

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

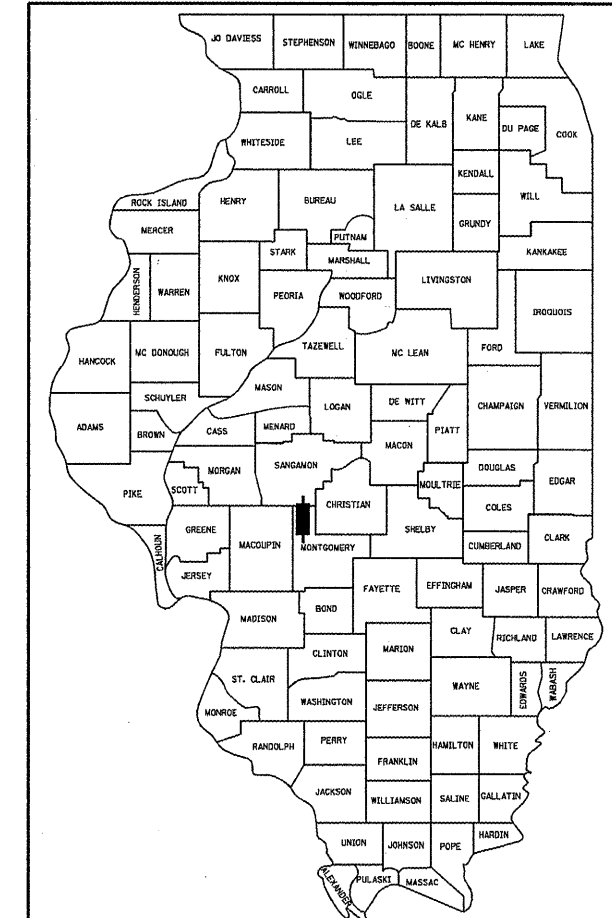
**PROPOSED
HIGHWAY PLANS**

FAI 55 (I-55)
SECTION (68-4)F
PROJECT : IM-055-2(120)072
MONTGOMERY COUNTY
C-96-007-09

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	(68-4)F	MONTGOMERY	25	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 72C32	

• FAI 55

D-96-007-09



LOCATION OF SECTION INDICATED THUS: - ■ -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 10 20 08
Rosen - Driskill
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

December 5, 20 08
Eric E. Horn
INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

December 5, 20 08
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

BLANK, WESSELINK, COOK & ASSOCIATES
ENGINEERS - CONSULTANTS
DECATUR, ILLINOIS

INDEX OF SHEETS

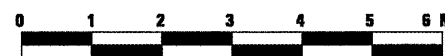
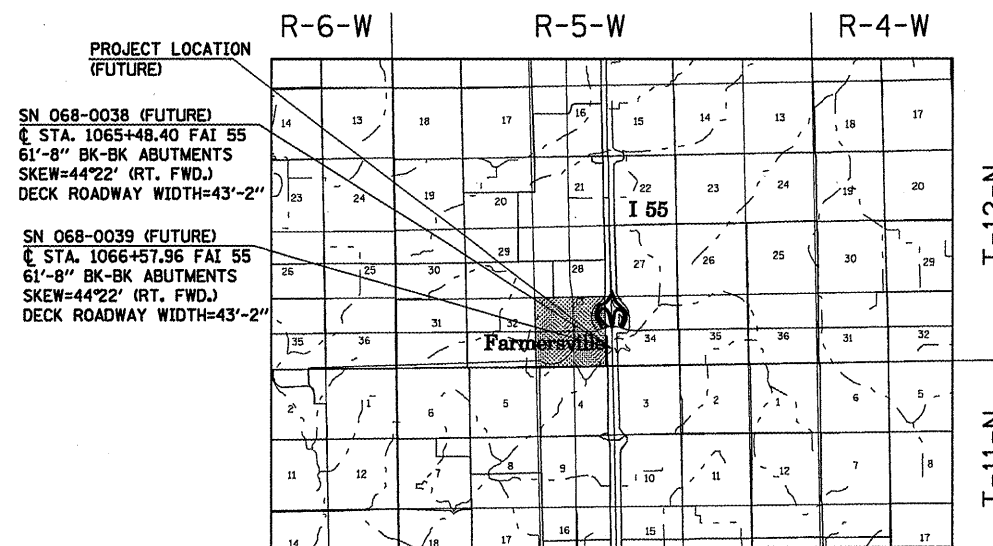
- 1 COVER SHEET
- 2 SIGNATURE BLOCK, SUMMARY OF QUANTITIES
- 3-25 BRIDGE PLANS - SN 068-0038 & SN 068-0039

HIGHWAY STANDARDS

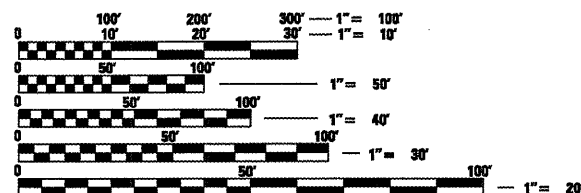
- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT

PROJECT DESCRIPTION

FURNISHING AND STORAGE OF STRUCTURAL STEEL
FOR S.N. 068-0038 AND S.N. 068-0039



APPROXIMATE SCALE IN MILES



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.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: SAL MADONIA (217) 782-4761
SQUAD LEADER: JEFF MYERS (217) 524-7940

CONTRACT NO. 72C32

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

90% FED.
10% STATE

PAY CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY INTERSTATE MAINTENANCE
50500205	FURNISHING STRUCTURAL STEEL	L SUM	X03I-2A 1
50500455	STORAGE OF STRUCTURAL STEEL	CAL DA	60

DISTRICT SIX	
EXAMINED	September 22 20 08 <i>Rami Hoan</i>
OPERATIONS ENGINEER	
EXAMINED	Oct 10 20 08 <i>W.R.J.</i>
PROGRAM IMPLEMENTATION ENGINEER	
EXAMINED	Oct 10 20 08 <i>W.R.J.</i>
PROGRAM DEVELOPMENT ENGINEER	

FILE NAME =	USER NAME = leughlinr1	DESIGNED -	REVISED -
c:\pwwork\PWIDOT\LAUGHLINRL\dms66283\refebQuantitiesSummary.dgn		DRAWN -	REVISED -
PLOT SCALE = 40.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = Oct-09-2008 01:42:28PM		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
.	(68-4)F	MONTGOMERY	25	2
* FAI 55		CONTRACT NO. 72C32		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

Bench Mark: Chiseled "□" on retaining wall at the N.W. corner of I-55 NBL S.N. 068-0038 Sta. 1065+39.50, 35' Lt. NAVD 88 = 630.51 ft.

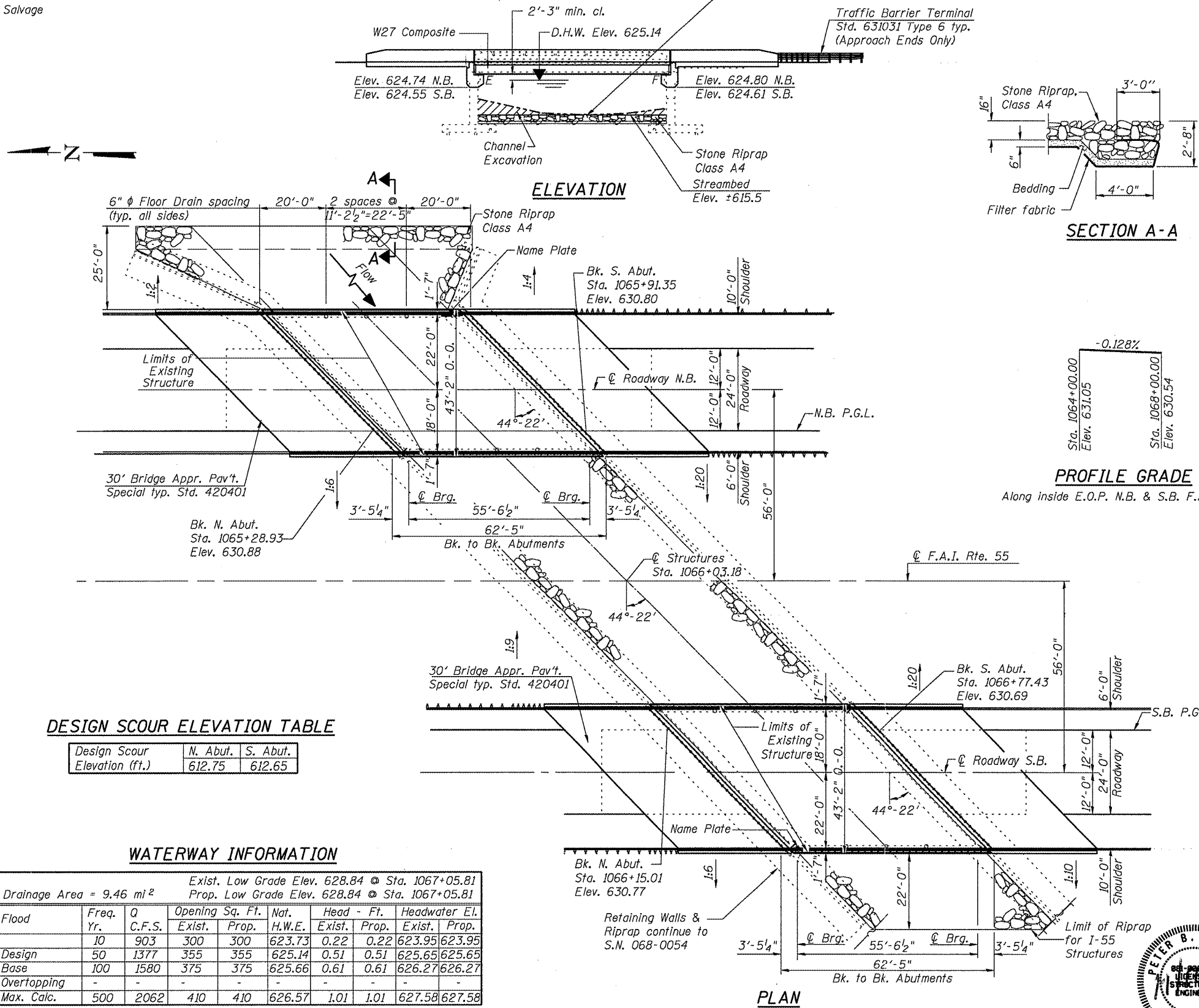
Existing Structure: S.N. 068-0038 N.B. and S.N. 068-0039 S.B. Built in 1970 as F.A.I. Rte. 55, Section 68-4B-1 at Sta. 1066+03.18. Existing dual structures each consist of 1-span precast, prestressed concrete deck beams supported by closed abutments on steel piled footings. 61'-8" Bk to Bk of abutments and 42.00' out to out of decks. Superstructures are to be removed and replaced with reinforced concrete deck slabs on steel stringers. Existing abutment caps to be removed and replaced.

Traffic is to be maintained using a staged detour with adjacent structures.

No Salvage

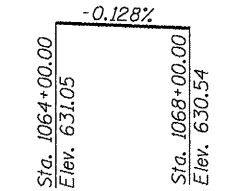
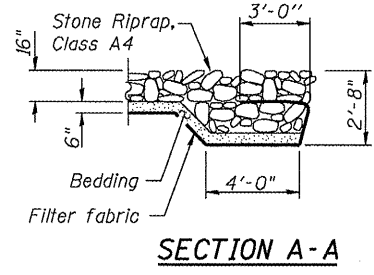
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
F.A.I. 55	(68-4)F	MONTGOMERY	3	3	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72C32



INDEX OF SHEETS

- 1 General Plan
- 2 General Notes and Bill of Material
- 3-5 Top of Slab Elevations
- 6-7 Top of Approach Elevations
- 8 Superstructure Plan
- 9 Superstructure Details
- 10 Expansion Joint Details
- 11 Framing Plan & Steel Details
- 12 Bearing Details
- 13 Bar Splicer Assembly Details
- 14 Concrete Removal Details
- 15-18 Abutment Details
- 19-22 Abutment and Retaining Wall Concrete Repair
- 23 Cantilever Forming Bracket Detail



STATION 1066+03.18
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 68-4B-1
LOADING HS20 & ALT
STR. NO. 068-0038

STATION 1066+03.18
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 68-4B-1
LOADING HS20 & ALT
STR. NO. 068-0039

NAME PLATE
See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates

LOADING HS20-44 & ALT.
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES
PROPOSED FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

EXISTING FIELD UNITS
fc = 1,000 psi
fs = 20,000 psi

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 5.5%g
Site Coefficient (S) = 1.5

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut. 612.75	S. Abut. 612.65
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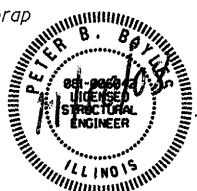
WATERWAY INFORMATION

Drainage Area = 9.46 mi²
Exist. Low Grade Elev. 628.84 @ Sta. 1067+05.81
Prop. Low Grade Elev. 628.84 @ Sta. 1067+05.81

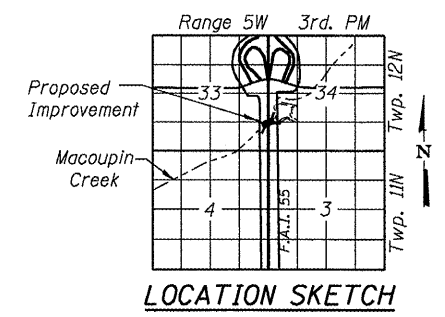
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	903	300	300	623.73	0.22	0.22	623.95	623.95
Base	50	1377	355	355	625.14	0.51	0.51	625.65	625.65
Max. Calc.	100	1580	375	375	625.66	0.61	0.61	626.27	626.27
Overtopping	-	-	-	-	-	-	-	-	-
10 year velocity through existing bridge	= 2.88 fps								
10 year velocity through proposed bridge	= 2.87 fps								

APPROVED
For Structural Adequacy Only

Ralph E. Anderson
Engineer of Bridges & Structures



Peter B. Bayles
Peter B. Bayles, P.E., S.E.
Structural Engineer License No. 081-006042
Expiration Date: 11/30/2010



ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
REVISED:
DRAWN BY: MLO
CHECKED BY: PBB

Contract #72C32

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{3}{4}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.

Calculated weight of structural steel = 102,150 lbs.

All structural steel shall be AASHTO M270 Grade 50W, except expansion joints which shall be AASHTO M270 Grade 36.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Concrete Sealer shall be applied to the designated areas of the Abutment Seats, Backwall and Abutment Face.

Structural steel shall only be painted for a distance of 7 ft. each way from the deck joints. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

All exposed structural steel of the bearings shall be cleaned and shop painted as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures.

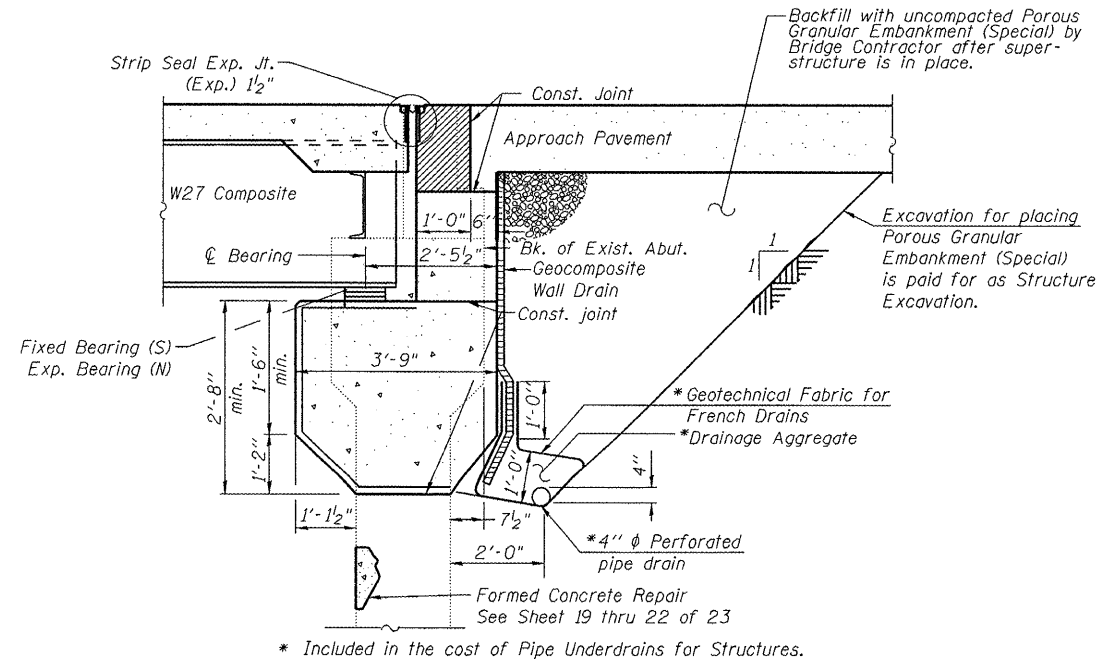
Slipforming of the parapets is not allowed.

Existing name plate shall be cleaned and relocated next to new name plate. Cost included with name plates.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
▲ Porous Granular Embankment (Special)	Cu. Yd.		188	188
▲ Stone Riprap, Class A4	Sq. Yd.		1332	1332
▲ Filter Fabric	Sq. Yd.		1332	1332
▲ Removal of Existing Superstructures	Each	2		2
▲ Concrete Removal	Cu. Yd.		115	115
▲ Structure Excavation	Cu. Yd.		193	193
▲ Floor Drains	Each	12		12
▲ Concrete Structures	Cu. Yd.		135	135
▲ Concrete Superstructure	Cu. Yd.	154.9		154.9
▲ Bridge Deck Grooving	Sq. Yd.	488		488
▲ Protective Coat	Sq. Yd.	610		610
Furnishing				
Structural Steel	L. Sum	1		1
▲ Stud Shear Connectors	Each	2940		2940
▲ Reinforcement Bars, Epoxy Coated	Pound	34290	18160	52450
▲ Bar Splicers	Each	160		160
▲ Name Plates	Each	2		2
▲ Preformed Joint Strip Seal	Foot	232		232
▲ Elastomeric Bearing Assembly Type I	Each	14		14
▲ Anchor Bolts, 1"	Each	56		56
▲ Geocomposite Wall Drain	Sq. Yd.		142	142
▲ Pipe Underdrains for Structures 4"	Foot		511	511
▲ Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.		407	407
▲ Asbestos Bearing Pad Removal	Each	56		56
▲ Concrete Sealer	Sq. Ft.		2315	2315

▲ For Information Only



SECTION THRU CLOSED ABUTMENT

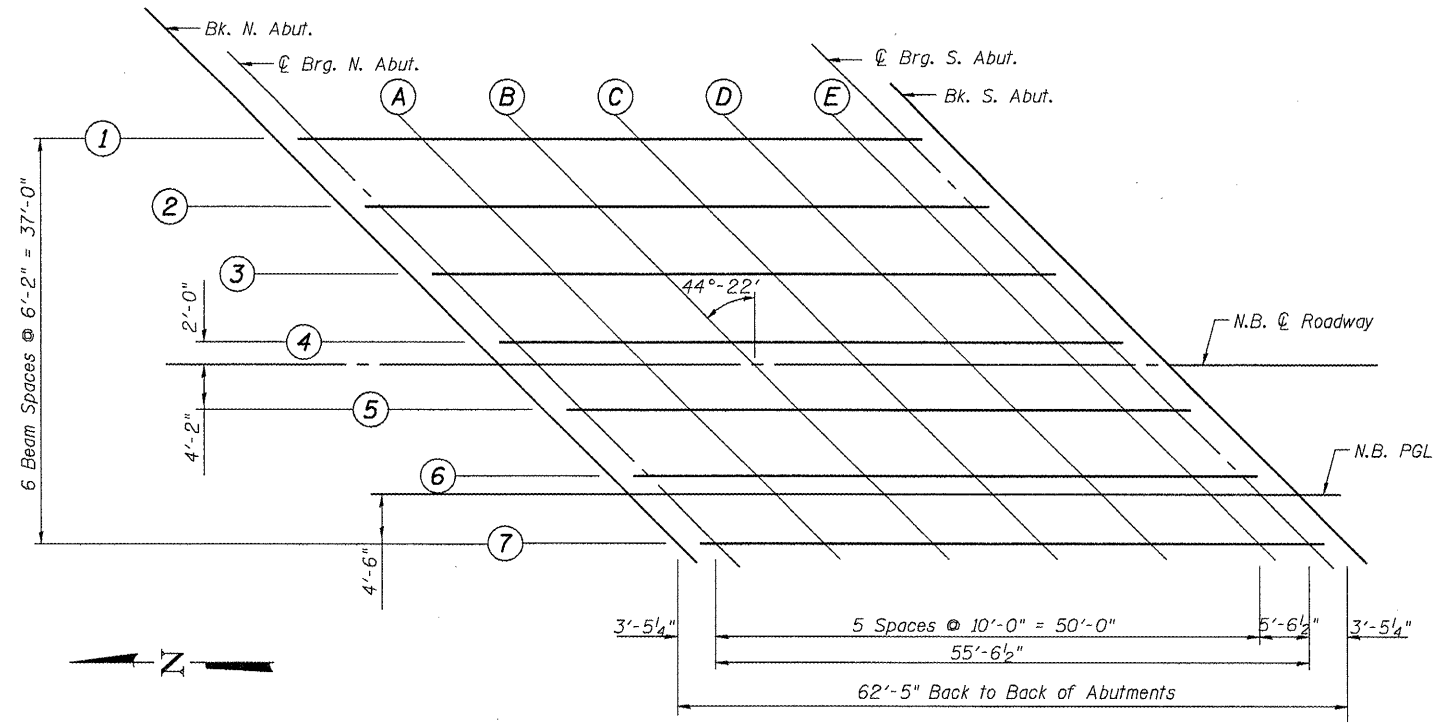
(Horiz. dim. @ Rt. L's)

Note:

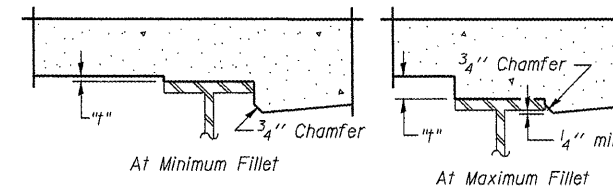
All drainage system components shall extend to 2'-0" from the end of each abutment wall onto retaining wall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. In the median the outlet pipe shall be capped and sealed. Cost included in Pipe Underdrains for Structures 4". (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 55	(68-4)F	MONTGOMERY	25	5
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

Contract #72C32

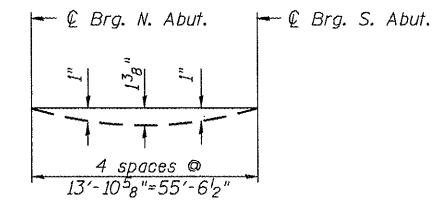


PLAN S.N. 068-0038



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 and 5 of 23, minus slab thickness, equals the fillet heights "t" above top flange of beams.

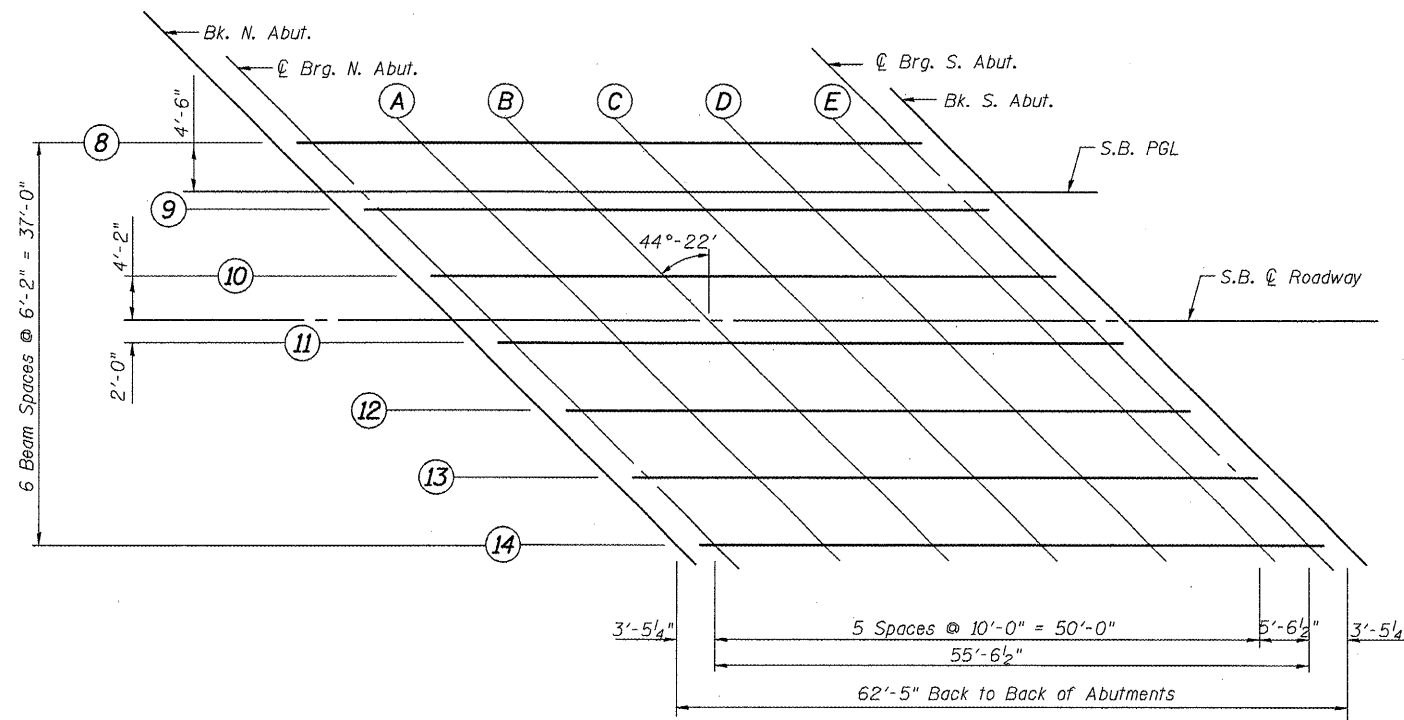
FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4 and 5 of 23.



PLAN S.N. 068-0039

FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS (1 OF 3)
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
 REVISED:
 DRAWN BY: MLO
 CHECKED BY: PBB

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1064+97.14	-20.50	630.75	630.75
☉ Brg. N. Abut	1065+00.58	-20.50	630.75	630.75
A	1065+10.58	-20.50	630.73	630.81
B	1065+20.58	-20.50	630.72	630.84
C	1065+30.58	-20.50	630.71	630.85
D	1065+40.58	-20.50	630.69	630.80
E	1065+50.58	-20.50	630.68	630.72
☉ Brg. S. Abut.	1065+56.12	-20.50	630.67	630.67
Bk. S. Abut.	1065+59.56	-20.50	630.67	630.67

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+03.17	-14.33'	630.87	630.87
☉ Brg. N. Abut	1065+06.61	-14.33'	630.87	630.87
A	1065+16.61	-14.33'	630.85	630.92
B	1065+26.61	-14.33'	630.84	630.96
C	1065+36.61	-14.33'	630.83	630.96
D	1065+46.61	-14.33'	630.81	630.91
E	1065+56.61	-14.33'	630.80	630.84
☉ Brg. S. Abut.	1065+62.15	-14.33'	630.79	630.79
Bk. S. Abut.	1065+65.59	-14.33'	630.79	630.79

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+09.20	-8.17'	630.97	630.97
☉ Brg. N. Abut	1065+12.64	-8.17'	630.97	630.97
A	1065+22.64	-8.17'	630.95	631.02
B	1065+32.64	-8.17'	630.94	631.06
C	1065+42.64	-8.17'	630.93	631.06
D	1065+52.64	-8.17'	630.91	631.01
E	1065+62.64	-8.17'	630.90	630.94
☉ Brg. S. Abut.	1065+68.18	-8.17'	630.89	630.89
Bk. S. Abut.	1065+71.62	-8.17'	630.89	630.89

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+15.23	-2.00'	631.06	631.06
☉ Brg. N. Abut	1065+18.67	-2.00'	631.06	631.06
A	1065+28.67	-2.00'	631.04	631.11
B	1065+38.67	-2.00'	631.03	631.15
C	1065+48.67	-2.00'	631.02	631.15
D	1065+58.67	-2.00'	631.00	631.10
E	1065+68.67	-2.00'	630.99	631.03
☉ Brg. S. Abut.	1065+74.21	-2.00'	630.98	630.98
Bk. S. Abut.	1065+77.65	-2.00'	630.98	630.98

N.B. ☉ ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+17.19	-	631.09	631.09
☉ Brg. N. Abut	1065+20.63	-	631.09	631.09
A	1065+30.63	-	631.07	631.14
B	1065+40.63	-	631.06	631.18
C	1065+50.63	-	631.05	631.18
D	1065+60.63	-	631.03	631.13
E	1065+70.63	-	631.02	631.06
☉ Brg. S. Abut.	1065+76.17	-	631.01	631.01
Bk. S. Abut.	1065+79.61	-	631.01	631.01

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+21.27	4.17'	631.01	631.01
☉ Brg. N. Abut	1065+24.71	4.17'	631.01	631.01
A	1065+34.71	4.17'	630.99	631.06
B	1065+44.71	4.17'	630.98	631.10
C	1065+54.71	4.17'	630.97	631.11
D	1065+64.71	4.17'	630.95	631.06
E	1065+74.71	4.17'	630.94	630.98
☉ Brg. S. Abut.	1065+80.25	4.17'	630.93	630.93
Bk. S. Abut.	1065+83.69	4.17'	630.93	630.93

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+27.30	10.33'	630.91	630.91
☉ Brg. N. Abut	1065+30.74	10.33'	630.91	630.91
A	1065+40.74	10.33'	630.89	630.97
B	1065+50.74	10.33'	630.88	631.01
C	1065+60.74	10.33'	630.87	631.01
D	1065+70.74	10.33'	630.85	630.96
E	1065+80.74	10.33'	630.84	630.89
☉ Brg. S. Abut.	1065+86.28	10.33'	630.83	630.83
Bk. S. Abut.	1065+89.72	10.33'	630.83	630.83

N.B. PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+28.93	12.00'	630.88	630.88
☉ Brg. N. Abut	1065+32.37	12.00'	630.88	630.88
A	1065+42.37	12.00'	630.86	630.94
B	1065+52.37	12.00'	630.85	630.97
C	1065+62.37	12.00'	630.84	630.98
D	1065+72.37	12.00'	630.82	630.93
E	1065+82.37	12.00'	630.81	630.85
☉ Brg. S. Abut.	1065+87.91	12.00'	630.80	630.80
Bk. S. Abut.	1065+91.35	12.00'	630.80	630.80

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1065+33.33	16.50'	630.79	630.79
☉ Brg. N. Abut	1065+36.77	16.50'	630.79	630.79
A	1065+46.77	16.50'	630.77	630.84
B	1065+56.77	16.50'	630.76	630.88
C	1065+66.77	16.50'	630.75	630.88
D	1065+76.77	16.50'	630.73	630.83
E	1065+86.77	16.50'	630.72	630.76
☉ Brg. S. Abut.	1065+92.31	16.50'	630.71	630.71
Bk. S. Abut.	1065+95.75	16.50'	630.71	630.71

**FOR
INFORMATION
ONLY**

Note: Offsets Provided from ☉ of Roadway

**TOP OF SLAB ELEVATIONS
(S.N. 068-0038 N.B.)**

ILLINOIS DEPARTMENT OF TRANSPORTATION
**TOP OF SLAB ELEVATIONS (2 OF 3)
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.**

DATE: 04-08
REVISED:
DRAWN BY: MLO
CHECKED BY: PBB

Contract #72C32

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+10.61	-16.50'	630.69	630.69
☉ Brg. N. Abut	1066+14.05	-16.50'	630.69	630.69
A	1066+24.05	-16.50'	630.67	630.74
B	1066+34.05	-16.50'	630.66	630.78
C	1066+44.05	-16.50'	630.65	630.78
D	1066+54.05	-16.50'	630.63	630.73
E	1066+64.05	-16.50'	630.62	630.66
☉ Brg. S. Abut.	1066+69.59	-16.50'	630.61	630.61
Bk. S. Abut.	1066+73.03	-16.50'	630.61	630.61

S.B. PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+15.01	-12.00'	630.77	630.77
☉ Brg. N. Abut	1066+18.45	-12.00'	630.77	630.77
A	1066+28.45	-12.00'	630.75	630.83
B	1066+38.45	-12.00'	630.74	630.86
C	1066+48.45	-12.00'	630.73	630.87
D	1066+58.45	-12.00'	630.71	630.82
E	1066+68.45	-12.00'	630.70	630.74
☉ Brg. S. Abut.	1066+73.99	-12.00'	630.69	630.69
Bk. S. Abut.	1066+77.43	-12.00'	630.69	630.69

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+16.64	-10.33'	630.80	630.80
☉ Brg. N. Abut	1066+20.08	-10.33'	630.80	630.80
A	1066+30.08	-10.33'	630.78	630.85
B	1066+40.08	-10.33'	630.77	630.89
C	1066+50.08	-10.33'	630.76	630.89
D	1066+60.08	-10.33'	630.74	630.84
E	1066+70.08	-10.33'	630.73	630.77
☉ Brg. S. Abut.	1066+75.62	-10.33'	630.72	630.72
Bk. S. Abut.	1066+79.06	-10.33'	630.72	630.72

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+22.67	-4.17'	630.88	630.88
☉ Brg. N. Abut	1066+26.11	-4.17'	630.88	630.88
A	1066+36.11	-4.17'	630.86	630.94
B	1066+46.11	-4.17'	630.85	630.97
C	1066+56.11	-4.17'	630.84	630.98
D	1066+66.11	-4.17'	630.82	630.93
E	1066+76.11	-4.17'	630.81	630.85
☉ Brg. S. Abut.	1066+81.65	-4.17'	630.80	630.80
Bk. S. Abut.	1066+85.09	-4.17'	630.80	630.80

S.B. ☉ ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+26.75	-	630.95	630.95
☉ Brg. N. Abut	1066+30.19	-	630.95	630.95
A	1066+40.19	-	630.93	631.00
B	1066+50.19	-	630.92	631.04
C	1066+60.19	-	630.91	631.04
D	1066+70.19	-	630.89	630.99
E	1066+80.19	-	630.88	630.92
☉ Brg. S. Abut.	1066+85.73	-	630.87	630.87
Bk. S. Abut.	1066+89.17	-	630.87	630.87

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+28.71	2.00'	630.91	630.91
☉ Brg. N. Abut	1066+32.15	2.00'	630.91	630.91
A	1066+42.15	2.00'	630.89	630.97
B	1066+52.15	2.00'	630.88	631.01
C	1066+62.15	2.00'	630.87	631.01
D	1066+72.15	2.00'	630.85	630.96
E	1066+82.15	2.00'	630.84	630.89
☉ Brg. S. Abut.	1066+87.69	2.00'	630.83	630.83
Bk. S. Abut.	1066+91.13	2.00'	630.83	630.83

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+34.74	8.17'	630.81	630.81
☉ Brg. N. Abut	1066+38.18	8.17'	630.81	630.81
A	1066+48.18	8.17'	630.79	630.86
B	1066+58.18	8.17'	630.78	630.90
C	1066+68.18	8.17'	630.77	630.90
D	1066+78.18	8.17'	630.75	630.85
E	1066+88.18	8.17'	630.74	630.78
☉ Brg. S. Abut.	1066+93.72	8.17'	630.73	630.73
Bk. S. Abut.	1066+97.16	8.17'	630.73	630.73

BEAM 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+40.77	14.33'	630.69	630.69
☉ Brg. N. Abut	1066+44.21	14.33'	630.69	630.69
A	1066+54.21	14.33'	630.67	630.74
B	1066+64.21	14.33'	630.66	630.78
C	1066+74.21	14.33'	630.65	630.78
D	1066+84.21	14.33'	630.63	630.73
E	1066+94.21	14.33'	630.62	630.66
☉ Brg. S. Abut.	1066+99.75	14.33'	630.61	630.61
Bk. S. Abut.	1067+03.19	14.33'	630.61	630.61

BEAM 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	1066+46.80	20.50'	630.56	630.56
☉ Brg. N. Abut	1066+50.24	20.50'	630.56	630.56
A	1066+60.24	20.50'	630.54	630.61
B	1066+70.24	20.50'	630.53	630.65
C	1066+80.24	20.50'	630.52	630.66
D	1066+90.24	20.50'	630.50	630.61
E	1067+00.24	20.50'	630.49	630.53
☉ Brg. S. Abut.	1067+05.78	20.50'	630.48	630.48
Bk. S. Abut.	1067+09.22	20.50'	630.48	630.48

**TOP OF SLAB ELEVATIONS
(S.N. 068-0039 S.B.)**

**FOR
INFORMATION
ONLY**

Note: Offsets Provided from ☉ of Roadway

ILLINOIS DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (3 OF 3)

I 55 OVER MACOUPIN CREEK

F.A.I. ROUTE 55 - SEC. (68-4)F

MONTGOMERY COUNTY

STATION 1066+03.18

STRUCTURE NO. 068-0038 N.B.

STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
REVISED:

DRAWN BY: MLO
CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	(68-4)F	MONTGOMERY	25	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
23 SHEETS

Contract #72C32

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1064+66.37	-22.00'	630.75
A	1064+76.37	-22.00'	630.73
B	1064+86.37	-22.00'	630.72
S. End N. Appr. Pav't	1064+96.37	-22.00'	630.71
N. End S. Appr. Pav't	1065+57.39	-22.00'	630.63
C	1065+67.39	-22.00'	630.62
D	1065+77.39	-22.00'	630.61
S. End S. Appr. Pav't	1065+87.39	-22.00'	630.59

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1064+76.15	-12.00'	630.95
A	1064+86.15	-12.00'	630.93
B	1064+96.15	-12.00'	630.92
S. End N. Appr. Pav't	1065+06.15	-12.00'	630.91
N. End S. Appr. Pav't	1065+67.17	-12.00'	630.83
C	1065+77.17	-12.00'	630.82
D	1065+87.17	-12.00'	630.81
S. End S. Appr. Pav't	1065+97.17	-12.00'	630.79

☉ ROADWAY

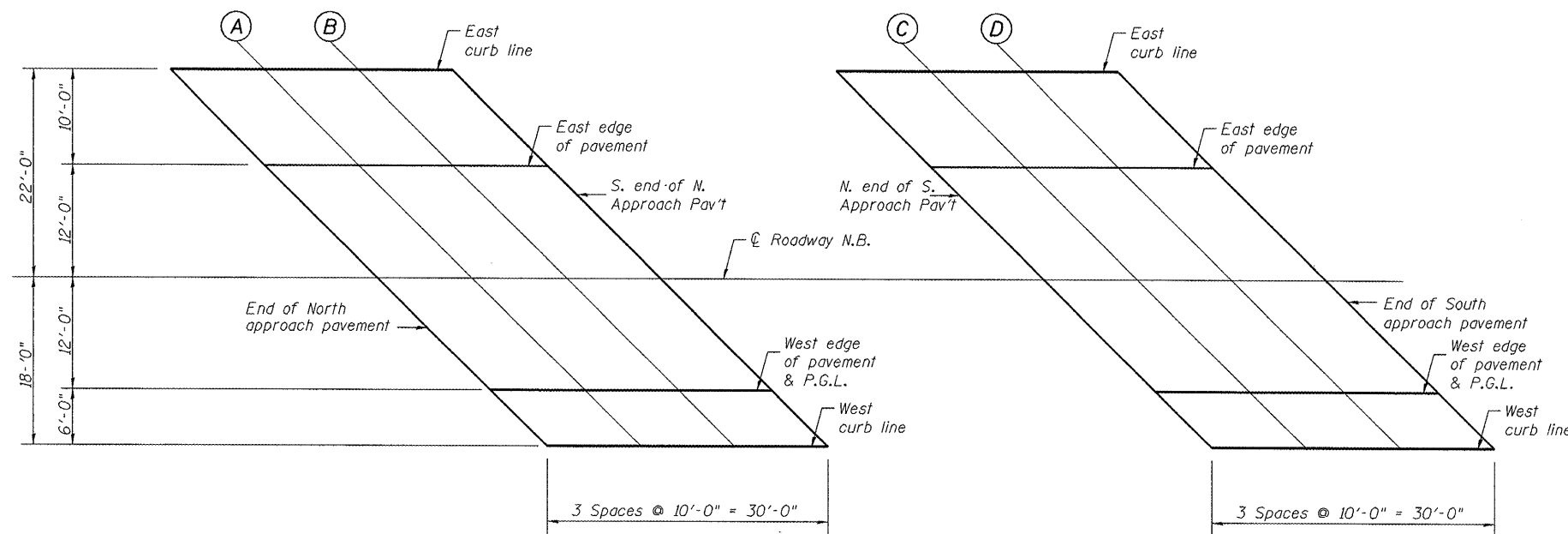
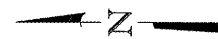
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1064+87.89	-	631.13
A	1064+97.89	-	631.11
B	1065+07.89	-	631.10
S. End N. Appr. Pav't	1065+17.89	-	631.09
N. End S. Appr. Pav't	1065+78.91	-	631.01
C	1065+88.91	-	631.00
D	1065+98.91	-	630.99
S. End S. Appr. Pav't	1066+08.91	-	630.97

WEST EDGE OF PAVEMENT & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1064+99.63	12.00'	630.92
A	1065+09.63	12.00'	630.90
B	1065+19.63	12.00'	630.89
S. End N. Appr. Pav't	1065+29.63	12.00'	630.88
N. End S. Appr. Pav't	1065+90.65	12.00'	630.80
C	1066+00.65	12.00'	630.79
D	1066+10.65	12.00'	630.78
S. End S. Appr. Pav't	1066+20.65	12.00'	630.76

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1065+05.50	18.00'	630.79
A	1065+15.50	18.00'	630.77
B	1065+25.50	18.00'	630.76
S. End N. Appr. Pav't	1065+35.50	18.00'	630.75
N. End S. Appr. Pav't	1065+96.52	18.00'	630.67
C	1066+06.52	18.00'	630.66
D	1066+16.52	18.00'	630.65
S. End S. Appr. Pav't	1066+26.52	18.00'	630.63



TOP OF APPROACH SLAB ELEVATIONS
(S.N. 068-0038 N.B.)

**FOR
INFORMATION
ONLY**

Note: Offsets Provided from ☉ of Roadway

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF APPROACH ELEVATIONS (1 OF 2)
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
REVISED:

DRAWN BY: MLO
CHECKED BY: PBB

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1065+79.84	-18.00'	630.70
A	1065+89.84	-18.00'	630.68
B	1065+99.84	-18.00'	630.67
S. End N. Appr. Pav't	1066+09.84	-18.00'	630.66
N. End S. Appr. Pav't	1066+70.86	-18.00'	630.58
C	1066+80.86	-18.00'	630.57
D	1066+90.86	-18.00'	630.56
S. End S. Appr. Pav't	1067+00.86	-18.00'	630.54

EAST EDGE OF PAVEMENT & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1065+85.71	-12.00'	630.81
A	1065+95.71	-12.00'	630.79
B	1066+05.71	-12.00'	630.78
S. End N. Appr. Pav't	1066+15.71	-12.00'	630.77
N. End S. Appr. Pav't	1066+76.73	-12.00'	630.69
C	1066+86.73	-12.00'	630.68
D	1066+96.73	-12.00'	630.67
S. End S. Appr. Pav't	1067+06.73	-12.00'	630.65

☉ ROADWAY

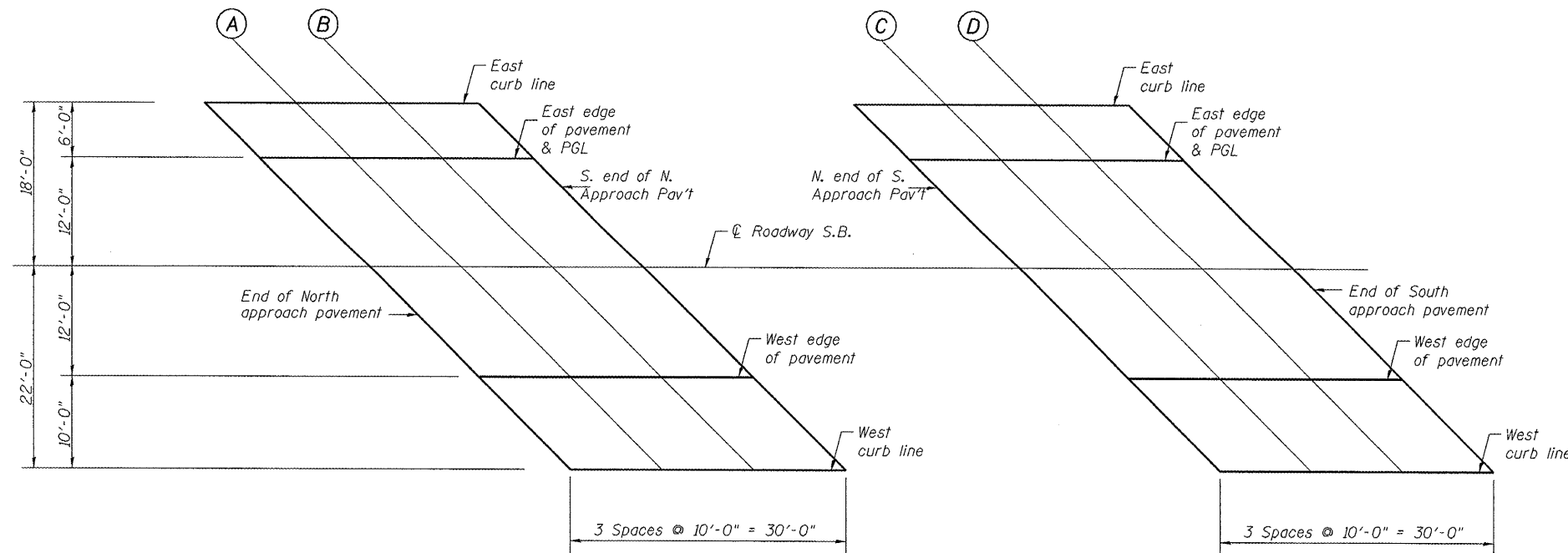
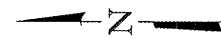
Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1065+97.45	-	630.99
A	1066+07.45	-	630.97
B	1066+17.45	-	630.96
S. End N. Appr. Pav't	1066+27.45	-	630.95
N. End S. Appr. Pav't	1066+88.47	-	630.87
C	1066+98.47	-	630.86
D	1067+08.47	-	630.85
S. End S. Appr. Pav't	1067+18.47	-	630.83

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1066+09.19	12.00'	630.78
A	1066+19.19	12.00'	630.76
B	1066+29.19	12.00'	630.75
S. End N. Appr. Pav't	1066+39.19	12.00'	630.74
N. End S. Appr. Pav't	1067+00.21	12.00'	630.66
C	1067+10.21	12.00'	630.65
D	1067+20.21	12.00'	630.64
S. End S. Appr. Pav't	1067+30.21	12.00'	630.62

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
N. End N. Appr. Pav't	1066+18.97	22.00'	630.56
A	1066+28.97	22.00'	630.54
B	1066+38.97	22.00'	630.53
S. End N. Appr. Pav't	1066+48.97	22.00'	630.52
N. End S. Appr. Pav't	1067+09.99	22.00'	630.44
C	1067+19.99	22.00'	630.43
D	1067+29.99	22.00'	630.42
S. End S. Appr. Pav't	1067+39.99	22.00'	630.40



TOP OF APPROACH SLAB ELEVATIONS
(S.N. 068-0039 S.B.)

FOR INFORMATION ONLY

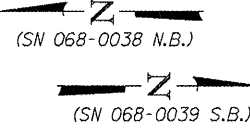
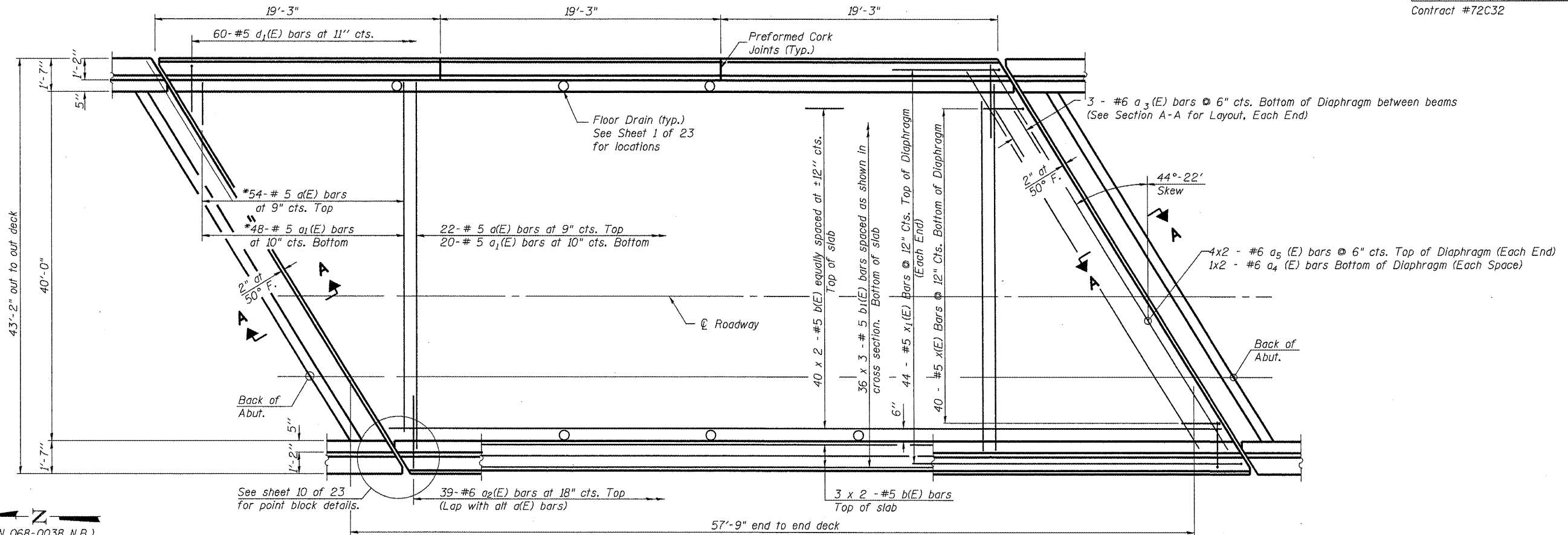
Note: Offsets Provided From ☉ of Roadway

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF APPROACH ELEVATIONS (2 OF 2)
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
 DATE: 04-08 DRAWN BY: MLO
 REVISED: CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.I. 55	(68-4)F	MONTGOMERY	25	10
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

Contract #72C32

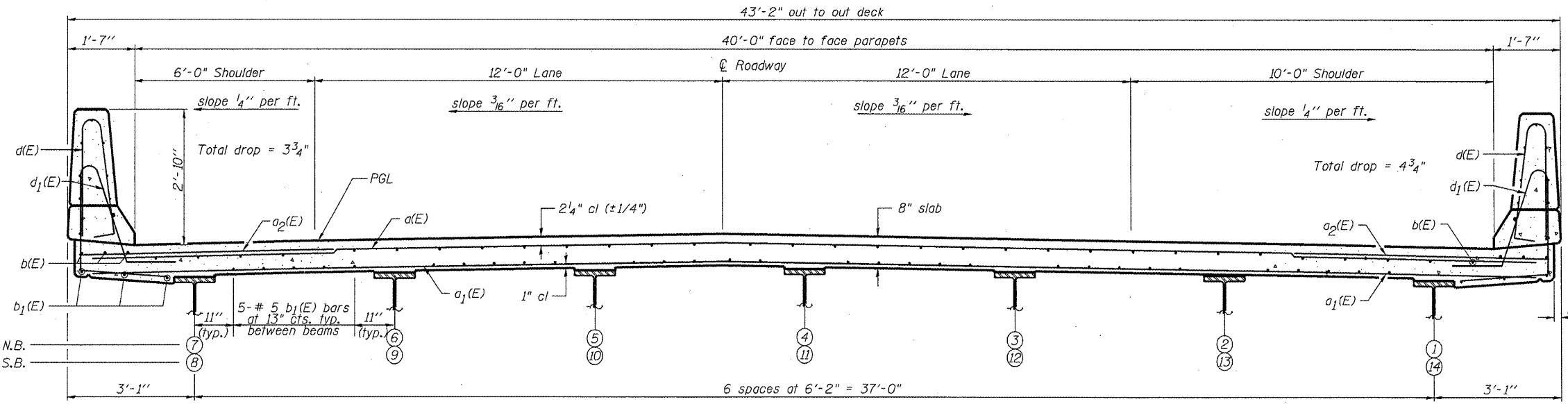
* Order a(E) & a₁(E) bars full length.
Cut to fit skew and use remainder of bars in opposite end.



PLAN
(SN 068-0038 N.B. shown)
(SN 068-0039 S.B. similar)

Notes:
See Sheet 9 of 23 for superstructure details and Bill of Material.
Bars indicated thus 40 x 2-#5 etc. indicates 40 lines of bars with 2 lengths per line.
See Sheet 9 of 23 for parapet reinforcement.

FOR INFORMATION ONLY

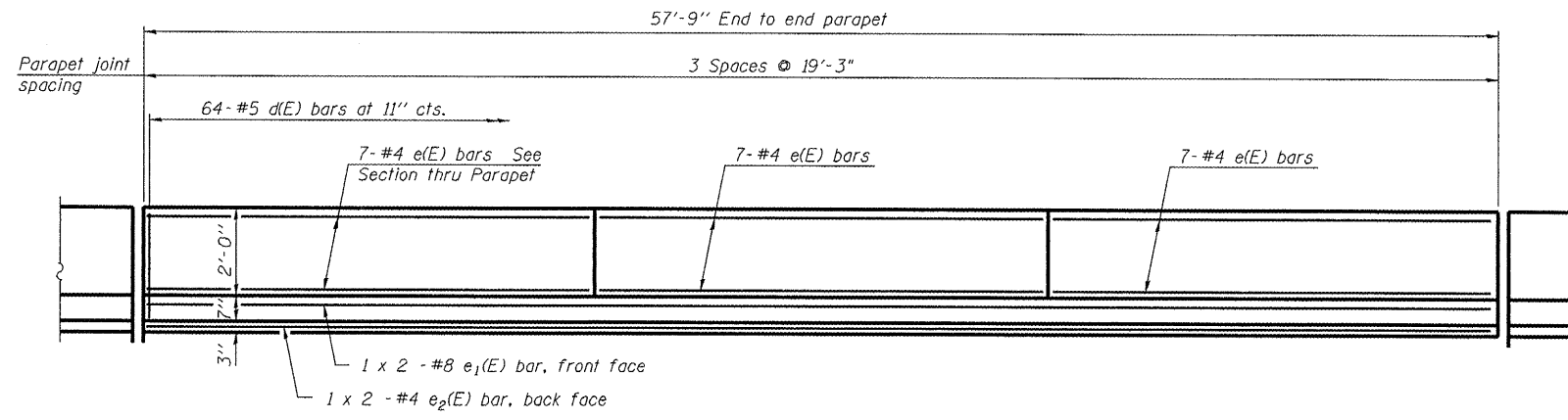


MINIMUM BAR LAP
#5 bar = 1'-8"
#6 bar = 2'-7"

CROSS SECTION
(SN 068-0038 N.B. Looking North)
(SN 068-0039 S.B. Looking South)

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
DATE: 04-08 DRAWN BY: MLO
REVISED: CHECKED BY: PBB

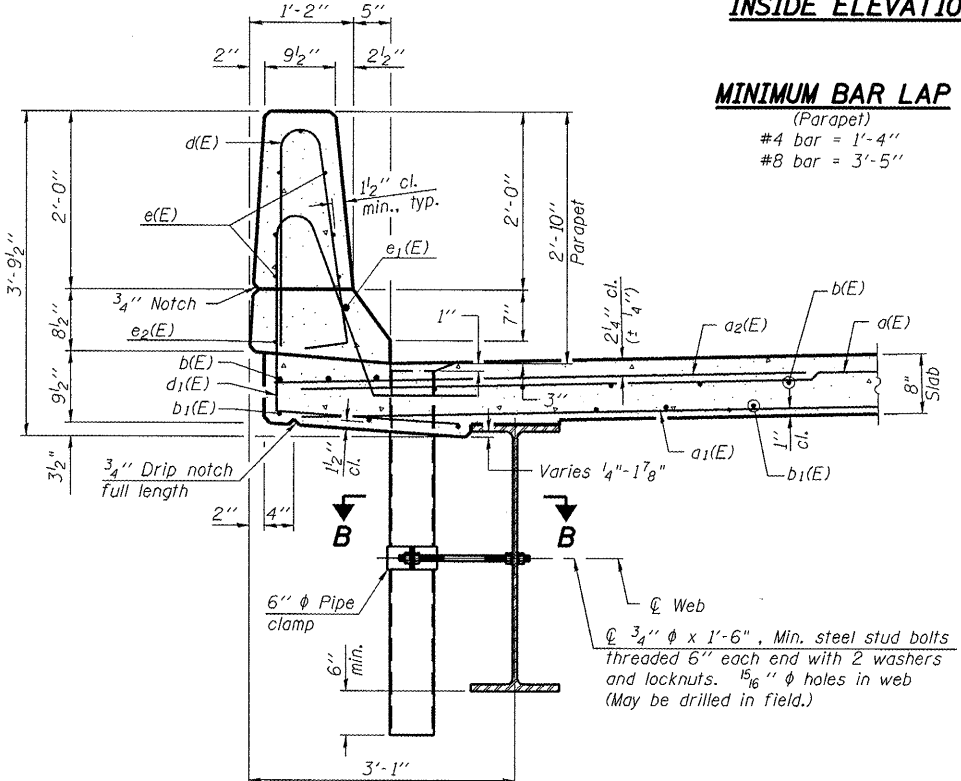
FOR INFORMATION ONLY



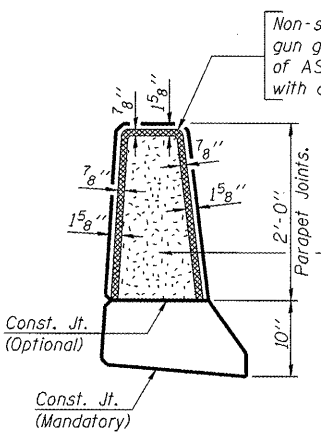
INSIDE ELEVATION OF PARAPET

MINIMUM BAR LAP

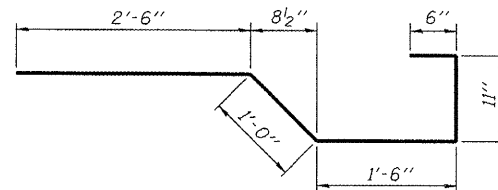
(Parapet)
 #4 bar = 1'-4"
 #8 bar = 3'-5"



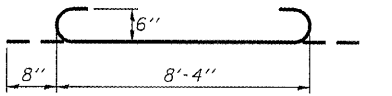
SECTION THRU PARAPET



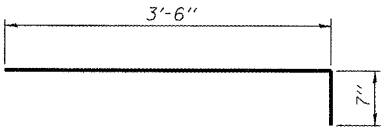
PARAPET JOINT DETAILS



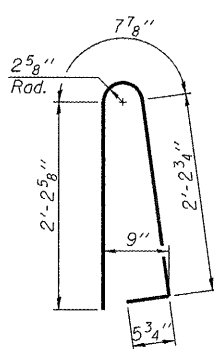
BAR x(E)



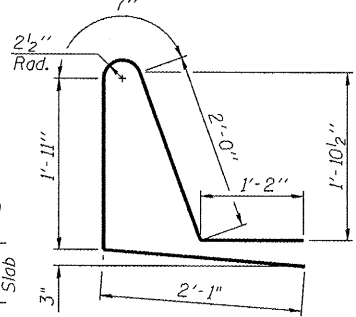
a3(E) BAR



BAR x1(E)



BAR d(E)

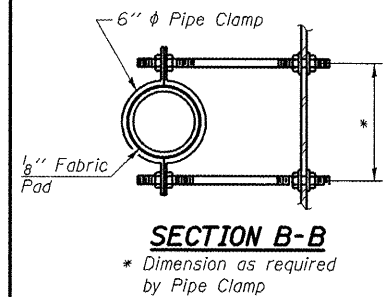


BAR d1(E)

SUPERSTRUCTURE BILL OF MATERIAL (BOTH STRUCTURES)

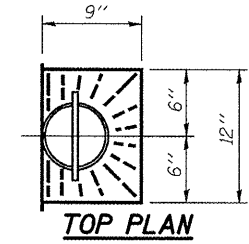
Bar	No.	Size	Length	Shape	
a(E)	152	#5	42'-2"	—	
a1(E)	136	#5	42'-1"	—	
a2(E)	156	#6	6'-0"	—	
a3(E)	72	#6	9'-8"	—	
a4(E)	8	#6	27'-0"	—	
a5(E)	32	#6	31'-0"	—	
b(E)	184	#5	29'-7"	—	
b1(E)	216	#5	20'-3"	—	
d(E)	256	#5	5'-7"	—	
d1(E)	240	#5	7'-9"	—	
e(E)	84	#4	18'-11"	—	
e1(E)	8	#8	30'-6"	—	
e2(E)	8	#4	29'-6"	—	
x(E)	160	#5	6'-5"	—	
x1(E)	176	#5	4'-1"	—	
▲ Reinforcement Bars, Epoxy Coated				Pound	34,290
▲ Concrete Superstructure				Cu. Yds.	154.9
▲ Floor Drains				Each	12
▲ Bridge Deck Grooving				Sq. Yd.	488
▲ Protective Coat				Sq. Yd.	610

▲ For Information Only
 Bars indicated thus 1 x 2 -#5 etc. indicates 1 line of bars with 2 lengths per line.

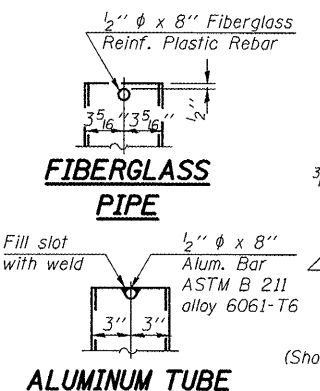


SECTION B-B

* Dimension as required by Pipe Clamp

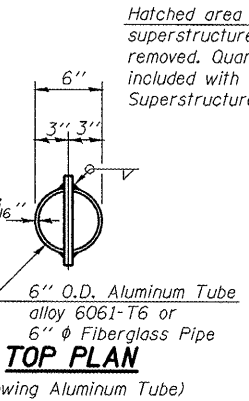


TOP PLAN



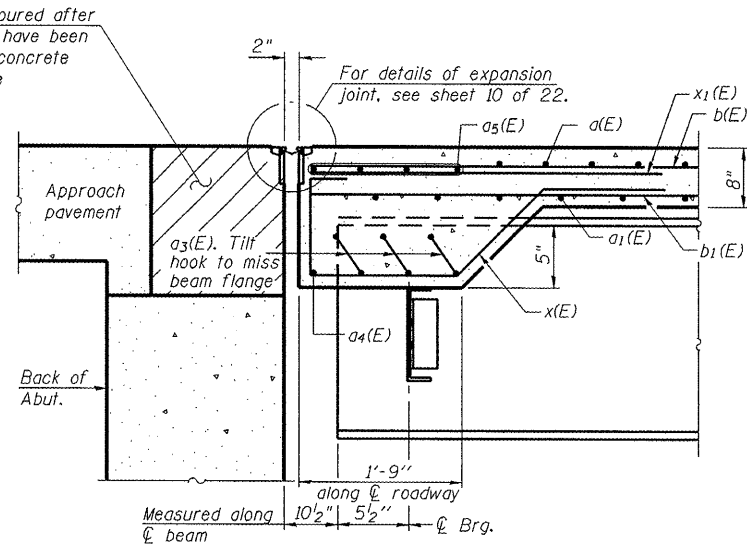
FIBERGLASS PIPE

ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)



SECTION A-A

Notes: Drains shall be located clear of all diaphragms. The floor drains need not be painted. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
 DATE: 04-08
 REVISED:
 DRAWN BY: M.L.O.
 CHECKED BY: P.B.B.

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

** When joint is fixed, dimension is set at 1 1/2".

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.I. 55	(68-4)F	MONTGOMERY	25	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #72C32

Notes:

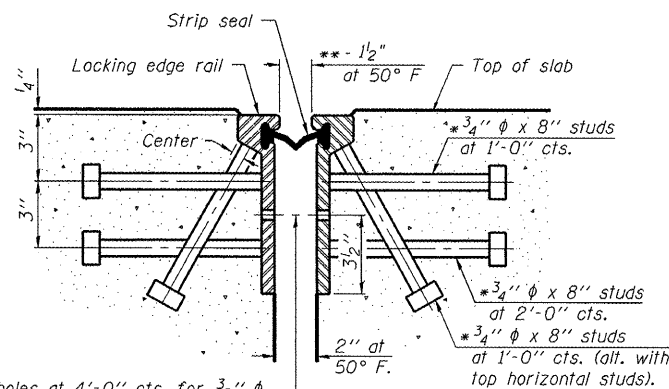
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of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

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

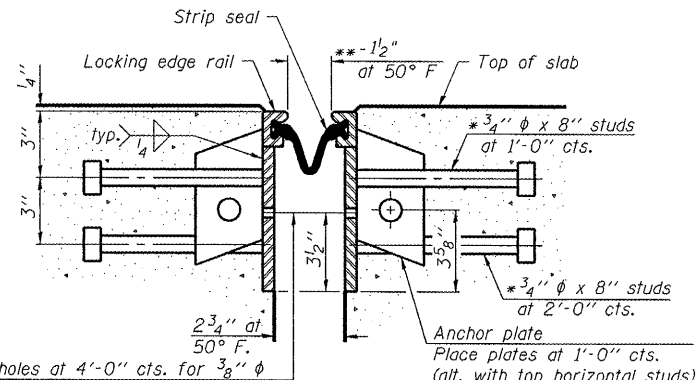
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

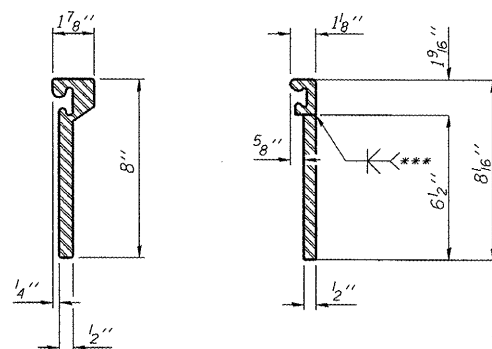
SECTION THRU ROLLED RAIL JOINT



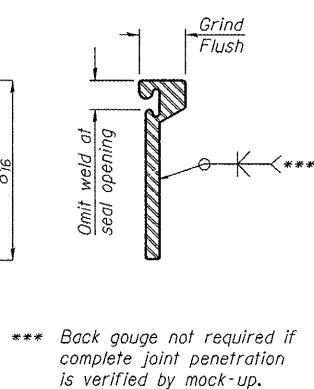
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

FOR INFORMATION ONLY

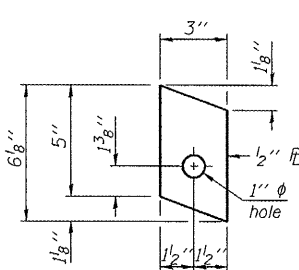


ROLLED (EXTRUDED) RAIL WELDED RAIL

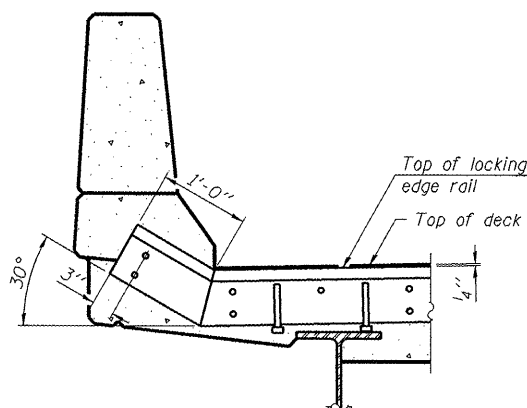


LOCKING EDGE RAIL SPLICE

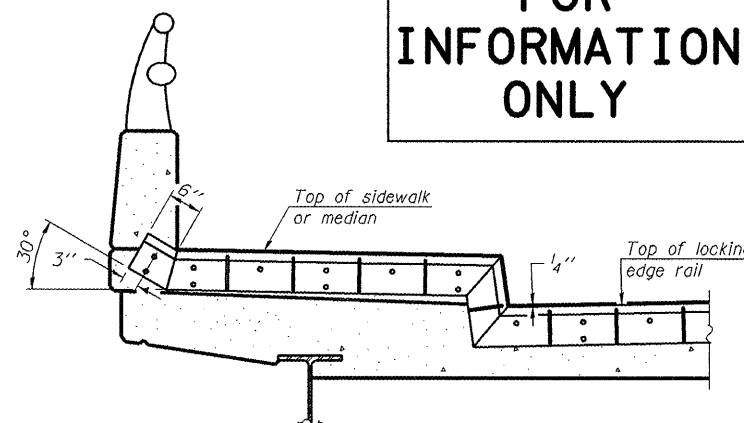
The inside of the locking edge rail groove shall be free of weld residue.



ANCHOR PLATE (for welded rail)



AT PARAPET

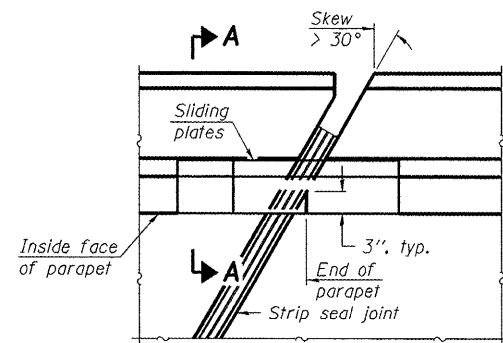


AT SIDEWALK OR MEDIAN

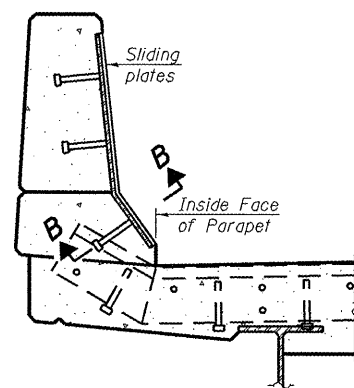
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

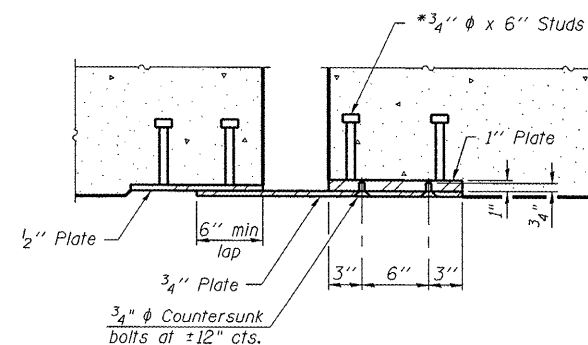
LOCKING EDGE RAILS



PLAN



SECTION A-A



SECTION B-B

POINT BLOCK DETAILS (for skews > 30°)

BILL OF MATERIAL

Item	Unit	Total
▲ Preformed Joint Strip Seal	Foot	232

▲ For Information Only

ILLINOIS DEPARTMENT OF TRANSPORTATION

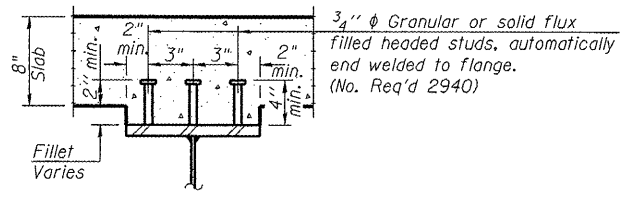
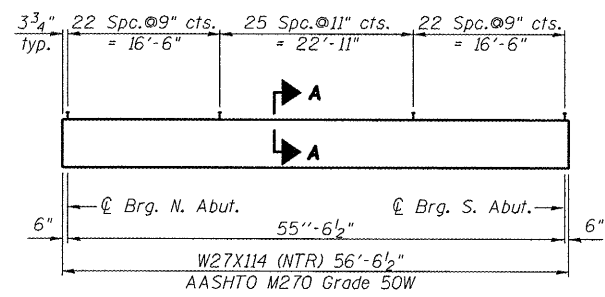
**EXPANSION JOINT DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.**

DATE: 04-08
REVISED:

DRAWN BY: MLO
CHECKED BY: PBB

EJ-SSJ 11-1-06

Contract #72C32

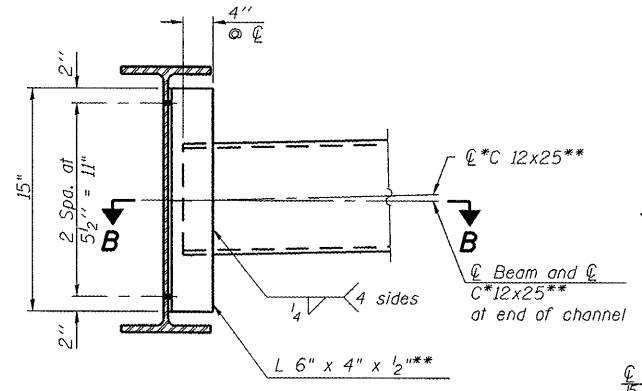
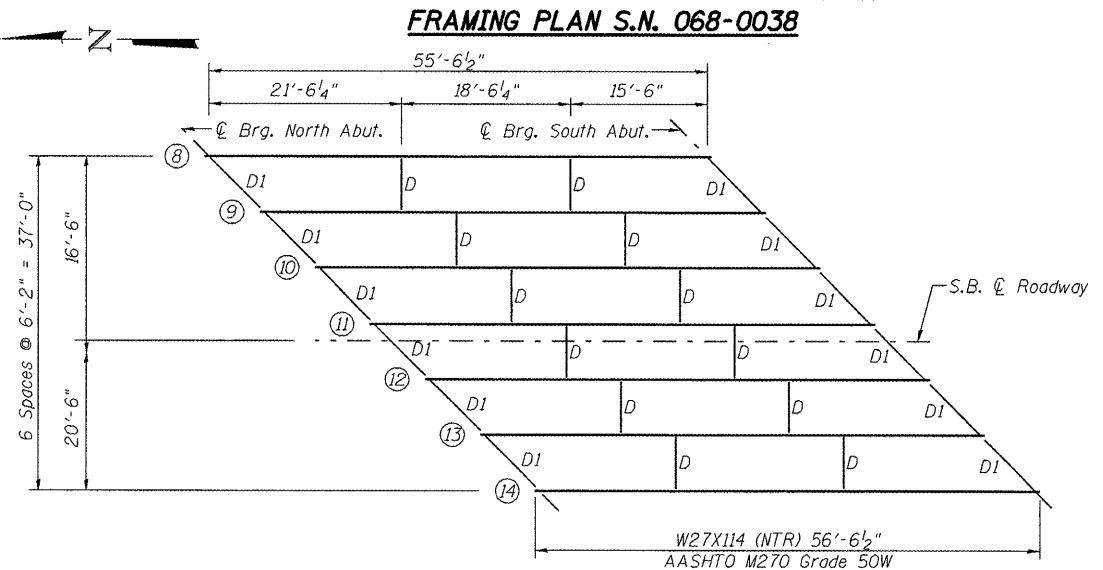
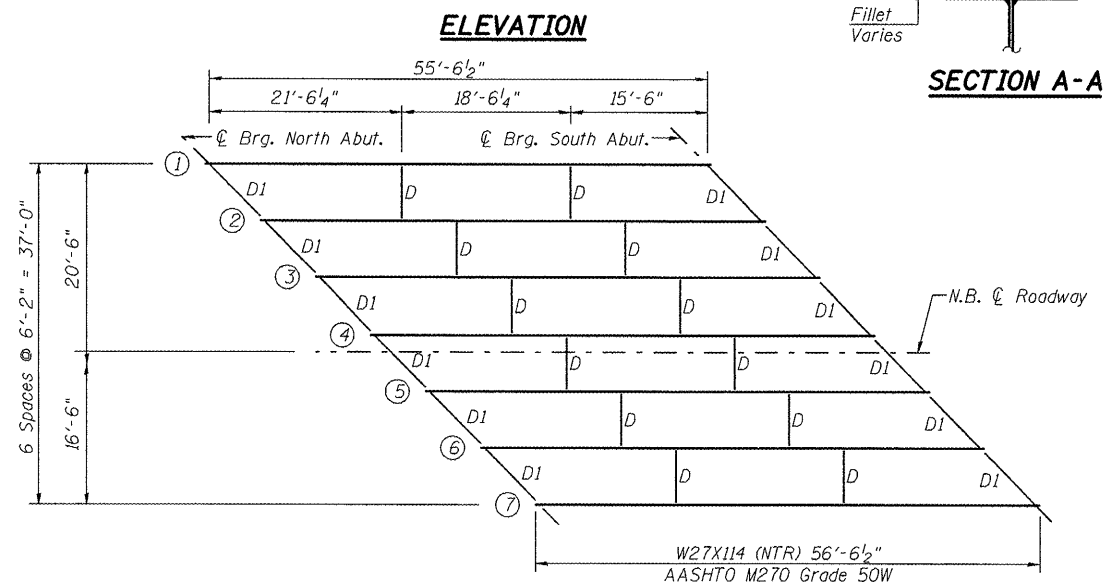


	0.5 Sp. I	
I_s	(in ⁴) 4080	
$I_c(n)$	(in ⁴) 11393	
$I_c(3n)$	(in ⁴) 8346	
S_s	(in ³) 299	
$S_c(n)$	(in ³) 450	
$S_c(3n)$	(in ³) 404	
ρ	(k/')	0.763
$M\phi$	(k)	296
$s\phi$	(k/')	0.414
$M_s\phi$	(k)	160
$M\phi$	(k)	405
M_{imp}	(k)	112
$\frac{2}{3} [M\phi + M_{imp}]$	(k)	863
M_a	(k)	1714
M_u	(k)	2276
$f_s \phi_{non-comp}$	(ksi)	11.9
$f_s \phi_{comp}$	(ksi)	4.8
$f_s \frac{2}{3} [M\phi + M_{imp}]$	(ksi)	23.0
f_s (Overload)	(ksi)	39.7
VR	(k)	42.9

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).
- ρ : Un-factored non-composite dead load (kips/ft.).
- $M\phi$: Un-factored moment due to non-composite dead load (kip-ft.).
- $s\phi$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_s\phi$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- $M\phi$: Un-factored live load moment (kip-ft.).
- M_{imp} : Un-factored moment due to impact (kip-ft.).
- M_a : Factored design moment (kip-ft.).
- $1.3 [M\phi + M_s\phi + \frac{5}{3} (M\phi + M_{imp})]$
- M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1.
- f_s (Overload): Sum of stresses as computed from the moments below (ksi).
- $M\phi + M_s\phi + \frac{5}{3} (M\phi + M_{imp})$
- VR: Maximum + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

	Abut.
$R\phi$	(k) 32.8
$R\phi$	(k) 33.3
Imp.	(k) 9.2
R_{Total}	(k) 75.3

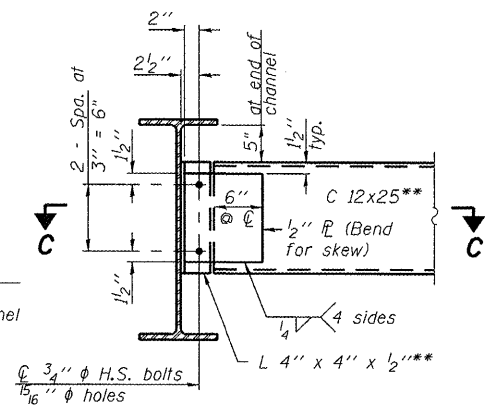
* Compact section



INTERIOR DIAPHRAGM-D
(24 Required)

Note:
Two hardened washers required for each set of oversized holes.

- * Alternate C 12x30 Channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
- ** AASHTO M270 Grade 50W



END DIAPHRAGM-D1
(24 Required)

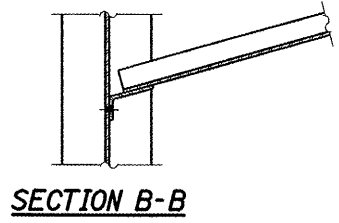
Note:
Two hardened washers required for each set of oversized holes.

- ** AASHTO M270 Grade 50W

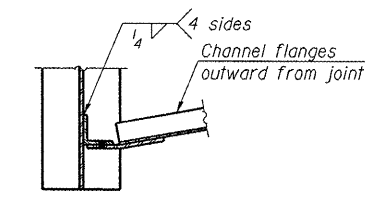
	N. Abut.	S. Abut.
Beam 1	630.00	629.92
Beam 2	630.12	630.04
Beam 3	630.22	630.14
Beam 4	630.31	630.23
Beam 5	630.26	630.18
Beam 6	630.16	630.08
Beam 7	630.04	629.96
Beam 8	629.94	629.86
Beam 9	630.05	629.97
Beam 10	630.13	630.05
Beam 11	630.16	630.08
Beam 12	630.06	629.98
Beam 13	629.94	629.86
Beam 14	629.81	629.73

TOP OF BEAM ELEVATIONS
(For Fabrication use Only)

Note:
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor bolts.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.



SECTION B-B



SECTION C-C

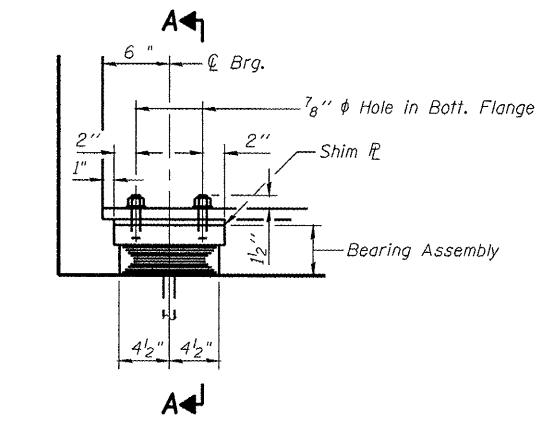
ILLINOIS DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & STEEL DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

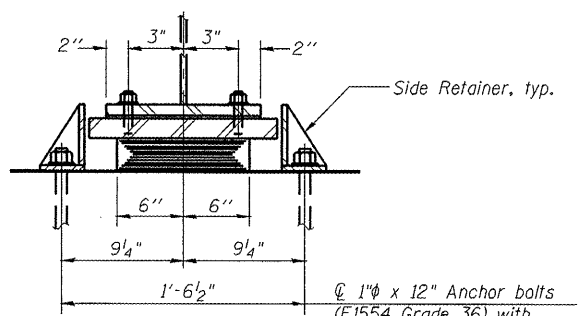
DATE: 04-08
REVISED:
DRAWN BY: MLO
CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	SHEET	POST	SHEET NO. 12
F.A.I. 55	(68-4)F	MONTGOMERY	25	14	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

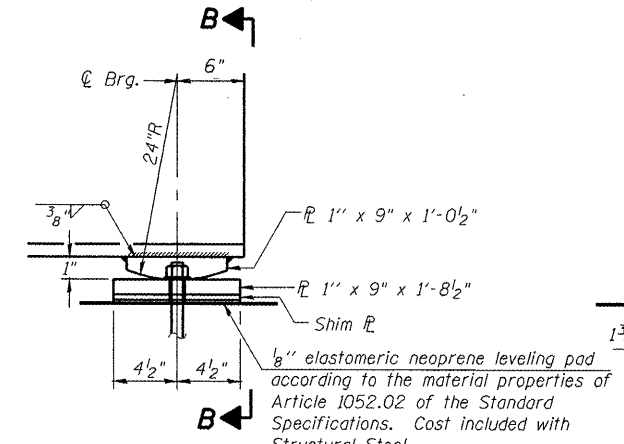
Contract #72C32



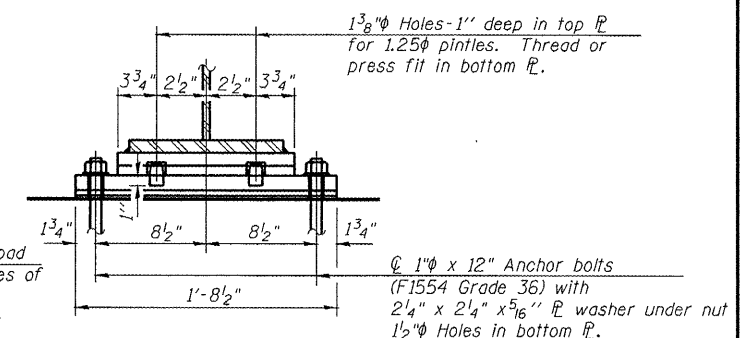
ELEVATION AT N. ABUT.



SECTION A-A
 1" x 12" Anchor bolts (F1554 Grade 36) with 2 1/4" x 2 1/4" x 5/16" washer under nut

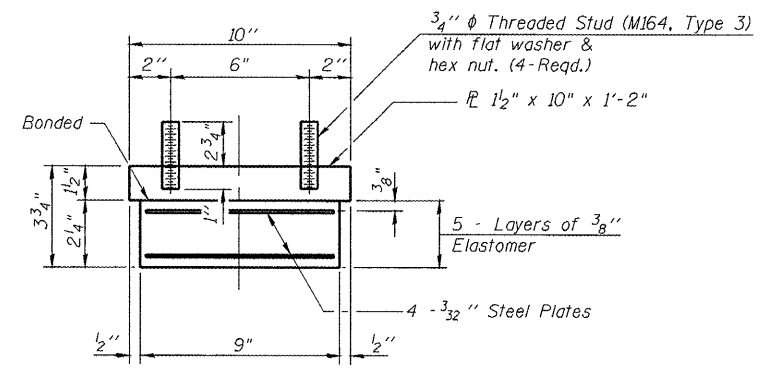


ELEVATION AT S. ABUT.



SECTION B-B

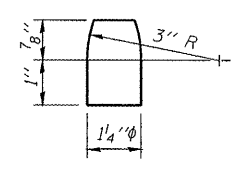
TYPE I ELASTOMERIC EXP. BRG.
 (14 Required)



BEARING ASSEMBLY

Note:
 Shim plates shall not be placed under Bearing Assembly.

Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270 Grade 50W.

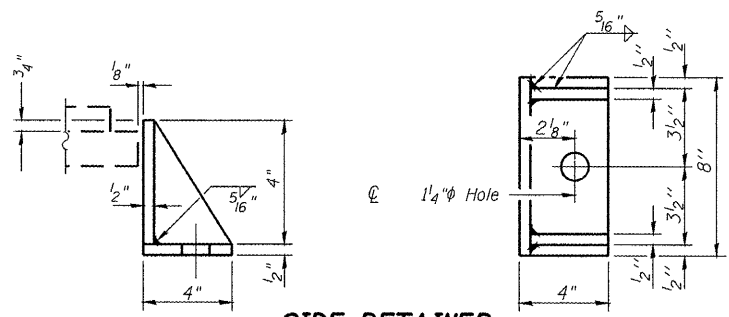


PINTLE

FIXED BEARING

BILL OF MATERIAL

Item	Unit	Total
▲ Elastomeric Bearing Assembly Type I	Each	14
▲ Anchor Bolts 1"	Each	56
▲ For Information Only		



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

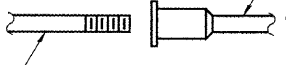
ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
 DATE: 04-08
 REVISED:
 DRAWN BY: MLO
 CHECKED BY: PBB

I-2-E1

11-1-06

Contract #72C32

The diameter of this part is the same as the diameter of the bar spliced.

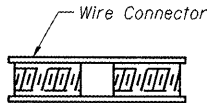


The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



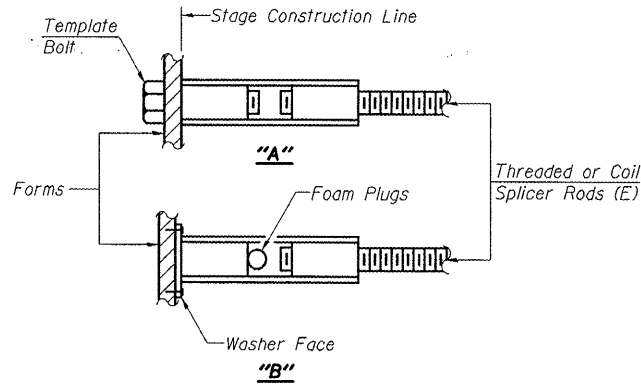
**** ONE PIECE**



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

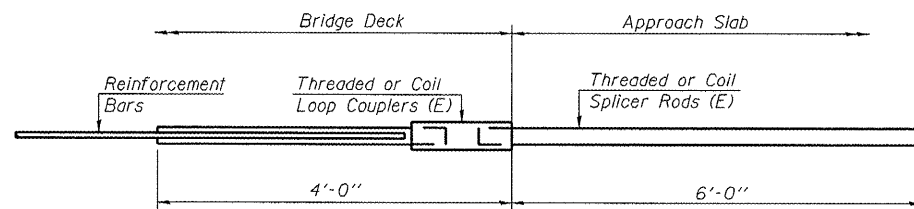
"A" :Set bar splicer assembly by means of a template bolt.
 "B" :Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

NOTES
 Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$

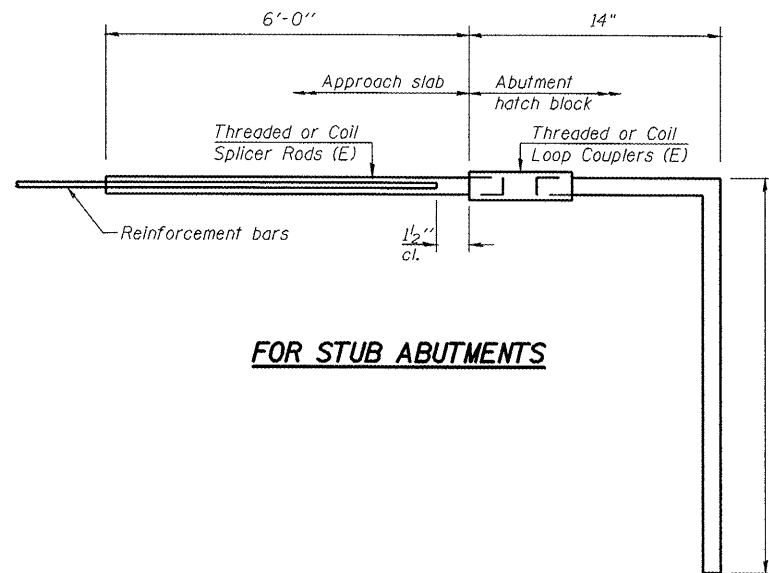
Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



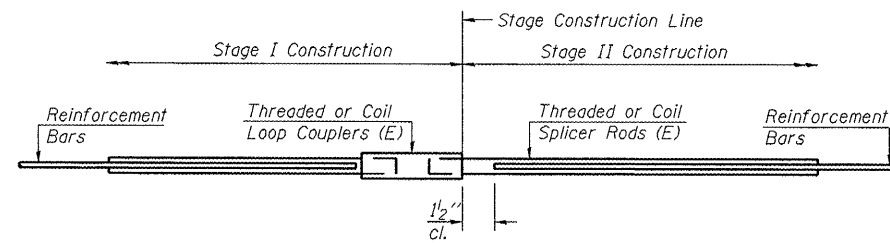
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required =	



FOR STUB ABUTMENTS

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
▲ No. Required = 160	
▲ For Information Only	



STANDARD

Bar Size	No. Assemblies Required	Location

FOR INFORMATION ONLY

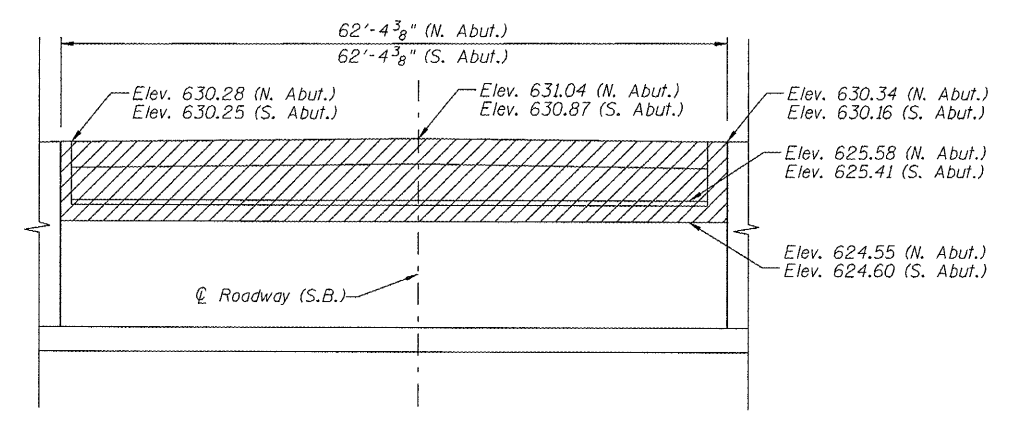
ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
 REVISIONS:
 DRAWN BY: MLO
 CHECKED BY: PBB

BSD-1 5-16-08

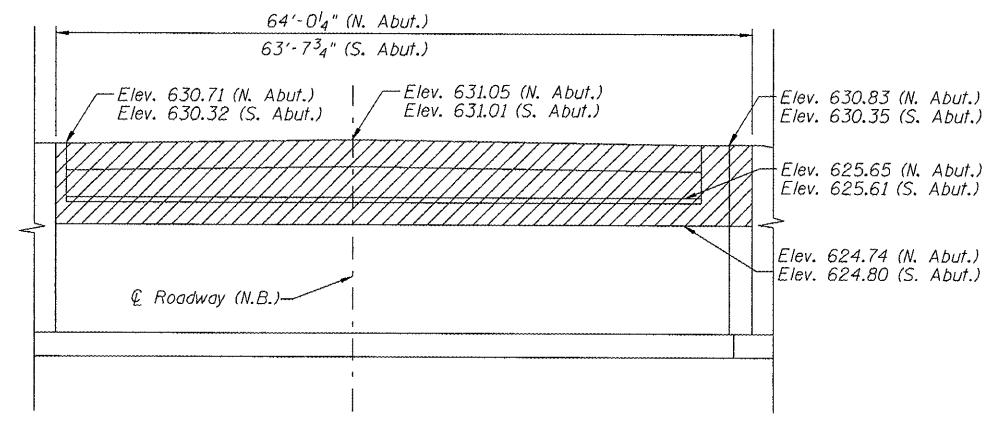
**FOR
INFORMATION
ONLY**

ROUTE NO.	SECTION	COUNTY	F.A.I. DIST.	SHEET NO.	SHEET TOTAL
F.A.I. 55	(68-4)F	MONTGOMERY	25	16	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



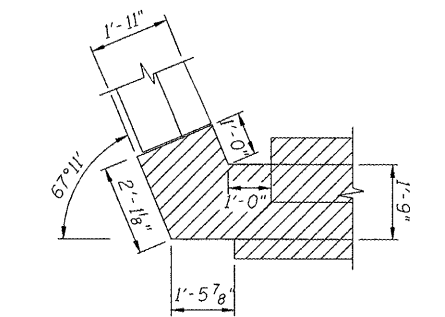
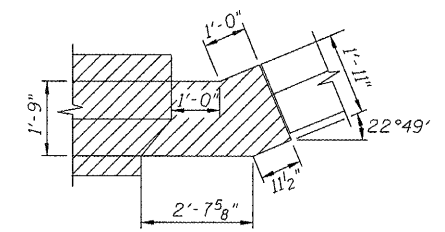
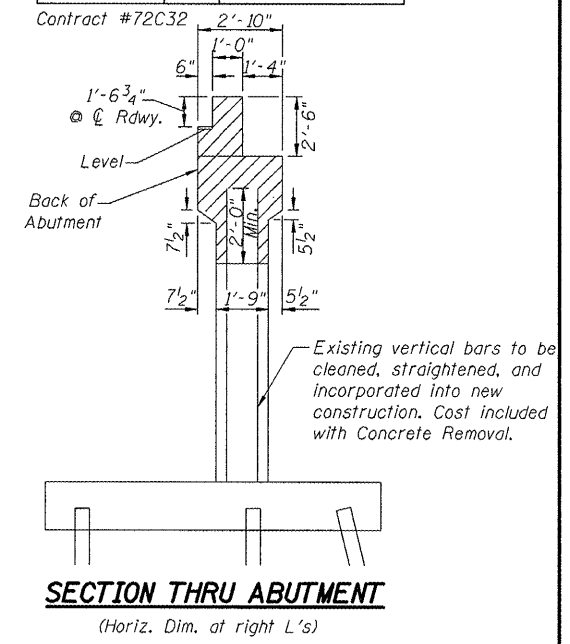
ELEVATION OF ABUTMENT (S.B. LANES)

(North Abument - Looking North, shown)
(South Abument - Looking South, similar/mirrored)



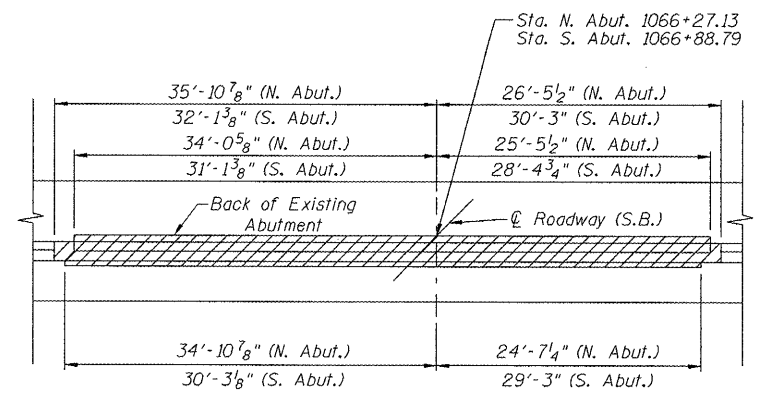
ELEVATION OF ABUTMENT (N.B. LANES)

(North Abument - Looking North, shown)
(South Abument - Looking South, similar/mirrored)



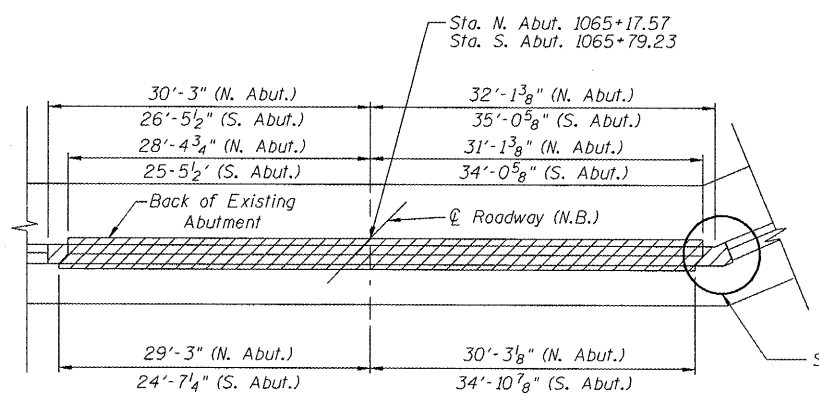
LEGEND

Concrete Removal



PLAN VIEW (S.B. LANES)

(North Abument, shown)
(South Abument, similar/mirrored)



PLAN VIEW (N.B. LANES)

(North Abument, shown)
(South Abument, similar/mirrored)

BILL OF MATERIAL

Item	Unit	Total
▲ Concrete Removal	Cu. Yd.	119
▲ Asbestos Bearing Pad Removal	Each	56

▲ For Information Only

ILLINOIS DEPARTMENT OF TRANSPORTATION

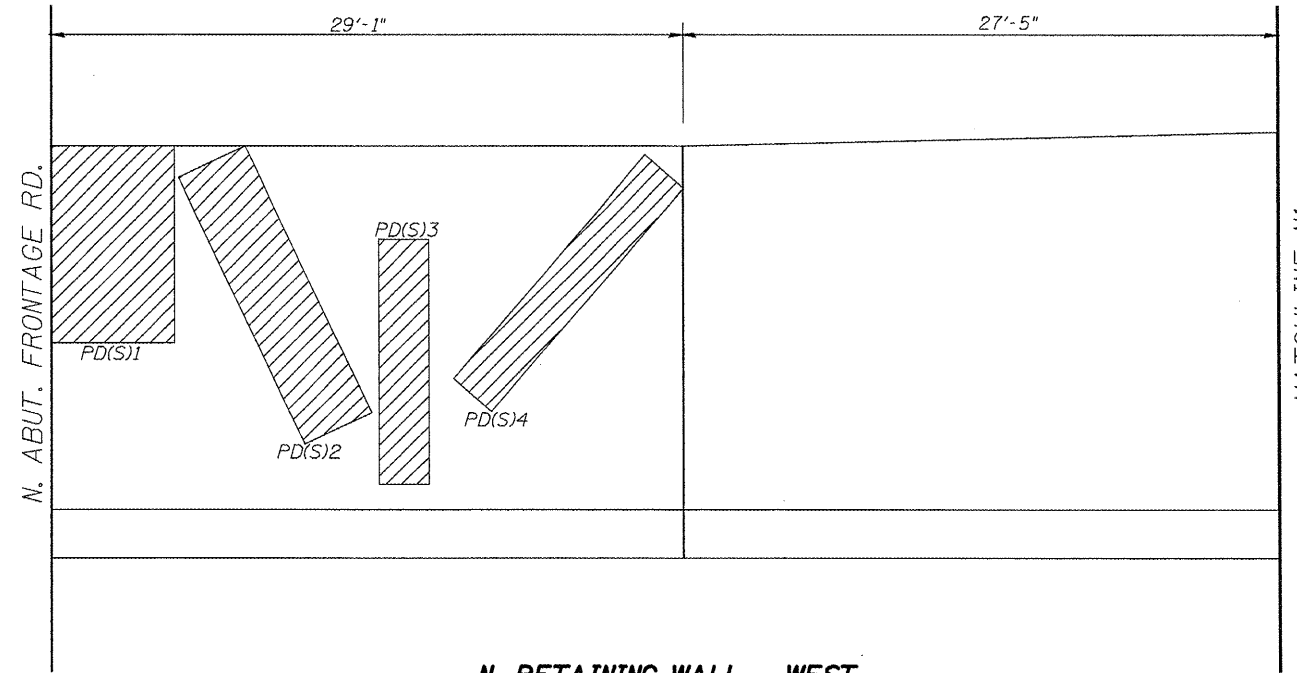
CONCRETE REMOVAL DETAILS
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
REVISED:

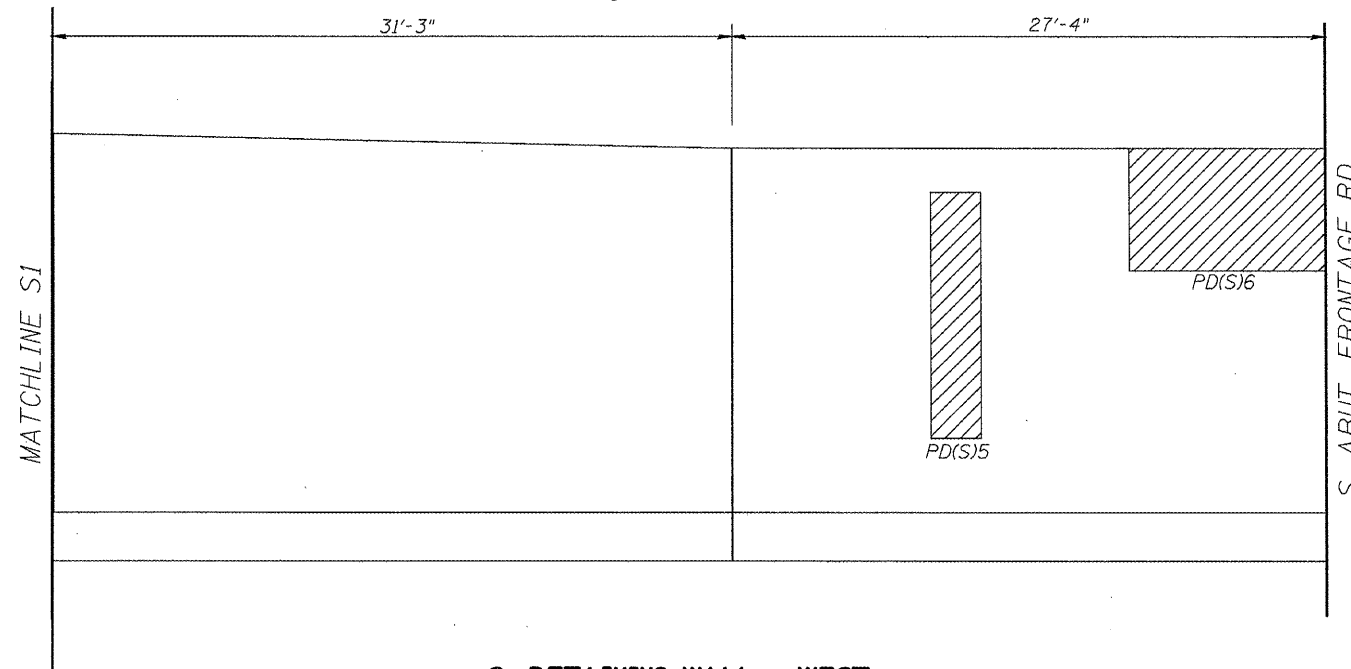
DRAWN BY: MLO
CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 19
F.A.I. 55	(68-4)F	MONTGOMERY	25	21	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72C32



N. RETAINING WALL - WEST
(Looking North)



S. RETAINING WALL - WEST
(Looking South)

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

Patch	Length (Ft)	Width (Ft)	Area (Sq Ft)
PD(S)1	8	5	40
PD(S)2	12	3	36
PD(S)3	10	2	20
PD(S)4	12	2	24
PD(S)5	10	2	20
PD(S)6	5	8	40
PD(S)7	10	2	20
PD(S)8	15	3	45
PD(S)9	10	10	100
PD(S)10	6	2	12
PD(S)11	10	2	20
PD(S)12	10	3	30

FOR INFORMATION ONLY

BILL OF MATERIAL

ITEM	UNIT	TOTAL
▲ Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	407
▲ For Information Only		

LEGEND

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

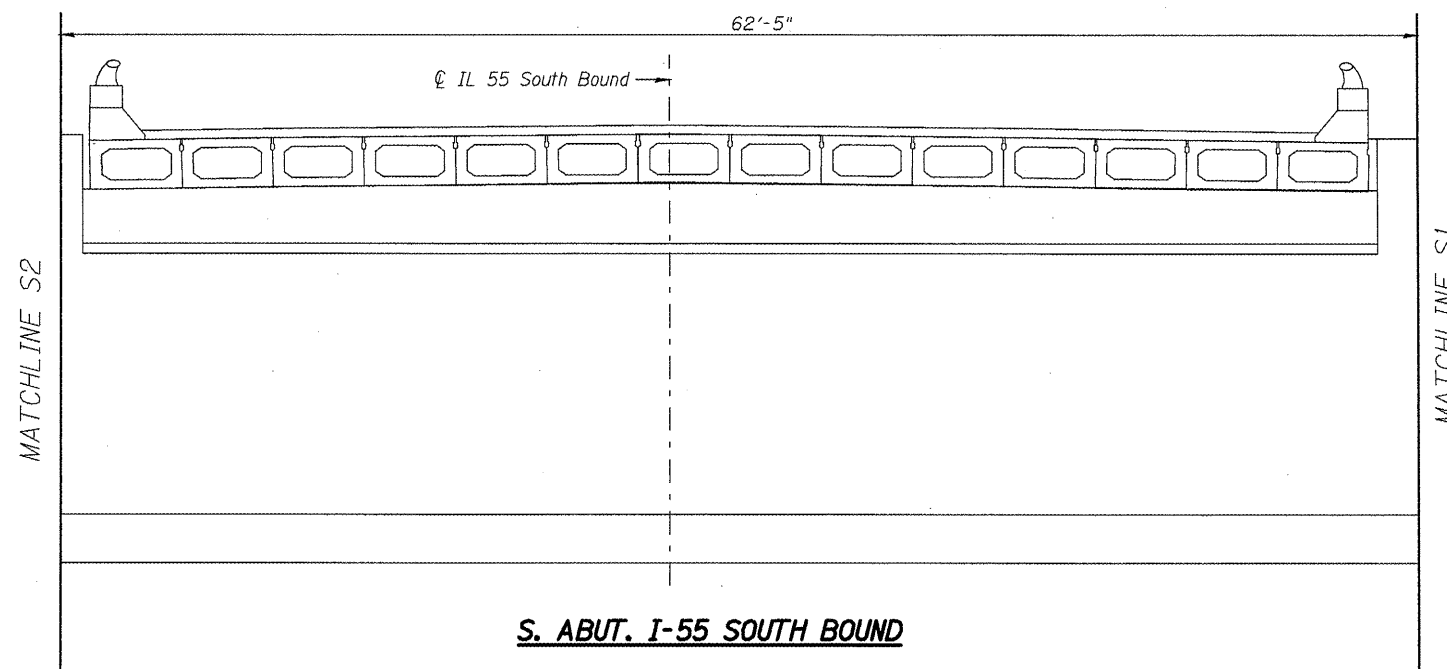
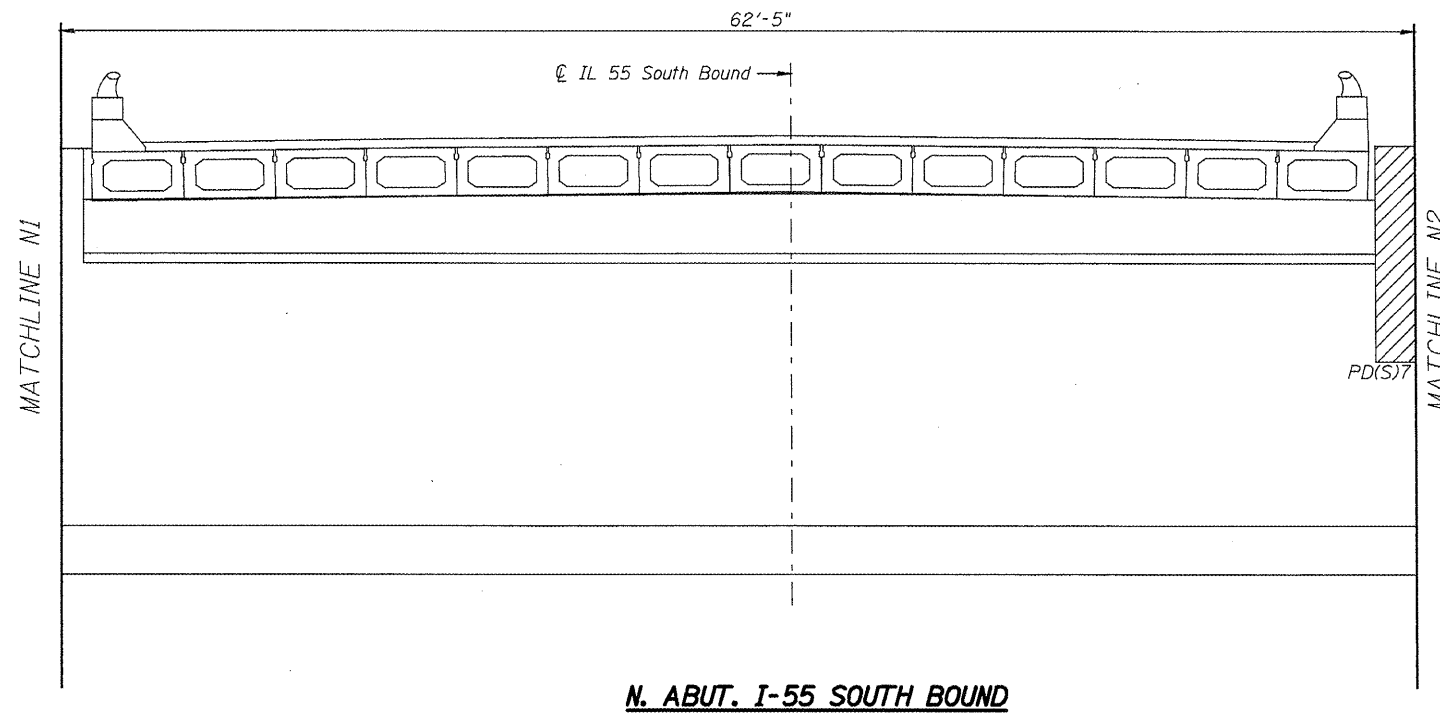
ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT & RETAINING WALL
CONCRETE REPAIR SHEET 1 OF 4
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08 DRAWN BY: MLO
REVISED: CHECKED BY: PBB

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION


ROUTE NO. F.A.I. 55	SECTION 68-4F	COUNTY MONTGOMERY	TOTAL SHEETS 25	SHEET NO. 22	SHEET NO. 20 23 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #72853



FOR
INFORMATION
ONLY

LEGEND

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

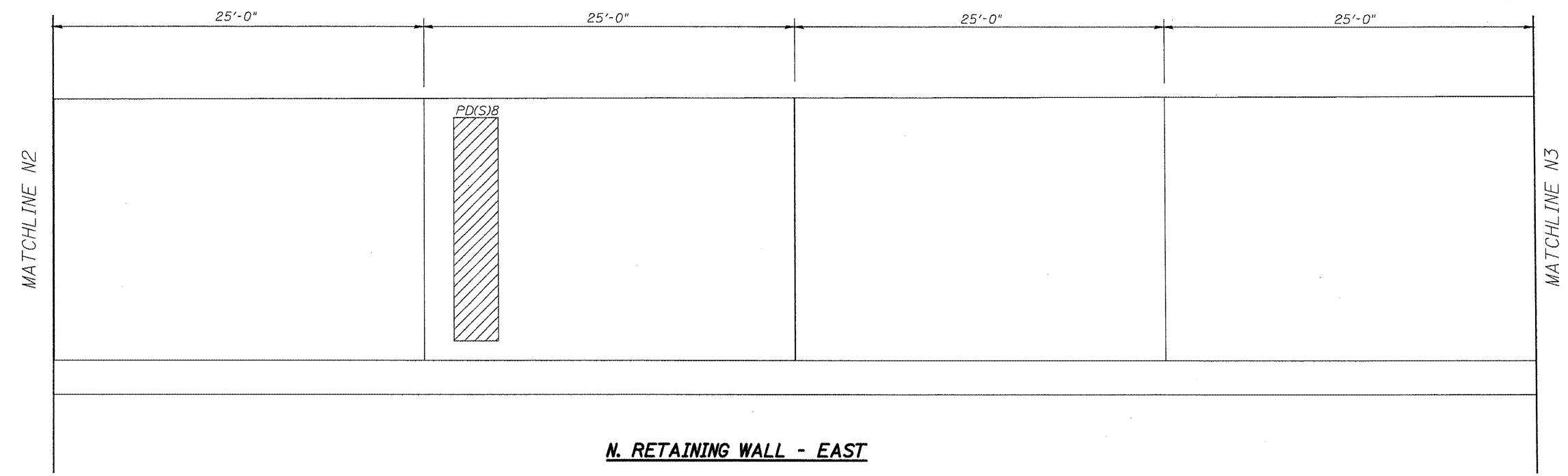
ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT & RETAINING WALL
CONCRETE REPAIR SHEET 2 OF 4
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
REVISED:

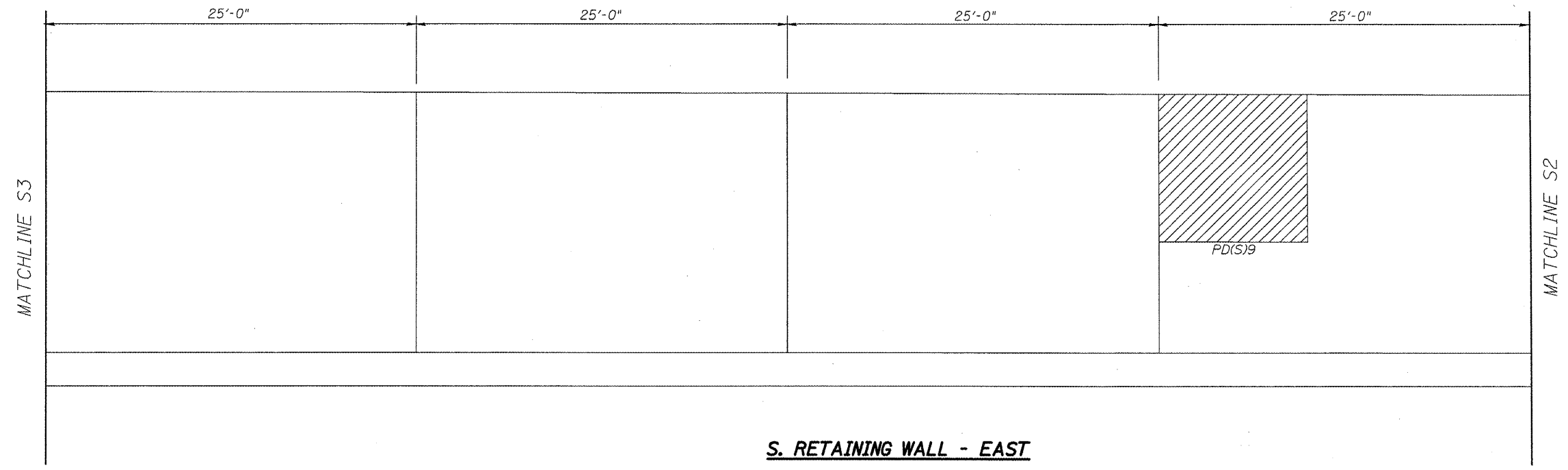
DRAWN BY: MLO
CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 21
F.A.I. 55	(68-4)F	MONTGOMERY	25	23	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #72853




N. RETAINING WALL - EAST



S. RETAINING WALL - EAST

**FOR
INFORMATION
ONLY**

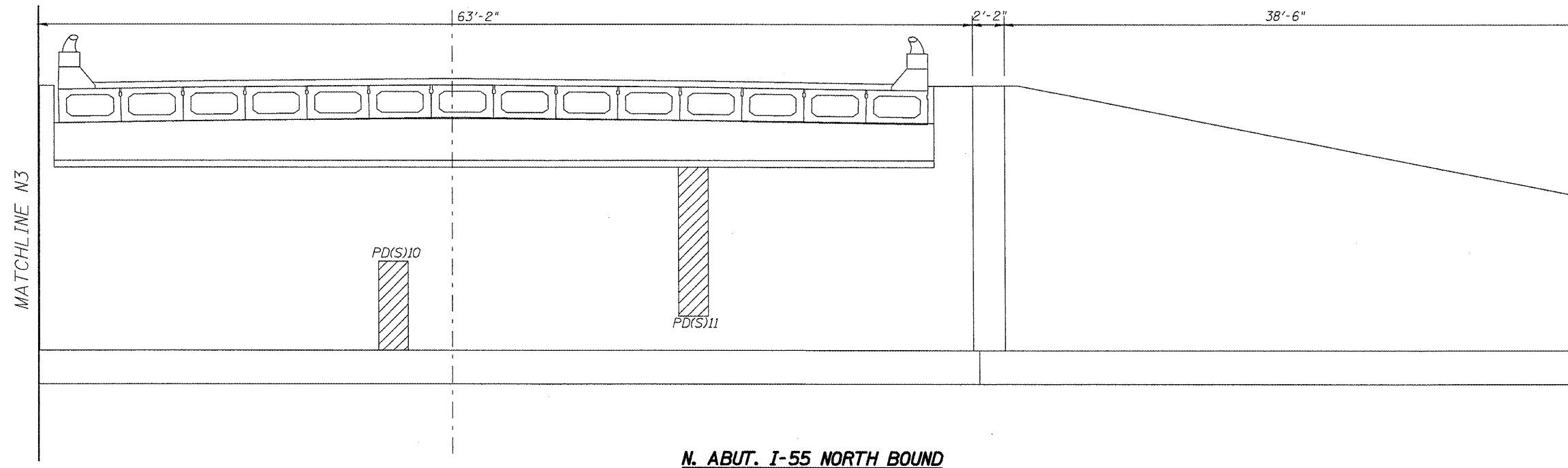
LEGEND

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

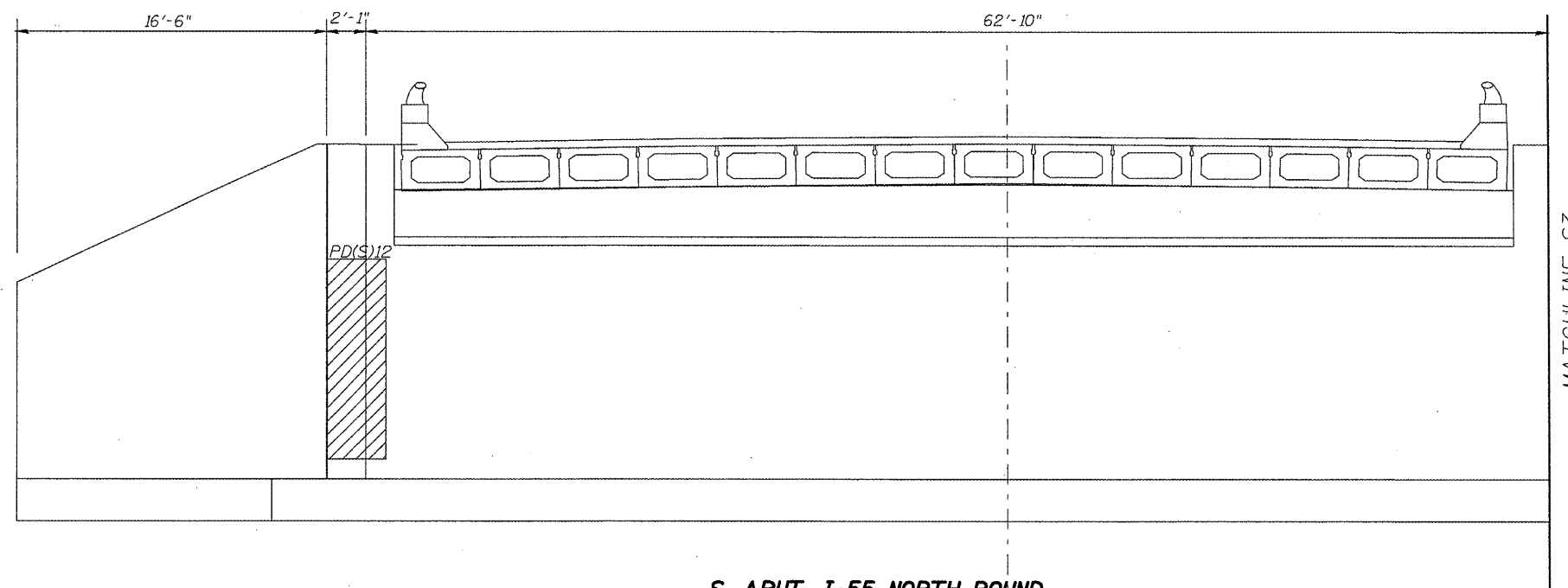
ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT & RETAINING WALL
CONCRETE REPAIR SHEET 3 OF 4
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
 DATE: 04-08 DRAWN BY: MLO
 REVISED: CHECKED BY: PBB

ROUTE NO.	SECTION	COUNTY	JOINTS SHEETS	SHEET NO.	SHEET NO. 22
F.A.I. 55	(68-4)F	MONTGOMERY	25	24	23 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #72C32




N. ABUT. I-55 NORTH BOUND



S. ABUT. I-55 NORTH BOUND

**FOR
INFORMATION
ONLY**

LEGEND

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

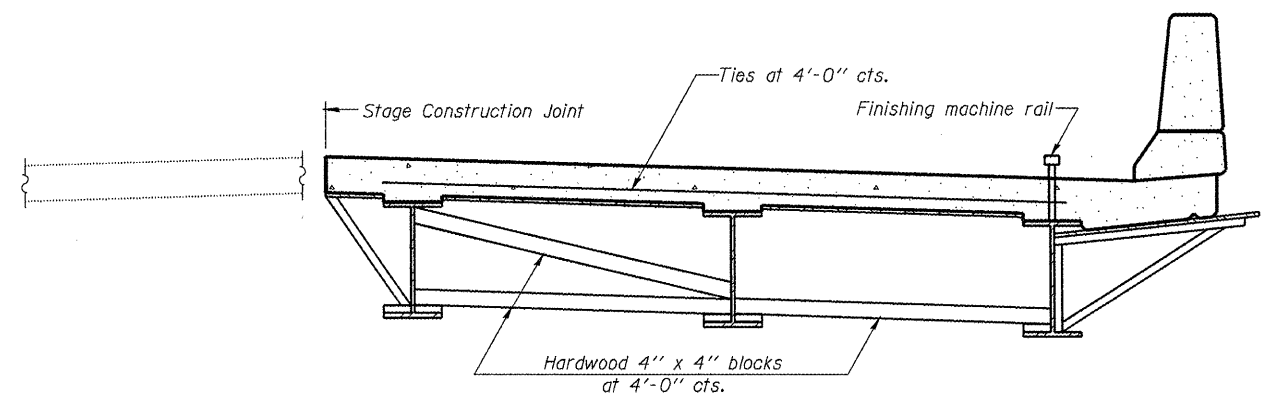
ILLINOIS DEPARTMENT OF TRANSPORTATION
ABUTMENT & RETAINING WALL
CONCRETE REPAIR SHEET 4 OF 4
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.

DATE: 04-08
 REVISED:
 DRAWN BY: MLO
 CHECKED BY: PBB

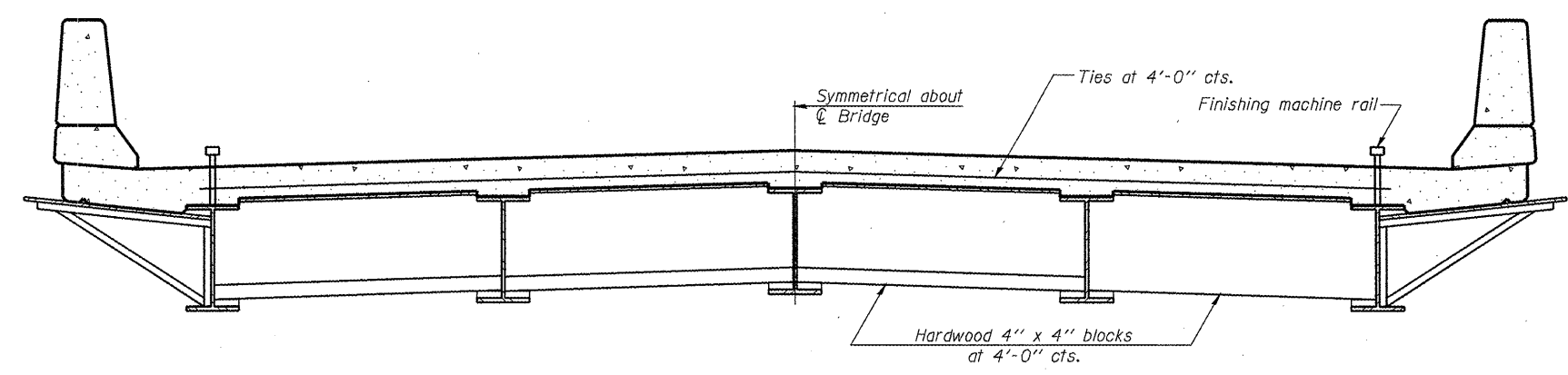
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 23 23 SHEETS
F.A.I. 55	(68-4)F	MONTGOMERY	25	25	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #72C32

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
 The finishing machine rails shall be placed on the top flange of the exterior beams.
 The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
 For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR STAGE CONSTRUCTION



FORM BRACES FOR STANDARD CONSTRUCTION

**FOR
INFORMATION
ONLY**

ILLINOIS DEPARTMENT OF TRANSPORTATION
CANTILEVER FORMING BRACKET DETAIL
I 55 OVER MACOUPIN CREEK
F.A.I. ROUTE 55 - SEC. (68-4)F
MONTGOMERY COUNTY
STATION 1066+03.18
STRUCTURE NO. 068-0038 N.B.
STRUCTURE NO. 068-0039 S.B.
 DATE: 04-08 DRAWN BY: MLO
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