# 06-13-2025 LETTING ITEM 060

# **INDEX OF SHEETS**

- GENERAL NOTES, STANDARDS AND SIGNATURE PAGE
- TYPICAL SECTIONS AND MIX TABLE
- SUMMARY OF QUANTIITES
- ROADWAY PLAN SHEET
- GENERAL PLAN AND ELEVATION
- GENERAL DATA AND MISCELLANEOUS DETAILS
- FLOOR DRAIN DETAILS
- TOP OF DECK AND APPROACH SLAB REPAIRS
- TOP OF DECK AND APPROACH SLAB REPAIRS AS BUILT
- BOTTOM OF DECK REPAIRS
- BOTTOM OF DECK REPAIRS AS BUILTS
- 15-16 PARAPET REPAIR DETAILS
- 17-18 JOINT REMOVAL DETAILS
- 19-20 JOINT REPLACEMENT DETAILS PREFORMED JOINT STRIP SEAL
- 22-23 BEARING DETAILS
- 24-25 ABUTMENT REPAIR DETAILS
- PIER REPAIR DETAILS 26 PIER REPAIR DETAILS27 SLOPE WALL REPAIRS
- 28 MISCELLANEOUS DETAILS

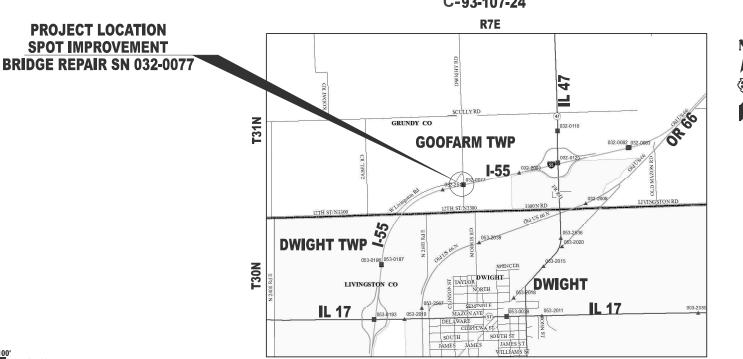
# **STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

# **PROPOSED HIGHWAY PLANS**

**FAI 55 (I-55)** SECTION (32-3HB-1)BDR,BJR

# **BRIDGE REPAIR PLANS SN 032-0077 OVER I-55 GRUNDY COUNTY**

C-93-107-24



**3RD PRINCIPLE MERIDIAN** 

**LOCATION MAP NOT TO SCALE** 

NET LENGTH = 252.5 FT. = 0.048 MILE

GROSS LENGTH = 252,5 FT. = 0,048 MILE

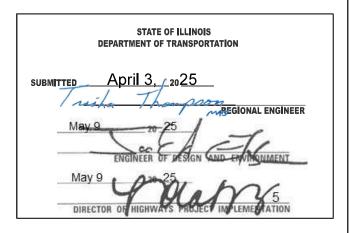


## D93-069-24



# **FUNCTIONAL CLASSIFICATION LOCAL TOWNSHIP ROAD**

**ADT 2024 = 200 VEH** 



PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

**CONTRACT NO. 66P52** 

**UNIT CHIEF: MOHAMED YOUSIF** 

J.U.L.I.E.

1-800-892-0123

**FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT** CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS

ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

**JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION** 

PROJECT ENGINEER: DAVID ALEXANDER P.E.

 $\bigcirc$ 

### GENERAL NOTES

EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

ON EXISTING PAVEMENT WHICH MAY BE SUPERELEVATED, THE NEW HMA PAVEMENT SHALL BE BUILT WITH THE SAME SUPERELEVATION UNLESS NEW SUPERELEVATION RATES ARE GIVEN ON THE PLANS.

ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.

ALL EXCAVATED MATERIAL, WHICH INCLUDES DIGGING OR GRADING OF ANY SOIL OR FILL MATERIAL, WITH THE EXCEPTION OF AGGREGATE FILLS, MUST BE INCORPORATED WITHIN THE IDOT RIGHT OF WAY.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS / CU YD
HMA RESURFACING	112	LBS / SQ YD / IN
SHORT TERM PAVEMENT MARKING	10	FT /100 FT OF APPLICATION
MIX FOR CRACKS, JTS & FLGWYS	0.0003	TONS / SQ YD
BINDER (HAND METHOD)	0.0005	TONS / SQ YD

ALL CONCRETE RELATED WORK SHALL BE COMPLETE BEFORE ANY PAINTING OF STRUCTURAL STEEL

ALL DAMAGE TO DEPARTMENT OWNED UNDERGROUND FACILITIES, CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND AT NO EXPENSE TO THE DEPARTMENT. THIS SHALL INCLUDE ALL TEMPORARY REPAIRS REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS. SPLICING OF ELECTRIC CABLE WILL NOT BE ALLOWED. ELECTRIC CABLE SHALL BE REPLACED FROM POLE TO POLE OR CONTROLLER.

# **LIST OF ILLINOIS DOT HIGHWAY STANDARDS**

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701006-05	OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
	FOR SPEEDS ≥ 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS-DAY ONLY
701406-13	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701901-10	TRAFFIC CONTROL DEVICES
720001-01	SIGN PANEL MOUNTING DETAILS
780001-05	TYPICAL PAVEMENT MARKINGS
BLR 22-7	TYPICAL APP OF T.C.D. RURAL LOCAL HIGHWAY (2-LANE 2-WAY RURAL TRAF.)
	(ROAD CLOSED TO THRU TRAFFIC)
701400-12	APPROACH TO LANE CLOSURE, FREEWAY EXPRESSWAY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

SUPERVISING CONSTRUCTION FIELD ENGINEER

RESIDENT ENGINEER / TECHNICIAN

START & END DATES OF CONSTRUCTION:

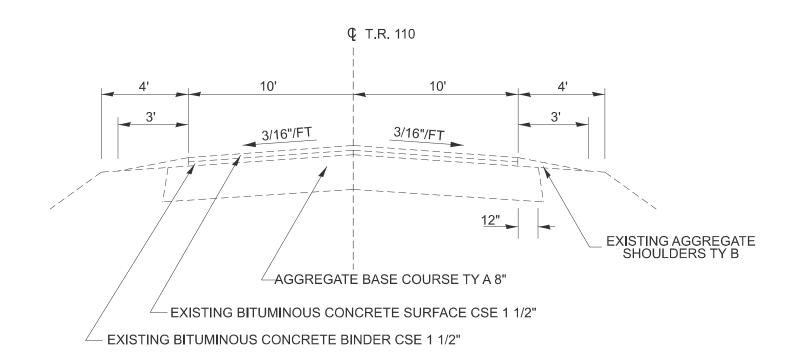
INSPECTORS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, STANDARDS AND SIGNATURES

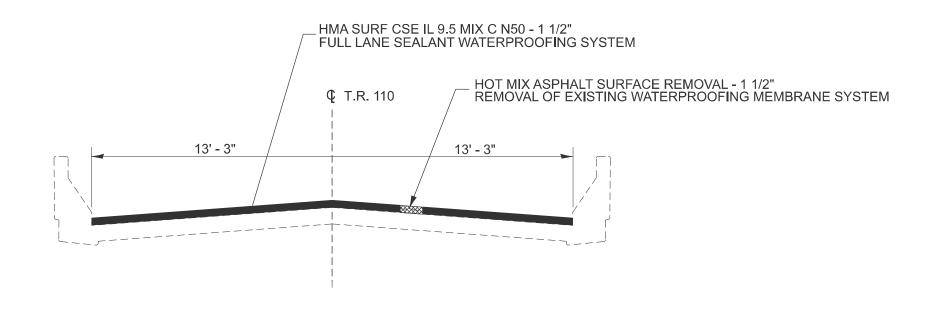
ALE: SHEET OF SHEETS STA. TO STA.

REV. 5/27/25REV. 5/9/25



# **EXISTING TYPICAL SECTION T.R. 110**

STA 41+55 TO STA 48+73.75 STA 51+26.25 TO STA 58+80



# PROPOSED BRIDGE TYPICAL SECTION T.R. 110

STA 48+73.75 TO STA 51+26.25

LOCATIONS:	ENTIRE PROJECT	ENTIRE PROJECT
MIXTURE USE(S):	HMA	HMA
	SURFACE	BINDER
BINDER GRADE (PG):	PG 64-22	SBS PG PG 70-28
DESIGN AIR VOIDS:	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION:	IL 9.5	IL 4.75
(MIXTURE GRADATION)		
FRICTION AGGREGATE:	MIXTURE C	
MIXTURE WEIGHT:	112.0 LB/SY/IN	112.0 LB/SY/IN
QUALITY MANAGEMENT PROGRAM:	QCQA	QCQ/
SUBLOT SIZE:	N/A	N/A
DENSITY TEST METHOD:	SATISFACTION OF ENGINEER	SATISFACTION OF ENGINEER
MATERIAL TRANSFER DEVICE (REQUIRED):	NO	NO

USER NAME = Scott.Ferguson	DESIGNED -	REVISED -	EVICTING AND DECREED TYPICAL CECTIONS						F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN -	REVISED -	STATE OF ILLINOIS	EXISTI	EXISTING AND PROPOSED TYPICAL SECTIONS			AL SECTIONS	55	(32-3HB-1)BDR.BJR	GRUNDY	28	3	
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION						(	CONTRA	CT NO. 66	P52		
PLOT DATE = 3/31/2025	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. A	ID PROJECT		

FILE NAME: c:\pw\_work\pwidot\fergu

ľ	ON	511	R. CC	טנ
г				

				BRIDGE
CODE			TOTAL	0059
NO.	ITEM	UNIT	QUANTITY	S.N. 032-0077
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	92	92
50102400	CONCRETE REMOVAL	CU YD	8.5	8.5
50157300	PROTECTIVE SHIELD	SQ YD	333	333
50300100	FLOOR DRAINS	EACH	12	12
50300255	CONCRETE SUPERSTRUCTURE	CU YD	9.3	9.3
50300300	PROTECTIVE COAT	SQ YD	33	33
50500405	FUDNICUINO AND EDECTINO OTDUCTUDAL OTES	DOLIND.	4540	1510
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1510	1510
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1440	1440
52000110	PREFORMED JOINT STRIP SEAL	FOOT	58	58
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	8	8
52100520	ANCHOR BOLTS, 1"	EACH	20	20
58100210	FULL LANE SEALANT WATERPROOFING SYSTEM	SQ YD	730	730
58700300	CONCRETE SEALER	SQ FT	3641	3641
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	5	5

<sup>\*</sup> SPECIALTY ITEMS

USER NAME = Scott.Ferguson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 4/2/2025	DATE -	REVISED -	

	SUMMARY OF QUANTITIES					F.A.I. RTE.	SECT				TOTAL SHEETS	SHEET NO.
SUMMART OF QUARTITIES			55	(32-3HB-1)	BDR,BJF	₹	GRUNDY	28	4			
										CONTRACT	NO. 66F	P52
	SHEET	OF	SHEETS	STA.	TO STA.			ILLINOIS	FED. AIC	PROJECT		

CONST	R.	CO	DE

CODE			TOTAL	BRIDGE 0059
NO.	ITEM	UNIT	QUANTITY	S.N. 032-007
67100100	MOBILIZATION	L SUM	1	1
70100701	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	EACH	4	4
78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	1010	1010
X0325747	BRIDGE DECK CONCRETE CRACK SEALER	FOOT	27	27
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
X5110308	SLOPE WALL CRACK SEALING	FOOT	164	164
X5110310	SLOPE WALL REPAIR	SQ YD	5	5
X6050182	PLUG EXISTING DECK DRAINS	EACH	4	4
X6061463	GUTTERS TO BE CLEANED	FOOT	270	270
X7011801	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 22	L SUM	1	1
X7200061	TEMPORARY INFORMATION SIGNING	SQ FT	42	42
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	8	8
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	746	746
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1

<sup>\*</sup> SPECIALTY ITEMS

USER NAME = Scott.Ferguson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	STATE OF IL
	CHECKED -	REVISED -	DEPARTMENT OF TR
PLOT DATE = 4/2/2025	DATE -	REVISED -	

CODE			TOTAL	BRIDGE
CODE	60. S. 4600)	to estimate to	TOTAL	0059
NO.	ITEM	UNIT	QUANTITY	S.N. 032-0077
/ 1001 / / 54	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	776	776
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	5	5
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	5	5

<sup>\*</sup> SPECIALTY ITEMS

SILICONE JOINT SEALER, 1.75"

SCALE:

 USER NAME
 = Scott, Ferguson
 DESIGNED
 REVISED

 DRAWN
 REVISED

 CHECKED
 REVISED

 PLOT DATE
 = 4/2/2025
 DATE
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

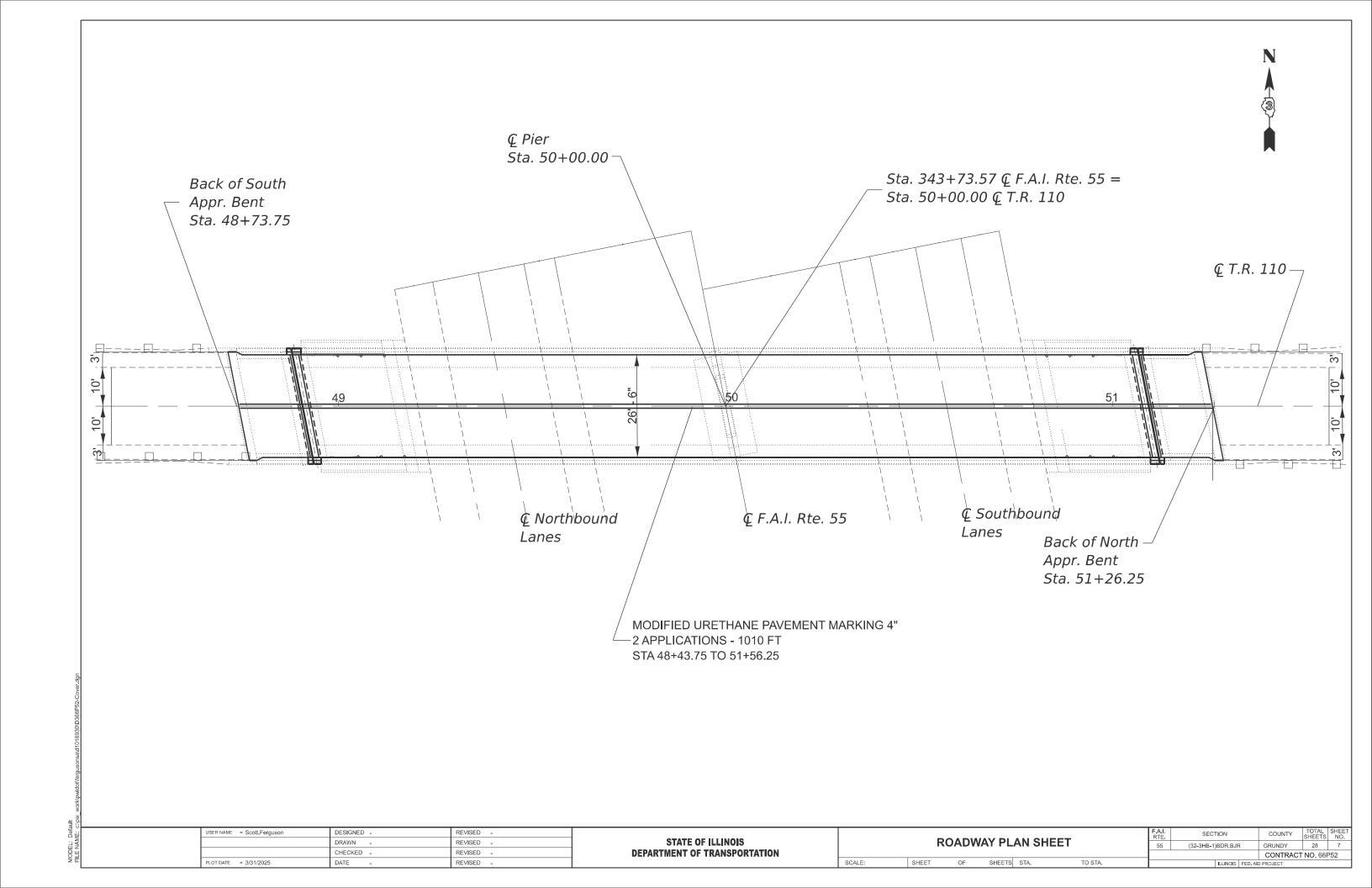
SHEET OF SHEETS STA. TO STA.

CONSTR. CODE

54

54

FOOT



Existing Structure: S.N. 032-0077 was originally constructed in 1971 as Section 32-3HB-1. The superstructure consists of two primary spans of 48" P Girders supporting a 7½" reinforced concrete deck and two 11½" RC slab approach spans, with a 1.5" HMA wearing surface over a waterproofing membrane. The substructure consists of approach bents on concrete piles, vaulted abutments supported by concrete piles, and a two-column trapezoidal pier on a spread footing with timber piles. The back-to-back of bent caps measures 252'-6" and out-to-out deck measures 30'-0". Span lengths are 17'-10", 108'-5", 108'-5", and 17'-10". The structure is skewed 11°10'31" right forward. The structure will be closed and traffic shall be detoured during construction. Exist. Bridge Rail No Salvage. 48" P Girder (F)- Exist. Conc. Piles Exist. Conc. Piles \*\*\*\*37'-4<sup>1</sup>/<sub>2</sub>' \*\*\*\*37'-4<sup>1</sup>/<sub>2</sub>" 1:5 (N:41) © Northbound € Southbound @Rt.L'S - Exist. Ground Exist. Conc. Piles Exist. Conc. Piles Exist. Slope **INDEX OF SHEETS** Wall, typ. SHEET NO. <u>TITLE</u> - Exist. Timber Piles GENERAL PLAN AND ELEVATION GENERAL DATA AND MISCELLANEOUS DETAILS **ELEVATION** FLOOR DRAIN DETAILS TOP OF DECK AND APPROACH SPAN REPAIRS (Looking West) \*\*\*\*Dimension @ Rt. L's to Roadway TOP OF DECK AND APPROACH SPAN REPAIRS - AS BUILT BOTTOM OF DECK REPAIRS BOTTOM OF DECK REPAIRS - AS BUILT 12'-0" 36'-0" PARAPET REPAIR DETAILS IOINT REMOVAL DETAILS 10-11 **LEGEND** 12'-0" 12-13 JOINT REPLACEMENT DETAILS 36'-0" PREFORMED JOINT STRIP SEAL 14 Limits of  $2\frac{1}{4}$ " Full Lane Sealant 15-16 BEARING DETAILS Waterproofing System Median 17-18 ABUTMENT REPAIR DETAILS PIER REPAIR DETAILS 19 SLOPE WALL REPAIRS 11.10,31. 2 spaces 6" Ø Floor Drain spacing, @ 6'-0' typ. Limits of Exist. typ. each side & each end Slope Wall – Exist. Long. - Sta. 343+73.57 @ F.A.I. Rte. 55 = Back of South Abut. Const. Jt. Back of North Abut. € T.R. 110 Sta. 50+00.00 Ç T.R. 110 Sta. 48+90.65 Sta. 51+09.35 Back of South -€ Brg. South Abut. @ Brg. North Abut. -Back of North φ. #0 Sta. 51+08.42 Appr. Bent Sta. 48+91.58 Exist. Long. Sta. 50+00.00 Appr. Bent Const. Jt. Sta. 48+73.75 Sta. 51+26.25 \_\_\_\_ Limits of Exist. Slope Wall € F.A.I. Rte. 55 ← Northbound € Southbound **₹** Lanes Lanes\  $11\frac{1}{4}$ " 111/4" 17'-10" 108'-5" 108'-5" 17'-10" 252'-6" Back to Back Approach Bents PLAN \*Floor Drain Removal and Replacement VINCENT \*\*Plug Exist. Floor Drain P. TABOR 081-007047 \*\*\*Prop. 6" Ø Floor Drain see Sheet 3 of 20 for details R 7 E. 3rd P.M. Vincent P. Taber 04/25/2025 SCOPE OF WORK **DESIGN SPECIFICATIONS** PROPOSED DESIGN STRESSES Vincent P. Tabor Licensed Structural Engineer 2002 AASHTO Standard Specifications FIELD UNITS: 1.) Remove the existing HMA wearing surface and waterproofing system on the bridge deck 28 29 State of Illinois No. 081-007047 for Highway Bridges  $f^{t}c = 3,500 \text{ psi}$ and approach spans, and replace with 2.25" Full Lane Sealant Waterproofing System. Expires 11/30/2026 f'c = 4,000 psi (Superstructure)2.) Perform deck and approach span concrete repairs. Scully Rd. 립 **EXISTING DESIGN STRESSES** fy = 60,000 psi (Reinforcement)3.) Remove and replace expansion joints at both abutments with Preformed Joint Strip Seals. Existing fy = 36,000 psi (Structural Steel, M270 Grade 36) FIELD UNITS (1971): 4.) Perform parapet overhang formed concrete repairs. T.R. 110 OVER F.A.I. RTE. 55 32 Structure 33 5.) Remove and replace floor drains. fc = 3,000 psi (Deck Slab)F.A.I. RTE. 55 - SEC. (32-3HB-1)BDR,BJR LOADING HS15-44 6.) Remove and replace bearings at both abutments. fc = 3,500 psi (Curb, Parapet, & Substructure) 7.) Perform zone cleaning and painting girder ends. fy = 40,000 psi (Reinforcement)**GRUNDY COUNTY** /330<u>0N</u> 8.) Perform abutment and pier concrete repairs. fy = 36,000 psi (Structural Steel) STATION 343+73.57 9.) Perform slope wall repairs. 10.) Extend weep hole drains.



SER NAME = dmeyer DESIGNED -EMW REVISED DRAWN DIM REVISED REVISED HECKED -PLOT DATE = 4/25/2025 DATE 04/25/2025 REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

SCALE:

**GENERAL PLAN AND ELEVATION** SHEET 1 OF 20 SHEETS STA. TO STA.

LOCATION SKETCH

SECTION COUNTY GRUNDY 28 8 55 (32-3HB-1)BDR,BIR CONTRACT NO. 66P52

STRUCTURE NO. 032-0077

# TOTAL BILL OF MATERIAL

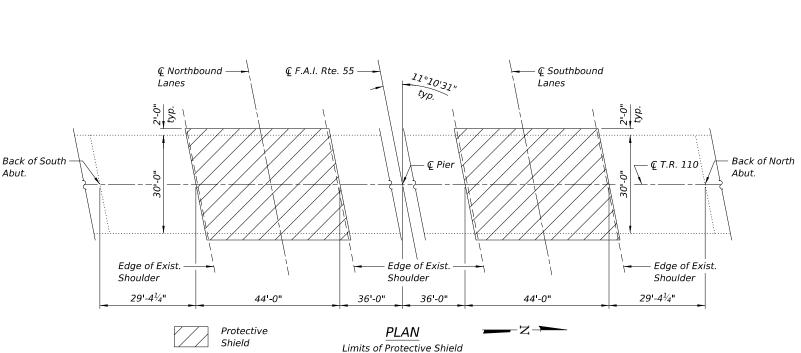
ITEM	UNIT	TOTAL
Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N50	Ton	92
Concrete Removal	Cu. Yd.	8.5
Protective Shield	Sq. Yd.	333
Floor Drains	Each	12
Concrete Superstructure	Cu. Yd.	9.3
Protective Coat	Sq. Yd.	33
Furnishing and Erecting Structural Steel	Pound	1,510
Reinforcement Bars, Epoxy Coated	Pound	1,440
Preformed Joint Strip Seal	Foot	58.0
Elastomeric Bearing Assembly, Type I	Each	8
Anchor Bolts, 1"	Each	20
Full Lane Sealant Waterproofing System	Sq. Yd.	730
Concrete Sealer	Sq. Ft.	3,641
Controlled Low-Strength Material	Cu. Yd.	5.0
Slope Wall Crack Sealing	Foot	164.0
Bridge Deck Concrete Crack Sealer	Foot	27
Containment and Disposal of Non-Lead Paint Cleaning Residues No. 1	L. Sum	1
Plug Existing Deck Drains	Each	4
Gutters to be Cleaned	Foot	270
Jack and Remove Existing Bearings	Each	8
Hot-Mix Asphalt Surface Removal (Deck)	Sq. Yd.	746
Cleaning and Painting Steel Bridge No. 1	L. Sum	1
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	776
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5
Deck Slab Repair (Partial)	Sq. Yd.	5
Silicone Joint Sealer, 1.75"	Foot	54
Slope Wall Repair	Sq. Yd.	5

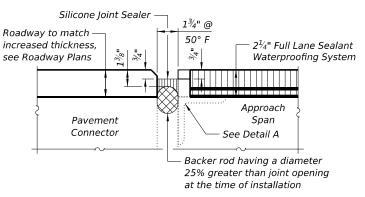
# GENERAL NOTES:

- 1.) Reinforcement bars designated (E) shall be epoxy coated.
- 2.) Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work
- 3.) 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 at the Contractor's expense.
- 4.) The Engineer shall show actual locations and size of deck repairs on As-built Plans.
- 5.) Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose detrimental foreign material shall be removed from the surfaces in contact with concrete (SSPC-SP3 standards). 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 paid for according to Article 109.04 of the Standard Specifications.
- 6.) The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.
- 7.) Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other that 50°F.
- 8.) Protective Coat shall only be applied to new concrete areas, including the deck and parapet at the joint replacement. Protective Coat shall also be applied to the finished surfaces of all concrete repairs to the parapets.
- 9.) Concrete Sealer shall be applied according to Section 587 of the Standard Specifications to the existing top and inside vertical faces of the parapets, end posts, and wings; all exposed faces of the abutments and wingwalls; and to all exposed faces of pier located below the top of the cap.
- 10.) Cleaning and painting of the existing structural steel shall be as specified in the special provision for Cleaning and Painting Existing Steel Structures. All girders, bearings and other structural steel within 10 ft. (measured along the girder) of either side of deck joints shall be cleaned per Near White Blast Cleaning SSPC-SP10.

  The exterior surfaces and bottom of the bottom flange of the fascia girders shall be cleaned per Commercial Grade Power Tool Cleaning SSPC-SP15.

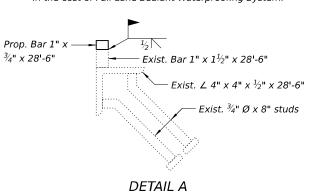
  The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of the Organic Zinc-Rich Primer / Epoxy / Urethane (OZ/E/U) paint system. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia girders shall be Reddish Brown, Munsell No. 2.5YR 3/4.
- 11.) Existing structural steel that will be in contact with the proposed replacement bearings shall be cleaned and painted as required by the Guide Bridge Special Provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures. Cleaning and painting of these locations shall meet the requirements for Primary Connections, as described in the special provisions.
- 12.) Containment of cleaning residue is required to control nuisance dust. See special provisions.
- 13.) If the analysis submitted by the Contractor for the jacking/temporary support system to be used shows temporary stiffeners are required to prevent web crippling or buckling, the stiffeners shall be steel and bolted to the web. If stiffeners are not required, hardwood timbers shall be installed tightly between the top and bottom flange to prevent flange rotation.
- 14.) Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.
- 15.) The existing bearings contain lead plates. The Contractor shall take precautions to deal with the presence of lead on this project.
- 16.) All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
- 17.) All new structural steel and bearing assemblies shall be hot-dip galvanized. See Special Provisions for Hot-Dip Galvanizing for Structural Steel.
- 18.) All concrete related work shall be completed prior to any painting of structural steel.
- 19.) Quantity displayed in the Bill of Material for Deck Slab Repair (Partial) is not illustrated on the plans, but has been included to account for repairs that may be discovered upon removal of the existing wearing surface and waterproofing membrane.
- 20.) The Contractor may request copies of existing construction plans that are currently on file with the Department. The request shall be in writing with the understanding that any reproduction cost will be at the Contractor's expense at no additional cost to the Department.



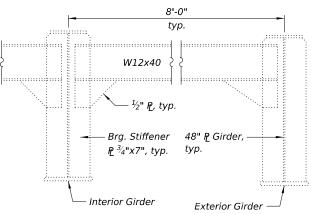


# SILICONE JOINT SEALER DETAIL AT APPROACH SPAN

All work required for vertical extension of joint included in the cost of Full Lane Sealant Waterproofing System.



SCALE:



# EXISTING END DIAPHRAGM

For information only, for Cleaning and Painting Steel Bridge.

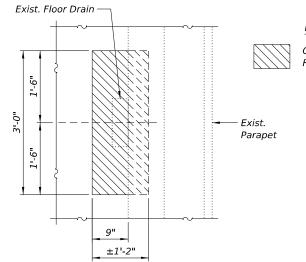


USER NAME = dmeyer	DESIGNED	-	EMW	REVISED	-
	DRAWN	-	DJM	REVISED	-
PLOT TIME = 10:01:46 AM	CHECKED	-	VPT	REVISED	-
PLOT DATE = 4/25/2025	DATE	-	04/25/2025	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA AND MISCELLANEOUS DETAI STRUCTURE NO. 032-0077								
	SHEET	2	OF	20	SHEETS	STA.	TO STA.	

F.A.I.	SECT	COUNTY	TOTAL SHEETS	SHE				
55	(32-3HB-1	.)BDR,BJF	R	GRUNDY	GRUNDY 28			
				CONTRACT NO. 66P52				
		ILLINOIS	FED. A	D PROIECT				



# **LEGEND**

Concrete Removal for Floor Drain Replacement Exist. Parapet Exist. Floor Drain ±1'-2"

# EXISTING FLOOR DRAIN REMOVAL SECTION

Exist.  $1\frac{1}{2}$ " HMA Wearing Surface not shown for clarity.

+1'-2"

- Exist.

Prop. Deck Slab Repair

(Full Depth, Type I)

Prop. 6" Ø Floor Drain

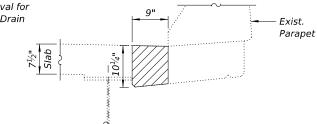
6" Ø Pipe

Clamp

Parapet

# Exist. Parapet 9"

# Concrete Removal for Proposed Floor Drain

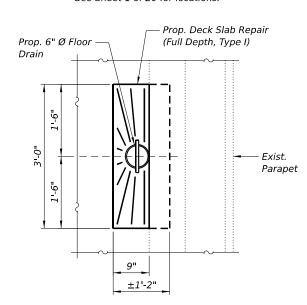


# REMOVAL SECTION FOR PROPOSED FLOOR DRAIN

Exist.  $1\frac{1}{2}$ " HMA Wearing Surface not shown for clarity.

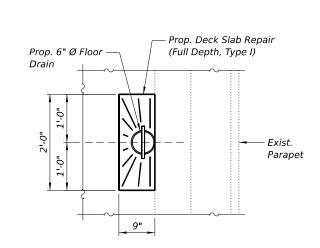
# EXISTING FLOOR DRAIN REMOVAL PLAN

See Sheet 1 of 20 for locations.



# REMOVAL PLAN FOR PROPOSED FLOOR DRAIN

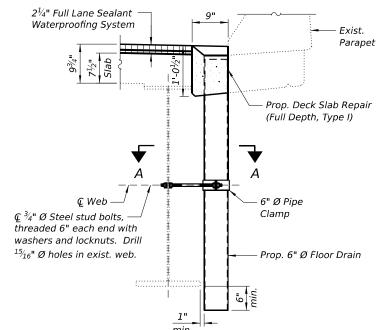
See Sheet 1 of 20 for locations.



PROPOSED FLOOR DRAIN PLAN

See Sheet 1 of 20 for locations.

**LEGEND** 



# PROPOSED FLOOR DRAIN REPLACEMENT PLAN

 $\frac{1}{2}$ " Ø x 8" Fiberglass

reinf. plastic rebar

**FIBERGLASS** 

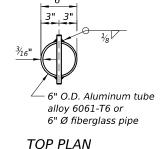
PIPE

See Sheet 1 of 20 for locations.

½" Ø x 8"

Alum. bar ASTM B 211

alloy 6061-T6



(Showing aluminum tube)

 $2\frac{1}{4}$ " Full Lane Sealant

Waterproofing System

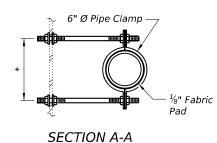
€ Web -

€ 3/4" Ø Steel stud bolts,

threaded 6" each end with

washers and locknuts. Drill

15/16" Ø holes in exist, web.



\*Dimension as required by pipe clamp

PROPOSED FLOOR DRAIN REPLACEMENT SECTION

# - Plug drain with concrete. Finish top of concrete smooth to match the elevation of the adjacent deck after exist. $1\frac{1}{2}$ " HMA Wearing Surface &

Exist. Parapet

# Waterproofing Membrane have been removed.

Plug drain with concrete

# PLUG EXISTING FLOOR DRAIN PLAN See Sheet 1 of 20 for locations.

SCALE:

**ALUMINUM** 

TUBE

Fill slot

with weld

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting. The top portion of aluminum floor drains shall be coated with 5 mils of either bitumen paint or epoxy paint to minimize reaction with wet concrete.

The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.



### SER NAME = dmeyer DESIGNED -EMW REVISED DRAWN DIM REVISED CHECKED -REVISED PLOT DATE = 4/25/2025 DATE 04/25/2025 REVISED

F	FLOOR DRAIN DETAILS					F.A.I.	SEC	TION		COUNTY TOTAL SHEET		
ст	STRUCTURE NO 022 0077				55	(32-3HB-1	.)BDR,BJ	R	GRUNDY	28	10	
31	STRUCTURE NO. 032-0077									CONTRACT	NO. 66	252
3	OF	20	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT						

# PROPOSED FLOOR DRAIN SECTION

- Exist.

Field drill  $\frac{3}{8}$ " Ø hole for  $\frac{1}{4}$ " Ø threaded rod 13"

long with nuts and washers

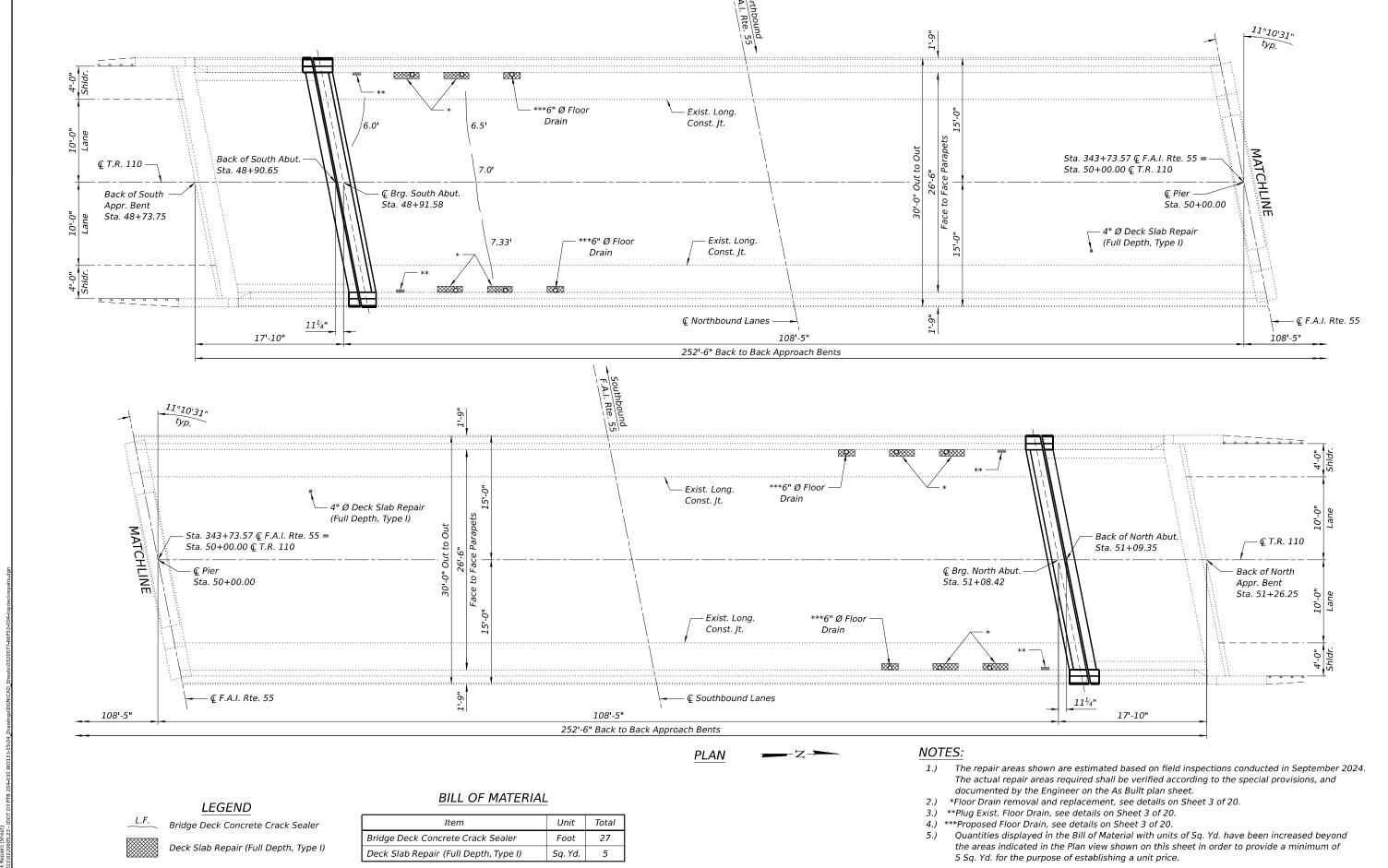
Parapet

PLUG EXISTING FLOOR DRAIN SECTION

Farnsworth

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

STRUC SHEET 3 OF



STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION** 

SECTION

(32-3HB-1)BDR,BJR

TOP OF DECK AND APPROACH SPAN REPAIRS

**STRUCTURE NO. 032-0077** 

SHEET 4 OF 20 SHEETS STA.

SCALE:

COUNTY

GRUNDY

CONTRACT NO. 66P52

MODEL: 10p Deck Repairs | Sheet | FILE NAME: | J:\2022\0220605.23 -

Farnsworth

LOT TIME = 10:02:03 AM

PLOT DATE = 4/25/2025

DESIGNED -

CHECKED -

DIM

04/25/2025

DRAWN

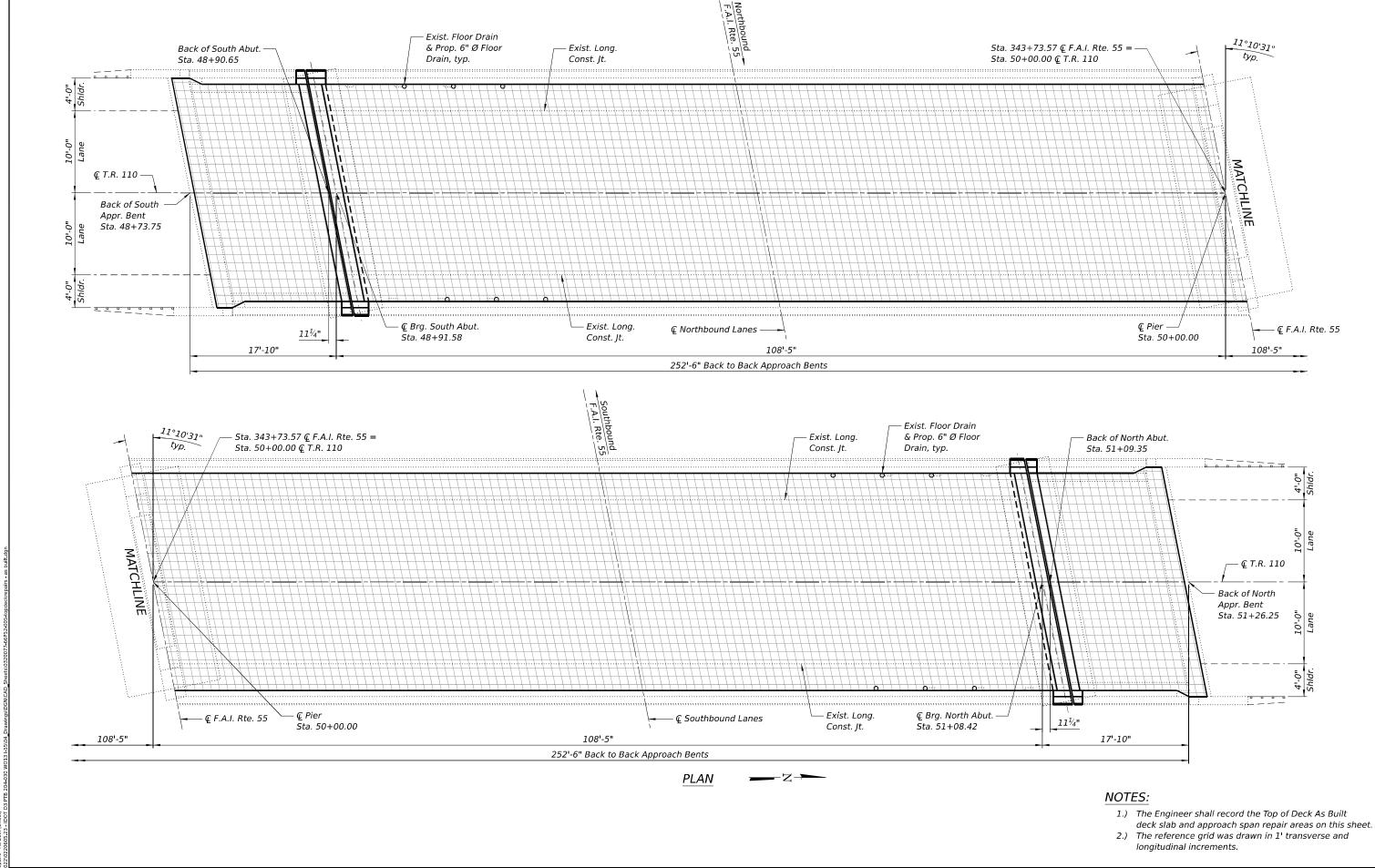
DATE

REVISED

REVISED

REVISED

REVISED

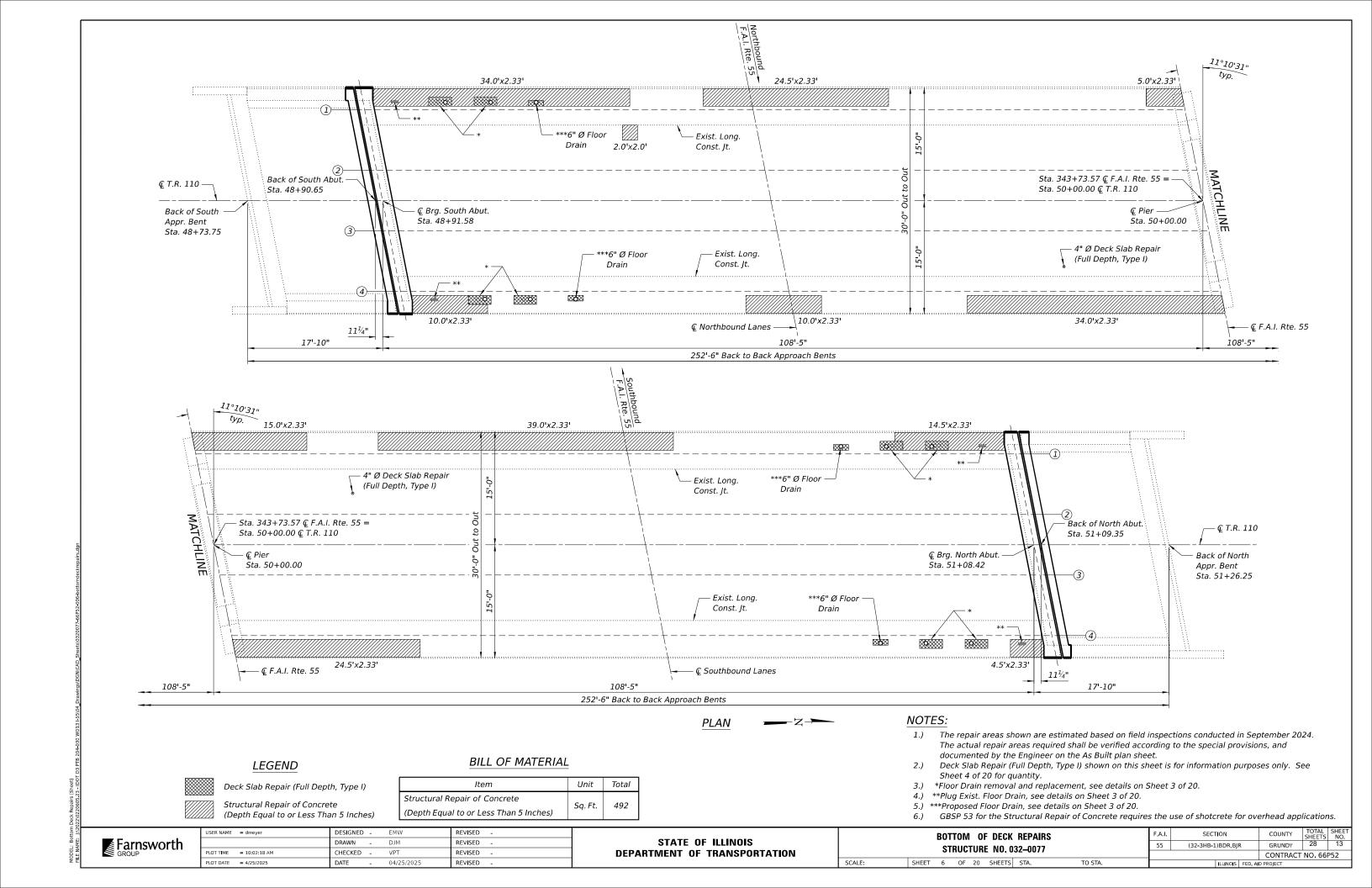


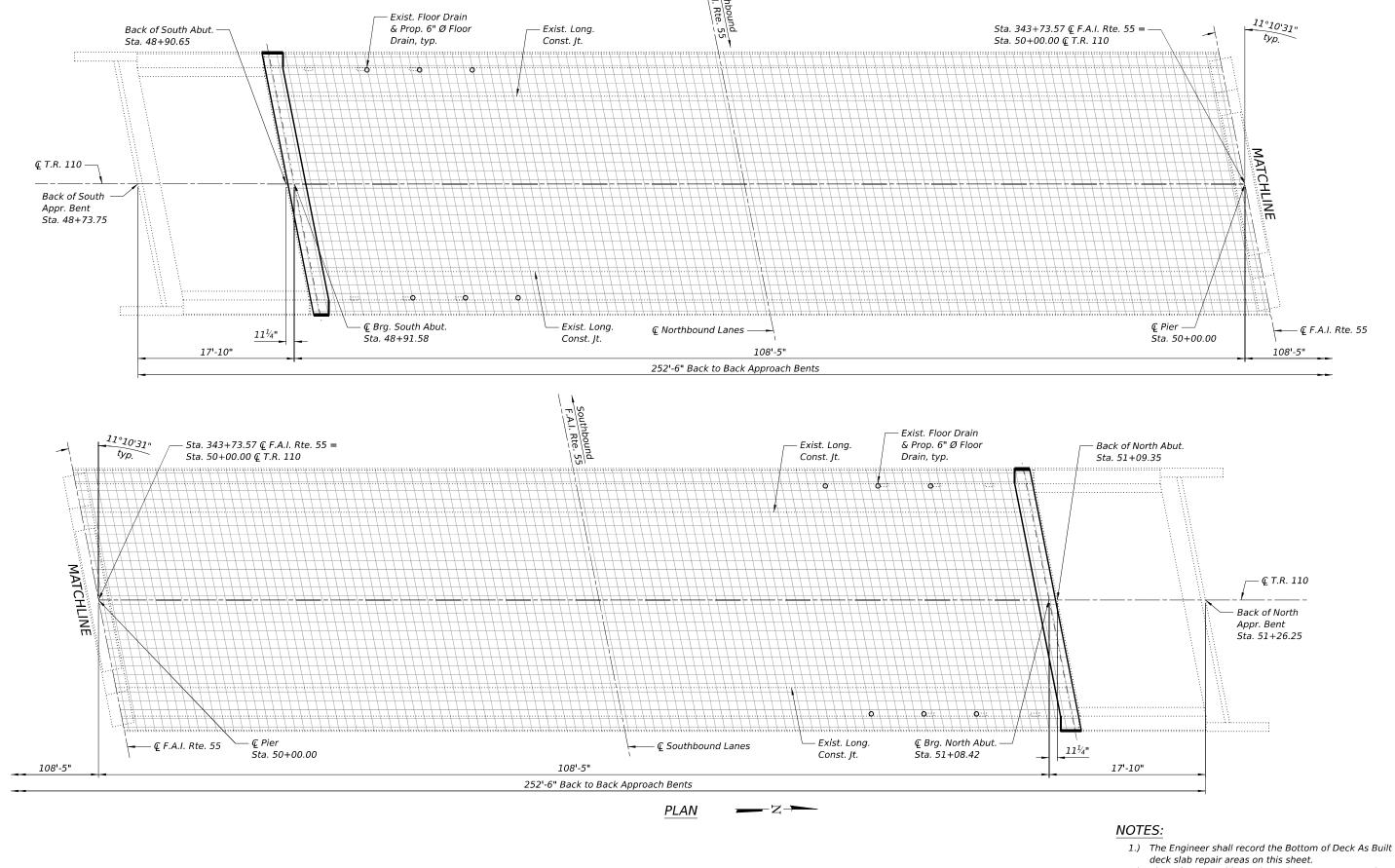
Farnsworth

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

TOP OF DECK AND APPROACH SPAN REPAIRS – AS BUILT STRUCTURE NO. 032–0077



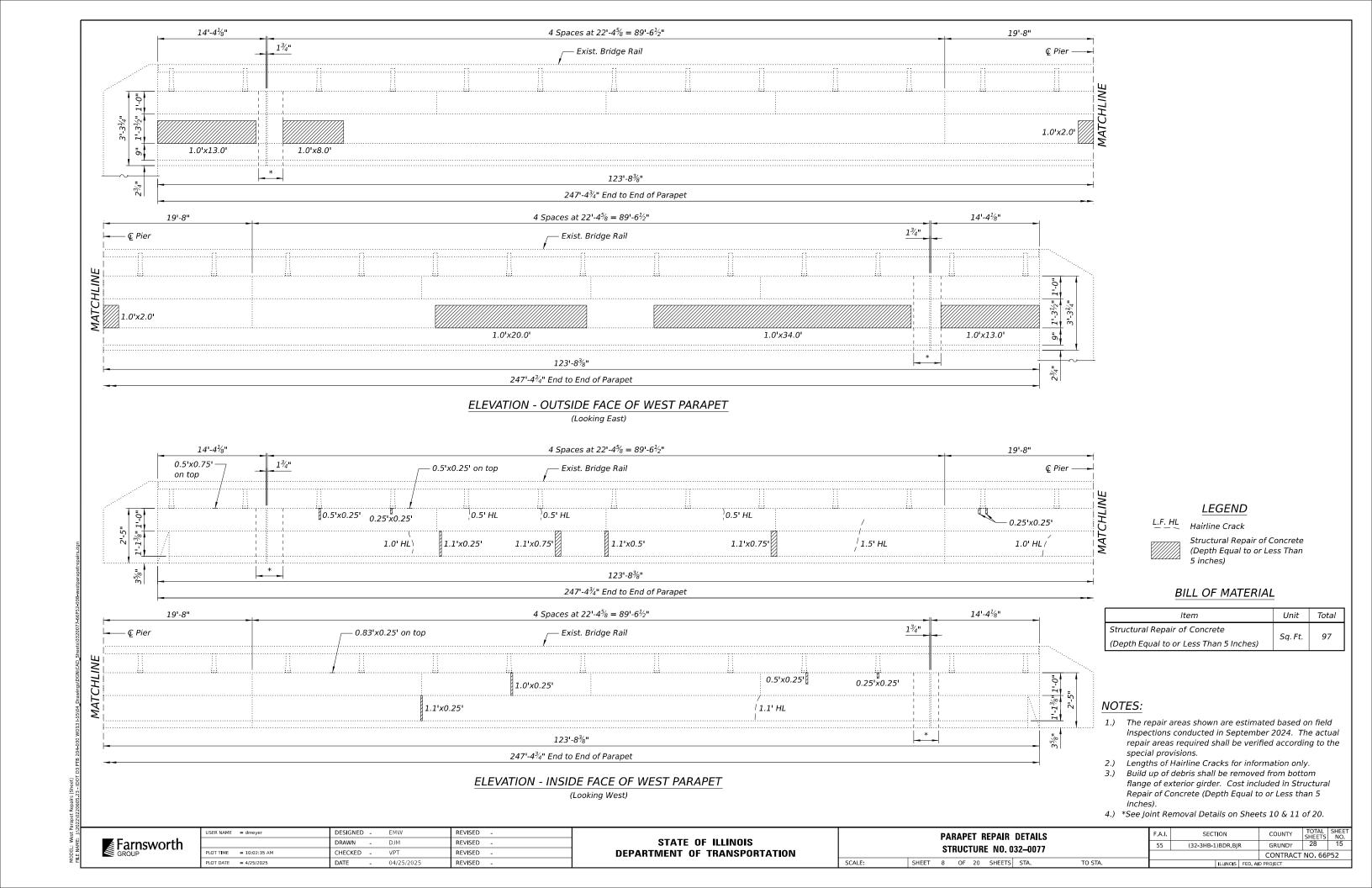


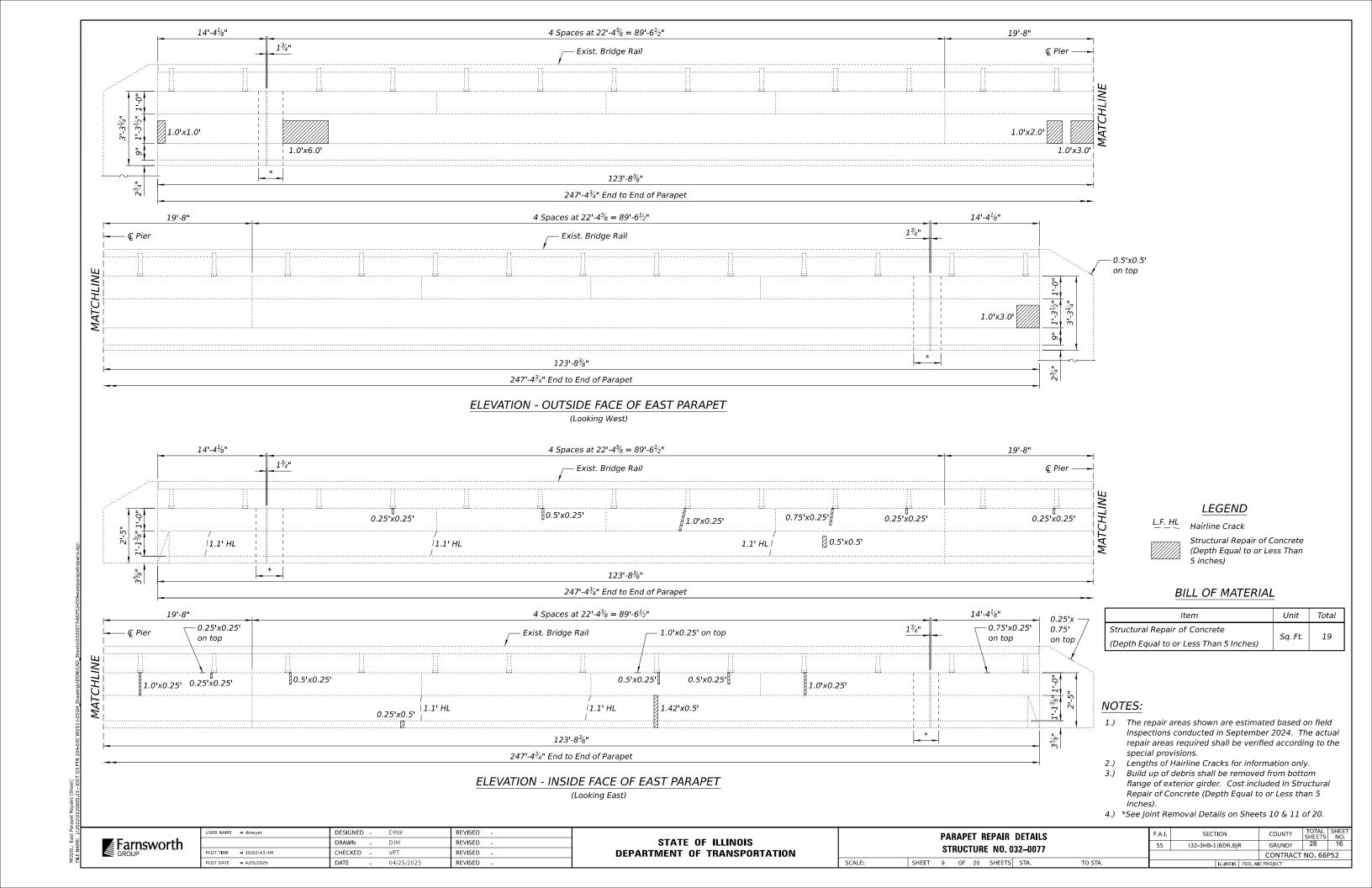
2.) The reference grid was drawn in 1' transverse and longitudinal increments.

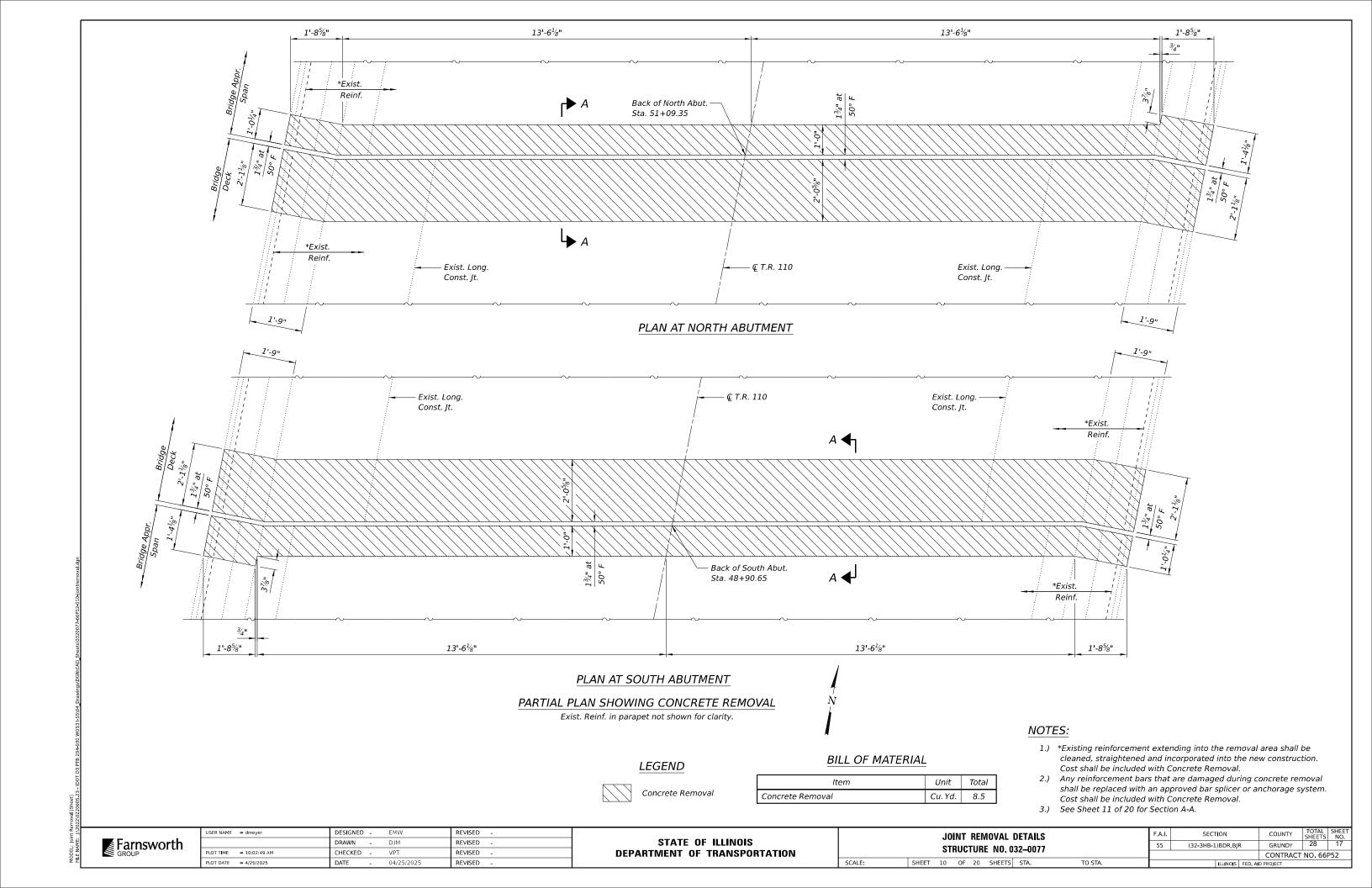
L	USER NAME = dmeyer	DESIGNED -	EIVIVV	REVISED -
ı		DRAWN -	DJM	REVISED -
[	PLOT TIME = 10:02:25 AM	CHECKED -	VPT	REVISED -
	PLOT DATE = 4/25/2025	DATE -	04/25/2025	REVISED -

<b>BOTTO</b>	M	OF C	)ECK	REPAI	IRS – AS	BUILT		
STRUCTURE NO. 032-0077								
CHEET	7	ΩE	20	CHEETC	CTA	TO STA		

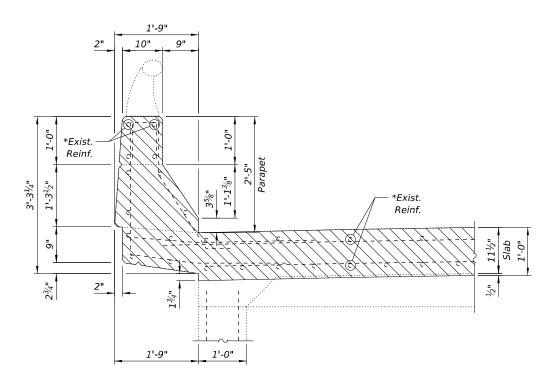
F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHE	
55	(32-3HB-1)BDR,BJF	۲	GRUNDY	28	14
		CONTRACT	NO. 66	P52	
	ILLINOIS	FED AL	D PROJECT		





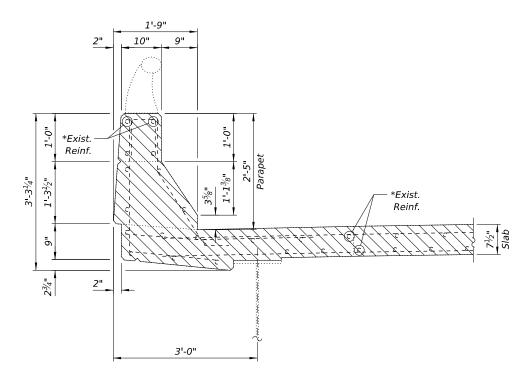


SECTION A-A



# SECTION THRU PARAPET AT APPROACH SPAN

Exist.  $1\frac{1}{2}$ " HMA Wearing Surface & Waterproofing Membrane not shown for clarity.



# SECTION THRU PARAPET AT MAIN SPAN

Exist.  $1\frac{1}{2}$ " HMA Wearing Surface & Waterproofing Membrane not shown for clarity.

LEGEND

SCALE:

Concrete Removal

## -

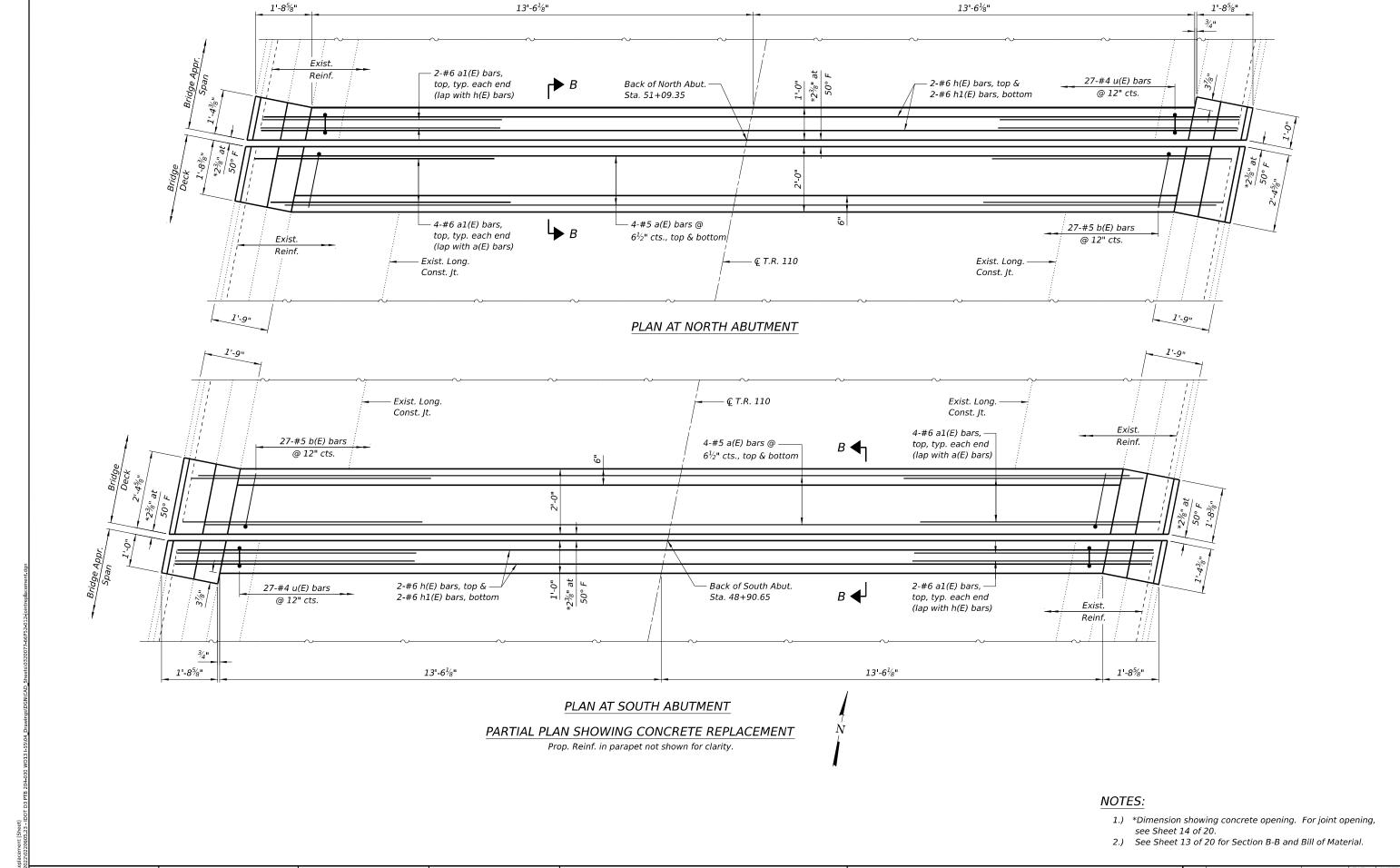
NOTES:

- \*Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Cost shall be included with Concrete Removal.
- 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.
- 3.) See Sheet 10 of 20 for location of Section A-A.

Farnsworth
------------

USER NAME = dmeyer	DESIGNED	-	EMW	REVISED -
	DRAWN	-	DJM	REVISED -
PLOT TIME = 10:02:56 AM	CHECKED	-	VPT	REVISED -
PLOT DATE = 4/25/2025	DATE	-	04/25/2025	REVISED -

	JOINT REMOVAL DETAILS STRUCTURE NO. 032-0077						F.A.I.	SECT	ION		COUNTY	TOTAL SHEETS	SHEET NO.	
							55	(32-3HB-1)BDR,BJR			GRUNDY	28	18	
		- 01			L 140. U	J2-001						CONTRACT	NO. 66	P52
	SHEET	11	OF	20	SHEETS	STA.	TO STA.	ILLINOIS FED AID				D PROJECT		



Farnsworth GROUP

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS

STRUCTURE NO. 032-0077

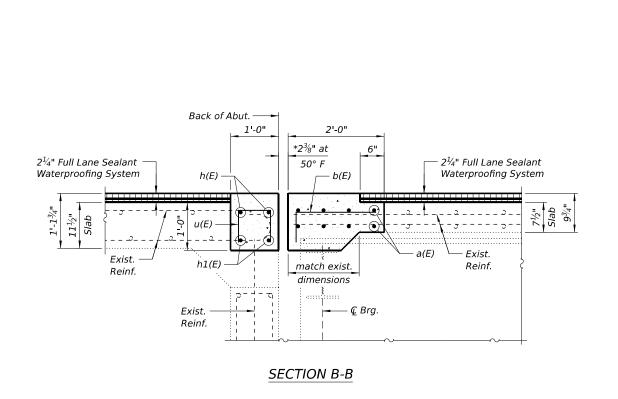
SHEET 12 OF 20 SHEETS STA. TO STA.

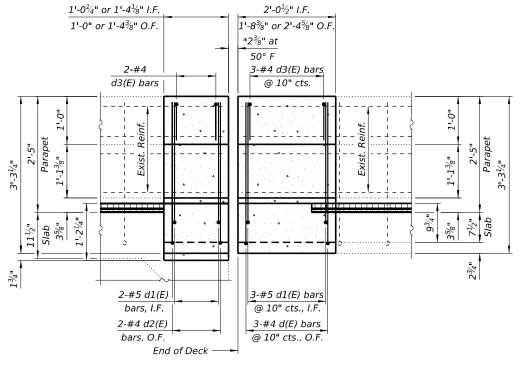
SCALE:

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

55 (32-3HB-1)BDR,BJR GRUNDY 28 19

CONTRACT NO. 66P52

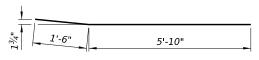




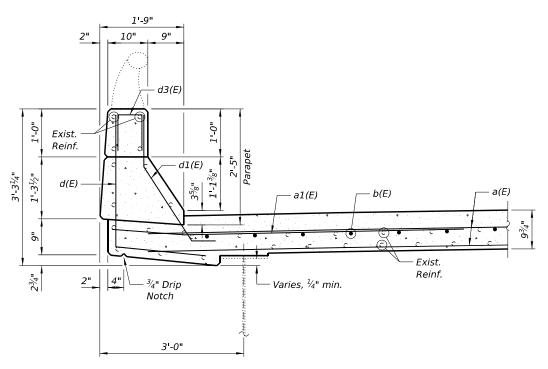
**ELEVATION - INSIDE FACE OF PARAPET** 

### Bar Length Size a(E) 16 #5 28'-6" 24 #6 7'-4" a1(E) b(E) 54 #5 2'-3" d(E) 12 #4 4'-8" d1(E) 20 #5 3'-3" d2(E) 8 #4 6'-1" П 20 #4 2'-1" d3(E) 4 #6 29'-10" h(E) h1(E) 4 #6 26'-8" П 2'-0" u(E) 54 #4 Unit Quantity Item Concrete Superstructure Cu. Yd. 9.3 Reinforcement Bars, Pound 1,440 Epoxy Coated

**BILL OF MATERIAL** 



# BAR a1(E)



# 1'-11" 11" | 6" BAR b(E) BAR d(E) BAR d1(E) 1'-4" 2'-0" BAR d3(E) BAR d2(E) BAR u(E)

# SECTION THRU PARAPET AT APPROACH SPAN

d3(E)

3/4" Drip Notch

1'-0"

1'-9"

- d1(E)

Prop.  $2\frac{1}{4}$ " Full Lane Sealant Waterproofing System not shown for clarity.

# SECTION THRU PARAPET AT MAIN SPAN

SCALE:

Prop. 2<sup>1</sup>/<sub>4</sub>" Full Lane Sealant Waterproofing System not shown for clarity.

# NOTES:

TO STA.

- 1.) \*Dimension showing concrete opening. For joint opening, see Sheet 14 of 20.
- 2.) See Sheet 12 of 20 for location of Section B-B.
- 3.) I.F. denotes Inside Face & O.F. denotes Outside Face.

Farnsworth GROUP
------------------

Exist.

Reinf.

d2(E)

2" 4"

USER NAME = dmeyer	DESIGNED	-	FIMINA	REVISED	-
	DRAWN	-	DJM	REVISED	-
PLOT TIME = 10:03:12 AM	CHECKED	-	VPT	REVISED	-
PLOT DATE = 4/25/2025	DATE	-	04/25/2025	REVISED	-

– a1(E)

STATE OF ILLINOIS

JOINT REPLACEMENT DETAILS STRUCTURE NO. 032–0077							
SHEET	13	OF	20	SHEETS	STA.		

SECTION (32-3HB-1)BDR,BJR 55 GRUNDY CONTRACT NO. 66P52

u(E)

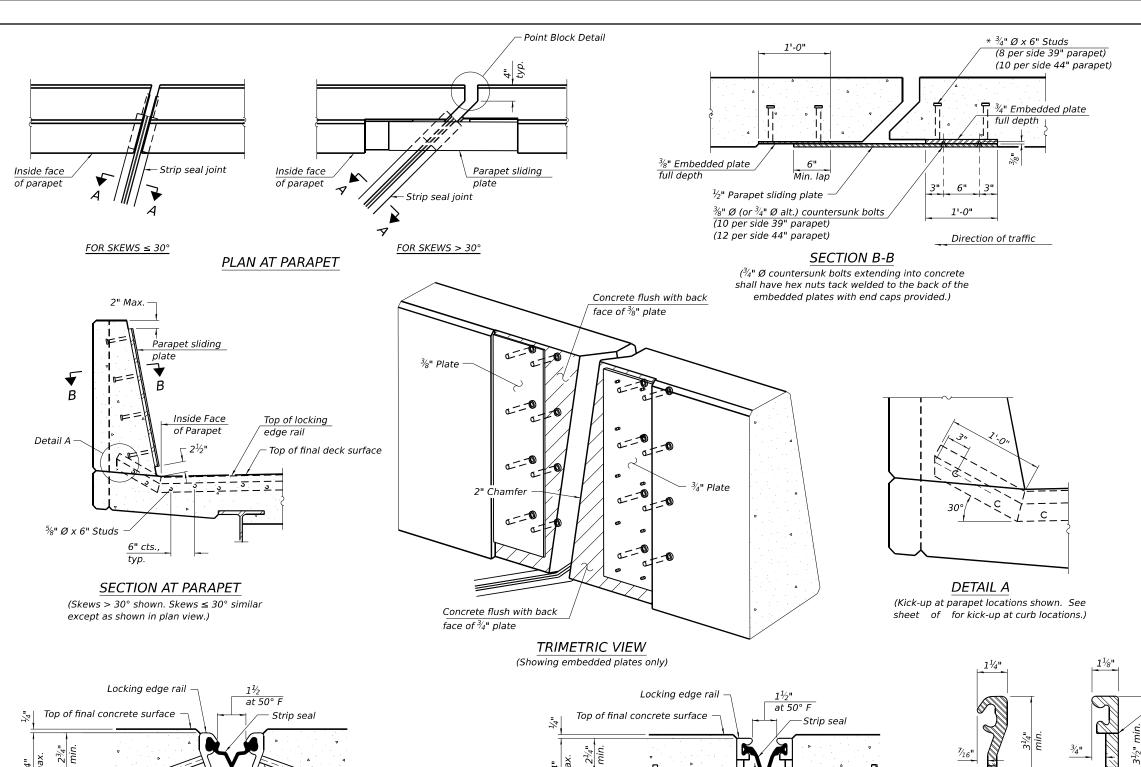
└─ h1(E)

– Exist.

Reinf.

- h(E)

**DEPARTMENT OF TRANSPORTATION** 



Notes:

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

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

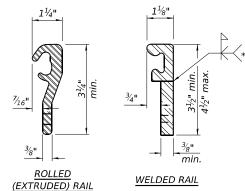
The manufacturer's recommended installation methods

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

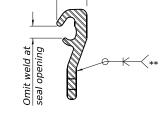
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 39" constant slope barrier shown, 44" constant slope barrier similar as noted.

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



# LOCKING EDGE RAILS

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



flush

# 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	58.0

# SECTION A-A

 $\frac{3}{8}$ " Ø threaded rods in  $\frac{7}{16}$ " Ø holes at 4'-0" ± cts. for holding the proper joint opening based on

the temperature during the deck pour. Place to

miss studs. All rods shall be burned, or sawed

off flush with the plates after concrete is set.

\*  $\frac{5}{8}$ " Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

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

SER NAME = dmeyer DESIGNED -Farnsworth DRAWN

4-4-2025

at 50° I

SHOWING ROLLED RAIL JOINT

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

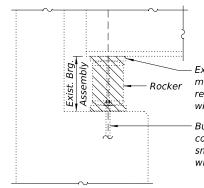
SHOWING WELDED RAIL JOINT

at 50° F

PREFORMED JOINT STRIP SEAL **STRUCTURE NO. 032-0077** SHEET 14 OF 20 SHEETS STA.

SECTION 55 (32-3HB-1)BDR,BIR GRUNDY CONTRACT NO. 66P52

EMW REVISED DIM REVISED HECKED -REVISED PLOT DATE = 4/25/2025 DATE 04/25/2025 REVISED



Exist. plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange. Cost included with Jack and Remove Existing Bearings.

– Burn exist. anchor bolts flush with exist. concrete surface. Grind exist. anchor bolt smooth and seal with epoxy. Cost included with Jack and Remove Existing Bearings.

# EXISTING ABUTMENT BEARING REMOVAL DETAIL



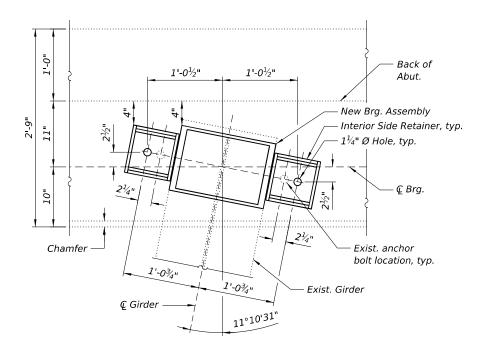
To be Removed

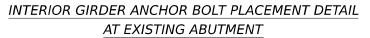
# GIRDER REACTION TABLE

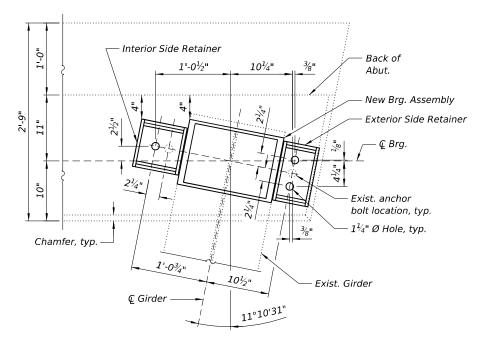
		Abut.
$R_{DL}$	(K)	60
$R_{LL}$	(K)	36
R <sub>IMP</sub>	(K)	8
R <sub>TOTAL</sub>	(K)	104

# **BILL OF MATERIAL**

Item	Unit	Total
Jack and Remove Existing Bearings	Each	8



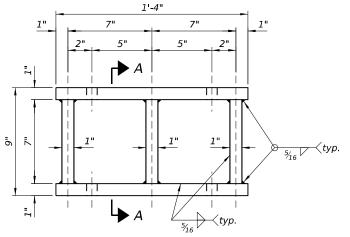




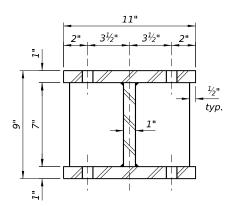
# EXTERIOR GIRDER ANCHOR BOLT PLACEMENT DETAIL AT EXISTING ABUTMENT

# 

PLAN STEEL EXTENSION



**ELEVATION STEEL EXTENSION** 



# SECTION A-A

SCALE:

# NOTES:

SHEET 15 OF 20 SHEETS STA.

- 1.) Prior to ordering any material, the Contractor shall verify in the field all bearing heights and shim thickness dimensions for each bearing. Adjustment must account for deck heave due to pack rust (if present).
- 2.) All existing bearings at each abutment shall be removed and replaced with Elastomeric Bearing Assembly, Type I. Bearing replacement shall be completed after removal of existing concrete at the expansion joint but prior to construction of the new expansion joint and the installation of the Full Lane Sealant Waterproofing System
- 3.) Min. jack capacity per girder at each Abutment = 62 tons.
- 4.) The Contractor shall submit, for approval by the Engineer, plans for jacking existing girders and removing the existing bearings prior to commencing any related work. See Special Provisions.
- Diaphragms shall not be used as load-carrying members in the jacking and cribbing system, without written approval from the Engineer.

Farnsworth GROUP

USER NAME = dmeyer	DESIGNED - EMW	REVISED -
	DRAWN - DJM	REVISED -
PLOT TIME = 10:03:26 AM	CHECKED - VPT	REVISED -
PLOT DATE = 4/25/2025	DATE - 04/25/2025	REVISED -

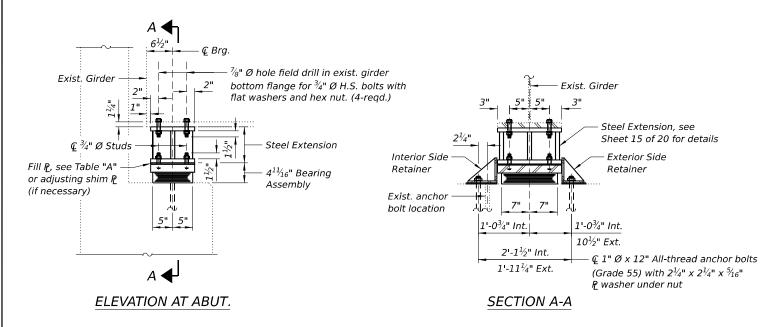
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS	F.A.I.	SECTION
STRUCTURE NO. 032-0077	55	(32-3HB-1)BDR,BJR
3111001011L 110.032-0077		

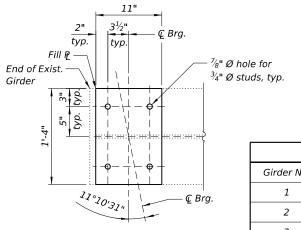
TO STA.

F.A.I.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(32-3HB-1)BDR,BJR	GRUNDY	28	22
		CONTRACT	NO. 66	P52
	ILLINOIS FED	. AID PROJECT		

MODEL: Bearing [Sheet]
FILE NAME: IN2022/0220605 23 - IDOT



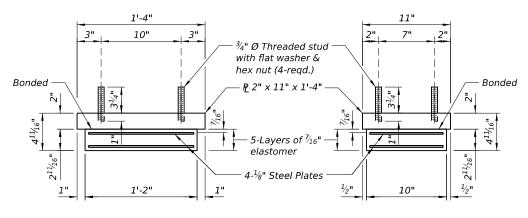
# TYPE I ELASTOMERIC EXP. BRG.



FILL PLATE DETAIL

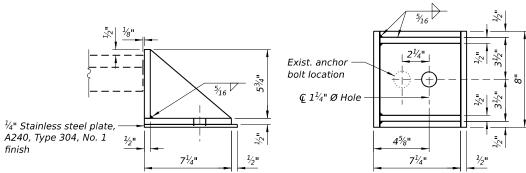
# TABLE "A"

Fill Plate Thickness (in.)						
Girder No.	North Abut.					
1	0	0				
2	0	3/8"				
3	3/8"	0				
4	0	0				



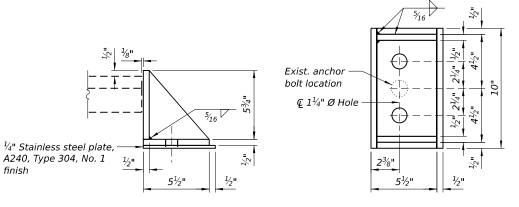
# BEARING ASSEMBLY

Shim plates shall not be placed under bearing assembly.



# INTERIOR SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. (12-regd.)



# **EXTERIOR SIDE RETAINER**

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. (4-reqd.)

SCALE:

# **BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1,510
Anchor Bolts, 1"	Each	20
Elastomeric Bearing Assembly, Type I	Each	8

## **NOTES:**

- 1.) Prior to ordering any material, the Contractor shall verify in the field all bearing heights and shim thickness dimensions for each bearing. Adjustment must account for deck heave due to pack rust (if present).
- 2.) All existing bearings at each abutment shall be removed and replaced with Elastomeric Bearing Assembly, Type I. Bearing replacement shall be completed after removal of existing concrete at the expansion joint but prior to construction of the new expansion joint and the installation of the Full Lane Sealant Waterproofing System.
- 3.) See Sheet 15 of 20 for details related to Jack and Remove Existing Bearings.
- 4.) Steel extensions, shim & and connection bolts shall be paid for as Furnishing and Erecting Structural Steel. For steel extensions, see details on Sheet 15 of 20.
- 5.) Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material of the grade(s) and diameter(s) specified). Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- 6.) Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
- Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
- 8.) Two  $\frac{1}{8}$  in. adjusting shims shall be provided for each bearing in addition to all other plates of shims and placed as shown on bearing details.

# Farnsworth

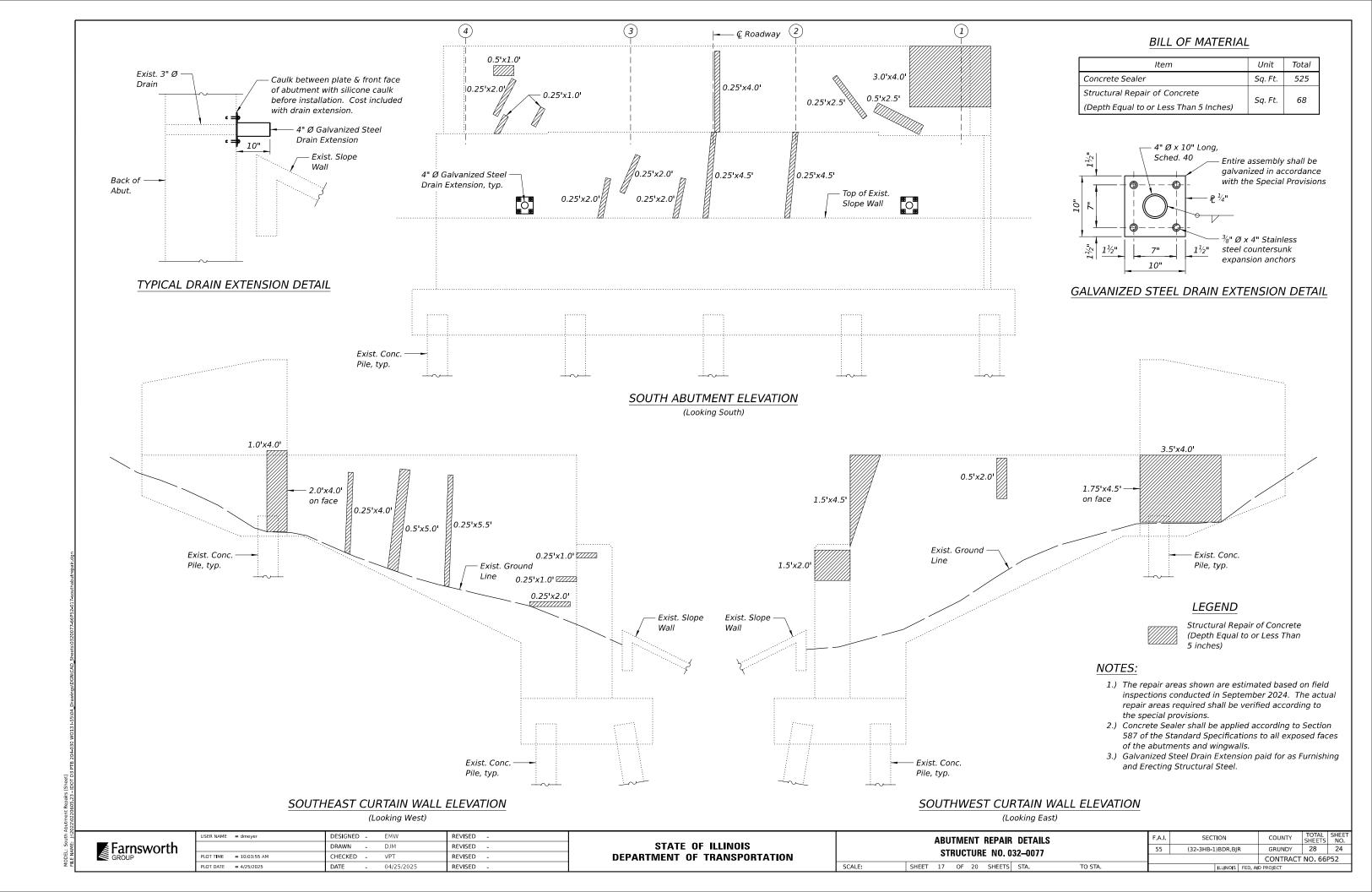
USER NAME = dmeyer	DESIGNED	-	EMW	REVISED	-
	DRAWN	-	DJM	REVISED	-
PLOT TIME = 10:03:36 AM	CHECKED	-	VPT	REVISED	-
PLOT DATE = 4/25/2025	DATE	-	04/25/2025	REVISED	-

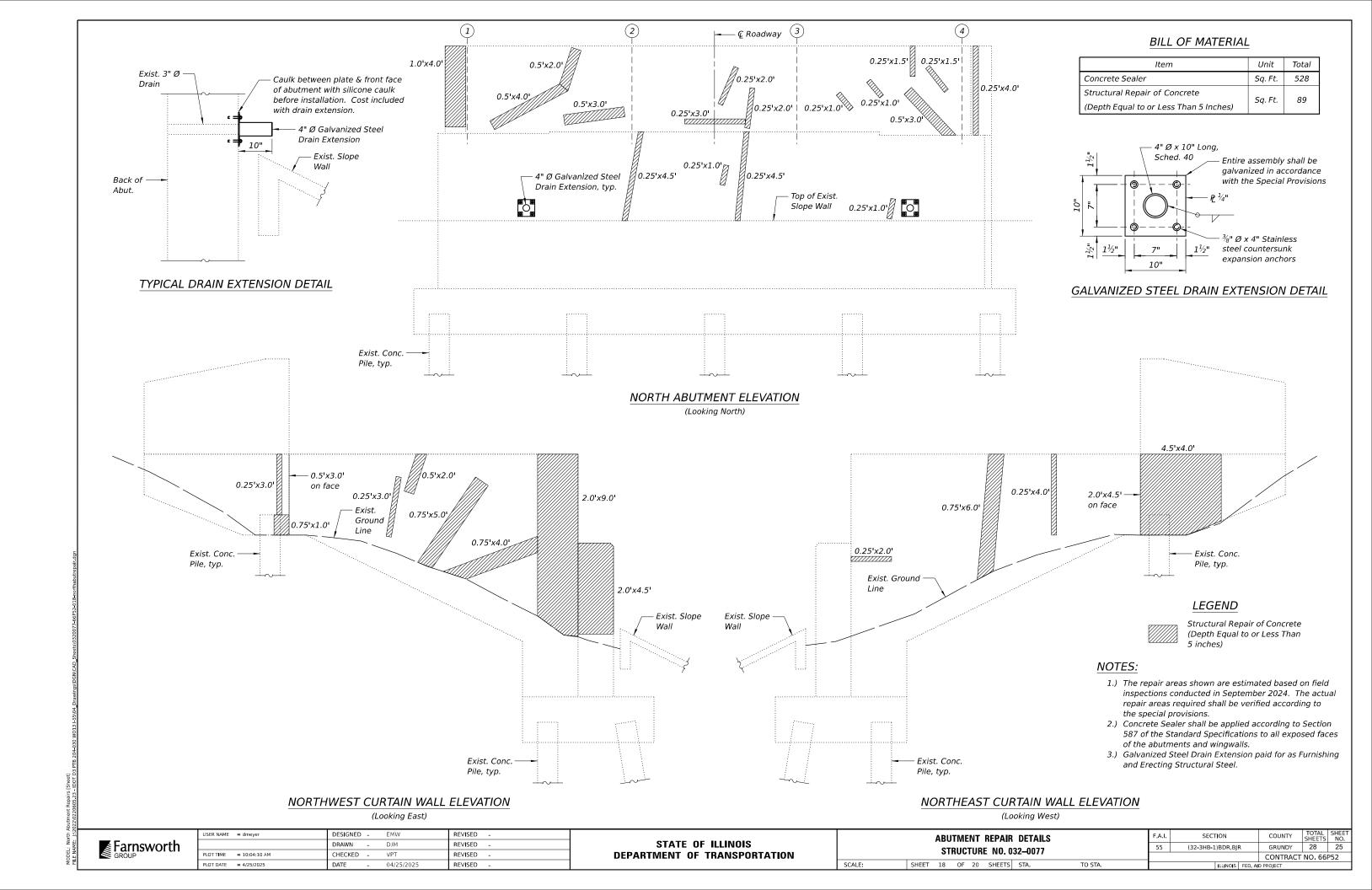
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

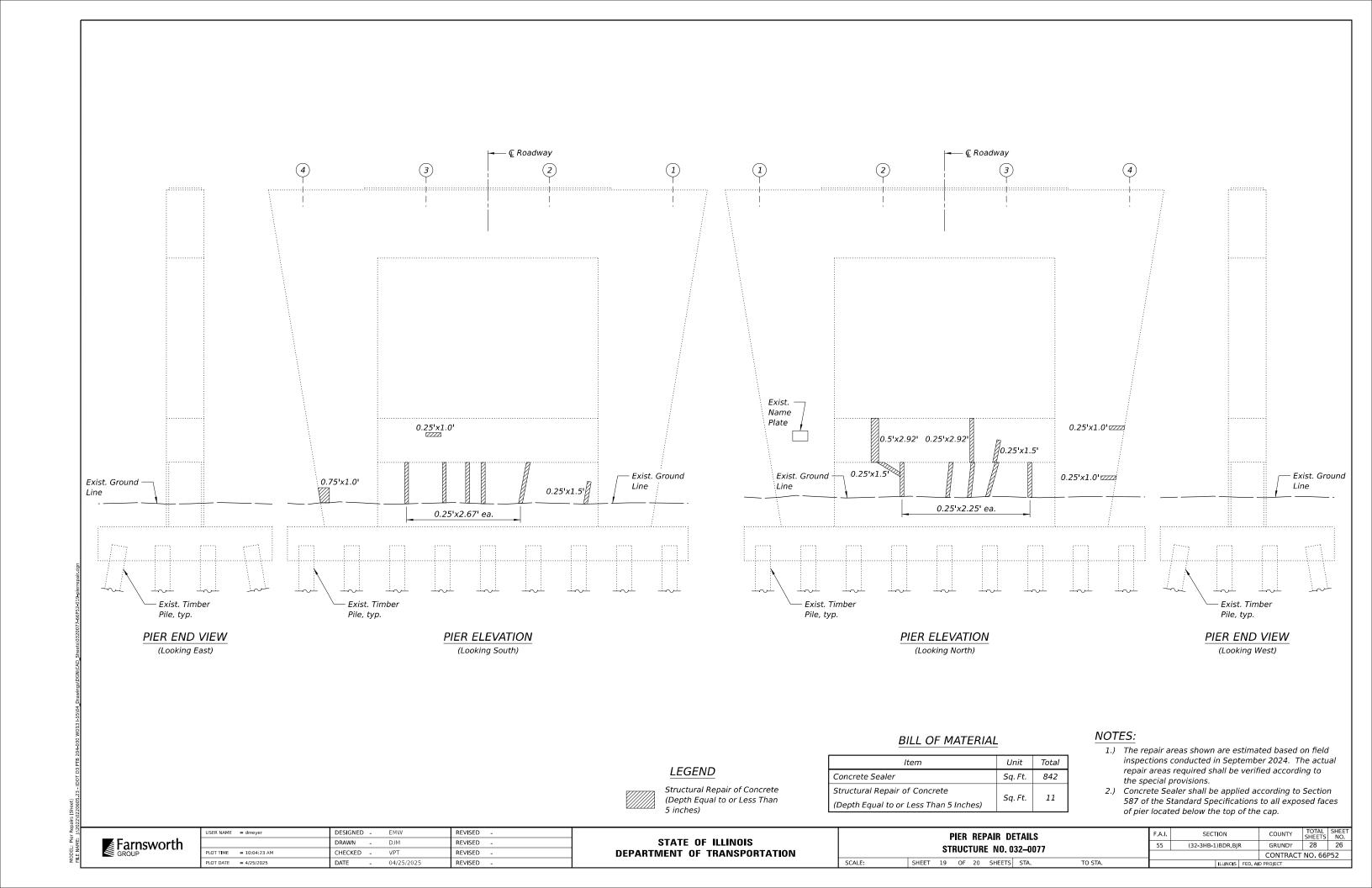
BEARING DETAILS STRUCTURE NO. 032-0077									Ş
									(32 <b>-</b> 31
31110010HL 110, 032-0077									
	SHEET	16	OF	20	SHEETS	STA.	TO STA.		

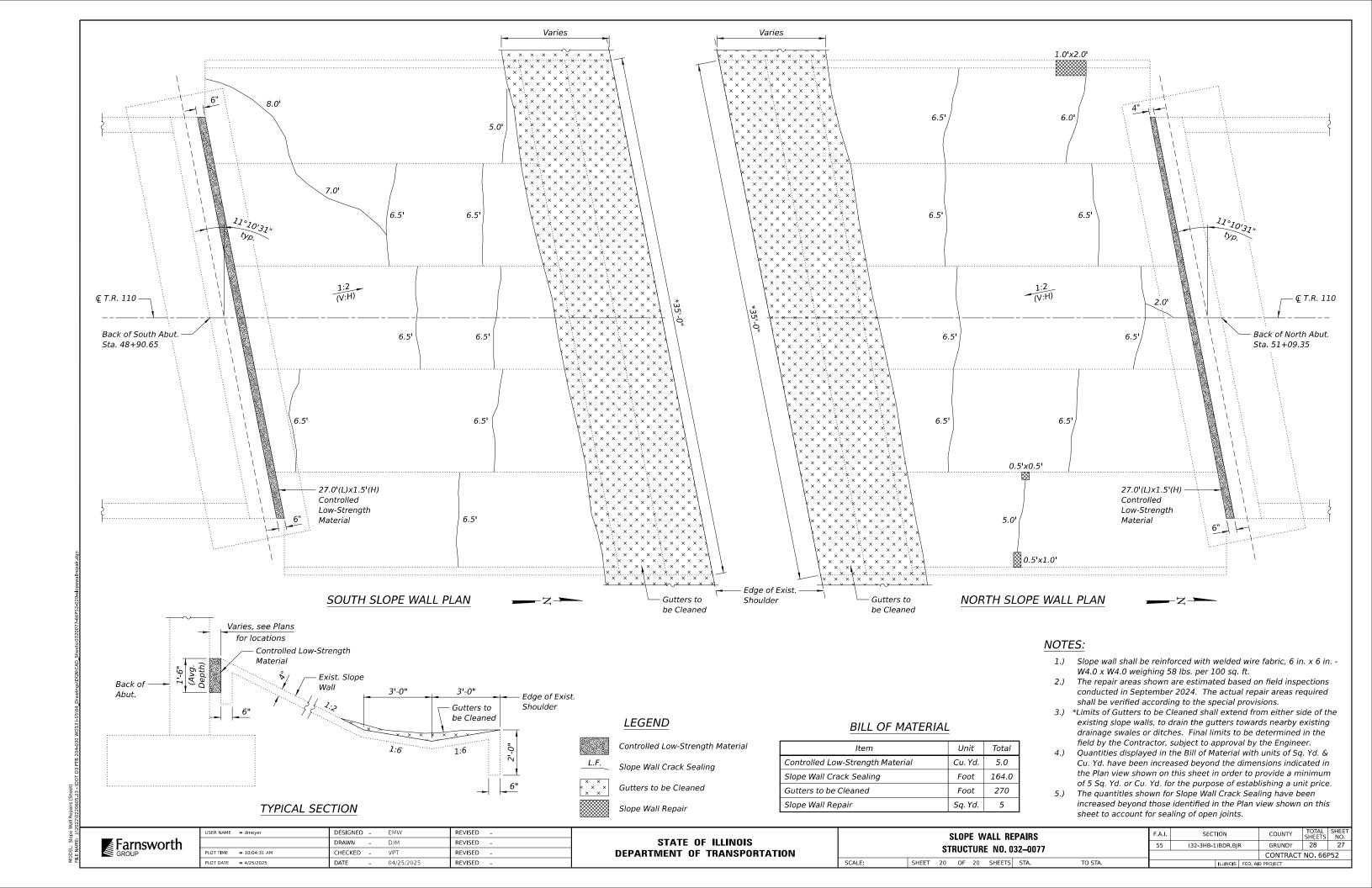
COUNTY TOTAL SHEETS NO.

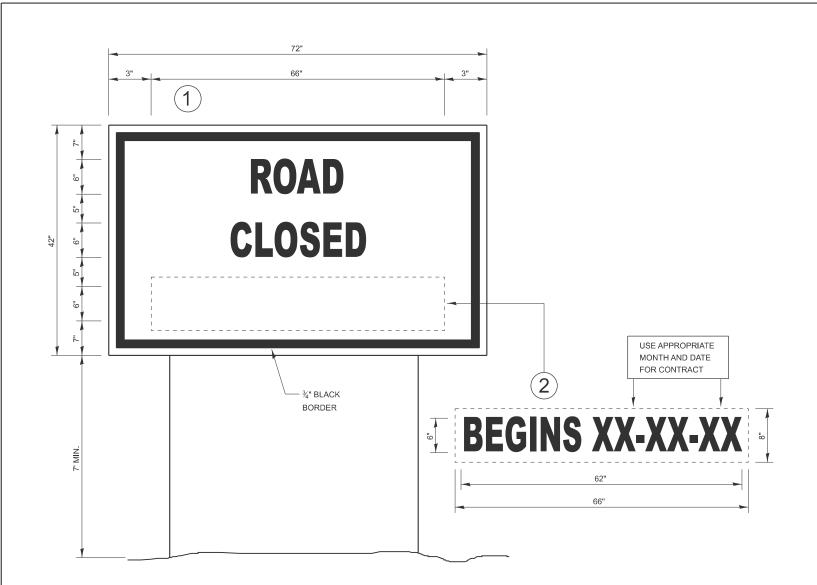
GRUNDY 28 23 SECTION 3HB-1)BDR,BIR CONTRACT NO. 66P52







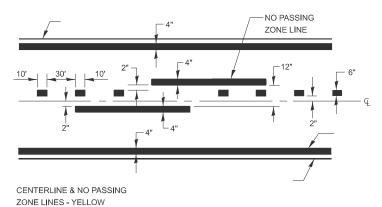




# **TEMPORARY INFORMATION SIGNING**

# NOTES:

- 1. USE 6" D BLACK LETTERING ON FLUORESCENT ORANGE BACKGROUND.
- ERECT SIGNS AT LOCATIONS IN ADVANCE OF THE "ROAD CONSTRUCTION AHEAD" SIGNS AS DIRECTED BY THE ENGINEER.
- 3. ERECT SIGN①WITH INSTALLED PANEL②A MINIMUM OF ONE WEEK PRIOR TO THE START OF THE ROAD CLOSURE.
- 4. REMOVE PANEL ON THAT DATE.
- 5. SEE SPECIAL PROVISION "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
- 6. WILL BE PAID FOR PER SQ FT AS "TEMPORARY INFORMATION SIGNING". EACH SIGN = 21 SQ FT AND THE DATE PANEL WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.



# **PAVEMENT MARKING**

USER NAME = Scott.Ferguson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 3/31/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAIL O							SECTION		COUNTY	TOTAL SHEETS	SHEET NO.	
DETAILS						55	(32-3HB-1)BDR,BJR GRUNDY		GRUNDY	28	28	
									CONTRACT	NO. 66F	P52	
	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT						