

Existing Structure: SN 016-0116 was originally built in 1958. 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 321'-3³/₄" and an out-to-out deck width of 83'-2". The superstructure consists of a 7¹/₂" thick reinforced concrete deck supported on three span continuous steel girders of span lengths 85'-7", 142'-7" and 85'-7". The substructure consists of reinforced concrete abutments and piers supported on piles.

Traffic is to be maintained utilizing stage construction.

No Salvage.

LOADING

No Future Wearing Surface Allowed

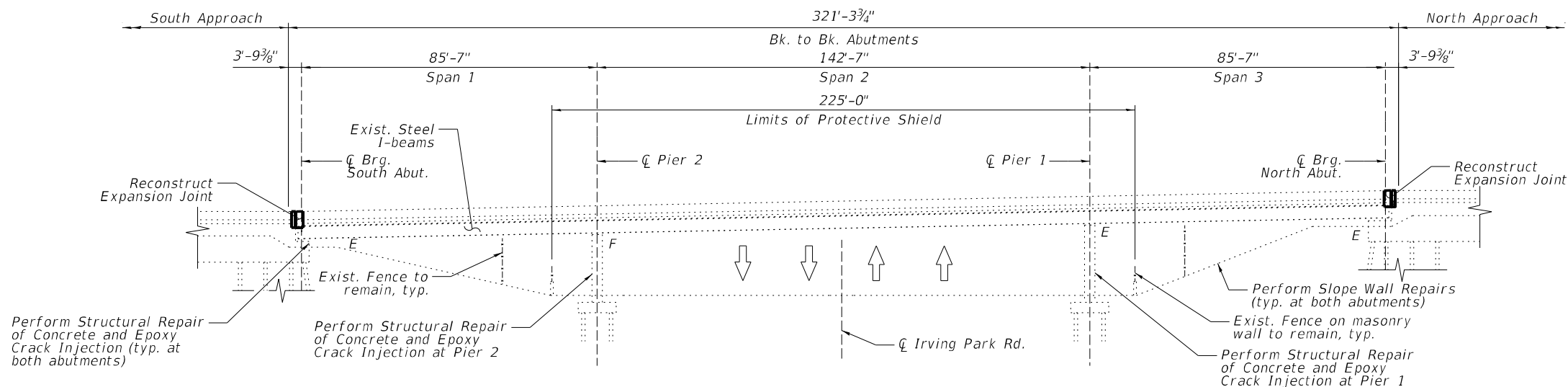
DESIGN SPECIFICATIONS

Current Project:
2002 AASHTO Standard Specifications
for Highway Bridges, 17th Edition

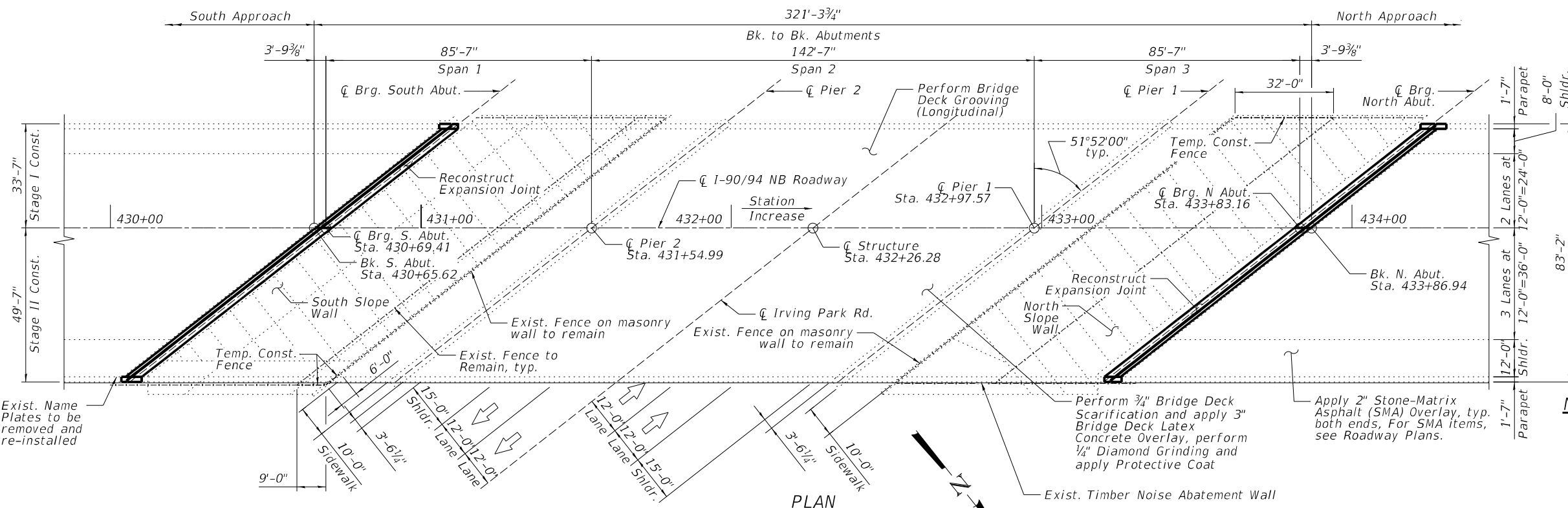
Reconstruction, 1993:
AASHTO (1983) with Interim
Specifications, AASHTO 1992 Standard
Specification for Highway Bridges

NOTE:

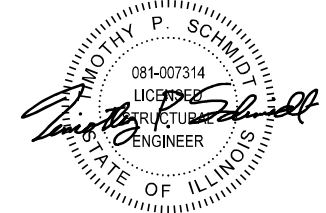
1. All stations are to the CL I-90/94 NB
Roadway and taken from existing plans.



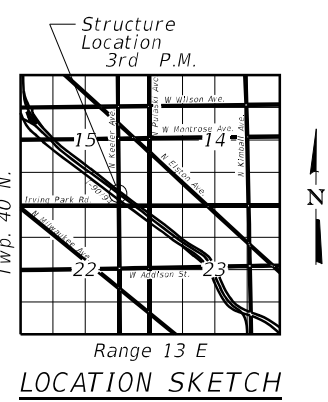
ELEVATION



PLAN



EXPIRATION DATE 11-30-2024
DATE: 4/29/2024



GENERAL PLAN AND ELEVATION
NB I-90/94 OVER IRVING PARK RD.
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION 432+26.28
S.N. 016-0116 (NB)

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Alfred Benesch & Company
35 West Wacker Drive, Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 10805.02

USER NAME = ksnider	DESIGNED - KMS	REVISED -
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PLOT SCALE = NA	CHECKED - TPS	REVISED -
PLOT DATE = 4/30/2024		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-0116 (NB)

SHEET S17-01 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	801
CONTRACT NO. 62K73				

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.
- Existing Structural steel that will be in contact with new structural steel be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- All new structural steel shall be hot-dip galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel".
- No field welding is permitted except as specified in the contract documents.
- Fasteners shall be ASTM A325 Type 1 bolts, galvanized according to ASTM F 2329. Bolts 3/4", open holes 13/16", unless otherwise noted.
- The adjacent CTA Tracks are 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 completions 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 included 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 construction chain-link-fence.
- The intent of the temporary construction 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.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft. of the abutment backwall. 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. See Special Provision for Debris Removal.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	---	3	3
Concrete Removal	Cu Yd	44.2	---	44.2
Slope Wall Removal	Sq Yd	---	10	10
Protective Shield	Sq Yd	2,080	---	2,080
Concrete Superstructure	Cu Yd	49.5	---	49.5
Protective Coat	Sq Yd	3,134	---	3,134
Furnishing and Erecting Structural Steel	Pound	773	---	773
Reinforcement Bars, Epoxy Coated	Pound	7,350	---	7,350
Bar Splicers	Each	32	---	32
Slope Wall 4 Inch	Sq Yd	---	10	10
Preformed Joint Strip Seal	Foot	264	---	264
Concrete Sealer	Sq Ft	---	1,351	1,351
Epoxy Crack Injection	Foot	---	30	30
Slope Wall Crack Sealing	Foot	---	14	14
Protective Netting	Sq Yd	3,010	---	3,010
Removal of Protective Netting	Sq Yd	3,010	---	3,010
Bridge Deck Grooving (Longitudinal)	Sq Yd	2,105	---	2,105
Protect and Maintain Existing Underpass Luminaire	L Sum	---	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	58	---	58
Approach Slab Repair (Partial Depth)	Sq Yd	58	---	58
Structural Steel Removal	Pound	615	---	615
Beam Straightening	L Sum	1	---	1
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,757	---	2,757
Bridge Deck Scarification 3/4"	Sq Yd	2,757	---	2,757
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	---	129	129
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	---	12	12
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1	---	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	11	---	11
Diamond Grinding (Bridge Section)	Sq Yd	2,701	---	2,701
Temporary Construction Fence	Foot	---	47	47
Temporary Shoring and Cribbing	Each	---	1	1
Locks For Gates	Each	---	4	4

SCOPE OF WORK

- Provide Protective shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform Deck Slab Repairs.
- Reconstruct Expansion Joints at the South and North Abutments and install new preformed joint strip seals.
- Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the approach slabs, see Road 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.
- Remove and replace existing web stiffeners on Girder 1 shown on the plans.
- Remove and replace existing diaphragms and diaphragm connections as shown on the plans.
- Perform beam straightening for Girder 1 within the limits shown on the plans.
- Perform structural concrete repairs for the abutments and piers as noted on the plans.
- Perform Slope Wall repairs.

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S17-07	Deck Repair Plan
S17-08	S. Abut. Joint Removal & Replacement (Sht. 1 of 5)
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S17-13	N. Abut. Joint Removal & Replacement (Sht. 1 of 5)
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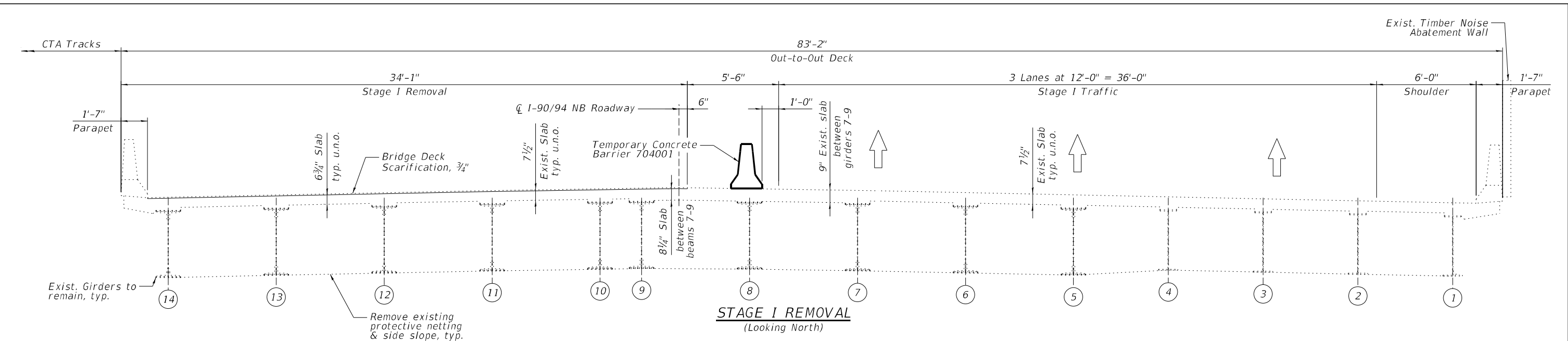
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DEPARTMENT OF TRANSPORTATION**

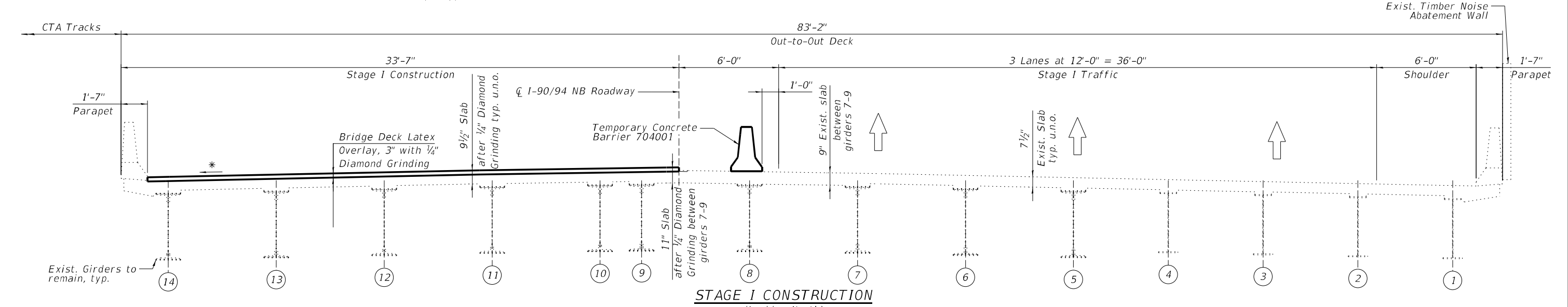
**GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-0116 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9094	1009-414-HB	COOK	908	802
CONTRACT NO. 62K73				
SHEET S17-02 OF S17-28 SHEETS		ILLINOIS FED. AID PROJECT		

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STAGE I REMOVAL
(Looking North)



STAGE I CONSTRUCTION
(Looking North)

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the east side of the existing 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 North and South Abutments.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay.
5. Perform 1/4" Diamond Grinding to bridge deck and abutment hatched block.
6. Perform Bridge Deck Grooving 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 top and inside faces of west parapet, 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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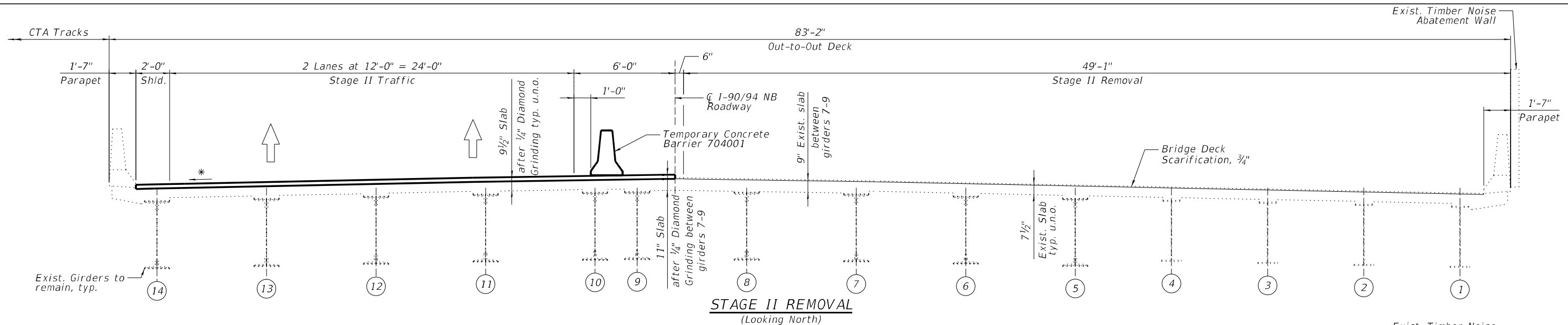
**STAGE CONSTRUCTION SHEET (1 OF 3)
 STRUCTURE NO. 016-0116 (NB)**

SHEET S17-03 OF S17-28 SHEETS

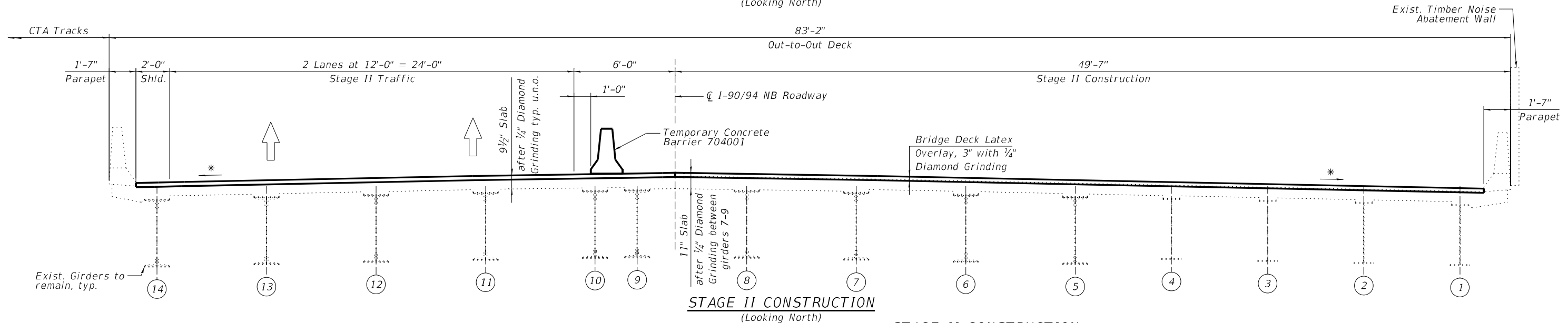
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90/94	1009-414-HB	COOK	908	803
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STAGE II REMOVAL
(Looking North)



STAGE II CONSTRUCTION
(Looking North)

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 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 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 top and inside faces of east parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Remove and replace existing web stiffeners on Girder 1 as shown on the plans.
10. Remove existing diaphragms and diaphragm connections as shown on the plans.
11. Perform beam straightening for Girder 1 within the limits shown on the plans.
12. Perform slope wall repairs as shown on the plans.
13. Re-erect the portion of the existing Timber Noise Abatement Wall removed for joint reconstruction. Refer to Removal note 2.

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. The Contractor shall remove, store, and re-erect portions of the structure mounted Timber Noise Abatement Wall that interferes with the joint reconstruction. The cost of this work, including any new hardware as required, is included in the cost of Concrete Superstructure.
3. Perform 3/4" bridge deck scarification.
4. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
5. Remove portions of bridge concrete deck/ approach slab adjacent to expansion joints at the North and South Abutments.



VIEW FROM DECK



VIEW FROM IRVING PARK ROAD

EXIST. TIMBER NOISE ABATEMENT WALL PHOTOS

*Match existing cross slopes

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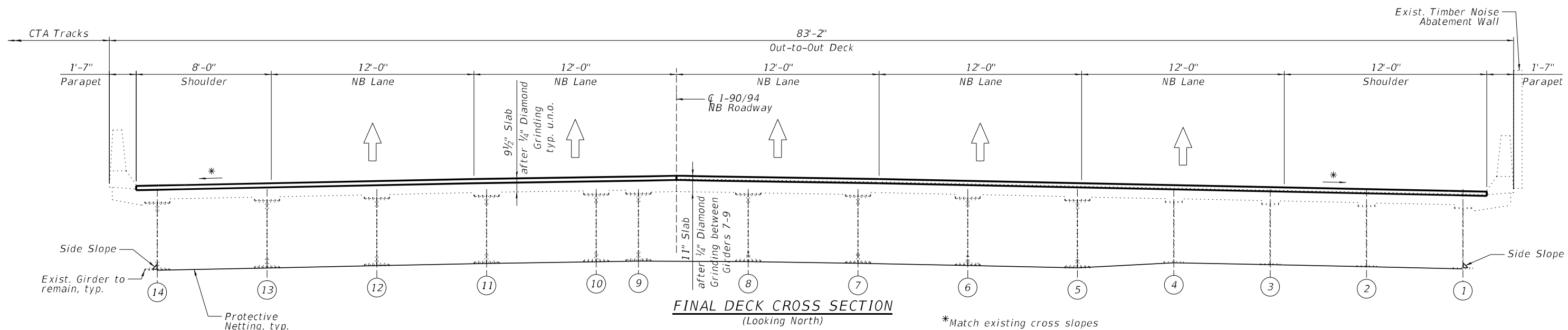
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION SHEET (2 OF 3)
 STRUCTURE NO. 016-0116 (NB)**

SHEET S17-04 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	804
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

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FINAL DECK CROSS SECTION
 (Looking North)

*Match existing cross slopes

PROTECTIVE NETTING NOTES:

1. Protective netting shall begin/end 5 feet from the beam ends near the abutments and fold up towards the bottom of the bridge deck. Protective netting shall extend across the slopewalls, sidewalks and Irving Park Road.
2. The protective netting shall not be allowed to sag due to the low bridge clearance.
3. Protective netting shall be attached to the bottom flanges using clamps only. No welding will be permitted.
4. At the piers the protective netting shall extend down to the pier caps to prevent pigeons from roosting.
5. At the fascia beams a side slope shall be installed to preclude the pigeons from roosting on the outside flanges of the fascia beams. Side slopes shall extend to the full length of the beam. Note that the flanges vary in width.
6. Side slope will not be paid separately but shall be included in the cost of Protective Netting.
7. The bottom flange of the beams shall be cleaned of all debris before installing the netting and side slopes. This work will not be paid separately but shall be included in the contract unit price for the Protective Netting pay item involved and no additional compensation will be allowed.



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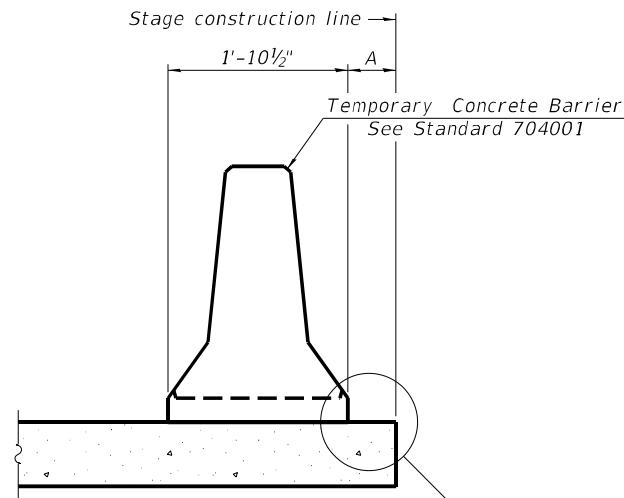
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION SHEET (3 OF 3)
 STRUCTURE NO. 016-0116 (NB)**

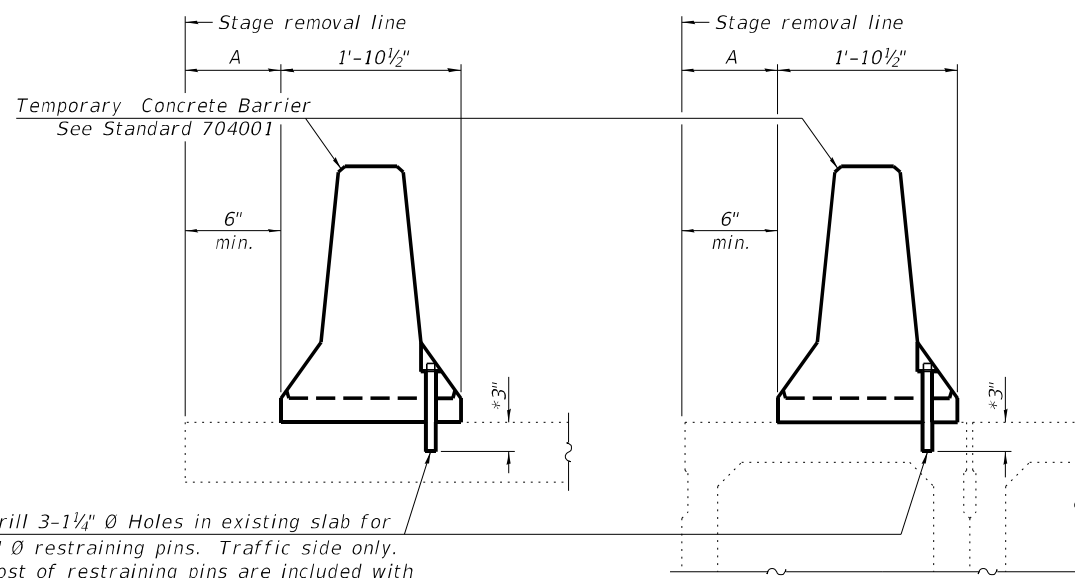
SHEET S17-05 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	805
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ILLINOIS		FED. AID PROJECT		



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

NEW SLAB OR NEW DECK BEAM

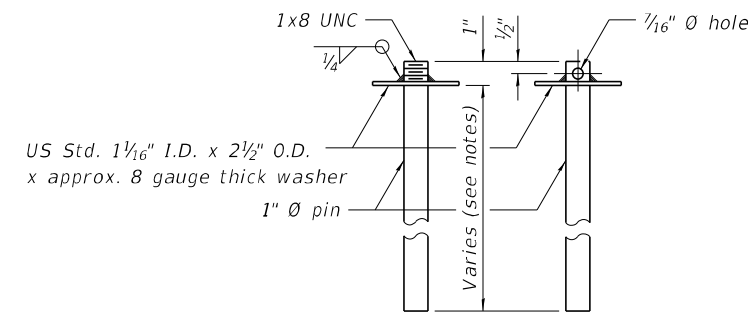


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

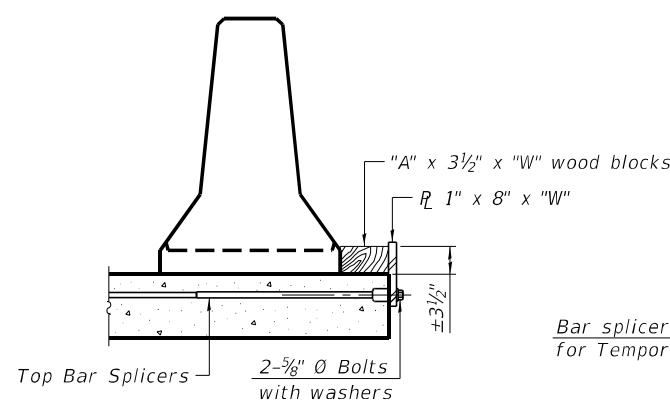
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

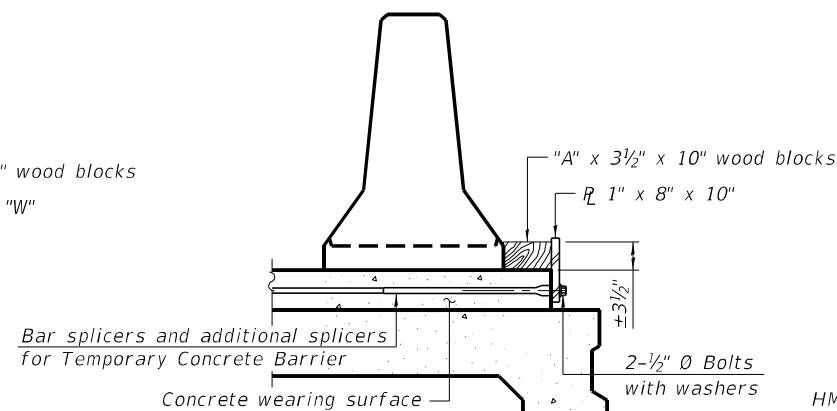


RESTRAINING PIN

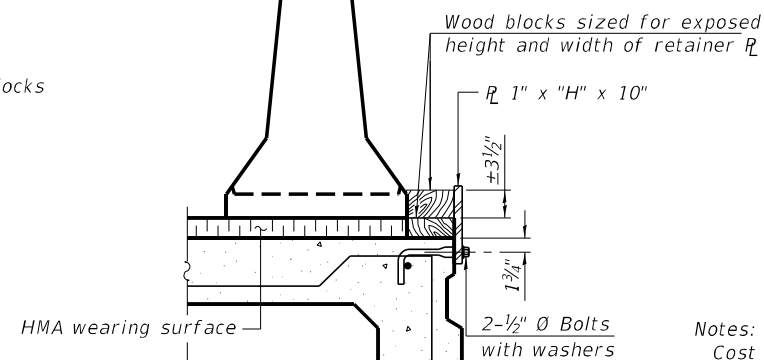
SECTIONS THRU SLAB OR DECK BEAM



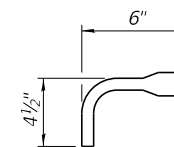
DETAIL I



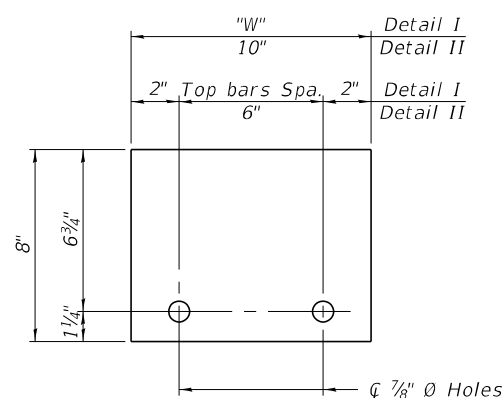
DETAIL II



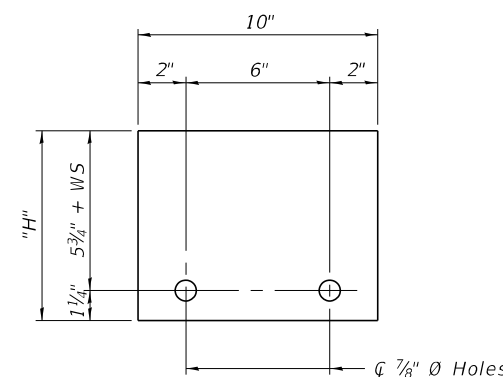
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate 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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R-27

10-12-2021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 016-0116 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	806
CONTRACT NO. 62K73				

SHEET S17-06 OF S17-28 SHEETS

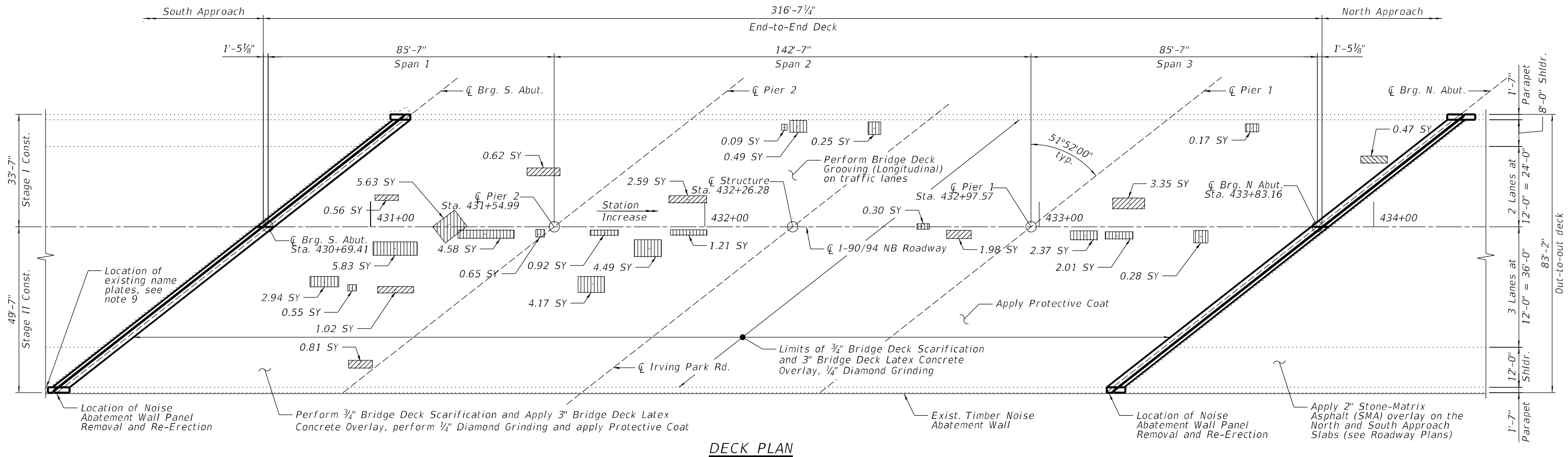
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BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	3,035
Bridge Deck Grooving (Longitudinal)	Sq Yd	2,105
Approach Slab Repair (Full Depth)	Sq Yd	58
Approach Slab Repair (Partial Depth)	Sq Yd	58
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,757
Bridge Deck Scarification 3/4"	Sq Yd	2,757
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	11
Diamond Grinding (Bridge Section)	Sq Yd	2,701



NOTES

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
2. For bridge deck final cross section, see Sheet S17-05.
3. For North and South transverse joint removal and reconstruction, see Sheets S17-08 thru S17-17.
4. Perform bridge Deck Grooving (Longitudinal) on traffic lanes.
5. Perform 1/4" diamond grinding to top of bridge deck and abutment hatched block.
6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

8. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel girders and diaphragms to remain. Any damage to the existing steel girders 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.
9. Remove, clean and re-install the existing name plates in the same location as required for parapet reconstruction and as directed by the Engineer. Cost included with Concrete Removal.
10. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of the bridge approach area) 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.

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

LEGEND

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

SY Square Yard



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35 West Wacker Drive, Suite 3300
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN
STRUCTURE NO. 016-0116 (NB)**

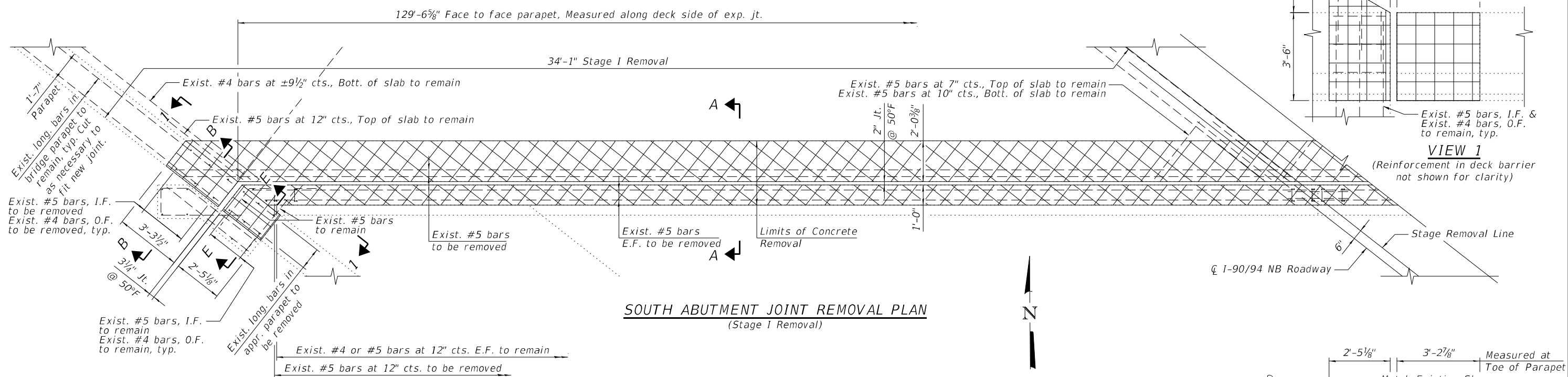
SHEET S17-07 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K73				

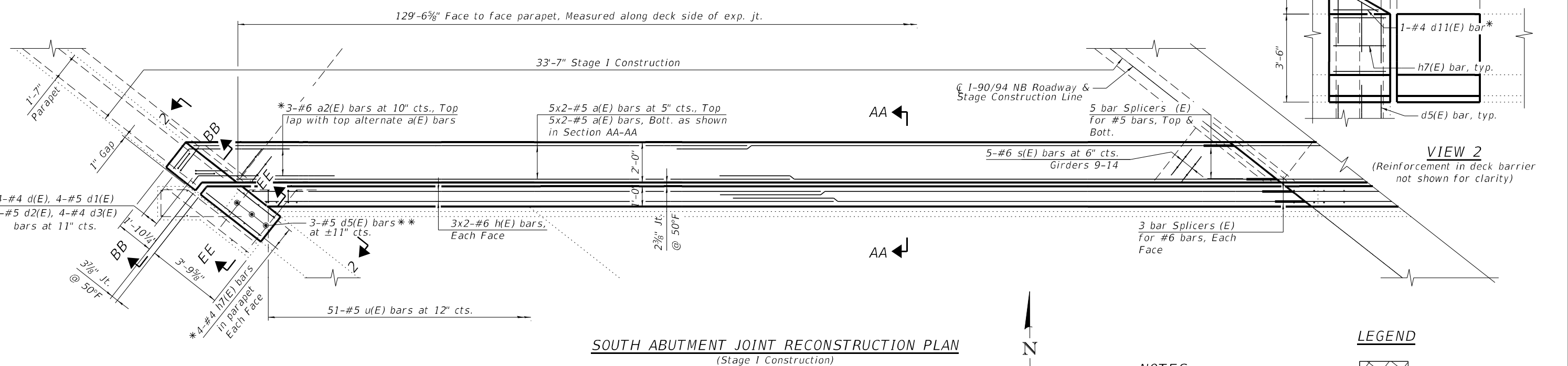
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SOUTH ABUTMENT JOINT REMOVAL PLAN
 (Stage I Removal)



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN
 (Stage I Construction)

- LEGEND**
- Concrete Removal
 - E.F. - Each Face
 - I.F. - Inside Face
 - O.F. - Outside Face
- NOTES:**
1. For Sections A-A, B-B, AA-AA & BB-BB, see Sheet S17-10.
 2. For Sections E-E & EE-EE, see Sheet S17-11.
 3. For additional Notes, Bar bend diagrams and Bill of Material, see Sheet S17-12.

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* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
 ** Epoxy grout #5 d5(E) bars in 9" min. deep holes according to Section 584 of the Standard Specifications.

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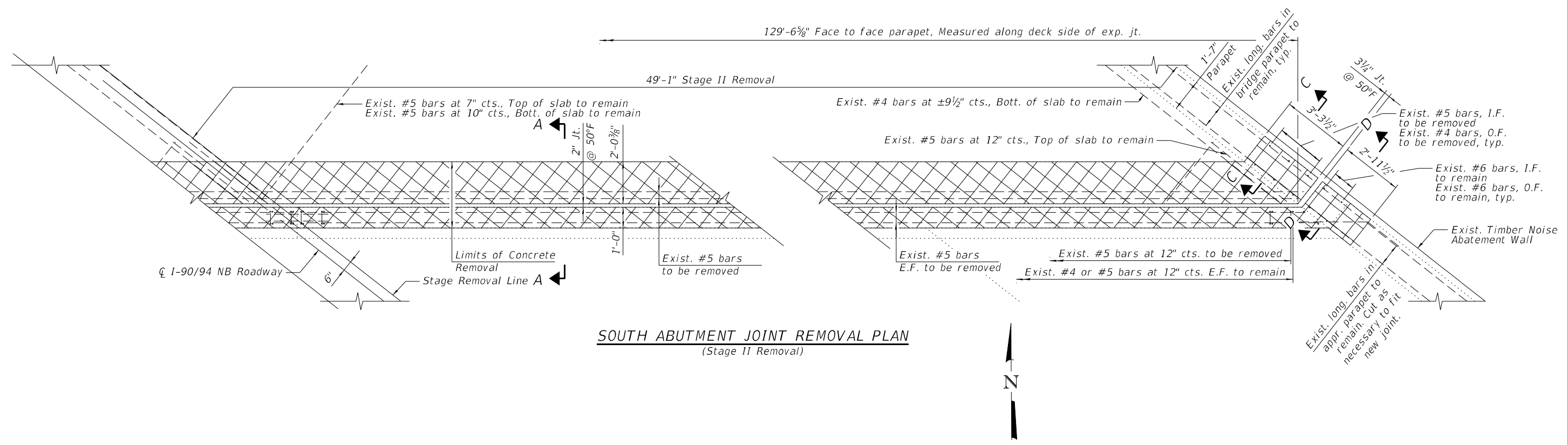
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DEPARTMENT OF TRANSPORTATION

S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 5)
STRUCTURE NO. 016-0116 (NB)

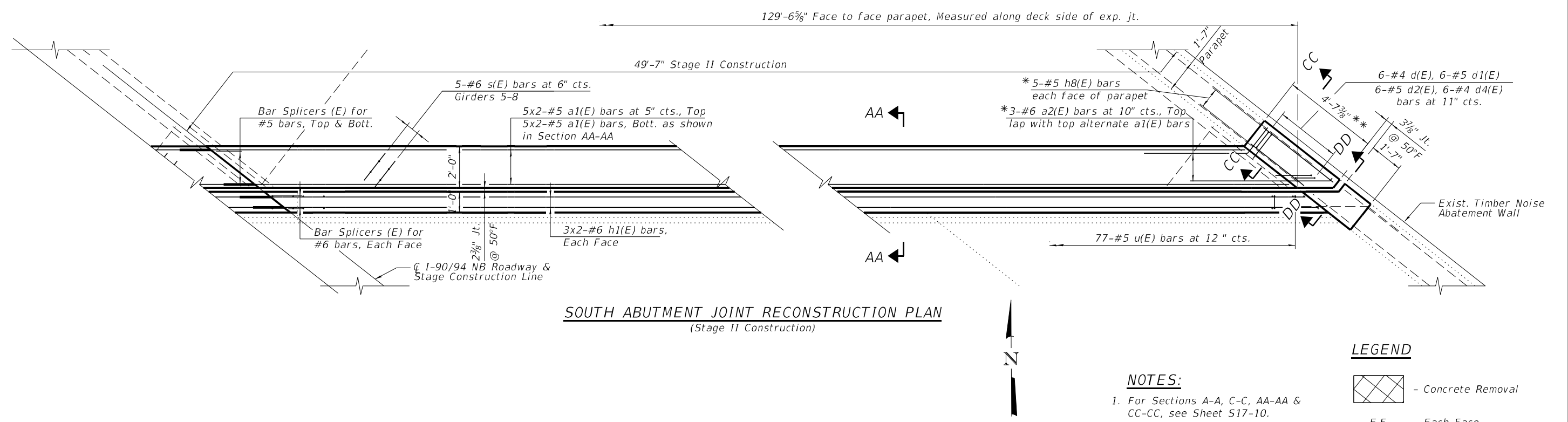
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90/94	1009-414-HB	COOK	908	808
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

SHEET S17-08 OF S17-28 SHEETS

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SOUTH ABUTMENT JOINT REMOVAL PLAN
 (Stage II Removal)



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN
 (Stage II Construction)

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

- NOTES:**
1. For Sections A-A, C-C, AA-AA & CC-CC, see Sheet S17-10.
 2. For Sections D-D & DD-DD, see Sheet S17-11.
 3. For additional Notes, Bar bend diagrams and Bill of Material, see Sheet S17-12.

* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
 ** Cut existing wingwall vertical bars to clear proposed deck.

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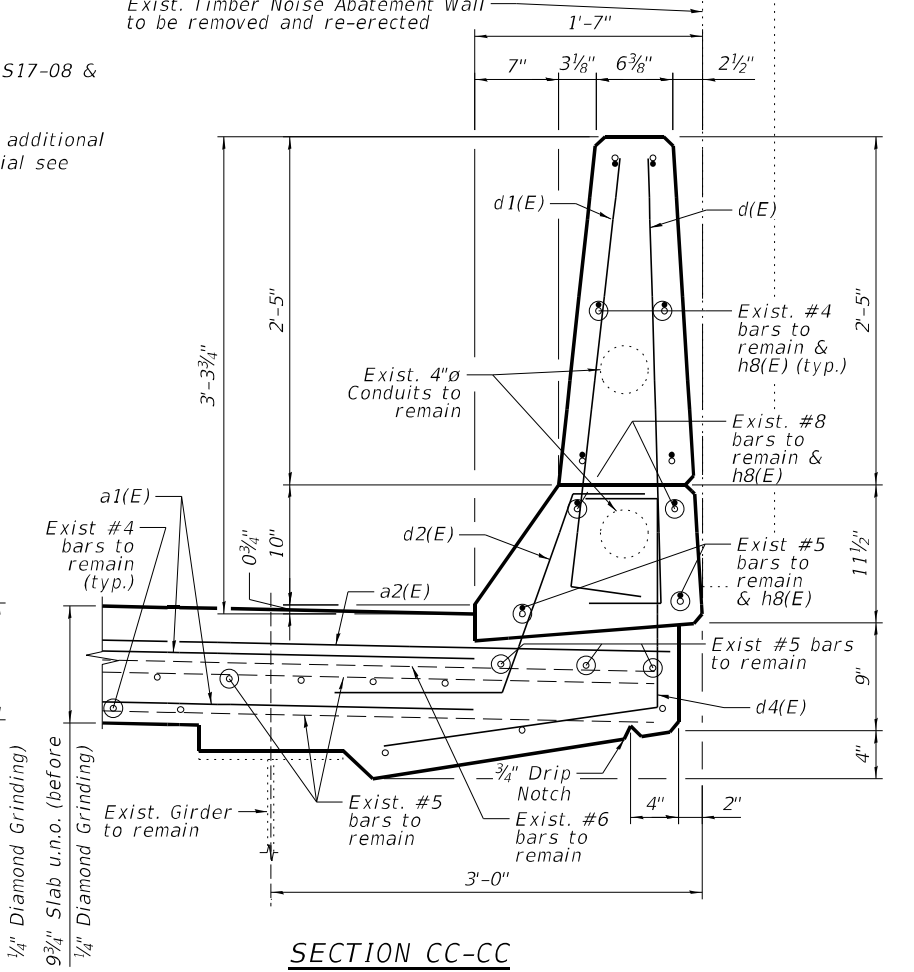
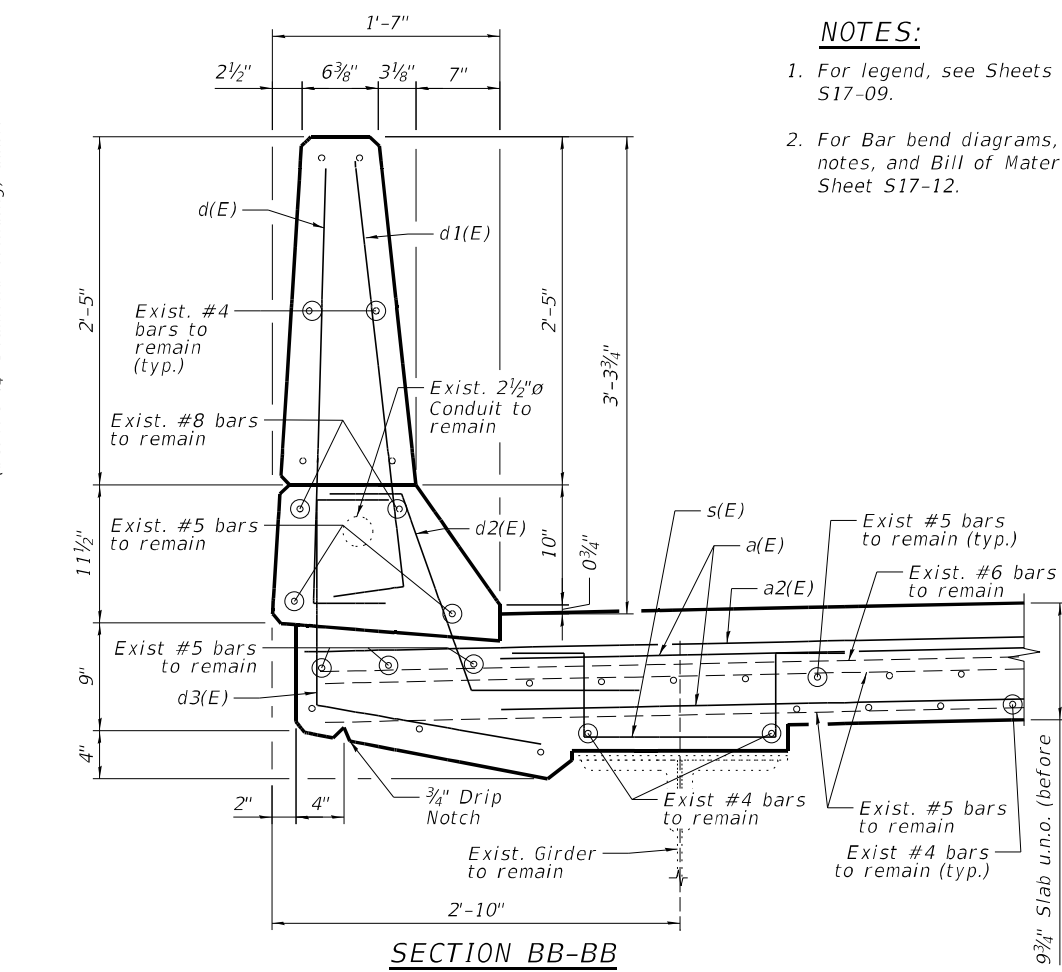
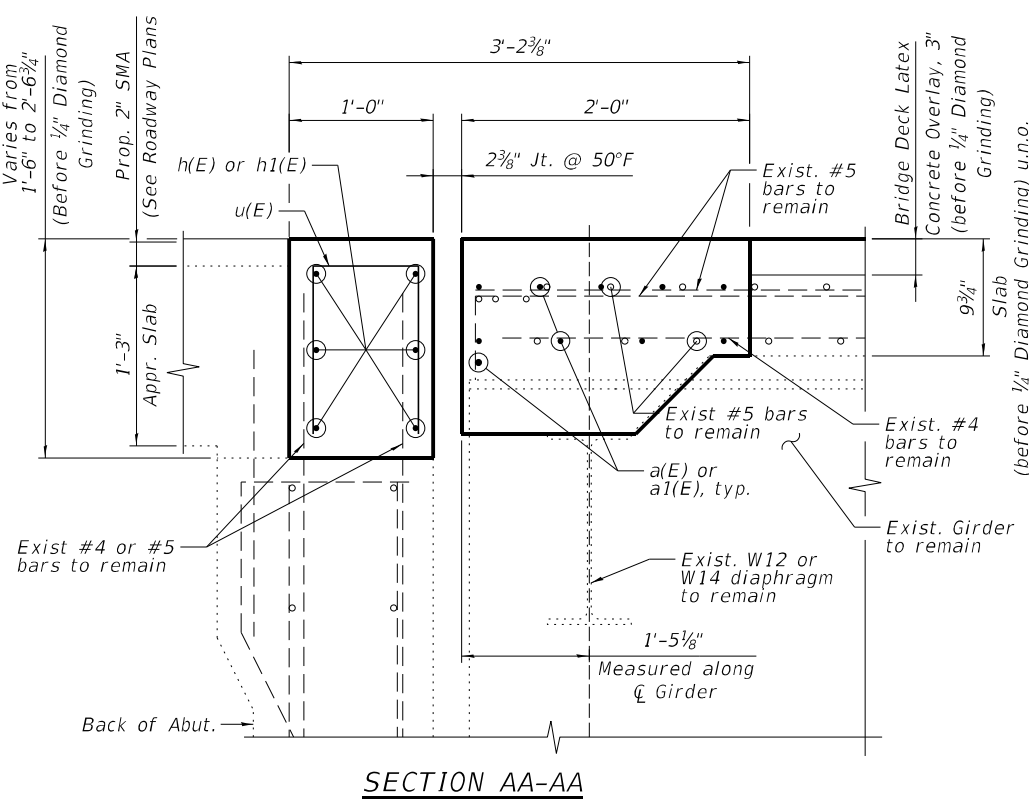
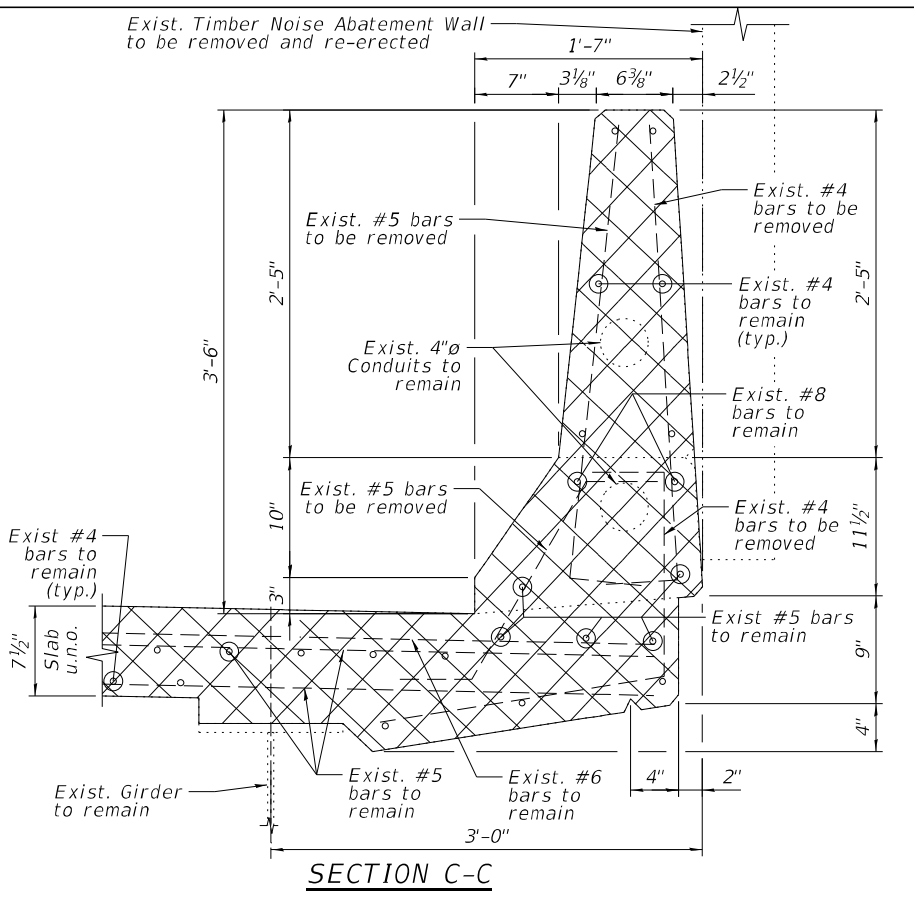
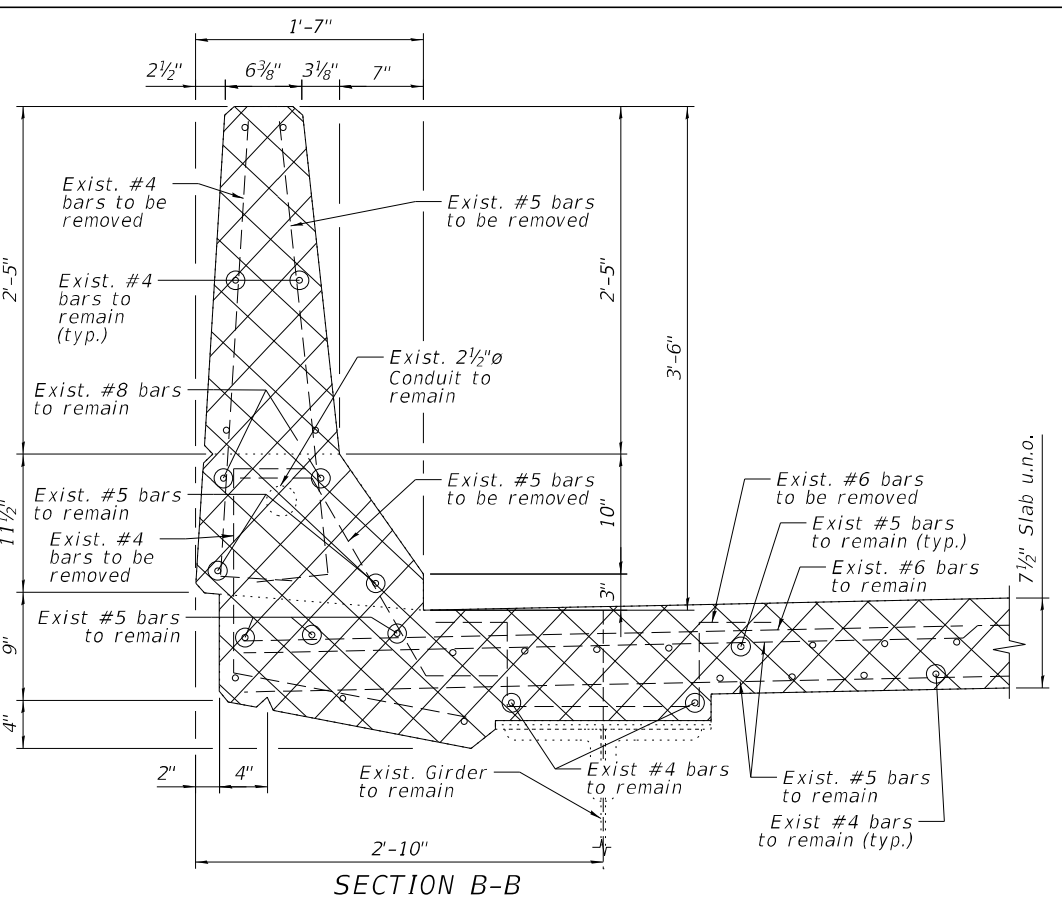
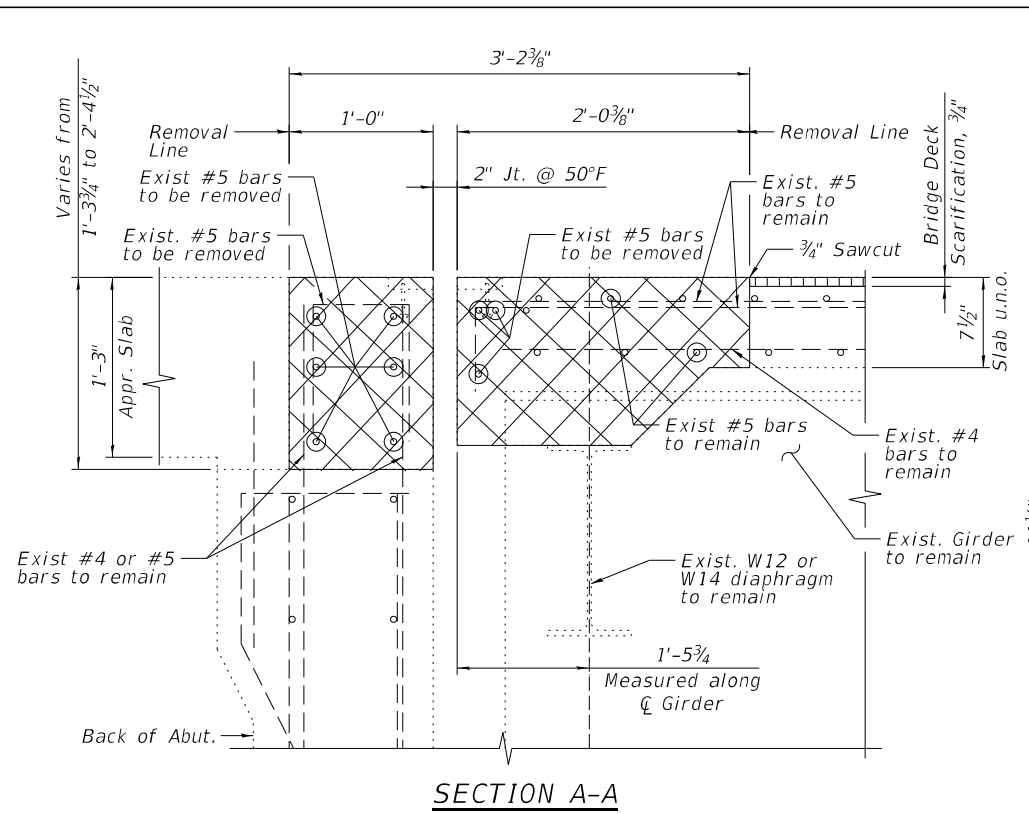
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 5)
STRUCTURE NO. 016-0116 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	809
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		

SHEET S17-09 OF S17-28 SHEETS

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- NOTES:**
- For legend, see Sheets S17-08 & S17-09.
 - For Bar bend diagrams, additional notes, and Bill of Material see Sheet S17-12.

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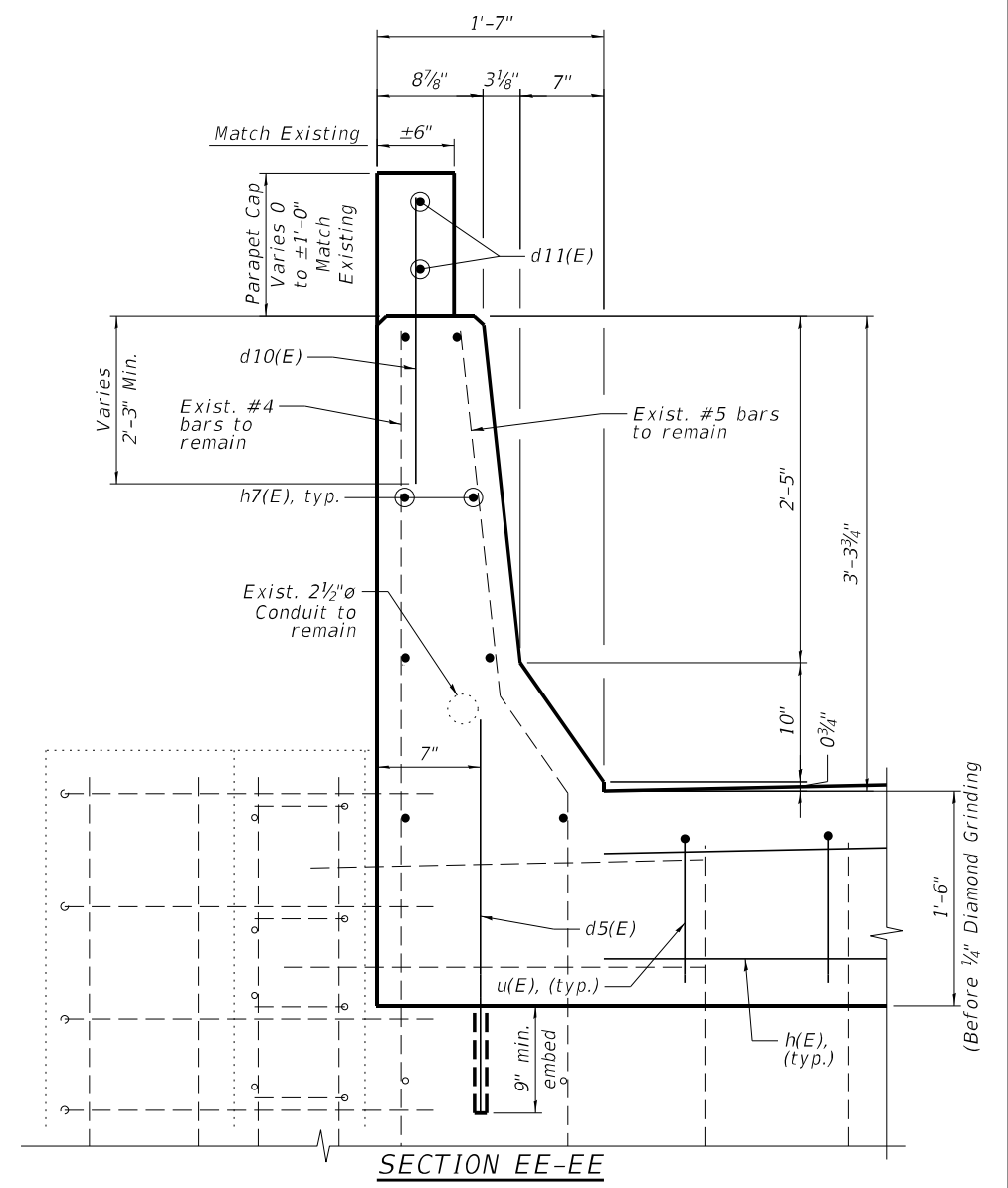
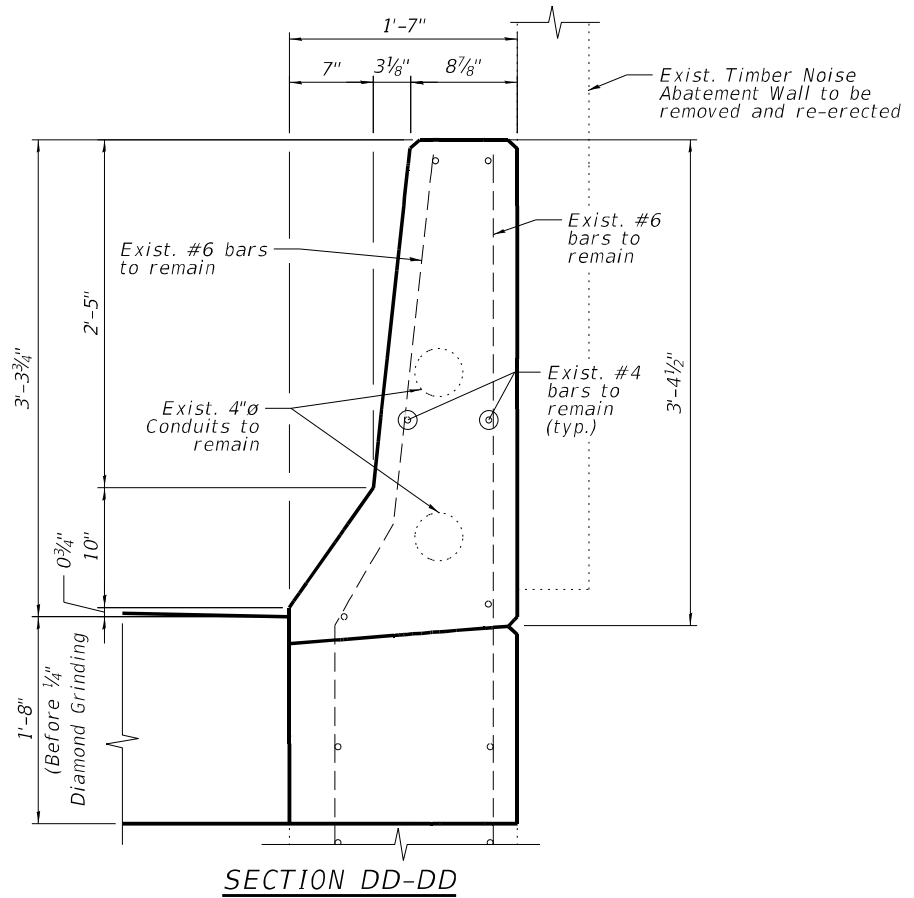
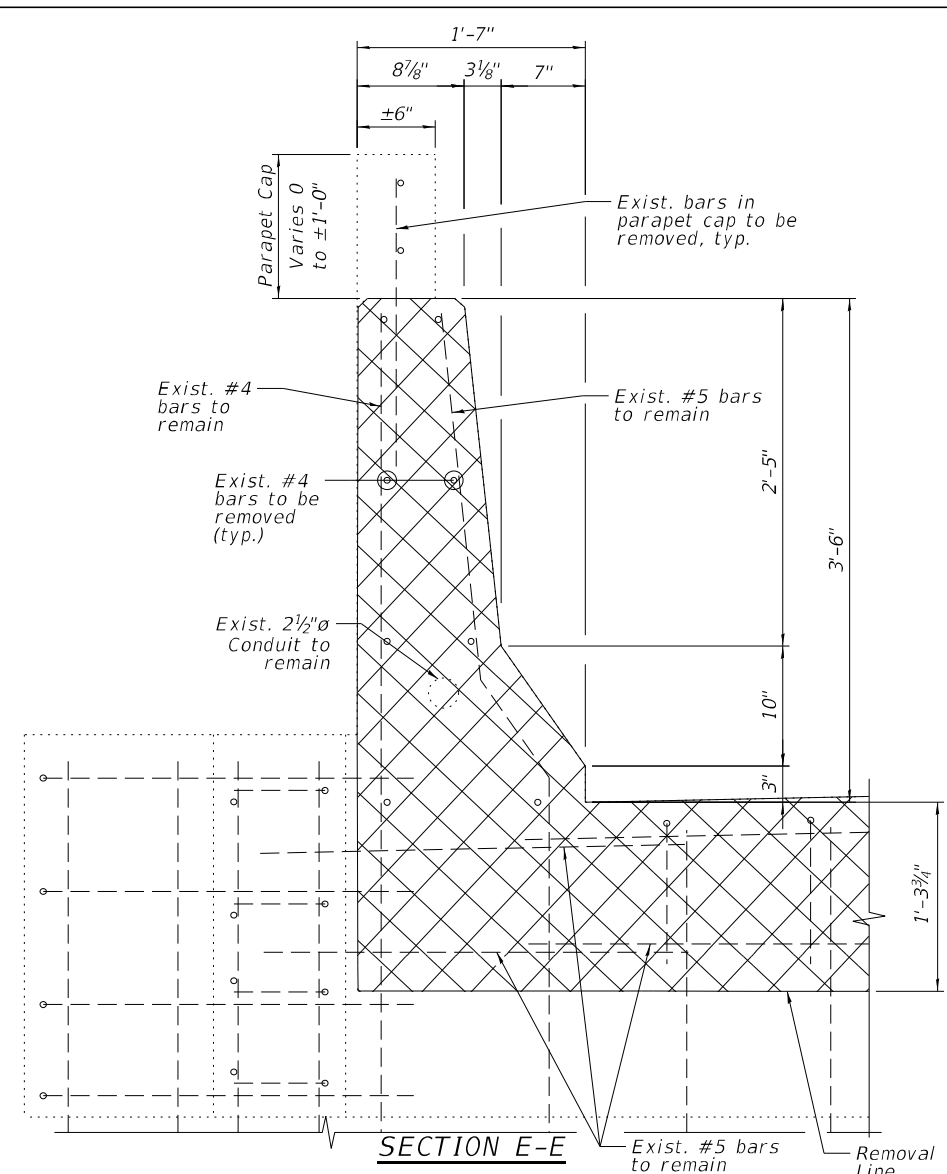
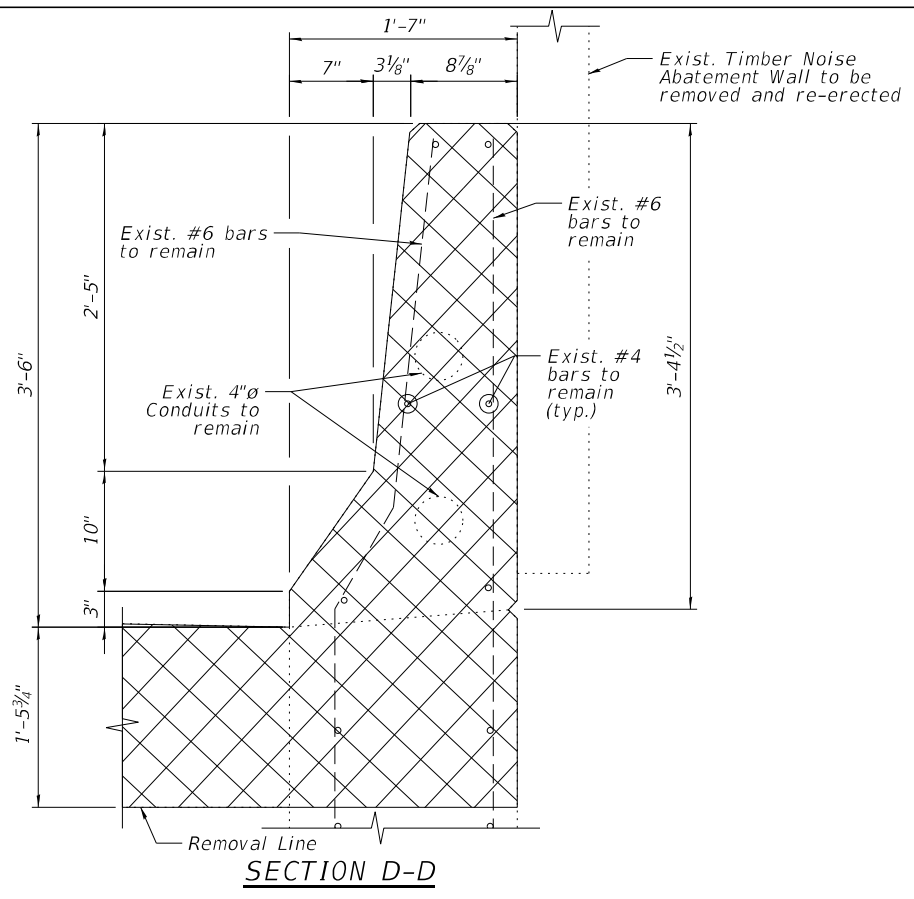
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**S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

SHEET S17-10 OF S17-28 SHEETS

F.A.I. RTE. 9094	SECTION 1009-414-HB	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 810
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. For legend, see Sheets S17-08 & S17-09.
 2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S17-12.
 3. Epoxy grout d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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**S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 4 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

F.A.I. RTE. 90/94	SECTION 1009-414-HB	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 811
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

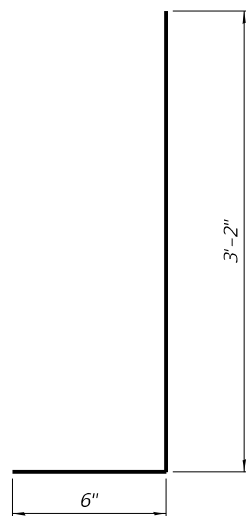
SHEET S17-11 OF S17-28 SHEETS

BILL OF MATERIAL

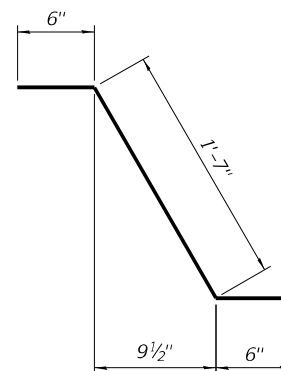
Bar	No.	Size	Length	Shape
a(E)	20	#5	27'-11"	—
a1(E)	20	#5	40'-11"	—
a2(E)	6	#6	6'-6"	—
d(E)	10	#4	3'-8"	┘
d1(E)	10	#5	3'-8"	┘
d2(E)	10	#5	2'-7"	┘
d3(E)	4	#4	3'-6"	┘
d4(E)	6	#4	3'-10"	┘
d5(E)	3	#5	2'-9"	—
d10(E)	3	#5	3'-0"	—
d11(E)	2	#4	2'-0"	—
h(E)	12	#6	28'-0"	—
h1(E)	12	#6	41'-0"	—
h7(E)	8	#4	3'-5"	—
h8(E)	10	#5	4'-3"	—
s(E)	50	#6	3'-10"	┘
u(E)	128	#5	3'-4"	┘
Concrete Removal			Cu. Yd.	22.1
Concrete Superstructure			Cu. Yd.	24.7
Protective Coat			Sq. Yd.	49
Reinforcement Bars, Epoxy Coated			Pound	3670

MINIMUM BAR LAP

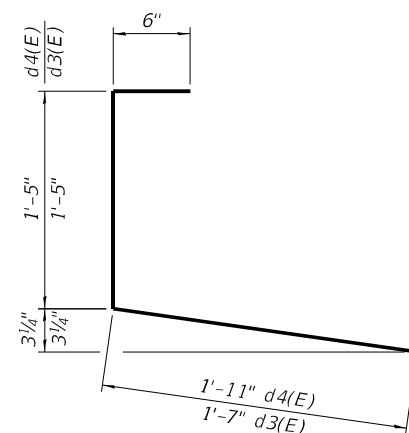
(Abutment & deck)
 #5 bar = 3'-6"
 #6 bar = 4'-0"



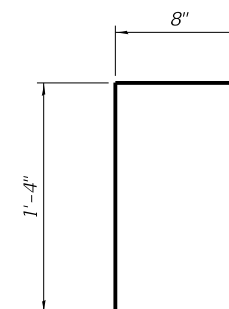
BARS d(E) and d1(E)



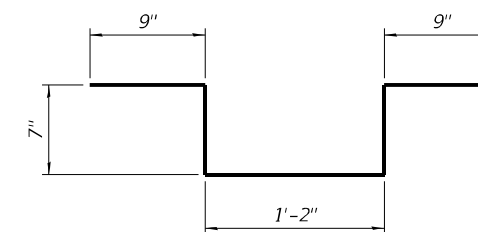
BAR d2(E)



BARS d3(E) and d4(E)



BAR u(E)



BAR s(E)

NOTES:

1. For Preformed Joint Strip Seal details, see Sheet S17-18.
2. For bar splicer assembly details, see Sheet S17-28.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.



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 DEPARTMENT OF TRANSPORTATION**

**S. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 5 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

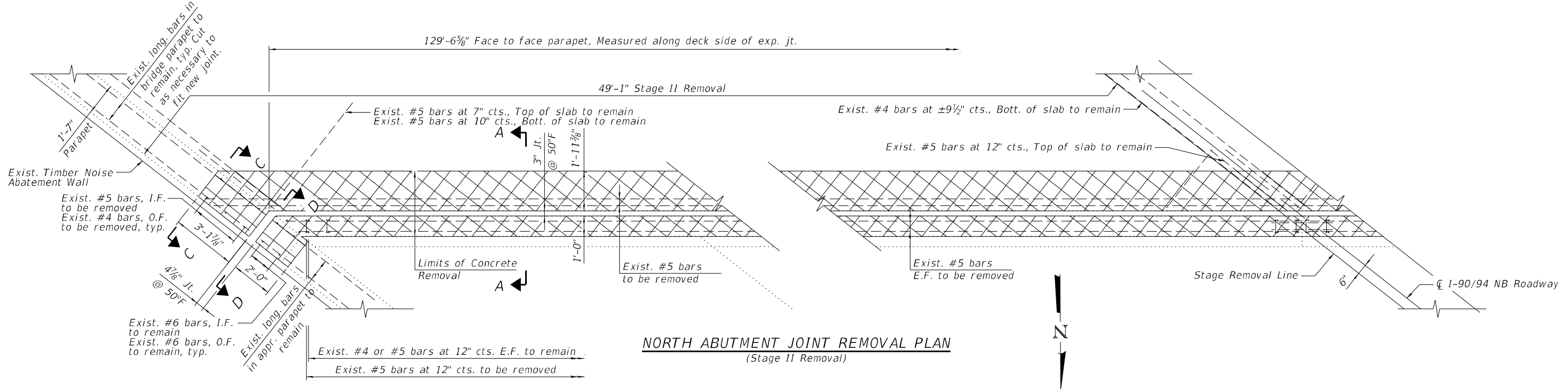
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90/94	1009-414-HB	COOK	908	812
CONTRACT NO. 62K73				

SHEET S17-12 OF S17-28 SHEETS

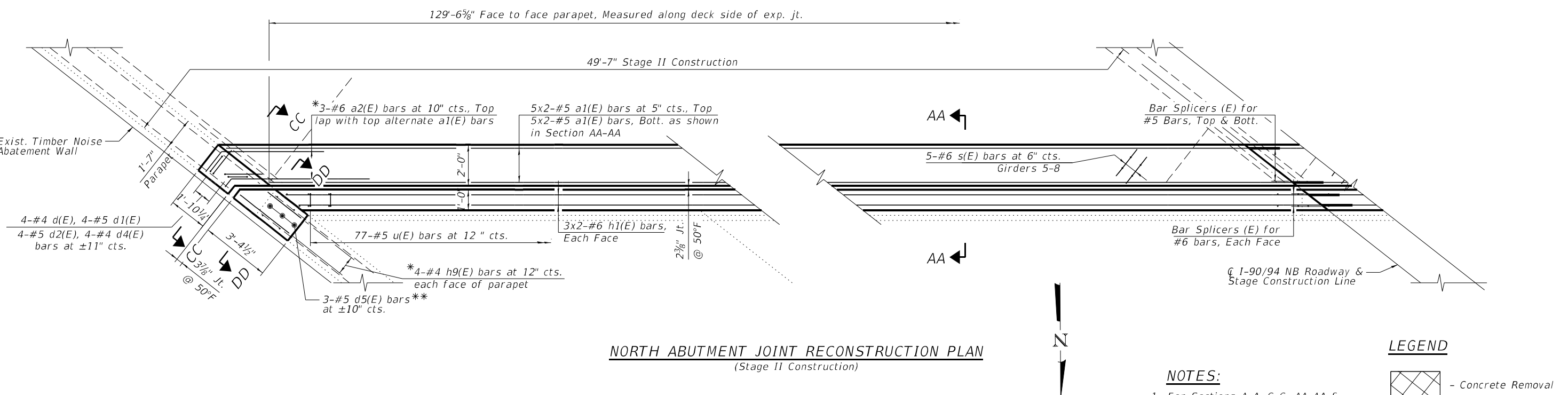
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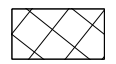


NORTH ABUTMENT JOINT REMOVAL PLAN
 (Stage II Removal)



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN
 (Stage II Construction)

LEGEND

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

- NOTES:**
1. For Sections A-A, C-C, AA-AA & CC-CC, see Sheet S17-15.
 2. For Sections D-D & DD-DD, see Sheet S17-16.
 3. For additional Notes, Bar bend diagrams and Bill of Material, see Sheet S17-17.

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* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
 ** Epoxy grout #5 d5(E) bars in 9" min. deep holes according to Section 584 of the Standard Specifications.

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**STATE OF ILLINOIS
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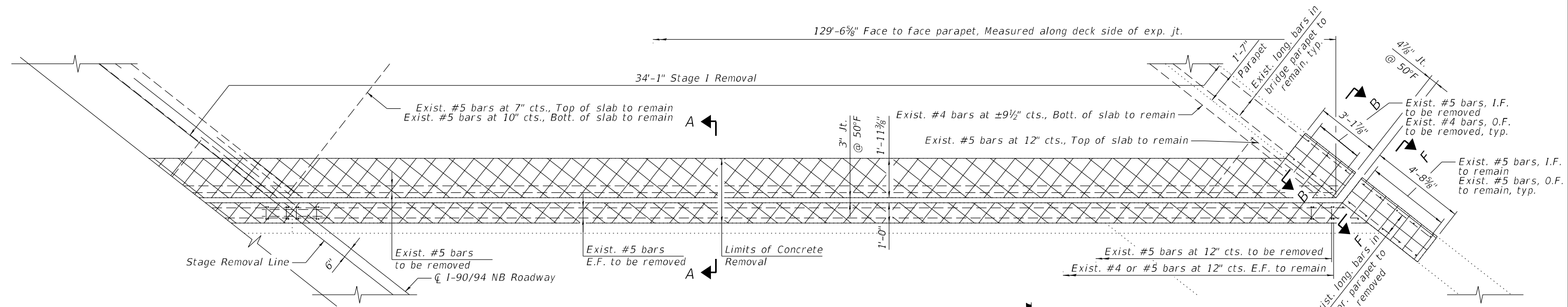
**N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	813
CONTRACT NO. 62K73				

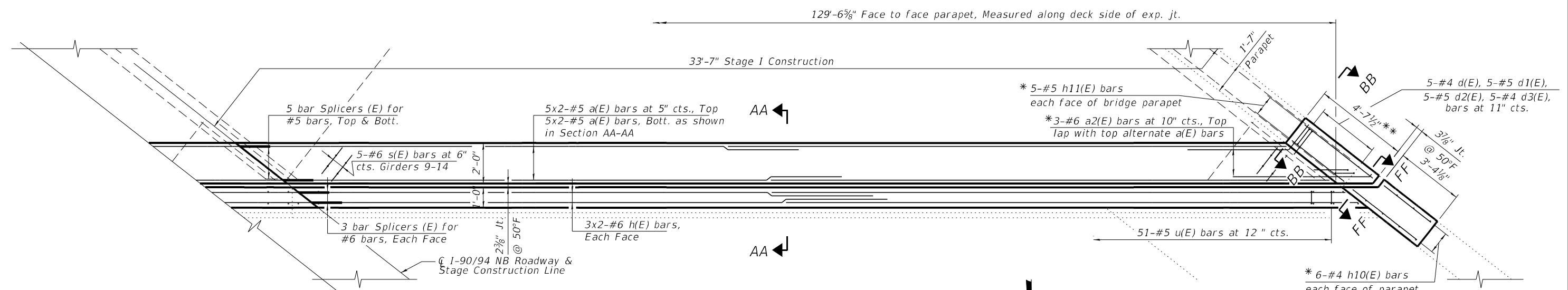
SHEET S17-13 OF S17-28 SHEETS

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NORTH ABUTMENT JOINT REMOVAL PLAN
 (Stage I Removal)



NORTH ABUTMENT JOINT RECONSTRUCTION PLAN
 (Stage I Construction)

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

- NOTES**
1. For Sections A-A, B-B, AA-AA & BB-BB, see Sheet S17-15.
 2. For Sections F-F, & FF-FF, see Sheet S18-16.
 3. For additional Notes, Bar bend diagrams and Bill of Material, see Sheet S17-17.

* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
 ** Cut existing wingwall vertical bars to clear proposed deck.

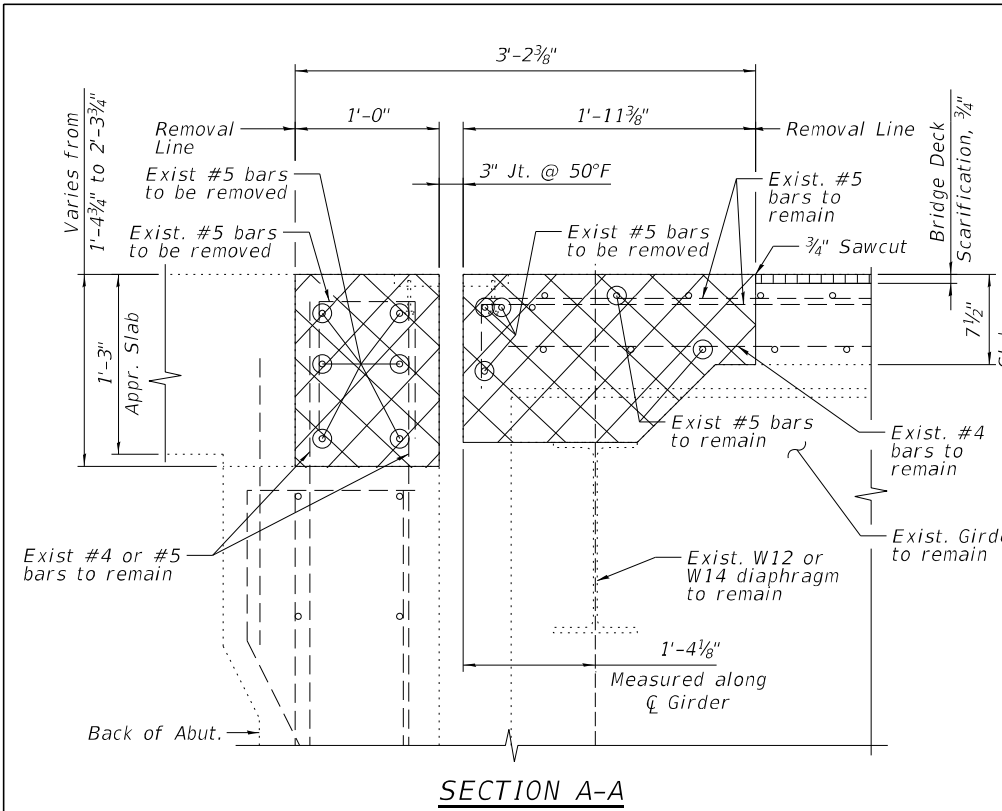
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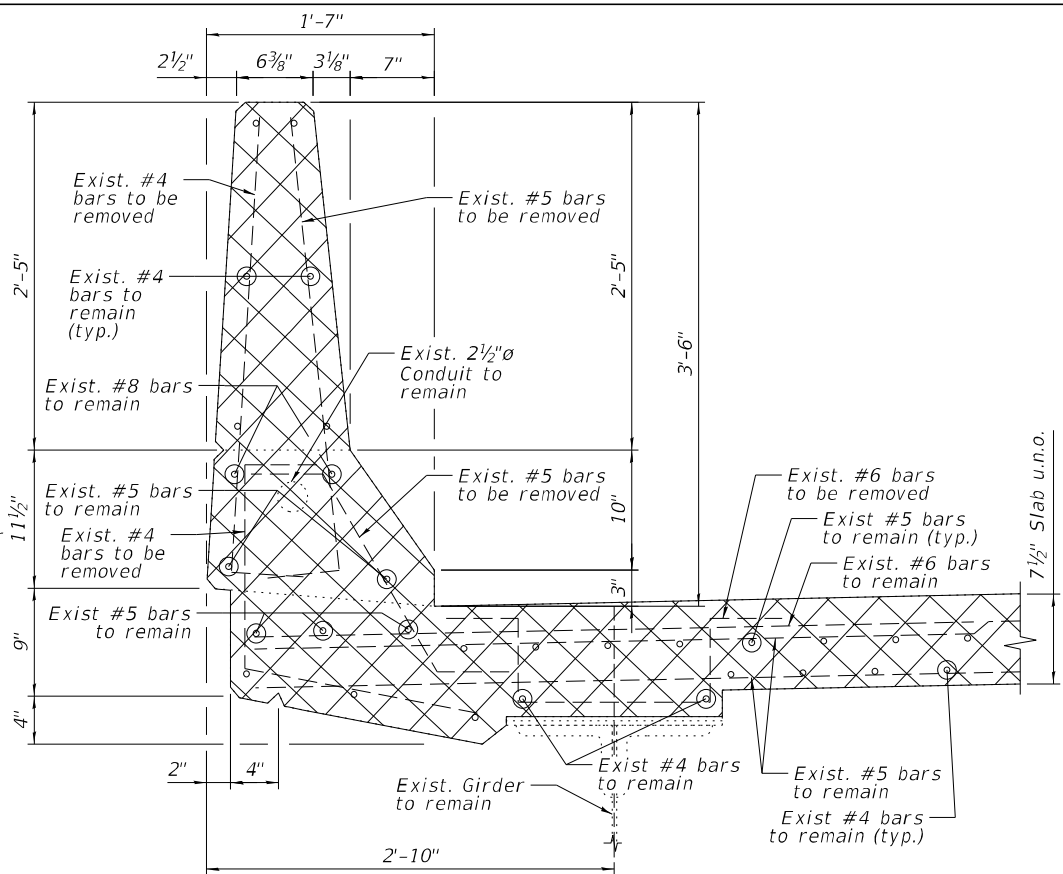
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N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 5)
STRUCTURE NO. 016-0116 (NB)

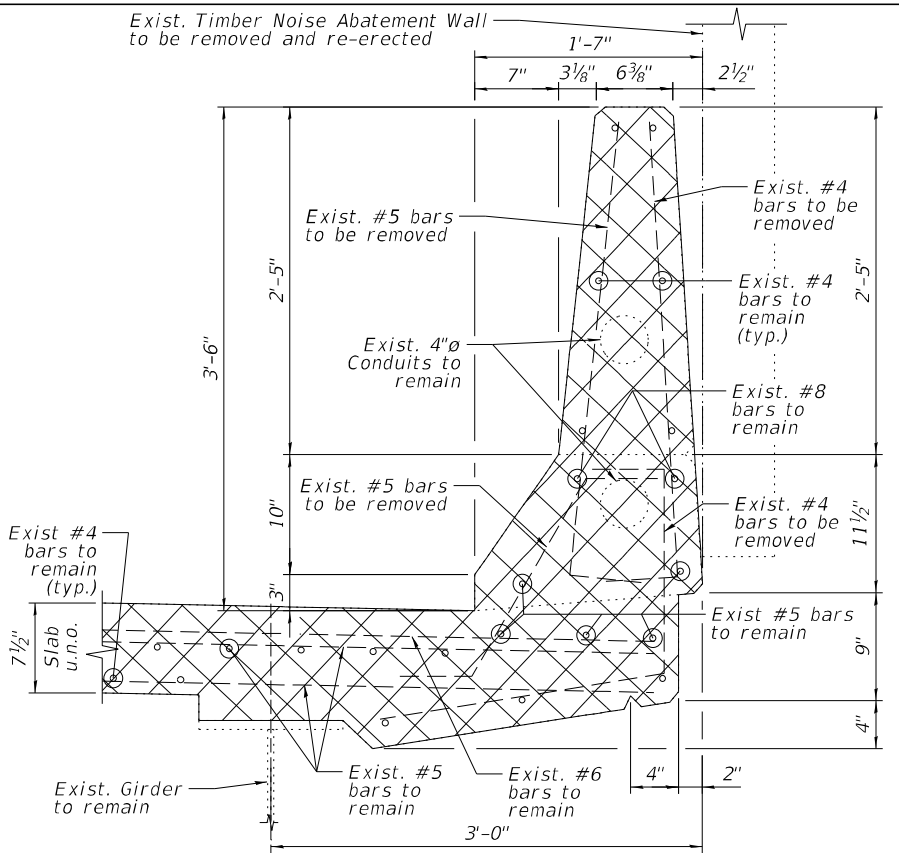
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9094	1009-414-HB	COOK	908	814
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



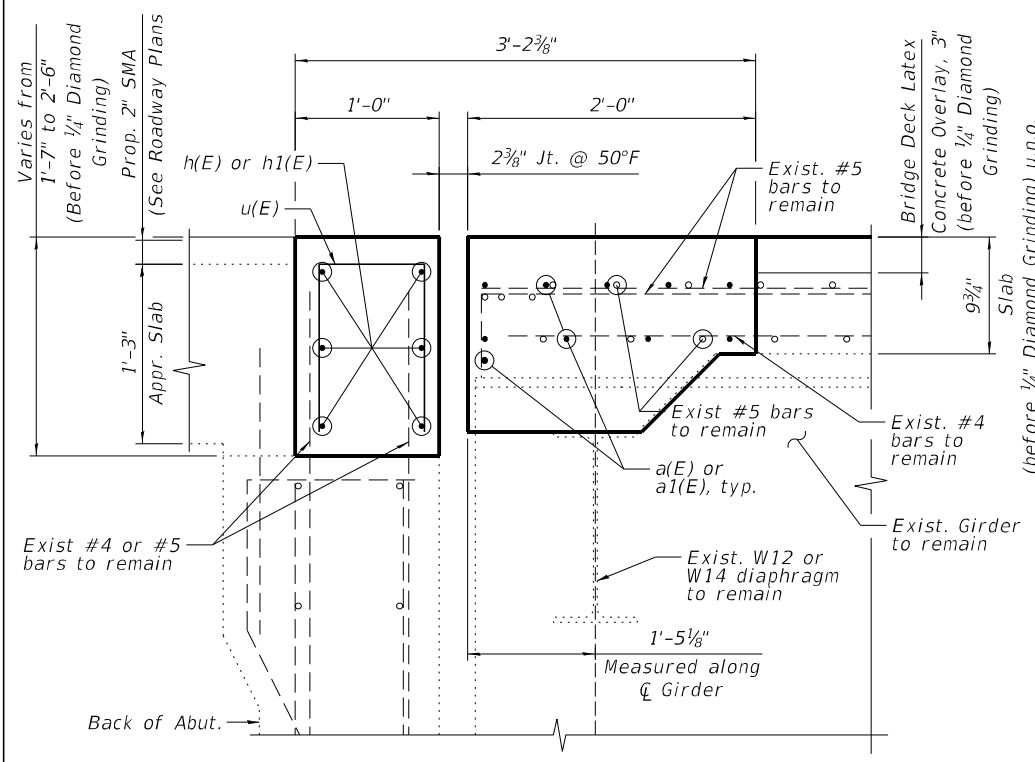
SECTION A-A



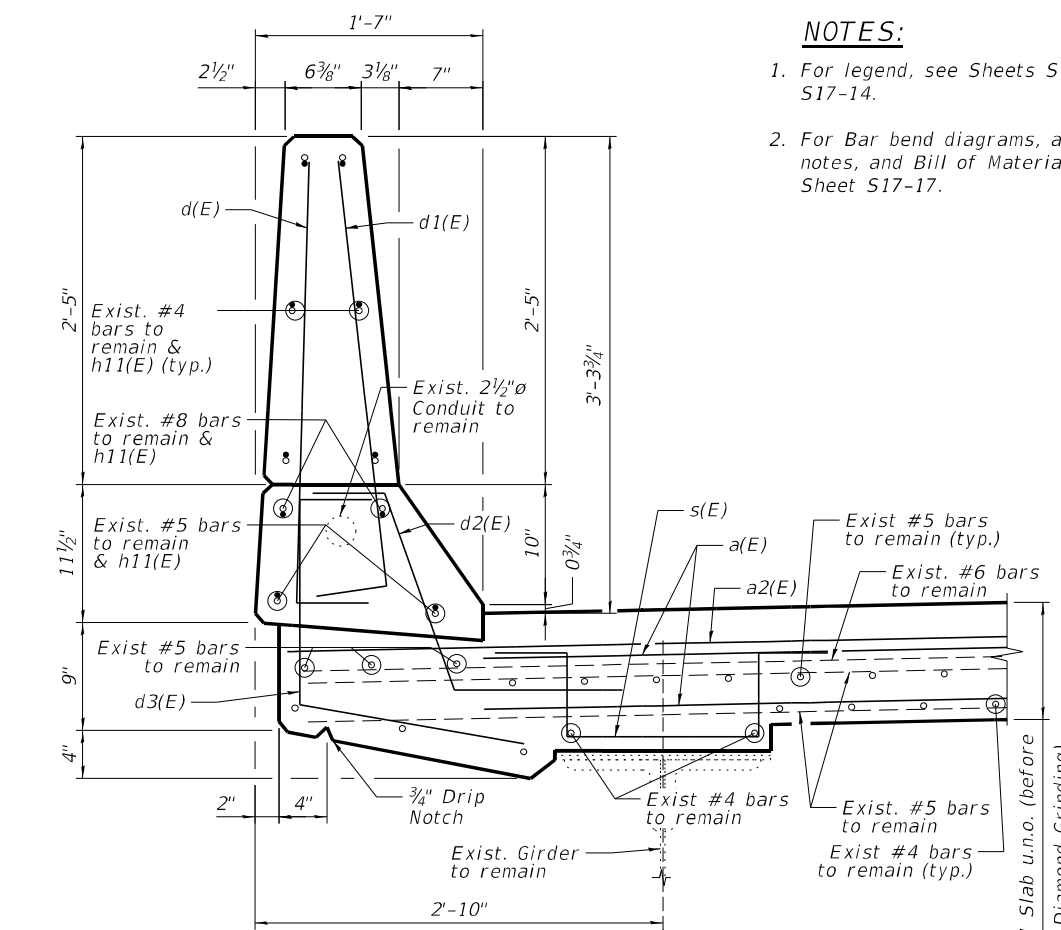
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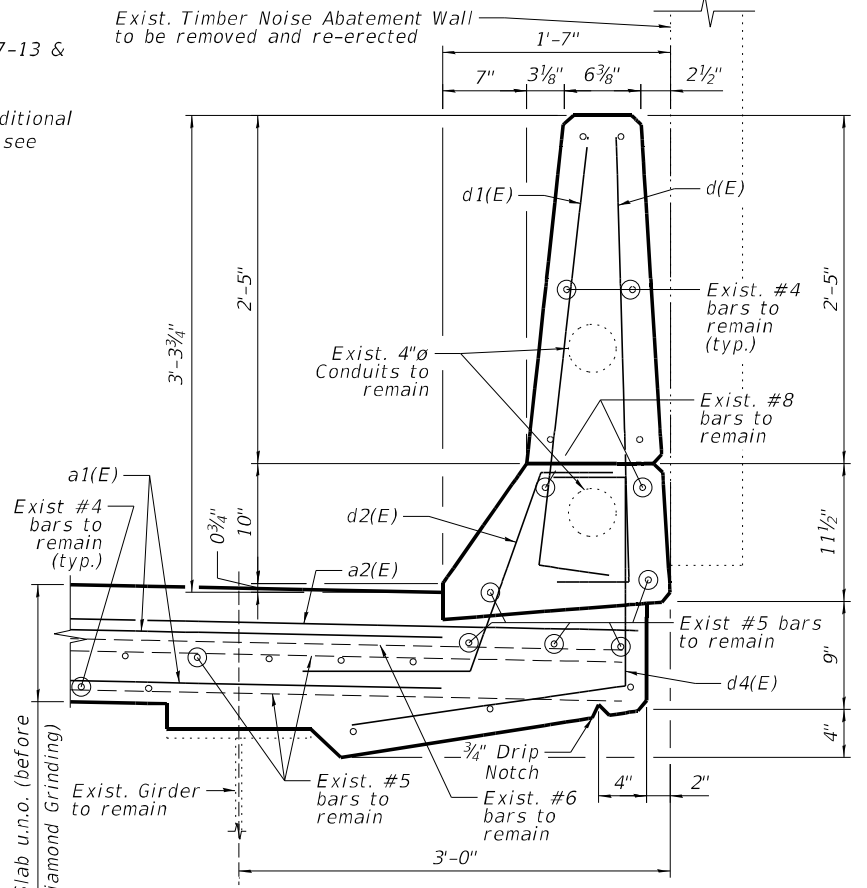
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For legend, see Sheets S17-13 & S17-14.
2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S17-17.

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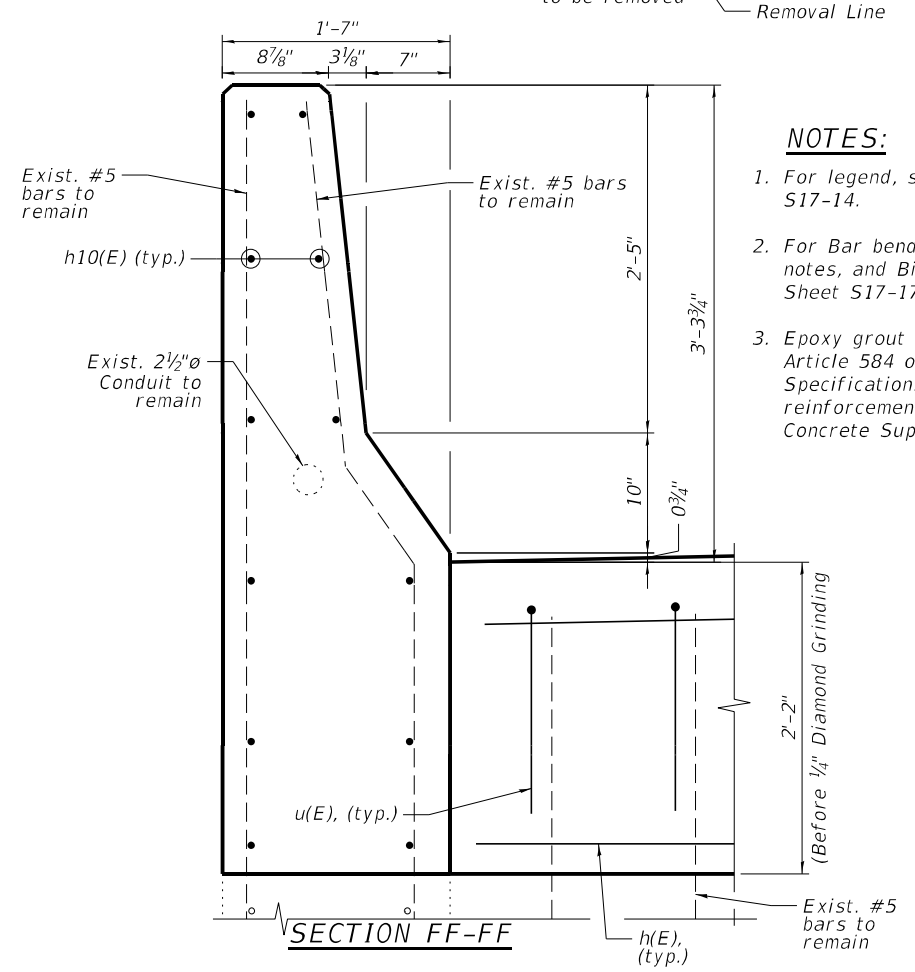
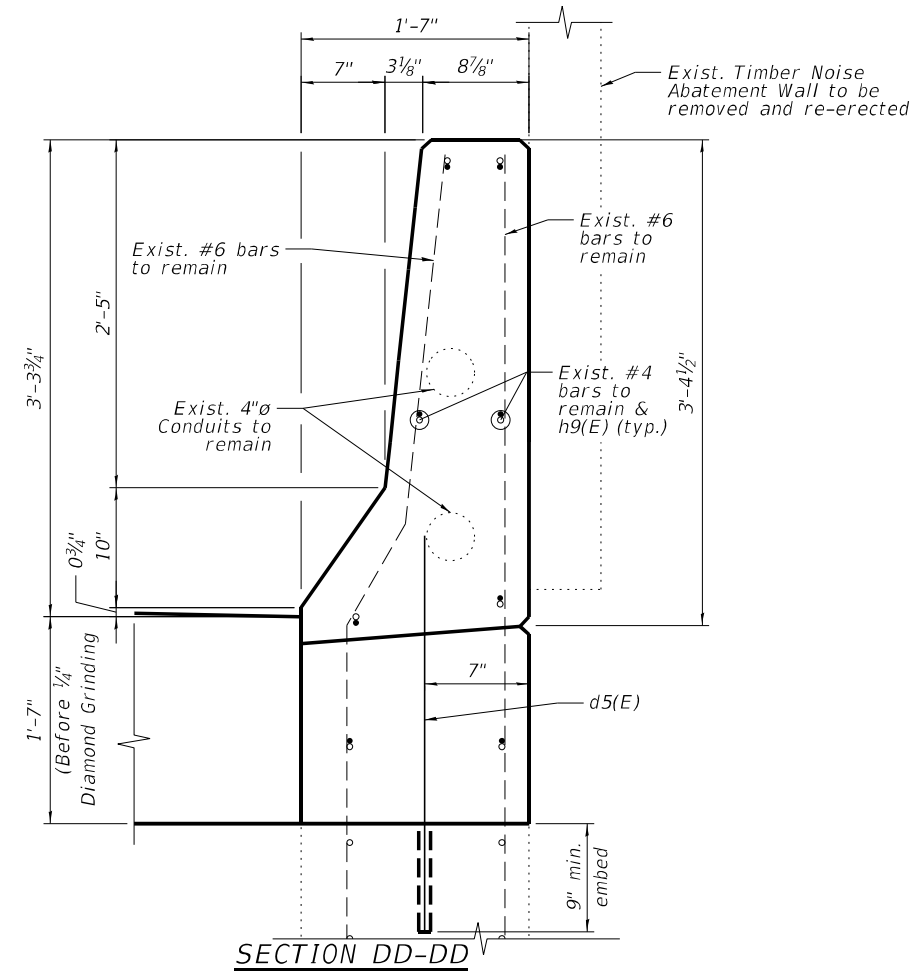
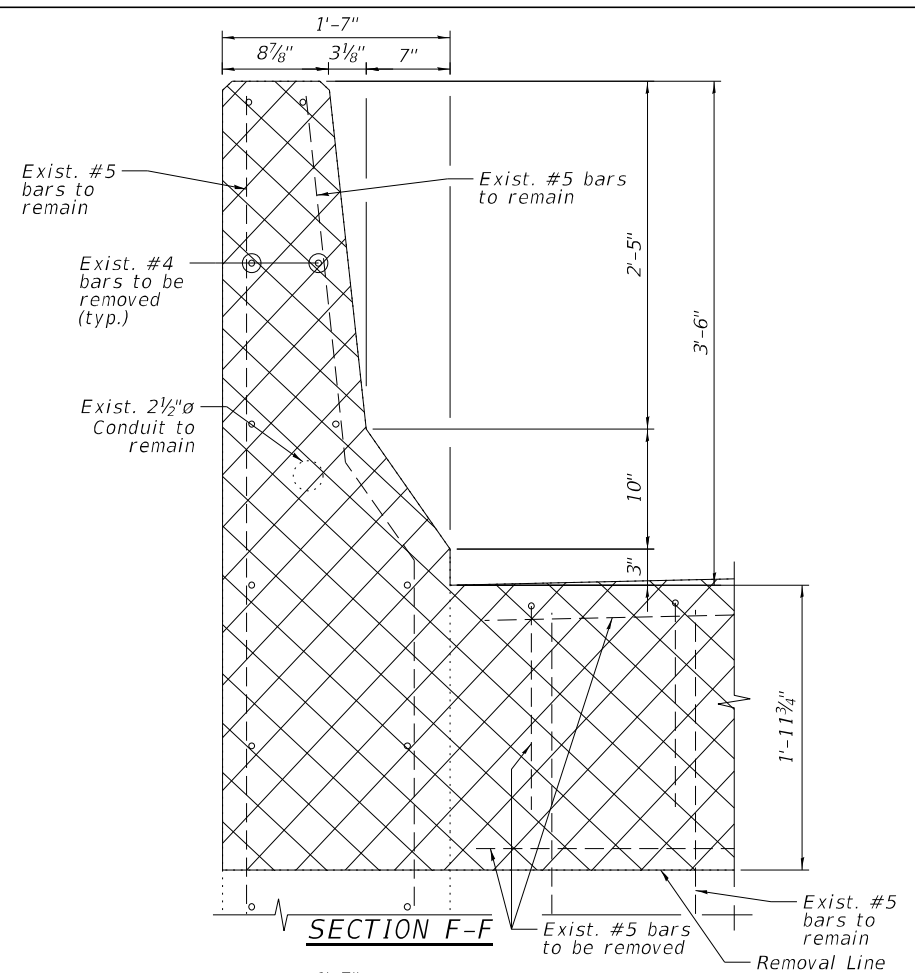
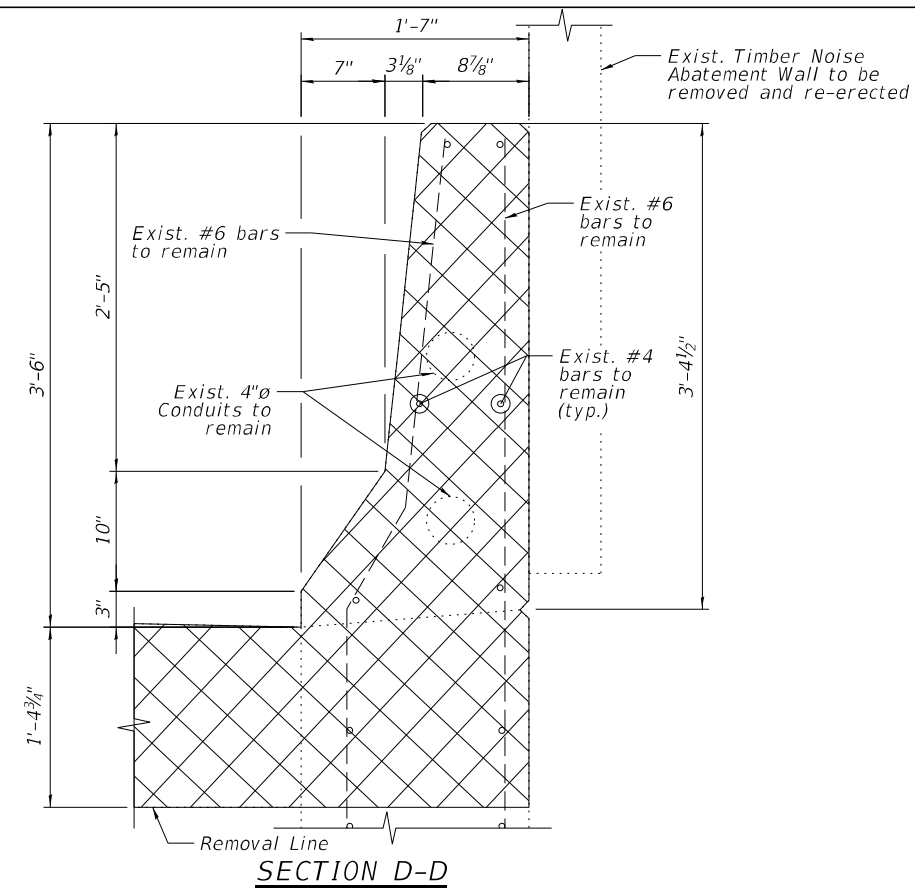
STATE OF ILLINOIS
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N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 5)
STRUCTURE NO. 016-0116 (NB)

F.A.I. RTE. 9094	SECTION 1009-414-HB	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 815
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

SHEET S17-15 OF S17-28 SHEETS

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- NOTES:**
1. For legend, see Sheets S17-13 & S17-14.
 2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S17-17.
 3. Epoxy grout d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

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 Chicago, Illinois 60601
 312-565-0450 Job No. 10805.02

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**STATE OF ILLINOIS
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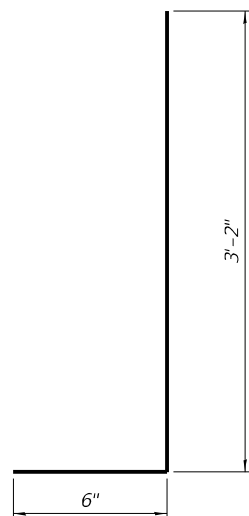
**N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 4 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

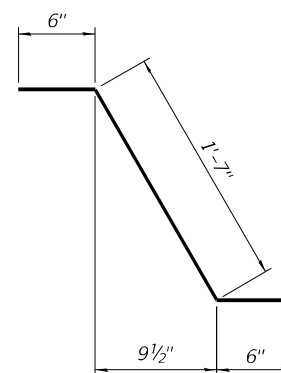
SHEET S17-16 OF S17-28 SHEETS

BILL OF MATERIAL

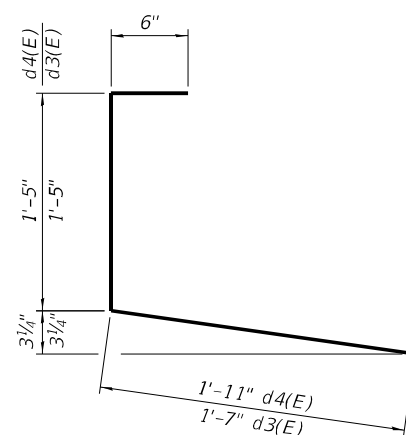
Bar	No.	Size	Length	Shape
a(E)	20	#5	27'-11"	—
a1(E)	20	#5	40'-11"	—
a2(E)	6	#6	6'-6"	—
d(E)	9	#4	3'-8"	┘
d1(E)	9	#5	3'-8"	┘
d2(E)	9	#5	2'-7"	┘
d3(E)	5	#4	3'-6"	┘
d4(E)	4	#4	3'-10"	┘
d5(E)	3	#5	2'-9"	—
h(E)	12	#6	28'-0"	—
h1(E)	12	#6	41'-0"	—
h9(E)	8	#4	3'-0"	—
h10(E)	12	#4	4'-0"	—
h11(E)	10	#5	4'-3"	—
s(E)	50	#6	3'-10"	┘
u(E)	128	#5	3'-4"	┘
Concrete Removal			Cu. Yd.	22.1
Concrete Superstructure			Cu. Yd.	24.8
Protective Coat			Sq. Yd.	50
Reinforcement Bars, Epoxy Coated			Pound	3680



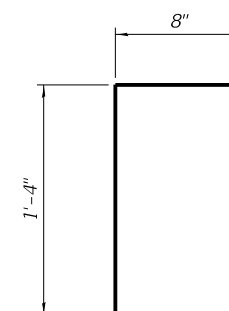
BARS d(E) and d1(E)



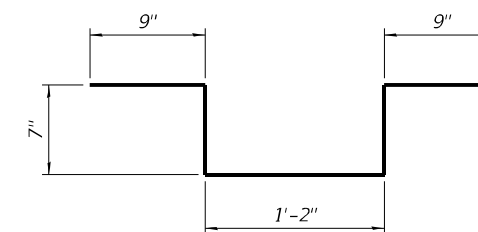
BAR d2(E)



BARS d3(E) and d4(E)



BAR u(E)



BAR s(E)

MINIMUM BAR LAP

(Abutment & deck)
 #5 bar = 3'-6"
 #6 bar = 4'-0"

NOTES:

1. For Preformed Joint Strip Seal details, see Sheet S17-18.
2. For bar splicer assembly details, see Sheet S17-28.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.



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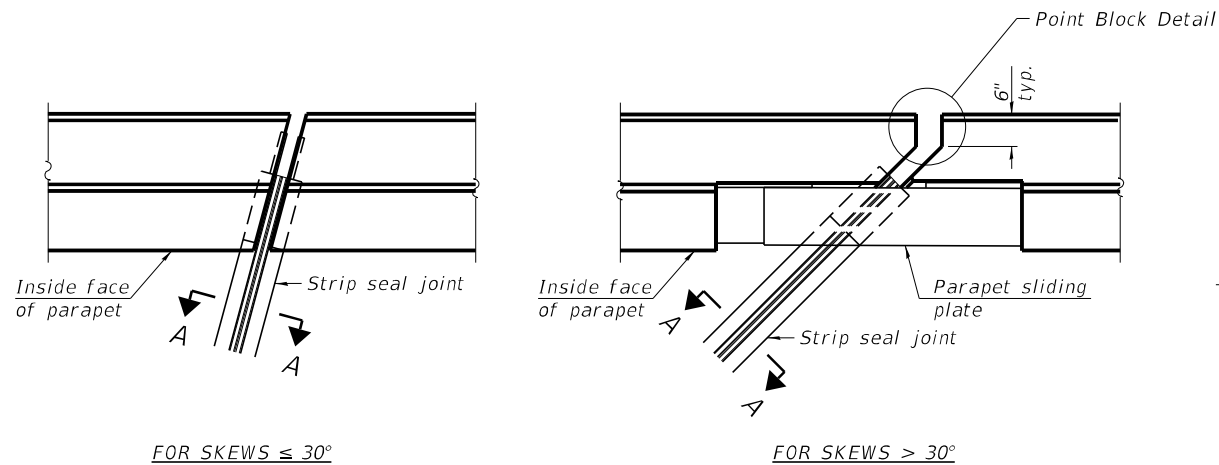
**N. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 5 OF 5)
 STRUCTURE NO. 016-0116 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	817
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K73	

SHEET S17-17 OF S17-28 SHEETS

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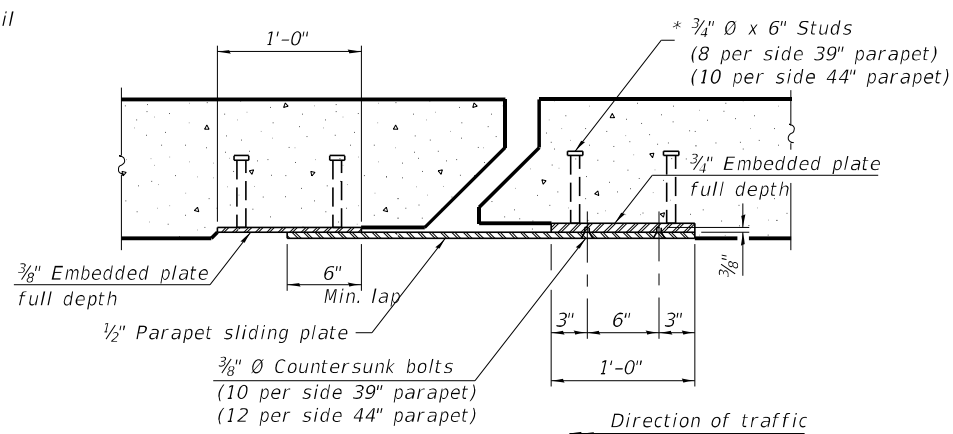
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FOR SKEWS $\leq 30^\circ$

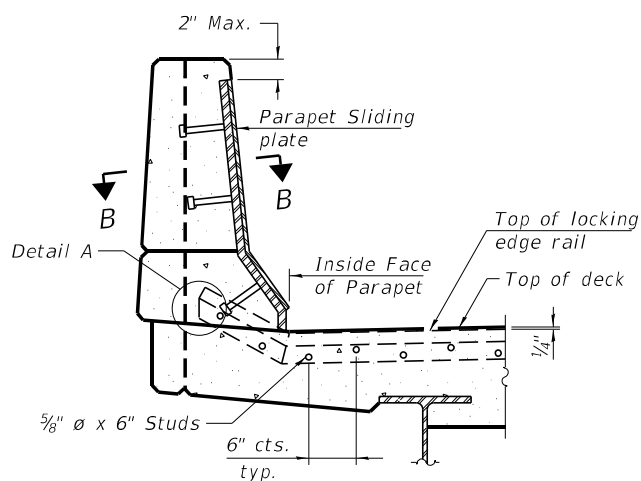
PLAN AT PARAPET

FOR SKEWS $> 30^\circ$



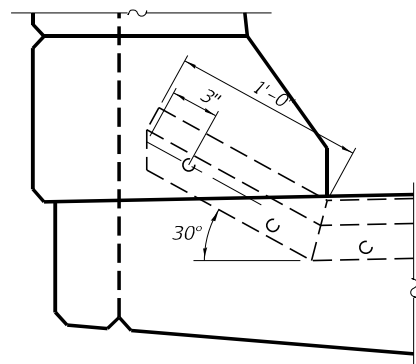
SECTION B-B

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.

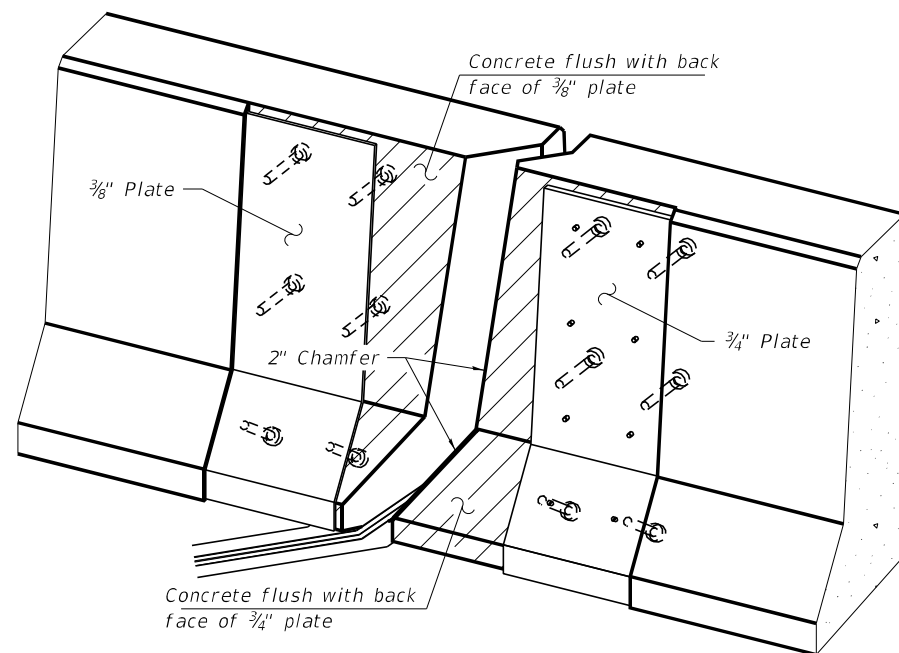


ELEVATION OF PARAPET

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

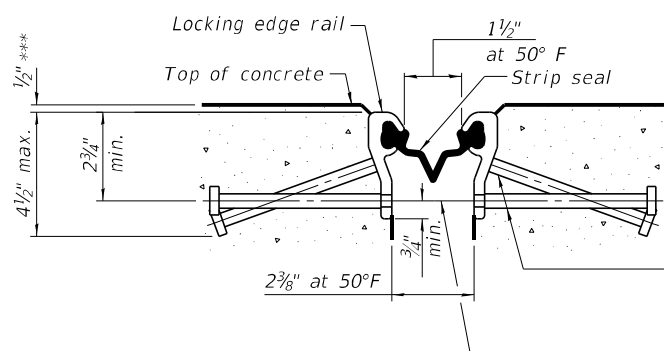


DETAIL A



TRIMETRIC VIEW
 (Showing back 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

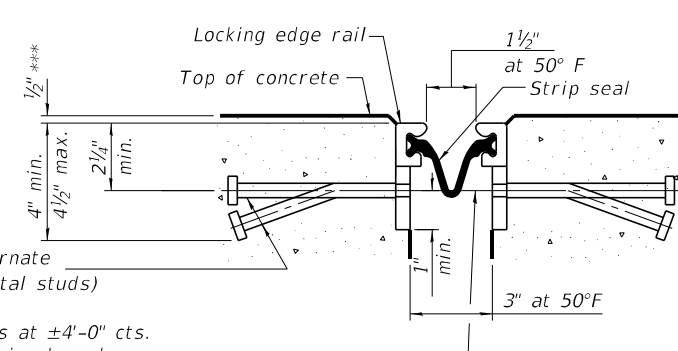
* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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

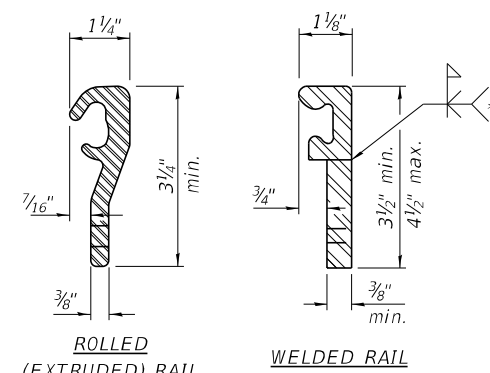
SECTION A-A

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

*** Before 1/4" Diamond Grinding

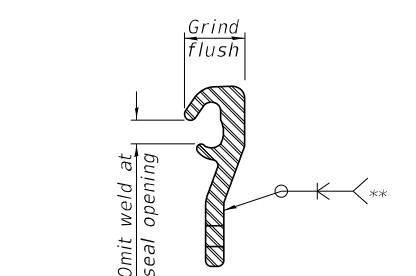


SHOWING WELDED RAIL JOINT



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	264



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PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 016-0116 (NB)

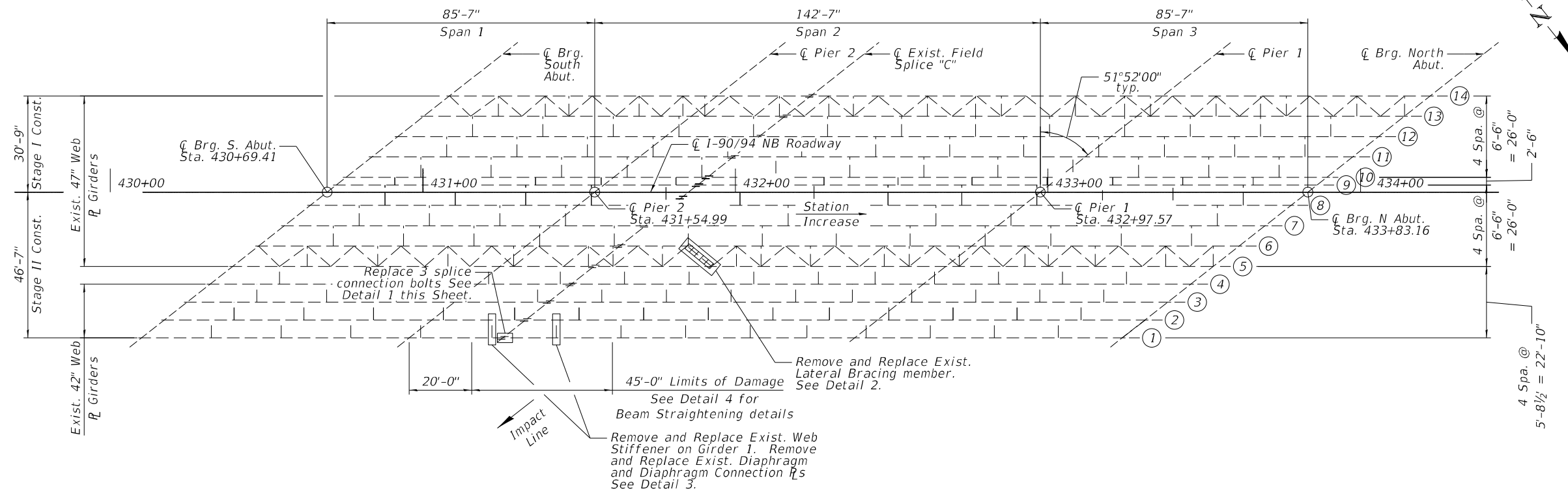
SHEET S17-18 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	818
CONTRACT NO. 62K73				

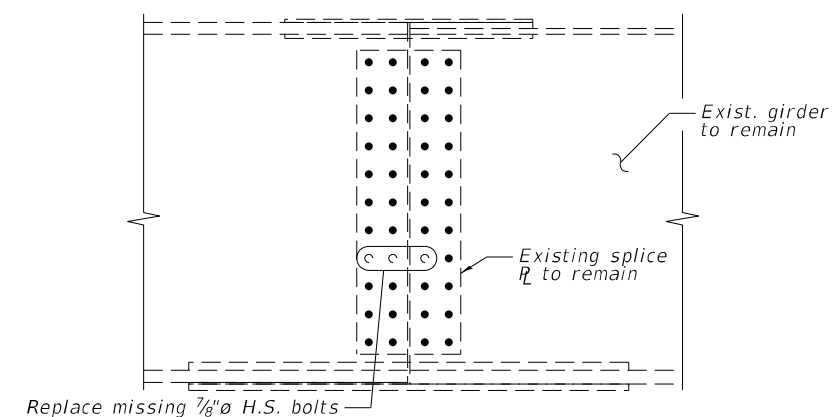
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BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	773
Structural Steel Removal	Pound	615
Beam Straightening	L Sum	1




FRAMING PLAN



DETAIL 1
(Inside face of exist. Girder 1 field splice)
(See Note 4)

LEGEND

 Remove and Replace Exist. Lateral Bracing member

NOTES:

- All work is to be performed utilizing stage construction. See Sheets S17-03 and S17-05 for details.
- For Structural Steel Repair Details 2 and 3, see Sheet S17-20.
- For Beam Straightening Detail 4, see Sheet S17-21.
- The cost of replacing the H.S. bolts shown is included with Furnishing and Erecting Structural Steel.

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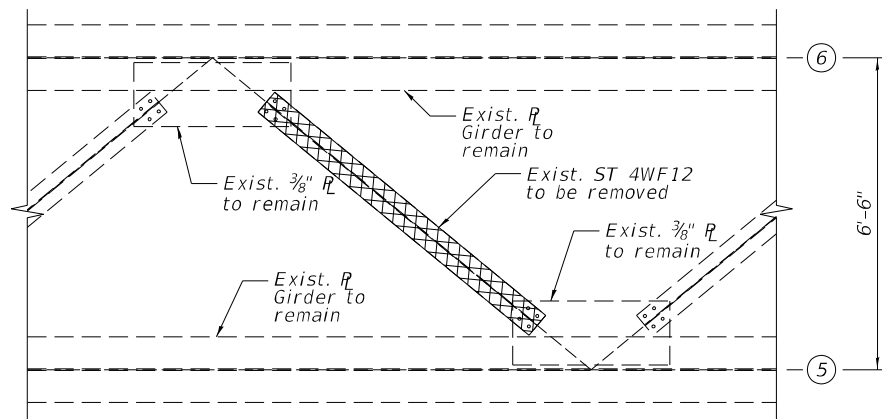
**STATE OF ILLINOIS
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**FRAMING PLAN
STRUCTURE NO. 016-0116 (NB)**

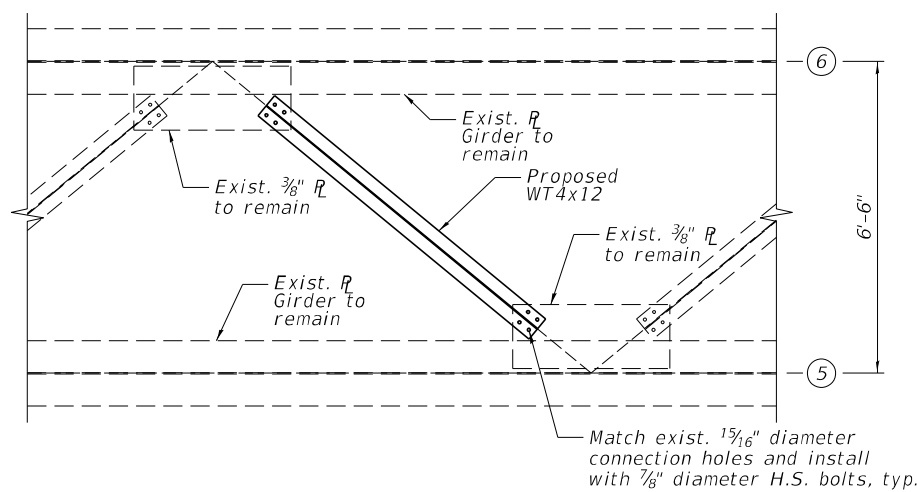
SHEET S17-19 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

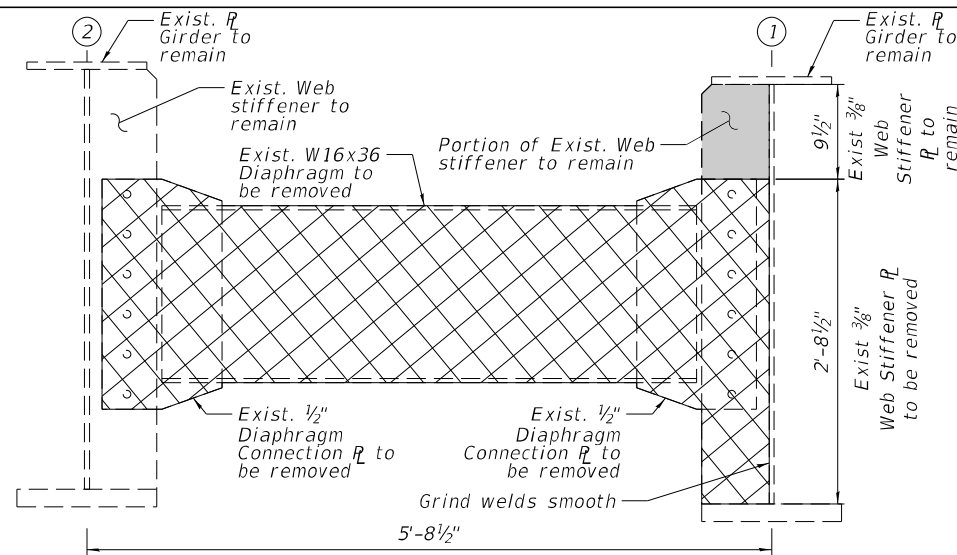
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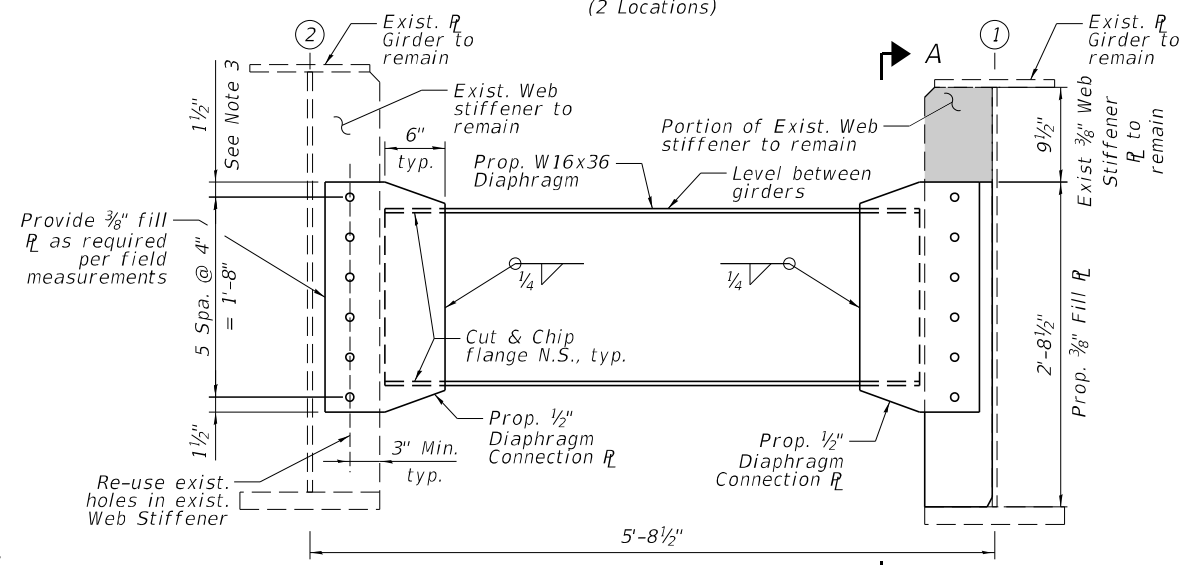
DETAIL 2
EXISTING LATERAL BRACING REMOVAL



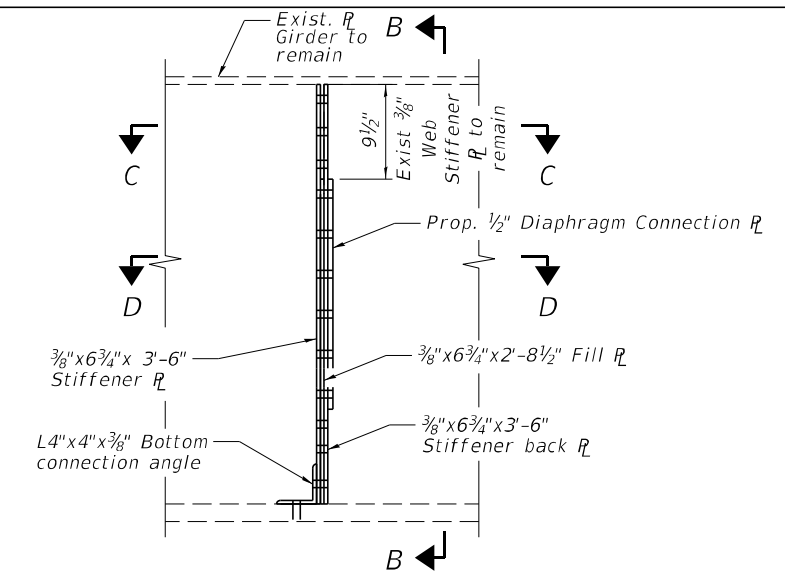
DETAIL 2
PROPOSED LATERAL BRACING



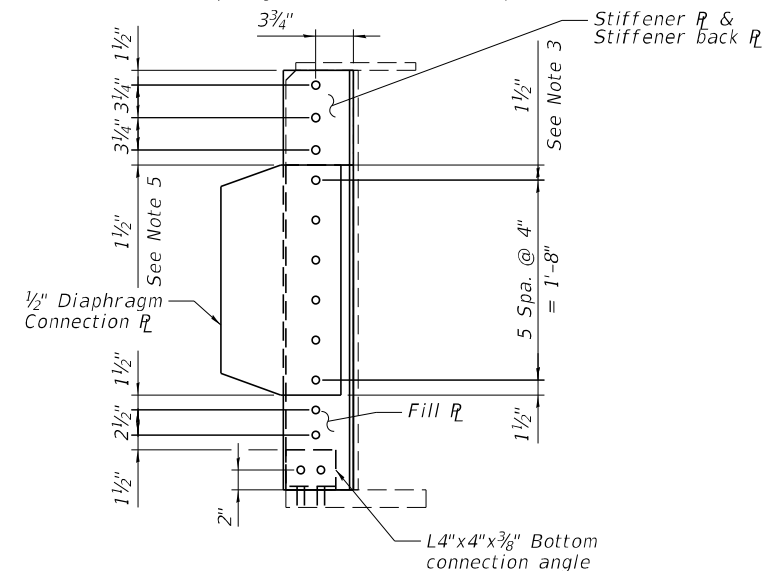
DETAIL 3
EXISTING INTERIOR DIAPHRAGM AND STIFFENER REMOVAL
(2 Locations)



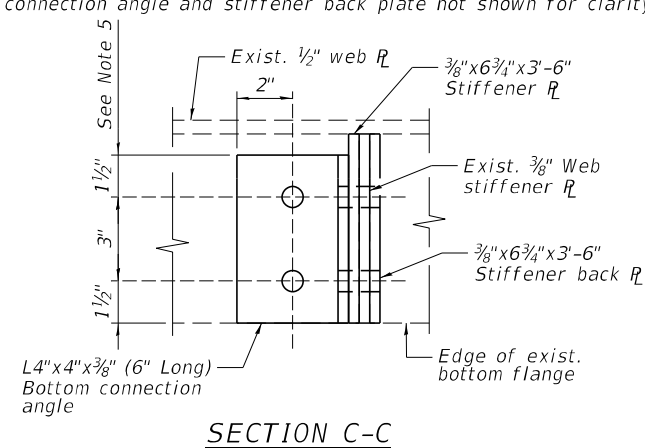
DETAIL 3
PROPOSED INTERIOR DIAPHRAGM AND STIFFENER
(2 Locations)
(Bottom connection angle and stiffener back plate not shown for clarity)



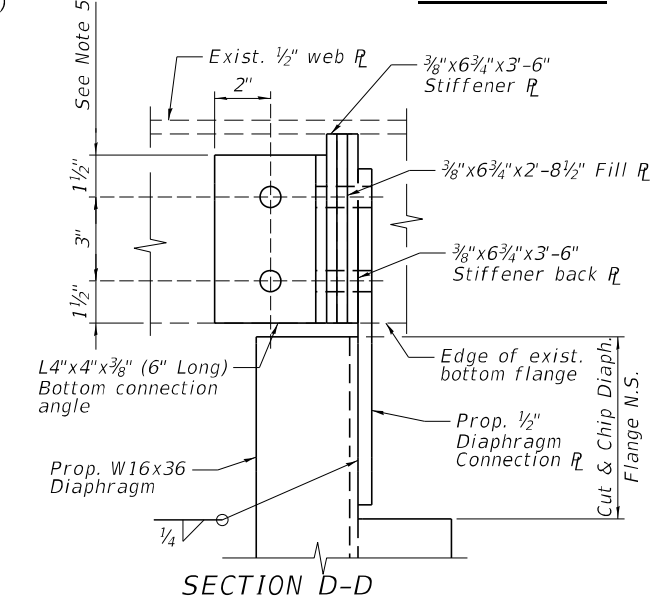
VIEW A-A
(Diaphragm not shown for clarity)



SECTION B-B



SECTION C-C



SECTION D-D

LEGEND

Remove and Replace Exist. steel

NOTES

1. For location of Details 2 and 3 and Bill of Material, see Sheet S17-19.
2. All proposed Structural Steel members shall conform to the requirements of AASHTO M270 Grade 36.
3. Diaphragm connection holes shall be $1\frac{5}{16}$ " ϕ for $\frac{3}{4}$ " ϕ H.S. bolts. Two $\frac{5}{16}$ " thick hardened washers shall be required over all $1\frac{5}{16}$ " ϕ holes. Fasteners shall be high strength bolts.
4. Cost of field drilling and bolts shall be included in the cost of Furnishing and Erecting Structural Steel.
5. Holes in new steel shall be $1\frac{3}{16}$ " ϕ for $\frac{3}{4}$ " ϕ H.S. bolts unless noted otherwise. Field drill $1\frac{3}{16}$ " ϕ holes in existing steel using holes in the new steel as a template.



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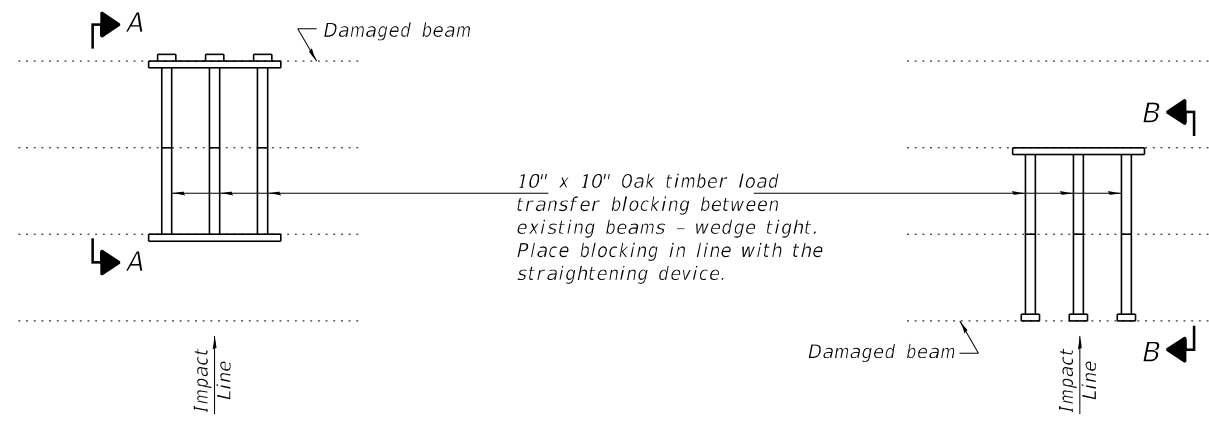
STRUCTURAL STEEL REPAIR DETAILS (SHEET 1 OF 2)
STRUCTURE NO. 016-0116 (NB)

SHEET S17-20 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	820
CONTRACT NO. 62K73				

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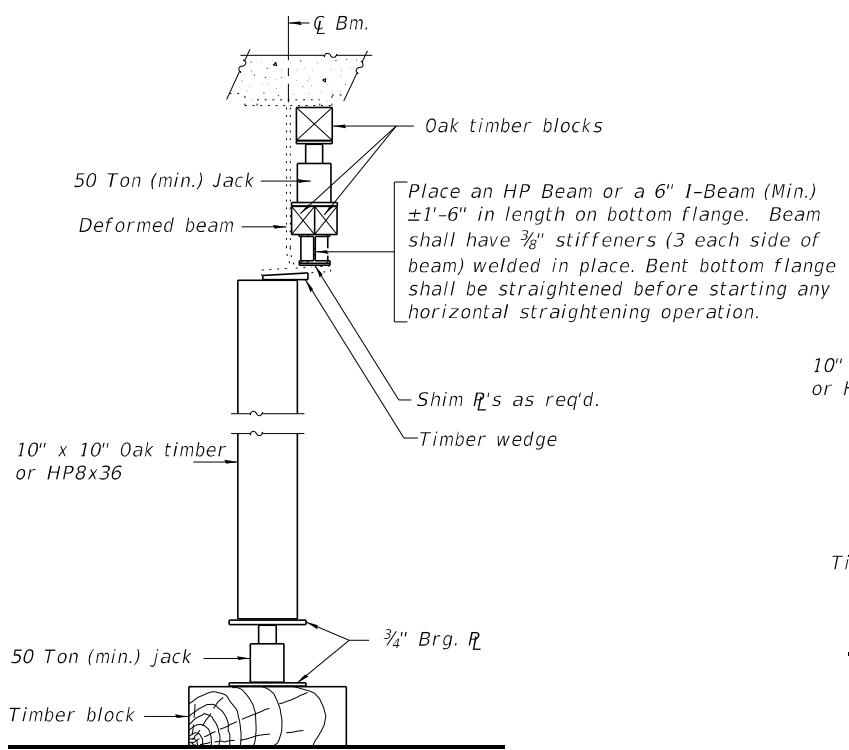
PULLING DEVICE

PARTIAL PLANS

PUSHING DEVICE

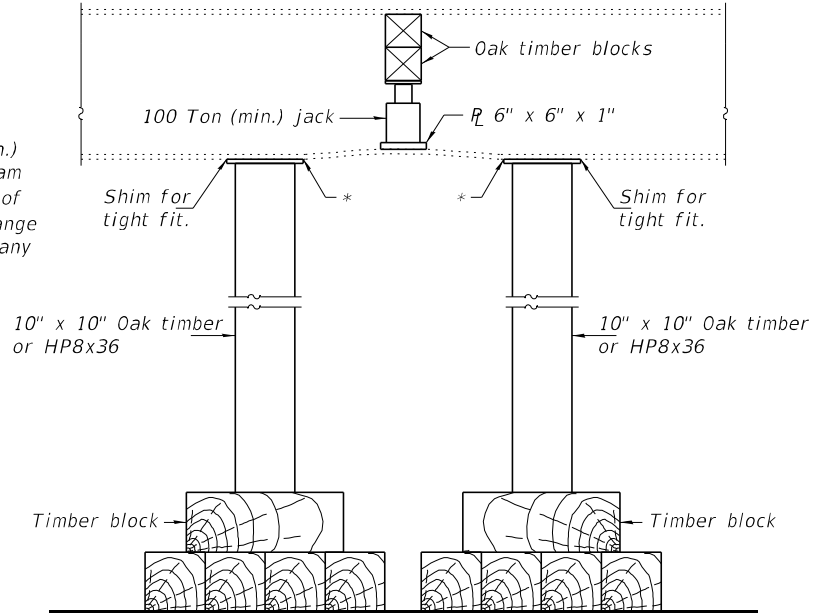
SUGGESTED BEAM STRAIGHTENING METHODS

Straightening force shall be maintained on all load transfer blocking during beam straightening.



SUGGESTED VERTICAL STRAIGHTENING DETAIL

(To correct flange rotation.)

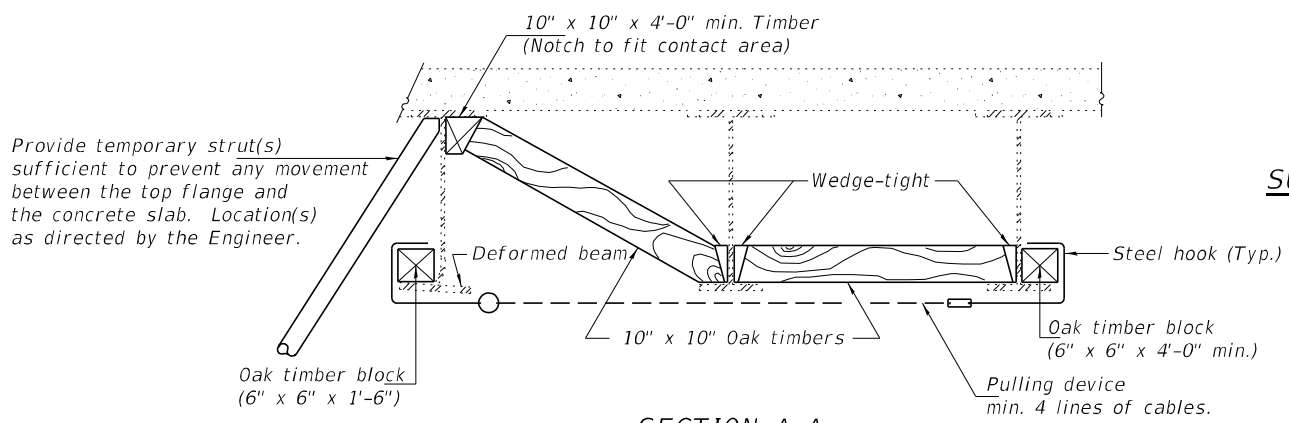


SUGGESTED VERTICAL STRAIGHTENING DETAIL

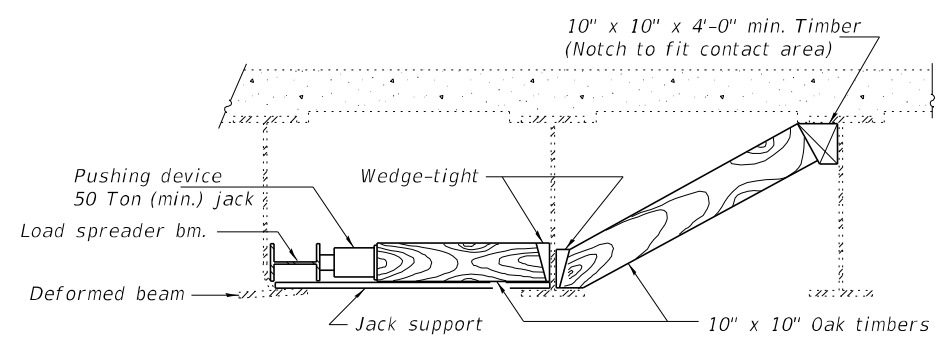
(To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.

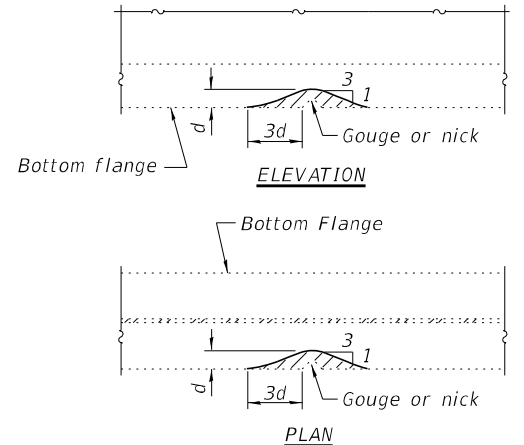
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A

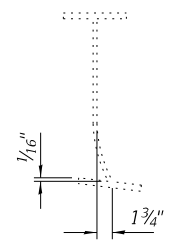


SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using dye penetrant or magnetic particle testing prior to initiating any beam straightening operations. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



EXISTING DEFORMATION TO BE STRAIGHTENED

(Span 2, Looking North)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 45'-0".

DETAIL 4

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS (SHEET 2 OF 2)
STRUCTURE NO. 016-0116 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	821
CONTRACT NO. 62K73				

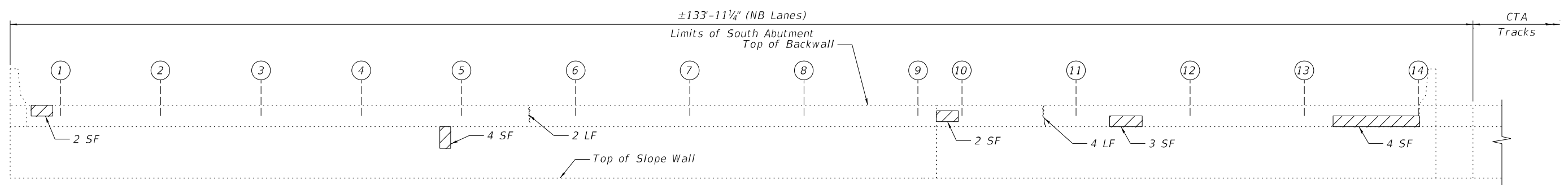
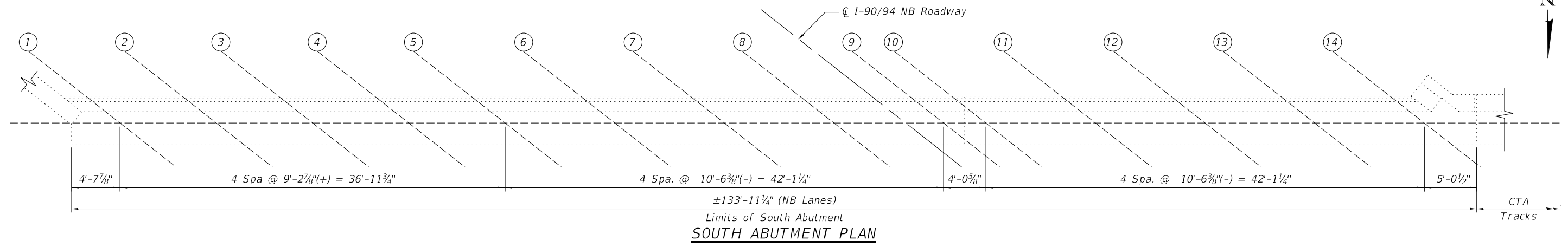
SHEET S17-21 OF S17-28 SHEETS

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	CHECKED - TPS	REVISED -



SOUTH ABUTMENT ELEVATION
(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.
- For Slope wall repairs, see Sheet S17-27.

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	681
Epoxy Crack Injection	Foot	6
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	15

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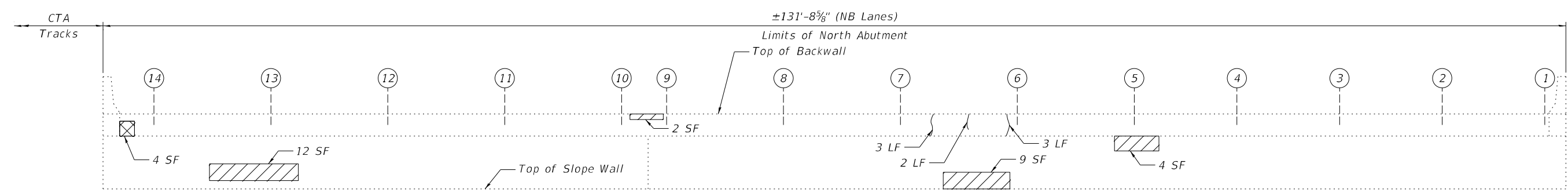
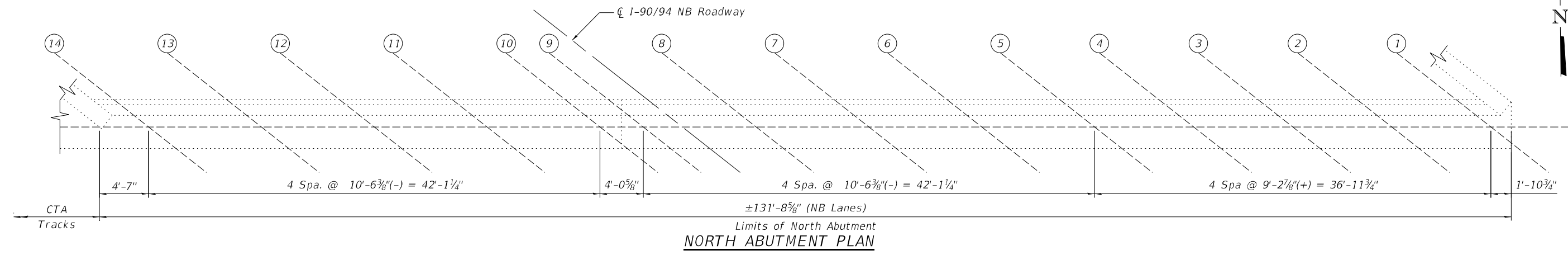
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SOUTH ABUTMENT REPAIRS
STRUCTURE NO. 016-0116 (NB)

SHEET S17-22 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	822
CONTRACT NO. 62K73				
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NORTH ABUTMENT ELEVATION
(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.
- For Slope wall repairs, see Sheet S17-27.

LEGEND

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	670
Epoxy Crack Injection	Foot	8
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	27
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	4

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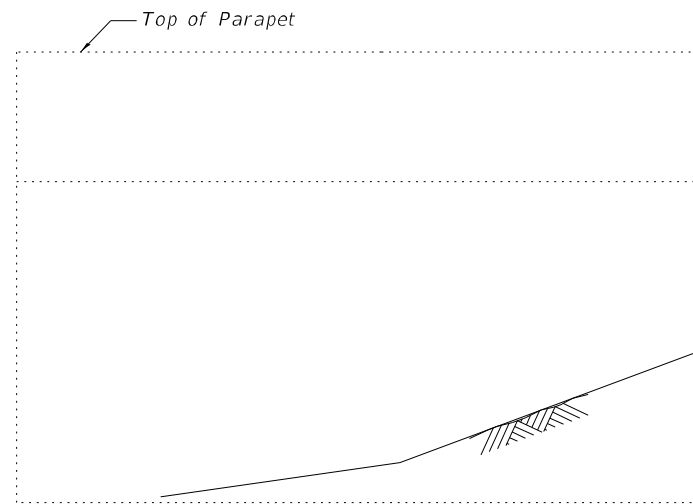
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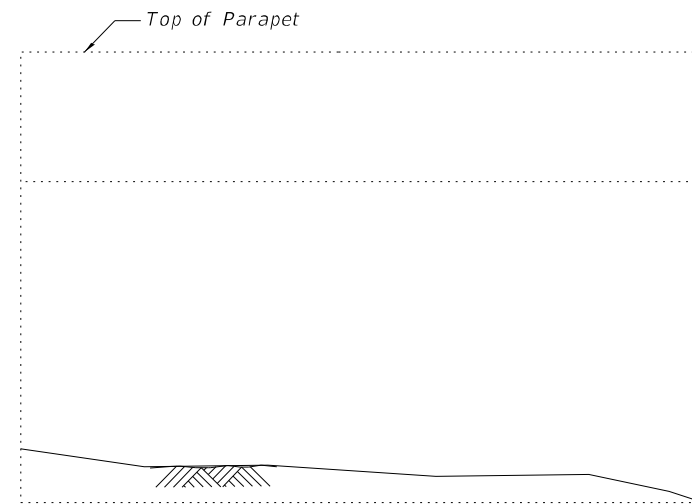
NORTH ABUTMENT REPAIRS
STRUCTURE NO. 016-0116 (NB)

SHEET S17-23 OF S17-28 SHEETS

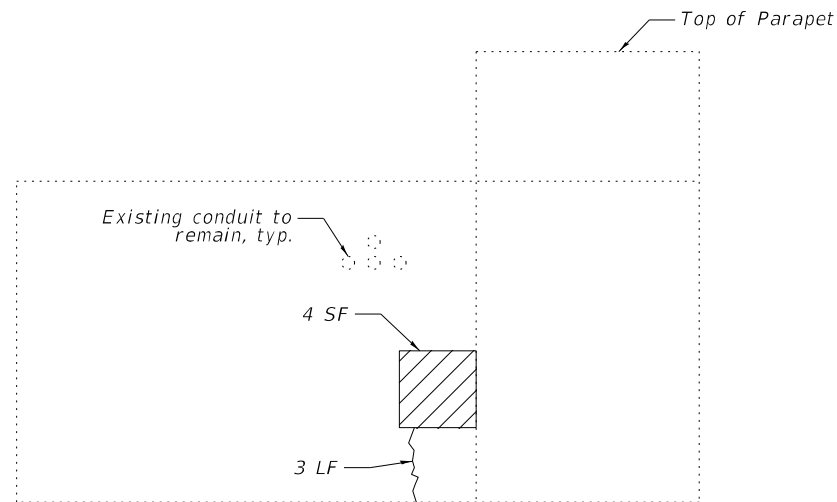
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90/94	1009-414-HB	COOK	908	823
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



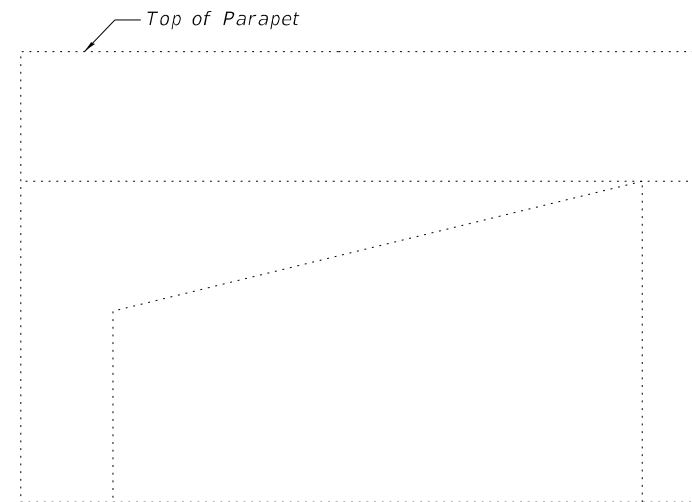
NORTHEAST WING WALL SURVEY



SOUTHEAST WING WALL SURVEY



NORTHWEST WING WALL SURVEY

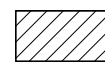



SOUTHWEST WING WALL SURVEY

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.

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	3
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	4

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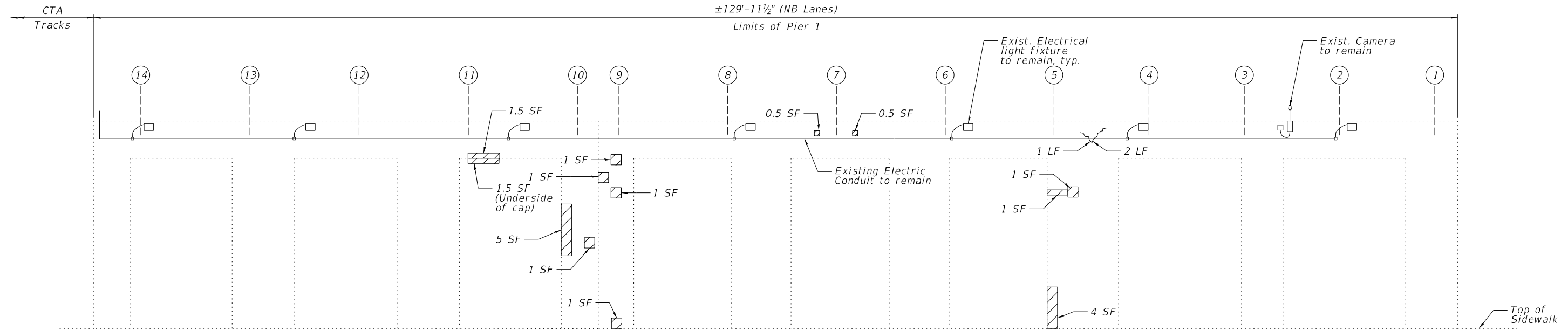
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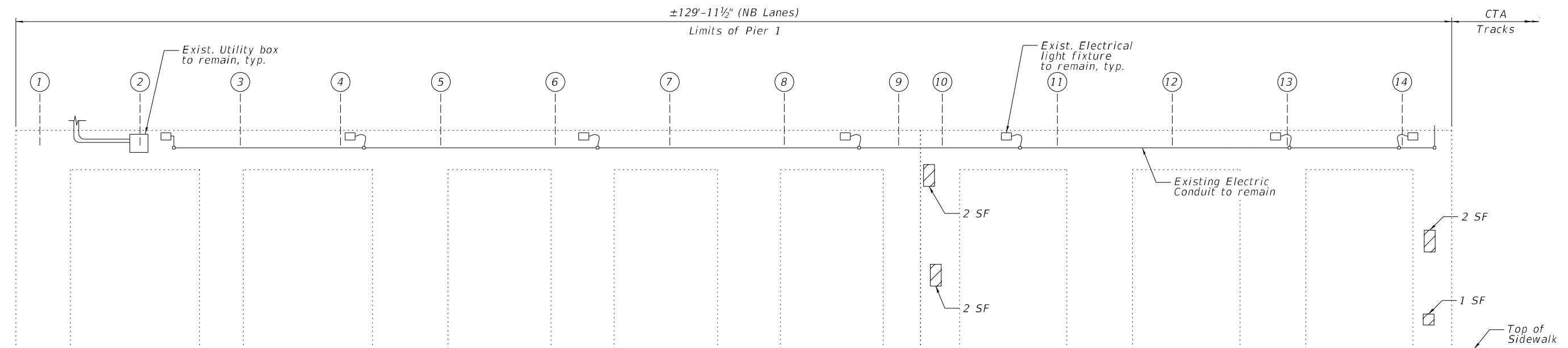
**WING WALL REPAIRS
STRUCTURE NO. 016-0116 (NB)**

SHEET S17-24 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	824
			CONTRACT NO. 62K73	
		ILLINOIS	FED. AID PROJECT	



PIER 1 SOUTH FACE ELEVATION
(Looking North)



PIER 1 NORTH FACE ELEVATION
(Looking South)



EXISTING LIGHTING: PIER 1
(Looking West)



EXISTING LIGHTING: PIER 1
(Looking Southeast)

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.

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	3
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	27

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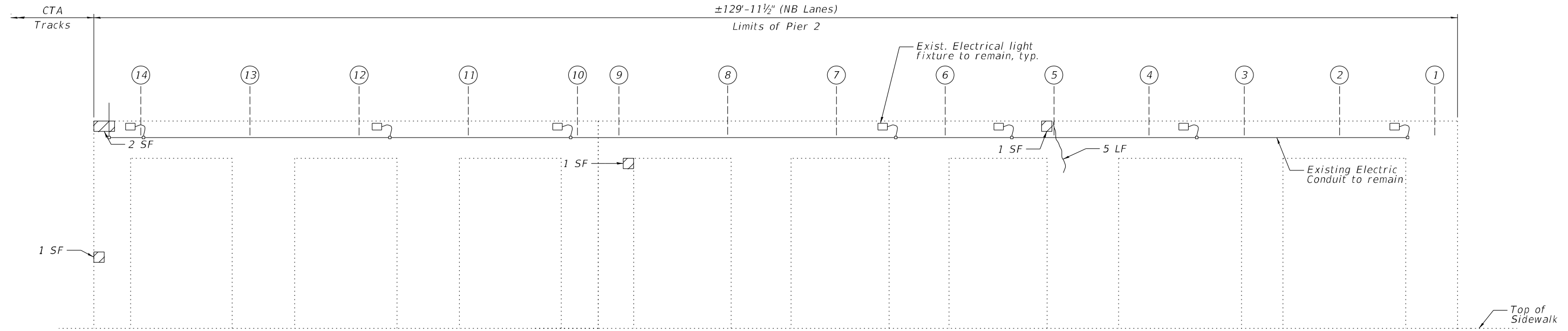
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PIER 1 REPAIRS
STRUCTURE NO. 016-0116 (NB)

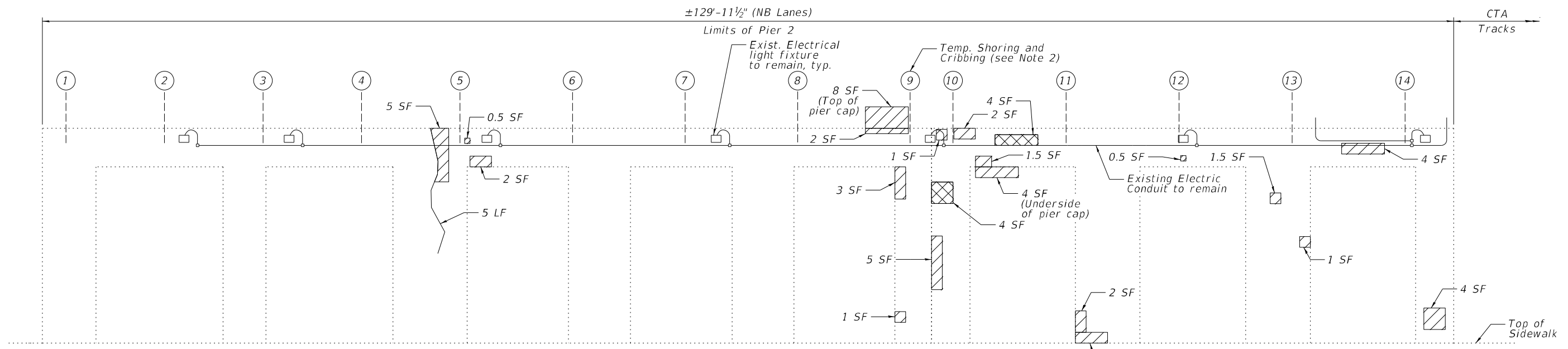
SHEET S17-25 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	825
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT



PIER 2 SOUTH FACE ELEVATION
(Looking North)



PIER 2 NORTH FACE ELEVATION
(Looking South)



EXISTING LIGHTING: PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2
(Looking Northwest)

NOTE:

- 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.

LEGEND

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

SUMMARY OF REACTIONS PIER 2 BEAM 9	
R DL (k)	147.3
R LL (k)	65.5
R IM (k)	9.3
R Total (k)	222.1

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	10
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	56
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	8
Temporary Shoring and Cribbing	Each	1



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REVISED -

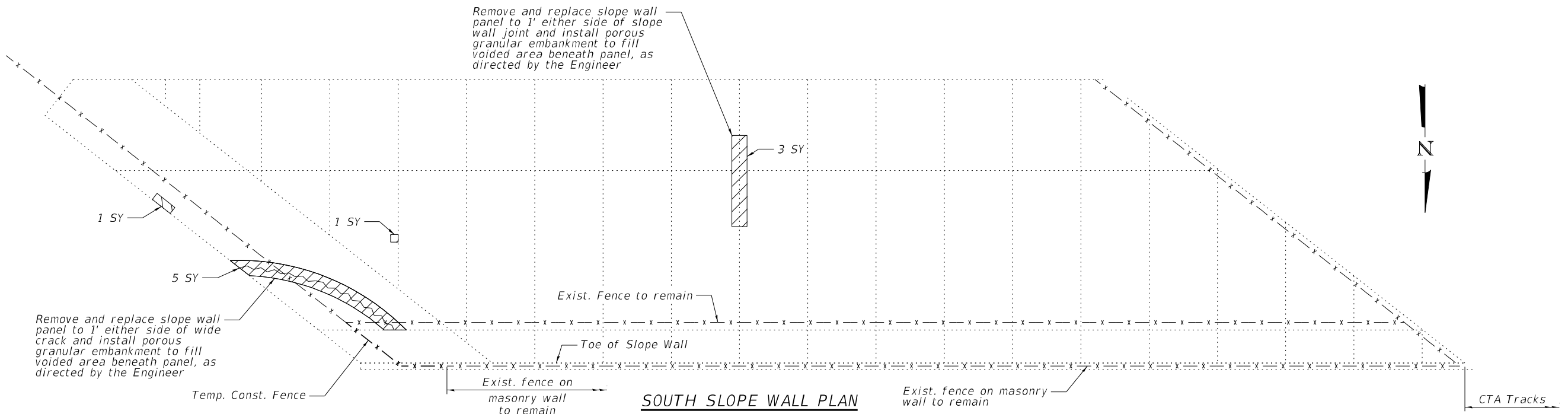
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**PIER 2 REPAIRS
STRUCTURE NO. 016-0116 (NB)**

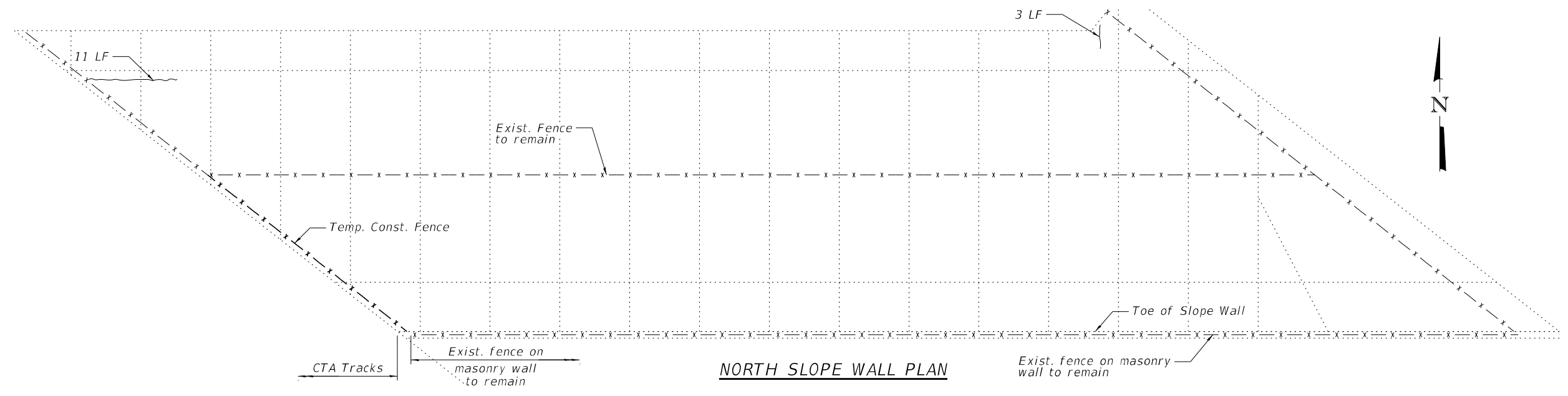
SHEET S17-26 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	826
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		

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SOUTH SLOPE WALL PLAN



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

LEGEND

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	3
Slope Wall Removal	Sq Yd	10
Slope Wall 4 Inch	Sq Yd	10
Slope Wall Crack Sealing	Foot	14

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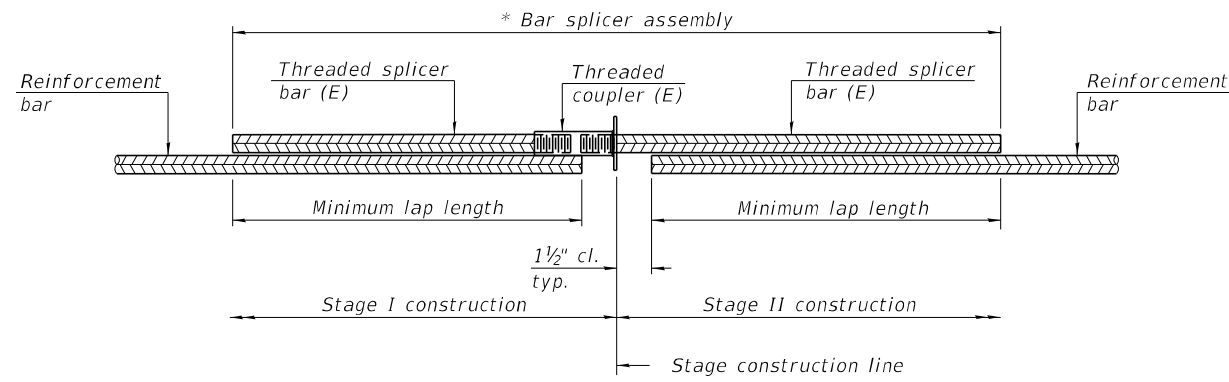
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**SLOPE WALL REPAIRS
STRUCTURE NO. 016-0116 (NB)**

SHEET S17-27 OF S17-28 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	827
			CONTRACT NO. 62K73	
ILLINOIS		FED. AID PROJECT		



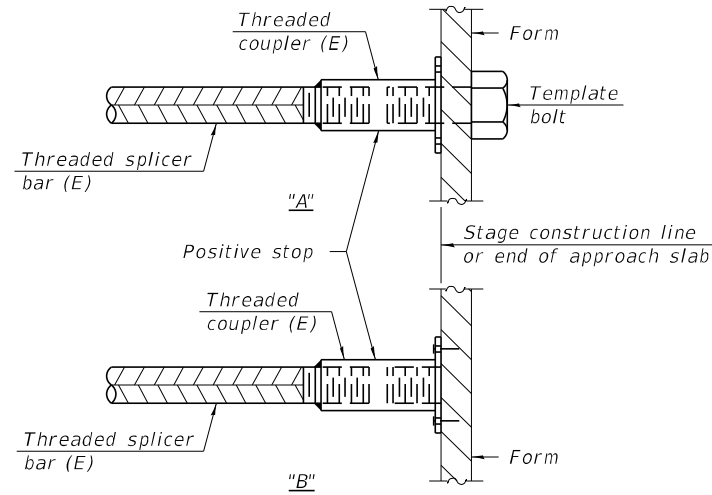
STANDARD BAR SPLICER ASSEMBLY PLAN

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

Threaded splicer bar length = min. lap length + 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
North Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"
South Abutment Exp. Jt.	#5	10	3'-6"
	#6	6	4'-0"

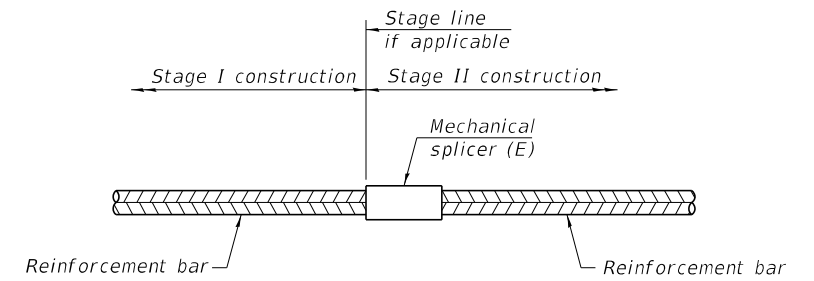


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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BSD-1

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PLOT DATE = 4/30/2024	CHECKED - TPS	REVISED -

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**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0116 (NB)**

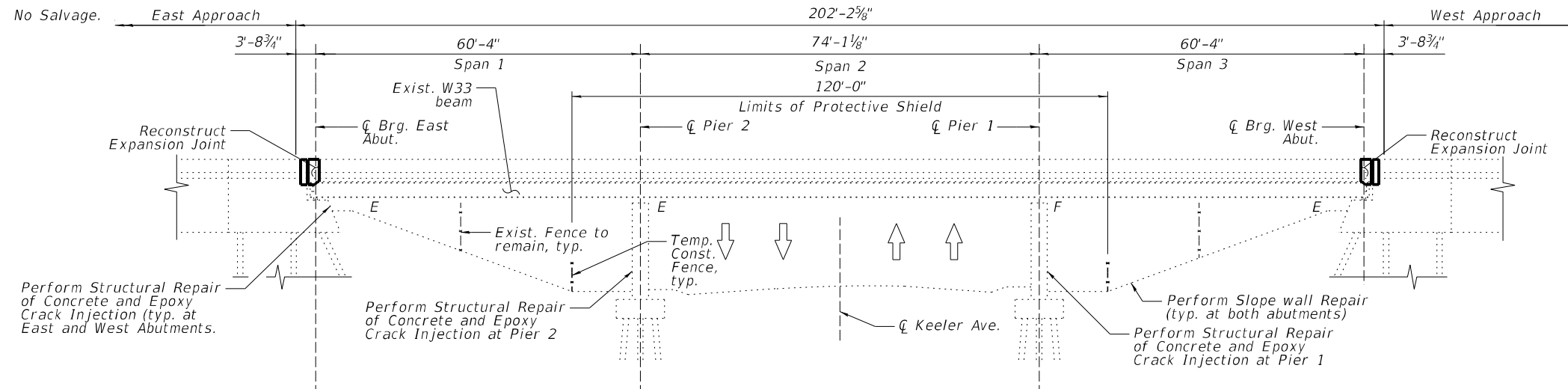
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1009-414-HB	COOK	908	828
			CONTRACT NO. 62K73	

SHEET S17-28 OF S17-28 SHEETS

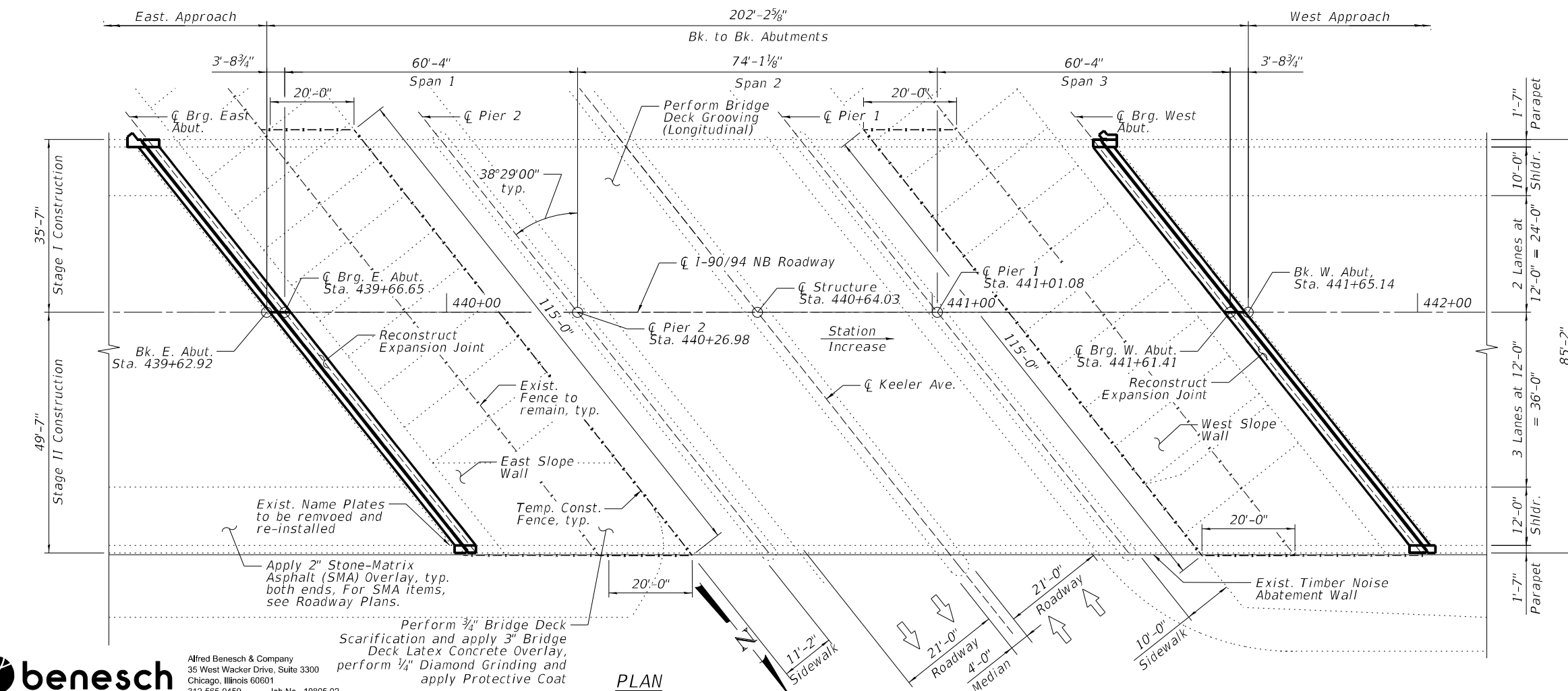
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Existing Structure: SN 016-0113 was originally built in 1958. The bridge was widened between 1990 and 1993, and expansion joint repairs were performed in 2013. The structure has a back-to-back abutment length of 202'-2⁵/₈" and an out-to-out deck width of 85'-2". The superstructure consists of a 7¹/₂" thick reinforced concrete deck supported on three span continuous steel beams of span lengths 60'-4", 74'-1¹/₈" and 60'-4". The substructure consists of reinforced concrete abutments and piers supported on piles.

Traffic is to be maintained utilizing stage construction.



ELEVATION



PLAN

LOADING

No Future Wearing Surface Allowed

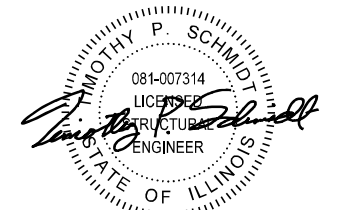
DESIGN SPECIFICATIONS

Current Project:
2002 AASHTO Standard Specifications
for Highway Bridges, 17th Edition.

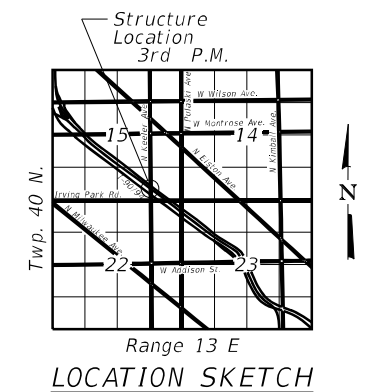
Reconstruction, 1993:
AASHTO (1983) with Interim
Specifications, AASHTO 1992 Standard
Specification for Highway Bridges

NOTE:

1. All stations are to the \bar{C} I-90/94 NB Roadway and taken from existing plans.



EXPIRATION DATE 11-30-2024
DATE: 4/29/2024



GENERAL PLAN AND ELEVATION
NB I-90/94 OVER KEELER AVE.
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION 440+64.03
S.N. 016-0113 (NB)

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STATE OF ILLINOIS
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STRUCTURE NO. 016-0113 (NB)

SHEET S18-01 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	829
CONTRACT NO. 62K73				
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 adjacent CTA tracks are 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 completions 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 included 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 construction chain-link-fence.
- The intent of the temporary construction 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.
- Concrete Sealer is to be applied to the abutment seats and the bottom 2 ft of the abutment backwall. 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. See Special Provision for Debris Removal.

INDEX OF SHEETS

- S18-01 General Plan and Elevation
- S18-02 General Notes, Index of Sheets & Total Bill of Material
- S18-03 Stage Construction (Sheet 1 of 3)
- S18-04 Stage Construction (Sheet 2 of 3)
- S18-05 Stage Construction (Sheet 3 of 3)
- S18-06 Temporary Concrete Barrier
- S18-07 Deck Repair Plan
- S18-08 E. Abut. Joint Removal & Replacement (Sht. 1 of 5)
- S18-09 E. Abut. Joint Removal & Replacement (Sht. 2 of 5)
- S18-10 E. Abut. Joint Removal & Replacement (Sht. 3 of 5)
- S18-11 E. Abut. Joint Removal & Replacement (Sht. 4 of 5)
- S18-12 E. Abut. Joint Removal & Replacement (Sht. 5 of 5)
- S18-13 W. Abut. Joint Removal & Replacement (Sht. 1 of 5)
- S18-14 W. Abut. Joint Removal & Replacement (Sht. 2 of 5)
- S18-15 W. Abut. Joint Removal & Replacement (Sht. 3 of 5)
- S18-16 W. Abut. Joint Removal & Replacement (Sht. 4 of 5)
- S18-17 W. Abut. Joint Removal & Replacement (Sht. 5 of 5)
- S18-18 Preformed Joint Strip Seal
- S18-19 East Abutment Repairs
- S18-20 West Abutment Repairs
- S18-21 Wingwall Repairs
- S18-22 Pier 1 Repairs
- S18-23 Pier 2 Repairs
- S18-24 Slope wall Repairs
- S18-25 Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- Provide Protective shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform Deck Slab Repairs.
- Reconstruct Expansion Joints at the West and East Abutments and install new preformed joint strip seals.
- Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
- Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- Apply 2" Stone-Matrix Asphalt (SMA) Overlay on the approach slabs, see Road 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 Concrete Overlay.
- Perform structural concrete repairs for the abutments and piers as noted on the plans.
- Perform Slope Wall repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	---	5	5
Concrete Removal	Cu Yd	40.2	---	40.2
Slope Wall Removal	Sq Yd	---	16	16
Protective Shield	Sq Yd	1,136	---	1,136
Concrete Superstructure	Cu Yd	44.7	---	44.7
Protective Coat	Sq Yd	2,014	---	2,014
Reinforcement Bars, Epoxy Coated	Pound	5,940	---	5,940
Bar Splicers	Each	32	---	32
Slope Wall 4 Inch	Sq Yd	---	16	16
Preformed Joint Strip Seal	Foot	214	---	214
Concrete Sealer	Sq Ft	---	1,221	1,221
Epoxy Crack Injection	Foot	---	13	13
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,310	---	1,310
Protect and Maintain Existing Underpass Luminaire	L Sum	---	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	53	---	53
Approach Slab Repair (Partial Depth)	Sq Yd	53	---	53
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,753	---	1,753
Bridge Deck Scarification 3/4"	Sq Yd	1,753	---	1,753
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	---	75	75
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	---	1	1
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1	---	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	1	---	1
Diamond Grinding (Bridge Section)	Sq Yd	1,742	---	1,742
Temporary Construction Fence	Foot	---	310	310
Temporary Shoring and Cribbing	Each	---	4	4
Locks for Gates	Each	---	4	4

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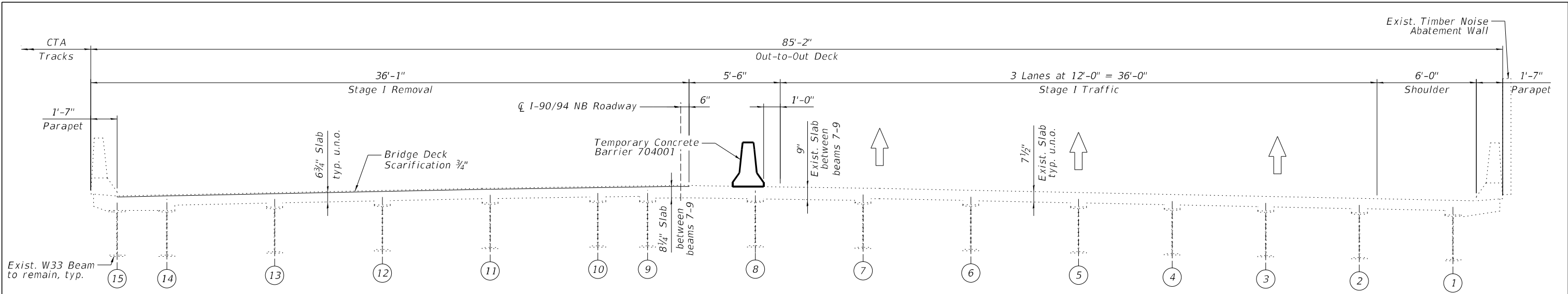
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DEPARTMENT OF TRANSPORTATION**

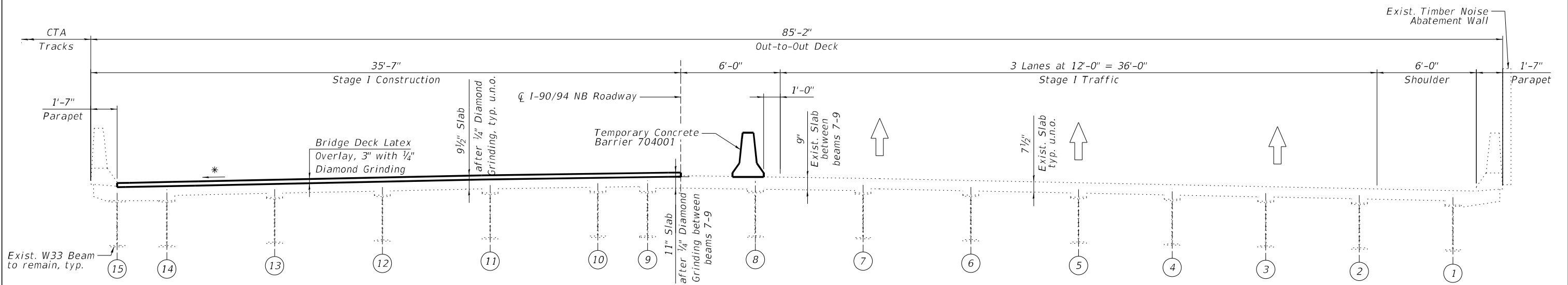
**GENERAL NOTES, INDEX OF SHEETS & TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-0113 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	830
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		

SHEET S18-02 OF S18-25 SHEETS



STAGE I REMOVAL
(Looking North)



STAGE I CONSTRUCTION
(Looking North)

*Match existing cross slopes

STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the east side of the existing 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 West and East Abutments.
5. Perform temporary shoring and cribbing at locations shown on the plans within the limits of Stage I Removal.

STAGE I CONSTRUCTION

1. Perform bridge deck slab repairs.
2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
4. Apply 3" Bridge Deck Latex Concrete Overlay.
5. Perform 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 top and inside faces of west parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.

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STAGE CONSTRUCTION (SHEET 1 OF 3)
STRUCTURE NO. 016-0113 (NB)

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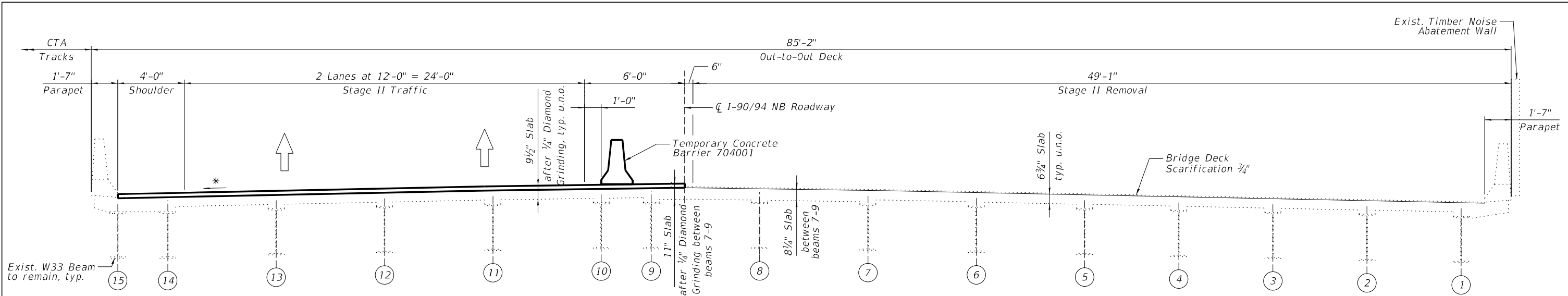
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	831
CONTRACT NO. 62K73				

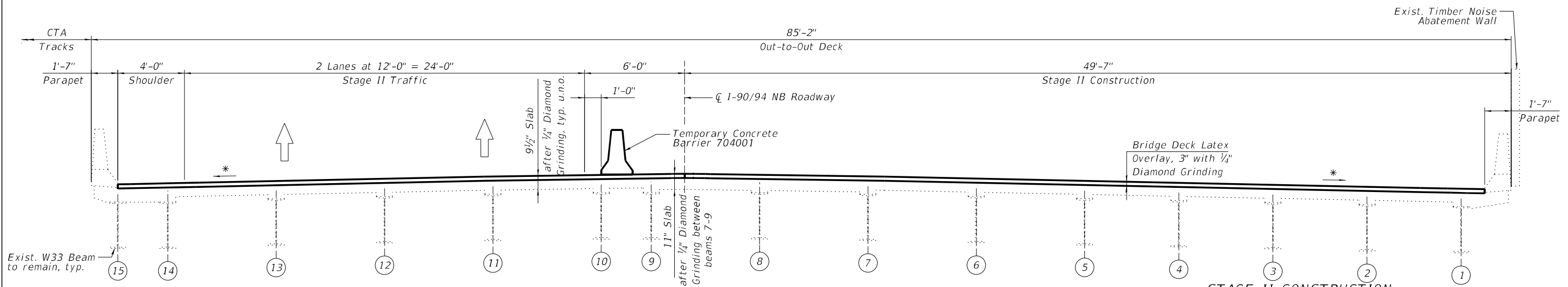
SHEET S18-03 OF S18-25 SHEETS

ILLINOIS FED. AID PROJECT

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STAGE II REMOVAL
(Looking North)



STAGE II CONSTRUCTION
(Looking North)

*Match existing cross slopes

STAGE II CONSTRUCTION

STAGE II REMOVAL

1. Install temporary concrete barrier as shown to locate traffic on the west side of the existing structure.
2. The Contractor shall remove, store, and re-erect portions of the structure mounted Timber Noise Abatement Wall that interferes with the joint reconstruction. The cost of this work, including any new hardware as required, is included in the cost of Concrete Superstructure.
3. Perform 3/4" bridge deck scarification.
4. Remove areas of existing deck for full-depth deck slab repairs at locations shown in the plans.
5. Remove portions of bridge concrete deck/ approach slab adjacent to expansion joints at the West and East Abutments.
6. Perform temporary shoring and cribbing at locations shown on the plans within the limits of Stage II Removal.

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 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 top and inside faces of east parapet, reconstructed transverse expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.
10. Re-erect the portion of the existing Timber Noise Abatement Wall removed for joint reconstruction. Refer to Removal note 2.



VIEW FROM DECK



VIEW FROM KEELER AVE.

EXIST. TIMBER NOISE ABATEMENT WALL PHOTOS

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STAGE CONSTRUCTION (SHEET 2 OF 3)
STRUCTURE NO. 016-0113 (NB)

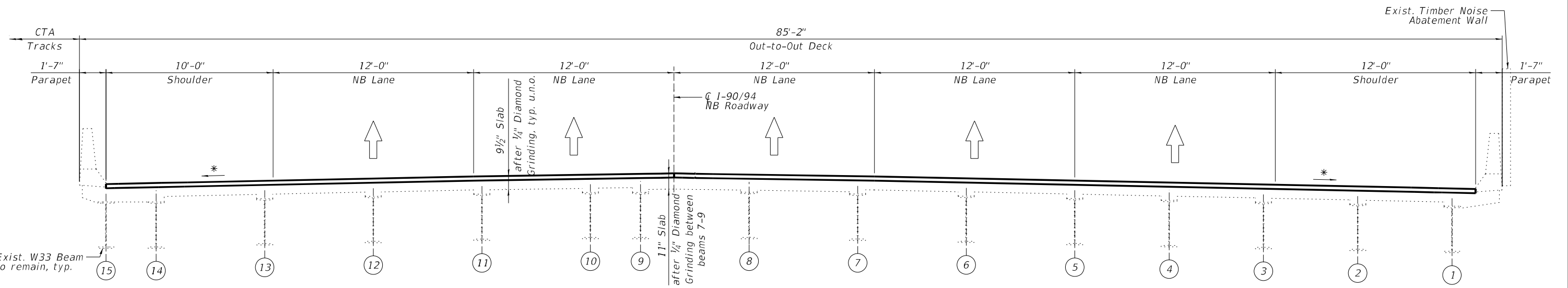
SHEET S18-04 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	832
CONTRACT NO. 62K73				

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FINAL DECK CROSS SECTION
 (Looking North)

*Match existing cross slopes

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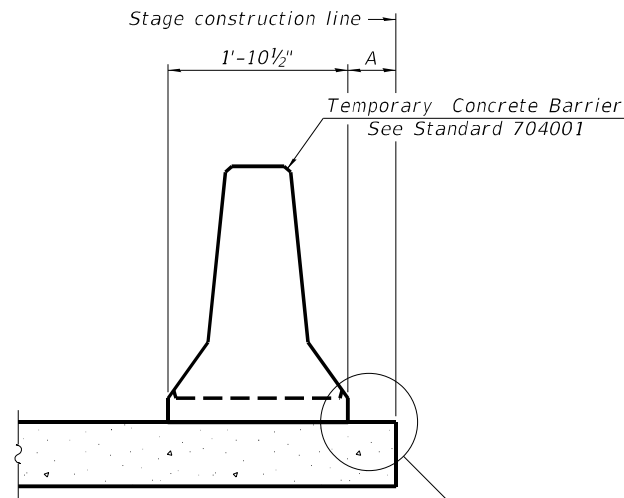
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STAGE CONSTRUCTION (SHEET 3 OF 3)
STRUCTURE NO. 016-0113 (NB)

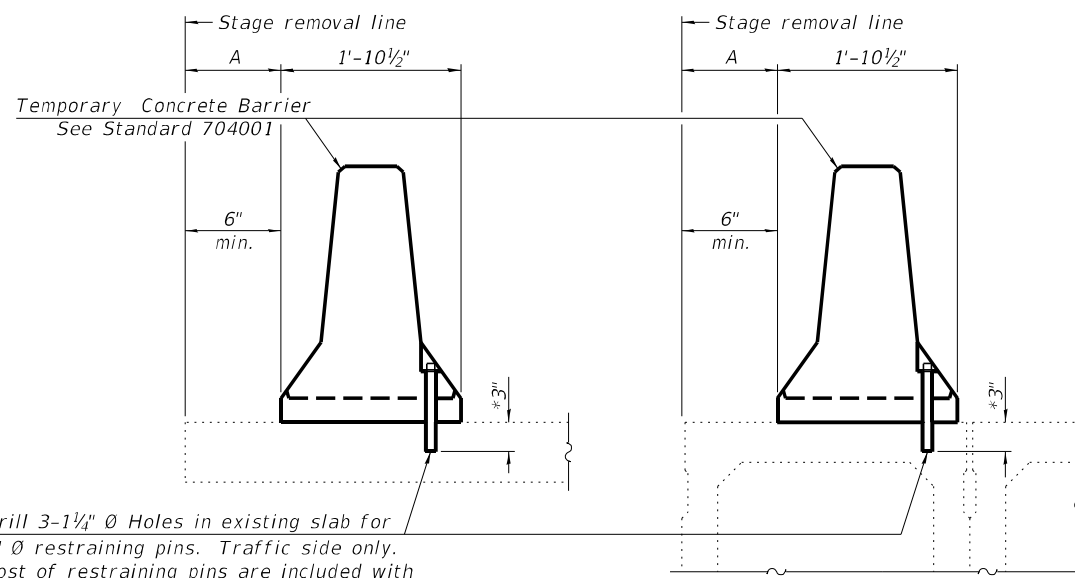
SHEET S18-05 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	833
CONTRACT NO. 62K73				
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



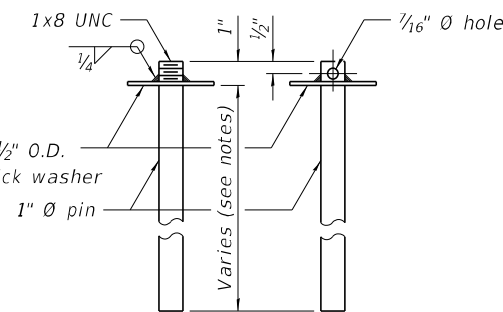
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

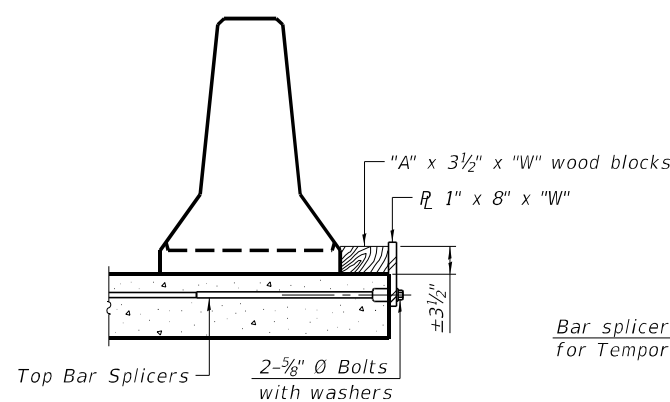
EXISTING DECK BEAM

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

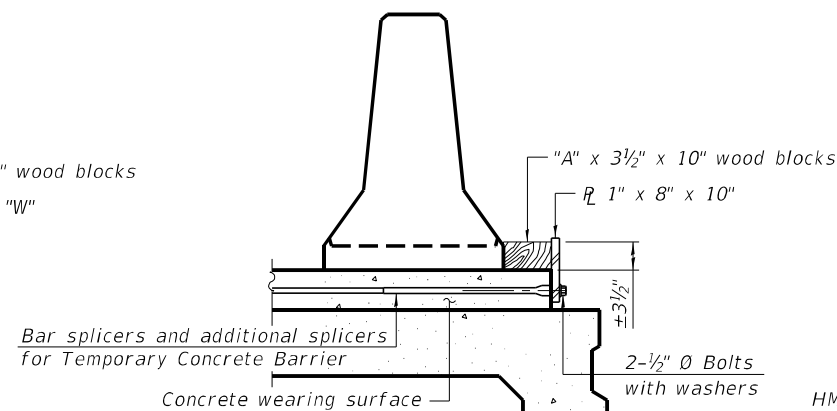
SECTIONS THRU SLAB OR DECK BEAM



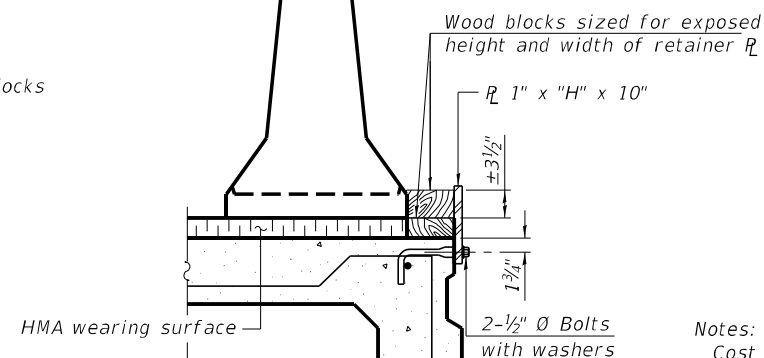
RESTRAINING PIN



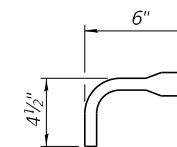
DETAIL I



DETAIL II



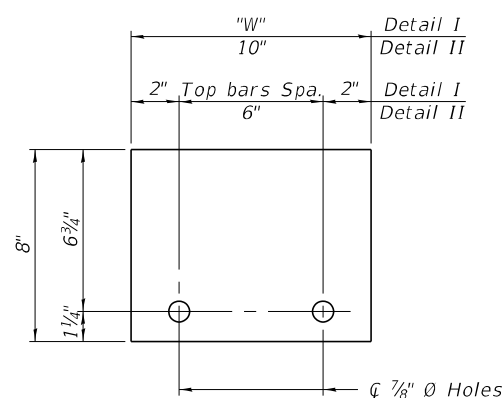
DETAIL III



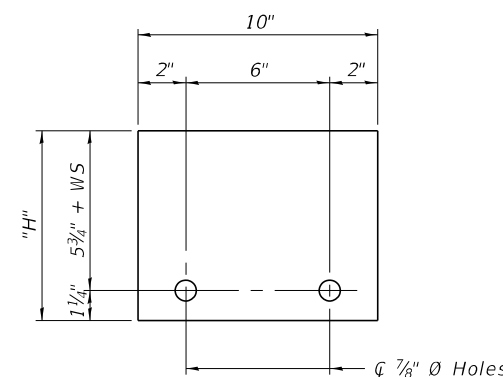
BAR SPLICER FOR #4 BAR - DETAIL III

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

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



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



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R-27

10-12-2021

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TEMPORARY CONCRETE BARRIER
 STRUCTURE NO. 016-0113 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	834
CONTRACT NO. 62K73				

SHEET S18-06 OF S18-25 SHEETS

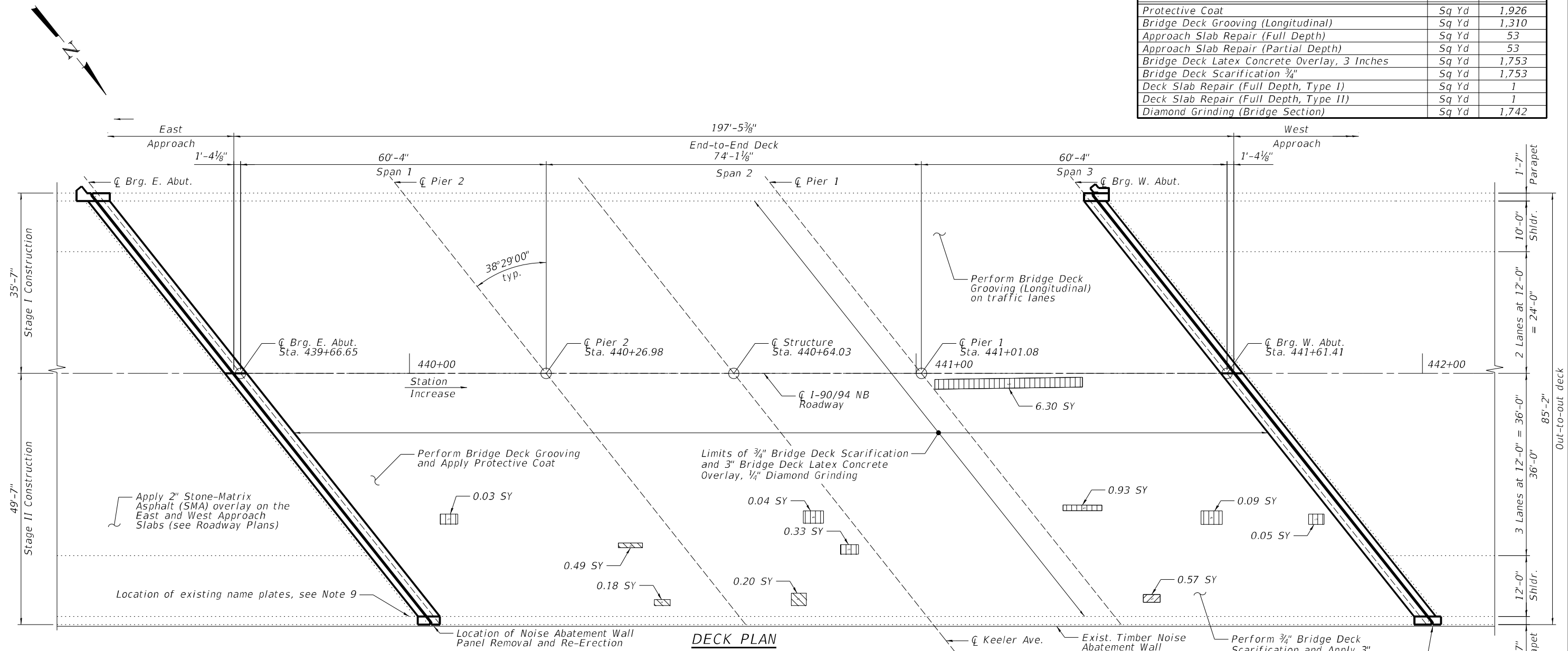
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BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	1,926
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,310
Approach Slab Repair (Full Depth)	Sq Yd	53
Approach Slab Repair (Partial Depth)	Sq Yd	53
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,753
Bridge Deck Scarification 3/4"	Sq Yd	1,753
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	1
Diamond Grinding (Bridge Section)	Sq Yd	1,742



NOTES

- Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
- For bridge deck final cross section, see Sheet S18-05.
- For East and West transverse joint removal and reconstruction, see Sheets S18-08 thru S18-17.
- Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Perform 1/4" diamond grinding to top of bridge deck and abutment hatched block.
- Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.
- 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.
- Remove, clean and re-install the existing name plates in the same location as required for parapet reconstruction and as directed by the Engineer. Cost included with Concrete Removal.
- Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of the bridge approach area) 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

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

* 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".

SY Square Yard

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**DECK REPAIR PLAN
STRUCTURE NO. 016-0113 (NB)**

SHEET S18-07 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	835
CONTRACT NO. 62K73				

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* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
 ** Cut existing wingwall vertical bars to clear proposed deck.

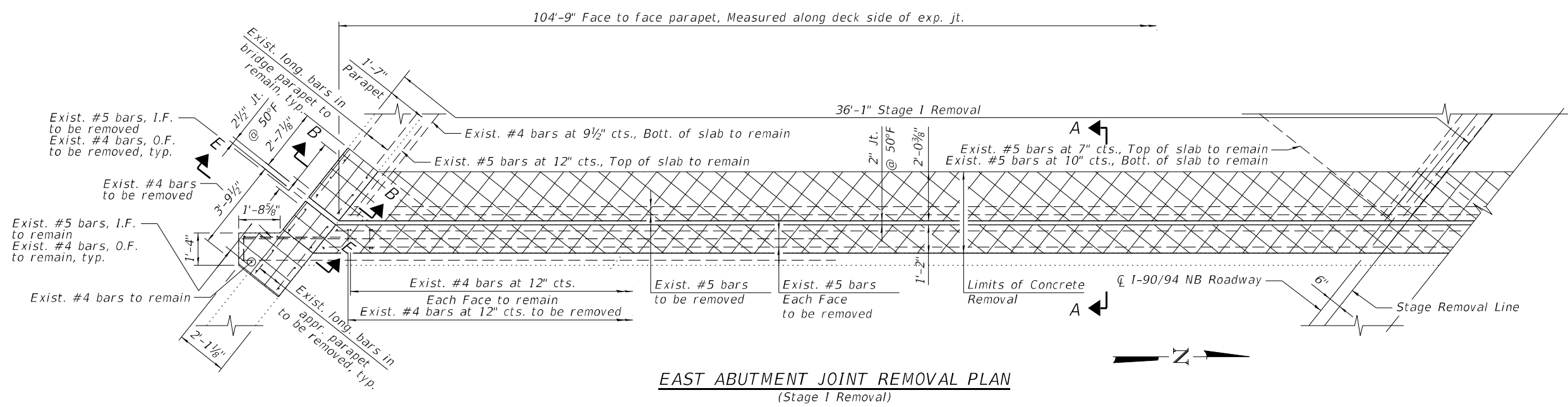
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**STATE OF ILLINOIS
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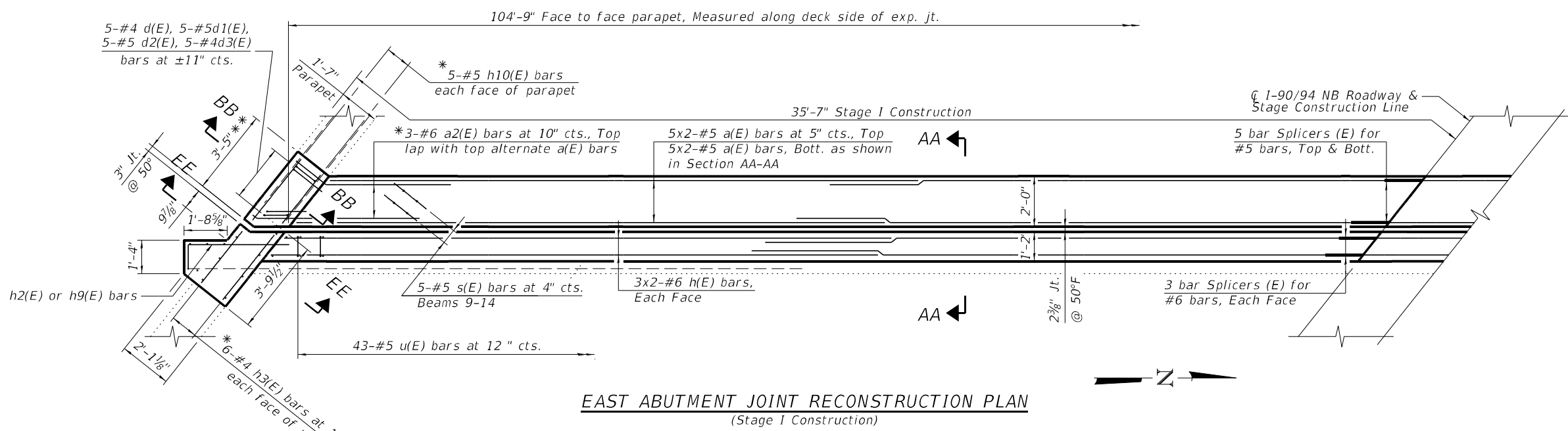
**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 5)
 STRUCTURE NO. 016-0113 (NB)**

SHEET S18-08 OF S18-25 SHEETS

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90/94	1010-415-HB	COOK	908	836
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



EAST ABUTMENT JOINT REMOVAL PLAN
 (Stage I Removal)



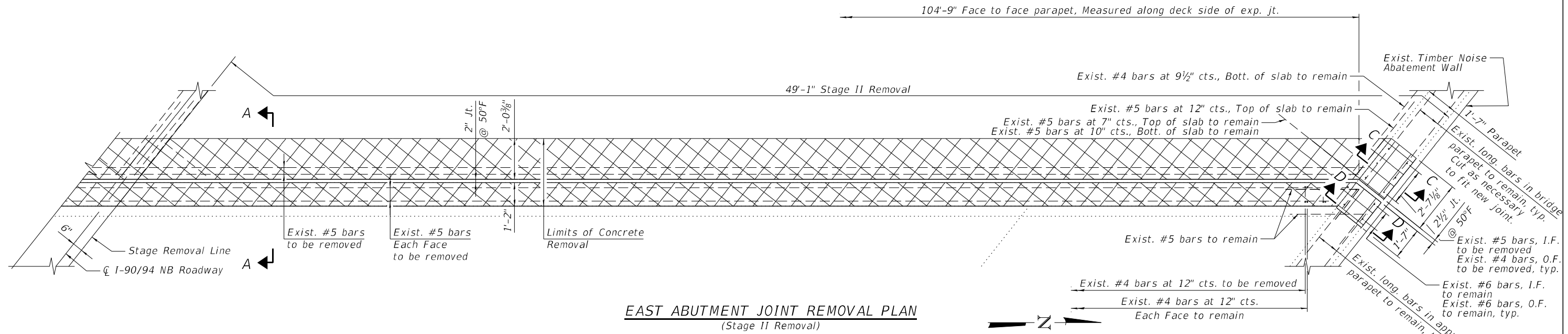
EAST ABUTMENT JOINT RECONSTRUCTION PLAN
 (Stage I Construction)

NOTES

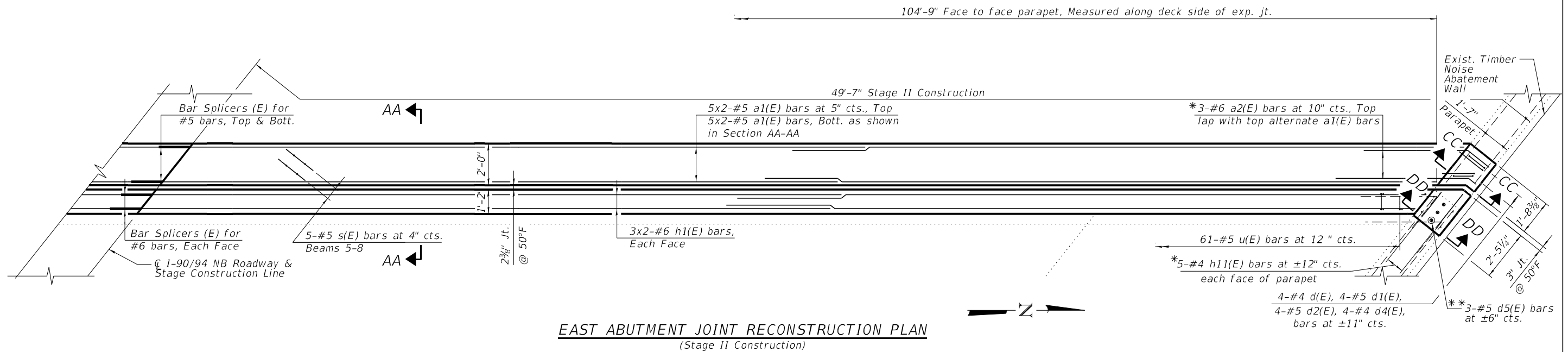
- For Sections A-A, B-B, AA-AA & BB-BB, see Sheet S18-10.
- For Sections E-E & EE-EE, see Sheet S18-11.
- For Notes, Bar bend diagrams and Bill of Material, see Sheet S18-12.

LEGEND

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



EAST ABUTMENT JOINT REMOVAL PLAN
(Stage II Removal)



EAST ABUTMENT JOINT RECONSTRUCTION PLAN
(Stage II Construction)

LEGEND

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

NOTES

1. For Sections A-A, C-C, AA-AA & CC-CC, see Sheet S18-10.
2. For Sections D-D & DD-DD, see Sheet S18-11.
3. For Notes, Bar bend diagrams and Bill of Material, see Sheet S18-12.

* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.

** Epoxy grout #5 d5(E) bars in 9" min. deep holes according to Section 584 of the Standard Specifications



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DEPARTMENT OF TRANSPORTATION

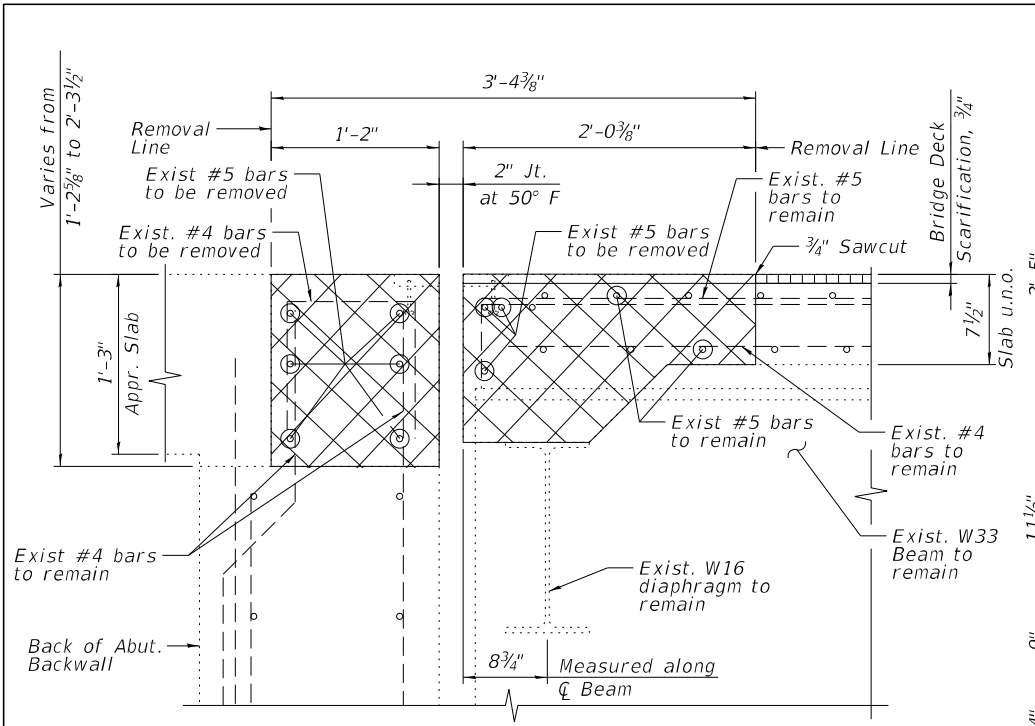
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 5)
STRUCTURE NO. 016-0113 (NB)

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90/94	1010-415-HB	COOK	908	837
CONTRACT NO. 62K73				

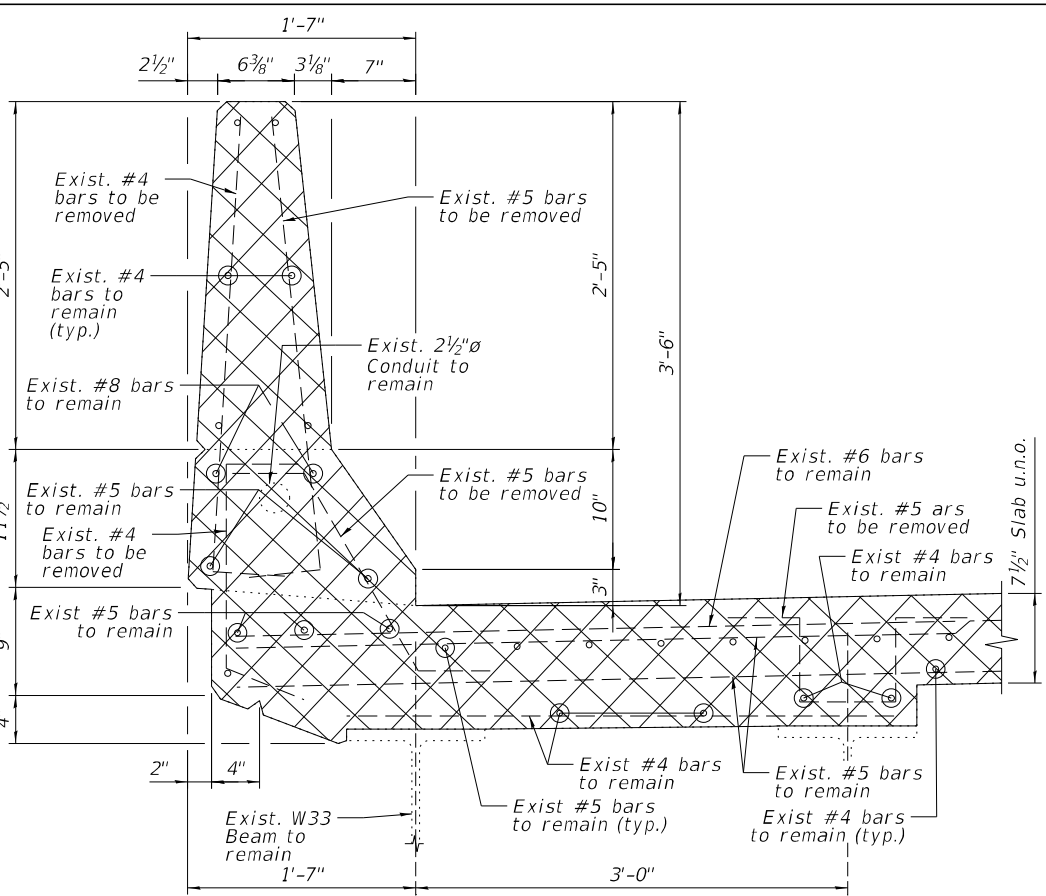
SHEET S18-09 OF S18-25 SHEETS

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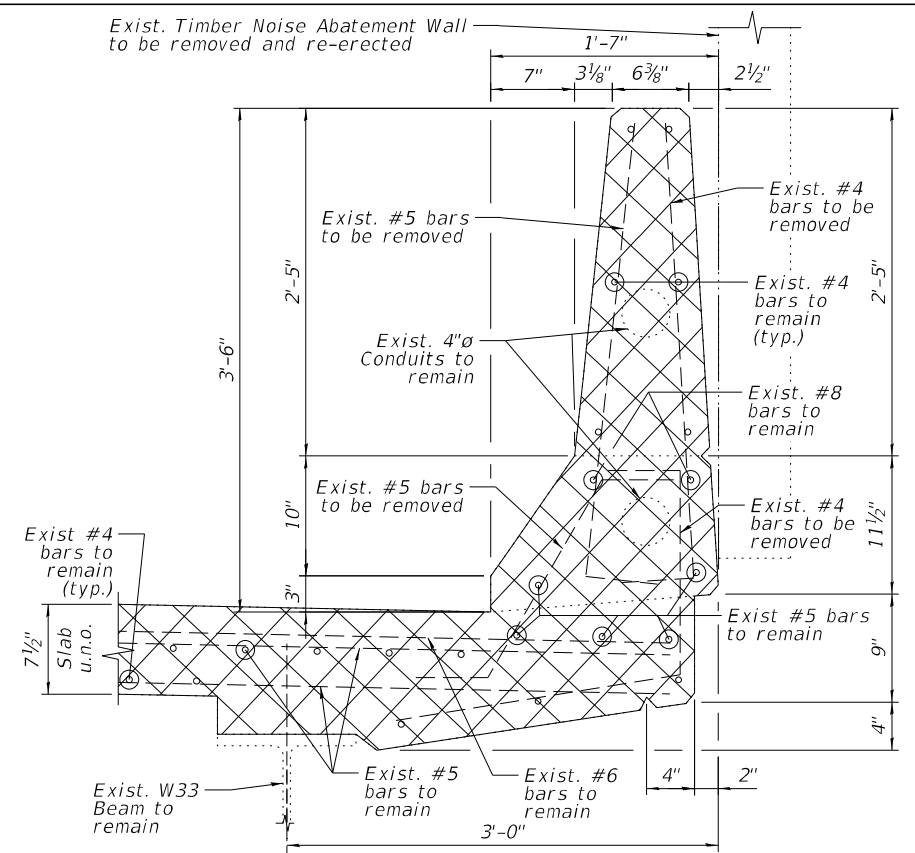
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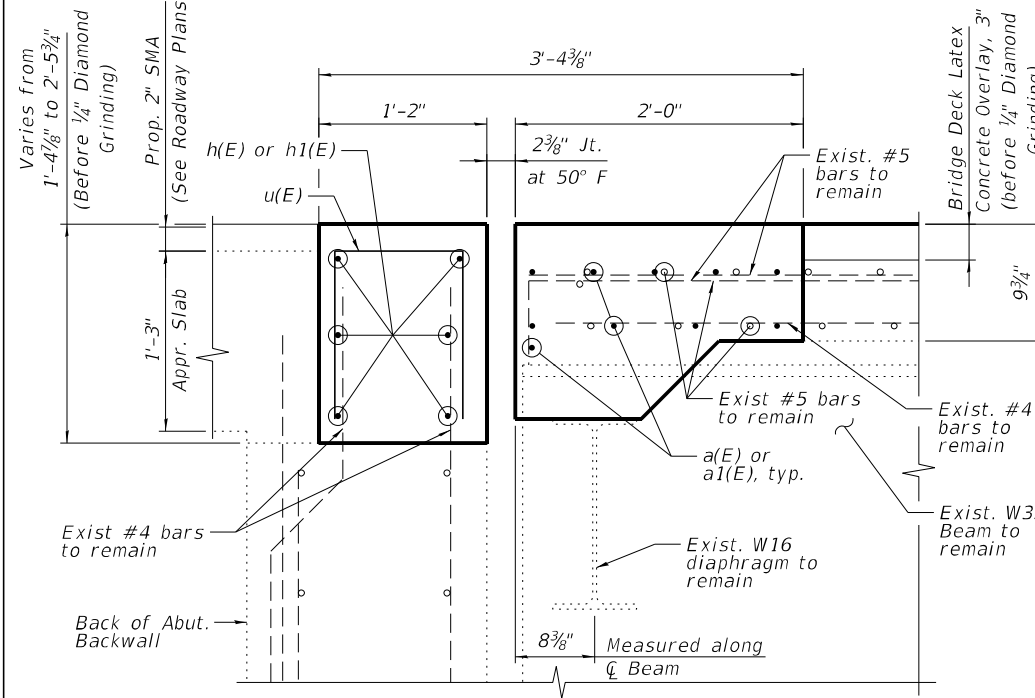
SECTION A-A



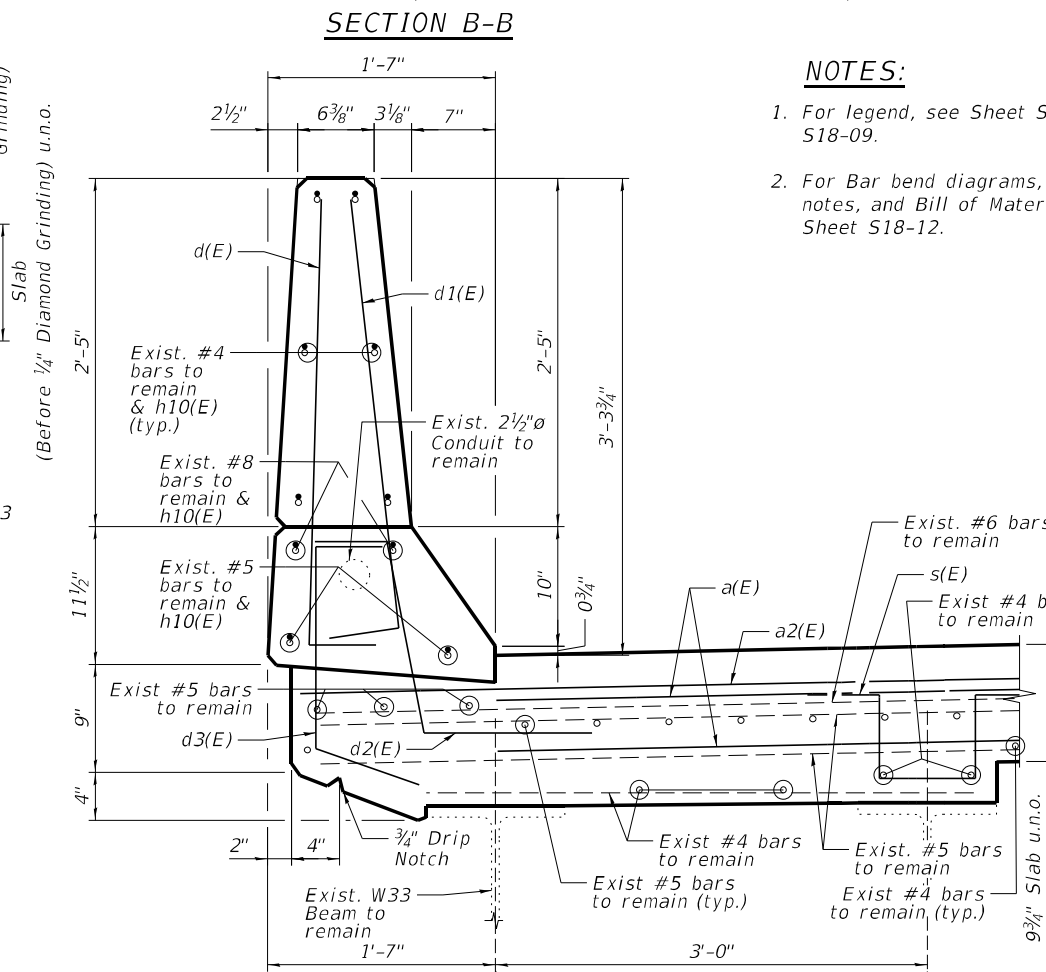
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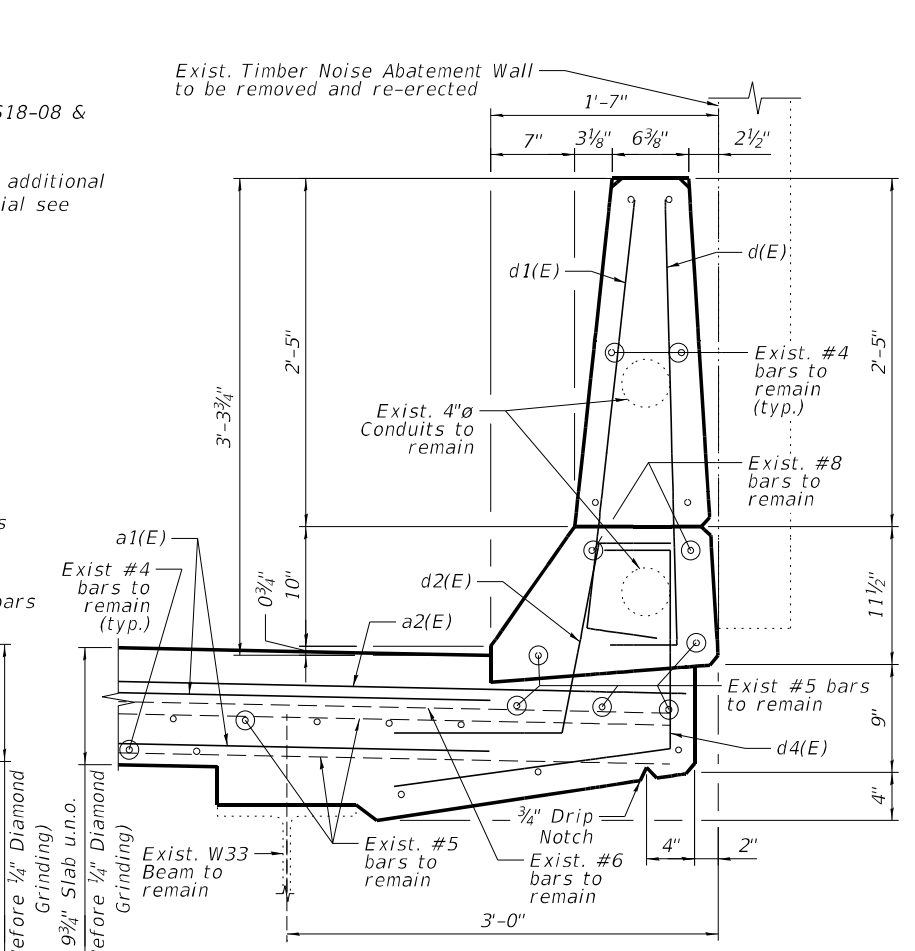
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For Legend, see Sheet S18-08 & S18-09.
2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S18-12.

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 DEPARTMENT OF TRANSPORTATION**

**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 5)
 STRUCTURE NO. 016-0113 (NB)**

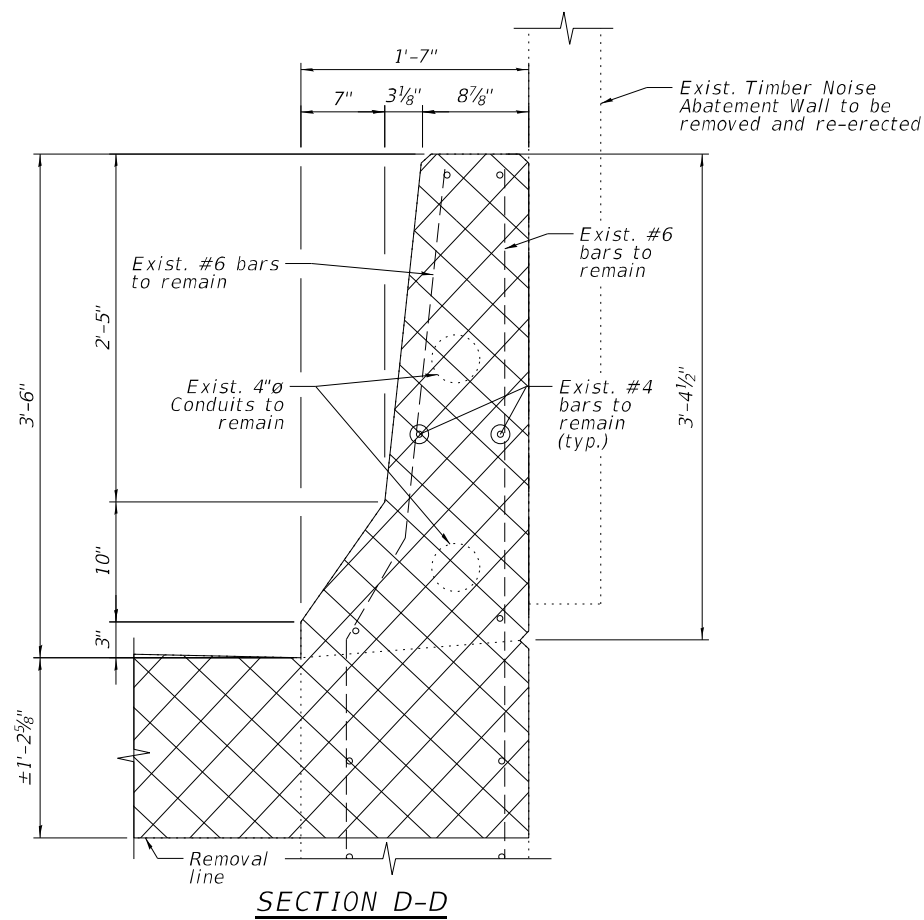
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CONTRACT NO. 62K73				

SHEET S18-10 OF S18-25 SHEETS

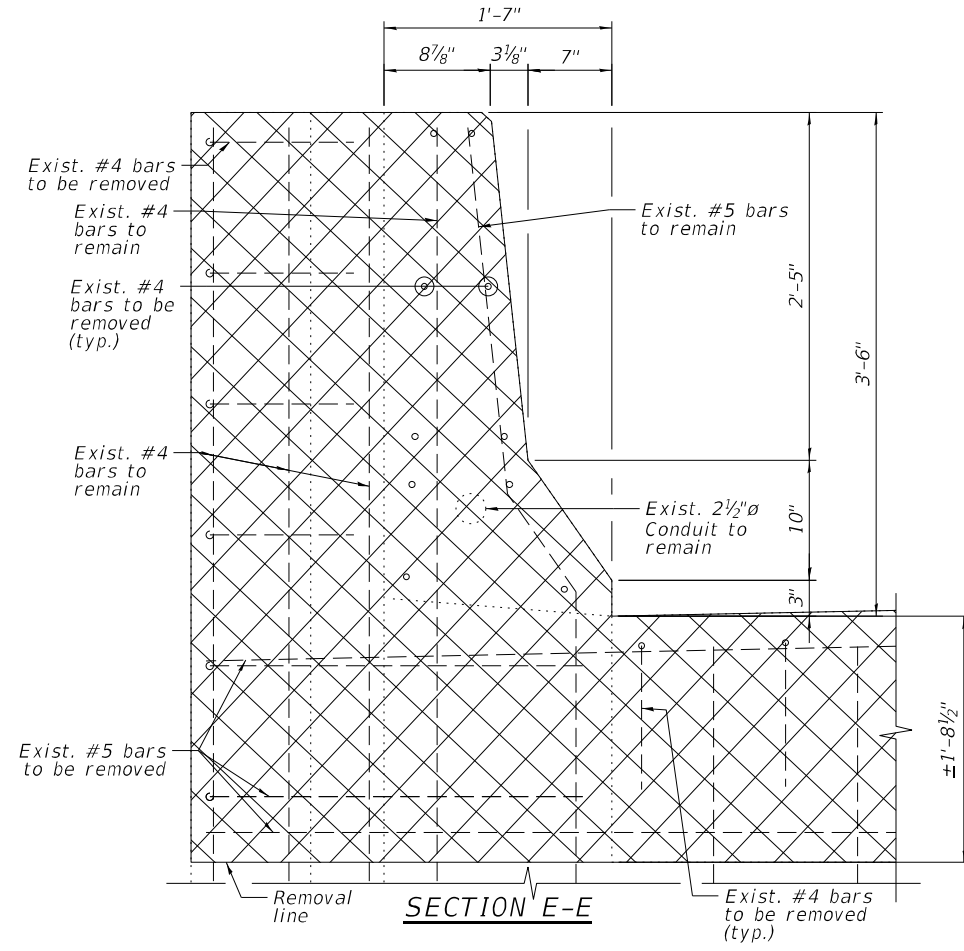
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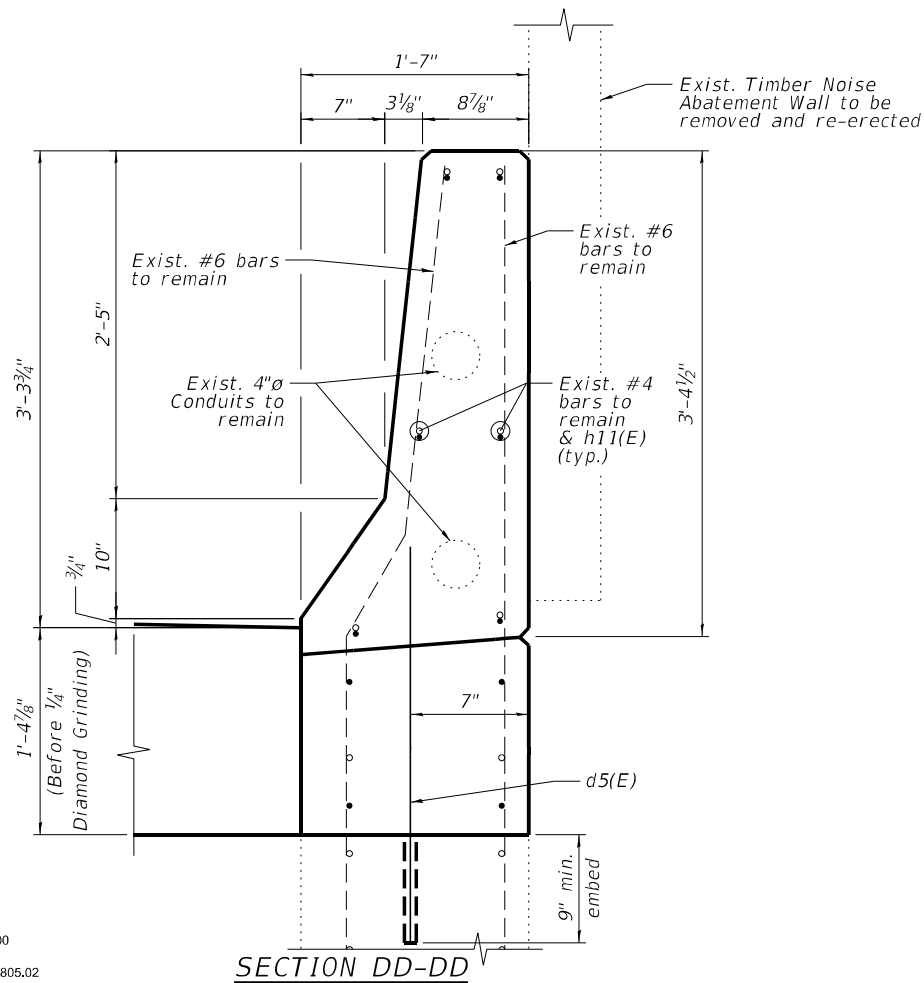
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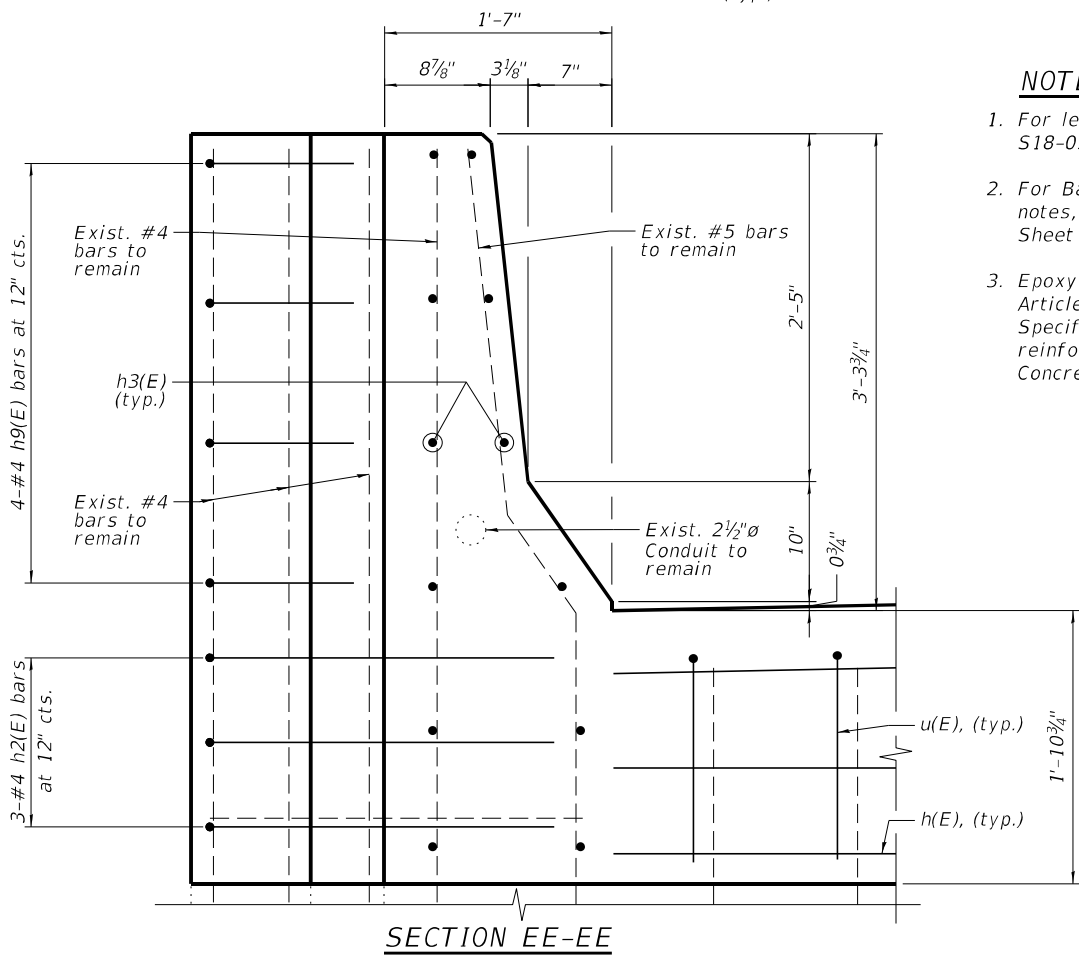
SECTION D-D



SECTION E-E



SECTION DD-DD



SECTION EE-EE

NOTES:

1. For legend, see Sheet S18-08 & S18-09.
2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S18-12.
3. Epoxy grout d5(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.



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 312-565-0450 Job No. 10805.02

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PLOT DATE = 4/30/2024	CHECKED - TPS	REVISED -

STATE OF ILLINOIS
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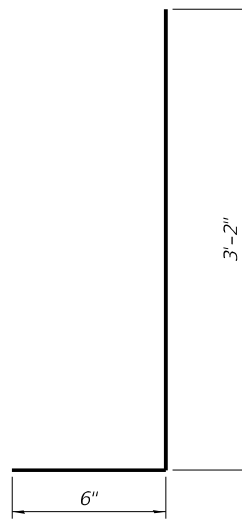
E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 4 OF 5)
 STRUCTURE NO. 016-0113 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	839
CONTRACT NO. 62K73				

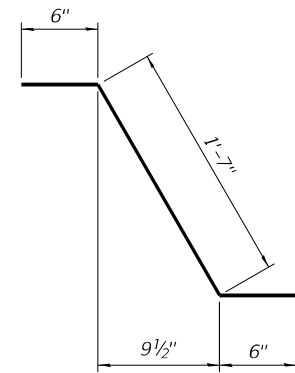
SHEET S18-11 OF S18-25 SHEETS

ILLINOIS FED. AID PROJECT

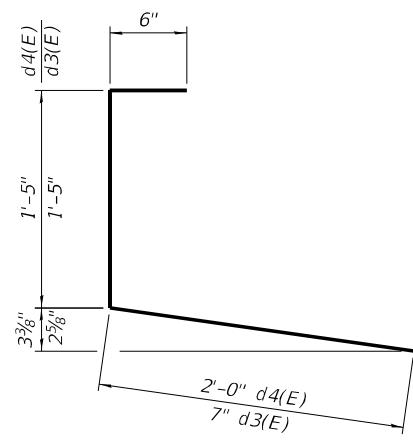
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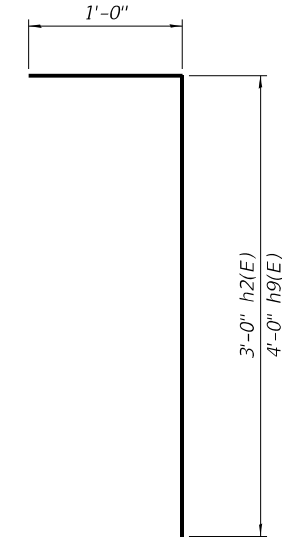
BARS d(E) and d1(E)



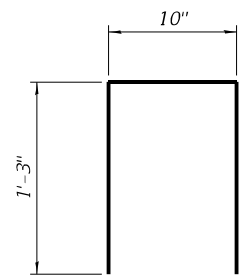
BAR d2(E)



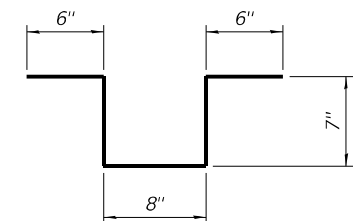
BARS d3(E) and d4(E)



BAR h2(E). h9(E)



BAR u(E)



BAR s(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-6"	—
a1(E)	20	#5	32'-8"	—
a2(E)	6	#6	6'-6"	—
d(E)	9	#4	3'-8"	┘
d1(E)	9	#5	3'-8"	┘
d2(E)	9	#5	2'-7"	┘
d3(E)	5	#4	2'-6"	┘
d4(E)	4	#4	3'-11"	┘
d5(E)	3	#5	2'-9"	—
h(E)	12	#6	23'-9"	—
h1(E)	12	#6	33'-0"	—
h2(E)	3	#4	4'-0"	┘
h3(E)	12	#4	3'-3"	—
h9(E)	4	#4	5'-0"	┘
h10(E)	10	#5	3'-1"	—
h11(E)	10	#4	2'-1"	—
s(E)	50	#5	2'-10"	┘
u(E)	104	#5	3'-4"	┘
Concrete Removal			Cu. Yd.	19.4
Concrete Superstructure			Cu. Yd.	21.7
Protective Coat			Sq. Yd.	44
Reinforcement Bars, Epoxy Coated			Pound	2970

MINIMUM BAR LAP

(Abutment & deck)
 #5 bar = 3'-6"
 #6 bar = 4'-0"

NOTES:

1. For Preformed Joint Strip Seal details, see Sheet S18-18.
2. For bar splicer assembly details, see Sheet S18-25.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.

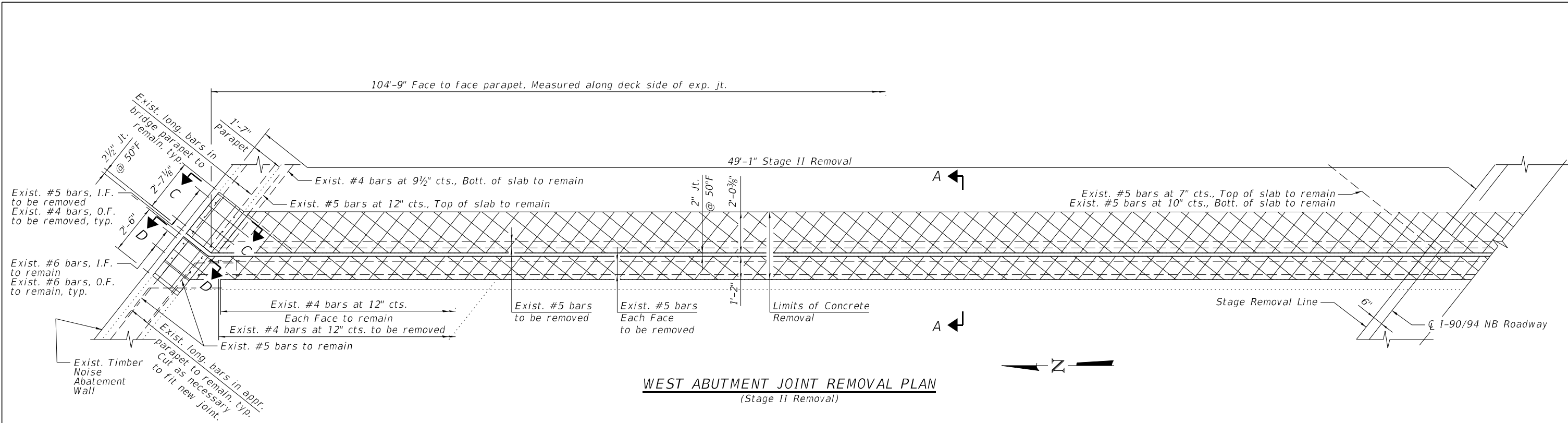
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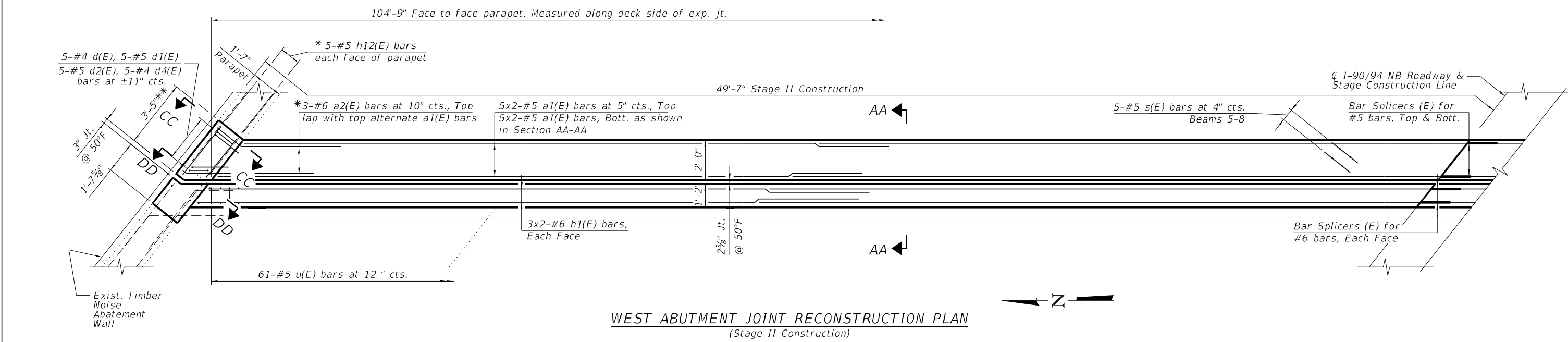
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**E. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 5 OF 5)
 STRUCTURE NO. 016-0113 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	840
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K73	



WEST ABUTMENT JOINT REMOVAL PLAN
(Stage II Removal)



WEST ABUTMENT JOINT RECONSTRUCTION PLAN
(Stage II Construction)

LEGEND

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

NOTES

1. For Sections A-A, C-C, AA-AA & CC-CC, see Sheet S18-15.
2. For Sections D-D, & DD-DD, see Sheet S18-16.
3. For Notes, Bar bend diagrams and Bill of Material, see Sheet S18-17.

* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
** Cut existing wingwall vertical bars to clear proposed deck.



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PLOT DATE = 4/30/2024	CHECKED - TPS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

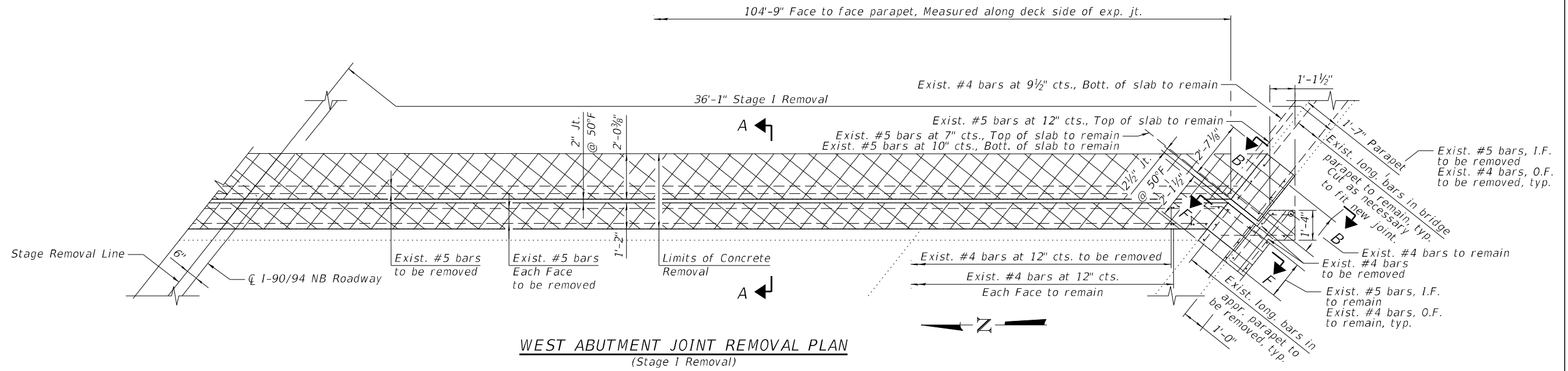
**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 1 OF 5)
STRUCTURE NO. 016-0113 (NB)**

SHEET S18-13 OF S18-25 SHEETS

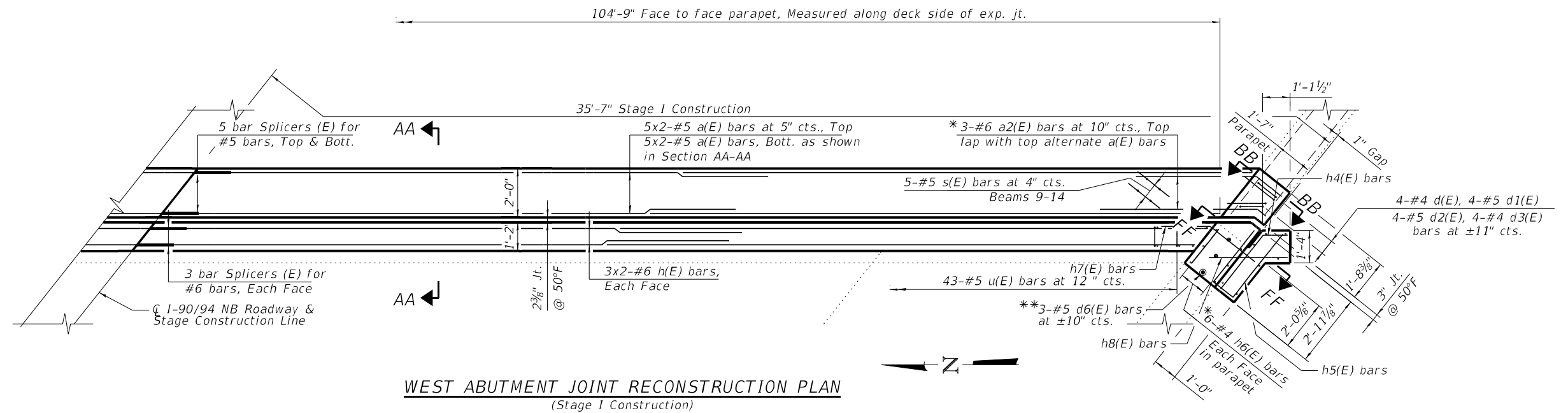
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	841
CONTRACT NO. 62K73				

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WEST ABUTMENT JOINT REMOVAL PLAN
(Stage I Removal)



WEST ABUTMENT JOINT RECONSTRUCTION PLAN
(Stage I Construction)

LEGEND

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

NOTES

1. For Sections A-A, B-B, AA-AA & BB-BB, see Sheet S18-15.
2. For Sections F-F, & FF-FF, see Sheet S18-16.
3. For Notes, Bar bend diagrams and Bill of Material, see Sheet S18-17.

* Cut and/or bend to fit in field in accordance with Art. 508.04 of the Standard Specifications.
** Epoxy grout #5 d6(E) bars in 9" min. deep holes according to Section 584 of the Standard Specifications.



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W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 2 OF 5)
STRUCTURE NO. 016-0113 (NB)

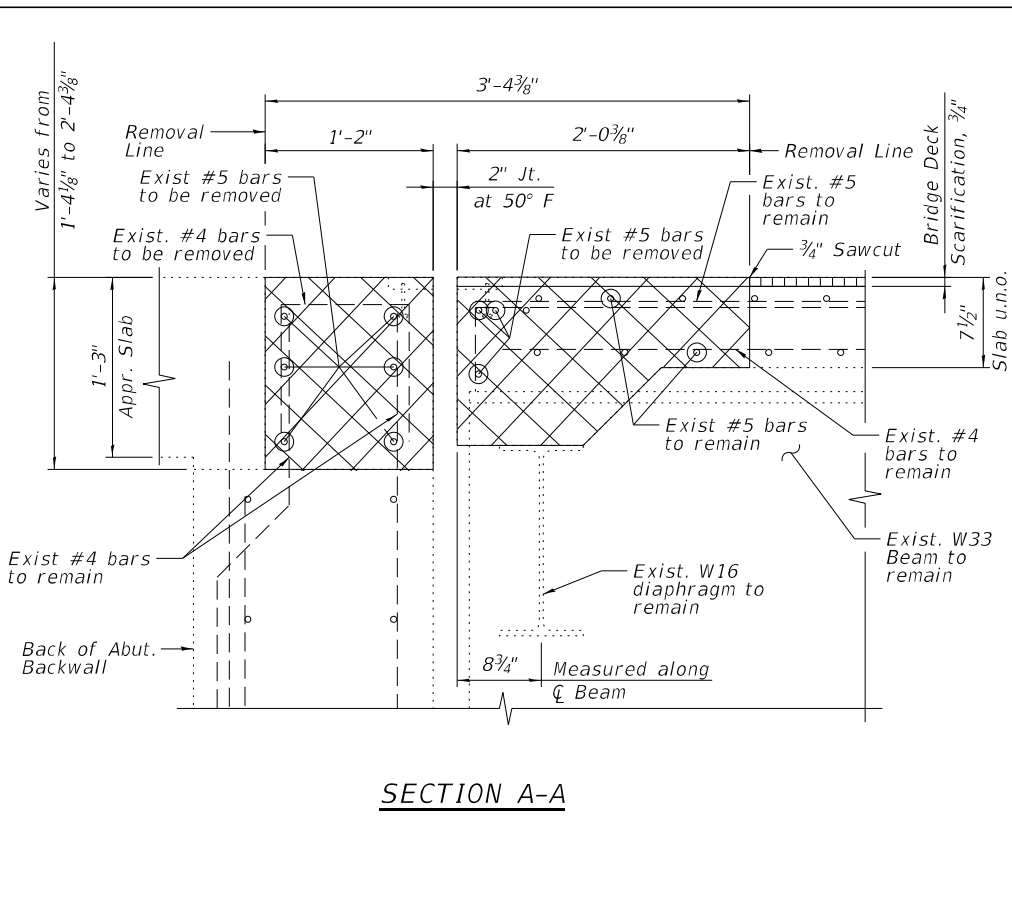
SHEET S18-14 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	842
CONTRACT NO. 62K73				

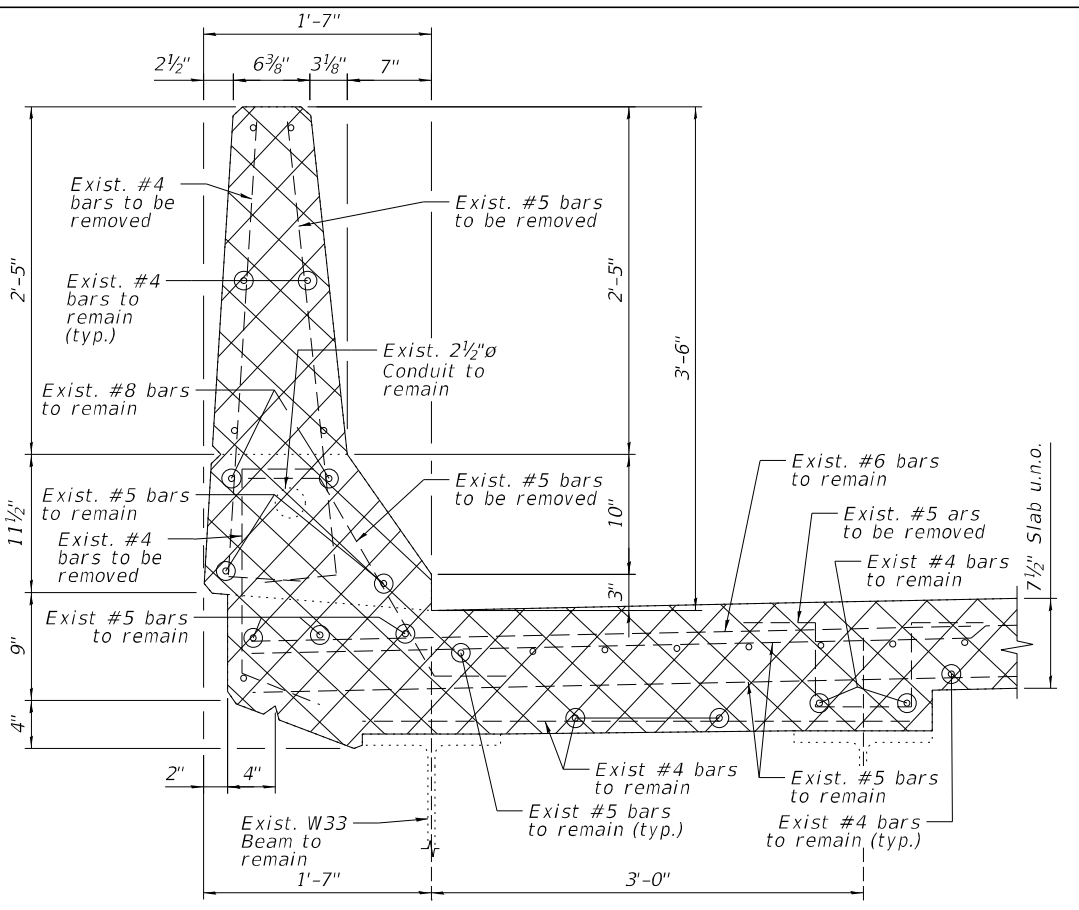
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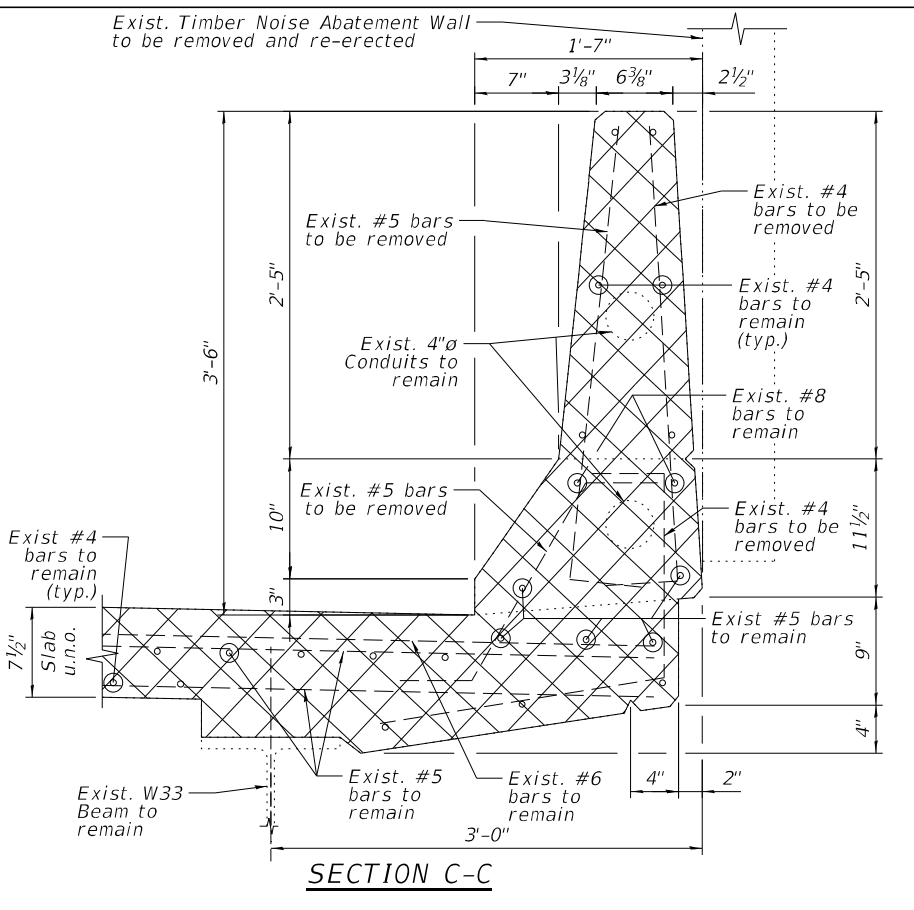
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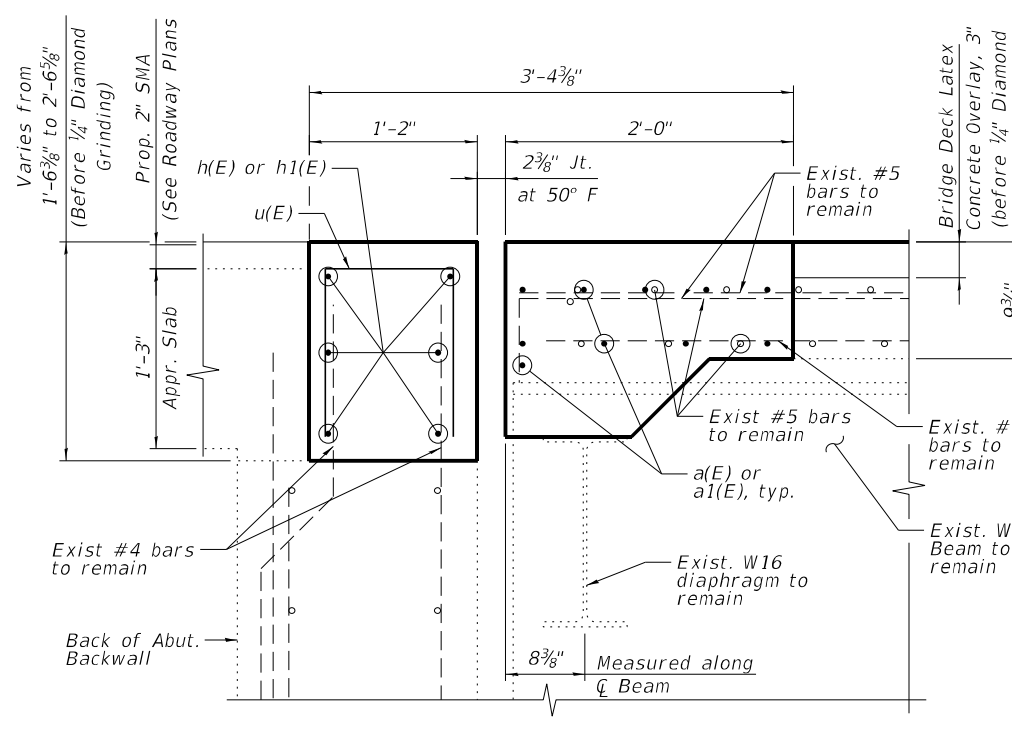
SECTION A-A



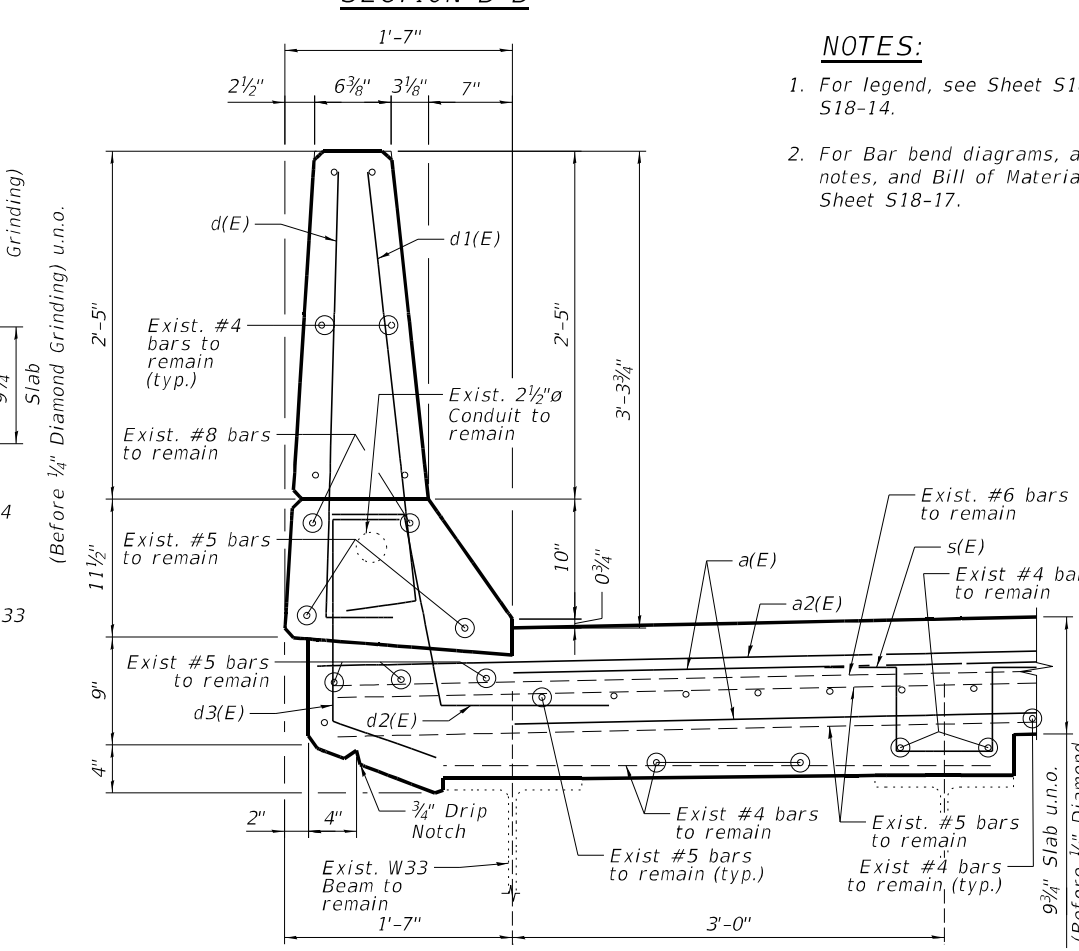
SECTION B-B



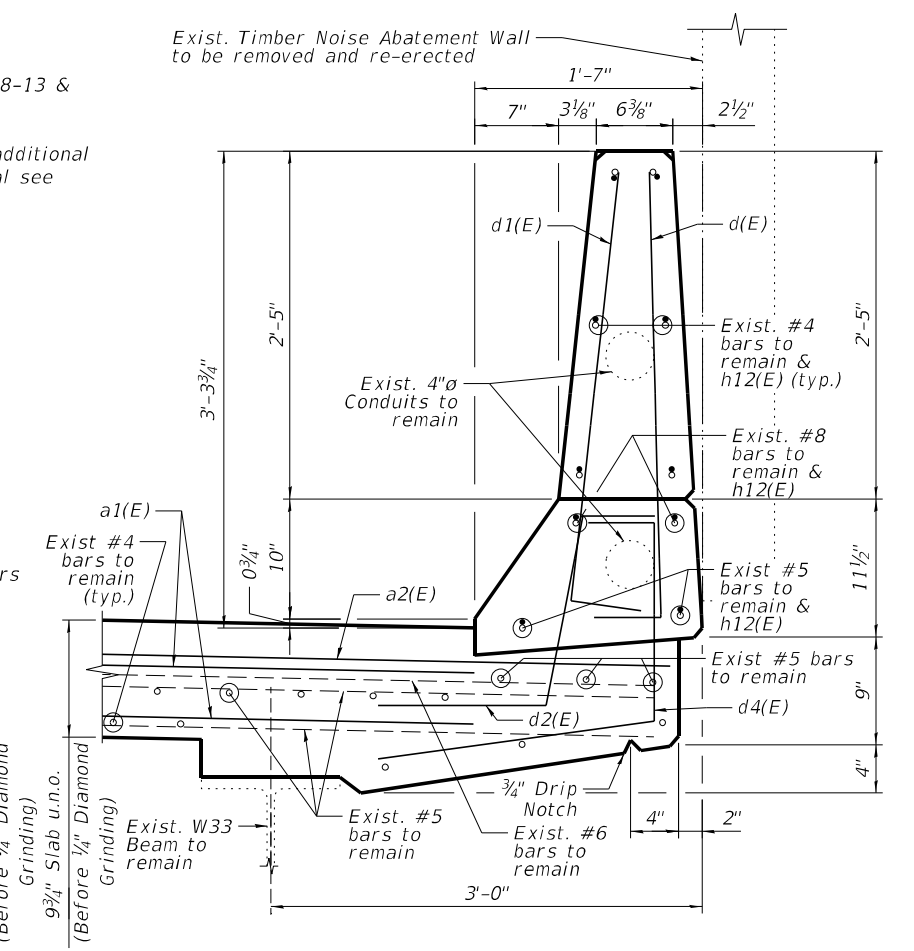
SECTION C-C



SECTION AA-AA



SECTION BB-BB



SECTION CC-CC

NOTES:

1. For legend, see Sheet S18-13 & S18-14.
2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S18-17.

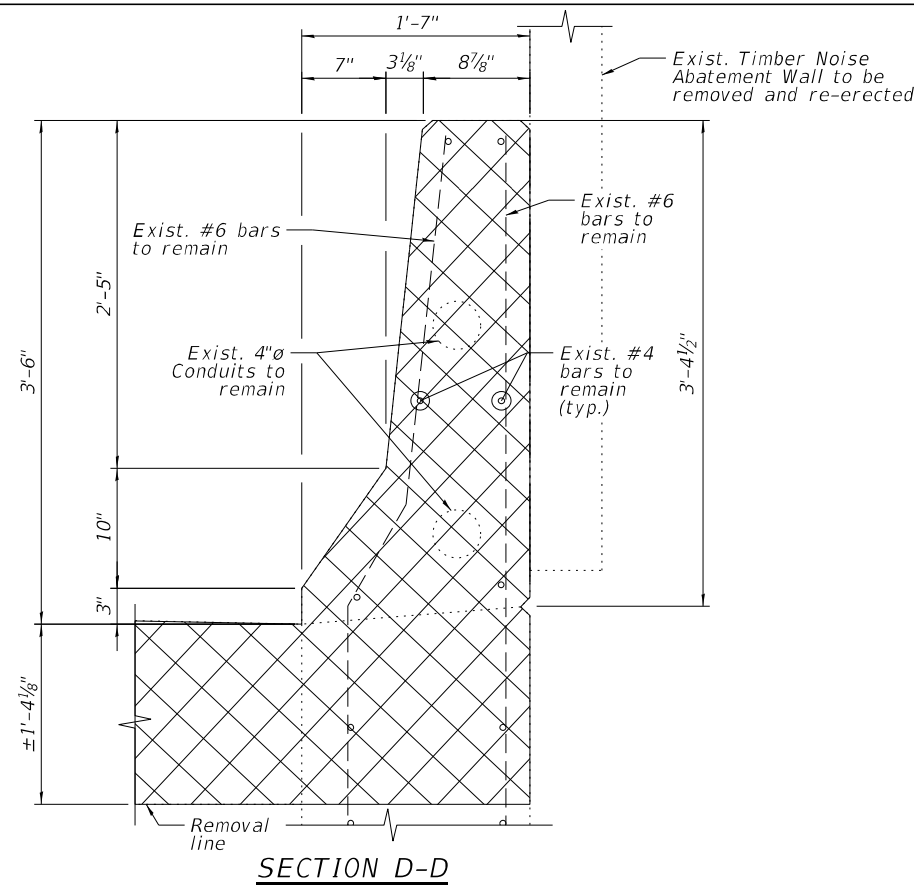
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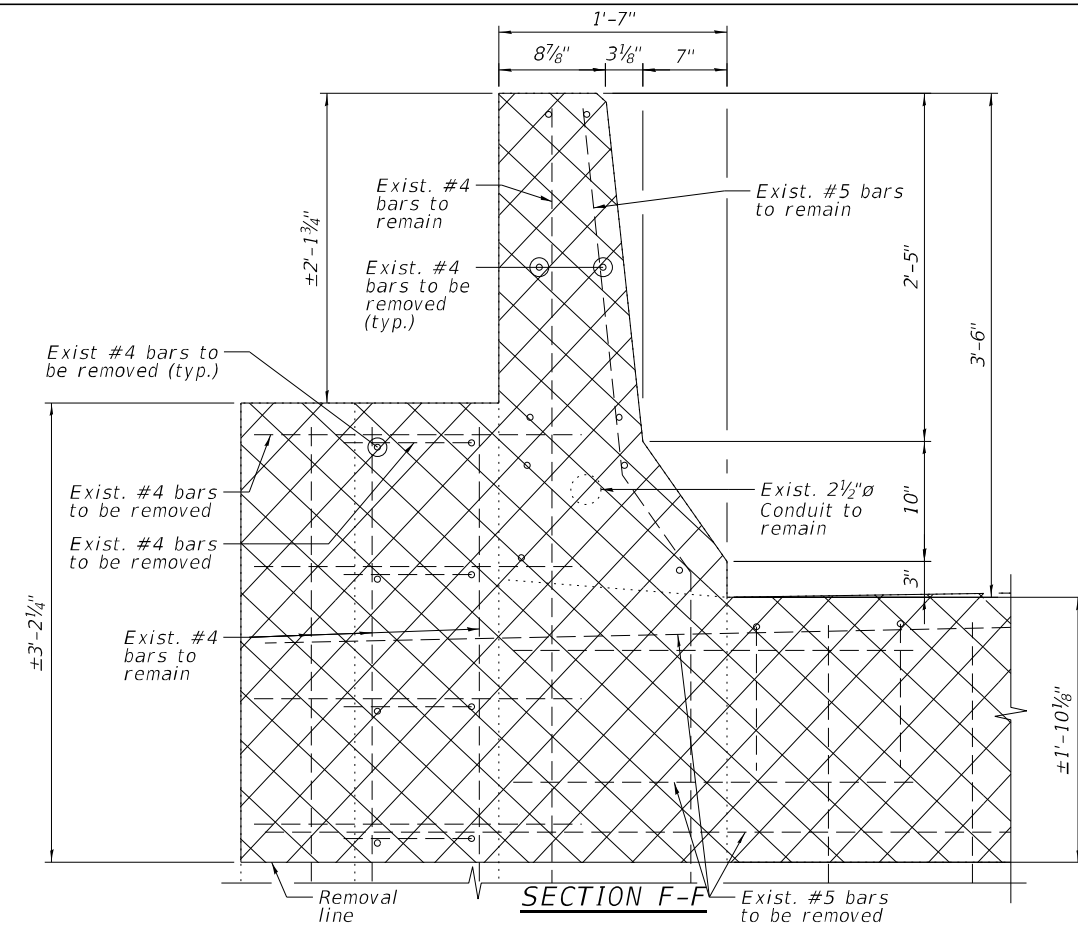
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 3 OF 5)
 STRUCTURE NO. 016-0113 (NB)**

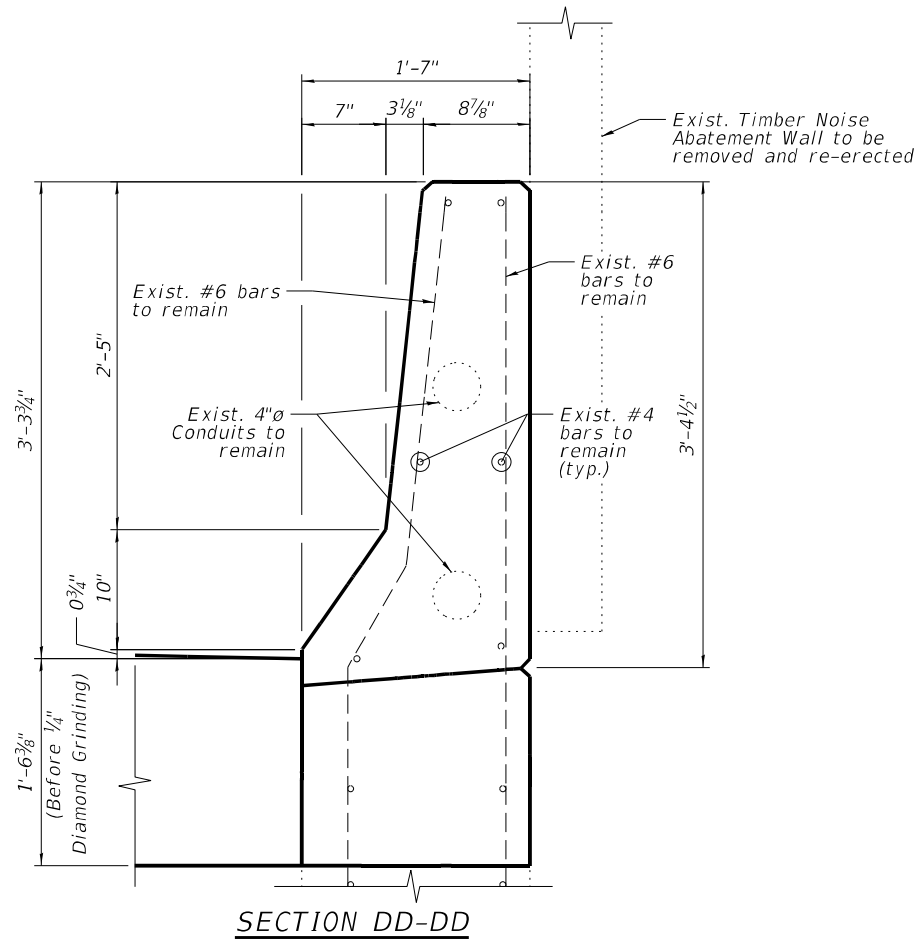
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CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



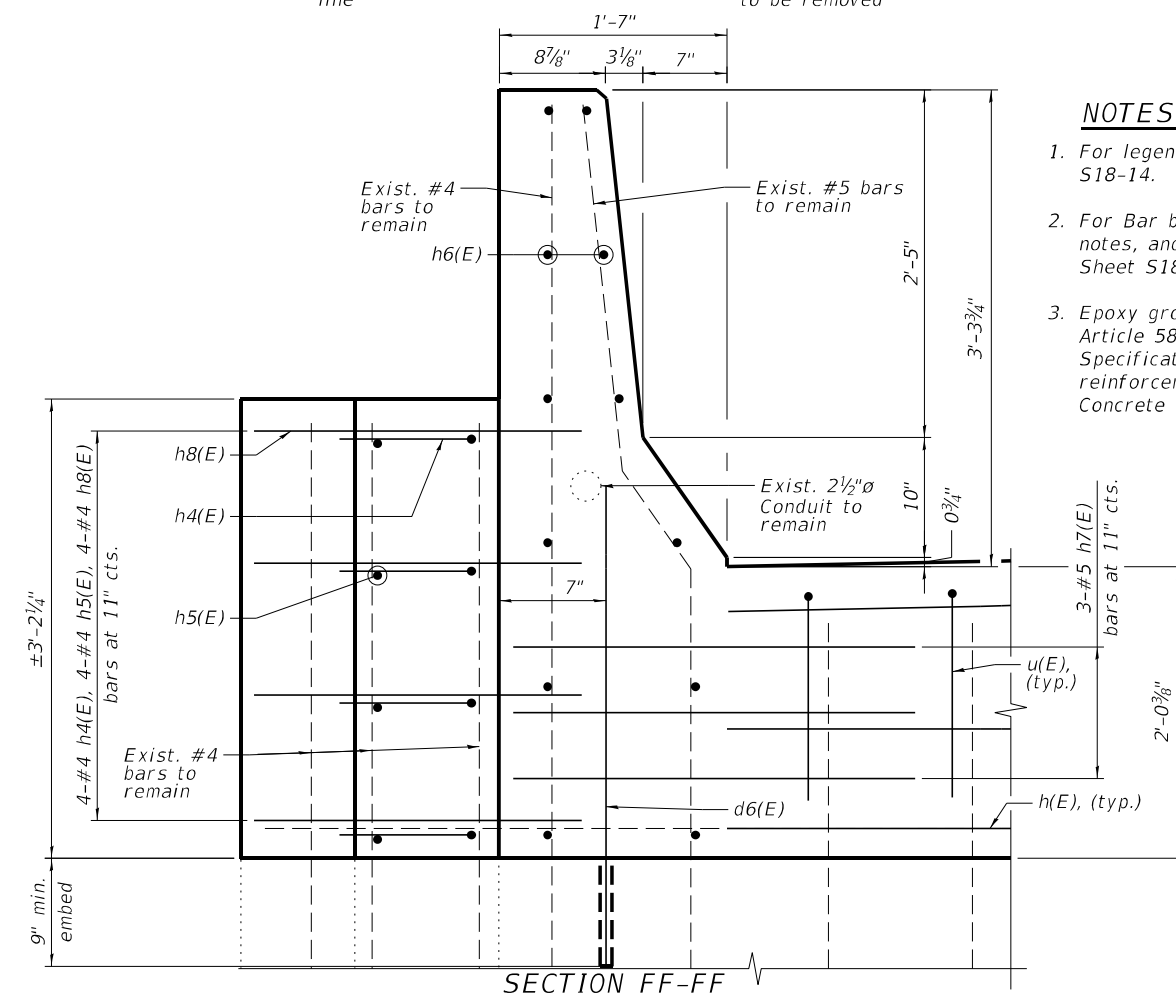
SECTION D-D



SECTION F-F



SECTION DD-DD



SECTION FF-FF

- NOTES:**
1. For legend, see Sheet S18-13 & S18-14.
 2. For Bar bend diagrams, additional notes, and Bill of Material see Sheet S18-17.
 3. Epoxy grout d6(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement. Cost included with Concrete Superstructure.

MODEL: Default
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 DEPARTMENT OF TRANSPORTATION

W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 4 OF 5)
 STRUCTURE NO. 016-0113 (NB)

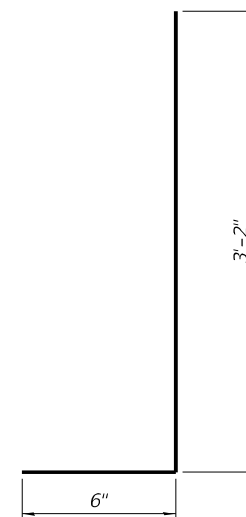
SHEET S18-16 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	844
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

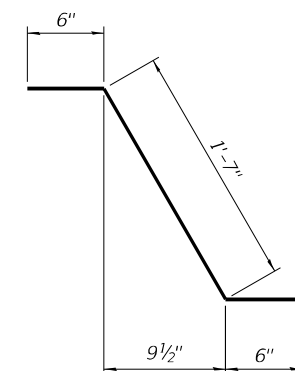
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BILL OF MATERIAL

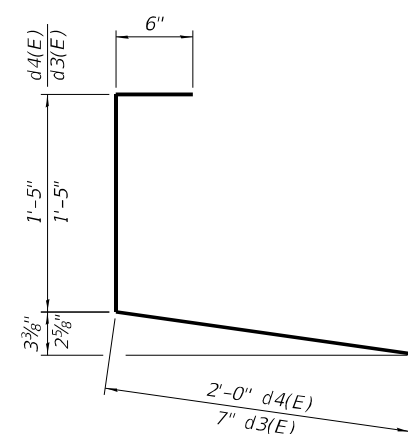
Bar	No.	Size	Length	Shape
a(E)	20	#5	23'-6"	—
a1(E)	20	#5	32'-8"	—
a2(E)	6	#6	6'-6"	—
d(E)	9	#4	3'-8"	┘
d1(E)	9	#5	3'-8"	┘
d2(E)	9	#5	2'-7"	┘
d3(E)	4	#4	2'-6"	┘
d4(E)	5	#4	3'-11"	┘
d6(E)	3	#5	3'-3"	—
h(E)	12	#6	23'-9"	—
h1(E)	12	#6	33'-0"	—
h4(E)	4	#4	3'-4"	┘
h5(E)	4	#4	4'-4"	┘
h6(E)	12	#4	2'-8"	—
h7(E)	3	#5	4'-4"	┘
h8(E)	4	#4	3'-0"	—
h12(E)	10	#5	3'-1"	—
s(E)	50	#5	2'-10"	┘
u(E)	104	#5	3'-4"	┘
Concrete Removal			Cu. Yd.	20.8
Concrete Superstructure			Cu. Yd.	23.0
Protective Coat			Sq. Yd.	44
Reinforcement Bars, Epoxy Coated			Pound	2970



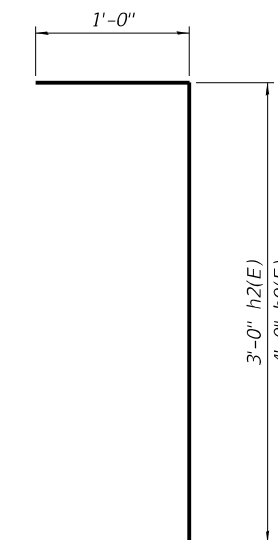
BARS d(E) and d1(E)



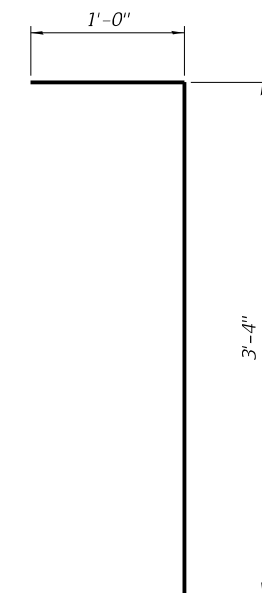
BAR d2(E)



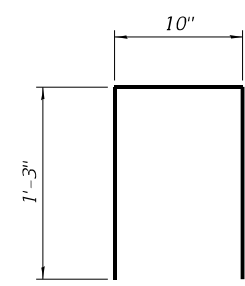
BARS d3(E) and d4(E)



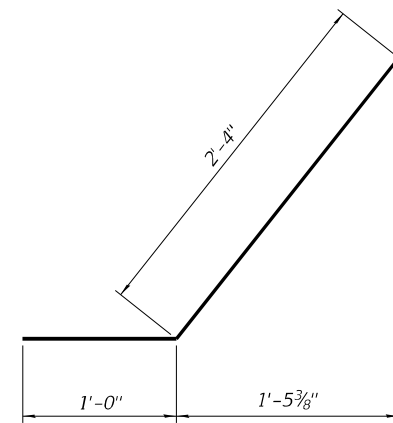
BAR h2(E), h9(E)



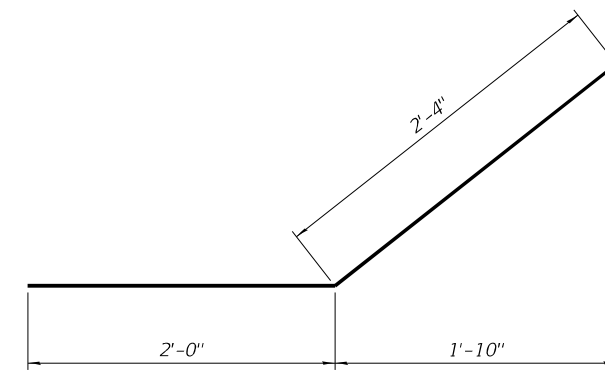
BAR h5(E)



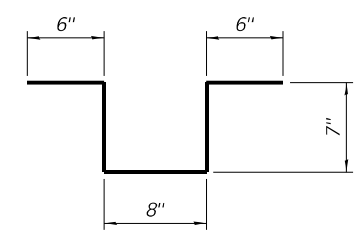
BAR u(E)



BAR h4(E)



BAR h7(E)



BAR s(E)

MINIMUM BAR LAP

(Abutment & deck)
 #5 bar = 3'-6"
 #6 bar = 4'-0"

NOTES:

1. For Preformed Joint Strip Seal details, see Sheet S18-18.
2. For bar splicer assembly details, see Sheet S18-25.
3. Removal and disposal of the existing expansion joints is included with Concrete Removal.

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PLOT DATE = 4/30/2024	DRAWN - KMS	REVISED -
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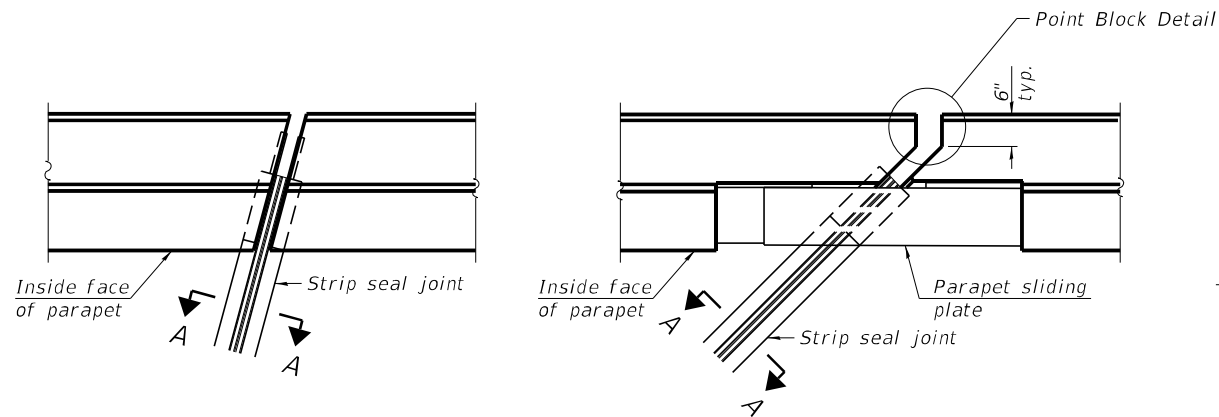
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & REPLACEMENT (SHT. 5 OF 5)
 STRUCTURE NO. 016-0113 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	845
CONTRACT NO. 62K73				

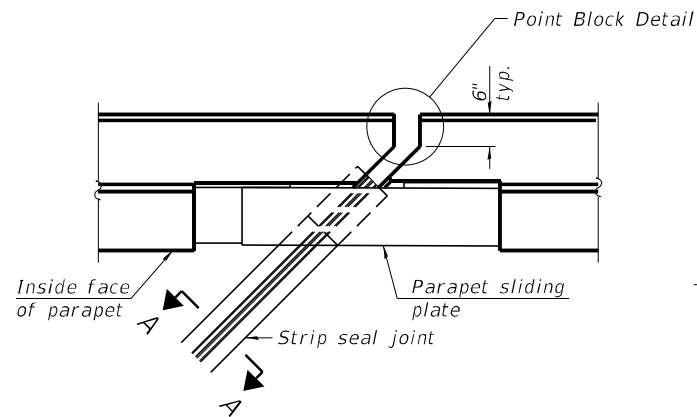
SHEET S18-17 OF S18-25 SHEETS

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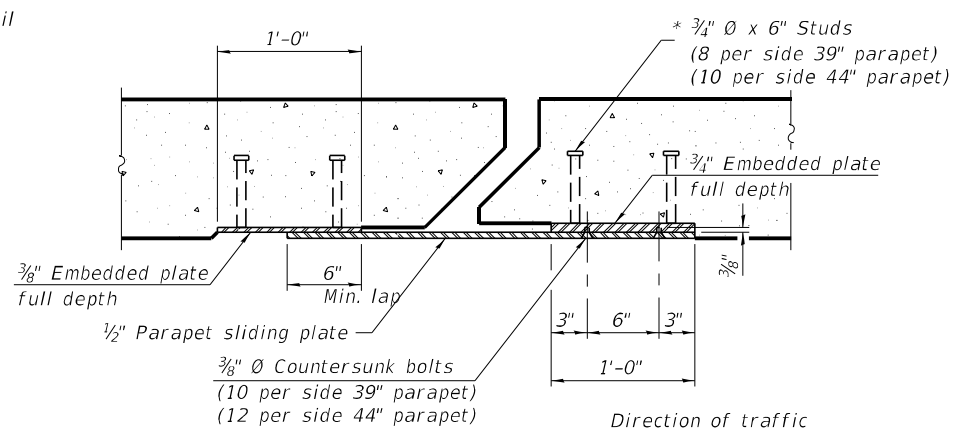


FOR SKEWS $\leq 30^\circ$

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.

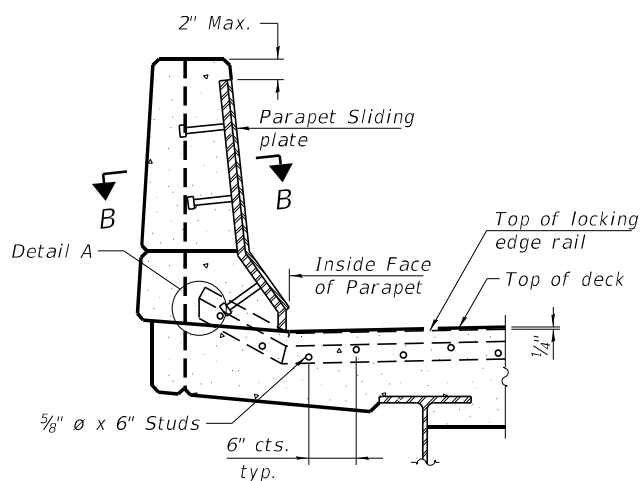
The manufacturer's recommended installation methods shall be followed.

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.

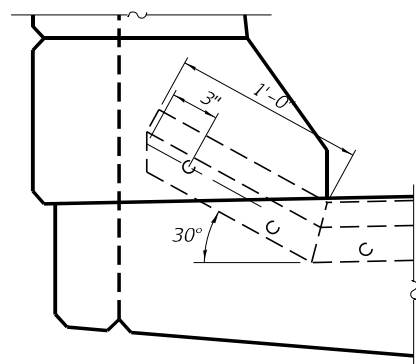
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

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.

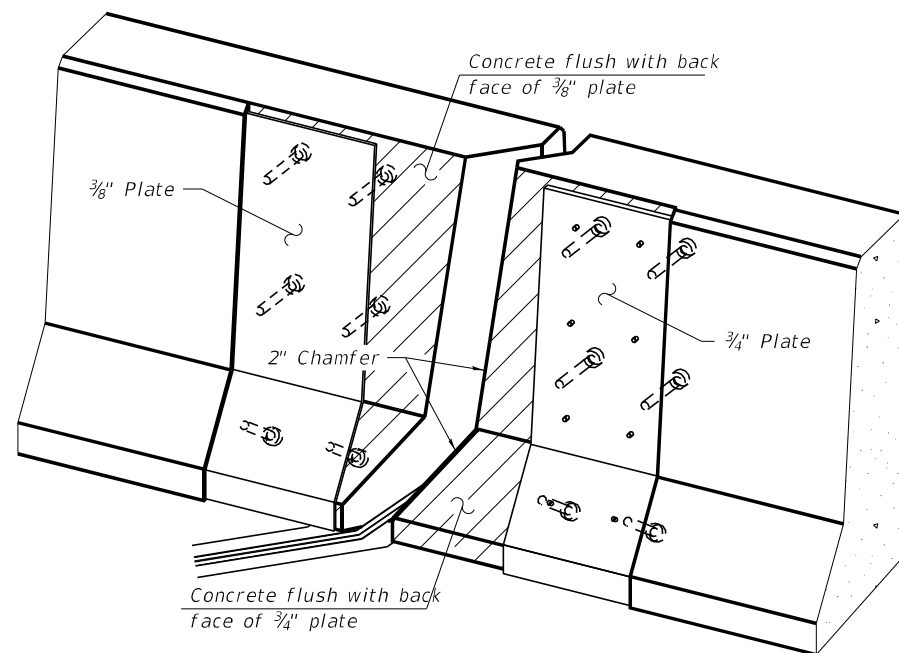


ELEVATION OF PARAPET

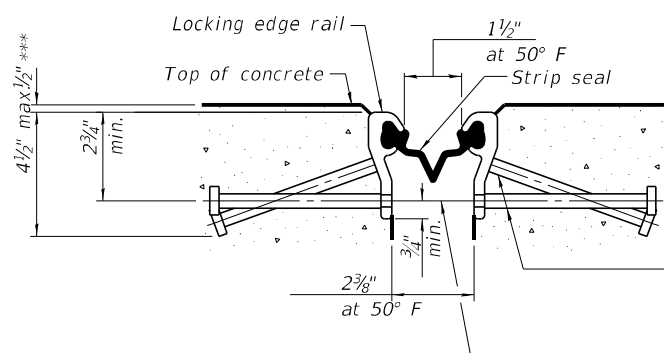
(Skews $> 30^\circ$ shown. Skews $< 30^\circ$ similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing back plates only)



SHOWING ROLLED RAIL JOINT

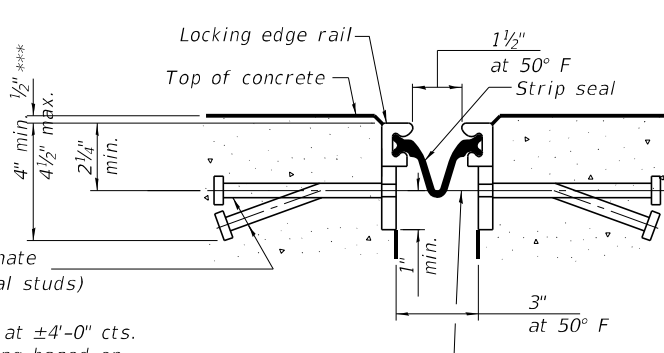
* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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

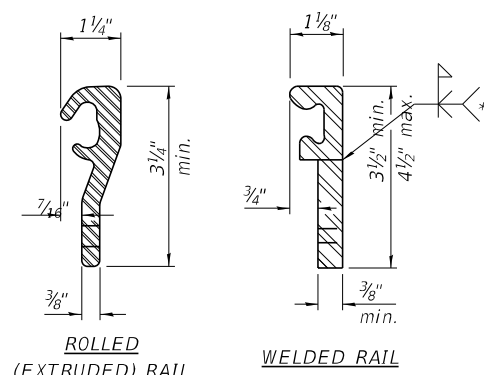
SECTION A-A

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

*** Before 1/4" Diamond Grinding

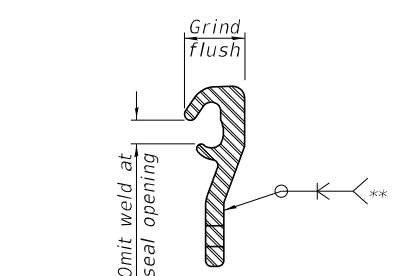


SHOWING WELDED RAIL JOINT



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	214

MODEL: Default
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312-565-0450 Job No. 10805.02

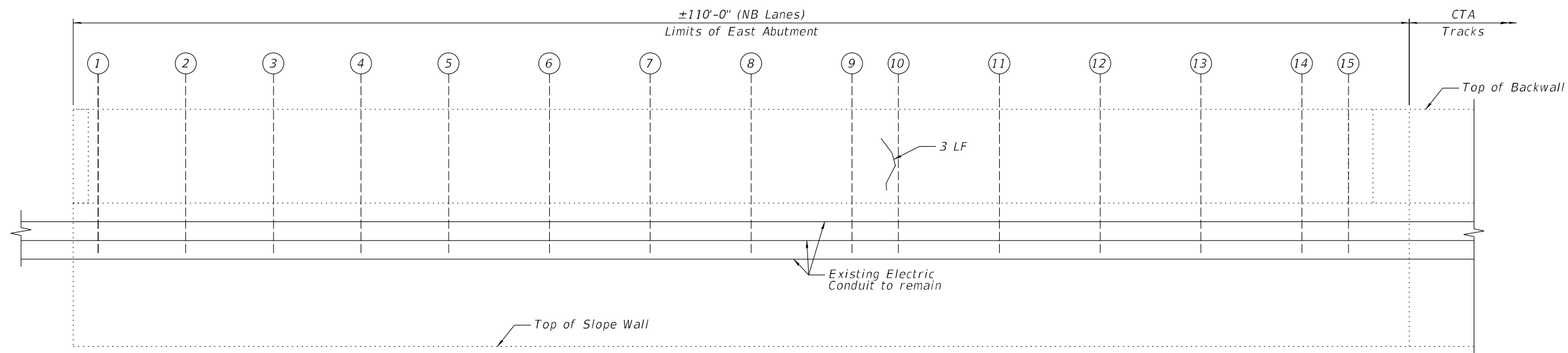
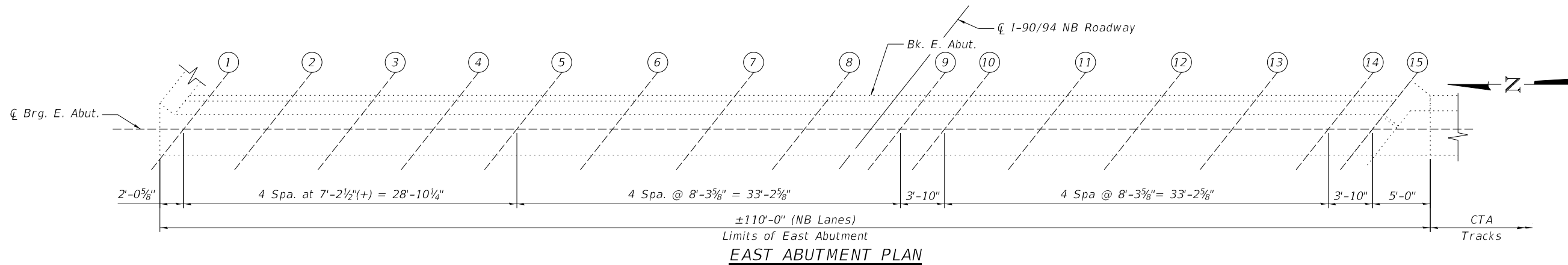
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-0113 (NB)

SHEET S18-18 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	846
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- For Slope wall repairs, see Sheet S18-24.

LEGEND

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	605
Epoxy Crack Injection	Foot	3

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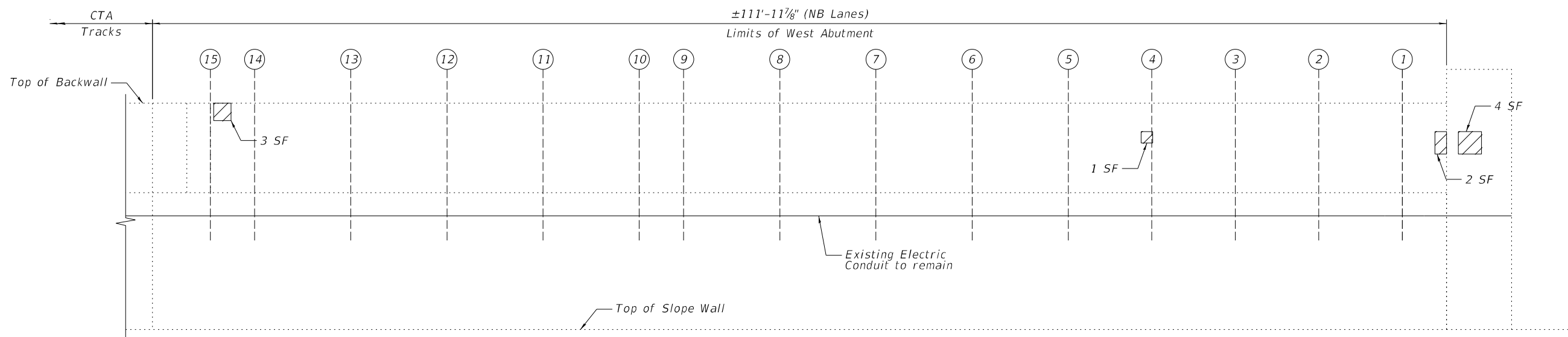
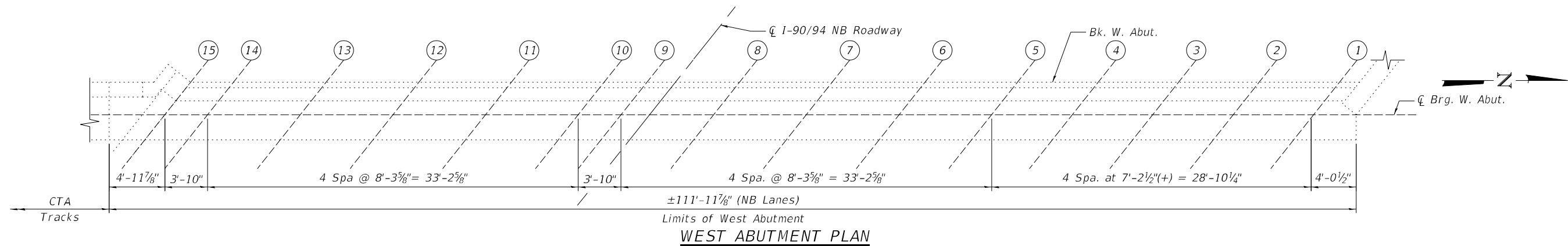
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
STRUCTURE NO. 016-0113 (NB)**

SHEET S18-19 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	847
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT



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.
- For Slope wall repairs, see Sheet S18-24.

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	616
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	10

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

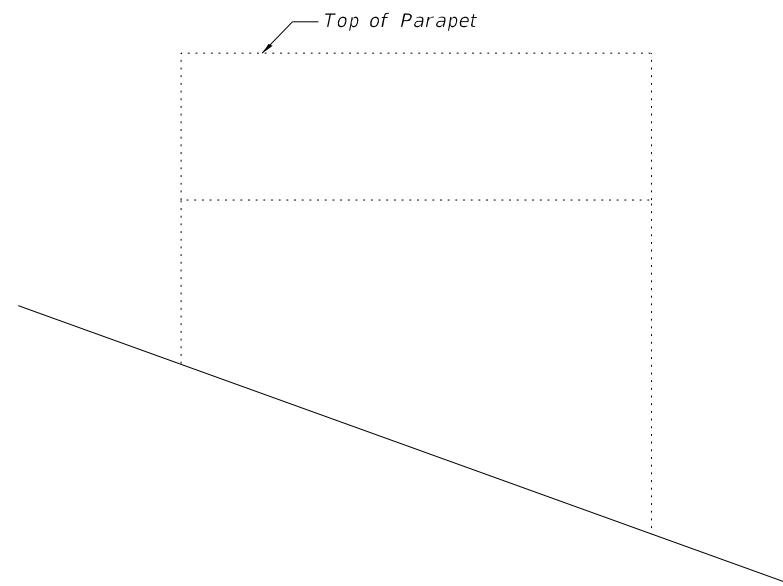
**WEST ABUTMENT REPAIRS
STRUCTURE NO. 016-0113 (NB)**

SHEET S18-20 OF S18-25 SHEETS

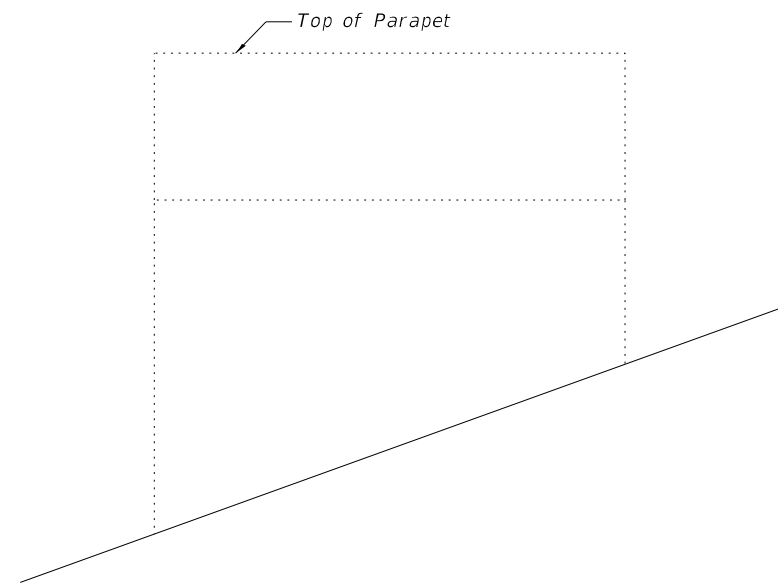
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	848
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT

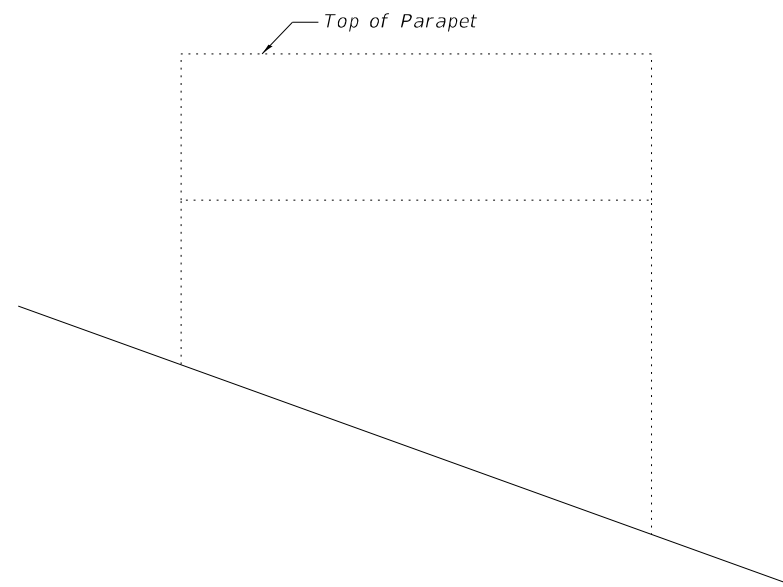
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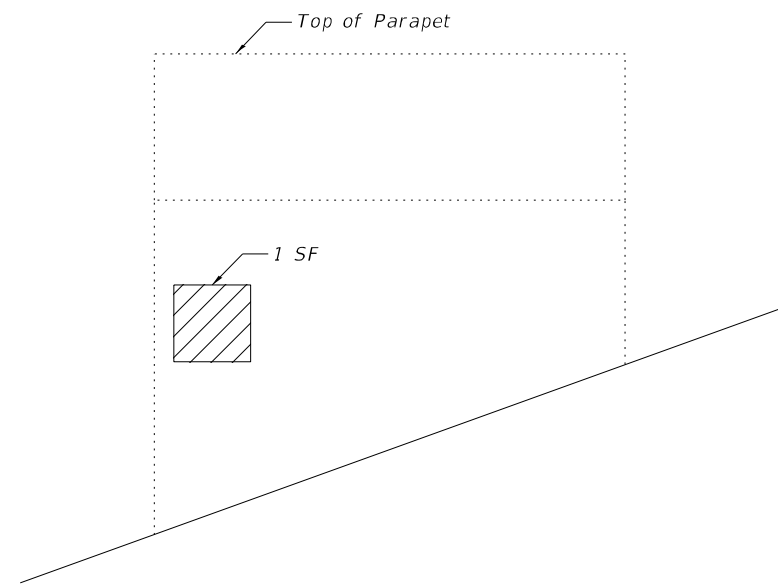
NORTH EAST WINGWALL SURVEY



SOUTH EAST WINGWALL SURVEY



SOUTH WEST WINGWALL SURVEY



NORTH WEST WINGWALL SURVEY

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.

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	1



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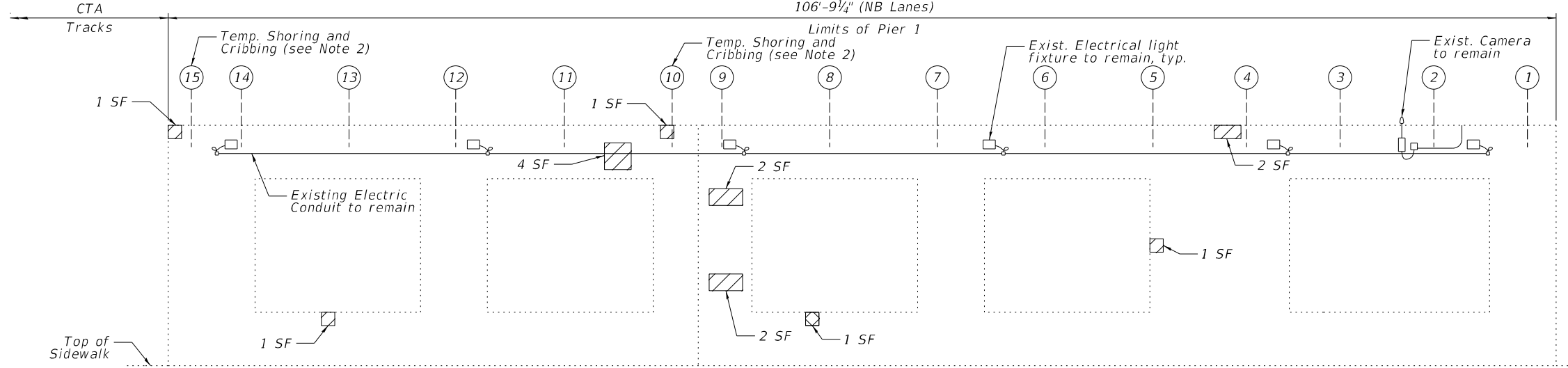
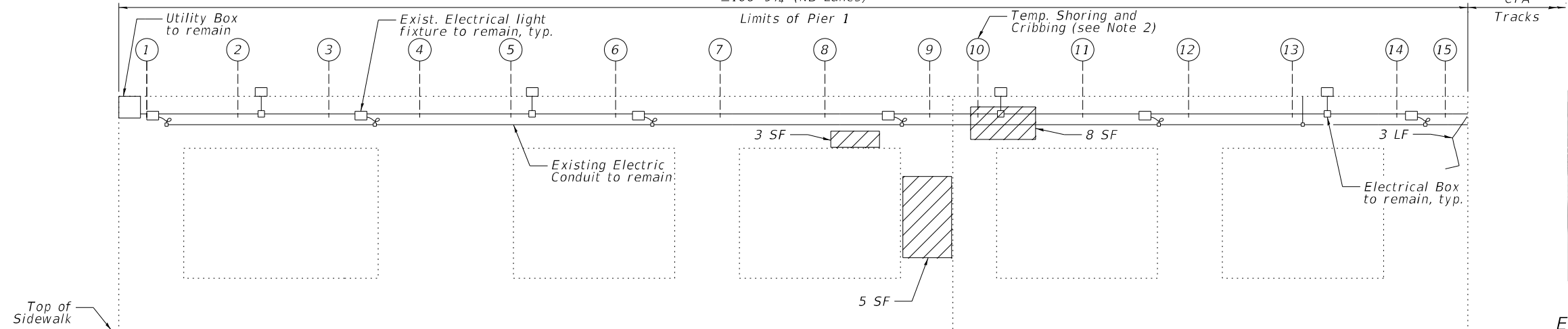
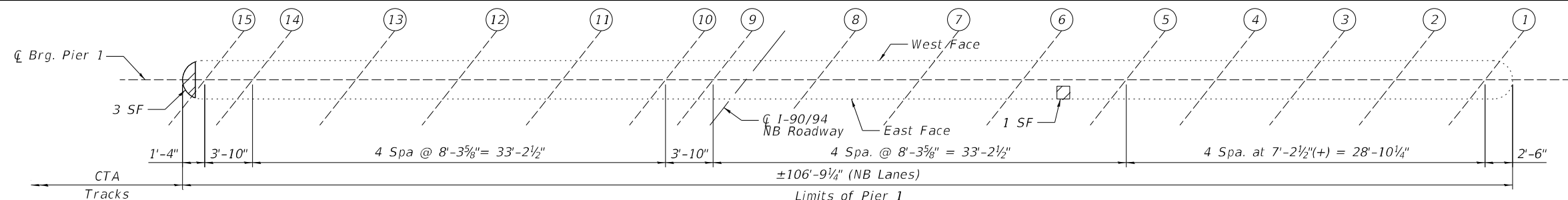
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**WINGWALL REPAIRS
 STRUCTURE NO. 016-0113 (NB)**

SHEET S18-21 OF S18-25 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	849
			CONTRACT NO. 62K73	
		ILLINOIS	FED. AID PROJECT	



EXISTING LIGHTING: PIER 1
 (Looking Northeast)



EXISTING LIGHTING: PIER 1
 (Looking West)

SUMMARY OF REACTIONS PIER 1 BEAM 10 & 15		
R DL	(k)	75.4
R LL	(k)	44.3
R IM	(k)	8.5
R Total	(k)	128.2

- 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.
 - Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	3
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	34
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	1
Temporary Shoring And Cribbing	Each	3

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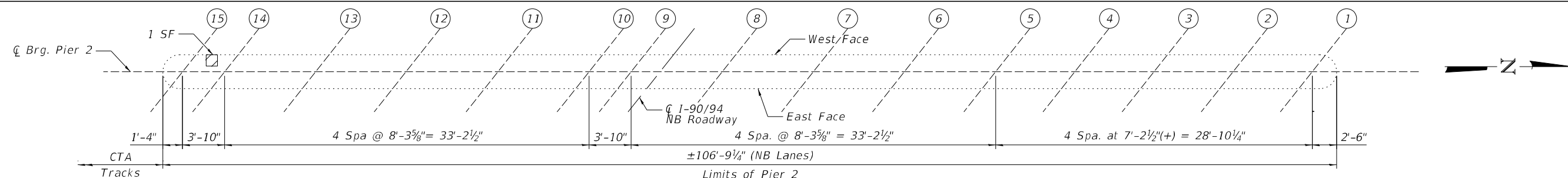
benesch
 Alfred Benesch & Company
 35 West Wacker Drive, Suite 3300
 Chicago, Illinois 60601
 312-565-0450 Job No. 10805.02

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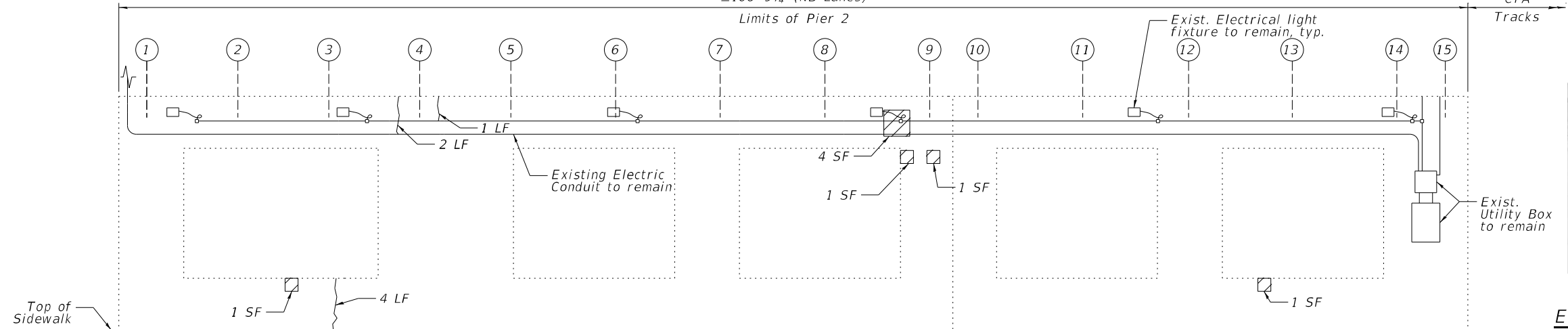
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
STRUCTURE NO. 016-0113 (NB)
 SHEET S18-22 OF S18-25 SHEETS

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90/94	1010-415-HB	COOK	908	850
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



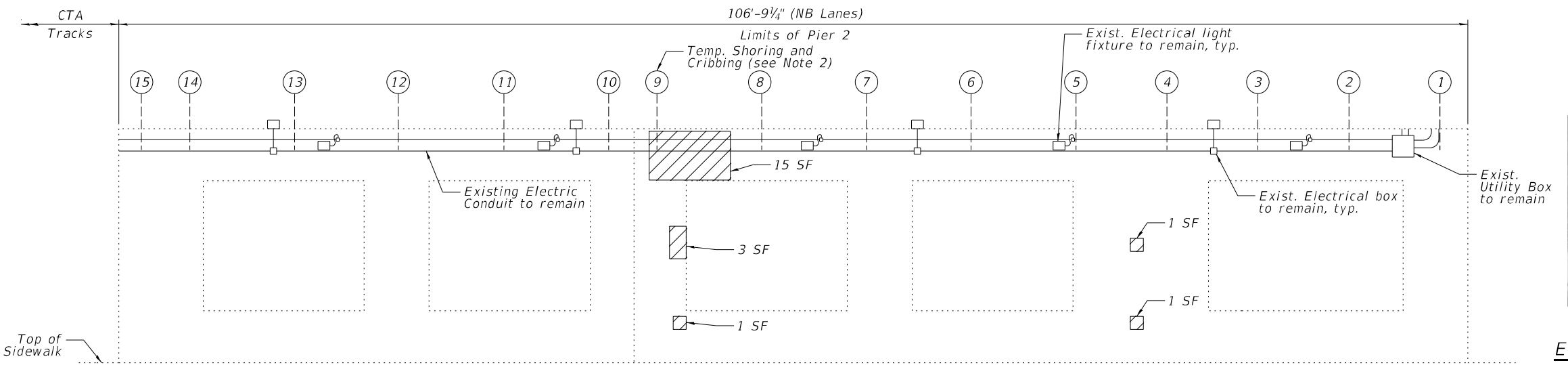
PIER 2 PLAN



PIER 2 WEST FACE ELEVATION



EXISTING LIGHTING: PIER 2
(Looking Southwest)



PIER 2 EAST FACE ELEVATION



EXISTING LIGHTING: 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.
- Temporary shoring and cribbing shall be installed prior to the start of the structural repair of concrete and shall be removed after completing the structural repair of concrete.

LEGEND

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

SUMMARY OF REACTIONS PIER 2 BEAM 9	
R DL (k)	75.4
R LL (k)	44.3
R IM (k)	8.5
R Total (k)	128.2

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	7
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	30
Temporary Shoring And Cribbing	Each	1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 REPAIRS
STRUCTURE NO. 016-0113 (NB)**

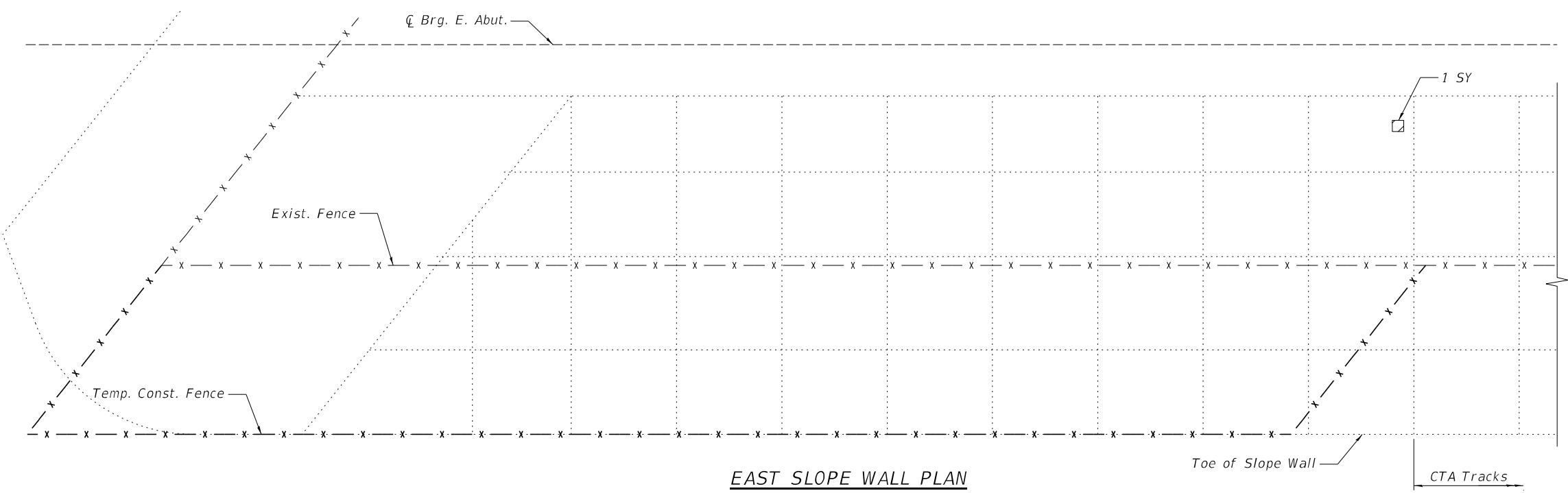
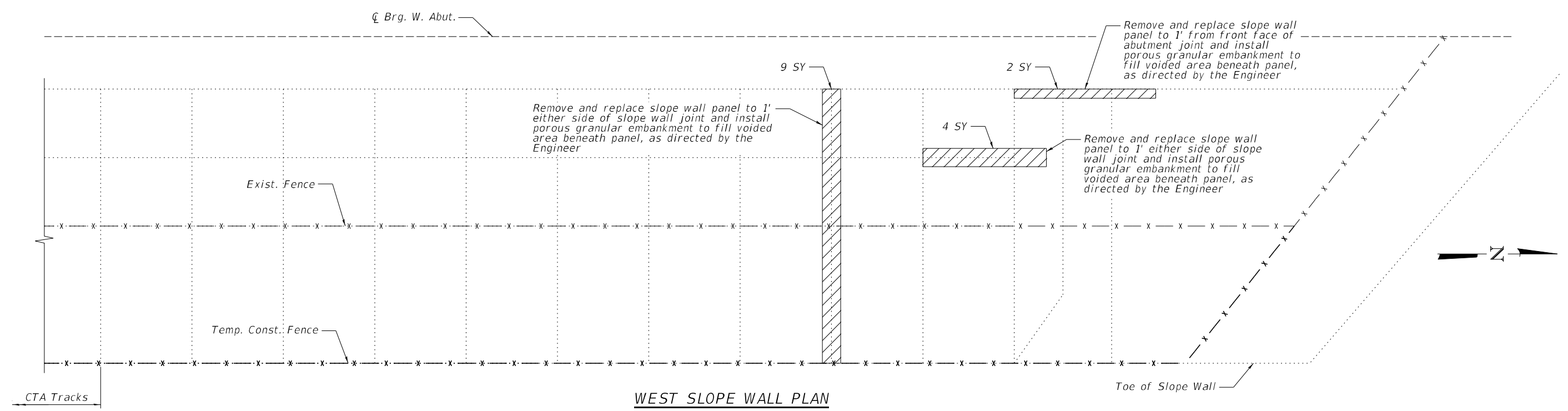
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90/94	1010-415-HB	COOK	908	851
CONTRACT NO. 62K73				

SHEET S18-23 OF S18-25 SHEETS

ILLINOIS FED. AID PROJECT

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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, weighting 58 lbs. per 100 sq. ft.

LEGEND

- Slope Wall Removal and Replacement with 4 Inch Slope Wall
- SY - Square Yard

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	5
Slope Wall Removal	Sq Yd	16
Slope Wall 4 Inch	Sq Yd	16

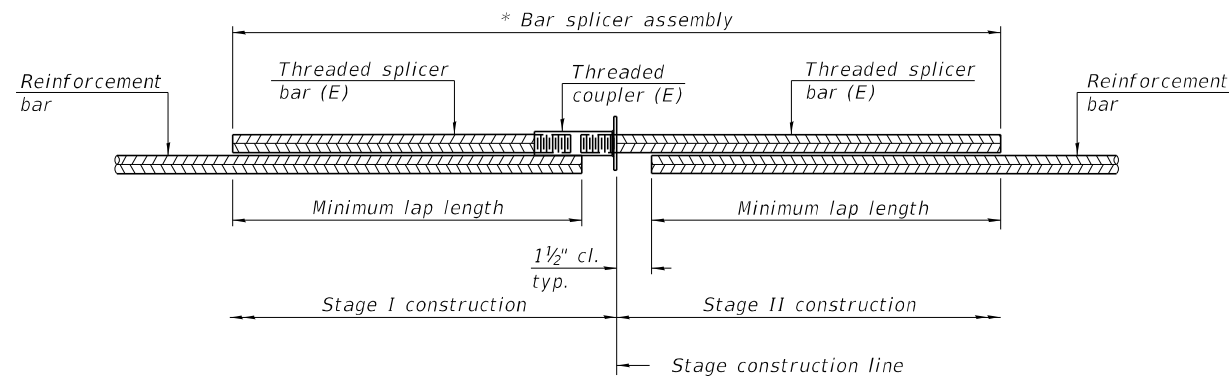
benesch
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 Chicago, Illinois 60601
 312-565-0450 Job No. 10805.02

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**STATE OF ILLINOIS
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**SLOPE WALL REPAIRS
 STRUCTURE NO. 016-0113 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	852
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



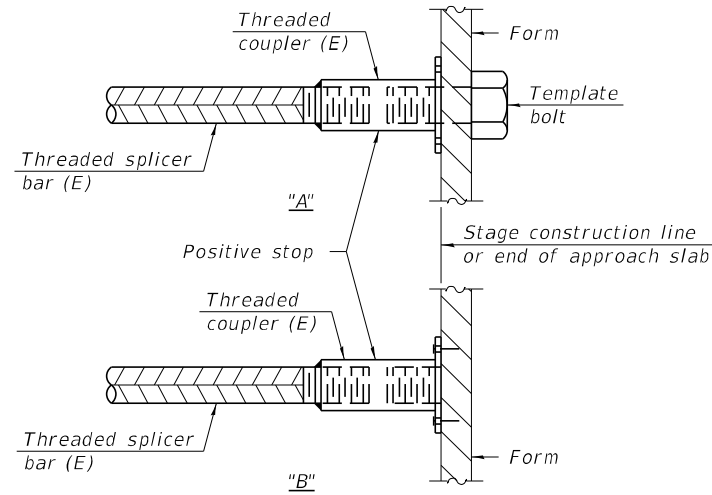
STANDARD BAR SPLICER ASSEMBLY PLAN

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

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

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

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

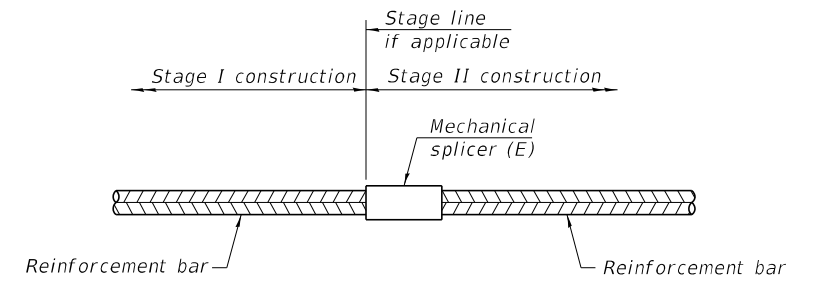


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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BSD-1

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-0113 (NB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	1010-415-HB	COOK	908	853
			CONTRACT NO. 62K73	
		ILLINOIS	FED. AID PROJECT	

SHEET S18-25 OF S18-25 SHEETS

Existing Structure: S.N. 016-0111 was originally built 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 105'-2". The superstructure consists of a 7 $\frac{1}{2}$ " to 9" 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 piers on spread footings and reinforced concrete abutments on concrete piles.

Traffic is to be maintained utilizing stage construction.

No salvage.

DESIGN SPECIFICATION

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

RECONSTRUCTION 2013

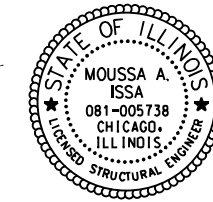
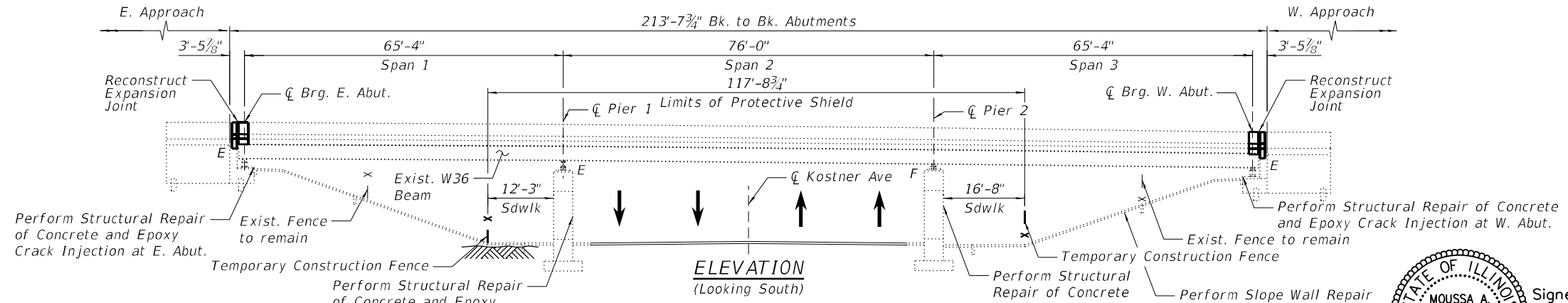
2002 AASHTO Standard Specifications for Highway Bridges

RECONSTRUCTION 1993

1989 AASHTO Standard Specifications for Highway Bridges with 1990 & 1991 Interim Specifications

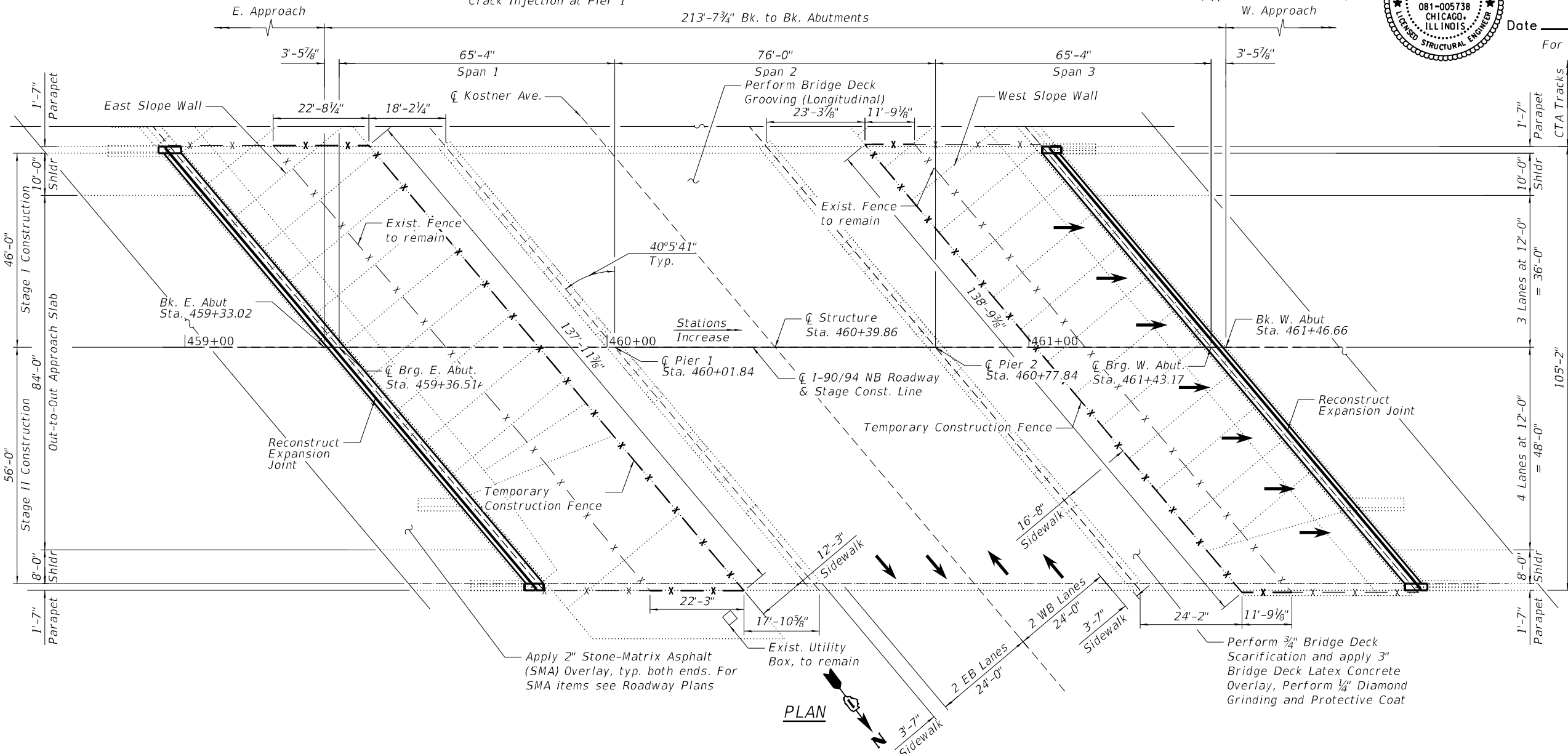
NOTES:

1. No future wearing surface shall be allowed.
2. All stations are to the CL I-90/94 NB Roadway and taken from existing plans.



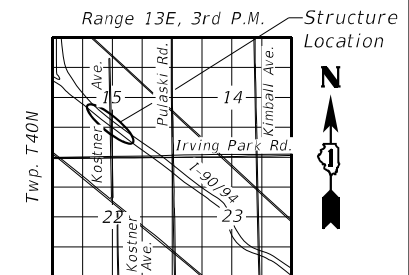
Signed Moussa A. Issa
 Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
 Expires 11-30-2024

Date 04/29/2024
 For Sheets S19-01 thru S19-19



NOTE:

1. All stations are to the I-90/94 NB Roadway and taken from existing plans.



GENERAL PLAN AND ELEVATION
NB I-90/94
OVER KOSTNER AVE
F.A.I. ROUTE 90/94
SECTION 2020-005-BR
COOK COUNTY
STATION 460+39.86
S.N. 016-0111 (NB)

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STRUCTURE NO. 016-0111 (NB)

SHEET S19-01 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	854
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to the existing structure have been taken from existing plans and 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 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.
- Adjacent CTA 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 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.
- 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.
- 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.

INDEX OF SHEETS

S19-01	General Plan and Elevation
S19-02	General Notes, Index of Sheets & TBOM
S19-03	Stage Construction (Sheet 1 of 2)
S19-04	Stage Construction (Sheet 2 of 2)
S19-05	Temporary Concrete Barrier
S19-06	Deck Repair Plan
S19-07	E. Abut. Joint Removal & Reconstruction (Sht. 1 of 3)
S19-08	E. Abut. Joint Removal & Reconstruction (Sht. 2 of 3)
S19-09	E. Abut. Joint Removal & Reconstruction (Sht. 3 of 3)
S19-10	W. Abut. Joint Removal & Reconstruction (Sht. 1 of 3)
S19-11	W. Abut. Joint Removal & Reconstruction (Sht. 2 of 3)
S19-12	W. Abut. Joint Removal & Reconstruction (Sht. 3 of 3)
S19-13	Preformed Joint Strip Seal
S19-14	East Abutment Repairs
S19-15	West Abutment Repairs
S19-16	Pier 1 Repairs
S19-17	Pier 2 Repairs
S19-18	Slope Wall Repairs
S19-19	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- Provide Protective shield within limits indicated on the plans.
- Scarify 3/4" from the bridge deck slab.
- Perform Deck Slab Repairs.
- Reconstruct Expansion Joints at the East and West abutments and install new preformed joint strip seals.
- Apply 3" Bridge Deck Latex Concrete Overlay on Bridge Deck.
- Perform 1/4" Diamond Grinding to the 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).
- 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 and epoxy crack injections for the abutments and piers as noted on the plans.
- Perform Slope Wall Repairs.

GENERAL NOTES (CONT.)

- Concrete Sealer shall be applied to the designated areas of the abutments.
- 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. See special provision for Debris Removal.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd	-	3	3
Concrete Removal	Cu Yd	47.2	-	47.2
Slope Wall Removal	Sq Yd	-	7	7
Protective Shield	Sq Yd	1,376	-	1,376
Concrete Superstructure	Cu Yd	46.8	-	46.8
Protective Coat	Sq Yd	2,597	-	2,597
Reinforcement Bars, Epoxy Coated	Pound	7,800	-	7,800
Bar Splicers	Each	32	-	32
Slope Wall 4 Inch	Sq Yd	-	7	7
Preformed Joint Strip Seal	Foot	274	-	274
Concrete Sealer	Sq Ft	-	1,290	1,290
Epoxy Crack Injection	Foot	-	22	22
Slope Wall Crack Sealing	Foot	-	122	122
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,953	-	1,953
Protect And Maintain Existing Underpass Luminaire	L Sum	-	0.04	0.04
Approach Slab Repair (Full Depth)	Sq Yd	71	-	71
Approach Slab Repair (Partial Depth)	Sq Yd	71	-	71
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,312	-	2,312
Bridge Deck Scarification 3/4"	Sq Yd	2,312	-	2,312
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	-	111	111
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3	-	3.0
Deck Slab Repair (Full Depth, Type II)	Sq Yd	111	-	111
Diamond Grinding (Bridge Section)	Sq Yd	2,400	-	2,400
Temporary Construction Fence	Foot	-	346	346
Temporary Shoring And Cribbing	Each	-	1	1
Locks For Gates	Each	-	4	4

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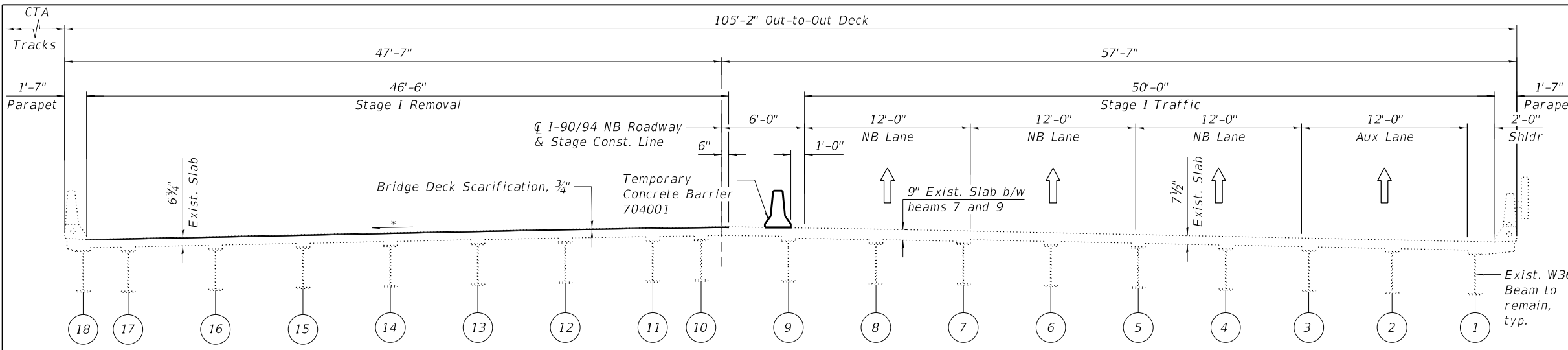
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, INDEX OF SHEETS & TBOM
STRUCTURE NO. 016-0111 (NB)**

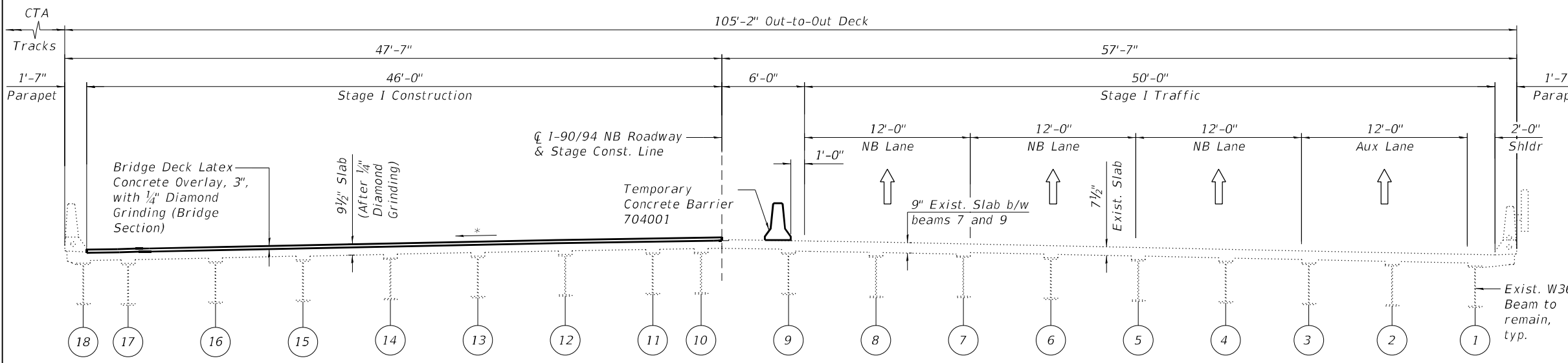
SHEET S19-02 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



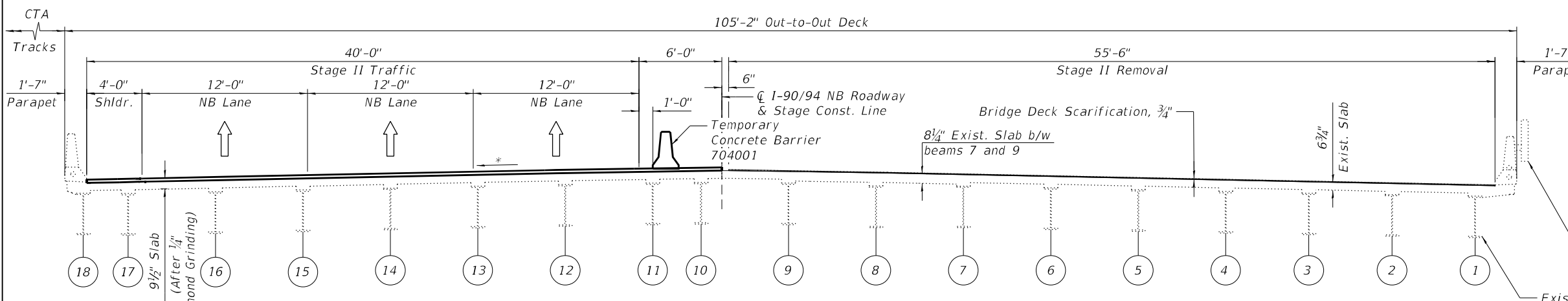
STAGE I REMOVAL
(Looking West)

- STAGE I REMOVAL**
1. Install temporary concrete barrier as shown to locate traffic on the north side of the existing 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 Beam 10 as shown on the plan within the limits of Stage I Removal.



STAGE I CONSTRUCTION
(Looking West)

- STAGE I CONSTRUCTION**
1. Perform bridge deck slab repairs.
 2. Reconstruct transverse expansion joints and install new preformed joint strip seals within the limits of Stage I Construction.
 3. Perform structural repair of concrete and epoxy crack injection for the abutments and piers.
 4. Apply 3" bridge deck latex concrete overlay.
 5. Perform 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.



STAGE II REMOVAL
(Looking West)

- STAGE II REMOVAL**
1. Install temporary concrete barrier as shown to locate traffic on the south side of the existing 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. Remove and Store Noise Abatement Wall Panels at East and West Expansion Joints.
- Exist. Noise Abatement Wall Panel to be removed and stored
- Exist. W36 Beam to remain, typ.
- *Match Existing Cross-Slopes

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

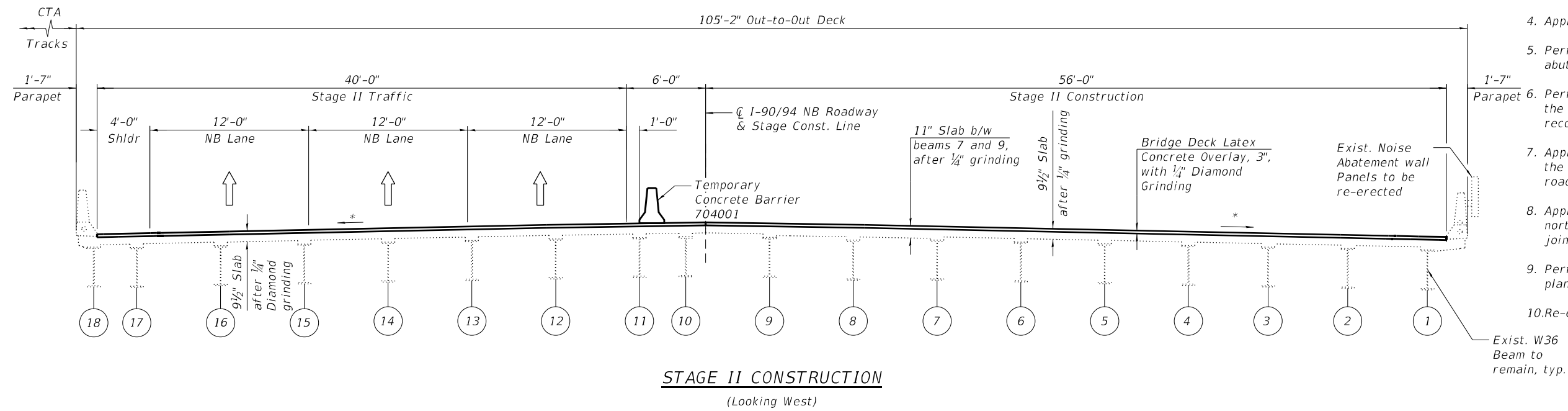
STAGE CONSTRUCTION (SHEET 1 OF 2)
STRUCTURE NO. 016-0111 (NB)

SHEET S19-03 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	856
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

STAGE II CONSTRUCTION

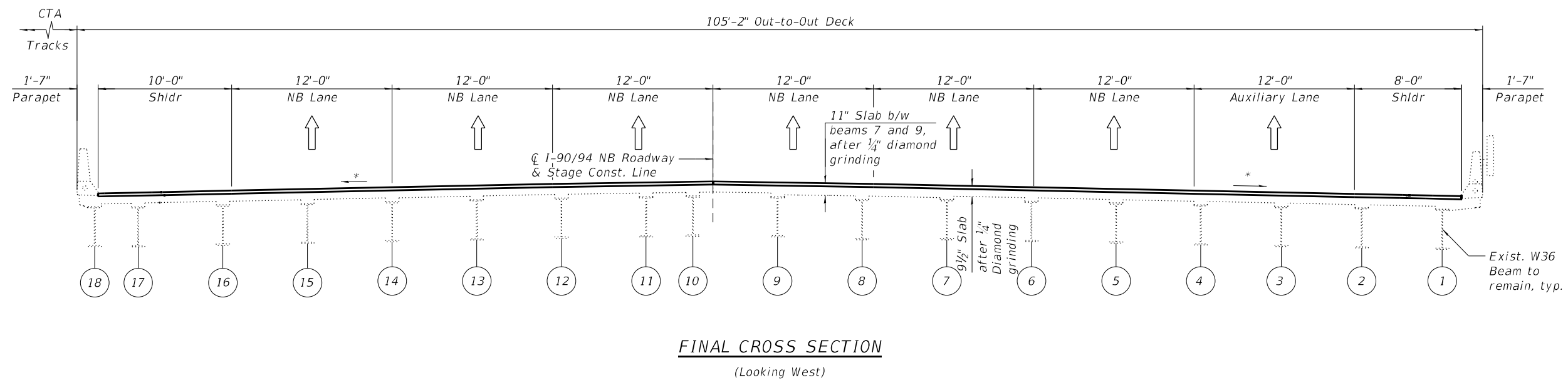
1. Perform bridge deck slab repairs.
2. Reconstruct expansion joints and install new preformed joint strip seals within the limits of Stage II Construction.
3. Perform structural repair of concrete and epoxy crack injection for abutments and piers.
4. Apply 3" bridge deck latex concrete overlay.
5. Perform 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 abutment expansion joints and to the surfaces of the new overlay.
9. Perform slope wall repairs as shown on the plans.
10. Re-erect Noise Abatement Wall Panels.



Exist. W36 Beam to remain, typ.

STAGE II CONSTRUCTION
(Looking West)

*Match existing cross-slope.



Exist. W36 Beam to remain, typ.

FINAL CROSS SECTION
(Looking West)

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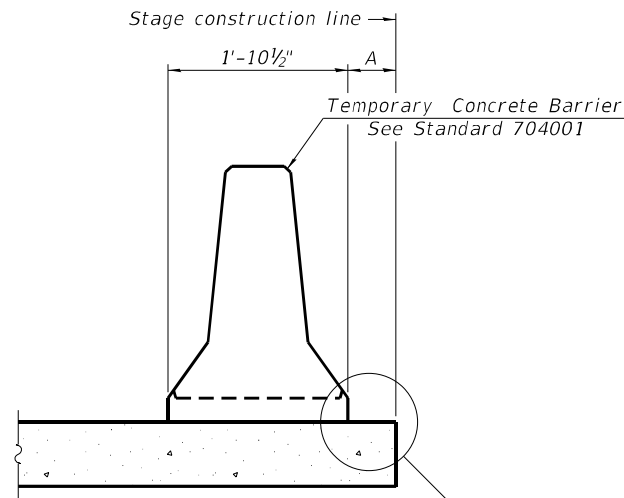
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION (SHEET 2 OF 2)
STRUCTURE NO. 016-0111 (NB)**

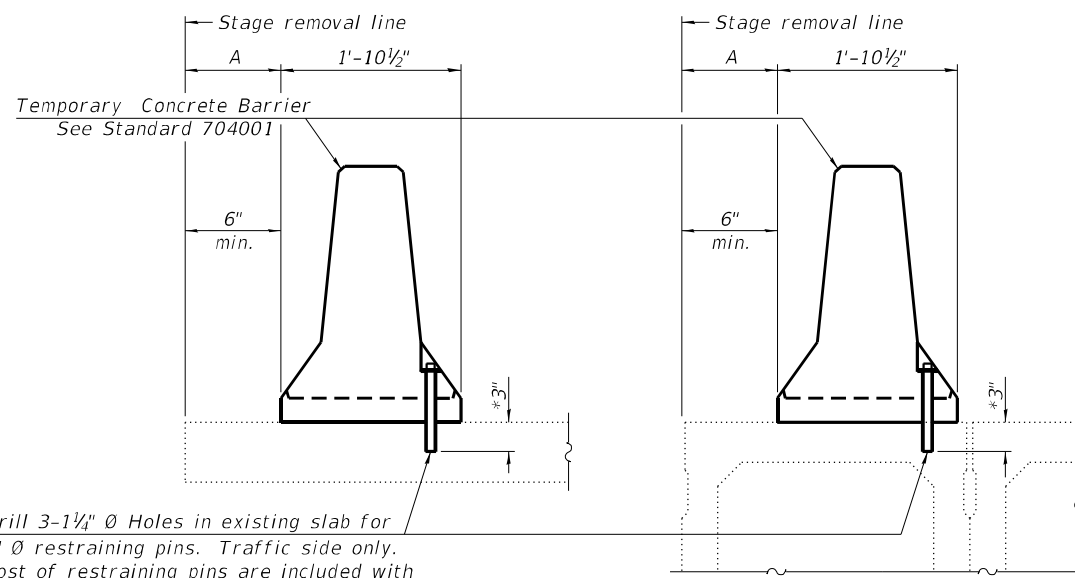
SHEET S19-04 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	857
CONTRACT NO. 62K73				
		ILLINOIS FED. AID PROJECT		



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

NEW SLAB OR NEW DECK BEAM

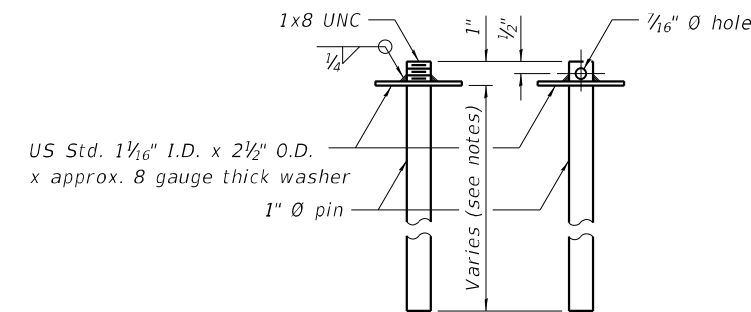


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

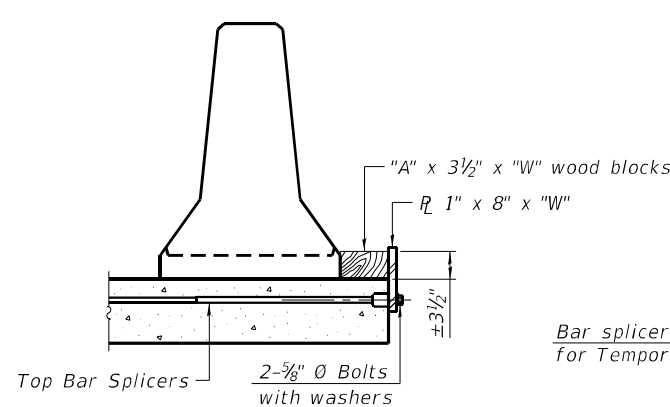
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

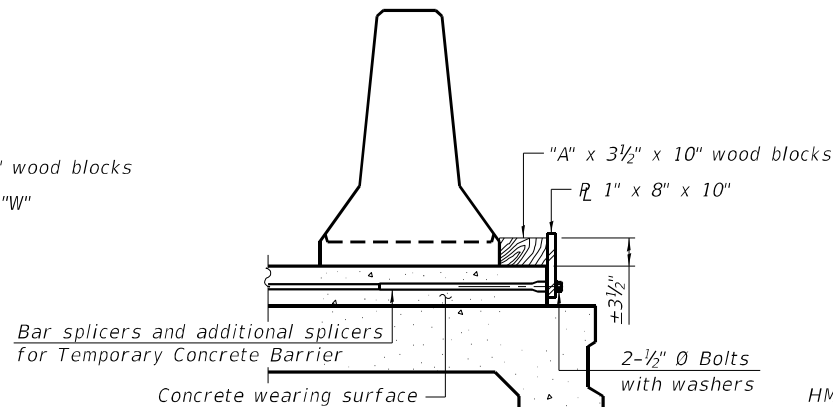


RESTRAINING PIN

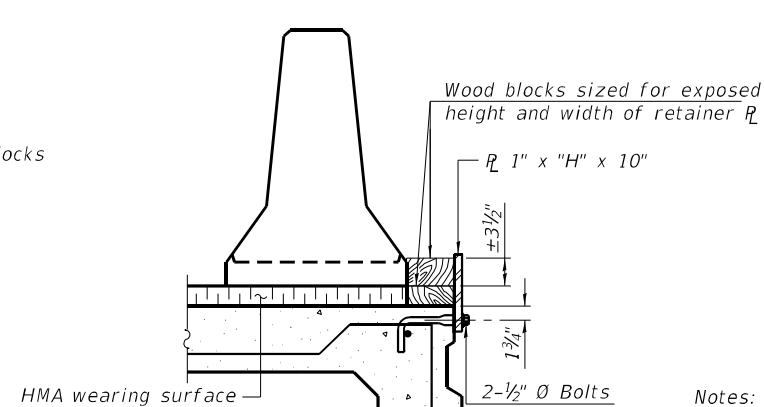
SECTIONS THRU SLAB OR DECK BEAM



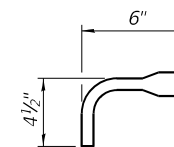
DETAIL I



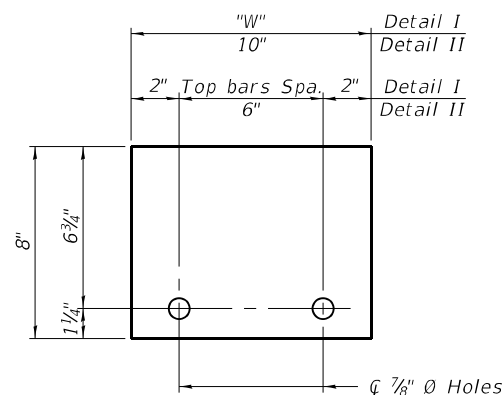
DETAIL II



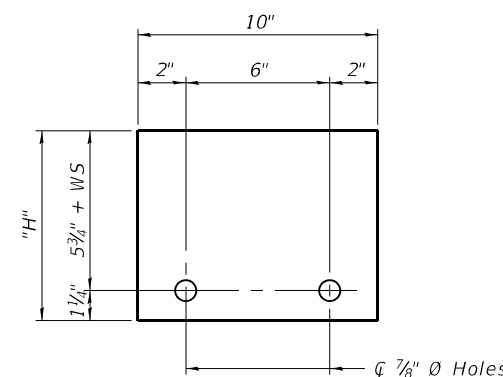
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

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

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

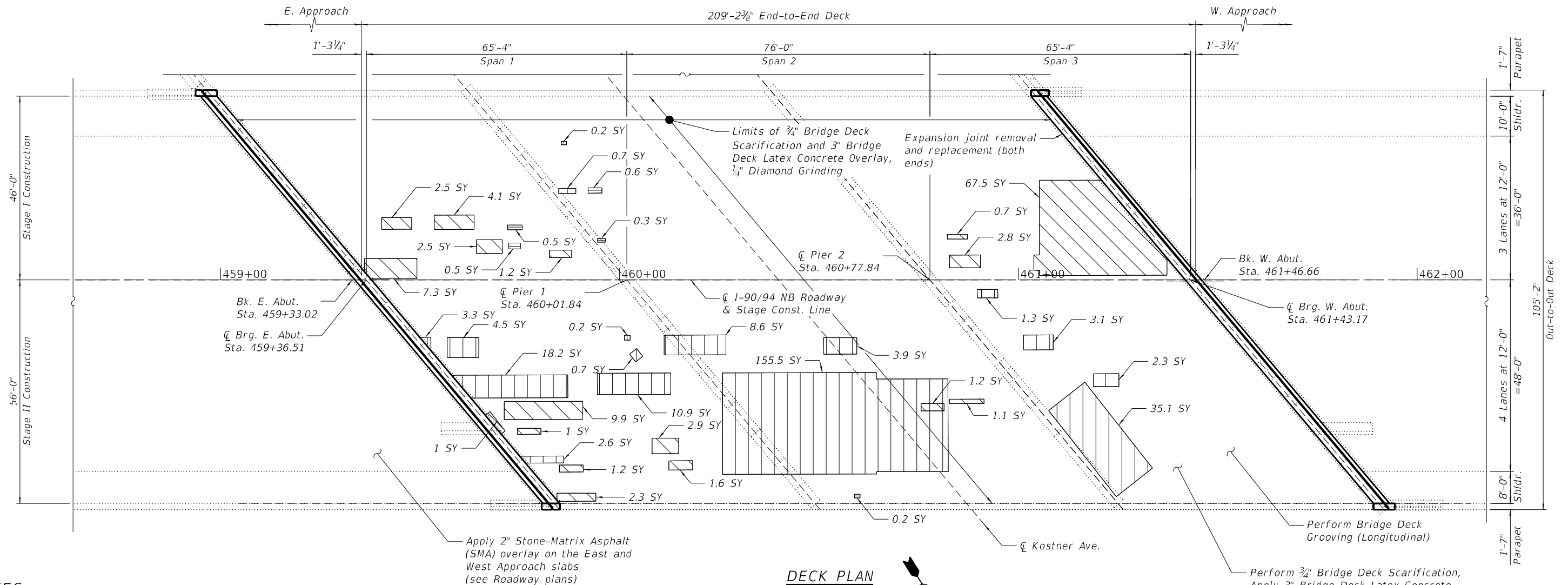
TEMPORARY CONCRETE BARRIER
 STRUCTURE NO. 016-0111 (NB)

SHEET S19-05 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	858
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	2,496
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,953
Approach Slab Repair (Full Depth)	Sq Yd	71
Approach Slab Repair (Partial Depth)	Sq Yd	71
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,312
Bridge Deck Scarification 3/4"	Sq Yd	2,312
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	111
Diamond Grinding (Bridge Section)	Sq Yd	2,400



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 S19-04.
3. For East and West transverse joint removal and reconstruction, see Sheets S19-07 thru S19-12.
4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
6. Protective Coat shall be applied to the top of 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.
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.
9. Approach Slab Repair (Full Depth) and Approach Slab Repair (Partial Depth) quantities have been estimated (based on a nominal 3% of bridge approach area) 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.

Perform 3/4" Bridge Deck Scarification, Apply 3" Bridge Deck Latex Concrete Overlay, Perform 1/4" Diamond Grinding and Apply Protective Coat

LEGEND:

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

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

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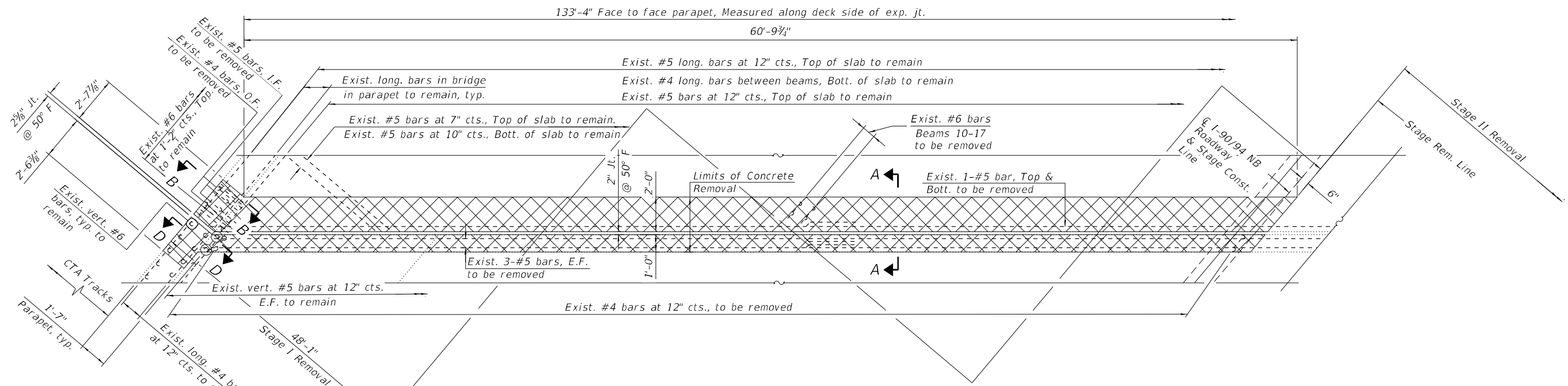
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

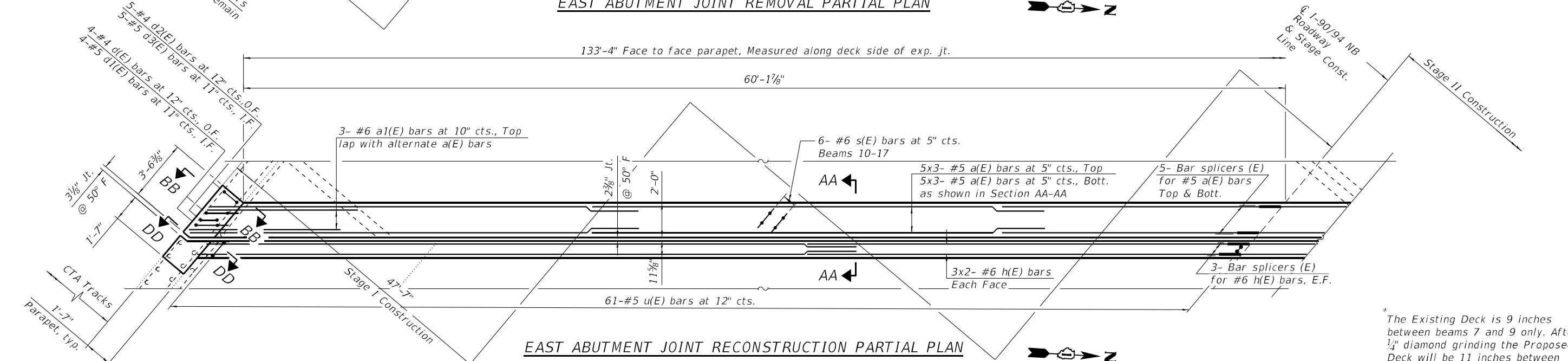
**DECK REPAIR PLAN
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-06 OF S19-19 SHEETS

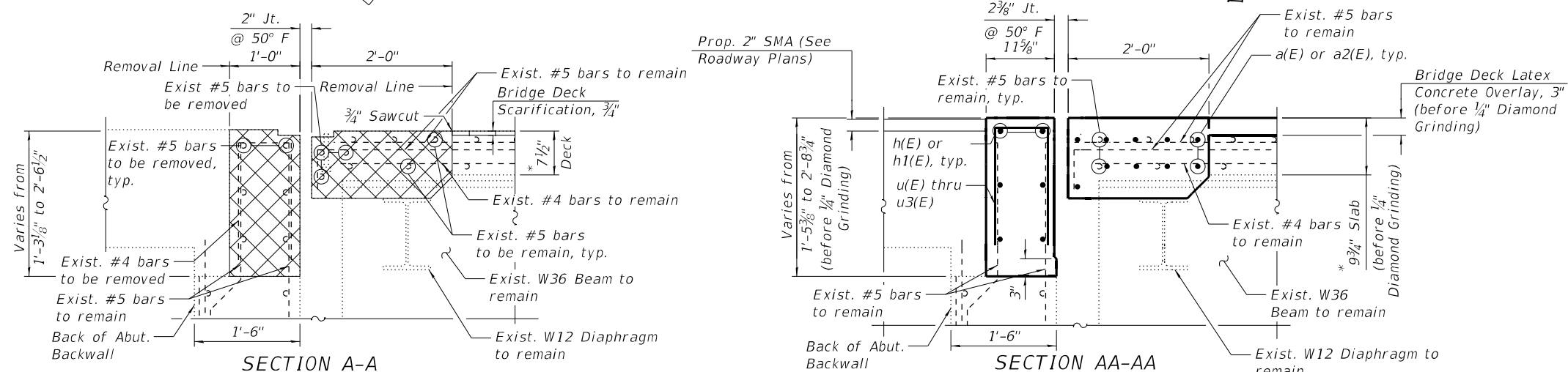
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90/94	2020-005-BR	COOK	908	859
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



EAST ABUTMENT JOINT REMOVAL PARTIAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN



* The Existing Deck is 9 inches between beams 7 and 9 only. After 1/4\"/>

LEGEND

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

NOTE:
1. For Sections B-B, D-D, BB-BB and DD-DD, Bar Diagrams, Notes and Bill of Material, see Sheet S19-09.

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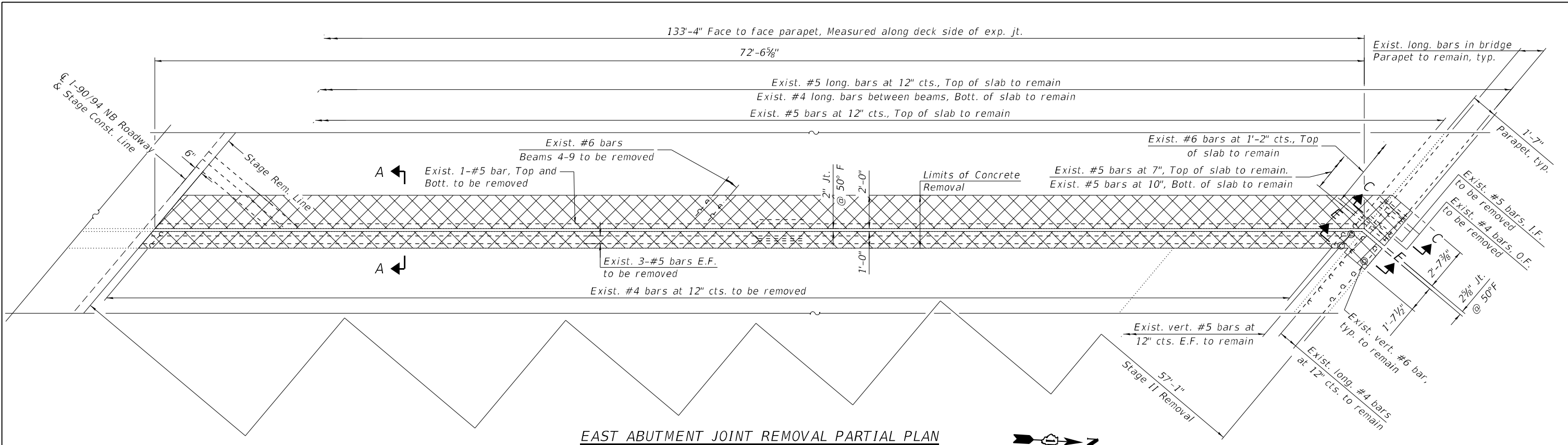
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STATE OF ILLINOIS
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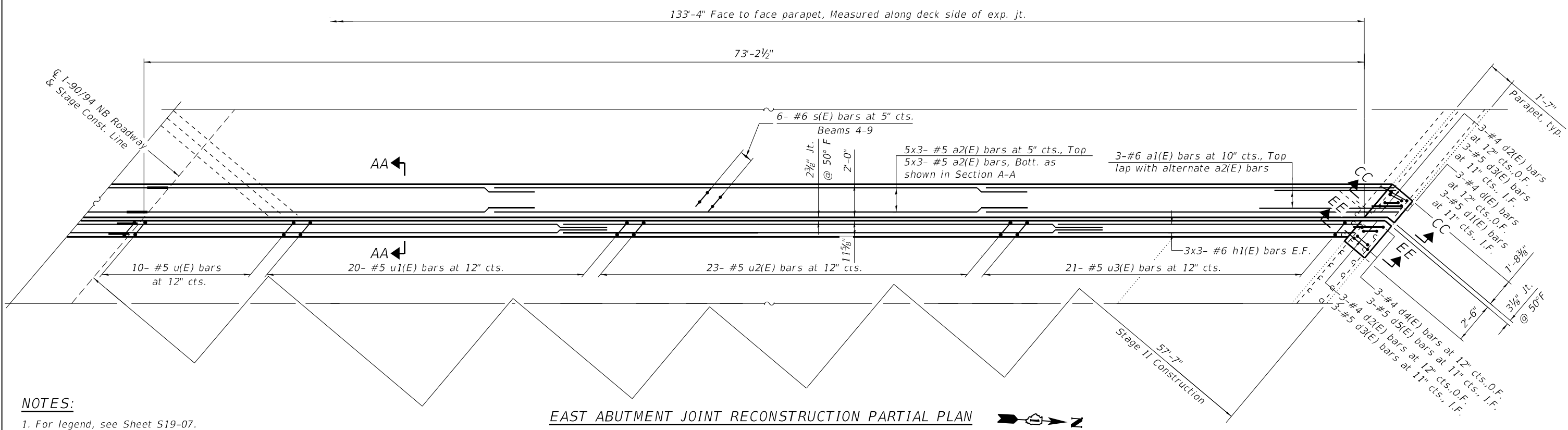
E. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 1 OF 3)
STRUCTURE NO. 016-0111 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	860
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

SHEET S19-07 OF S19-19 SHEETS



EAST ABUTMENT JOINT REMOVAL PARTIAL PLAN



EAST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN

NOTES:

1. For legend, see Sheet S19-07.
2. For Sections A-A and AA-AA, see Sheet S19-07.
3. For Sections C-C, E-E, CC-CC and EE-EE, additional Notes, Bar Diagrams, and Bill of Material, see Sheet S19-09.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

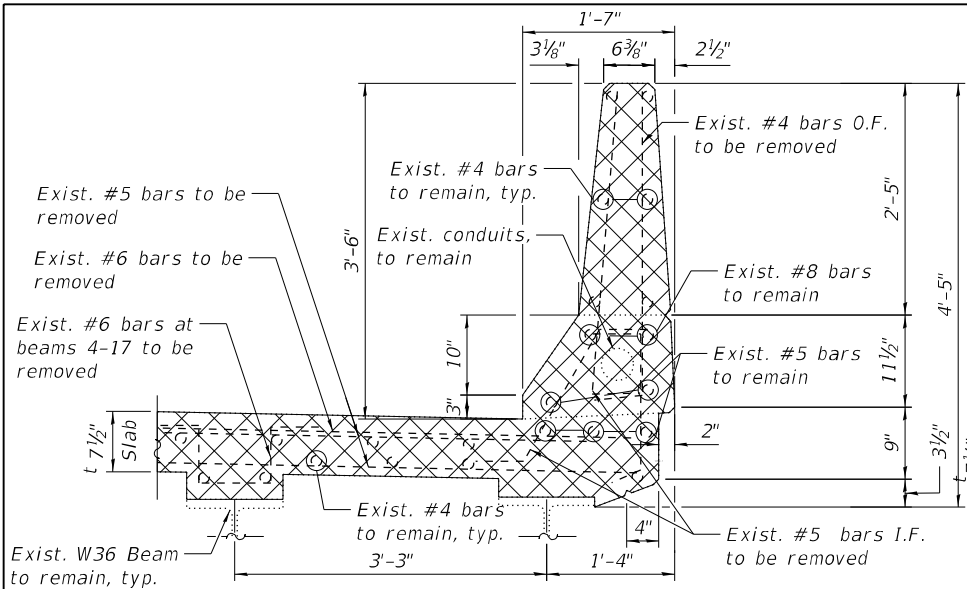
**E. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 2 OF 3)
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-08 OF S19-19 SHEETS

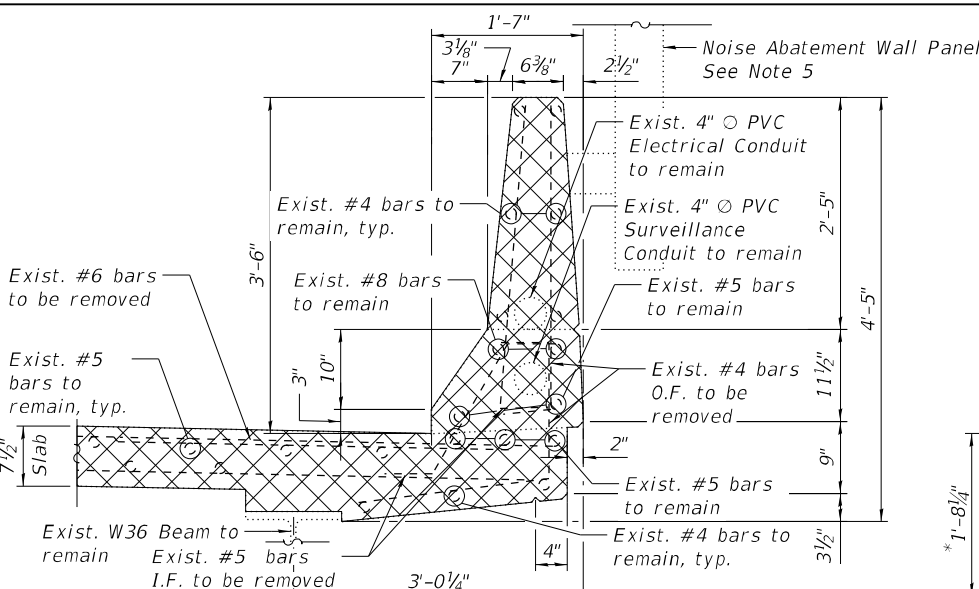
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CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

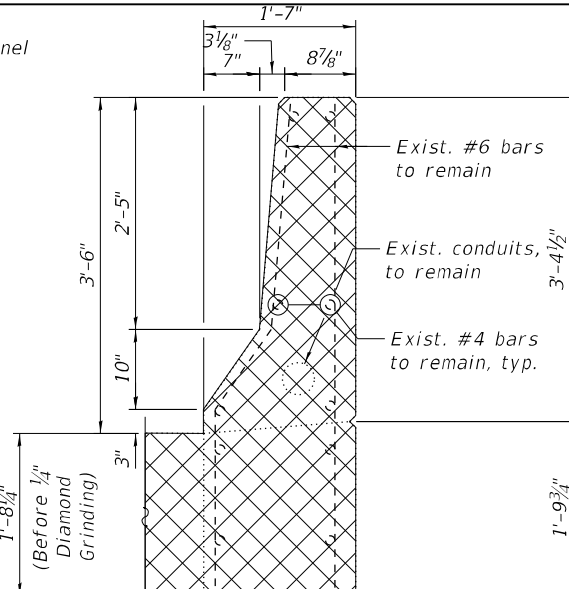
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a1(E)	6	#6	6'-6"	—
a2(E)	30	#5	27'-2"	—
d(E)	7	#4	3'-11"	┌
d1(E)	7	#5	2'-7"	┌
d2(E)	11	#4	3'-8"	┌
d3(E)	11	#5	3'-8"	┌
d4(E)	3	#4	4'-1"	┌
d5(E)	3	#5	3'-8"	┌
h(E)	12	#6	31'-9"	—
h1(E)	18	#6	26'-9"	—
s(E)	84	#6	2'-11"	┌
u(E)	71	#5	3'-11"	┌
u1(E)	20	#5	4'-3"	┌
u2(E)	23	#5	3'-7"	┌
u3(E)	21	#5	2'-11"	┌
Concrete Removal			Cu Yd	23.2
Concrete Superstructure			Cu Yd	23.9
Protective Coat			Sq Yd	51
Reinforcement Bars, Epoxy Coated			Pound	3,920



SECTION B-B

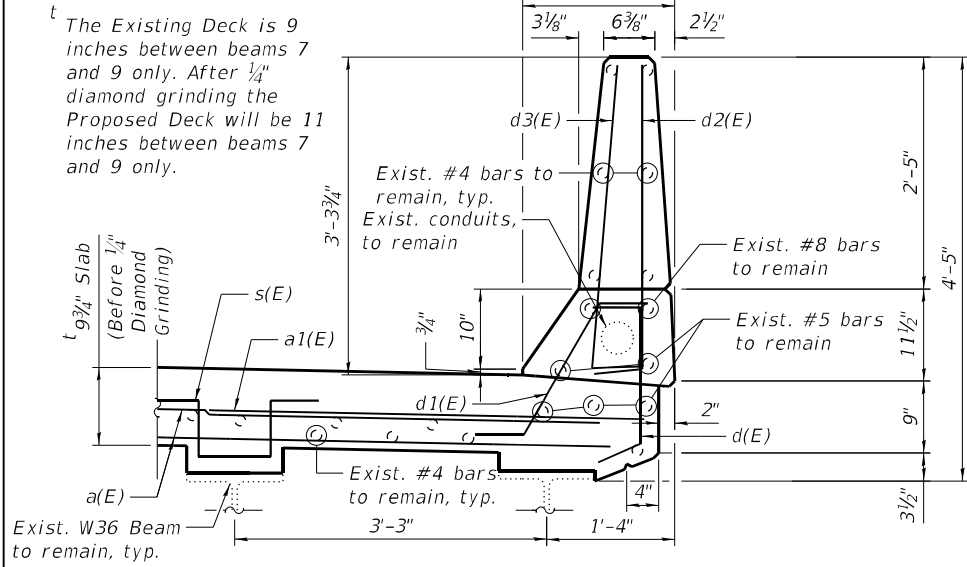


SECTION C-C

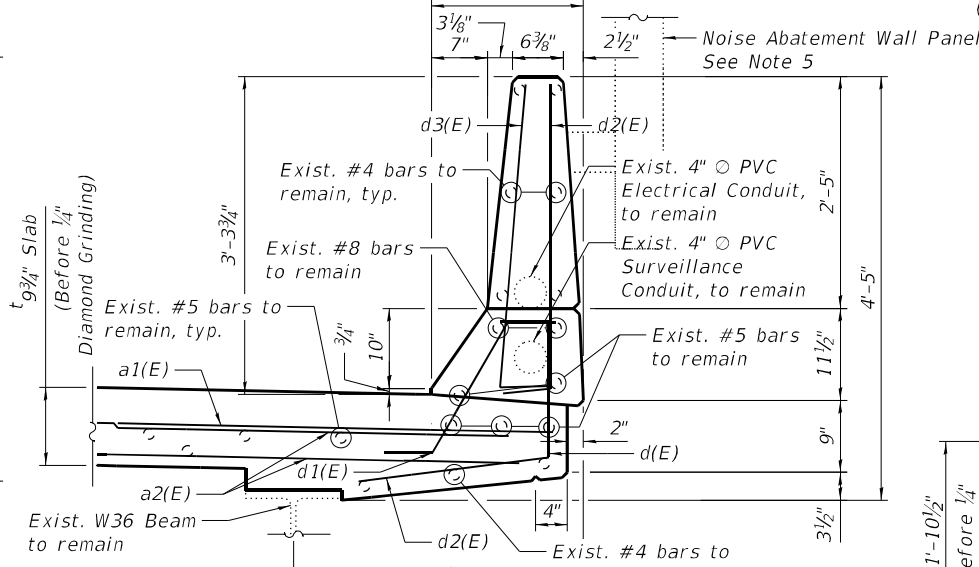


SECTION D-D

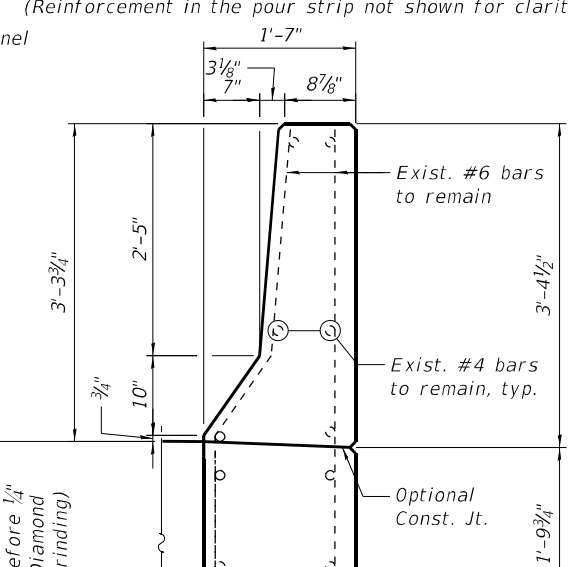
(Reinforcement in the pour strip not shown for clarity)



SECTION BB-BB



SECTION CC-CC



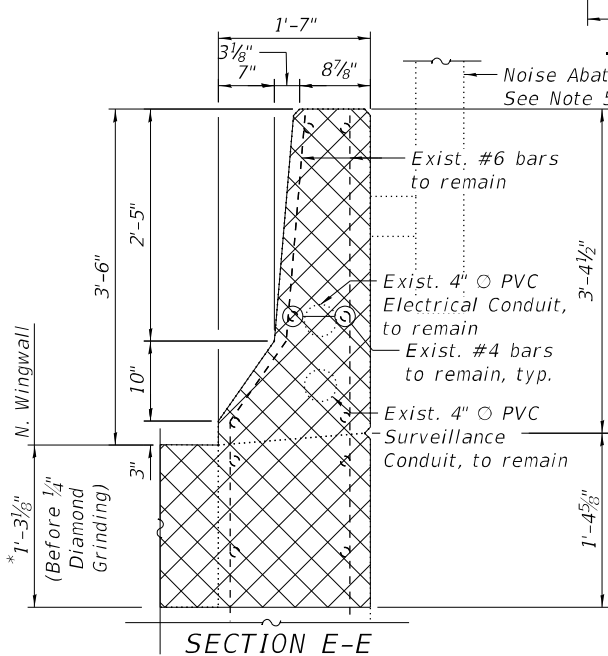
SECTION DD-DD

(Reinforcement in the pour strip not shown for clarity)

*Dimension is taken at the Back of Abut.

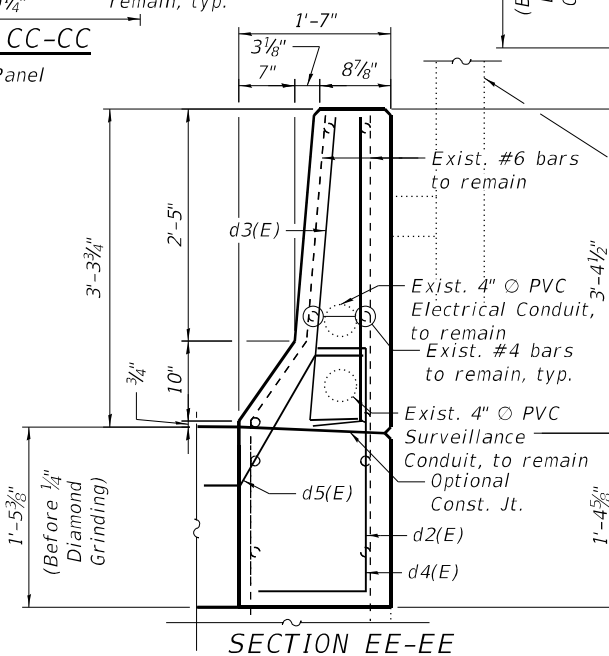
NOTES:

- For legend, see Sheet S19-07.
- For preformed joint strip seal details, see Sheet S19-13.
- For bar splicer assembly details, see Sheet S19-19.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.
- The Contractor shall remove, Store, and re-erect portions of the structure mounted Timber Noise Abatement wall that interferes with the joint reconstruction. The Cost of this work, including any new hardware as required, is included in the cost of Concrete Superstructure.



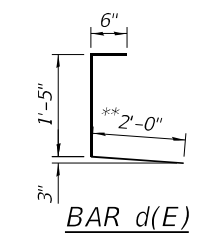
SECTION E-E

(Reinforcement in the pour strip not shown for clarity)



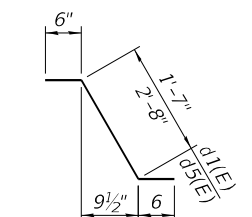
SECTION EE-EE

(Reinforcement in the pour strip not shown for clarity)

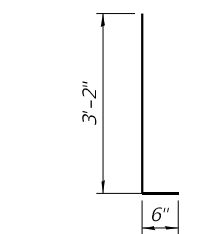


BAR d(E)

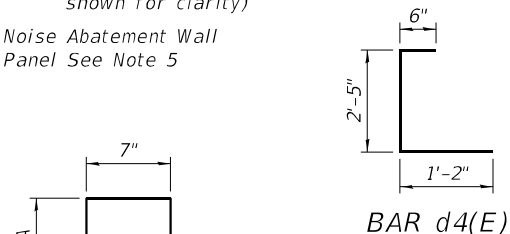
**Cut end bar in the field to fit



BAR d1(E) & d5(E)



BARS d2(E) & d3(E)



BAR d4(E)

BARS u(E), thru u3(E)

BARS	A
u(E)	1'-8"
u1(E)	1'-10"
u2(E)	1'-6"
u3(E)	1'-2"

BAR s(E)

MIN BAR LAPS

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

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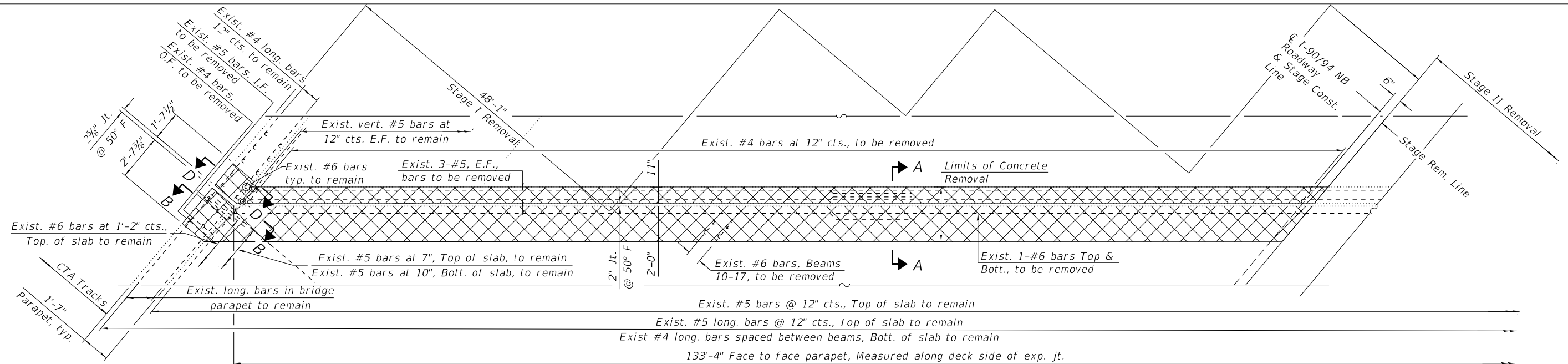
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PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 4/29/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

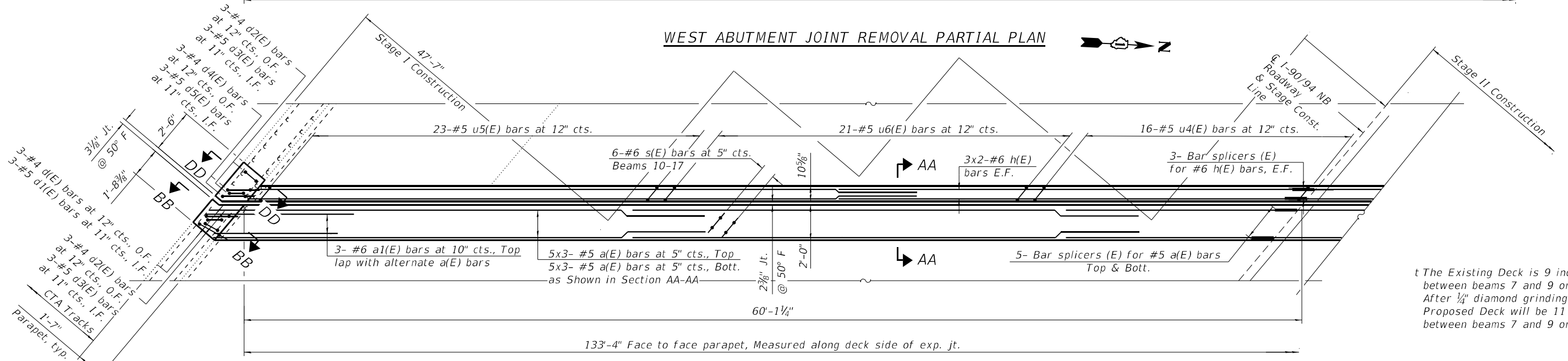
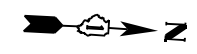
**E. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 3 OF 3)
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-09 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	862
			CONTRACT NO. 62K73	
		ILLINOIS FED. AD PROJECT		



WEST ABUTMENT JOINT REMOVAL PARTIAL PLAN

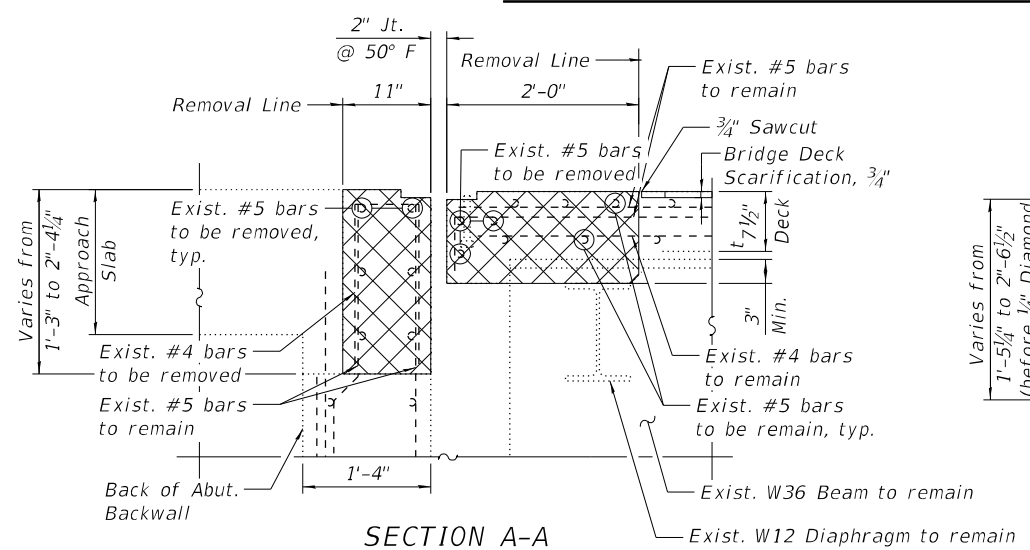


WEST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN

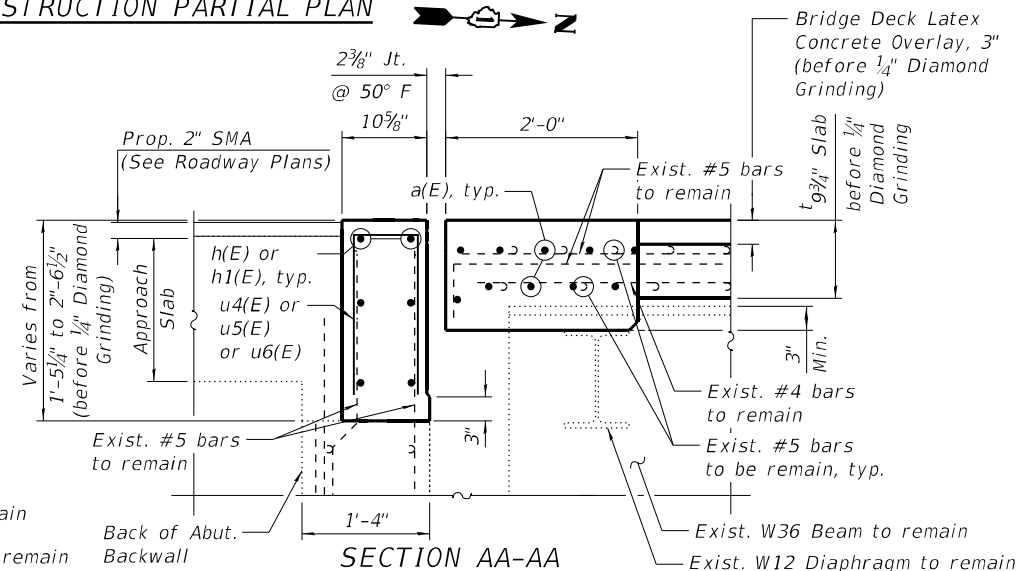


t The Existing Deck is 9 inches between beams 7 and 9 only. After 1/4\"/>

NOTE:
 1. For Sections B-B, D-D, BB-BB and DD-DD, Bar Diagrams, additional Notes and Bill of Material, see Sheet S19-12.



SECTION A-A



SECTION AA-AA

LEGEND

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

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 1 OF 3)
 STRUCTURE NO. 016-0111 (NB)**

SHEET S19-10 OF S19-19 SHEETS

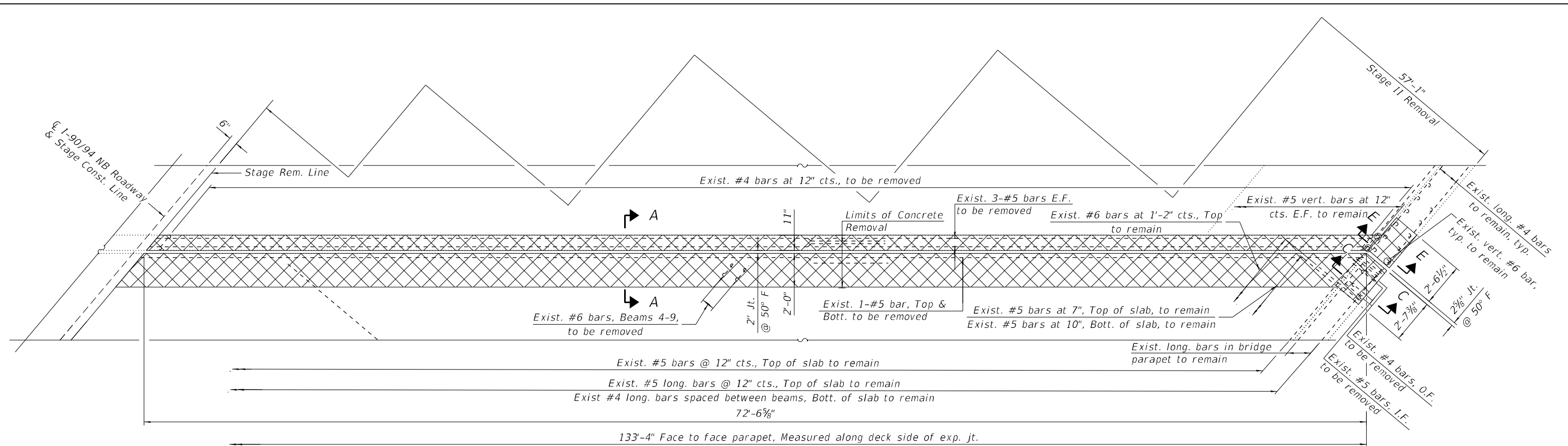
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PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 4/29/2024	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	863
CONTRACT NO. 62K73				

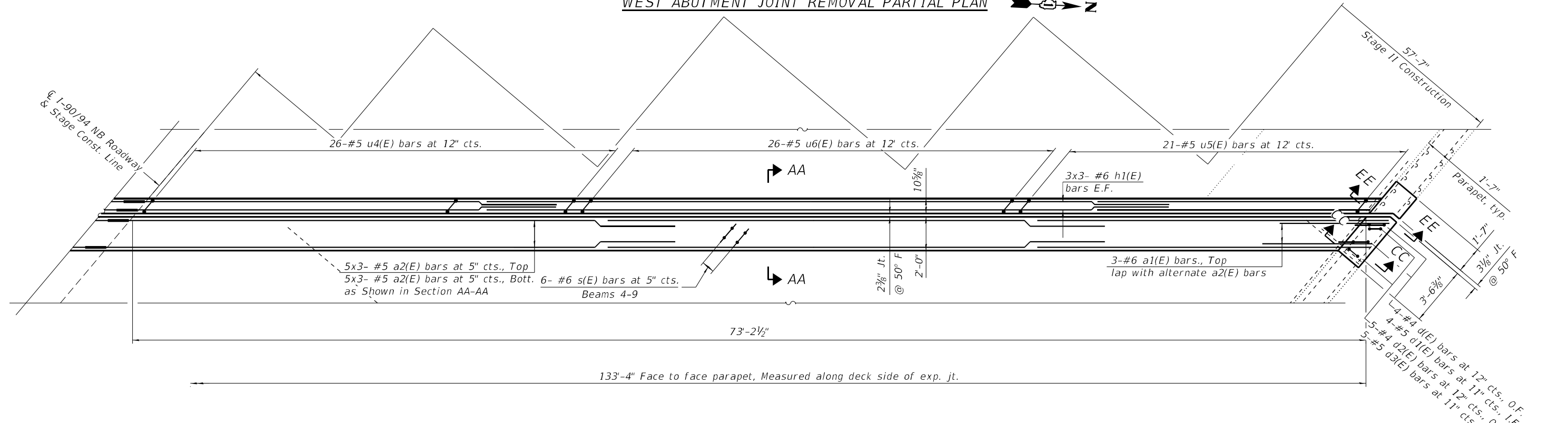
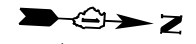
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WEST ABUTMENT JOINT REMOVAL PARTIAL PLAN



WEST ABUTMENT JOINT RECONSTRUCTION PARTIAL PLAN



NOTES:

1. For legend, see Sheet S19-10.
2. For Sections A-A and AA-AA, see Sheet S19-10.
3. For Sections C-C, E-E, CC-CC and EE-EE, additional Notes, Bar Diagrams, and Bill of Material, see Sheet S19-12.



USER NAME =	DESIGNED - JMI	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 4/29/2024	REVISED -

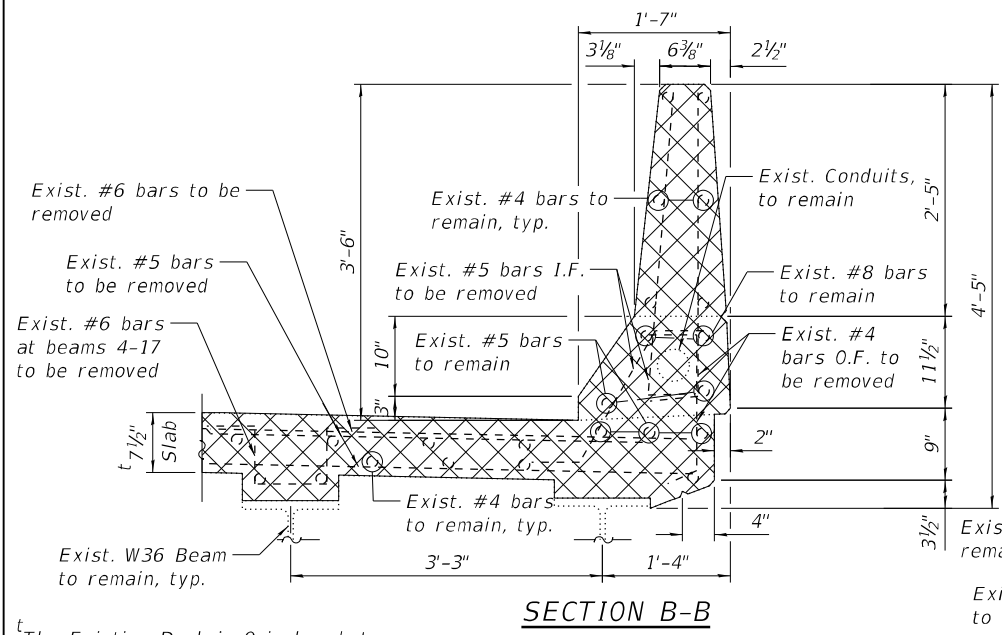
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 2 OF 3)
 STRUCTURE NO. 016-0111 (NB)**

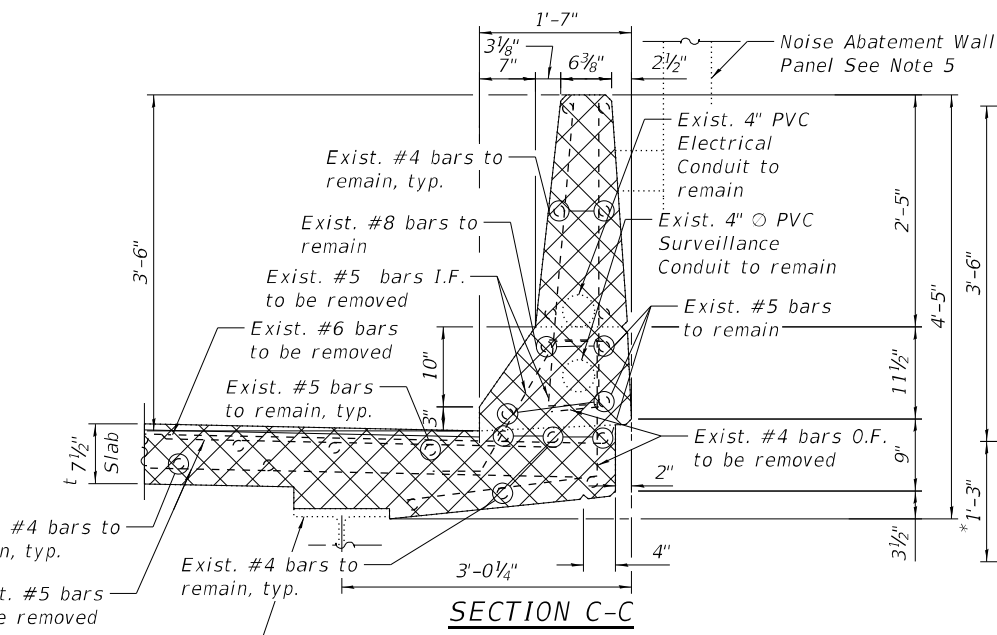
SHEET S19-11 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	864
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

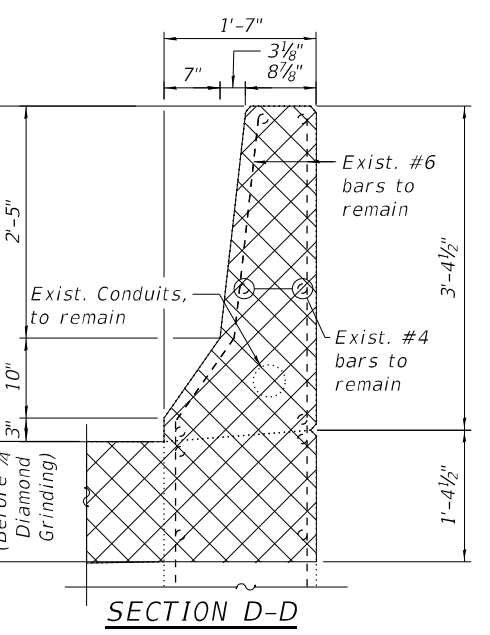
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SECTION B-B



SECTION C-C



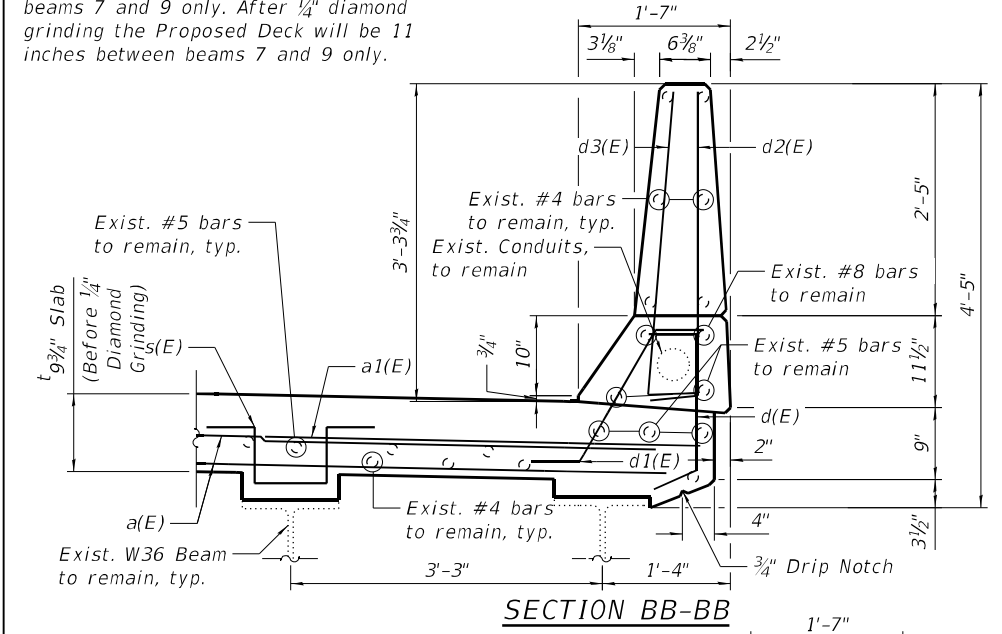
SECTION D-D

(Reinforcement in the pour strip not shown for clarity)

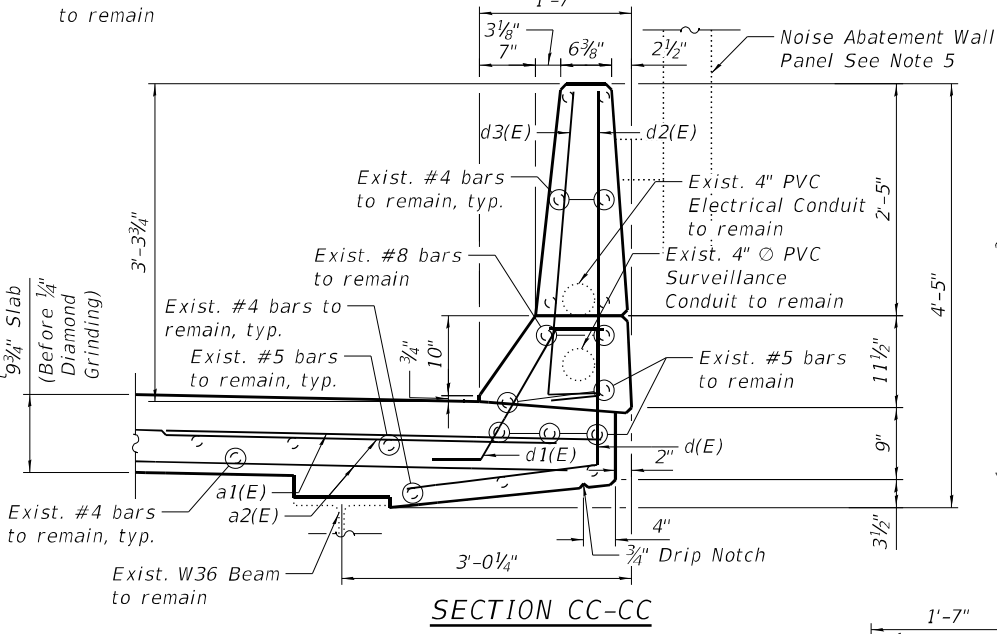
BILL OF MATERIAL

ITEM	NO	SIZE	LENGTH	SHAPE
a(E)	30	#5	22'-10"	▬
a1(E)	6	#6	6'-6"	▬
a2(E)	30	#5	27'-2"	▬
d(E)	7	#4	3'-11"	└┘
d1(E)	7	#5	2'-7"	└┘
d2(E)	11	#4	3'-8"	└┘
d3(E)	11	#5	3'-8"	└┘
d4(E)	3	#4	4'-1"	└┘
d5(E)	3	#5	3'-8"	└┘
h(E)	12	#6	31'-9"	▬
h1(E)	18	#6	26'-9"	▬
s(E)	84	#6	2'-11"	└┘
u4(E)	42	#5	4'-2"	└┘
u5(E)	44	#5	2'-10"	└┘
u6(E)	47	#5	3'-4"	└┘
Concrete Removal		Cu Yd	24.0	
Concrete Superstructure		Cu Yd	22.9	
Protective Coat		Sq Yd	50	
Reinforcement Bars, Epoxy Coated		Pound	3,880	

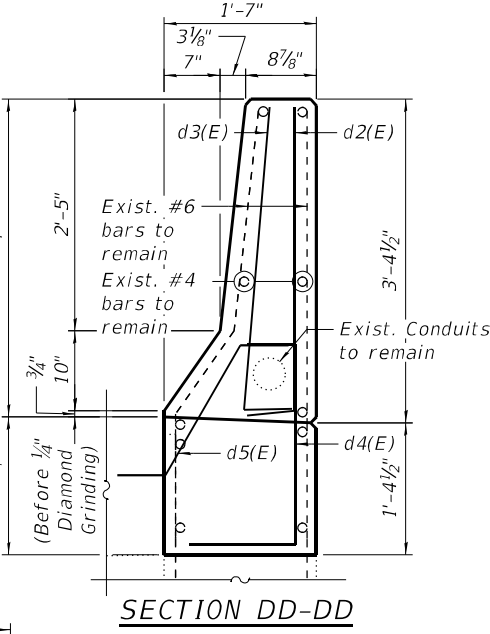
† The Existing Deck is 9 inches between beams 7 and 9 only. After 1/4" diamond grinding the Proposed Deck will be 11 inches between beams 7 and 9 only.



SECTION BB-BB

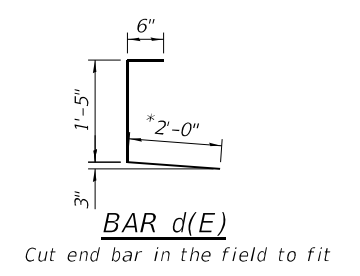


SECTION CC-CC



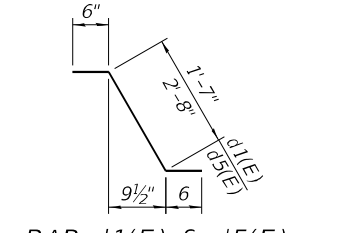
SECTION DD-DD

(Reinforcement in the pour strip not shown for clarity)

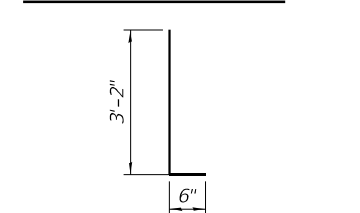


BAR d(E)

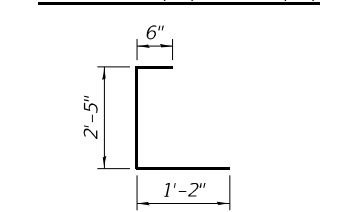
Cut end bar in the field to fit



BAR d1(E) & d5(E)



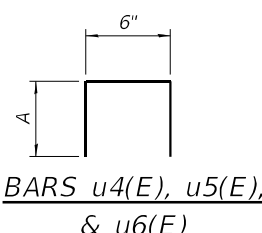
BARS d2(E) & d3(E)



BAR d4(E)



BAR s(E)



BARS u4(E), u5(E), & u6(E)

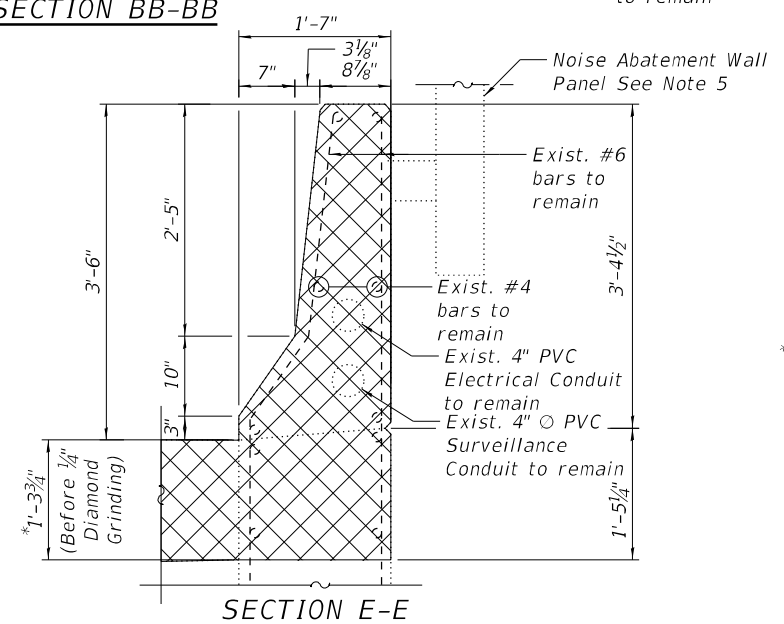
BARS	A
u4(E)	1'-10"
u5(E)	1'-2"
u6(E)	1'-5"

MIN BAR LAPS

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

NOTES:

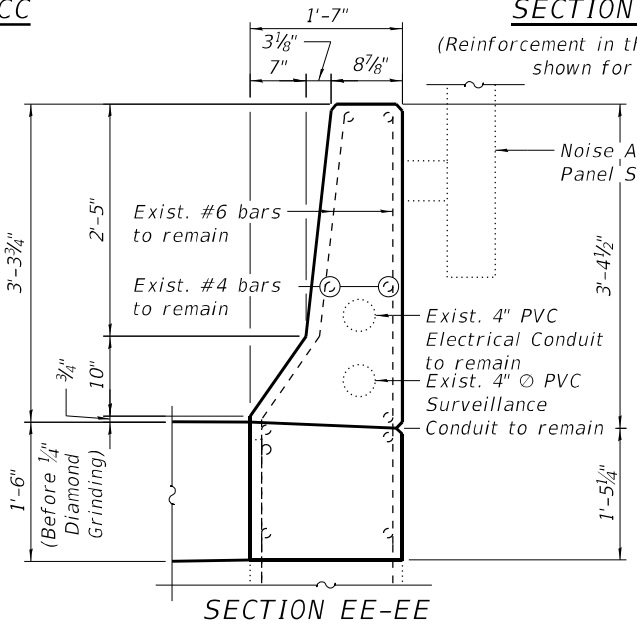
1. For legend, see Sheet S19-10.
2. For preformed joint strip seal details, see Sheet S19-13.
3. For bar splicer assembly details, see Sheet S19-19.
4. Removal and disposal of the existing expansion joints is included with Concrete Removal.
5. The Contractor shall Remove, Store, and re-erect portions of the structure mounted Timber Noise Abatement wall that interferes with the joint reconstruction. The Cost of this work, including any new hardware as required, is included in the cost of Concrete Superstructure.



SECTION E-E

(Reinforcement in the pour strip not shown for clarity)

*Dimension is taken at the Back of Abut.



SECTION EE-EE

(Reinforcement in the pour strip not shown for clarity)



USER NAME =	DESIGNED - JMI	REVISED -
CHECKED - MI	REVISIONS -	
PLOT SCALE =	DRAWN - JMI	REVISED -
PLOT DATE =	DATE - 4/29/2024	REVISED -

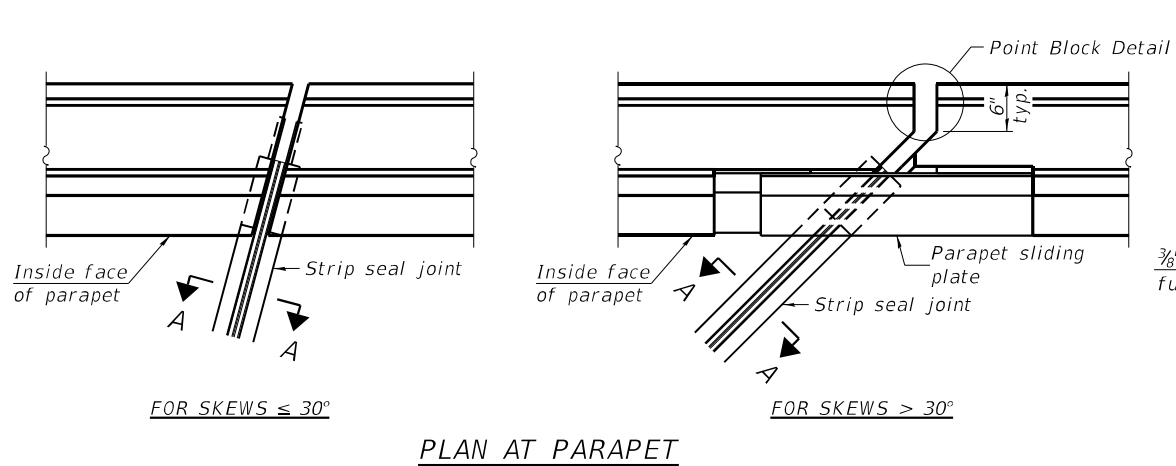
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**W. ABUT. JOINT REMOVAL & RECONSTRUCTION (SHT. 3 OF 3)
STRUCTURE NO. 016-0111 (NB)**

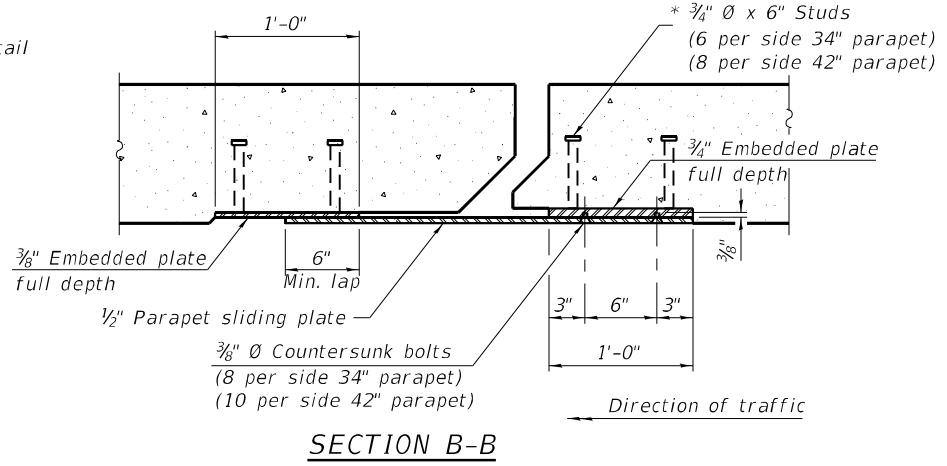
SHEET S19-12 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	865
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

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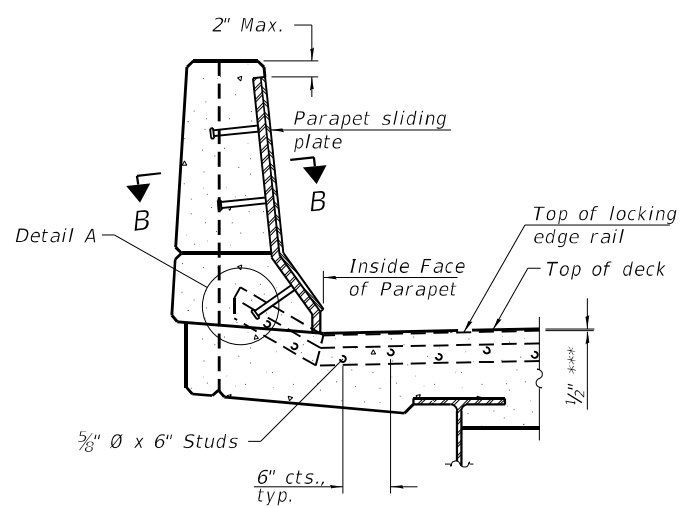


PLAN AT PARAPET



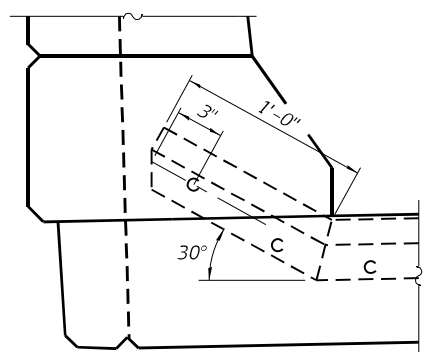
SECTION B-B

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.

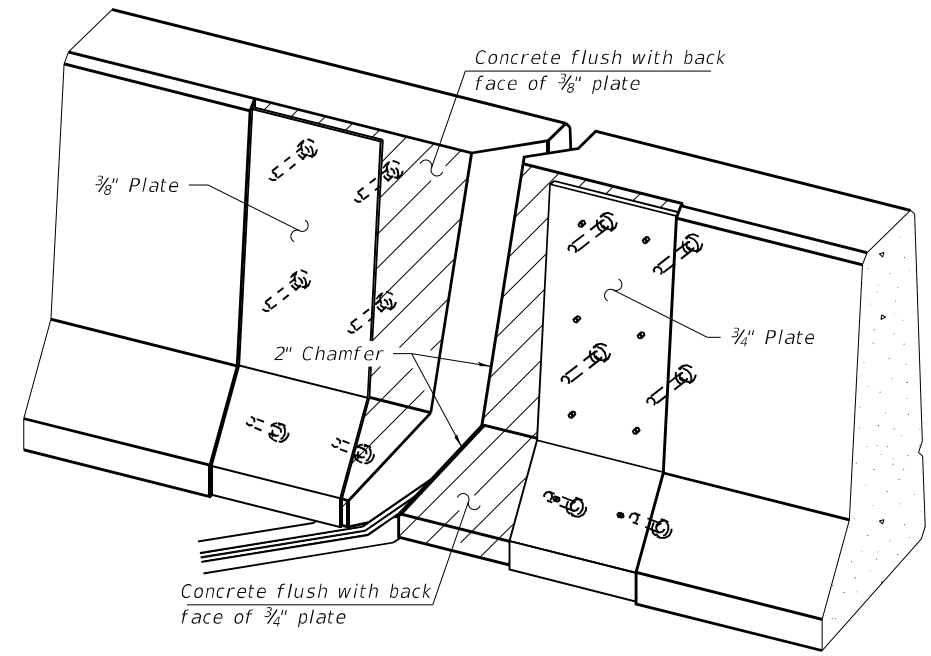


ELEVATION AT PARAPET

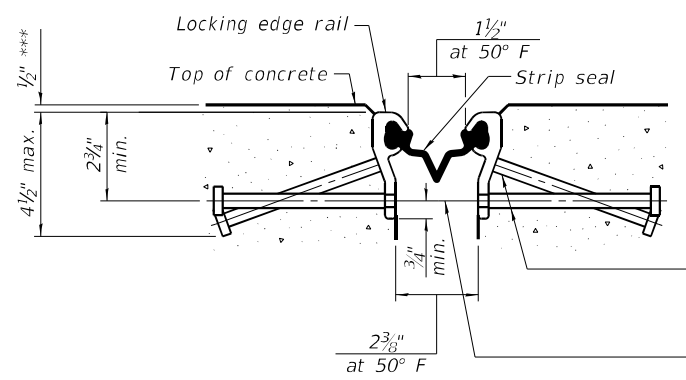
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A

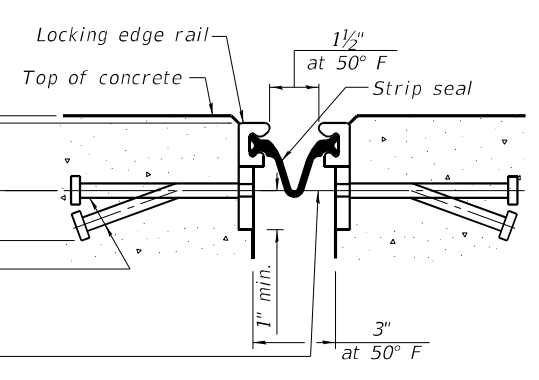


TRIMETRIC VIEW
 (Showing embedded plates only)



SHOWING ROLLED RAIL JOINT

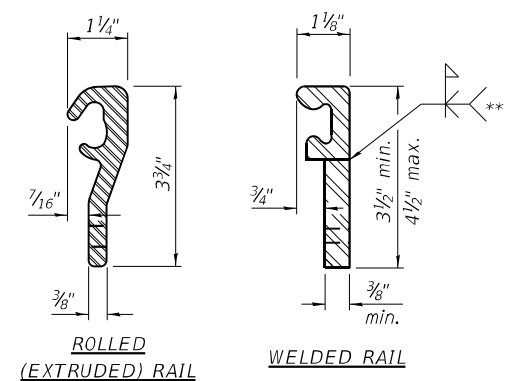
* 3/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" Ø threaded rods in 1/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates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



SHOWING WELDED RAIL JOINT

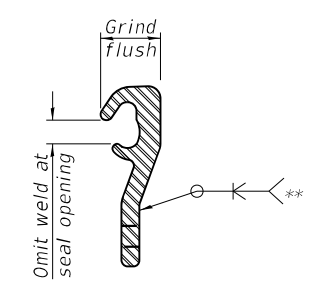
SECTION A-A

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



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	274



USER NAME =	DESIGNED - JMI	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - JMI	REVISED -
	DATE - 4/29/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

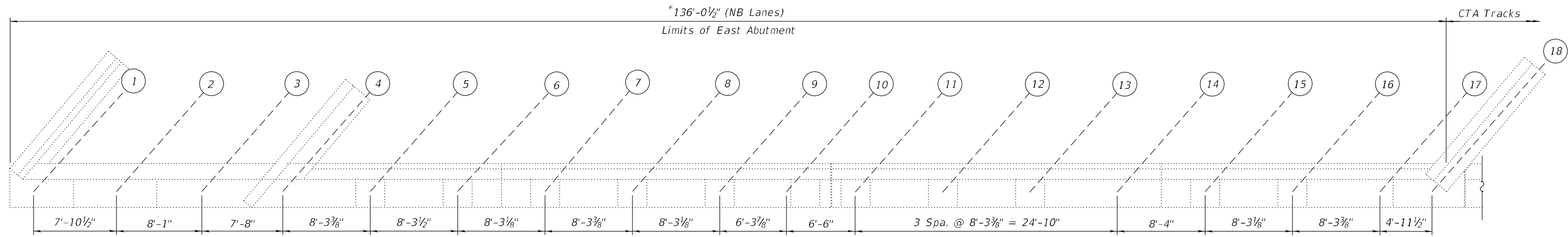
PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 016-0111 (NB)

SHEET S19-13 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	866
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

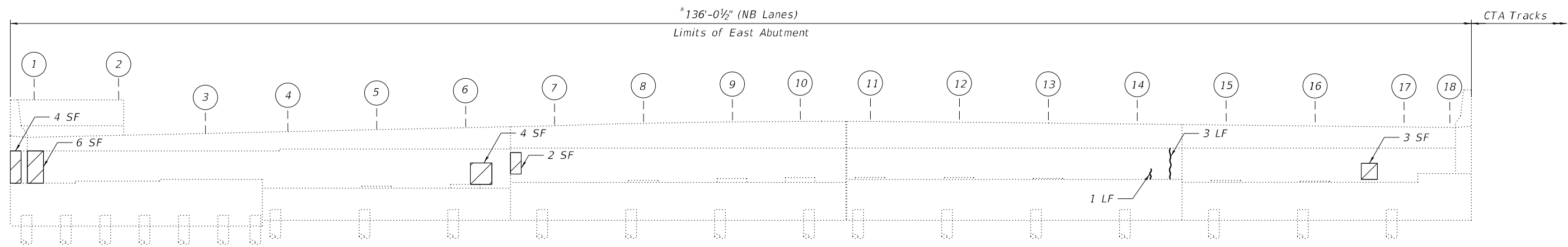
ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	645
Epoxy Crack Injection	Foot	4
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	19



EAST ABUTMENT PLAN



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



EAST ABUTMENT ELEVATION
(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 abutment seats and the bottom 2 feet of the abutment backwall.
- For Slope Wall Repairs, see Sheet S19-18.

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
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	CHECKED - MI	REVISED -
PLOT SCALE =	DRAWN - JMI	REVISED -
PLOT DATE =	DATE - 4/29/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REPAIRS
STRUCTURE NO. 016-0111 (NB)**

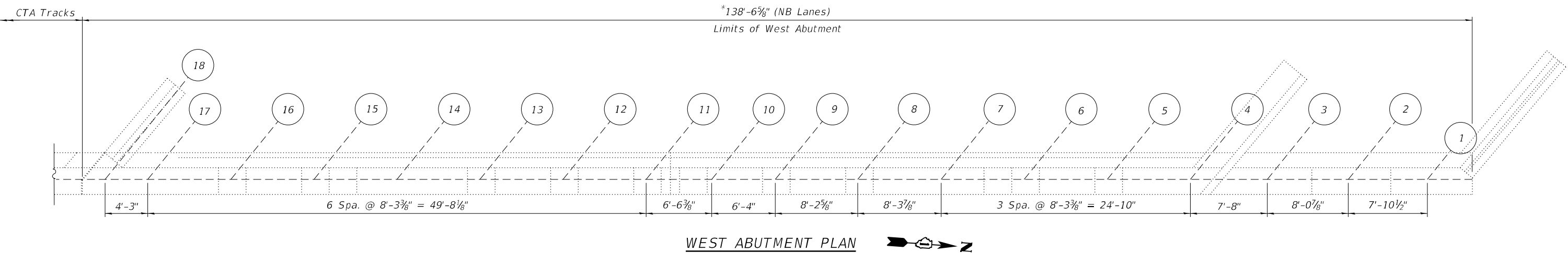
SHEET S19-14 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	867
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT

BILL OF MATERIAL

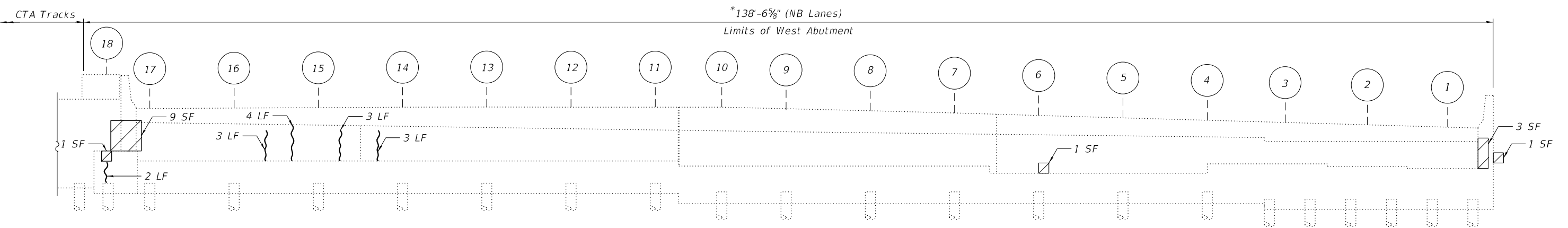
ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	645
Epoxy Crack Injection	Foot	15
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	15



WEST ABUTMENT PLAN



* Length is measured along ϕ 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 is to be applied to the abutment seats and the bottom 2 feet of the abutment backwall.
- For Slope Wall Repairs, see Sheet S19-18.

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
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USER NAME =	DESIGNED - JMI	REVISED -
	CHECKED - MI	REVISED -
PLOT SCALE =	DRAWN - JMI	REVISED -
PLOT DATE =	DATE - 4/29/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT REPAIRS
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-15 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	868
CONTRACT NO. 62K73				

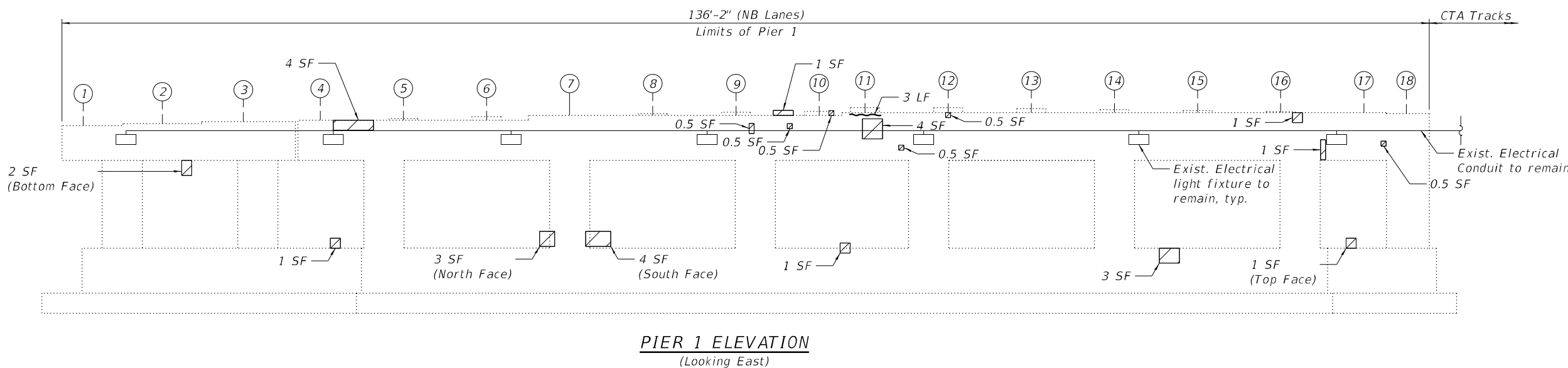
ILLINOIS FED. AID PROJECT

BILL OF MATERIAL

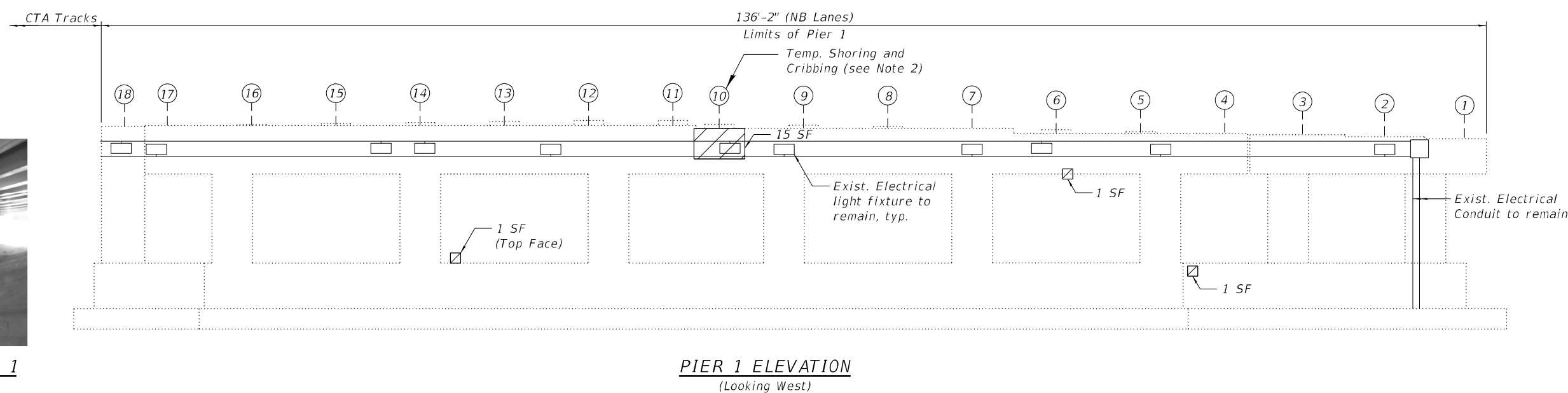
ITEM	UNIT	QUANTITY
Epoxy Crack Injection	Foot	3
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	50
Temporary Shoring And Cribbing	Each	1



EXISTING LIGHTING: PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1
(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.
- 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.

SUMMARY OF REACTIONS PIER 1 BEAM 10		
R DL	(k)	92.1
R LL	(k)	51.2
R IM	(k)	9.6
R Total	(k)	152.9

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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PLOT SCALE =	DRAWN - JMI	REVISED -
PLOT DATE =	DATE - 4/29/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 REPAIRS
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-16 OF S19-19 SHEETS

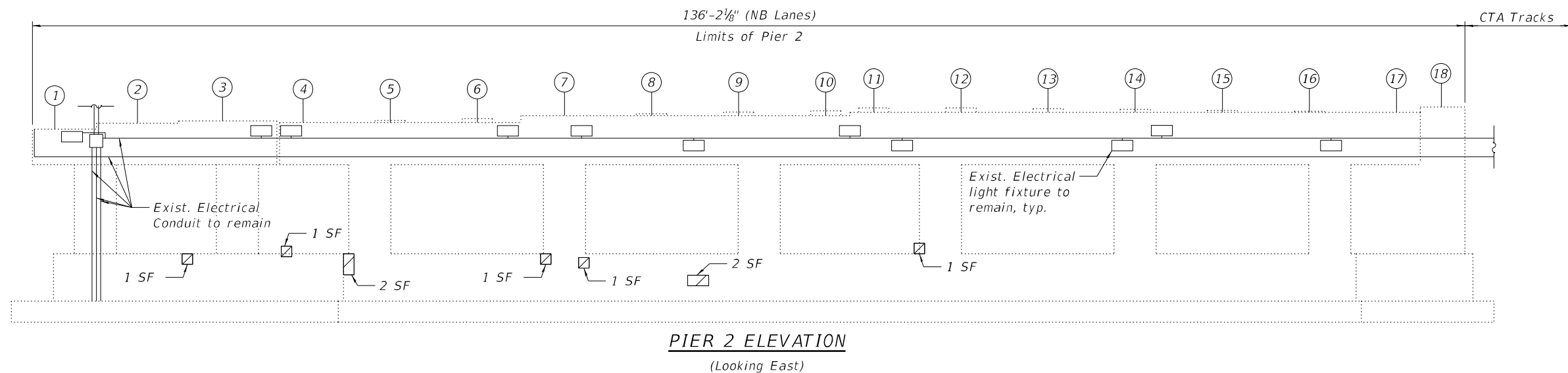
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90/94	2020-005-BR	COOK	908	869
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

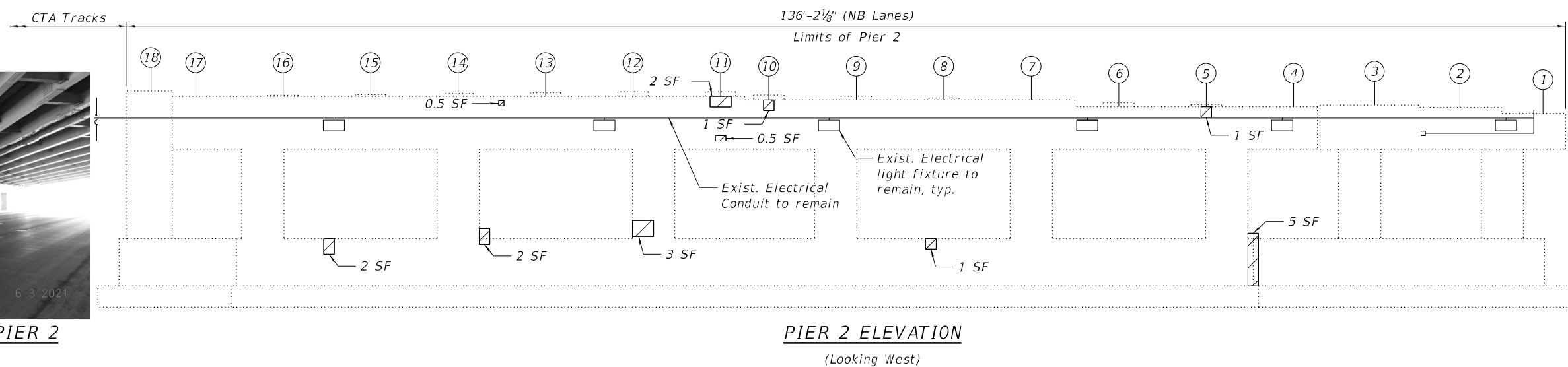
ITEM	UNIT	QUANTITY
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft	27



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.

LEGEND

	Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)
SF	- Square Foot

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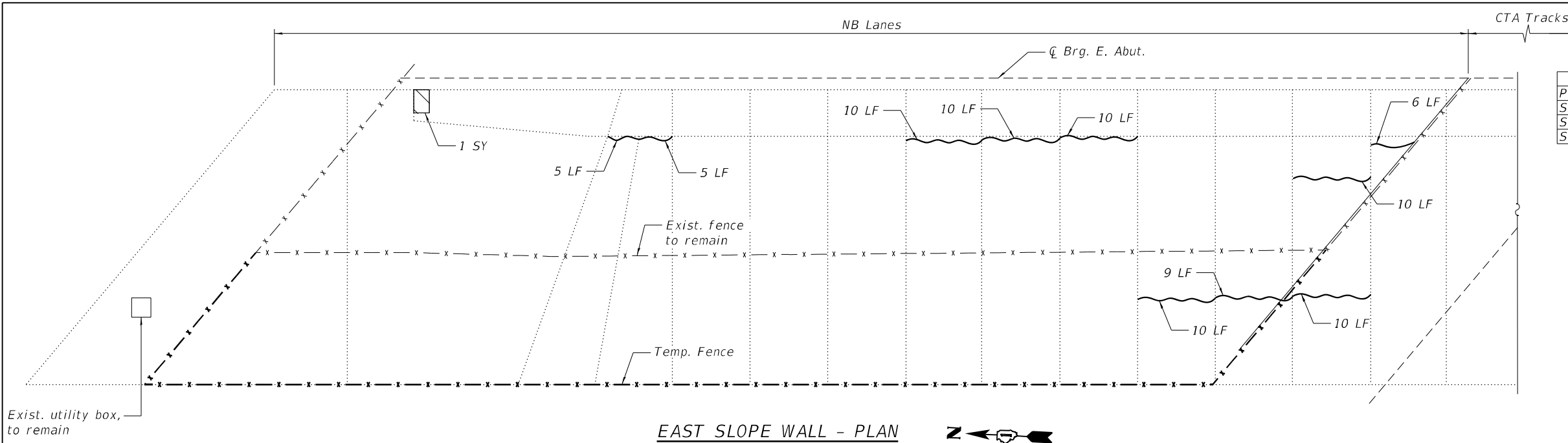
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PLOT DATE =	DATE - 4/29/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 REPAIRS
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-17 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	870
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



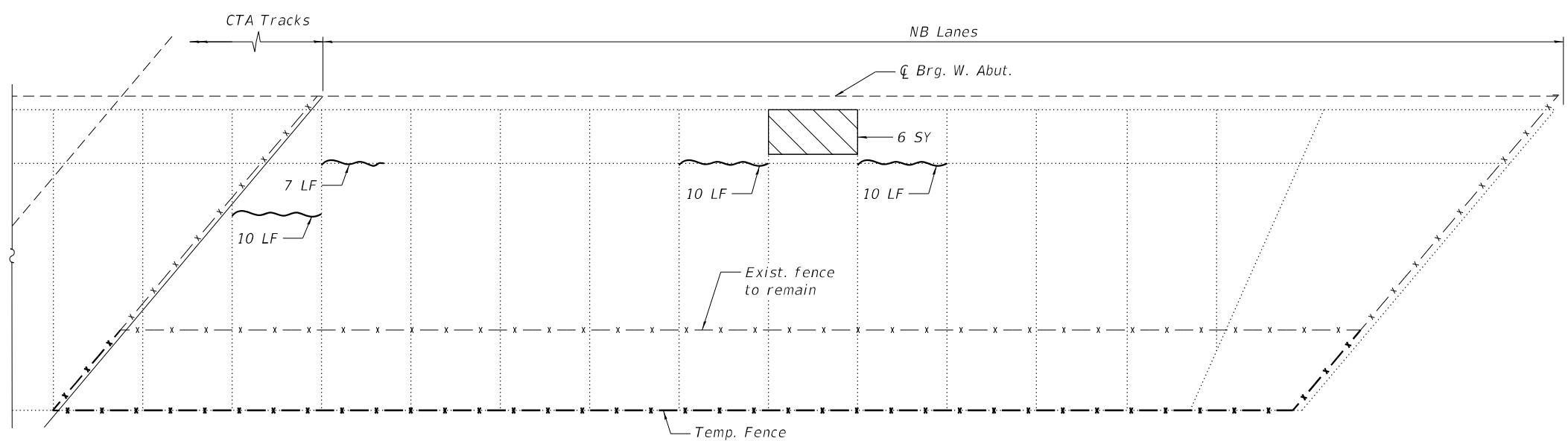
EAST SLOPE WALL - PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	3
Slope Wall Removal	Sq Yd	7
Slope Wall 4 Inch	Sq Yd	7
Slope Wall Crack Sealing	Foot	122

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.



WEST SLOPE WALL - PLAN

LEGEND

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

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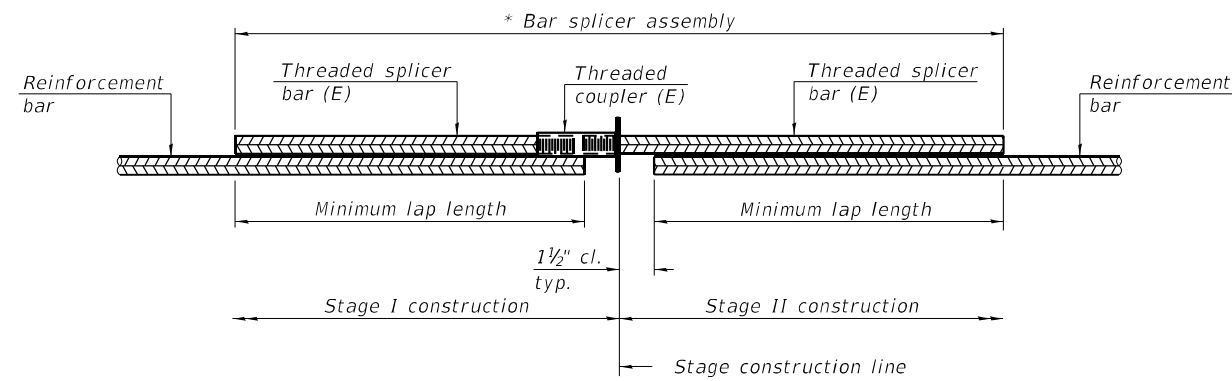
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SLOPE WALL REPAIRS
STRUCTURE NO. 016-0111 (NB)**

SHEET S19-18 OF S19-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	871
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT

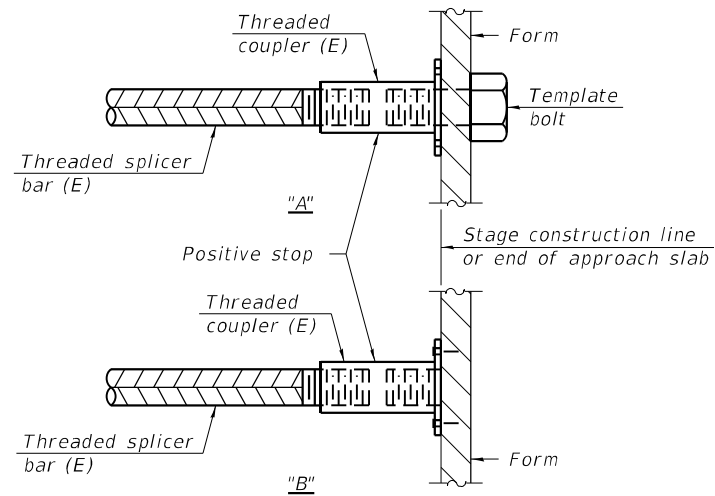


STANDARD BAR SPLICER ASSEMBLY PLAN
 (All components shall be provided from one supplier)

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

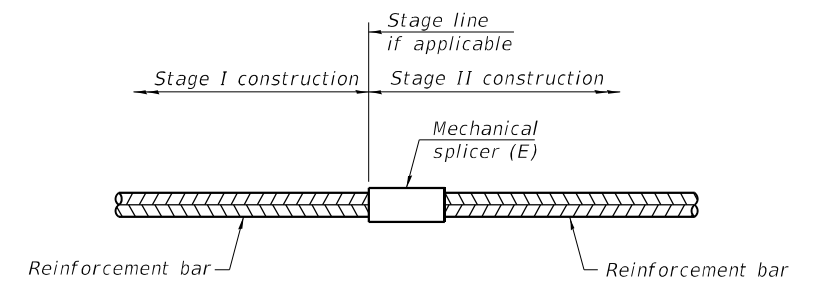
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar Size	No. assemblies required	Minimum lap length
East Abut. Expansion Jt.	#5	10	3'-6"
	#6	6	4'-0"
West Abut. Expansion Jt.	#5	10	3'-6"
	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

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

BSD-1

1-1-2020

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STATE OF ILLINOIS
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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 016-0111 (NB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	872
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

SHEET S19-19 OF S19-19 SHEETS

Existing Structure: S.N. 016-2459 (I-90 REV over the CTA Blue Line Tunnel) was originally built in 1959 from BCR. The main structure consists of a reinforced concrete culvert, with reinforced concrete retaining walls to the northwest and reinforced concrete deck on steel beams supported by reinforced concrete retaining walls to the southeast. In 1992, the upper part of the trough walls were removed to provide clearance for the reversible lane reconfiguration and widening, and steel beams with reinforced concrete decking were added.

The northbound lanes will be closed to traffic during construction.

No salvage.

LOADING

HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

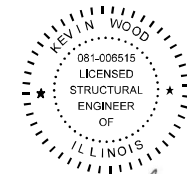
2002 AASHTO Standard Specification for Highway Bridges, 17th Edition



ELEVATION
(Looking Southwest)

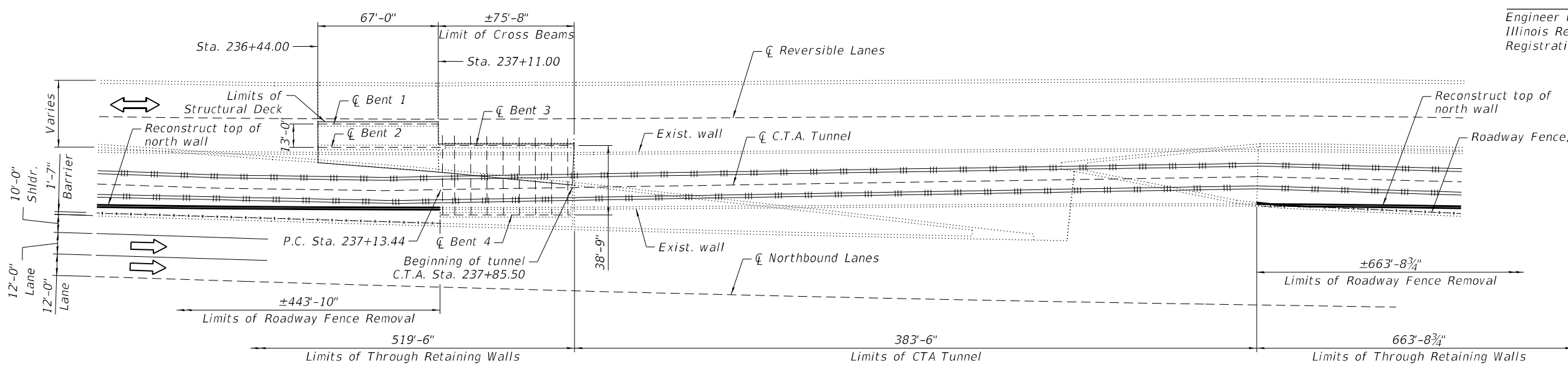
NOTE:

- All stations are to the ϕ I-90/94 Reversible Roadway and taken from 1991 existing plans.
- No Future Wearing Surface is allowed.

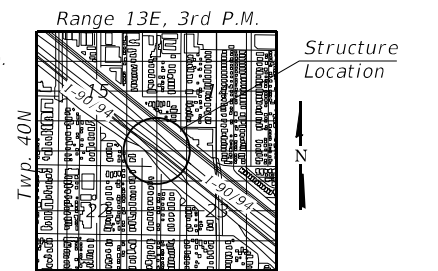


Kevin Wood

Engineer Full Name: Kevin Wood Date: 04-29-2024
Illinois Registered Engineer No. 081-006515
Registration Expires 11. 30, 2024



PLAN



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
REVERSIBLE I-90 OVER C.T.A. TUNNEL
F.A.I. SEC 2020-004-BR
COOK COUNTY
STATION: 639+73.56
STRUCTURE NO. 016-2459 (REV)

MODEL: SMODELNAMES
FILE NAME: X:\OH\2020\20200221-03\Design\Structural\Design Files\CADD\SH\T016-2459_CTA_Tunnel\MB\0162459-62K73-5001-GPEN.dgn

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Chicago, Illinois 60631; (773) 399-0112

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET S20-01 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	873
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to the existing structure have been taken from 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.
3. Cleaning and field painting of structural steel shall be done under a separate painting contract.
4. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
5. 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.
6. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
7. All exposed concrete edges shall have a 3/4"x45° chamfer, except where shown otherwise.
8. For Fence Removal and Reinstallation Details, see Roadway Plans.
9. 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.
10. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work.
11. 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.
12. Protective Coat shall be applied to all exposed reconstructed surfaces of the North Wall.

INDEX OF SHEETS

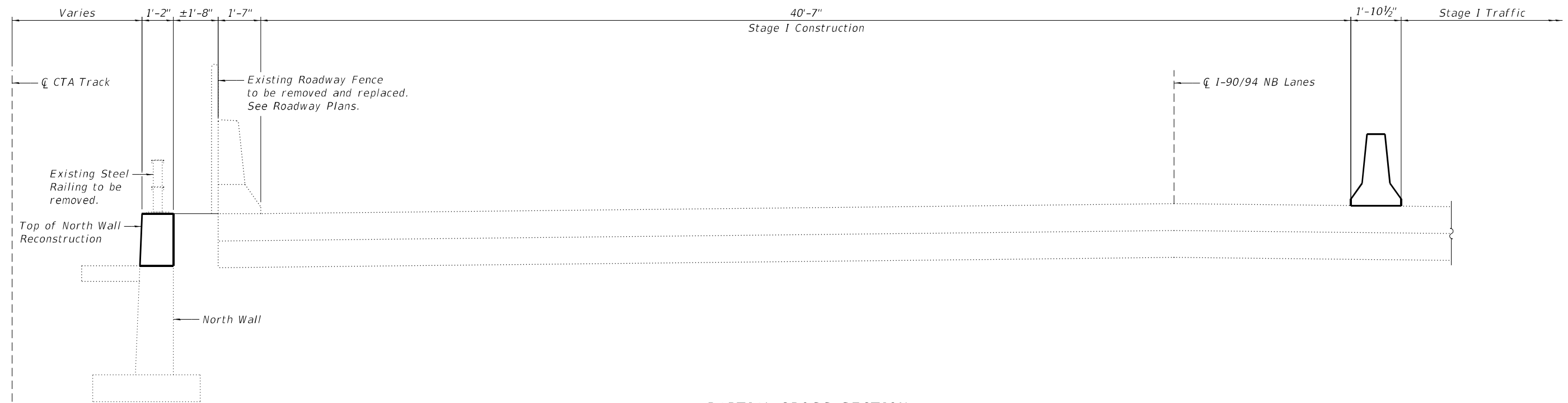
S20-01	General Plan & Elevation
S20-02	General Data
S20-03-S20-08	North Wall Partial Removal I-VI
S20-09-S20-14	North Wall Reconstruction and Repairs I-VI
S20-15-S20-20	Existing North Wall Survey I-VI

SCOPE OF WORK

1. Install Temporary Soil Retention System behind North Wall within the limits of the partial removal.
2. Excavate behind the North Wall within the limits of the partial removal.
3. Remove Existing Railing from the top of the North Wall.
4. Remove and Reconstruct top 2 feet of the North Wall as noted in the plans.
5. Perform Structural Repair of Concrete to the North Wall as noted in the plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd		95.7	95.7
Structure Excavation	Cu Yd		184.6	184.6
Concrete Structures	Cu Yd		95.7	95.7
Protective Coat	Sq Yd		390	390
Reinforcement Bars, Epoxy Coated	Pound		10,840	10,840
Temporary Soil Retention System	Sq Ft		3,323	3,323
Granular Backfill For Structures	Cu Yd		184.6	184.6
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		737	737
Structural Repair of Concrete (Greater than 5 Inches)	Sq Ft		277	277



PARTIAL CROSS SECTION
(Looking North)

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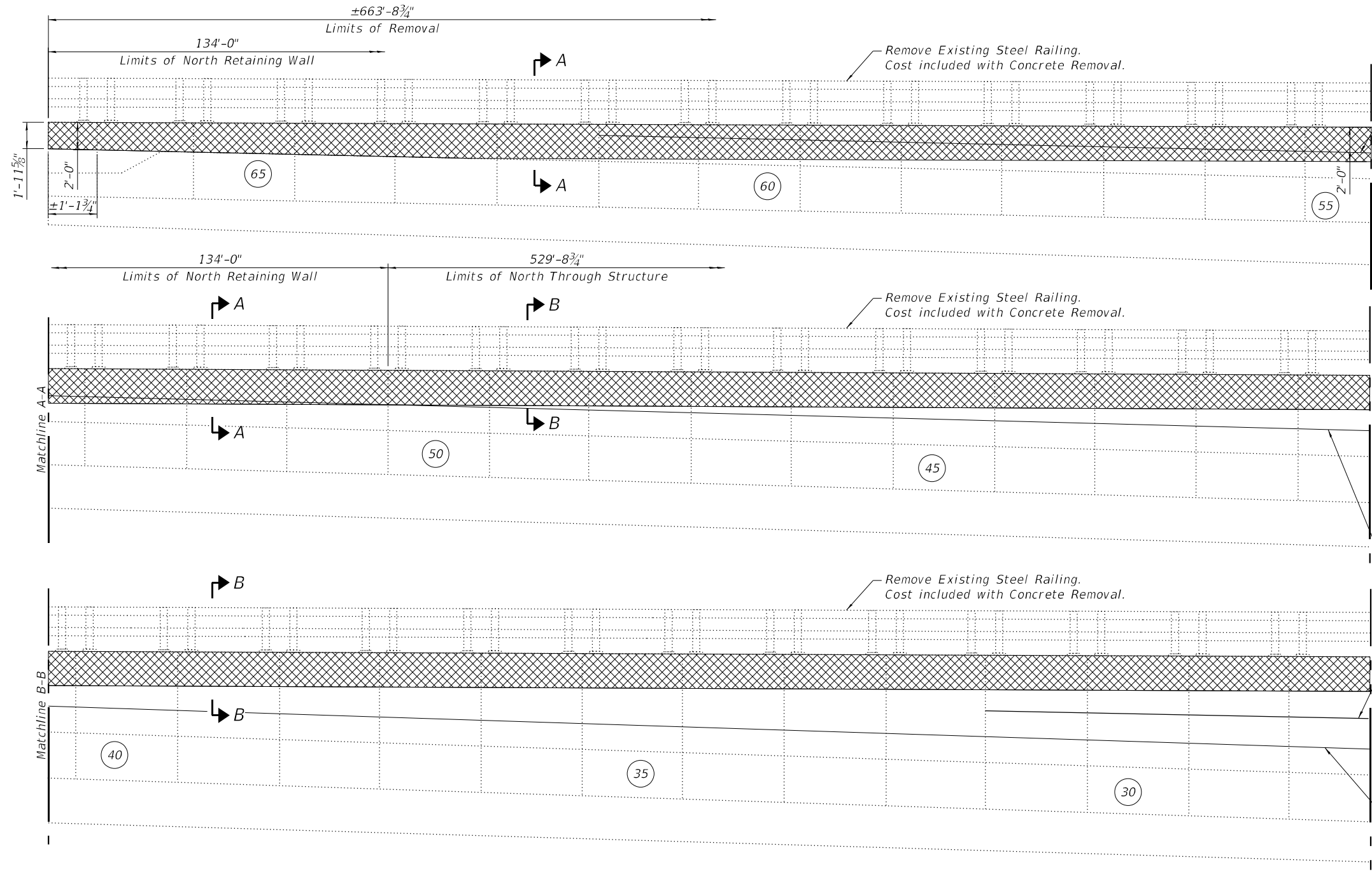
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
SN 016-2459

SHEET S20-02 OF S20-20 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 874
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				






ELEVATION - NORTH WALL
(Looking North)

NOTES:

- For Bill of Material, see Sheet S20-08.
- For Section B-B, see Sheet S20-04.

LEGEND

-  Concrete Removal
-  Structure Excavation
-  Panel Number

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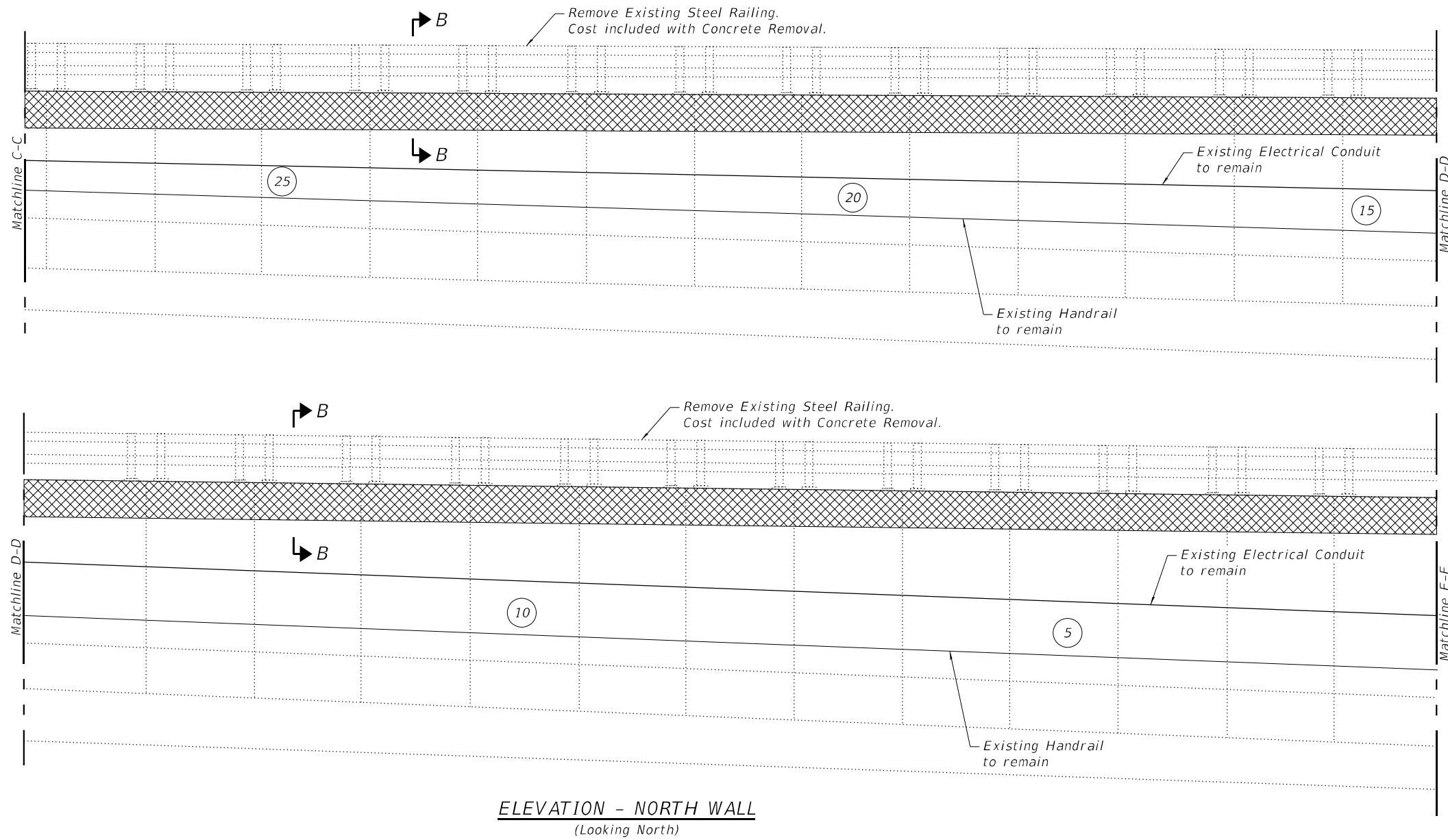
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

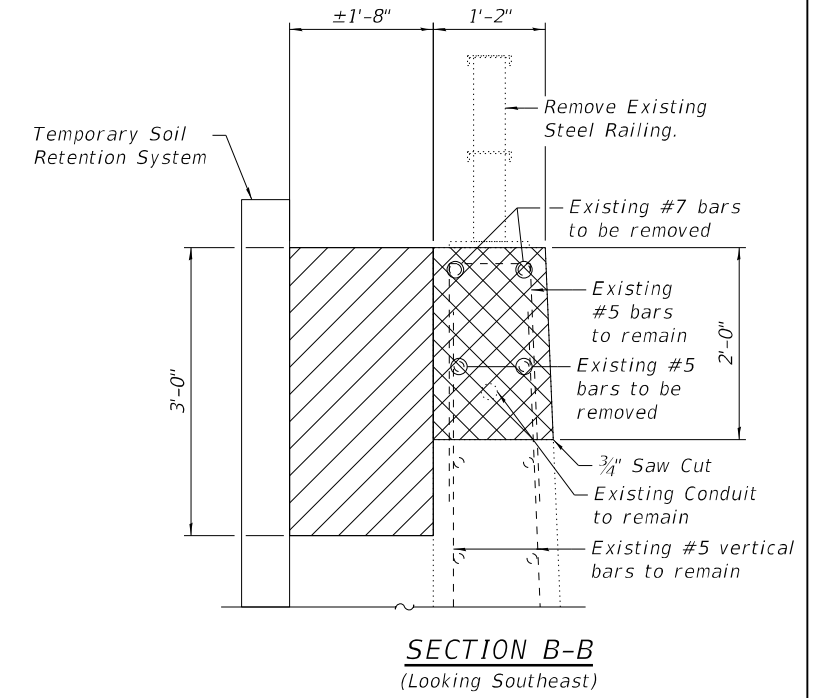
NORTH WALL PARTIAL REMOVAL I
SN 016-2459

SHEET S20-03 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	875
			CONTRACT NO. 62K73	
		ILLINOIS FED. AID PROJECT		



ELEVATION - NORTH WALL
(Looking North)






SECTION B-B
(Looking Southeast)

NOTES:

- For Bill of Material, see Sheet S20-08.

LEGEND

-  Concrete Removal
-  Structure Excavation
-  Panel Number

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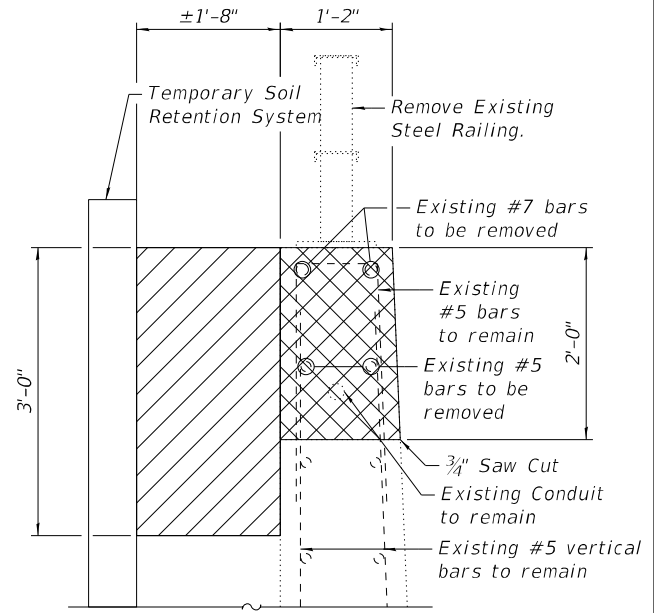
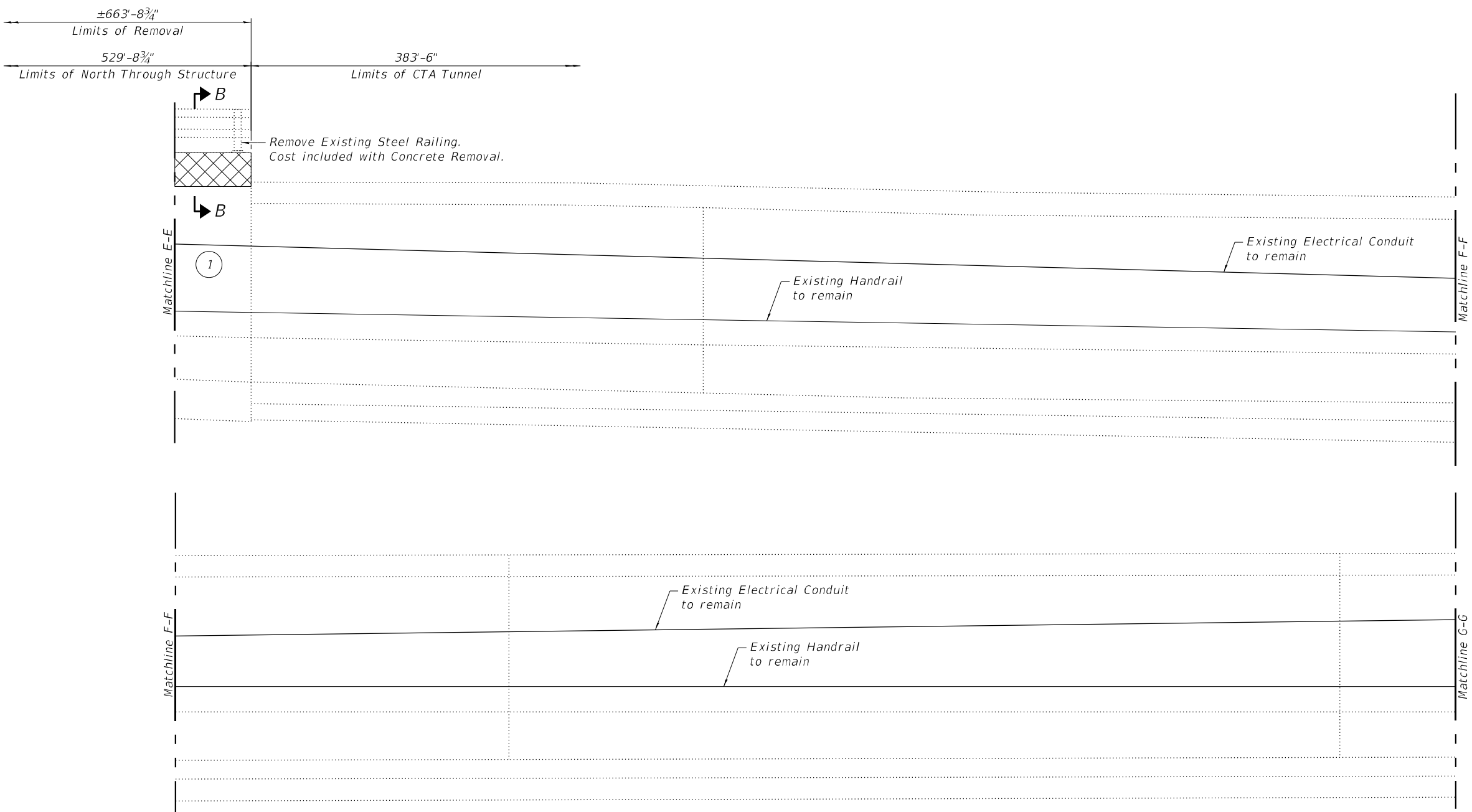
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL REMOVAL II
SN 016-2459

SHEET S20-04 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	876
			CONTRACT NO. 62K73	
		ILLINOIS FED. AID PROJECT		



SECTION B-B
(Looking Southeast)

ELEVATION - NORTH WALL
(Looking North)

NOTES:

- For Bill of Material, see Sheet S20-08.

LEGEND

- Concrete Removal
- Structure Excavation
- Panel Number

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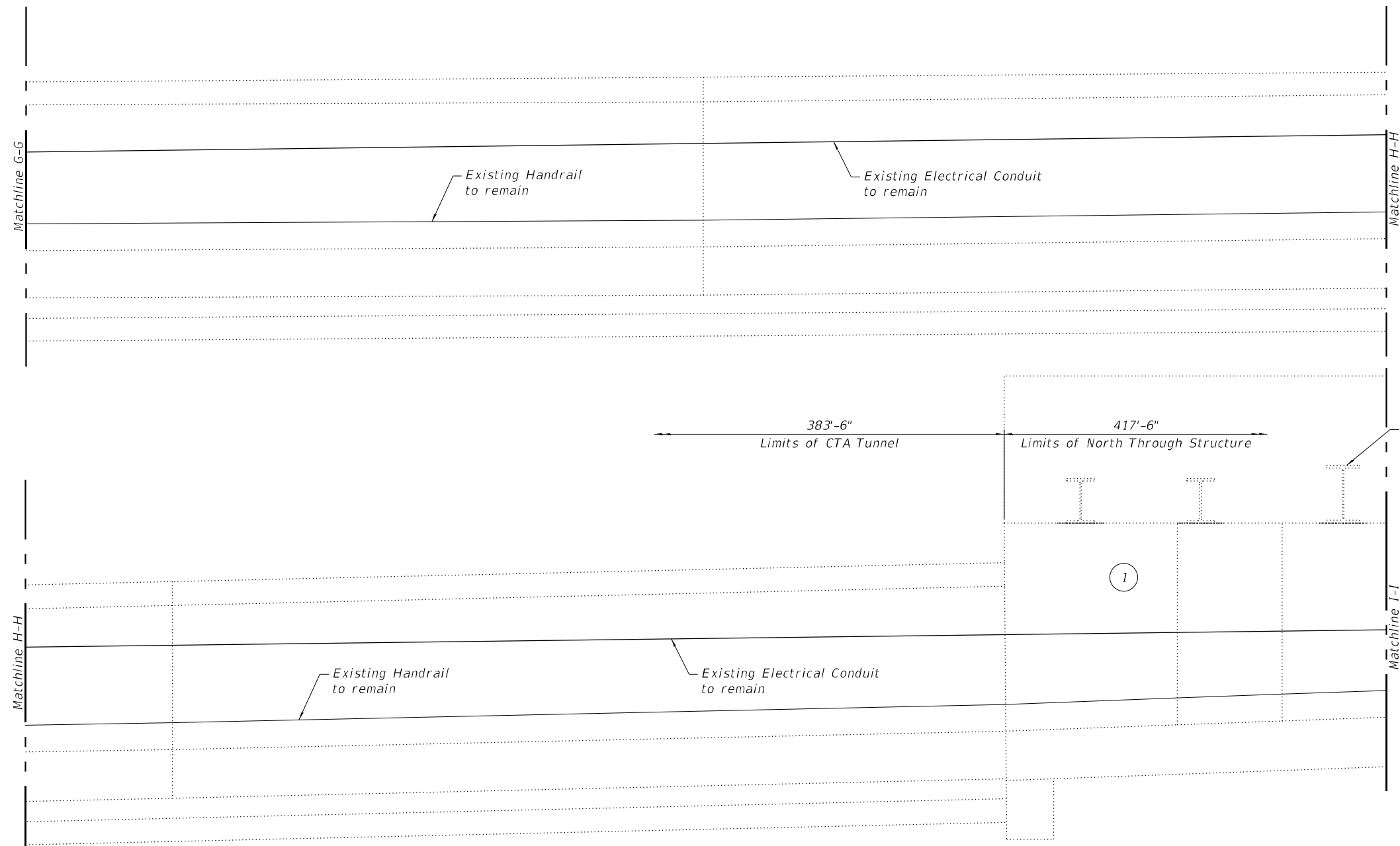
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL REMOVAL III
SN 016-2459

SHEET S20-05 OF S20-20 SHEETS

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90	2020-004-BR	COOK	908	877
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		

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ELEVATION - NORTH WALL
 (Looking North)

NOTES:

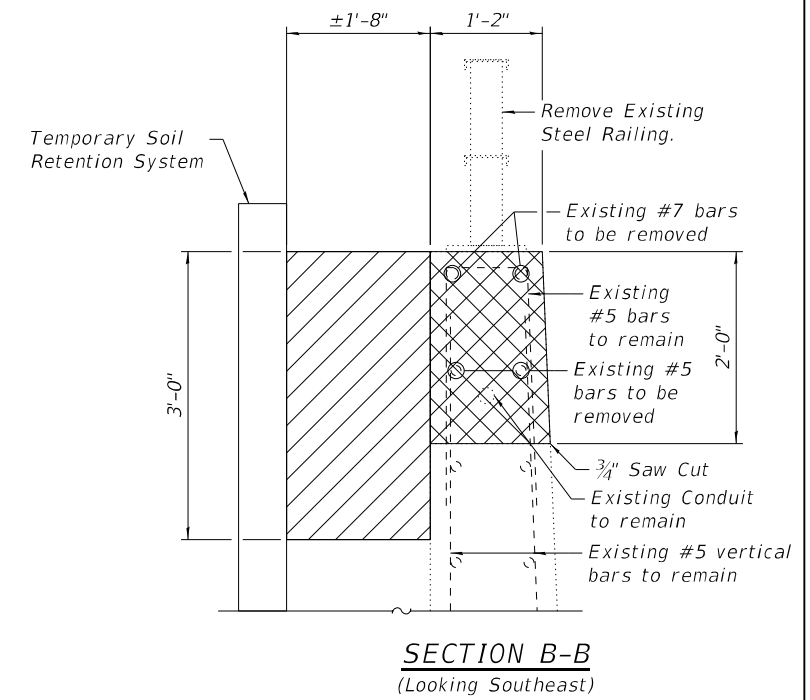
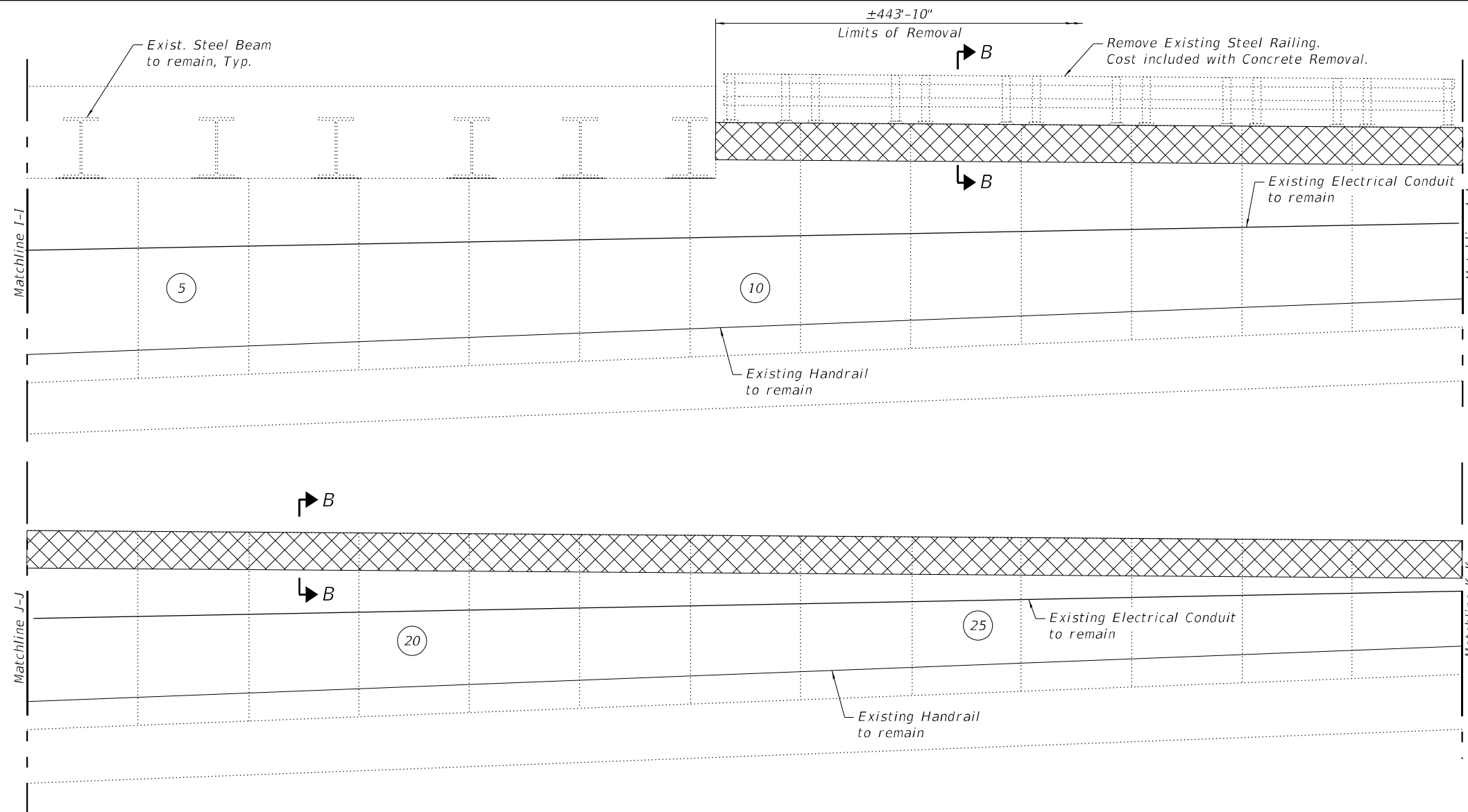
- For Bill of Material, see Sheet S20-08.

LEGEND

⊘ # Panel Number

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90	2020-004-BR	COOK	908	878
ILLINOIS			FED. AID PROJECT	






ELEVATION - NORTH WALL
(Looking North)

NOTES:

- For Bill of Material, see Sheet S20-08.

LEGEND

-  Concrete Removal
-  Structure Excavation
-  Panel Number

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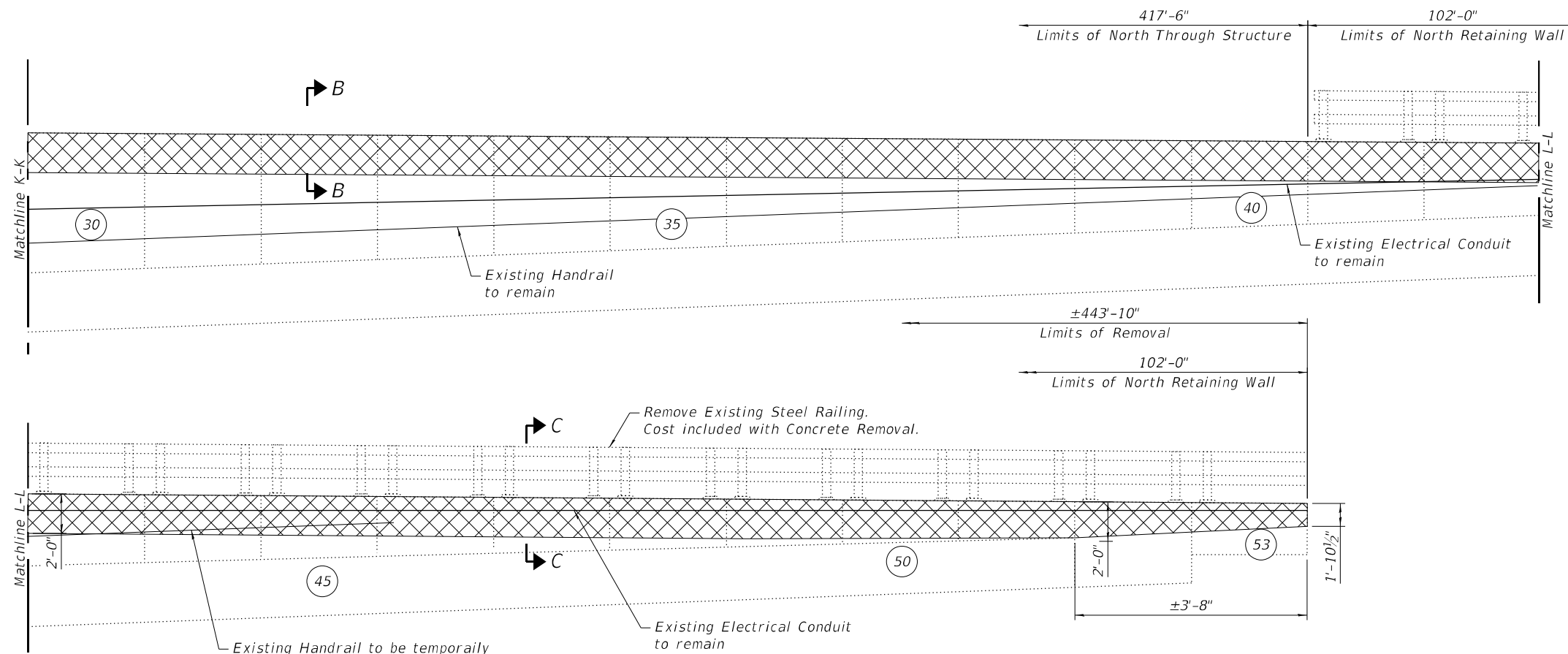
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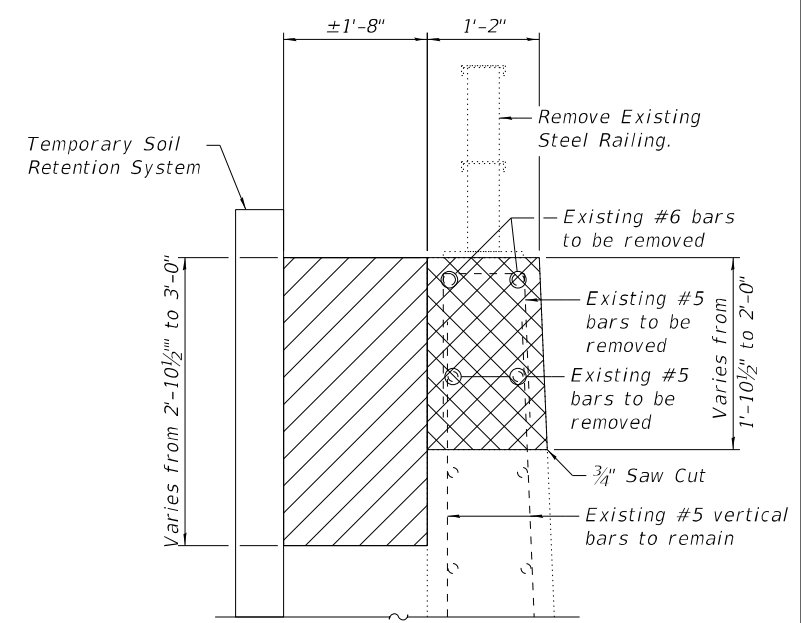
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL REMOVAL V
SN 016-2459

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	879
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



ELEVATION - NORTH WALL
(Looking North)



SECTION C-C
(Looking Southeast)

NOTES:

- For Section B-B, see Sheet S20-07.

LEGEND

- Concrete Removal
- Structure Excavation
- Panel Number

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yd	95.7
Structure Excavation	Cu Yd	184.6
Temporary Soil Retention System	Sq Ft	3,323

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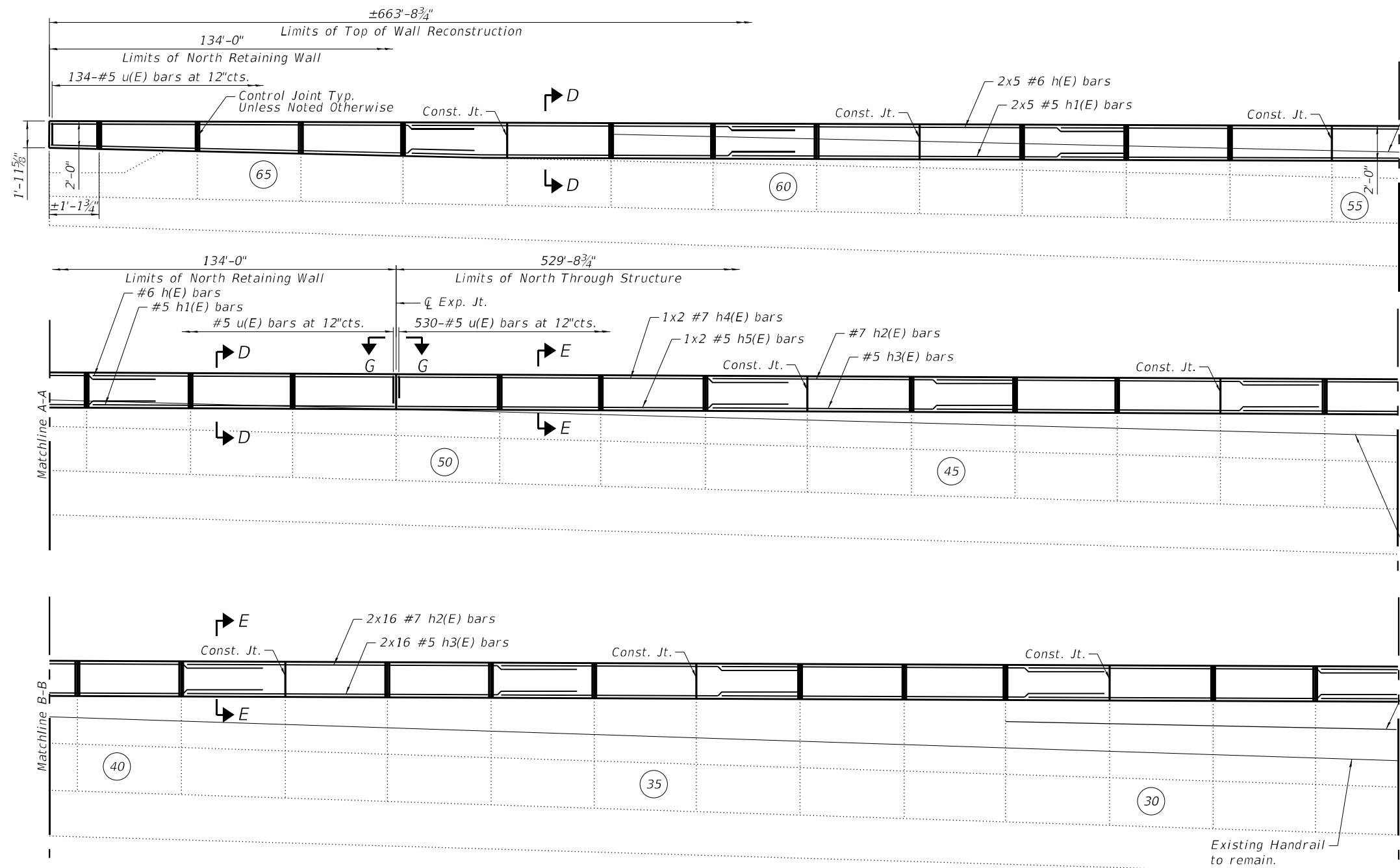
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL REMOVAL VI
SN 016-2459

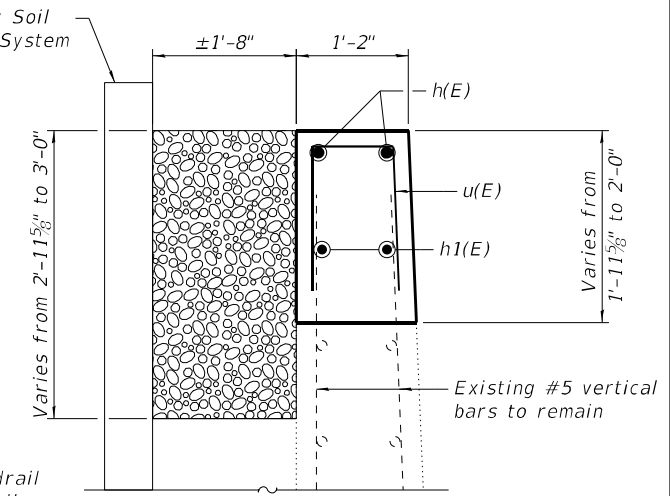
SHEET S20-08 OF S20-20 SHEETS

F.A.I. RTE. 90	SECTION 2020-004-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 880
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K73	



Existing Handrail to be temporarily removed and reinstalled as required. Cost included with Concrete Removal.

Temporary Soil Retention System



SECTION D-D
(Looking Southeast)

Existing Handrail to be temporarily removed and reinstalled as required. Cost included with Concrete Removal.

Existing Conduit to remain.

Existing Handrail to remain.

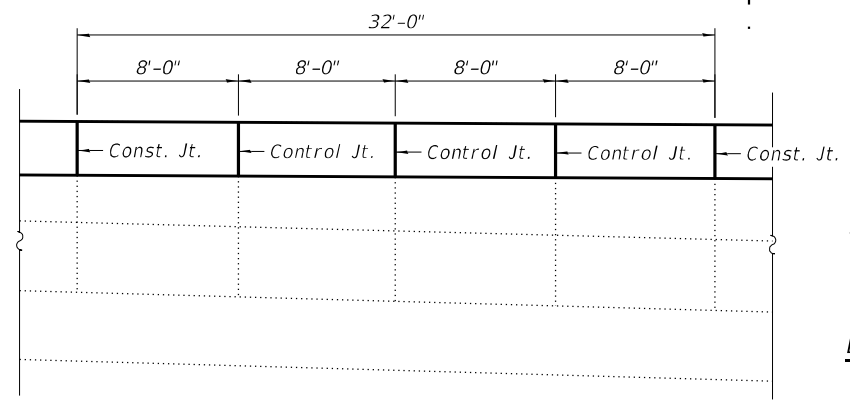
NOTES:

1. Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) quantities have been estimated (based on a nominal 8% of retaining wall area) 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. Structural Repair of Concrete (Depth Equal to or Greater Than 5 Inches) quantities have been estimated (based on a nominal 3% of retaining wall area) 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.
3. For Bill of Material, see Sheet S20-14.
4. For Section E-E, see Sheet S20-10.

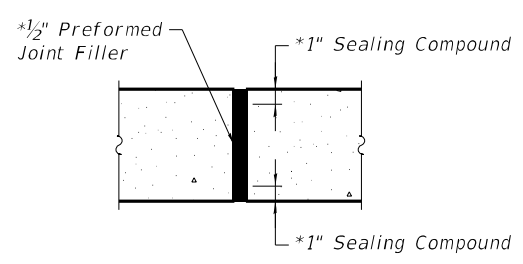
LEGEND

- Granular Backfill for Structures
- Panel Number

ELEVATION - NORTH WALL
(Looking North)

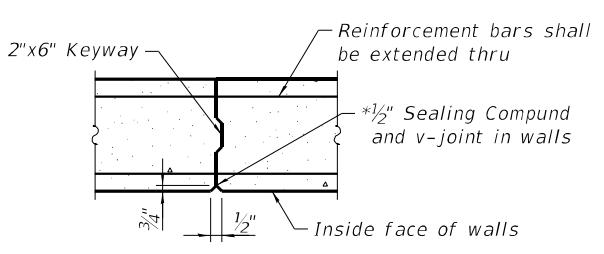


LOCATION OF CONTROL JOINTS
Typical Throughout the North Wall

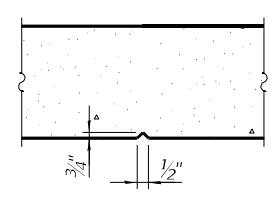


SECTION G-G

* 1/4" Preformed Joint Filler and 1/2" or 1" Sealing Compound shall be included in the cost of Concrete Superstructure



CONST. JOINT DETAIL
Typical Throughout the North Wall

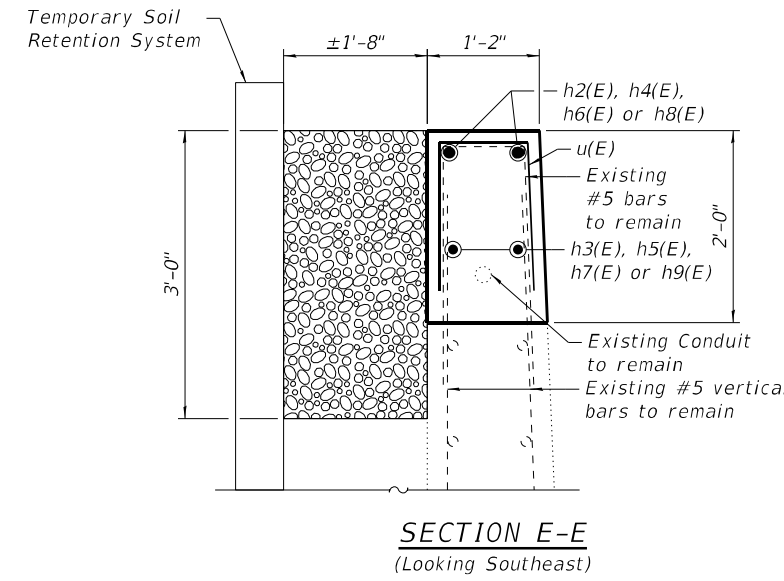
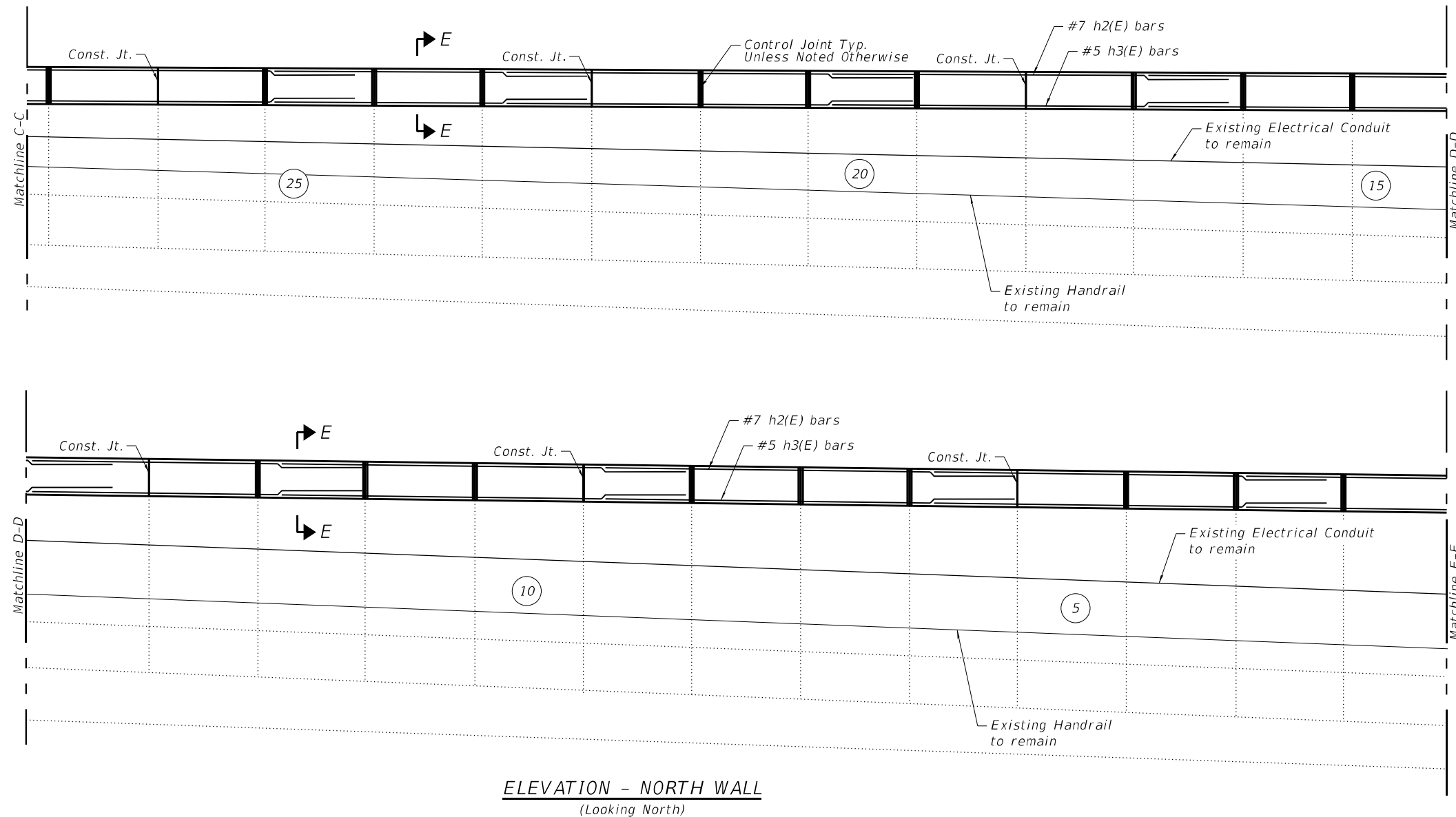


CONTROL JOINT DETAIL
Typical Throughout the North Wall

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	881
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



NOTES:

1. Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) quantities have been estimated (based on a nominal 8% of retaining wall area) 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. Structural Repair of Concrete (Depth Equal to or Greater Than 5 Inches) quantities have been estimated (based on a nominal 3% of retaining wall area) 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.
3. For Bill of Material, see Sheet S20-14.

LEGEND

- Granular Backfill for Structures
- Panel Number

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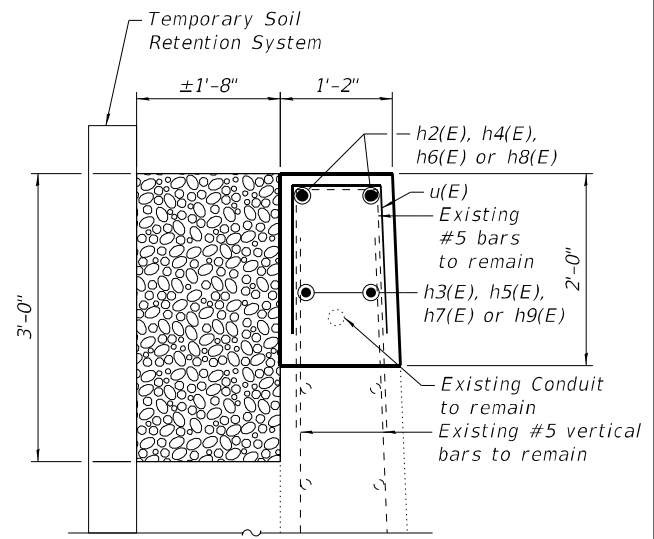
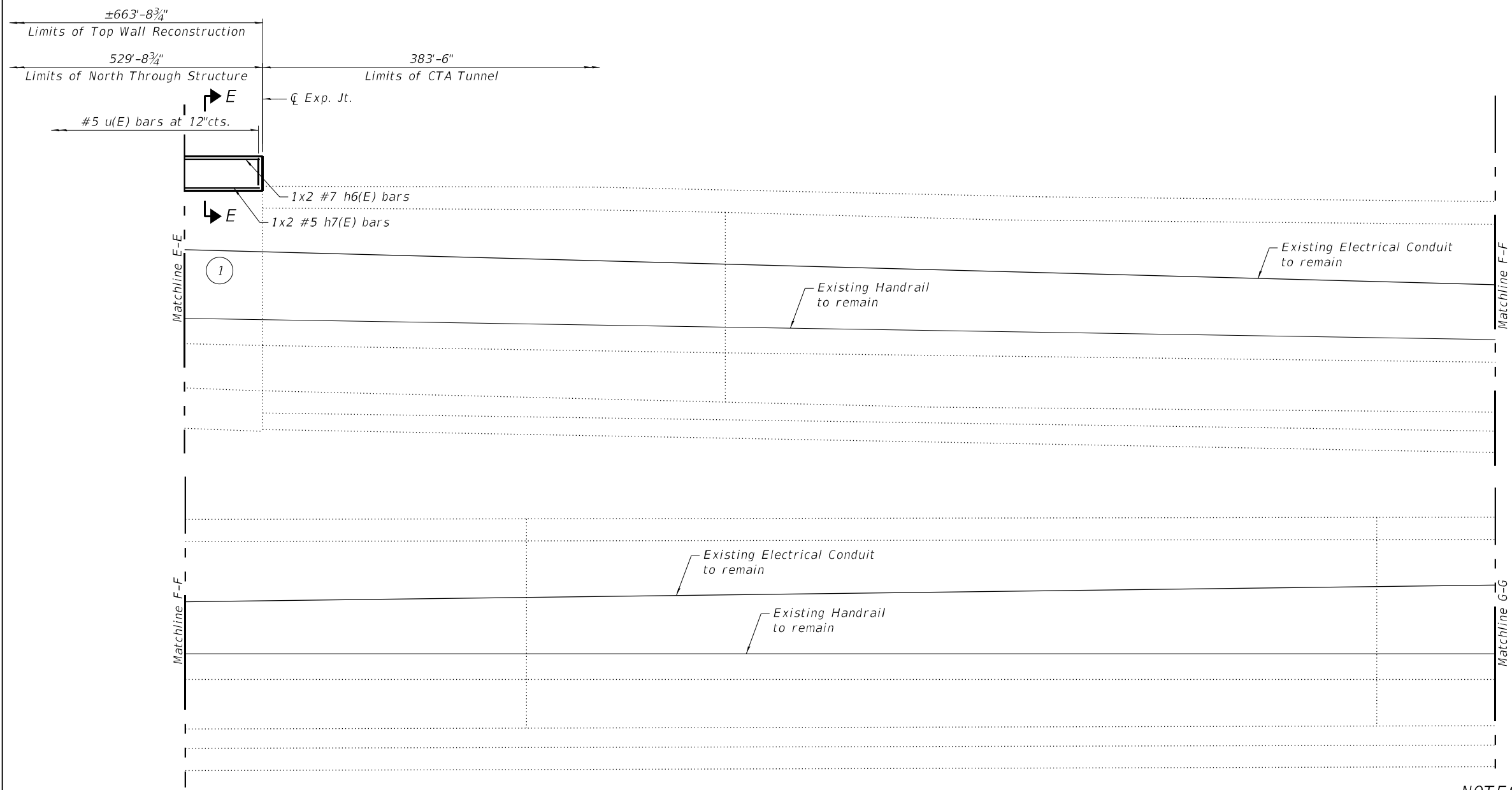
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**NORTH WALL PARTIAL RECONSTRUCTION AND REPAIRS II
 SN 016-2459**

SHEET S20-10 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	882
CONTRACT NO. 62K73				

ILLINOIS FED. AID PROJECT





ELEVATION - NORTH WALL
(Looking North)

NOTES:

1. Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) quantities have been estimated (based on a nominal 8% of retaining wall area) 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.
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3. For Bill of Material, see Sheet S20-14.

LEGEND

-  Granular Backfill for Structures
-  Panel Number

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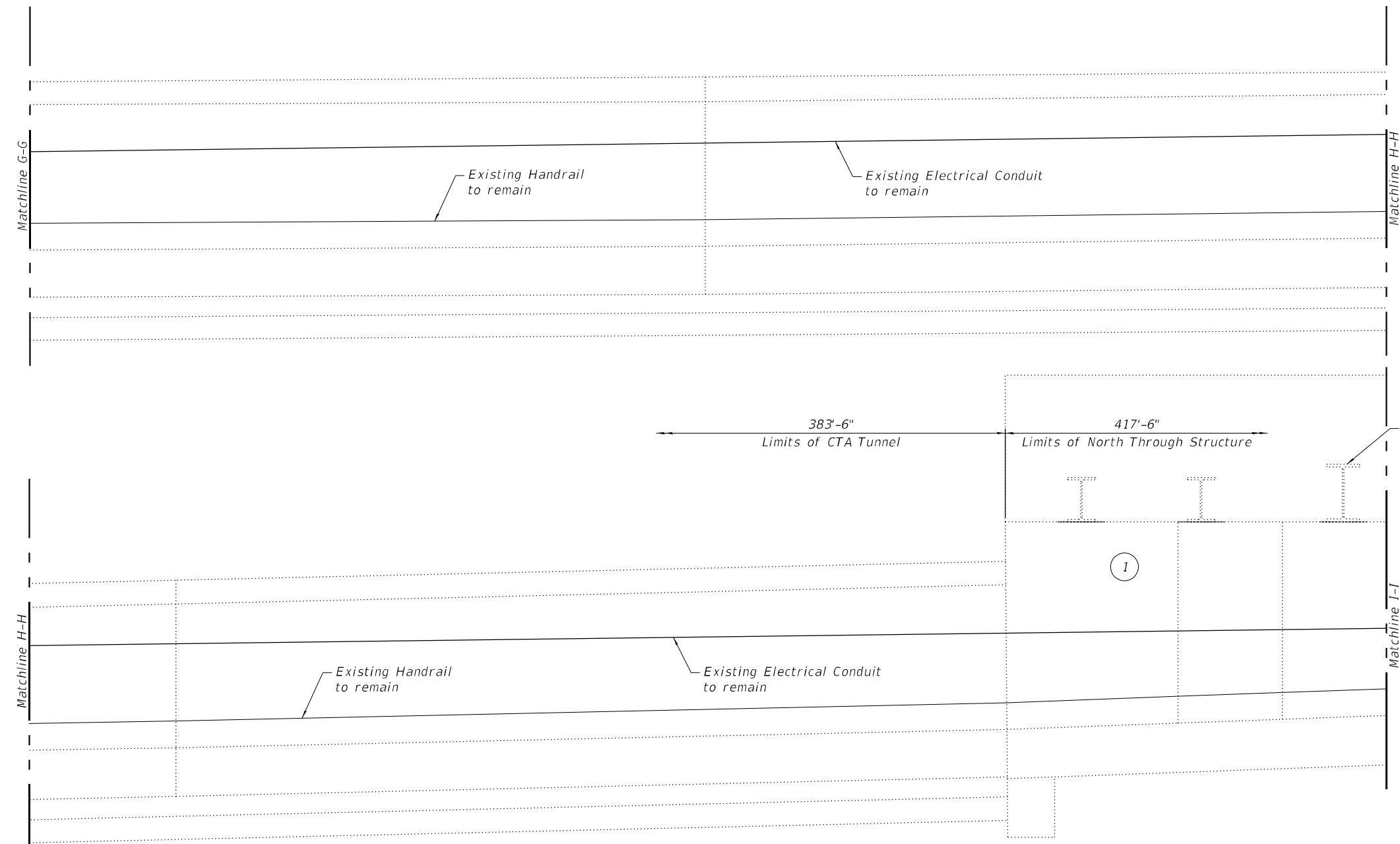
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL RECONSTRUCTION AND REPAIRS III
SN 016-2459

SHEET S20-11 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	883
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62K73	

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ELEVATION - NORTH WALL
 (Looking North)

NOTES:

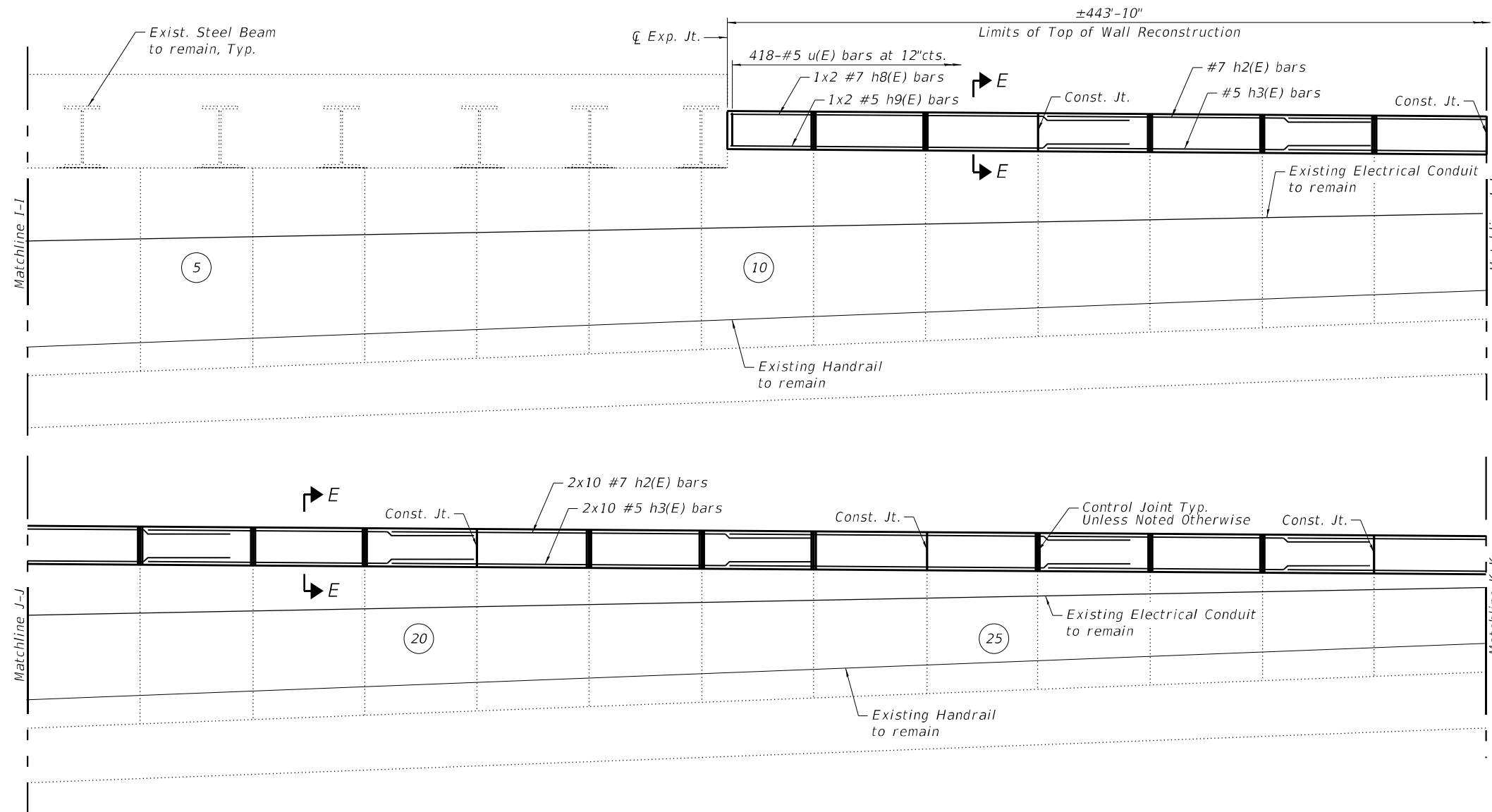
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2. Structural Repair of Concrete (Depth Equal to or Greater Than 5 Inches) quantities have been estimated (based on a nominal 3% of retaining wall area) for bidding purposes only. The actual areas to be repaired and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
3. For Bill of Material, see Sheet S20-14.

LEGEND

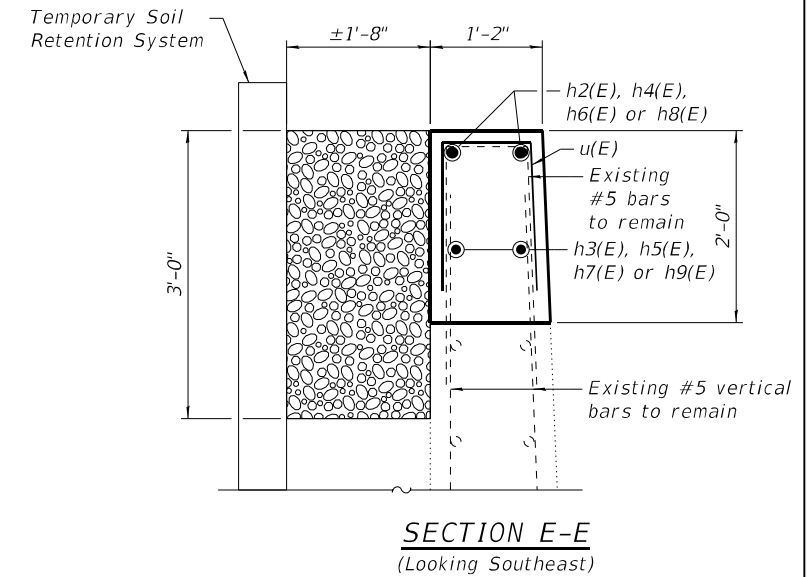
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	884
CONTRACT NO. 62K73				
ILLINOIS		FED. AID PROJECT		



ELEVATION - NORTH WALL
(Looking North)



NOTES:

1. Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) quantities have been estimated (based on a nominal 8% of retaining wall area) 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.
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3. For Bill of Material, see Sheet S20-14.

LEGEND

- Granular Backfill for Structures
- Panel Number

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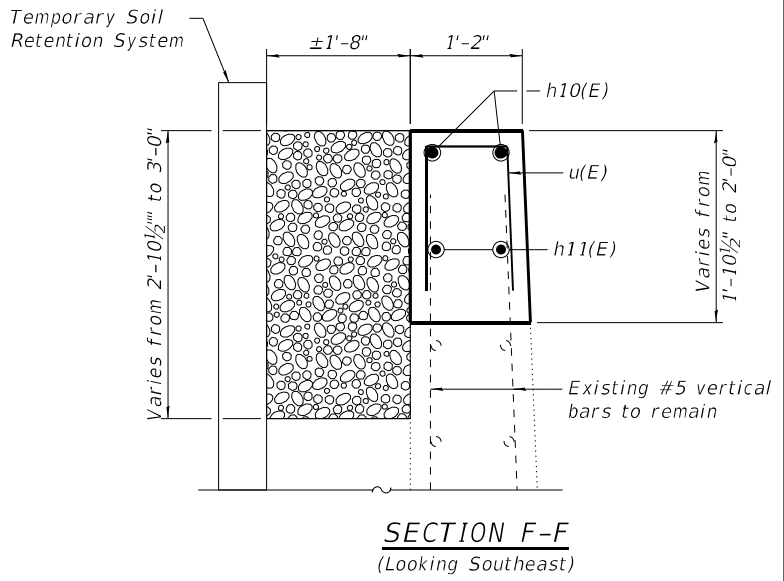
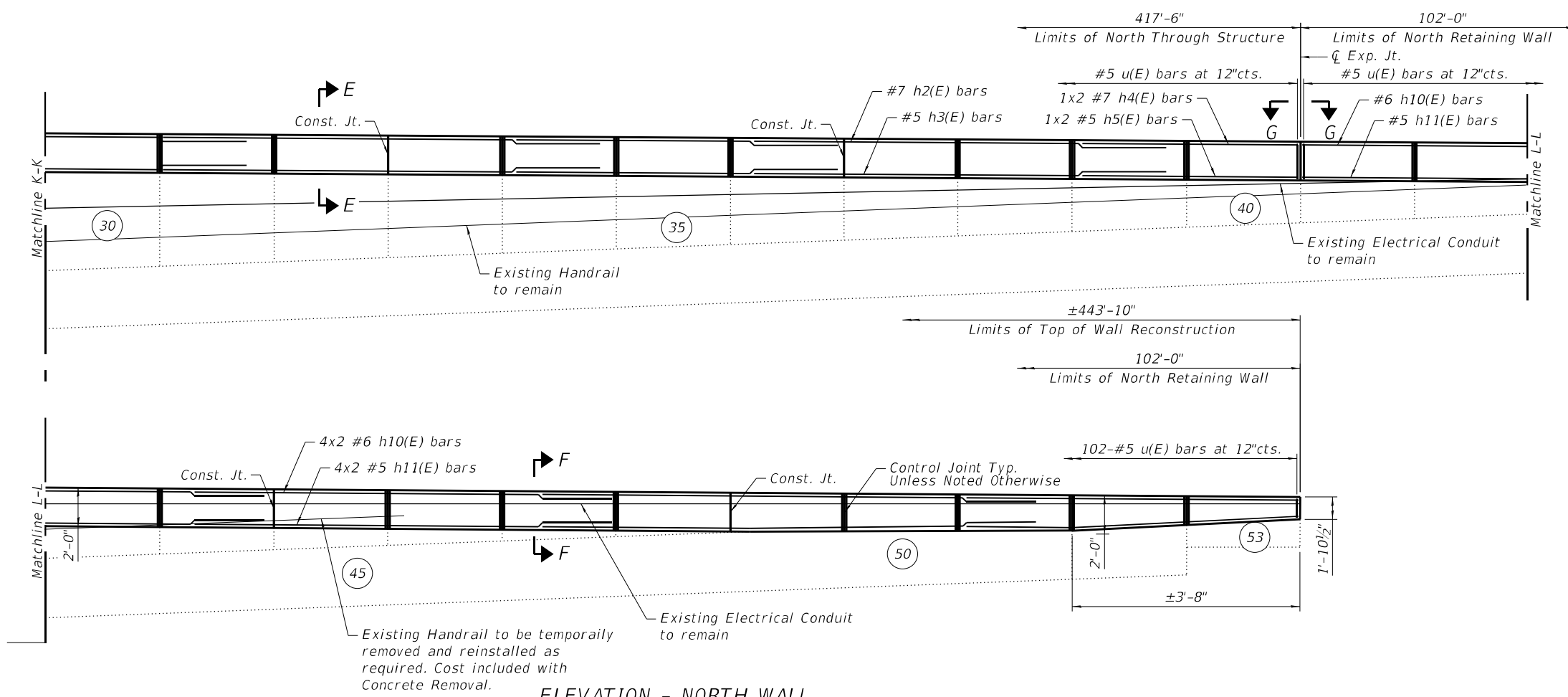
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL RECONSTRUCTION AND REPAIRS V
SN 016-2459

SHEET S20-13 OF S20-20 SHEETS

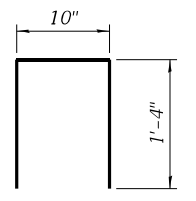
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	885
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



ELEVATION - NORTH WALL
(Looking North)

BILL OF MATERIAL
NORTH WALL

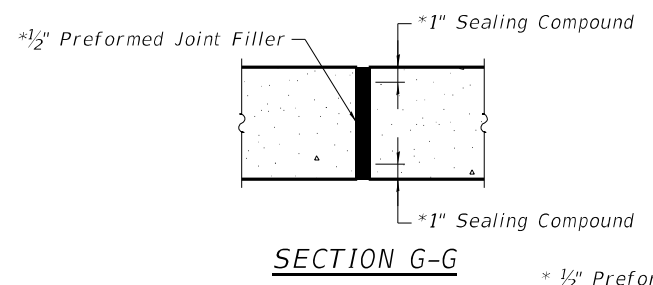
Bar	No.	Size	Length	Shape
h(E)	10	#6	30'-3"	—
h1(E)	10	#5	29'-8"	—
h2(E)	64	#7	32'-9"	—
h3(E)	64	#5	30'-8"	—
h4(E)	4	#7	18'-9"	—
h5(E)	4	#5	22'-8"	—
h6(E)	2	#7	9'-7"	—
h7(E)	2	#5	8'-7"	—
h8(E)	2	#7	13'-8"	—
h9(E)	2	#5	12'-8"	—
h10(E)	8	#6	28'-9"	—
h11(E)	8	#5	28'-2"	—
u(E)	1184	#5	3'-6"	□
Concrete Structures		Cu Yd	95.7	
Protective Coat		Sq Yd	390	
Reinforcement Bars, Epoxy Coated		Pound	10,840	
Granular Backfill For Structures		Cu Yd	184.6	
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)		Cu Yd	737	
Structural Repair of Concrete (Depth Greater Than 5 Inches)		Cu Yd	277	



BAR u(E)

MIN BAR LAPS

#5	3'-7"
#6	4'-4"
#7	5'-9"



SECTION G-G

* 1/2" Preformed Joint Filler and 1" Sealing Compound shall be included in the cost of Concrete Superstructure

NOTES:

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) quantities have been estimated (based on a nominal 8% of retaining wall area) 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.
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- For Section E-E, see Sheet S20-13.

LEGEND

- Granular Backfill for Structures
- Panel Number

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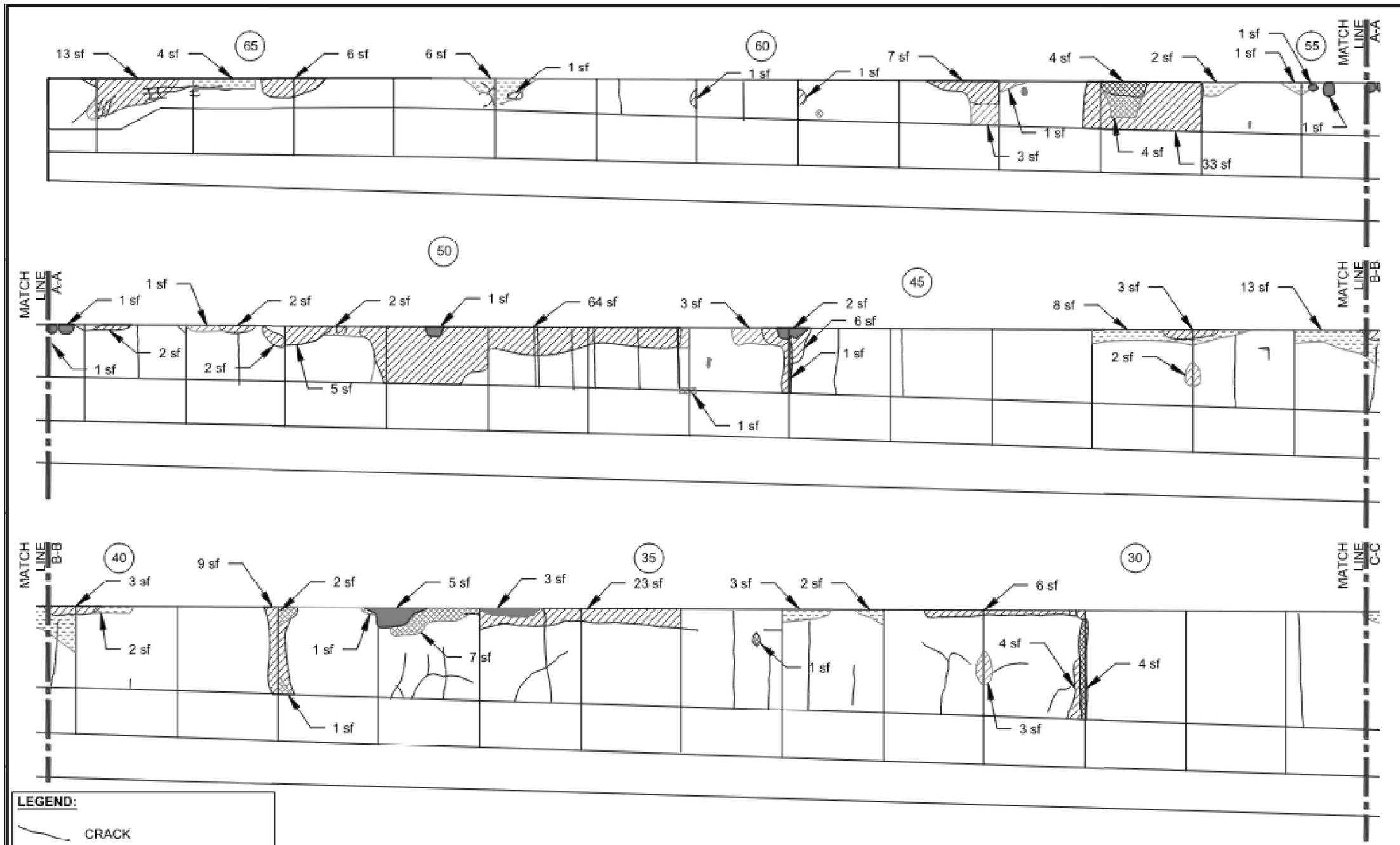
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL PARTIAL RECONSTRUCTION AND REPAIRS VI
SN 016-2459

SHEET S20-14 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	886
			CONTRACT NO. 62K73	
		ILLINOIS FED. AID PROJECT		

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LEGEND:

- CRACK
- DELAMINATION
- SPALL
- SPALL WITH EXPOSED BARS
- FREEZE THAW DAMAGE
- PANEL NUMBER

FOR INFORMATION ONLY

STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

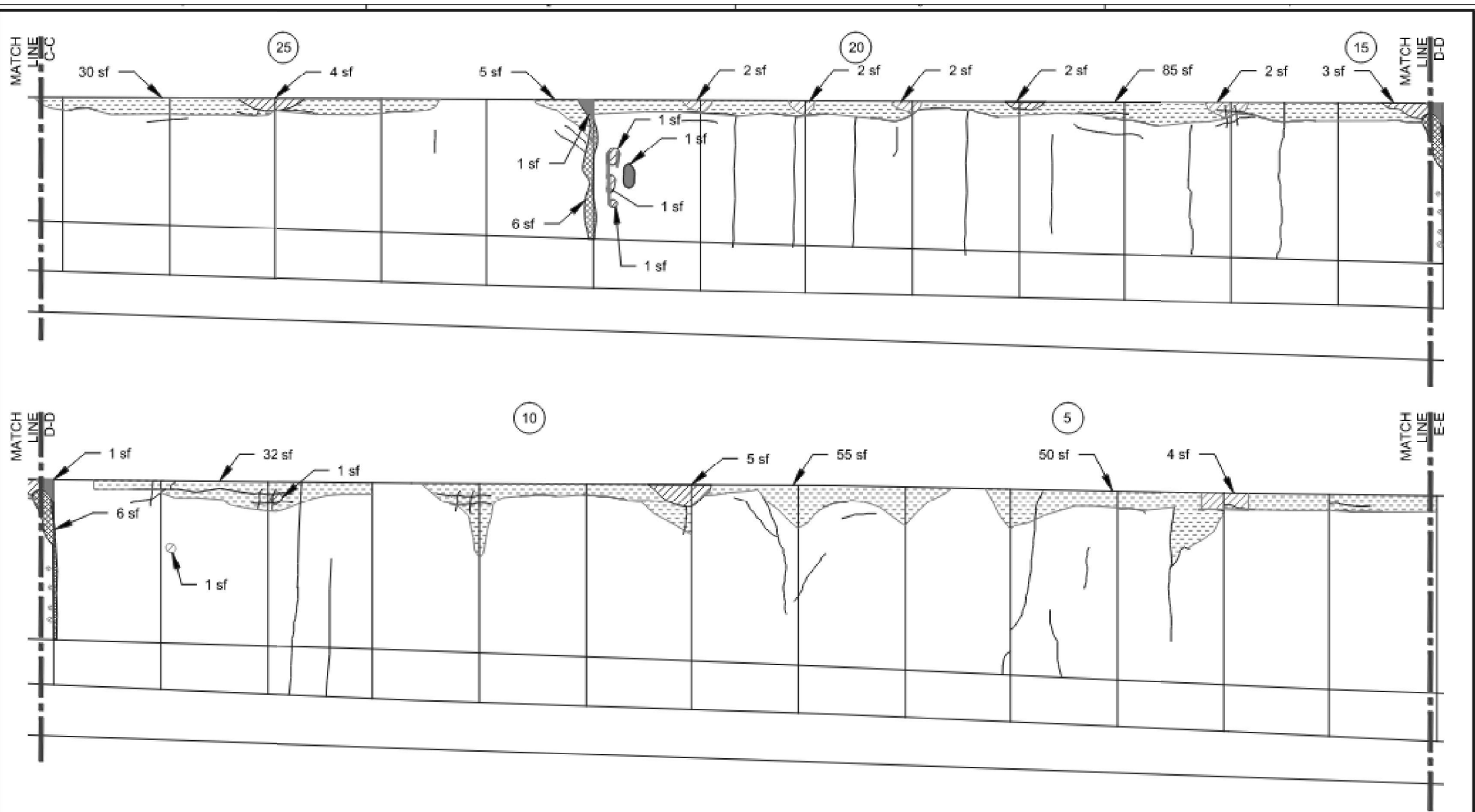
Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	207 s.f.
Spall	25 s.f.
Freeze-Thaw Damage	41 s.f.
Spall with Exposed Bars	15 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

ELEVATION - NORTH WALL
 (Looking North)

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



LEGEND:

- CRACK
- DELAMINATION
- SPALL
- SPALL WITH EXPOSED BARS
- FREEZE THAW DAMAGE
- PANEL NUMBER

FOR INFORMATION ONLY

STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

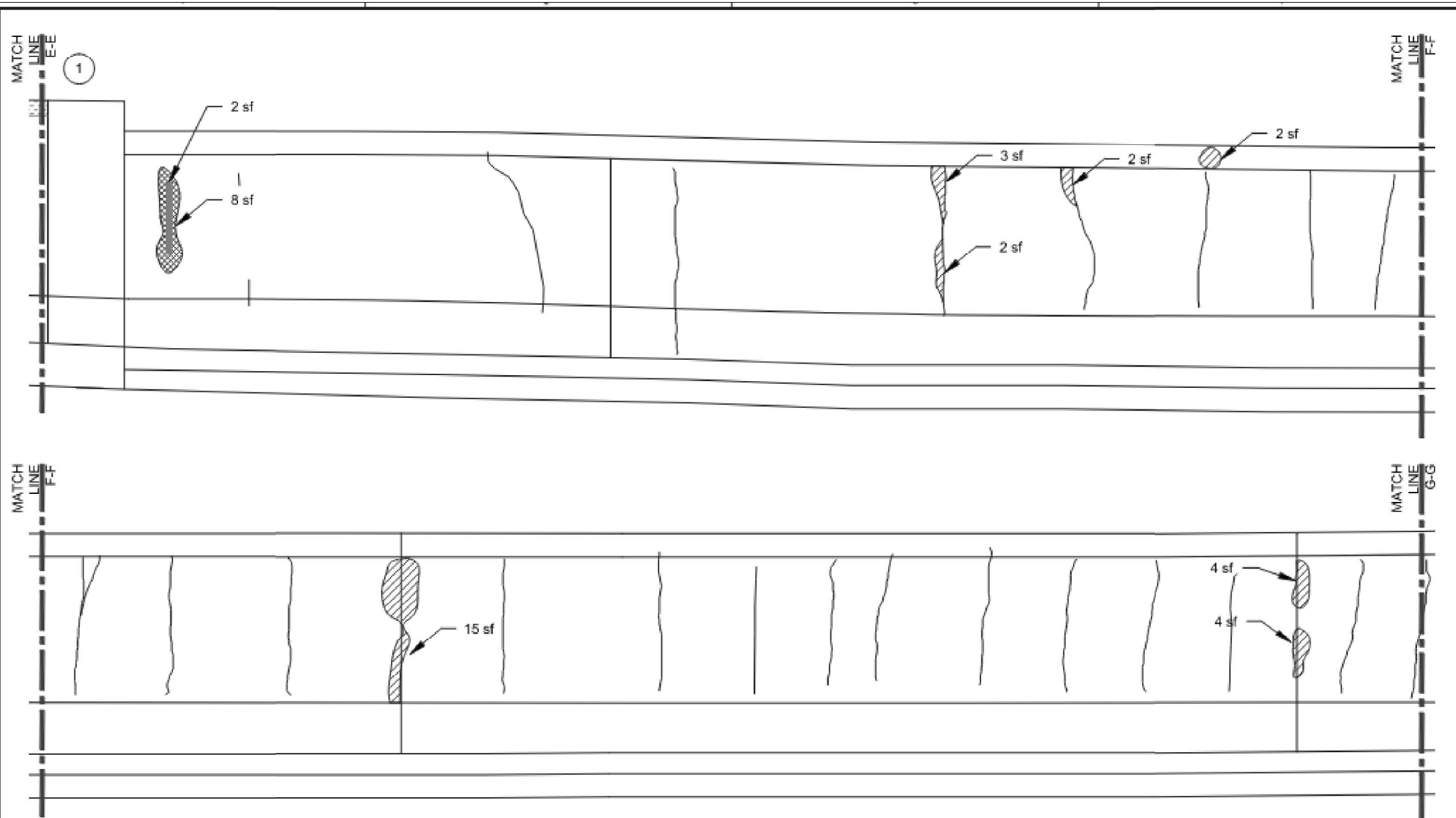
Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	31 s.f.
Spall	12 s.f.
Freeze-Thaw Damage	257 s.f.
Spall with Exposed Bars	3 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

ELEVATION - NORTH WALL
(Looking North)

MODEL: sMODELNAME5
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LEGEND:

	CRACK
	DELAMINATION
	SPALL
	SPALL WITH EXPOSED BARS
	FREEZE THAW DAMAGE
	PANEL NUMBER

FOR INFORMATION ONLY

STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	32 s.f.
Spall	8 s.f.
Spall with Exposed Rebar	2 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

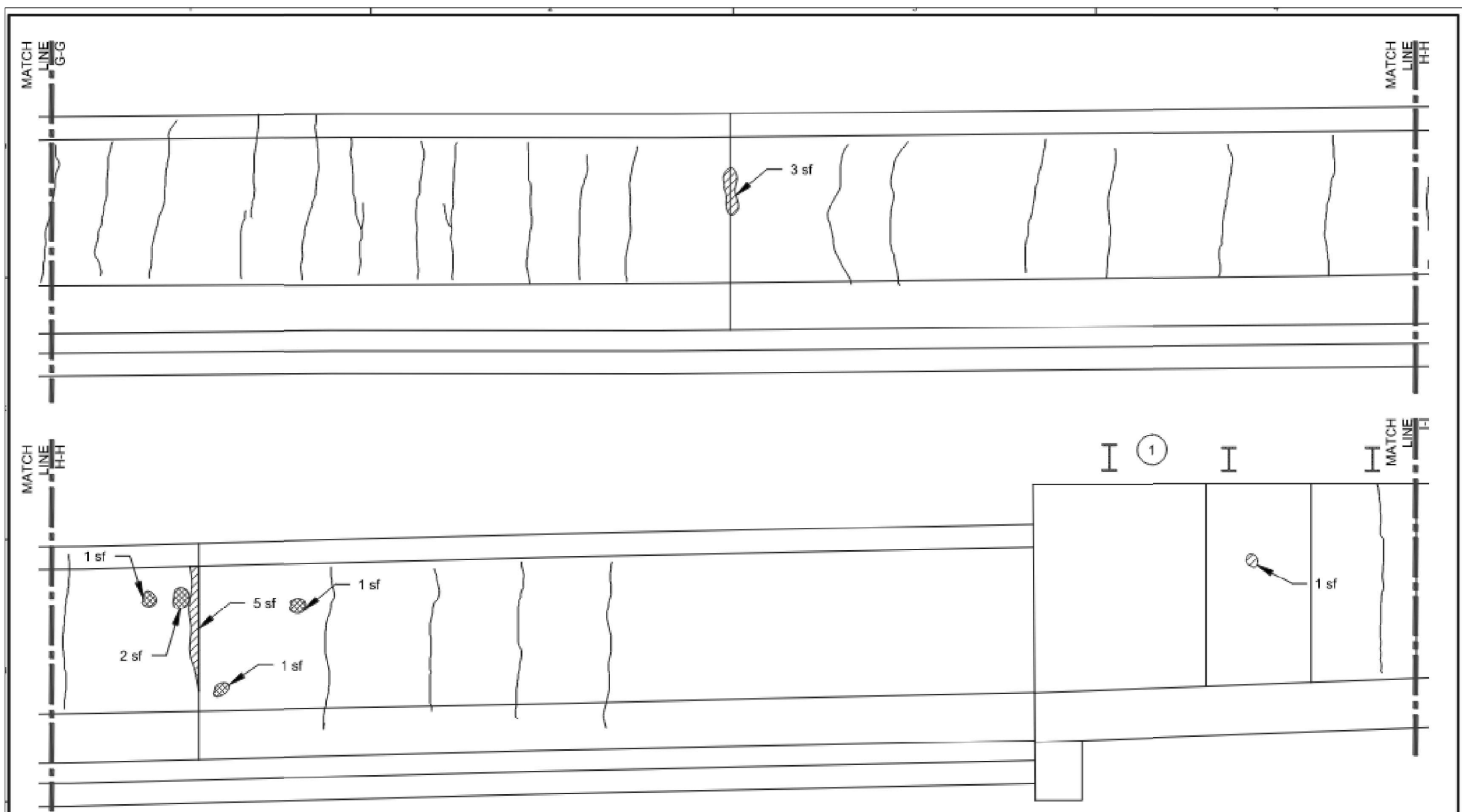
*ELEVATION - NORTH WALL
(Looking North)*

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	889
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

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LEGEND:

	CRACK
	DELAMINATION
	SPALL
	SPALL WITH EXPOSED BARS
	FREEZE THAW DAMAGE
	PANEL NUMBER

FOR INFORMATION ONLY

STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	9 s.f.
Spall	5 s.f.
Spall with Exposed Rebar	0 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

ELEVATION - NORTH WALL
 (Looking North)



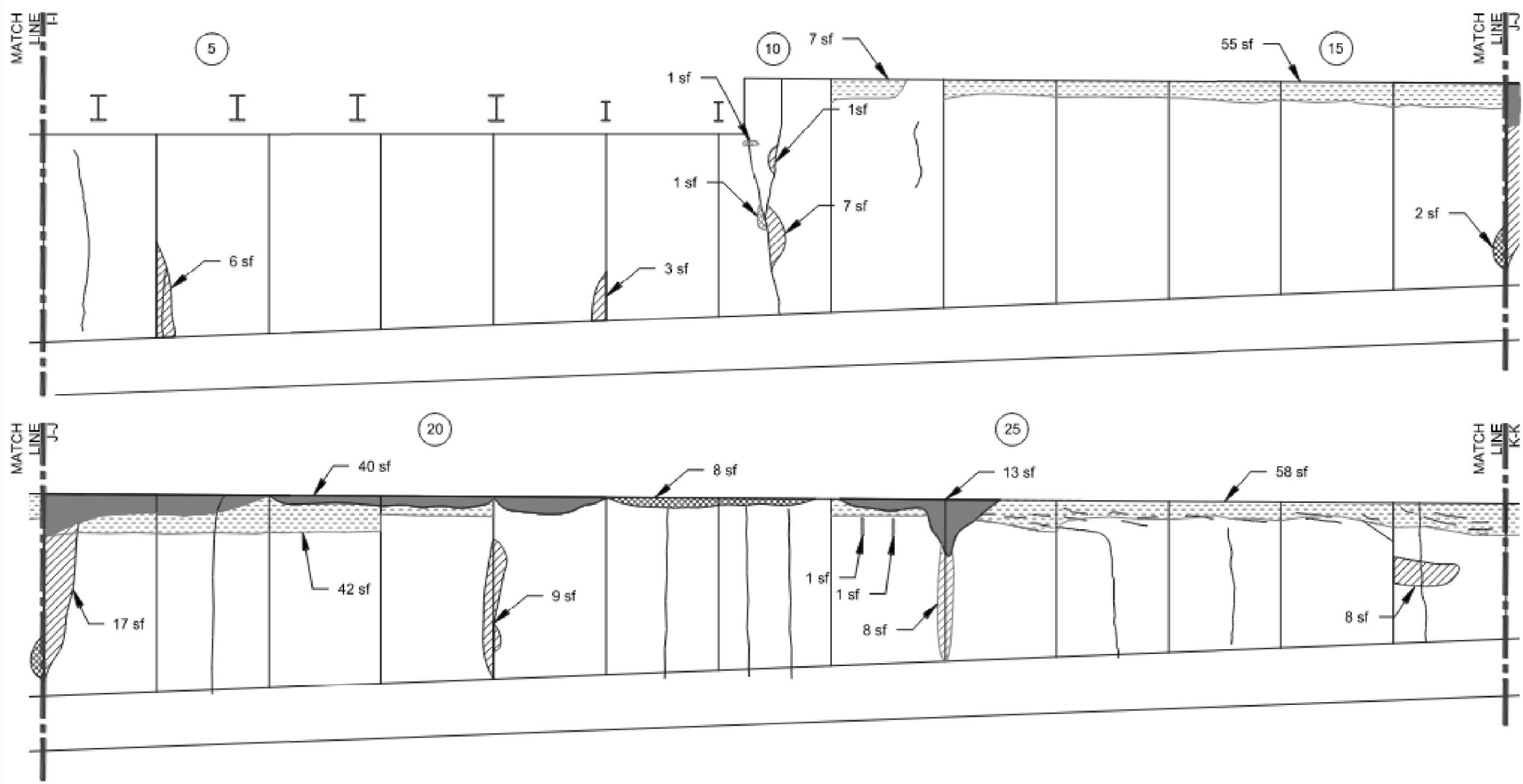
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PLOT DATE =	DRAWN - J.T.B.	REVISED -
	CHECKED - K.G.W.	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING NORTH WALL SURVEY IV
 SN 016-2459

SHEET S20-18 OF S20-20 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	890
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



LEGEND:

	CRACK
	DELAMINATION
	SPALL
	SPALL WITH EXPOSED BARS
	FREEZE THAW DAMAGE
	PANEL NUMBER

FOR INFORMATION ONLY

STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	59 s.f.
Spall	12 s.f.
Freeze-Thaw Damage	162 s.f.
Spall with Exposed Bars	55 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

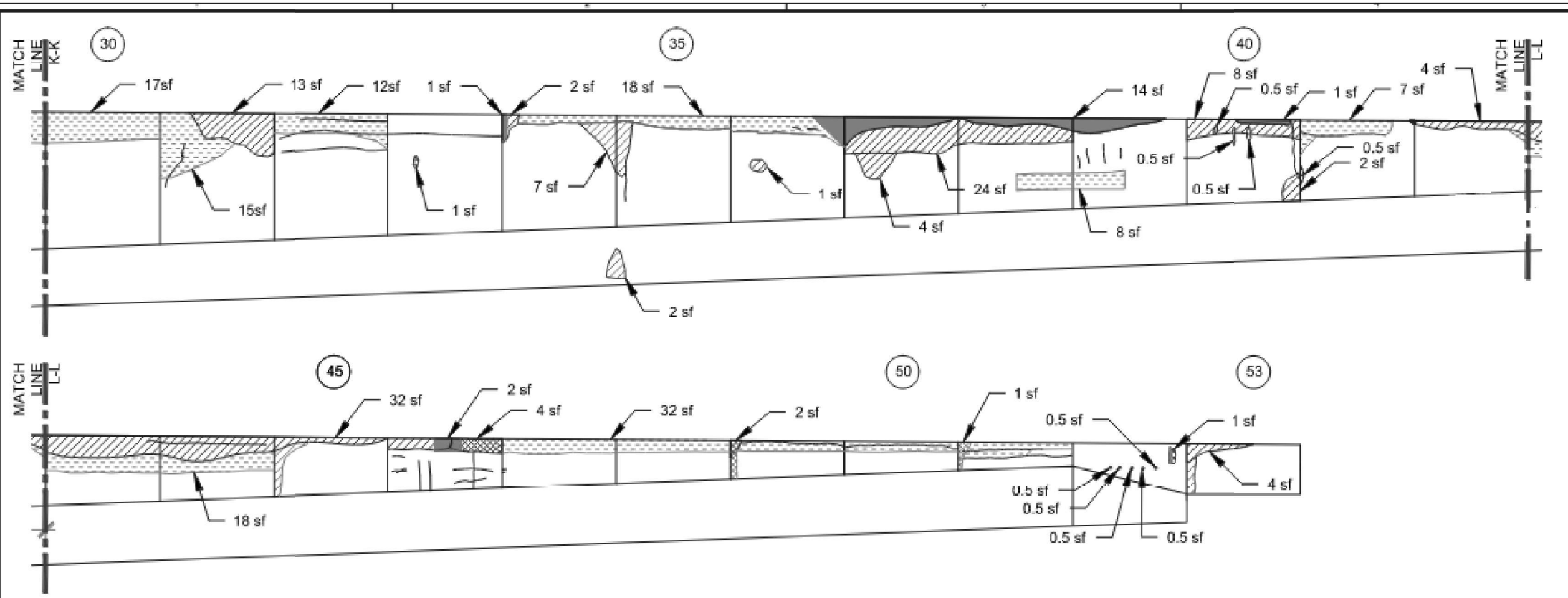
*ELEVATION - NORTH WALL
(Looking North)*

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90	2020-004-BR	COOK	908	891
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

MODEL: sMODELNAME5
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LEGEND:

	CRACK
	DELAMINATION
	SPALL
	SPALL WITH EXPOSED BARS
	FREEZE THAW DAMAGE
	PANEL NUMBER

FOR INFORMATION ONLY

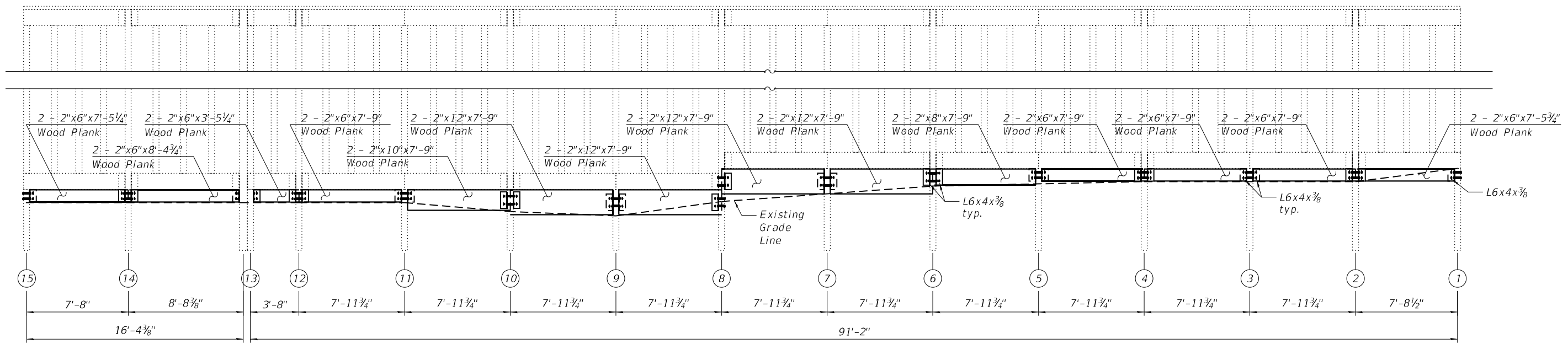
STRUCTURE CONDITION SURVEYS FOR TROUGH WALLS AND CULVERT INSPECTION UTILIZED AND CONFIRMED WJE INSPECTION FINDINGS - INCLUDED AS REFERENCE.

Deterioration Quantities This Sheet	
Repair Type	Total
Delamination	103 s.f.
Spall	12 s.f.
Freeze-Thaw Damage	127 s.f.
Spall with Exposed Bars	17 s.f.

NOTES:

- The existing wall survey was done by Wiss, Janney, Elster Associates, Inc. in 2017. It's contents are provided for information only.

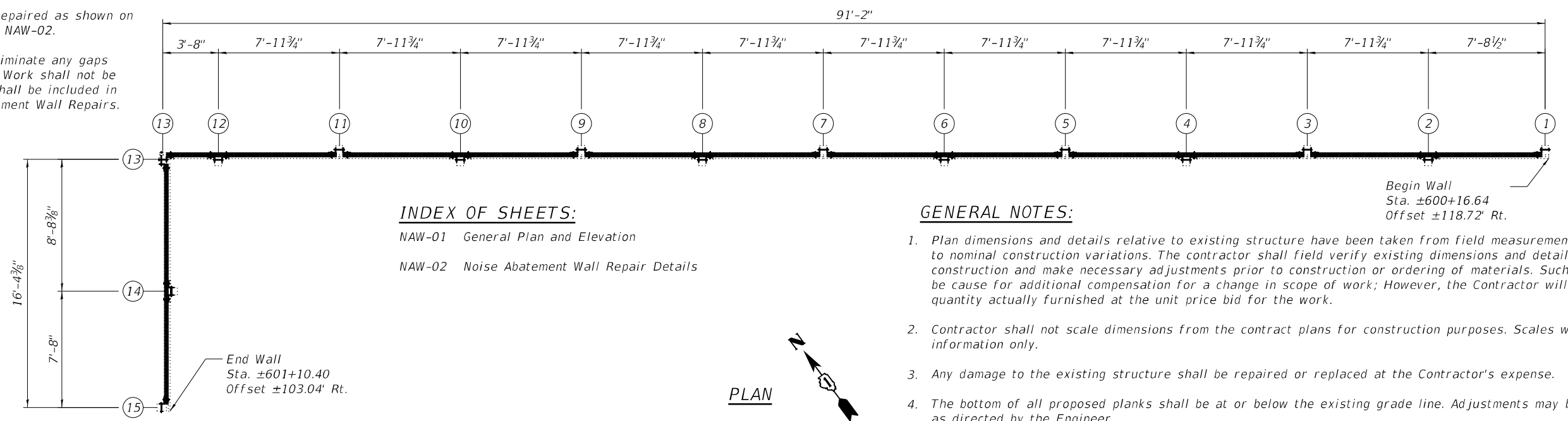
ELEVATION - NORTH WALL
 (Looking North)



ELEVATION

SCOPE OF WORK:

1. Remove existing aggregate as necessary to place wood planks. Work shall not be paid separately. Cost shall be included in the cost of Noise Abatement Wall Repairs.
2. Existing wall shall be repaired as shown on sheets NAW-01 through NAW-02.
3. replace aggregate to eliminate any gaps under the wood planks. Work shall not be paid separately. Cost shall be included in the cost of Noise Abatement Wall Repairs.



PLAN

INDEX OF SHEETS:

- NAW-01 General Plan and Elevation
- NAW-02 Noise Abatement Wall Repair Details

GENERAL NOTES:

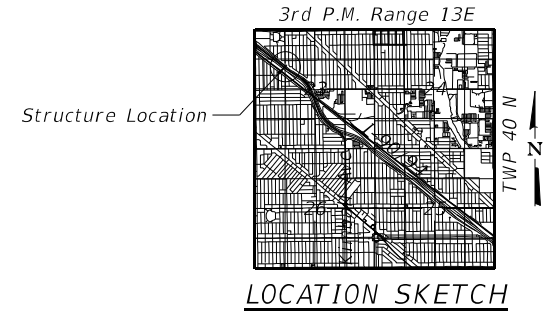
1. Plan dimensions and details relative to existing structure have been taken from field measurements and are subject to nominal construction variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work; However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
2. Contractor shall not scale dimensions from the contract plans for construction purposes. Scales when shown are for information only.
3. Any damage to the existing structure shall be repaired or replaced at the Contractor's expense.
4. The bottom of all proposed planks shall be at or below the existing grade line. Adjustments may be made in the field as directed by the Engineer.

MATERIAL SPECIFICATIONS:

- Wood:**
Douglas Fir Larch, Pressure treated to 0.40 pounds of preservative per square foot of timber. Grade No. 1 or better shall be used for columns, and grade No. 2 or better shall be used for all other members.
- Bolts:**
3/4" A325 Bolts (Hot-dipped Galvanized)
- Fasteners:**
Fasteners shall be as follows:
Nail - Hot-Dipped Galvanized, sized as specified in details



Signed Moussa A. Issa
Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
Expires 11-30-2024
Date 04-29-2024



LOCATION SKETCH

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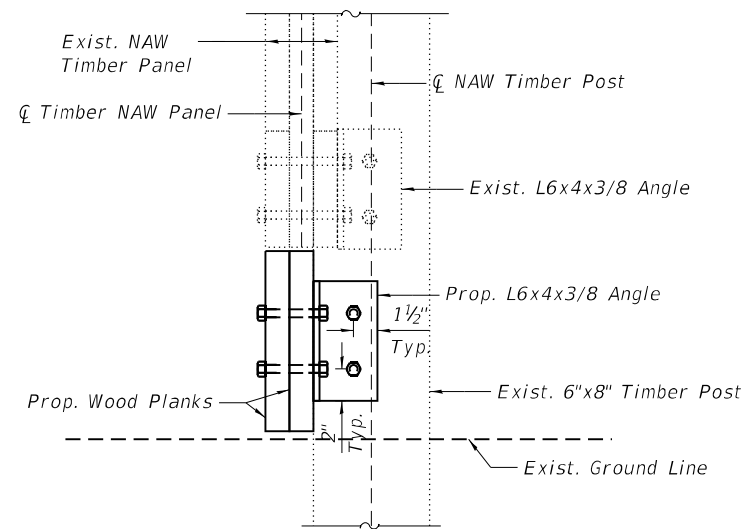
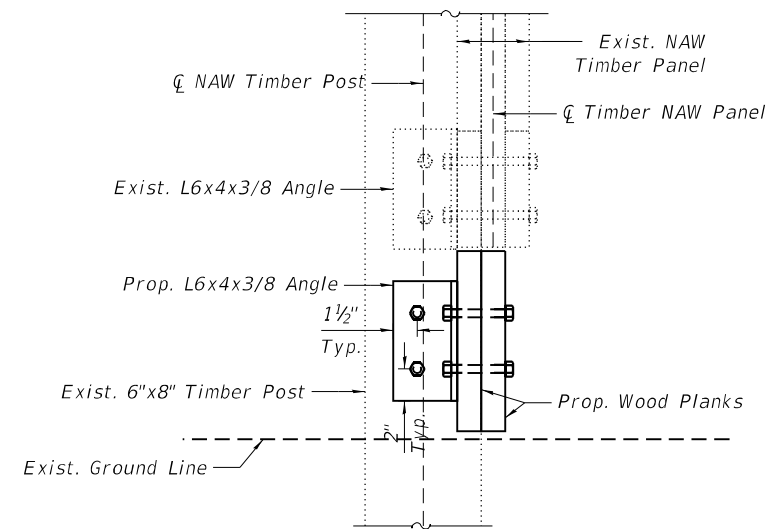
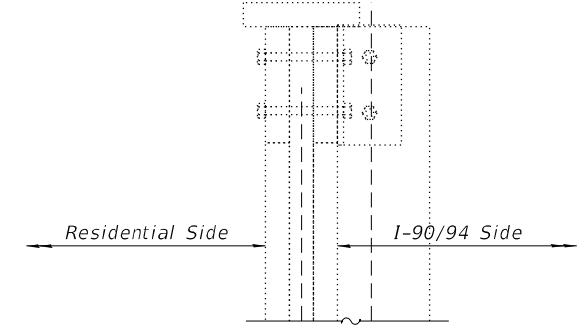
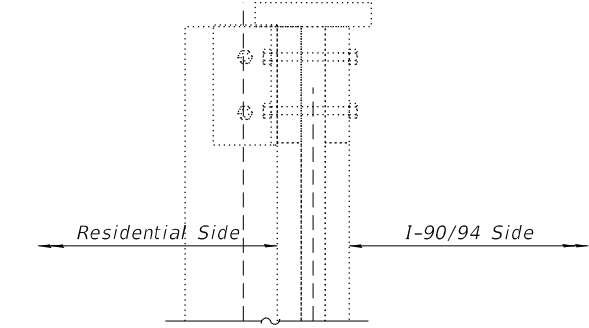
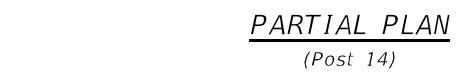
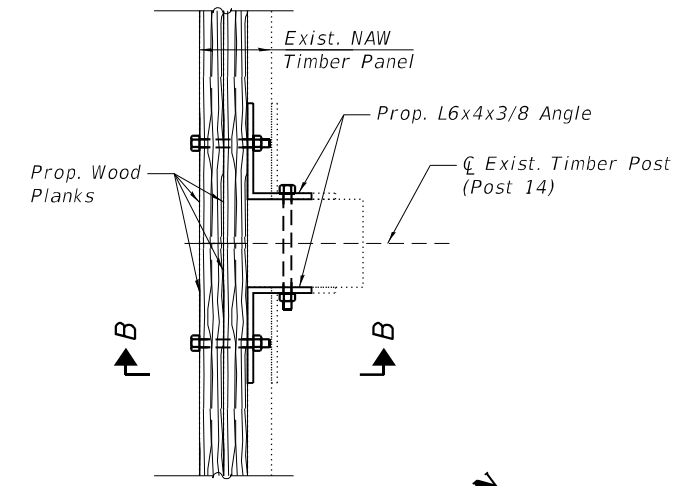
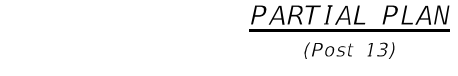
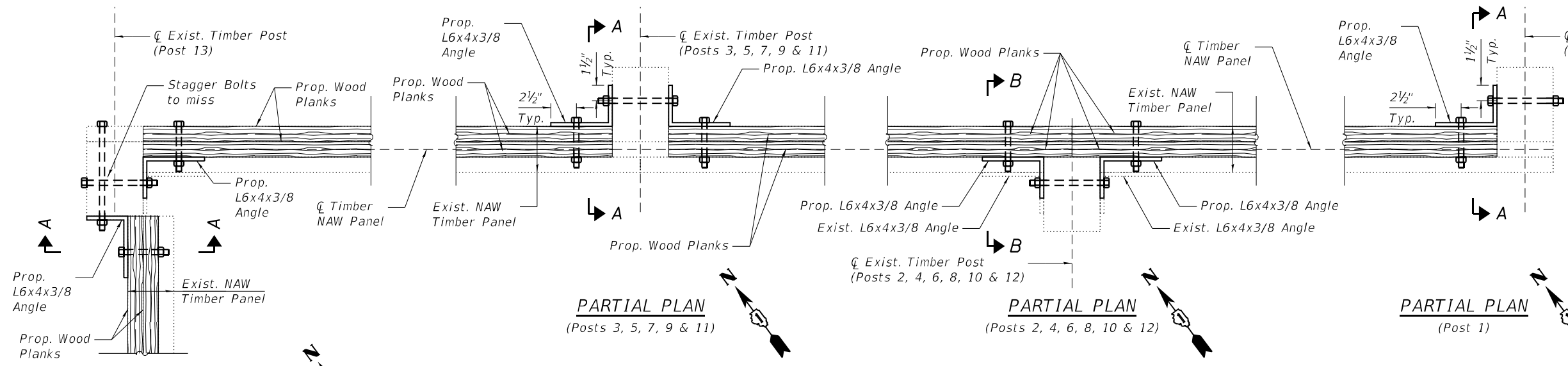
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

NOISE ABATEMENT WALL REPAIR PLAN AND ELEVATION

SHEET NAW-01 OF NAW-02 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	893
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

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WOOD PLANK TABLE
 (FOR INFORMATION ONLY)

LOCATION	SIZE
SPANNING BETWEEN POSTS	W x D x L
1 & 2	(2) 2"x6"x7'-5.75"
2 & 3	(2) 2"x6"x7'-9"
3 & 4	(2) 2"x6"x7'-9"
4 & 5	(2) 2"x6"x7'-9"
5 & 6	(2) 2"x8"x7'-9"
6 & 7	(2) 2"x12"x7'-9"
7 & 8	(2) 2"x12"x7'-9"
8 & 9	(2) 2"x12"x7'-9"
9 & 10	(2) 2"x12"x7'-9"
10 & 11	(2) 2"x10"x7'-9"
11 & 12	(2) 2"x6"x7'-9"
12 & 13	(2) 2"x6"x3'-5.25"
13 & 14	(2) 2"x6"x8'-4.75"
14 & 15	(2) 2"x6"x7'-5.25"

ANGLE TABLE
 (FOR INFORMATION ONLY)

POST	LENGTH OF L6X4X3/8 ANGLE NORTH SIDE	SOUTH SIDE
1	5.5"	NA
2	5.5"	5.5"
3	5.5"	5.5"
4	5.5"	5.5"
5	5.5"	5.5"
6	7.25"	7.25"
7	7.25"	7.25"
8	7.25"	7.25"
9	7.25"	7.25"
10	7.25"	7.25"
11	5.5"	5.5"
12	5.5"	5.5"
13	5.5"	5.5"
14	5.5"	5.5"
15	5.5"	NA

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Noise Abatement Wall Repairs	L Sum	1



USER NAME =	DESIGNED - KJD	REVISED -
PLOT SCALE =	CHECKED - MI	REVISED -
PLOT DATE =	DRAWN - KJD	REVISED -
	DATE - 4/29/2024	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NOISE ABATEMENT WALL REPAIR DETAILS

SHEET NAW-02 OF NAW-02 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	894
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				

337+00

338+00

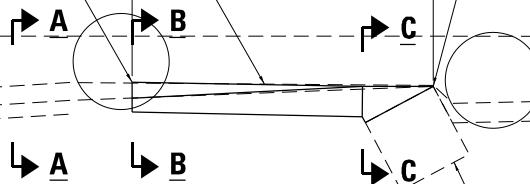
EX C NB I-90/94

CONCRETE BARRIER TRANSITION

BEGIN BARRIER
STA. 337+57.11

15'-8 1/8"
 CONCRETE BARRIER TRANSITION

END BARRIER
STA. 337+72.79



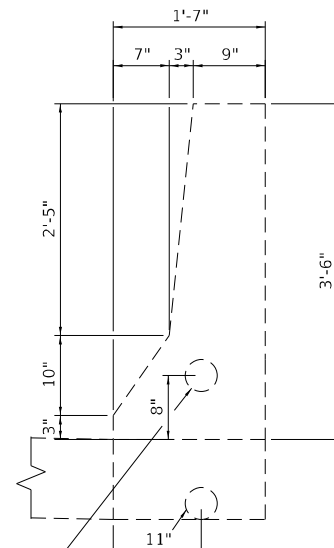
BRIDGE PIER FOUNDATION

PLAN

NOTES

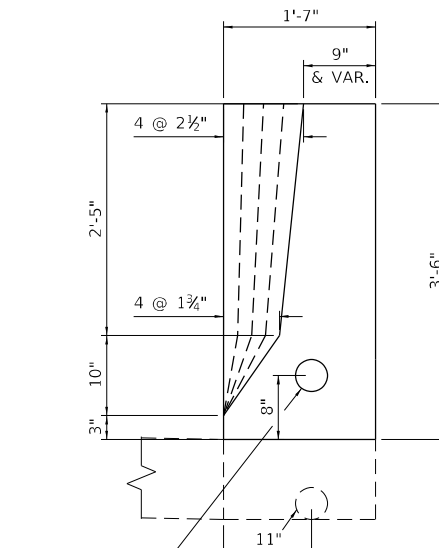
GUARDRAIL SECTION AND TEMPORARY CONCRETE BARRIER TO BE RETURNED TO DISTRICT BRIDGE YARD.

FOR CONCRETE BARRIER TRANSITION DETAILS SEE SHEET 216.



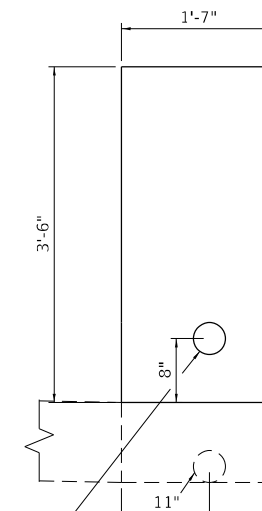
4" PVC DUCT (ELECTRICAL)
4" PVC DUCT (SURVEILLANCE)

SECTION A-A



4" PVC DUCT (ELECTRICAL)
4" PVC DUCT (SURVEILLANCE)

SECTION B-B



4" PVC DUCT (ELECTRICAL)
4" PVC DUCT (SURVEILLANCE)

SECTION C-C

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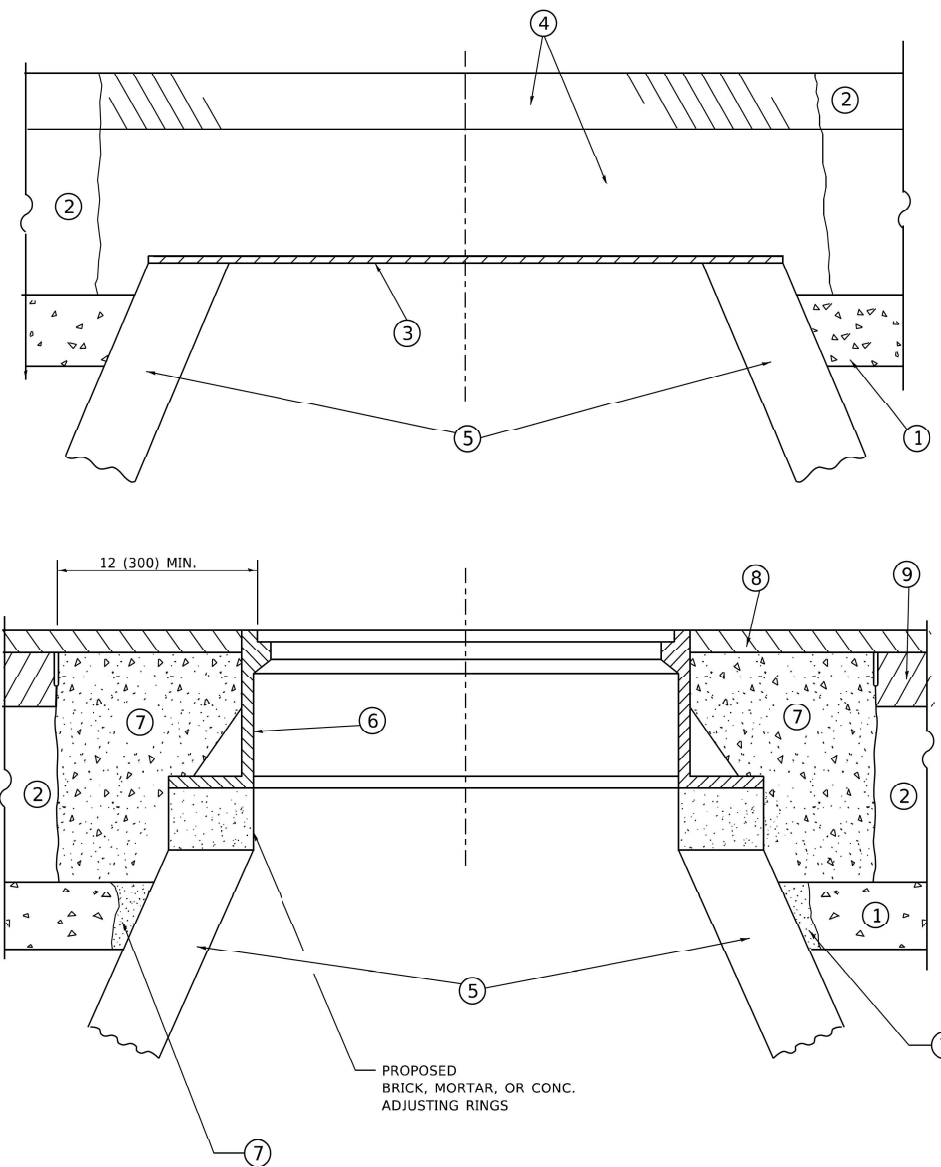
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TRANSITION REPAIR
NB INTERSTATE 90/ 94 (KENNEDY EXPY)

SCALE: NTS SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.J RTE. 90/94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 895
CONTRACT NO. 62K73				
ILLINOIS FED. AID PROJECT				



**DETAILS FOR FRAMES AND LIDS ADJUSTMENT
WITH MILLING**

NOTES

- EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.
- IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.
- CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.
- THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES BY THE END OF EACH WORK SHIFT.

CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

- REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- BACKFILL WITH CRUSHED STONE AND HMA SURFACE MIX APPROVED BY THE ENGINEER. (MIN. 3 (80) HMA TO REMAIN AFTER MILLING).

STAGE 2 (AFTER PAVEMENT MILLING)

- REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-2* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

- | | |
|--|-------------------------------|
| ① SUB-BASE GRANULAR MATERIAL | ⑥ FRAME AND LID (SEE NOTES) |
| ② EXISTING PAVEMENT | ⑦ CLASS PP-2* CONCRETE |
| ③ 36 (900) DIAMETER METAL PLATE | ⑧ PROPOSED HMA SURFACE COURSE |
| ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX | ⑨ PROPOSED HMA BINDER COURSE |
| ⑤ EXISTING STRUCTURE | |

LOCATION OF STRUCTURES

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

BASIS OF PAYMENT

- REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."
- THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.
- NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.
- WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

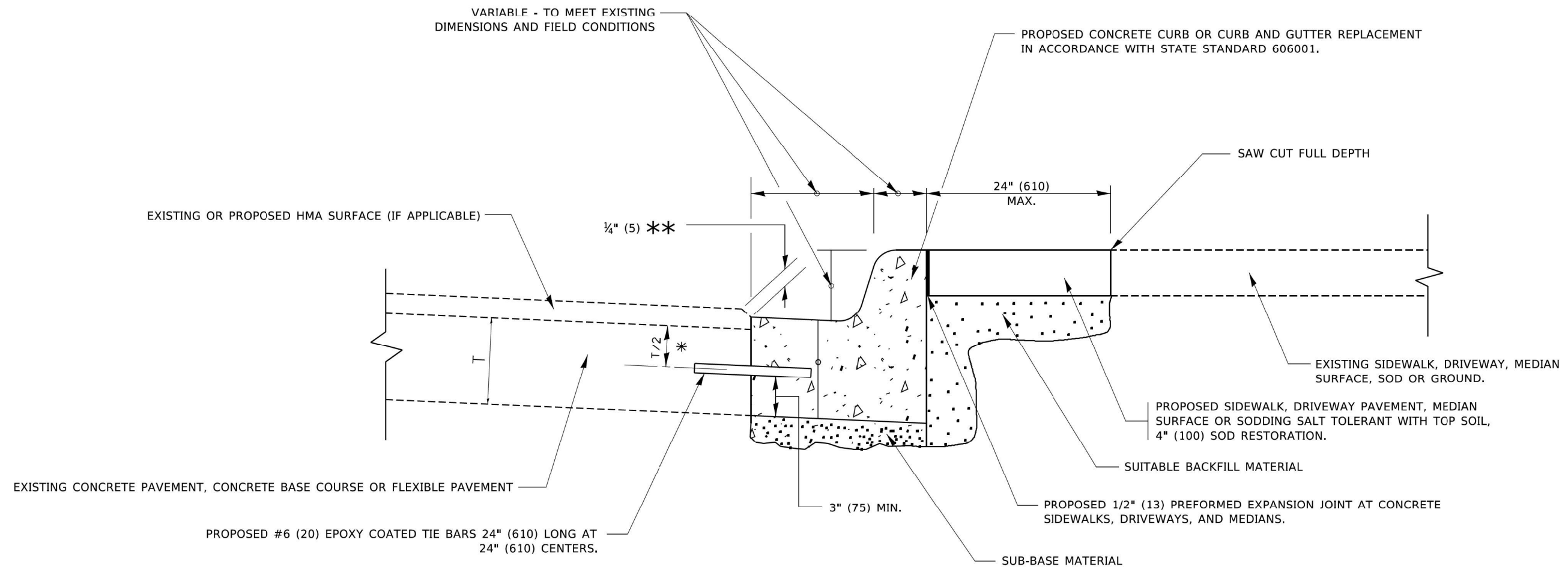
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PLOT DATE = 9/15/2023	DATE - 10-25-94	REVISED - K. SMITH 09-15-23

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING			
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. TO STA.	

F.A.I. RTE. 90/94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 896
BD600-03 (BD-08)		CONTRACT NO. 62K73		
ILLINOIS FED. AID PROJECT				



- * 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.
- ** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

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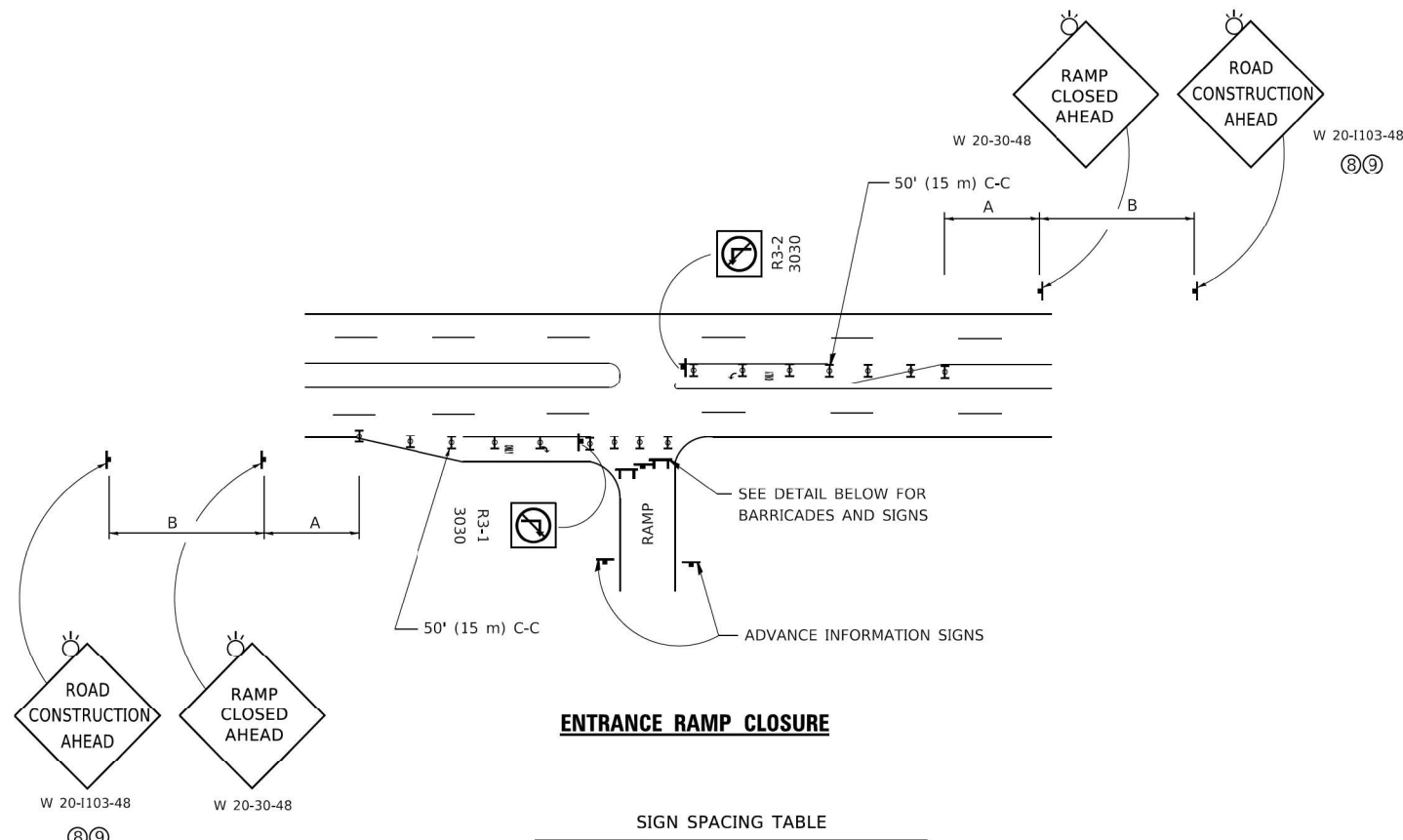
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CURB OR CURB AND GUTTER
REMOVAL AND REPLACEMENT**

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

F.A.I. RTE. 90.94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 897
BD600-06 (BD-24)			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				

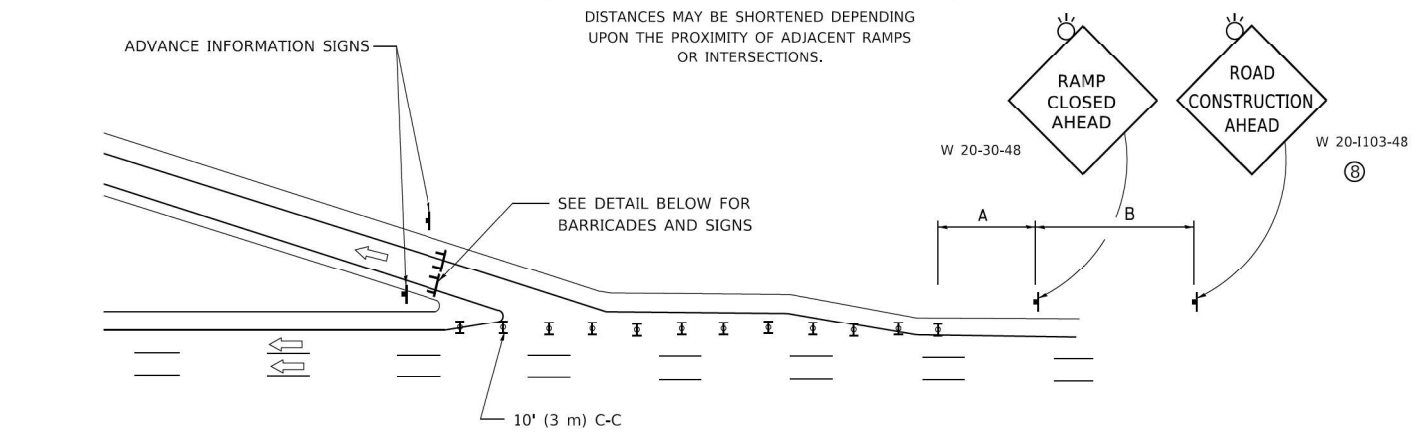


ENTRANCE RAMP CLOSURE

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)

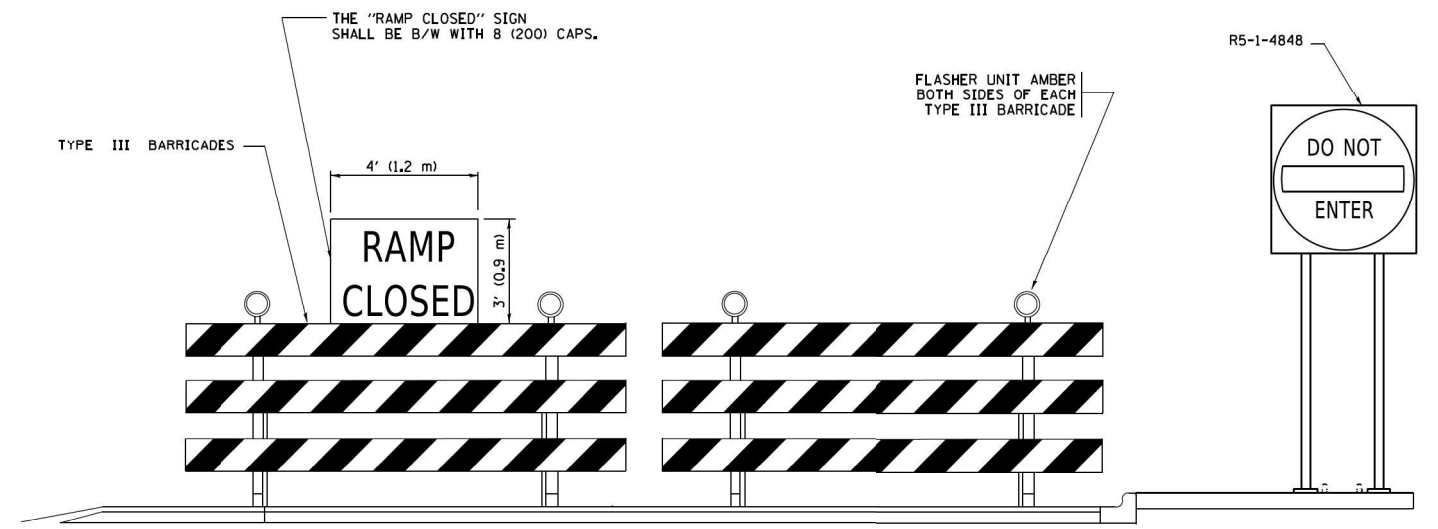
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



EXIT RAMP CLOSURE

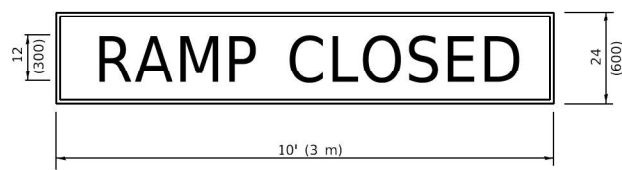
SYMBOLS

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



DETAIL FOR REQUIRED BARRICADES & SIGNS

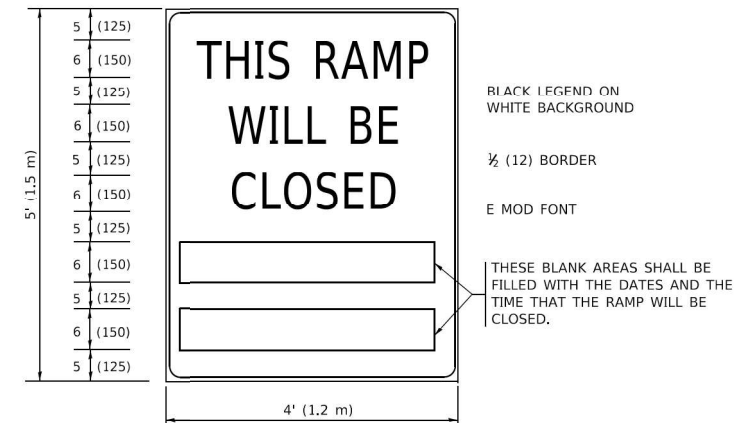
RAMP CLOSURE ADVANCE WARNING SIGN



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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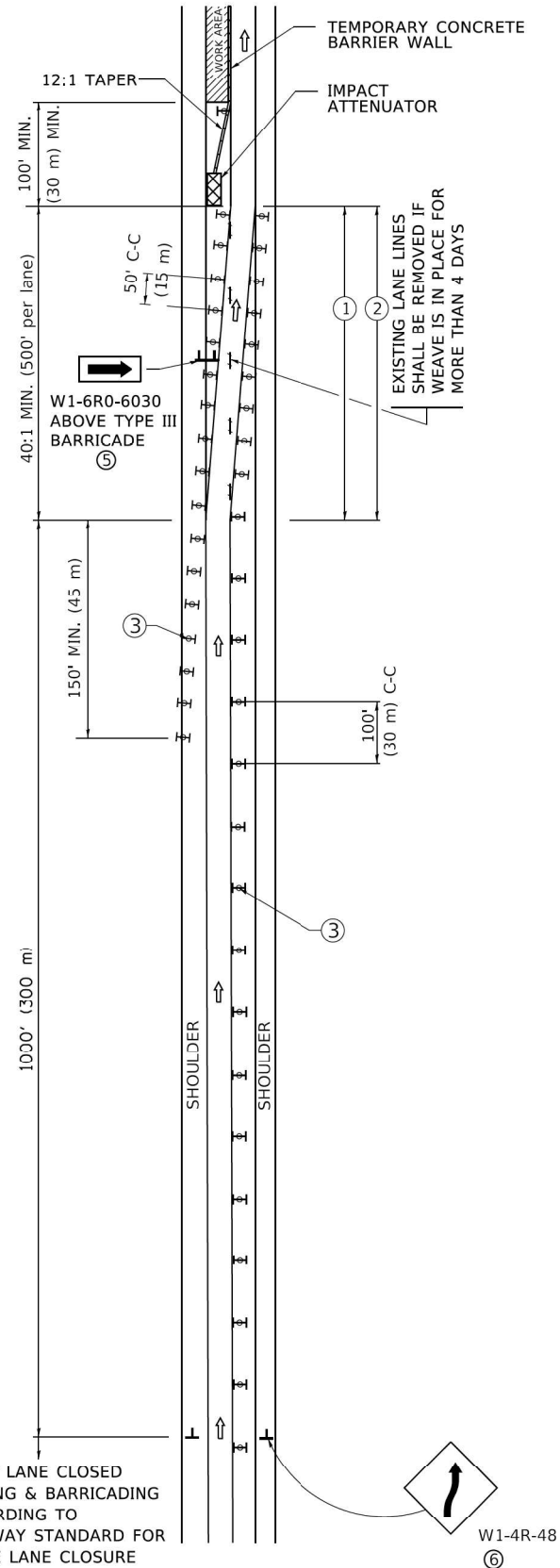
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP
CLOSURE DETAILS**

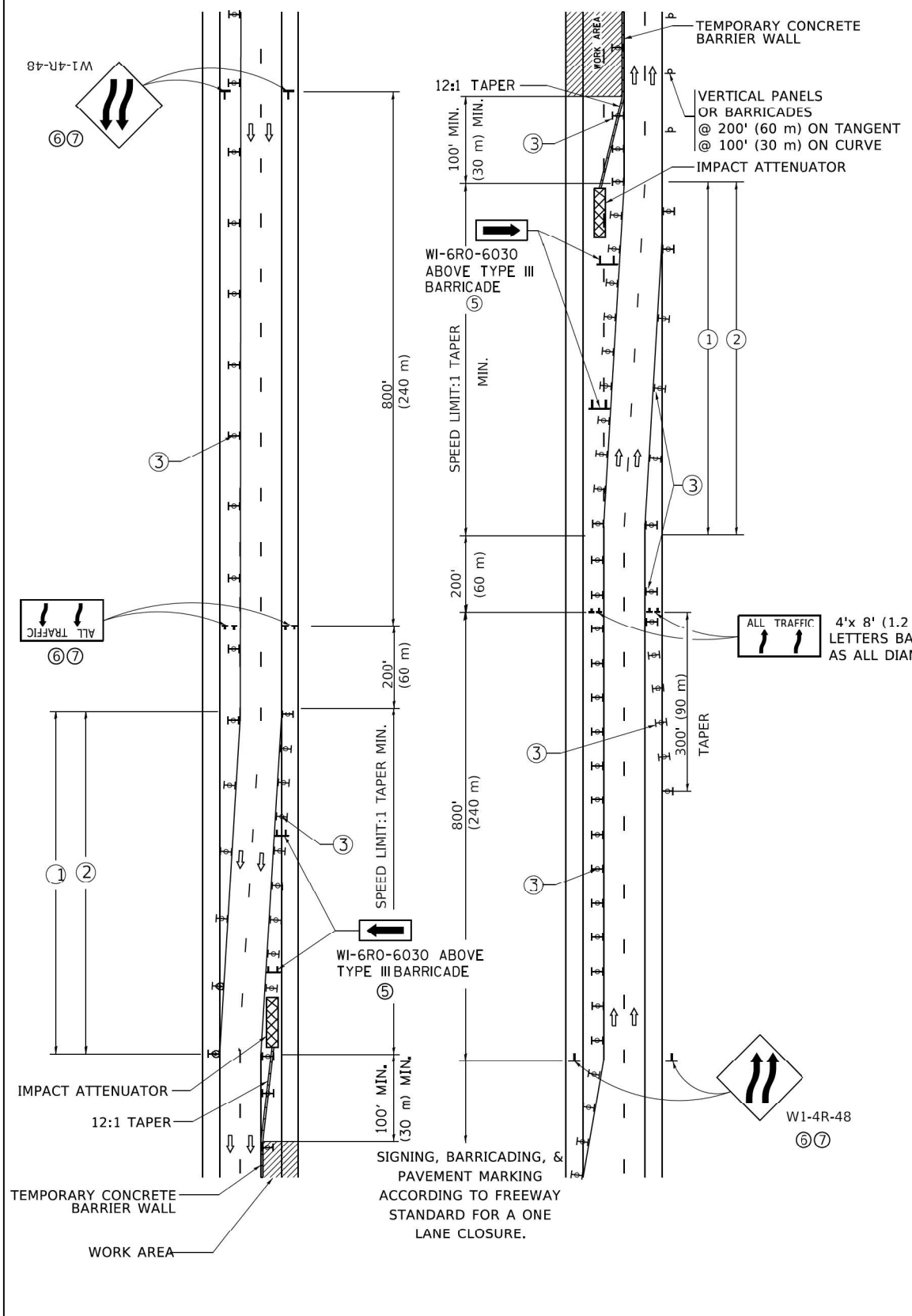
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90,94	2020-005-BR	COOK	908	898
TC-08			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES:

- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- 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.
- PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- 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.
- 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.
- THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

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 (6)
- W24-1-48 (7)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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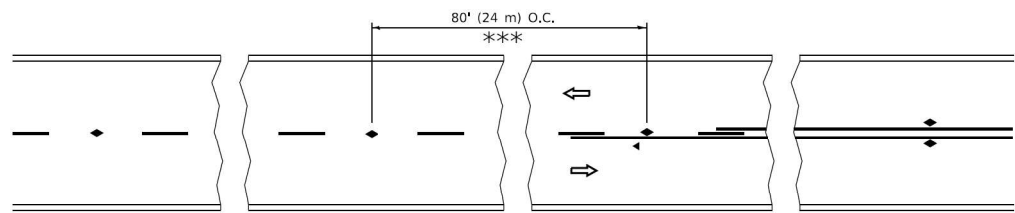
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PLOT SCALE = 50,0000 ' / ft.	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 3/4/2019	DATE - 02-87	REVISED - M.D. 06-13

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL DETAILS FOR
FREEWAY SINGLE & MULTI-LANE WEAVE**

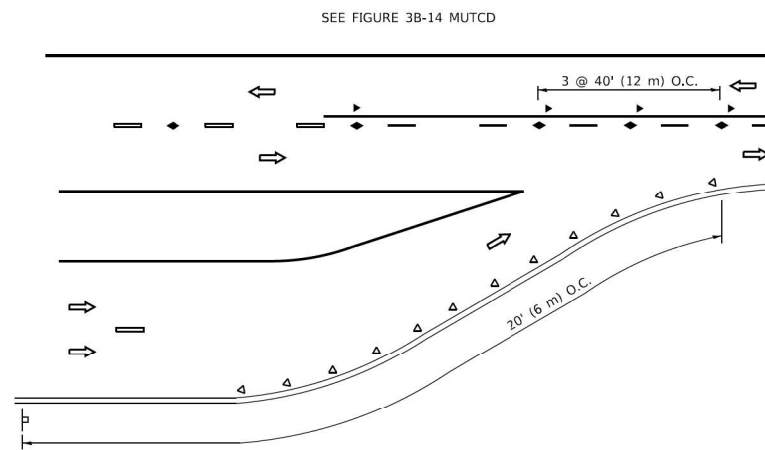
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 899
TC-09		CONTRACT NO. 62K73		
ILLINOIS FED. AID PROJECT				

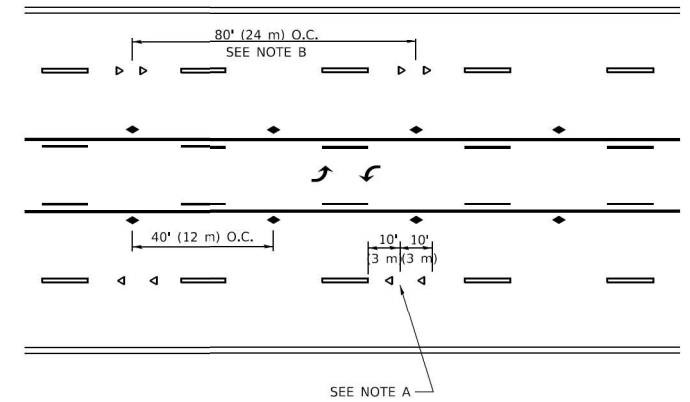


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

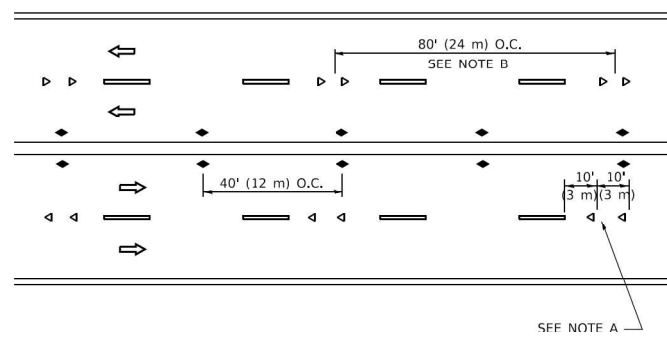
TWO-LANE/TWO-WAY



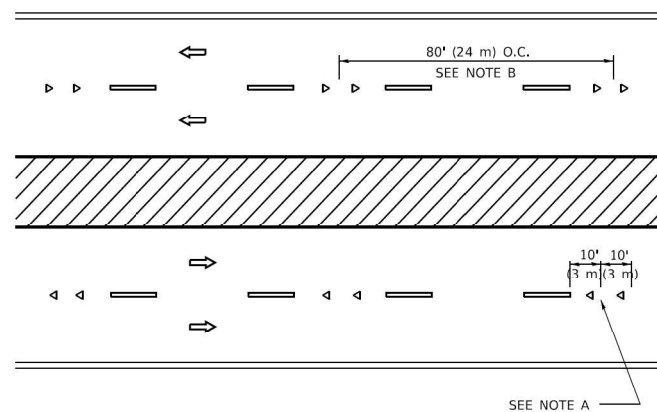
LANE REDUCTION TRANSITION



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

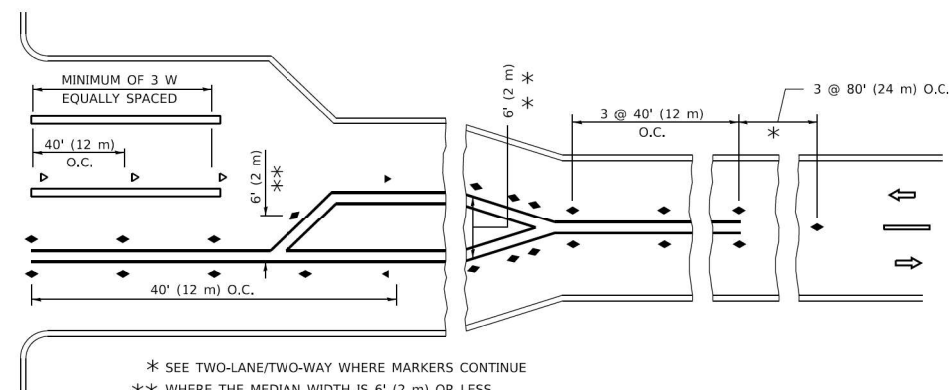
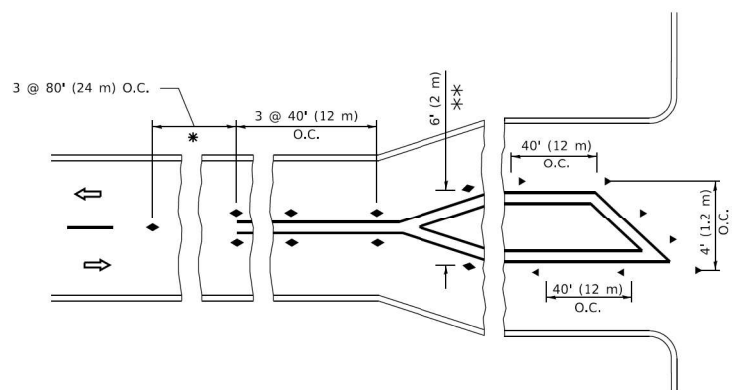
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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.

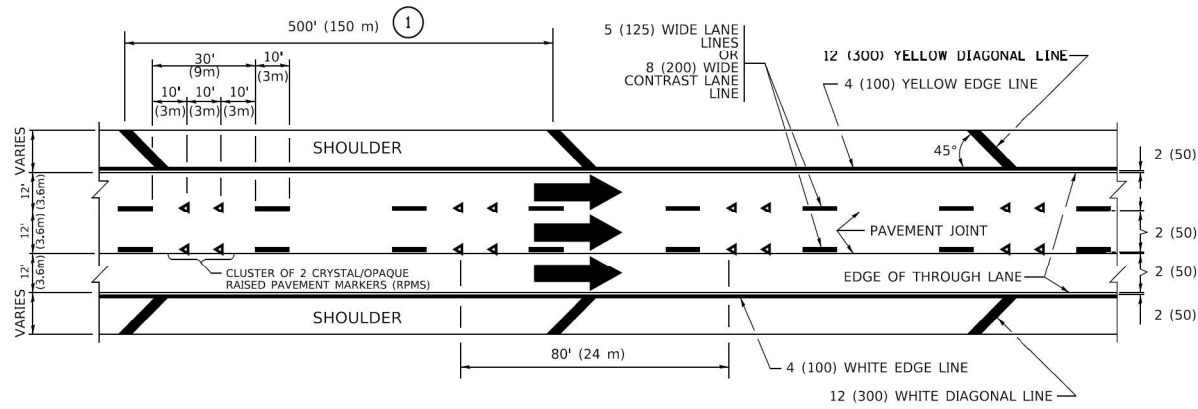
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	DRAWN -	REVISED - T. RAMMACHER 01-06-00
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - C. JUCIUS 09-09-09
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13

**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.

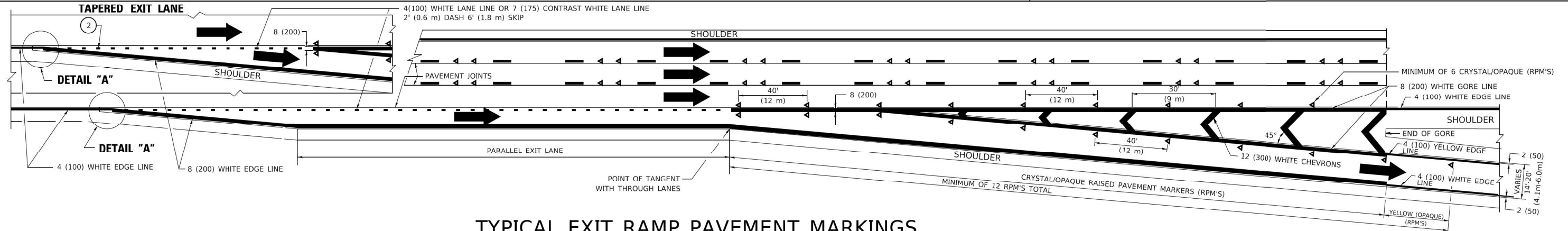
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	900
TC-11		CONTRACT NO. 62K73		
ILLINOIS		FED. AID PROJECT		



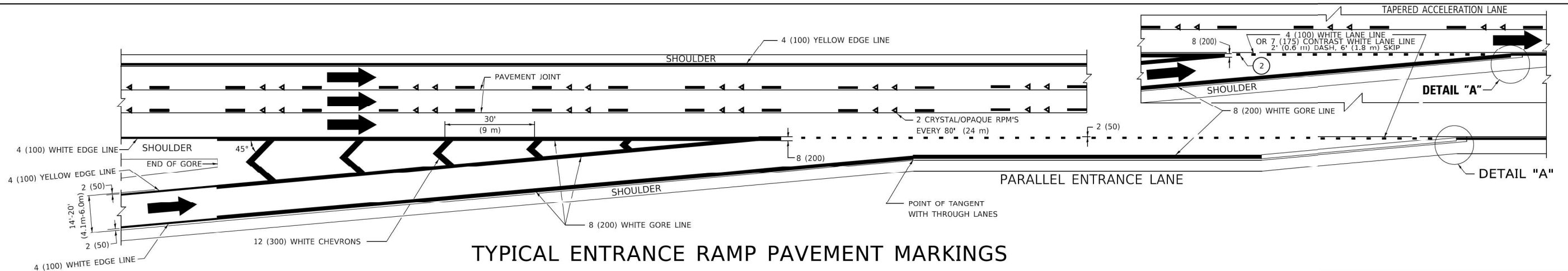
TYPICAL EDGE LINES & LANE LINES

PAVEMENT MARKING MATERIALS

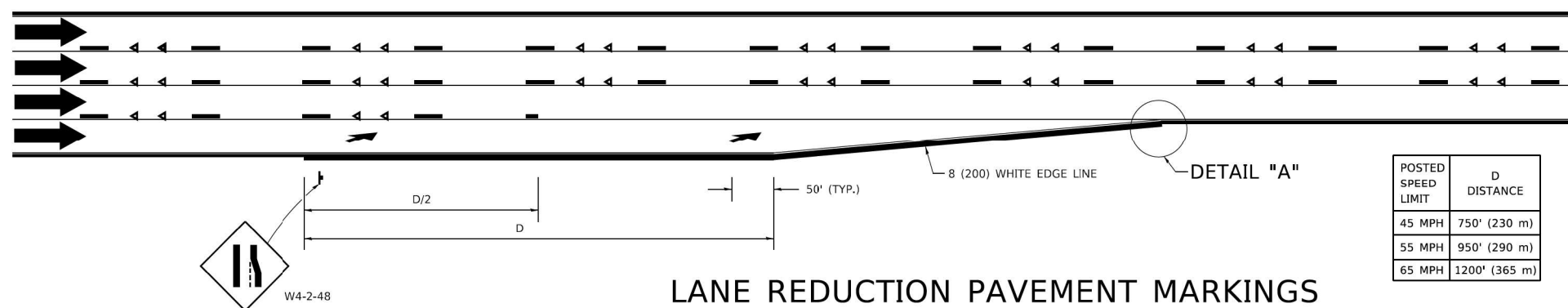
1. THERMOPLASTIC PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON HMA PAVEMENTS.
2. POLYUREA OR MODIFIED URETHANE PAVEMENT MARKING LINE SHALL BE USED FOR ALL EDGE LINES, GORE LINES, AND DIAGONAL LINES ON PCC PAVEMENTS.
3. PREFORMED PLASTIC PAVEMENT MARKING LINE 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.



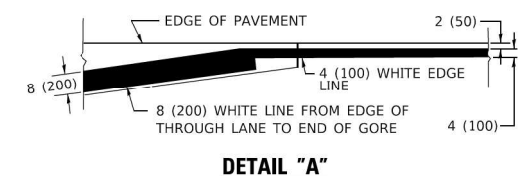
TYPICAL EXIT RAMP PAVEMENT MARKINGS



TYPICAL ENTRANCE RAMP PAVEMENT MARKINGS



LANE REDUCTION PAVEMENT MARKINGS



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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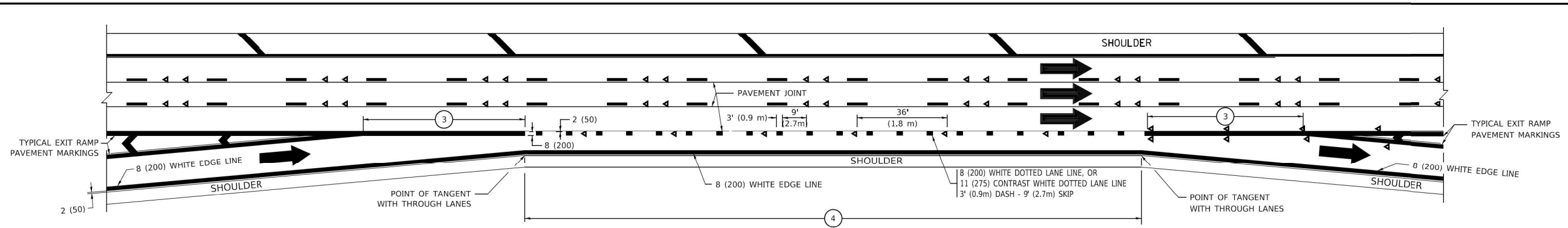
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DRAWN -	REVISED - S.P.B. 01-10	
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PLOT DATE = 3/4/2019	DATE - 01-90	REVISED - M.D. 09-17

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

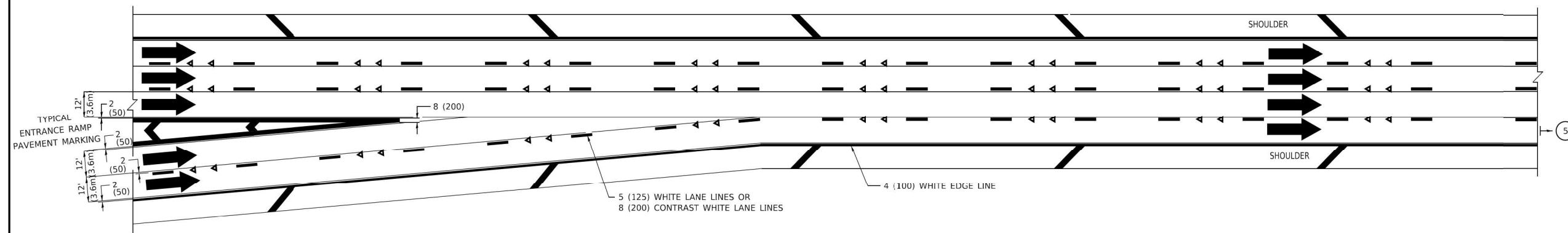
MULTI-LANE FREEWAY
PAVEMENT MARKING DETAILS

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

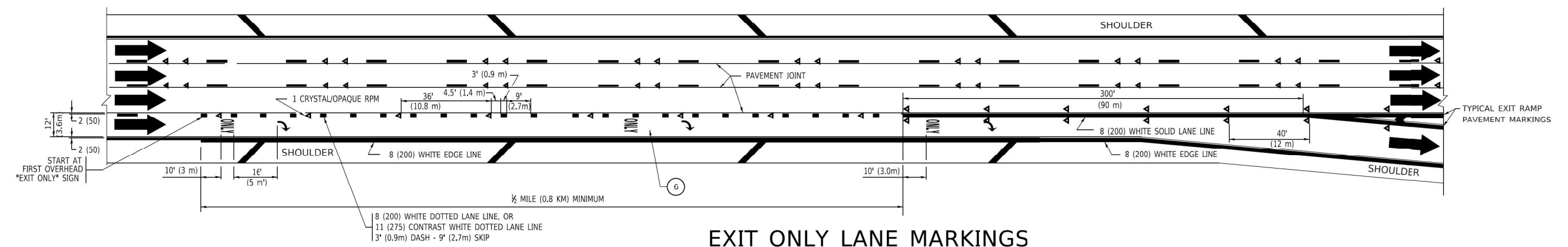
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TC-12		CONTRACT NO. 62K73		
ILLINOIS FED. AID PROJECT				



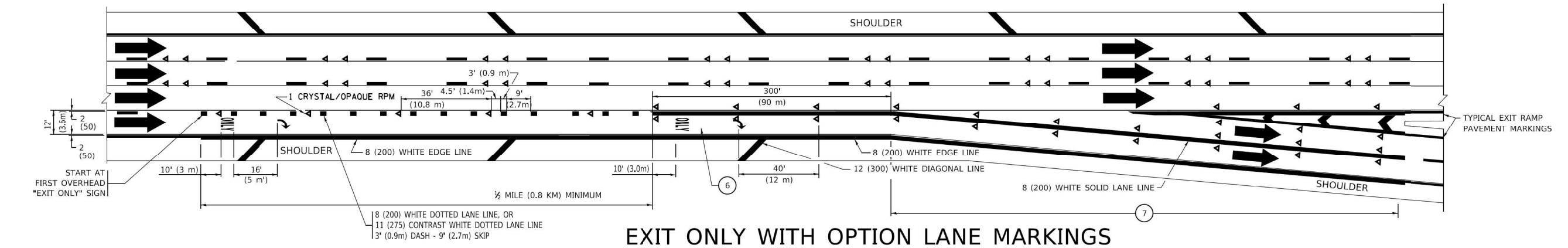
AUXILIARY LANE MARKINGS



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.

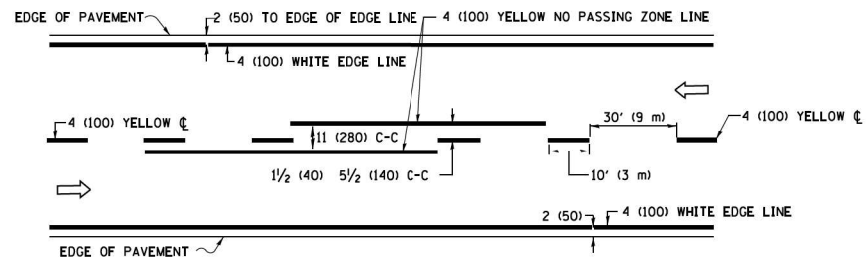
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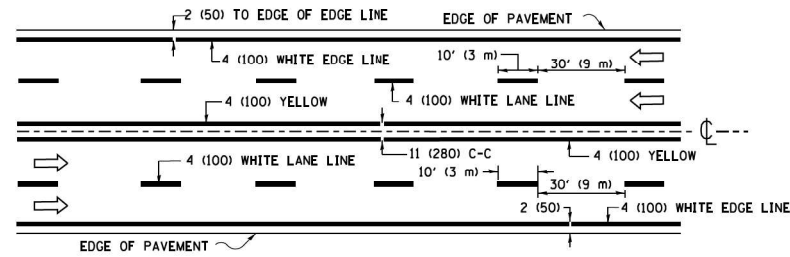
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

MULTI-LANE FREEWAY PAVEMENT MARKING DETAILS			
SCALE: NONE	SHEET 1	OF 2 SHEETS	STA. TO STA.

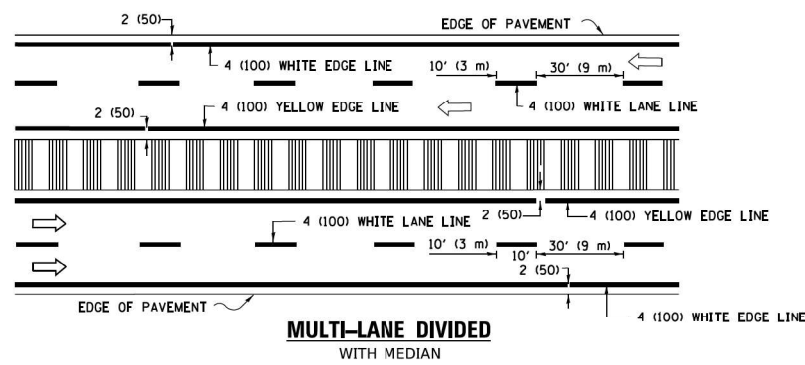
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TC-12			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY

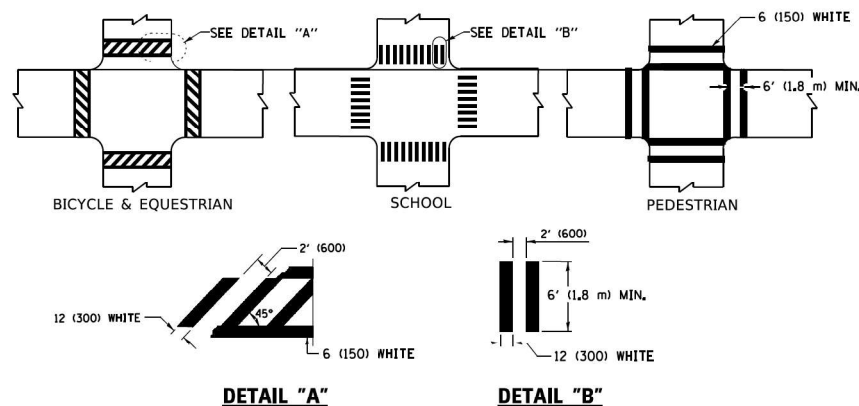


MULTI-LANE UNDIVIDED



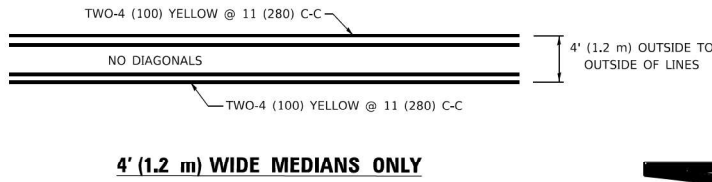
MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

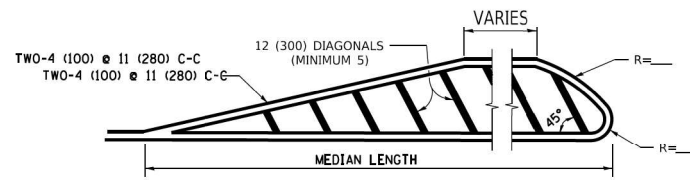


TYPICAL CROSSWALK MARKING

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES

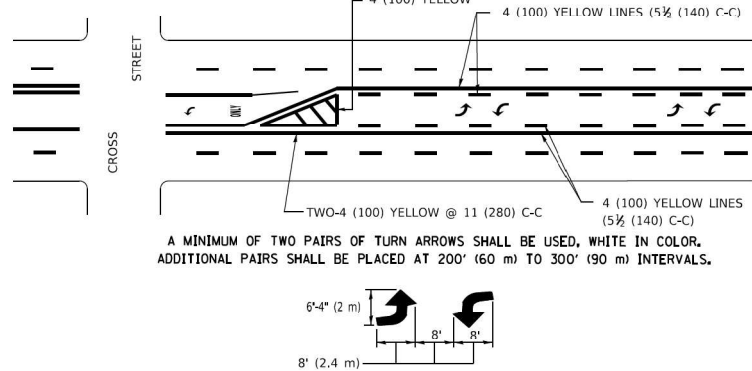


4' (1.2 m) WIDE MEDIANS ONLY

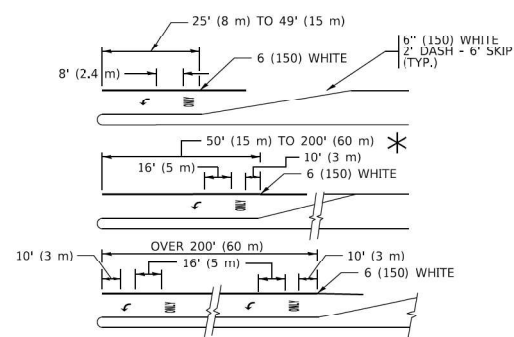


MEDIANS OVER 4' (1.2 m) WIDE

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))



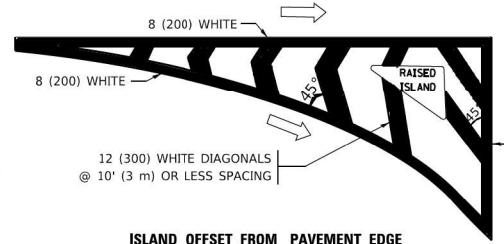
MEDIAN WITH TWO-WAY LEFT TURN LANE TYPICAL PAINTED MEDIAN MARKING



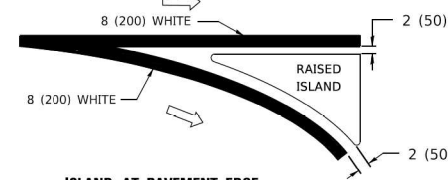
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)
* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - *ONLY* INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - *ONLY*.

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING

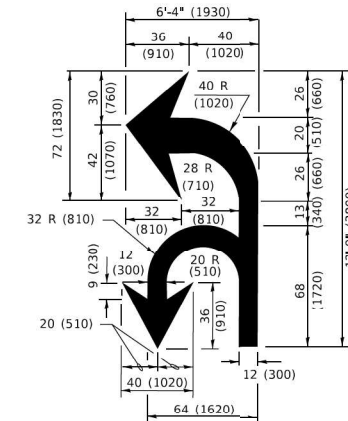


ISLAND OFFSET FROM PAVEMENT EDGE

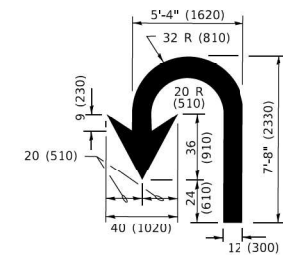


ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING



COMBINATION LEFT AND U-TURN



U-TURN

LANE REDUCTION TRANSITION

* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE: FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	7 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE.
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES: *RR* IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR *X*	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: *R* = 3.6 SQ. FT. (0.33 m ²) EACH *X* = 54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS > 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

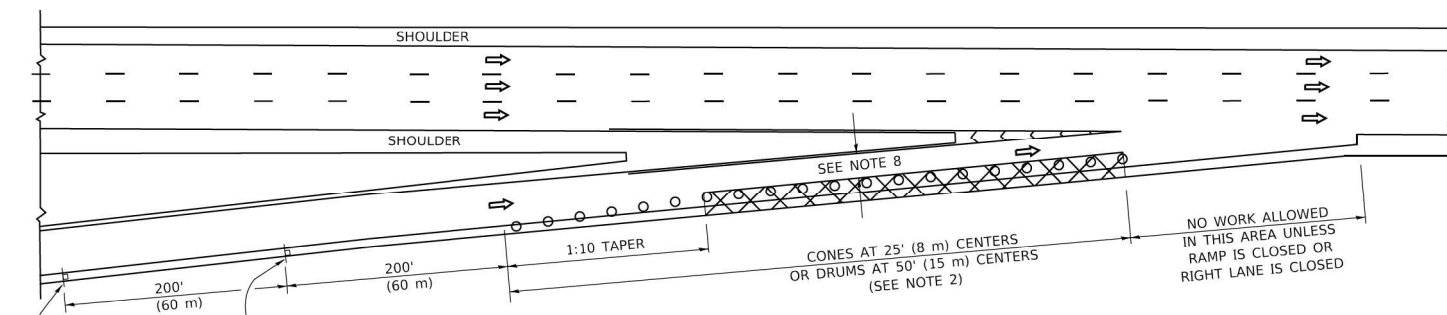
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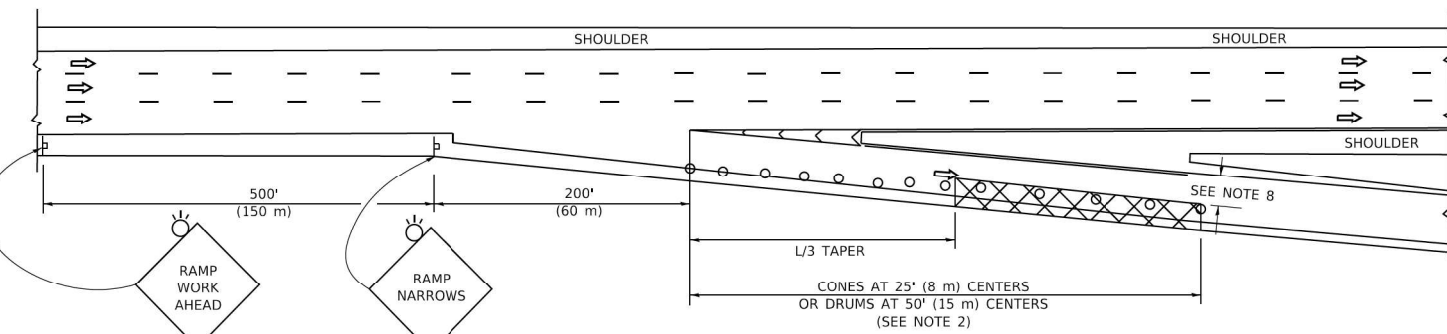
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE		SECTION		COUNTY		TOTAL SHEETS	SHEET NO.
TYPICAL PAVEMENT MARKINGS		2020-005-BR		COOK		908	903
SCALE: NONE		TC-13		ILLINOIS FED. AID PROJECT		CONTRACT NO. 62K73	
SHEET 1	OF 2 SHEETS	STA.	TO STA.				

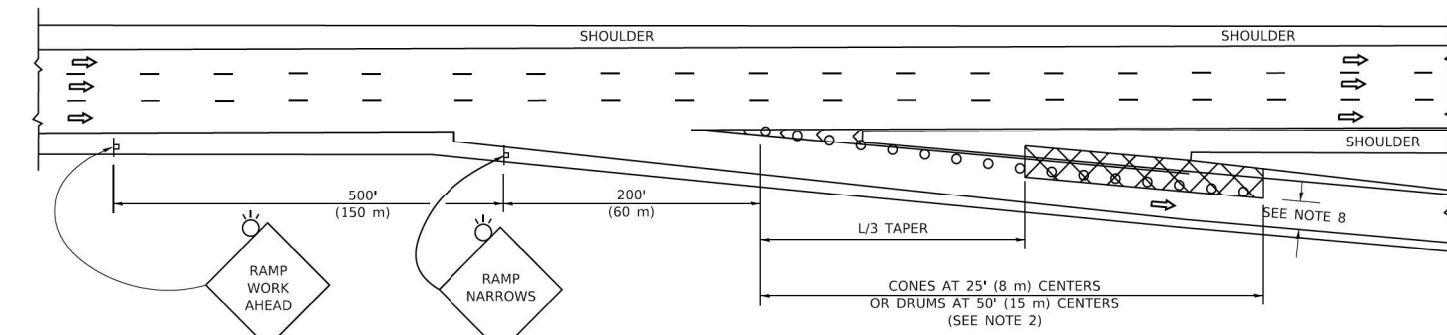
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

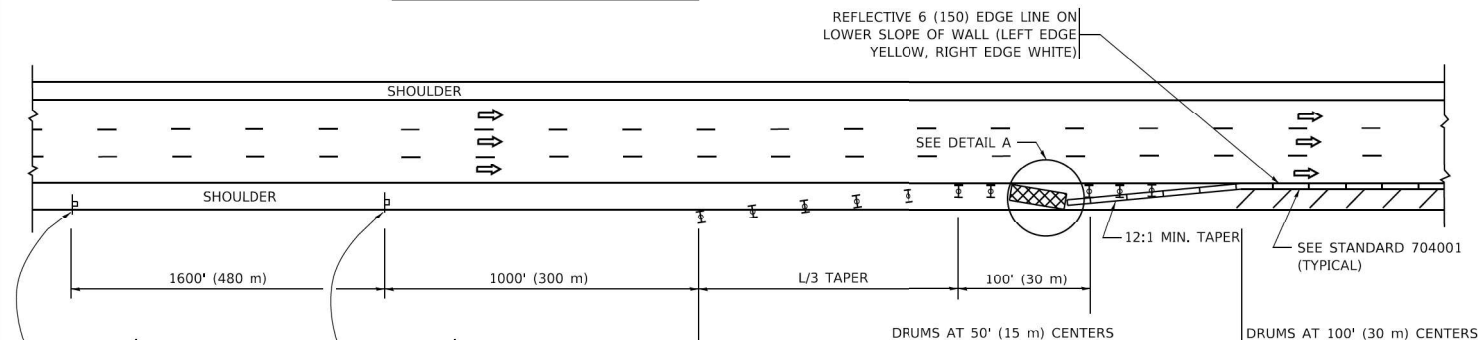
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES:

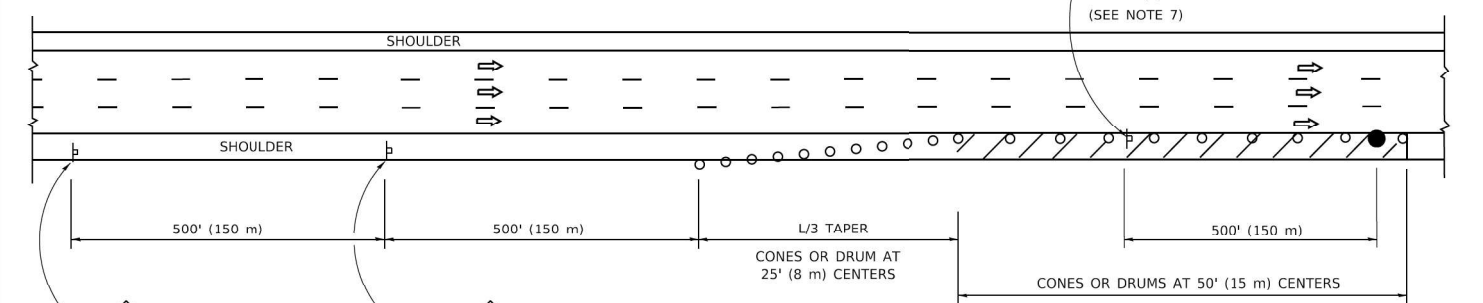
- THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
45 mph (80 km/h) OR GREATER	METRIC: $L=0.65(W)(S)$ ENGLISH: $L=(W)(S)$
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 HAZARDS EXCEEDING 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

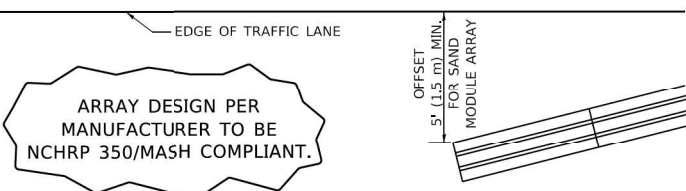


PERMANENT SHOULDER CLOSURE



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.



**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 AVTIVITY 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' / 1"	CHECKED -	REVISED - M.D. 06-13
PLOT DATE = 3/4/2019	DATE - 11-96	REVISED - M.D. 01-18

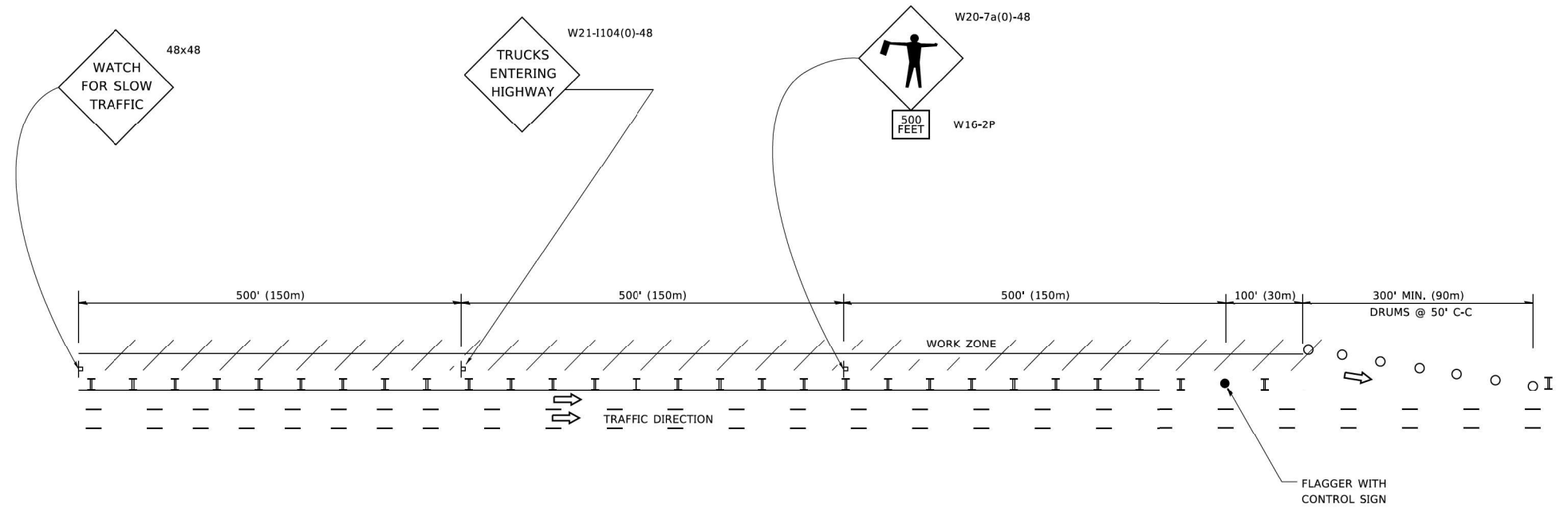
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. TO STA.

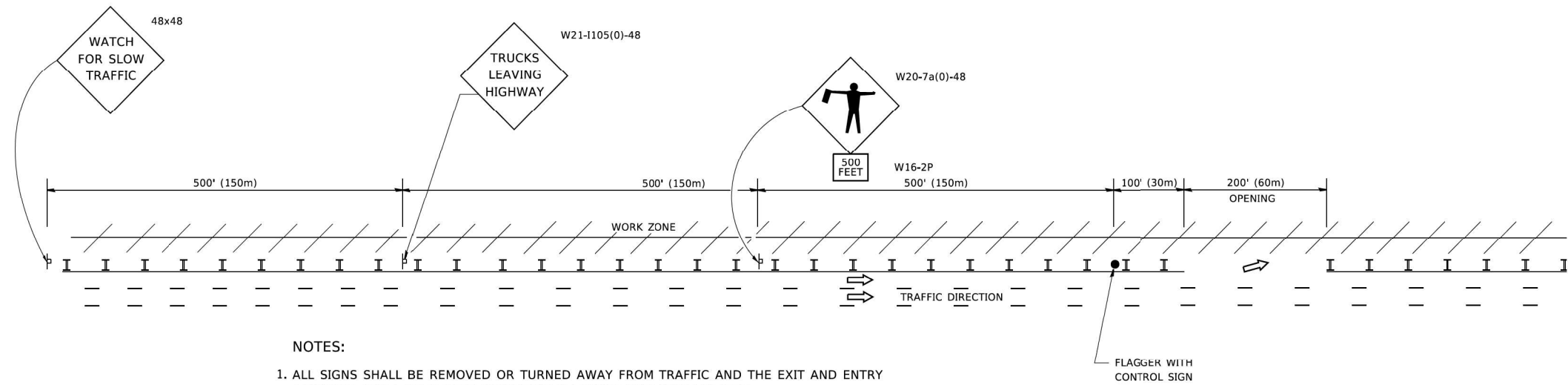
F.A.I. RTE. 90,94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 904
TC-17			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				

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 RAMPS.
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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USER NAME = footemj	DESIGNED -	REVISED - J.A.F. 02-06
	DRAWN -	REVISED - S.P.B. 01-07
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 3/4/2019	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.I. RTE. 90/94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 905
TC-18			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				

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ROUTE MARKERS

FOR U.S. ROUTES
M1-40-2424

FOR ILLINOIS ROUTES
M1-50-2424

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

M6-3-2115

CARDINAL DIRECTION & DETOUR SIGNS

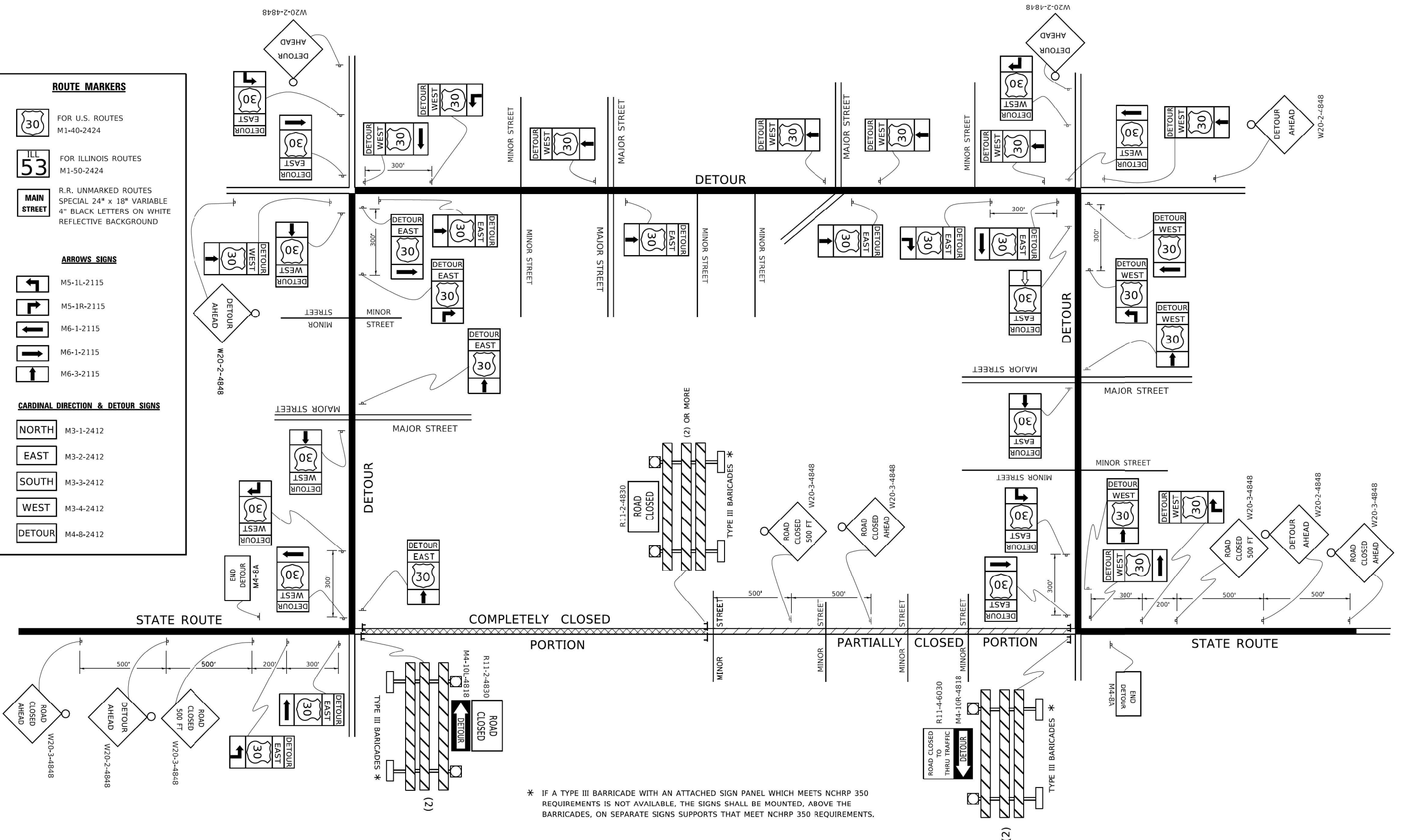
NORTH M3-1-2412

EAST M3-2-2412

SOUTH M3-3-2412

WEST M3-4-2412

DETOUR M4-8-2412



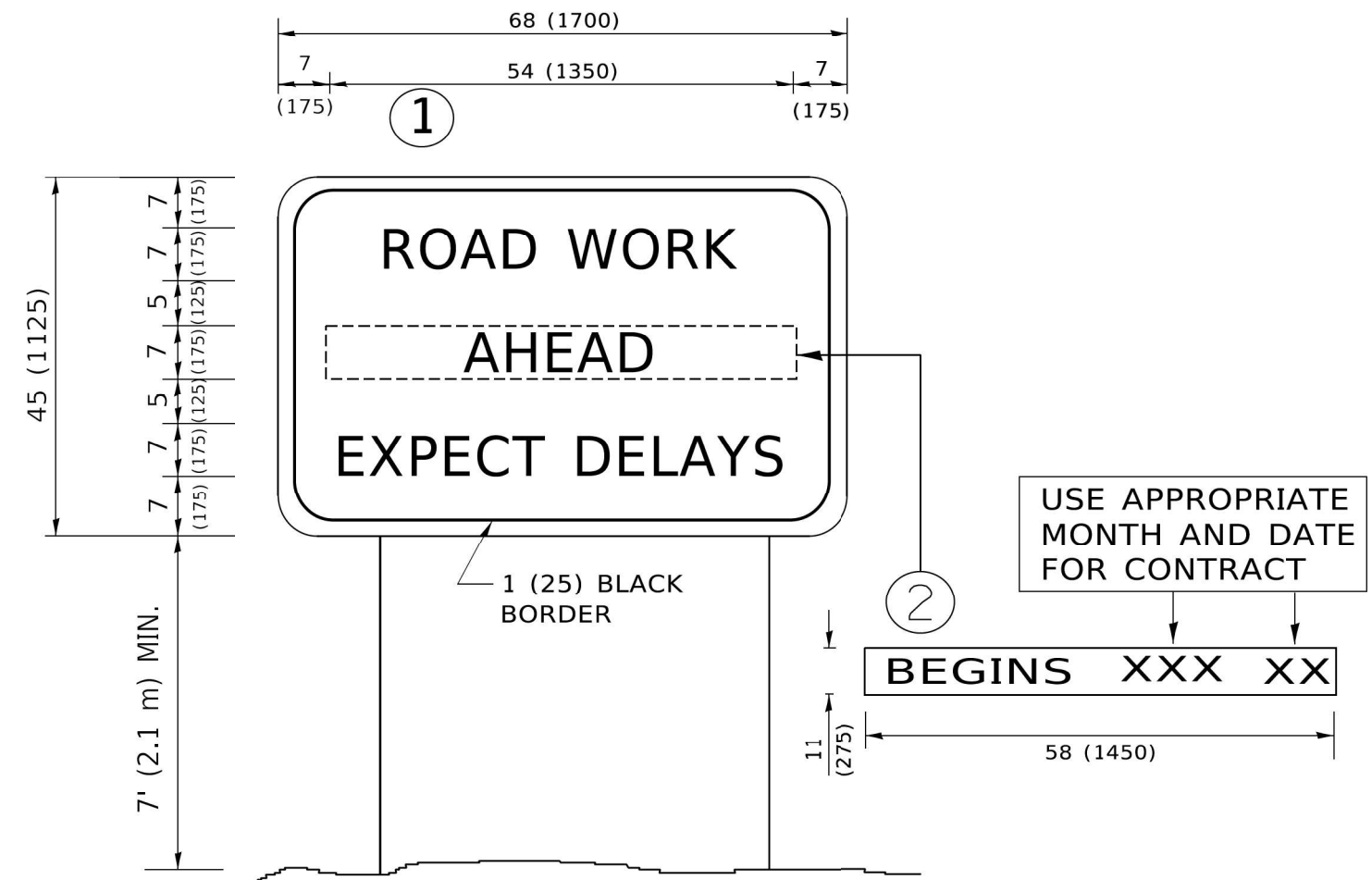
* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

USER NAME = footejm	DESIGNED -	REVISED - 10-18-02
	DRAWN -	REVISED - R. BORO 09-14-09
PLOT SCALE = 50,0000' / 1/4"	CHECKED -	REVISED -
PLOT DATE = 3/4/2019	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

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

F.A.I. RTE. 90.94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 906
TC-21		CONTRACT NO. 62K73		
ILLINOIS FED. AID PROJECT				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

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

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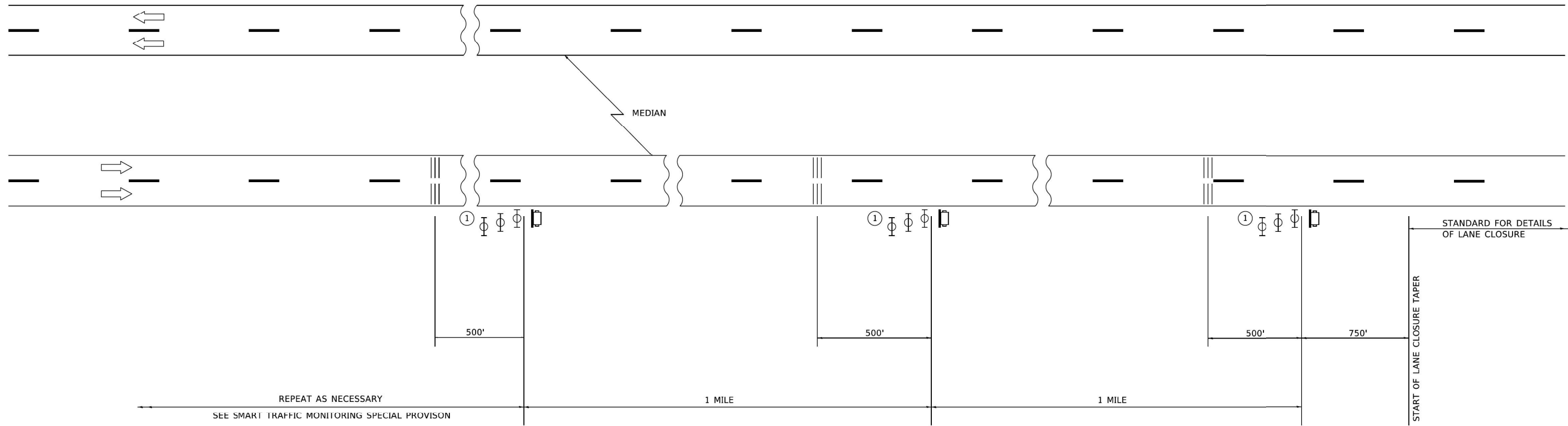
USER NAME = footemj	DESIGNED -	REVISED - R. MIRS 09-15-97
	DRAWN -	REVISED - R. MIRS 12-11-97
PLOT SCALE = 50,0000' / 1"	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




**ARTERIAL ROAD
INFORMATION SIGN**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2020-005-BR	COOK	908	907
TC-22			CONTRACT NO. 62K73	
ILLINOIS FED. AID PROJECT				



SYMBOLS

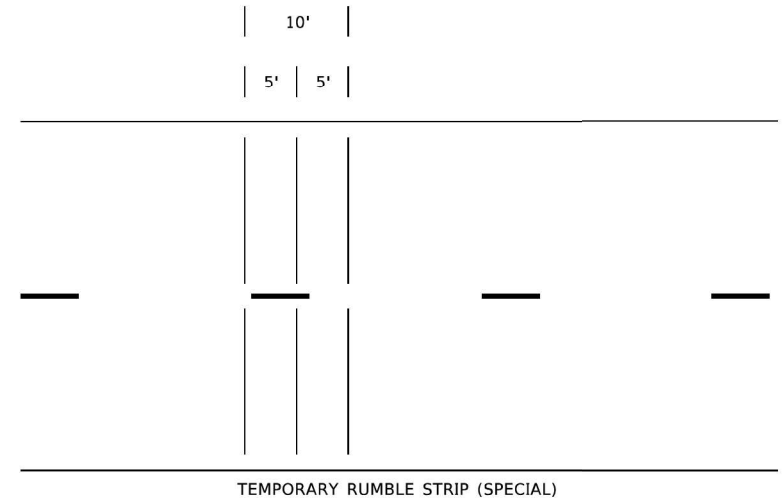
-  PORTABLE CHANGEABLE MESSAGE SIGN
-  TEMPORARY RUMBLE STRIP (SPECIAL)
-  TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES WITH MONODIRECTIONAL FLASHING LIGHT.

① THREE TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 25' (8 m) CENTERS.

GENERAL NOTE:

THIS DETAIL IS TO BE USED IN CONJUNCTION WITH SMART TRAFFIC MONITORING SYSTEM AND TEMPORARY RUMBLE STRIP (SPECIAL) SPECIAL PROVISIONS.

TRAFFIC CONTROL SHOWN IN THIS DETAIL IS TO BE PROVIDED IN ADDITION TO ANY TEMPORARY TRAFFIC CONTROL SHOWN ON STATE STANDARDS, DISTRICT DETAILS, AND MAINTENANCE OF TRAFFIC PLANS.



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USER NAME = Lawrence,DeManche	DESIGNED -	REVISED - K. SMITH 11-18-22
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 11/18/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SMART TRAFFIC MONITORING SYSTEM
TYPICAL LAYOUT**

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

F.A.I. RTE. 90.94	SECTION 2020-005-BR	COUNTY COOK	TOTAL SHEETS 908	SHEET NO. 908
TC-33		CONTRACT NO. 62K73		
ILLINOIS FED. AID PROJECT				