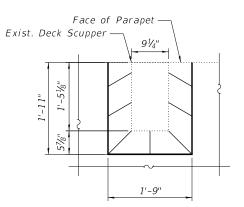


BILL OF MATERIAL

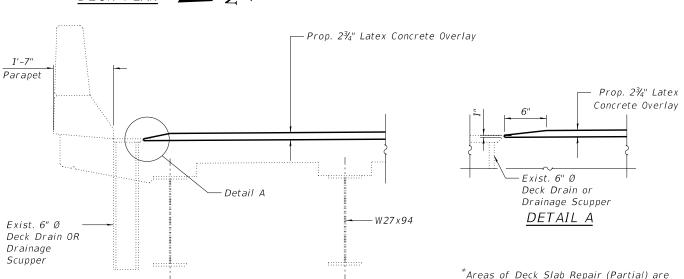
ITEM	UNIT	QUANTITY
Bridge Deck Grooving	SQ YD	664
Protective Coat	SQ YD	770
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	SQ YD	668
Bridge Deck Scarification 3/4"	SQ YD	668



TOP PLAN AT DRAINAGE SCUPPER

<u>NOTES:</u>

- 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 S4-03.
- 3. For North and South transverse joint removal and reconstruction, see Sheets S4-09 thru S4-12 .
- 4. Perform bridge deck grooving for the bridge deck latex concrete overlay and the roadway portions of the reconstructed transverse joints.
- 5. Protective coat shall be applied to top and inside face of parapets, median and the reconstructed transverse expansion joint areas.
- 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.
- 7. The Contractor shall exercise extreme caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.



*Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 2½" Face of Parapet

Exist. 6" Ø

Deck Drain

9" 9"

1'-6"

TOP PLAN AT DECK DRAIN

<u>LEGEND</u>

Deck Slab Repair (Partial Depth)

SY

Square Yard

HBM ENGINEERING GROUP, LLC

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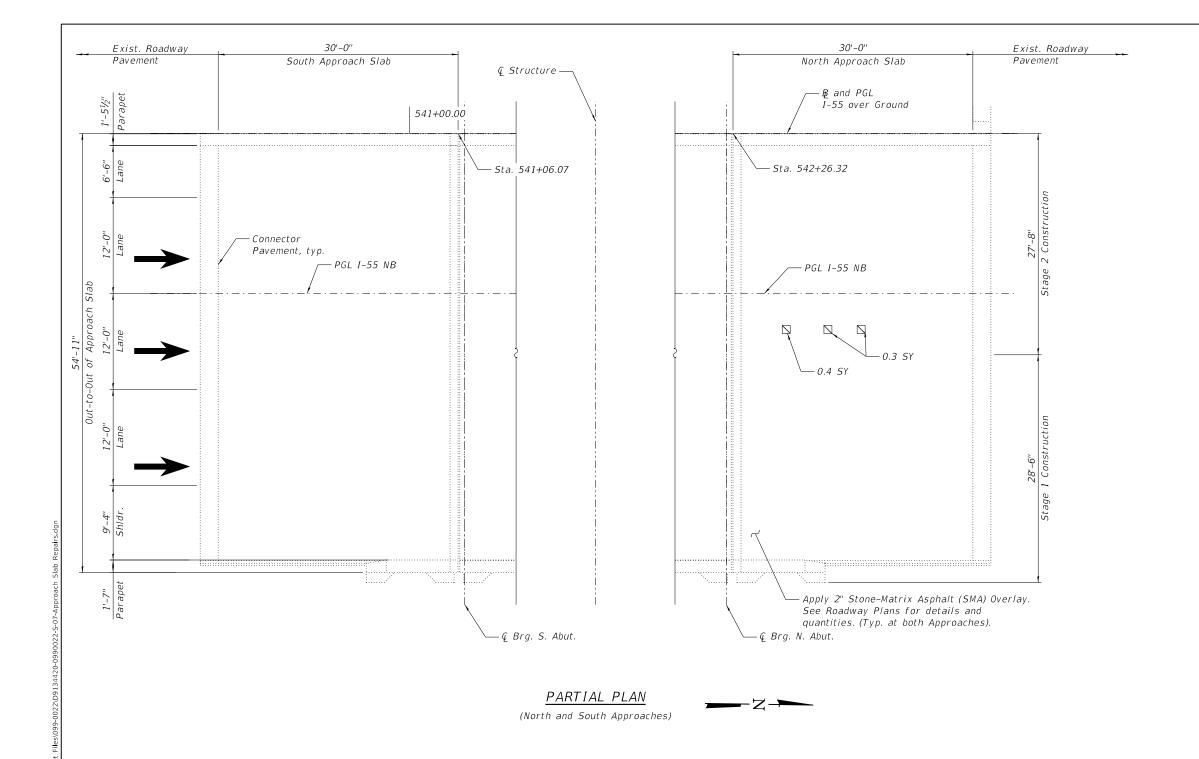
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION AT DECK DRAIN/ DRAINAGE SCUPPER

(West Parapet shown, East Parapet similar)

BRIDGE DECK REPAIRS
S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S4-06 OF S4-18 SHEETS



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Approach Slab Repair (Partial)	Sa. Yd.	1

NOTE:

1. Areas of Approach Slab Repair (Partial Depth) shown are estimated. The Engineer shall show actual location of repairs at the time of construction.

<u>LEGEND</u>

SY

Approach Slab Repair (Partial Depth)

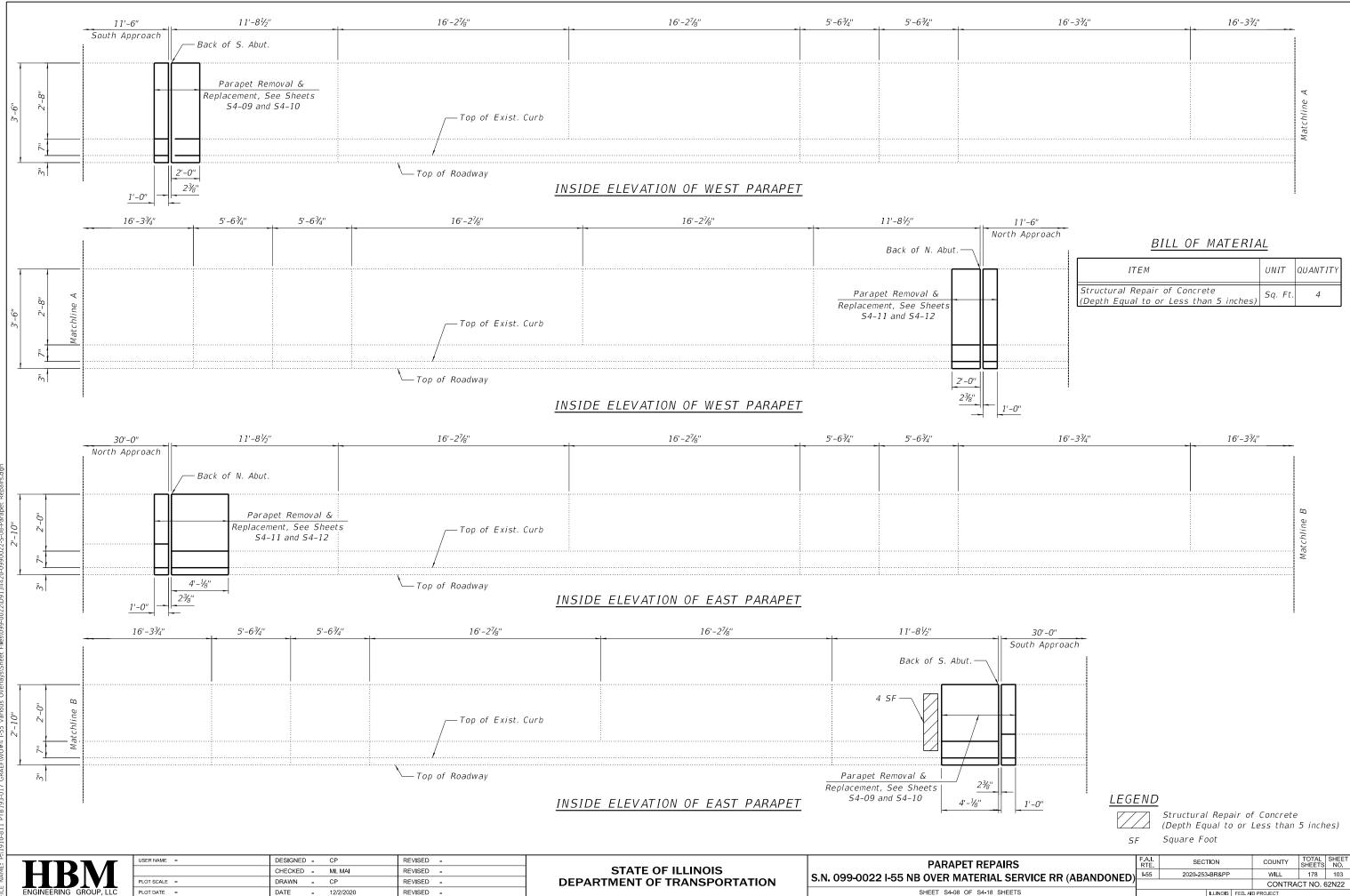
Square Yard

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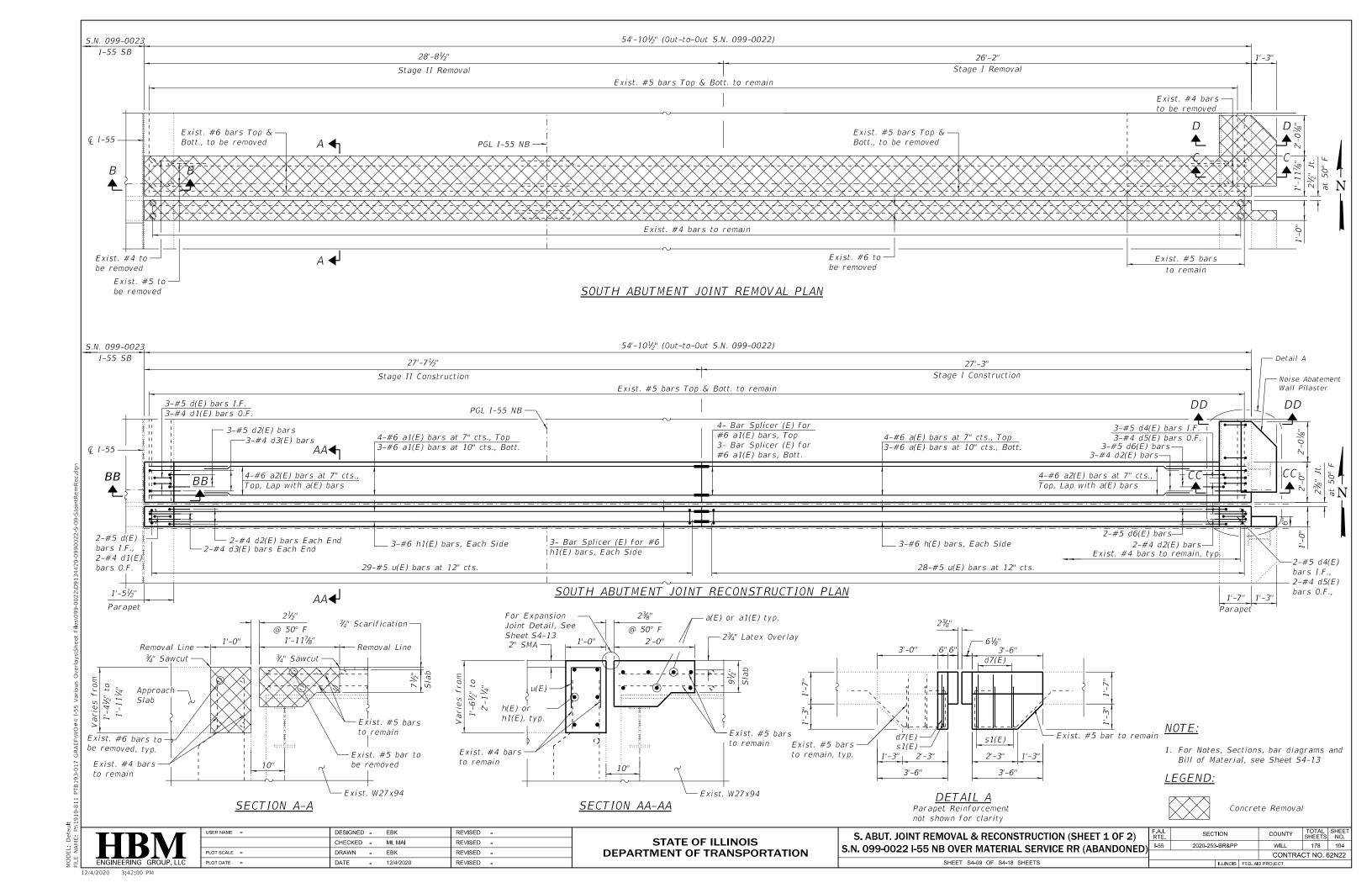
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

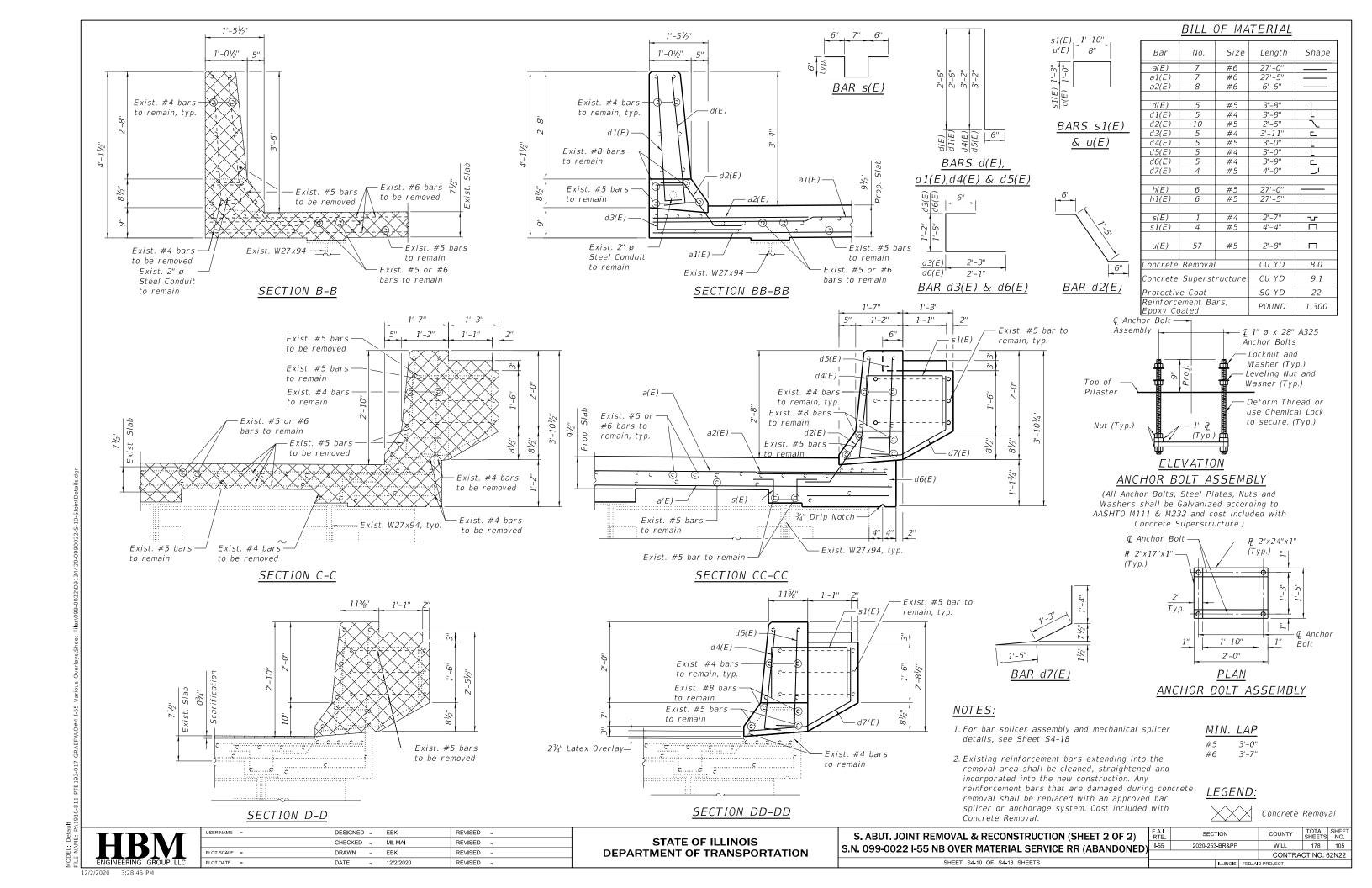
APPROACH SLAB REPAIRS S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED) 1-55 SHEET S4-07 OF S4-18 SHEETS

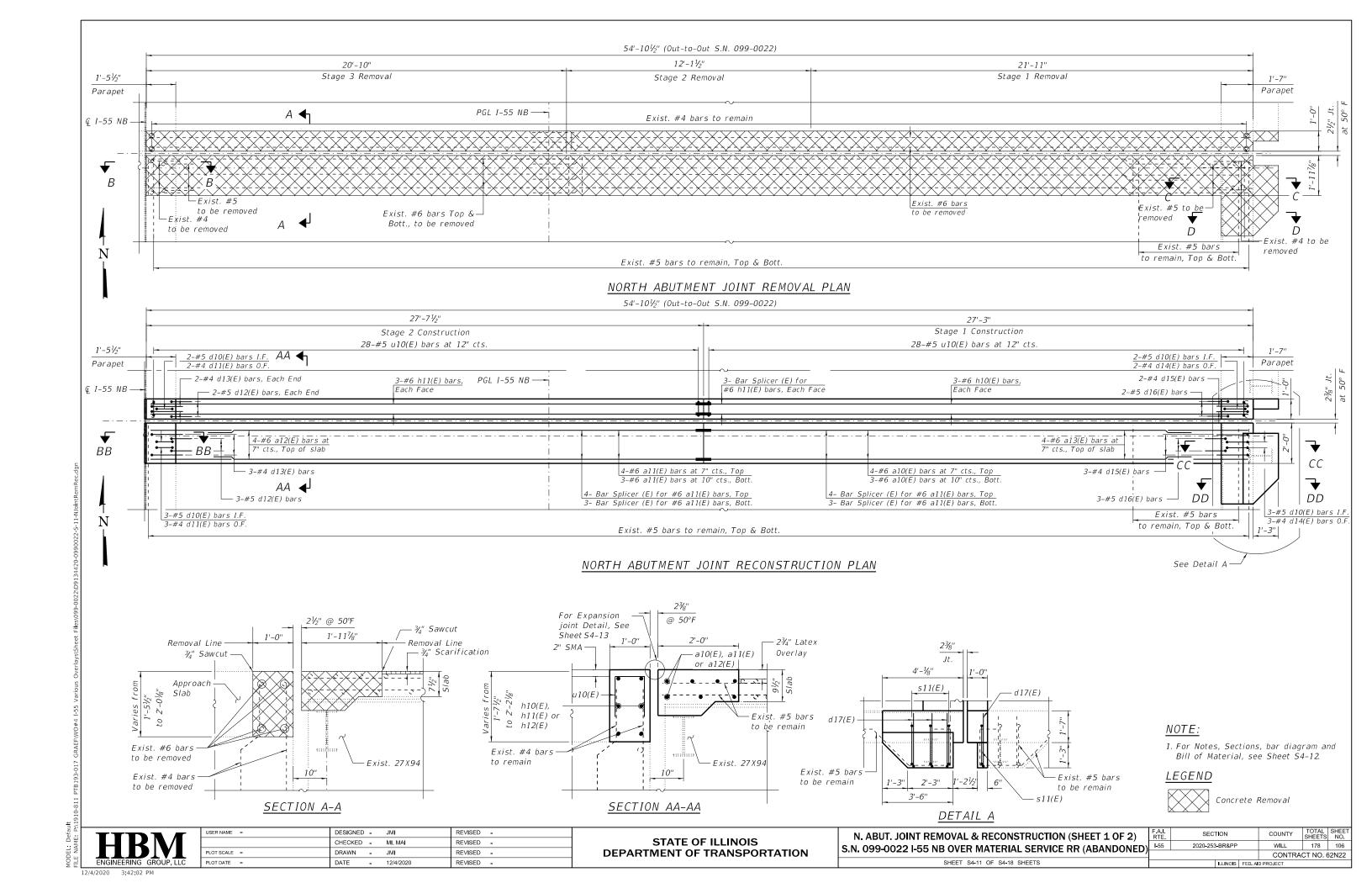
SECTION COUNTY WILL 178 102 2020-253-BR&PP CONTRACT NO. 62N22

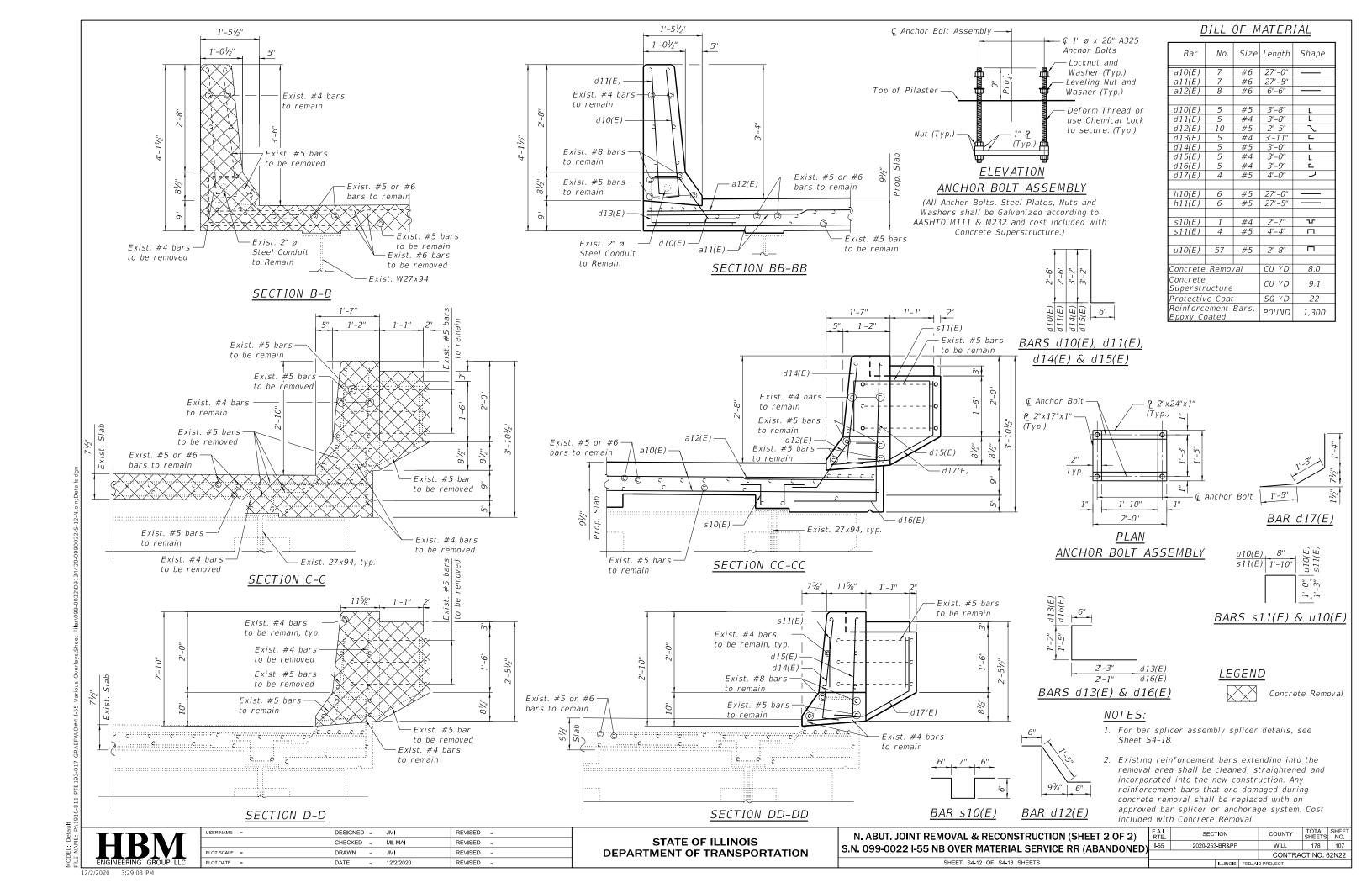


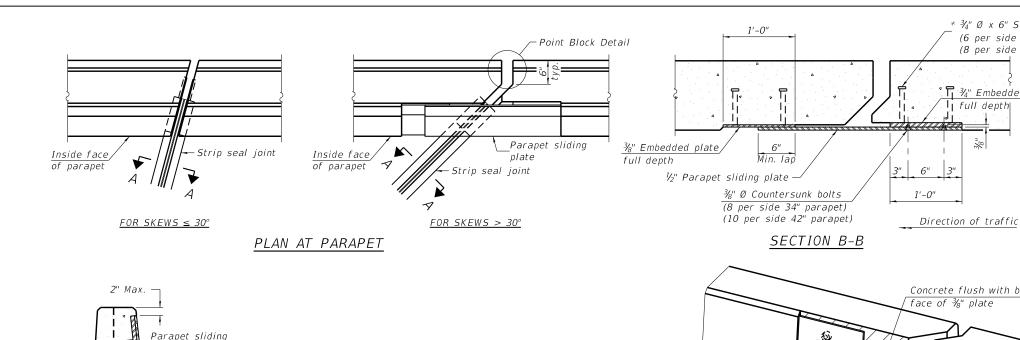
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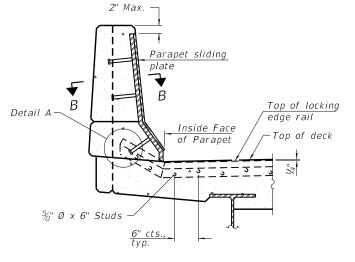






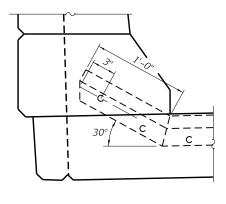




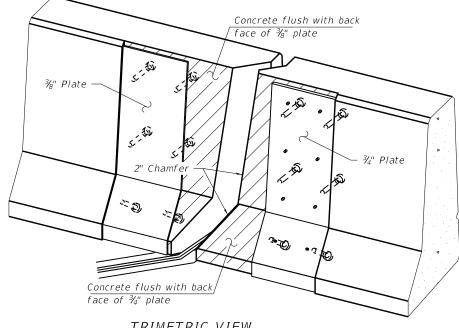


ELEVATION AT PARAPET

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



DETAIL A



* ¾" Ø x 6" Studs

ľ ြ ¾" Embedded plate

full depth

(6 per side 34" parapet)

(8 per side 42" parapet)

TRIMETRIC VIEW (Showing embedded plates only)

Locking edge railat 50° F Top of concrete Strip seal at 50° F

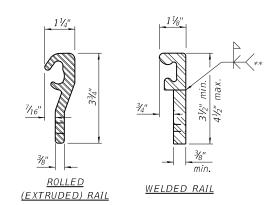
SHOWING ROLLED RAIL JOINT

Locking edge railat 50° F Top of concrete -Strip seal * $\frac{1}{8}$ " Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs) $\frac{3}{6}$ " ϕ threaded rods in $\frac{7}{6}$ " ϕ holes at ± 4 '-0" cts.

for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

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

SHOWING WELDED RAIL JOINT



penetration is verified by mock-up.

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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation. The manufacturer's recommended installation methods shall be followed.

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". The configuration of the strip

are not permitted. The gland shall be sized for a maximum

The locking edge rails depicted are configured for typical

applications and are conceptual only. The actual configuration

seal shall match the configuration of the locking edge

rated movement of 4 inches.

rails. Open or "webbed" strip seal gland configurations

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

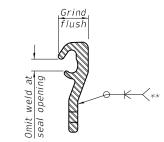
The Maximum space between locking edge rail segments shall be $\frac{3}{6}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

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.

LOCKING EDGE RAILS

** Back gouge not required if complete joint



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	110

EJ-SS 8-11-17

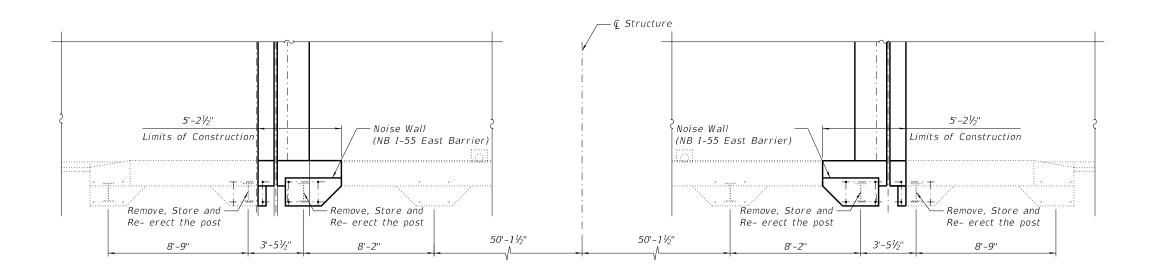


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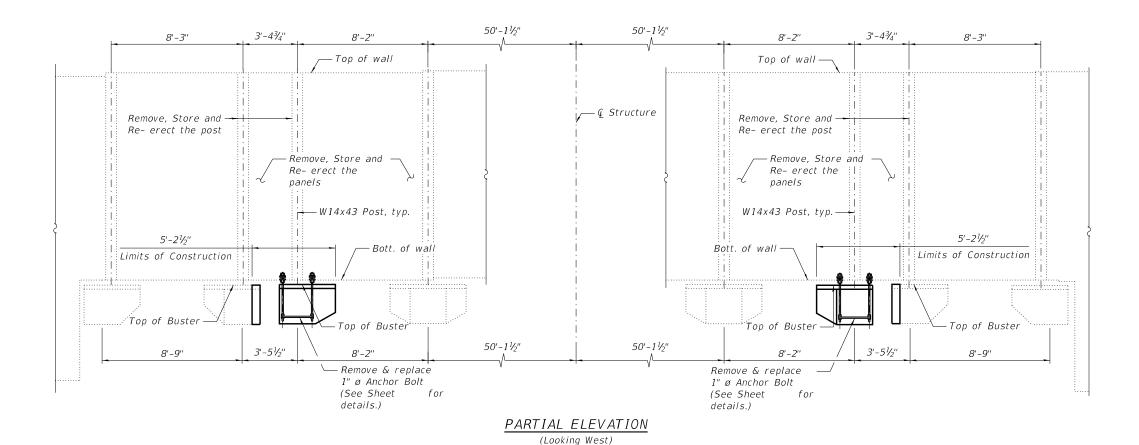
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S4-13 OF S4-18 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
I- 55	2020-253-BR&PP		WILL	178	108
			CONTRA	CT NO. 6	32N22
	II I INOIS	EED A	D PPO IECT		



PARTIAL PLAN



NOTE:

NOISE WALL REMOVAL &

REERECTION SEQUENCE:

1. Remove existing 1" ø anchor bolts.

ITEM

Noise Abatement Wall Panel

Removal and Re-erection

anchor bolts.

2. Remove and store Noise Wall Panels, Noise Abatement Wall Post and Pilaster.

4. Install stored Noise Wall Panels as shown.

3. After reconstructing the barrier, re-erect Pilaster,

and Noise Abatement Wall Post using new 1" ø

BILL OF MATERIAL

UNIT QUANTITY

Each

1. Verify all elevations in the field.

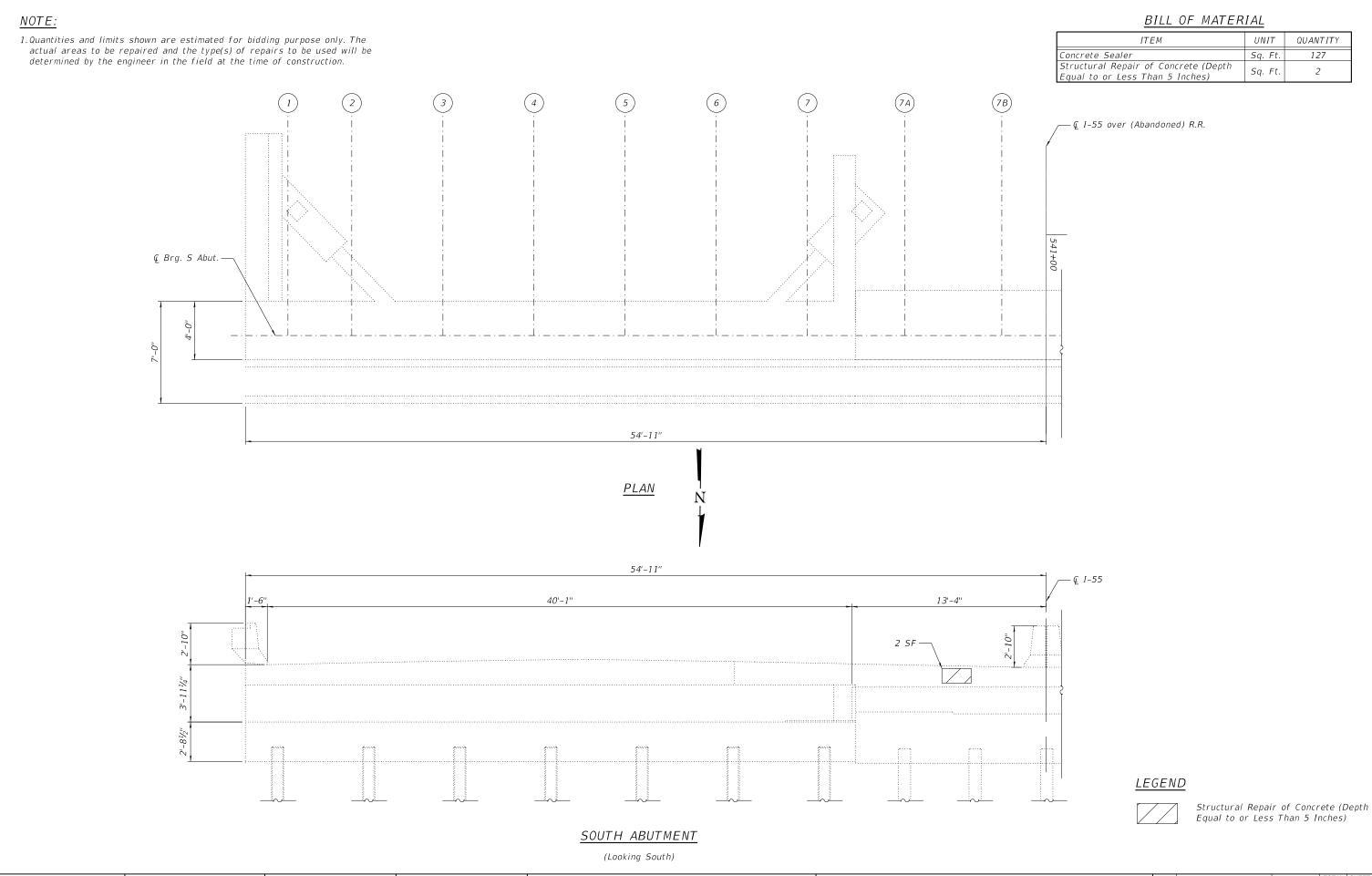
HBM ENGINEERING GROUP, LLC

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ays\Sheet Files\099-0022\D9134420-0990022-5-13-Noise Wall Details.dgn

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

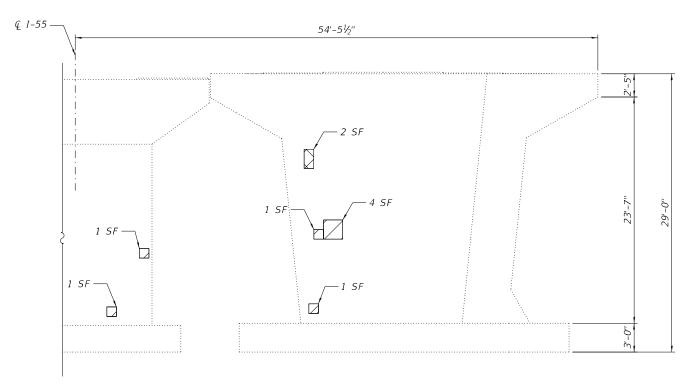
SOUTH ABUTMENT REPAIRS S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S4-15 OF S4-18 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
I-55	2020-253-BR&PP		WILL	178	110
			CONTRA	CT NO. 6	32N22
	ILLINOIS	FED. AL	D PROJECT		

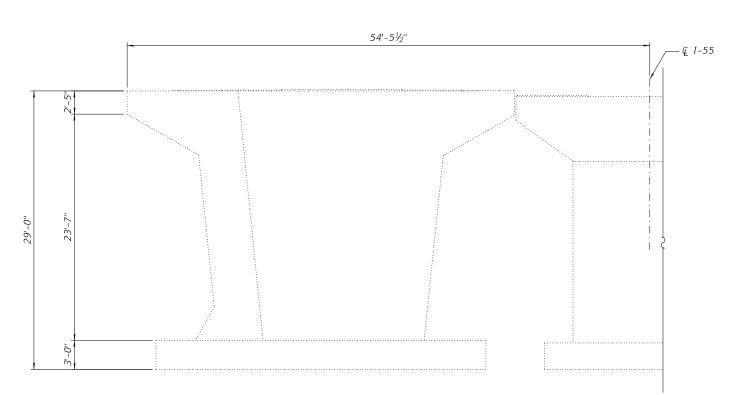
QUANTITY

NOTE:

1. Quantities and limits shown are estimated for bidding purpose 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.



PIER 1 ELEVATION
(Looking North)

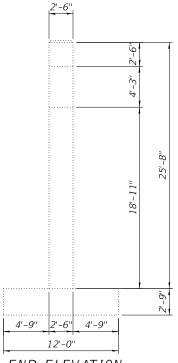


PIER 1 ELEVATION

(Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	10



END ELEVATION (Looking West)

LEGEND

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

F.

Square Feet

HBM ENGINEERING GROUP, LLC

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIRS
S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S4-16 OF S4-18 SHEETS

BILL OF MATERIAL UNIT QUANTITY 127 Concrete Sealer Sq. Ft. Structural Repair of Concrete (Depth Sq. Ft. 2 Equal to or Less Than 5 Inches) ℚ I-55 over (Abandoned) R.R.— — Ç N. Abut. 54'-11" PLAN <u>NOTE:</u> 1. Quantities and limits shown are estimated for bidding purpose only. The actual areas to be repaired and the type(s) of repairs to be used 54'-11" will be determined by the engineer in the field at the time of construction. 53'-5" .1'-6" 11" LEGEND: Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches) NORTH ABUTMENT (Looking North) Square Feet JSER NAME = DESIGNED - EBK REVISED -SECTION COUNTY

ENGINEERING GROUP, LLC

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT REPAIRS

S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S4-17 OF S4-18 SHEETS

AI. SECTION COUNTY TOTAL SHEETS NO.
1-55 2020-253-BR&PP WILL 178 112
CONTRACT NO. 62N22

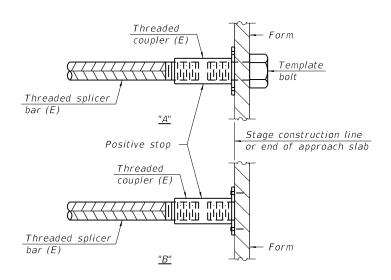
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

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

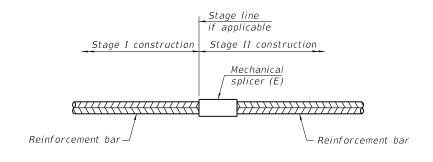
Location	Bar size	No. assemblies required	Minimum Iap length
South Abutment	#6	13	4'-10"
North Abutment	#6	13	4'-10"



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

HBM ENGINEERING GROUP LIC 1-1-2020

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
S.N. 099-0022 I-55 NB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S4-18 OF S4-18 SHEETS

Existing Structure: The existing Structure No. 099-0016 (SB bridge) and Structure No. 099-0017 (NB bridge) F.A.I.-55 were built in 1955 as F.A. Route 34 - Project IN-187(9), Section 27HB, widened in 1977 as U.S. 30 - $Project\ I-55-6\ I-55-6\ (123)246\ Section\ (99-1&2)R-5$. In 1994, the concrete deck was scarified V_4'' and resurfaced and the superstructure was rehabilitated as F.A.I. Route 55 (Stevenson Expressway) Section 27HB-BR(89). As part of project F.A.I. Route 55 Section 2006-032, the SCOPE OF WORK superstructures and substructures were widened to the inside in 2007 and a new 7½" concrete deck was constructed. The structures are 4-span continuous non-Scarify 3/4" from the bridge deck slab. composite wide flange beam bridges with a 71/3" concrete deck, 54'-111/3" out to out of structure and 191'-0" Back-to-Back Abutments. Perform Deck Slab and Approach Slab repairs as required. Traffic will be maintained utilizing staged construction. 191'-0" Back to Back Abutments No salvage. Remove and Reconstruct Expansion Joints at North and South 186'-10" € to € Brg. Abutments and install new preformed joint strip seals. 39'-9" 53'-8" 53'-8" 39'-9" 2'-1" Apply a 2¾" Bridge Deck Latex Concrete Overlay and Protective Span 1 Span 2 Span 3 Span 4 Reconstruct — Expansion Joint -Exist. Traffic Barrier Terminal Coat on Bridge Deck and 2" Stone-Matrix Asphalt (SMA) Overlay Limits of Protective Shield @ Pier 1 © Pier 3 Reconstruct on the Approach Slabs. Expansion Joint 🛛 Brg. S. Abut. Perform Bridge Deck Grooving. W27 or W30 (Composite) SB EB US 30 Apply Protective Coat to the top and inside faces of parapets, CI. Q WB US 30 12 (V.H) 2'-6" 6'-3" reconstructed transverse expansion joints and to the surface Rt. LS of the new overlay. to face of Pier 16'-2" 16'-2" at Rt. Ls. at Rt. Ls. Perform Structural Concrete repairs to the Abutments and Piers Perform Structural as noted in the plans. Perform Structural Perform Structural Repair of Concrete Perform Structural face of Perform Structural Repair of Concrete Repair of Concrete at South Abutment Existing name plate to be removed, cleaned and re-installed at Pier at Rt. Ls. Repair of Concrete Repair of Concrete at Pier 3 at North Abutment the same location. Cost included with Concrete Removal. at Pier 1 at Pier 2 - Steel H Piles w/ Metal Shoes, typ ELEVATION -MCI 48 FCC in 2" Conduit Perform ¾" Bridge Deck Scarification, and Apply 23/4" Bridge Deck Latex LICENSED STRUCTURAL ENGINEER Concrete Overlay, to all roadway portions of deck 20'-0' except reconstruction expansion joint areas. US 30 Perform Partial-Depth DATE SIGNED: Bridge Deck Slab Repairs EXP. DATE: 11/30/2022 `WB Lanes Perform Bridge Deck Grooving to all roadway portions of deck Remove and Reconstruct SHEETS S1-01 THRU S1-15 Exist. DS-11 Scupper, typ. Expansion Joints Existing Name plate to be removed and re-installed (typ. at both at the same location Abut. Joints) Exist. Guardrail 1.1 \11'-4''_|8'-4''_|8'-4'' 8'-4" 8'-4" 11'-4" Range 9 E, 3rd P.M. Br \angle Stage Construction -Line © Pier 3 Sta. 419+68.82 <u>Stations</u> Increase PGL I-55 SB 111/2" Pier 1 © Pier 2 M Sta. 418+58.05 Sta. 419+12.15 Structure -11'-4" 8'-4" 8'-4" -4" 8'-4" 11'-4 Location Sta. 418+18.75 – **€** 1" Open Jt. *− Q 1-55* 420+00 Seal, 2½" LOCATION SKETCH ⊊ Brg. N. Abut. . Back S. Abut. -Sta. 418+16.67 Back N. Abut Sta. 420+07.2 Sta 420+05 13 53'-8" Spa<u>n 2</u> 39'-9" Span 4 39'-9" Span 1 53'-8" Span 3 2'-1" 191'-0" Back-to-Back Abutments 30'-0" 30'-0" GENERAL PLAN AND ELEVATION Perform Approach Slab Repairs SB I-55 OVER US ROUTE 30 and apply 2" Stone-Matrix Asphalth (SMA) F.A.I. 55 SEC 2020-253-BR&PP Overlay, typ. Both Ends. For SMA Items, See Roadway Plans. WILL COUNTY STATION: 419+12.15 PLAN STRUCTURE NO. 099-0016

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

SECTION

2020-253-BR&PP

55

SN 099-0016 SB I-55 OVER US ROUTE 30

SHEET S5-01 OF S5-15 SHEETS

COUNTY

WILL 178 114

CONTRACT NO. 62N22

JSER NAME =

PLOT DATE =

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GENERAL NOTES

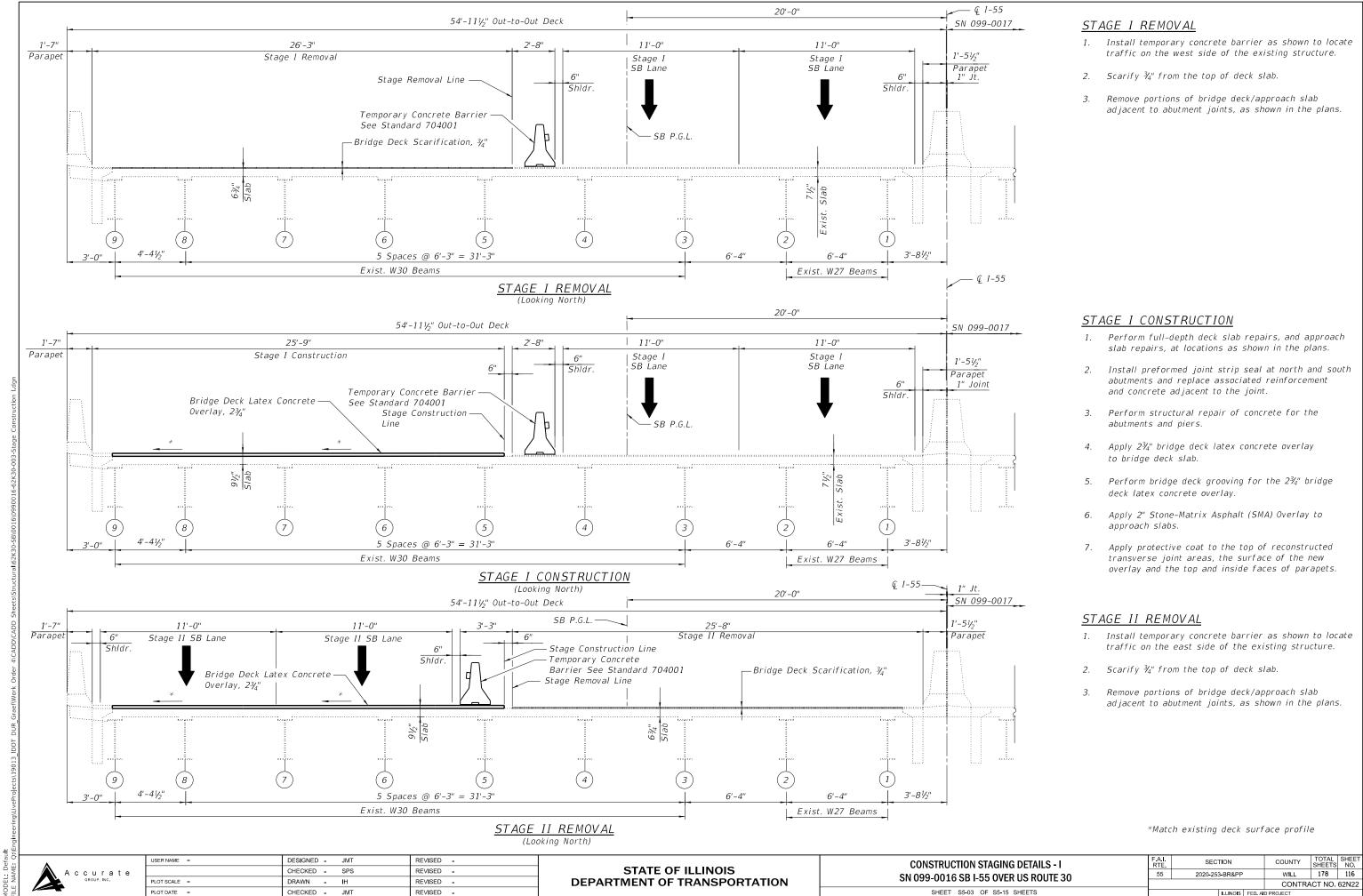
- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Deck slab repairs, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces 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.
- 3. 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.
- 4. Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than 50° F.
- 5. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- 6. All exposed concrete edges shall have a ¾" chamfer, except where shown otherwise
- 7. During repair operations, the Contractor shall locate and protect all utilities in the vicinity of the work including, but not limited to, fiber optic and/or electrical conduits, conduits under the bridge deck, under-deck lighting, traffic signals or signs attached to the structure. This work shall be performed to the satisfaction of the Engineer and will not be paid for separately, but shall be included with the contract. It shall be the Contractor's responsibility to restore and replace any damaged utilities or facilities to the satisfaction of the Engineer at no cost to the Department.
- 8. Expansion joints shall be fabricated to conform to the existing cross slopes of the bridge.
- 9. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new overlay.
- 10. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- 11. 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.

INDEX OF SHEETS

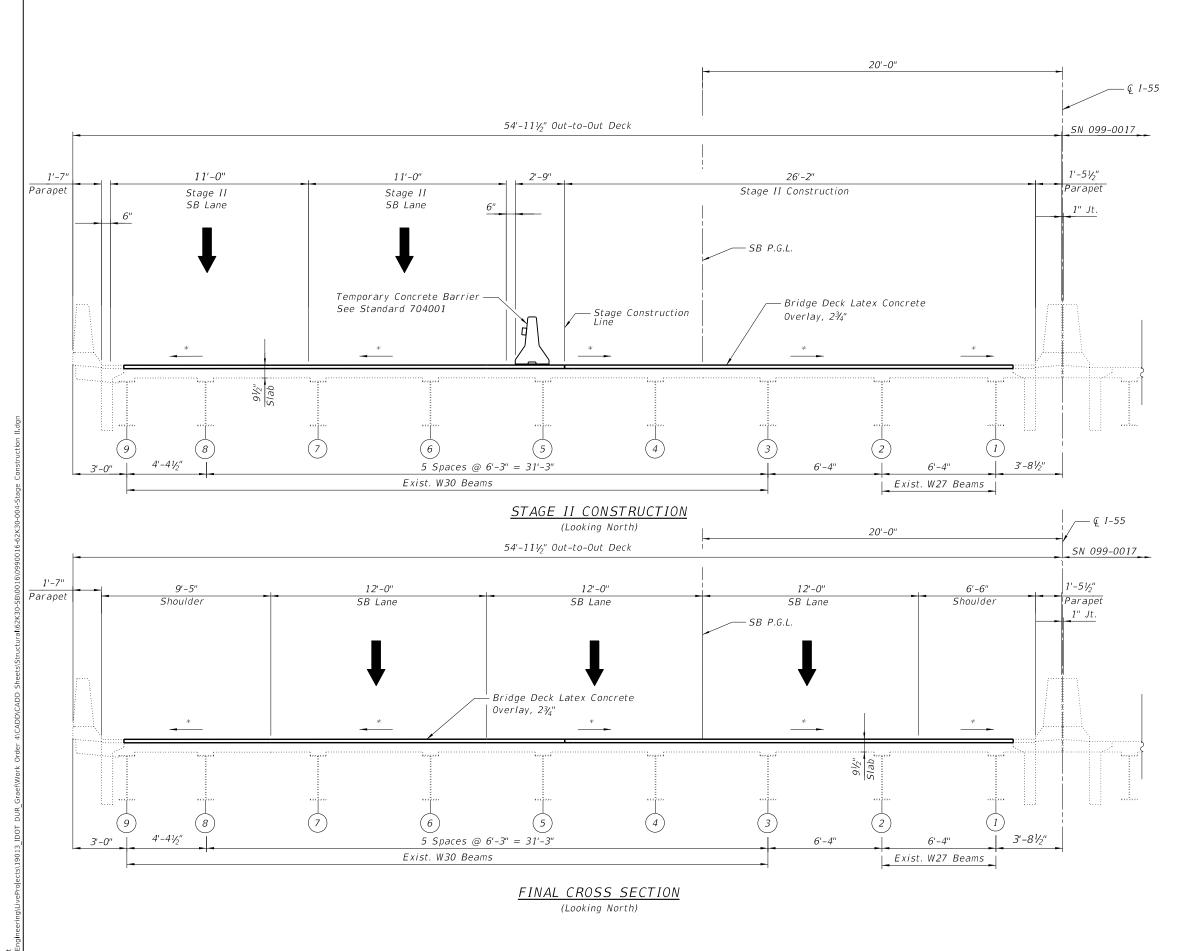
S5-01	General Plan and Elevation
<i>S5-02</i>	General Notes, Total Bill of Materials, & Index of Sheets
S5-03-S5-04	Construction Staging Details
S5-05	Temporary Concrete Barrier for Stage Construction
<i>55-06</i>	Bridge Deck Repairs
<i>S5-07</i>	Parapet Repairs
<i>S5-08</i>	Expanion Joint Removal and Construction
55-09	Expanion Joint Details
S5-10	Preformed Joint Strip Seal
S5-11	Pier 1 Repairs
55-12	Pier 2 Repairs
S5-13	Pier 3 Repairs
S5-14	North and South Abutment Repairs
S5-15	Bar Splicer Assembly and Mechanical Splicer Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	16.2		16.2
Protective Shield	Sq Yd	656		656
Concrete Superstructure	Cu Yd	17.9		17.9
Bridge Deck Grooving	Sq Yd	1092		1092
Protective Coat	Sq Yd	1457		1457
Reinforcement Bars, Epoxy Coated	Pound	2220		2220
Bar Splicers	Each	24		24
Preformed Joint Seal 2½"	Foot	249		249
Preformed Joint Strip Seal	Foot	115		115
Concrete Sealer	Sq Ft		333	333
Approach Slab Repair (Partial Depth)	Sq Yd	1		1
Bridge Deck Latex Concrete Overlay, 2¾"	Sq Yd	1108		1108
Bridge Deck Scarification ¾"	Sq Yd	1108		1108
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft	5.5	52.5	58



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STAGE II CONSTRUCTION

- 1. Perform full-depth deck slab repairs, and approach slab repairs, at locations as shown in the plans.
- 2. Install preformed joint strip seal at north and south abutments and replace associated reinforcement and concrete adjacent to the joint.
- 3. Perform structural repair of concrete for the abutments and piers.
- . Apply 2¾" bridge deck latex concrete overlay to bridge deck slab.
- Perform bridge deck grooving for the 2¾" bridge deck latex concrete overlay.
- Apply 2" Stone-Matrix Asphalt (SMA) Overlay to approach slabs.
- 7. Apply protective coat to the top of reconstructed transverse joint areas, the surface of the new overlay and the top and inside faces of parapets.
- Apply permanent pavement markings on top of deck and approach slabs.

*Match existing deck surface profile

Accurate GROUP, INC.

 USER NAME
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING DETAILS - II SN 099-0016 SB I-55 OVER US ROUTE 30 SHEET S5-04 OF S5-15 SHEETS



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".

← Stage removal line ← Stage removal line 1'-101/5" 1'-101/5" Temporary Concrete Barrier See Standard 704001 6" min. min. Drill 3-11/4" 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

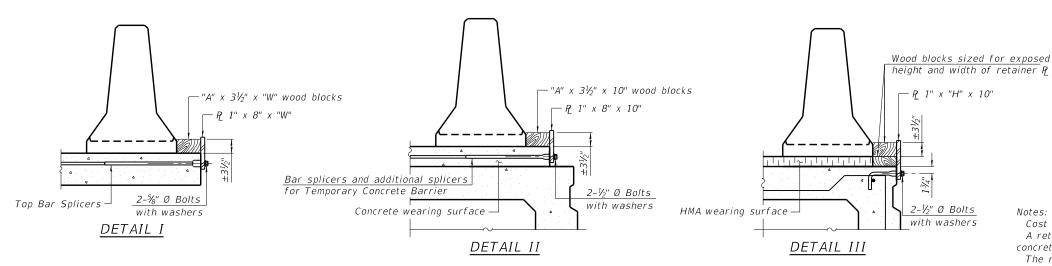
* When hot-mix asphalt wearng surface is present, embedment shall be 3" plus the wearing surface depth.

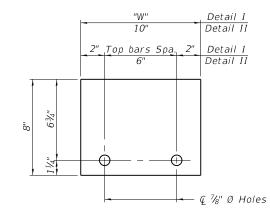
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

is required when "A" is greater than 3'-1".

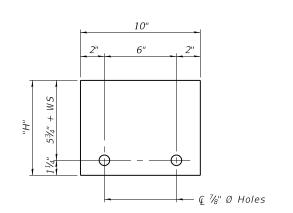
EXISTING SLAB



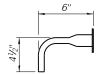


STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)



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



RESTRAINING PIN

BAR SPLICER FOR #4 BAR - DETAIL III

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate \cline{Q} of each temporary

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 $1\frac{1}{2}$ ", 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.

US Std. 11/16" I.D. x 21/2" O.D. x approx. 8 guage thick washer

- 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.

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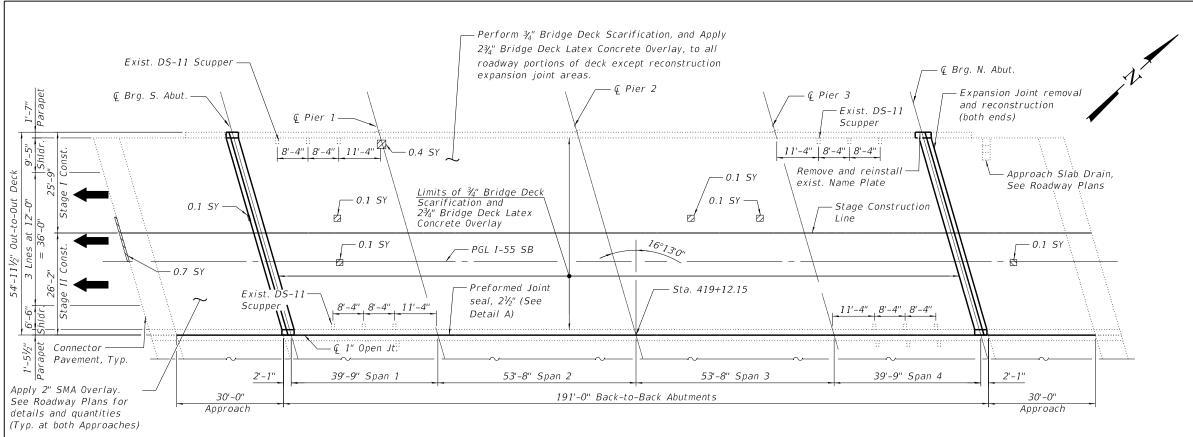
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION SN 099-0016 SB I-55 OVER US ROUTE 30

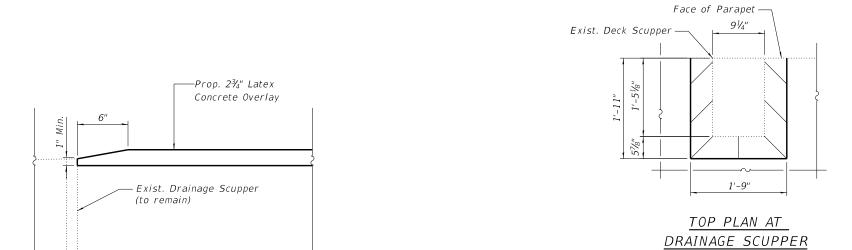
COUNTY WILL 178 118 2020-253-BR&PP CONTRACT NO. 62N22

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SHEET S5-05 OF S5-15 SHEETS



PLAN



DRAINAGE SCUPPER DETAIL

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LEGEND

Deck Slab Repair (Partial) *

> Approach Slab Repair (Partial Depth)

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

Y Square Yards

<u>NOTES:</u>

- 1. Deck and approach slab repair areas are estimated based on visual inspection and will be paid for as specified in the Special Provision. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans. Engineer shall sound deck after deck scarification.
- Protective Coat shall be applied to the bridge overlay and front and top faces of the new and existing parapets.
- 3. All dimensions are perpendicular to Ç I-55 Bridge Deck
- 4. Protective Shield shall be placed over traffic lanes for US 30.
- 5. For bridge deck final cross section, see Sheet S5–04.
- . For North and South Transverse Joint Removal and Reconstruction, see Sheets S5-08 and S5-09.
- Perform Bridge Deck Grooving for the Bridge Deck Latex Concrete Overlay and the roadway portions of the Reconstructed Transverse Joints.
- Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- 9. 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.
- 10. See Sheet S5-07 of S5-15 for Detail A.

BILL OF MATERIAL

DILL OF MATERIAL			
ITEM	UNIT	QUANTITY	
Approach Slab Repair (Partial Depth)	Sq. Yd.	1	
Protective Coat	Sq. Yd.	1457	
Bridge Deck Grooving	Sq. Yd.	1092	
Bridge Deck Latex	Sq. Yd.	1108	
Concrete Overlay, 2¾"	34. Tu.	1100	
Bridge Deck Scarification, ¾"	Sq. Yd.	1108	
Protective Shield	Sq. Yd.	656	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

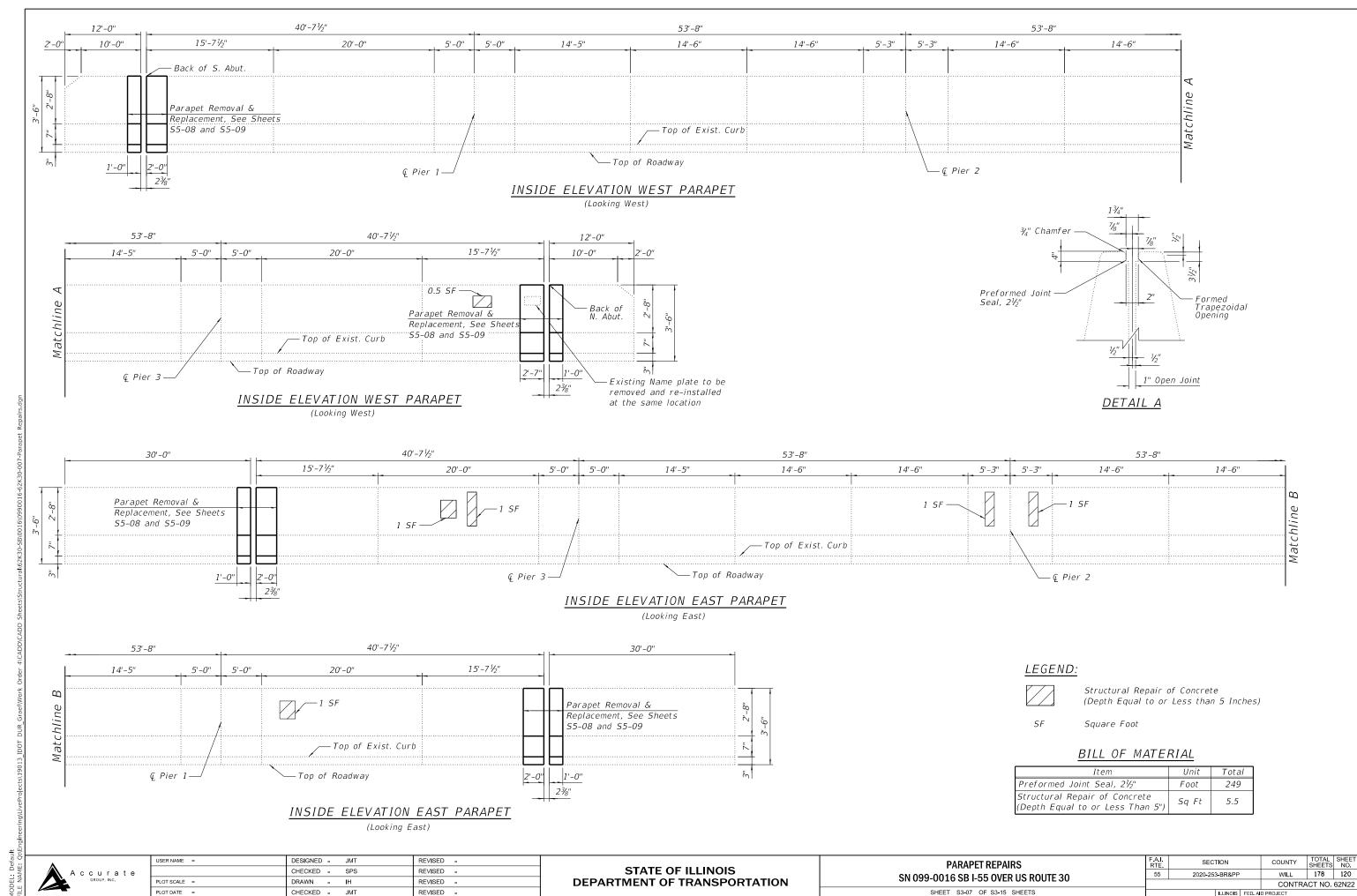
*Areas of Deck Slab Repair (Partial)

are provided for information only and

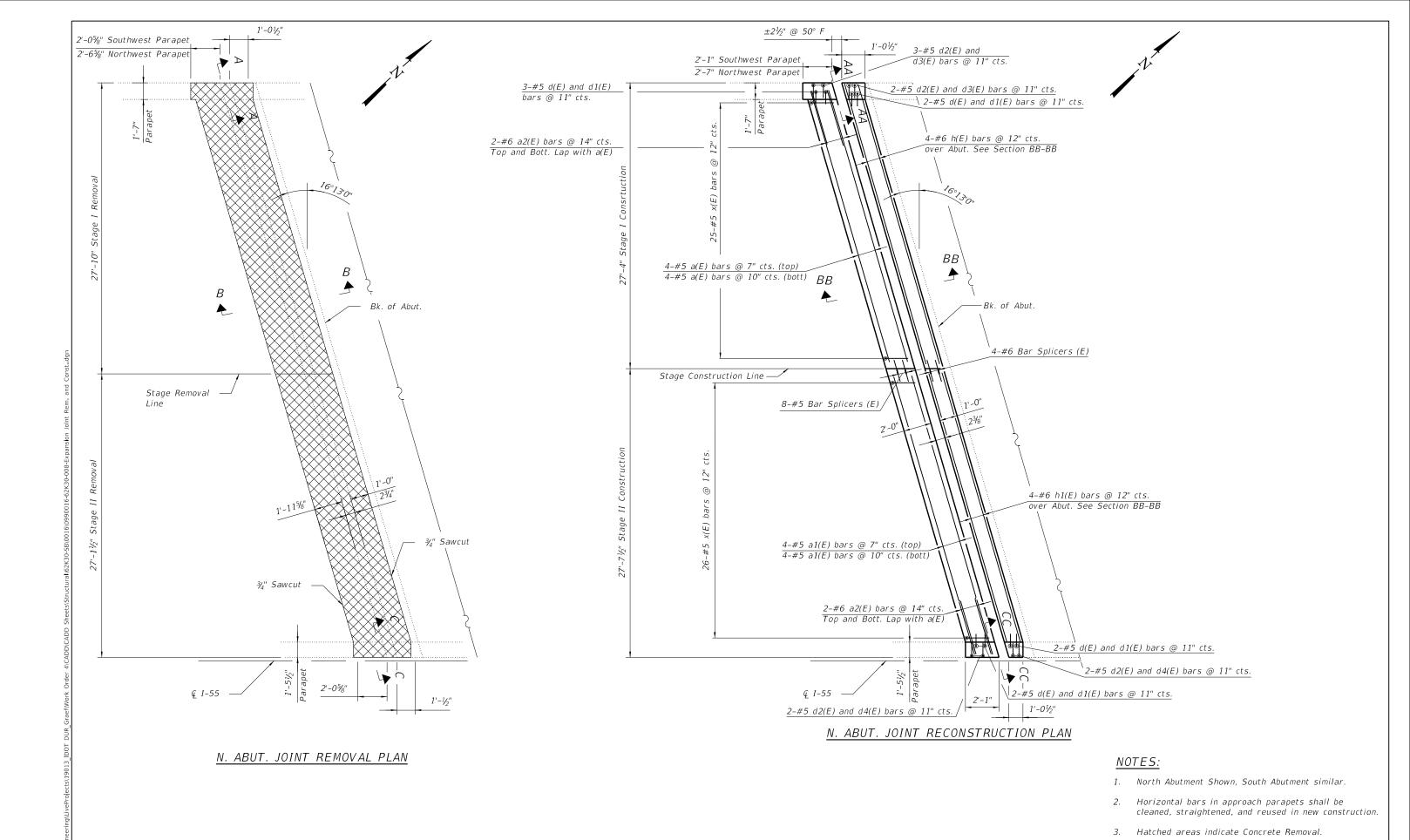
shall be included in the cost of Bridge Deck Latex Concrete Overlay, 2¾"

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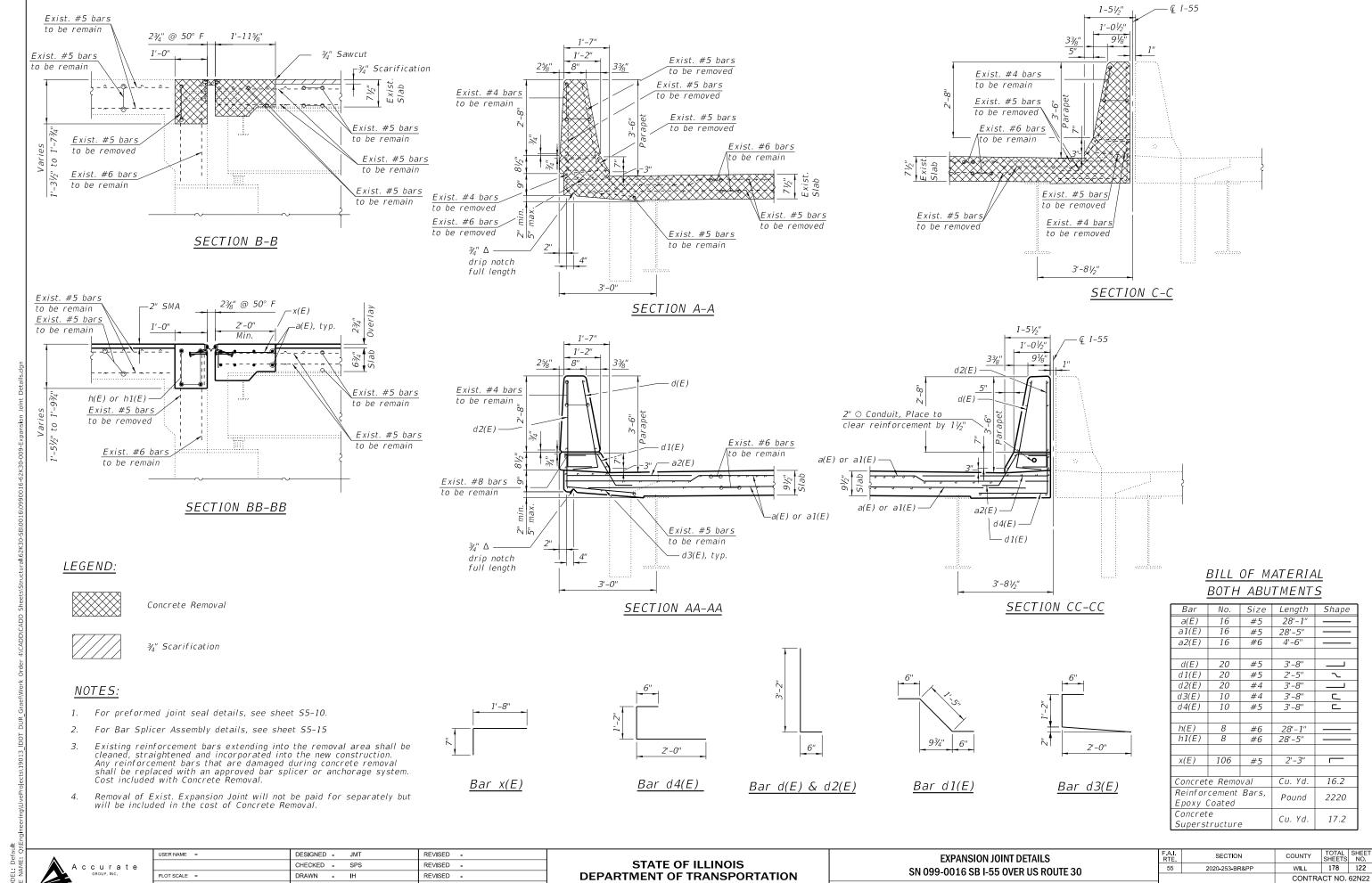
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REMOVAL AND CONSTRUCTION SN 099-0016 SB I-55 OVER US ROUTE 30

SHEET \$5-08 OF \$5-15 SHEETS



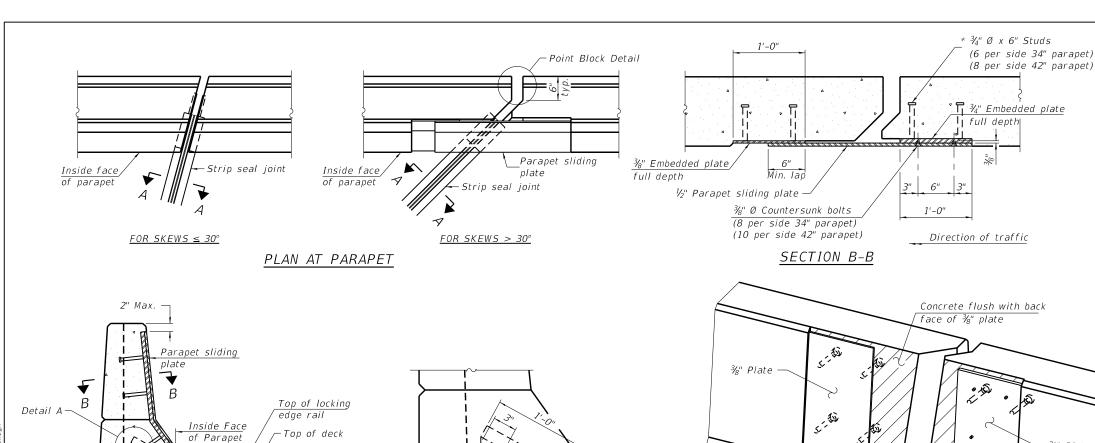
SHEET S5-09 OF S5-15 SHEETS

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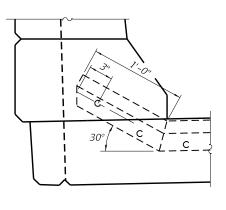
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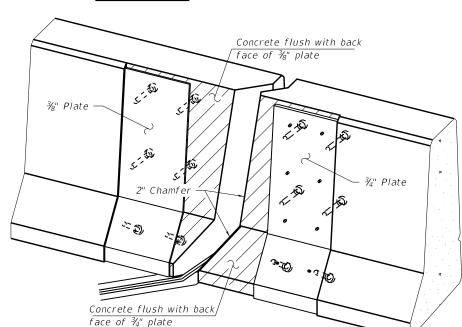


ELEVATION AT PARAPET

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



DETAIL A



TRIMETRIC VIEW (Showing embedded plates only)

Locking edge rail at 50° F Top of concrete at 50° F

SHOWING ROLLED RAIL JOINT

Locking edge railat 50° F Top of concrete -Strip seal * $\frac{1}{8}$ " Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs) $\frac{3}{6}$ " ϕ threaded rods in $\frac{7}{6}$ " ϕ holes at ± 4 '-0" cts.

for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed

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

off flush with the plates after concrete is set.

SHOWING WELDED RAIL JOINT

<u>ROLLED</u>



LOCKING EDGE RAILS

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

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 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

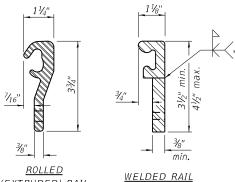
The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 34" F-shape barrier shown, 42" F-shape similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



LOCKING EDGE RAIL SPLICE

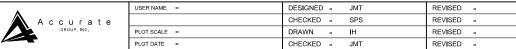
The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	115

EJ-SS 8-11-17

½" Ø x 6" Studs



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL SN 099-0016 SB I-55 OVER US ROUTE 30

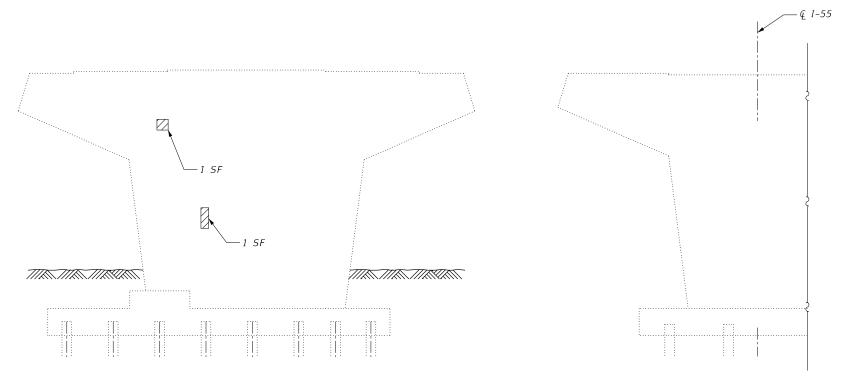
F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
55	2020-253-BR&PP		WILL	178	123
			CONTRA	CT NO.	62N22
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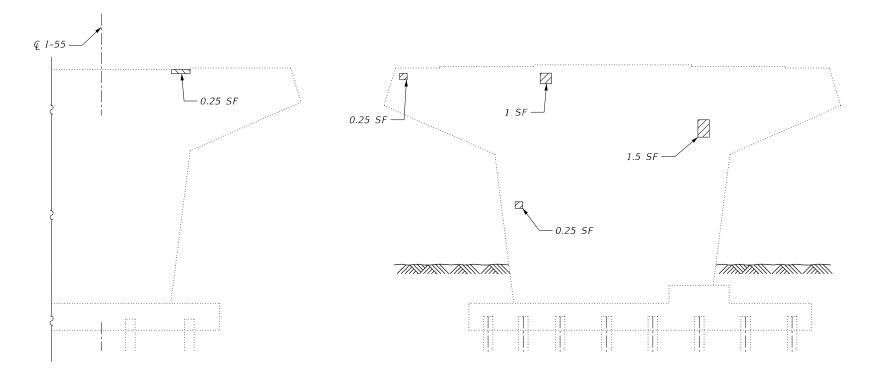
SHEET S5-10 OF S5-15 SHEETS

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.



<u>PIER 1</u> (Looking North)



<u>LEGEN</u>D:

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

Exposed Reinforcement

Hairline Crack

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	5.25



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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

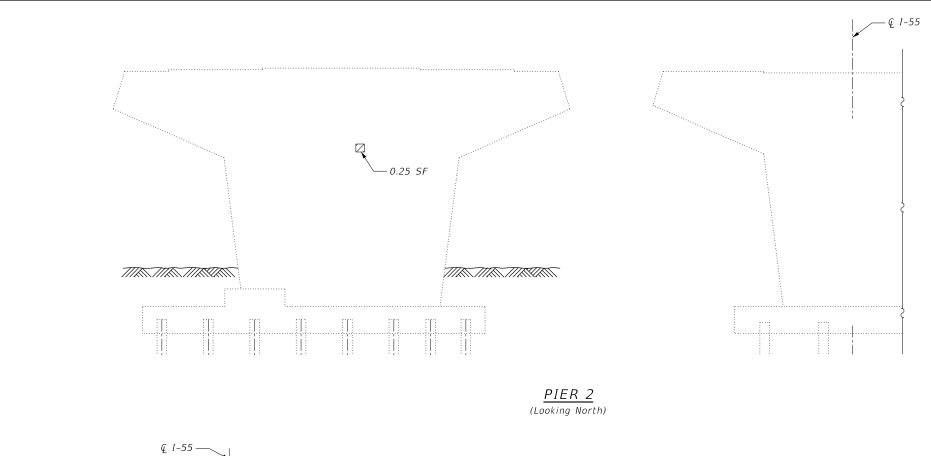
PIER 1

(Looking South)

 PIER 1 REPAIRS
 F.A.I. RTE.
 SECTION

 SN 099-0016 SB I-55 OVER US ROUTE 30
 55
 2020-253-BR&P

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2 SF

LEGEND:



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

Exposed Reinforcement

Hairline Crack

Square Foot

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. <u>PIER 2</u> (Looking South)

BILL OF MATERIAL

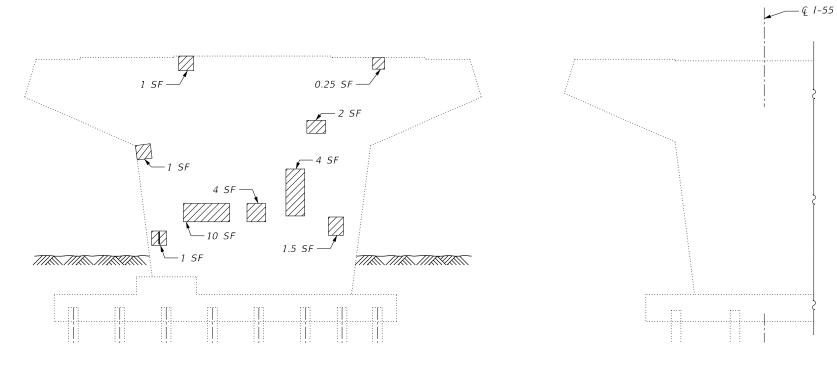
ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	3.25

A c c u r a t e

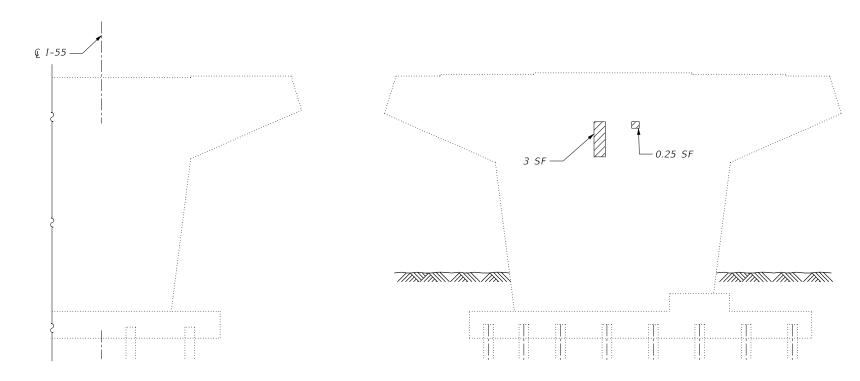
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

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<u>PIER 3</u> (Looking North)



LEGEND:

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

Exposed Reinforcement

Hairline Crack

Square Foot

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. <u>PIER 3</u> (Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	28

A c c u r a t e

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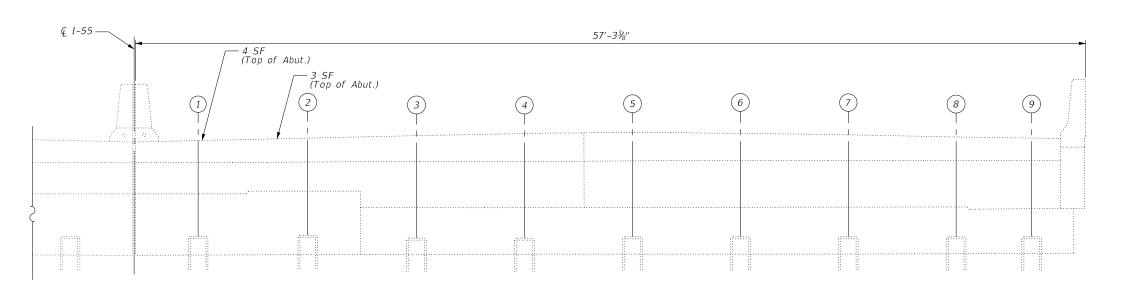
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NOTES:

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

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ELEVATION - SOUTH ABUTMENT
(Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	16
Concrete Sealer	Sq Ft	333

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.

SF Square Foot

LEGEND:

2. Apply Concrete Sealer to face of abutments.

A c c u r a t e

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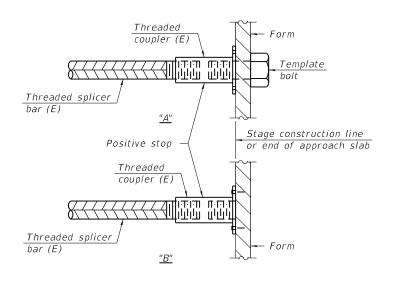
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

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

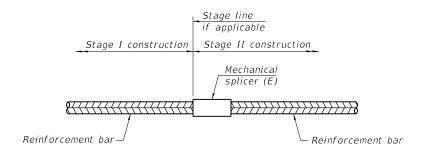
1	Bar	No. assemblies	Minimum
Location	size	required	lap length
N. Abut.	#5	8	3'-6"
N. Abut. Bk. Wall	#6	4	4'-0"
S. Abut.	#5	8	3'-6"
S. Abut. Bk. Wall	#6	4	4'-0"



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

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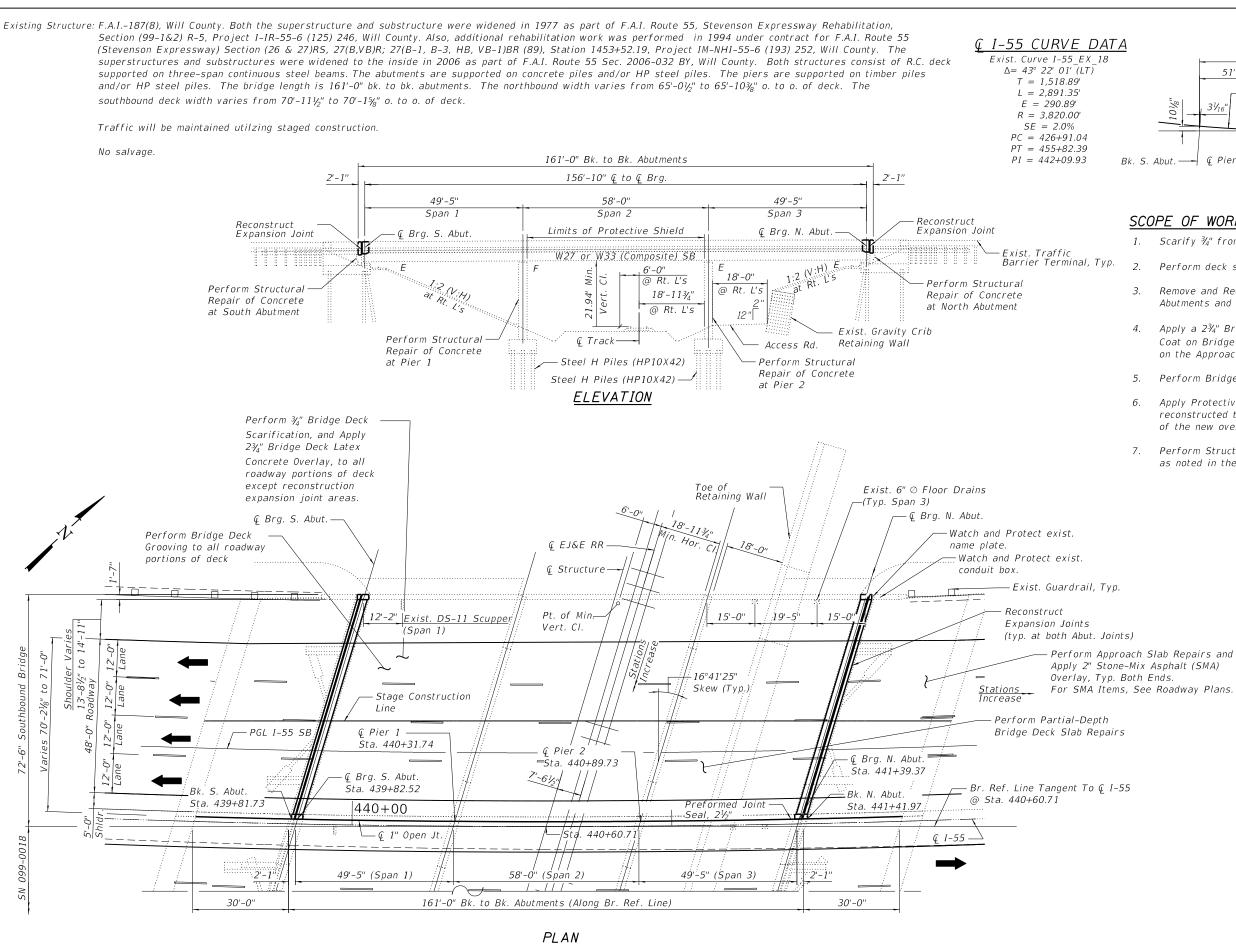


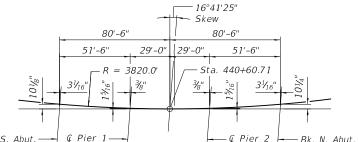
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 099-0016 SB I-55 OVER US ROUTE 30

SHEET S5-15 OF S5-15 SHEETS

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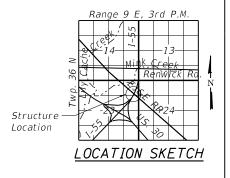
OFFSET SKETCH

SCOPE OF WORK

- 1. Scarify ¾" from the bridge deck slab.
- Perform deck slab and Approach slab repairs as required.
- Remove and Reconstruct Expansion Joints at North and South Abutments and install new preformed joint strip seals.
- 4. Apply a 2¾" Bridge Deck Latex Concrete Overlay and Protective Coat on Bridge Deck and 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs.
- Perform Bridge Deck Grooving.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- 7. Perform Structural Concrete repairs to the Abutments and Piers as noted in the plans.



DATE SIGNED: EXP. DATE: 11/30/2022 SHEETS S2-01 THRU S2-15



GENERAL PLAN AND ELEVATION SB I-55 OVER WCL RAILROAD F.A.I. 55 SEC 2020-253-BR&PP WILL COUNTY STATION: 440+60.71 STRUCTURE NO. 099-0019

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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

	F.A.I. RTE.	SECTION	ı		COUNTY	TOTAL SHEETS	SHEE NO.
SN 099-0019 SB I-55 OVER WCL RAILROAD		2020-253-BR&PP			WILL	178	129
3N 033-0013 3D I-33 OVER WEE RAIEROAD					CONTRA	CT NO.	62N2:
SHEET S6-01 OF S6-15 SHEETS		ILLIN	NOIS	FED. AII	D PROJECT		

GENERAL NOTES

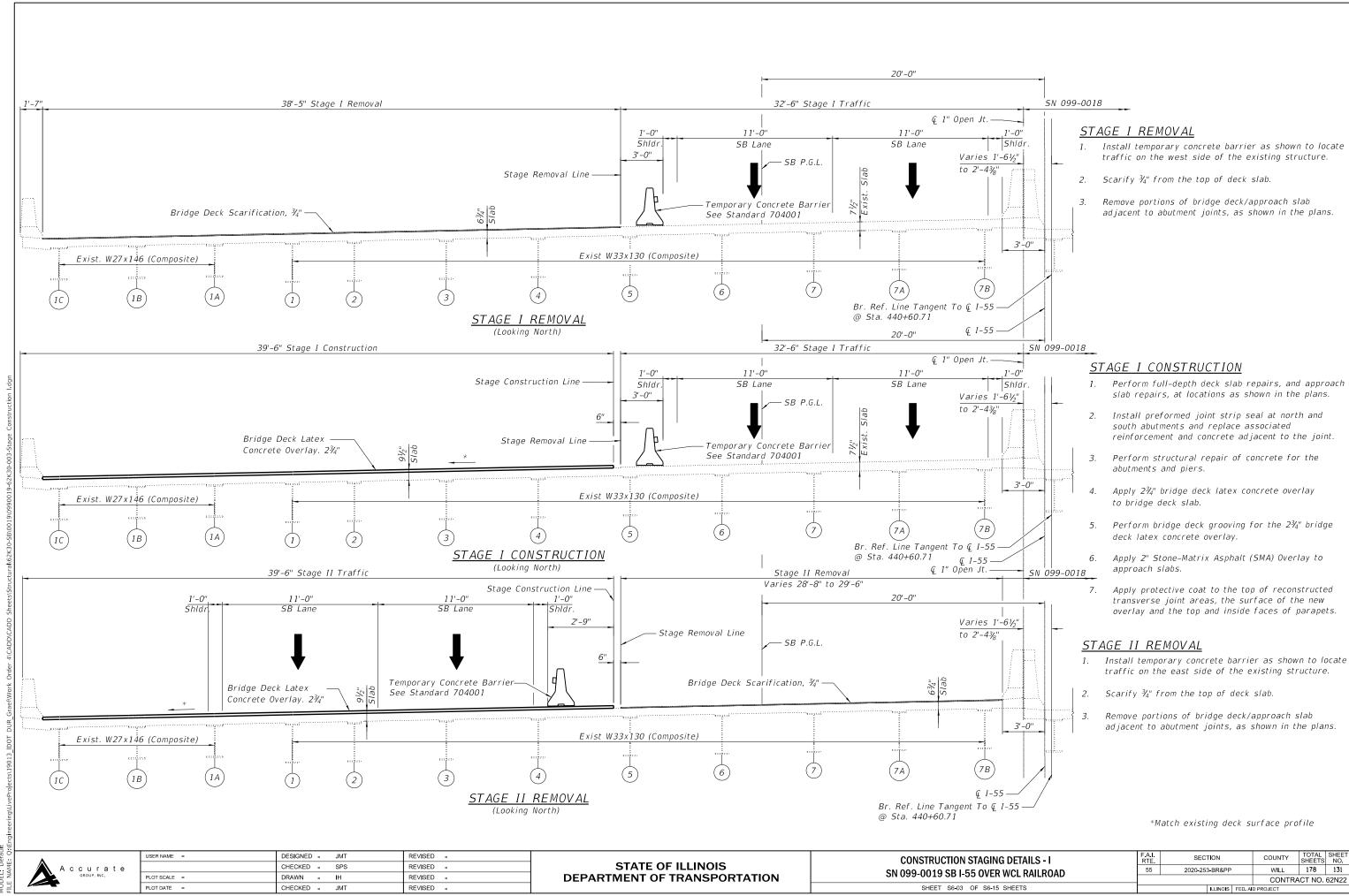
- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Deck slab repairs, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces 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.
- 3. 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.
- 4. Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when the deck is poured at an ambient temperature other than
- Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar
- 6. All exposed concrete edges shall have a $\frac{3}{4}$ " chamfer, except where shown otherwise.
- 7. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 8. During repair operations, the Contractor shall locate and protect all utilities in the vicinity of the work including, but not limited to, fiber optic and/or electrical conduits, conduits under the bridge deck, under-deck lighting, traffic signals or signs attached to the structure. This work shall be performed to the satisfaction of the Engineer and will not be paid for separately, but shall be included with the contract. It shall be the Contractor's responsibility to restore and replace any damaged utilities or facilities to the satisfaction of the Engineer at no cost to the Department.
- Expansion joints shall be fabricated to conform to the existing cross slopes of the bridge.
- 10. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new overlay.
- 11. Existing reinforcement extended into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- 12. 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.

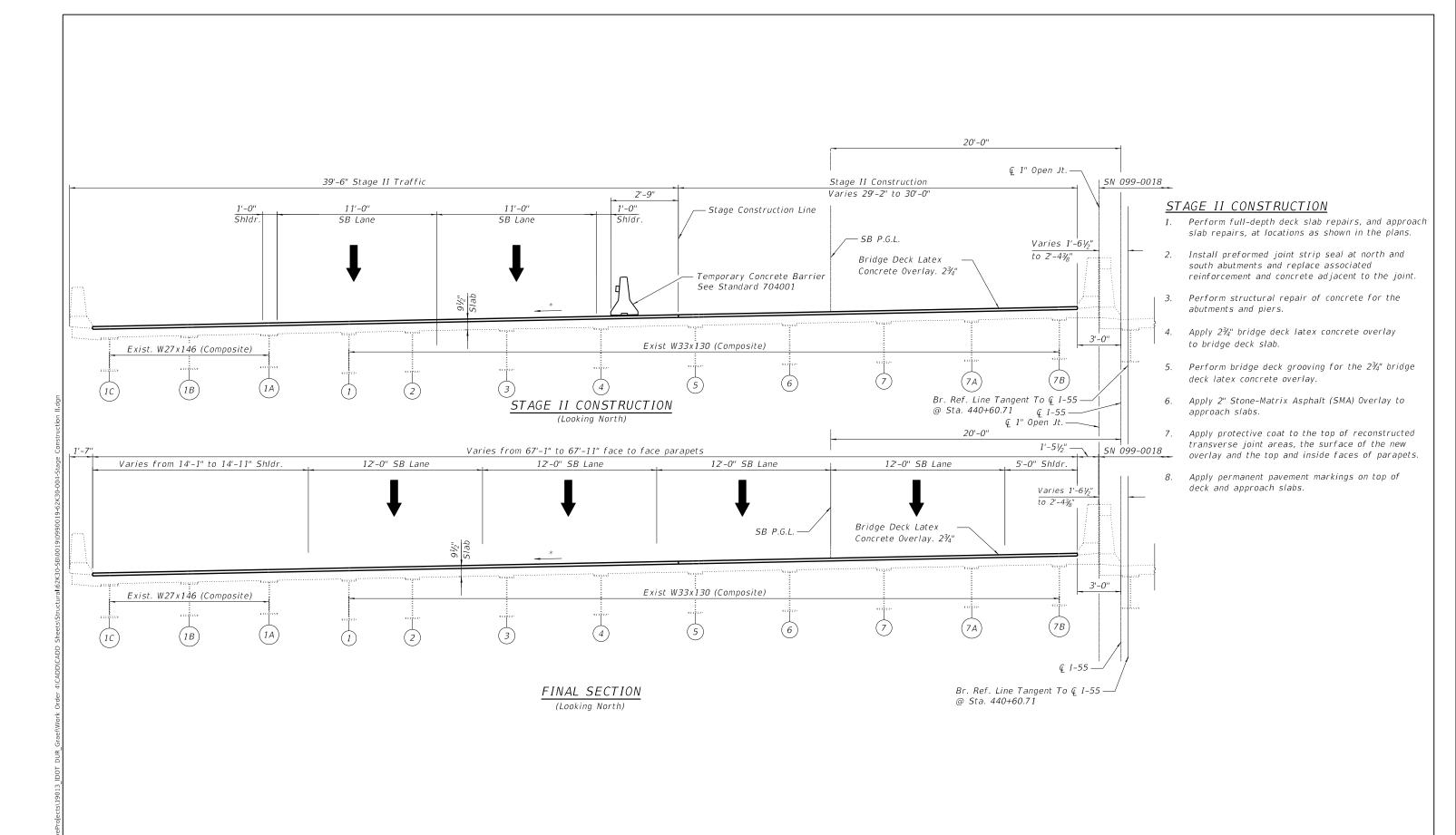
INDEX OF SHEETS

56-01	General Plan and Elevation
<i>S6-02</i>	General Notes, Total Bill of Materials, & Index of Sheets
56-03-56-04	Construction Staging Details
<i>S6-05</i>	Temporary Concrete Barrier for Stage Construction
56-06	Bridge Deck Repairs
56-07	Drainage Scuppers and Floor Drains Details
56-08	Parapet Repairs
56-09	S. Abut. Expansion Joint Removal and Construction
56-10	N. Abut. Expansion Joint Removal and Construction
S6-11	Expansion Joint Details
56-12	Preformed Joint Strip Seal
56-13	Pier 1 and Pier 2 Repairs
56-14	North and South Abutment Repairs
56-15	Bar Splicer Assembly and Mechanical Splicer Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	19.3		19.3
Protective Shield	Sq Yd	468		468
Concrete Superstructure	Cu Yd	20.8		20.8
Bridge Deck Grooving	Sq Yd	1205		1205
Protective Coat	Sq Yd	1497		1497
Reinforcement Bars, Epoxy Coated	Pound	3780		3780
Bar Splicers	Each	28		28
Preformed Joint Seal 2½"	Foot	221		221
Preformed Joint Strip Seal	Foot	141		141
Concrete Sealer	Sq Ft		407	407
Epoxy Crack Injection	Foot		20	20
Approach Slab Repair (Partial Depth)	Sq Yd	6		6
Bridge Deck Latex Concrete Overlay, 2¾"	Sq Yd	1208		1208
Bridge Deck Scarification ¾"	Sq Yd	1208		1208
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq Ft		80	80





*Match existing deck surface profile



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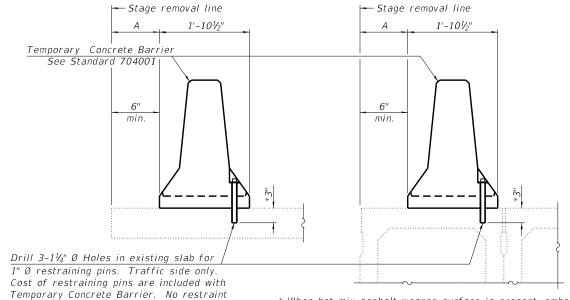
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION STAGING DETAILS - II
SN 099-0019 SB I-55 OVER WCL RAILROAD

SHEET 86-04 OF 86-15 SHEETS

– See Detail I, II or III 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



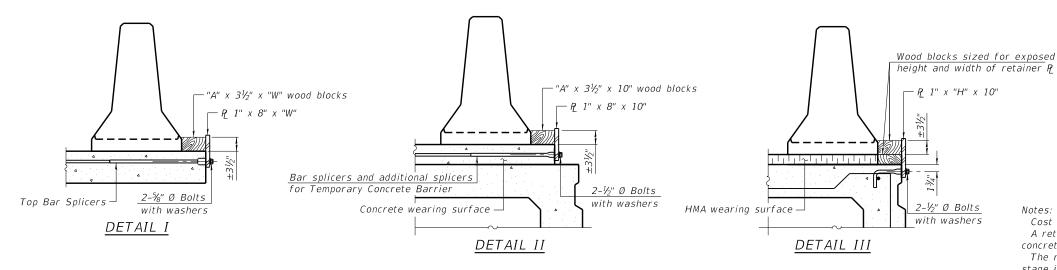
 * When hot-mix asphalt wearng surface is present, embedment shall be 3" plus the wearing surface depth.

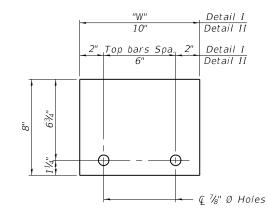
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

is required when "A" is greater than 3'-1".

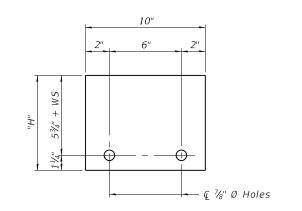
EXISTING SLAB



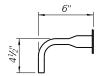


STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)



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



RESTRAINING PIN

BAR SPLICER FOR #4 BAR - DETAIL III

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate Q of each temporary

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 $1\frac{1}{2}$ ", 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.

US Std. 11/16" I.D. x 21/2" O.D. x approx. 8 guage thick washer

- 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.

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8-11-2017

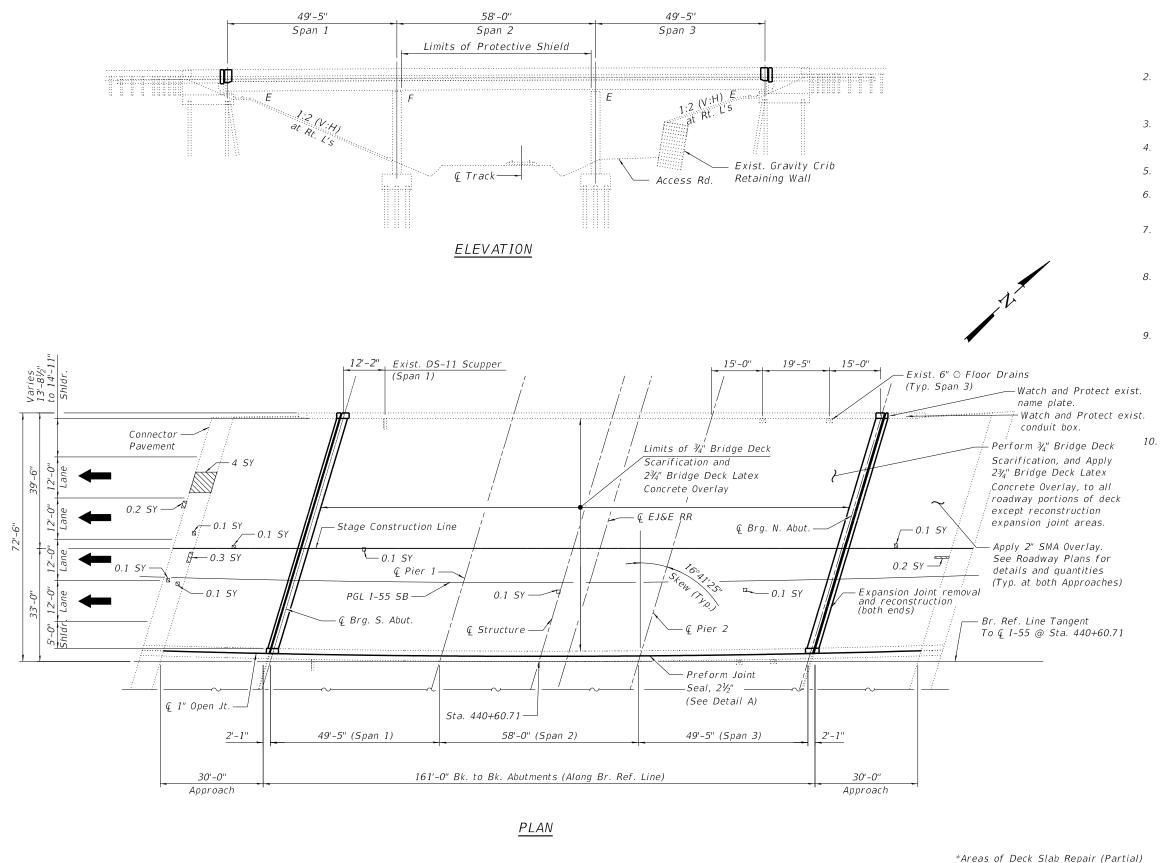


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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION SN 099-0019 SB I-55 OVER WCL RAILROAD SHEET S6-05 OF S5-15 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
55	2020-253-BR&PP		WILL	178	133
			CONTRA	CT NO.	62N22
	ILLINOIS	FFD. Al	D PROJECT		

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NOTES:

- 1. Deck and approach slab repair areas are estimated based on visual inspection and will be paid for as specified in the Special Provision. Actual repair areas and locations shall be determined by the Engineer and shown on As-built plans. Engineer shall sound deck after deck scarification.
- 2. Protective Coat shall be applied to the bridge overlay and front and top faces of the new and existing parapets.
- 3. All dimensions are perpendicular to © I-55 Bridge Deck.
- Install Protective Shield over EJ&E Railroad.
- For bridge deck final cross section, see Sheet S6-04.
- For North and South Transverse Joint Removal and Reconstruction, see Sheets S6-09 thru S6-10 of S6-15.
- 7. Perform Bridge Deck Grooving for the Bridge Deck Latex Concrete Overlay and the roadway portions of the Reconstructed Transverse Joints.
- 8. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
- 9. 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.
- 10. See Sheet S6-07 of S6-15 for Drainage Scupper and Floor Drain Details.

LEGEND:

Deck Slab Repair

(Partial)*

Approach Slab Repair

(Full Depth) Square Yards

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Coat	Sq. Yd.	1497
Bridge Deck Grooving	Sq. Yd.	1205
Bridge Deck Latex	Sg. Yd.	1208
Concrete Overlay, 2¾"	39. 14.	1200
Bridge Deck Scarification, ¾"	Sq. Yd.	1208
Protective Shield	Sq. Yd.	468
Approach Slab Repair	Sq. Yd.	6
(Partial Depth)	3q. Tu.	O

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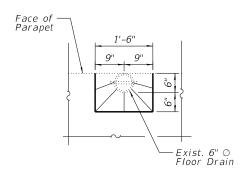
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIRS SN 099-0019 SB I-55 OVER WCL RAILROAD SHEET S6-06 OF S6-15 SHEETS

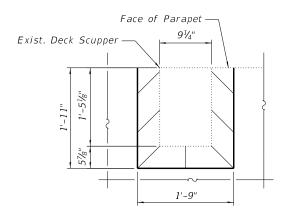
are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 23/4"

> SECTION COUNTY WILL 178 134 2020-253-BR&PP CONTRACT NO. 62N22

FLOOR DRAIN/ DRAINAGE SCUPPER DETAIL



6" ∅ FLOOR DRAIN TOP PLAN



<u>TOP PLAN AT</u> DRAINAGE SCUPPER

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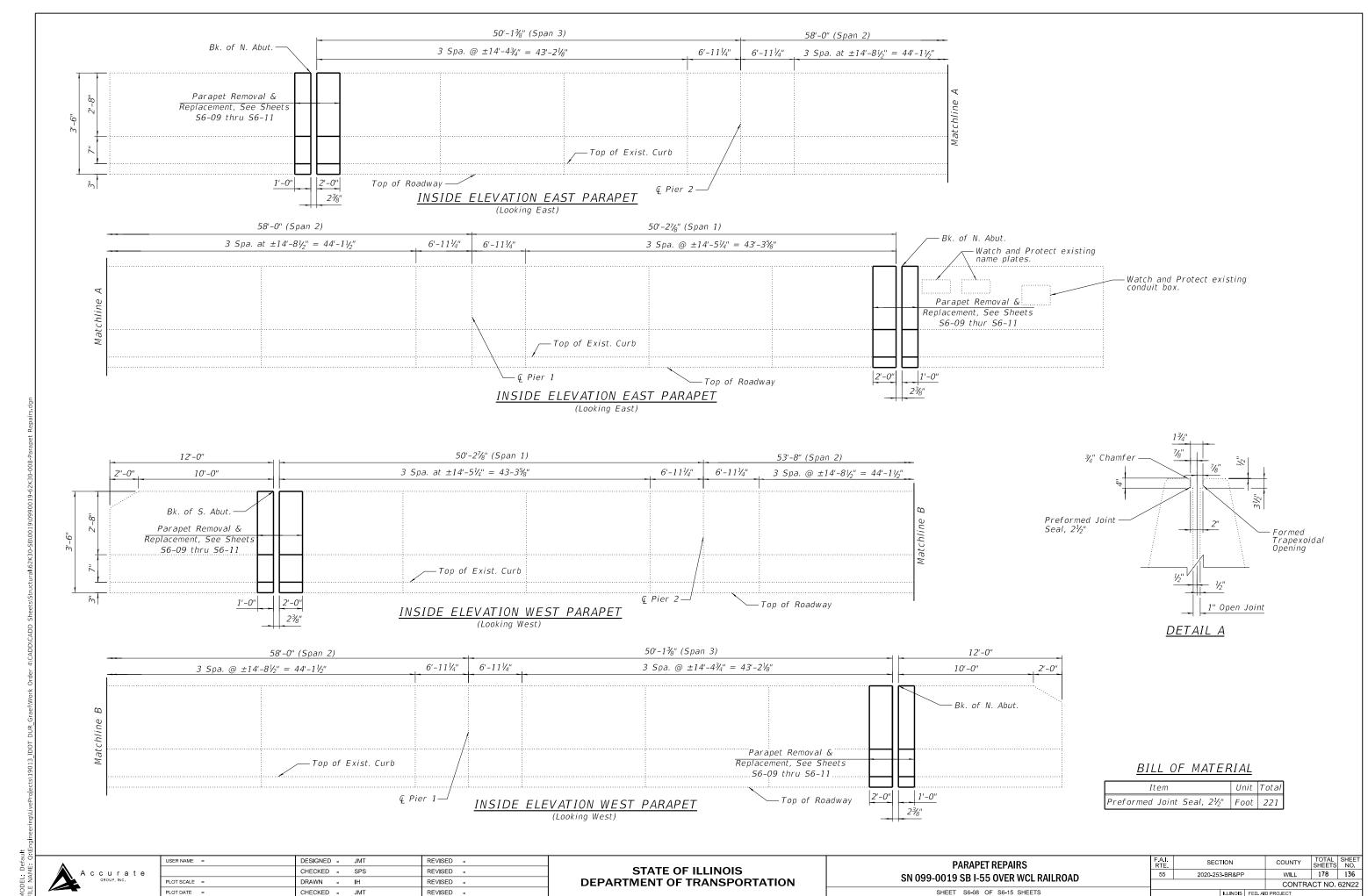
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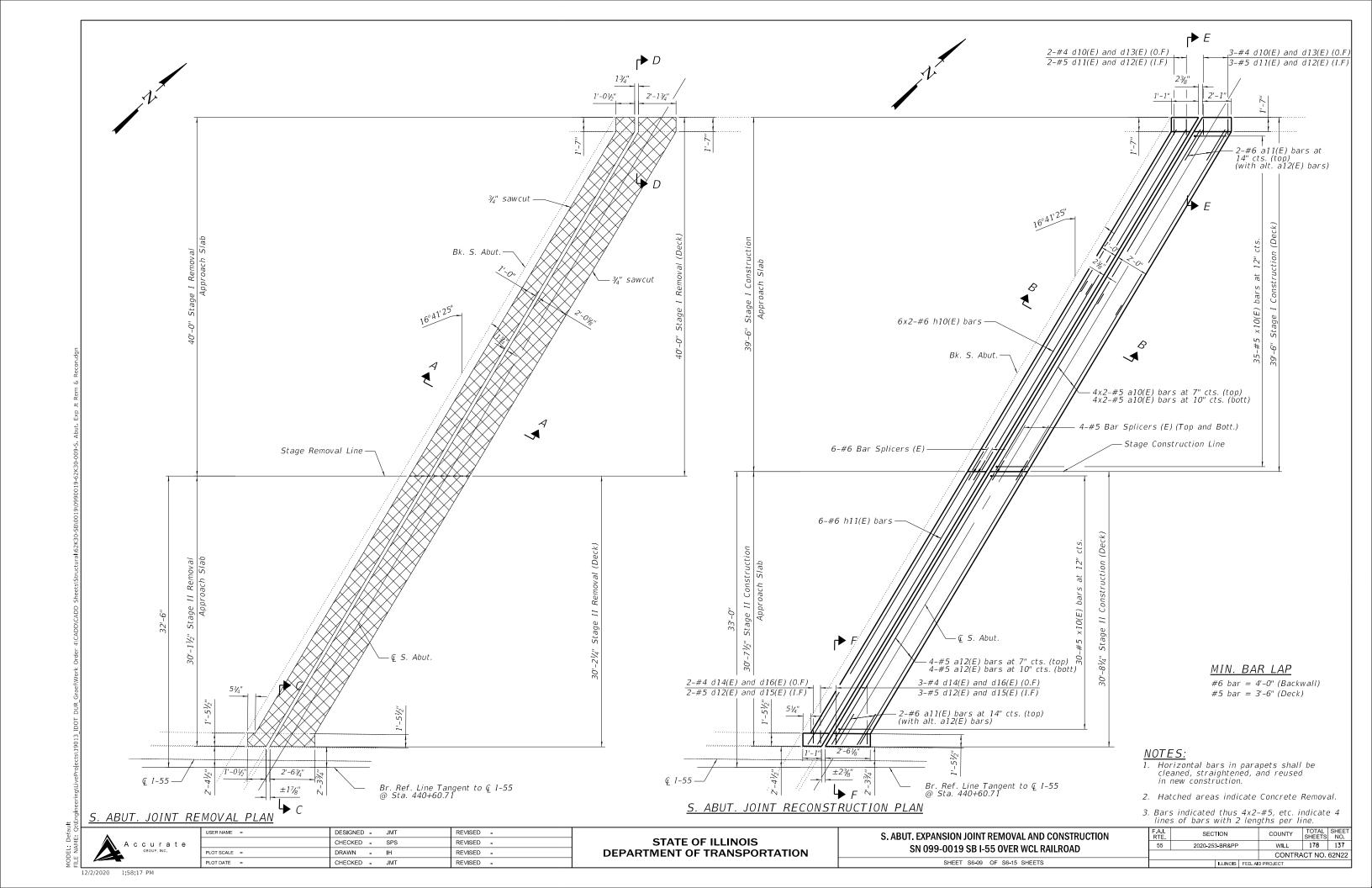
DRAINAGE SCUPPERS AND FLOOR DRAINS DETAILS SN 099-0019 SB I-55 OVER WCL RAILROAD
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 SECTION
 COUNTY
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 SHEETS NO.

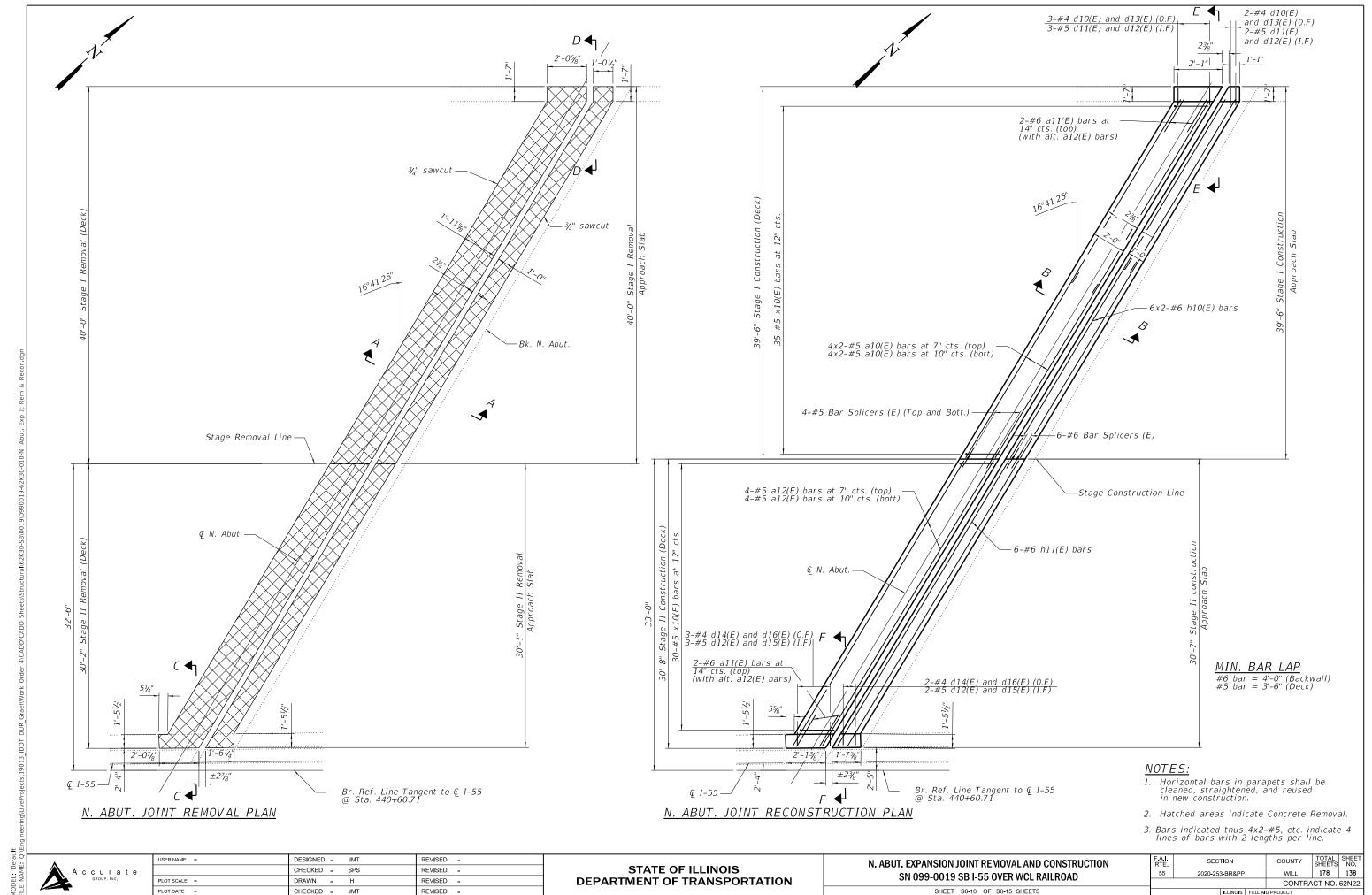
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 WILL
 178
 135

 CONTRACT NO. 62N22

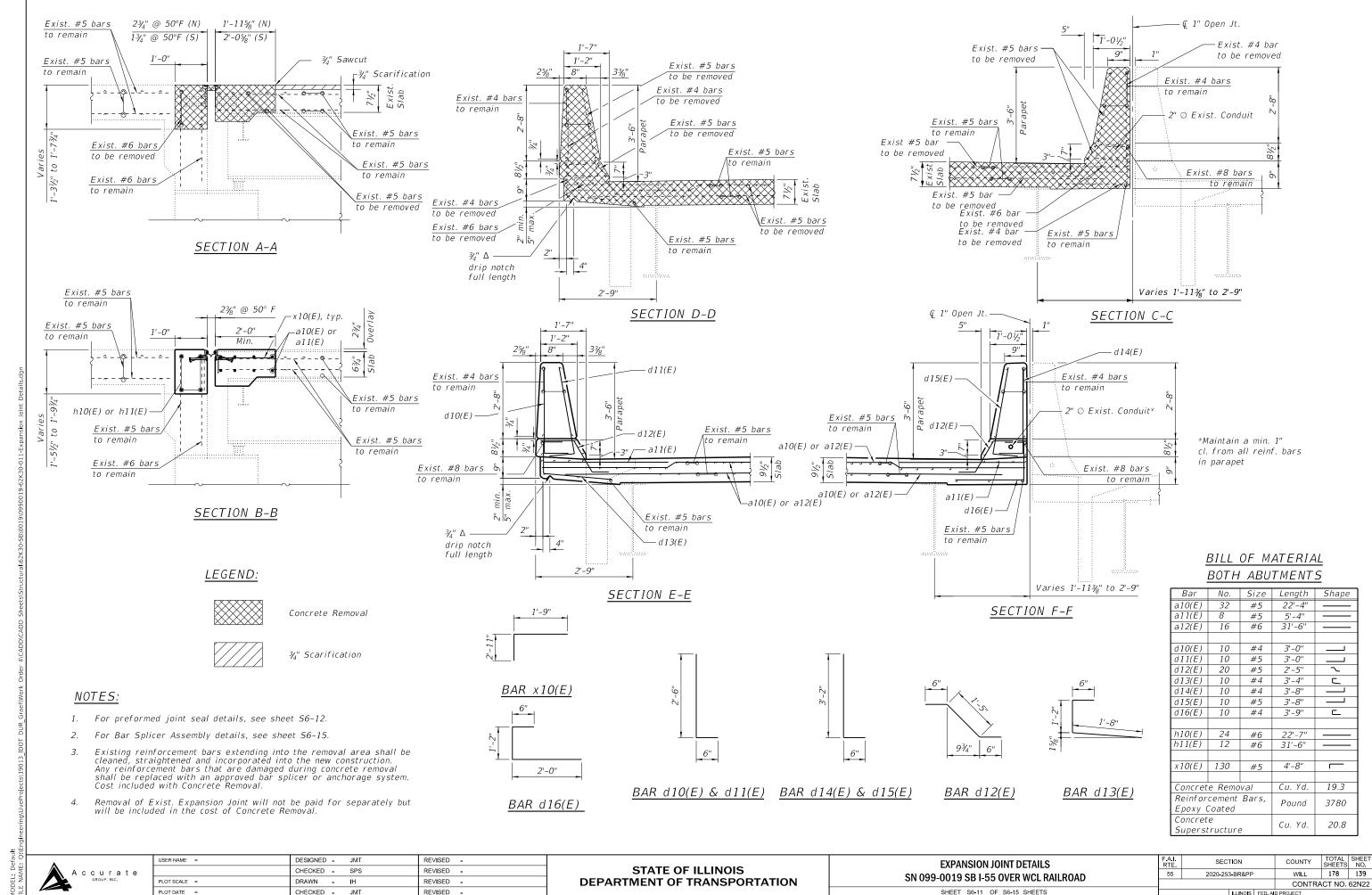


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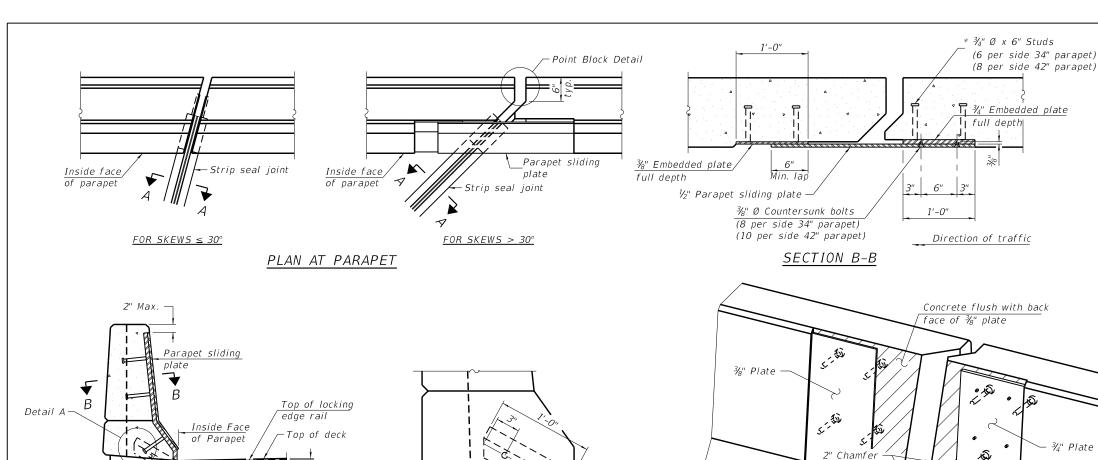


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ELEVATION AT PARAPET

½" Ø x 6" Studs

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

DETAIL A

Concrete flush with back face of %" plate 2" Chamfer Concrete flush with back face of ¾" plate

TRIMETRIC VIEW
(Showing embedded plates only)

Locking edge rail Top of concrete Strip seal 2\%" at 50° F Strip seal

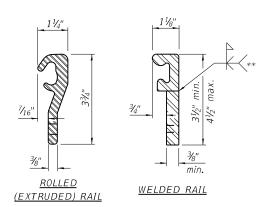
SHOWING ROLLED RAIL JOINT

Locking edge rail Top of concrete Top of concrete * %'' 0 x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs) * %'' \$\phi\$ threaded rods in $\%''_6$ \$\phi\$ holes at $\pm 4'$ -0" cts.

%'' ϕ threaded rods in $\%'_{16}$ % 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.

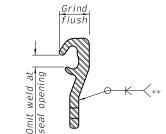
SECTION A-A

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



LOCKING EDGE RAILS

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



The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip

are not permitted. The gland shall be sized for a maximum

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

4½" maximum depth provided the anchorage system is revised

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

The Maximum space between locking edge rail segments

shall be $\frac{3}{16}$ " and sealed with a suitable sealant; however, any

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

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.

on the rolled locking edge rail. If the Contractor elects to use

rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge

The manufacturer's recommended installation methods

according to the manufacturer's recommendation.

seal shall match the configuration of the locking edge

rated movement of 4 inches.

shall be followed.

rail splice detail.

rails. Open or "webbed" strip seal gland configurations

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	141

EJ-SS 8-11-17



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHOWING WELDED RAIL JOINT

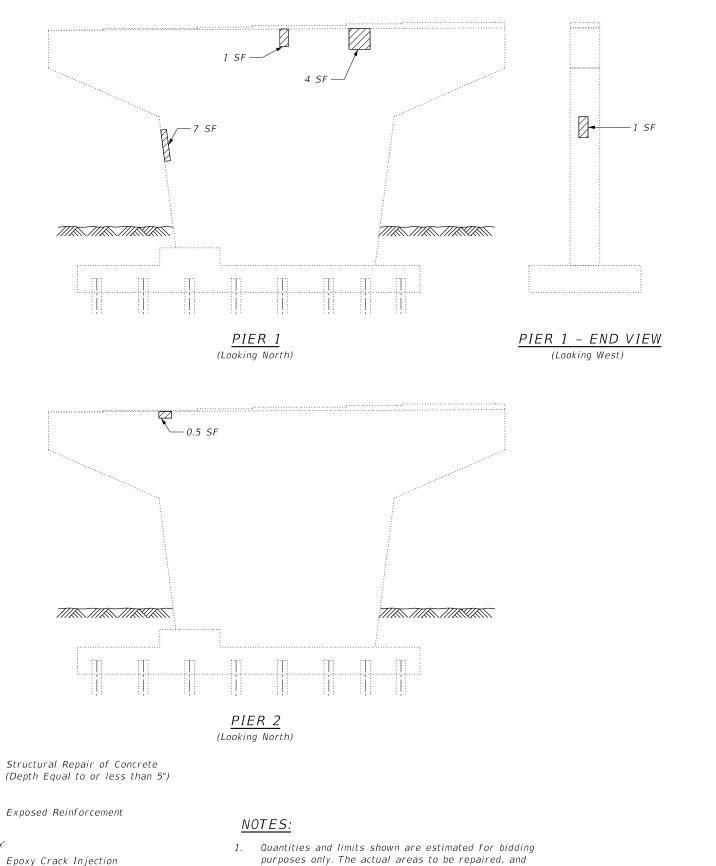
PREFORMED JOINT STRIP SEAL SN 099-0019 SB I-55 OVER WCL RAILROAD

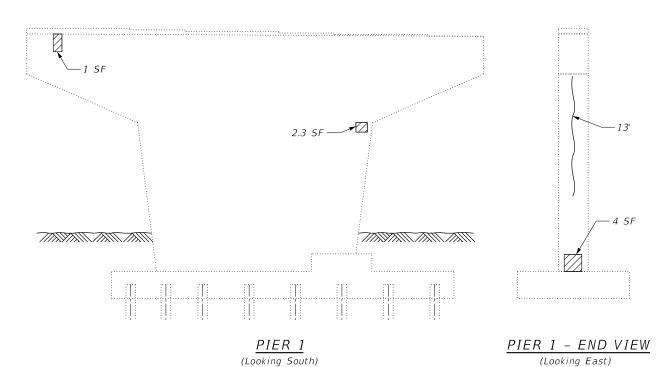
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55 2020-253-BR&PP			WILL	178	140	
			CONTRA	CT NO.	62N2	
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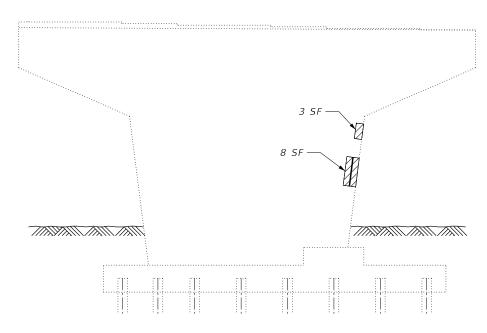
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SHEET S6-12 OF S6-15 SHEETS







PIER 2 (Looking South)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	32
Epoxy Crack Injection	Foot	13

 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.



Square Foot

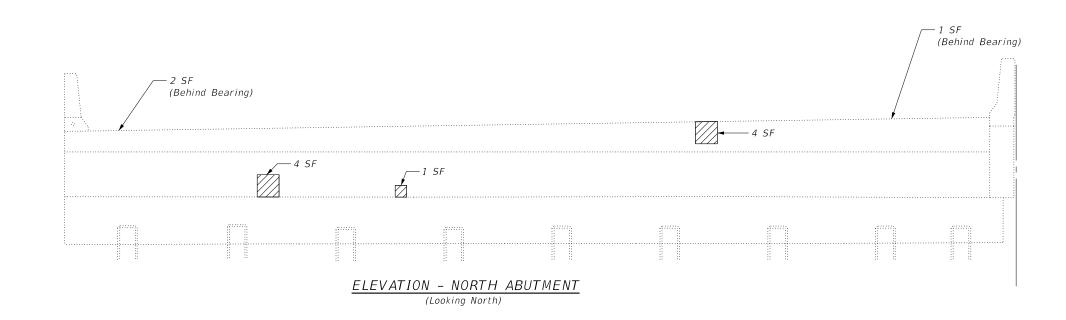
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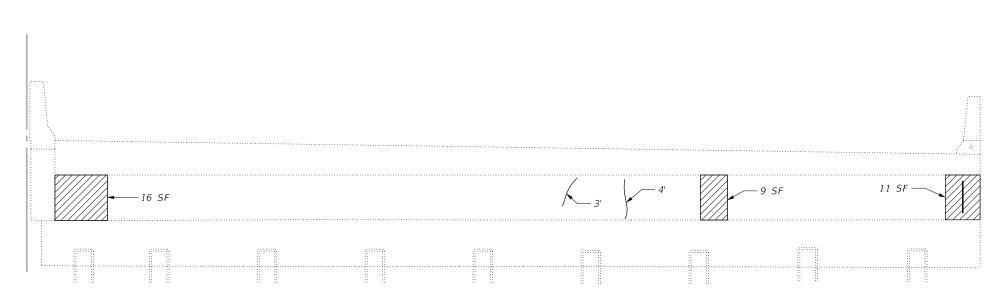
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

COUNTY TOTAL SHEET NO.
WILL 178 141 SECTION COUNTY PIER 1 AND PIER 2 REPAIRS 2020-253-BR&PP SN 099-0019 SB I-55 OVER WCL RAILROAD CONTRACT NO. 62N22 SHEET S6-13 OF S6-15 SHEETS

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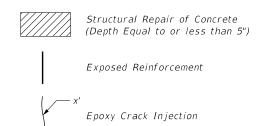
LEGEND:





ELEVATION - SOUTH ABUTMENT (Looking South)

LEGEND:



Square Foot

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.
- 2. Apply Concrete Sealer to face of Abutments.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	48
Epoxy Crack Injection	Foot	7
Concrete Sealer	Sq Ft	407

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

 NORTH AND SOUTH ABUTMENT REPAIRS
 F.A.I. RTE.
 SECTION

 SN 099-0019 SB I-55 OVER WCL RAILROAD
 55
 2020-253-BR&PP

AI. SECTION COUNTY TOTAL SHEETS NO.

55 2020-253-BR&PP WILL 178 142

CONTRACT NO. 62N22

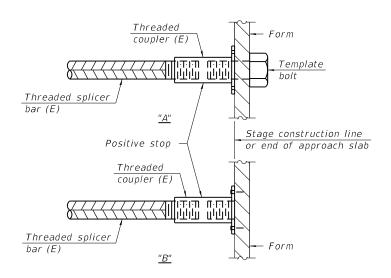
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

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

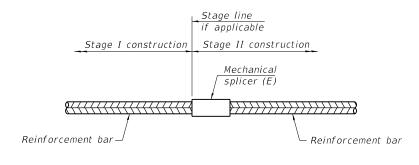
Location	Bar	No. assemblies	Minimum
Location	size	required	lap length
S. Abut. Deck	#5	8	3'-6"
S. Abut. Backwall	#6	6	4'-0"
N. Abut. Deck	#5	8	3'-6"
N. Abut. Backwall	#6	6	4'-0"



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
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 099-0019 SB I-55 OVER WCL RAILROAD

SHEET S6-15 OF S6-15 SHEETS

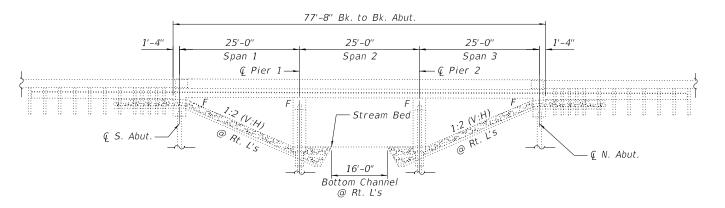
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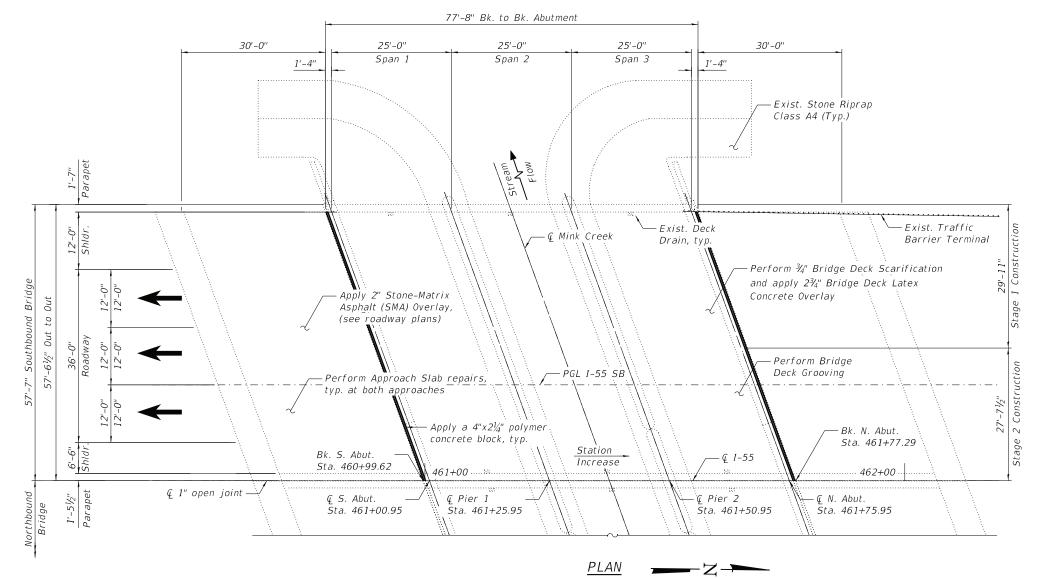
Existing Structure: Structure No. 0994616 was constructed in 1994 as part of F.A.I. Route 55, Section 27(B-1,B-3,HB,VB-1)BR89 and project F.A. IM-NHI-55-6-(193)252 and reconstructed/widened in 2007. The structure has a length of 77'-8" (back-to-back of abutments) and an out-to-out deck width of 57'-7". The continuous slab superstructure consists of three equal span lengths of 25'-0". The reinforced concrete deck slab is 12" thick. The substructure consists of reinforced concrete piers and abutments on steel piles.

Traffic is to be maintained utilizing stage construction.

No Salvage.



ELEVATION



SCOPE OF WORK

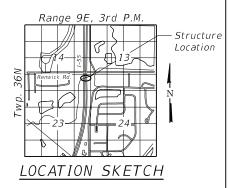
- 1. Scarify ¾" from the bridge deck slab.
- 2. Perform Deck Slab Repairs and Approach Slab Repairs as required.
- 3. Apply a $4"x2\frac{1}{4}"$ polymer concrete block, at both ends of deck.
- 4. Apply a 2¾" Bridge Deck Latex Concrete Overlay to the bridge deck and 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs. See Roadway plans for SMA items.
- 5. Apply Protective Coat to the top and inside face of parapets and top of Latex Overlay.
- 6. Perform Bridge Deck Grooving.
- 7. Replace 21/2" PJS between parapets; coordinate with SN 099-4615.
- 8. Clean all deck drains.



Dr. Moussa A. Issa, S.E. II. Lic. No. 081-005738

Expires 11-30-2022

December 03, 2020 FOR SHEETS S7-01 THRU S7-07 (Total of 7 Sheets)



GENERAL PLAN AND ELEVATION I-55 OVER MINK CREEK F.A.I. ROUTE 55 - SEC. 2006-032 WILL COUNTY STATION 630+07.11

S.N. 099-4616

DESIGNED - MAA,EBK REVISED -JSER NAME = CHECKED - MI, RTB REVISED -REVISED -DATE - 12/3/2020 REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

S.N. 099-4616 I-55 SB OVER MINK CREEK (0.8 MILES N OF US 30) SHEET S7-01 OF S7-07 SHEETS

SECTION COUNTY 2020-253-BR&PP WILL 178 144 CONTRACT NO. 62N22

GENERAL NOTES:

- 1. 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.
- 2. Protective coat shall be applied to top and inside face of parapets and Latex Overlay.
- 3. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.
- 4. 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.
- 5. Coordinate with the Contractor for Contract No. 62K51 prior to installation of the preformed Joint Seal $2\frac{1}{2}$ ". All work on Parapets must be completed for Contract No. 62K51 and this Contract prior to installation of the Longitudinal Joint.

INDEX OF SHEETS

S7-01 General Plan & Elevation

57-02 Structure Notes, Index of Sheets & Total Bill of Material

S7-03 Stage Construction (Sheet 1 of 2)

57-04 Stage Construction (Sheet 2 of 2)

S7-05 Temporary Concrete Barrier For Stage Construction

S7-06 Bridge Deck Repairs

S7-07 Approach Slab Repairs

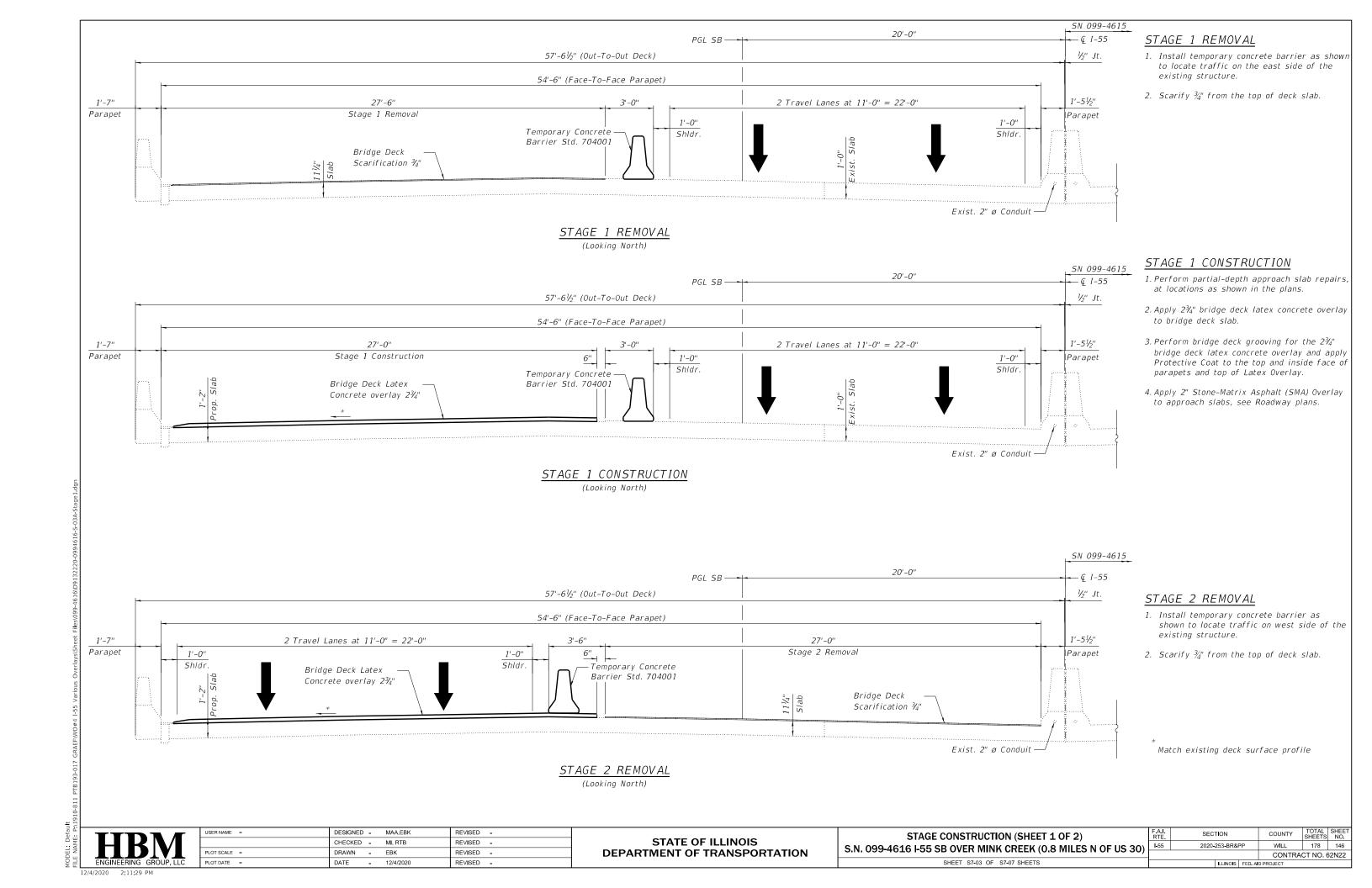
TOTAL BILL OF MATERIAL

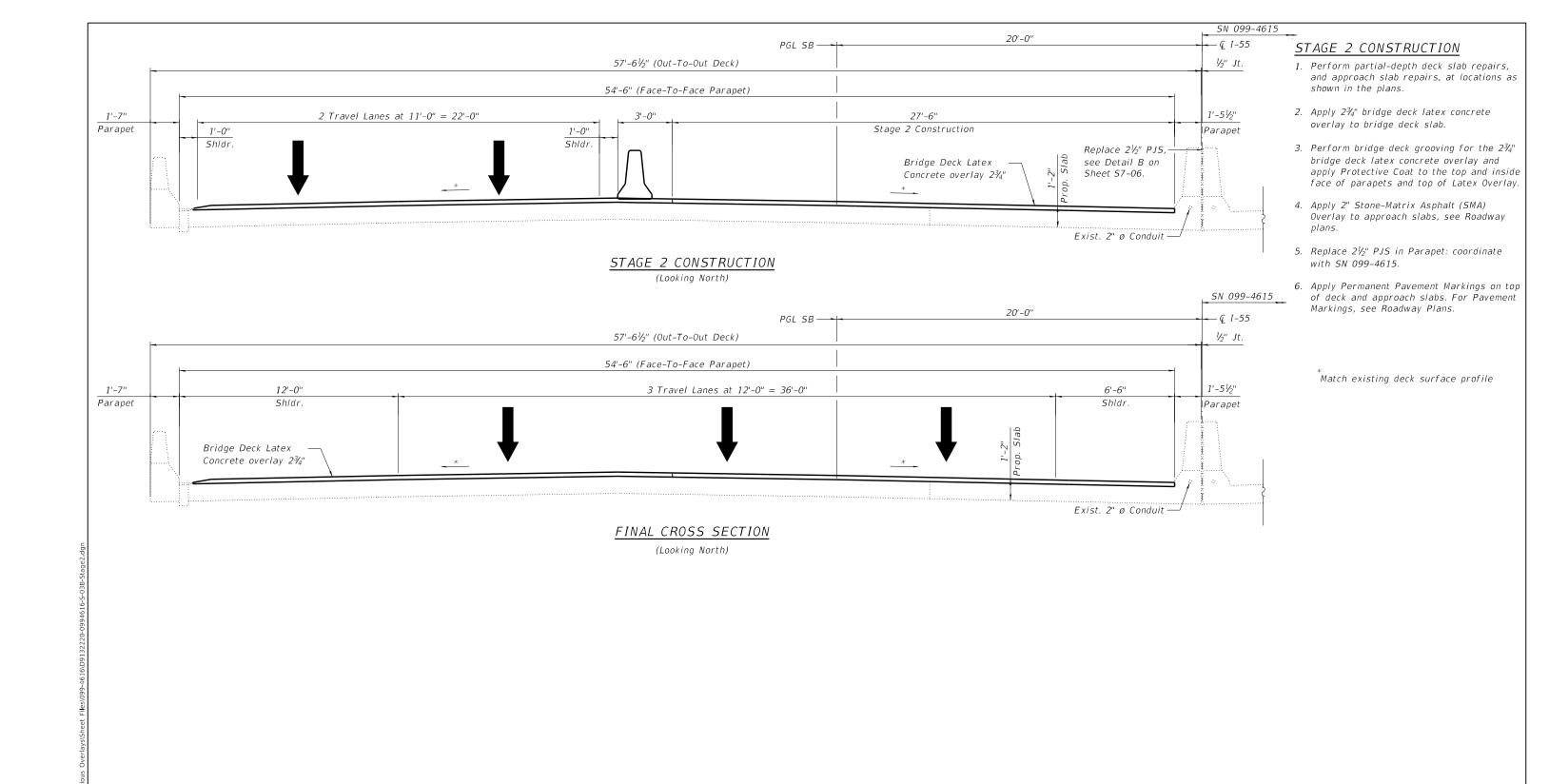
ITEM	UNIT	SUPER	SUB	TOTAL
Bridge Deck Grooving	SQ YD	448	0	448
Protective Coat	SQ YD	539	0	539
Preformed Joint Seal 2 1/2"	FOOT	78	0	78
Approach Slab Repair (Partial Depth)	SQ YD	1	0	1
Bridge Deck Latex Concrete Overlay, 2 3/4 Inches	SQ YD	464	0	464
Bridge Deck Scarification 3/4"	SQ YD	464	0	464
Polymer Concrete	CU FT	9	0	9

910-811 PTB193-017 GRAEF\WO#4 1-55 Various Overlays\Sheet Files\099-4616\D9132220-0994616-S-02

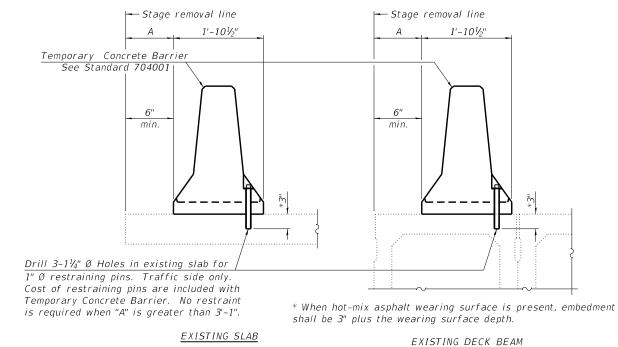
HBV ENGINEERING GROUP, LLC

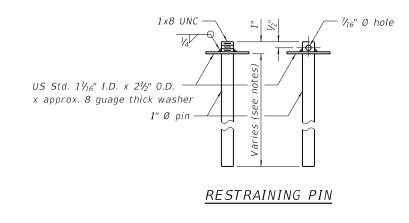
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PLOT DATE =	DATE	-	12/4/2020	REVISED -	





NEW SLAB OR NEW DECK BEAM

<u>2-%" Ø</u>Bolts

DETAIL I

with washers

2-17-2017

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".

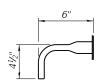
SECTIONS THRU SLAB OR DECK BEAM

Wood blocks sized for exposed height and width of retainer R "A" \times 3½" \times 10" wood blocks · P 1" x "H" x 10" - P 1" x 8" x 10"

2-1/2" Ø Bolts

with washers

HMA wearing surface ─ 2-1/2" Ø Bolts with washers DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III

Detail I Detail II Detail I 2" Top bars Spa. 2" Detail II − Ç 1/8" Ø Holes

"A" \times $3\frac{1}{2}$ " \times "W" wood blocks

Bar splicers and additional splicers for Temporary Concrete Barrier

Concrete wearing surface —

DETAIL II

- P 1" x 8" x "W"

STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)

← Ç ¾" Ø Holes

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

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate Q of each temporary

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 $1\frac{1}{2}$ ", 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.

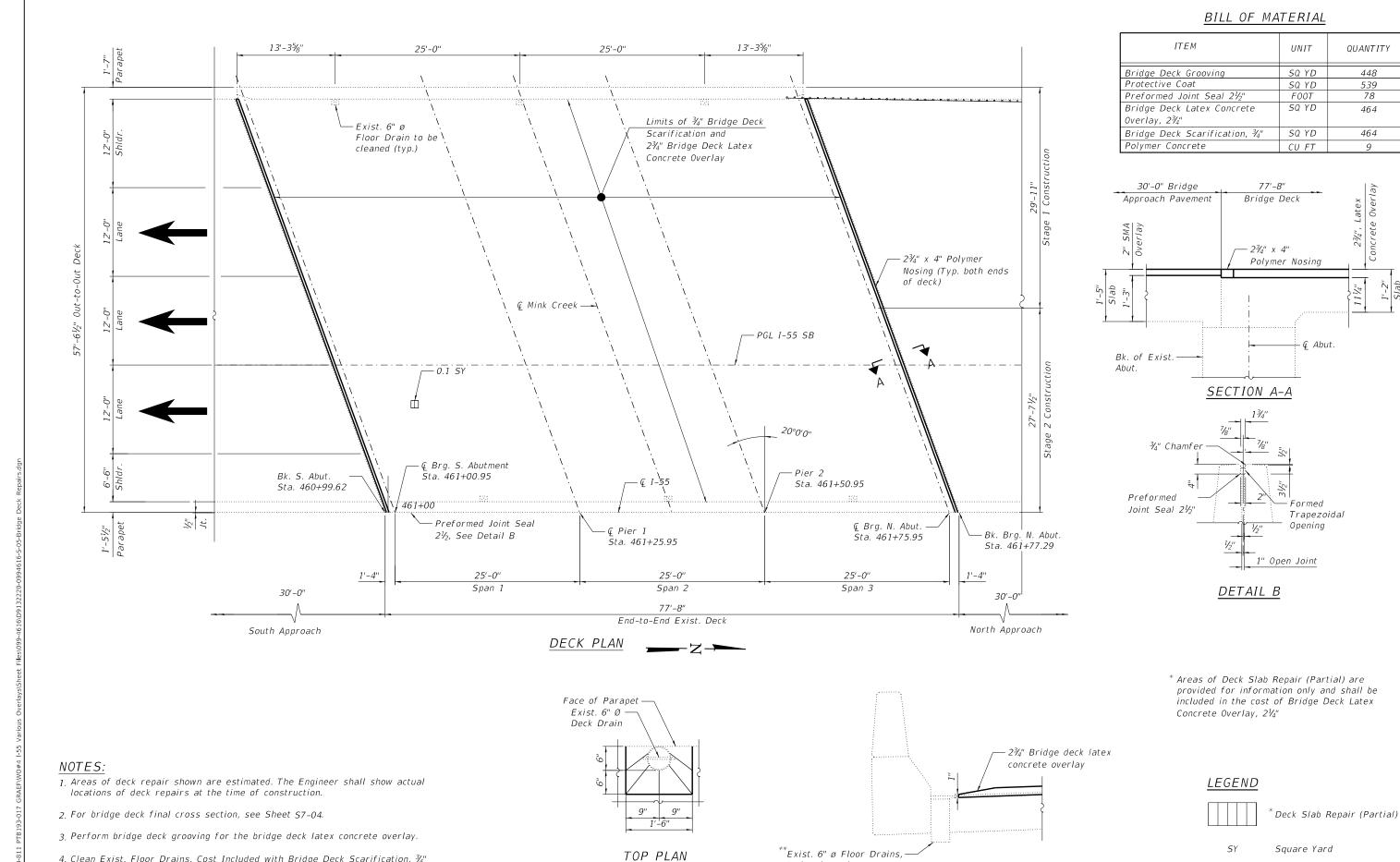
Top Bar Splicers -

DESIGNED - MAA,FL REVISED -CHECKED - MI, RTB REVISED -REVISED -DATE - 12/2/2020 REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION S.N. 099-4616 I-55 SB OVER MINK CREEK (0.8 MILES N OF US 30) SHEET S7-05 OF S7-07 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
I-55	2020-253-BR&PP	WILL	178	148	
		CONTRACT NO. 62N22			
	ILLINOIS FED	AID PROJECT			



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4. Clean Exist. Floor Drains, Cost Included with Bridge Deck Scarification, 3/4"

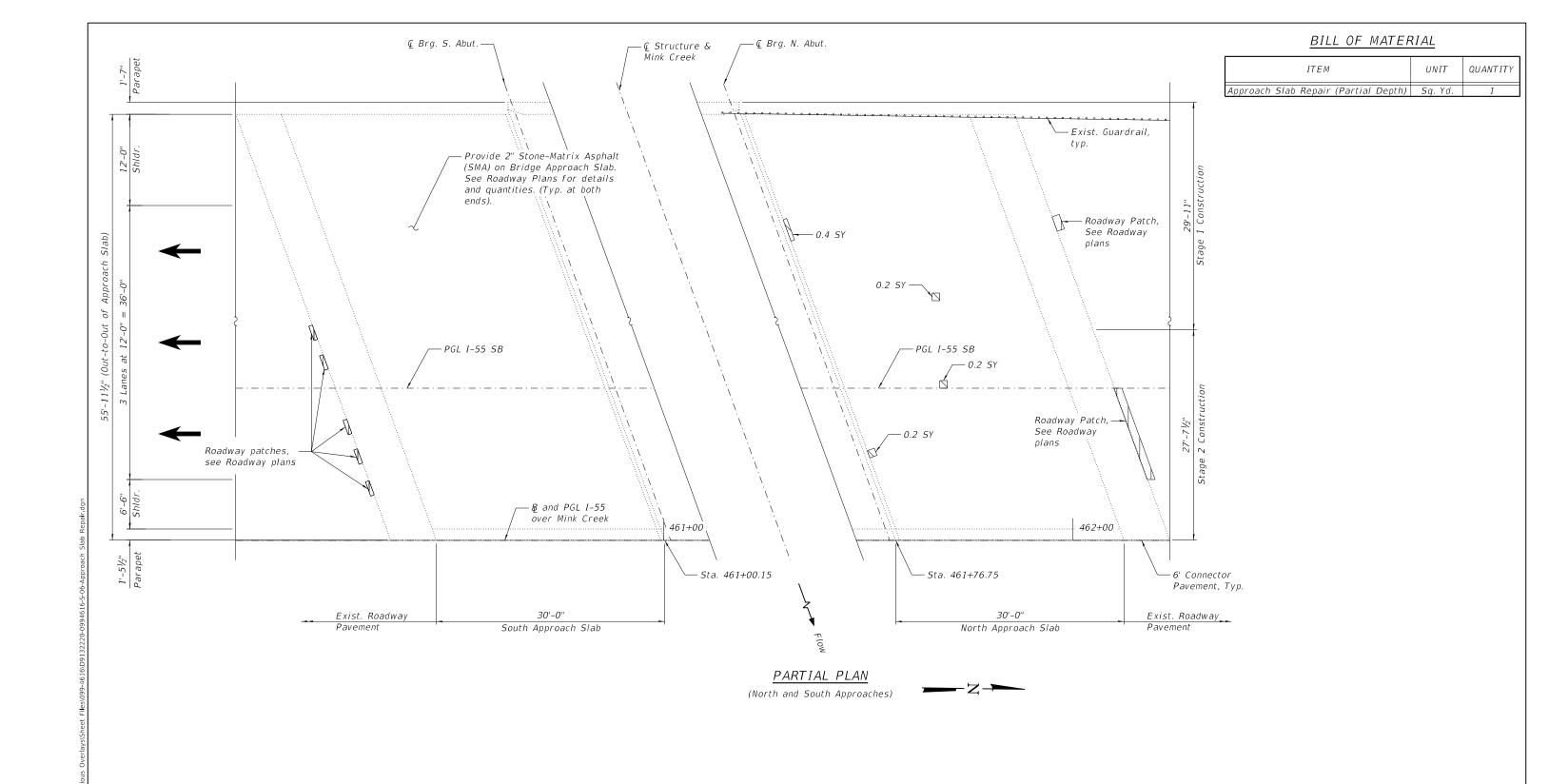
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

to be cleaned

BRIDGE DECK REPAIRS S.N. 099-4616 I-55 SB OVER MINK CREEK (0.8 MILES N OF US 30) SHEET S7-06 OF S7-07 SHEETS

SECTION AT DECK DRAIN

SECTION COUNTY 2020-253-BR&PP WILL 178 149 CONTRACT NO. 62N22



NOTE:

1. Areas of Approach Slab Repair (Partial Depth) shown are estimated. The Engineer shall show actual location of repairs at the time of construction.

LEGEND

Approach Slab Repair (Partial Depth)

HBM
ENGINEERING GROUP, LLC

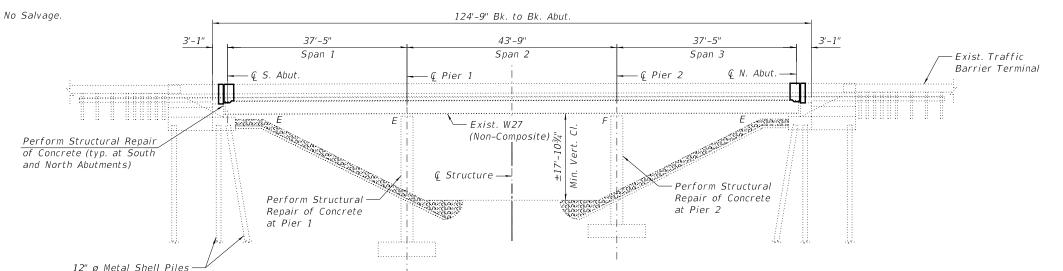
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PLOT SCALE =	DRAWN	-	CP	REVISED -	
PLOT DATE =	DATE	-	12/2/2020	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	F.A.I. RTE.
S.N. 099-4616 I-55 SB OVER MINK CREEK (0.8 MILES N OF US 30)	I- 55
SHEET S7-07 OF S7-07 SHEETS	

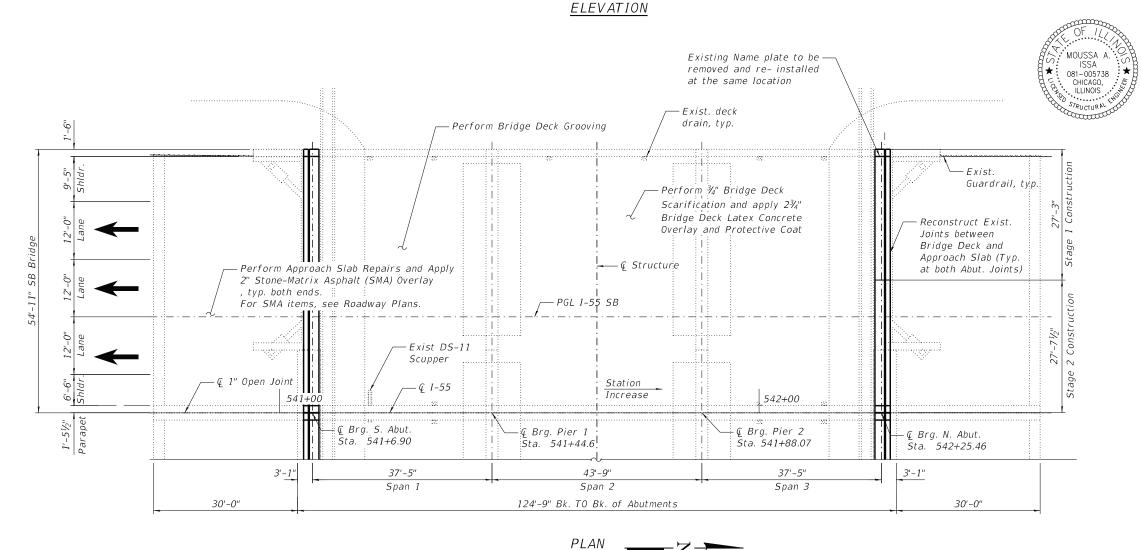
A.I. RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
I-55	2020-253-BR&PI	Р	WILL	178	150
		CONTRA	CT NO. 6	32N22	
	ILLINOIS	FED. All	D PROJECT		

Existing Structure: Structure No. 0990023 was originally constructed in 1956 as part of F.A. Route 34, Section 27-VB-1 and project FGI 187 (7) reconstructed/widened in 1977. Additional rehabilitation work was performed in 1994. The structure has a length of 122'-3" (back-to-back of abutments) and an out-to-out deck width of 54'-11". The continuous slab superstructure consists of three spans. The substructure consists of reinforced concrete piers and Traffic is to be maintained utilizing stage construction.



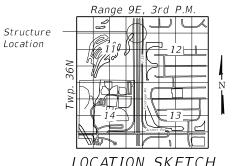
SCOPE OF WORK

- 1. Scarify 3/4" from the bridge deck slab.
- 2. Perform Deck Slab Repairs and Approach Slab Repairs
- 3. Reconstruct Expansion Joints at the North and South Abutments and install new preformed joint strip seals.
- 4. Apply a $2\frac{3}{4}$ " Bridge Deck Latex Concrete Overlay on Bridge Deck and 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs. For SMA items, see Roadway plans.
- 5. Perform Bridge Deck Grooving.
- 6. Replace 21/2" PJS between parapets; coordinate with SN 099-0022.
- 7. Apply protective coat to the top of reconstructed transverse joint areas and the top and inside faces of Parapets and top of Latex Overlay.
- 8. Perform structural concrete repairs for the Abutments, Pier 1 and Pier 2 as noted on the Plans.
- 9. Clean all deck drains.
- 10. Existing name plate to be removed, cleaned and reinstalled at the same location. Cost included with Concrete Removal.



Dr. Moussa A. Issa, S.E. II. Lic. No. 081-005738 Expires 11-30-2022 December 03, 2020 For Sheets S8-01 Thru S8-18

(Total of 18 Sheets)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION I-55 OVER MS RR (ABANDONED) F.A.I. ROUTE 55-SEC. 2006-032

WILL COUNTY STAION 710+34.86 S.N. 099-0023

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1/4" Thick Walls, Typ.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-01 OF S8-18 SHEETS

SECTION COUNTY 2020-253-BR&PP WILL 178 151 CONTRACT NO. 62N22

GENERAL NOTES

- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for expansion joints 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.
- 3. 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.
- 4. 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.
- 5. Bars noted thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bars per line.
- 6. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.
- . The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 8. Concrete Sealer shall be applied to the designated areas of the abutments.
- 9. 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.
- 10. Protective Coat shall be applied to the top and inside face of parapets, reconstructed transverse Expansion Joints and to the surface of the new overlay.
- 11. Coordinate with the Contractor for Contract No. 62K51 prior to installation of the preformed joint seal 2½". All work on Parapets must be completed for Contract No. 62K51 and this Contract prior to installation of the longitudinal joint.

INDEX OF SHEETS

S8-01 General Plan & Elevation

S8-02 Structure Notes, Index of Sheets & Total Bill of Material

S8-03 Stage Construction (Sheet 1 of 2) S8-04 Stage Construction (Sheet 2 of 2)

S8-05 Temporary Concrete Barrier For Stage Construction

58-06 Bridge Deck Repairs

S8-07 Approach Slab Repairs

S8-08 Parapet Repairs

S8-09 S. Abut. Joint Removal and Reconstruction (Sheet 1 of 2)

S8-10 S. Abut. Joint Removal and Reconstruction (Sheet 2 of 2)

S8-11 N. Abut. Joint Removal and Reconstruction (Sheet 1 of 2) S8-12 N. Abut. Joint Removal and Reconstruction (Sheet 2 of 2)

S8-13 Preformed Joint Strip Seal

58-14 South Abutment Repairs

S8-15 Pier 1 Repairs S8-16 Pier 2 Repairs

S8-17 North Abutment Repairs

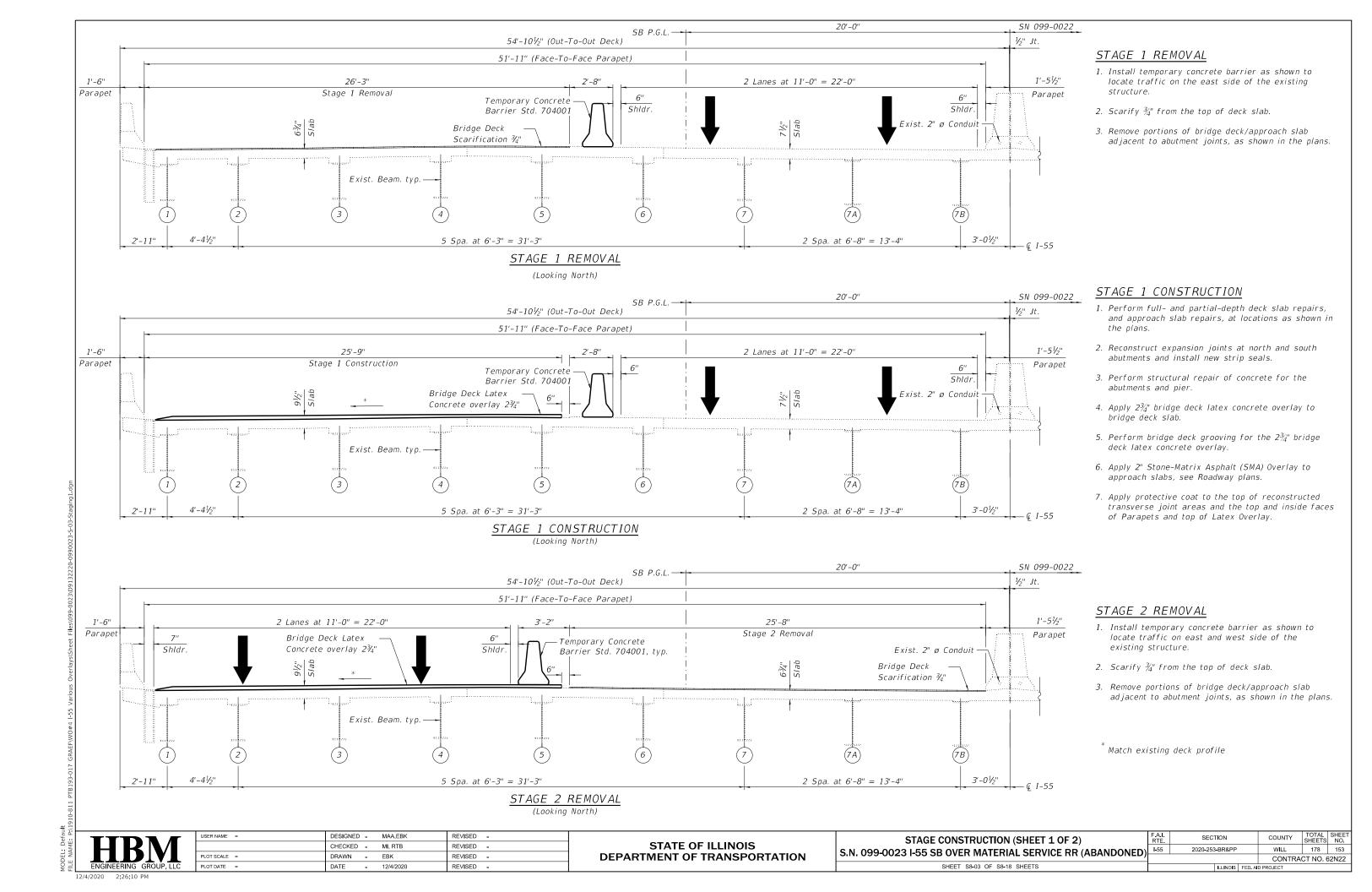
S8-18 Bar Splicer Assembly Details

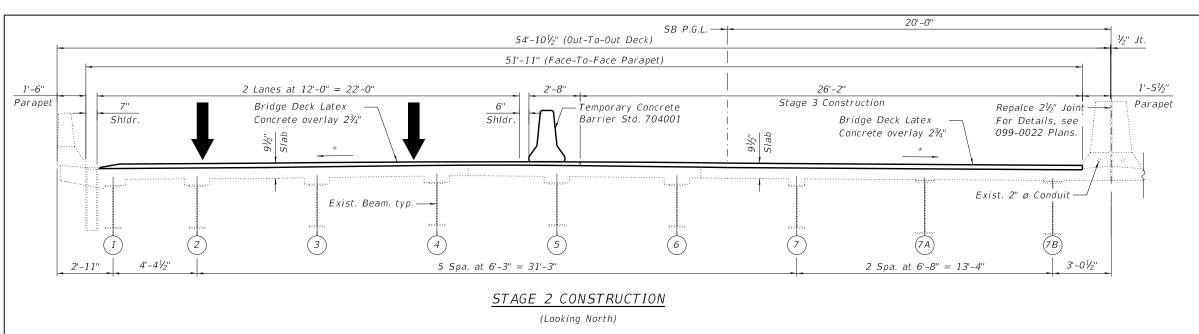
TOTAL BILL OF MATERIAL

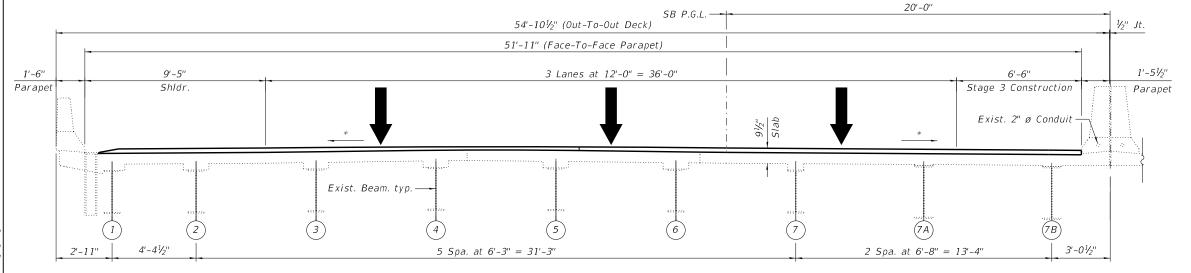
UNIT	SUPER	SUB	TOTAL
CU YD	14.8	0	14.8
CU YD	16.8	0	16.8
SQ YD	665	0	665
SQ YD	811	0	811
POUND	2,740	0	2,740
EACH	26	0	26
FOOT	185	0	185
FOOT	110	0	110
SQ FT	0	254	254
SQ YD	1	0	1
SQ YD	669	0	669
SQ YD	669	0	669
SQ FT	7	23	30
	CU YD CU YD SQ YD SQ YD POUND EACH FOOT FOOT SQ FT SQ YD SQ YD SQ YD	CU YD 14.8 CU YD 16.8 SQ YD 665 SQ YD 811 POUND 2,740 EACH 26 FOOT 185 FOOT 110 SQ FT 0 SQ YD 1 SQ YD 669 SQ YD 669	CU YD 14.8 0 CU YD 16.8 0 SQ YD 665 0 SQ YD 811 0 POUND 2,740 0 EACH 26 0 FOOT 185 0 FOOT 110 0 SQ FT 0 254 SQ YD 1 0 SQ YD 1 0 SQ YD 669 0 SQ YD 669 0

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FINAL CROSS-SECTION

(Looking North)

STAGE 2 CONSTRUCTION

- Perform full- and partial-depth deck slab repairs, and approach slab repairs, at locations as shown in the plans.
- 2. Reconstruct expansion joints at north and south abutments and install new strip seals.
- 3. Perform structural repair of concrete for the abutments and pier.
- 4. Apply $2\frac{3}{4}$ " bridge deck latex concrete overlay to bridge deck slab.
- 5. Perform bridge deck grooving for the $2\frac{3}{4}$ " bridge deck latex concrete overlay.
- 6. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to approach slabs, see Roadway plans.
- 7. Replace 2½" PJS between parapets; coordinate with SN 099-0022.
- 8. Apply protective coat to the top of reconstructed transverse joint areas and the top and inside faces of Parapets and top of Latex Overlay.
- Apply permanent pavement markings on top of deck and approach slabs. For Pavement Markings, See Roadway Plans.

*
Match existing deck surface profile

HBM

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when "A" is greater than 3'-1". NEW SLAB OR NEW DECK BEAM

barrier shall be restrained to the new slab according

to Detail I, II or III. No restraint is required

6" min. min. Drill 3-11/4" 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

← Stage removal line

1'-101/5"

EXISTING SLAB

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

← Stage removal line

1'-101/5"

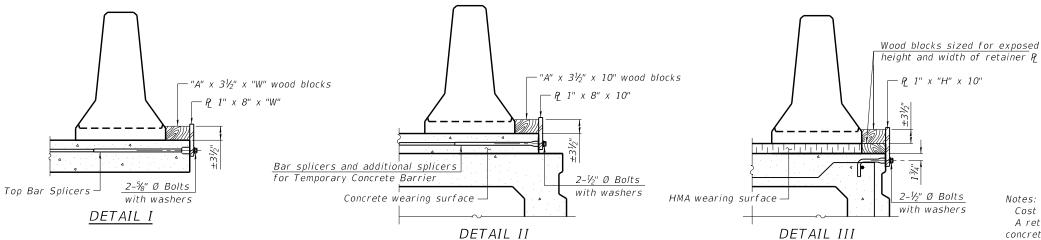
EXISTING DECK BEAM

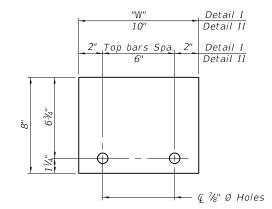
SECTIONS THRU SLAB OR DECK BEAM

is required when "A" is greater than 3'-1".

Temporary Concrete Barrier

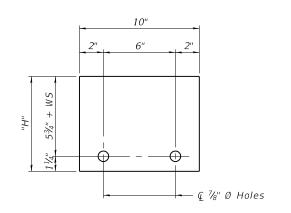
See Standard 704001



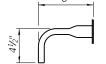


STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)



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



RESTRAINING PIN

BAR SPLICER FOR #4 BAR - DETAIL III

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

1x8 UNC

US Std. 11/16" I.D. x 21/2" O.D. x approx. 8 guage thick washer

When the 'A' dimension is less than $1\frac{1}{2}$ ", 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.

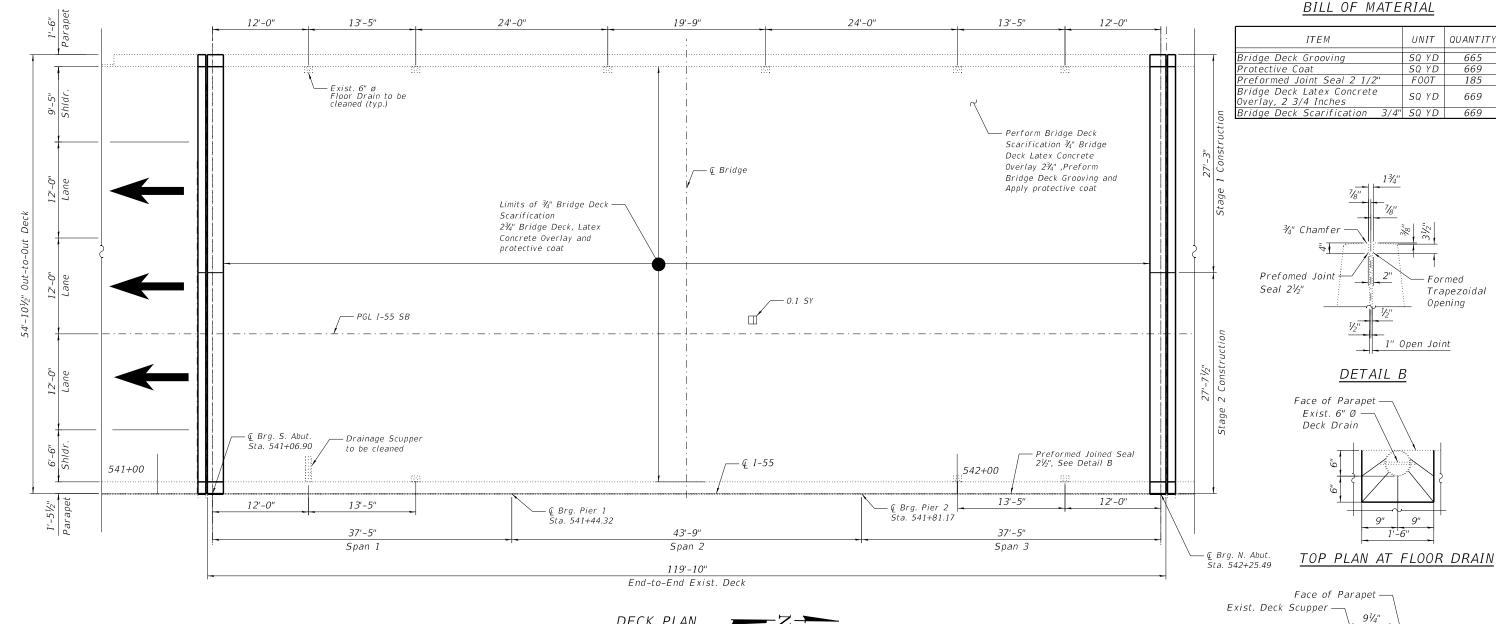
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

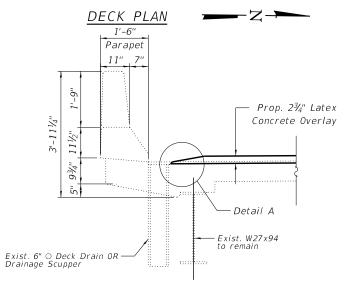
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-05 OF S8-18 SHEETS

A.I. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SHEET NO.
I-55	2020-253	B-BR&PP		WILL	178	155
				CONTRA	CT NO. 6	32N22
	III BIODE FED AD PROJECT					



NOTES:

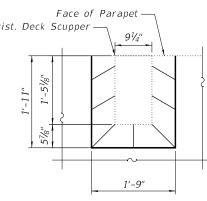
- 1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction.
- 2. For North and South transverse joint removal and reconstruction, see Sheets S8-09 thru 58-12.
- 3. Perform bridge deck grooving for the bridge deck latex concrete overlay and the roadway portions of the reconstructed transverse joints.
- 4. 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.
- 5. 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.
- 6. Clean Deck drains and Scupper, Cost included with Bridge Deck Scarification, ¾"



SECTION AT DECK DRAIN/ DRAINAGE SCUPPER

Prop. 2¾" Latex Concrete Overlay Exist. 6" Ø Deck Drain OR Drainage Scupper DETAIL A

> * Areas of Deck Slab Repair (Partial) are provided for information only and shall be included in the cost of Bridge Deck Latex Concrete Overlay, 21/4"



TOP PLAN AT DRAINAGE SCUPPER

<u>LEGEND</u>



Deck Slab Repair (Partial)

665

185

669

669

SY Square Yard

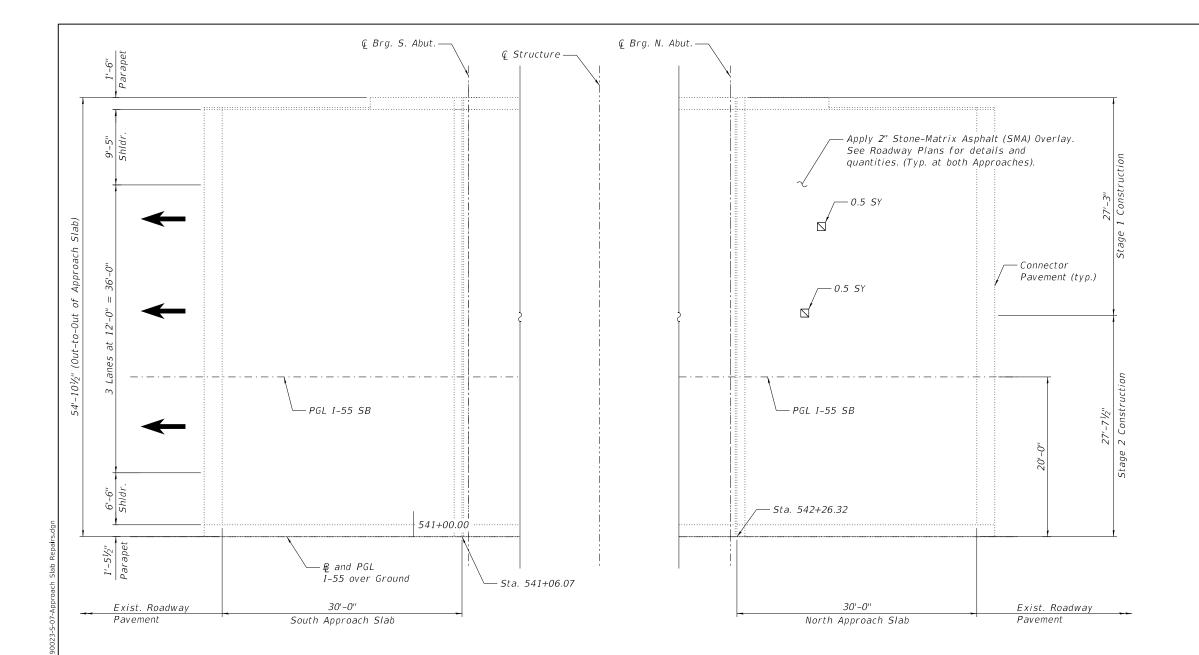


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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIRS S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-06 OF S8-18 SHEETS

SECTION COUNTY 2020-253-BR&PP WILL 178 156 CONTRACT NO. 62N22



<u>PARTIAL PLAN</u>
(North and South Approaches)

BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
f	Approach Slab Repair (Partial)	Sa Yd	1

NOTE:

 Areas of Approach Slab Repair (Partial Depth) shown are estimated. The Engineer shall show actual location of repairs at the time of construction. <u>LEGEND</u>

SY

Approach Slab Repair (Partial Depth)

Square Yard

HBM ENGINEERING GROUP, LLC

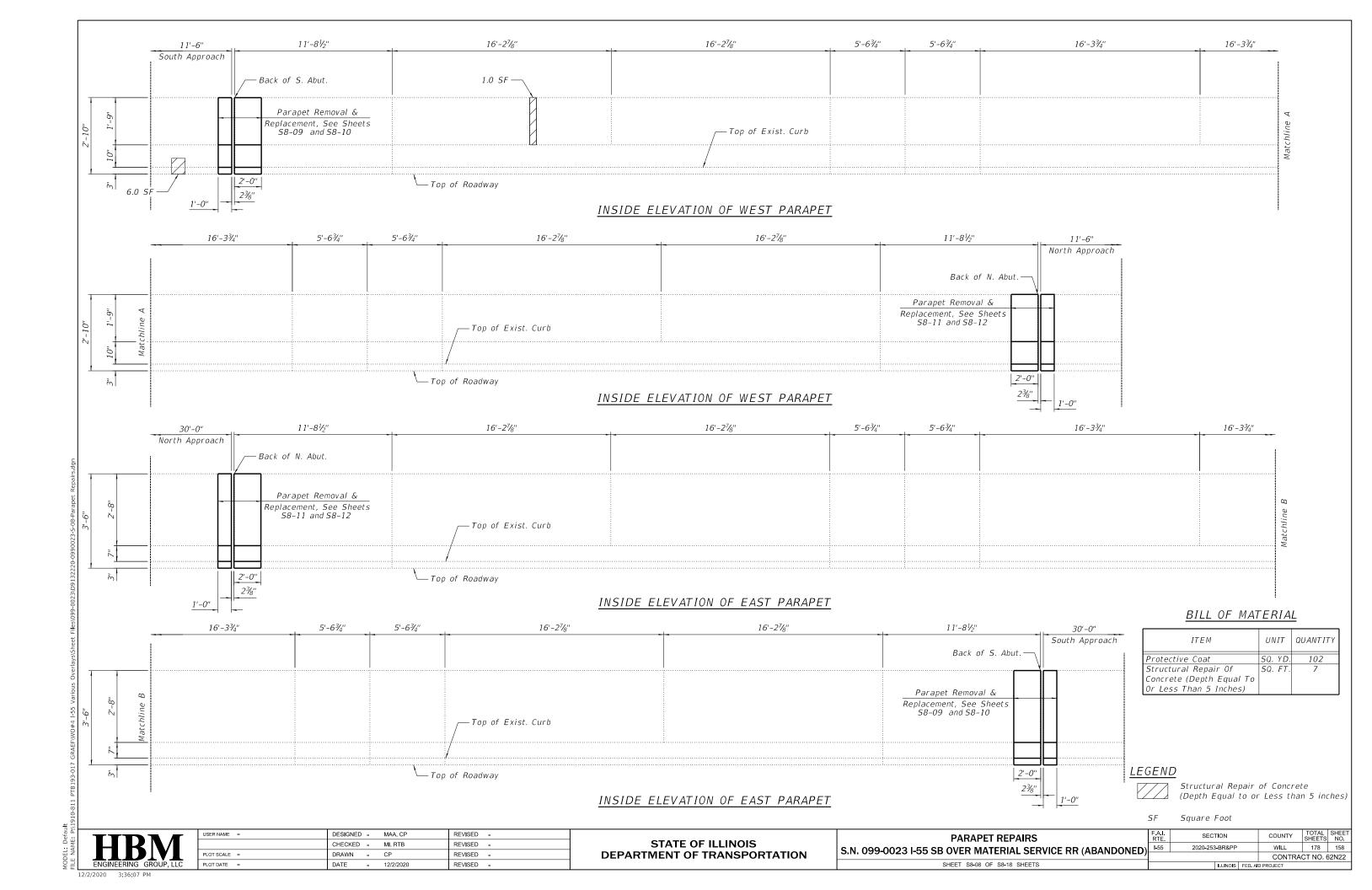
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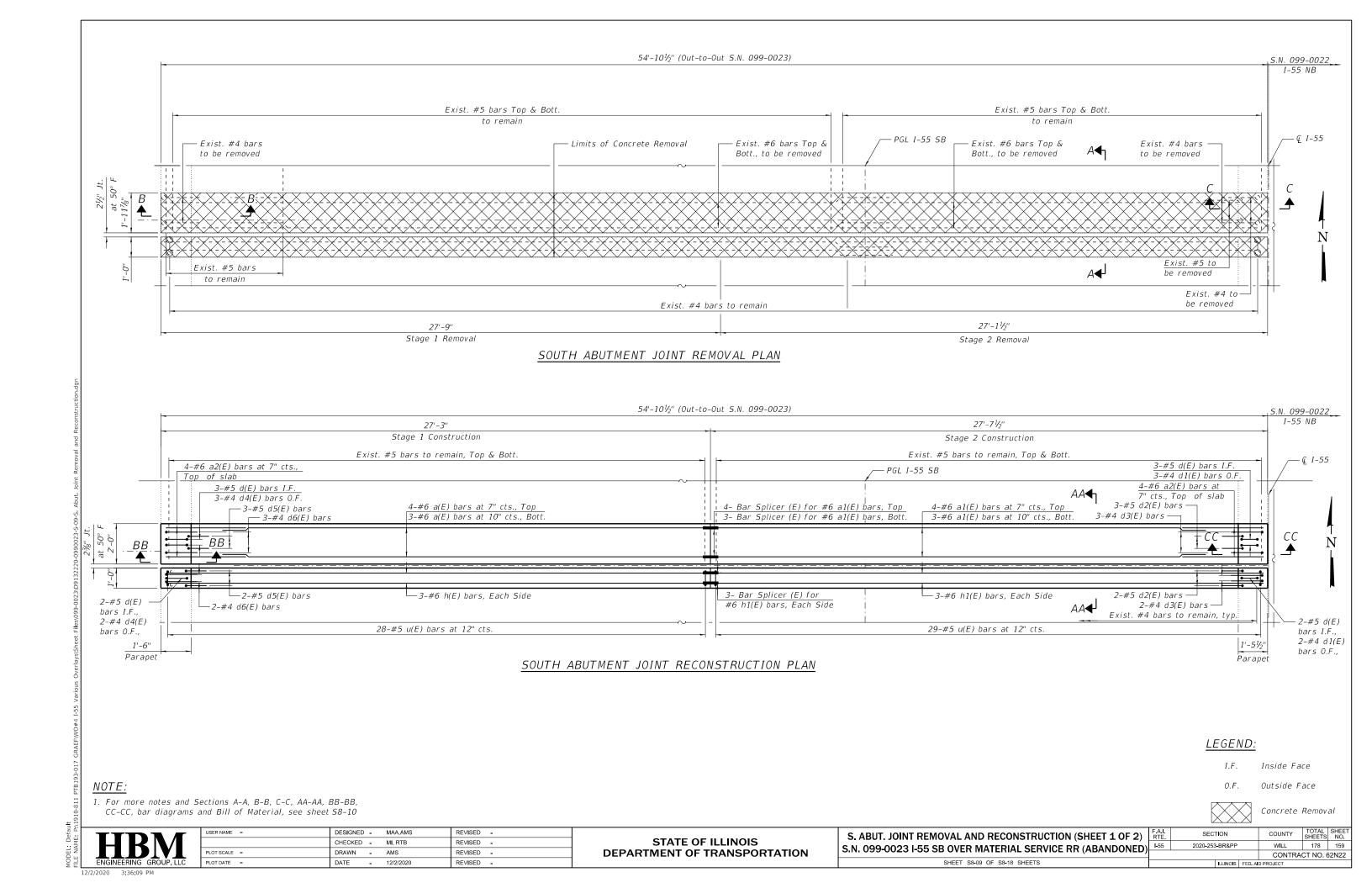
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

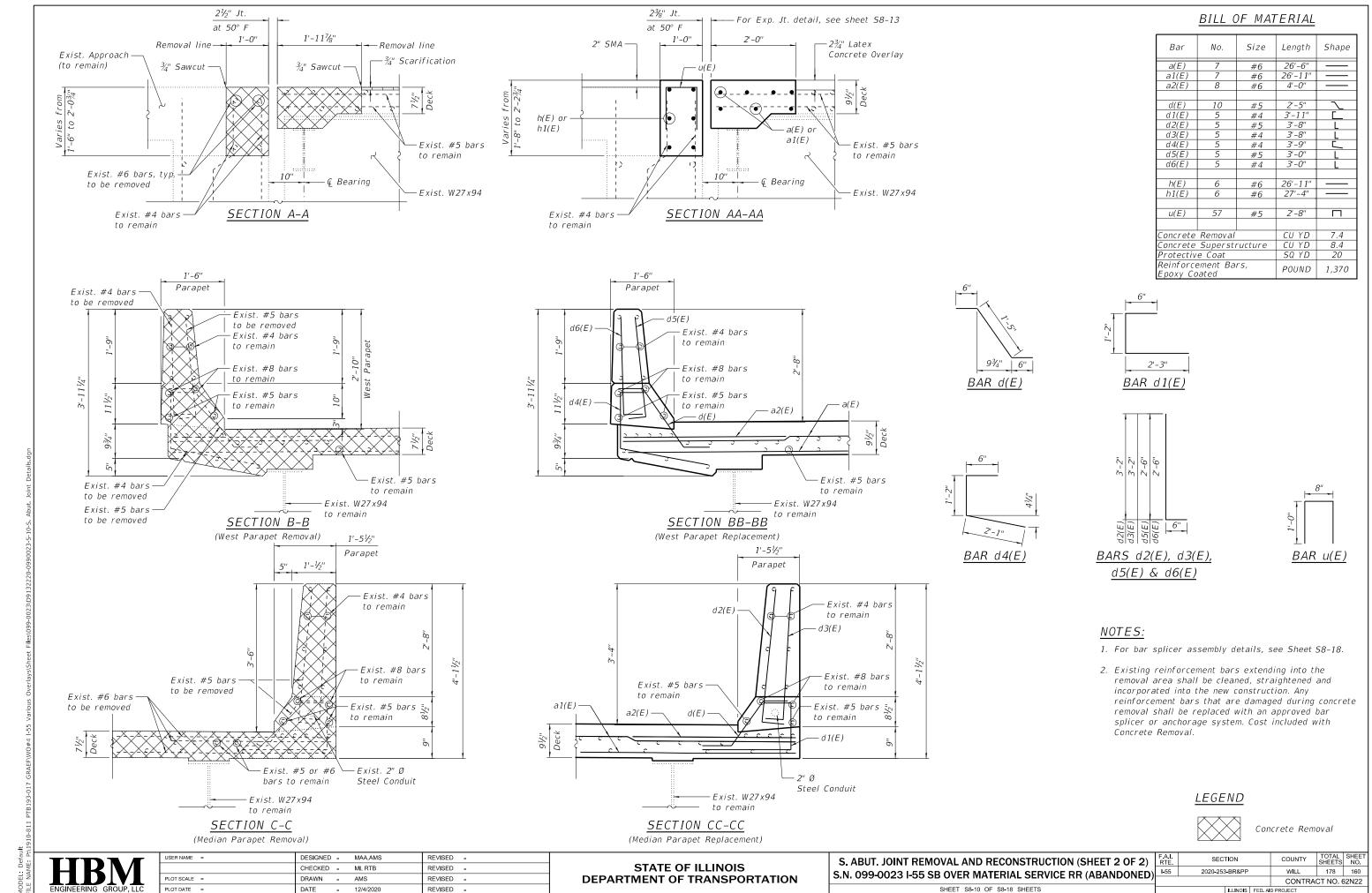
APPROACH SLAB REPAIRS

S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED)

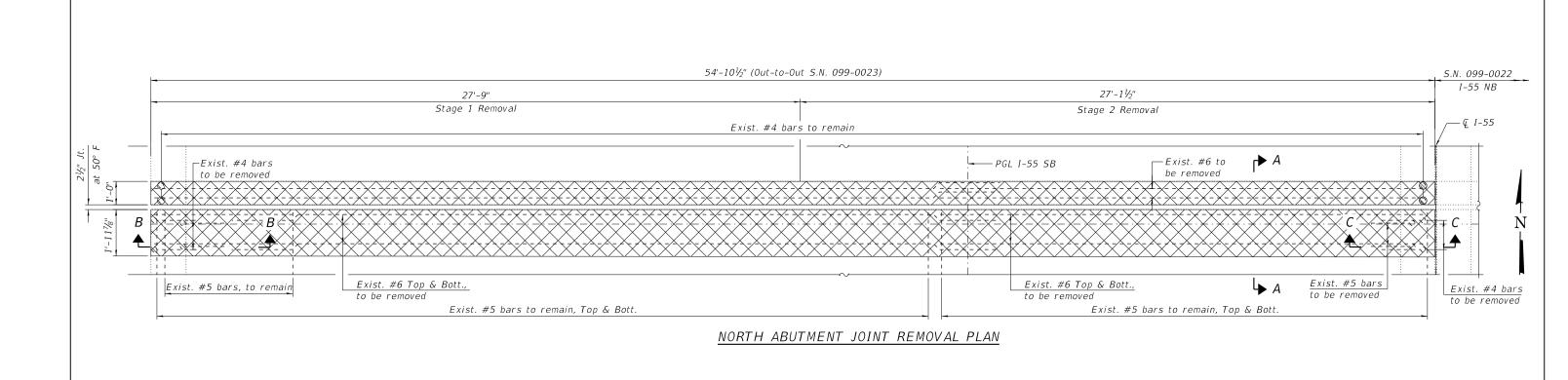
SHEET S8-07 OF S8-18 SHEETS

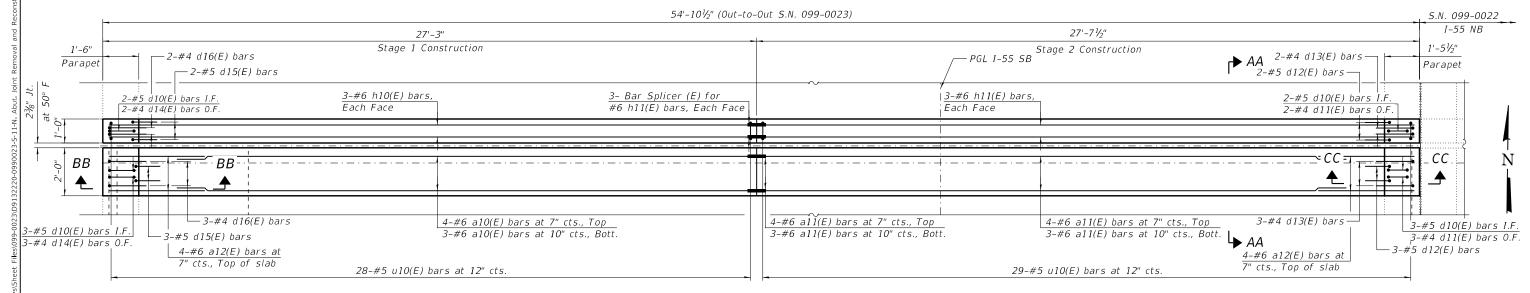






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NORTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- 1. For bar splicer assembly details, see Sheet S8-18.
- 2. 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.

<u>LEGEND:</u>

I.F. Inside Face

0.F. Outside Face

Concrete Removal

HBM ENGINEERING GROUP, LLC

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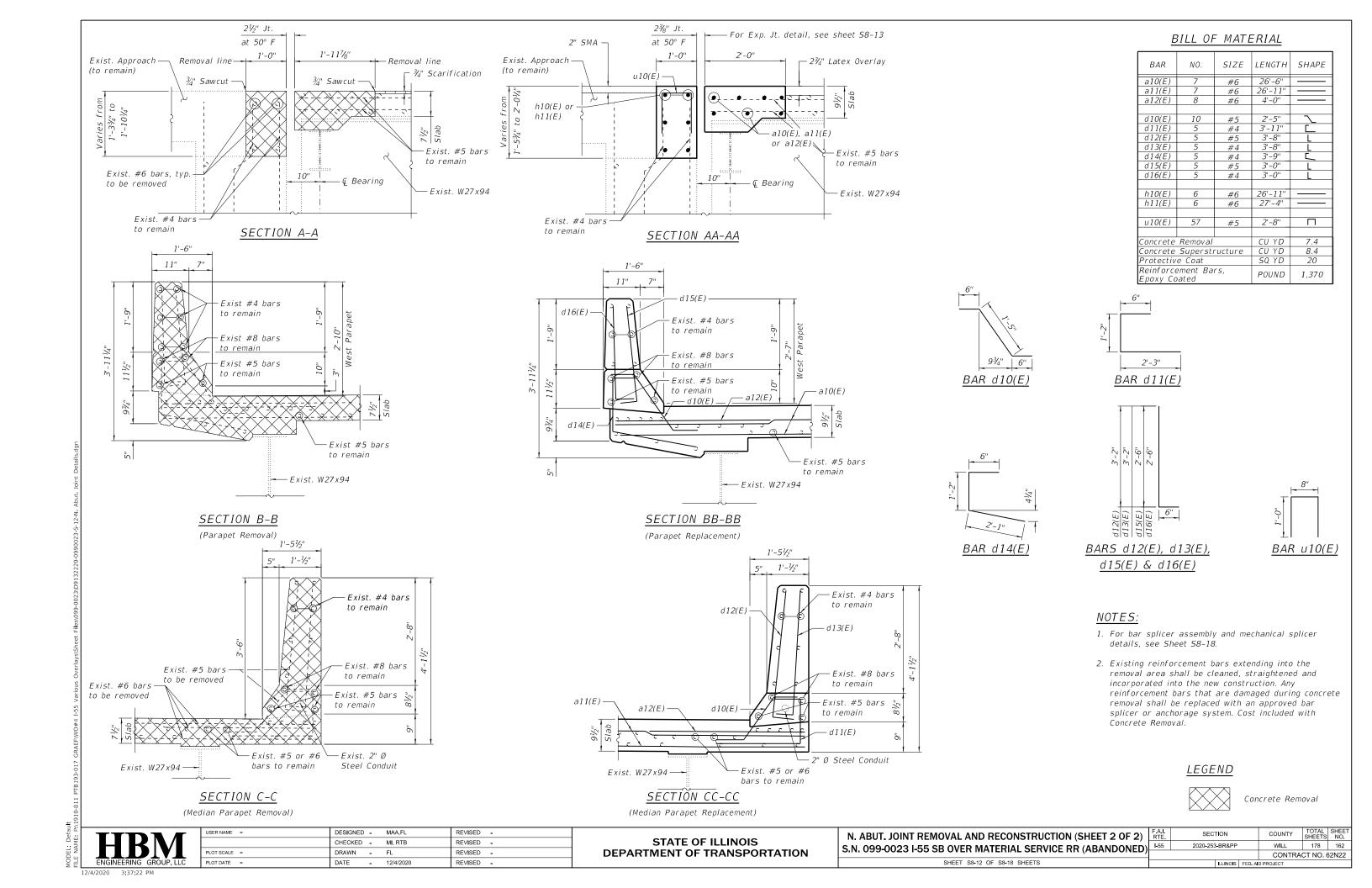
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

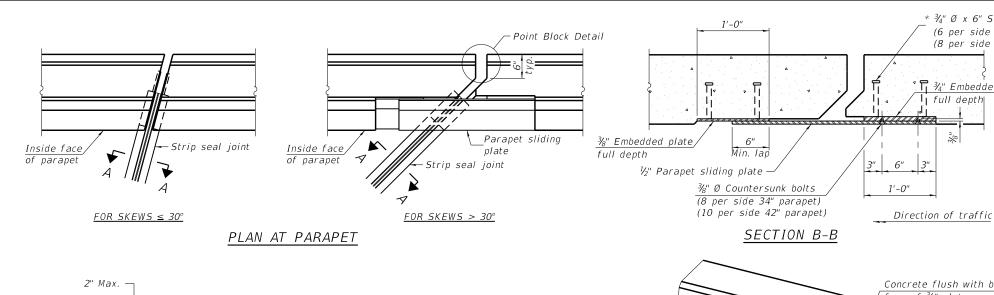
N. ABUT. JOINT REMOVAL AND RECONSTRUCTION (SHEET 1 OF 2)	F.A.I. RTE.	SEC	TION	
S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED)	I-55	2020-25	3-BR&PP	
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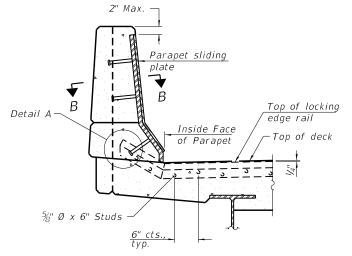
F.A.I. SECTION COUNTY TOTAL SHEETS NO.

1-55 2020-253-BR&PP WILL 178 161

CONTRACT NO. 62N22

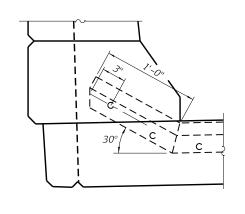




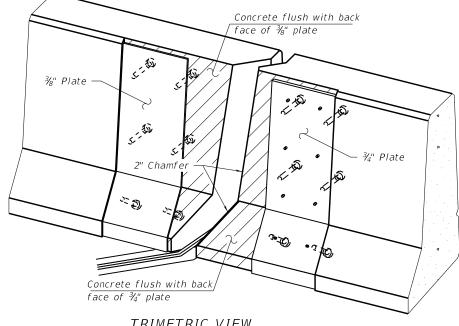


ELEVATION AT PARAPET

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



DETAIL A



* ¾" Ø x 6" Studs

ľ ြ ¾" Embedded plate

full depth

(6 per side 34" parapet)

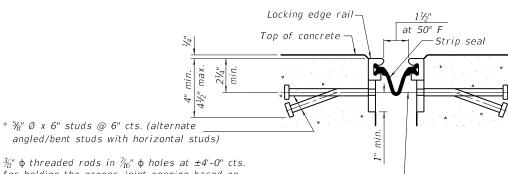
(8 per side 42" parapet)

TRIMETRIC VIEW (Showing embedded plates only)

Locking edge railat 50° F Top of concrete -Strip seal at 50° F

8-11-17

SHOWING ROLLED RAIL JOINT



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.

<u>ROLLED</u> (EXTRUDED) RAIL

** Back gouge not required if complete joint

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

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

The Maximum space between locking edge rail segments shall be $\frac{3}{6}$ " 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.

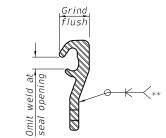
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

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.

LOCKING EDGE RAILS

WELDED RAIL

penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	110

SECTION A-A

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

EJ-SS

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PLOT SCALE =	DRAWN	-	AMS	REVISED	-
PLOT DATE =	DATE	-	12/2/2020	REVISED	-

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SHOWING WELDED RAIL JOINT

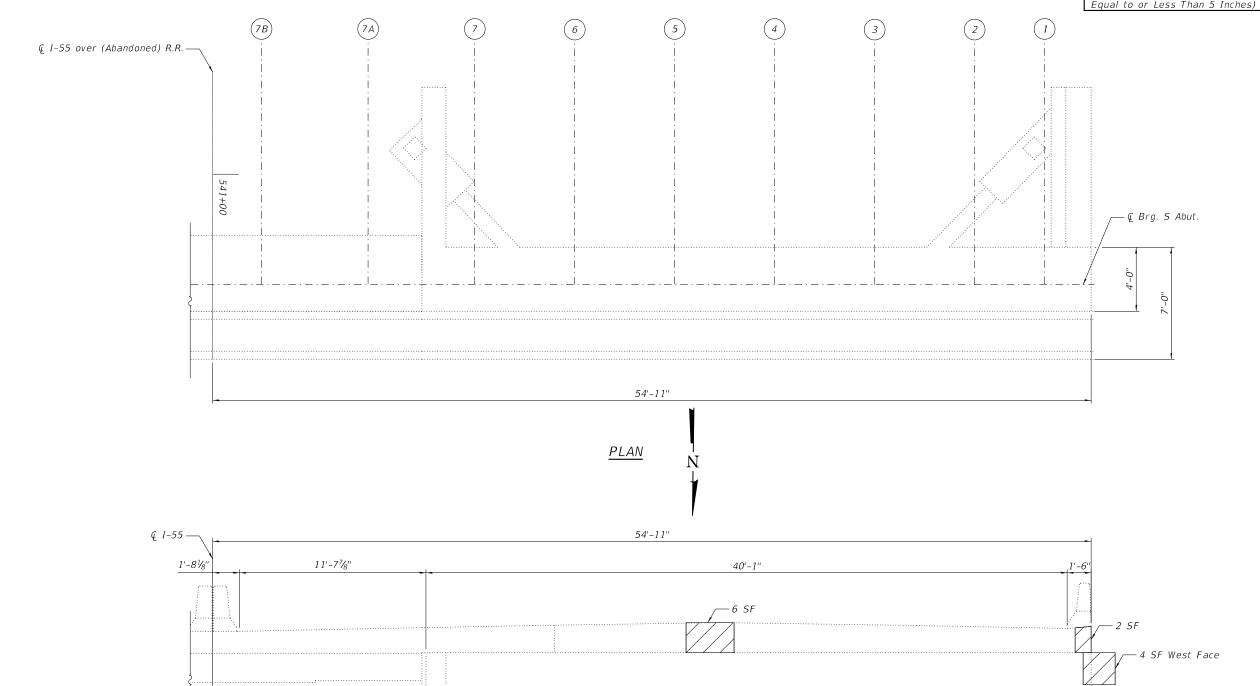
PREFORMED JOINT STRIP SEAL S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-13 OF S8-18 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
I- 55	2020-253-BR&PP		WILL	178	163
			CONTRA	CT NO. 6	32N22
ILLINOIS FED AID PROJECT					

1. Quantities and limits shown are estimated for bidding purpose 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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	127
Structural Repair of Concrete (Depth	Sq. Ft.	12



SOUTH ABUTMENT

(Looking South)

LEGEND

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

SF Square Feet

HBM
ENGINEERING GROUP, LLC

USER NAME =	DESIGNED	-	MAA,AMS	REVISED -	
	CHECKED	-	MI, RTB	REVISED -	ı
PLOT SCALE =	DRAWN	-	AMS	REVISED -	l
PLOT DATE =	DATE	-	12/2/2020	REVISED -	

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT REPAIRS S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-14 OF S8-18 SHEETS

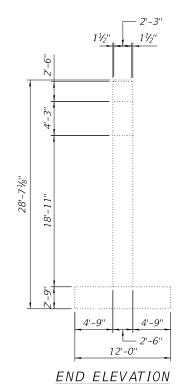
F.A.I. RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
I-55	2020-253-BR&PP		WILL	178	164
		CONTRA	CT NO. 6	32N22	
ILLINOIS FED. AID PROJECT					

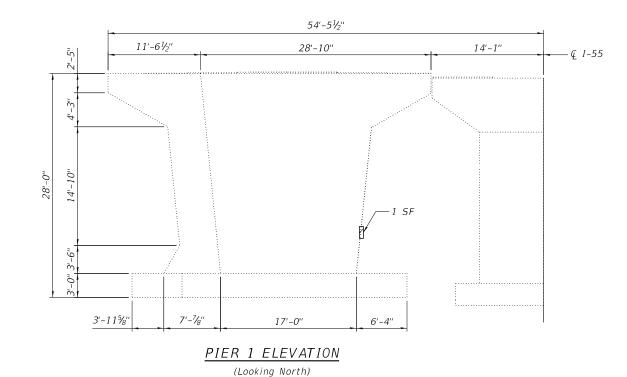
NOTES:

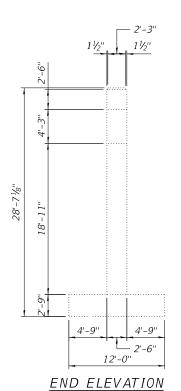
1. Quantities and limits shown are estimated for bidding purpose only. The actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction.

BILL OF N	<i>1ATERIAL</i>
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ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq Ft	1

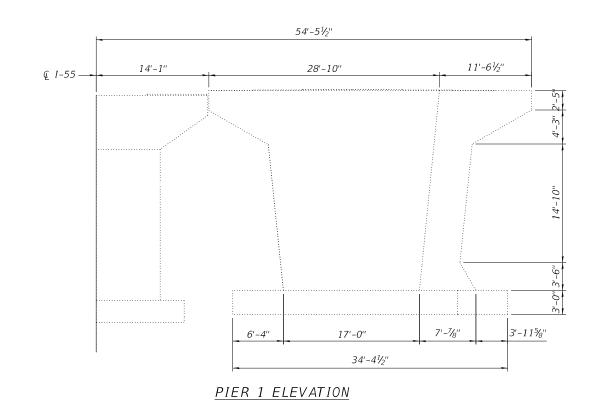






(Looking West)

(Looking East)



LEGEND

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

Square Feet SF

USER NAME = DESIGNED - MAA, FL REVISED -REVISED -CHECKED - MI, RTB DRAWN - FL REVISED -DATE - 12/2/2020 REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

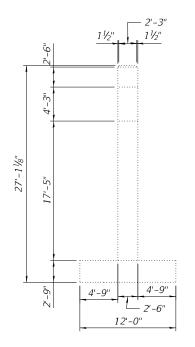
(Looking South)

PIER 1 REPAIRS S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED) SHEET S8-15 OF S8-18 SHEETS

SECTION COUNTY 2020-253-BR&PP WILL 178 165 CONTRACT NO. 62N22

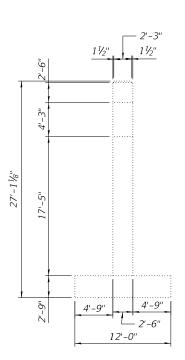
NOTES:

1. Quantities and limits shown are estimated for bidding purpose 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.



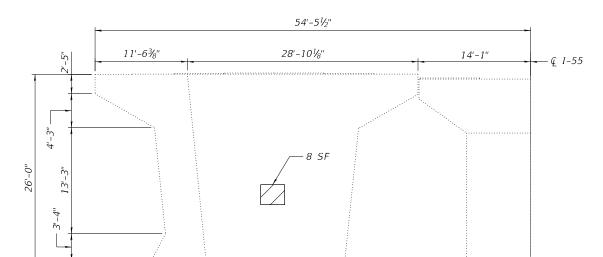
END ELEVATION

(Looking East)



END ELEVATION

(Looking East)



PIER 2 ELEVATION

6'-17/8"

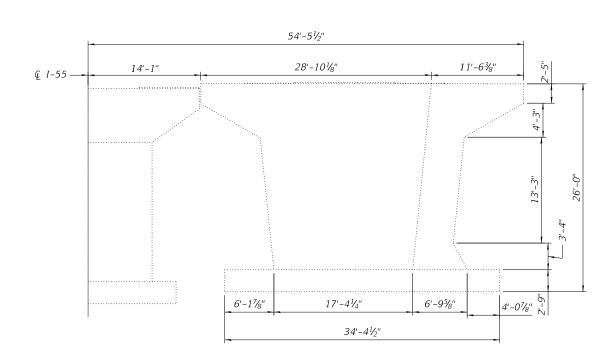
(Looking North)

17'-4½"

34'-4½"

4'-07/8"

6'-95/8"



PIER 2 ELEVATION

(Looking South)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less than 5 inches)	Sq Ft	8

BILL OF MATERIAL

<u>LEGEND</u>

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

SF Square Feet

HBM	
ENGINEERING GROUP, LLC	

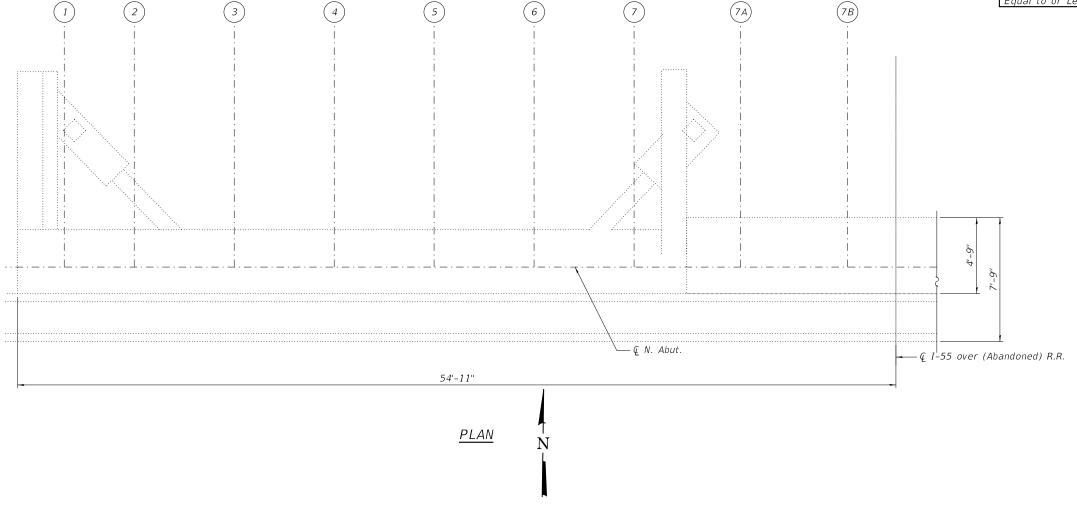
USER NAME =	DESIGNED - MAA, FL	REVISED -
	CHECKED - MI, RTB	REVISED -
PLOT SCALE =	DRAWN - FL	REVISED -
PLOT DATE =	DATE - 12/2/2020	REVISED -

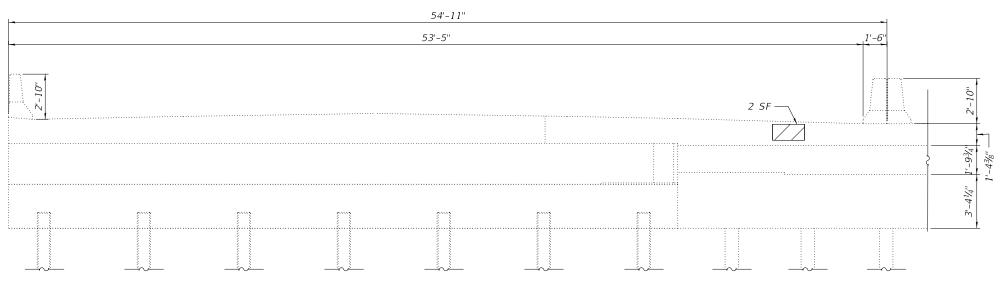
us Overlays(Sheet Files(099-0023(D9132220-0990023-5-17-Pier 2 Repairs.d

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BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	127
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	2





NORTH ABUTMENT
(Looking North)

LEGEND:

NOTE:

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

1. Quantities and limites shown are estimated for bidding purpose 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

SF Square Feet

at the time of construction.

HBM ENGINEERING GROUP, LLC

USER NAME =	DESIGNED -	-	MAA,EBK	REVISED -	
	CHECKED -	-	MI, RTB	REVISED -	
PLOT SCALE =	DRAWN -	-	EBK	REVISED -	
PLOT DATE =	DATE -		12/2/2020	REVISED -	

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT REPAIRS
S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S8-17 OF S8-18 SHEETS

LI.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
55	2020-253-BR&PP		WILL	178	167
		CONTRA	CT NO. 6	32N22	
	ILLINOIS	EED AL	D PPO IECT		

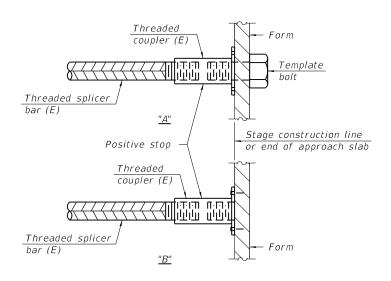
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

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

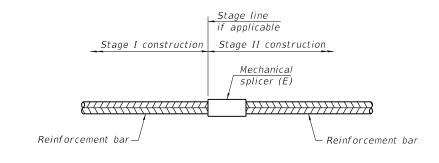
Location	Bar size	No. assemblies required	Minimum Iap length
S Abutment	#6	13	4'-10"
N Abutment	#6	13	4'-10"



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

HBM ENGINEERING GROUP LLC 1-1-2020

 USER NAME
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 DESIGNED
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 MI, RTB
 REVISED

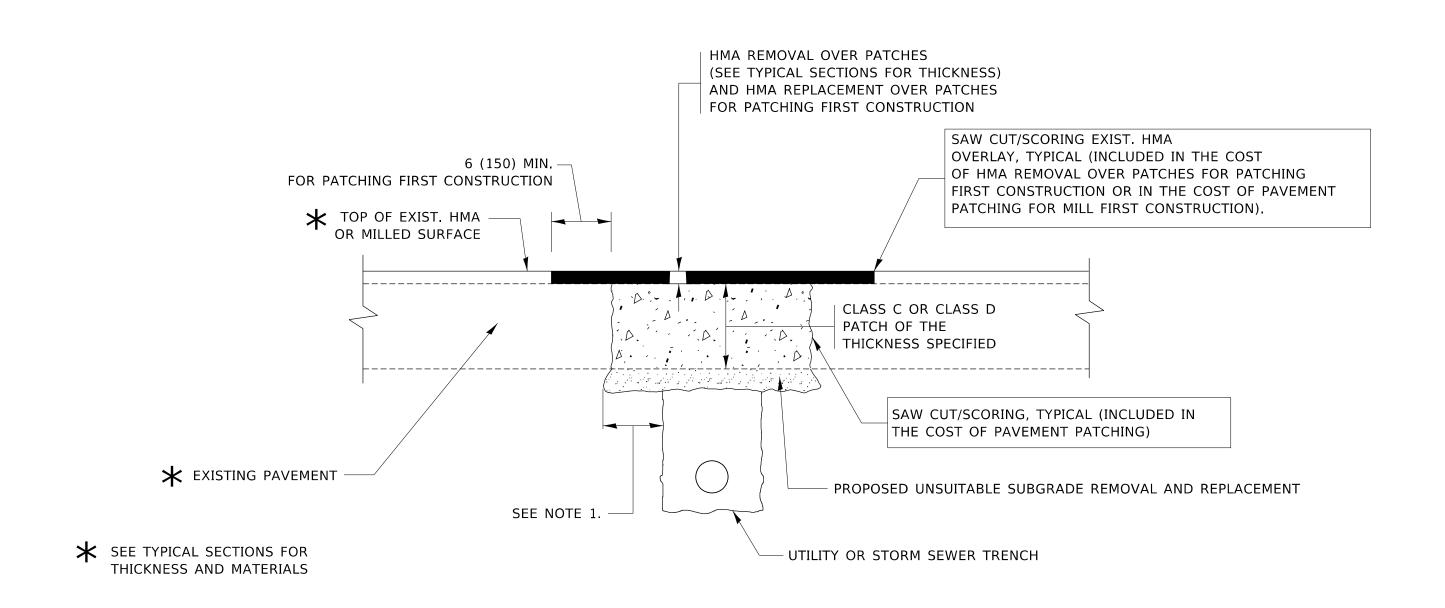
 PLOT SCALE
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 AMS
 REVISED

 PLOT DATE
 DATE
 12/2/2020
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
S.N. 099-0023 I-55 SB OVER MATERIAL SERVICE RR (ABANDONED)

SHEET S8-18 OF S8-18 SHEETS



NOTES:

- 1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
- 2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

- 1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
- 2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
- 3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

- 1. MILL HMA FIRST IF THERE IS AT LEAST $4\frac{1}{2}$ INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
- 2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

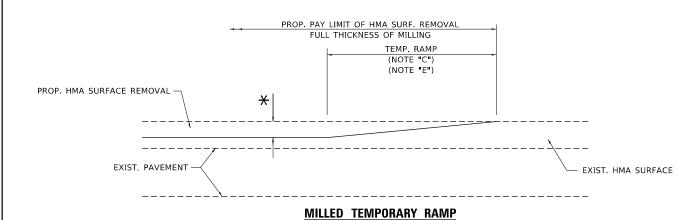
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

USER NAME = TOOTEMI	DESIGNED - K SHAH	REVISED - A. ABBAS 04-27-98
	DRAWN -	REVISED - R. BORO 01-01-07
PLOT SCALE = 50.0000 / in.	CHECKED -	REVISED - R. BORO 09-04-07
PLOT DATE = 3/27/2019	DATE - 10-25-94	REVISED - K. ENG 10-27-08

STATE	OF ILLINOIS	
DEPARTMENT 0	F TRANSPORTATION	

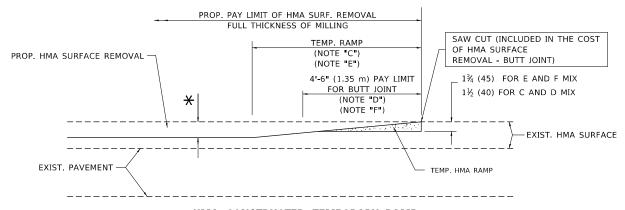
SCALE: NONE

PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT							F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
										178	169
IIIVIA JOIII AOED I AVEINENT					WAFIAIFIAI		BD400-04 (BD-22) CONT				
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(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

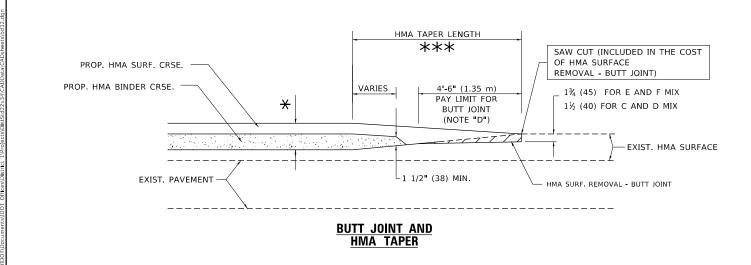


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 2

TYPICAL TEMPORARY RAMP



TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING

 USER NAME
 footemj
 DESIGNED
 - M. DE YONG
 REVISED
 - R. SHAH 10-25-94

 DRAWN
 - REVISED
 - A. ABBAS 03-21-97

 PLOT SCALE
 - 50,0000 '/ in.
 CHECKED
 - REVISED
 - M. GOMEZ 04-06-01

 PLOT DATE
 - 3/27/2019
 DATE
 - 06-13-90
 REVISED
 - R,BORO 01-01-07

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND

HMA TAPER DETAILS

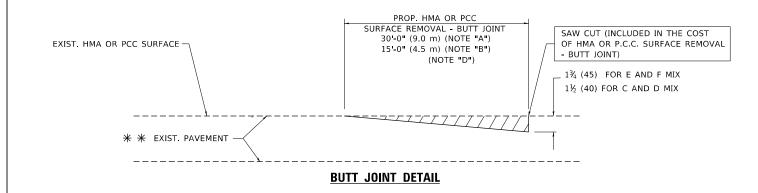
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

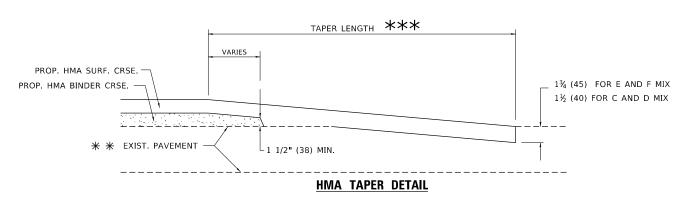
F.A. SECTION

RTTE.

BD400-05 BD32

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TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

- A. MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
- B. MINOR SIDE ROADS.
- C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E. TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
- F. INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL BUTT JOINT.

 ** SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- G. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- *** 20-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A") 10-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT

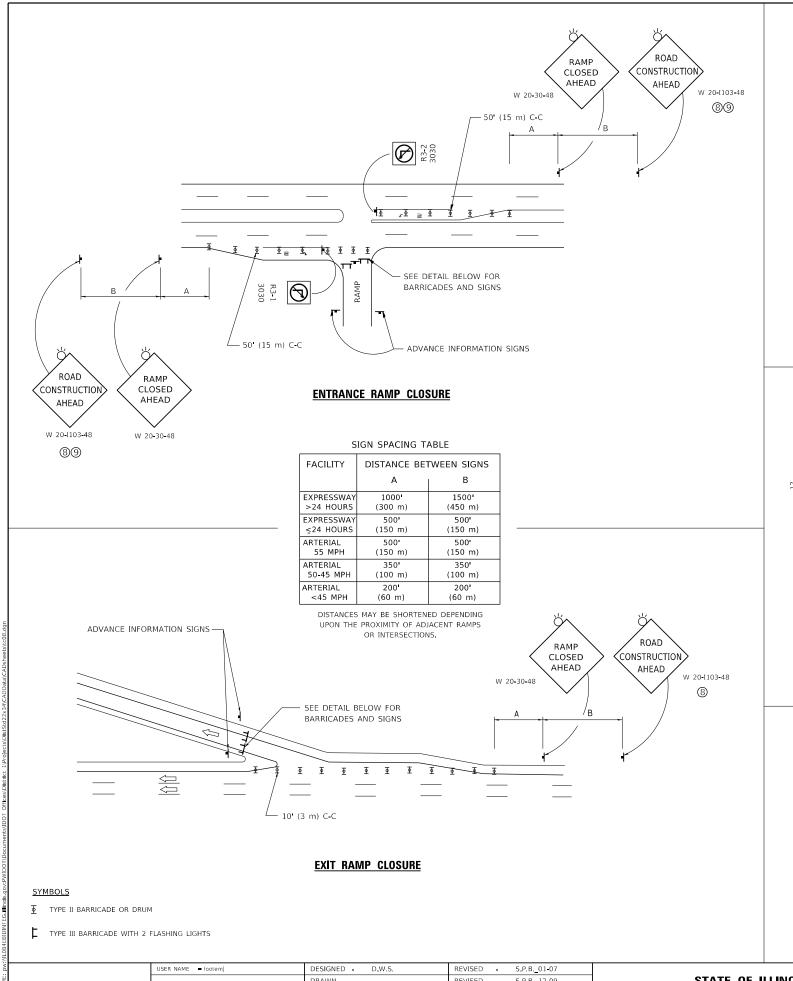
THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT"

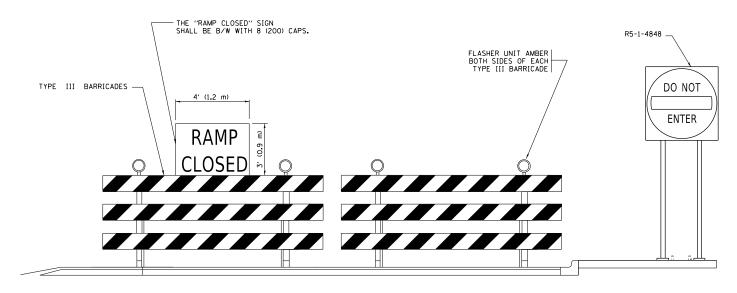
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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CONTRACT NO.

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DETAIL FOR REQUIRED BARRICADES & SIGNS

RAMP CLOSURE ADVANCE INFORMATION SIGN

RAMP CLOSURE ADVANCE WARNING SIGN

RAMP CLOSED

BLACK LEGEND ON ORANGE

CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS

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

THIS RAMP 5 (125) BLACK LEGEND ON WHITE BACKGROUND 6 (150) 5 (125) ⅓ (12) BORDER CLOSED 6 (150) E MOD FONT 5 (125) 6 (150) | THESE BLANK AREAS SHALL BE | FILLED WITH THE DATES AND THE 5 (125) TIME THAT THE RAMP WILL BE 6 (150) (125) 4' (1.2 m)

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:

- OCONES 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, PRECEEDED BY A W20-7 FLAGGER WARNING SIGN.
- 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.
- (3) THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).

SCALE: NONE

- 6 AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS
- 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
- 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.
- 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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 REVISED
 S.P.B. 12-09

 CHECKED
 REVISED
 M.D. 06-13

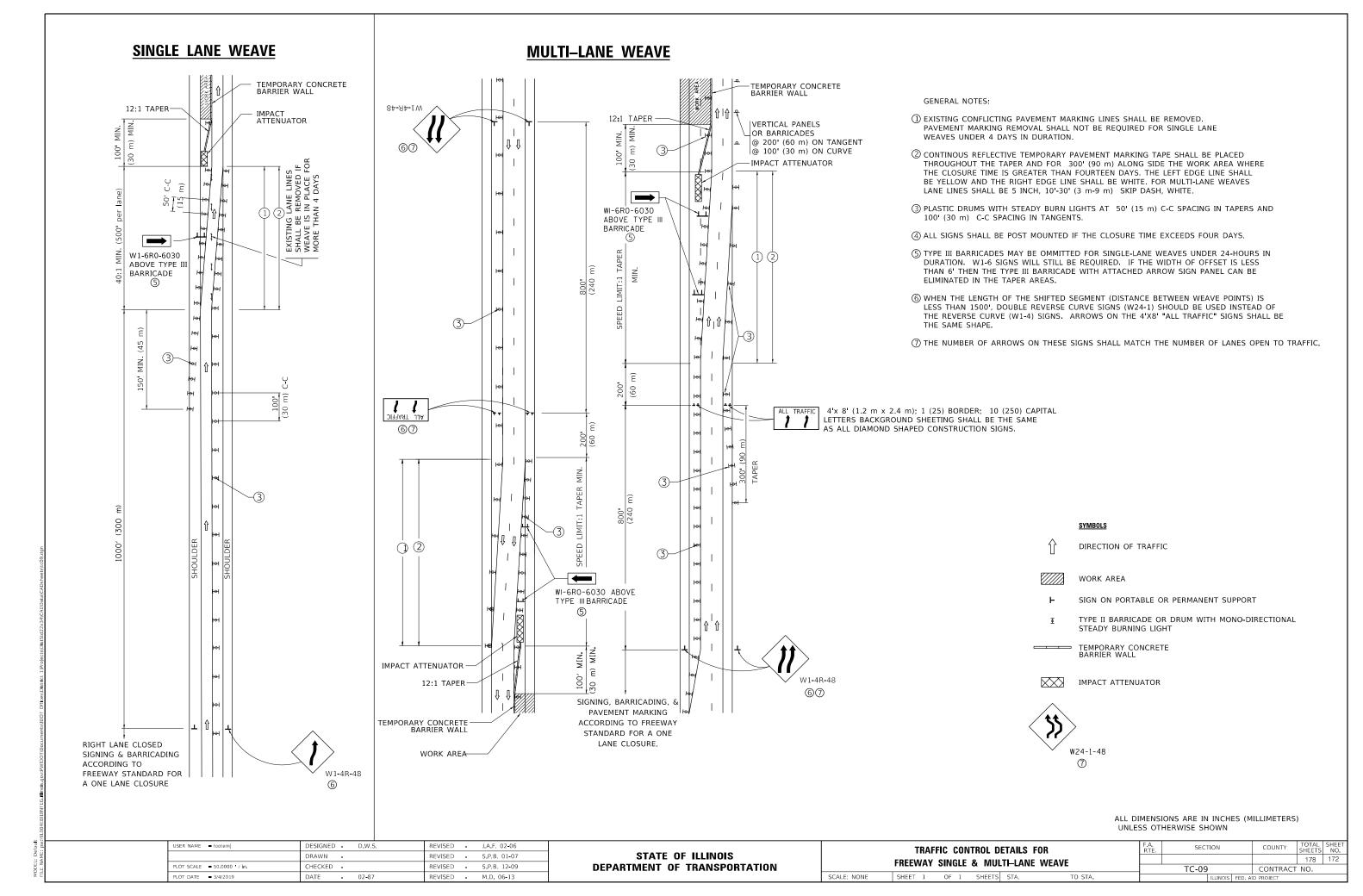
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 M.D. 01-18

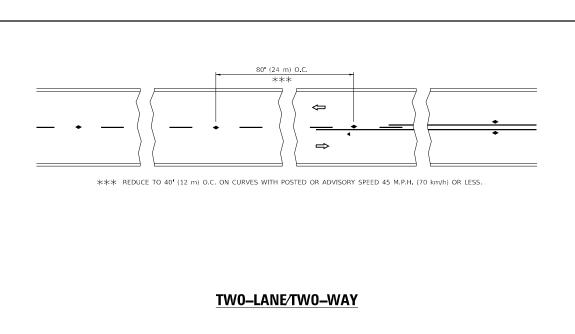
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

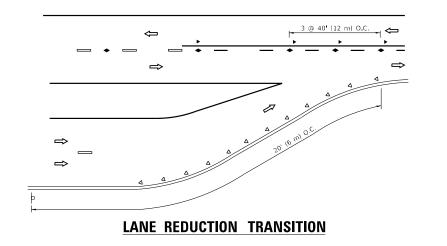
ENTRANCE_AND_EXIT_RAMP Closure_details										
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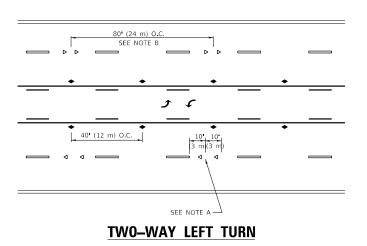
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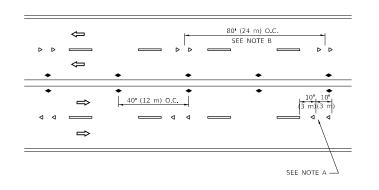


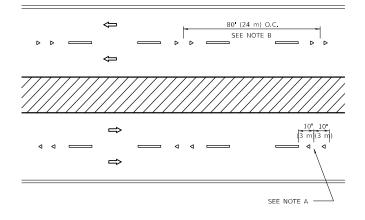




SEE FIGURE 3B-14 MUTCD

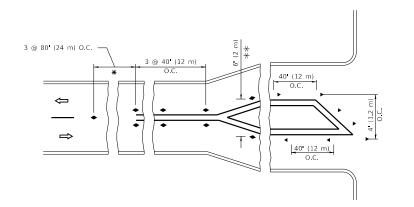


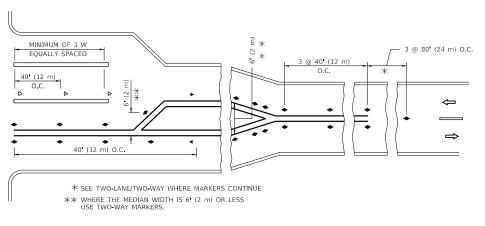




MULTI-LANE/UNDIVIDED







TURN LANES

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

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
- 4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.

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

USER NAME = footemj DESIGNED -REVISED - T. RAMMACHER 03-12-99 REVISED -T. RAMMACHER 01-06-00 DRAWN -HECKED -REVISED - C. JUCIUS 09-09-09 REVISED - C. JUCIUS 07-01-13 PLOT DATE = 3/4/2019 DATE

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) SHEET 1 OF 1 SHEETS STA.

SECTION 178 173 CONTRACT NO.

SYMBOLS

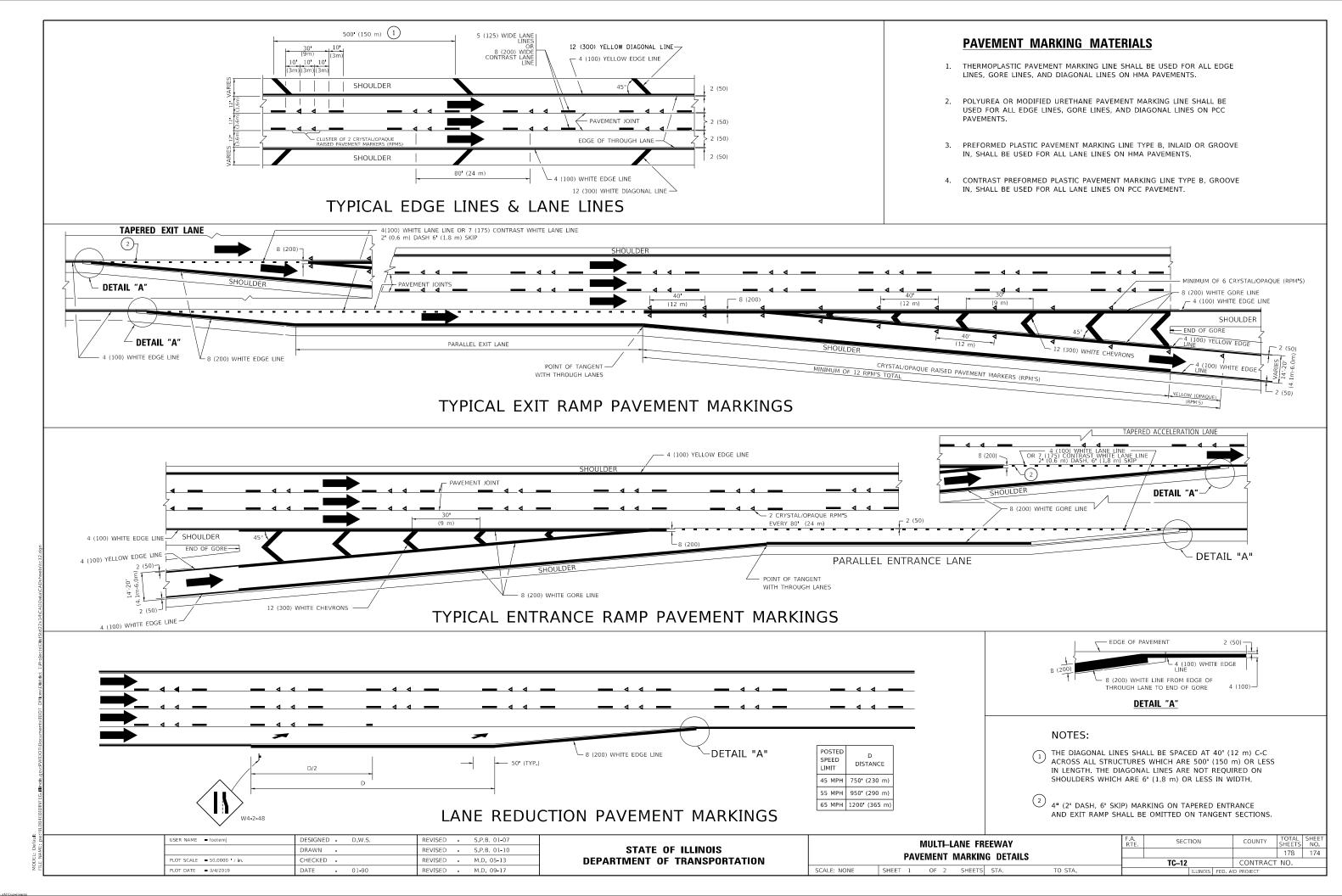
ONE-WAY AMBER MARKER

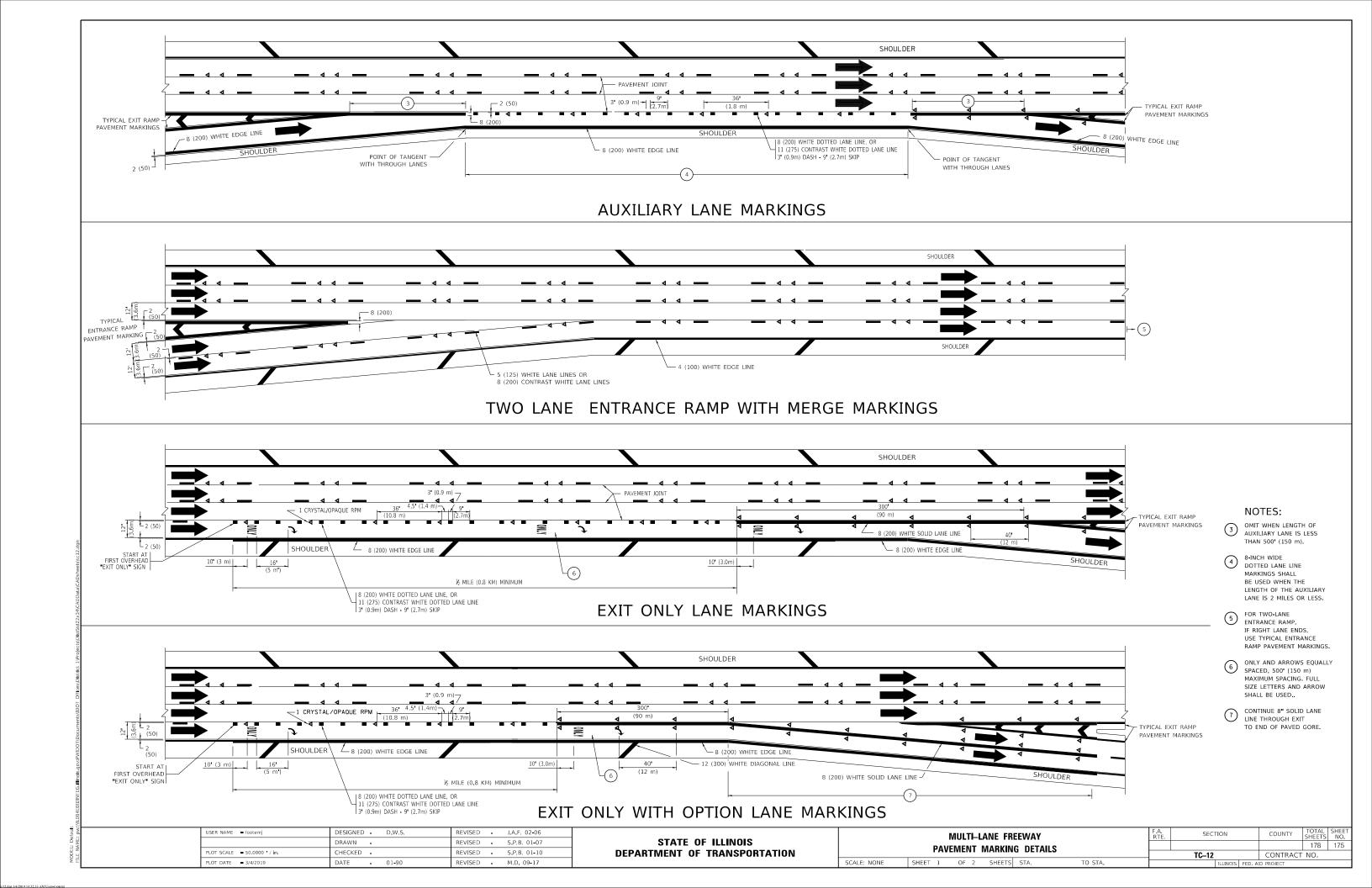
TWO-WAY AMBER MARKER

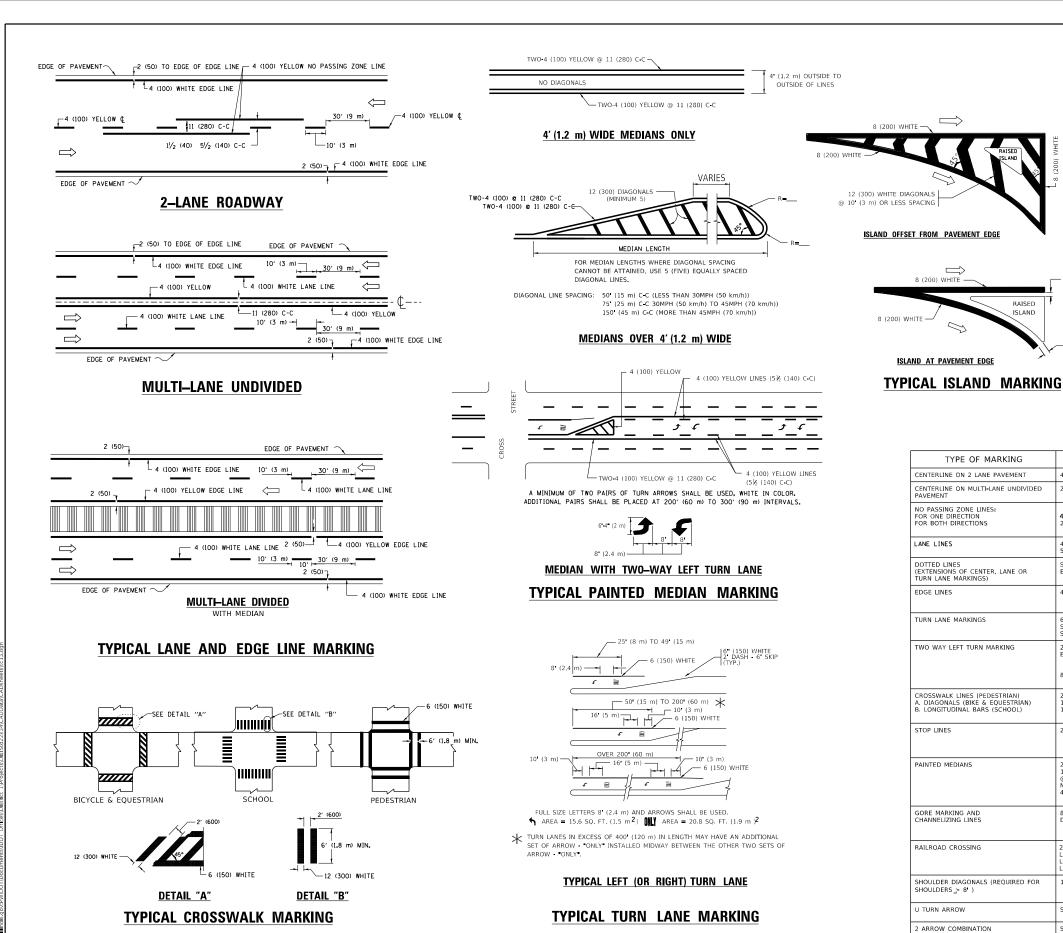
ONE-WAY CRYSTAL MARKER (W/O)

— YELLOW STRIPE

WHITE STRIPE







COMBINATION LEFT AND U-TURN - 32 R (810) LANE REDUCTION TRANSITION * LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS. **U-TURN** WIDTH OF LINE PATTERN COLOR SPACING / REMARKS SKIP-DASH YELLOW 10' (3 m) LINE WITH 30' (9 m) SPACE SOLID YELLOW 11 (280) C-C 4 (100) 2 @ 4 (100) YELLOW YELLOW OMIT SKIP-DASH CENTERLINE BETWEEN SKIP-DASH SKIP-DASH 10' (3 m) LINE WITH 30' (9 m) SPACE 4 (100) 5 (125) ON FREEWAYS SAME AS LINE BEING EXTENDED SKIP-DASH SAME AS LINE BEING EXTENDED 2 (600) LINE WITH 6 (1.8 m) SPACE SOLID OUTLINE MEDIANS IN YELLOW YELLOW-LEFT WHITE-RIGHT 6 (150) LINE, FULL SIZE LETTERS & SYMBOLS (8' (2.4m) SOLID SEE TYPICAL TURN LANE MARKING DETAIL 10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL YELLOW 2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW 2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90° NOT LESS THAN 6 (1.8 m) APART 2 (600) APART SOLID (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS 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 SOLID WHITE 11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING. 2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° SOLID YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC @ 45° NO DIAGONALS USED FO 4' (1.2 m) WIDE MEDIAN 8 (200) WITH 12 (300) DIAGONALS @ 45° 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))

SEE STATE STANDARD 780001 AREA OF:

"R"=3.6 SQ. FT. (0.33 m)²EACH "X"=54.0 SQ. FT. (5.0 m)²

30.4 SF

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))

All dimensions are in inches (millimeters

— 2 (50)

4 (100)

24 (600)

24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"

12 (300) @ 459

SEE DETAIL

SEE DETAIL

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE

CONSTRUCTION AND STATE STANDARD 780001.

SOLID

SOLID

SOLID

SOLID

WHITE

WHITE

WHITE

WHITE - RIGHT YELLOW - LEFT

RAISED

TYPE OF MARKING

D(FT)

580

665

750

SPEED LIMIT

45

50

55

REVISED - C. JUCIUS 07-01-13 REVISED - C. JUCIUS 04-12-16

REVISED C. JUCIUS 09-09-09

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SECTION DISTRICT ONE 178 176 TYPICAL PAVEMENT MARKINGS CONTRACT NO. SCALE: NONE OF 2 SHEETS STA SHEET 1

* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF

DESIGNED - EVERS

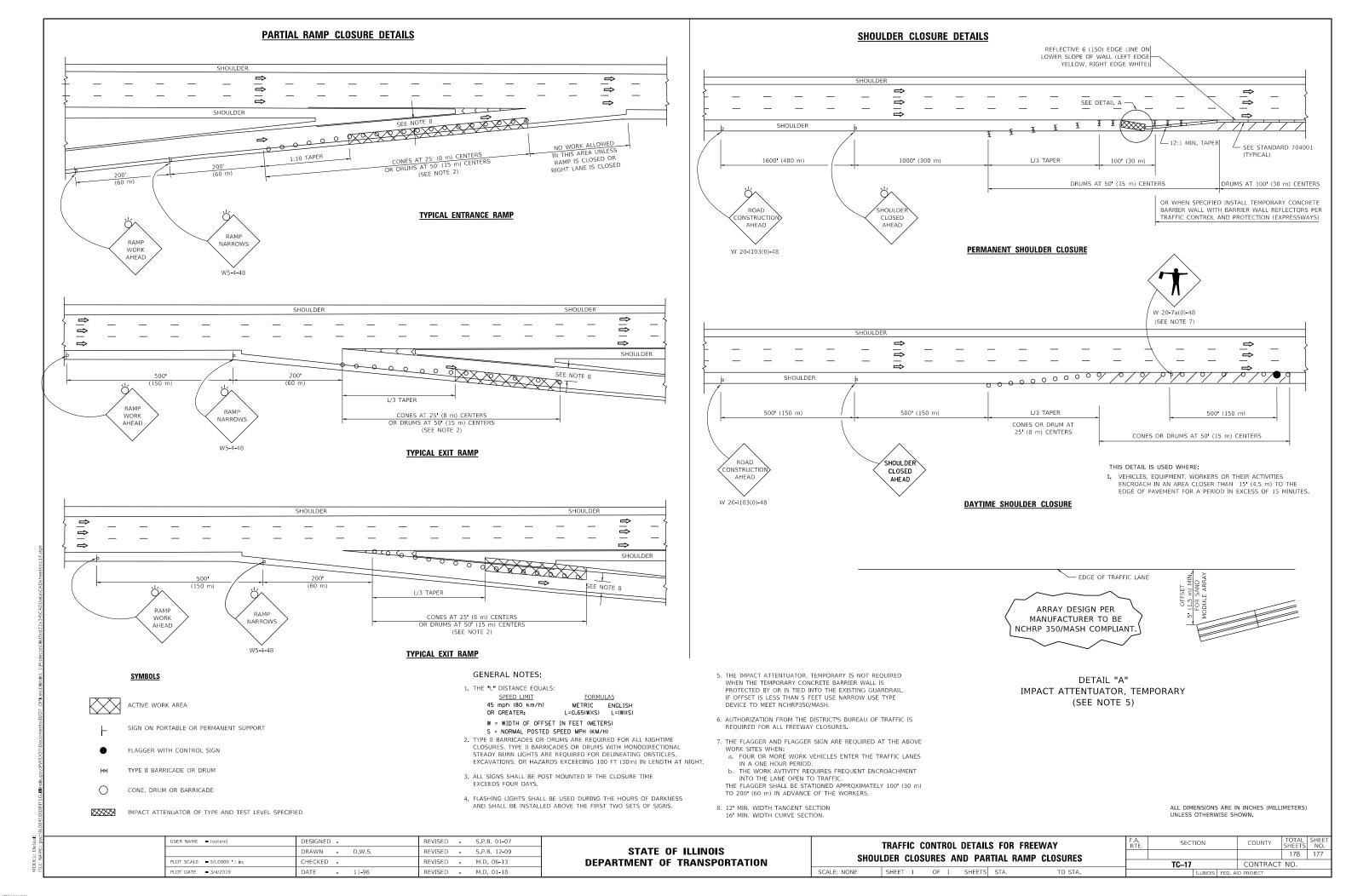
DRAWN -

DATE

HECKED -

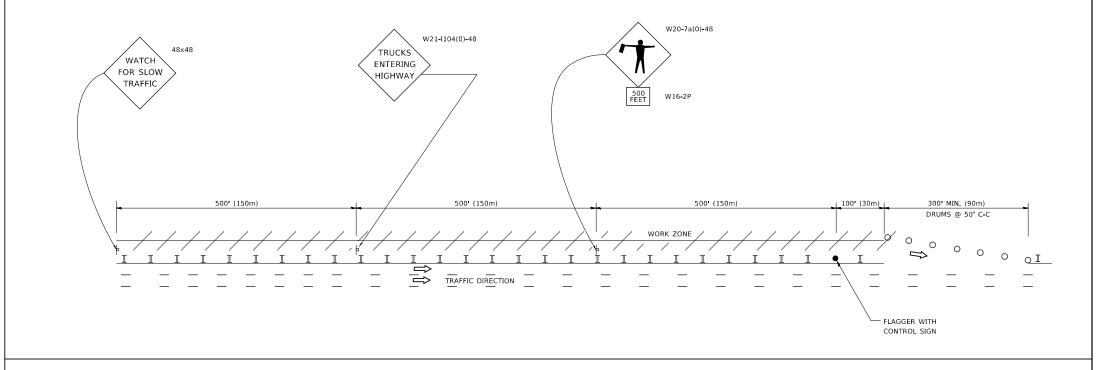
USER NAME = footemj

LOT DATE = 3/4/2019

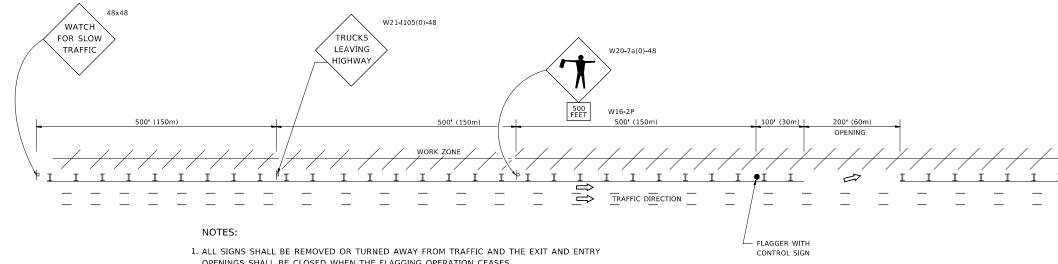


SIGNING FOR FLAGGING OPERATIONS AT WORK ZONE OPENINGS

WORK ZONE EXIT OPENING



WORK ZONE ENTRY OPENING



- 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

	USER NAME = footemj	DESIGNED -	REVISED	-	J.A.F. 02-06
		DRAWN -	REVISED	-	S.P.B. 01-07
	PLOT SCALE = 50.0000 / in.	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 SHEET 1 OF 1 SHEETS STA.

178 178 CONTRACT NO.