03-07-2025 LETTING ITEM 099

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	1
	ILLINOIS	CONTRACT NO. 74A28		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

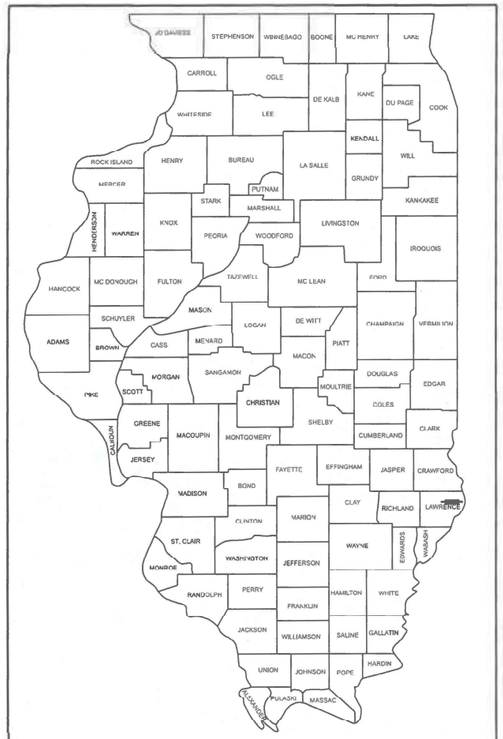
FAP ROUTE 327 (US 50 FR)
SECTION 3BR
PROJECT HBIP-884H(963)
SUPERSTRUCTURE REPLACEMENT
LAWRENCE COUNTY

C-97-118-20

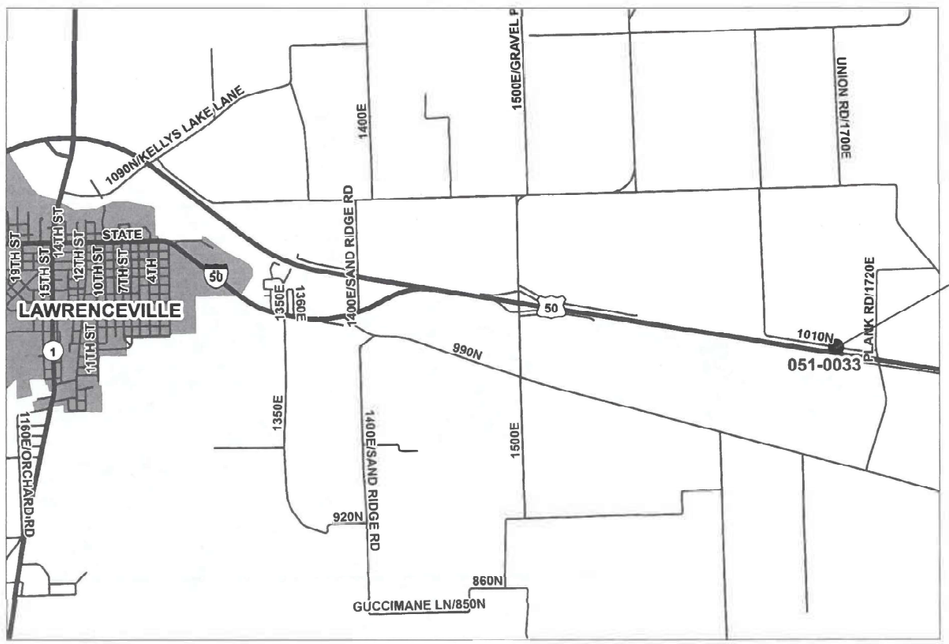
FOR INDEX OF SHEETS, SEE SHEET NO. 2

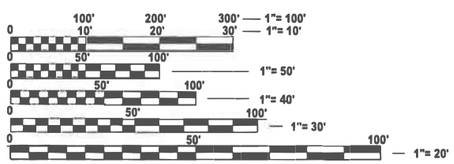
ADT = 20 (2021)

D-97-42-08



LOCATION OF SECTION INDICATED THUS: -





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: MATTHEW BOWER
PROJECT MANAGER: TRAVIS WALK

CONTRACT NO. 74A28

GROSS LENGTH = 57.8 FT.
NET LENGTH = 57.8 FT.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED DECEMBER 12 20 24
Jeffrey P Myerly
REGIONAL ENGINEER

January 31 20 25
ENGINEER OF DESIGN AND ENVIRONMENT

January 31 20 25
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV - MS

INDEX OF SHEETS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 16:

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-10	PAVEMENT JOINTS
515001-04	NAME PLATE FOR BRIDGES
701901-10	TRAFFIC CONTROL DEVICES
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

GENERAL NOTES

STONE DUMPED RIPRAP IS TO BE PLACED ALONG THE FACE OF EACH ABUTMENT PRIOR TO PLACING THE PROPOSED SUPERSTRUCTURE. PLACEMENT OF STONE DUMPED RIPRAP IS AS DIRECTED BY THE ENGINEER. NO WORK IS PLANNED IN THE CHANNEL.

FOR CONCRETE WEARING SURFACES, 5" CONSTRUCTION CLASS BS CONCRETE SHALL CONTAIN A BLEND OF TWO OR MORE COARSE AGGREGATE SIZES BLENDED IN ACCORDANCE WITH ARTICLE 1004.02(d). THE BLENDED AGGREGATE WILL CONSIST OF CA-7 OR CA-11 WITH CA-13,CA-14, OR CA-16. THE BLENDED COARSE AGGREGATE GRADATION SHALL HAVE A MINIMUM OF 45% PASSING THE 1/2" (12.5MM) SIEVE AND A MAXIMUM OF 60% PASSING THE 1/2" (12.5MM) SIEVE AT THE DISCRETION OF THE ENGINEER. THE COST OF COMPLIANCE WITH THIS REQUIREMENT SHALL BE INCLUDED IN THE COST OF CONCRETE WEARING SURFACE, 5".

REV - MS

MODEL: Index [Sheet]
FILE NAME: c:\pw_work\pwidot\walktmid0985189\D774A28-sht-gennote.dgn

USER NAME = Travis.Walk	DESIGNED - T. WALK	REVISED -	
	DRAWN - T. WALK	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/12/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, GENERAL NOTES, & LIST OF STANDARDS

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	2
		CONTRACT NO. 74A28		
	ILLINOIS FED. AID PROJECT			

80% FED
20% STATE

CONSTR. CODE	
	NONE
	0013

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RURAL
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	20	20
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	13	13
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	6	6
48301000	PROTECTIVE COAT	SQ YD	173	173
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1
50300225	CONCRETE STRUCTURES	CU YD	3.2	3.2
50400205	PRECAST PRESTRESSED CONCRETE DECK BEAMS (11" DEPTH)	SQ FT	1452	1452
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4460	4460
50900305	STEEL RAILING, TYPE T1	FOOT	114	114
51500100	NAME PLATES	EACH	1	1
52100520	ANCHOR BOLTS, 1"	EACH	24	24
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3	3
67100100	MOBILIZATION	L SUM	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28

80% FED
20% STATE

CONSTR. CODE	
	NONE
	0013

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	RURAL
X1500004	BITUMINOUS SURFACE TREATMENT, A1	SQ YD	38	38
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.25	0.25
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	162	162
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1

REV - MS

MODEL: SOQ [Sheet]
FILE NAME: c:\pw_work\pwidot\walktmd\d0985189\D774A28-sht-soq.dgn

USER NAME = Travis.Walk	DESIGNED - T. WALK	REVISED -	
	DRAWN - T. WALK	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/12/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

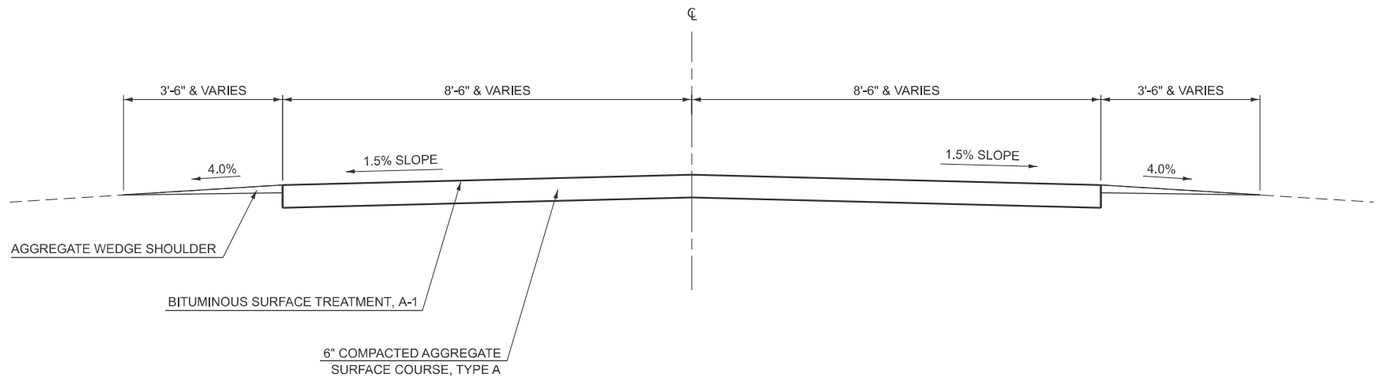
SUMMARY OF QUANTITIES

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	3
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		

PROPOSED FRONTAGE ROAD TYPICAL SECTION

STA. 1849+66 TO STA. 1850+44



MODEL: Typical Section [Sheet]
FILE NAME: c:\pw_work\pwidot\walktmd\d0985189\D774A28-sht-typicals.dgn

USER NAME = Travis.Walk	DESIGNED - T. WALK	REVISED -	
	DRAWN - T. WALK	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	4
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		

AGGREGATE SURFACE COURSE, TYPE A					
STATIONING		WIDTH	LENGTH	DEPTH	WEIGHT
		(FOOT)	(FOOT)	(FOOT)	(TON)
1849+66	1849+76	17.0	10.0	0.5	6.5
1850+34	1850+44	17.0	10.0	0.5	6.5
				TOTAL	13.0

BITUMINOUS SURFACE TREATMENT, A1				
STATIONING		WIDTH	LENGTH	AREA
		(FOOT)	(FOOT)	(SQ YD)
1849+66	1849+76	17.0	10.0	18.9
1850+34	1850+44	17.0	10.0	18.9
			TOTAL	38.0

AGGREGATE WEDGE SHOULDER, TYPE B						
STATIONING		SIDE	WIDTH	LENGTH	DEPTH	WEIGHT
			(FOOT)	(FOOT)	(FOOT)	(TON)
1849+66	1849+76	LT	3.50	10.0	0.5	1.3
1850+34	1850+44	LT	3.50	10.0	0.5	1.3
1849+66	1849+76	RT	3.50	10.0	0.5	1.3
1850+34	1850+44	RT	3.50	10.0	0.5	1.3
					TOTAL	6.0

SEEDING, CLASS 2 (SPECIAL)	
STA. 1849+66 TO 1850+44	0.25 ACRE

MODEL: Schedule of Quantities [Sheet]
FILE NAME: c:\pw_work\pwidot\walktmd\d0985189\D774A28-sht-schedule.dgn

USER NAME = Travis.Walk	DESIGNED - T. WALK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES	
	DRAWN - T. WALK	REVISED -			
	CHECKED -	REVISED -			
PLOT DATE = 12/11/2024	DATE -	REVISED -		SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.	

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	5
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		

AGGREGATE SURFACE COURSE, TYPE A
BITUMINOUS SURFACE TREATMENT, A1

AGGREGATE WEDGE SHOULDER, TYPE B

N

ALLISON DITCH

℄ SN 051-0033
STATION 1850+04.75

EX. ROW

PI STA 1852+00.03

+69

+44

1847 FAP 327 (US 50 FRONTAGE RD) 1848 1849 1850+00 1851 1852

AC AC AC AC AC AC AC AC

LIMITS OF CONSTRUCTION

MODEL: Plan - Plan [Sheet]
FILE NAME: c:\pw_work\pwidot\walktm\d0985189\D7774A28-sht-plan.dgn

USER NAME = Travis.Walk	DESIGNED - T. WALK	REVISED -	
	DRAWN - T. WALK	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/12/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEET
SN 051-0033

SCALE: | SHEET 1 OF 1 SHEETS | STA. 1847+00.00 | TO STA. 1853+00.00

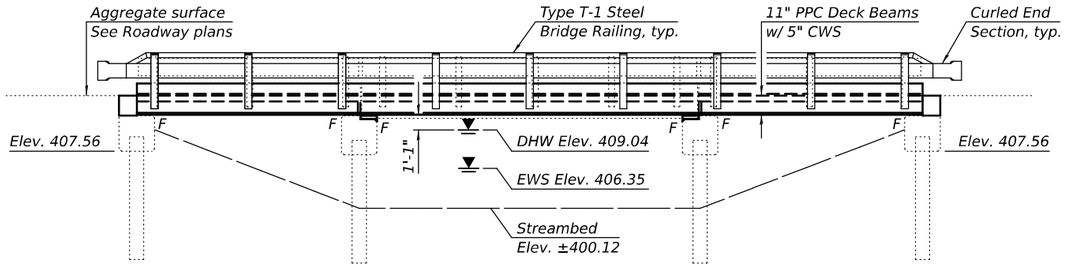
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	6
		CONTRACT NO. 74A28		
	ILLINOIS FED. AID PROJECT			

Benchmark: BM 440: Cut Square on NW of EB US-50 bridge - 051-0020
Sta. 1849+50, 184ft RT of C.L. Frontage Road 1699, Elev. = 432.71

Existing Structure: S.N. 051-0033 was originally built in 1957 under Section 51-24B-1. The structure is a precast concrete channel beam superstructure supported on stub abutments and pile bent piers. The current configuration is a three-span bridge with a 57'-10" back to back abutments with 0-degree skew. Span lengths are 15'-11.5"; 24'-0"; 15'-11.5". The bridge clear width is 24'-0" face to face of curb and the superstructure width is 26'-0" out to out. The structure was repaired in 2008 due to flooding. The existing superstructure is to be removed and replaced.

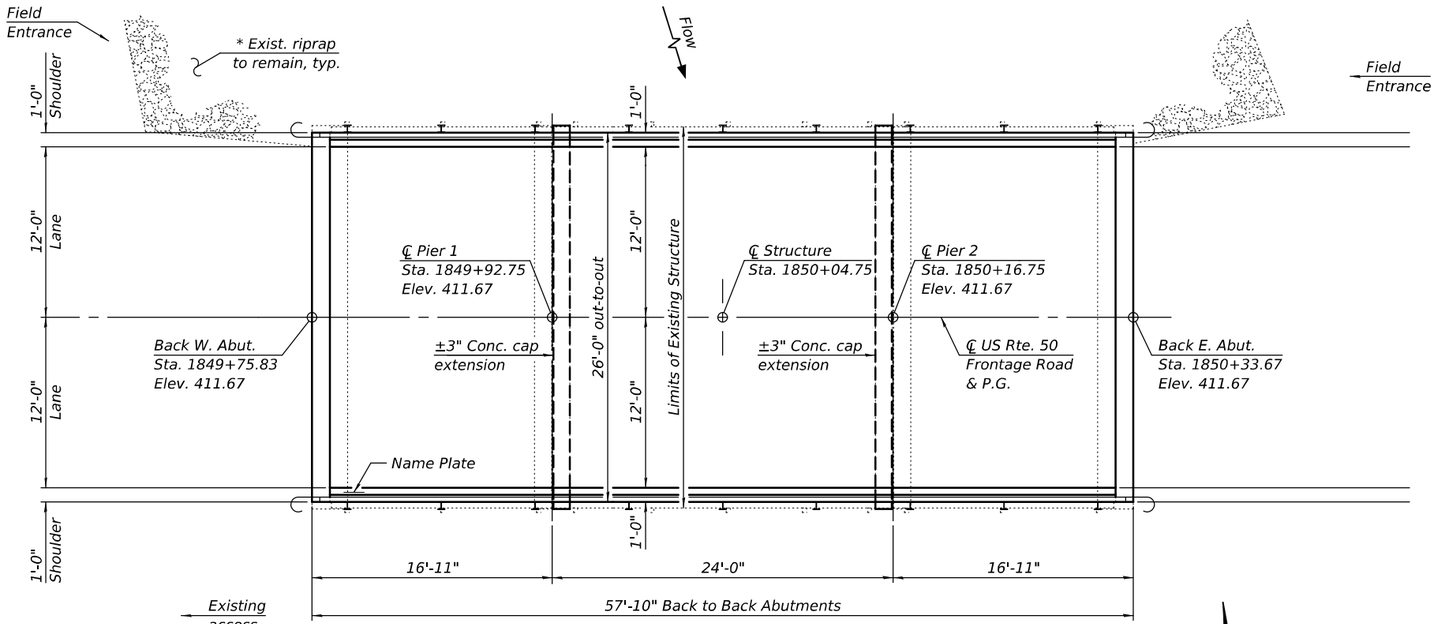
Construction to be performed under road closure.

No salvage.

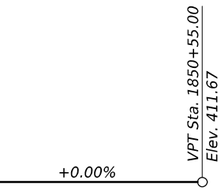


ELEVATION
(Looking North)

* Additional stone dumped Riprap, Class A5 is to be placed to supplement the existing riprap coverage along the faces of the existing abutments as directed by the Engineer. See Roadway Plans.



PLAN



PROFILE GRADE
(along ℄ US 50 Frontage Road)

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

2006 Seismic Retrofitting Manual for Highway Structures: Part 1 - Bridges (FHWA-HRT-06-032)

LOADING HL-93

Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Retrofit Category (SRC) = B
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.222
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.505
Soil Site Class = D
Performance Level = Life Safety

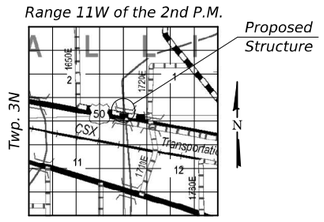
PROPOSED DESIGN STRESSES

FIELD UNITS

New Construction
f 'c = 3,500 psi (Substructure)
f 'c = 5,000 psi (Concrete Wearing Surface)
fy = 60,000 psi (Reinforcement)

Precast Prestressed Units
f 'c = 6,000 psi
f 'ci = 5,000 psi
fpu = 270,000 psi (½" dia low lax strands)
fpbt = 201,960 psi (½" dia low lax strands)

Existing Construction
fc = 800 psi (Substructure Concrete)
fs = 20,000 psi (Substructure Reinforcement)



LOCATION SKETCH

GENERAL PLAN & ELEVATION
US-50 FRONTAGE ROAD 1699
OVER ALLISON DITCH
F.A.P. RTE. 327 - SECTION 3BR
LAWRENCE COUNTY
STATION 1850+04.75
STRUCTURE NO. 051-0033

JAYME F. SCHIFF
081-005540
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

EXPIRES 11-30-2026

DESIGNED	-	DAVID H. RICHTER	
CHECKED	-	TIFFANY L. ADAMS	
DRAWN	-	ANTHONY J. NOVELLO	
CHECKED	-	DHR / TLA	

EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
DATE - 1/30/2025
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	7
		CONTRACT NO. 74A28		
		ILLINOIS	FED. AID PROJECT	

MODEL: 0510033-74A28-007
FILE NAME: pw:\\fdot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\OBM Projects\0510033\CADData\Bridge\0510033-74A28.dgn
1/30/2025 2:18:15 PM

INDEX OF SHEETS

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to the existing structure have been taken from existing plans 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 quanity actually furnished at the unit price bid for the work.

The Contractor is advised that the existing precast channel beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the conditions of the beams when developing construction procedures for removal and replacement of the superstructure.

Backfill shall be placed behind the abutments after the construction of the abutment backwalls are complete and beams are installed and forming behind the abutments have been removed. See Article 502.10 of the Standard Specifications.

The back face of the new portion of the abutment backwalls shall be waterproofed according to Article 503.18 of the Standard Specifications.

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.)				Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	407.56	400.12	400.12	407.56	7
Q200	407.56	400.12	400.12	407.56	
Design	407.56	400.12	400.12	407.56	
Check	407.56	400.12	400.12	407.56	

STATION 1850+04.75
RE-BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 327 - SEC. 3BR
LOADING HL-93
STRUCTURE NO. 051-0033

NAME PLATE

See Std. 515001

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

WATERWAY INFORMATION

Drainage Area = 16.4 sq.mi.

Existing Overtopping Elev. = 411.4 @ Sta. 1851+05
Proposed Overtopping Elev. = 411.4 @ Sta. 1851+05

Flood	Freq. Yr.	Q C.F.S.	Opening Ft²		Nat.	Head - Ft.		Headwater El.	
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Ten-Year	10	694	227	227	408.71	0.18	0.18	408.89	408.89
Design	15	778	242	242	409.04	0.18	0.18	409.22	409.22
	50	1,050	269	269	409.99	0.38	0.38	410.37	410.37
Base	100	1,200	269	269	410.50	0.52	0.52	411.02	411.02
Overtopping	200	1,358	269	269	410.99	0.53	0.53	411.52	411.52
Max. Calc.	500	1,560	269	269	411.48	0.47	0.47	411.95	411.95

Existing 10 Year Outlet Velocity = 4.9 ft/s
Proposed 10 Year Outlet Velocity = 3.3 ft/s

TOTAL BILL OF MATERIAL

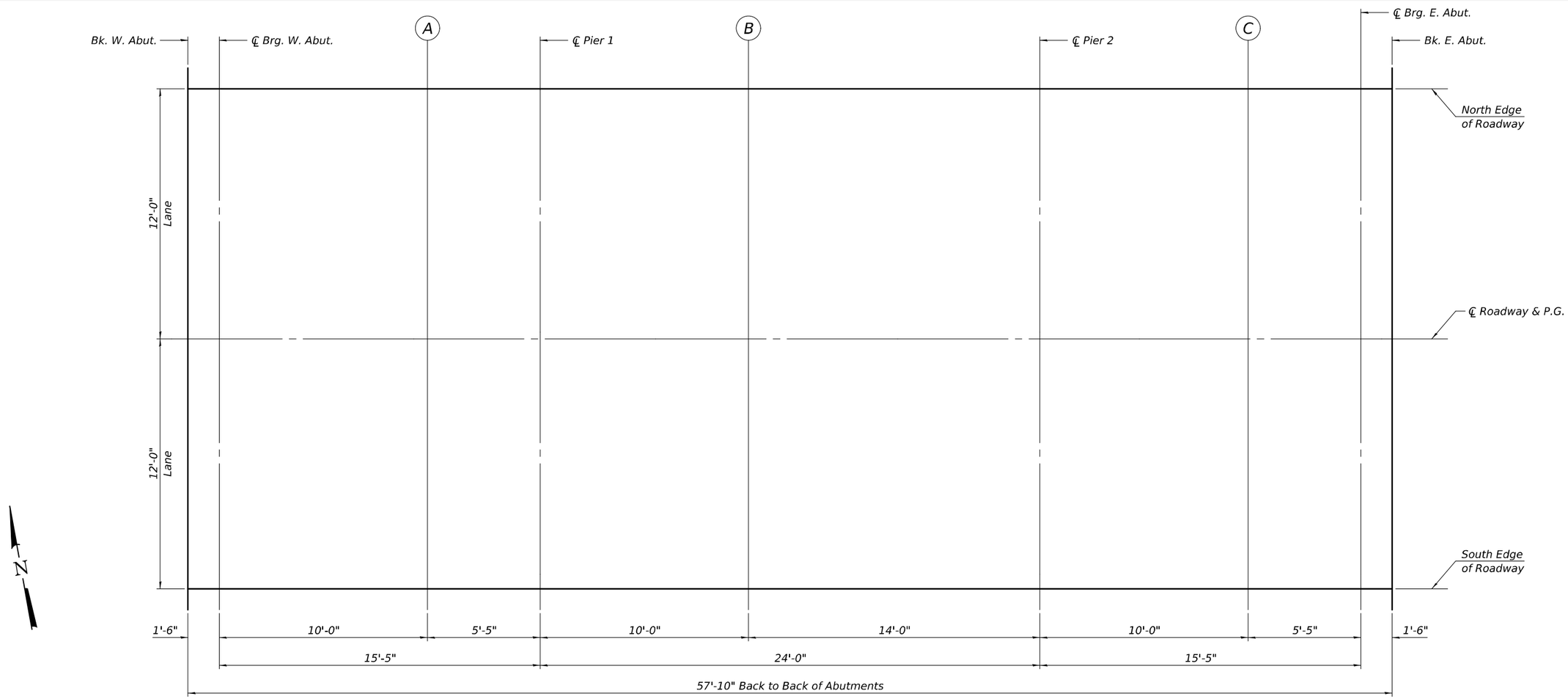
ITEM	UNIT	SUPER	SUB	TOTAL
Protective Coat	Sq. Yd.	173		173
Removal of Existing Superstructures	Each	1		1
Concrete Structures	Cu. Yd.		3.2	3.2
Precast Prestressed Concrete Deck Beams (11" Depth)	Sq. Ft.	1452		1452
Reinforcement Bars, Epoxy Coated	Pound	3740	720	4460
Steel Railing, Type T1	Foot	114		114
Name Plates	Each	1		1
Anchor Bolts, 1"	Each		24	24
Concrete Wearing Surface, 5"	Sq. Yd.	162		162

MODEL: 0510033-74A28-008
FILE NAME: pw://ildot-pw.bentley.com:PWIDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn

1/31/2025 8:18:14 AM

DESIGNED - DAVID H. RICHTER	EXAMINED	DATE - JANUARY 30, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - TIFFANY L. ADAMS	ENGINEER OF BRIDGE DESIGN		
DRAWN - ANTHONY J. NOVELLO	PASSED	REVISED -	**GENERAL DATA STRUCTURE NO. 051-0033**
CHECKED - DHR / TLA	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	SHEET 2 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	8
		CONTRACT NO. 74A28		
		ILLINOIS	FED. AID PROJECT	



PLAN

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
Bk. of W. Abut.	1849+75.83	-12.00	411.49
℄ Brg. W. Abut.	1849+77.33	-12.00	411.49
A	1849+87.33	-12.00	411.49
℄ Pier 1	1849+92.75	-12.00	411.49
B	1850+02.75	-12.00	411.49
℄ Pier 2	1850+16.75	-12.00	411.49
C	1850+26.75	-12.00	411.49
℄ Brg. E. Abut.	1850+32.17	-12.00	411.49
Bk. of E. Abut.	1850+33.67	-12.00	411.49

℄ ROADWAY & PG

Location	Station	Offset	Theoretical Grade Elevations
Bk. of W. Abut.	1849+75.83	0.00	411.67
℄ Brg. W. Abut.	1849+77.33	0.00	411.67
A	1849+87.33	0.00	411.67
℄ Pier 1	1849+92.75	0.00	411.67
B	1850+02.75	0.00	411.67
℄ Pier 2	1850+16.75	0.00	411.67
C	1850+26.75	0.00	411.67
℄ Brg. E. Abut.	1850+32.17	0.00	411.67
Bk. of E. Abut.	1850+33.67	0.00	411.67

SOUTH EDGE OF ROADWAY

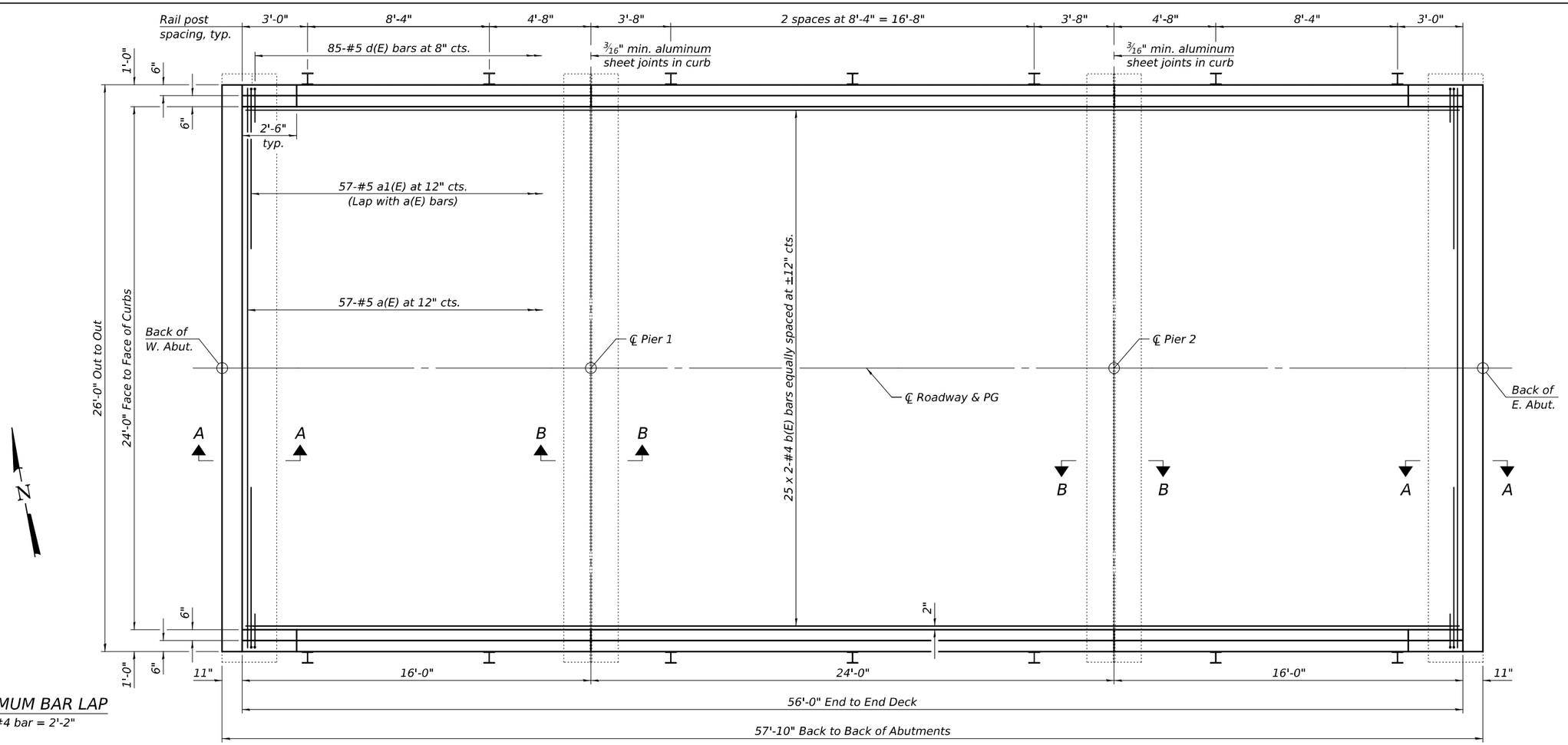
Location	Station	Offset	Theoretical Grade Elevations
Bk. of W. Abut.	1849+75.83	12.00	411.49
℄ Brg. W. Abut.	1849+77.33	12.00	411.49
A	1849+87.33	12.00	411.49
℄ Pier 1	1849+92.75	12.00	411.49
B	1850+02.75	12.00	411.49
℄ Pier 2	1850+16.75	12.00	411.49
C	1850+26.75	12.00	411.49
℄ Brg. E. Abut.	1850+32.17	12.00	411.49
Bk. of E. Abut.	1850+33.67	12.00	411.49

MODEL: 0510033-74A28-009
FILE NAME: pw://illdot-pw.bentley.com:PWIDOT/Documents\IDOT Offices\Bureau of Bridges and Structures\OBM Projects\0510033\CADData\Bridge\0510033-74A28.dgn

DESIGNED - DAVID H. RICHTER	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - JANUARY 30, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TOP OF SLAB ELEVATIONS STRUCTURE NO. 051-0033**
CHECKED - TIFFANY L. ADAMS	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET 3 OF 10 SHEETS
DRAWN - ANTHONY J. NOVELLO			REVISED -		
CHECKED - DHR / TLA					

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	9
		CONTRACT NO. 74A28		
		ILLINOIS	FED. AID PROJECT	

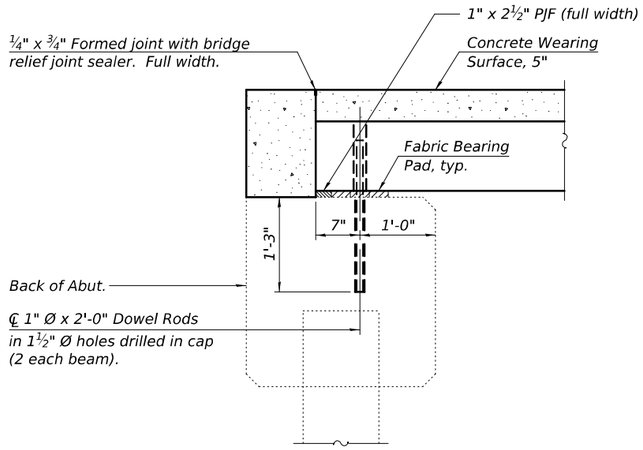
1/31/2025 8:19:30 AM



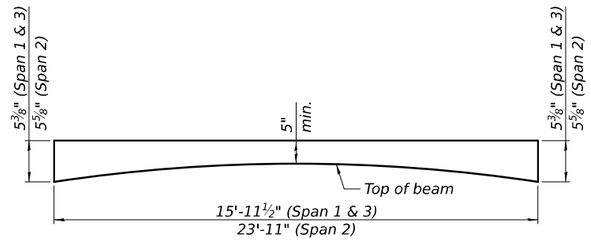
PLAN

MINIMUM BAR LAP

#4 bar = 2'-2"

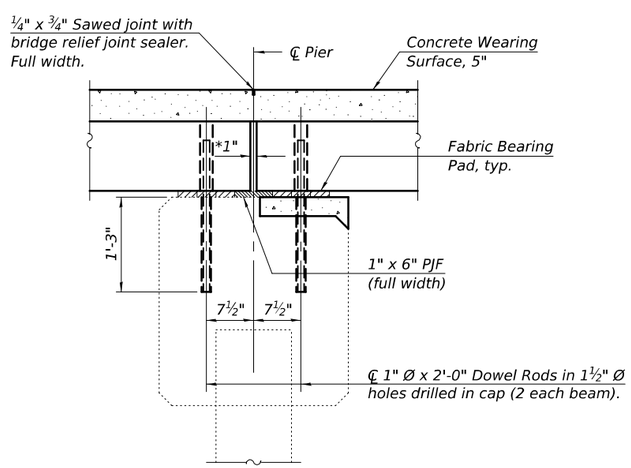


SECTION A-A



ANTICIPATED CONCRETE WEARING SURFACE PROFILE

(For information only)



SECTION B-B

Notes:

See sheet 5 of 10 for Superstructure Details and Bill of Material.

Bars indicated thus 25 x 2-#4 etc. indicates 25 lines of bars with 2 lengths per line.

Concrete wearing surface shall be placed prior to casting abutment backwall.

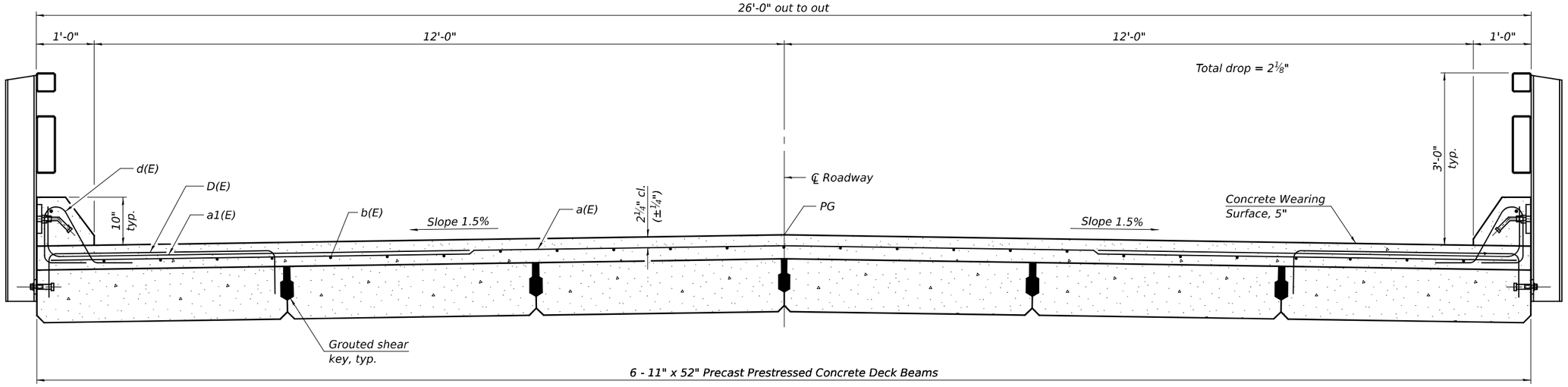
See sheets 7 and 8 of 10 for fabric bearing pad details.

** 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.*

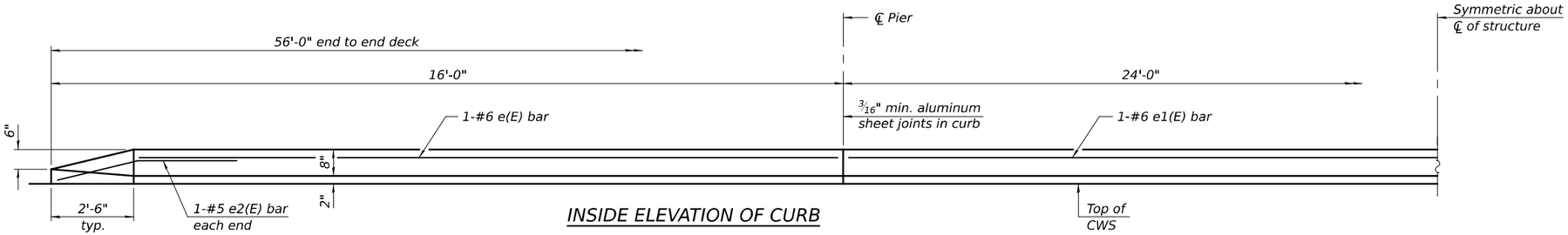
MODEL: 0510033-74A28-010
FILE NAME: pw:\\fltiot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\OBM Projects\0510033\CADData\Bridge\0510033-74A28.dgn

DESIGNED - DAVID H. RICHTER	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - JANUARY 30, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE STRUCTURE NO. 051-0033**	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - TIFFANY L. ADAMS						327	3BR	LAWRENCE	16	10
DRAWN - ANTHONY J. NOVELLO	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET 4 OF 10 SHEETS			CONTRACT NO. 74A28		
CHECKED - DHR / TLA			REVISED -					ILLINOIS	FED. AID PROJECT	

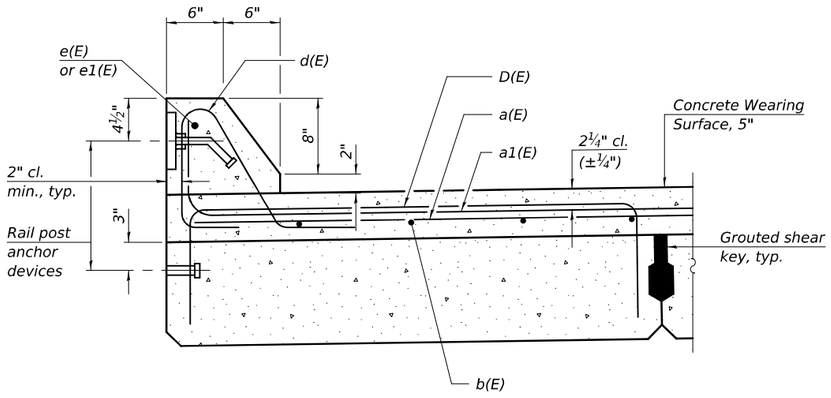
1/31/2025 8:20:36 AM



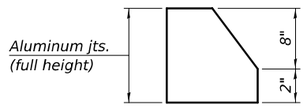
CROSS SECTION
(Looking East)



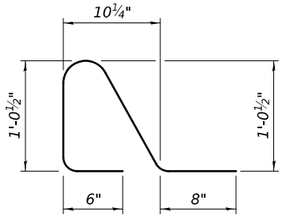
INSIDE ELEVATION OF CURB



SECTION THRU CURB



CURB JOINT DETAILS

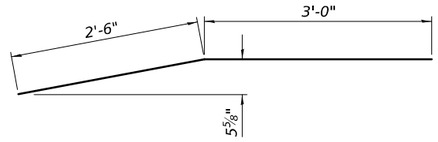


BAR d(E)

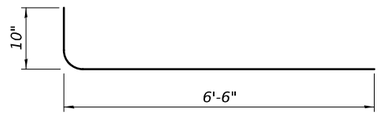
Notes:

The 3/16" min. aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated with 5 mils of either bitumen paint or epoxy paint to minimize reaction with wet concrete. Cost included with Concrete Wearing Surface, 5".

Curbs shall be poured in the field. Quantity included with Concrete Wearing Surface, 5".



BAR e2(E)



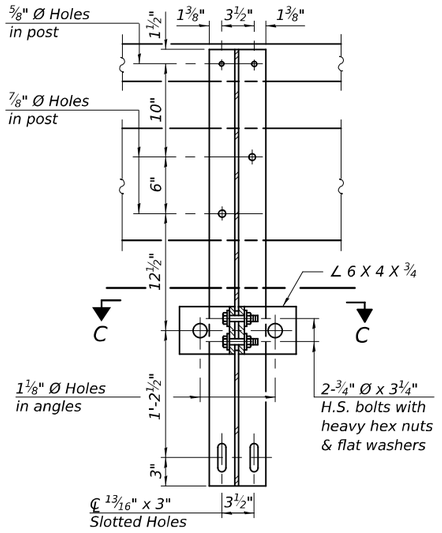
BAR a1(E)

SUPERSTRUCTURE BILL OF MATERIAL

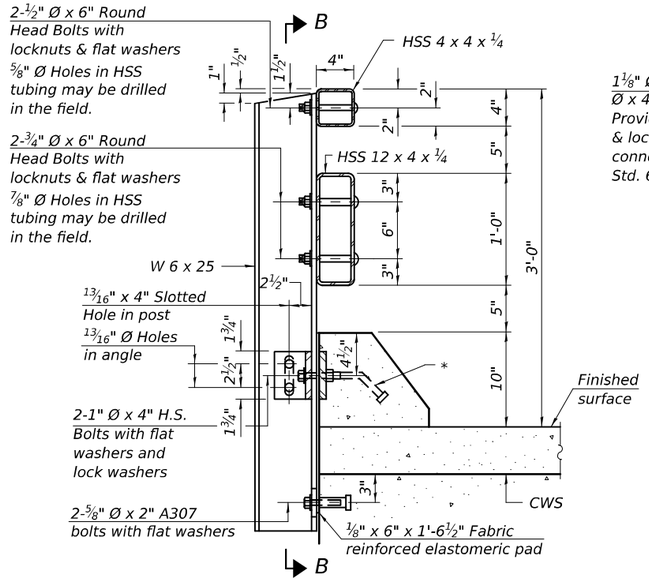
Bar	No.	Size	Length	Shape
a(E)	57	#5	25'-8"	
a1(E)	57	#5	7'-4"	
b(E)	50	#4	28'-11"	
d(E)	170	#5	3'-7"	
e(E)	4	#6	13'-2"	
e1(E)	2	#6	23'-8"	
e2(E)	4	#5	5'-6"	
Reinforcement Bars, Epoxy Coated			Pound	3740
Concrete Wearing Surface, 5"			Sq. Yd.	162

DESIGNED - DAVID H. RICHTER	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - JANUARY 30, 2025	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 051-0033	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - TIFFANY L. ADAMS						327	3BR	LAWRENCE	16	11
DRAWN - ANTHONY J. NOVELLO	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET 5 OF 10 SHEETS			CONTRACT NO. 74A28		
CHECKED - DHR / TLA			REVISED -					ILLINOIS FED. AID PROJECT		

MODEL: 0510033-74A28-011
FILE NAME: pw://ltdot-pw.bentley.com:PWIDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn
1/31/2025 8:21:39 AM

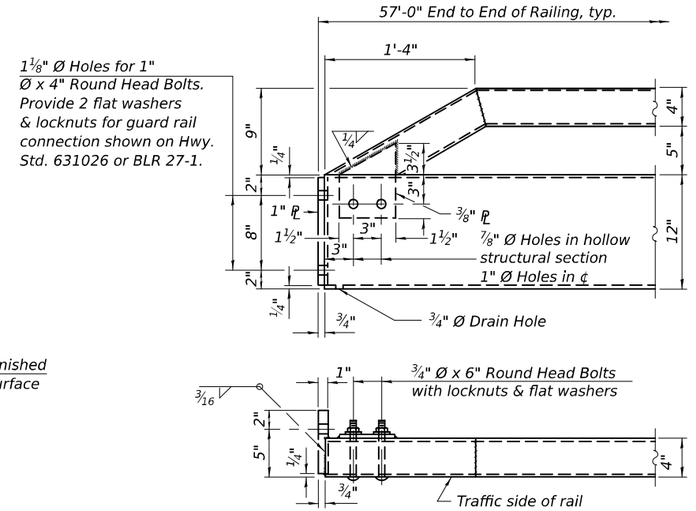


SECTION B-B



SECTION AT RAIL POST

* *The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly.*



END OF RAIL DETAILS

Notes:

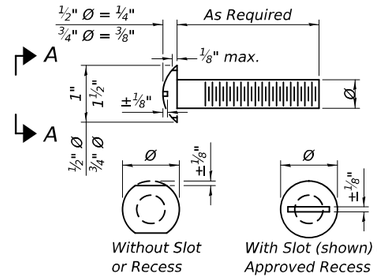
A sufficient number of shims of various thicknesses, sized 5"x11 1/2" (top) and 6"x6" (bottom), shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (bottom), longer bolts are required. Cost included with Steel Railing, Type T1.

All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.

All HSS tubing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

Rail splice inserts may be built out of 2 -3/8" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.

All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.

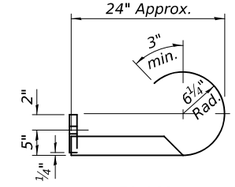


VIEW A–A
ROUND HEAD BOLT DETAIL

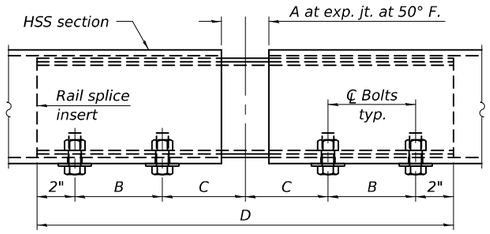
SECTION C-C

SECTION AT RAIL SPLICE

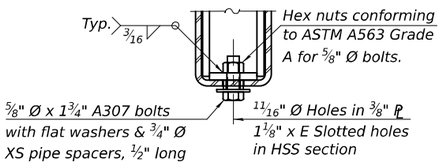
TOP ANCHOR DEVICE



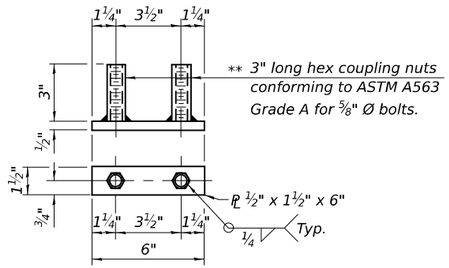
PLAN



RAIL SPLICE ELEVATION

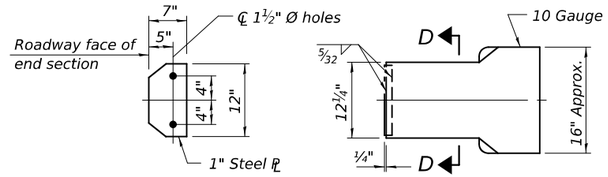


RAIL SPLICE CONNECTION AT EXPANSION JT.



BOTTOM ANCHOR DEVICE

** *Threaded areas shall be plugged or blocked off during casting of concrete.*



SECTION D-D
ELEVATION

CURLED END SECTION DETAILS

Note:
Cost of curled end sections is included with Steel Railing. (4 Required)

RAILING CRITERIA

NCHRP 350 Test Level	2
Railing Weight (plf)	70
Max Post Spacing	9'-6"
CWS thickness range (in)	5" - 6 7/8"

SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 5/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 13/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

T = ; total movement along centerline of roadway at expansion joint.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type T1	Foot	114

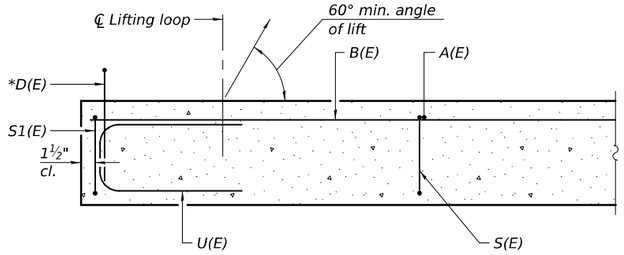
DESIGNED -	DAVID H. RICHTER	EXAMINED		DATE -	JANUARY 30, 2025
CHECKED -	TIFFANY L. ADAMS	PASSED		REVISED -	
DRAWN -	ANTHONY J. NOVELLO		ENGINEER OF BRIDGE DESIGN	REVISED -	
CHECKED -	DHR / TLA		ENGINEER OF BRIDGES AND STRUCTURES		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

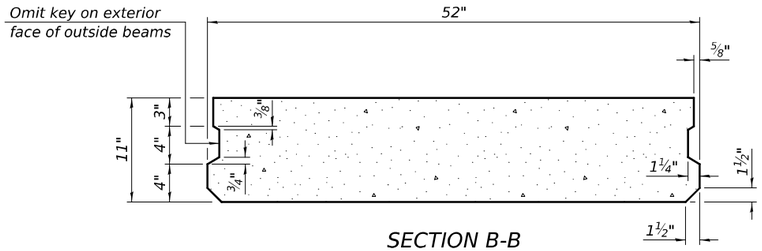
STEEL RAILING, TYPE T1
STRUCTURE NO. 051-0033
SHEET 6 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	12
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		

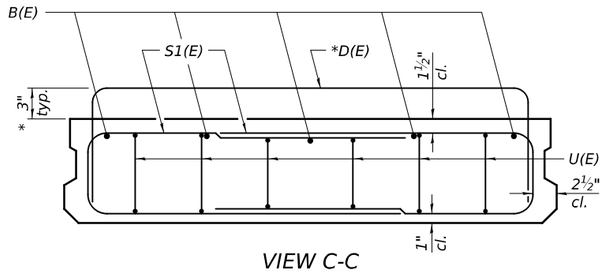
MODEL: 0510033-74A28-012
FILE NAME: pw://dot-pw.bentley.com:PWDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn
1/31/2025 8:22:40 AM



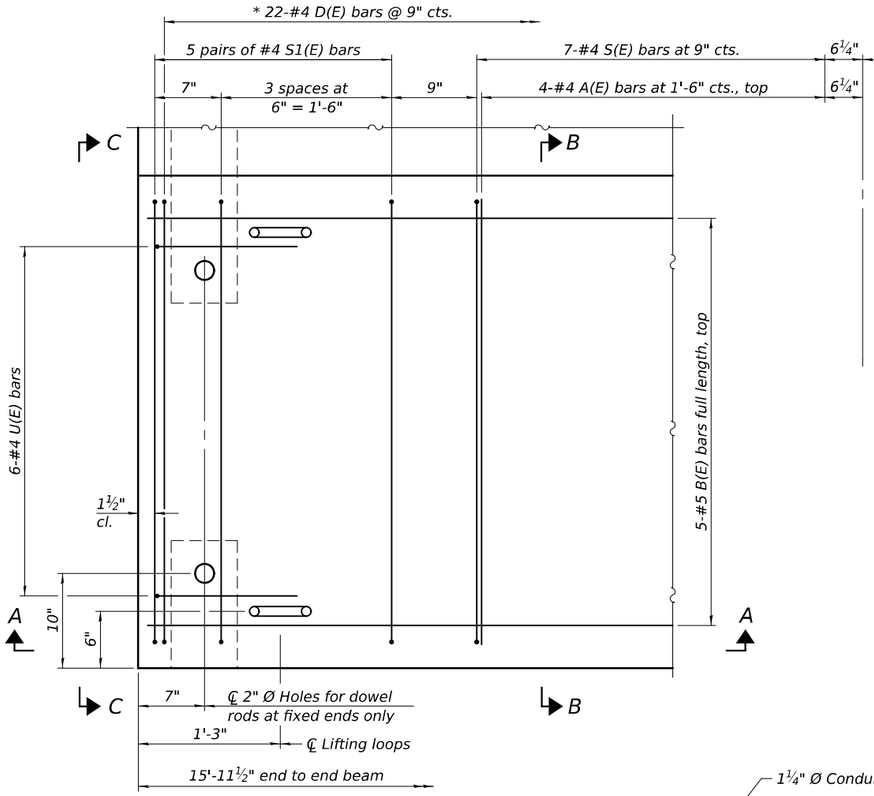
SECTION A-A



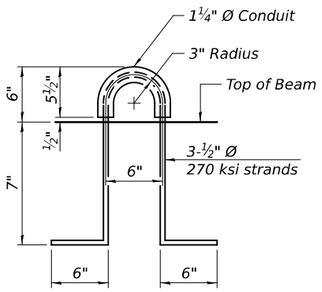
SECTION B-B
(Showing dimensions)



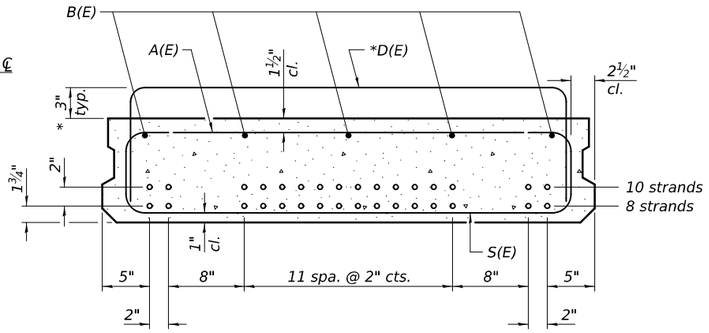
VIEW C-C



PLAN VIEW

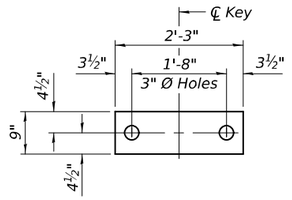


LIFTING LOOP DETAIL

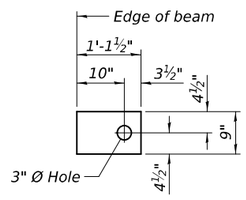


SECTION B-B
(Showing reinforcement and permissible strand locations)

Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



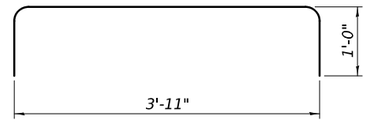
FABRIC BEARING PAD
(Interior)



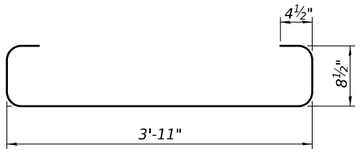
FABRIC BEARING PAD
(Exterior)

FIXED

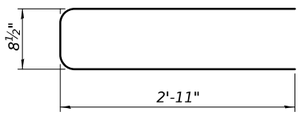
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



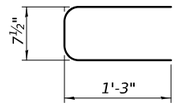
BAR D(E)



BAR S(E)



BAR S1(E)



BAR U(E)

BAR LIST
ONE BEAM ONLY
(For information only)

	Bar	No.	Size	Length	Shape
	A(E)	8	#4	3'-11"	——
	B(E)	5	#5	15'-8"	——
*	D(E)	22	#4	5'-11"	⌐¬
	S(E)	14	#4	6'-1"	⌐¬
	S1(E)	16	#4	6'-7"	⊏⊐
	U(E)	12	#4	3'-2"	⊏⊐

* D(E) in exterior beams only

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f 'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f 'ci, shall be 5000 psi.

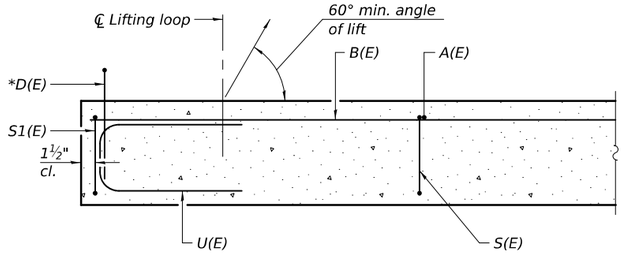
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (11" depth)	Sq. Ft.	830

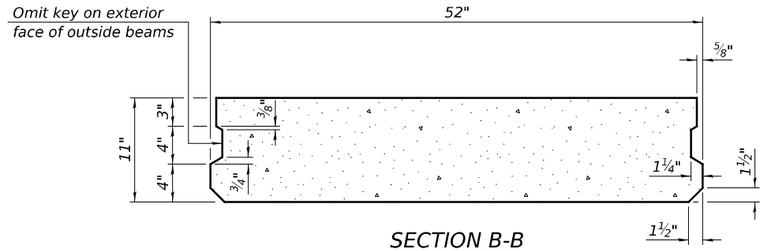
MODEL: 0510033-74A28-013
FILE NAME: pw:\\dot-pw.bentley.com:PWIDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\OBM Projects\0510033\CADData\Bridge\0510033-74A28.dgn
1/31/2025 8:23:36 AM

DESIGNED - DAVID H. RICHTER	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - JANUARY 30, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**11" X 52" PPC DECK BEAM (SPANS 1 & 3) STRUCTURE NO. 051-0033**
CHECKED - TIFFANY L. ADAMS	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET 7 OF 10 SHEETS
DRAWN - ANTHONY J. NOVELLO			REVISED -		
CHECKED - DHR / TLA					

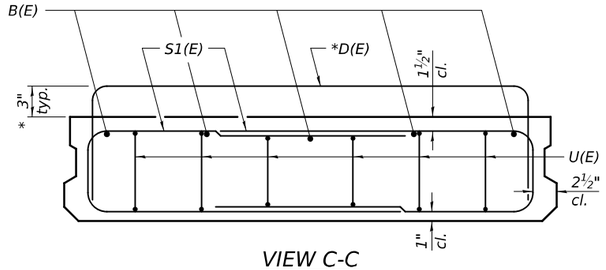
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	13
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		



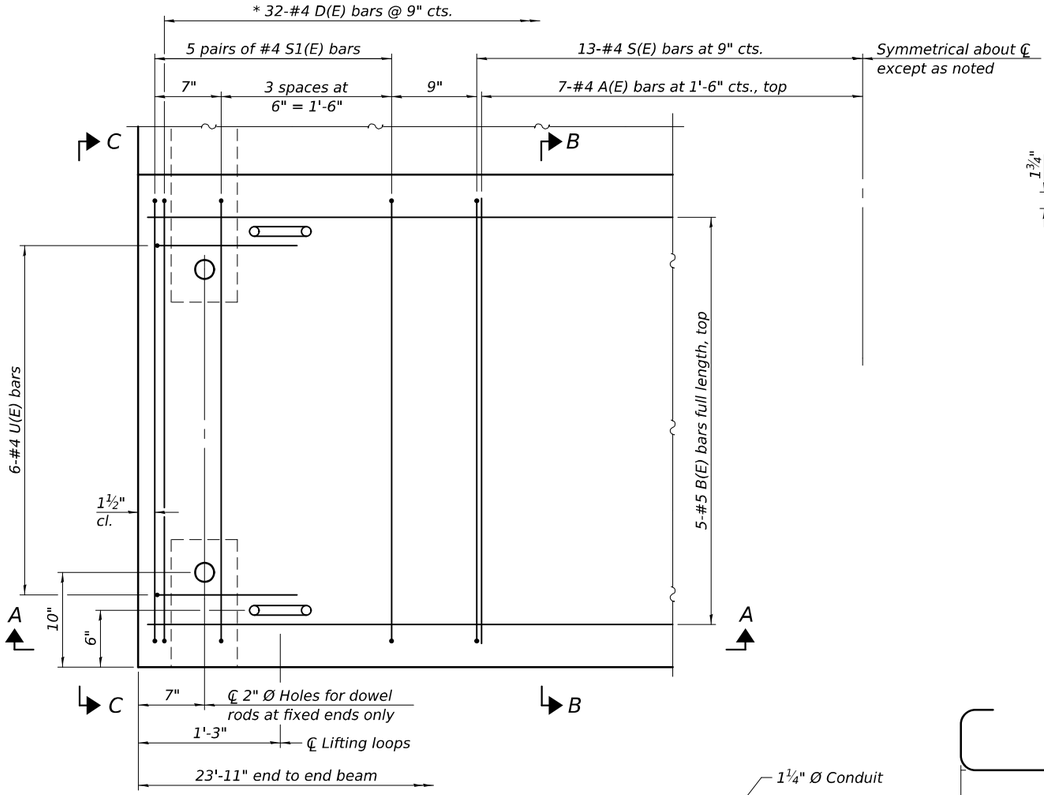
SECTION A-A



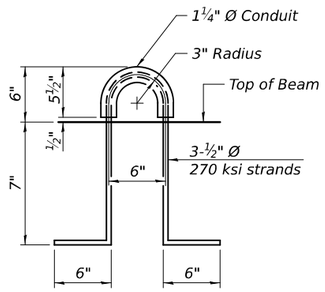
SECTION B-B
(Showing dimensions)



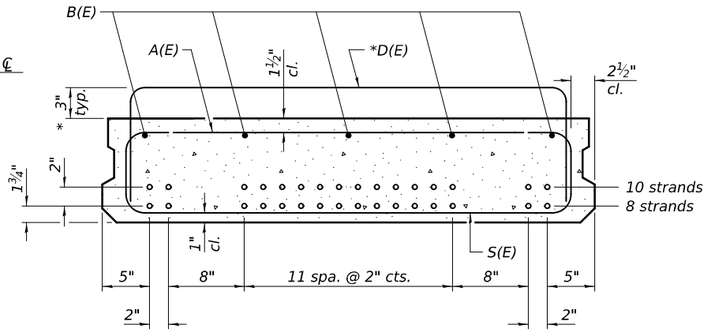
VIEW C-C



PLAN VIEW

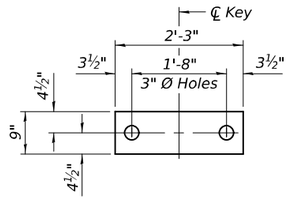


LIFTING LOOP DETAIL

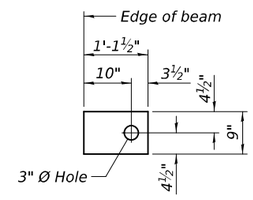


SECTION B-B
(Showing reinforcement and permissible strand locations)

Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



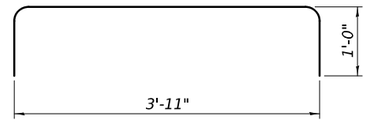
FABRIC BEARING PAD
(Interior)



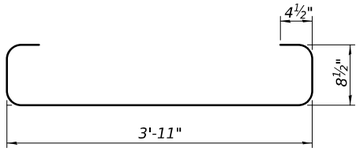
FABRIC BEARING PAD
(Exterior)

FIXED

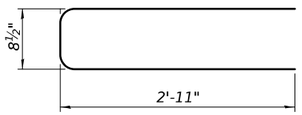
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



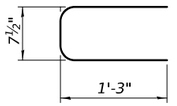
BAR D(E)



BAR S(E)



BAR S1(E)



BAR U(E)

BAR LIST
ONE BEAM ONLY
(For information only)

	Bar	No.	Size	Length	Shape
	A(E)	13	#4	3'-11"	——
	B(E)	5	#5	15'-8"	——
*	D(E)	32	#4	5'-11"	⌐¬
	S(E)	25	#4	6'-1"	⌐¬
	S1(E)	16	#4	6'-7"	⌐¬
	U(E)	12	#4	3'-2"	⌐¬

* D(E) in exterior beams only

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f 'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f 'ci, shall be 5000 psi.

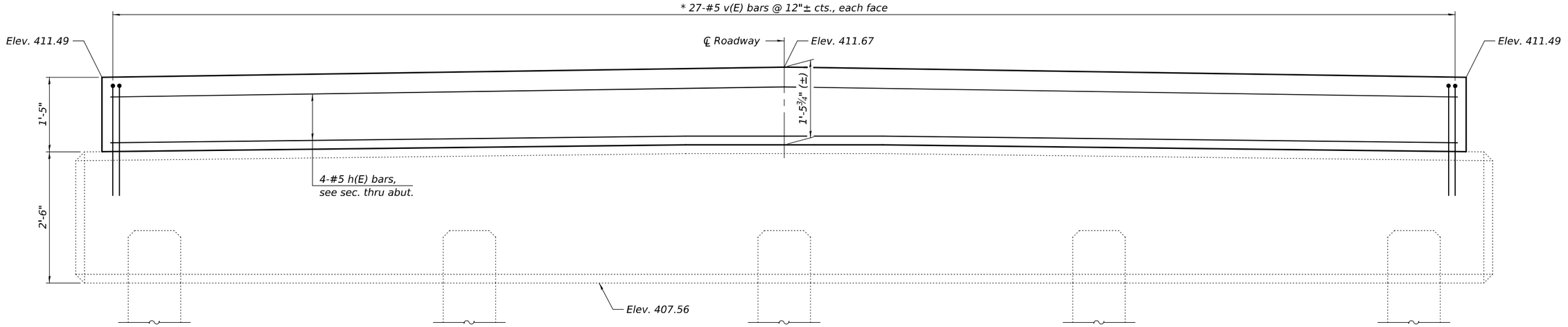
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (11" depth)	Sq. Ft.	622

MODEL: 0510033-74A28-014
FILE NAME: pw:///idot-pw.bentley.com:PWIDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn
1/31/2025 8:24:38 AM

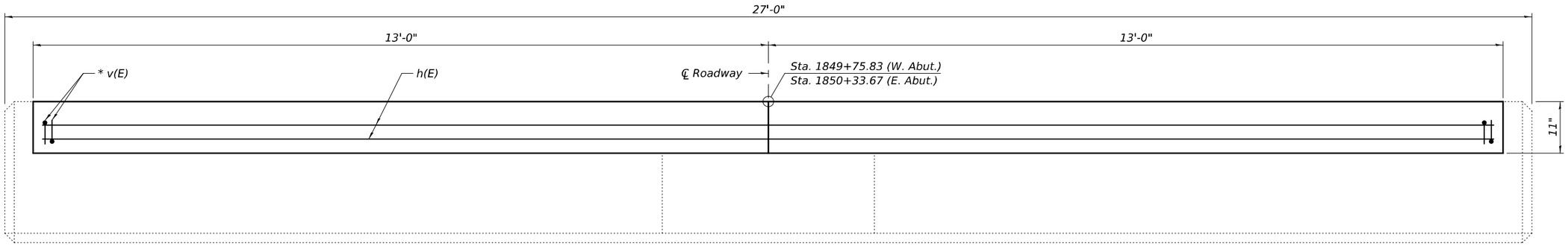
DESIGNED - DAVID H. RICHTER	EXAMINED		DATE - JANUARY 30, 2025	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**11" X 52" PPC DECK BEAM (SPAN 2) STRUCTURE NO. 051-0033**
CHECKED - TIFFANY L. ADAMS		ENGINEER OF BRIDGE DESIGN			
DRAWN - ANTHONY J. NOVELLO	PASSED		REVISED -		SHEET 8 OF 10 SHEETS
CHECKED - DHR / TLA		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	14
		CONTRACT NO. 74A28		
	ILLINOIS	FED. AID PROJECT		

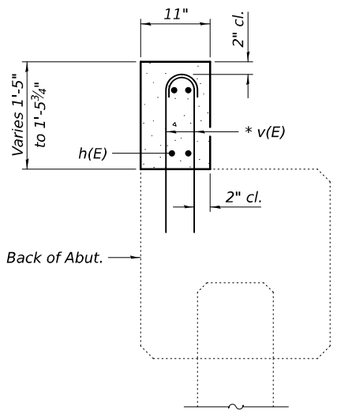


ELEVATION

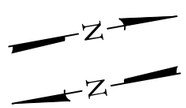
(Looking West - West Abut.)
(Looking East - East Abut.)



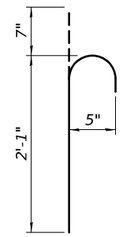
PLAN



SECT. THRU ABUT.



* *Epoxy grout bars in 9" min. drilled holes according to Section 584 of the Standard Specifications. All grouted bars shall have 4" cl. to the edge of existing concrete.*



BAR v(E)

ONE ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	25'-8"	——
v(E)	54	#5	2'-8"	⊓
Concrete Structures			Cu. Yd.	1.3
Reinforcement Bars, Epoxy Coated			Pound	260

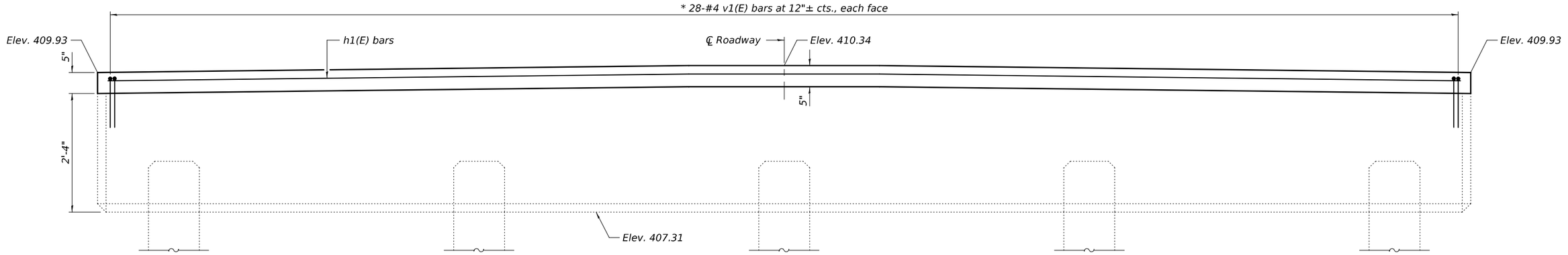
MODEL: 0510033-74A28-015
FILE NAME: pw://ildot-pw.bentley.com:PWIDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn
1/31/2025 8:25:40 AM

DESIGNED -	DAVID H. RICHTER	EXAMINED	DATE - JANUARY 30, 2025
CHECKED -	TIFFANY L. ADAMS		ENGINEER OF BRIDGE DESIGN
DRAWN -	ANTHONY J. NOVELLO	PASSED	REVISED -
CHECKED -	DHR / TLA		ENGINEER OF BRIDGES AND STRUCTURES REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

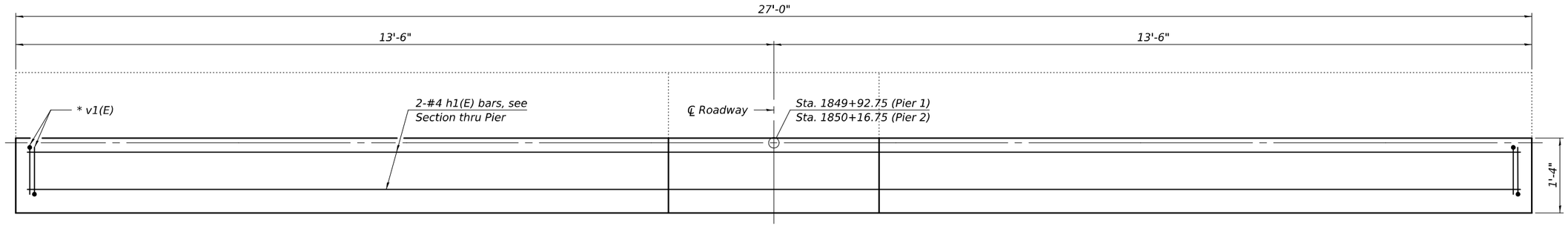
ABUTMENTS
STRUCTURE NO. 051-0033
SHEET 9 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	15
		CONTRACT NO. 74A28		
		ILLINOIS	FED. AID PROJECT	

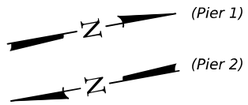


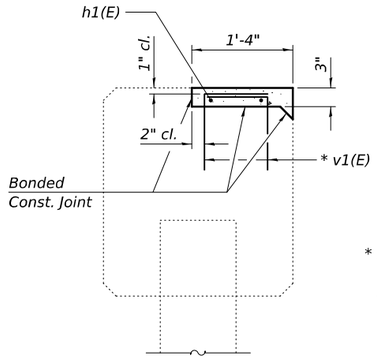
ELEVATION

(Looking West - Pier 1)
(Looking East - Pier 2)



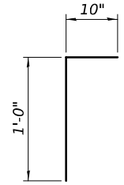
PLAN





SECT. THRU PIER

* Epoxy grout bars in 9" min. drilled holes according to Section 584 of the Standard Specifications. All grouted bars shall have 4" cl. to the edge of existing concrete.



BAR v1(E)

ONE PIER
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	2	#4	26'-8"	———
v1(E)	56	#4	1'-10"	⌜
Concrete Structures			Cu. Yd.	0.3
Reinforcement Bars, Epoxy Coated			Pound	100

MODEL: 0510033-74A28-016
FILE NAME: pw://ilect-pw.bentley.com:PWIDOT/Documents/IDOT Offices/Bureau of Bridges and Structures/OBM Projects/0510033/CADData/Bridge/0510033-74A28.dgn
1/31/2025 8:26:34 AM

DESIGNED -	DAVID H. RICHTER	
CHECKED -	TIFFANY L. ADAMS	
DRAWN -	ANTHONY J. NOVELLO	
CHECKED -	DHR / TLA	

EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
DATE - JANUARY 30, 2025
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS
STRUCTURE NO. 051-0033
SHEET 10 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	3BR	LAWRENCE	16	16
		CONTRACT NO. 74A28		
	ILLINOIS FED. AID PROJECT			