S.N. 016-0118 was originally built in 1958 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The Existing Structure: LOADING structure has a back-to-back abutment length of 199'-111/8" and an out-to-out deck width of 36'-01/2". The superstructure consists of a 71/2" thick reinforced concrete deck HS20-44 and alternate military loading supported on three span continuous steel beams of span lengths $55'-67''_8$, $82'-43''_4$ and $55'-67''_8$. The substructure consists of reinforced concrete piers and abutments supported on reinforced concrete piles. DESIGN SPECIFICATIONS The reversible lanes will be closed to traffic during construction. 2002 AASHTO Standard Specification for Highway Bridges, 17th Edition No salvage. 199'-111%" Back-to-Back of Abutments W. Approach 193'-6½" ← Brg. to ← Brg. 55'-67/8" 82'-43/4" 55'-67/8' 3'-25/16" 3'-2⁵/₁₆ Span 1 Span 2 Span 3 — € Pier 1 € Pier 2 — € Brg. W. Abut. Bk. E. Abut.— & Brg. E. Abut. — Вк. W. Abut. 190'-111/8" Limits of Protective Shield Reconstruct - Reconstruct Expansion Joint Expansion Joint NOTE: (HN) @ Rt L'S 1. All stations are to the & I-90/94 Reversible Roadway and taken from existing plans. @ Pulaski Rd Exist. W33 or W36 Beams, 2. No Future Wearing Surface is allowed. typ. |*3'-9" Perform Structural -Perform Structural Repair of Concrete Repair of Concrete *13'-6" *24'-0" *14'-3" at East Abutment at West Abutment Sidewalk Bus Lanes Bus Lanes Sidewalk * 4'-0" ---Perform Structural -Perform Structural Repair of Concrete Repair of Concrete **ELEVATION** at Pier 1 at Pier 2 * Dimension at right angle LICENSED 199'-1118" Back-to-Back of Abutments W. Approach E. Approach 193'-6½" ← Brg. to ← Brg. 55'-67/8" 82'-43/4" 55'-67/8" 3'-2⁵/₁₆ 3'-25/16" Engineer Full Name: Kevin Wood Span 1 Span 2 Span 3 Illinois Registered Engineer No. 081-006515 Registration Expires 11. 30, 2024 Apply 2" Stone-Matrix Asphalt (SMA) Overlay, typ. each approach ♀ 1" Open joint · @ Pulaski Rd. Perform Bridge Deck slab. For SMA items, see Roadway Grooving (Longitudinal) 38°29'00" Plans. on traffic lanes Skew, typ. Range 13E, 3rd P.M. Structure Location & Brg. E. Abut. Reconstruct -Expansion Joint I-90/94 î Pier 2 <u>Stati</u>on Sta. 621+89.33 Rev. Lanes Sta. 623+27.30 Increase Bk. E. Abut. & Brg. W. Abut î Structure Sta. 621+86.14 Reconstruct Expansion Joint Sta. 623+82.88 Sta. 622+85.47 LOCATION SKETCH Perform 3/4" Bridge Deck Scarification and apply 3" Bridge Deck Latex Concrete Overlay, perform 1/4" Diamond Grinding and apply Protective Coat GENERAL PLAN AND ELEVATION REVERSIBLE I-90 OVER PULASKI ROAD F.A.I. SEC 2020-004-BR COOK COUNTY STATION: 622+85.47 PLANSTRUCTURE NO. 016-0118 (REV) DESIGNED . REVISED JSER NAME : J.T.B. SECTION COUNTY **GR**@EF **STATE OF ILLINOIS** CHECKED H.A. REVISED -2020-004-BR COOK 1492 1301

DEPARTMENT OF TRANSPORTATION

SHEET S34-01 OF S34-14 SHEETS

CONTRACT NO. 62K74

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

CHECKED -

D.C.P.

K.G.W.

REVISED

REVISED

GENERAL NOTES

- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the Concrete Removal pay item. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- 3. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- 4. Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 6. Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- 7. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- 8. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.
- 9. For SMA overlay on Approach Slab, see Roadway Plans.
- 10. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 11. 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.
- 12. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provisions "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
- 13. Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- 14. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 15. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- 16. The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- 17. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- 18. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- 19. Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- 20. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra. Libby @city of chicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 21. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

534-01	General Plan & Elevation
<i>S34-02</i>	General Data
S34-03	Bridge Deck Repair Plan and Details
534-04-534-06	East Abutment Expansion Joint Details I, II & III
<i>534-07-534-09</i>	West Abutment Expansion Joint Details I, II & II
534-10	Preformed Joint Strip Seal
S34-11	East Abutment Repairs
<i>S34-12</i>	West Abutment Repairs
S34-13	Pier 1 Repairs
S34-14	Pier 2 Repairs

SCOPE OF WORK

- 1. Provide Protective Shield within limits indicated on the plans.
- 2. Scarify $\frac{3}{4}$ " from the bridge deck slab.
- Perform deck repairs.
- 4. Remove and reconstruct expansion joints at east and west abutments and install new Preformed Joint Strip Seals.
- 5. Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs.
- Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 7. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- 9. Perform Structural Concrete repairs to the Abutments and Piers as noted in the plans.
- 10. Install 2½" Longitudinal Preformed Joint Strip Seal along top of parapet between Reversible and Southbound lanes.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	15.2		15.2
Protective Shield	Sq Yd	765		765
Concrete Superstructure	Cu Yd	16.8		16.8
Protective Coat	Sq Yd	957		957
Reinforcement Bars, Epoxy Coated	Pound	2,620		2,620
Preformed Joint Seal 2 1/2"	Foot	200		200
Preformed Joint Strip Seal	Foot	89		89
Concrete Sealer	Sq Ft		421	421
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	520		520
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	697		697
Bridge Deck Scarification 3/4"	Sq Yd	697		697
Structural Repair of Concrete (Depth Equal to	Sa Ft		26	26
or less than 5 Inches)	34 FL		20	20
Diamond Grinding (Bridge Section)	Sq Yd	715		715
Maintenance of Lighting System	Cal Mo		6	6

Southhound 36'-1" CTATracks Structure 36'-01/5" Out-to-Out $1'-5\frac{1}{2}'$ 19'-0" 14'-0" 1'-7' Parapet Parapet 11'-0" 8'-0" 11'-0" 3'-0" Shldr. Reversible Lane Reversible Lane Shldr. ← 1" Open joint Bridge Deck Latex - © Reversible Concrete Overlay, 3" with Lanes 1/4" Diamond Grinding – Exist. Beam. G. G. typ. (21)(19)16 1'-105/8" 5 Spa. @ $6'-2\frac{3}{4}" = 31'-1\frac{3}{4}"$ 3'-01/8"

FINAL CROSS SECTION

(Looking West)

* Match existing deck surface profile

GROEF

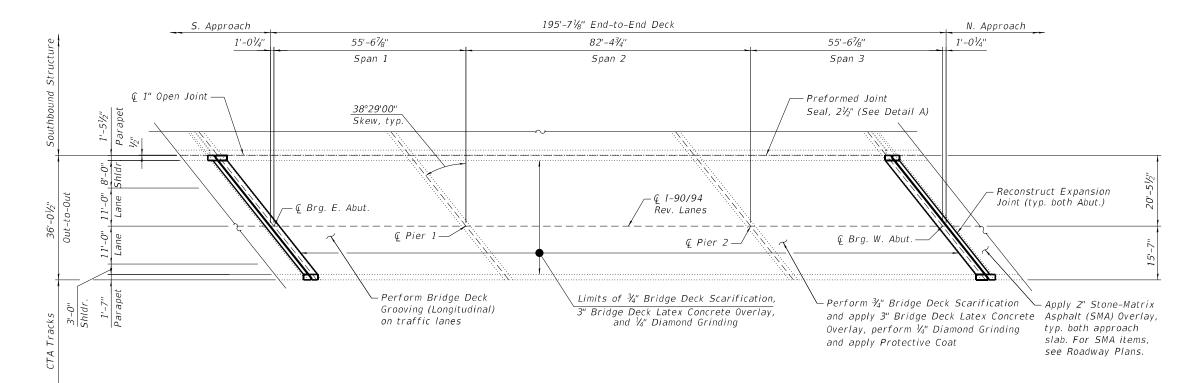
8501 W. Higgins Road; Suite 280
Chicogo, Illinois 60631; (773) 399-0112

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

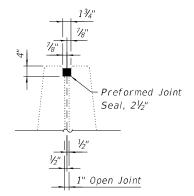
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA SN 016-0118 (REV)	F.A.I. RTE.	SECTIO	N		COUNTY	TOTAL SHEETS	SHEET NO.
	90	2020-004-BR			соок	1492	1302
314 010-0113 (IVEV)					CONTRAC	T NO. 62	2K74
SHEET S34-02 OF S34-14 SHEETS		111	INOIS	FED ΔΙΓ	PROJECT		





DECK PLAN



<u>DETAIL A</u> (Reinforcement not shown for clarity)

NOTES:

- 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 S34-02.
- 3. For East and West transverse joint removal and reconstruction, see Sheet S34-04 thru S34-09.
- 4. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.

- Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
- 8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	765
Protective Coat	Sq Yd	957
Preformed Joint Seal 2 1/2"	Foot	200
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	520
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	697
Bridge Deck Scarification 3/4"	Sq Yd	697
Diamond Grinding (Bridge Section)	Sq Yd	715
Maintenance of Lighting System	Cal Mo	6

GRØEF

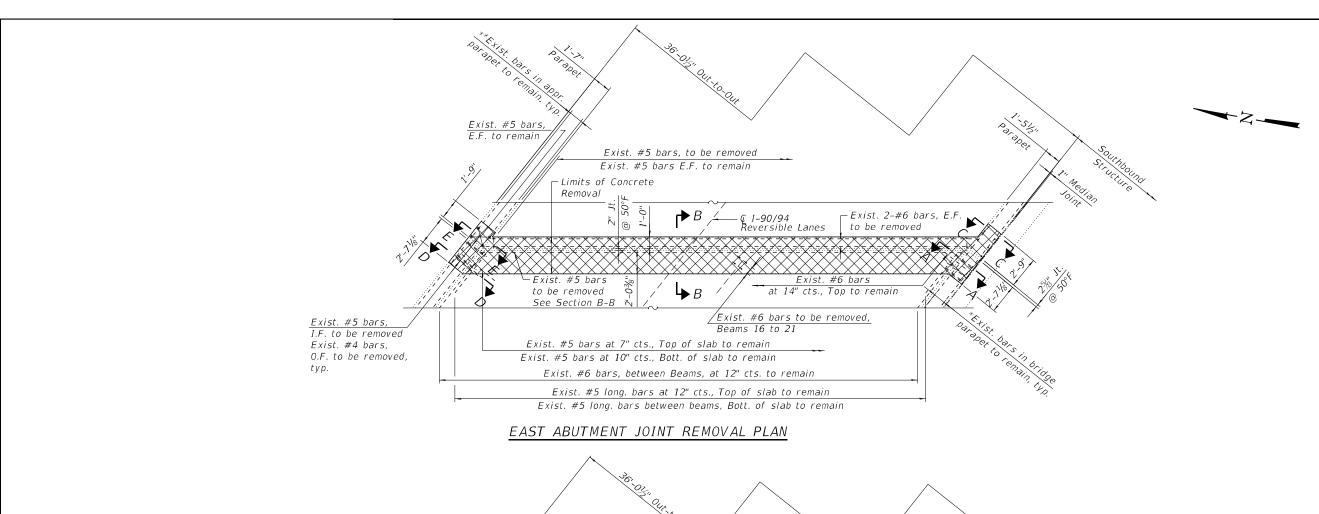
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Chicago, Illinois 60631; (773) 399-0112

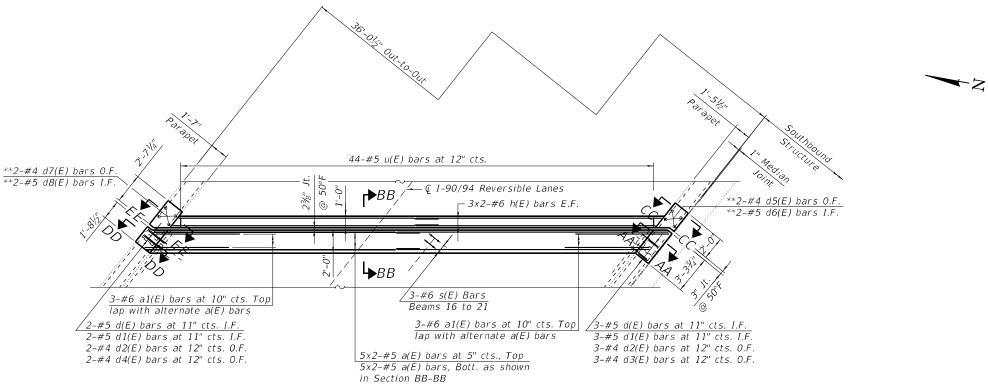
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PLOT DATE =	CHECKED	-	K.G.W.	REVISED	-

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLAN AND DETAILS
SN 016-0118 (REV)
SHEET S34-03 OF S34-14 SHEETS

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EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- 1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S34-05.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S34-06.

0.F. Outside Face E.F. Each Face TS NO.

Concrete Removal

Inside Face

LEGEND

I.F.

* Existing longitudinal bars to

remain in the parapets can be cut in the field as required

** Epoxy grout #4 d5(E) and d7(E)

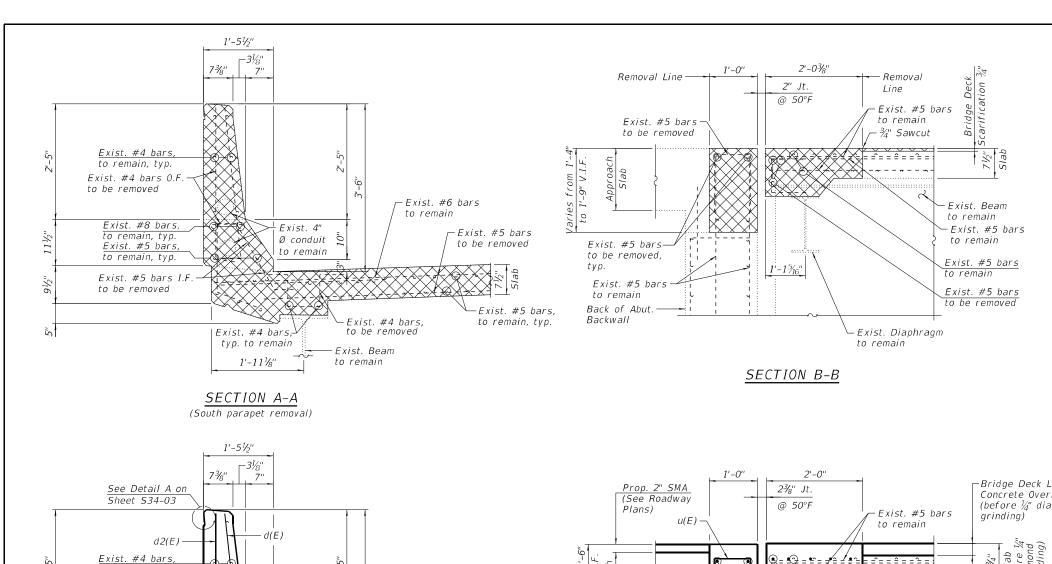
bars and #5 d6(E) and d8(E)

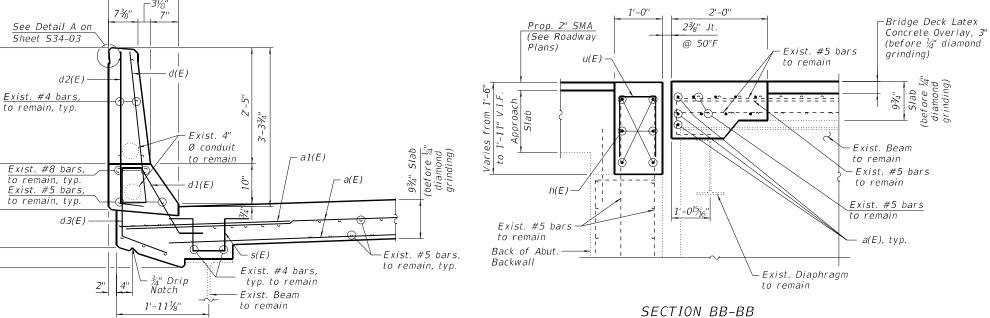
accordance with Section 508

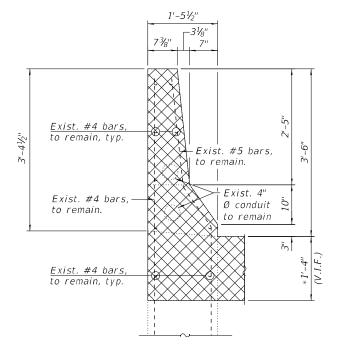
of the Standard Specifications.

bars in 9" min. holes in

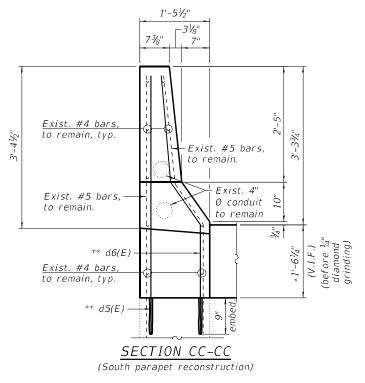
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	CHECKED -	H.A.	REVISED -	STATE OF ILLINOIS	CN 040 0440 (PEV)	90	2020-004-BR	соок	1492
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<u>SECTION C-C</u> (South parapet removal)



LEGEND

* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d5(E) & #5 d6(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

Concrete Removal

I.F. Inside FaceO.F. Outside Face

V.I.F. Verify in Field

GROEF 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112
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 DESIGNED
 J.T.B.
 REVISED

 CHECKED
 H.A.
 REVISED

 PLOT SCALE
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 J.T.B.
 REVISED

 PLOT DATE
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 K.G.W.
 REVISED

<u>SECTION AA-AA</u>
(South parapet reconstruction)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT EXPANSION JOINT DETAILS II SN 016-0118 (REV)

1'-7" Exist. #4 bars, to remain, typ. Exist. #4 bars O.F. to be removed Exist. #6 bars to be removed Exist. #8 bars, Exist. #5 bars to remain, typ. to be removed Exist. #5 bars, to remain, typ. Exist. #5 bars I.F. to be removed Exist. #5 bars, to remain, typ. Exist. #4 bars, Exist. #4 bars, typ. to remain Exist. Beam to remain 3'-1" SECTION D-D (North parapet removal)

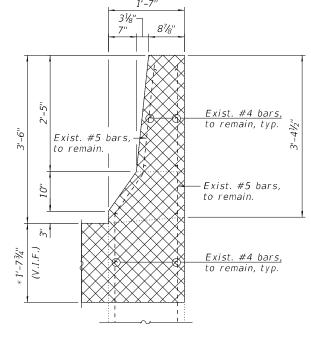
d1(E)

¾" Drip Notch —

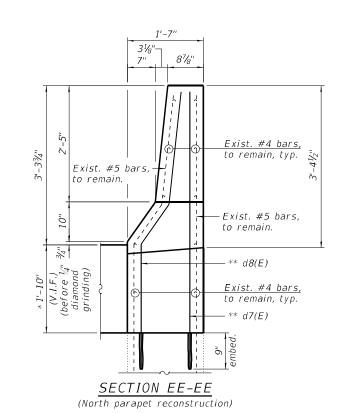
3'-1"

SECTION DD-DD

(North parapet reconstruction)



SECTION E-E (North parapet removal)



* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d7(E) & #5 d8(E) bars in 9" min. holes accordance in with Section 508 of the Standard Specifications.

BILL OF MATERIAL EAST ABUTMENT

#6

#5

#5

#4

#4

Bar

20

6

5

5

3

2

a(E)

a1(E)

d1(E)

d2(E)

d3(E)

d4(E)

No. Size Length Shape

6'-6"

3'-8"

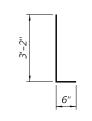
2'-7"

3'-8"

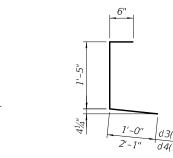
4'-0''

#5 | 24'-3"

#4 2'-11"



BARS d(E) & d2(E)



d5(E)	2	#4	5'-7"	
d6(E)	2	#5	5'-8"	٦
d7(E)	2	#4	5'-10"	
d8(E)	2	#5	6'-0"	
h(E)	12	#6	24'-3"	
s(E)	18	#6	3'-4"	5
u(E)	44	#5	2'-7"	
Concrete	Remov	ı al	Cu Yd	7.7
Reinforce Epoxy Co		Pound	1,310	
Concrete Superstru	ucture	Cu Yd	8.5	

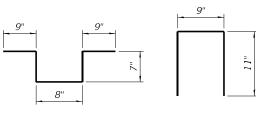
BAR d1(E)

BAR s(E)

9½"

BARS d3(E) & d4(E)

 $BAR \ u(E)$



 $BAR \ d6(E)$

BAR d8(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S34-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

MIN BAR LAPS #5 3'-6" #6

I.F. Inside Face 0.F. Outside Face Verify in Field

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

Exist. #5 bars,

to remain, typ.

a1(E)

Exist. #4 bars, typ. to remain

to remain

Exist. Beam

a(E) -

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

d2(E)

- d(F)

Exist. #4 bars,

Exist. #8 bars,

to remain, typ. Exist. #5 bars,

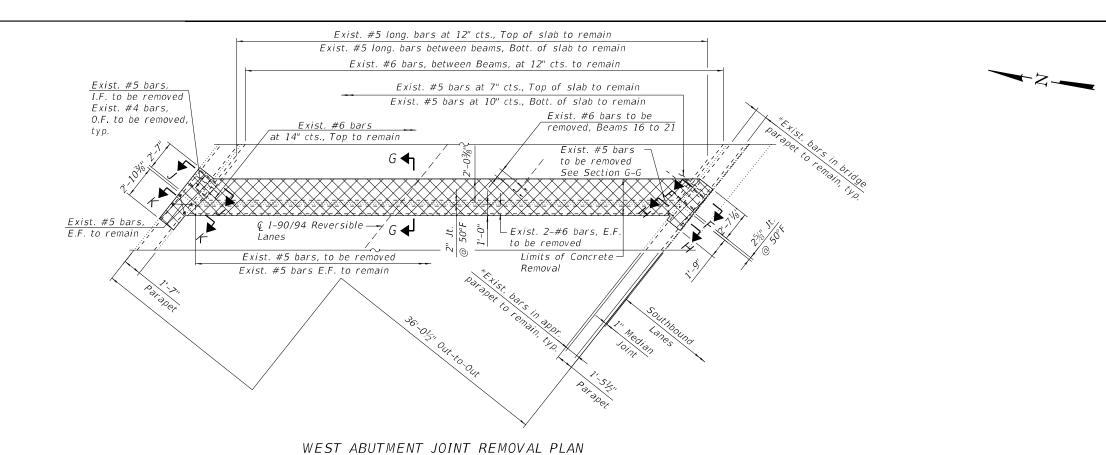
to remain, typ.

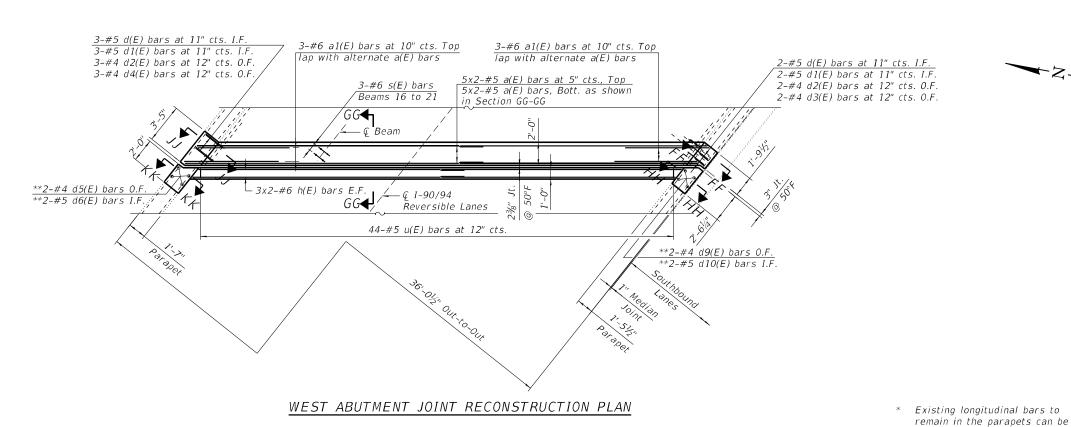
to remain, typ.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT EXPANSION JOINT DETAILS III SN 016-0118 (REV)	F.A.I. SECTION			COUNTY	TOTAL SHEETS	SHEE NO.
	90 2020-004-BR			соок	1492	1306
314 O10-O113 (I/LV)				CONTRAC	T NO. 62	2K74
SHEET S34_06 OF S34_14 SHEETS		III INOIC	EED M	D DDO IECT		

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NOTES:

- 1. For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S34-08.
- For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S34-09.

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

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

WEST ABUTMENT EXPANSION JOINT DETAILS I SN 016-0118 (REV) SHEET S34-07 OF S34-14 SHEETS

cut in the field as required

** Epoxy grout #4 d5(E) and d9(E)

accordance with Section 508

of the Standard Specifications.

bars in 9" min. holes in

bars and #5 d6(E) and d10(E)

A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHE			
90	2020-004-BR	соок	1492	1307				
CONTRACT NO. 62K74								
	ILLINOIS FED AID PROJECT							

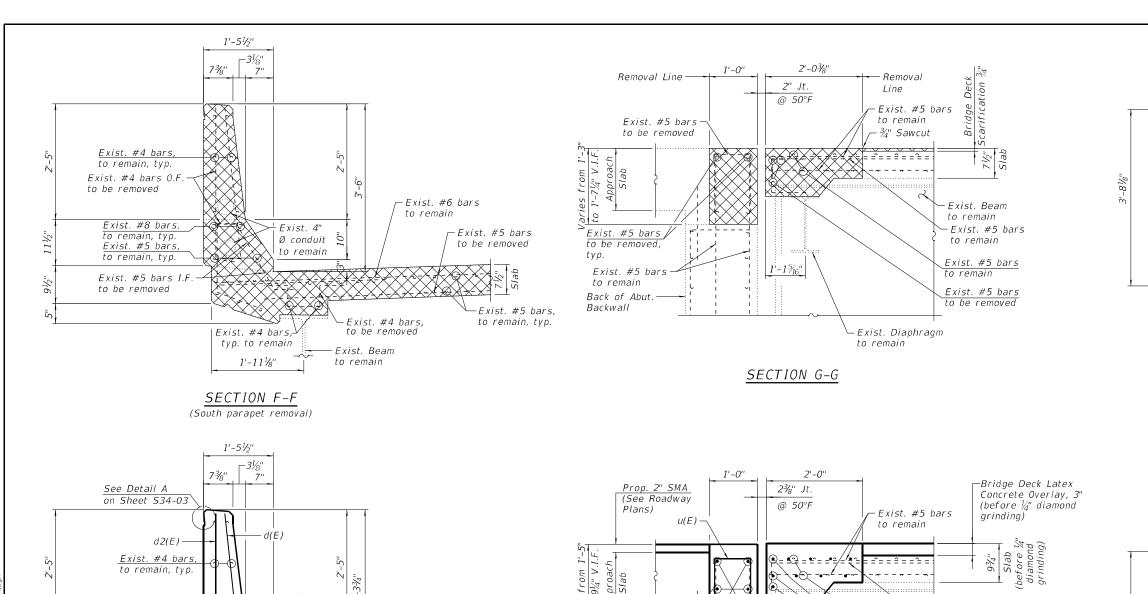
LEGEND

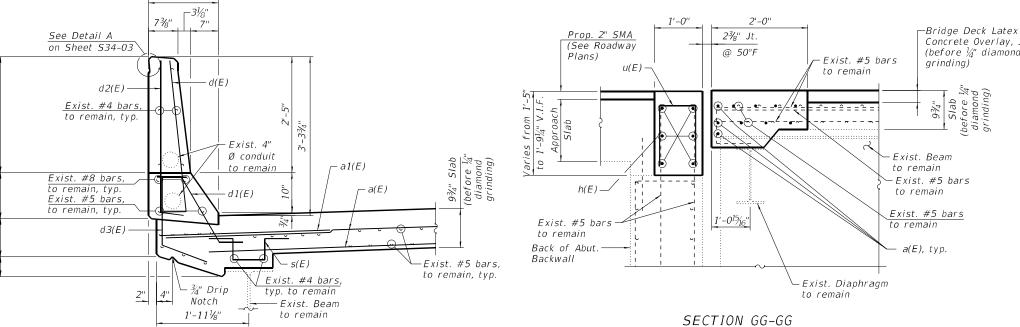
Concrete Removal

I.F. Inside Face

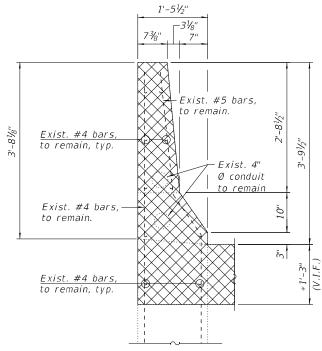
0.F. Outside Face

E.F. Each Face

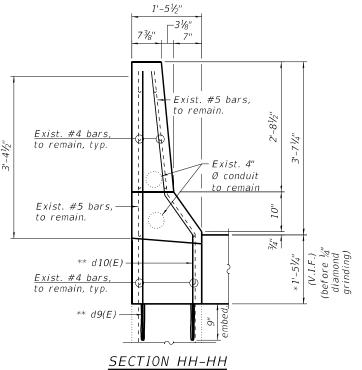








<u>SECTION H-H</u> (South parapet removal)



(South parapet reconstruction)

LEGEND

* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d9(E) & #5 d10(E) bars in 9" min. holes accordance in with Section 508 of the Standard Specifications.

Concrete Removal

I.F. Inside FaceO.F. Outside Face

V.I.F. Verify in Field

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT EXPANSION JOINT DETAILS II SN 016-0118 (REV)

1'-7" Exist. #4 bars, to remain, typ. Exist. #4 bars O.F. to be removed Exist. #6 bars to be removed Exist. #8 bars, Exist. #5 bars to remain, typ. to be removed Exist. #5 bars, to remain, typ. Exist. #5 bars I.F. to be removed Exist. #5 bars, to remain, typ. Exist. #4 bars, Exist. #4 bars, typ. to remain Exist. Beam to remain 3'-1" SECTION J-J (North parapet removal) d2(E)

d1(E)

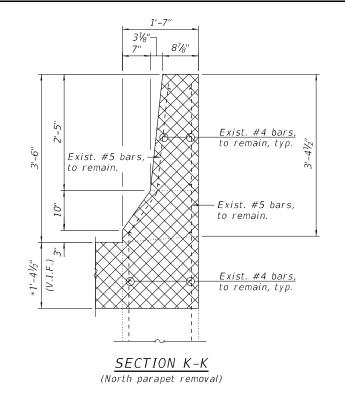
¾" Drip Notch —

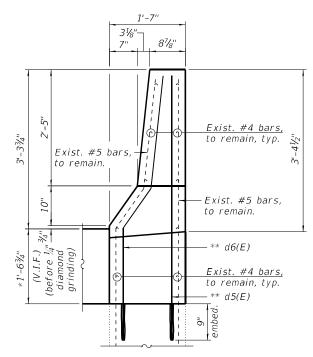
3'-1"

SECTION JJ-JJ

(North parapet reconstruction)

3/4"





SECTION KK-KK (North parapet reconstruction)

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #4 d5(E) & #5 d6(E) bars in 9" min. holes accordance in with Section 508 of the Standard Specifications.

BILL OF MATERIAL WEST ABUTMENT

#6

#5

#5

2 #4 2'-11"

20

6

5

5

Bar

a(E)

a1(E)

d1(E)

d3(E)

No. Size Length Shape

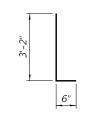
6'-6"

3'-8"

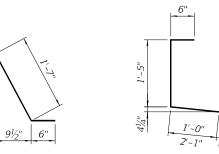
2'-7"

#5 | 24'-3"

#4 3'-8"



BARS d(E) & d2(E)

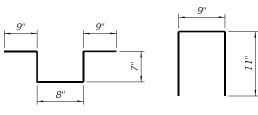


d4(E)	3	#4	4'-0''	
d5(E)	2	#4	5'-7"	
d6(E)	2	#5	5'-8"	
d9(E)	2	#4	5'-8"	
d 10(E)	2	#5	5'-11"	
h(E)		12	#6	24'-3"	
s(E)		18	#6	3'-4"	5
u(E)		44	#5	2'-7"	
Concre	ete	Remov	al	Cu Yd	7.5
Reinforcement Bars,		Pound	1,310		
Epoxy Coated			1 Julia	1,510	
Concrete			Cu Yd	8.3	
Super	strı	ıcture		Cara	0.5

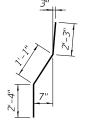
BAR d1(E)

BAR s(E)

BARS d3(E) & d4(E)



 $BAR \ u(E)$



 $BAR \ d6(E)$

BAR d10(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S34-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

MIN BAR LAPS #5 3'-6" #6

I.F. 0.F.

V.I.F	•
 NICIONI	101

Inside Face	
Outside Face	
Verify in Field	



before diamon grinding

Exist. #5 bars,

to remain, typ.

934"

a1(E)

Exist. #4 bars, typ. to remain

to remain

Exist. Beam

a(E) -

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

Exist. #4 bars,

Exist. #8 bars,

to remain, typ.

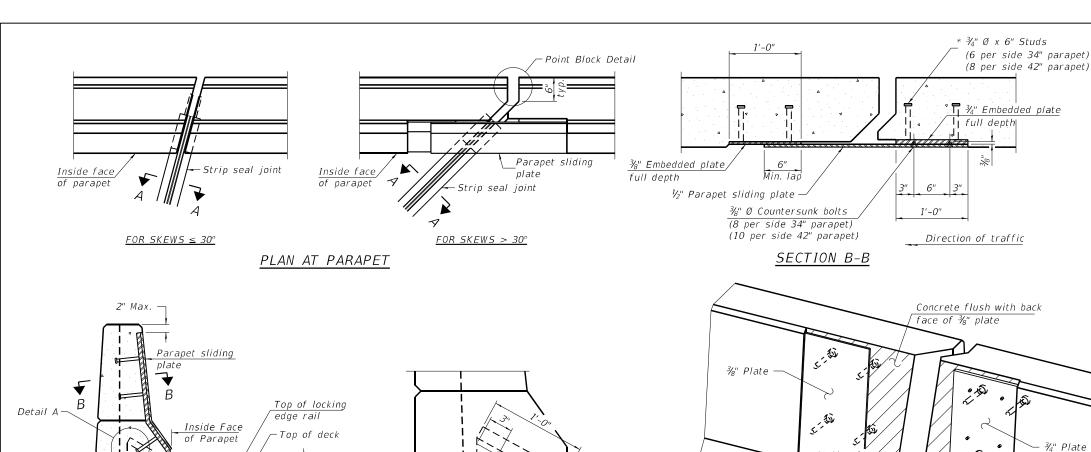
Exist. #5 bars, to remain, typ.

to remain, typ.

-d(F)

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

	F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90	2020-004-BR	соок	1492	1309
2N 010-0119 (KEV)			CONTRA	CT NO. 62	2K74
SHEET S34-00 OF S34-14 SHEETS		ILL BLOTC I	EED AID DROJECT		



ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar

DETAIL A

Concrete flush with back face of 3/4" plate

Concrete flush with back face of ¾" plate Jo. **⊅**O

TRIMETRIC VIEW (Showing embedded plates only)

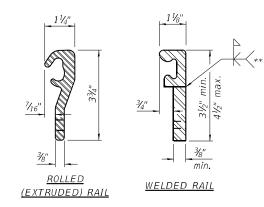
Locking edge railat 50° F Top of concrete -Strip seal at 50° F

SECTION A-A

off flush with the plates after concrete is set.

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

*** Before 1/4" Diamond Grinding.



LOCKING EDGE RAILS

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

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

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

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

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.

length of the bridge approach slab.

rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum

LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	89

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

%" Ø x 6" Studs

DESIGNED -REVISED . J.T.B. CHECKED H.A. REVISED -DRAWN D.C.P. REVISED CHECKED -K.G.W. REVISED .

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** PREFORMED JOINT STRIP SEAL SN 016-0118 (REV) SHEET S34-10 OF S34-14 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
90	2020-004-BR		соок	1492	1310
			CONTRAC	T NO. 62	2K74
	III INOIC	EED M	D DDO JECT		

except as shown in plan view.) 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 $\frac{1}{16}$ " ϕ holes at ± 4 '-0" cts. for holding the proper joint opening based on at 50° F

the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed

SHOWING WELDED RAIL JOINT





EXISTING LIGHTING: EAST ABUTMENT

(Looking Southeast)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	217
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	14

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F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHE
90	2020-004-BR		соок	1492	1311
			CONTRAC	T NO. 62	2K74
	ILLINO	S EED A	ID PROJECT		

MODEL: \$MODELNAME\$





EXISTING LIGHTING: WEST ABUTMENT

(Looking Northwest)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	204
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	3

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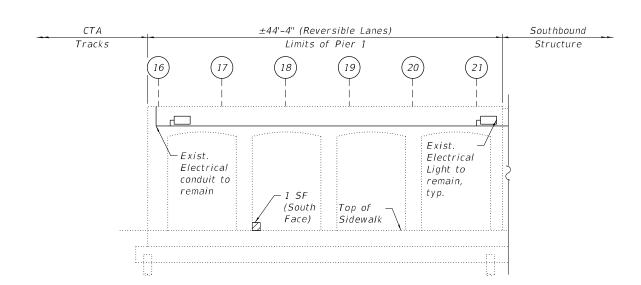
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PLOT DATE =	CHECKED -	K.G.W.	REVISED -

F.A.I. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SHE
90	2020-0	04 - BR		соок	1492	131
				CONTRAC	T NO. 62	2K74
		ILLINOIS	FED AL	D PROJECT		

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<u>ELEVATION - PIER 1</u> (Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1

(Looking Northwest)



EXISTING LIGHTING: PIER 1

(Looking Southeast)

NOTES:

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

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

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

<u>ELEVATION - PIER 2</u> (Looking West)

CTA±44'-4" (Reversible Lanes) Southbound Tracks Limits of Pier 2 Structure (21)(19) - Exist. Exist. Electrical Electrical Light to conduit to remain, :remain typ. - 2 SF Top of (South Sidewalk Face)

ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2

(Looking Northwest)



EXISTING LIGHTING: PIER 2

(Looking Southeast)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	7

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 PLOT DATE
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 CHECKED
 H.6.W.
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS SN 016-0118 (REV)
 SECTION
 COUNTY
 TOTAL SHEETS NO.

 2020-004-BR
 COOK
 1492
 1314

 CONTRACT NO. 62K74

Existing Structure: S.N. 016-0115 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. LOADING The structure has a back-to-back abutment length of $321'-3\frac{3}{4}"$ and an out-to-out deck width of $71'-0\frac{1}{2}"$. The superstructure consists of a $7\frac{1}{2}"$ thick reinforced concrete HS20-44 and alternate military loading deck supported on three span continuous steel beams of span lengths 85'-7", 142'-7", and 85'-7". The substructure consists of reinforced concrete abutments and piers supported on reinforced concrete piles. DESIGN SPECIFICATIONS 2002 AASHTO Standard Specification Traffic will be maintained utilizing stage construction. for Highway Bridges, 17th Edition No salvage. 321'-3¾" Back-to Back of Abutments S. Approach N. Approach 313'-9" & Brg. to & Brg. 3'-93/8' 3'-9¾'' 85'-7" 142'-7" 85'-7" Span 3 Span 2 Span 1 @ Brg. S. Abut. @ Pier 1-— *Q Pier 2* © Brg. N. Abut. Bk. S. Abut. → - Bk. N. Abut. 179'-10" - Reconstruct Reconstruct -Expansion Joint Expansion Joint Limits of Protective Shield 21/21 (H.V) @. Perform Structural *14'-8" *14'-8" Repair of Concrete Exist. Beams. Perform Structural Sdwlk. Sdwlk and Epoxy Crack typ. Repair of Concrete NOTE: Injection at South Exist. Fence and Epoxy Crack Abutment 1. All stations are to the & I-90/94 SB to remain, typ. Injection at North Perform Structural Roadway and taken from existing plans. Abutment Perform Structural Repair of Concrete *39'-61/4" * 39'-61/4" Perform slope wall Repair of Concrete at Pier 1 2. No Future Wearing Surface is allowed. Sidewalk Sidewalk Roadway Roadway repairs, typ. at Pier 2 ELEVATION S. Approach 321'-3¾" Back-to-Back Abutments N. Approach 3'-93/8" 3'-93/8" 313'-9" @ Brg. to @ Brg. 142'-7" 85'-7" Span 3 Span 2 Span 1 Apply 2" Stone-Matrix Asphalt (ŚMÁ) Overlay, typ. each approach slab. For SMA items see Roadway South Slope Wall Exist. Fences Exist. Fences Plans. to remain to remain Reconstruct Expansion Range 13E, 2nd P.M. Structure Brg. N. Abut. Bk. S. Abut. 51°52'00" Sta. 535+15.49 Sta. 531+97.95 î I-90/94 SB Lanes & Stage Const. Line *Ç* Structure Bk. N. Abut. Brg. S. Abut. Pier 2 Sta. 533+58.61 Sta. 535+19.27 Sta. 532+01.73 Šta. 532+87.32 $\langle ||$ LOCATION SKETCH Reconstruct Expansion Perform Bridge └─ North Slope Wall WOOD! Deck Grooving (Longitudinal) -Perform ¾" Bridge Deck Scarification on traffic lanes and apply 3" Bridge Deck Latex LICENSED T Concrete Overlay, perform 1/4" Diamond STRUCTURAL ENGINEER Grinding and apply Protective Coat GENERAL PLAN AND ELEVATION 70 72 SB I-90 OVER IRVING PARK ROAD F.A.I. SEC 2020-004-BR Keven Wood COOK COUNTY Engineer Full Name: Kevin Wood Date: 10-20-2022 STATION: 533+58.61 Illinois Registered Engineer No. 081-006515 STRUCTURE NO. 016-0115 (SB) Registration Expires 11. 30, 2024 PLANDESIGNED . J.T.B. REVISED SECTION COUNTY **STATE OF ILLINOIS** CHECKED H.A. REVISED -2020-004-BR COOK 1492 1315 DRAWN D.C.P. REVISED **DEPARTMENT OF TRANSPORTATION** 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112 CONTRACT NO. 62K74 SHEET S35-01 OF S35-19 SHEETS PLOT DATE = CHECKED -REVISED . H.A.

GENERAL NOTES

- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the Concrete Removal pay item. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- 3. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 6. Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- 7. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- 8. All exposed concrete edges shall have a ¾"x45° chamfer, except where shown otherwise.
- 9. For SMA overlay on Approach Slab, see Roadway Plans.
- 10. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 11. 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.
- 12. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity.
- 13. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 14. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- 15. The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- 16. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- 17. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- 18. Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- 19. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 20. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

535-01	General Plan & Elevation
S35-02	General Data
<i>S35-03-S35-04</i>	Stage Construction Details I & II
S35-05	Temporary Concrete Barrier
S35-06	Bridge Deck Repair Plan and Details
S35-07-S35-09	South Abutment Expansion Joint Details I, II & III
S35-10-S35-12	North Abutment Expansion Joint Details I, II & III
S35-13	Preformed Joint Strip Seal
535-14	South Abutment Repairs
S35-15	North Abutment Repairs
S35-16	Pier 1 Repairs
S35-17	Pier 2 Repairs
S35-18	Slope Wall Repairs
S35-19	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- 1. Provide Protective Shield within limits indicated on the plans.
- 2. Scarify ¾" from the bridge deck.
- Perform deck repairs.
- 4. Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 7. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- 9. Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- Epoxy crack injection at the abutments and piers for cracks greater than hairline.
- 11. Perform slope wall repairs.

TOTAL BILL OF MATERIAL

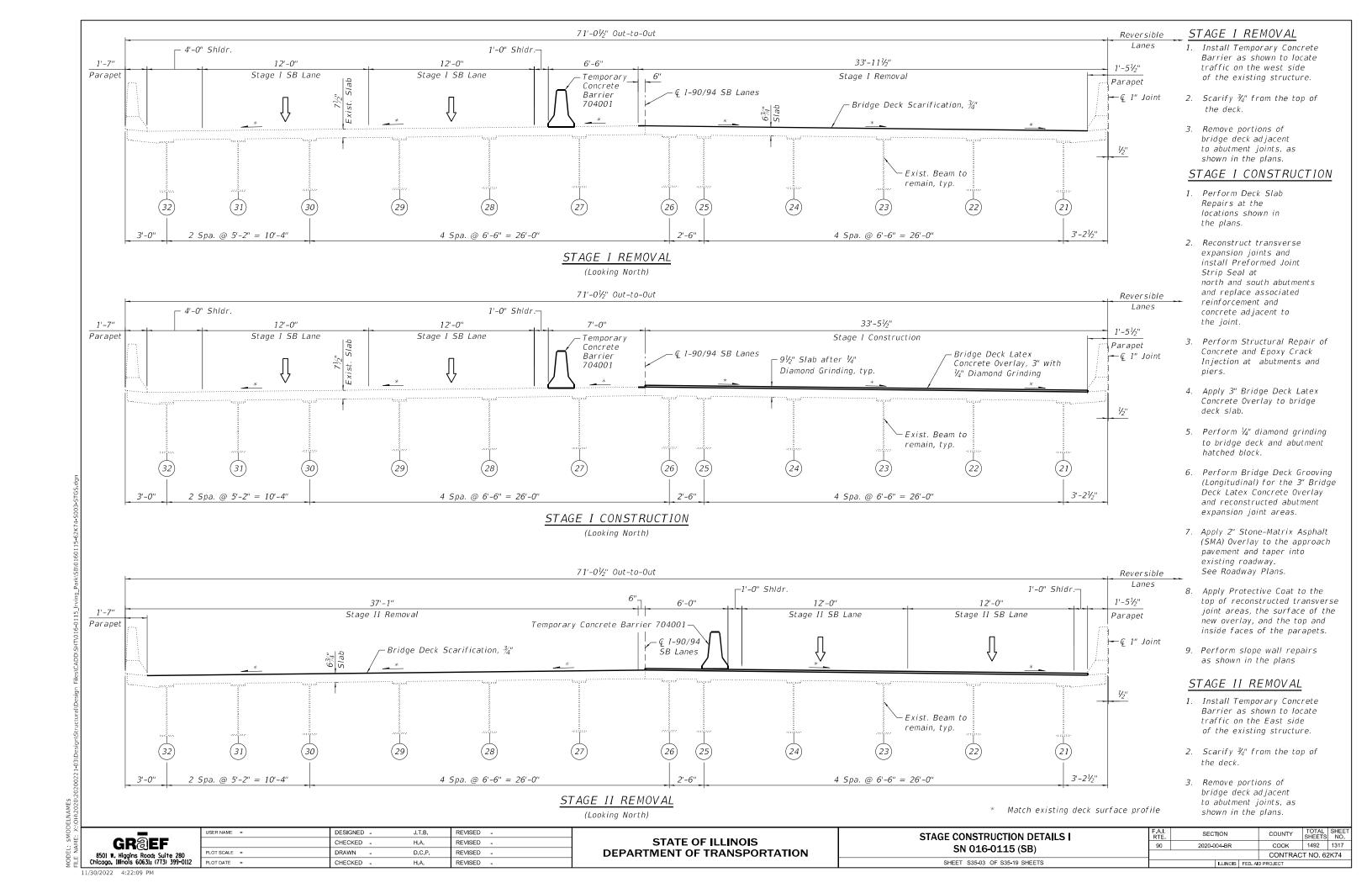
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd		1	1
Concrete Removal	Cu Yd	35.0		35.0
Slope Wall Removal	Sq Yd		1	1
Protective Shield	Sq Yd	1,420		1,420
Concrete Superstructure	Cu Yd	39.4		39.4
Protective Coat	Sq Yd	2,795		2,795
Reinforcement Bars, Epoxy Coated	Pound	5,980		5,980
Bar Splicers	Each	32		32
Slope Wall 4 Inch	Sq Yd		1	1
Preformed Joint Strip Seal	Foot	225		225
Concrete Sealer	Sq Ft		1,244	1,244
Epoxy Crack Injection	Foot		7	7
Slope Wall Crack Sealing	Foot		22	22
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,685		1,685
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,339		2,339
Bridge Deck Scarification 3/4"	Sq Yd	2,339		2,339
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		103	103
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft		15	15
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1.1		1.1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	0.9		0.9
Diamond Grinding (Bridge Section)	Sq Yd	2,387		2,387
Maintenance of Lighting System	Cal Mo		6	6

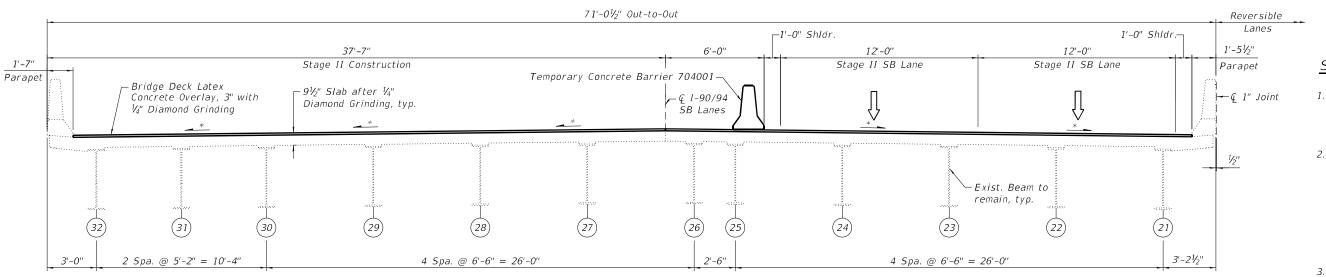
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PLOT DATE =	CHECKED -	H.A.	REVISED -

GENERAL DATA	F.A.I. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SHEE NO.
SN 016-0115 (SB)	90	2020-0	04-BR		соок	1492	1316
314 010-0113 (3D)					CONTRAC	T NO. 62	2K74
SHEET S35-02 OF S35-19 SHEETS			ILLINOIS	FED. All	PROJECT	-	





STAGE II CONSTRUCTION

(Looking North)

71'-0½" Out-to-Out Reversible Lanes 1'-51/2" 12'-0" 12'-0" 12'-0" 12'-0" 12'-0" 8'-0" Parape Shldr. SB Lane SB Lane SB Lane SB Lane Shldr. Parapet - € I-90/94 ⊢9½" Slab after ¼" }-- Ç 1" Joint

Exist. Beam to remain, typ.

| 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 |

4 Spa. @ 6'-6" = 26'-0"

FINAL CROSS SECTION
(Looking North)

* Match existing deck surface profile

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2 Spa. @ 5'-2" = 10'-4"

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 =
 DRAWN
 D.C.P.
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 =
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 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS II SN 016-0115 (SB)

4 Spa. @ 6'-6'' = 26'-0''

Diamond Grinding,

(21)

3'-21/2"

typ.

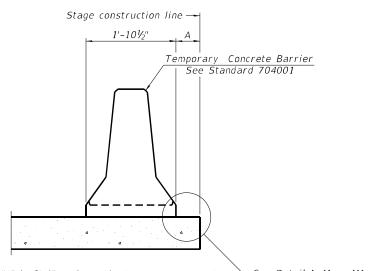
A.I. SECTION COUNTY TOTAL SHEETS NO.
100 2020-004-BR COOK 1492 1318

CONTRACT NO. 62K74

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STAGE II CONSTRUCTION

- 1. Perform Deck Slab Repairs at the locations shown in the plans.
- 2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at north and south abutments and replace associated reinforcement and concrete adjacent to the joint.
- Perform Structural Repair of Concrete and Epoxy Crack Injection at abutments and piers.
- 4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
- Perform ¼" diamond grinding to bridge deck and abutment hatched block.
- 6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
- 7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway.
 See Roadway Plans.
- 8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
- 9. Perform slope wall repairs as shown in the plans



∽ 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".

- Stage removal line ← Stage removal line 1'-101/2" 1'-101/2" 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 is required when "A" is greater than 3'-1".

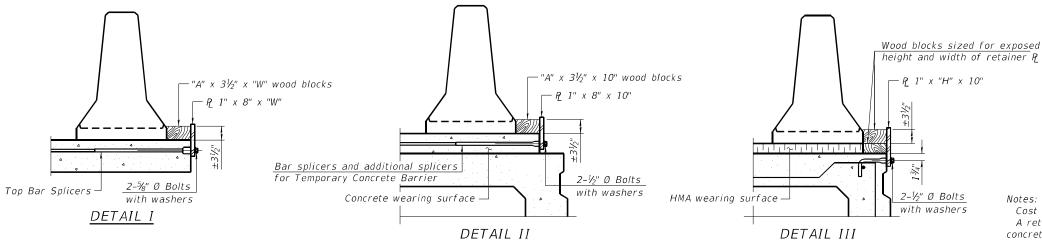
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

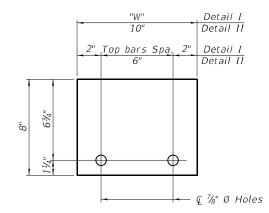
EXISTING DECK BEAM

NEW SLAB OR NEW DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

EXISTING SLAB





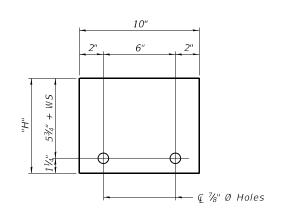
STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)

RAILING CRITERIA

NCHRP 350 Test Level Railing Weight (plf) 440

R-2710-12-2021



STEEL RETAINER R 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.

1x8 UNC

1" Ø pin

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

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.

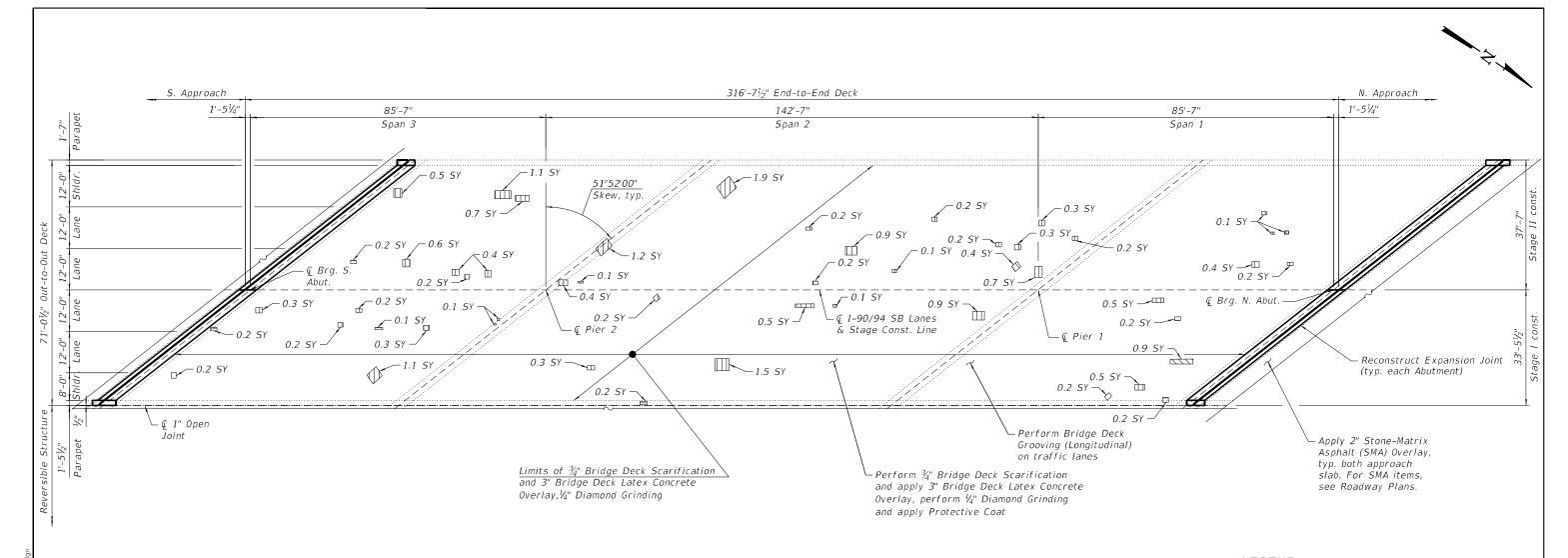
- Detail I Installation for a new bridge deck or bridge slab.
- Detail II Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate 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.

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SECTION COUNTY **TEMPORARY CONCRETE BARRIER** 2020-004-BR COOK 1492 1319 SN 016-0115 (SB) CONTRACT NO. 62K74 SHEET S35-05 OF S35-19 SHEETS



DECK PLAN

NOTES:

- 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 S35-04.
- 3. For North and South transverse joint removal and reconstruction, see Sheet S35-07 thru S35-12.
- 4. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- 6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.

- Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
- 8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.
- 9. Prior to any reconstruction or resurfacing of the bridge deck, a team of the consultant WJE will require access to contractor work zone to take cores of existing deck for independent study with IDOT. Contractor to coordinate with IDOT/WJE in advance. There is no cost to the contractor.

<u>LEGEND</u>

*Deck Slab Repair (Partial Depth)

Deck Slab Repair

(Full Depth, Type I)

Deck Slab Repair
(Full Depth, Type II)

SY Square Yard

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	1,420
Protective Coat	Sq Yd	2,795
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,685
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	2,339
Bridge Deck Scarification 3/4"	Sq Yd	2,339
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1.1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	0.9
Diamond Grinding (Bridge Section)	Sq Yd	2,387
Maintenance of Lighting System	Cal Mo	6

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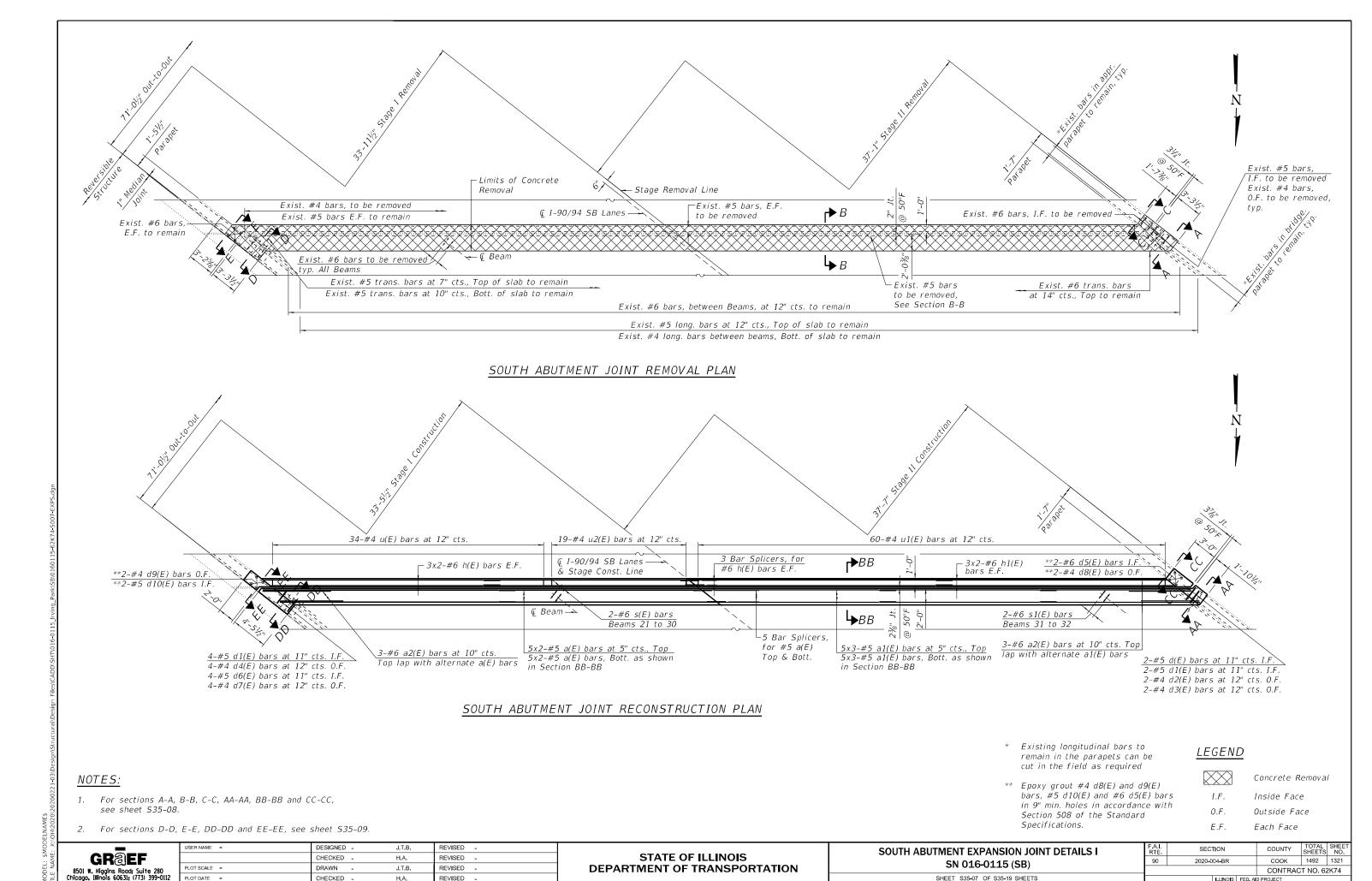
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

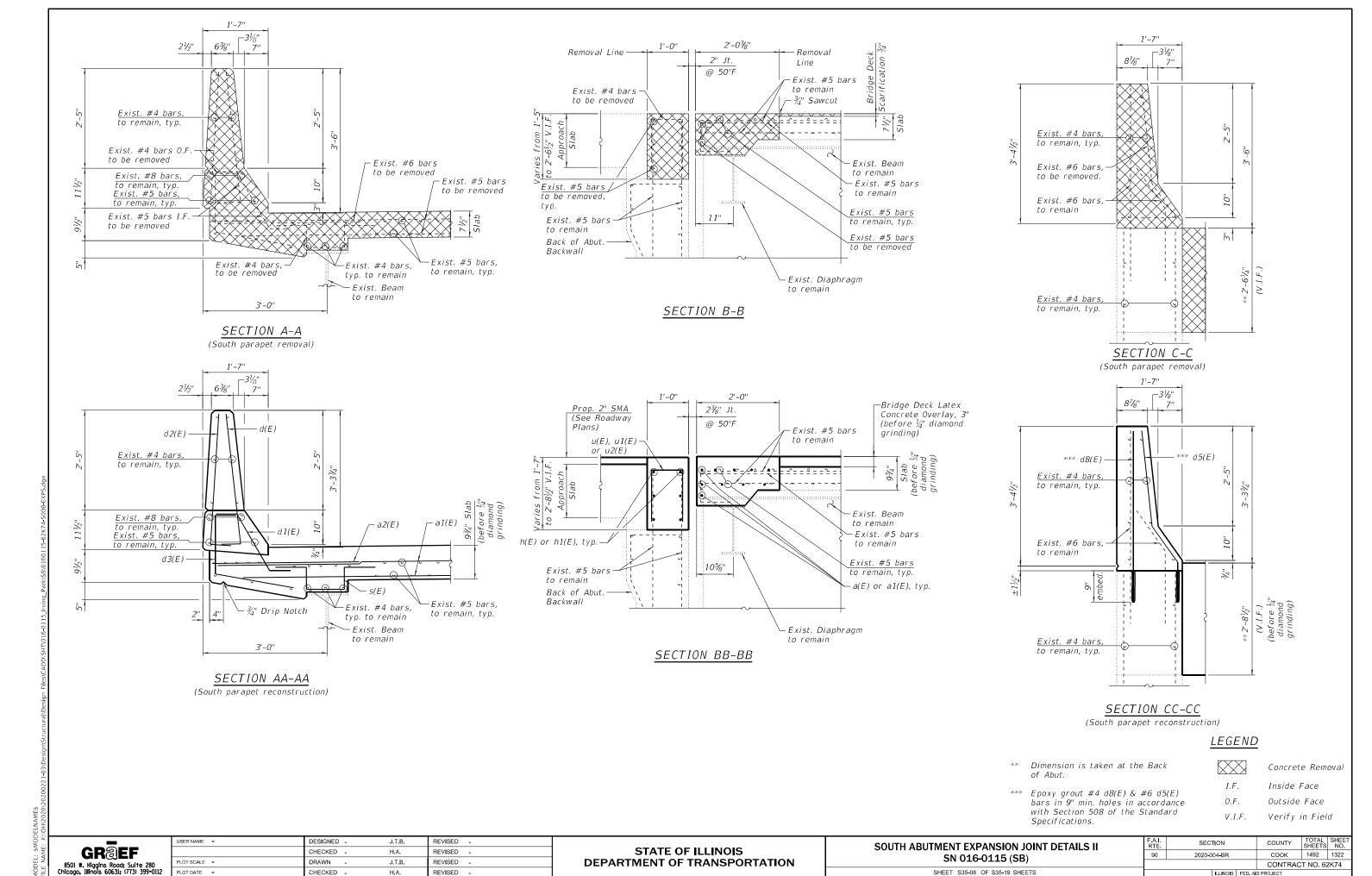
BRIDGE DECK REPAIR PLAN AND DETAILS SN 016-0115 (SB)

SHEET \$35-06 OF \$35-19 SHEETS

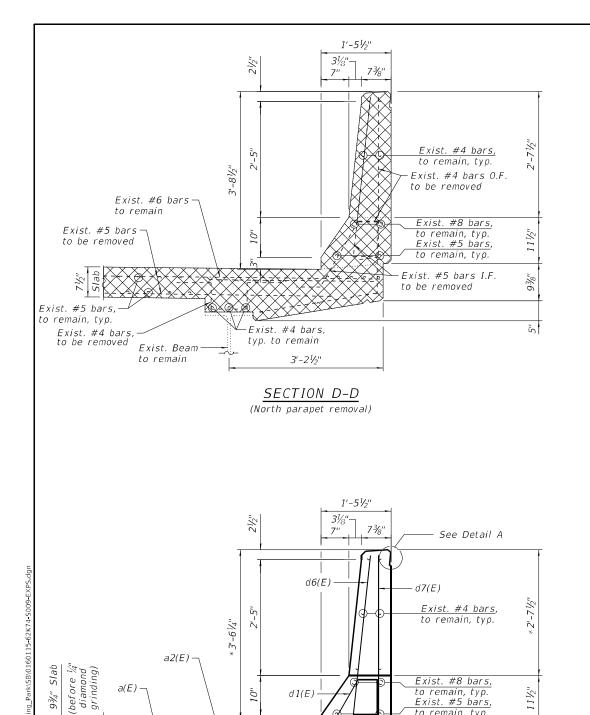
AI. SECTION COUNTY TOTAL SHEETS NO.
90 2020-004-BR COOK 1492 1320
CONTRACT NO. 62K74



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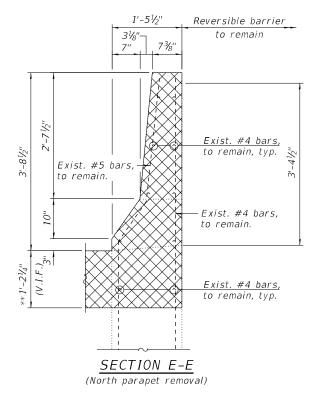


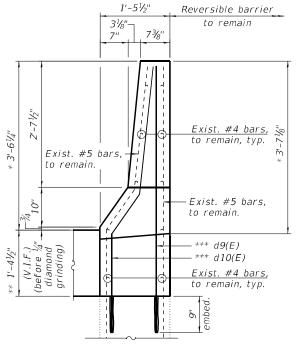
3/4" Drip Notch-

3'-21/5"

SECTION DD-DD

(North parapet reconstruction)

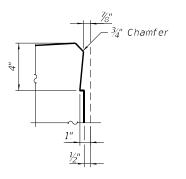






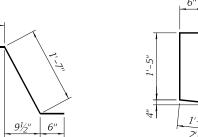
(North parapet reconstruction)

- Adjust in field as required to match reversible parapet
- Dimension is taken at the Back of Abut.
- *** Epoxy grout #4 d9E) bars #5 d10(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

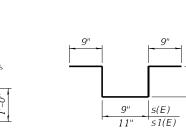


DETAIL A (Reinforcement not shown for clarity)

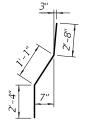
BAR d1(E)



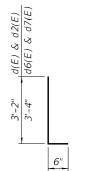
BARS d3(E) & *d4(E)*



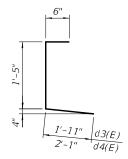
BAR d5(E)BARS s(E) & s1(E)

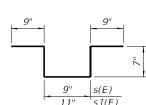


 $BAR \ d10(E)$



BARS d(E), d2(E), d6(E) & d7(E)





<u>L</u>	11(E) &	u2(E	<u>)</u>
	Bar	Α	
	u(E)	1'-0"	
	u1(E)	2'-0"	
	u2(E)	1'-6"	

BARS u(E),

BILL OF MATERIAL

SOUTH ABUTMENT

#5

#5

#6

#5

#5

#4

#4

#4

#6

#5

#4

#4

#4

#5

#6

#6

#6

#6

#4

#4

#4

20

30

2

6

2

2

4

2

4

4

2

2

12

12

20

4

34

60

19

Concrete Removal

Epoxy Coated

Superstructure

Concrete

Reinforcement Bars,

No. | Size | Length | Shape

29'-0"

22'-8"

6'-6"

3'-8"

2'-7"

3'-8"

3'-10"

4'-0"

4'-4"

3'-10"

3'-10"

4'-2"

5'-10"

6'-1"

29'-0"

32'-4"

3'-5"

3'-7"

2'-9"

4'-9"

3'-9"

Cu Yd

Pound

Cu Yd

ᆫ

П

18.5

3,020

20.5

Bar

a(E)

a1(E)

a2(E)

d(E)

d1(E)

d2(E)

d3(E)

d4(E)

d5(F)

d6(E)

d7(E)

d8(E)

d9(E)

d10(E)

h1(E)

s(E)

51(E)

u(E)

u1(E)

u2(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S35-13.
- For Bar Splicer Assembly details, see sheet S35-19.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

I.F. Inside Face 0.F. Outside Face Verify in Field

MIN	BAR	LAPS

*111V	חח	١	
#	5	3'	-6"
#	6	4'	-0"

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Exist. #5 bars.

to remain, typ.

d4(E)

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION SOUTH ABUTMENT EXPANSION JOINT DETAILS III SN 016-0115 (SB) SHEET S35-09 OF S35-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
90	2020-004-BR	соок	1492	1323
		CONTRAC	T NO. 62	2K74

Exist. #5 bars,

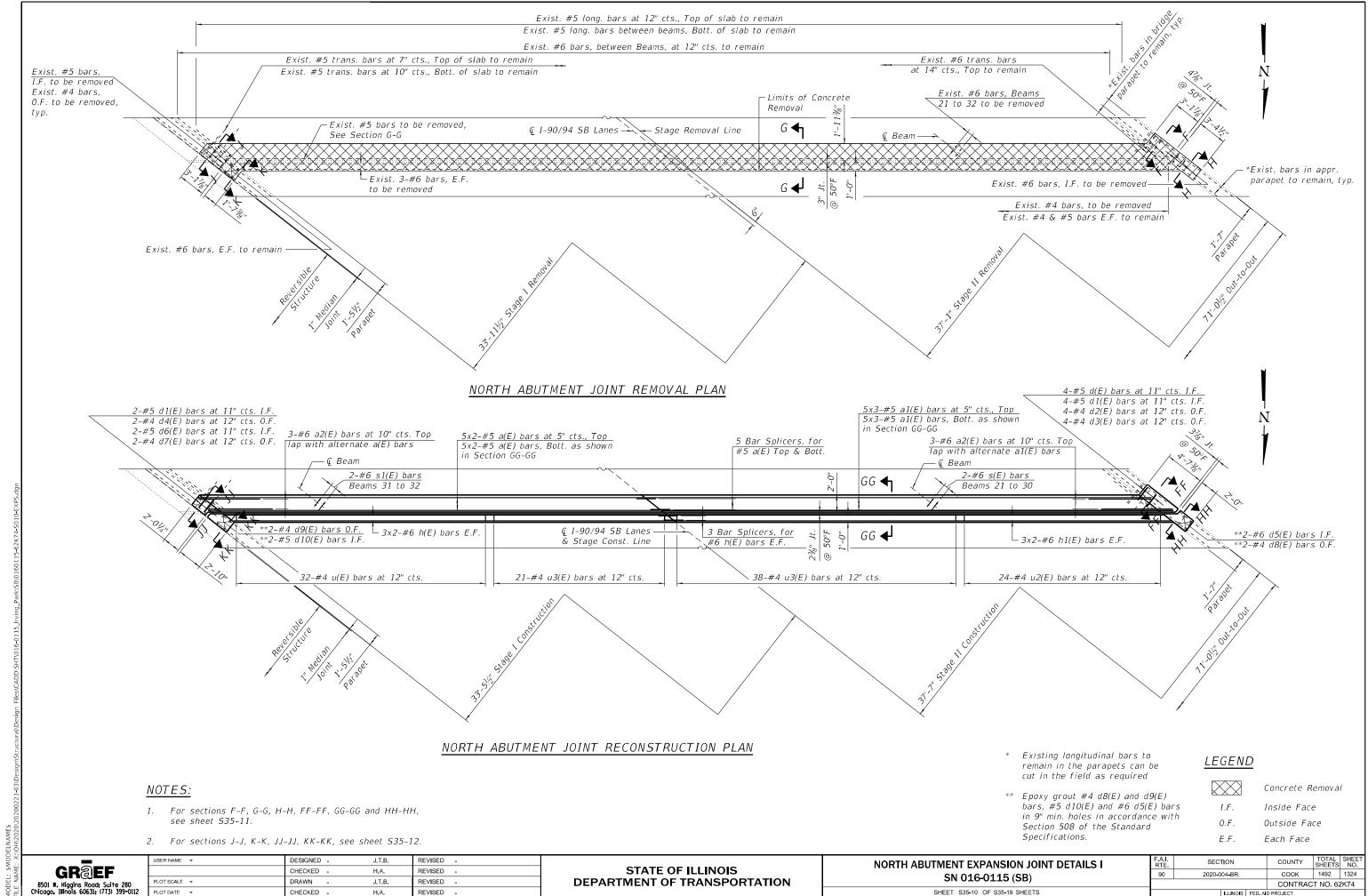
Exist. #4 bars,-

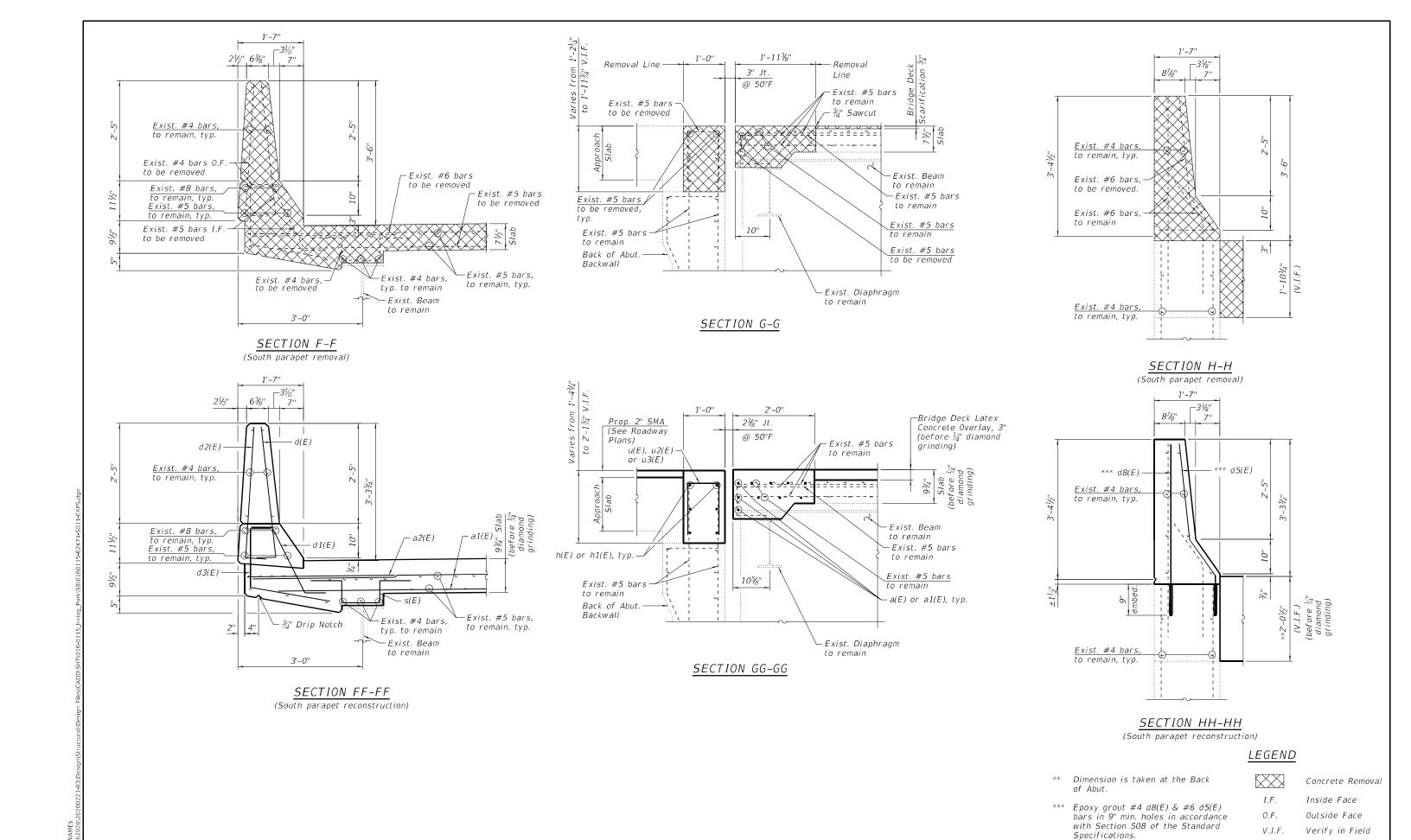
typ. to remain

Exist. Beam —

to remain

to remain, typ.





STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

SECTION

2020-004-BR

NORTH ABUTMENT EXPANSION JOINT DETAILS II

SN 016-0115 (SB)

SHEET S35-11 OF S35-19 SHEETS

COUNTY

COOK 1492 1325

CONTRACT NO. 62K74

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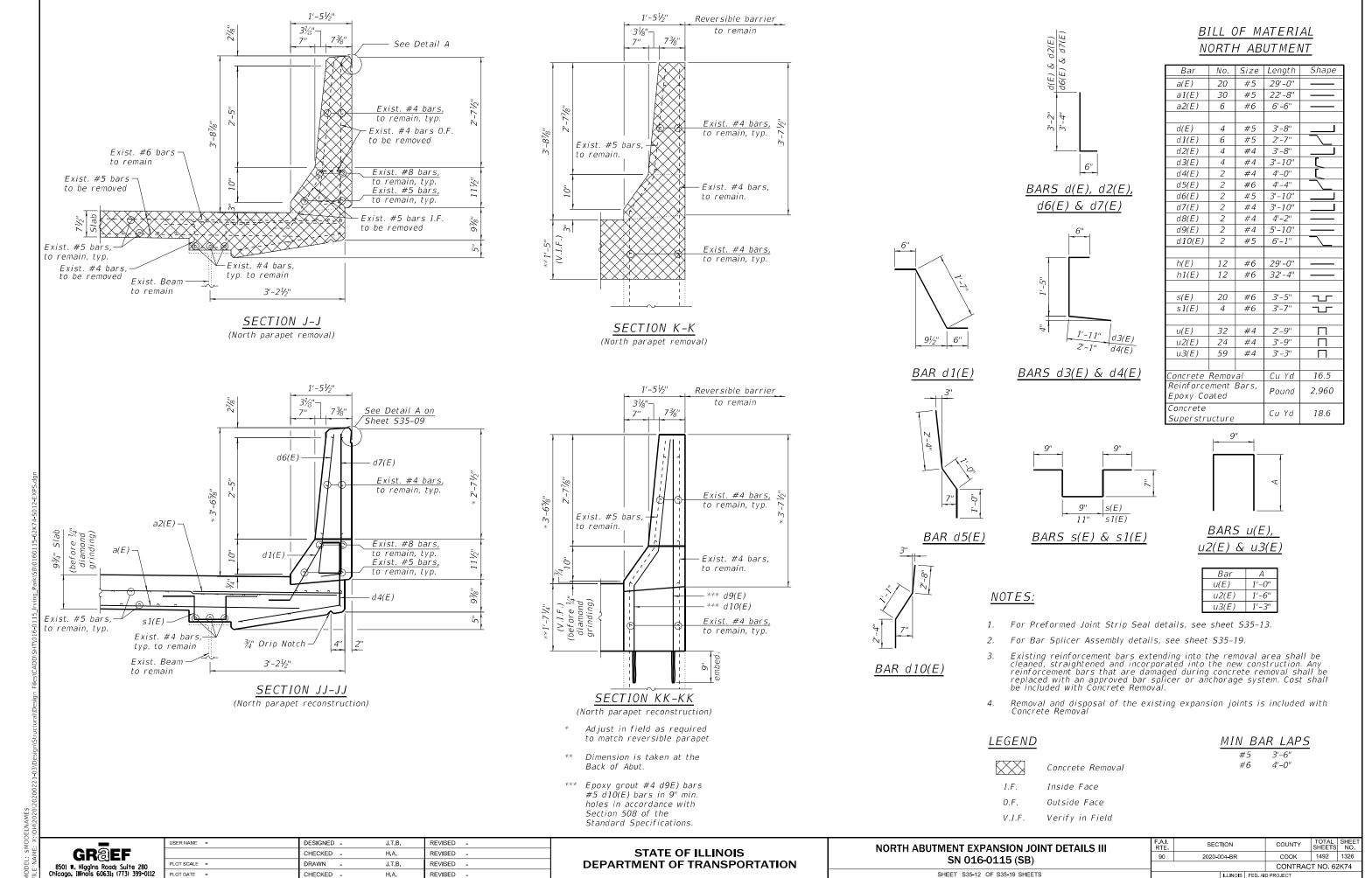
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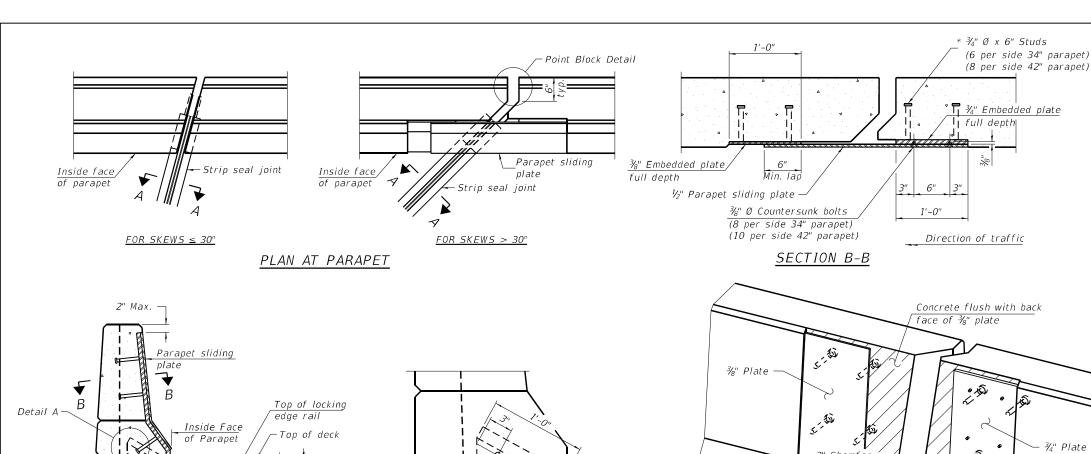
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ELEVATION AT PARAPET

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

Concrete flush with back

TRIMETRIC VIEW

face of 3/4" plate

(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) at 50° F

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

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

*** Before 1/4" Diamond Grinding.

DETAIL A

SHOWING WELDED RAIL JOINT

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

Jo. **⊅**O

LOCKING EDGE RAILS

penetration is verified by mock-up.

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.

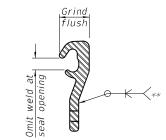
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " 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.

** 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	225

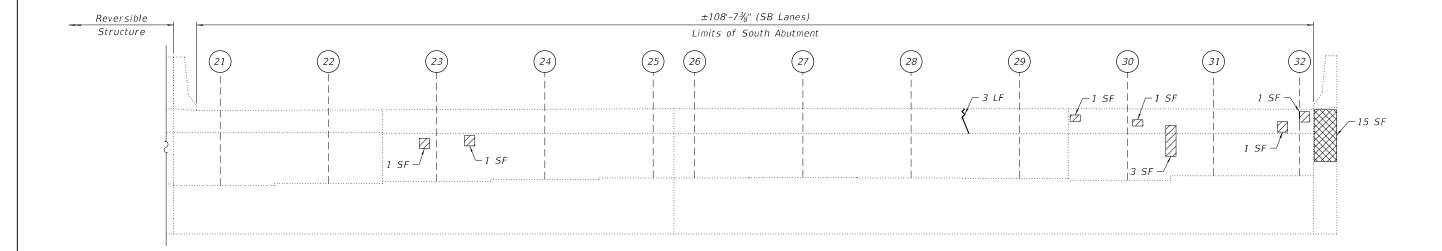
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%" Ø x 6" Studs

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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** PREFORMED JOINT STRIP SEAL SN 016-0115 (SB) SHEET S35-13 OF S35-19 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHE
90	2020-004-BR		соок	1492	1327
CONTRACT N				T NO. 62	2K74
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ELEVATION - SOUTH ABUTMENT

(Looking South)

NOTES:

- 1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For Slope Wall repairs, see Sheet S35-18.

LEGEND

Structural Repair of Concrete (Depth greater than 5 Inches)



Structural Repair of Concrete (Depth equal to or less than 5 Inches)



Epoxy Crack Injection (Width >

SF Square Foot LF Linear Foot

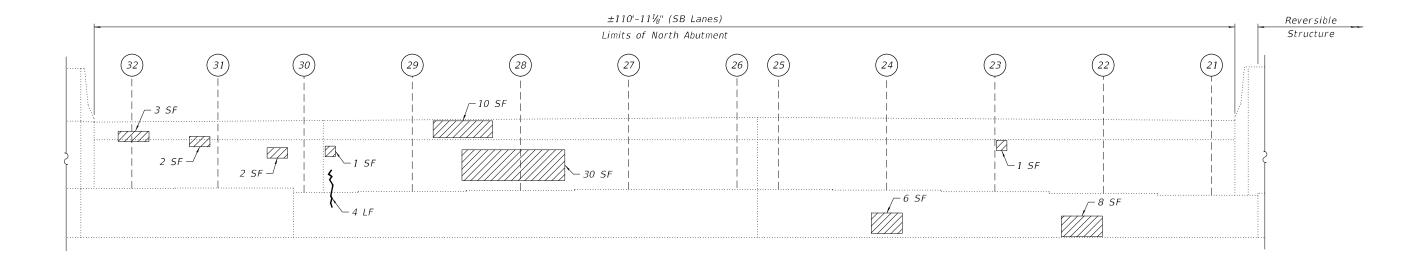
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Yd	618
Epoxy Crack Injection	Foot	3
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	9
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	15

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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** **SOUTH ABUTMENT REPAIRS** SN 016-0115 (SB) SHEET S35-14 OF S35-19 SHEETS

SECTION COUNTY 90 COOK 1492 1328 2020-004-BR CONTRACT NO. 62K74



ELEVATION - NORTH ABUTMENT

(Looking North)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For Slope Wall repairs, see Sheet S35-18.

LEGEND

6' LF ___

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

Epoxy Crack Injection (Width > 0.06")

SF Square Foot

LF Linear Foot

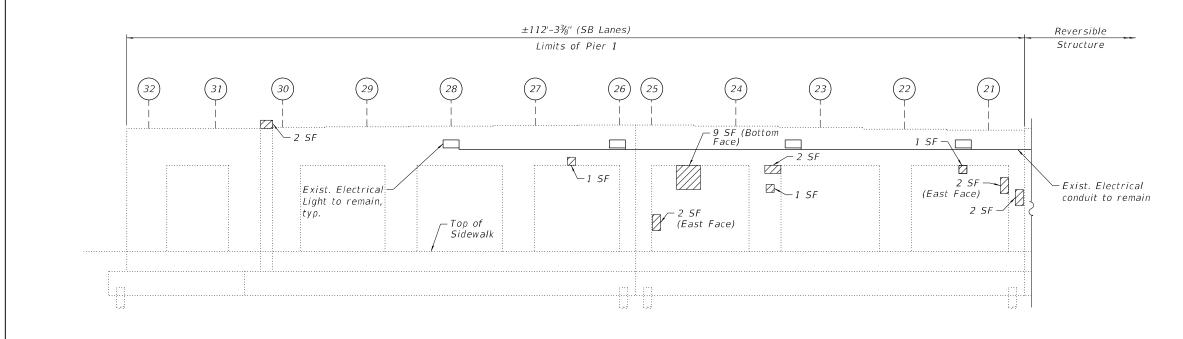
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	626
Epoxy Crack Injection	Foot	4
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	63



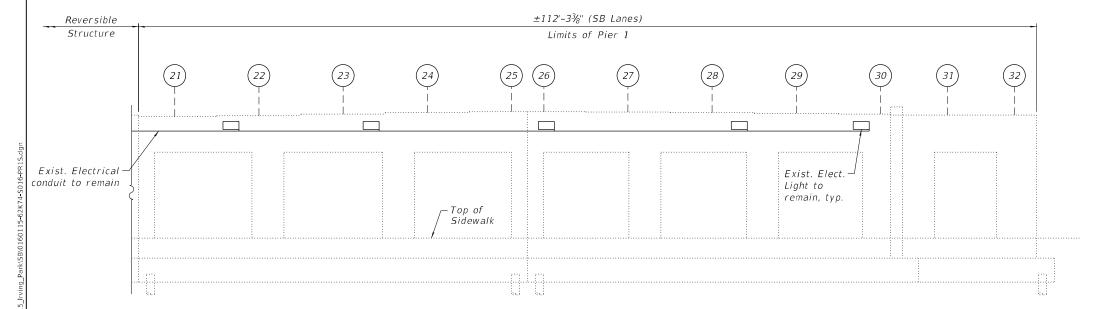
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90	2020-0	04 - BR		соок	1492	1329
				CONTRAC	T NO. 62	2K74
		ILLINOIS	FED. Al	D PROJECT		



ELEVATION - PIER 1

(Looking North)



ELEVATION - PIER 1

(Looking South)



EXISTING LIGHTING: PIER 1

(Looking Northwest)



EXISTING LIGHTING: PIER 1

(Looking Southeast)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	22

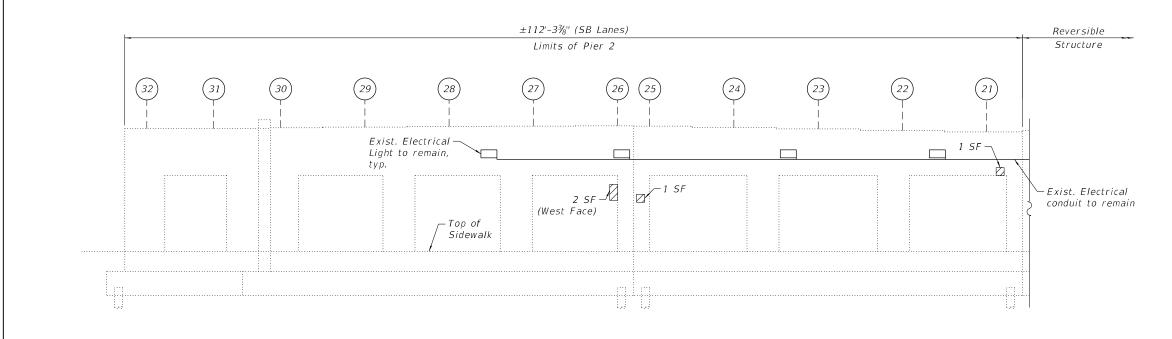
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PLOT DATE =	CHECKED -	H.A.	REVISED -

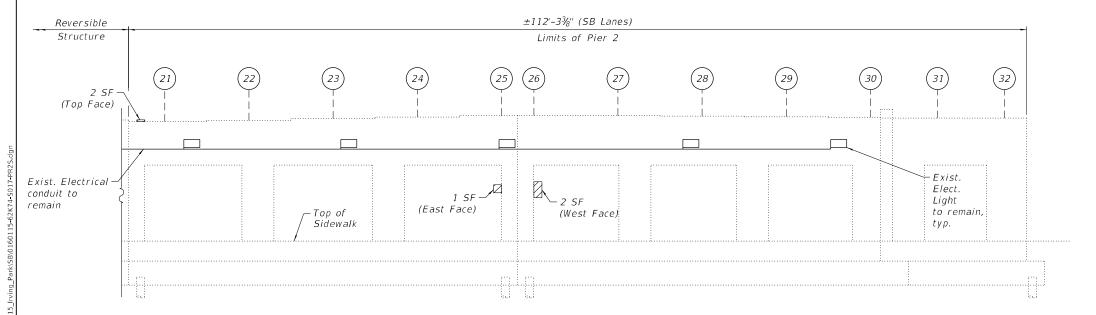
	. REPAIRS -0115 (SB)			
SN 016-0115 (SB)				
SHEET \$35-16	OF S35-19 SHEETS			

F.A.I. RTE	SECT	TION		COUNTY	TOTAL SHEETS	SHEE NO.
90	2020-004-BR		соок	1492	1330	
•			CONTRAC	T NO. 62	2K74	



ELEVATION - PIER 2

(Looking North)



ELEVATION - PIER 2

(Looking South)



EXISTING LIGHTING: PIER 2

(Looking North)



EXISTING LIGHTING: PIER 2

(Looking Southwest)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	9

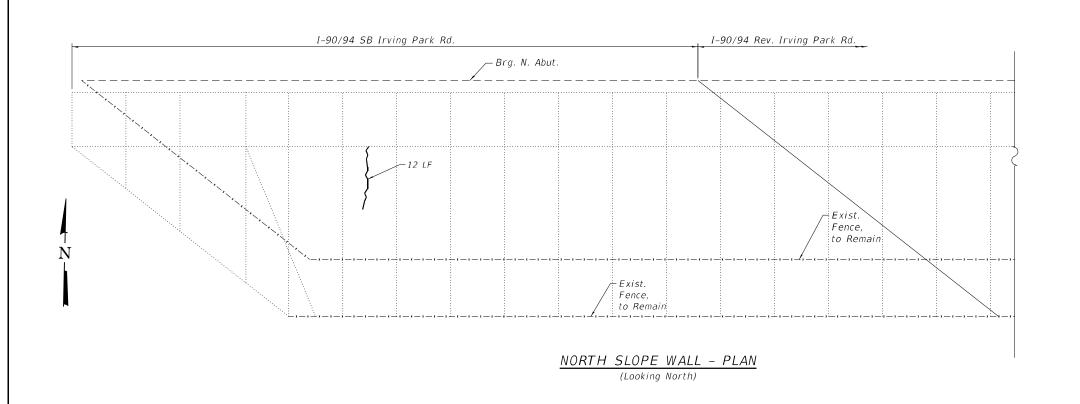
GREF 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112

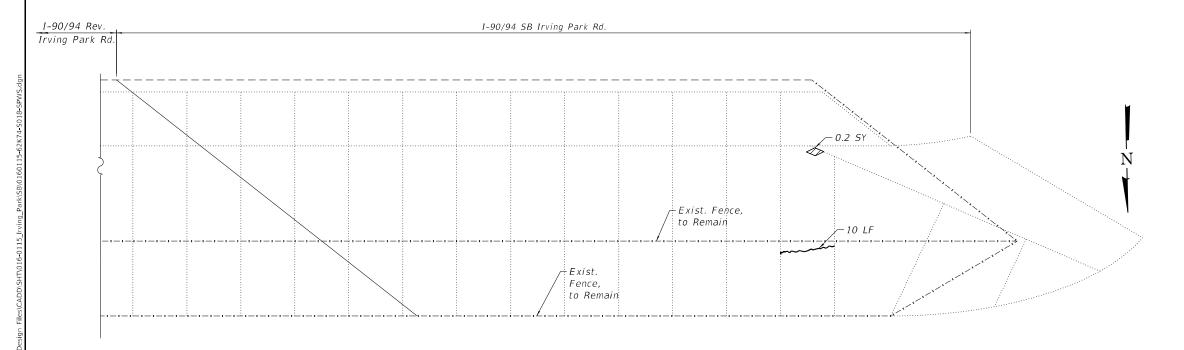
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIRS SN 016-0115 (SB) SHEET S35-17 OF S35-19 SHEETS
 F.A.I. RTE.
 SECTION
 COUNTY
 TOTAL SHEETS
 SHEET NO.

 90
 2020-004-BR
 COOK
 1492
 1331

 CONTRACT NO. 62K74





<u>SOUTH SLOPE WALL - PLAN</u>

(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

LEGEND

SY

LF

Slope Wall Removal and Replacement with 4 Inch Slope Wall

Square Yard

Linear Foot

Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	1
Slope Wall Removal	Sq Yd	1
Slope Wall 4 Inch	Sq Yd	1
Slope Wall Crack Sealing	Foot	22

GROEF

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS
SN 016-0115 (SB)
SHEET S35-18 OF S35-19 SHEETS

 F.A.I. RTE.
 SECTION
 COUNTY
 TOTAL SHEETS
 SHEETS NO.

 90
 2020-004-BR
 COOK
 1492
 1332

 CONTRACT NO. 62K74

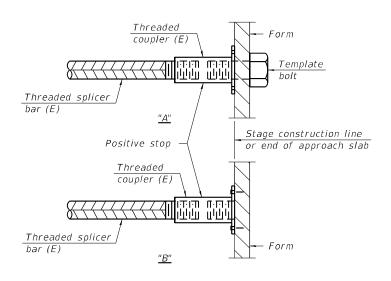
STANDARD BAR SPLICER ASSEMBLY PLAN

(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.

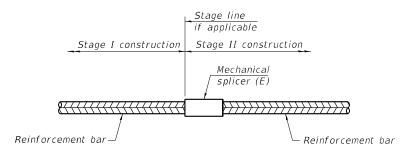
Location	Bar size	No. assemblies required	Minimum Iap length
South Abutment	#5	10	3'-6"
Exp. Joint	#6	6	4'-0"
North Abutment	#5	10	3'-6"
Exp. Joint	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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	USER NAME =	DESIGNED -	-	J.T.B.	REVISED	-
		CHECKED -	-	H.A.	REVISED	-
	PLOT SCALE =	DRAWN -	-	D.C.P.	REVISED	-
2	PLOT DATE =	CHECKED -	-	H.A.	REVISED	-

S.N. 016-0115 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. LOADING The structure has a back-to-back abutment length of $321'-3\frac{3}{4}"$ and an out-to-out deck width of $36'-0\frac{1}{2}"$. The superstructure consists of a $7\frac{1}{2}"$ thick reinforced concrete HS20-44 and alternate military loading deck supported on three span continuous steel beams of span lengths 85'-7", 142'-7", and 85'-7". The substructure consists of reinforced concrete abutments and piers supported on reinforced concrete piles. DESIGN SPECIFICATIONS The reversible lanes will be closed to traffic during construction. 2002 AASHTO Standard Specification for Highway Bridges, 17th Edition No salvage. 321'-3¾" Back-to Back of Abutments S. Approach N. Approach 313'-9" @ Brg. to @ Brg. 3'-93/8" 3'-93/8" 142'-7" 85'-7" Span 3 Span 2 Span 1 - Ç Brg. S. Abut - Ç Pier 2 ⊈ Pier 1-⊈ Brg. N. Abut. — Вк. N. Abut. Bk. S. Abut. — 179'-10" Reconstruct -Reconstruct Expansion Joint Expansion Joint Limits of Protective Shield Exist. © Irving Park Rd. Beams, *14'-8" typ. *14'-8" Perform Structural Sdwlk. Sdwlk Perform Structural Repair of Concrete NOTE: Repair of Concrete at South Abutment Exist. Fence at North Abutment 1. All stations are to the & I-90/94 Reversible to remain, typ. Perform Structural Roadway and taken from existing plans. Perform slope wall * 39'-6¹/₄' Repair of Concrete Perform Structural -*3'-0" *39'-61/4" repairs, typ. Repair of Concrete at Pier 1 2. No Future Wearing Surface is allowed. Sidewalk Roadway Roadway Sidewalk at Pier 2 **ELEVATION** * Dimension at right angle STRUCTURAL 321'-3¾" Back-to-Back Abutments N. Approach S. Approach 313'-9" @ Brg. to @ Brg Engineer Full Name: Kevin Wood Date: 10-20-2022 Illinois Registered Engineer No. 081-006515 3'-93/8" 3'-9¾'' 85'-7" 142'-7" 85'-7" Registration Expires 11. 30, 2024 Span 3 Span 2 Span 1 Apply 2" Stone-Matrix Asphalt (SMA) Overlay, typ. each approach slab. For SMA items see Roadway - Perform Bridge Deck Exist. Fences Grooving (Longitudinal) to remain Range 13E, 2nd P.M. on traffic lanes Structure Location € 1" Openjoint Bk. S. Abut. î I-90/94 Sta. 634+74.03 Sta. 631+56.49 Rev. Lanes Skew, typ. Station Increase î Brg. S. Abut. LOCATION SKETCH G Structure Šta. 631+60.27 Sta. 632+45.86 Sta. 633+17.15 Bk. N. Abut. Reconstruct -Pier 1 North South Sta. 634+77.81 Expansion Joint Šta. 633+88.44 Slope Slope Reconstruct Wall Exist. Fences Expansion Joint to remain -Perform ¾" Bridge Deck Scarification and apply 3" Bridge Deck Latex GENERAL PLAN AND ELEVATION Concrete Overlay, perform 1/4" Diamond Grinding and apply REVERSIBLE I-90 OVER IRVING PARK ROAD Protective Coat F.A.I. SEC 2020-004-BR COOK COUNTY STATION: 633+17.15 STRUCTURE NO. 016-0115 (REV) PLANDESIGNED . REVISED J.T.B. SECTION COUNTY **STATE OF ILLINOIS** CHECKED H.A. REVISED -2020-004-BR COOK 1492 1334 DRAWN D.C.P. REVISED **DEPARTMENT OF TRANSPORTATION** 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112 CONTRACT NO. 62K74 SHEET S36-01 OF S36-15 SHEETS PLOT DATE = CHECKED -K.G.W. REVISED

GENERAL NOTES

- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the Concrete Removal pay item. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- 3. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- 4. Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- 7. Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- . All exposed concrete edges shall have a $\, rac{3}{4}^{\prime\prime}$ x45 $^{\circ}$ chamfer, except where shown otherwise.
- 9. For SMA overlay on Approach Slab, see Roadway Plans.
- 10. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay.
- 11. 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.
- 12. Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- 3. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 14. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- 15. The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- 16. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- 17. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- 18. Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- 19. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 20. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

S36-01 General Plan & Elevation

536-02 General Data

S36-03 Bridge Deck Repair Plan and Details

S36-04-S36-06 South Abutment Expansion Joint Details I, II & III S36-07-S36-09 North Abutment Expansion Joint Details I, II & III

S36-10Preformed Joint Strip SealS36-11South Abutment RepairsS36-12North Abutment RepairsS36-13Pier 1 Repairs

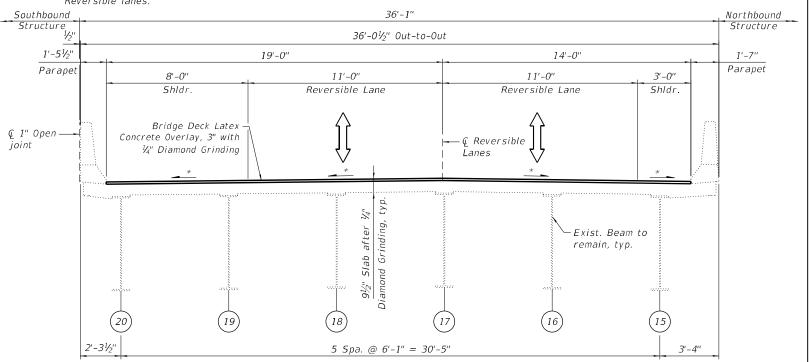
S36-14 Pier 2 Repairs S36-15 Slope Wall Repairs

SCOPE OF WORK

- Provide Protective Shield within limits indicated on the plans.
- 2. Scarify $\frac{3}{4}$ " from the bridge deck slab.
- 3. Perform deck repairs.
- 4. Remove and reconstruct expansion joints at north and south abutments and install new Preformed Joint Strip Seals.
- Apply a 3" Bridge Deck Latex Concrete Overlay on Bridge Deck. Apply a 2" Stone-Matrix Asphalt (SMA) Overlay on the Approach Slabs, see Roadway Plans.
- 6. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 7. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes
- 8. Apply Protective Coat to the top and inside faces of parapets, reconstructed transverse expansion joints and to the surface of the new overlay.
- 9. Perform Structural Repair of Concrete to the Abutments and Piers as noted in the plans.
- 10. Epoxy crack injection at the abutments and piers for cracks greater than hairline.
- 11. Perform slope wall repairs.
- 12. Install 2½" Performed Joint Seal along top of parapet between I-90/94 Southbound and Reversible James

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	17.9		17.9
Protective Shield	Sq Yd	721		721
Concrete Superstructure	Cu Yd	20.1		20.1
Protective Coat	Sq Yd	1,482		1,482
Reinforcement Bars, Epoxy Coated	Pound	3,110		3,110
Preformed Joint Seal 2 1/2"	Foot	322		322
Preformed Joint Strip Seal	Foot	111		111
Concrete Sealer	Sq Ft		641	641
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	773		773
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,135		1,135
Bridge Deck Scarification 3/4"	Sq Yd	1,135		1,135
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		73	73
Deck Slab Repair (Full Depth, Type I)	Sg Yd	0.3		0.3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	2.1		2.1
Diamond Grinding (Bridge Section)	Sq Yd	1,159		1,159
Maintenance of Lighting System	Cal Mo		6	6



FINAL CROSS SECTION

(Looking West)

Match existing deck surface profile

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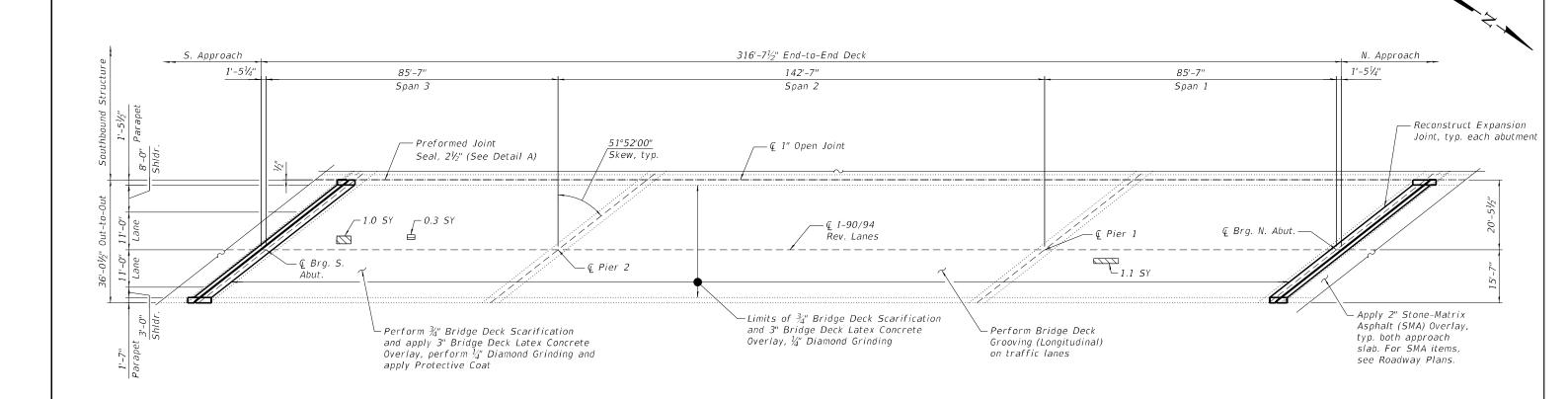
USER NAME =	DESIGNED -	J.T.B.	REVISED -
	CHECKED -	H.A.	REVISED -
PLOT SCALE =	DRAWN -	D.C.P.	REVISED -
PLOT DATE =	CHECKED -	K.G.W.	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

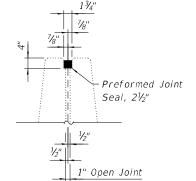
GENERAL DATA SN 016-0115 (REV) SHEET S36-02 OF S36-15 SHEETS
 XI. FE.
 SECTION
 COUNTY
 TOTAL SHEETS
 SHEETS NO.

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 2020-004-BR
 COOK
 1492
 1335

 CONTRACT NO. 62K74



DECK PLAN



DETAIL A

NOTES:

- 1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time
- 2. For bridge deck final cross section, see Sheet S36-02.
- 3. For North and South transverse joint removal and reconstruction, see Sheet S36-04 thru S36-09.
- 4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- 5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- 6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.

- 7. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.
- 8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

LEGEND

Deck Slab Repair (Full Depth, Type I) Deck Slab Repair (Full Depth, Type II)

Square Yard

BILL OF MATERIAL

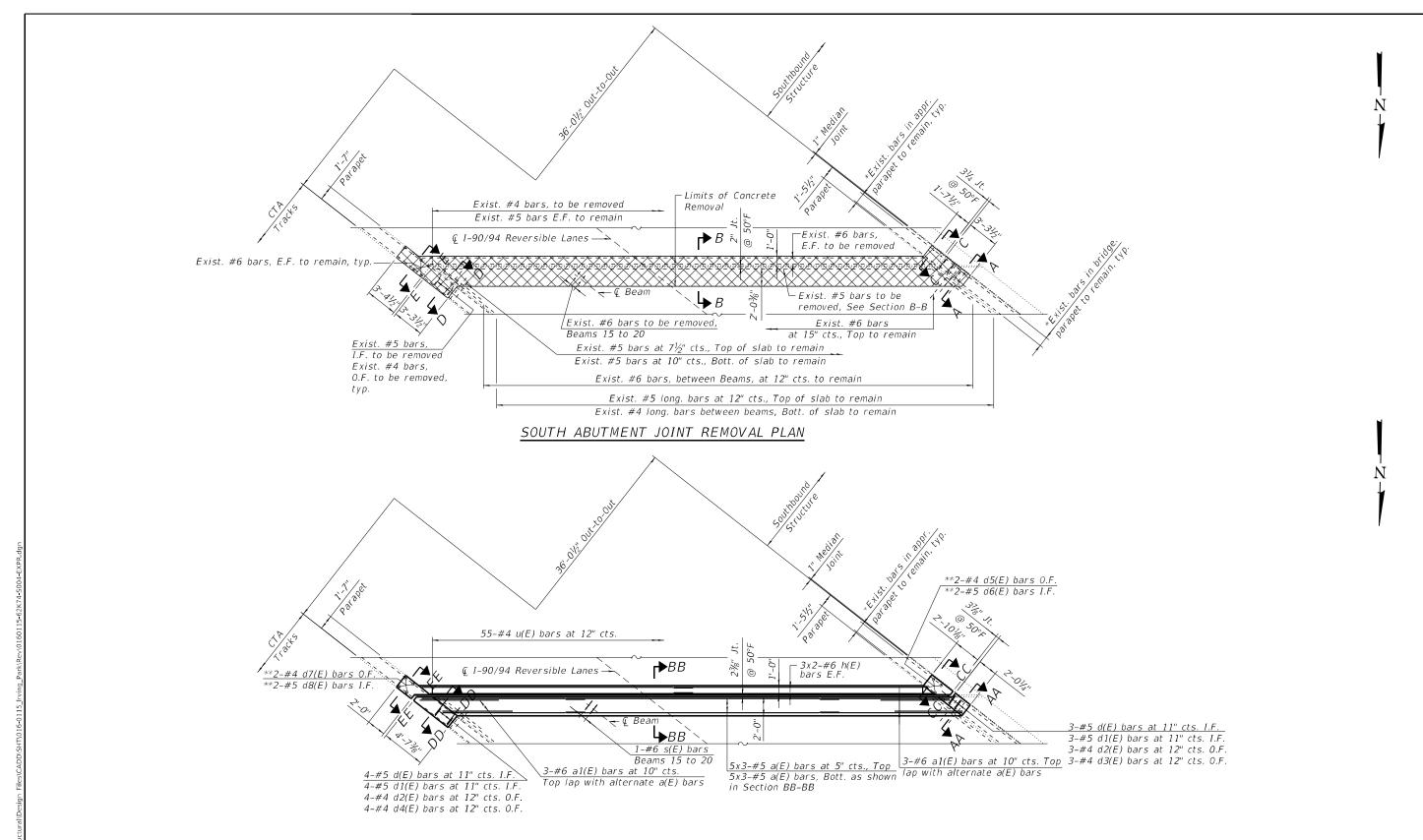
ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	721
Protective Coat	Sq Yd	1,482
Preformed Joint Seal 2 1/2"	Foot	322
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	773
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,135
Bridge Deck Scarification 3/4"	Sq Yd	1,135
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	2.1
Diamond Grinding (Bridge Section)	Sq Yd	1,159
Maintenance of Lighting System	Cal Mo	6

(Reinforcement not shown for clarity)

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PLOT SCALE =	DRAWN -	J.T.B.	REVISED -	7
PLOT DATE =	CHECKED -	K.G.W.	REVISED -	1
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE DECK REPAIR PLAN AND DETAILS SN 016-0115 (REV) SHEET S36-03 OF S36-15 SHEETS

SECTION COUNTY COOK 1492 1336 2020-004-BR CONTRACT NO. 62K74



SOUTH ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- 1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S36-05.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S36-06.

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Ĭ	Chicago, Illinois 60631; (773) 399-0112	PL

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		CHECKED -	H.A.	REVISED -
	USER NAME =	DESIGNED -	J.T.B.	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SN 016-0115 (REV) SHEET S36-04 OF S36-15 SHEETS

E.F. E	Each Face		
SECTION	COUNTY	TOTAL SHEETS	SI
20-004-BR	соок	1492	13

Concrete Removal

Inside Face

Outside Face

SOUTH ABUTMENT EXPANSION JOINT DETAILS I

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

** Epoxy grout #4 d5(E) and d7(E)

bars and #5 d6(E) and d8(E) bars in 9" min. holes in

accordance with Section 508

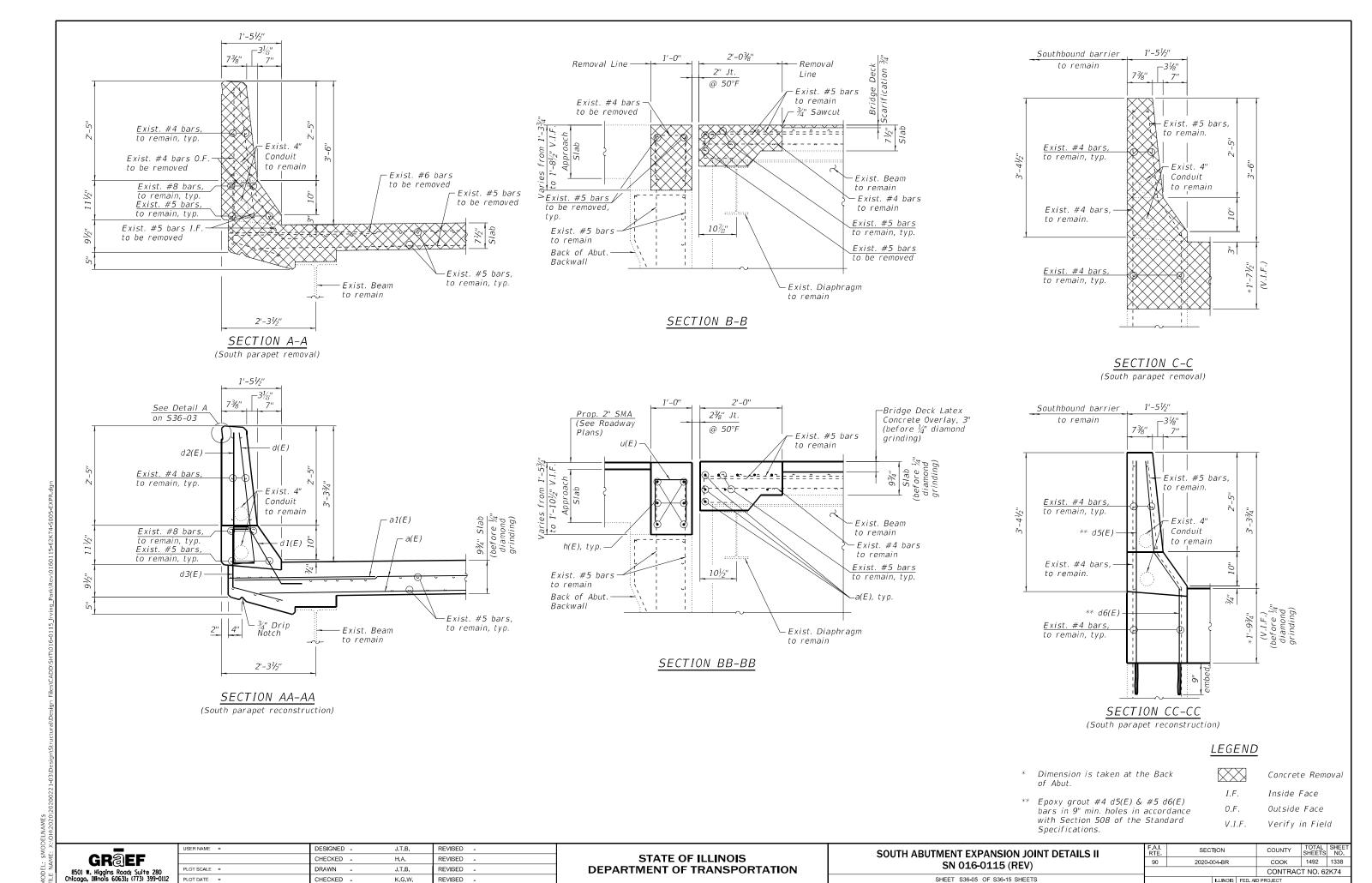
of the Standard Specifications.

A.I.	SECTION		COUNTY	TOTAL SHEETS	SHE	
90	2020-004-BR		соок	1492	133	
CONTRACT NO. 62K74						
	ILLINOIS FED. AID PROJECT					

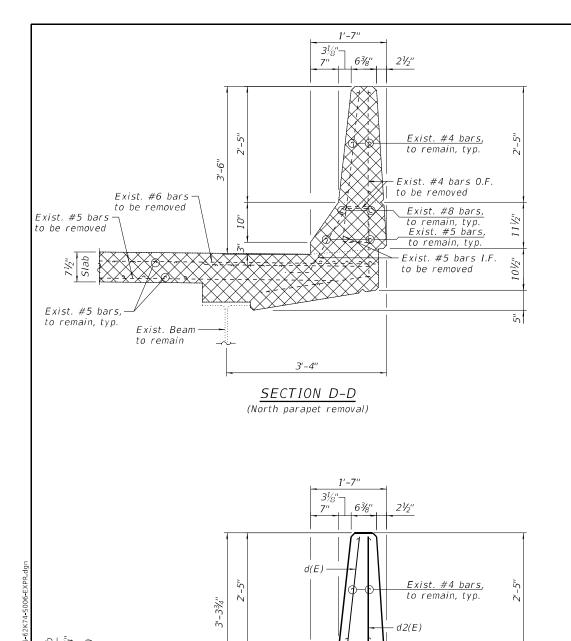
LEGEND

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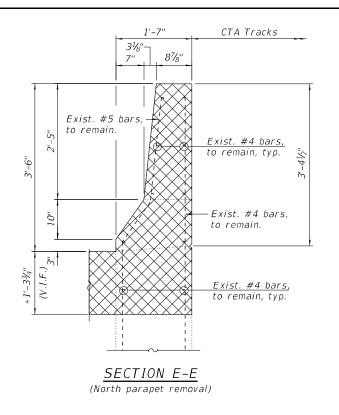
d1(E)

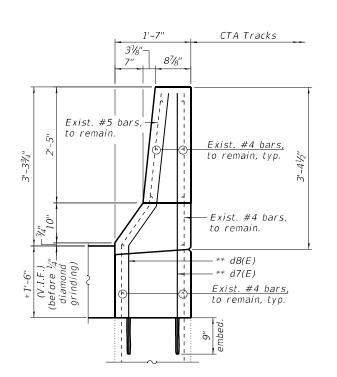
¾" Drip Notch-

3'-4"

SECTION DD-DD

(North parapet reconstruction)





SECTION EE-EE (North parapet reconstruction)

* Dimension is taken at the Back of Abut.

** Epoxy grout #4 d7(E) & # bars in 9" min. holes in ac with Section 508 of the S. Specifications.

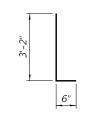
BILL OF MATERIAL SOUTH ABUTMENT

30

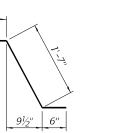
No. | Size | Length | Shape #5 | 21'-10"

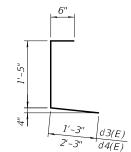
Bar

a(E)



BARS d(E) & d2(E)

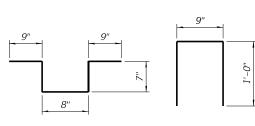




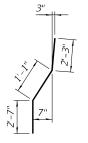
a1(E) #6 6'-6" 6 #5 3'-8" 7 #5 2'-7" d1(E) d2(E)#4 3'-8" d3(E) #4 3 3'-2" d4(E) 4 #4 4'-2" d5(E) #4 5'-9" 2 d6(E) #5 5'-11" d7(E) 2 #4 5'-6" #5 d8(E) 2 5'-8" h(E) 12 #6 30'-1" s(E) 6 #6 3'-4" ___ u(E) 55 #4 2'-9" П 9.1 oncrete Removal Reinforcement Bars, 1,560 Pound Epoxy Coated Concrete Cu Yd 10.1 Superstructure

BAR d1(E)

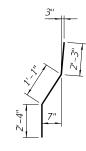
BARS d3(E) & d4(E)







 $BAR \ d6(E)$



BAR d8(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S36-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND



Concrete Removal

MIN BAR LAPS #5 3'-6" #6

Inside Face Outside Face Verify in Field

#5 d8(E)	I.F.
accordance	0.F.
Standard	V.I.F.

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

Exist. #5 bars,

to remain, typ.

a1(E)

1 24

a(E) –

Exist. Beam to remain

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

Exist. #8 bars,

Exist. #5 bars,

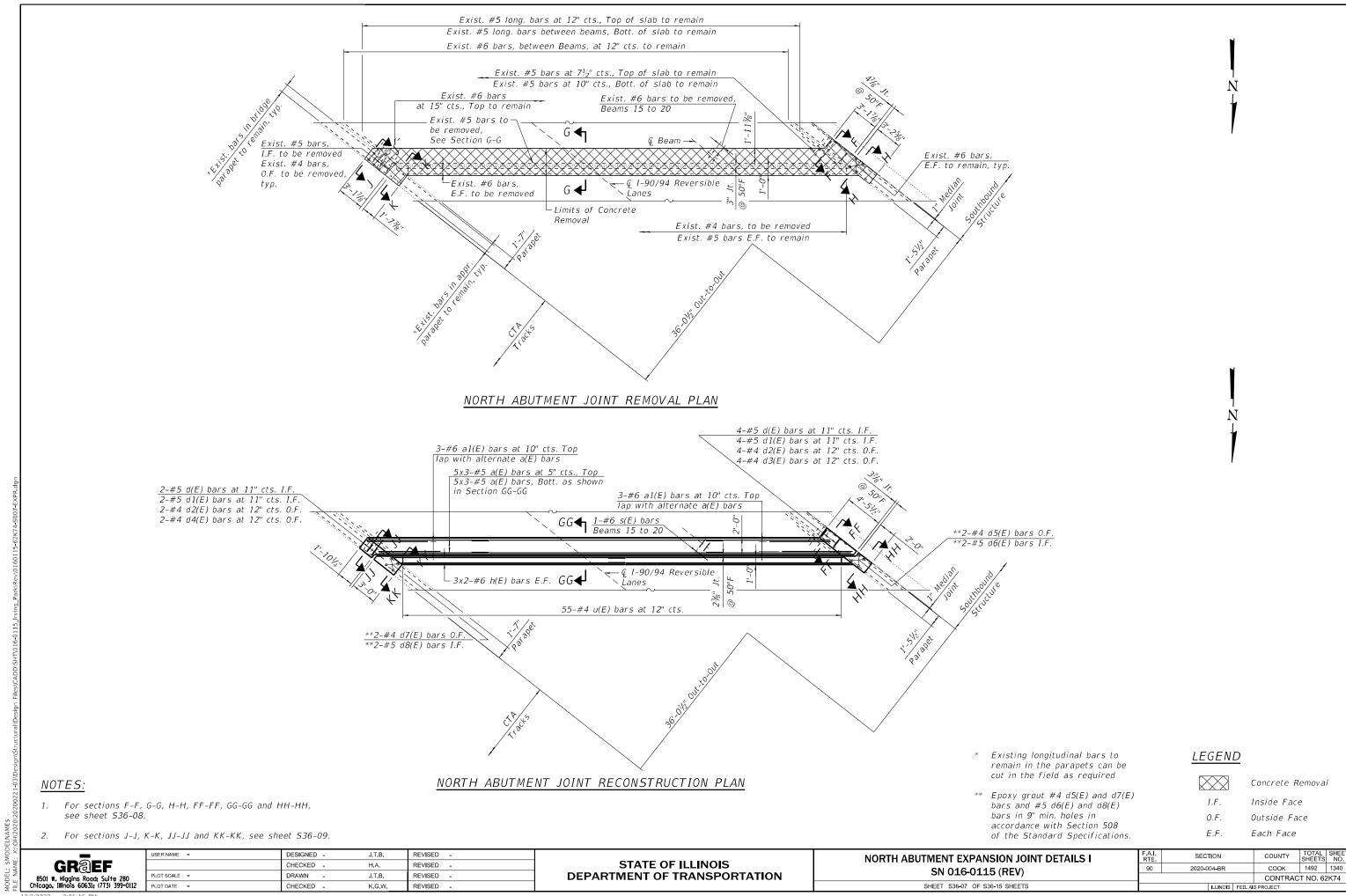
to remain, typ

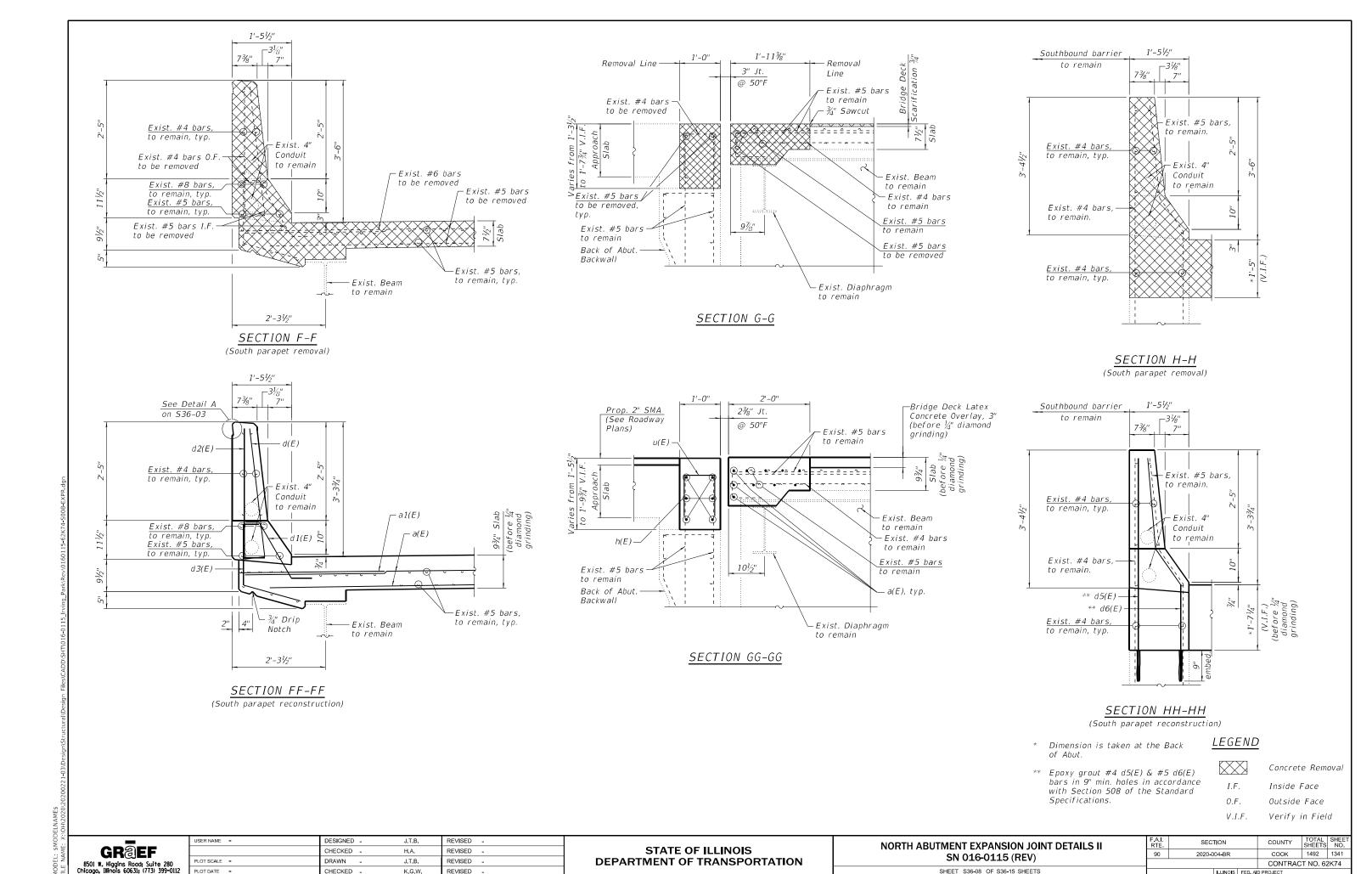
- d4(E)

STATE OF ILLINOIS

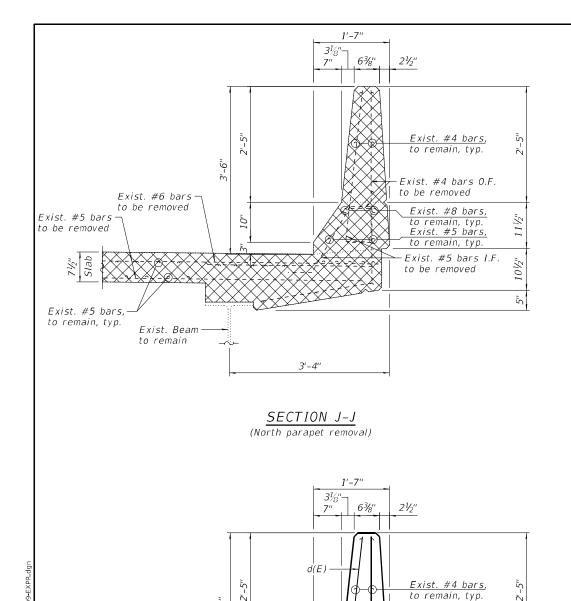
SOUTH ABUTMENT EXPANSION JOINT DETAILS III SN 016-0115 (REV)	F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90	2020-004-BR	соок	1492	1339
			CONTRAC	T NO. 62	2K74
SHEET \$36-06 OF \$36-15 SHEETS		ILLINOIS EED A	IN DROJECT		

DEPARTMENT OF TRANSPORTATION





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d1(E)

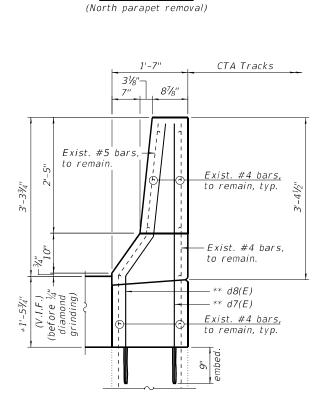
3/4" Drip Notch-

3'-4"

SECTION JJ-JJ

(North parapet reconstruction)

3/4"



SECTION K-K

1'-7"

87/8"

31/8"-

Exist. #5 bars,

to remain.

CTA Tracks

Exist. #4 bars, to remain, typ.

-Exist. #4 bars,

Exist. #4 bars,

to remain, typ.

to remain.

SECTION KK-KK

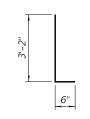
(North parapet reconstruction)

- Dimension is taken at the Back of Abut.
- ** Epoxy grout #4 d7(E) & #5 d8(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

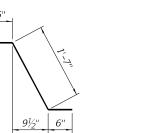
BILL OF MATERIAL NORTH ABUTMENT

#6

Bar No. Size Length Shape 30 #5 21'-10"



BARS d(E) & d2(E)



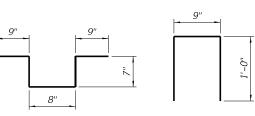
d3(E) 2'-3"

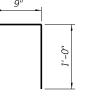
aI(E)	6	#6	6'-6"	
d(E)	6	#5	3'-8"	
d1(E)	6	#5	2'-7"	
d2(E)	6	#4	3'-8"	
d3(E)	4	#4	3'-2"	
d4(E)	2	#4	4'-2"	
d5(E)	2	#4	5'-9"	
d6(E)	2	#5	5'-11"	
d7(E)	2	#4	5'-6"	
d8(E)	2	#5	5'-8"	
h(E)	12	#6	31'-1"	
s(E)	6	#6	3'-4"	7
u(E)	55	#4	2'-9"	
:oncrete	Remov	al	Cu Yd	8.8
Reinforcement Bars,			Pound	1,550
poxy Coated			, cana	1,330
oncrete			Cu Yd	10.0
Superstru	ucture		23.74	10.0

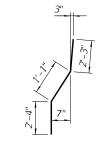
BAR d1(E)

BAR s(E)

BARS d3(E) & d4(E)







 $BAR \ u(E)$

 $BAR \ d6(E)$

BAR d8(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S36-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

I.F. Inside Face

0.F. Outside Face Verify in Field

MIN	BAR	<i>LAPS</i>
#.	5 3	"-6"
#	6 4	"-0"

9 %	
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∑ ;;	<u> </u>
#1 ≥	CR % FF
:: ₹	
2	8501 W. Higgins Road: Suite 280
힐ᆲ	8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112
≥ ш	

Exist. #5 bars, to remain, typ.

a1(E) -

a(E) \neg

Exist. Beam to remain

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- d2(E)

d4(E)

Exist. #8 bars,

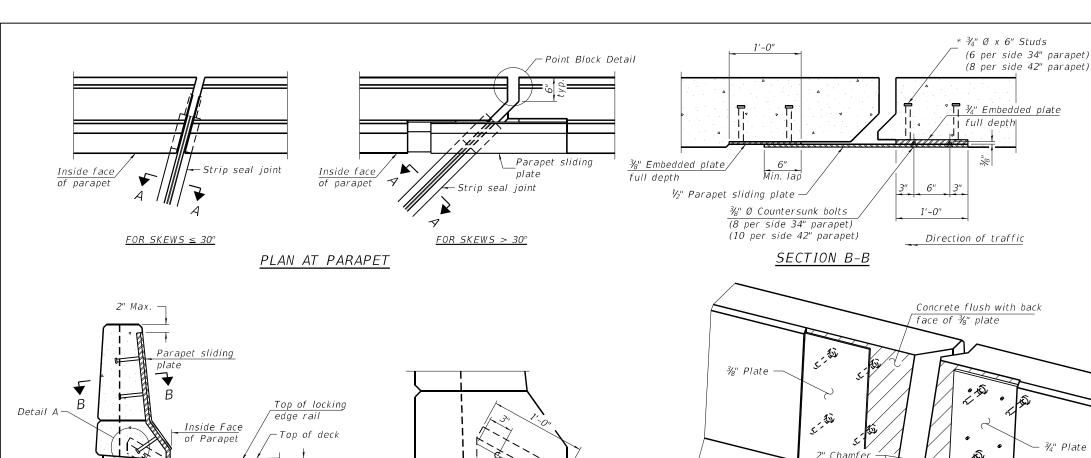
Exist. #5 bars, to remain, typ.

> **STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

NORTH ABUTMENT EXPANSION JOINT DETAILS III SN 016-0115 (REV)	
SHEET S36-09 OF S36-15 SHEETS	_

F.A.I. RTE	SEC.	TION		COUNTY	TOTAL SHEETS	SHE
90	2020-0	04 - BR		соок	1492	1342
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ELEVATION AT PARAPET

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

DETAIL A

Concrete flush with back Jo. **⊅**O Concrete flush with back face of 3/4" plate

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) at 50° F

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

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

*** Before 1/4" Diamond Grinding.

SHOWING WELDED RAIL JOINT

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

LOCKING EDGE RAILS

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.

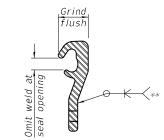
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " 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.

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	111

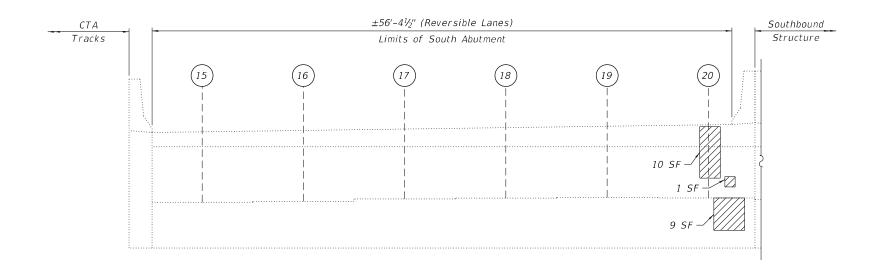
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%" Ø x 6" Studs

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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** PREFORMED JOINT STRIP SEAL SN 016-0115 (REV) SHEET S36-10 OF S36-15 SHEETS

A.I. RTE	SEC ⁻	TION		COUNTY	TOTAL SHEETS	SHE
90	2020-0	04 - BR		соок	1492	1343
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ELEVATION - SOUTH ABUTMENT (Looking South)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

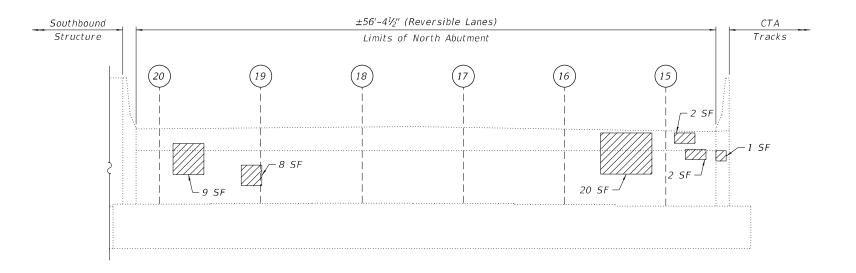
ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	296
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	20

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	PLOT SCALE	=
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SOUTH ABUTMENT REPAI SN 016-0115 (REV)	IRS
SHEET S36-11 OF S36-15 SHEETS	

A.I. RTE	SECT	ION		COUNTY	TOTAL SHEETS	SHE
90	2020-004-BR			соок	1492	1344
				CONTRAC	T NO. 62	2K74
		ILLINOIS	FED. A	D PROJECT		



<u>ELEVATION - NORTH ABUTMENT</u>

(Looking North)

NOTES:

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

<u>LEGEND</u>

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	345
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	42

GREF 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

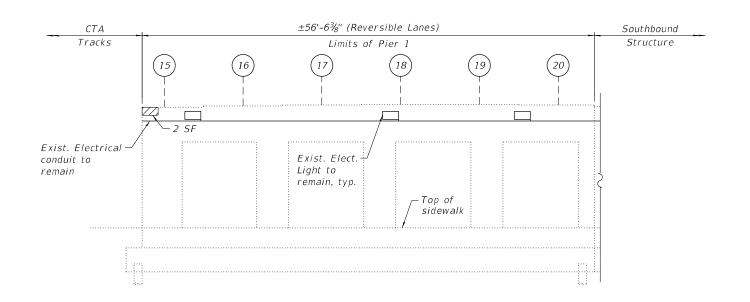
NORTH ABUTMENT REPAIRS
SN 016-0115 (REV)
SHEET \$36-12 OF \$36-15 SHEETS

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<u>ELEVATION - PIER 1</u>

(Looking North)



ELEVATION - PIER 1
(Looking South)



EXISTING LIGHTING: PIER 1

(Looking Northwest)



EXISTING LIGHTING: PIER 1

(Looking Southwest)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

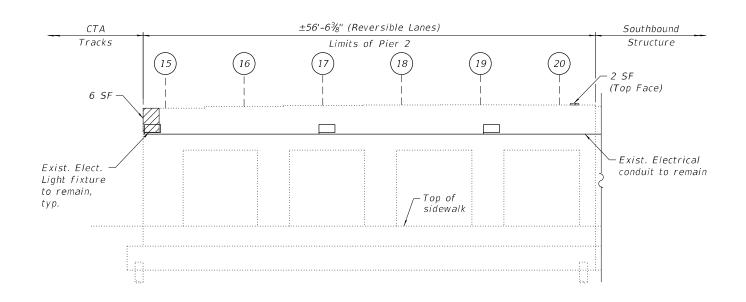
ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	2

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<u>ELEVATION - PIER 2</u> (Looking North)



ELEVATION - PIER 2
(Looking South)



EXISTING LIGHTING: PIER 2

(Looking Northeast)



EXISTING LIGHTING: PIER 2

(Looking Southwest)

NOTES:

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

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

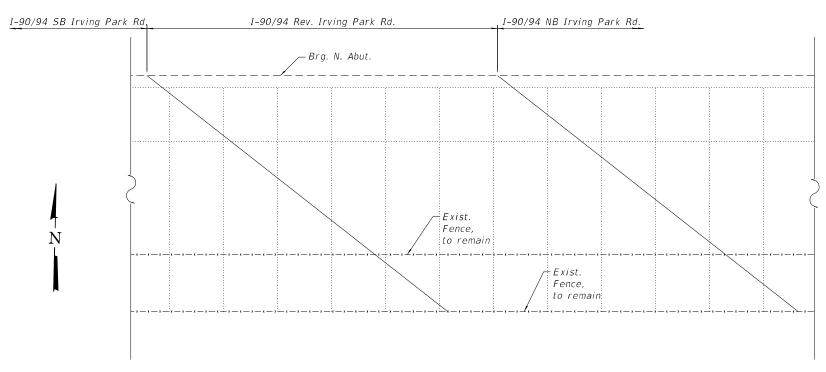
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	9



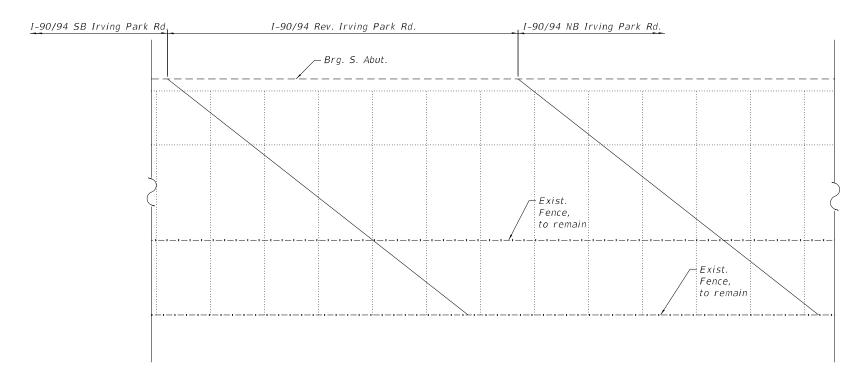
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NORTH SLOPE WALL - PLAN

(Looking North)



SOUTH SLOPE WALL - PLAN

(Looking South)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

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

Existing Structure: S.N. 016-0114 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The LOADING structure has a back-to-back abutment length of 202'-25%" and an out-to-out deck width that varies between 74'-034" to 76'-1014". The superstructure consists of a 7½" thick HS20-44 and alternate military loading reinforced concrete deck supported on three span continuous steel beams of span lengths 60'-4", 74'-11/8" and 60'-4". The substructure consists of reinforced concrete abutments and piers supported on concrete filled metal shell piles. DESIGN SPECIFICATIONS Traffic will be maintained utilizing stage construction. 2002 AASHTO Standard Specification for Highway Bridges, 17th Edition No salvage. E. Approach 202'-25/8" Back-to-Back of Abutments W. Approach 194'-91/8" € Brg. to € Brg. 3'-83/4" 3'-83/4" 74'-11/8" 60'-4" 60'-4" Span 1 Span 3 . Abut. © Pier 1 G Brg. W. Abut. G Brg. E. © Pier 2 - Bk. W. Abut. Bk. E. Abut. Reconstruct – Reconstruct 102'-0" Limits of Protective Shield -Exist. Beams, Expansion Joint Expansion Joint typ. NOTE: 2:1 (H:V) @ - C Keeler Ave. Rt L's, typ. 1. All stations are to the Q I-90/94 SB Perform Structural Roadway and taken from existing plans. Exist. fence Repair of Concrete Perform Structural to remain, typ. at East Abutment Repair of Concrete 2. No Future Wearing Surface is allowed. at West Abutment Temp. fence, typ. Perform slope wall repairs, typ. Perform Structural Perform Structural Repair of Concrete Repair of Concrete * 9'-6" * 49'-0" Roadway *10'-0" at Pier 1 Varies 3'-0¼" min. (E. Abut.) o 5'-9¾" max. (W. Abut.) at Pier 2 Sdwlk. Sdwlk * 3'-0" * 3'-0" Sdwlk. Sdwlk. ELEVATION * Dimension at right angle E. Approach 202'-2\%" Back-to-Back of Abutments W. Approach 194'-91%" ⊈ Brg. to ⊈ Brg. 3'-83/4" 74'-11/8" 3'-8¾'' 60'-4" 60'-4" Span 3 Span 1 Span 2 - Apply 2" Stone-Matrix Asphalt (SMA) 22'-63/4 Exist. fence 14'-87/8" Overlay, typ. each approach slab. to remain, typ. Ç Keeler Ave. See roadway plans for SMA items. Temp. fence, typ. 38°29'00" Skew, typ. Range 13E, 3rd P.M. - Bk. W. Abut. Sta. 540+04.42 I-90/94 SB Lanes Pier i Structure Bk. E. Abut. Sta. 539+40.36 & Stage Const. Line Location Station Sta. 538+02.20 Increase Structure © Brg. E. Abut. Sta. 538+05.93 Pier 2 Sta. 539+03.31 Sta. 538+66.26 74'-0¾" max. (\ Sta. 540+00.69 Recònstruct 33'-5½" Stage I Reconstruct Expansion Joint Expansion Joint FILE 14'-93/8" LOCATION SKETCH 22'-7" -West Slope Wall East Slope Wall Perform Bridge Deck -Grooving (Longitudinal) on traffic lanes LICENSED Perform 3/4" Bridge Deck Scarification STRUCTURAL and apply 3" Bridge Deck Latex ENGINEER OF GENERAL PLAN AND ELEVATION Concrete Overlay, perform ¼" Diamond Grinding and apply Protective Coat SB I-90 OVER KEELER AVE. F.A.I. SEC 2020-004-BR Keven Wood COOK COUNTY STATION: 539+03.31 Engineer Full Name: Kevin Wood Date: 10-20-2022 Illinois Registered Engineer No. 081-006515 STRUCTURE NO. 016-0114 (SB) Registration Expires 11. 30, 2024 PLANDESIGNED . SER NAME : REVISED C.G. SECTION COUNTY **GR**@EF STATE OF ILLINOIS CHECKED H.A. REVISED -2020-004-BR COOK 1492 1349 DRAWN D.C.P. REVISED **DEPARTMENT OF TRANSPORTATION** 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112 CONTRACT NO. 62K74 SHEET S37-01 OF S37-19 SHEETS

PLOT DATE =

CHECKED .

K.G.W.

REVISED

GENERAL NOTES

- 1. Reinforcement bars designated (E) shall be epoxy coated.
- 2. Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the Concrete Removal pay item. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding ¼" deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 6. Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line.
- 8. All exposed concrete edges shall have a $\frac{3}{4}$ "x45° chamfer, except where shown otherwise.
- 9. For SMA overlay on Approach Slab, see Roadway Plans.
- 10. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex
- 11. 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
- 12. Adjacent I-90/94 reversible bridge is not shown throughout the plans for clarity
- 13. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 14. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- 15. The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- 16. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the
- 17. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- 18. Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective Shield.
- 19. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 20. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

S37-01	General Plan & Elevation
<i>S37-02</i>	General Data
<i>537-03-537-04</i>	Stage Construction Details I & II
S37-05	Temporary Concrete Barrier
<i>S37-06</i>	Bridge Deck Repair Plan and Details
S37-07-S37-09	East Abutment Expansion Joint Details I, II & III
<i>S37-10-S37-12</i>	West Abutment Expansion Joint Details I, II & III
537-13	Preformed Joint Strip Seal
537-14	East Abutment Repairs
S37-15	West Abutment Repairs
S37-16	Pier 1 Repairs
S37-17	Pier 2 Repairs
537-18	Slope Wall Repairs
S37-19	Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

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

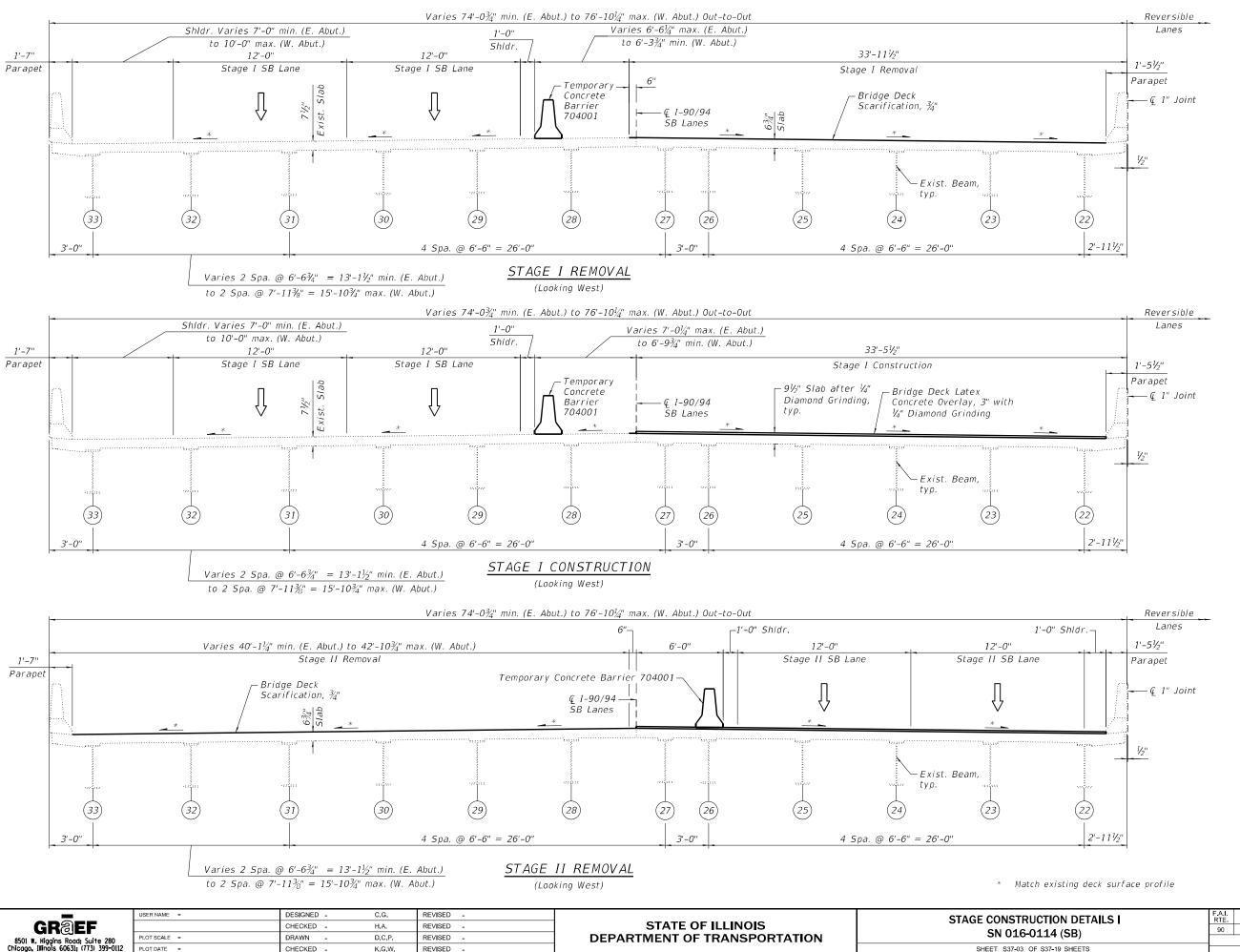
10. Perform slope wall repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment	Cu Yd		1.0	1.0
Concrete Removal	Cu Yd	30.9		30.9
Slope Wall Removal	Sq Yd		1.0	1.0
Protective Shield	Sq Yd	862		862
Concrete Superstructure	Cu Yd	34.6		34.6
Protective Coat	Sq Yd	1,825		1,825
Reinforcement Bars, Epoxy Coated	Pound	4,950		4,950
Bar Splicers	Each	32		32
Slope Wall 4 Inch	Sq Yd		1.0	1.0
Preformed Joint Strip Seal	Foot	190		190
Concrete Sealer	Sq Ft		1,119	1,119
Slope Wall Crack Sealing	Foot		41	41
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,149		1,149
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,557		1,557
Bridge Deck Scarification 3/4"	Sq Yd	1,557		1,557
Structural Repair of Concrete (Depth Equal to	Sa Ft		132	132
or less than 5 Inches)	39 70		132	132
Structural Repair of Concrete (Depth Equal to	Sa Ft		6	6
or less than 5 Inches)	39 71			
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.6		3.6
Diamond Grinding (Bridge Section)	Sq Yd	1,586		1,586
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		268	268

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GENERAL DATA	F.A.I. RTE.	SEC.	ПОИ		COUNTY	TOTAL SHEETS	SHEET NO.
SN 016-0114 (SB)	90	2020-0	04 - BR		соок	1492	1350
314 010-0114 (3D)					CONTRAC	T NO. 62	2K74
SHEET S37-02 OF S37-19 SHEETS			ILLINOIS	FED. All	D PROJECT		



STAGE I REMOVAL

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

STAGE I CONSTRUCTION

- 1. Perform Deck Slab Repairs at the locations shown in the plans.
- 2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
- 3. Perform Structural Repair of Concrete at abutments and
- 4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
- 5. Perform ¼" diamond grinding to bridge deck and abutment hatched block.
- 6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
- 7. Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
- 8. Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
- 9. Perform slope wall repairs as shown in the plans.

STAGE II REMOVAL

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

SHEET S37-03 OF S37-19 SHEETS

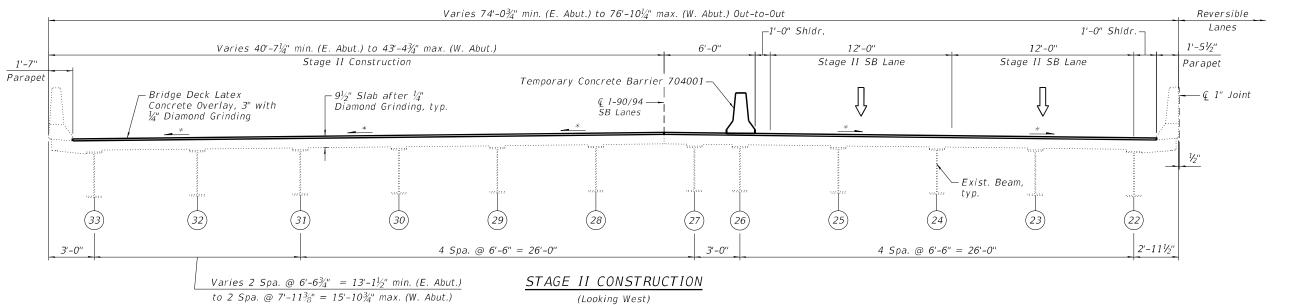
SECTION COUNTY 2020-004-BR COOK 1492 1351 CONTRACT NO. 62K74

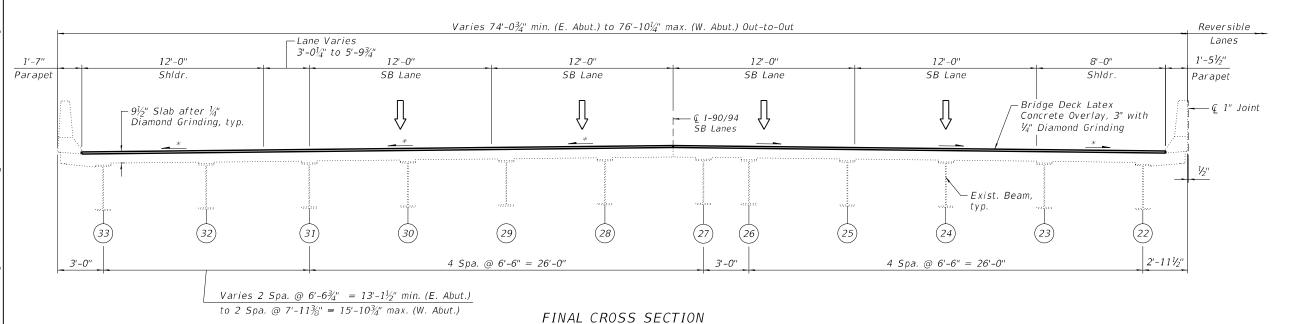
PLOT DATE =

CHECKED -

K.G.W.

REVISED .





(Looking West)

STAGE II CONSTRUCTION

- 1. Perform Deck Slab Repairs at the locations shown in the plans.
- 2. Reconstruct transverse expansion joints and install Preformed Joint Strip Seal at east and west abutments and replace associated reinforcement and concrete adjacent to the joint.
- Perform Structural Repair of Concrete at abutments and piers.
- 4. Apply 3" Bridge Deck Latex Concrete Overlay to bridge deck slab.
- Perform ¼" diamond grinding to bridge deck and abutment hatched block.
- 6. Perform Bridge Deck Grooving (Longitudinal) for the 3" Bridge Deck Latex Concrete Overlay and reconstructed abutment expansion joint areas.
- Apply 2" Stone-Matrix Asphalt (SMA) Overlay to the approach pavement and taper into existing roadway. See Roadway Plans.
- Apply Protective Coat to the top of reconstructed transverse joint areas, the surface of the new overlay, and the top and inside faces of the parapets.
- 9. Perform slope wall repairs as shown in the plans.

* Match existing deck surface profile

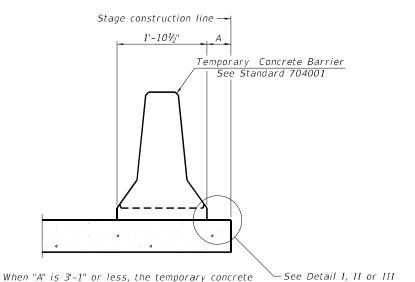
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Chicago, Illinois 60631; (773) 399-0112

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS II
SN 016-0114 (SB)
SHEET S37-04 OF S37-19 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".

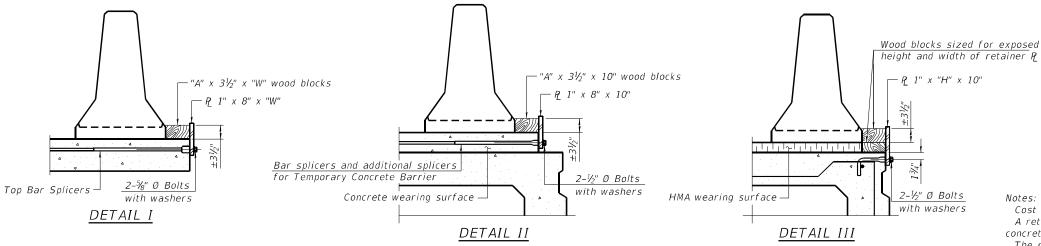
NEW SLAB OR NEW DECK BEAM

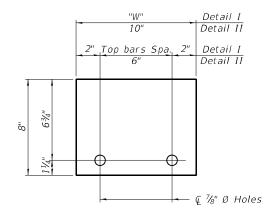
- Stage removal line ← Stage removal line 1'-101/2" 1'-101/2" Temporary Concrete Barrier See Standard 704001 6" min. min. Drill 3-11/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint * When hot-mix asphalt wearing surface is present, embedment is required when "A" is greater than 3'-1".

shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

EXISTING SLAB SECTIONS THRU SLAB OR DECK BEAM





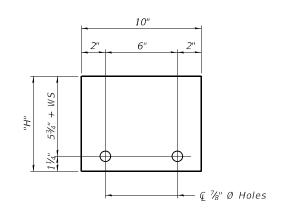
STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)

RAILING CRITERIA

NCHRP 350 Test Level Railing Weight (plf)

R-2710-12-2021



STEEL RETAINER R 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.

1x8 UNC

1" Ø pin

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

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.

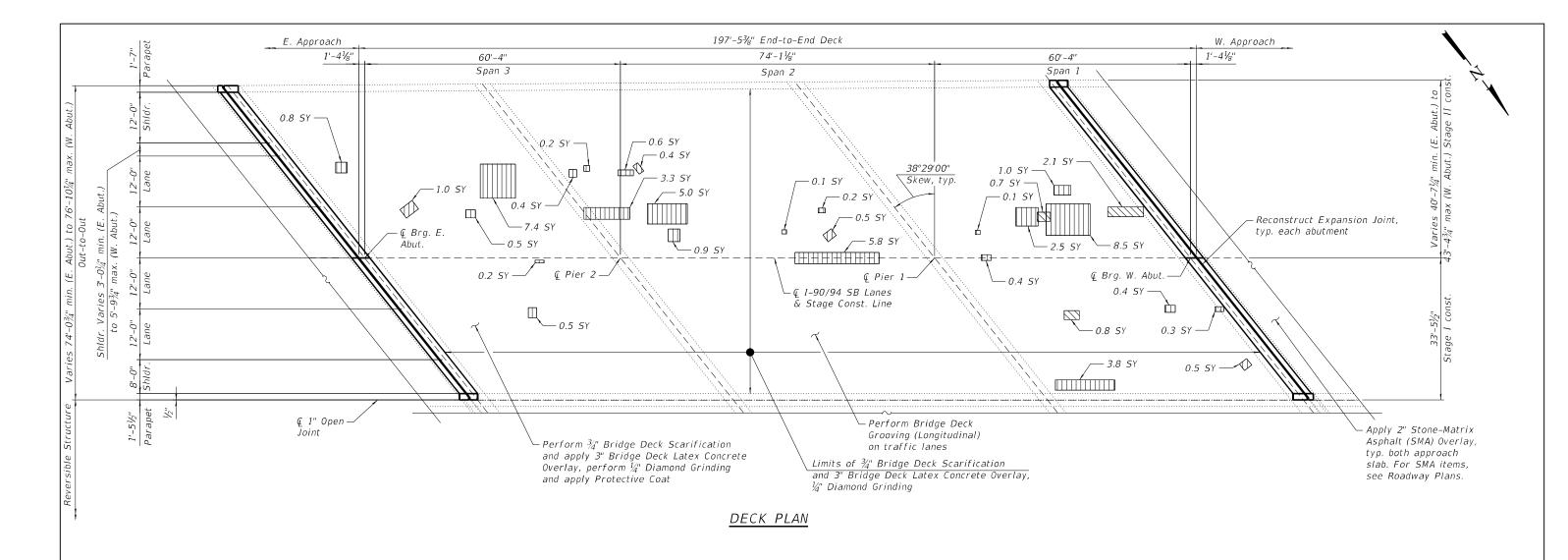
- Detail I Installation for a new bridge deck or bridge slab.
- Detail II Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate 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.

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SECTION COUNTY **TEMPORARY CONCRETE BARRIER** 2020-004-BR COOK 1492 1353 SN 016-0114 (SB) CONTRACT NO. 62K74 SHEET S37-05 OF S37-19 SHEETS



NOTES:

- 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 S37-04.
- 3. For East and West transverse joint removal and reconstruction, see Sheet S37-07 thru S37-12.
- 4. Perform ¼" Diamond Grinding to top of bridge deck and abutment hatched block.
- 5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- 6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.

- Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. The cost of repair or replacement shall be included in the cost of Concrete Removal.
- 8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

<u>LEGEND</u>

*Deck Slab Repair (Partial Depth)

Deck Slab Repair (Full Depth, Type II)

SY Square Yard

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Protective Shield	Sq Yd	862
Protective Coat	Sq Yd	1,825
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	1,149
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	1,557
Bridge Deck Scarification 3/4"	Sq Yd	1,557
Deck Slab Repair (Full Depth, Type II)	Sq Yd	3.6
Diamond Grinding (Bridge Section)	Sq Yd	1,586
Maintenance of Lighting System	Cal Mo	6

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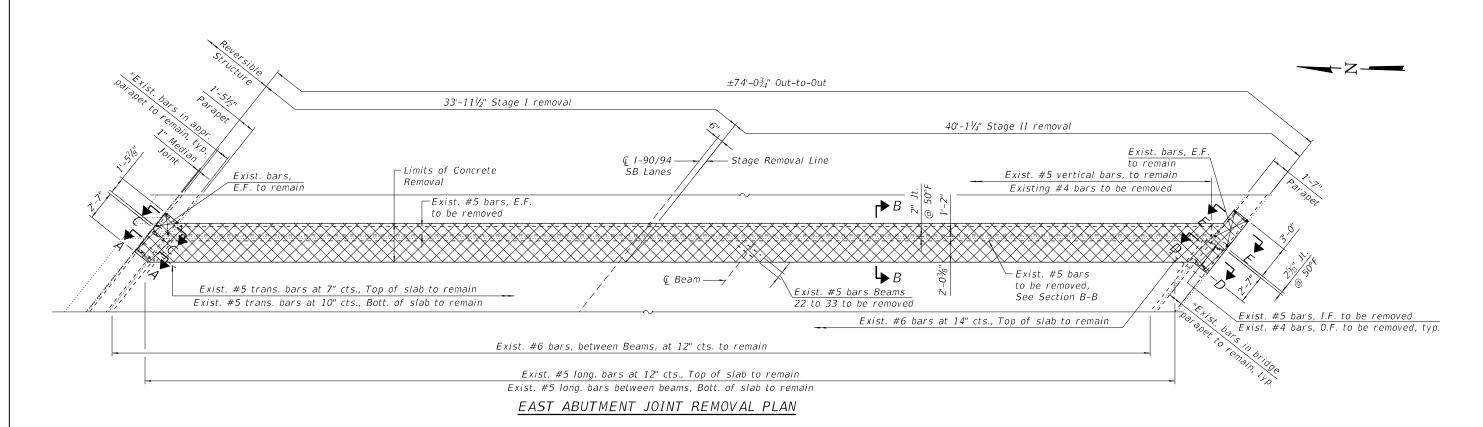
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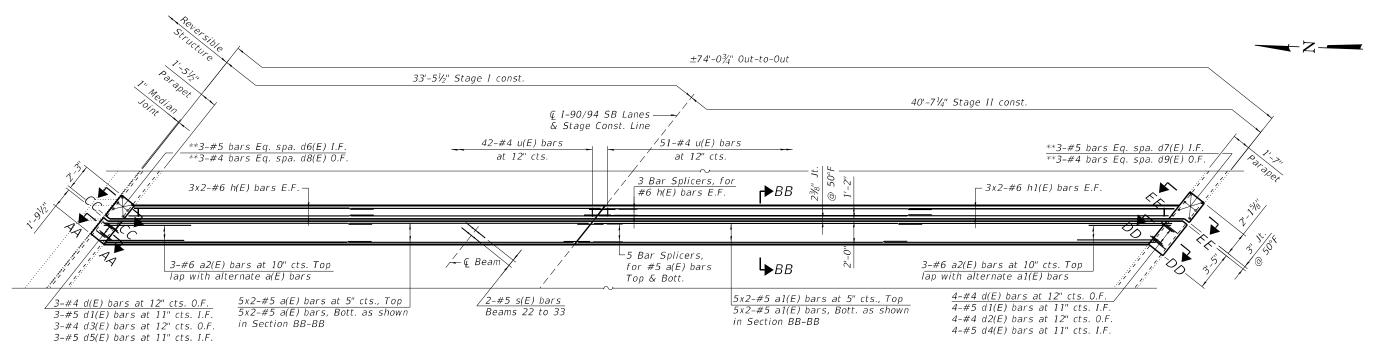
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 PLOT DATE
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 K.G.W.
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLAN AND DETAILS SN 016-0114 (SB)





EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- 1. For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S37-08.
- For sections D-D, E-E, DD-DD and EE-EE, see sheet S37-09.

CHECKED -

REVISED .

cut in the field as required ** Epoxy grout #4 d8(E) and d9(E) bars and #5 d6(E) and d7(E) bars

remain in the parapets can be

* Existing longitudinal bars to

in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

Concrete Removal I.F. Inside Face

0.F. Outside Face

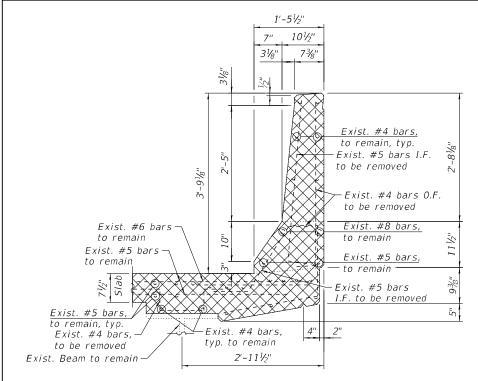
COUNTY

COOK 1492 1355

CONTRACT NO. 62K74

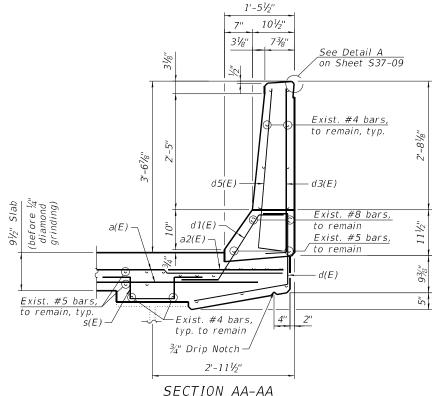
E.F. Each Face

DESIGNED REVISED -C.G. **EAST ABUTMENT EXPANSION JOINT DETAILS I** SECTION **GR**@EF **STATE OF ILLINOIS** CHECKED H.A. REVISED -2020-004-BR SN 016-0114 (SB) DRAWN D.C.P. REVISED **DEPARTMENT OF TRANSPORTATION** 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112 SHEET S37-07 OF S37-19 SHEETS K.G.W.



SECTION A-A

(North parapet removal)



SECTION AA-AA

(North parapet reconstruction)

LEGEND

Concrete Removal

I.F. Inside FaceO.F. Outside FaceV.I.F. Verify in Field

 USER NAME
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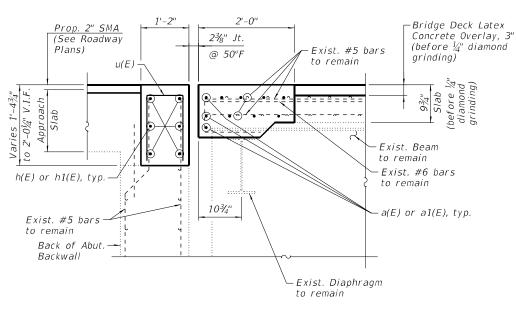
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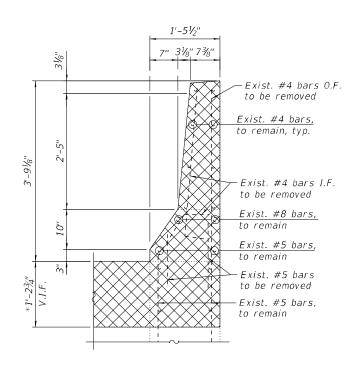
/aries from 1'-2¾, to 1'-10¼" V.I.F. Removal Line -2" Jt. Line @ 50°F -Exist. #5 bars to remain Exist. #5 bars to be removed −¾" Sawcut Exist. W33 Beam to remain -Exist. #6 bars Exist. #5 bars / to remain to be removed, typ. Exist. #5 bars 11½" Exist. #5 bars to remain Exist. #5 bars to be removed Back of Abut. Backwall Exist. Diaphragm to remain

SECTION B-B

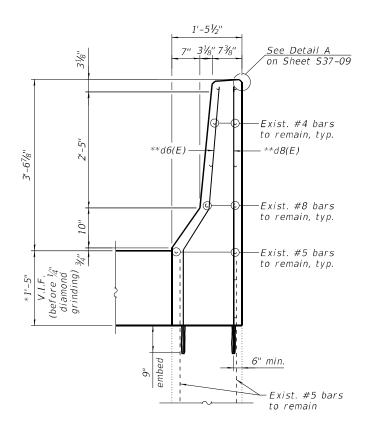


SECTION BB-BB

- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #4 d8(E) & #5 d6(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



<u>SECTION C-C</u> (North parapet removal)



<u>SECTION CC-CC</u> (North parapet reconstruction)

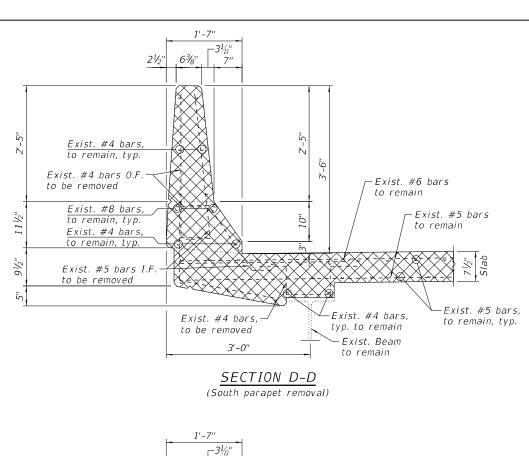
EAST ABUTMENT EXPANSION JOINT DETAILS II SN 016-0114 (SB)

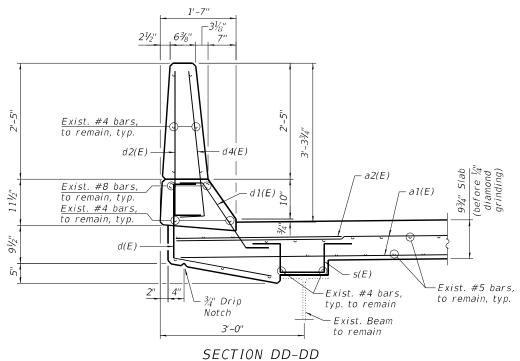
SHEET S37-08 OF S37-19 SHEETS

F.A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHE
90	2020-004-BR		соок	1492	1356
			CONTRAC	T NO. 62	2K74
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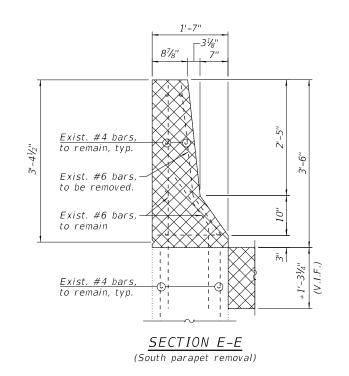
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Chicago, Illinois 60631; (773) 399-0112

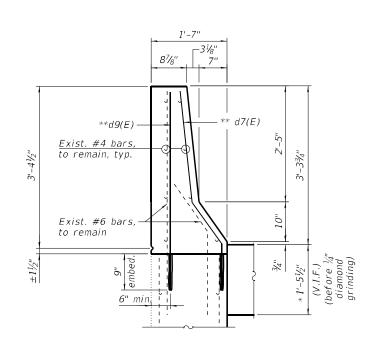
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





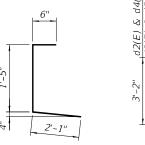
(South parapet reconstruction)



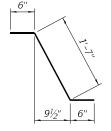


SECTION EE-EE (South parapet reconstruction)

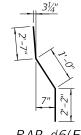
- * Dimension is taken at the Back of Abut.
- ** Epoxy grout #4 d9(E) & #5 d7(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



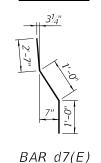
BAR d(E)d4(E) & d5(E)

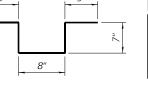


BAR d1(E)



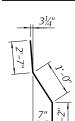
 $BAR \ d6(E)$

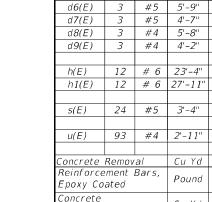




BAR s(E)

BARS d2(E), d3(E)





Superstructure

Bar

a(E)

a1(E)

a2(E)

d(E)

d1(E)

d2(E)

d3(E)

d4(E)

d5(E)

BILL OF MATERIAL EAST ABUTMENT

#5

#5

#6

#4

#5

#4

#4

#5

#5

20

20

7

7

4

3

4

3

No. Size Length Shape

23'-1"

27'-8"

4'-0"

2'-7"

3'-8"

3'-11"

3'-8"

Cu Yd

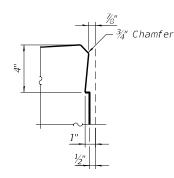
__

15.4

2,450

17.3

3'-11'



DETAIL A (Reinforcement not shown for clarity)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S37-13.
- For Bar Splicer Assembly details, see sheet S37-19.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

MIN BAR LAPS 3'-6" #5 #6

I.F. Inside Face 0.F. Outside Face V.I.F. Verify in Field

 $BAR\ u(E)$

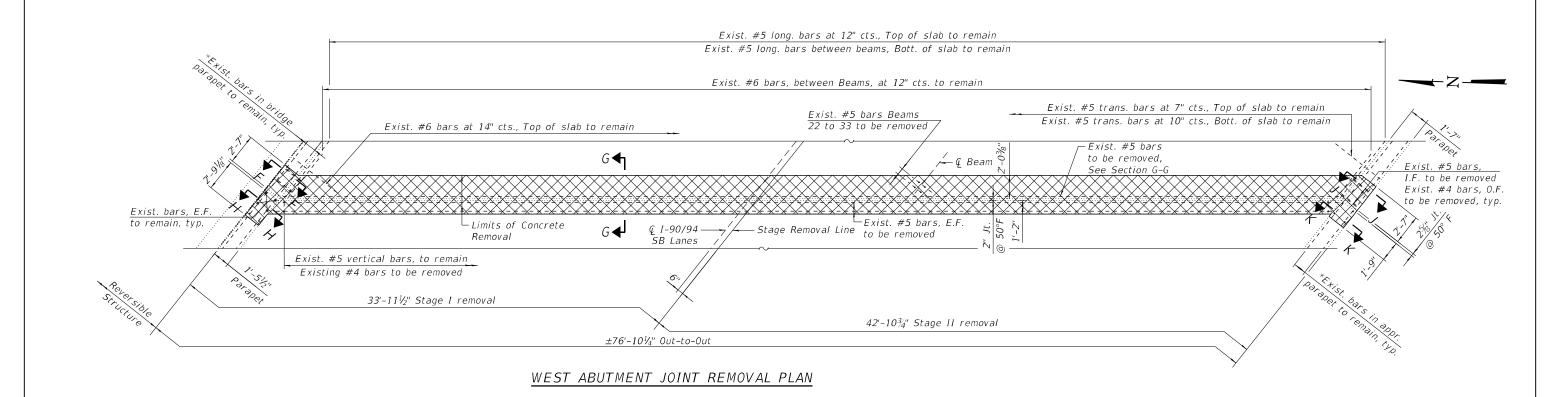
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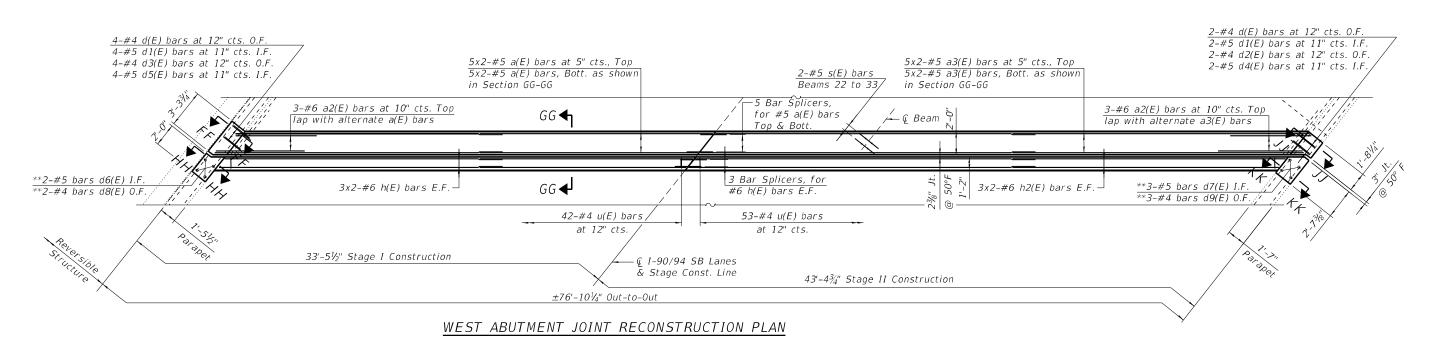
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PLOT SCALE =	DRAWN -	D.C.P.	REVISED -	
PLOT DATE =	CHECKED -	K.G.W.	REVISED -	

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

EAST ABUTMENT EXPANSION JOINT DETAILS III SN 016-0114 (SB)		SEC.	TION
		2020-0	04-BR
3N 010-0114 (3D)			

COUNTY COOK 1492 1357 CONTRACT NO. 62K74 ILLINOIS FED. AID PROJECT SHEET \$37-09 OF \$37-19 SHEETS





NOTES:

- 1. For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S37-11.
- 2. For sections J–J, K–K, JJ–JJ and KK–KK, see sheet S37–12.

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

** Epoxy grout #4 d8(E) and d9(E) bars and #5 d6(E) and d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

Concrete Removal

I.F. Inside Face

O.F. Outside Face

E.F. Each Face

GROEF

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Chicago, Illinois 60631; (773) 399-0112

 USER NAME =
 DESIGNED C.G.
 REVISED

 CHECKED H.A.
 REVISED

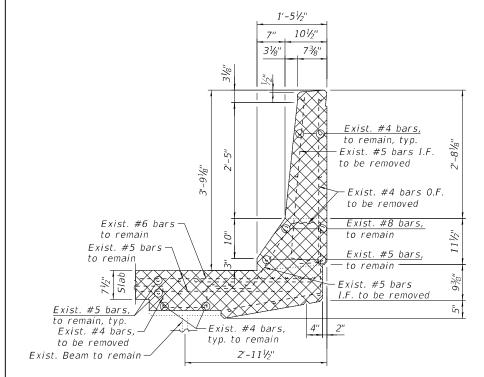
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 REVISED

 PLOT DATE =
 CHECKED K.G.W.
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT EXPANSION JOINT DETAILS I SN 016-0114 (SB)

SHEET S37-10 OF S37-19 SHEETS



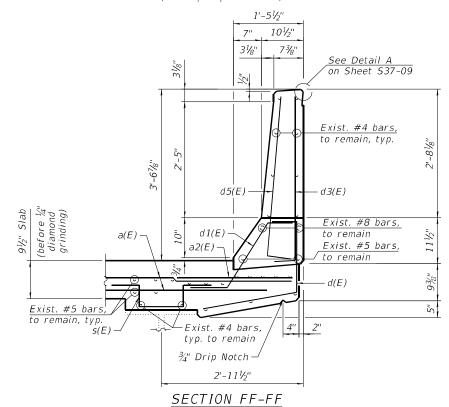
Line @ 50°F -Exist. #5 bars to remain Exist. #5 bars to be removed -¾" Sawcut Exist. Beam to remain -Exist. #5 bars Exist. #5 bars to remain to be removed, typ. Exist. #5 bars 11½" Exist. #5 bars Exist. #5 bars to remain to be removed Back of Abut. — Backwall Exist. Diaphragm to remain

SECTION G-G

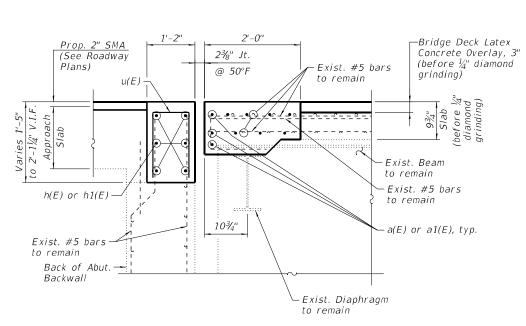
1'-51/2" 7" 31/8" 73/8" – Exist. #4 bars O.F. to be removed Exist. #4 bars, to remain, typ. – Exist. #4 bars I.F. to be removed Exist. #8 bars, to remain Exist. #5 bars, to remain Exist. #5 bars to be removed -Exist. #5 bars, to remain

SECTION F-F

(North parapet removal)

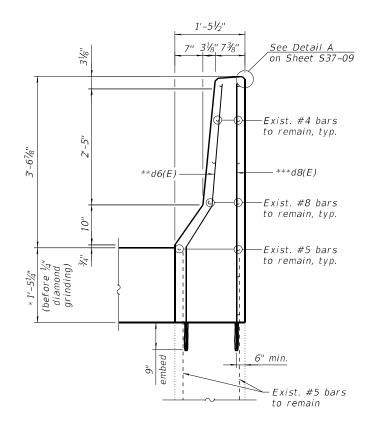


(North parapet reconstruction)



SECTION GG-GG

SECTION H-H (North parapet removal)



SECTION HH-HH

(North parapet reconstruction)

LEGEND

KXXI

Concrete Removal

I.F. Inside Face 0.F.

Outside Face Verify in Field * Dimension is taken at the Back of Abut.

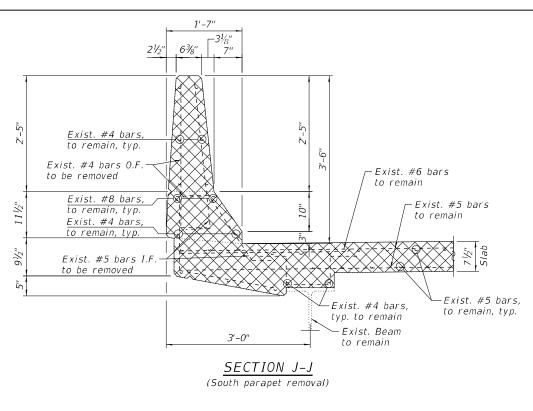
** Epoxy grout #4 d6(E) & #5 d8(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.

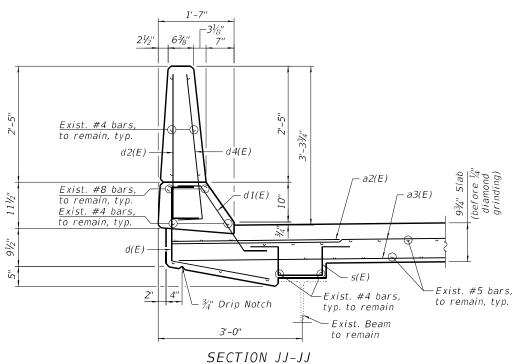
8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112

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

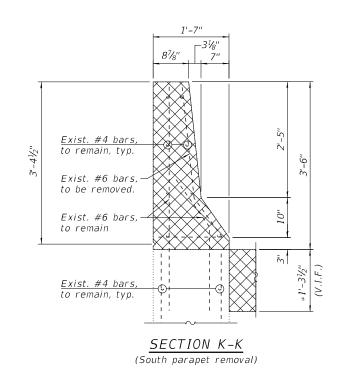
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

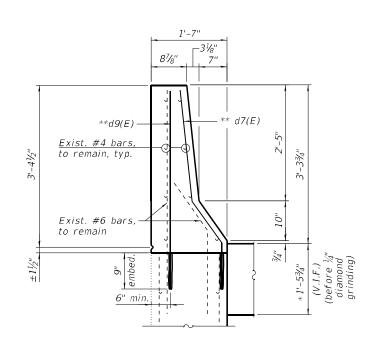
SECTION COUNTY WEST ABUTMENT EXPANSION JOINT DETAILS II 2020-004-BR COOK 1492 1359 SN 016-0114 (SB) CONTRACT NO. 62K74 SHEET S37-11 OF S37-19 SHEETS





(South parapet reconstruction)

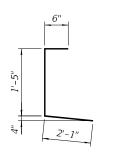


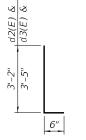


SECTION KK-KK

(South parapet reconstruction)

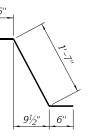
- Dimension is taken at the Back of Abut.
- ** Epoxy grout #4 d9(E) & #5 d7(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



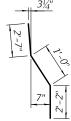


BARS d2(E), d3(E)BAR d(E)

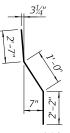
d4(E) & d5(E)



BAR d1(E)



 $BAR \ d6(E)$



#5 d1(E) 6 2'-7" d2(E) 2 #4 3'-8" d3(E) #4 4 3'-11" d4(E) #5 3'-8" d5(E) 4 #5 3'-11' d6(E) #5 5'-9" #5 d7(E) 3 4'-7" d8(E) #4 5'-8" 2 d9(E) #4 h(E) 12 #6 23'-4" h2(E) 12 #6 29'-8" s(E) 24 #5 3'-4" u(E) 95 #4 2'-11"

BILL OF MATERIAL WEST ABUTMENT

#5

#6

#5

#4

20

6

20

6

Concrete Removal

Epoxy Coated Concrete

Superstructure

Reinforcement Bars,

No. | Size | Length | Shape

23'-1"

6'-6"

4'-0"

15.5

2,500

17.3

Pound

Cu Yd

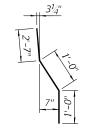
Bar

a(E)

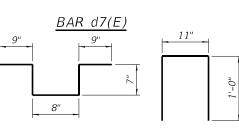
a2(E)

a3(E)

d(E)



BAR s(E)



NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S37-13.
- For Bar Splicer Assembly details, see sheet S37-19.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

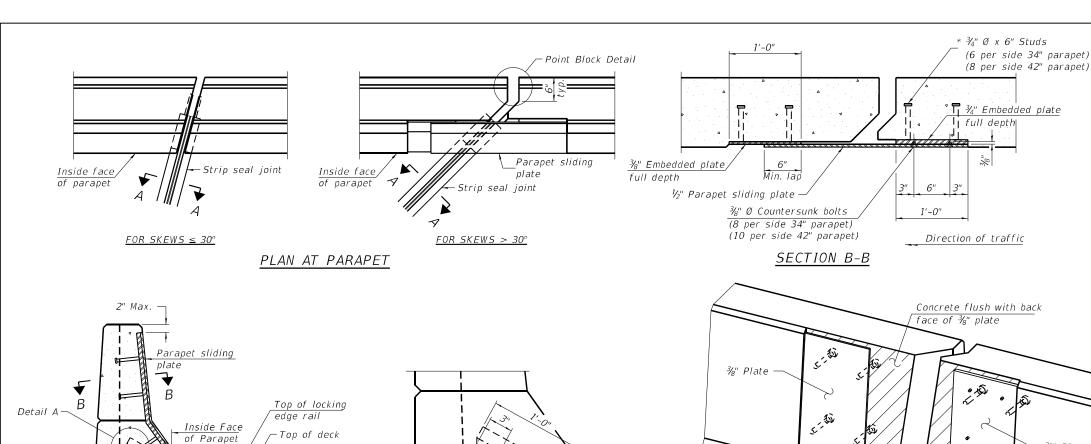
I.F. Inside Face 0.F. Outside Face Verify in Field

 $BAR \ u(E)$

MIN	BAR	<i>LAPS</i>
#.	5 3	"-6"
#	6 4	"-0"

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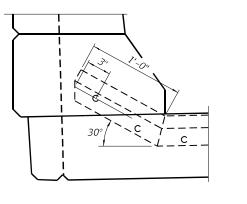
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	CHECKED -	H.A.	REVISED -	
PLOT SCALE =	DRAWN -	D.C.P.	REVISED -	
PLOT DATE =	CHECKED -	K.G.W.	REVISED -	



ELEVATION AT PARAPET

%" Ø x 6" Studs

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



DETAIL A

Concrete flush with back face of ¾" Plate Concrete flush with back face of ¾" plate

TRIMETRIC VIEW
(Showing embedded plates only)

Locking edge rail Top of concrete Top of concrete 23%" at 50° F Strip seal 23%" at 50° F

SHOWING ROLLED RAIL JOINT

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

%'' ϕ threaded rods in $\%_6$ '' 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.

SHOWING WELDED RAIL JOINT

11/4" 11/6" 11/6" XBU = 2/4 F WELDED RAIL WELDED RAIL

LOCKING EDGE RAILS

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

al opening standard at standar

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

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

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

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.

length of the bridge approach slab.

rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum

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	190

SECTION A-A

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

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

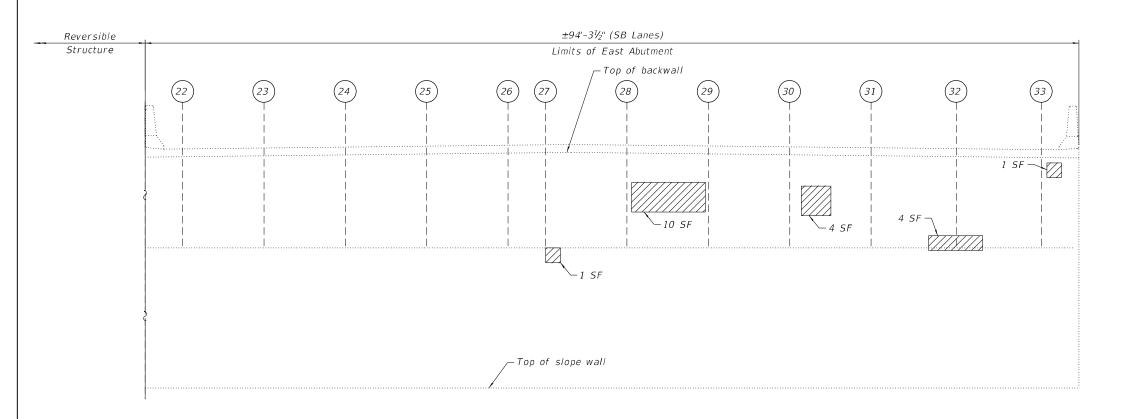
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL SN 016-0114 (SB)

SHEET \$37-13 OF \$37-19 SHEETS AI. SECTION COUNTY TOTAL SHEETS NO.
90 2020-004-BR COOK 1492 1361

CONTRACT NO. 62K74



<u>ELEVATION - EAST ABUTMENT</u>

(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For slope wall repairs, see sheet S37-18.

<u>LEGEND</u>

Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

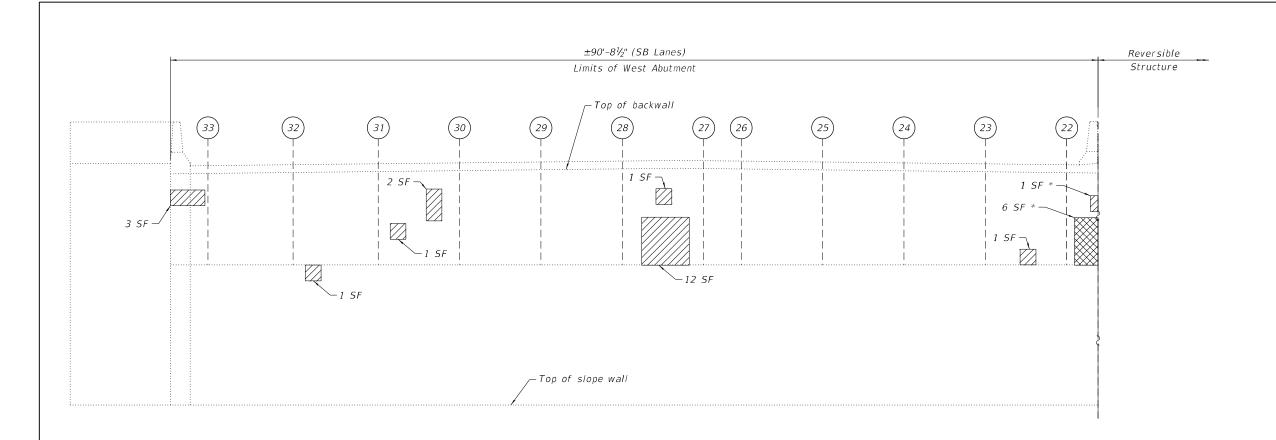
ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	549
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	20

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
SN 016-0114 (SB)
SHEET S37-14 OF S37-19 SHEETS



ELEVATION - WEST ABUTMENT

(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For slope wall repairs, see sheet S37-18.

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5 Inches)



Structural Repair of Concrete (Depth greater than 5 Inches)

SF Square Foot

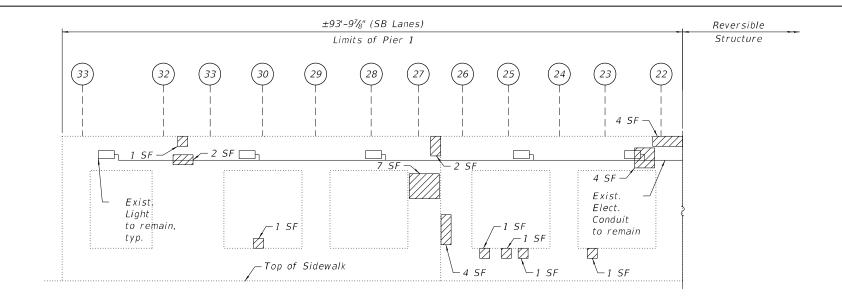
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	570
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	22
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	6

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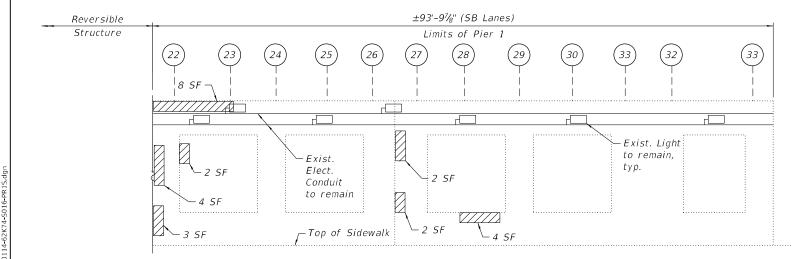
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIRS
SN 016-0114 (SB)
SHEET S37-15 OF S37-19 SHEETS



ELEVATION - PIER 1

(Looking West)



ELEVATION - PIER 1
(Looking East)



EXISTING LIGHTING: PIER 1

(Looking Southwest)



EXISTING LIGHTING: PIER 1

(Looking Southeast)

NOTES:

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

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

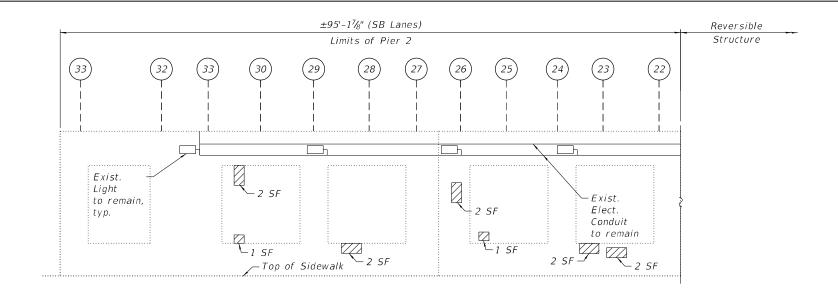
ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	54



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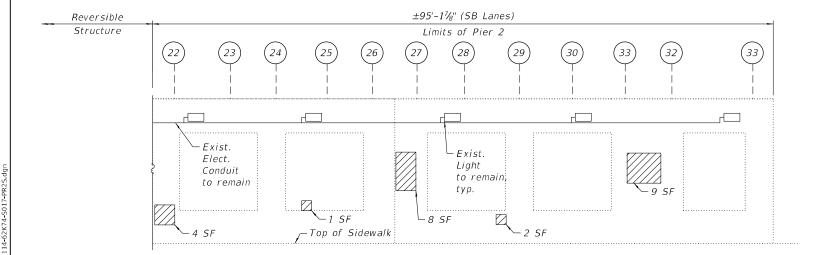
PIER 1 REPAIRS					
SN 016-0114 (SB)					
SHEET \$37-16	OF S37-19 SHEETS				

	F.A.I. RTE				COUNTY	TOTAL SHEETS	SHE
	90 2020-004-BR			соок	1492	136	
Γ				CONTRAC	T NO. 62	2K74	
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ELEVATION - PIER 2

(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2

(Looking Southwest)



EXISTING LIGHTING: PIER 2

(Looking Southeast)

NOTES:

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

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	36

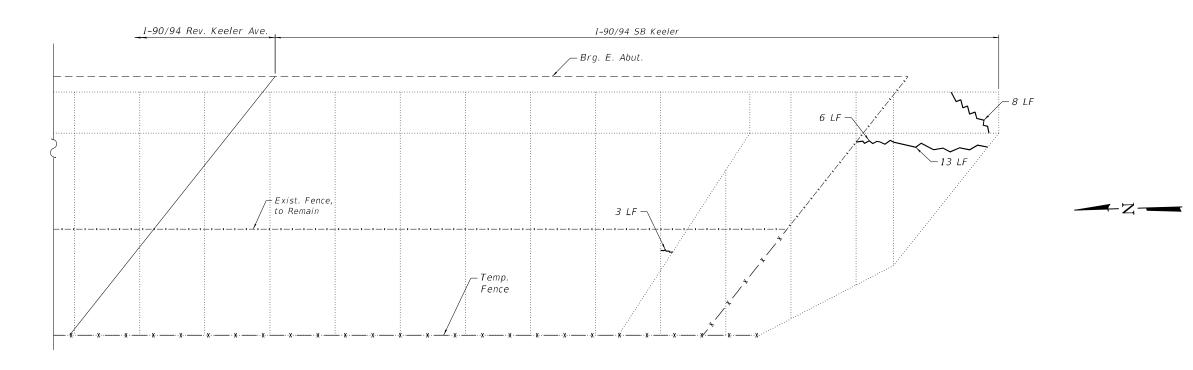


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SN 016-0114 (SB)						
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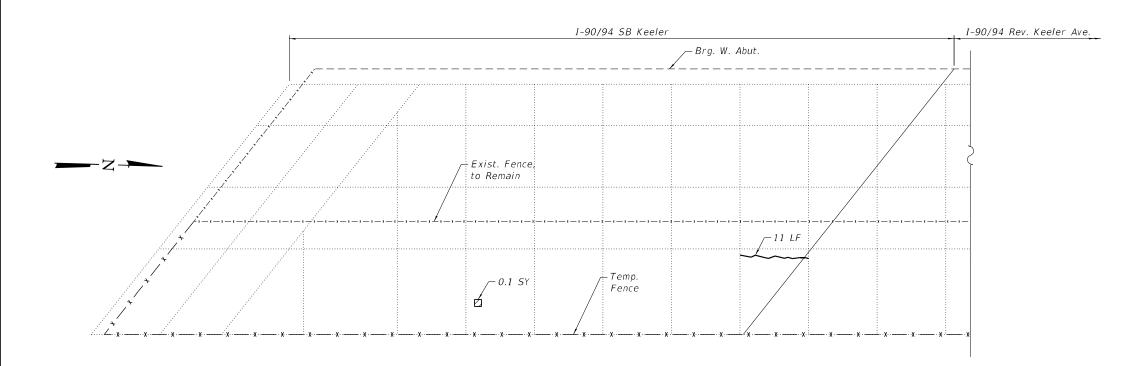
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				CONTRAC	T NO. 62	2K74
1						

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EAST SLOPE WALL - PLAN

(Looking East)



WEST SLOPE WALL - PLAN

(Looking West)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

LEGEND

LF

Slope Wall Removal and Replacement with 4 Inch Slope Wall

SY Square Yard

Linear Foot

Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu Yd	1
Slope Wall Removal	Sq Yd	1
Slope Wall 4 Inch	Sq Yd	1
Slope Wall Crack Sealing	Foot	41

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIRS
SN 016-0114 (SB)
SHEET S37-18 OF S37-19 SHEETS

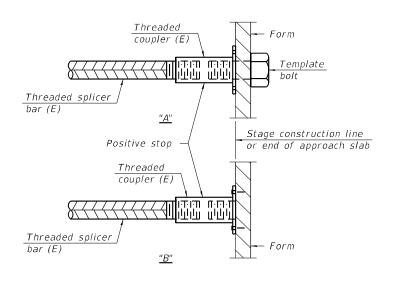
STANDARD BAR SPLICER ASSEMBLY PLAN

(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.

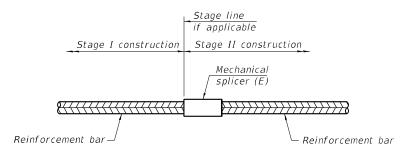
Location	Bar size	No. assemblies required	Minimum Iap length
East Abutment	#5	10	3'-6"
Exp. Jt.	#6	6	4'-0"
West Abutment	#5	10	3'-6"
Exp. Jt.	#6	6	4'-0"



INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

 BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 F.A.I. RTE.
 SECTION

 SN 016-0114 (SB)
 90
 2020-004-BR

S.N. 016-0114 was originally built in 1957 from BCR. The bridge was widened and redecked between 1990 and 1993, and expansion joint repairs were performed in 2013. The LOADING structure has a back-to-back abutment length of 202'-25%" and an out-to-out deck width of 36'-01/2". The superstructure consists of a 71/2" thick reinforced concrete deck HS20-44 and alternate military loading supported on three span continuous steel beams of span lengths 60'-4", 74'-11%" and 60'-4". The substructure consists of reinforced concrete abutments and piers supported on concrete filled metal shell piles. DESIGN SPECIFICATIONS The reversible lanes will be closed to traffic during construction. 2002 AASHTO Standard Specification for Highway Bridges, 17th Edition No salvage. E. Approach 202'-25%" Back-to-Back of Abutments W. Approach 194'-9¹/₈" & Brg. to & Brg. 74'-11/8" 3'-8¾'' 3'-83/4" 60'-4" 60'-4" Span 3 Span 1 G Pier 1 G Brg. W. Abut. - Ç Brg. E. Abut. – Bk. W. Abut Bk. E. Abut. Reconstruct -Reconstruct -102'-0" Limits of Protective Shield Exist. Beams, typ. Expansion Joint Expansion Joint 2:1 (H.V) − @ Keeler Ave. Perform Structural Repair of Concrete Exist, fence Perform Structural at East Abutment to remain, typ. Repair of Concrete NOTE: Perform slope -Perform Structural at West Abutment Temp, fence, tvp. wall repairs, typ. Repair of Concrete 1. All stations are to the Q I-90/94 Reversible Roadway and taken from existing plans. Perform Structural * 49'-0" Roadway *10'-0" Repair of Concrete Sdwlk. Sdwlk. 2. No Future Wearing Surface is allowed. *3'-0" *3'-0" at Pier 1 'Sdwlk. Sdwlk. **ELEVATION** * Dimension at right angle 081-006515 LICENSED STRUCTURAL ENGINEER OF E. Approach 202'-25%" Back-to-Back of Abutments W. Approach Kevan Wood 194'-91/8" ← Brg. to ← Brg. Engineer Full Name: Kevin Wood Date: 10-20-2022 3'-83/4" 74'-11/8' 3'-8¾'' 60'-4" 60'-4" Illinois Registered Engineer No. 081-006515 Registration Expires 11. 30, 2024 Span 3 Span 1 Span 2 Exist. fence to remain, typ. East Slope Wall -Temp. fence, typ. € 1" Open -- Reconstruct Keeler Ave. joint Expansion Joint Range 13E, 3rd P.M. 14'-9" Structure Location 22'-7" 38°29'00" Skew, typ. Reconstruct I-90/94⁻ Bk. W. Abut Station Expansion Joint Šta. 639+73.56 Rev. Lanes Sta. 640+74.67 G Brg. W. Abut. î Pier 2 Sta. 640+70.94 Sta. 639+36.51 22'-7" Bk. E. Abut. @ Pier 1 LOCATION SKETCH West Slope Wall Sta. 640+10.61 Sta. 638+72.45 € Brg. E. Abut. Apply 2" Stone-Matrix Asphalt (SMA) Sta. 638+76.18 Overlay, typ. each approach slab. See roadway plans for SMA items. Perform Bridge Deck — Grooving (Longitudinal) on traffic lanes Perform 3/4" Bridge Deck Scarification and apply 3" Bridge Deck Latex GENERAL PLAN AND ELEVATION Concrete Overlay, perform 1/4" diamond grinding and apply Protective Coat REVERSIBLE I-90 OVER KEELER AVE. F.A.I. SEC 2020-004-BR COOK COUNTY PLANSTATION: 639+73.56 STRUCTURE NO. 016-0114 (REV) DESIGNED . REVISED JSER NAME : C.G. SECTION COUNTY **GR**@EF STATE OF ILLINOIS CHECKED H.A. REVISED -90 2020-004-BR COOK 1492 1368 DRAWN D.C.P. REVISED **DEPARTMENT OF TRANSPORTATION** 8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112 CONTRACT NO. 62K74

SHEET S38-01 OF S38-15 SHEETS

PLOT DATE =

CHECKED -

K.G.W.

REVISED

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck for Expansion Joints Reconstruction and Bridge Deck repairs, all heavy or loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the Concrete Removal pay item. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $\frac{1}{4}$ " deep shall be identified and reported to the Bureau of Bridges and Structures for further dispositions. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- 4. Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 5. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence
- Existing reinforcement extended into the removal of area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. The cost of cleaning shall be included in the cost of Concrete Removal.
- Bars indicated thus, 3x2-#5, indicates 3 lines of #5 bars with 2 lengths of bar per line
- 8. All exposed concrete edges shall have a $\frac{3}{4}$ "x45° chamfer, except where shown otherwise.
- For SMA overlay on Approach Slab, see Roadway Plans.
- 10. Protective Coat shall be applied to the top of reconstructed transverse joint areas, top and inside face of the parapets, and top of Latex Concrete overlay
- 11. 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.
- 12. Adjacent I-90/94 Northbound and Southbound bridge is not shown throughout the plans for clarity.
- 13. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 14. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- The Contractor shall exercise caution during Concrete Removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer, at no cost to the Department.
- 16. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost
- 17. Where underpass lighting is present on the structure, the Contractor shall adjust the Protective Shielding to be placed above the existing lighting fixtures in order to maintain the existing level of lighting on the roadway underneath. Details shall be approved by the Engineer before installation.
- 18. Any adjustment done to the Protective Shield System must not change the system's load carrying capacity (or containment specifications) as indicated in the Standard Specifications. Cost of adjusting shielding is including in the cost of Protective
- 19. The Contractor shall contact Chandra Libby, the Director of City of Chicago Department of Family Support Services (DFSS) at 312-746-5443 or Chandra.Libby@cityofchicago.org to coordinate the relocation of persons and their personal belongings under the bridges within the areas bounded by the temporary chain-link-fence.
- 20. Prior to the application of the Concrete Sealer, the Contractor shall clean all existing debris from the abutment seats. The method of debris removal shall not damage the existing concrete and shall be approved by the Engineer. The debris shall be disposed of according to Art 202.03 of the Std Specs. The cost of cleaning shall be included in the cost of Concrete Sealer.

INDEX OF SHEETS

538-01	General Plan & Elevation
538-02	General Data
<i>S38-03</i>	Bridge Deck Repair Plan and Details
538-04-538-06	East Abutment Expansion Joint Details I, II & III
<i>538-07-538-09</i>	West Abutment Expansion Joint Details I, II & III
538-10	Preformed Joint Strip Seal
S38-11	East Abutment Repairs
<i>538-12</i>	West Abutment Repairs
538-13	Pier 1 Repairs

538-14 Pier 2 Repairs S38-15 Slope Wall Repairs

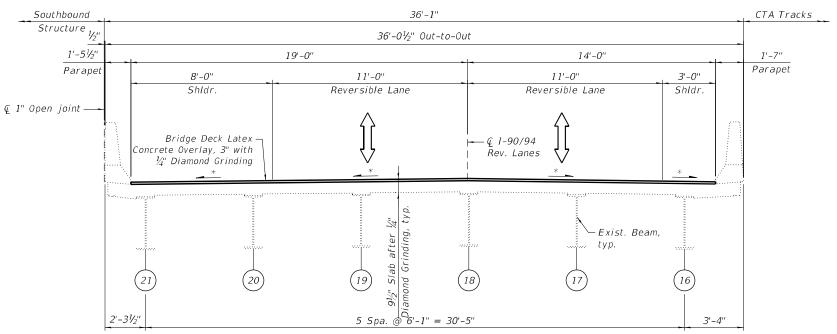
- Provide Protective Shield within limits
- Scarify 3/4" from the bridge deck slab.
- Perform deck repairs.

SCOPE OF WORK

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	16.1		16.1
Protective Shield	Sq Yd	412		412
Concrete Superstructure	Cu Yd	17.4		17.4
Protective Coat	Sq Yd	938		938
Reinforcement Bars, Epoxy Coated	Pound	2,580		2,580
Preformed Joint Seal 2 1/2"	Foot	203		203
Preformed Joint Strip Seal	Foot	89		89
Concrete Sealer	Sq Ft		537	537
Slope Wall Crack Sealing	Foot		23	23
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Bridge Deck Grooving (Longitudinal)	Sq Yd	482		482
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	709		709
Bridge Deck Scarification 3/4"	Sq Yd	709		709
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		17	17
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft		6	6
Deck Slab Repair (Full Depth, Type II)	Sq Yd	0.2		0.2
Diamond Grinding (Bridge Section)	Sq Yd	723		723
Maintenance of Lighting System	Cal Mo		6	6
Temporary Construction Fence	Foot		167	167



FINAL CROSS SECTION

(Looking West)

* Match existing deck surface profile

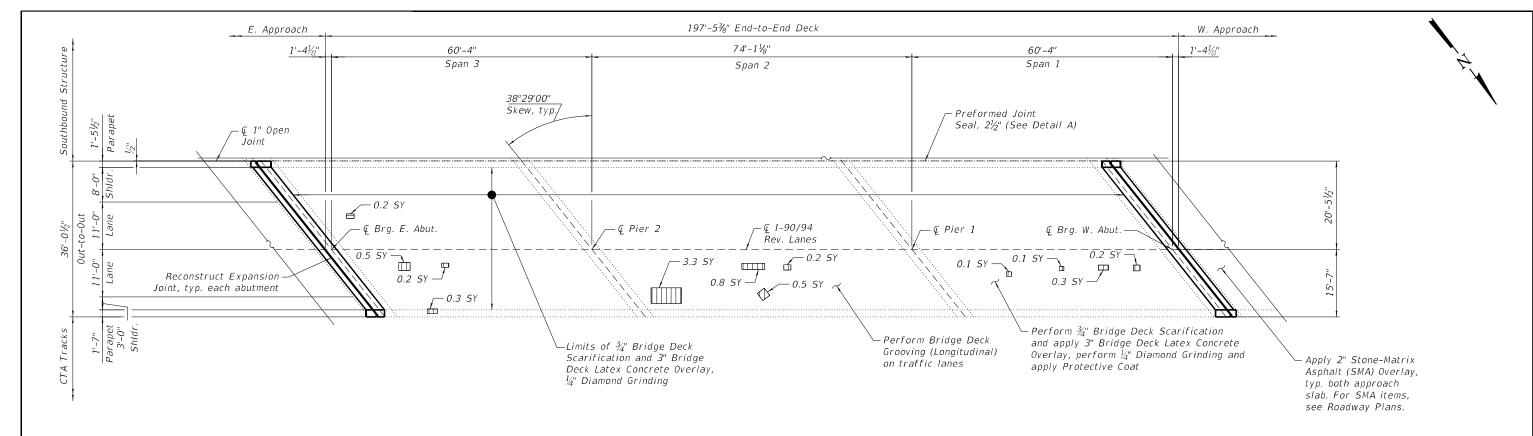
GR@EF
8501 W. Higgins Road; Suite 280 Chicago, Illinois 60631; (773) 399-0112
Chicago, Illinois 60631; (773) 399-0112

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

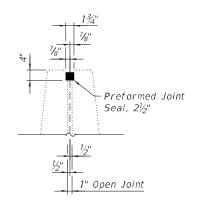
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

GENERAL DATA SN 016-0114 (REV) SHEET S38-02 OF S38-15 SHEETS

SECTION COUNTY 2020-004-BR COOK 1492 1369 CONTRACT NO. 62K74



DECK PLAN



DETAIL A (Reinforcement not shown for clarity)

NOTES:

- 1. Areas of deck repair shown are estimated. The Engineer 7. Any reinforcement bars that are damaged during concrete shall show actual locations of deck repairs at the time of
- 2. For bridge deck final cross section, see Sheet S38-02.
- 3. For East and West transverse joint removal and reconstruction, see Sheet S38-04 thru S38-09.
- 4. Perform 1/4" Diamond Grinding to top of bridge deck and abutment hatched block.
- 5. Perform Bridge Deck Grooving (Longitudinal) on traffic lanes.
- 6. Protective Coat shall be applied to the top of reconstructed transverse joints, top and inside face of parapets and top of latex concrete overlay.

- removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. The cost of repair or replacement shall be included in the cost of Concrete Removal.
- 8. The Contractor shall exercise extreme caution during concrete removal to avoid damaging the steel beams and diaphragms to remain. Any damage to the existing steel beams and/or diaphragms to remain caused by the Contractor in the performance of his/her work shall be repaired by the Contractor, to the satisfaction of the Engineer at no cost to the Department.

LEGEND

*Deck Slab Repair (Partial Depth)

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

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY			
Protective Shield	Sq Yd	412			
Protective Coat	Sq Yd	938			
Preformed Joint Seal 2 1/2"	Foot	203			
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022			
Bridge Deck Grooving (Longitudinal)	Sq Yd	482			
Bridge Deck Latex Concrete Overlay, 3 Inches	Sq Yd	709			
Bridge Deck Scarification 3/4"	Sq Yd	709			
Deck Slab Repair (Full Depth, Type I)	Sq Yd	0.2			
Diamond Grinding (Bridge Section)	Sq Yd	723			
Maintenance of Lighting System	Cal Mo	6			
	"				

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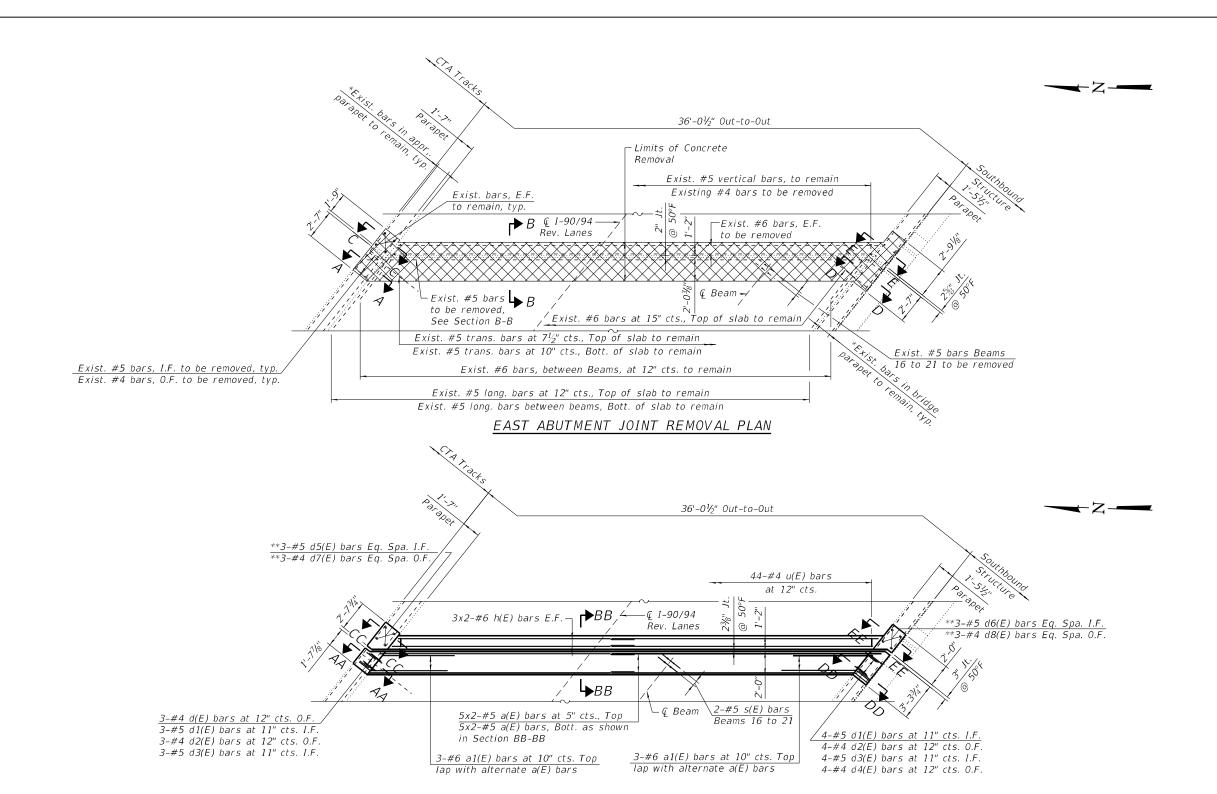
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K.G.W.

REVISED

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION **BRIDGE DECK REPAIR PLAN AND DETAILS** SN 016-0114 (REV) SHEET S38-03 OF S38-15 SHEETS

SECTION COUNTY 90 2020-004-BR COOK 1492 1370 CONTRACT NO. 62K74



EAST ABUTMENT JOINT RECONSTRUCTION PLAN

NOTES:

- For sections A-A, B-B, C-C, AA-AA, BB-BB and CC-CC, see sheet S38-05.
- 2. For sections D-D, E-E, DD-DD and EE-EE, see sheet S38-06.

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

** Epoxy grout #4 d8(E) and d9(E) bars and #5 d6(E) and d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

Concrete Removal

I.F. Inside Face 0.F. Outside Face

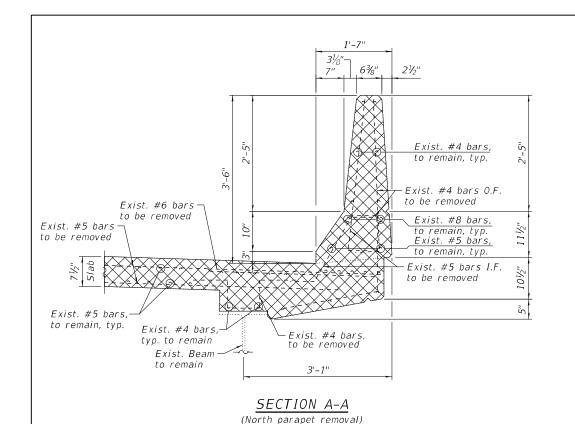
E.F. Each Face

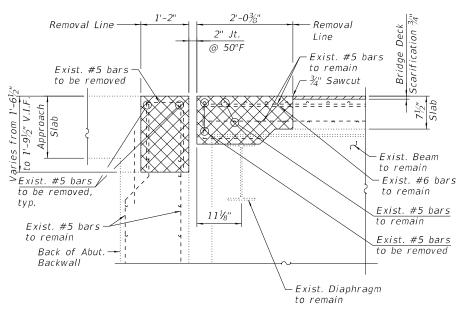
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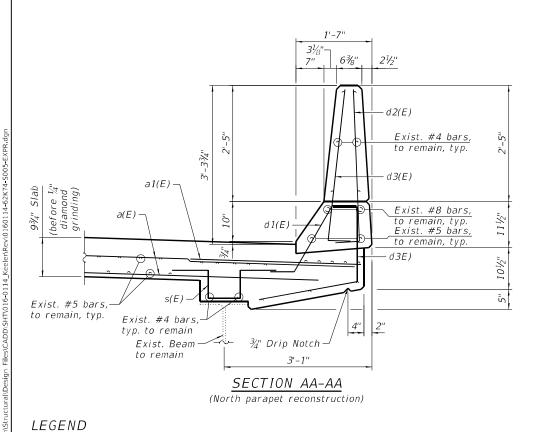
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** **EAST ABUTMENT EXPANSION JOINT DETAILS I** SN 016-0114 (REV) SHEET S38-04 OF S38-15 SHEETS

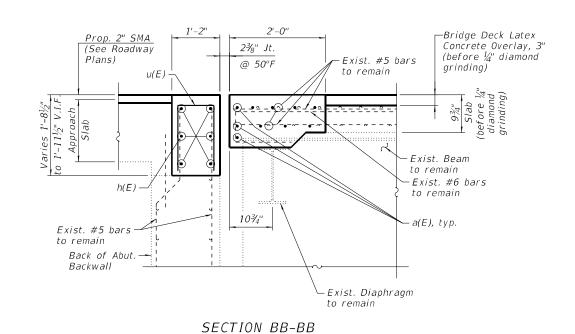
SECTION COUNTY 2020-004-BR COOK 1492 1371 CONTRACT NO. 62K74





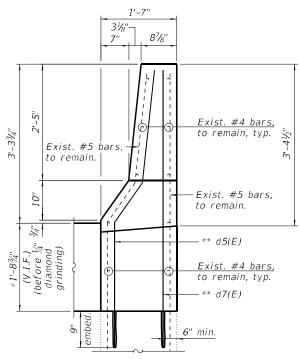
SECTION B-B SECTION C-C





STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION



(North parapet removal)

1'-7"

Exist. #5 bars, to remain.

Exist. #4 bars,

to remain, typ.

Exist. #5 bars,

Exist. #4 bars,

to remain, typ.

to remain.

SECTION CC-CC (North parapet reconstruction)

- * Dimension is taken at the Back

**	Epoxy grout #4 d7(E) & #5 d5(E)
	bars in 9" min. holes accordance
	to Section 508 of the Standard
	Specifications.

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NAME:	GRaef
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- 1	8501 W. Higgins Road; Suite 280
4	Chicago, Illinois 60631; (773) 399-0112
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Concrete Removal

Inside Face

Outside Face Verify in Field

USER NAME =	DESIGNED -	C.G.	REVISED -	i
	CHECKED -	H.A.	REVISED -	
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EAST ABUTMENT EXPANSION JOINT DETAILS II SN 016-0114 (REV) SHEET S38-05 OF S38-15 SHEETS

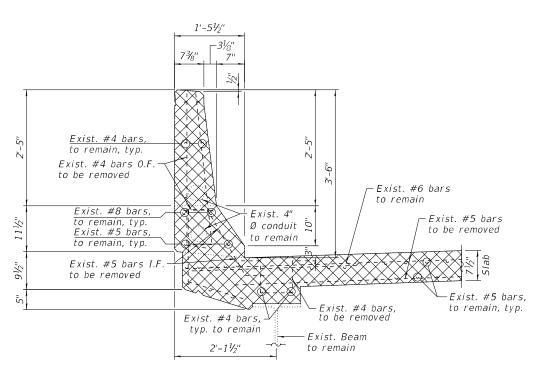
SECTION COUNTY COOK 1492 1372 2020-004-BR CONTRACT NO. 62K74

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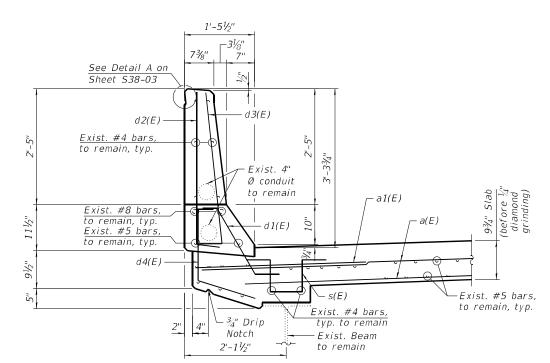
I.F.

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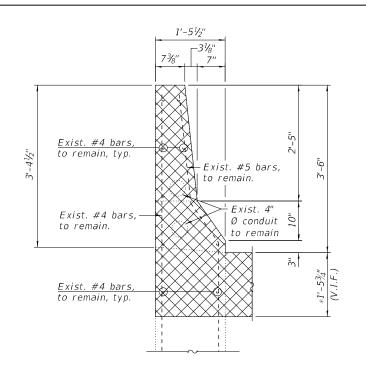
of Abut.



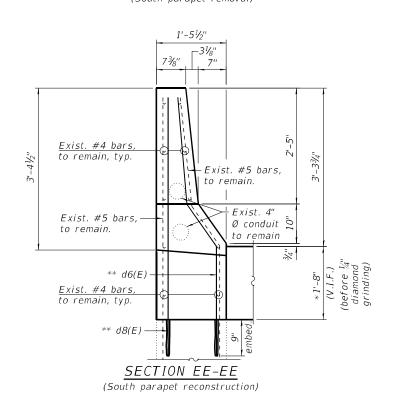
SECTION D-D (South parapet removal)



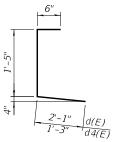
SECTION DD-DD (South parapet reconstruction)



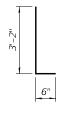
SECTION E-E (South parapet removal)



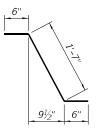
- * Dimension is taken at the Back of Abutment
- ** Epoxy grout #4 d8(E) & #5 d6(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



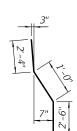
BARS d(E) & d4(E)



BARS d2(E) & d3(E)



BAR d1(E)

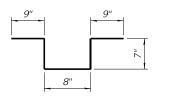


 $BAR \ d5(E)$



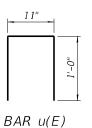
Reinforcement Bars, Epoxy Coated Concrete Superstructure

$BAR \ d6(E)$



NOTES:

 $BAR \ s(E)$



- 1. For Preformed Joint Strip Seal details, see sheet S37-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

EAST

Concrete Removal

MIN BAR LAPS 3'-6" #5 #6

BILL OF MATERIAL

EAST ABUTMENT

#6

#4

#5

#4

#5

#4

#5

#5

#4

#4

#6

#5

#4

No. | Size | Length | Shape #5 | 24'-9"

6'-6"

4'-0''

2'-7"

3'-8"

3'-8"

3'-2"

5'-10"

5'-9"

5'-11"

5'-7"

25'-0"

3'-4"

2'-11"

Pound

Cu Yd

П

8.0

1,290

8.7

Bar

20

6

7

7

4

3

12

12

44

a(E)

a1(E)

d(E)

d1(E)

d2(E)

d3(E)

d4(E)

d5(E)

d6(F)

d7(E)

d8(E)

h(E)

s(E)

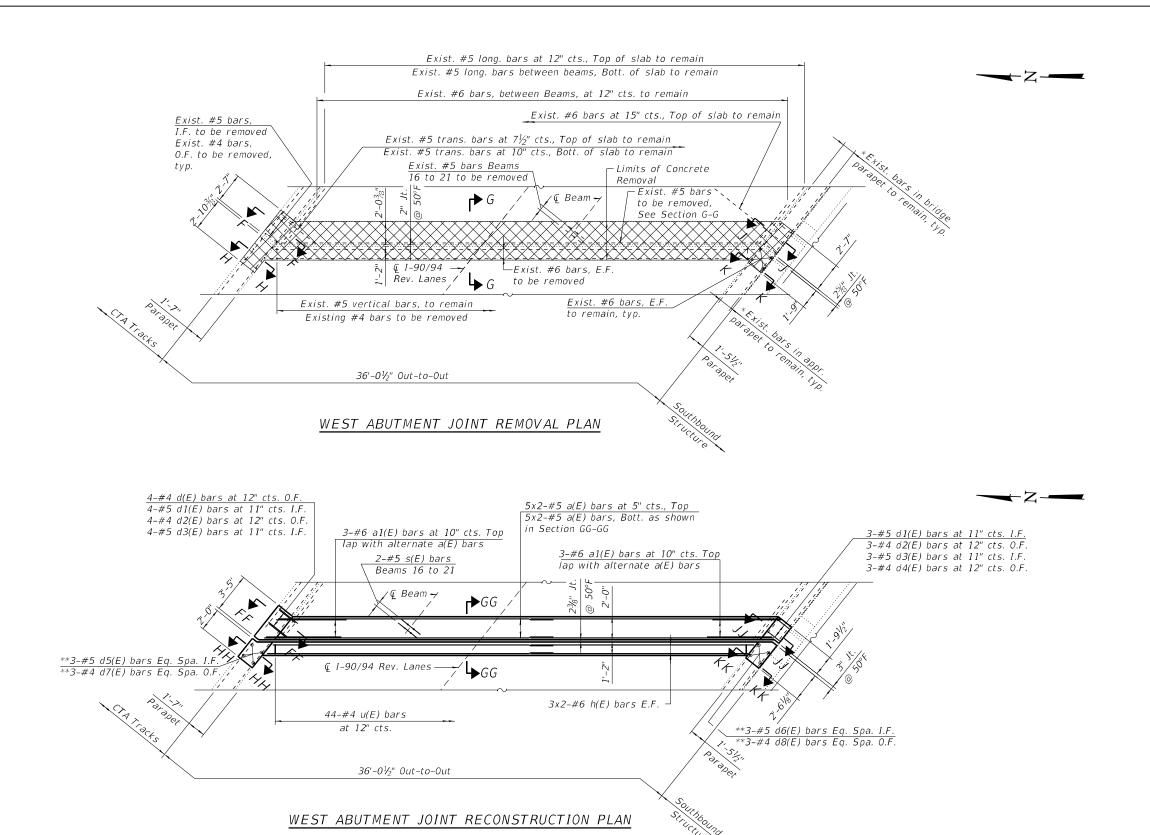
u(E)

I.F. Inside Face 0.F. Outside Face Verify in Field

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

	F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	90	2020-004-BR	соок	1492	1373
			CONTRAC	T NO. 62	2K74
SHEET \$38-06 OF \$38-15 SHEETS		ILLINOIS FED A	ID PROJECT		-

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- 1. For sections F-F, G-G, H-H, FF-FF, GG-GG and HH-HH, see sheet S38-08.
- 2. For sections J-J, K-K, JJ-JJ and KK-KK, see sheet S38-09.

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

*** Epoxy grout #4 d8(E) and d9(E) bars and #5 d6(E) and d7(E) bars in 9" min. holes in accordance with Section 508 of the Standard Specifications.

LEGEND

Concrete Removal

I.F. Inside Face

0.F. Outside Face

E.F. Each Face

GROEF

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Chicago, Illinois 60631; (773) 399-0112

 USER NAME
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 H.A.
 REVISED

 PLOT SCALE
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 REVISED

 PLOT DATE
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 K.G.W.
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

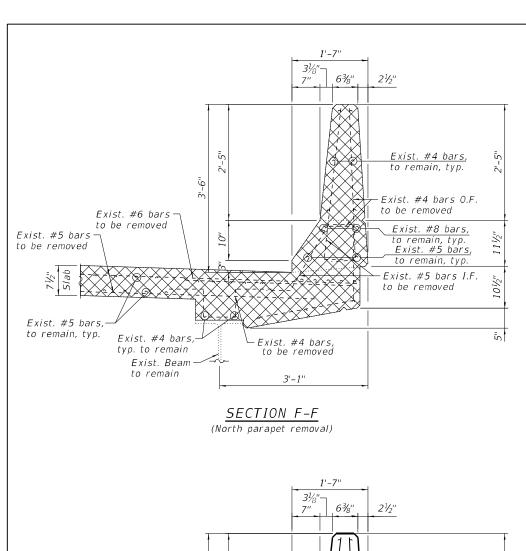
WEST ABUTMENT EXPANSION JOINT DETAILS I SN 016-0114 (REV)

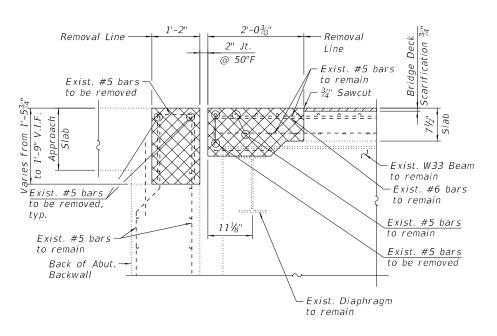
SHEET \$38-07 OF \$38-15 SHEETS
 F.A.I. RTE.
 SECTION
 COUNTY SHEETS NO.
 TOTAL SHEETS NO.
 SHEET NO.

 90
 2020-004-BR
 COOK
 1492
 1374

 CONTRACT NO. 62K74

 LLINOIS FED. AD PROJECT





Exist. #5 bars, to remain.

Exist. #4 bars, to remain, typ.

Exist. #4 bars,

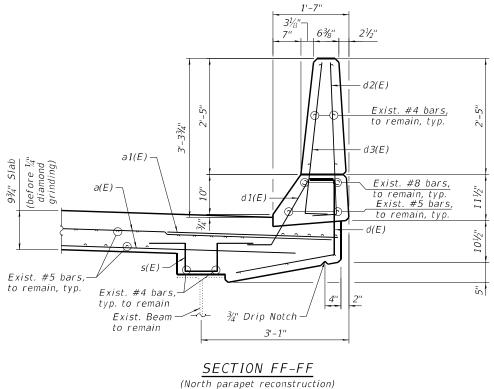
to remain, typ.

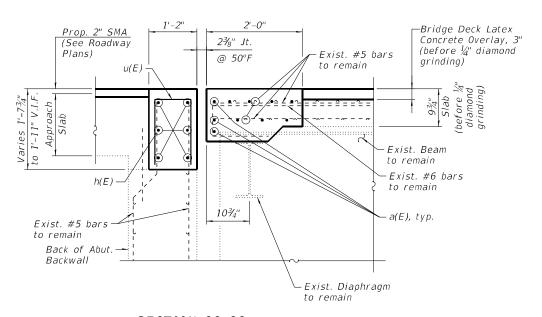
1'-7"

<u>SECTION G-G</u>

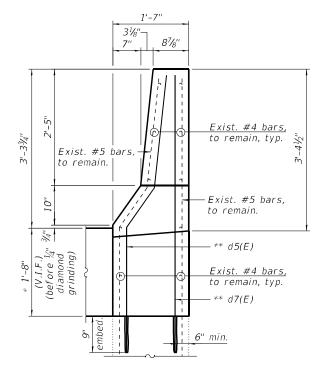
<u>SECTION H-H</u> (North parapet removal)

Exist. #5 bars,





SECTION GG-GG



<u>SECTION HH-HH</u> (North parapet reconstruction)

LEGEND

Concrete Removal

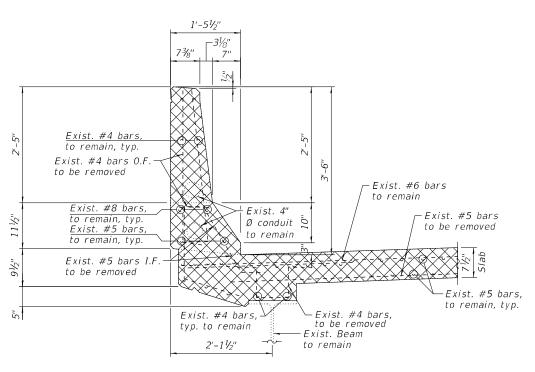
I.F. Inside FaceO.F. Outside FaceV.I.F. Verify in Field

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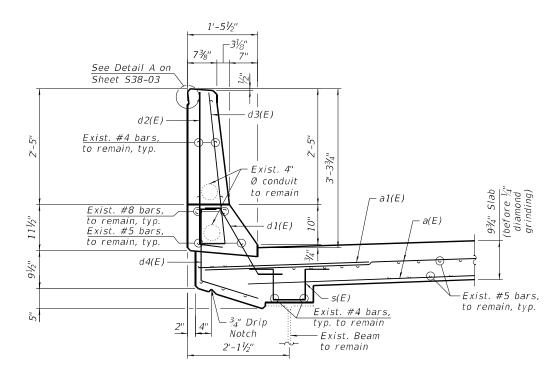
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

 WEST ABUTMENT EXPANSION JOINT DETAILS II
 FA.I. RTE.
 SECTION
 COUNTY SHEETS
 SHEETS NO. SHEETS

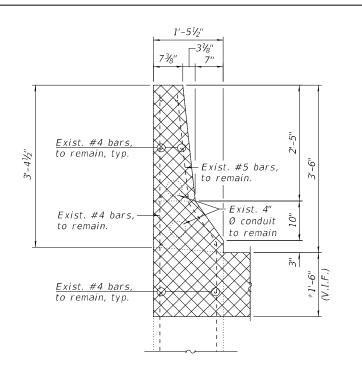
 SHEET S38-08 OF S38-15 SHEETS
 90
 2020-004-BR
 CONTRACT NO. 62K74



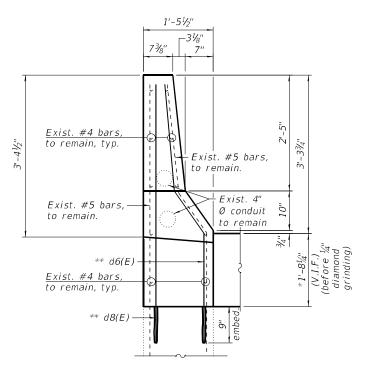
SECTION J-J (South parapet removal)



SECTION JJ-JJ (South parapet reconstruction)



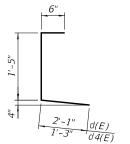
SECTION K-K (South parapet removal)



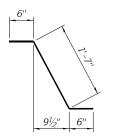
SECTION KK-KK

(South parapet reconstruction)

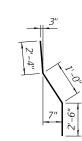
- * Dimension is taken at the Back of Abutment
- ** Epoxy grout #4 d8(E) & #5 d6(E) bars in 9" min. holes accordance to Section 508 of the Standard Specifications.



BARS d(E) & d4(E)

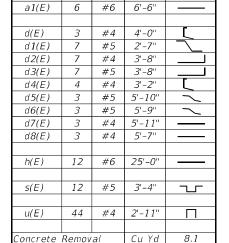


BAR d1(E)



BARS d2(E) & d3(E)

BAR d5(E)



1,290

8.7

Pound

Cu Yd

BILL OF MATERIAL

WEST ABUTMENT

No. | Size | Length | Shape #5 | 24'-9"

Bar

a(E)

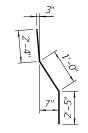
20

Reinforcement Bars,

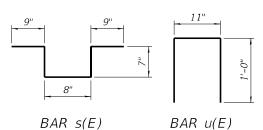
Epoxy Coated

Superstructure

Concrete



 $BAR \ d6(E)$



BAR s(E)

NOTES:

- 1. For Preformed Joint Strip Seal details, see sheet S38-10.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.
- Removal and disposal of the existing expansion joints is included with Concrete Removal.

LEGEND

Concrete Removal

V.I.F. Verify in Field

MIN	BAR	LAPS
#	5 3	"-6"

#6

4'-0"

I.F.	Inside Face
0.F.	Outside Face
VIE	Varify in Fiel

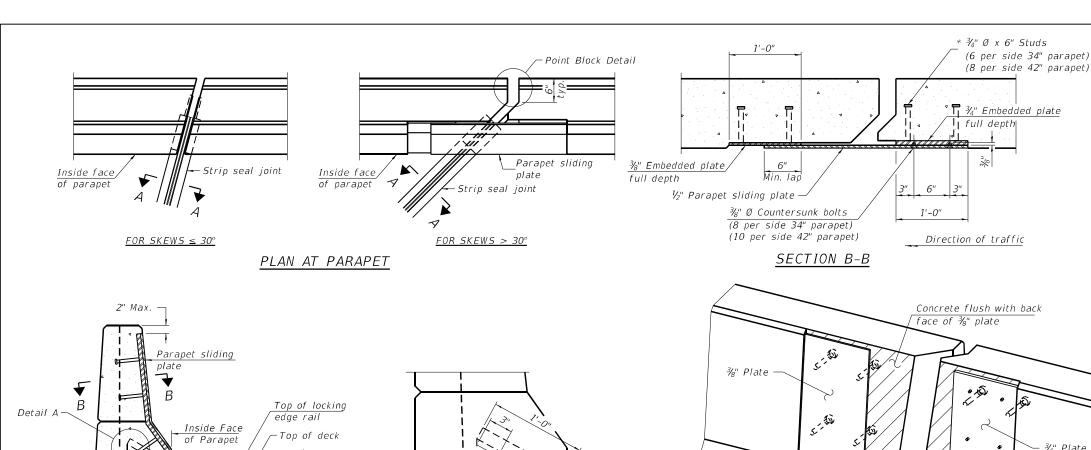
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Chicago, Illinois 60631: (773) 399-0112

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION WEST ABUTMENT EXPANSION JOINT DETAILS III SN 016-0114 (REV) SHEET S38-09 OF S38-15 SHEETS

SECTION COUNTY 2020-004-BR COOK 1492 1376 CONTRACT NO. 62K74

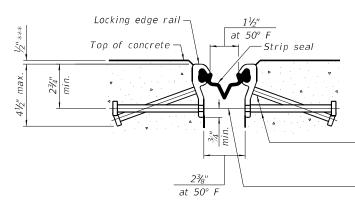
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TRIMETRIC VIEW

Concrete flush with back face of ¾" plate , // M D. D. Concrete flush with back face of 3/4" plate

(Showing embedded plates only)



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

DETAIL A

SHOWING WELDED RAIL JOINT

7/16" <u>ROLLED</u> WELDED RAIL (EXTRUDED) RAIL

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 $\frac{1}{4}$ ". The configuration of the strip

The locking edge rails depicted are configured for typical

applications and are conceptual only. The actual configuration

of the locking edge rails and matching strip seal may vary from

manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails,

however, will not be allowed. Locking edge rails may exceed the

 $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised

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

LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	89

SECTION A-A

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

*** Before 1/4" Diamond Grinding.

_	-
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Chicago, Illinois 60631; (773) 399-0112	F

%" Ø x 6" Studs

<u>6" cts.,</u> typ.

except as shown in plan view.)

ELEVATION AT PARAPET (Skews > 30° shown. Skews ≤ 30° similar

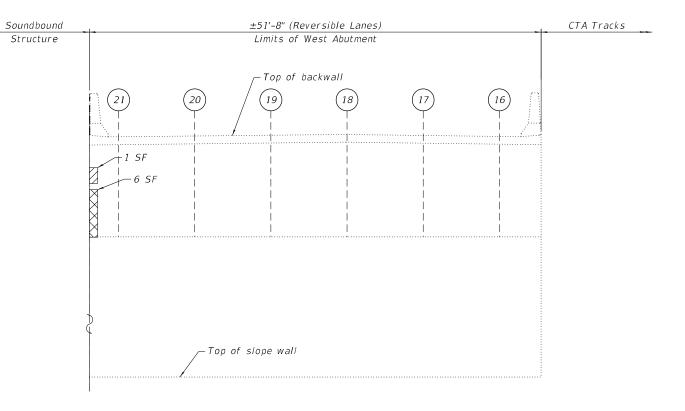
USER NAME =	DESIGNED	-	C.G.	REVISED	-
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PLOT SCALE =	DRAWN	-	D.C.P.	REVISED	-
PLOT DATE =	CHECKED	-	K.G.W.	REVISED	-

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

PREFORMED JOINT STRIP SEAL SN 016-0114 (REV)	•
SHEET S38-10 OF S38-15 SHEETS	

A.I. RTE	SECTION		COUNTY	TOTAL SHEETS	SHE
90	2020-004-BR		соок	1492	1377
			CONTRAC	T NO. 62	2K74
	ILLINOIS	FED ΔI	D PROJECT		

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ELEVATION - WEST ABUTMENT

(Looking West)

NOTES:

- 1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For slope wall repairs, see sheet \$38-15.

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)



Structural Repair of Concrete (Depth greater than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	255
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	1
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq Ft	6

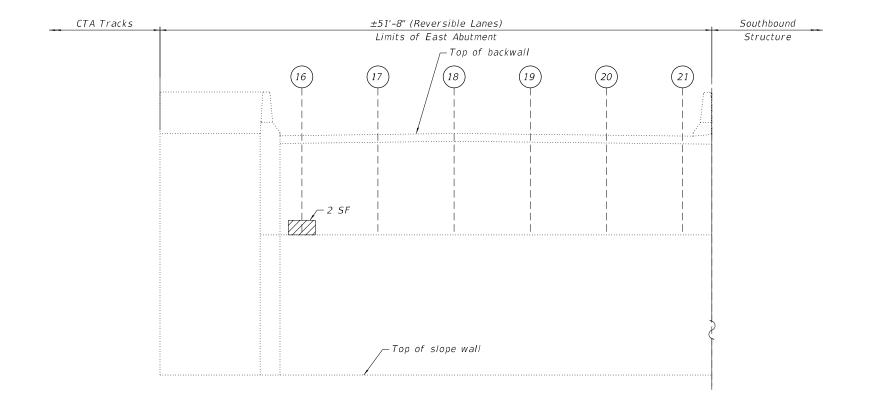


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0112	PLOT DATE	=

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	CHECKED -	H.A.	REVISED -
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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** **WEST ABUTMENT REPAIRS** SN 016-0114 (REV) SHEET S38-11 OF S38-15 SHEETS

SECTION COUNTY 90 COOK 1492 1378 2020-004-BR CONTRACT NO. 62K74



<u>ELEVATION - EAST ABUTMENT</u>

(Looking East)

NOTES:

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Concrete Sealer is to be applied to the lower 2 feet of the backwalls and to the seats of the abutments.
- 3. For slope wall repairs, see sheet \$38-15.

<u>LEGEND</u>



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq Ft	282
Structural Repair of Concrete (Depth equal to or less than 5 Inches)	Sq Ft	2

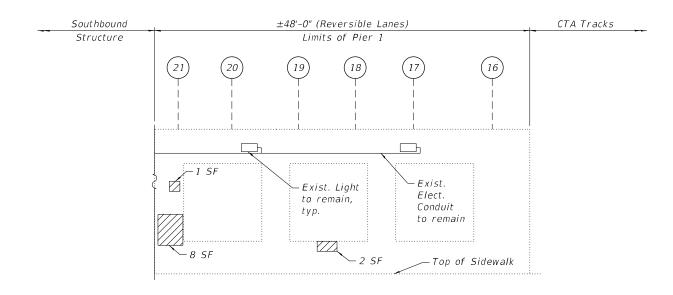
GROEF

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

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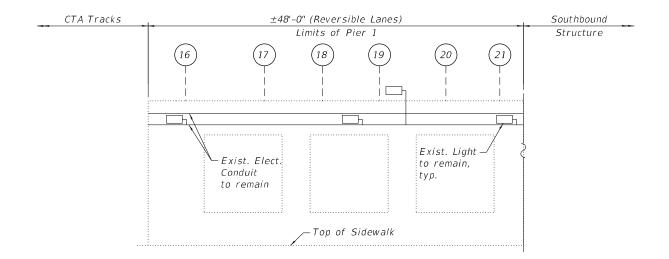
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIRS
SN 016-0114 (REV)
SHEET S38-12 OF S38-15 SHEETS



ELEVATION - PIER 1

(Looking West)



ELEVATION - PIER 1 (Looking East)



EXISTING LIGHTING: PIER 1

(Looking Southwest)



EXISTING LIGHTING: PIER 1

(Looking Southeast)

NOTES:

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

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

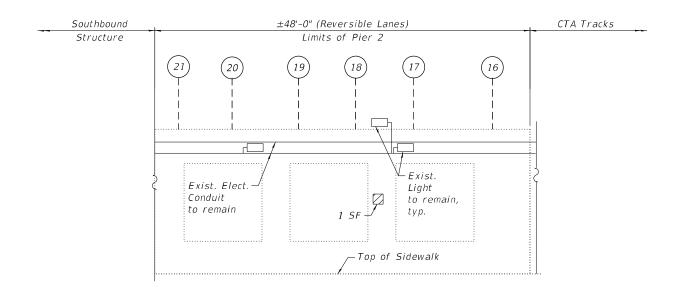
ITEM	UNIT	QUANTITY
ctural Repair of Concrete th Equal to or Less Than 5 Inches)	Sq Ft	11

F.A.I. RTE.



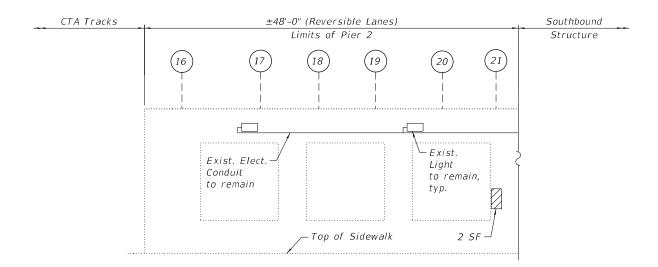
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SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
2020-004-BR	соок	1492	1380
	CONTRAC	T NO. 62	2K74
	 D DDO IFOT		



ELEVATION - PIER 2

(Looking West)



ELEVATION - PIER 2
(Looking East)



EXISTING LIGHTING: PIER 2

(Looking Southwest)



EXISTING LIGHTING: PIER 2

(Looking Southeast)

NOTES:

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

LEGEND



Structural Repair of Concrete (Depth equal to or less than 5 Inches)

SF Square Foot

BILL OF MATERIAL

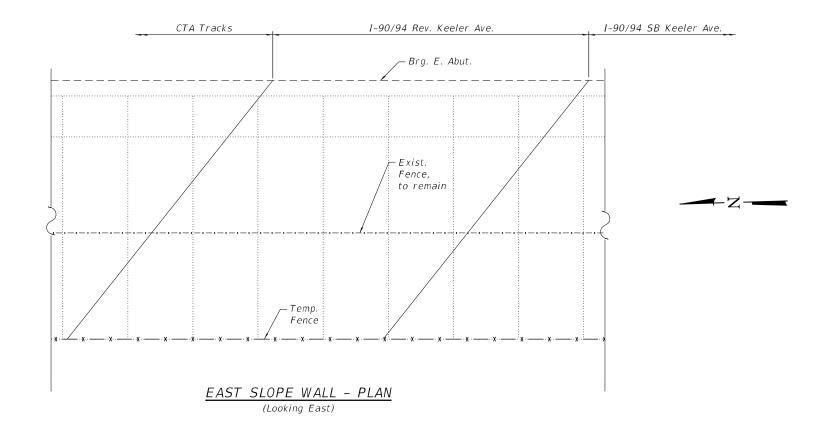
ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	C.

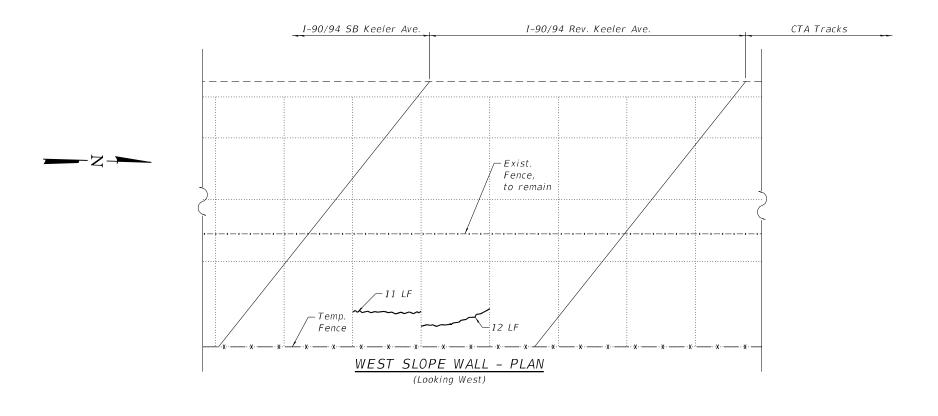


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90	2020-004-BR		соок	1492	1381	
				CONTRAC	T NO. 62	2K74
			EED 41	D DDG IEGT		

MODEL: \$MODELNAME\$
FILE NAME: X:\OH\2020\2020\2020\-





<u>NOTES:</u>

- Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.
- 2. Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq ft

LEGEND

LF Linear Foot

Slope Wall Crack Sealing

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Crack Sealing	Ft	23

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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SLOPE WA	ALL REPAIRS
SN 016-0	0114 (REV)
SHEET \$38-15	OF S38-15 SHEETS

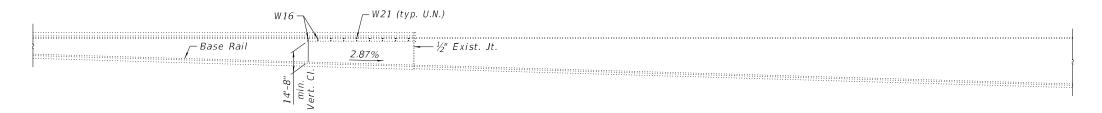
AI. SECTION COUNTY TOTAL SHEETS NO.
90 2020-004-BR COOK 1492 1382

CONTRACT NO. 62K74

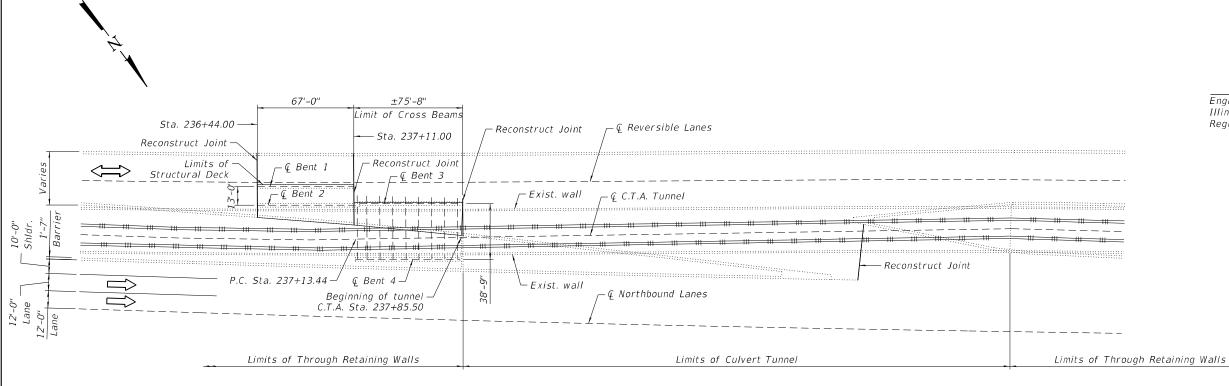
Existing Structure: S.N. 016-2459 (I-90 REV over the CTA Blue Line Tunnel) was originally built in 1959 from BCR. The main structure consists of a reinforced concrete culvert, with reinforced concrete retaining walls to the northwest and reinforced concrete deck on steel beams supported by reinforced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

The reversible lanes will be closed to traffic during construction.

No salvage.



ELEVATION



PLAN

<u>LOADING</u>

HS20-44 and alternate military loading

DESIGN SPECIFICATIONS

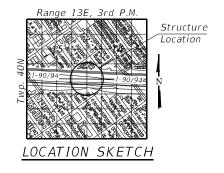
2002 AASHTO Standard Specification for Highway Bridges, 17th Edition

NOTE:

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



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



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

SHEET S39-01 OF S39-17 SHEETS

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

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90	2020-0	04 - BR		соок	1492	1383
				CONTRAC	T NO. 62	2K74
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GENERAL NOTES

- 1. Plan dimensions and details relative to the existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit price bid for the work.
- Cleaning and field painting of structural steel shall be done under a separate painting contract.
- 3. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 4. For SMA overlay on Approach Slab, see Roadway Plans.
- 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.
- 6. The Contractor shall take the necessary precautions for the protection of passing vehicles, bicycles and pedestrians from falling objects and/or materials until completion of work.
- 7. The Contractor is responsible to remove, support and reinstall all existing electrical conduits interfering with the work. See special provision "Protection and Maintenance of Existing Underpass Luminaires".
- 8. The Contractor is responsible to protect the existing conduit and junction box embedded in the parapet during concrete removal and construction. Any damage to the existing conduit and junction box shall be repaired by the Contractor at no additional cost to the Department.
- 9. Concrete Sealer shall be applied to the designated areas of the deck and parapet.

INDEX OF SHEETS

539-01 General Plan & Elevation

539-02 General Data

Bridge Deck Repair Plan and Details 539-03 S39-04-S39-05 Top Slab Repair Plan and Details I & II

S39-06-S39-11 North Wall Repairs S39-12-S39-17 South Wall Repairs

SCOPE OF WORK

- Apply Concrete Sealer to the designated areas of the deck and parapet.
- Install Performed Joint Seal to the transverse deck joints.
- Perform Structural Repair of Concrete to the Culvert and Walls as noted in the plans.

TOTAL BILL OF MATERIAL

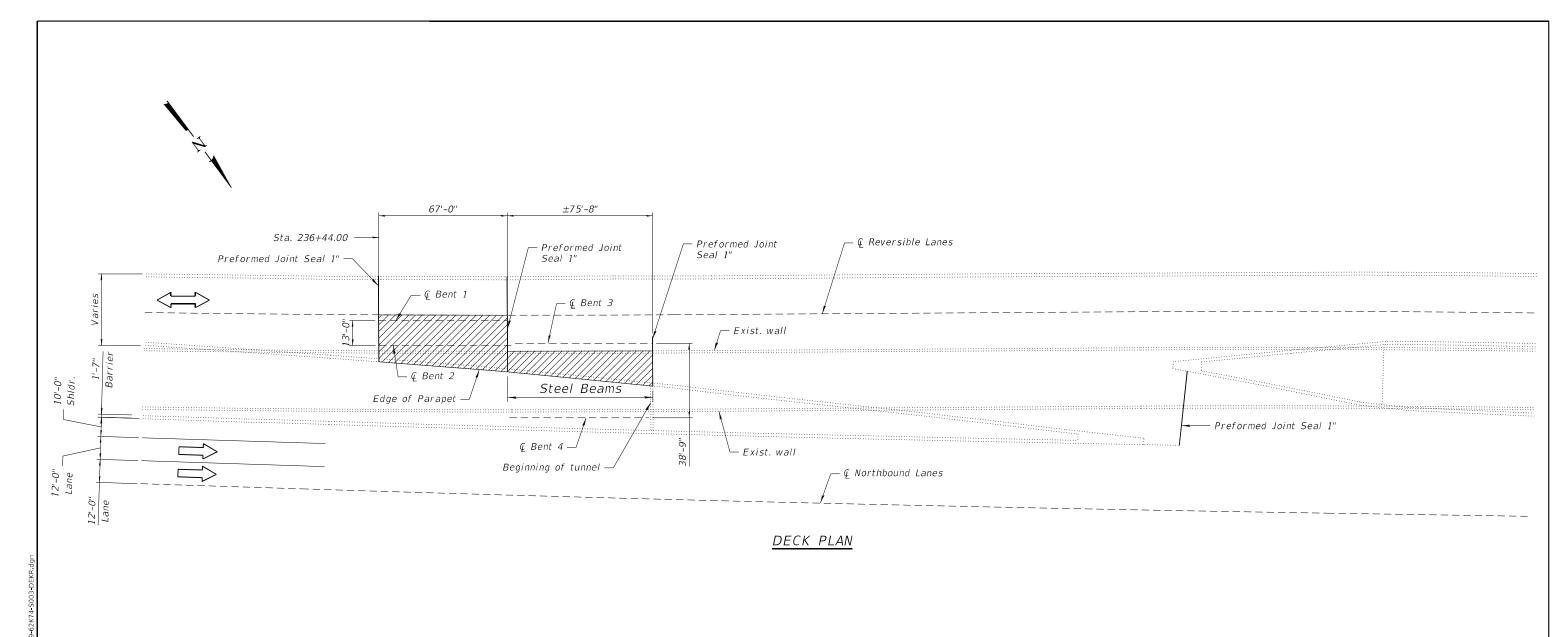
ITEM	UNIT	SUPER	SUB	TOTAL
Preformed Joint Seal 1"	Foot	174		174
Concrete Sealer	Sq Ft	457		457
Cleaning and Painting of Exposed Rebar	Sq Ft	484		484
Protect and Maintain Existing Underpass Luminaire	L Sum		0.022	0.022
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq Ft		1,324	1,324
Structural Repair of Concrete (Greater than 5 Inches)	Sq Ft		115	115
Maintenance of Lighting System	Cal Mo		6	6

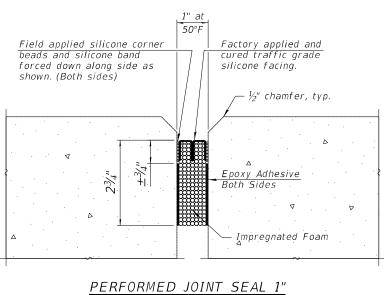
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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

GENERAL DATA SN 016-2459 SHEET S39-02 OF S39-17 SHEETS

SECTION COUNTY 90 2020-004-BR COOK 1492 1384 CONTRACT NO. 62K74





1. Concrete Sealer shall be applied to the designated areas of the deck and parapet.

<u>LEGEND</u>



Limits of Concrete Sealer

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Preformed Joint Seal 1"	Foot	174
Concrete Sealer	Sq Ft	457
Protect and Maintain Existing Underpass Luminaire	L Sum	0.022
Maintenance of Lighting System	Cal Mo	6

GREF

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Chicago, Illinois 60631; (773) 399-0112

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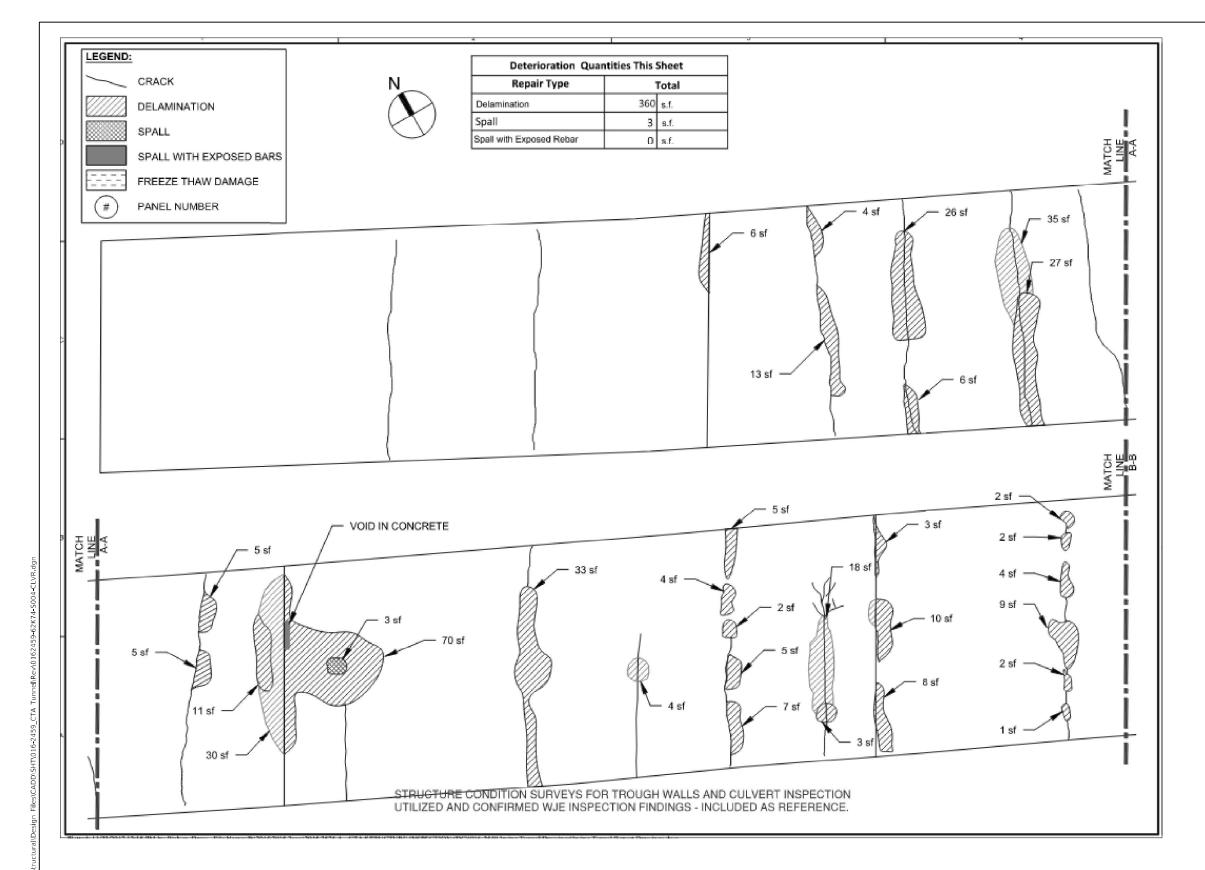
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK REPAIR PLAN SN 016-2459 SHEET S39-03 OF S39-17 SHEETS



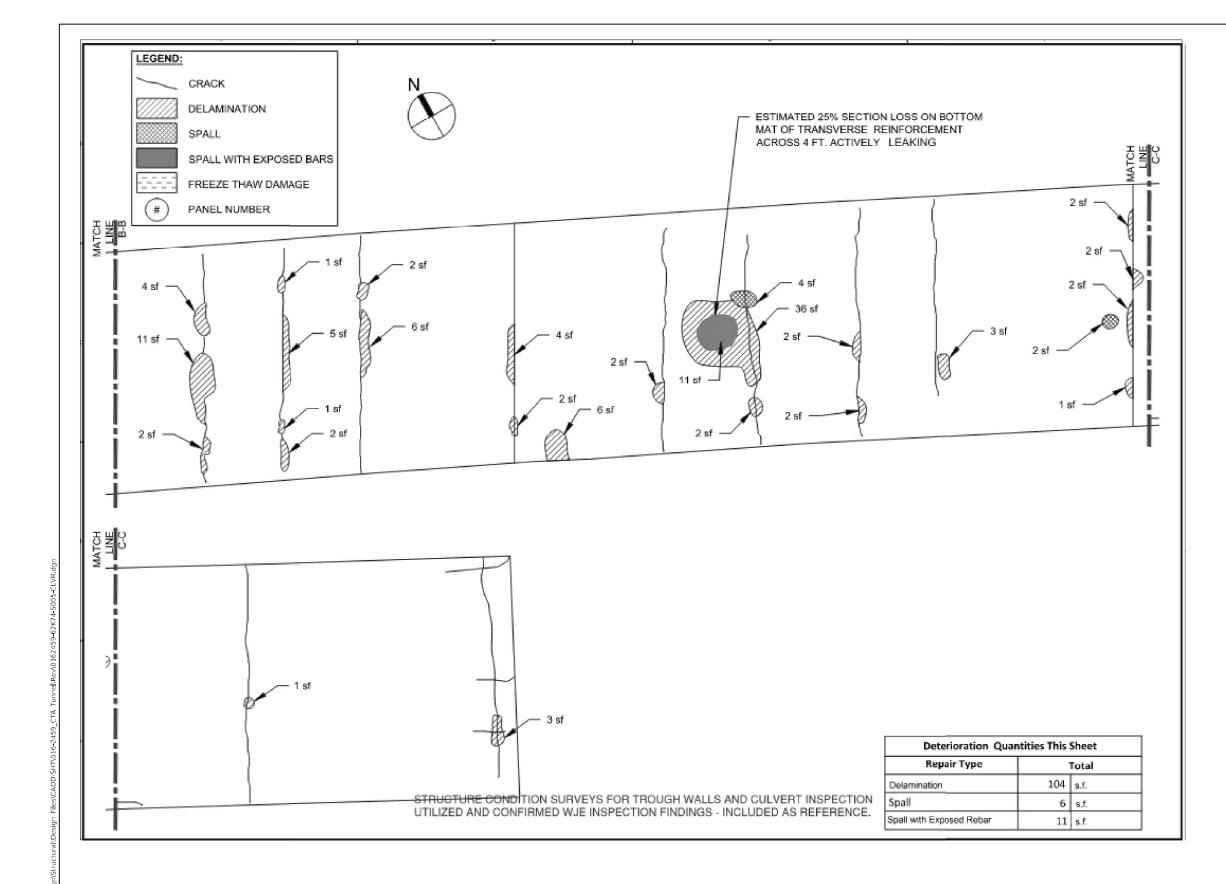
 Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning and Painting Exposed Rebar	Sq Ft	363

PLAN - BOTTOM OF TOP SLAB OF CULVERT

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A ME	GR@EF		CHECKED -	H.A.	REVISED -	STATE OF ILLINOIS		90	2020-004-BR	соок	1492	138	6
Ž	8501 W. Higgins Road; Suite 280	PLOT SCALE =	DRAWN -	J.T.B.	REVISED -	DEPARTMENT OF TRANSPORTATION	SN 016-2459			CONTRA	CT NO. 6	62K74	i=
ä۱	Chicago, Illinois 60631; (773) 399-0112	PLOT DATE =	CHECKED -	K.G.W.	REVISED -		SHEET S39-04 OF S39-17 SHEETS		ILLINOIS FED. AID	D PROJECT			\neg



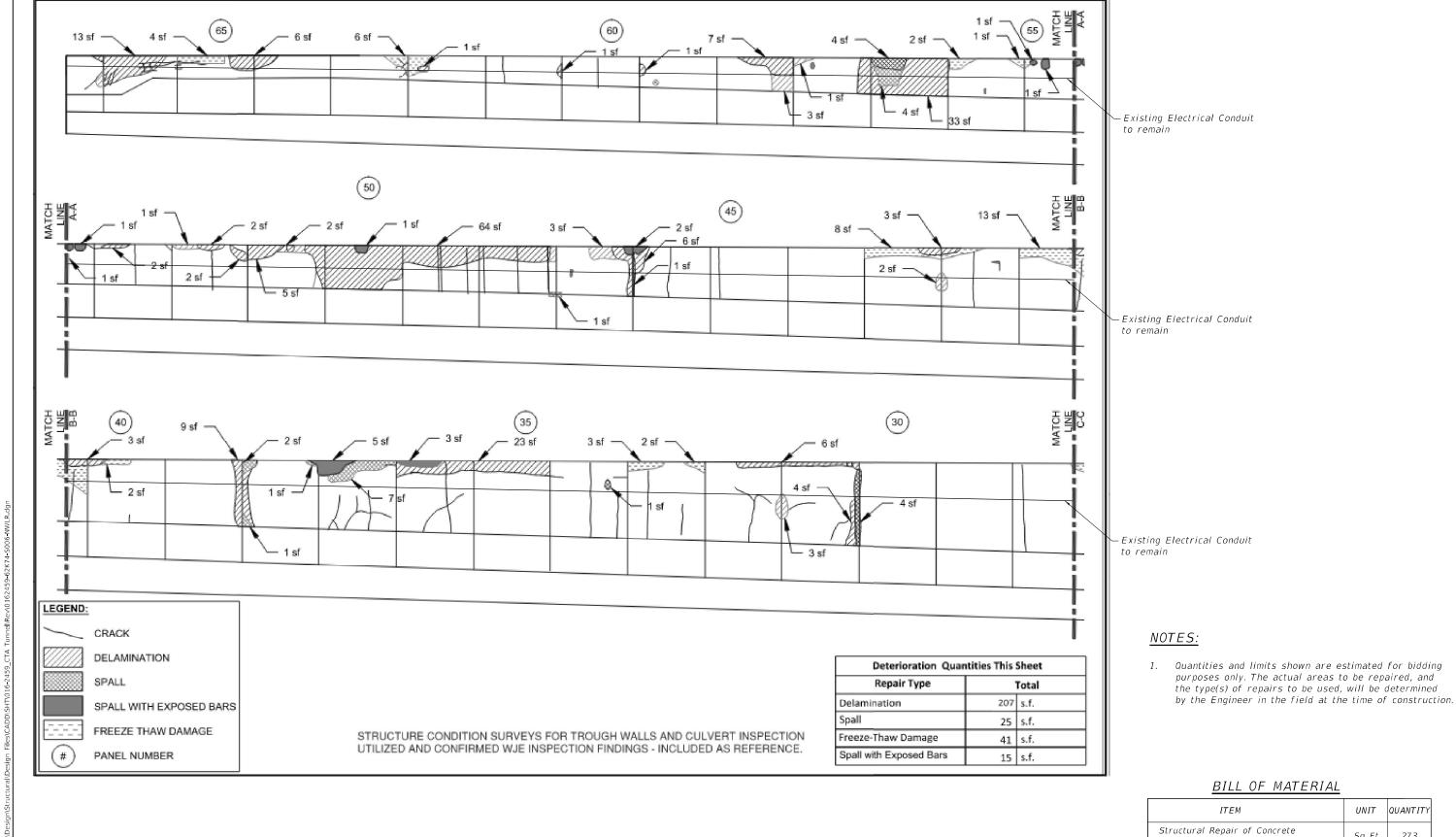
 Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning and Painting Exposed Reba	ar Sq Ft	121

PLAN - BOTTOM OF TOP SLAB OF CULVERT

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AME	GR@EF		CHECKED -	H.A.	REVISED -	STATE OF ILLINOIS	SN 016-2459	90	2020-004-BR	соок	1492	1387
Z 8	501 W. Higgins Road: Suite 280	PLOT SCALE =	DRAWN -	J.T.B.	REVISED -	DEPARTMENT OF TRANSPORTATION	3N U10-2439			CONTRA	CT NO. 6	32K74
E Chic	cago, Illinois 60631; (773) 399-0112	PLOT DATE =	CHECKED -	K.G.W.	REVISED -		SHEET S39-05 OF S39-17 SHEETS		ILLINOIS FED. AID	D PROJECT		



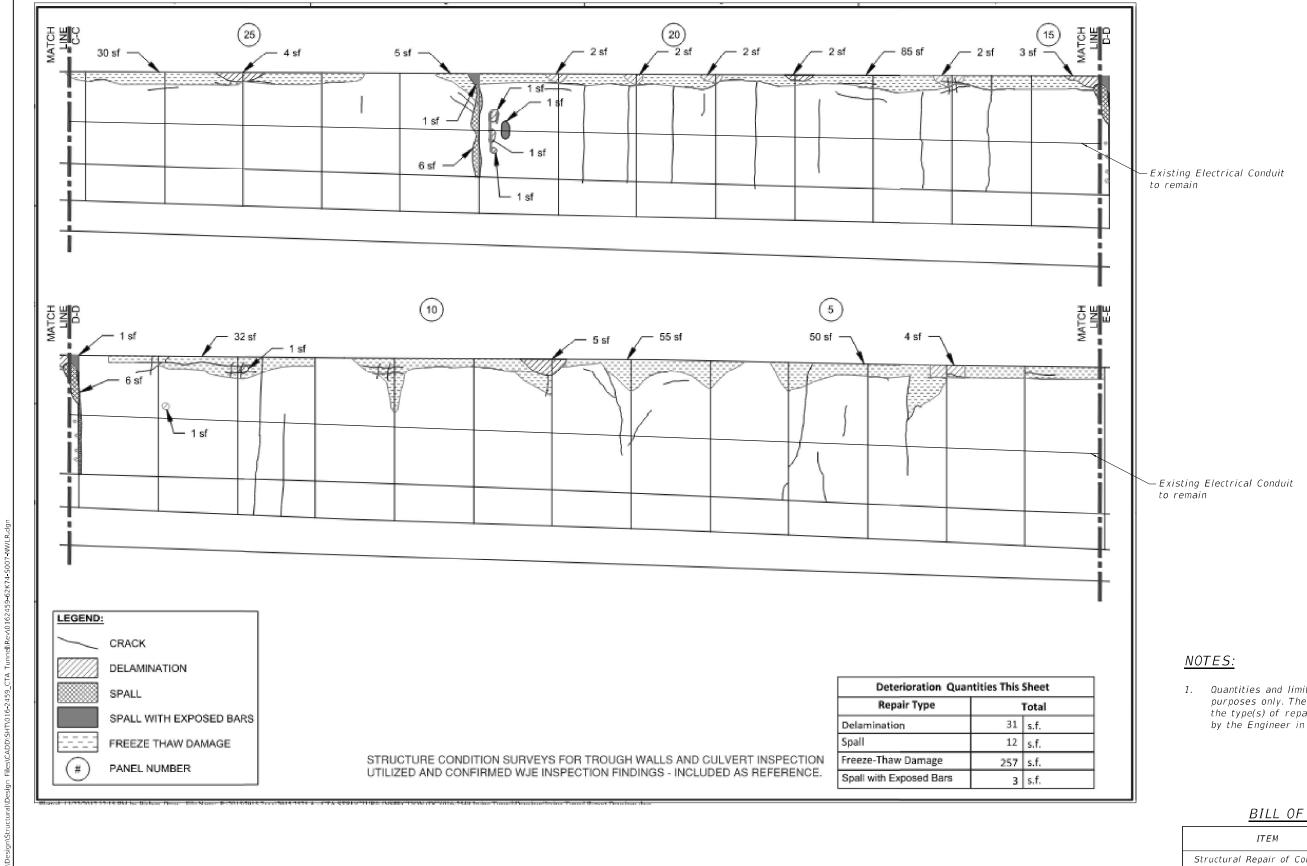
PLAN - NORTH WALL
(Looking North)

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inche	es) Sq Ft	273
Structural Repair of Concrete (Depth Equal Greater Than 5 Inches)	Sq Ft	15

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	Chicago, Illinois 60631: (773) 399-0112

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NORTH WALL REPAIRS I	F.A.I. RTE	SEC.	ПОИ		COUNTY	TOTAL SHEETS	SHEET NO.
SN 016-2459	90	2020-0	04 - BR		соок	1492	1388
3N 010-2439					CONTRAC	T NO. 62	2K74
SHEET S39-06 OF S39-17 SHEETS			ILLINOIS	FED. All	PROJECT		



<u>PLAN - NORTH WALL</u>

(Looking North)

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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	300
Structural Repair of Concrete (Depth Equal Greater Than 5 Inches)	Sq Ft	3

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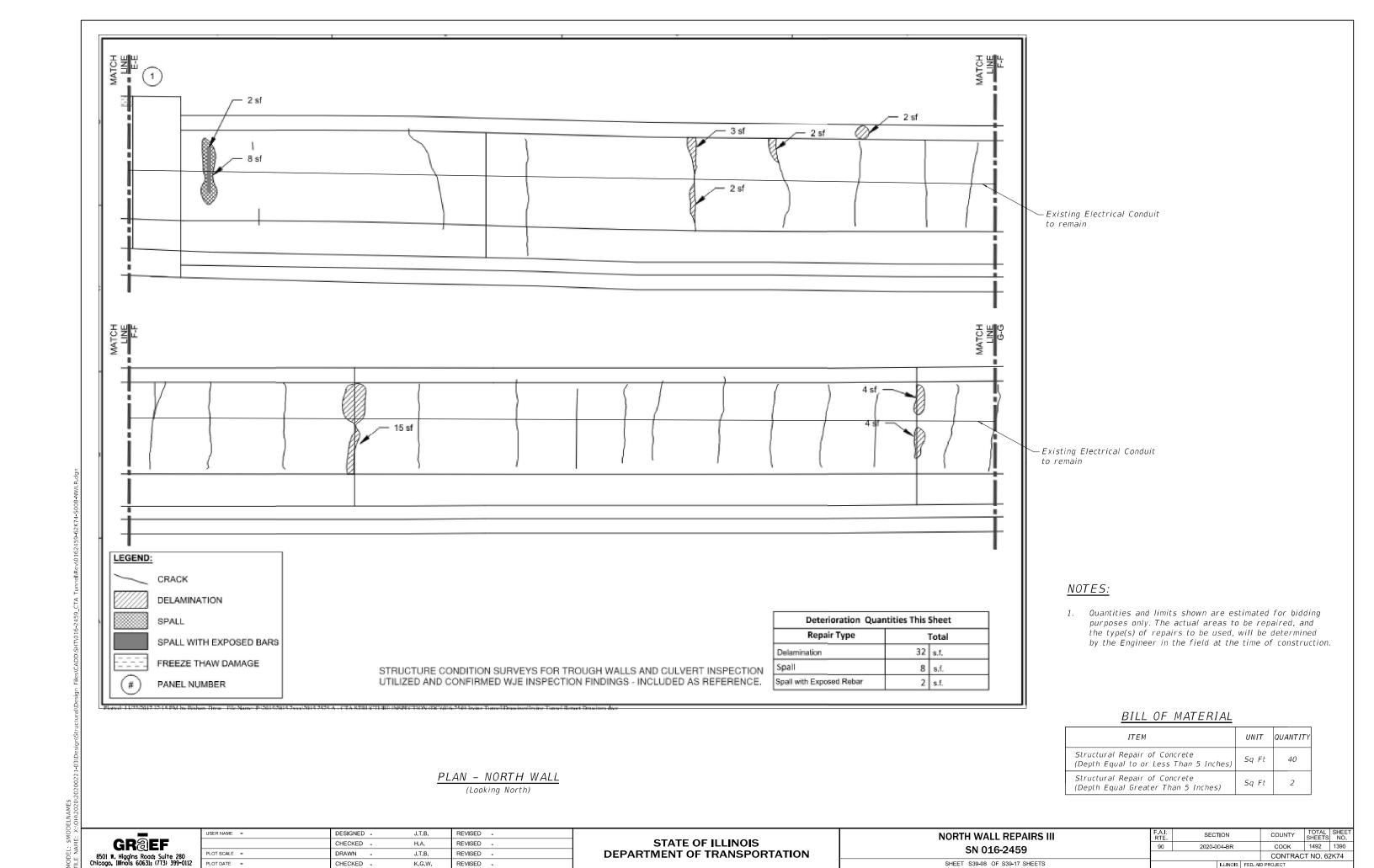
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL REPAIRS II
SN 016-2459
SHEET S39-07 OF S39-17 SHEETS

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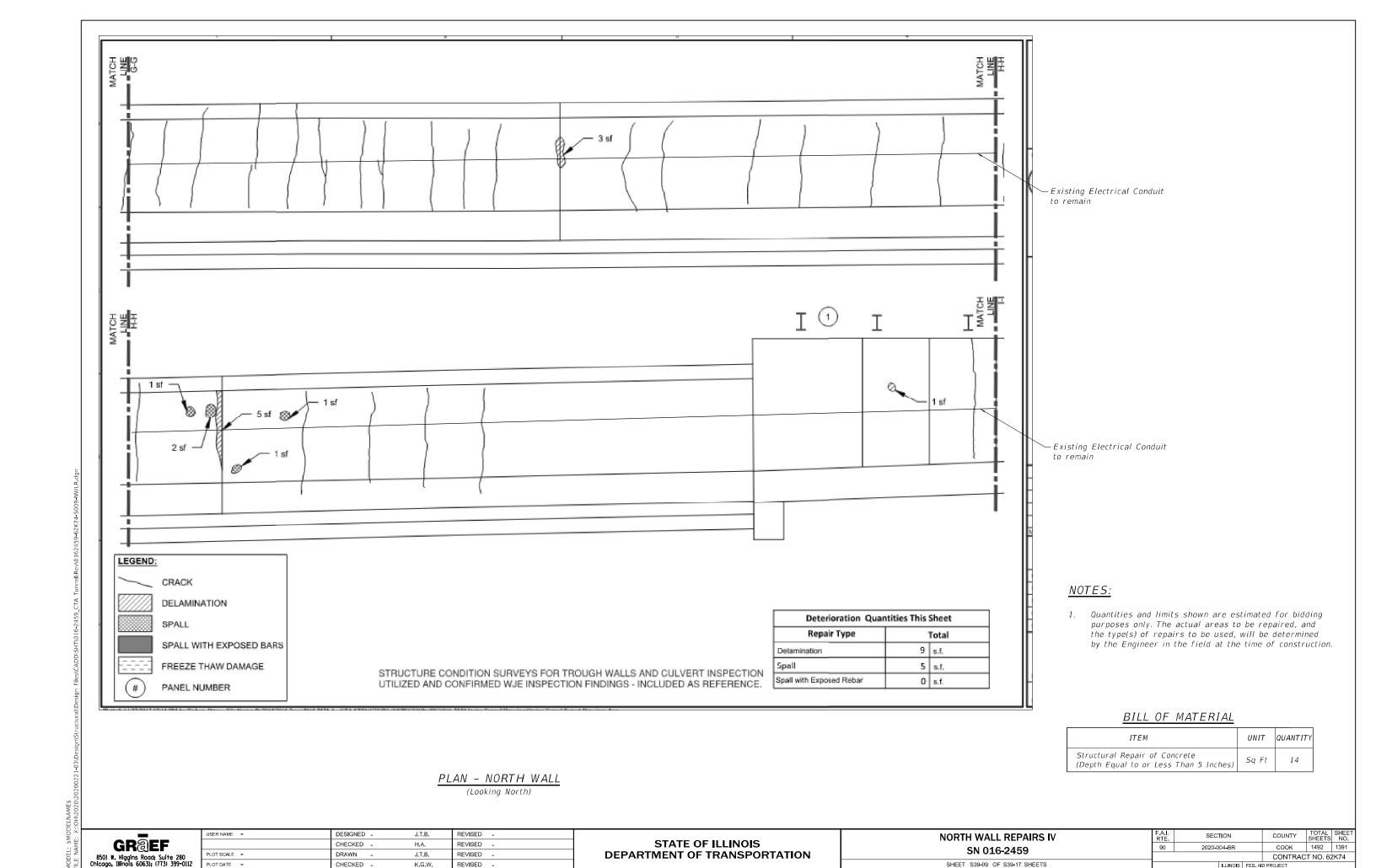


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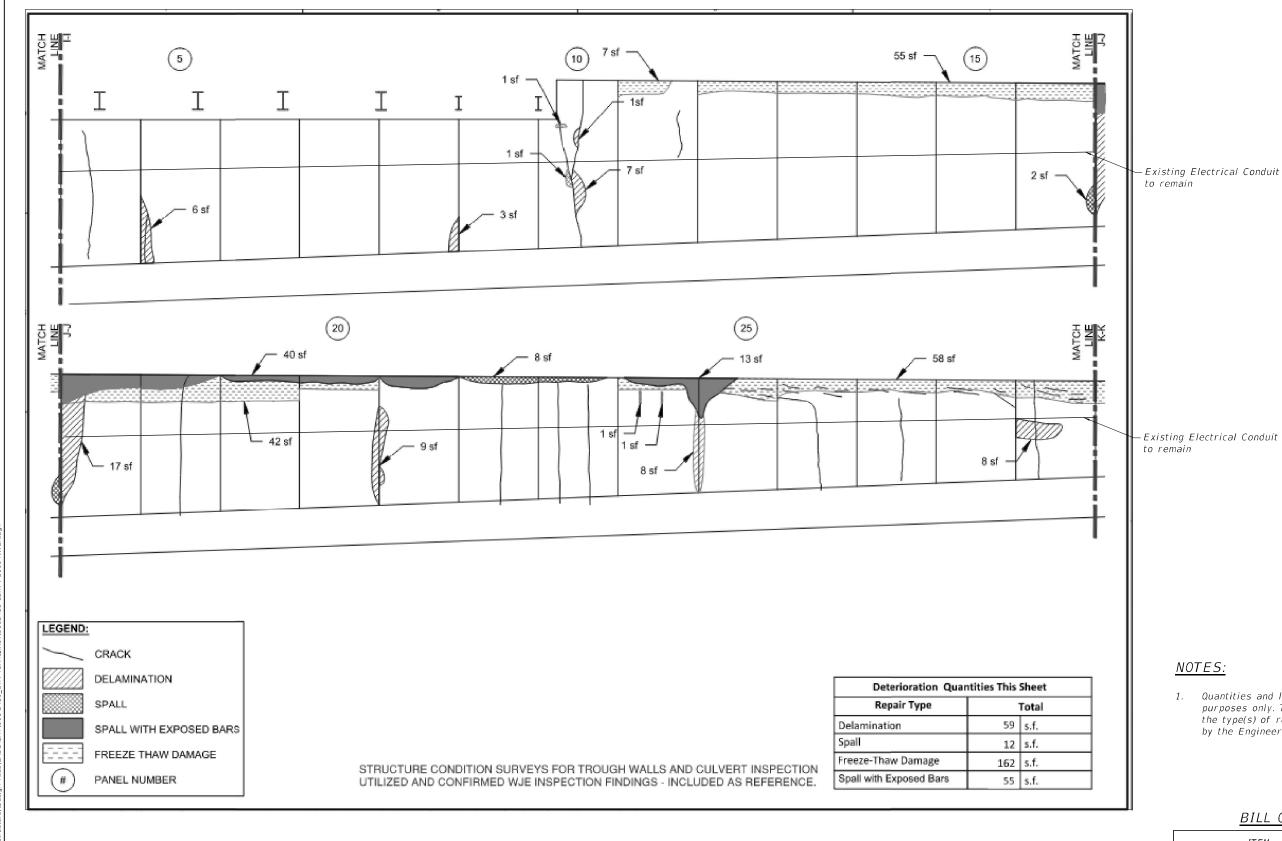


SHEET S39-09 OF S39-17 SHEETS

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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.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	233
Structural Repair of Concrete (Depth Equal Greater Than 5 Inches)	Sq Ft	55

<u>PLAN - NORTH WALL</u> (Looking North)

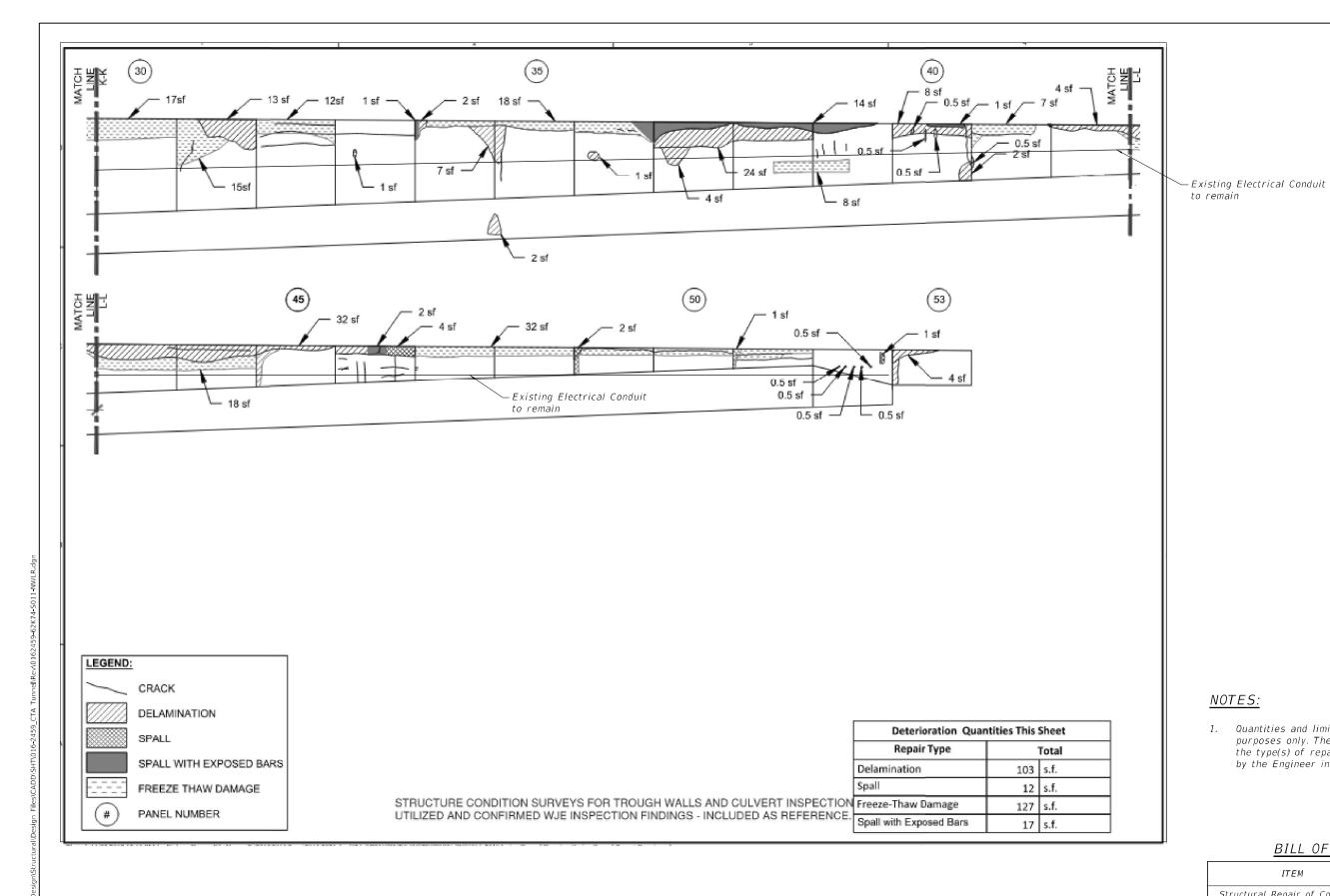
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	Chicago, Illinois 60631; (773) 399-0112

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH WALL REPAIRS V SN 016-2459 SHEET S39-10 OF S39-17 SHEETS

SECTION COOK 1492 1392 2020-004-BR CONTRACT NO. 62K74



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.

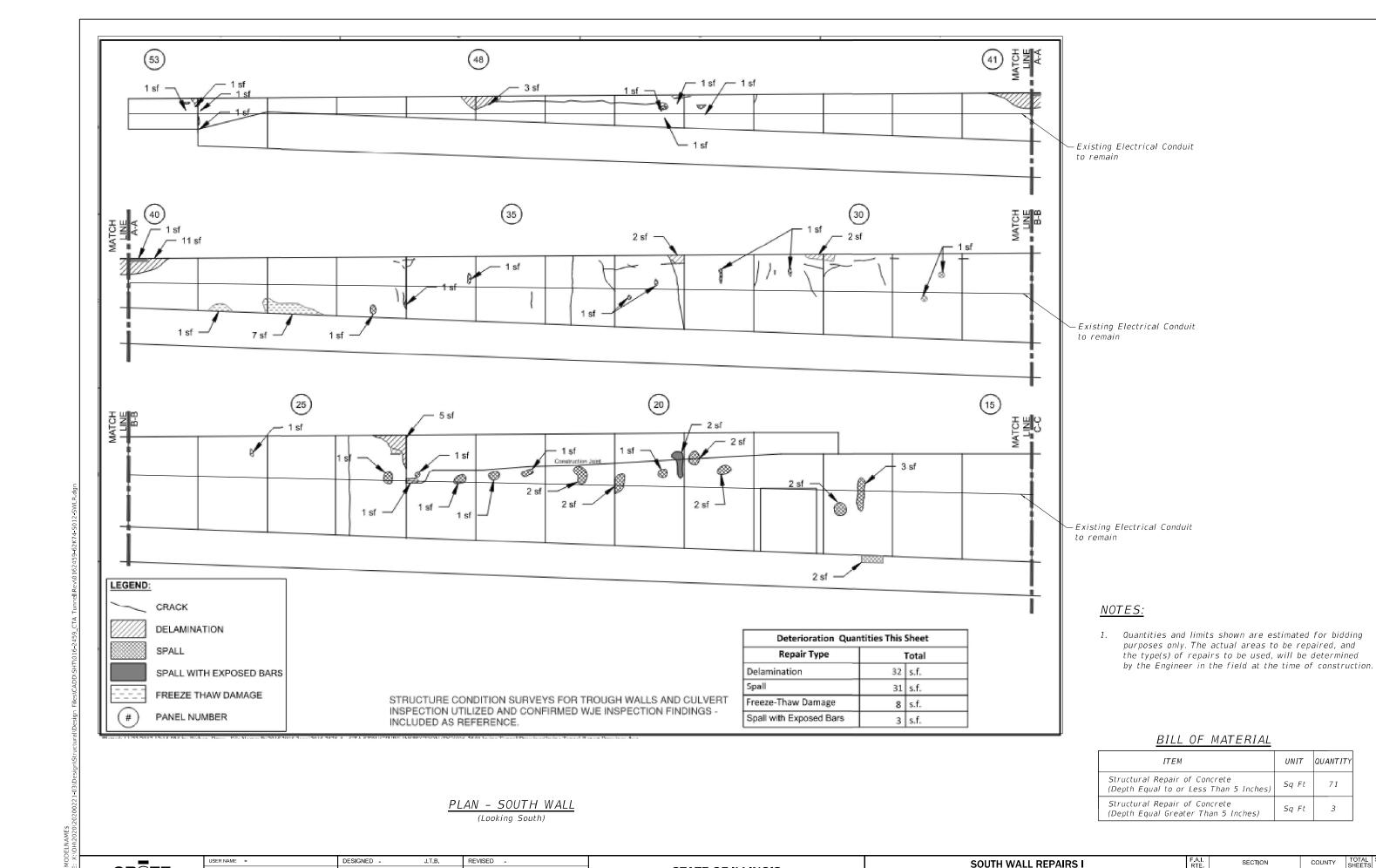
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	244
Structural Repair of Concrete (Depth Equal Greater Than 5 Inches)	Sq Ft	18

PLAN - NORTH WALL

(Looking North)

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Ž	8501 W. Higgins Road: Suite 280	PLOT SCALE =	DRAWN -	J.T.B.	REVISED -	DEPARTMENT OF TRANSPORTATION	SN 016-2459			CONTRAC	CT NO. 6	62K74	\exists
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STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

COOK 1492 1394

CONTRACT NO. 62K74

2020-004-BR

SN 016-2459

SHEET S39-12 OF S39-17 SHEETS

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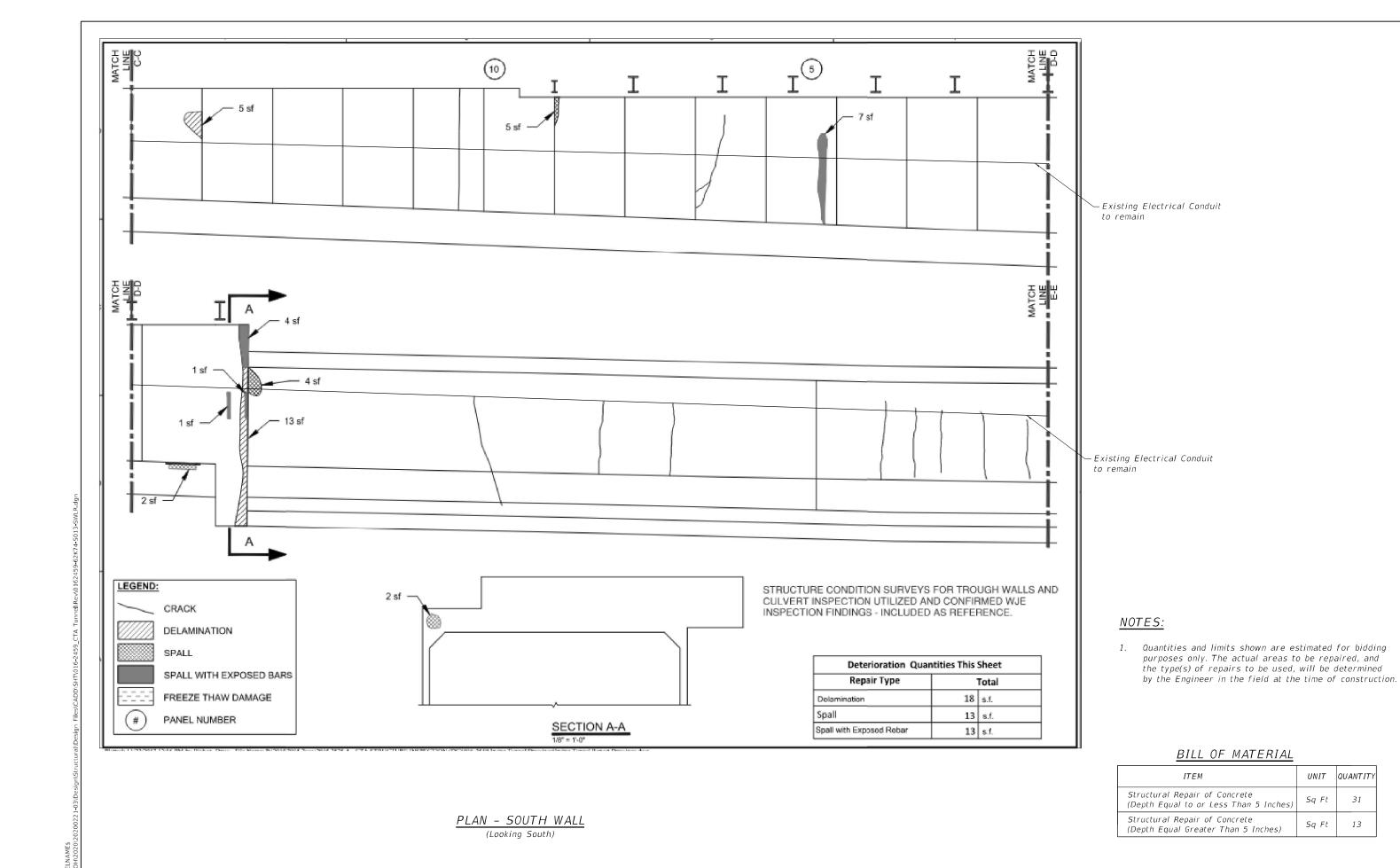
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STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

SECTION

2020-004-BR

COUNTY

COOK 1492 1395

CONTRACT NO. 62K74

SOUTH WALL REPAIRS II

SN 016-2459

SHEET S39-13 OF S39-17 SHEETS

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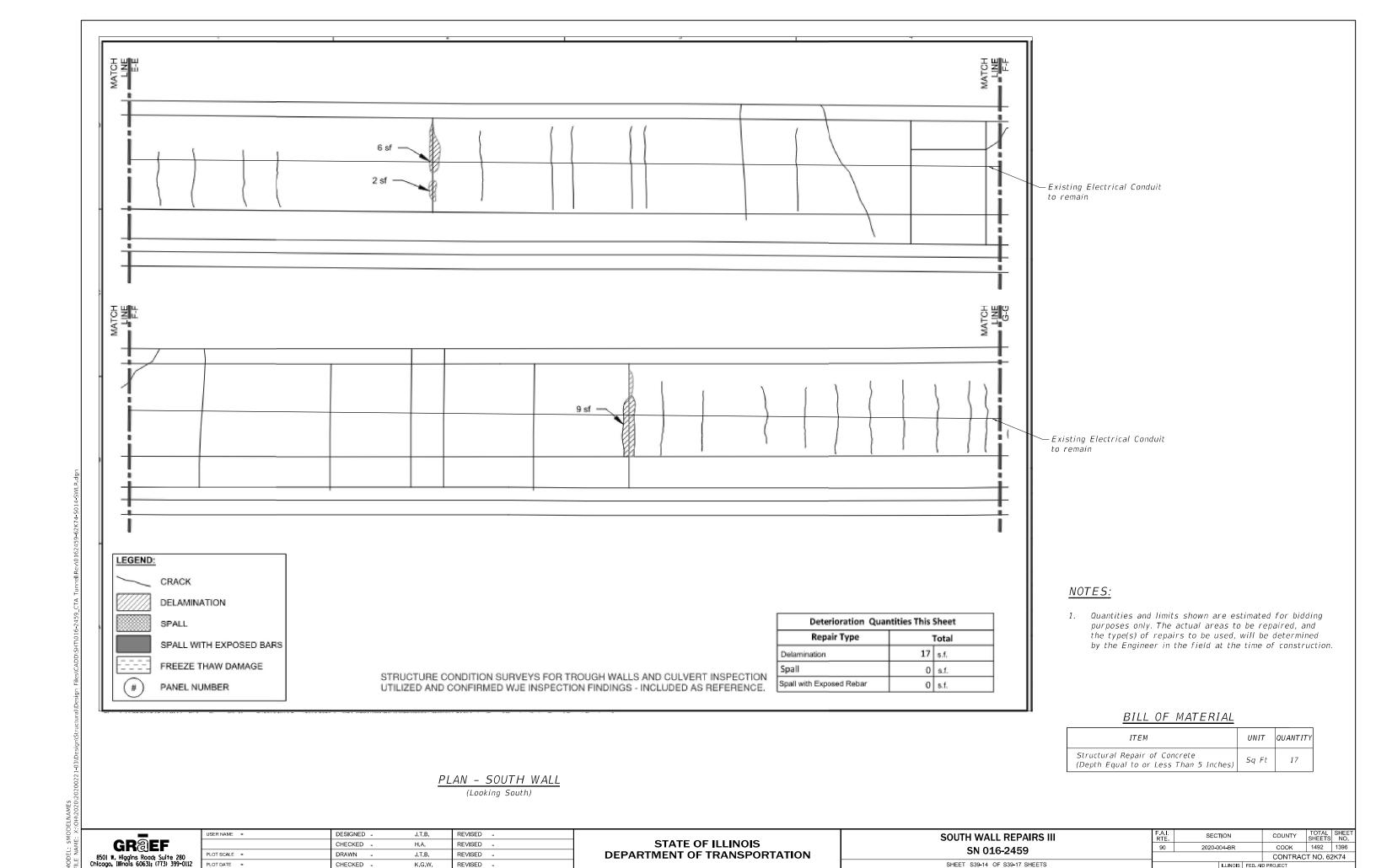
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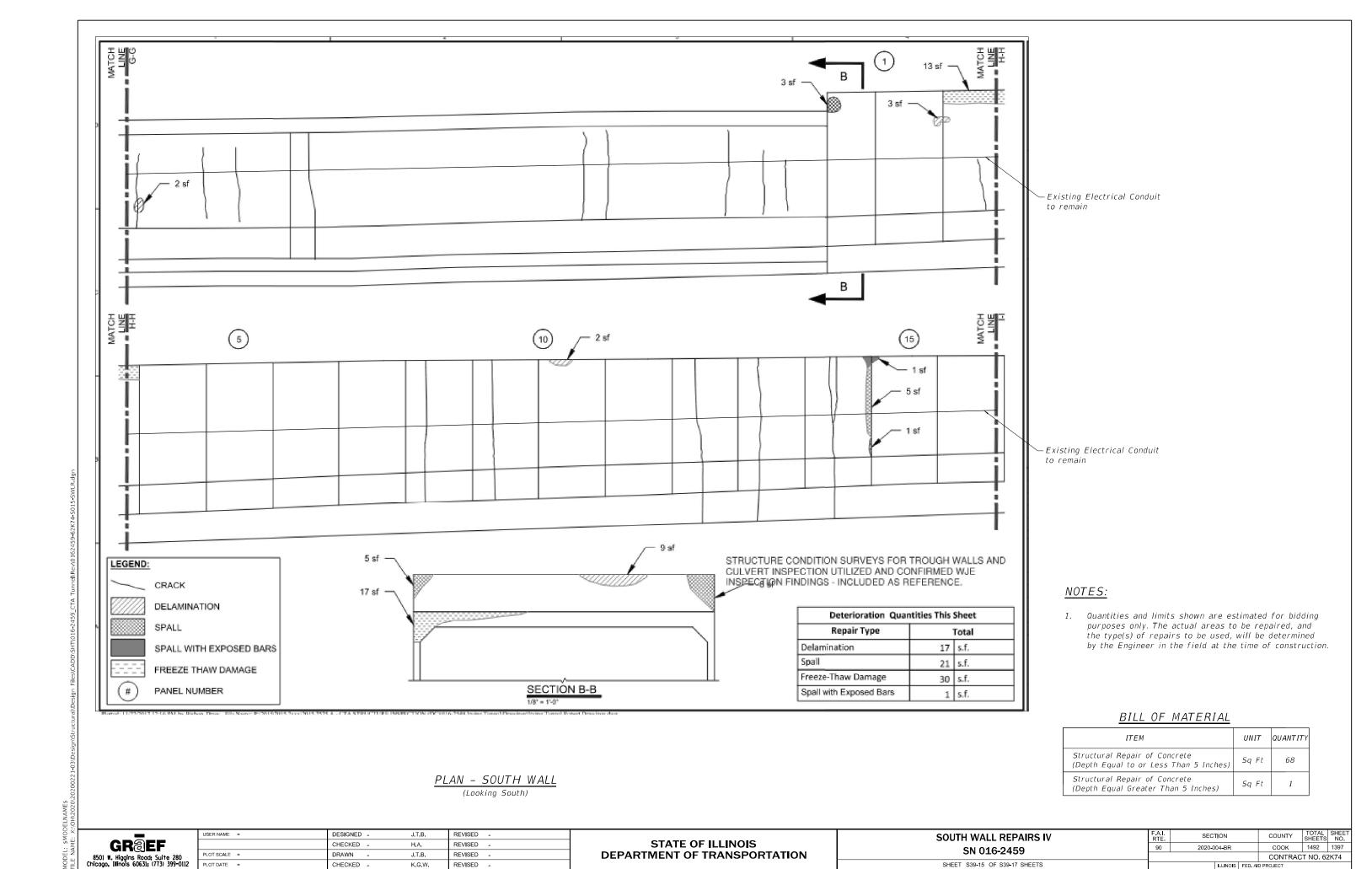
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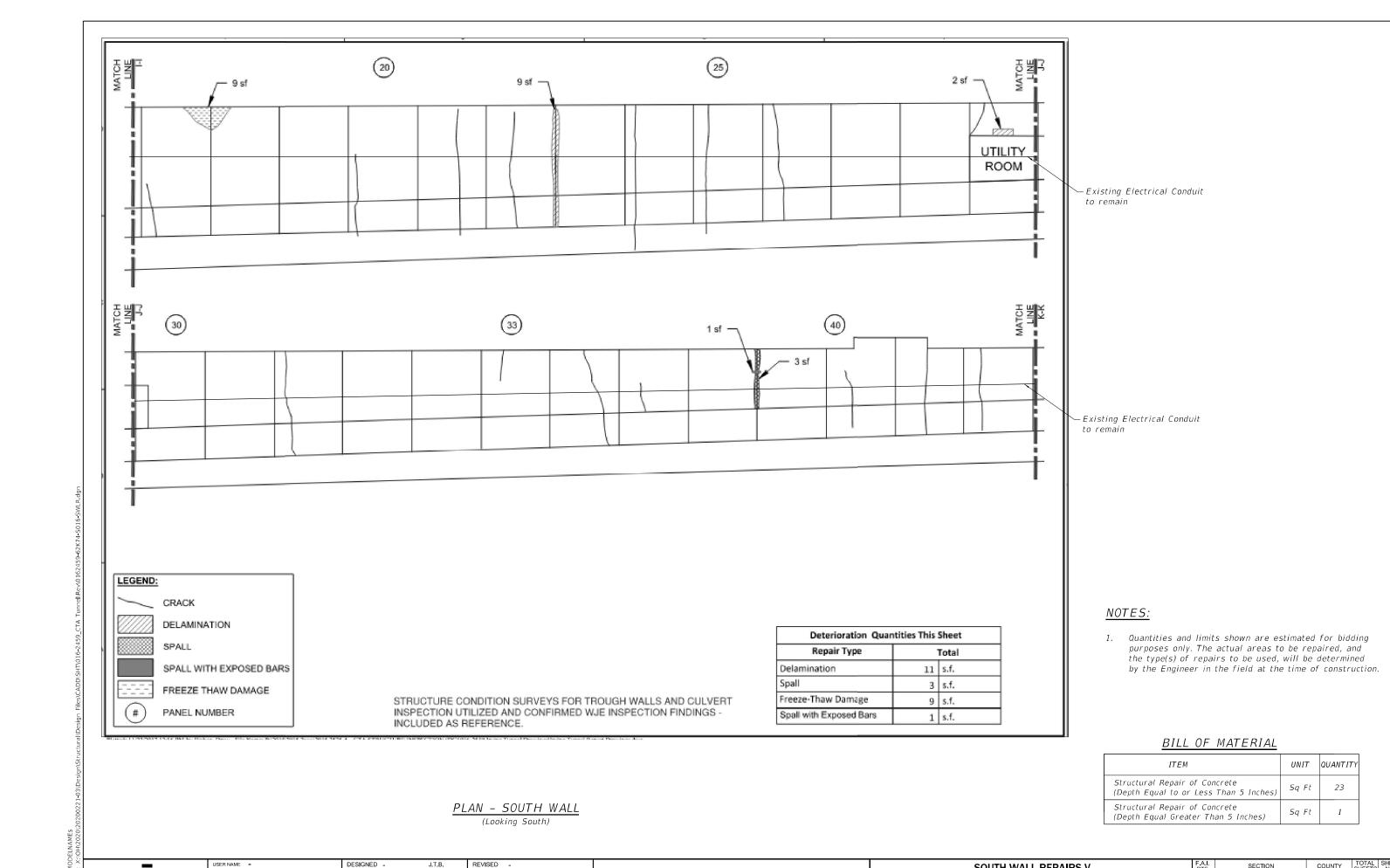


SHEET S39-15 OF S39-17 SHEETS

CHECKED -

K.G.W.

REVISED -



STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

SECTION

2020-004-BR

COUNTY

COOK 1492 1398

CONTRACT NO. 62K74

SOUTH WALL REPAIRS V

SN 016-2459

SHEET S39-16 OF S39-17 SHEETS

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

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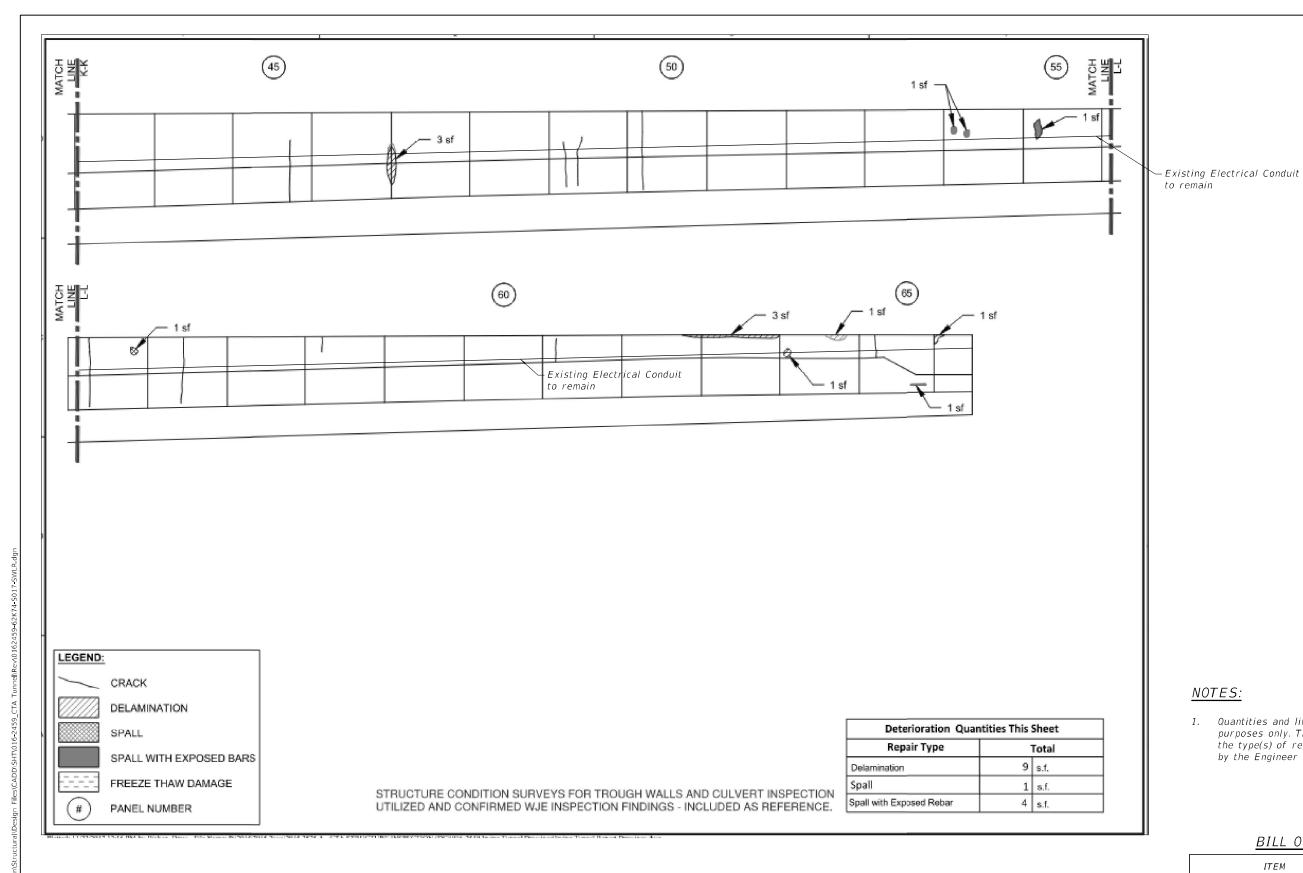
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1. Quantities and limits shown are estimated for bidding purposes only. The actual areas to be repaired, and the type(s) of repairs to be used, will be determined by the Engineer in the field at the time of construction.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	10
Structural Repair of Concrete (Depth Equal Greater Than 5 Inches)	Sq Ft	4

PLAN - SOUTH WALL

(Looking South)

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

SOUTH WALL REPAIRS VI	F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHE
SN 016-2459	90	2020-004-BR	соок	1492	1399
514 010-2405			CONTRAC	T NO. 62	2K74
SHEET S39-17 OF S39-17 SHEETS		ILLINOIS FED. A	ID PROJECT		

