVEMENT MARKING MATERIALS**

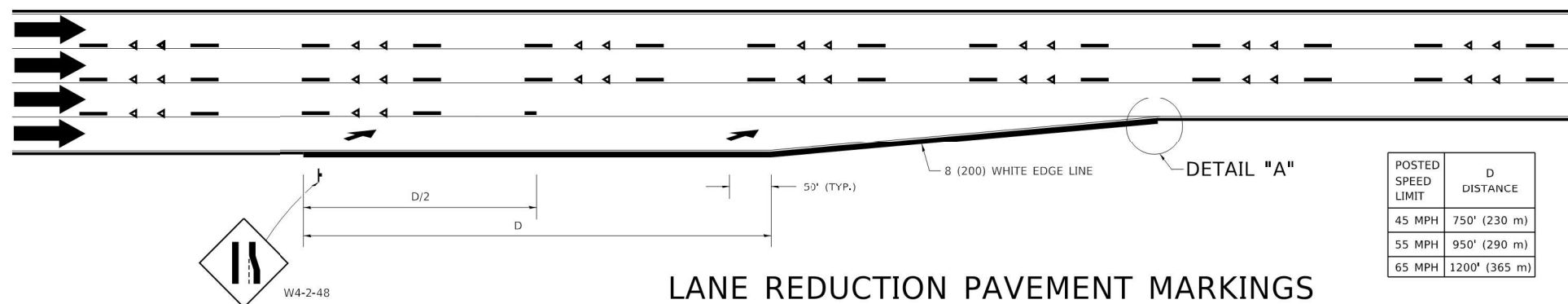
1. THERMOPLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON HMA PAVEMENTS.
2. POLYUREA OR MODIFIED URETHANE PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON PCC PAVEMENTS.
3. PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, INLAID OR GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON HMA PAVEMENTS.
4. CONTRAST PREFORMED PLASTIC PAVEMENT MARKING LINE TYPE B, GROOVE IN, SHALL BE USED FOR ALL LANE LINES ON PCC PAVEMENT.



TYPICAL EXIT RAMP PAVEMENT MARKINGS

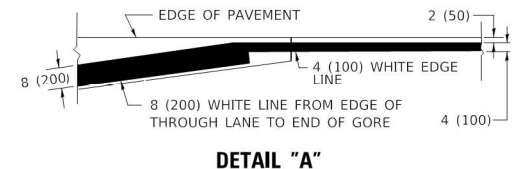


TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



LANE REDUCTION PAVEMENT MARKINGS

POSTED SPEED LIMIT	D DISTANCE
45 MPH	750' (230 m)
55 MPH	950' (290 m)
65 MPH	1200' (365 m)



- NOTES:**
1. THE DIAGONAL LINES SHALL BE SPACED AT 40' (12 m) C-C ACROSS ALL STRUCTURES WHICH ARE 500' (150 m) OR LESS IN LENGTH. THE DIAGONAL LINES ARE NOT REQUIRED ON SHOULDERS WHICH ARE 6' (1.8 m) OR LESS IN WIDTH.
  2. 4" (2' DASH, 6' SKIP) MARKING ON TAPERED ENTRANCE AND EXIT RAMP SHALL BE OMITTED ON TANGENT SECTIONS.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

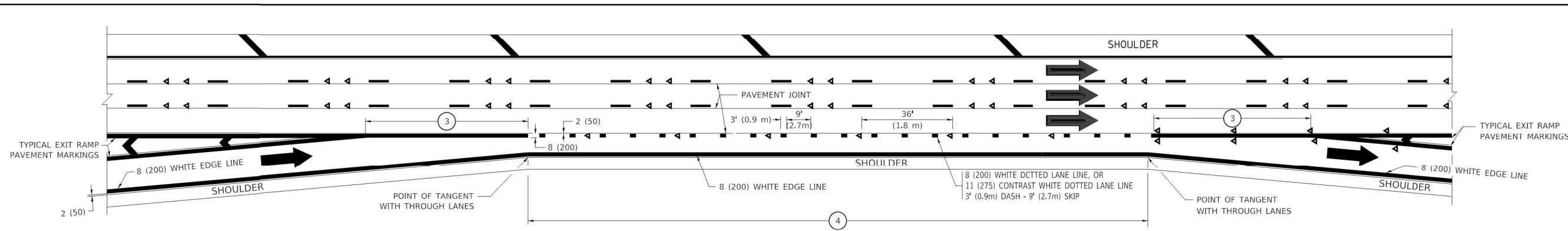
MULTI-LANE FREEWAY  
PAVEMENT MARKING DETAILS

SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

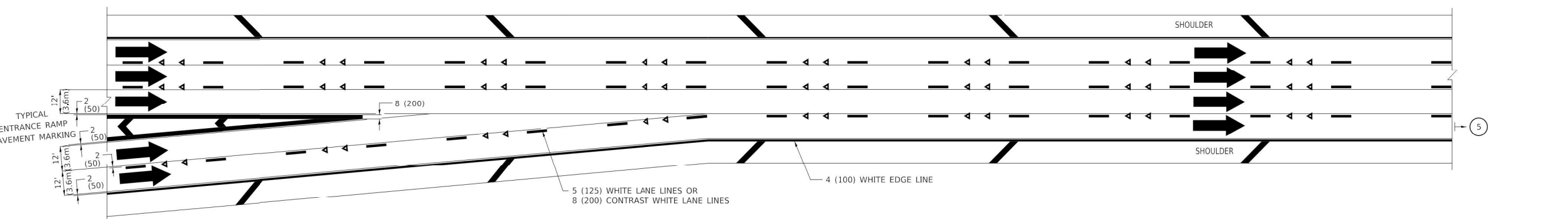
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ILLINOIS FED. AID PROJECT				

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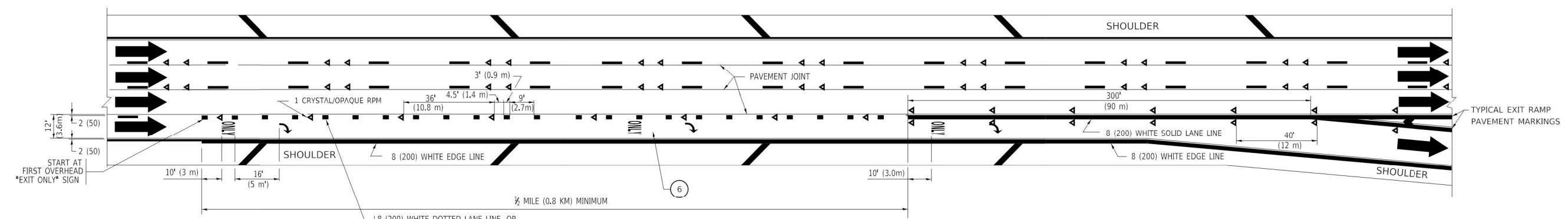




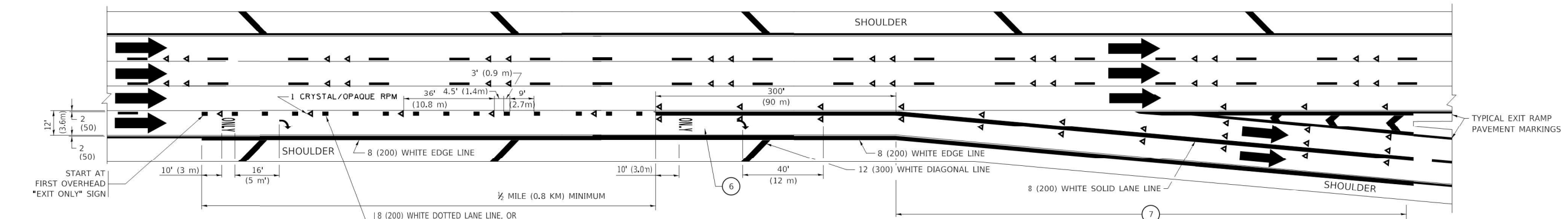
AUXILIARY LANE MARKINGS



TWO LANE ENTRANCE RAMP WITH MERGE MARKINGS



EXIT ONLY LANE MARKINGS



EXIT ONLY WITH OPTION LANE MARKINGS

- NOTES:**
- 3 OMIT WHEN LENGTH OF AUXILIARY LANE IS LESS THAN 500' (150 m).
  - 4 8-INCH WIDE DOTTED LANE LINE MARKINGS SHALL BE USED WHEN THE LENGTH OF THE AUXILIARY LANE IS 2 MILES OR LESS.
  - 5 FOR TWO-LANE ENTRANCE RAMP, IF RIGHT LANE ENDS, USE TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS.
  - 6 ONLY AND ARROWS EQUALLY SPACED, 500' (150 m) MAXIMUM SPACING. FULL SIZE LETTERS AND ARROW SHALL BE USED.
  - 7 CONTINUE 8" SOLID LANE LINE THROUGH EXIT TO END OF PAVED GORE.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

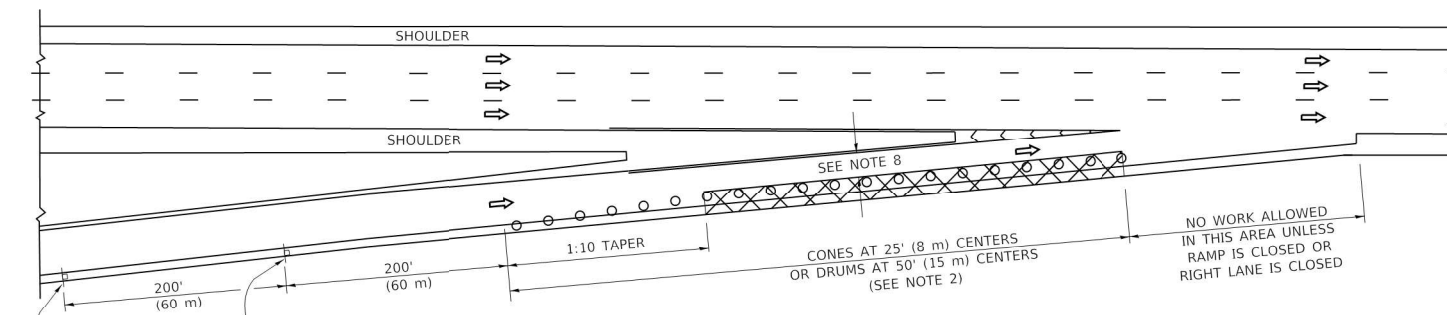
MULTI-LANE FREEWAY  
PAVEMENT MARKING DETAILS

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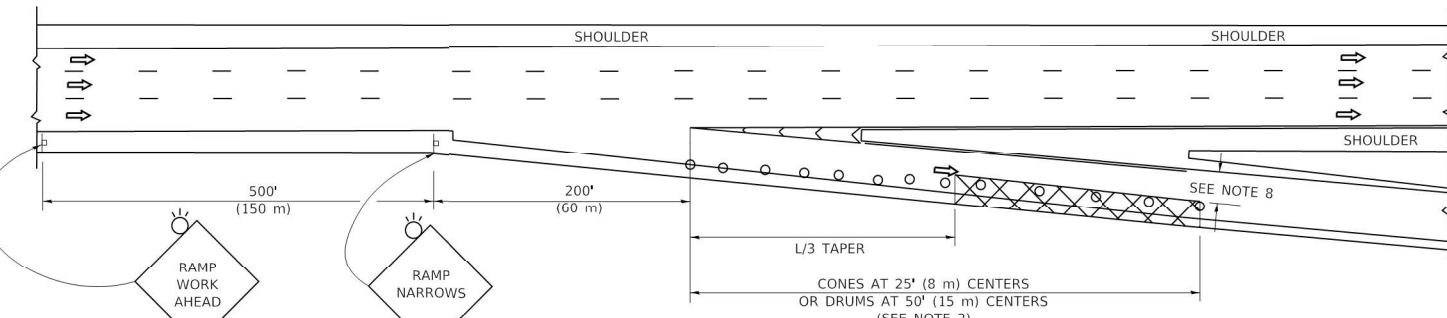
F.A. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1487
TC-12		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				



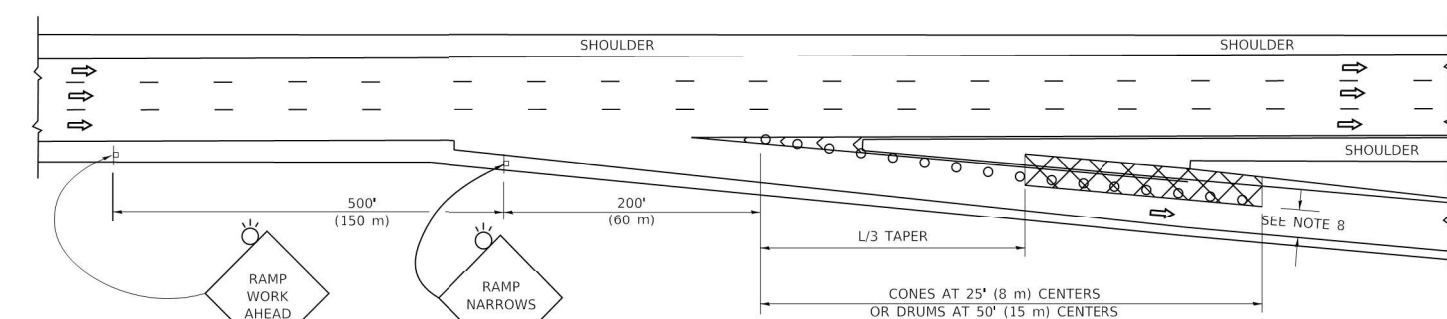
**PARTIAL RAMP CLOSURE DETAILS**



**TYPICAL ENTRANCE RAMP**



**TYPICAL EXIT RAMP**



**TYPICAL EXIT RAMP**

**SYMBOLS**

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

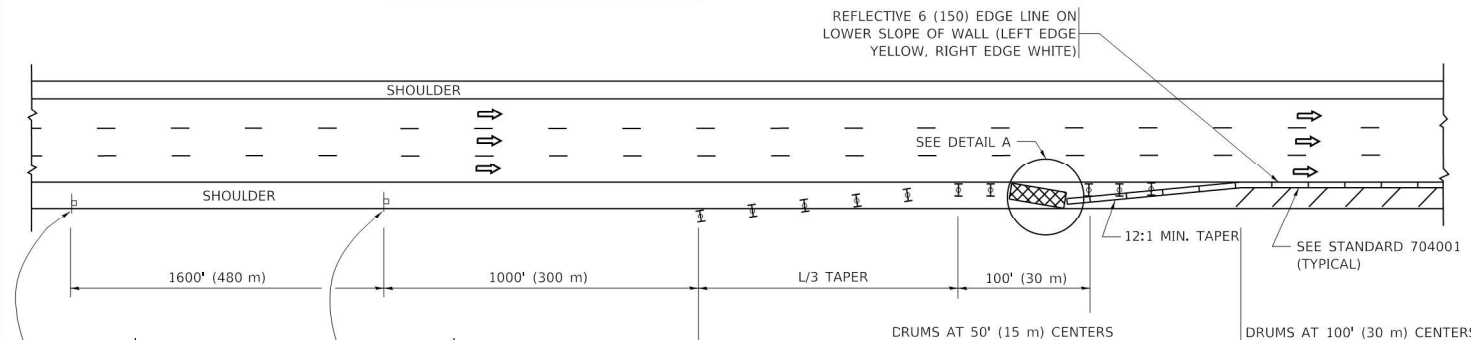
**GENERAL NOTES:**

- THE "L" DISTANCE EQUALS:  

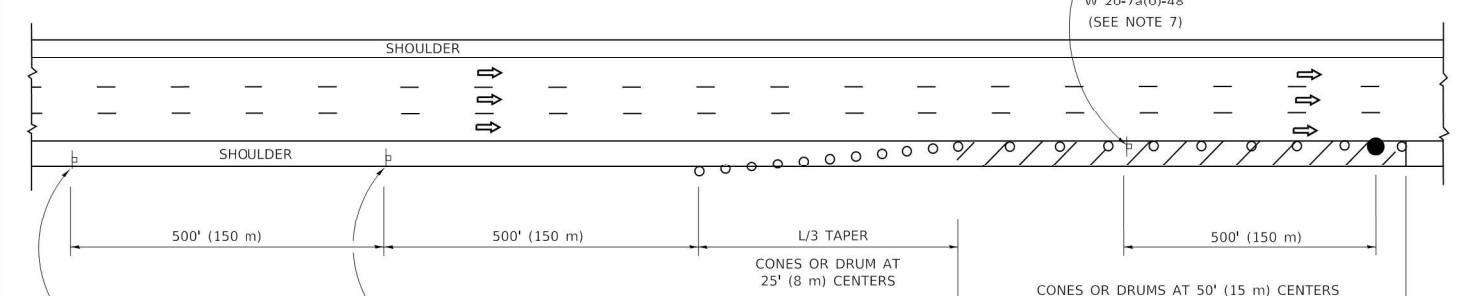
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45 mph (60 km/h) OR GREATER:	METRIC ENGLISH
	$L = 0.65(W)(S)$ $L = (W)(S)$

W = WIDTH OF OFFSET IN FEET (METERS)  
 S = NORMAL POSTED SPEED MPH (KM/H)
- TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDOUS EXCAVATIONS 100 FT (30m) IN LENGTH AT NIGHT.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

**SHOULDER CLOSURE DETAILS**



**PERMANENT SHOULDER CLOSURE**



**DAYTIME SHOULDER CLOSURE**

THIS DETAIL IS USED WHERE:  
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCR OACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350/MASH COMPLIANT.

DETAIL "A"  
 IMPACT ATTENUATOR, TEMPORARY  
 (SEE NOTE 5)

- THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
- AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
- THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
  - FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
  - THE WORK ACTIVITY REQUIRES FREQUENT ENCR OACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
- 12' MIN. WIDTH TANGENT SECTION  
 16' MIN. WIDTH CURVE SECTION.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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	DRAWN - D.W.S.	REVISED - S.P.B. 12-09
PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED - M.D. 06-13
PLOT DATE = 3/4/2019	DATE - 11-96	REVISED - M.D. 01-18

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

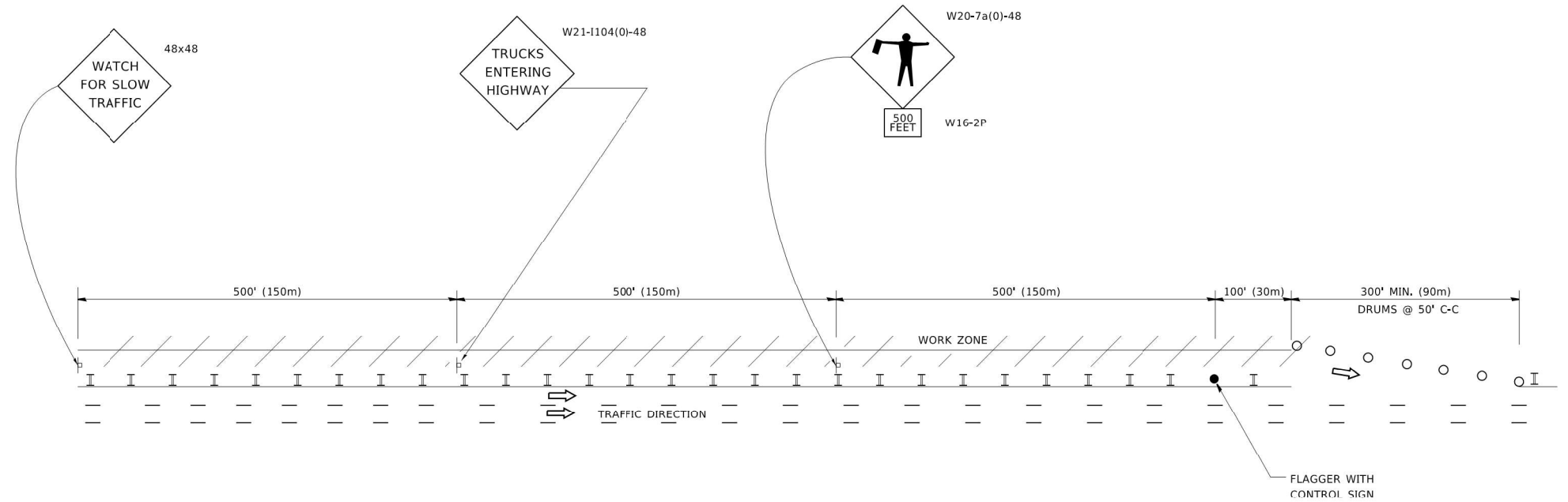
**TRAFFIC CONTROL DETAILS FOR FREEWAY  
 SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

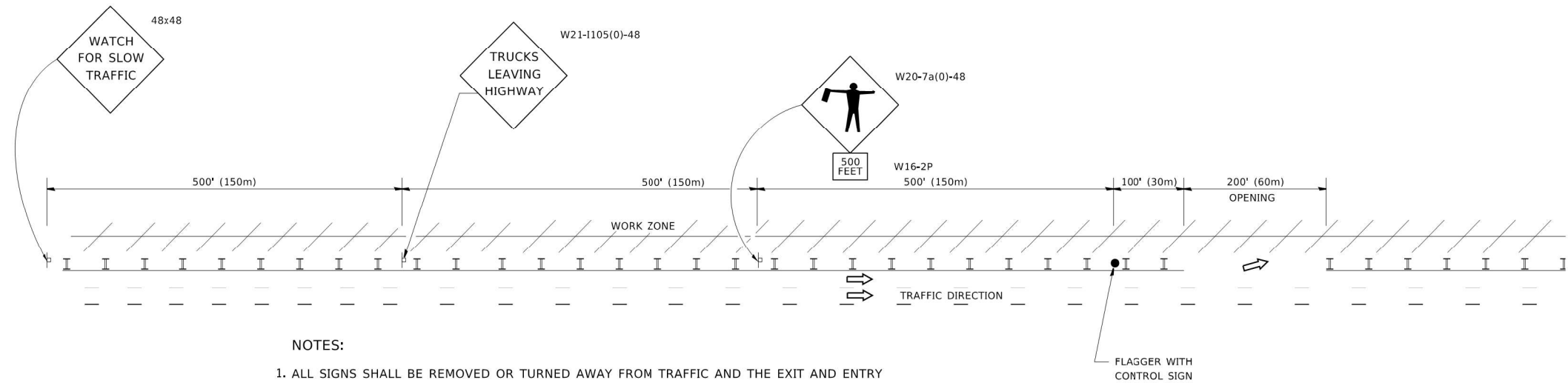
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1489
TC-17		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				

SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

**WORK ZONE EXIT OPENING**



**WORK ZONE ENTRY OPENING**



**NOTES:**

1. ALL SIGNS SHALL BE REMOVED OR TURNED AWAY FROM TRAFFIC AND THE EXIT AND ENTRY OPENINGS SHALL BE CLOSED WHEN THE FLAGGING OPERATION CEASES. NON OPERATING EQUIPMENT SHALL COMPLY WITH ARTICLE 701.11
2. WORK ZONE OPENINGS SHALL BE A MINIMUM OF ONE HALF MILE APART AND A MINIMUM OF ONE QUARTER MILE FROM ALL ENTRANCE AND EXIT RAMP.
3. EXITING THE WORK ZONE AT ANY PLACE OTHER THAN AT A WORK ZONE EXIT OPENING WILL BE PROHIBITED.
4. ALL VEHICLES SHALL ENTER THE WORK ZONE AT ENTRY OPENINGS, USING THEIR TURN SIGNALS TO WARN MOTORISTS
5. FLAGGERS SHALL NOT STOP TRAFFIC OR DIRECT TRAFFIC INTO AN ADJACENT LANE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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	DATE -	REVISED - M.D.06-13

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**FREEWAY /EXPRESSWAY SIGNING FOR FLAGGING OPERATIONS  
AT WORK ZONE OPENINGS ON FREEWAYS /EXPRESSWAYS**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	1492	1490
<b>TC-18</b>			CONTRACT NO. 62K74	
ILLINOIS FED. AID PROJECT				

MODEL: D:\default...  
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**ROUTE MARKERS**

FOR U.S. ROUTES  
M1-40-2424

FOR ILLINOIS ROUTES  
M1-50-05-14

**MAIN STREET**  
R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND

**ARROWS SIGNS**

M5-1L-2115

M5-1R-2115

M6-1-2115

M6-2-2115

**CARDINAL DIRECTION & DETOUR SIGNS**

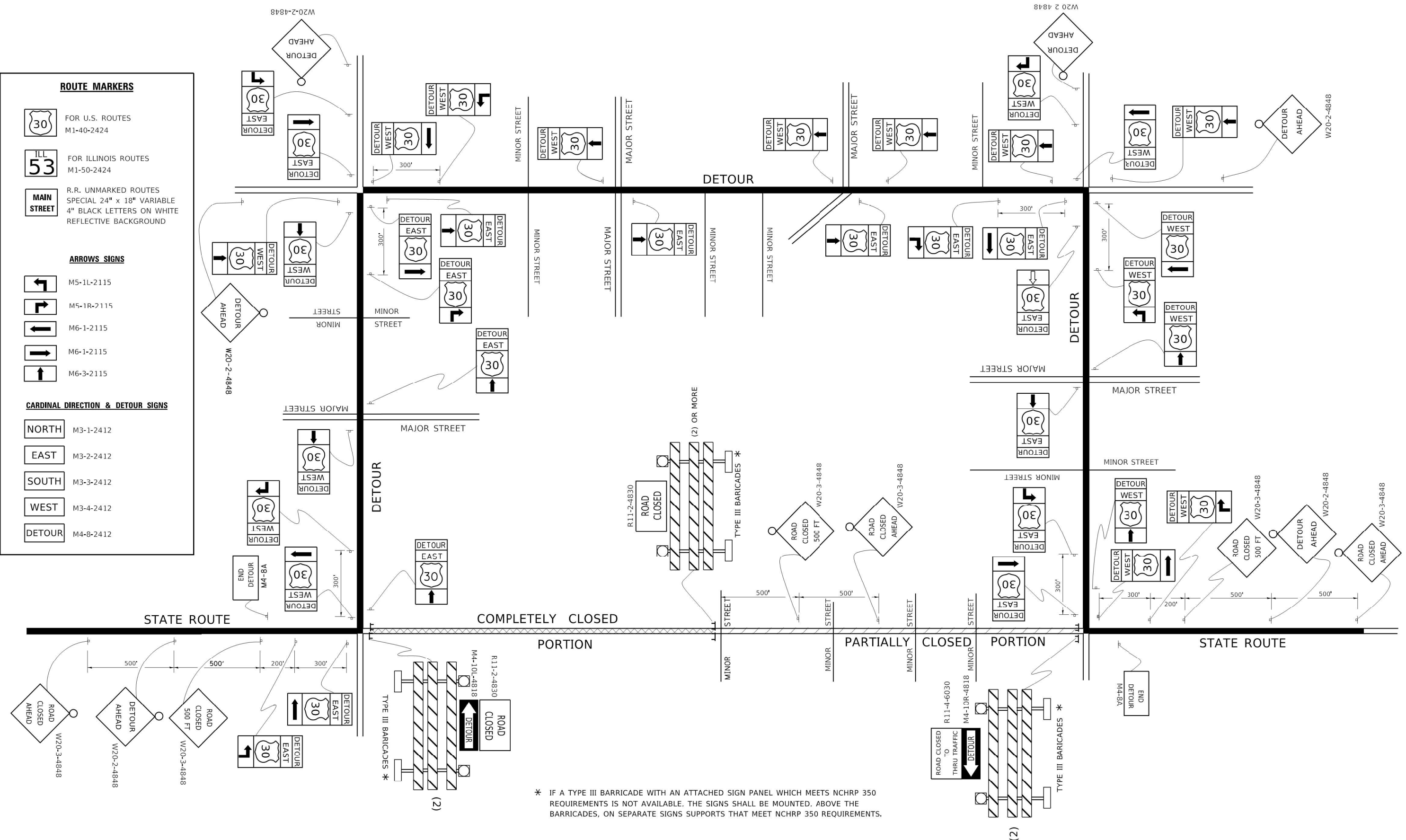
**NORTH** M3-1-2412

**EAST** M3-2-2412

**SOUTH** M3-3-2412

**WEST** M3-4-2412

**DETOUR** M4-8-2412



\* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

USER NAME = footemj	DESIGNED -	REVISED - 10-18-02
PLOT SCALE = 50.0000' / in.	DRAWN -	REVISED - R. BORO 09-14-09
PLOT DATE = 3/4/2019	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DETOUR SIGNING FOR CLOSING STATE HIGHWAYS</b>	
SCALE: NONE	SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 1492	SHEET NO. 1491
<b>TC-21</b>		CONTRACT NO. 62K74		
ILLINOIS FED. AID PROJECT				

