03-10-2023 LETTING ITEM 012

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	1
	ILLINOIS	CONTRACT NO. 70541		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

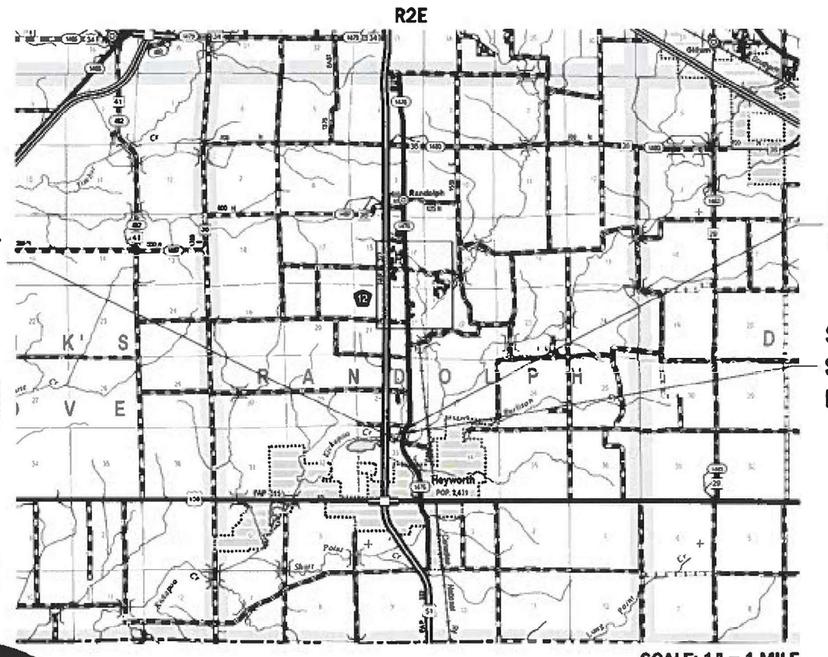
FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-4

PROPOSED HIGHWAY PLANS

F.A.S. ROUTE 1476 (OLD US 51)
SECTION 55–BR–1
PROJECT HBFP–BXCS(962)
BRIDGE SUPERSTRUCTURE REPLACEMENT
MCLEAN COUNTY

C–95–055–20
KICKAPOO CREEK I MI N OF US 136



SCALE: 1" = 1 MILE

BEGIN IMPROVEMENT
STA 154+30.00

END IMPROVEMENT
STA 165+00.00

SUPERSTRUCTURE REPLACEMENT
STA 159+69.60
EX SN 057-0056

N

LOCATION MAP

D-95-036-20

LOCATION OF SECTION INDICATED THUS: –

FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR
2018 ADT = 1150
P.C.=90.5% S.U.=5.2% M.U.=4.3%

100' 10' 200' 20' 300' 30' — 1" = 100' / 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

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 RANDOLPH TOWNSHIP

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED 12/12 20 22
Kevin A. Garnett SWN
REGIONAL ENGINEER

February 3, 2023
ENGINEER OF DESIGN AND ENVIRONMENT

February 3, 2023
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER RYAN T. CARROLL, P.E.

CIVIL DESIGN, INC.
WBE / DBE
LICENSE #184.003222

GROSS LENGTH = 1070.00 FT. = 0.203 MILE
NET LENGTH = 1070.00 FT. = 0.203 MILE

STATE OF ILLINOIS
ROBERT HANFLAND
NUMBER 062.064104
PROFESSIONAL ENGINEER
12/12/2022

SHEETS 1–8, 29–36
ROBERT HANFLAND, PE
STATE OF ILLINOIS NO. 062–064104
EXPIRES 11–30–2023

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

CONTRACT NO. 70541

REV. 12/27/22

HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
442201-03	CLASS C AND D PATCHES
515001-04	NAME PLATE FOR BRIDGES
630001-12	STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GENERAL NOTES

G.N.-105.09A
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-201
TREES THAT INTERFERE WITH THE CONSTRUCTION OPERATIONS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ANY TREE DUE TO ITS LOCATION AND DEEMED SUITABLE FOR SAVING BY THE ENGINEER SHALL BE PROTECTED DURING CLEARING AND SUBSEQUENT CONSTRUCTION OPERATIONS

G.N. 406H
MIXTURE REQUIREMENTS

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

LOCATION(S):	FAS 1476 (OLD US 51)	BINDER
MIXTURE USE(S)	SURFACE (MAINLINE & SHOULDER)	PATCHES
AC/PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ NDES=50	4.0% @ NDES=50
MIXTURE COMP (GRADATION)	IL 9.5	IL 19.0
FRICTION AGGREGATE	MIX "C"	N/A
MIXTURE WEIGHT	112	112
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA
SUBLOT SIZE	3000	3000
MATERIAL TRANSFER DEVICE (REQUIRED?)	NO	NO

G.N.- 703A
SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE PAVEMENT AFTER ANY OF THE FOLLOWING: COLD MILLING AND/OR PLACING BITUMINOUS MATERIALS (TACK COAT), LEVELING BINDER (MACHINE METHOD), BINDER AND SURFACE COURSES. SHORT TERM PAVEMENT MARKING PLACED ON THE SURFACE SHALL COINCIDE WITH THE FINAL PAVEMENT STRIPING. SHORT TERM PAVEMENT MARKING PLACED PRIOR TO THE SURFACE SHALL COINCIDE WITH THE EXISTING PAVEMENT MARKINGS. USE 4 FEET PER 40 FEET (OR 10% PER STATION).

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED TO CALCULATE PLAN QUANTITIES:

AGGREGATE SHOULDERS	2.05 TONS/CU YD
BITUMINOUS MATERIALS (TACK COAT)	0.05 LBS/ SQ FT
HOT-MIX ASPHALT	112 LBS/SQ YD

COMMITMENTS

COMMITMENTS: (NONE)

MODEL: General Notes [Sheet]
FILE NAME: P:\Effingham\4722 - IDOT PTB 197-029_D5_US 51 over Kickapoo Creek\CADD\ORD_Version9\CADSheets\D570541-ORD-sht_General Notes.dgn

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		DRAWN -	JL	REVISED -	
PLOT SCALE	= 0.16666633 ' / in.	CHECKED -	RLH	REVISED -	
PLOT DATE	= 12/8/2022	DATE -		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES
HIGHWAY STANDARDS

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

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	2
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE FED 80% STATE 20% MCLEAN COUNTY RURAL BRIDGE 0013 057-0056
20100500	TREE REMOVAL, ACRES	ACRE	0.25	0.25
20300100	CHANNEL EXCAVATION	CU YD	1676	1676
28100111	STONE RIPRAP, CLASS A6	SQ YD	2350	2350
28200200	FILTER FABRIC	SQ YD	2350	2350
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	1279	1279
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	179	179
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	127	127
44000100	PAVEMENT REMOVAL	SQ YD	241	241
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	2841	2841
44004250	PAVED SHOULDER REMOVAL	SQ YD	93	93
44201827	CLASS D PATCHES, TYPE II, 15 INCH	SQ YD	16	16
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	31	31
48203100	HOT-MIX ASPHALT SHOULDERS	TON	60	60
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE FED 80% STATE 20% MCLEAN COUNTY RURAL BRIDGE 0013 057-0056
50102400	CONCRETE REMOVAL	CU YD	20.0	20.0
50200100	STRUCTURE EXCAVATION	CU YD	201	201
50300100	FLOOR DRAINS	EACH	10	10
50300225	CONCRETE STRUCTURES	CU YD	32.0	32.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	259.6	259.6
50300260	BRIDGE DECK GROOVING	SQ YD	862	862
50300300	PROTECTIVE COAT	SQ YD	1108	1108
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	101.9	101.9
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1
50500505	STUD SHEAR CONNECTORS	EACH	3492	3492
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	105500	105500
51500100	NAME PLATES	EACH	1	1
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	18	18
52100520	ANCHOR BOLTS, 1"	EACH	48	48

*** SEE SPECIAL PROVISIONS**
^ DENOTES SPECIALTY ITEM

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EFFINGHAM, IL
LIC. #184.003222

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	3
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE: FED 80% STATE 20% MCLEAN COUNTY RURAL BRIDGE 0013 057-0056
	58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	201	201
	59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	81	81
	60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	147	147
^	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	175	175
^	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
^	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4
	63200310	GUARDRAIL REMOVAL	FOOT	487	487
	67100100	MOBILIZATION	L SUM	1	1
	70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14
	70300221	TEMPORARY PAVEMENT MARKING - LINE 4"- PAINT	FOOT	3086	3086
^	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
^	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3086	3086
^	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4	4
^	78200010	BARRIER WALL REFLECTORS, TYPE B	EACH	6	6

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE: FED 80% STATE 20% MCLEAN COUNTY RURAL BRIDGE 0013 057-0056
*	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1
*	XZ193300	SURVEY MARKER, TYPE 1 (SPECIAL)	EACH	1	1
*	Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	127	127
*	Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1
*	Z0038700	PERMANENT BENCH MARKS	EACH	1	1

*** SEE SPECIAL PROVISIONS**
^ DENOTES SPECIALTY ITEM

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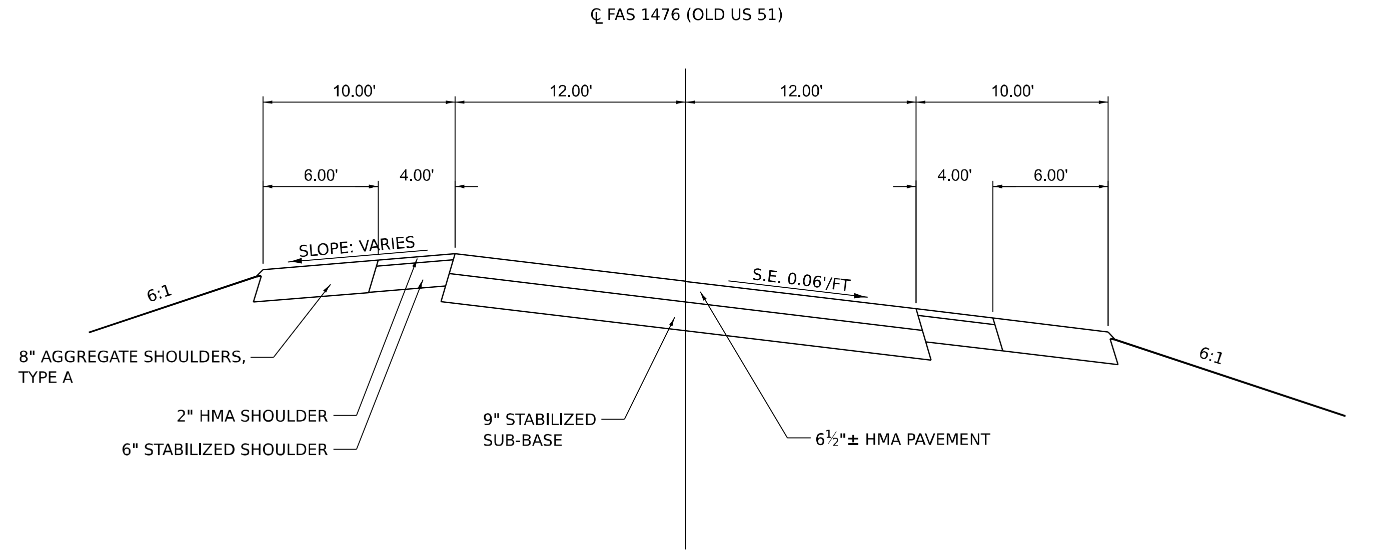
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

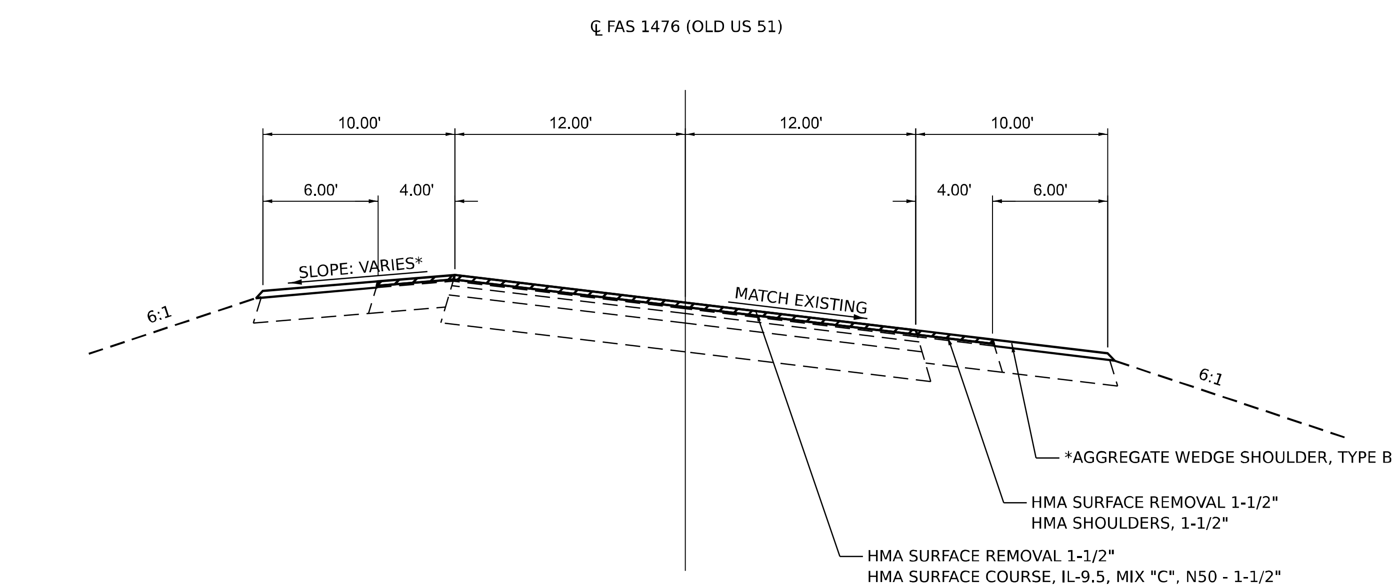
F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	4
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

REV. 12/27/22



EXISTING TYPICAL SECTION

STA. 154+30 TO STA. 165+00



PROPOSED TYPICAL SECTION

STA. 154+30 TO STA 158+34.08
STA. 161+05.28 TO STA. 165+00

SUPERELEVATION CHART			
STATION	LT SLOPE	RT SLOPE	DESCRIPTION
141+40	-1.5%	1.5%	BEGIN TANGENT RUNOUT
141+60	0.0%	1.5%	BEGIN SUPERELEVATION RUNOFF
142+66	1.5%	1.5%	PC
143+20	6.0%	6.0%	BEGIN FULL SUPERELEVATION
163+34	6.0%	6.0%	END FULL SUPERELEVATION
163+99	1.5%	1.5%	PT
164+94	0.0%	1.5%	END SUPERELEVATION RUNOFF
165+14	-1.5%	1.5%	END TANGENT RUNOUT

* NOTE: AGGREGATE WEDGE SHOULDER, TYPE B LOCATIONS INDCLUDE APPROACH SLAB, PAVEMENT CONNECTOR, AND GUARDRAIL LOCATIONS WHERE APPLICABLE)
AGGREGATE SHOULDERS SHALL BE GRADED AT 10:1 SLOPES AT GUARDRAIL TERMINALS PER STANDARD 630301

MODEL: Cover Sheet [Sheet]
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: | SHEET 1 OF 1 SHEETS | STA. 154+30 TO STA. 165+00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	5

CONTRACT NO. 70541
ILLINOIS | FED. AID PROJECT

PAVING SCHEDULE

STATION	TO	STATION	40600290 BITUMINOUS MATERIALS (TACK COAT)	40604050 HOT-MIX ASPHALT SURFACE COURSE IL-9.5, MIX "C", N50	42000080 PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	44000100 PAVEMENT REMOVAL	44004250 PAVED SHOULDER REMOVAL	44000155 HOT-MIX ASPHALT SURFACE REMOVAL 1-1/2"	48102100 AGGREGATE WEGDE SHOULDERS, TYPE B	48203100 HOT-MIX ASPHALT SHOULDER
			POUND	TON	SQ YD	SQ YD		SQ YD	TON	TON
154+30.00		158+33.71	646.6	90.5				1436.9	15.3	30.2
158+33.71		158+79.24			63.5	120.6	46.0			
160+59.96		161+05.45			63.5	120.4	46.8			
161+05.45		165+00.00	631.8	88.5				1404.0	15.0	29.5
TOTAL			1278.4	179.0	127.0	241.0	92.8	2840.9	30.3	59.7
USE			1279	179	127	241	93	2841	31	60

PATCHING

LOCATION	44201827 CLASS D PATCHES, TYPE II, 15 INCH
	SQ YD
158+34.13	8
161+05.12	8
TOTAL	16

AS NEEDED TO CONSTRUCT PCC CONNECTOR

RIPRAP

LOCATION	28100111 STONE RIPRAP, CLASS A6	28200200 FILTER FABRIC
	SQ YD	SQ YD
158+79.23 TO 160+59.97	2350	2350
TOTAL	2350	2350

GUARDRAIL SCHEDULE

STATION	TO	STATION	QUADRANT	63000001 STEEL PLATE BEAM GUARDRAIL, TYPE A 6 FOOT POSTS	63100085 TRAFFIC BARRIER TERMINAL TYPE 6	63100167 TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT	63200310 GUARDRAIL REMOVAL
				FOOT	EACH	EACH	FOOT
EXISTING							
157+97		158+69	SW				74
157+54		158+69	SE				112
160+70		161+46	NW				76
160+70		162+93	NE				225
PROPOSED							
157+80		158+67	SW		1	1	
156+90		158+64	SE	87.5	1	1	
160+73		162+48	NW	87.5	1	1	
160+74		161+60	NE		1	1	
TOTAL				175	4	4	487

SURVEY MARKER, TYPE 1 (SPECIAL) XZ193300

LOCATION	EACH
STA. 163+99.19, 0'LT	1
TOTAL	1

EARTHWORK SCHEDULE

STATION	TO	STATION	20300100 CHANNEL EXCAVATION	50200100 STRUCTURE EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE (NOTE 1)	EMBANKMENT (NOTE 2)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (NOTE 3)
			CU YD	CU YD	CU YD	CU YD	CU YD
158+79.23		160+59.97	1676	201	1408	0	1408
TOTAL			1676	201	1408	0	1408

PAVEMENT MARKING SCHEDULE

STATION	TO	STATION	FOOT	DESCRIPTION	78001110 PAINT PAVEMENT MARKING LINE 4" SOLID WHITE	SOLID YELLOW	SKIP-DASH YELLOW
					FOOT	FOOT	FOOT
154+30.00		161+05.28	675		1350.56	675.28	170
161+05.28		165+00.00	395		789.44		100
			0				
SUBTOTAL					2140	675.28	270
TOTAL					3086		

20100500 TREE REMOVAL

LOCATION	ACRE
158+50 LT TO 159+69 LT	0.1
158+50 RT 160+90 RT	0.15
TOTAL	0.25

APPROXIMATE LOCATIONS. FINAL LIMITS TO BE DETERMINED BY ENGINEER

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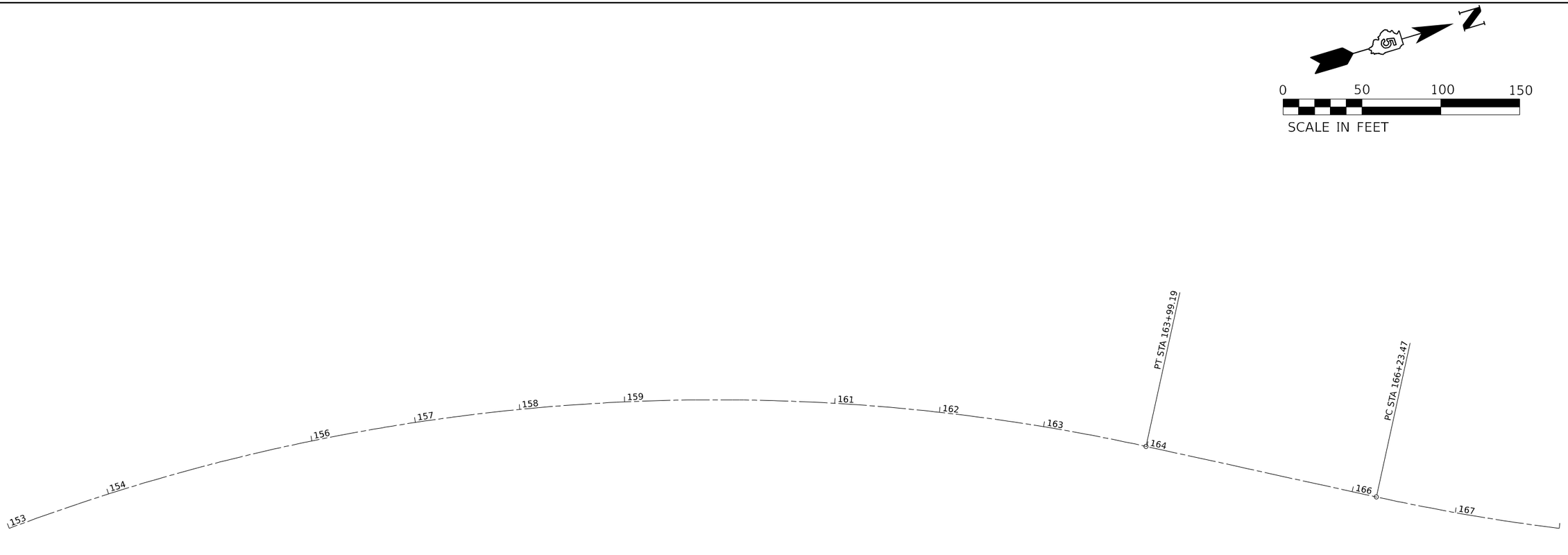
PLOT DATE = 12/12/2022	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES OF QUANTITIES

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

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	6
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		



EX CURVE ___
PI STA = 154+59.42
Δ = 64°01'03" (RT)
D = 03°00'04"
R = 1,909.21'
T = 1,193.41'
E = 342.30'
ℓ = ___
C STA = 142+66.01
˜ STA = 163+99.19

BENCHMARK CHISLED "□" IN TOP NW CORNER OF NE WINGWALL OF SN 057-0056. STA. 160+70.89 22.80' RT, ELEV = 702.317

STATION	OFFSET	NORTHING	EASTING	DESCRIPTION
132+01.39	0.00	1330631.7345	803523.9215	P.O.T.
142+66.01	0.00	1331502.6585	802911.6323	P.C.
154+59.42	-342.30	1332478.9444	802225.2701	P.I.
163+99.19	0.00	1333523.6434	802802.1856	P.T.
166+23.47	0.00	1333719.9765	802910.6070	P.C.
171+49.09	70.15	1334180.0916	803164.6970	P.I.
176+49.91	0.00	1334705.5230	803150.9351	P.T.
184+81.57	0.00	1335536.9010	803129.1600	P.O.T.

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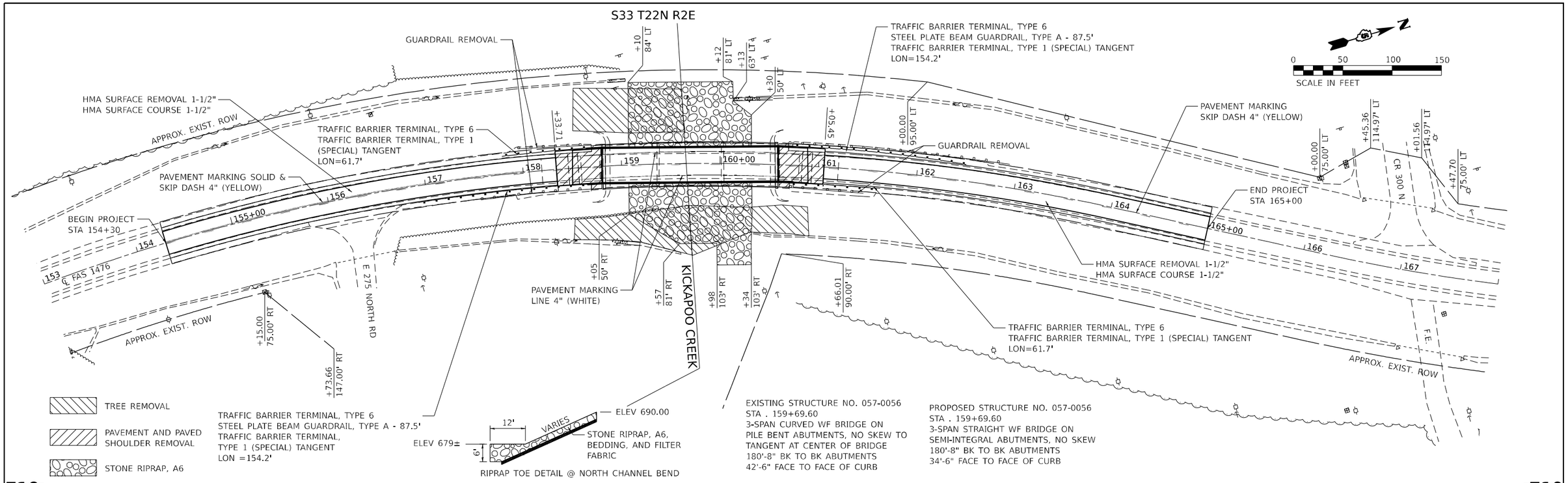
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

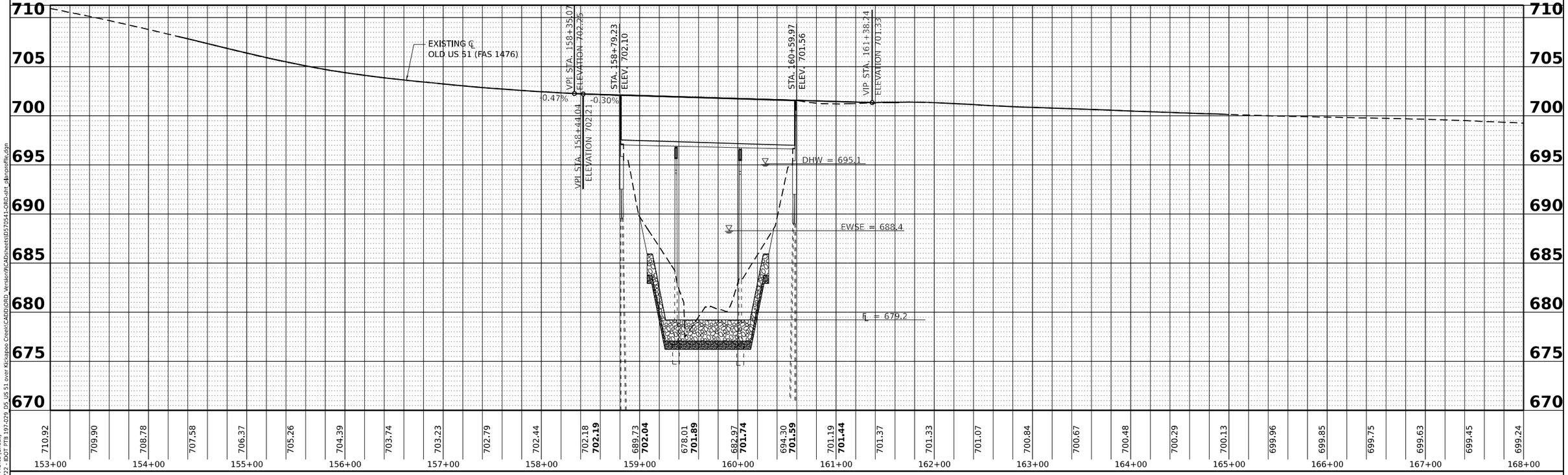
ALIGNMENT, TIES, & BENCHMARKS

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

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	7
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

S33 T22N R2E





PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
CROSS SECTIONS CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

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EFFINGHAM, IL
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE

SCALE: | SHEET 1 OF 1 SHEETS | STA. 153+00 | TO STA. 168+00

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	8
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

Benchmark: Chisled "□" in top NW corner of NE wingwall of SN 057-0056. Sta. 160+70.89, 22.80' Rt, Elev. 702.317

Existing Structure: S.N. 057-0056 built in 1969 as F.A. Route 2, Section 55BR. Sta. 159+69.60.
The superstructure is a three span curved wide flange structure superelevated on spread footings, solid piers and concrete abutments on two rows of piles. Superstructure has an overall length of 180'-8" back to back of abutments and a width of 46'-0" out to out of deck. The contractor will remove and replace the superstructure and modify the tops of the substructure units to receive the new superstructure. The structure will be closed to traffic during construction.

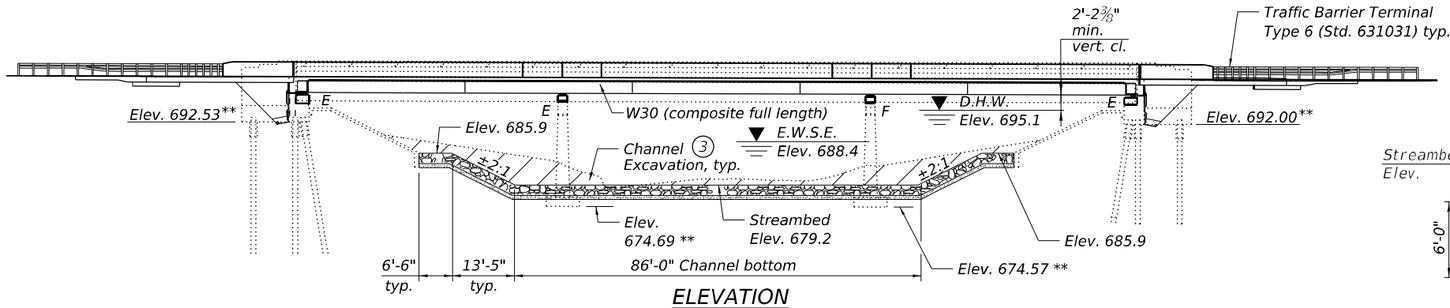
No Salvage.

Notes:

(1) Dimension is along the back of abutment from outside of existing parapet to outside of proposed parapet. Typical both abutments.

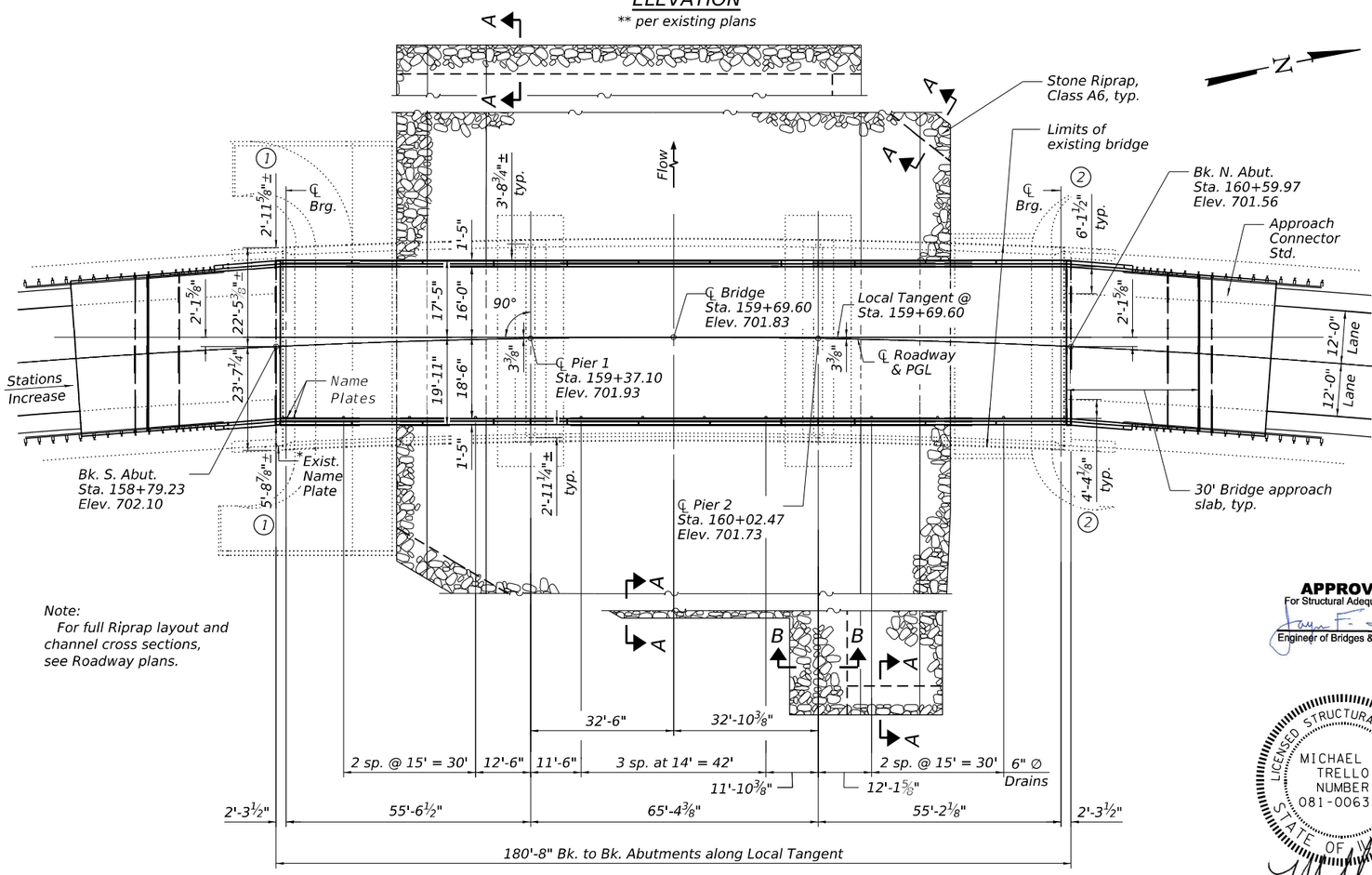
(2) Dimension is along the back of abutment from shoulder to inside on proposed parapet on the deck. Typical both abutments.

(3) Hatched area indicates channel excavation. For quantities of pavement removal and channel excavation see roadway plans.



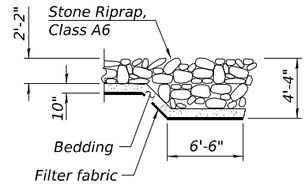
ELEVATION

** per existing plans

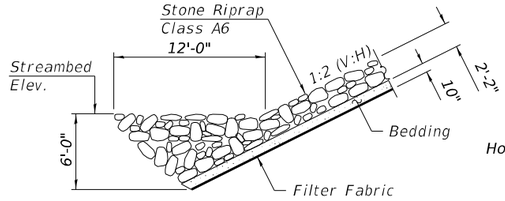


Note:
For full Riprap layout and channel cross sections, see Roadway plans.

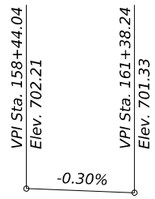
PLAN



SECTION A-A



SECTION B-B



PROFILE GRADE

F.A.S. 1476

HORIZ. CURVE DATA

P.I. Sta.= 154+59.42
Δ= 64°01'03" (RT)
D= 3°00'04"
T= 1193.41'
L= 2133.18'
R= 1909.21'
E= 342.30'
LC= 2023.95'
MO= 290.26'
P.C. Sta. = 142+66.01
P.T. Sta. = 163+99.19
S.E. Run= 0.06%
Attain S.E. Sta= 141+40 to Sta. 143+20
Remove S.E. Sta= 163+34 to Sta. 165+14

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

LICENSED STRUCTURAL ENGINEER
MICHAEL J. TRELLO
NUMBER 081-006334
STATE OF ILLINOIS

DATE: JANUARY 26 20 23
EXPIRES: NOVEMBER 30 20 24

INDEX OF SHEETS

SEISMIC DATA

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.045g
Site Coefficient (S) = 1.0

DESIGN SPECIFICATIONS

New Construction:
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition
Existing Substructure:
1995 FHWA Seismic Retrofit Manual

LOADING HL-93

Allow 50 #/sq. ft. for future wearing surface

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 4,000 psi (Deck)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinforcement)
50,000 psi (Structural Steel, AASHTO M270 Grade 50)

FIELD UNITS (Exist. Construction)

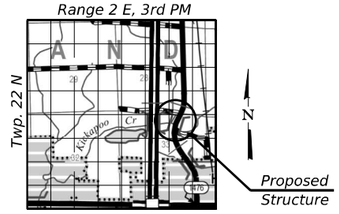
f'c = 3,000 psi (Substructure)
fy = 40,000 psi (Reinforcement)

STATION 159+69.60
RE-BUILT 20__ BY
STATE OF ILLINOIS
F.A.S. RT. 1476 SEC. 55-BR-1
LOADING HL-93
STRUCTURE NO. 057-0056

NAME PLATE

See Std. 515001
*Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

Range 2 E, 3rd PM



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
F.A.S. 1476 (OLD US 51)
OVER KICKAPOO CREEK
SECTION 55-BR-1
MCLEAN COUNTY
STATION 159+69.60
STRUCTURE NO. 057-0056

KUHN & TRELLO
CONSULTING ENGINEERS
A Limited Liability Company
109 N. 7th Street, 3rd Floor
Springfield, IL 62701
Phone: 217-679-0044
Professional Design Firm No. 184-006516

USER NAME =	DESIGNED - SPN	REVISED -	
	CHECKED - MJT	REVISED -	
PLOT SCALE =	DRAWN - MMY	REVISED -	
PLOT DATE =	CHECKED - SPN/MJT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	9
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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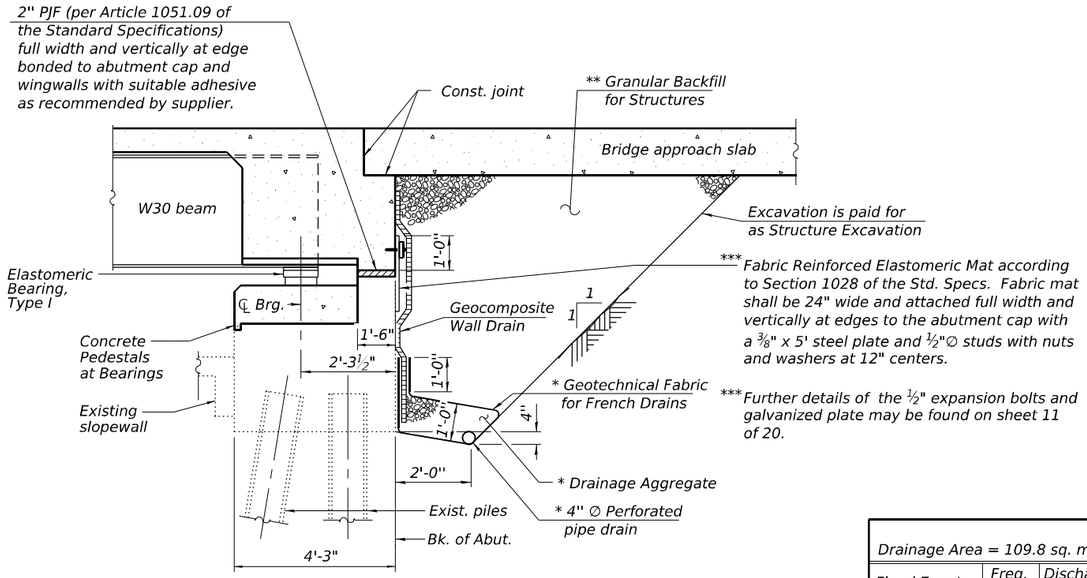


SECTION THRU SEMI-INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

* Included in the cost of Pipe Underdrains for Structures, 4".

** Granular Backfill for Structures shall follow Std. Spec. 586 except the coarse aggregate shall be Grad CA7, CA11 or CA14. Granular backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

*** Cost included with Concrete Superstructure.

Note:
All drainage system components shall extend from inside face to inside face of existing wingwalls. Place pipe drain under existing wingwall footing and extend through until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

WATERWAY INFORMATION

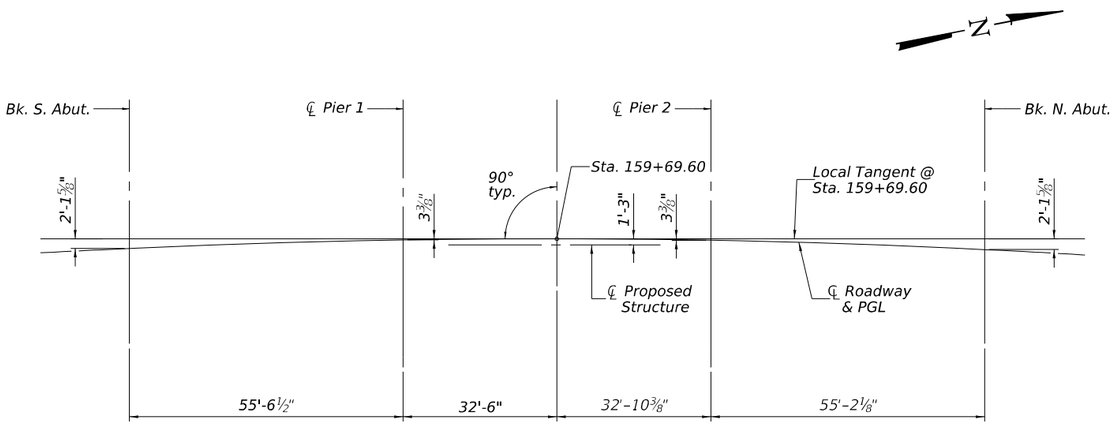
Drainage Area = 109.8 sq. mi.

Existing Overtopping Elev. = 697.7 at Sta. 173+50
Proposed Overtopping Elev. = 697.7 at Sta. 173+50

Flood Event	Freq. Yr.	Discharge C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. - Ft. Exist.	Headwater El. - Ft. Prop.
Ten-Year	10	6,280	1429	1703	693.7	0.8	0.7	694.5	694.4
Design	50	9,980	1647	1921	695.1	1.4	1.3	696.5	696.4
Base	100	11,600	1747	2021	695.7	2.1	1.5	697.8	697.2
Scour Check	200	12,600	1798	2072	696.0	2.1	1.7	698.1	697.7
Max. Calc.	500	15,600	1798	2072	696.9	2.2	2.2	699.1	699.1

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) S. Abut.	S. Pier	N. Pier	N. Abut.	Item 113
Q100	692.5	674.7	674.7	692.0	7
Q200	692.5	674.3	674.3	692.0	
Design	692.5	674.7	674.6	692.0	
Check	692.5	674.7	674.6	692.0	



OFFSET SKETCH

GENERAL NOTES

Fasteners shall be ASTM F 3125 Grade A325 Type 1. Fasteners shall be hot dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel." Bolts 7/8" ∅, holes 15/16" ∅, unless otherwise noted.

Calculated weight of Structural Steel = 124,390 lbs. (M270 Grade 50)

Calculated weight of Structural Steel = 17,500 lbs. (M270 Grade 36)

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

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.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

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

All new structural steel shall be galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel."

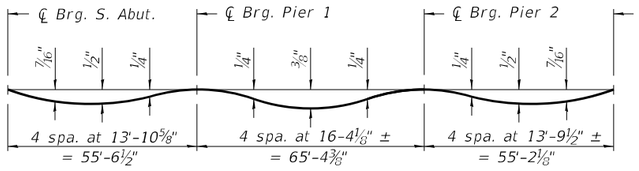
Slipforming of the parapets is not allowed.

SCOPE OF WORK

1. Replace superstructure as shown.
2. Repair existing abutments for semi-integral abutments.
3. Replace bearings.
4. Install concrete pedestals on all substructure units for new bearings.
5. Repair concrete on substructure units.

TOTAL BILL OF MATERIAL

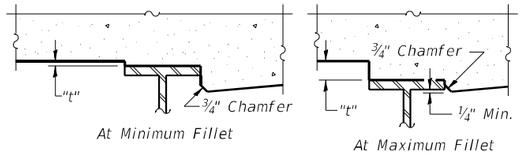
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A6	Sq. Yd.		2350	2350
Filter Fabric	Sq. Yd.		2350	2350
Removal of Existing Superstructures	Each	1		1
Reinforcement Bars, Epoxy Coated	Pound	99,770	5,730	105,500
Name Plates	Each	1		1
Concrete Removal	Cu. Yd.		20.0	20.0
Concrete Superstructure	Cu. Yd.	259.6		259.6
Concrete Structures	Cu. Yd.		32.0	32.0
Structure Excavation	Cu. Yd.		201	201
Geocomposite Wall Drain	Sq. Yd.		81	81
Anchor Bolts, 1"	Each	48		48
Bridge Deck Grooving	Sq. Yd.	862		862
Protective Coat	Sq. Yd.	1,108		1,108
Furnishing and Erecting Structural Steel	L. Sum	1		1
Floor Drains	Each	10		10
Pipe Underdrains for Structures, 4"	Foot		147	147
Elastomeric Bearing Assembly, Type 1	Each	18		18
Stud Shear Connectors	Each	3,492		3,492
Concrete Superstructure (Approach Slab)	Cu. Yd.	101.9		101.9
Granular Backfill for Structures	Cu. Yd.		201	201
Structural Repair of Concrete, Depth equal to or less than 5 inches	Sq. Ft.		127	127



DEAD LOAD DEFLECTION DIAGRAM

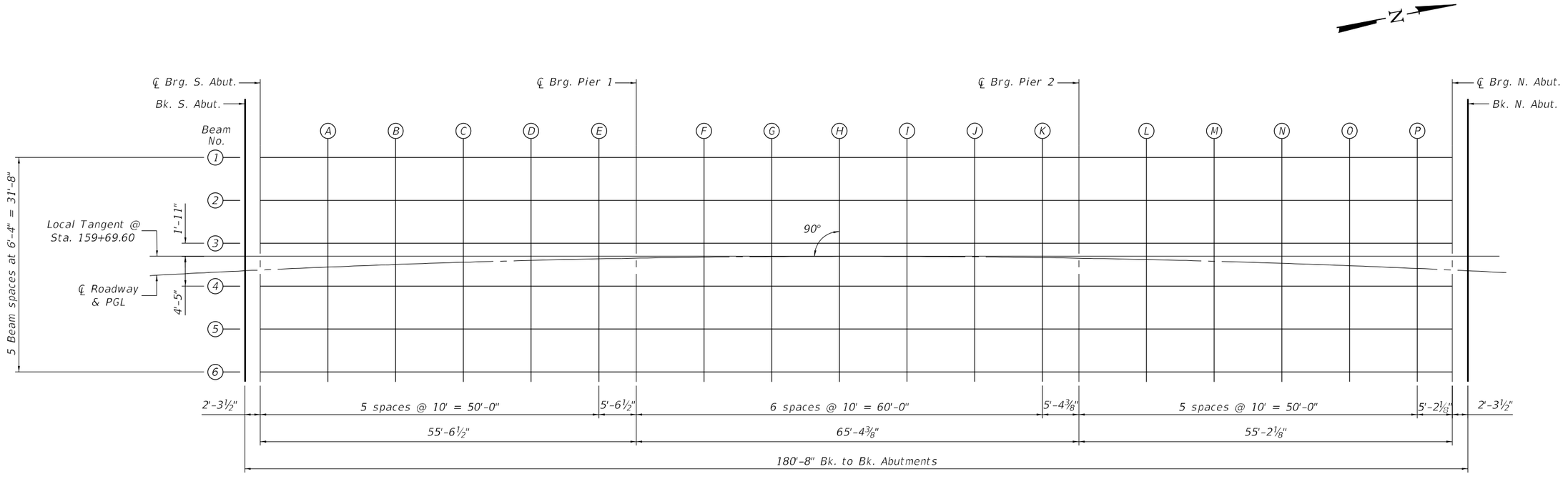
(Includes weight of concrete only.)

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 20.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 and 5 of 20, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION PLAN
STRUCTURE NO. 057-0056
SHEET 3 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	11
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+80.02	-16.70	703.10	703.10
℄ Brg. S. Abut.	158+82.29	-16.60	703.09	703.09
A	158+92.19	-16.17	703.04	703.06
B	159+02.10	-15.79	702.98	703.03
C	159+12.02	-15.46	702.93	702.98
D	159+21.93	-15.18	702.89	702.91
E	159+31.85	-14.96	702.84	702.85
℄ Brg. Pier 1	159+37.35	-14.86	702.82	702.82
F	159+47.27	-14.71	702.78	702.79
G	159+57.19	-14.62	702.75	702.77
H	159+67.12	-14.58	702.72	702.75
I	159+77.04	-14.60	702.69	702.72
J	159+86.97	-14.66	702.66	702.68
K	159+96.89	-14.78	702.64	702.64
℄ Brg. Pier 2	160+02.21	-14.86	702.63	702.63
L	160+12.13	-15.06	702.61	702.62
M	160+22.05	-15.31	702.59	702.63
N	160+31.97	-15.61	702.58	702.63
O	160+41.88	-15.96	702.57	702.61
P	160+51.79	-16.37	702.57	702.59
℄ Brg. N. Abut.	160+56.91	-16.60	702.57	702.57
Bk. N. Abut.	160+59.18	-16.70	702.57	702.57

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+79.72	-10.38	702.73	702.73
℄ Brg. S. Abut.	158+82.00	-10.27	702.71	702.71
A	158+91.94	-9.84	702.66	702.68
B	159+01.88	-9.46	702.60	702.65
C	159+11.83	-9.13	702.55	702.60
D	159+21.78	-8.85	702.51	702.53
E	159+31.73	-8.63	702.46	702.47
℄ Brg. Pier 1	159+37.24	-8.53	702.44	702.44
F	159+47.20	-8.38	702.40	702.41
G	159+57.15	-8.29	702.37	702.39
H	159+67.11	-8.25	702.34	702.36
I	159+77.07	-8.26	702.31	702.34
J	159+87.02	-8.33	702.28	702.30
K	159+96.98	-8.45	702.26	702.26
℄ Brg. Pier 2	160+02.32	-8.53	702.25	702.25
L	160+12.27	-8.73	702.23	702.24
M	160+22.22	-8.98	702.21	702.25
N	160+32.17	-9.28	702.20	702.25
O	160+42.12	-9.63	702.19	702.23
P	160+52.06	-10.04	702.19	702.20
℄ Brg. N. Abut.	160+57.20	-10.27	702.19	702.19
Bk. N. Abut.	160+59.48	-10.38	702.19	702.19

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+79.42	-4.05	702.35	702.35
℄ Brg. S. Abut.	158+81.71	-3.94	702.33	702.33
A	158+91.68	-3.51	702.28	702.31
B	159+01.66	-3.13	702.22	702.27
C	159+11.63	-2.80	702.18	702.22
D	159+21.62	-2.52	702.13	702.15
E	159+31.60	-2.30	702.09	702.09
℄ Brg. Pier 1	159+37.14	-2.19	702.06	702.06
F	159+47.12	-2.05	702.02	702.03
G	159+57.11	-1.96	701.99	702.01
H	159+67.10	-1.92	701.96	701.99
I	159+77.09	-1.93	701.93	701.96
J	159+87.08	-2.00	701.90	701.92
K	159+97.07	-2.11	701.88	701.88
℄ Brg. Pier 2	160+02.43	-2.20	701.87	701.87
L	160+12.41	-2.40	701.85	701.86
M	160+22.40	-2.65	701.83	701.87
N	160+32.38	-2.95	701.82	701.87
O	160+42.36	-3.31	701.81	701.85
P	160+52.33	-3.71	701.81	701.82
℄ Brg. N. Abut.	160+57.49	-3.94	701.81	701.81
Bk. N. Abut.	160+59.78	-4.05	701.81	701.81

℄ ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+79.23	0.00	702.10	702.10
℄ Brg. S. Abut.	158+81.53	0.00	702.10	702.10
A	158+91.54	0.00	702.07	702.10
B	159+01.54	0.00	702.04	702.08
C	159+11.55	0.00	702.01	702.05
D	159+21.55	0.00	701.98	702.00
E	159+31.56	0.00	701.95	701.95
℄ Brg. Pier 1	159+37.10	0.00	701.93	701.93
F	159+47.10	0.00	701.90	701.91
G	159+57.10	0.00	701.87	701.89
H	159+67.10	0.00	701.84	701.87
I	159+77.10	0.00	701.81	701.84
J	159+87.10	0.00	701.78	701.80
K	159+97.10	0.00	701.75	701.75
℄ Brg. Pier 2	160+02.47	0.00	701.73	701.73
L	160+12.47	0.00	701.70	701.72
M	160+22.47	0.00	701.67	701.71
N	160+32.48	0.00	701.64	701.69
O	160+42.48	0.00	701.61	701.65
P	160+52.49	0.00	701.58	701.60
℄ Brg. N. Abut.	160+57.67	0.00	701.57	701.57
Bk. N. Abut.	160+59.97	0.00	701.56	701.56

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 057-0056
SHEET 4 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	12
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+79.12	2.28	701.97	701.97
℄ Brg. S. Abut.	158+81.42	2.38	701.95	701.95
A	158+91.42	2.82	701.90	701.93
B	159+01.43	3.20	701.85	701.89
C	159+11.44	3.53	701.80	701.84
D	159+21.46	3.81	701.75	701.77
E	159+31.48	4.04	701.71	701.71
℄ Brg. Pier 1	159+37.03	4.14	701.68	701.68
F	159+47.05	4.28	701.64	701.65
G	159+57.07	4.38	701.61	701.63
H	159+67.09	4.42	701.58	701.61
I	159+77.12	4.40	701.55	701.58
J	159+87.14	4.34	701.52	701.54
K	159+97.16	4.22	701.50	701.50
℄ Brg. Pier 2	160+02.54	4.13	701.49	701.49
L	160+12.56	3.93	701.47	701.48
M	160+22.57	3.68	701.45	701.49
N	160+32.59	3.38	701.44	701.49
O	160+42.60	3.02	701.43	701.47
P	160+52.60	2.62	701.43	701.44
℄ Brg. N. Abut.	160+57.78	2.38	701.43	701.43
Bk. N. Abut.	160+60.08	2.28	701.43	701.43

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+78.82	8.60	701.59	701.59
℄ Brg. S. Abut.	158+81.12	8.71	701.58	701.58
A	158+91.16	9.15	701.52	701.55
B	159+01.20	9.53	701.47	701.51
C	159+11.25	9.86	701.42	701.46
D	159+21.30	10.14	701.37	701.40
E	159+31.35	10.37	701.33	701.33
℄ Brg. Pier 1	159+36.92	10.47	701.30	701.30
F	159+46.97	10.62	701.26	701.27
G	159+57.03	10.71	701.23	701.25
H	159+67.09	10.75	701.20	701.23
I	159+77.14	10.74	701.17	701.20
J	159+87.20	10.67	701.14	701.16
K	159+97.25	10.55	701.12	701.12
℄ Brg. Pier 2	160+02.65	10.47	701.11	701.11
L	160+12.70	10.27	701.09	701.10
M	160+22.75	10.01	701.07	701.11
N	160+32.80	9.71	701.06	701.11
O	160+42.84	9.35	701.05	701.09
P	160+52.88	8.94	701.05	701.06
℄ Brg. N. Abut.	160+58.08	8.71	701.05	701.05
Bk. N. Abut.	160+60.38	8.60	701.04	701.04

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	158+78.52	14.93	701.21	701.21
℄ Brg. S. Abut.	158+80.83	15.04	701.20	701.20
A	158+90.90	15.47	701.14	701.17
B	159+00.97	15.86	701.09	701.13
C	159+11.05	16.19	701.04	701.08
D	159+21.13	16.47	700.99	701.02
E	159+31.22	16.70	700.95	700.95
℄ Brg. Pier 1	159+36.81	16.80	700.92	700.92
F	159+46.90	16.95	700.88	700.89
G	159+56.99	17.04	700.85	700.87
H	159+67.08	17.08	700.82	700.85
I	159+77.17	17.07	700.79	700.82
J	159+87.26	17.00	700.76	700.78
K	159+97.35	16.88	700.74	700.74
℄ Brg. Pier 2	160+02.76	16.80	700.73	700.73
L	160+12.84	16.60	700.71	700.72
M	160+22.93	16.34	700.69	700.73
N	160+33.01	16.04	700.68	700.73
O	160+43.09	15.68	700.67	700.71
P	160+53.16	15.27	700.67	700.68
℄ Brg. N. Abut.	160+58.37	15.04	700.66	700.66
Bk. N. Abut.	160+60.68	14.93	700.66	700.66

E-S 2-17-2017

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STATE OF ILLINOIS
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TOP OF SLAB ELEVATIONS
STRUCTURE NO. 057-0056
SHEET 5 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	13
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

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WEST EDGE OF SHOULDER

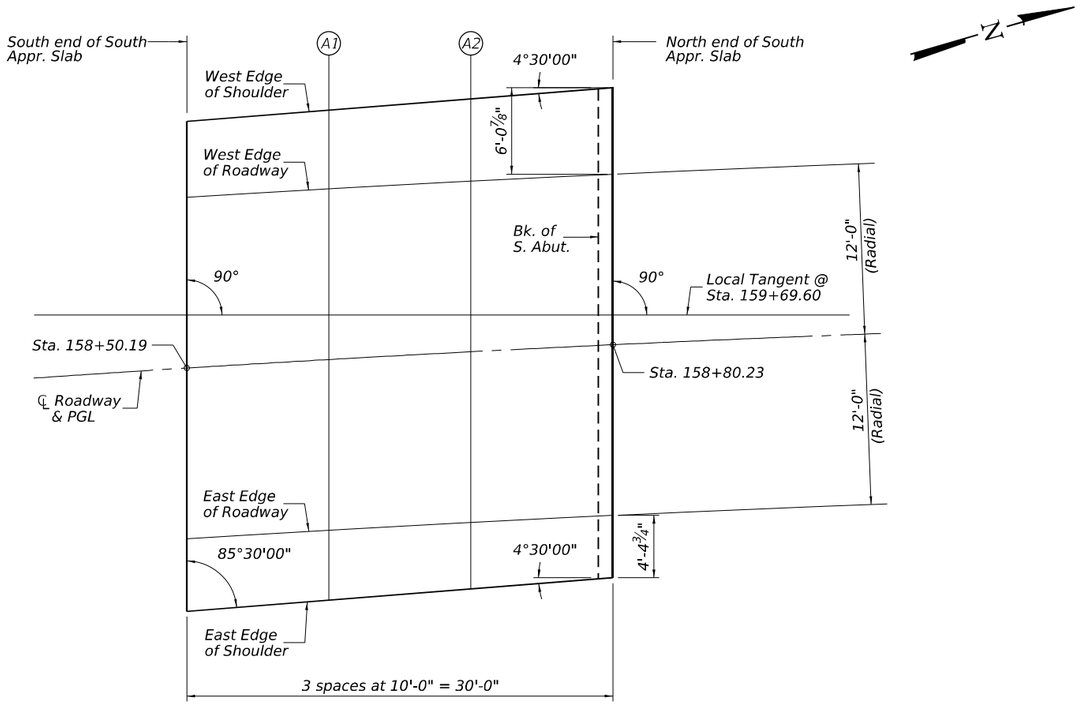
Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	158+51.26	-17.34	703.23
A1	158+61.20	-17.53	703.21
A2	158+71.14	-17.77	703.20
N. End of S. Appr. Slab	158+81.07	-18.07	703.18

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	158+50.94	-12.00	702.91
A1	158+60.89	-12.00	702.88
A2	158+70.84	-12.00	702.85
N. End of S. Appr. Slab	158+80.79	-12.00	702.82

℄ ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	158+50.19	0.00	702.19
A1	158+60.21	0.00	702.16
A2	158+70.22	0.00	702.13
N. End of S. Appr. Slab	158+80.23	0.00	702.10



PLAN

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	158+49.43	12.00	701.47
A1	158+59.51	12.00	701.44
A2	158+69.59	12.00	701.41
N. End of S. Appr. Slab	158+79.66	12.00	701.38

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	158+49.11	17.09	701.17
A1	158+59.23	16.91	701.15
A2	158+69.35	16.68	701.13
N. End of S. Appr. Slab	158+79.46	16.39	701.12

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STATE OF ILLINOIS
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TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 057-0056
SHEET 6 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	14
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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WEST EDGE OF SHOULDER

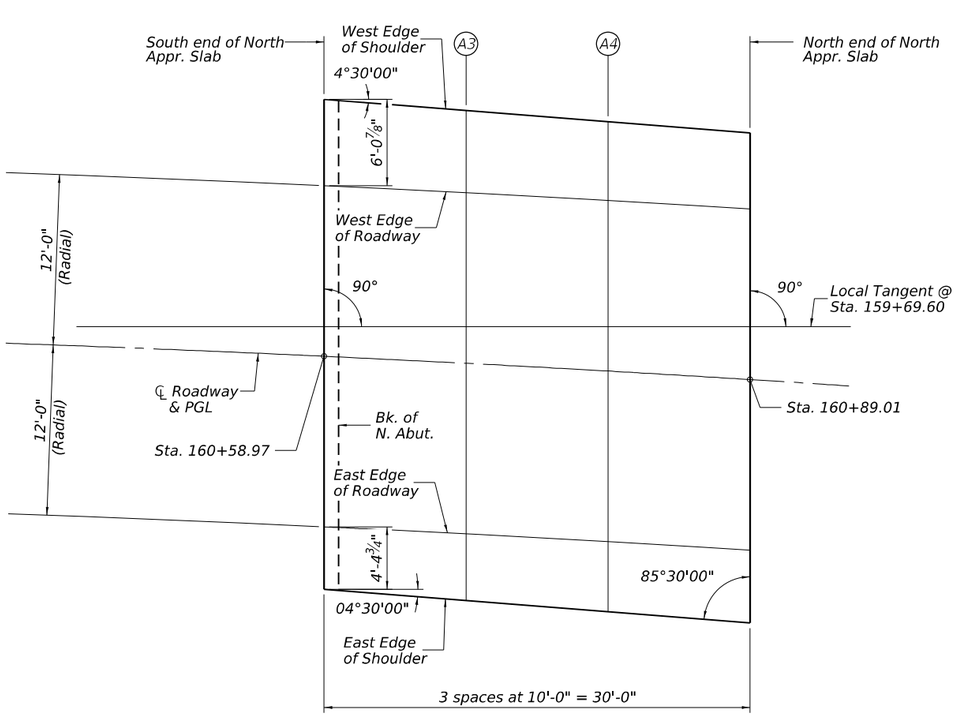
Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	160+58.13	-18.07	702.65
A3	160+68.06	-17.77	702.60
A4	160+78.00	-17.53	702.56
N. End of N. Appr. Slab	160+87.94	-17.34	702.52

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	160+58.41	-12.00	702.29
A3	160+68.36	-12.00	702.26
A4	160+78.31	-12.00	702.23
N. End of N. Appr. Slab	160+88.26	-12.00	702.20

℄ ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	160+58.97	0.00	701.57
A3	160+68.98	0.00	701.54
A4	160+78.99	0.00	701.51
N. End of N. Appr. Slab	160+89.01	0.00	701.48



PLAN

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	160+59.53	12.00	700.84
A3	160+69.61	12.00	700.81
A4	160+79.69	12.00	700.78
N. End of N. Appr. Slab	160+89.77	12.00	700.75

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	160+59.74	16.39	700.58
A3	160+69.85	16.68	700.53
A4	160+79.97	16.91	700.49
N. End of N. Appr. Slab	160+90.09	17.09	700.45

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 057-0056

SHEET 7 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	15
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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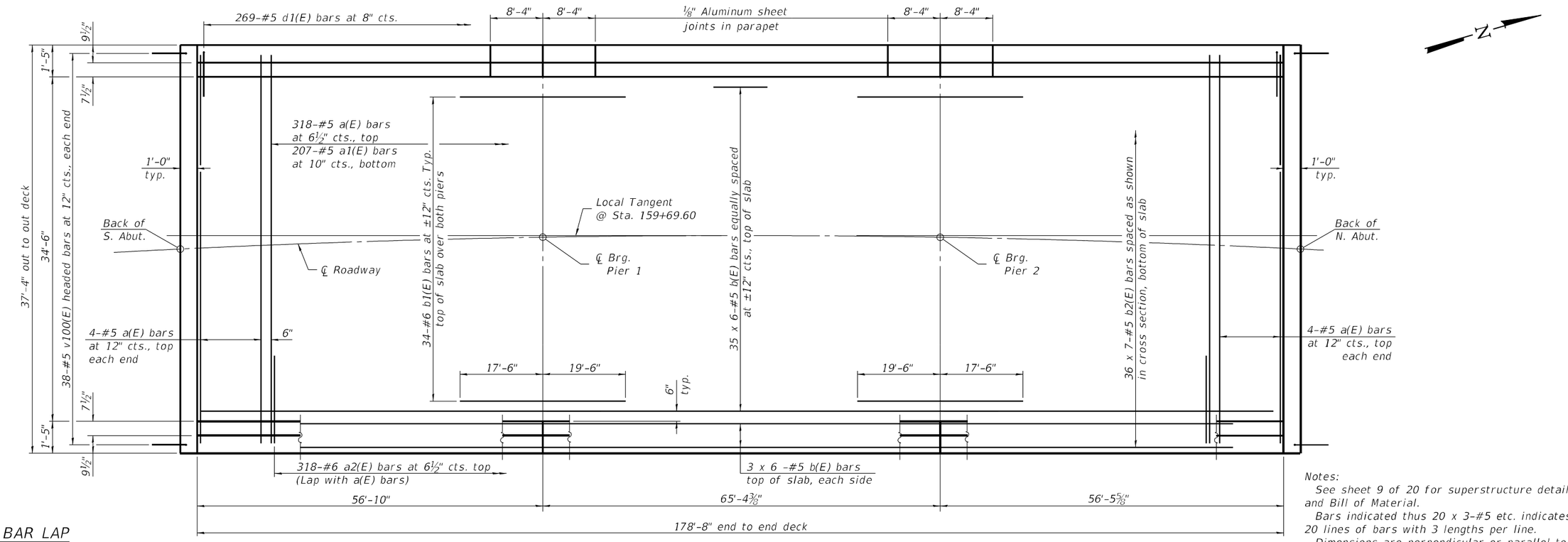


PLAN

MINIMUM BAR LAP

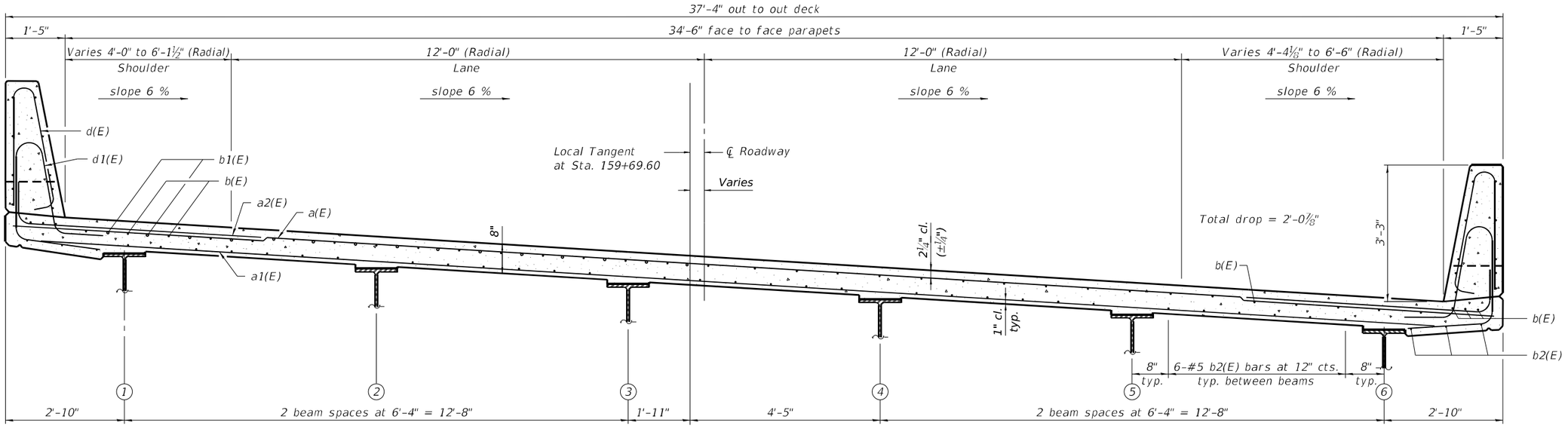
#5 bar = 3'-6"

Notes:

See sheet 9 of 20 for superstructure details and Bill of Material.

Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

Dimensions are perpendicular or parallel to Local Tangent unless noted as Radial.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking North)

SI-SB-2-0 6-15-2019

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DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 057-0056
SHEET 8 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	16
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

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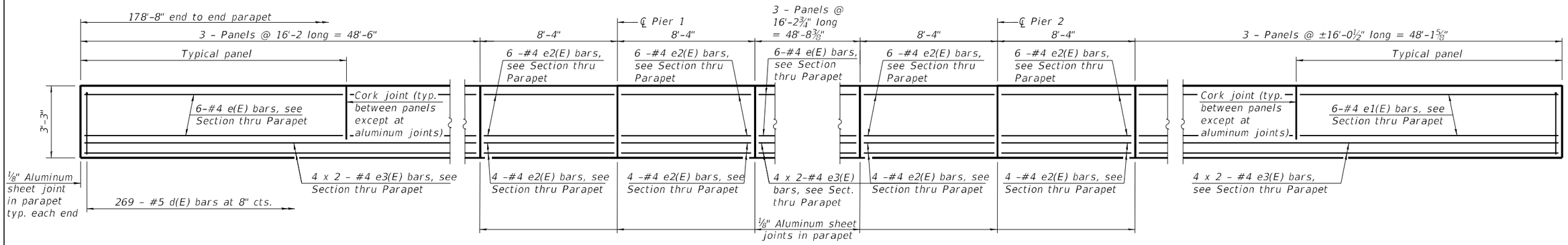
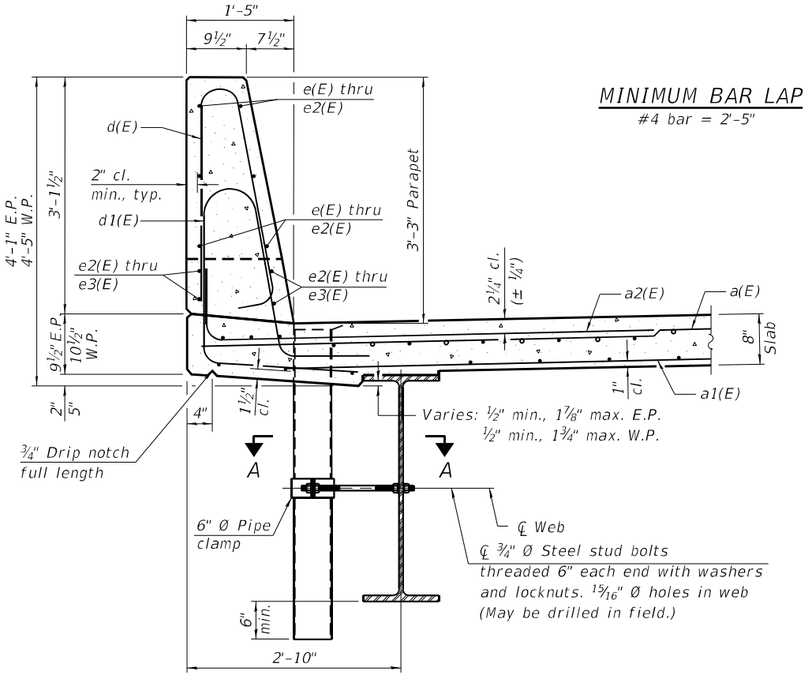


INSIDE ELEVATION OF PARAPET

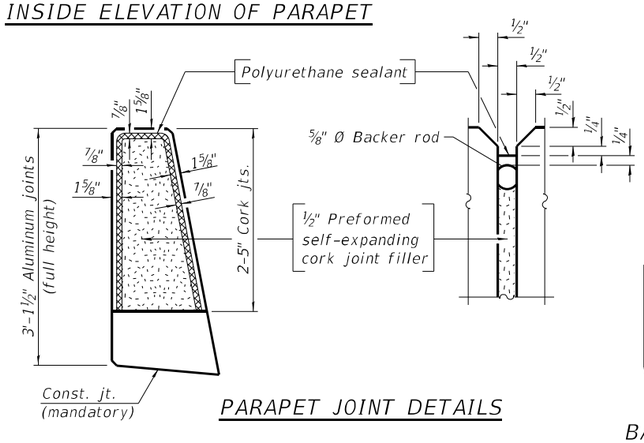


SECTION THRU PARAPET

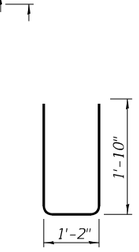
E.P. - East Parapet
W.P. - West Parapet

MINIMUM BAR LAP

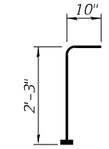
#4 bar = 2'-5"



PARAPET JOINT DETAILS

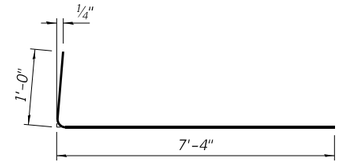


BAR u10(E)

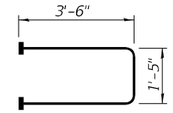


BAR v100(E)

(Headed)



BAR a2(E)



BAR s10(E)

(Headed)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	326	#5	37'-0"	
a1(E)	207	#5	35'-4"	
a2(E)	636	#6	8'-4"	
b(E)	246	#5	32'-8"	
b1(E)	68	#6	37'-0"	
b2(E)	252	#5	28'-6"	
d(E)	538	#5	6'-5"	
d1(E)	538	#5	8'-2"	
e(E)	72	#4	15'-10"	
e1(E)	36	#4	15'-8"	
e2(E)	80	#4	8'-0"	
e3(E)	48	#4	25'-7"	
m10(E)	10	#6	37'-0"	
m11(E)	20	#6	6'-0"	
m12(E)	20	#6	6'-0"	
m13(E)	16	#6	2'-6"	
m14(E)	8	#4	19'-11"	
s10(E)	72	#5	8'-5"	
s11(E)	72	#5	9'-0"	
u10(E)	72	#4	4'-10"	
v100(E)	76	#5	3'-1"	
Reinforcement Bars, Epoxy Coated		Lbs.	61,260	
Concrete Superstructure		Cu. Yds.	251.8	

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

Notes:

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

The exterior surfaces of the floor drains shall be pigmented by the manufacturer with a color that matches the galvanized steel fascia beams.

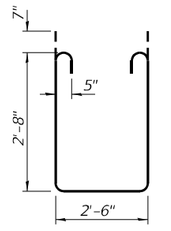
The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

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

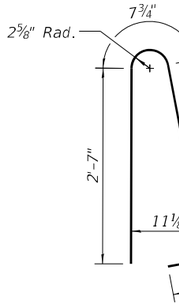
The ⅛" aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

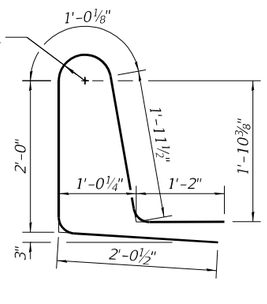
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



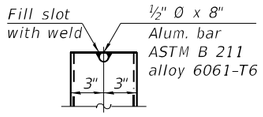
BAR s11(E)



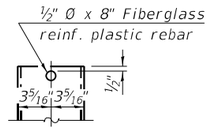
BAR d(E)



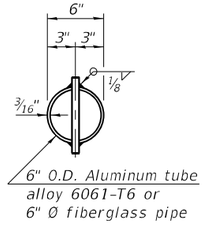
BAR d1(E)



ALUMINUM TUBE

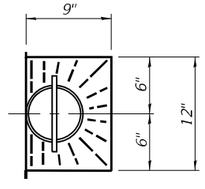


FIBERGLASS PIPE

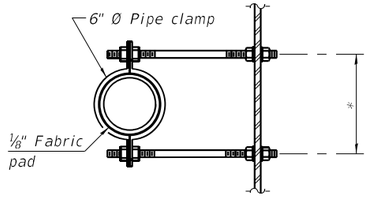


TOP PLAN

(Showing aluminum tube)



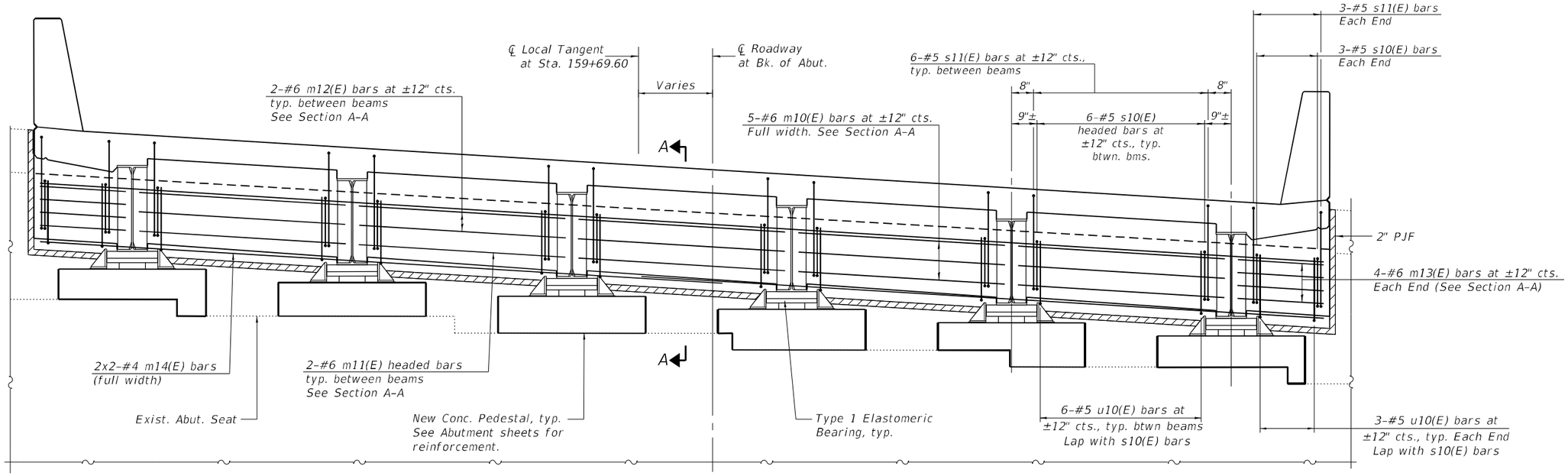
TOP PLAN



SECTION A-A

*Dimension as required by pipe clamp

SDI-SB-2 6-15-2019



DIAPHRAGM AT NORTH ABUTMENT

(Looking North)
(South Abutment opposite hand)

MINIMUM BAR LAP

#4 bar = 2'-5"

Notes:
See sheet 11 of 20 for Section A-A.
See sheet 9 of 20 for superstructure details and Bill of Material.
The s10(E), s11(E), u10(E) and v100(E) bars shall be placed parallel to the beams.

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DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 057-0056
SHEET 10 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	18
		CONTRACT NO. 70541		
	ILLINOIS FED. AID PROJECT			

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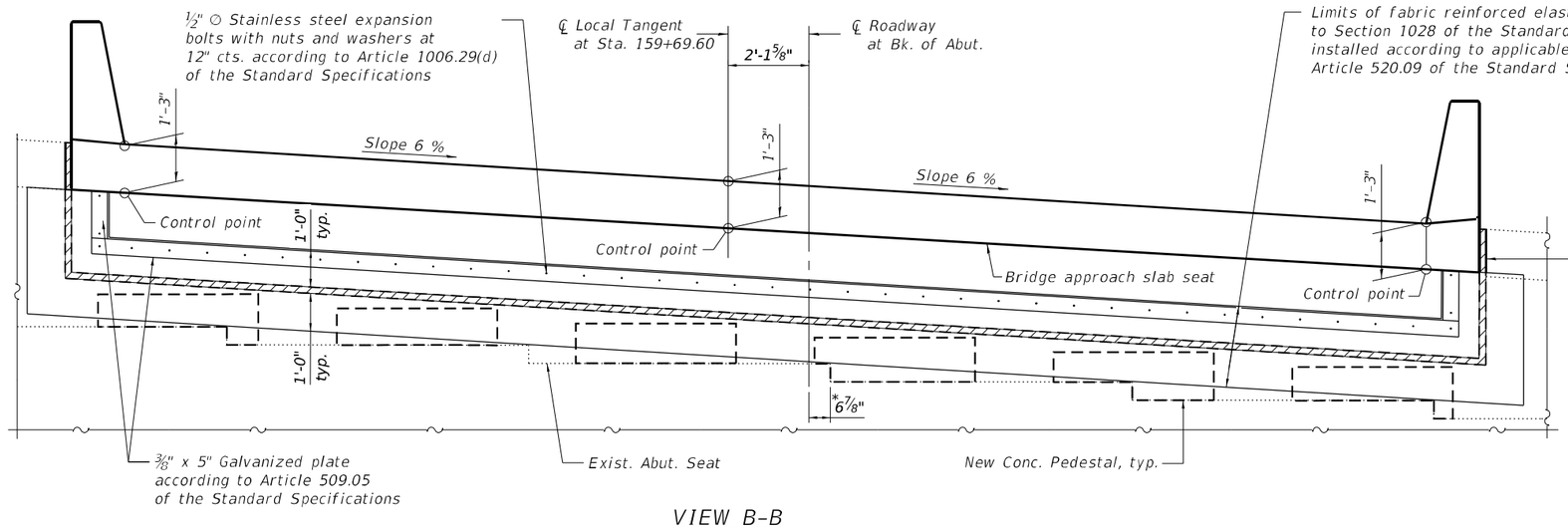
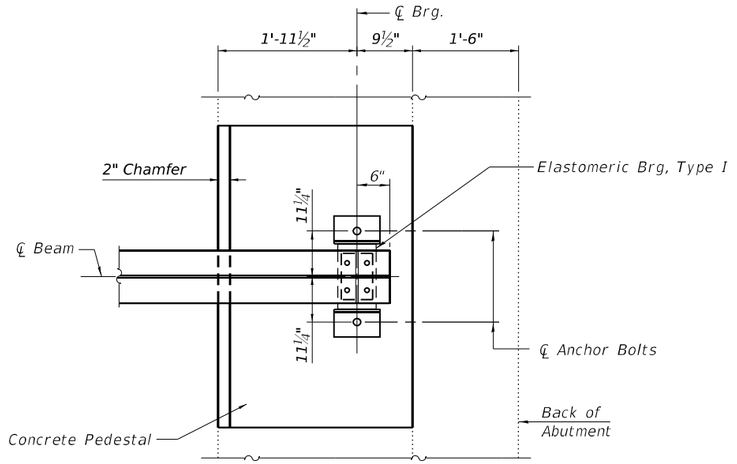


VIEW B-B

(Looking at back of abutment)

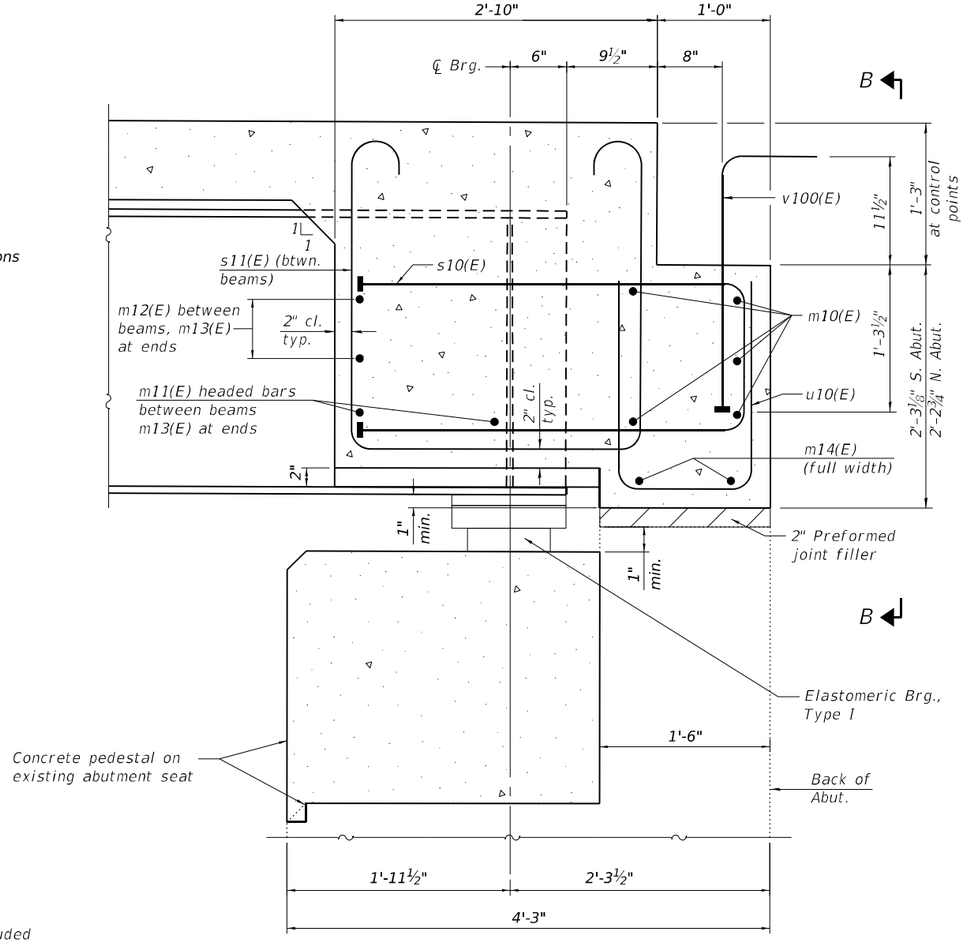
Note:
Cost of fabric reinforced elastomeric mat, galvanized plate, stainless steel expansion bolts with nuts and washers and installation are included in the cost of Concrete Superstructure.

* See General Note on Sheet 2 of 20, "Plan dimensions and details relative to existing plans..."



PLAN AT ABUTMENT

(Showing bottom flange of beam)



SECTION A-A

Notes:
See sheet 9 of 20 for superstructure details and Bill of Material.
The approach slab seat shall have a constant slope determined from the control points shown.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

DIA-SB-0 06-15-2019

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DIAPHRAGM DETAILS
STRUCTURE NO. 057-0056
SHEET 11 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	19
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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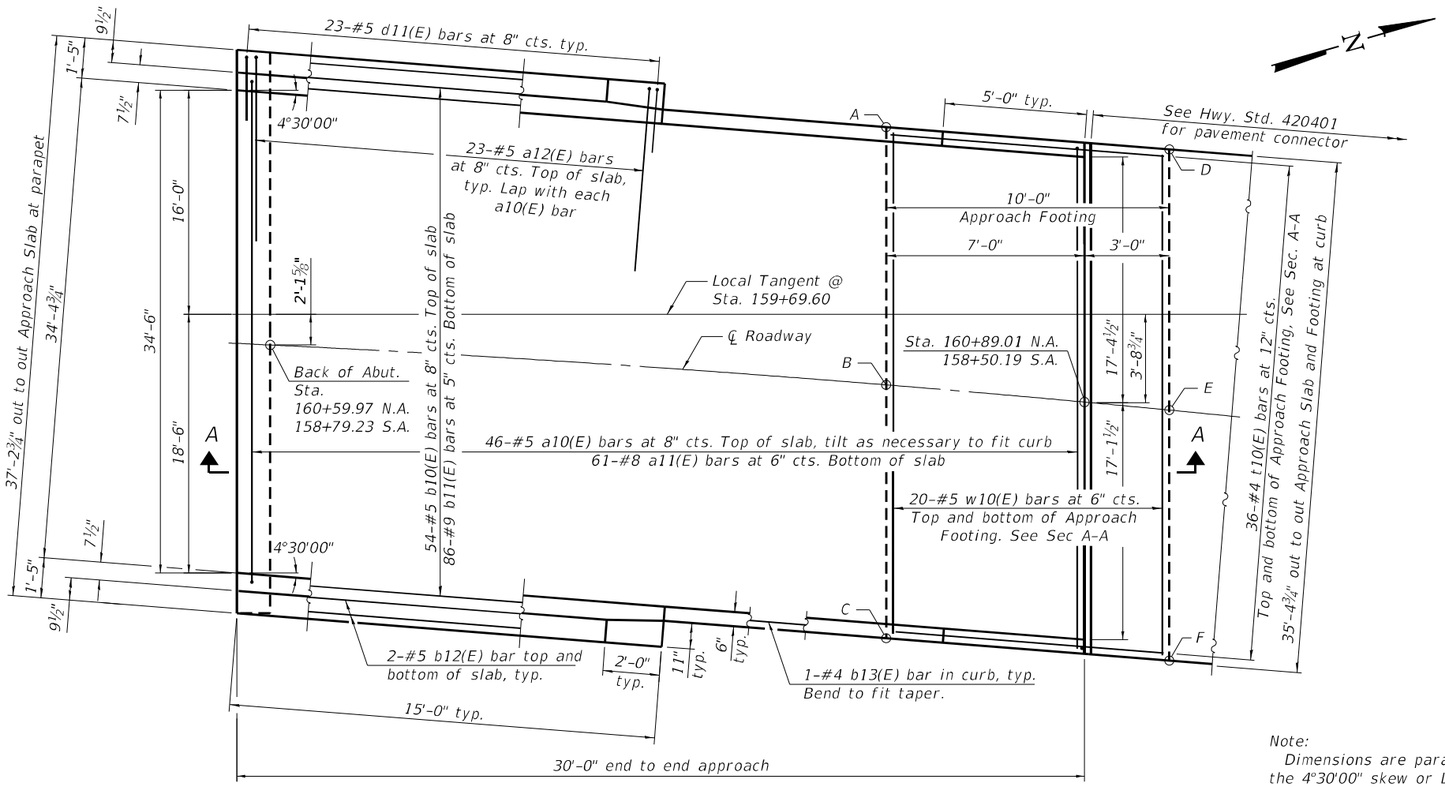


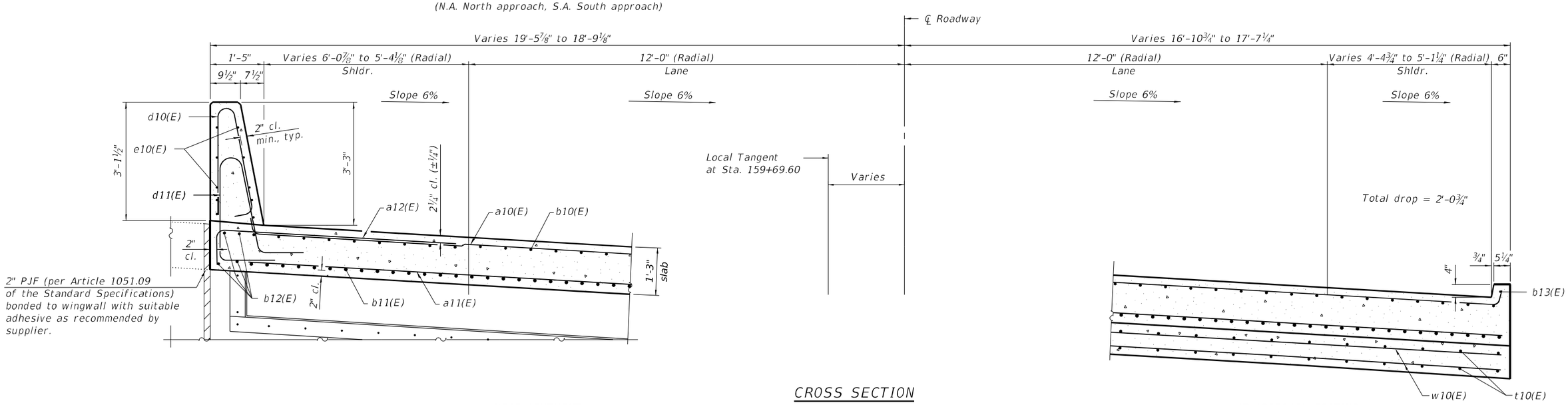
PLAN

(North approach slab shown; South approach slab similar by opposite hand)
(N.A. North approach, S.A. South approach)

Note:
Dimensions are parallel or perpendicular to the 4°30'00" skew or Local Tangent unless noted as Radial.

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

South Approach			North Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A - NW	702.00	701.16	A - SW	701.33	700.49
B - N ℄	700.92	700.09	B - S ℄	700.25	699.41
C - NE	699.88	699.04	C - SE	699.19	698.36
D - SW	702.01	701.18	D - NW	701.29	700.45
E - S ℄	700.95	700.12	E - N ℄	700.22	699.38
F - SE	699.90	699.06	F - NE	699.15	698.32



NEAR ABUTMENT

CROSS SECTION

(Looking North)

AT APPROACH FOOTING

KUHN & TRELLO
CONSULTING ENGINEERS
A Limited Liability Company
109 N. 7th Street, 3rd Floor
Springfield, IL 62701
Phone: 217-679-0544
Professional Design Firm No. 184-006516

USER NAME	=	DESIGNED	- SPN	REVISED	-
		CHECKED	- MJT	REVISED	-
PLOT SCALE	=	DRAWN	- MMY	REVISED	-
PLOT DATE	=	CHECKED	- SPN/MJT	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 057-0056
SHEET 12 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	20
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

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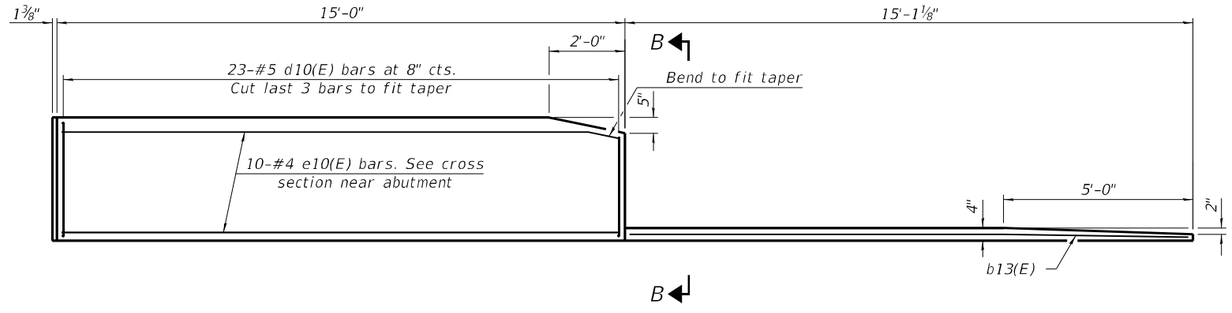
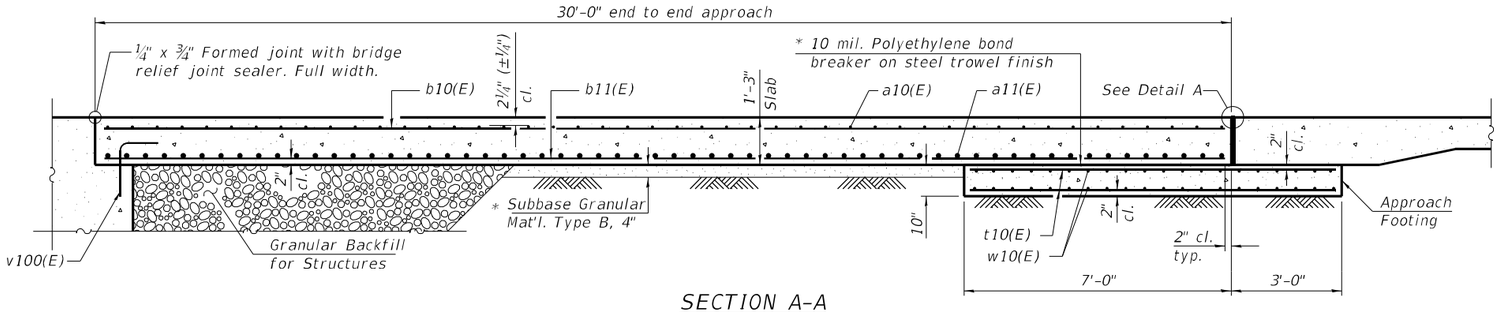
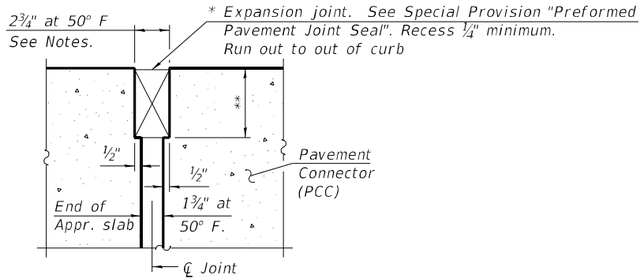


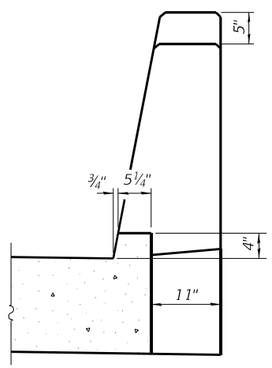
INSIDE ELEVATION OF PARAPET AND CURB



SECTION A-A



DETAIL A



VIEW B-B

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

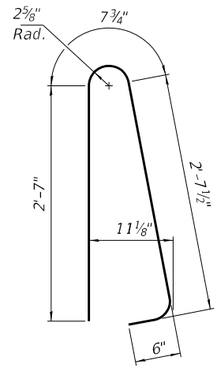
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

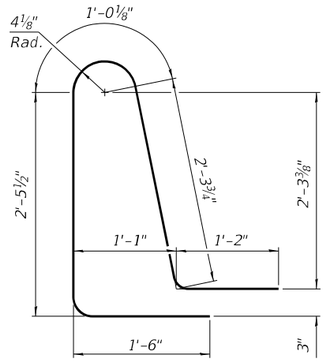
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 20.

For Type 6 terminal connections see Highway Standard 631031.

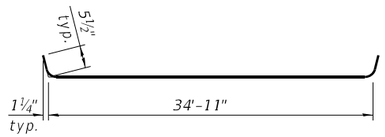
See Highway Standard 420401 for Pavement Connector (PCC) in Detail A.



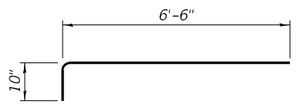
BAR d10(E)



BAR d11(E)



BAR a10(E)



BAR a12(E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	35'-10"	
a11(E)	122	#8	35'-6"	
a12(E)	92	#5	7'-4"	
b10(E)	108	#5	29'-8"	
b11(E)	172	#9	29'-8"	
b12(E)	16	#5	14'-8"	
b13(E)	4	#4	14'-8"	
d10(E)	92	#5	6'-5"	
d11(E)	92	#5	8'-6"	
e10(E)	40	#4	14'-8"	
t10(E)	144	#4	9'-8"	
w10(E)	80	#5	35'-2"	
Concrete Superstructure			Cu. Yd.	7.8
Concrete Superstructure (Approach Slab)			Cu. Yd.	101.9
Concrete Structures			Cu. Yd.	21.9
Reinforcement Bars, Epoxy Coated			Pound	42370

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Springfield, IL 62701
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Professional Design Firm No. 184.006516

USER NAME =		DESIGNED - SPN	REVISED -		
		CHECKED - MJT	REVISED -		
PLOT SCALE =		DRAWN - MMY	REVISED -		
PLOT DATE =		CHECKED - SPN/MJT	REVISED -		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 057-0056

SHEET 13 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	21
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

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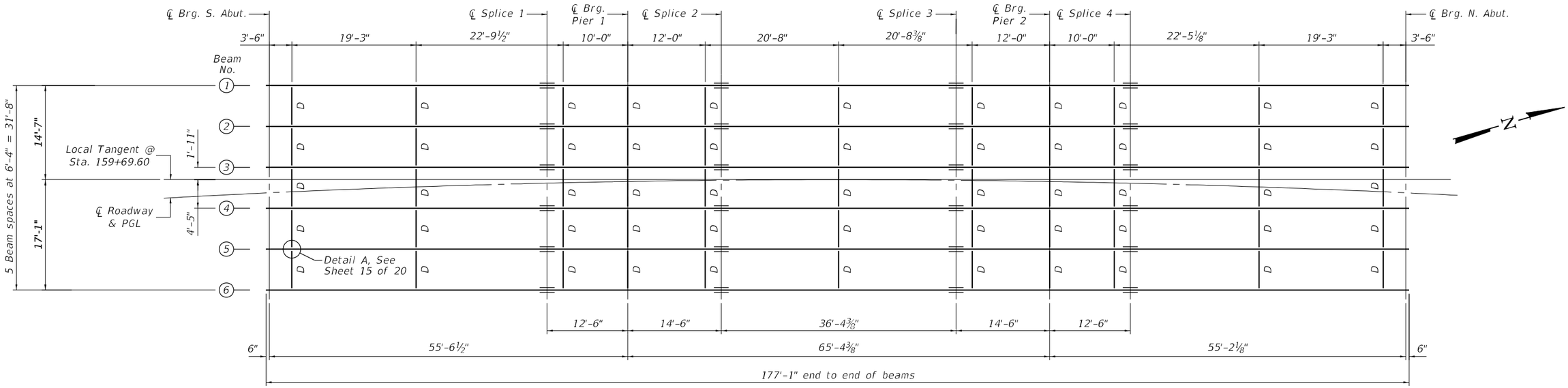
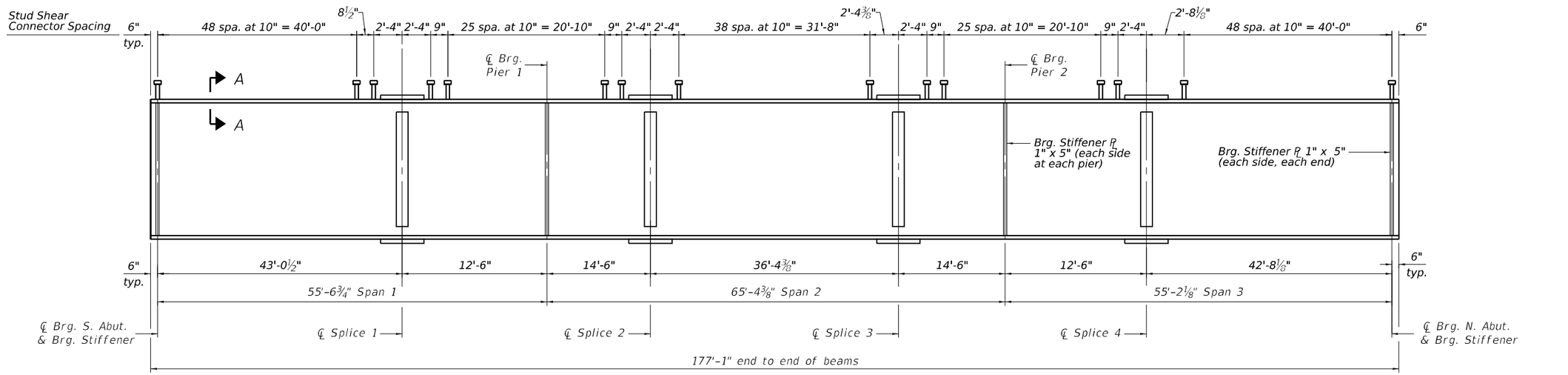


FRAMING PLAN

All Beams: W30x99 (AASHTO M270 Grade 50, CVN.)



BEAM ELEVATION 1-6

* TOP OF BEAM ELEVATIONS

Location	℄ Brg. S. Abut	℄ Splice 1	℄ Brg. Pier 1	℄ Splice 2	℄ Splice 3	℄ Brg. Pier 2	℄ Splice 4	℄ Brg. N. Abut
Beam 1	702.20	702.07	702.03	701.99	701.88	701.83	701.80	701.67
Beam 2	701.82	701.69	701.65	701.61	701.50	701.45	701.42	701.29
Beam 3	701.44	701.31	701.27	701.23	701.12	701.07	701.04	700.91
Beam 4	701.06	700.93	700.89	700.85	700.74	700.69	700.66	700.53
Beam 5	700.68	700.55	700.51	700.47	700.36	700.31	700.28	700.15
Beam 6	700.30	700.17	700.13	700.09	699.98	699.93	699.90	699.77

* For Fabrication use only

Notes:

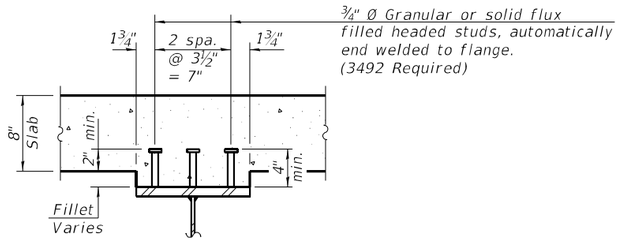
See Sheet 15 of 20 for additional notes and details.

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

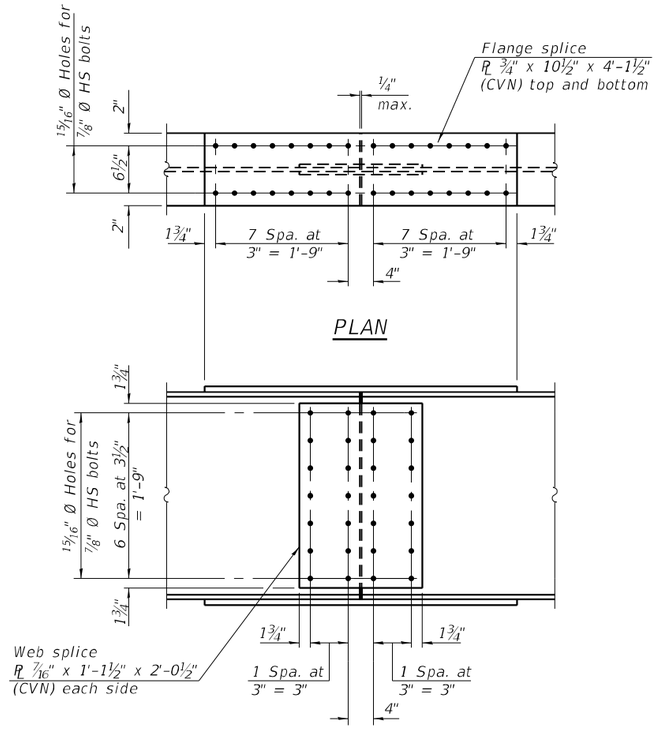
Girders have bearing stiffeners and connection plates as required by design. Additional stiffeners may be added at the Contractor's expense as necessary to prevent distortion of the girders during galvanizing. The Contractor shall coordinate with the fabricator and the galvanizer to determin if additional stiffeners are necessary, and where these should be placed. Any proposed changes shall be submitted to the Engineer for approval prior to making any changes and documented on the shop drawings.

Temporary stiffener angles shall be bolted to each side of the splice ends of each girder segment to prevenet distortion during galvanizing. Temporary stiffener angles shall bolt or fit tight against top and bottom flanges and include spacer tubes to minimize damage to galvanizing during removal. Cost includeed with Furnishing and Erecting Structural Steel.

"CVN" denotes Charpy - V-notch impact energy requirement, Zone 2.

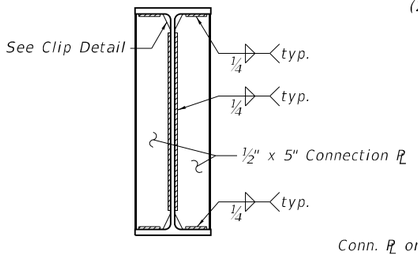


SECTION A-A

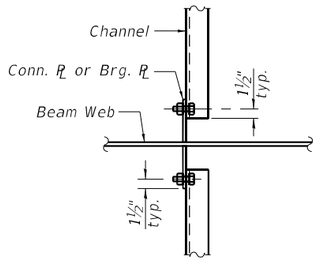


SPLICE DETAIL

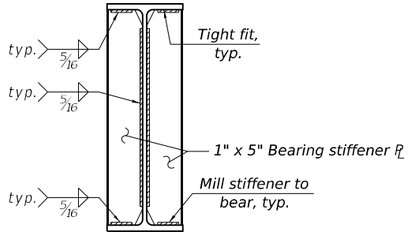
(24 Required)



CONNECTION PLATE DETAIL



DETAIL A

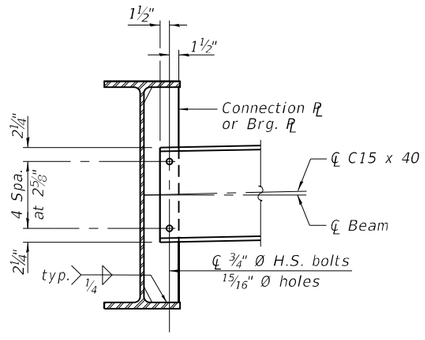


BEARING STIFFENER DETAIL

INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
Is	(in^4)	3990	3990	3990	3990	3990
Ic(n)	(in^4)	12,497	12,497	12,497	12,497	12,497
Ic(3n)	(in^4)	9454	9454	9454	9454	9454
Ic(cr)	(in^4)	–	5963	–	5963	–
Ss	(in^3)	269	269	269	269	269
Sc(n)	(in^3)	429	429	429	429	429
Sc(3n)	(in^3)	389	389	389	389	389
Sc(cr)	(in^3)	–	325	–	325	–
DC1	(k/')	0.780	0.780	0.780	0.780	0.780
MDC1	('k)	175	284	128	284	175
DC2	(k/')	0.175	0.175	0.175	0.175	0.175
MDC2	('k)	39	64	29	64	39
DW	(k/')	0.288	0.288	0.288	0.288	0.288
MDW	('k)	65	105	47	105	65
LLDF		0.54	0.53	0.52	0.53	0.54
M_{L+IM}	('k)	520	471	485	471	520
Mu (Strength I)	('k)	1275	1510	1116	1510	1275
Øf Mn	('k)	2069	1661	2069	1661	2069
fs DC1	(ksi)	7.81	12.67	5.71	12.67	7.81
fs DC2	(ksi)	1.20	2.36	0.89	2.36	1.20
fs DW	(ksi)	2.01	3.88	1.45	3.88	2.01
fs (L+IM)	(ksi)	14.55	19.35	13.57	19.35	14.55
fs (Service II)	(ksi)	29.93	44.07	25.69	44.07	29.93
0.95Rh Fyf	(ksi)	47.5	47.5	47.5	47.5	47.5
fs (Total)(Strength I)	(ksi)	–	–	–	–	–
Øf Fn	(ksi)	–	–	–	–	–
Vf	(k)	22.8	25.5	19.8	25.2	22.8

BEAM REACTION TABLE									
		South Abutment		Pier 1		Pier 2		North Abutment	
		Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF		0.695	0.52	0.695	0.52	0.695	0.52	0.695	0.52
OCF		–	–	–	–	–	–	–	–
RDC1	(k)	43.2	43.2	52.1	52.1	52.1	52.1	43.2	43.2
RDC2	(k)	5.7	3.7	9.8	9.8	9.8	9.8	5.7	3.7
RDW	(k)	10.8	6.1	16.0	16.0	16.0	16.0	10.8	6.1
R_L	(k)	57.7	43.2	79.8	59.7	79.8	59.7	57.7	43.2
R_{IM}	(k)	13.1	9.8	15.9	11.9	15.9	11.9	13.1	9.8
RTotal	(k)	123.8	107.7	178.7	154.6	178.7	154.6	123.8	107.7

Note: Abutment Reactions include loads from the approach slabs and concrete diaphragms



DIAPHRAGM D

Notes:

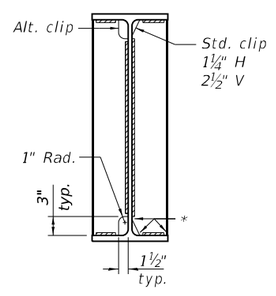
Two hardened washers required for each set of oversized holes.

Alternate channels of equal depth and larger weight are permitted to facilitate material acquisition. Alternate channels, if utilized, shall be provided at no additional cost to the Department.

All splice plates and bearing stiffeners shall be AASHTO M270, Grade 50.

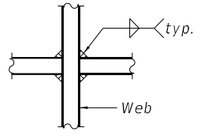
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor bolts.

"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.



WELD LIMITS AND CLIP DETAILS

*Stop welds ¼" (±⅛") from edges as shown



WEB WELD DETAIL

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2. and further IDOT provisions.

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).
$1.25\ (MDC1 + MDC2) + 1.5\ MDW + 1.75\ M_{L+IM}$

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{L+IM} / Sc(n) or M_{L+IM} / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).
$fsDC1 + fsDC2 + fsDW + 1.3\ fs(L+IM)$

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (fsDC1 + fsDC2) + 1.5\ fsDW + 1.75\ fs(L+IM)$

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

OCF: Obtuse Correction Factor applied to non-continuous exterior beam ends and computed according to Article 4.6.2.2.3c or as further simplified by IDOT provisions.

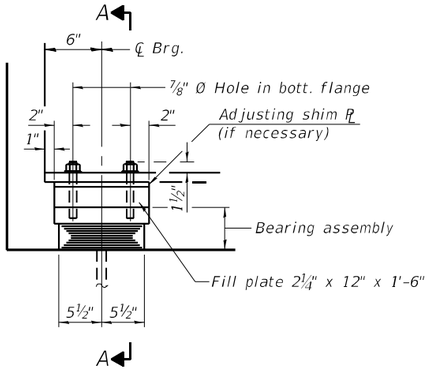
RDC1: Un-factored reaction due to non-composite dead load (kip).

RDC2: Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).

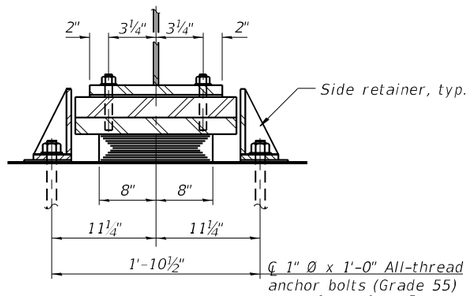
RDW: Un-factored reaction due to long-term composite (superimposed future wearing surface) dead load (kip).

R_L: Un-factored live load reaction (kip).

R_{IM}: Un-factored dynamic load allowance (impact) (kip).



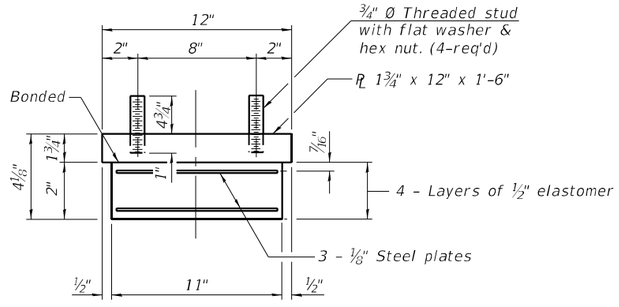
ELEVATION AT ABUTMENTS



SECTION A-A

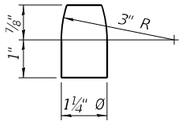
TYPE I ELASTOMERIC EXP. BRG.

(6 Required S.A., 6 Required N.A.)



BEARING ASSEMBLY-ABUTMENTS

Note:
Shim plates shall not be placed under bearing assembly.



PINTLE

Notes:

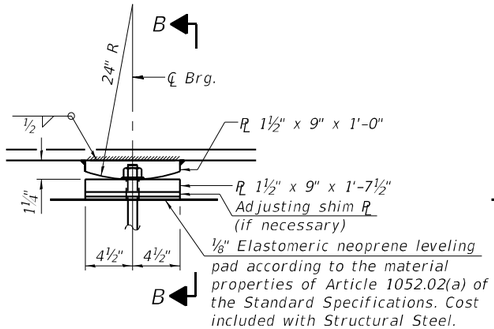
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type 1.

Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

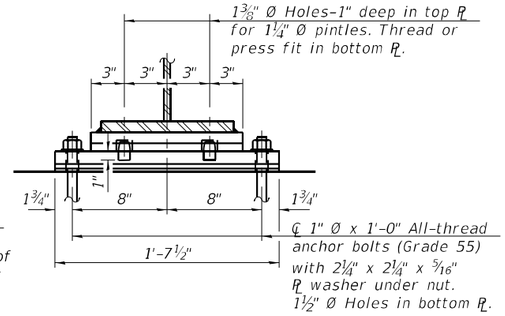
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

All bearing plates and pintles shall be AASHTO M270, Grade 50.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.



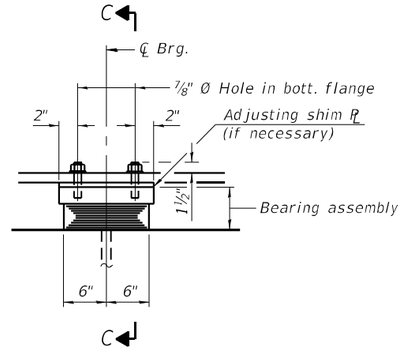
ELEVATION AT PIER 2



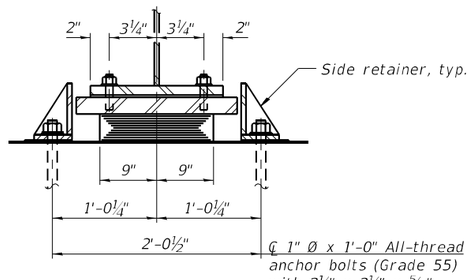
SECTION B-B

FIXED BEARING

(6 Required)



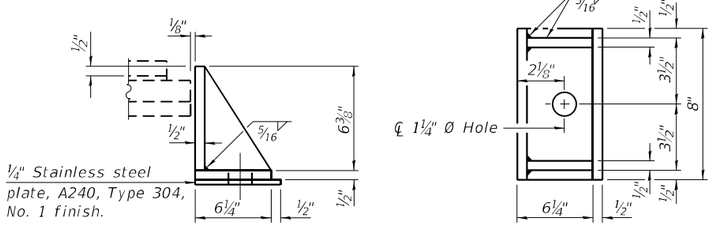
ELEVATION AT PIER 1



SECTION C-C

TYPE I ELASTOMERIC EXP. BRG.

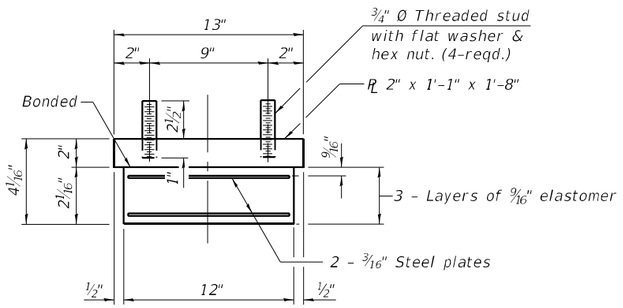
(6 Required)



¼" Stainless steel plate, A240, Type 304, No. 1 finish.

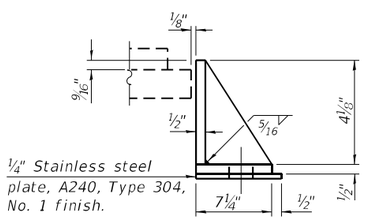
SIDE RETAINER - ABUTMENTS

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



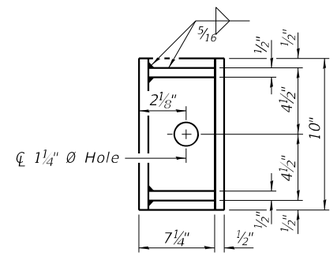
BEARING ASSEMBLY- PIER 1

Note:
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER - PIER 1

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

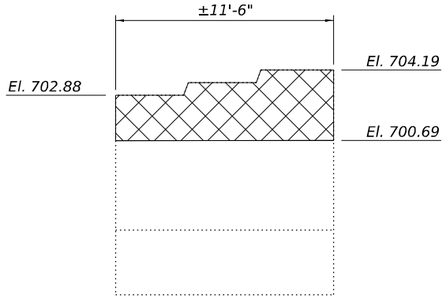


BILL OF MATERIAL

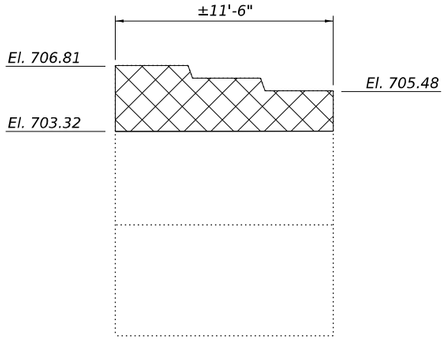
Item	Unit	Total
Elastomeric Bearing Assembly Type 1	Each	18
Anchor Bolts, 1"	Each	48

I-2E-1

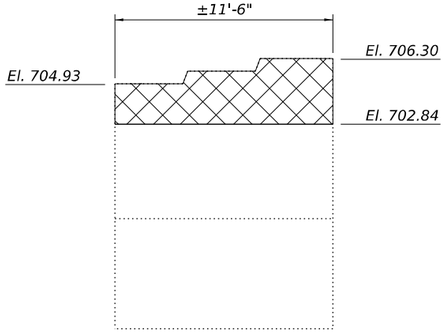
6-15-2019



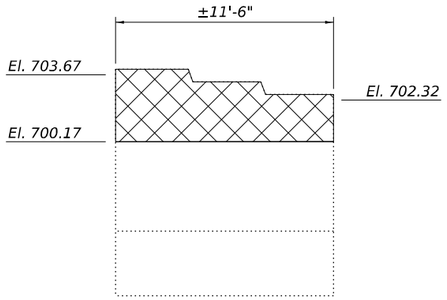
SOUTHEAST WINGWALL ELEVATION
(Looking West)



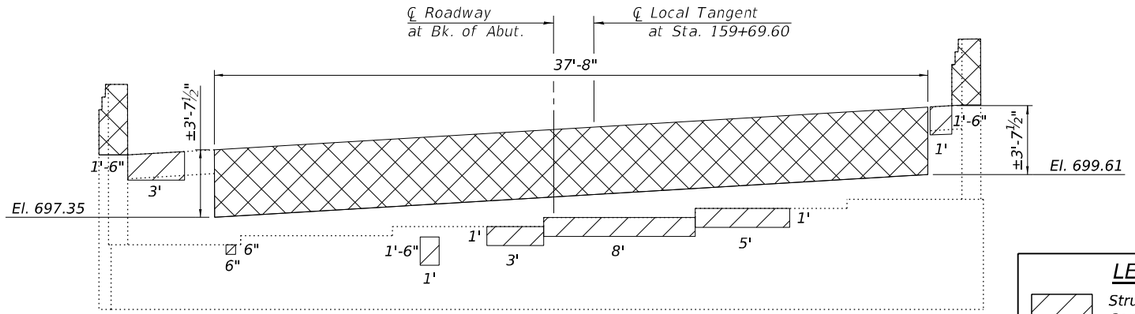
SOUTHWEST WINGWALL ELEVATION
(Looking East)



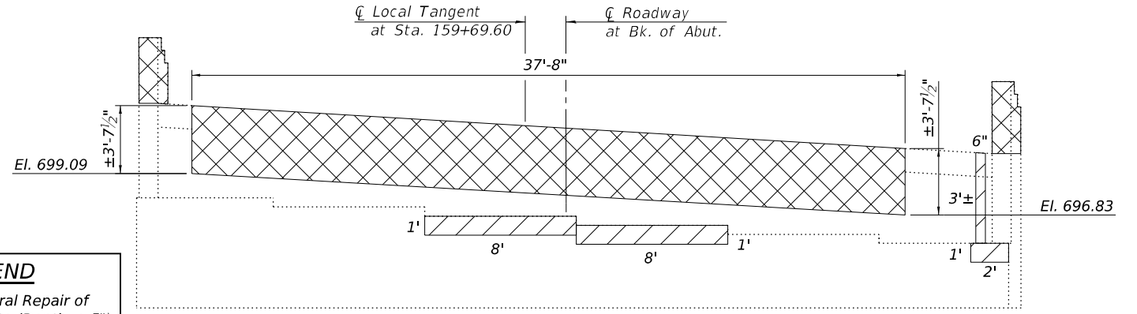
NORTHWEST WINGWALL ELEVATION
(Looking East)



NORTHEAST WINGWALL ELEVATION
(Looking West)



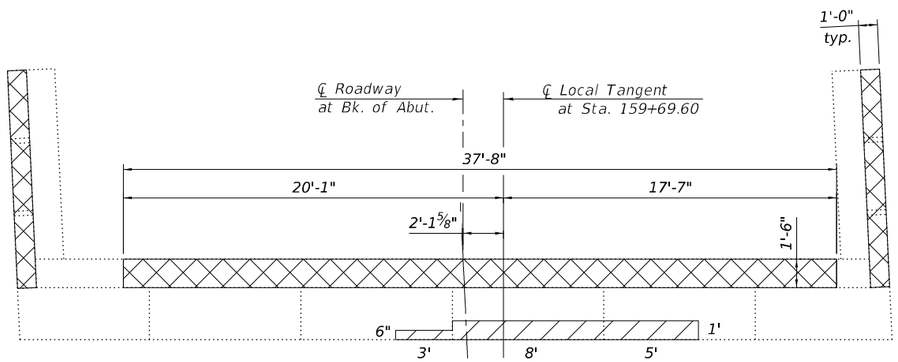
ELEVATION - SOUTH ABUTMENT
(Looking South)



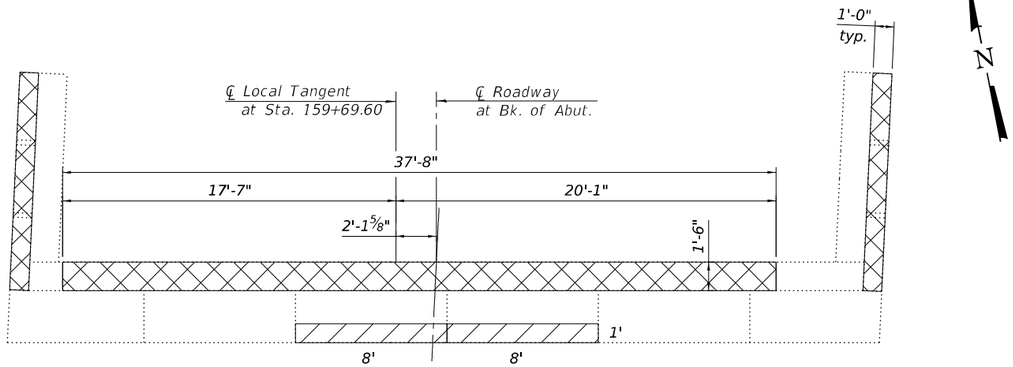
ELEVATION - NORTH ABUTMENT
(Looking North)

LEGEND

- Structural Repair of Concrete (Depth ≤ 5")
- Concrete Removal



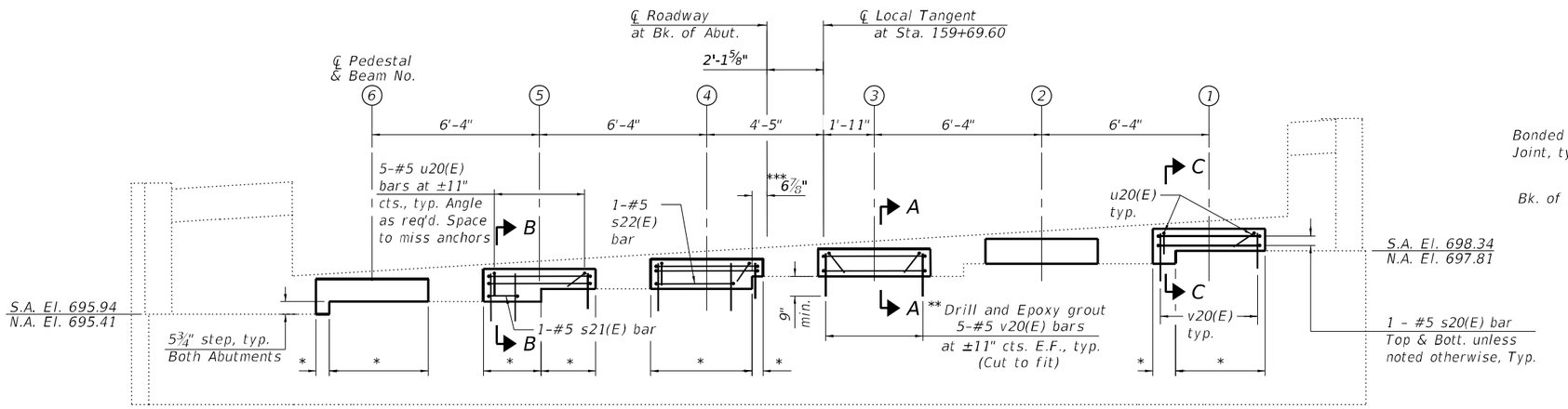
PLAN - SOUTH ABUTMENT



PLAN - NORTH ABUTMENT

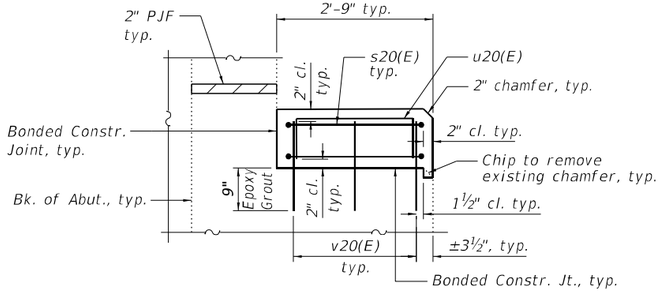
SUBSTRUCTURE BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	20.0
Structural Repair of Concrete, Depth equal to or less than 5 inches	Sq. Ft.	74



ELEVATION

(S. Abut. shown – Looking South)
(N. Abut. opposite hand)



SECTION A-A

(At Beams 2 & 3)
(Typ. dimensions shown above applicable to Sections B-B & C-C)

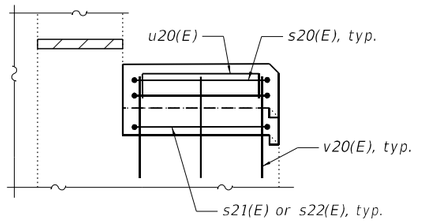
TOP OF CONCRETE PEDESTAL ELEVATIONS

Location	S. Abut	N. Abut.
Beam 1	699.19	698.67
Beam 2	698.81	698.29
Beam 3	698.43	697.91
Beam 4	698.05	697.53
Beam 5	697.67	697.15
Beam 6	697.29	696.77

* Length of pedestals vary on each concrete step at locations where concrete pedestals sit on existing concrete steps that are different elevations.

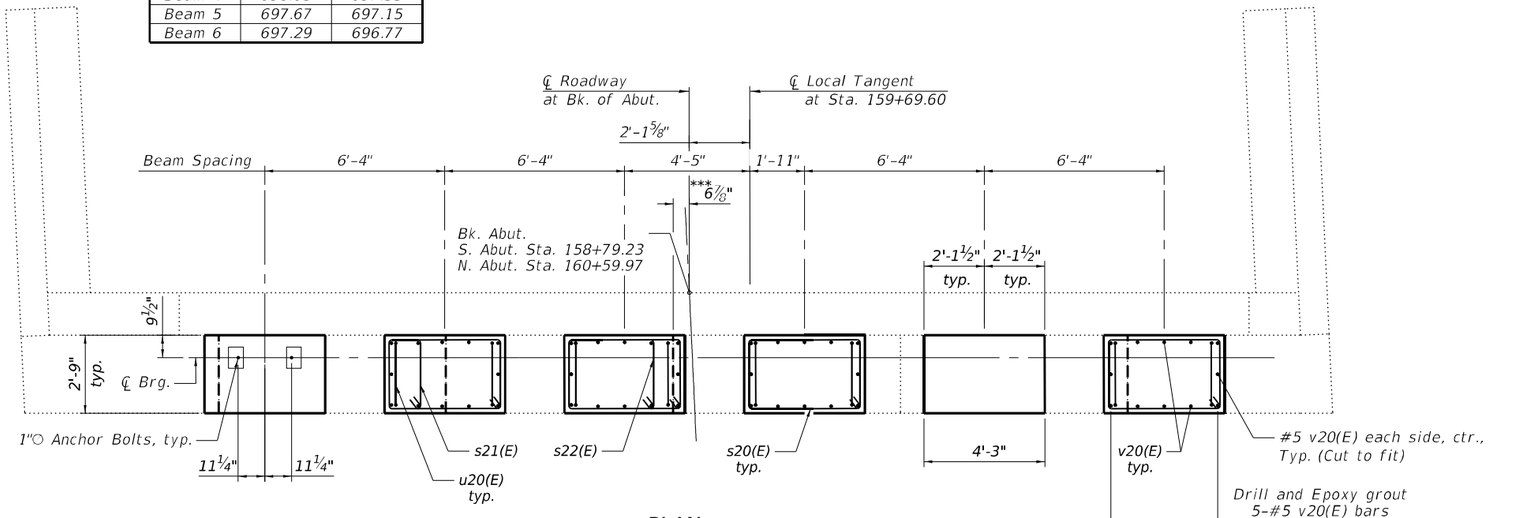
** Drill and grout according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.

*** See General Note on Sheet 2 of 20, "Plan dimensions and details relative to existing plans..."



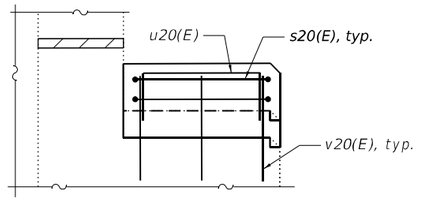
SECTION B-B

(At Beams 4 & 5)



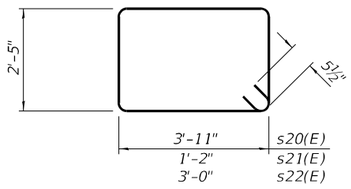
PLAN

(S. Abut. shown – N. Abut. opposite hand)

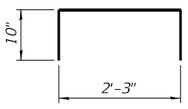


SECTION C-C

(At Beams 1 & 6)



BARS s20(E) thru s22(E)



BAR u20(E)

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s20(E)	24	#5	13'-7"	
s21(E)	2	#5	8'-1"	
s22(E)	2	#5	11'-9"	
u20(E)	60	#5	3'-11"	
v20(E)	144	#5	1'-11"	
Structure Excavation			Cu. Yd.	201
Concrete Structures			Cu. Yd.	5.3
Reinforcement Bars, Epoxy Coated			Pound	920

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USER NAME =
PLOT SCALE =
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DESIGNED - SPN
CHECKED - MJT
DRAWN - MMY
CHECKED - SPN/MJT
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 057-0056
SHEET 18 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	26
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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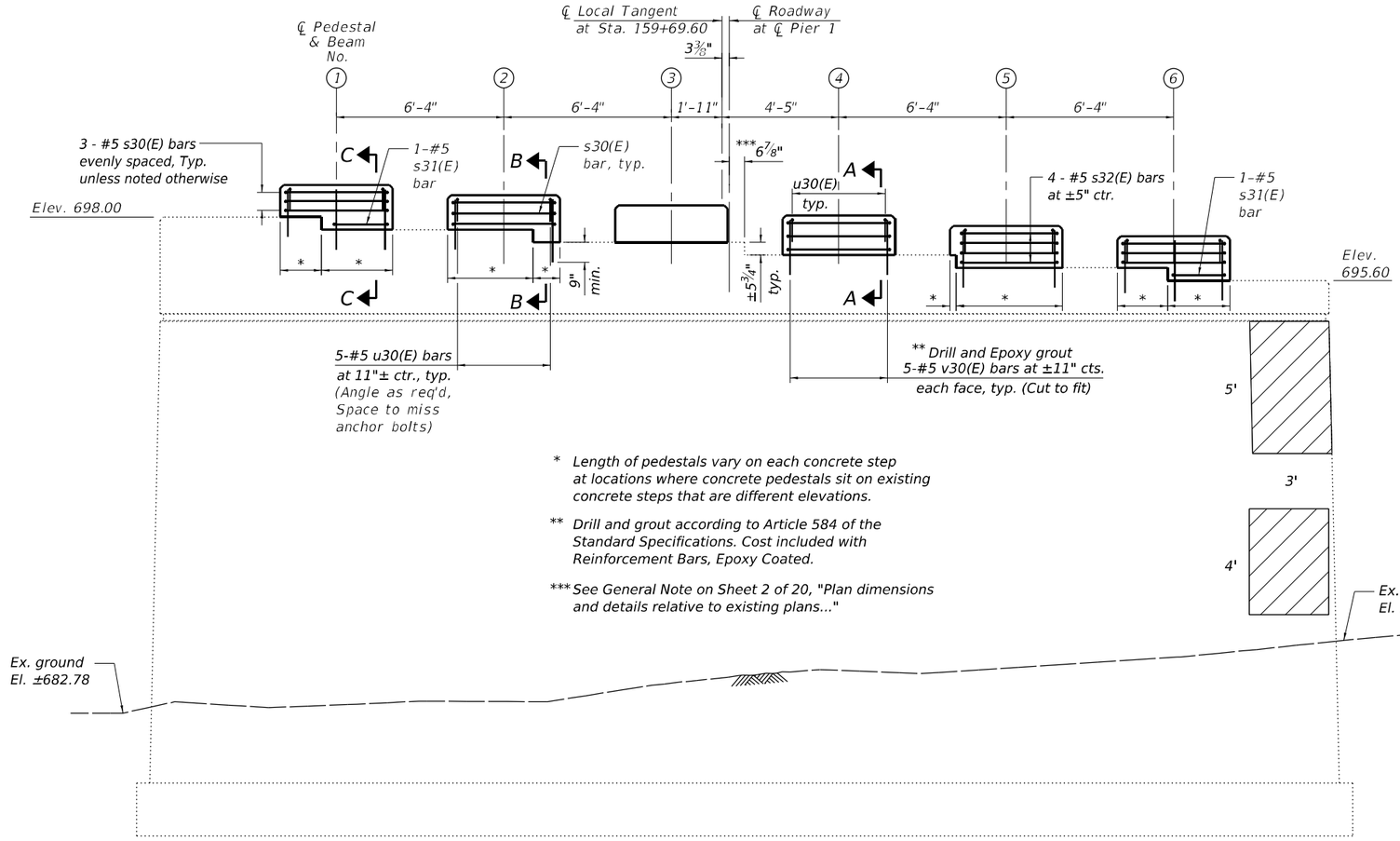
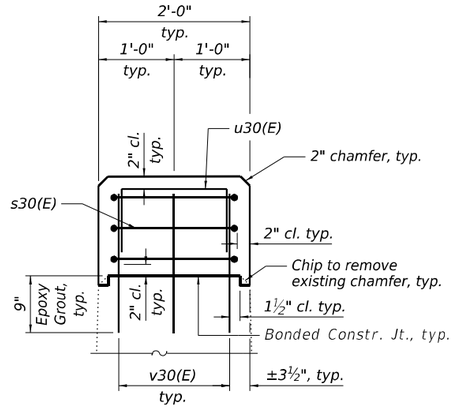


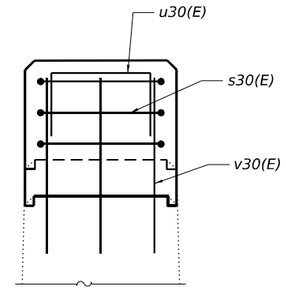
* Length of pedestals vary on each concrete step at locations where concrete pedestals sit on existing concrete steps that are different elevations.

** Drill and grout according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.

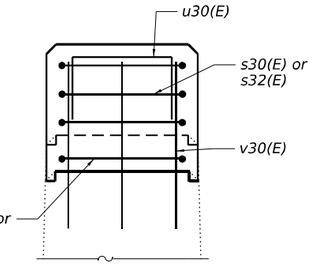
*** See General Note on Sheet 2 of 20, "Plan dimensions and details relative to existing plans..."



SECTION A-A
(At Beams 3 & 4)
(Typ. dimensions shown above applicable to Sections B-B & C-C)



SECTION B-B
(At Beam 2)

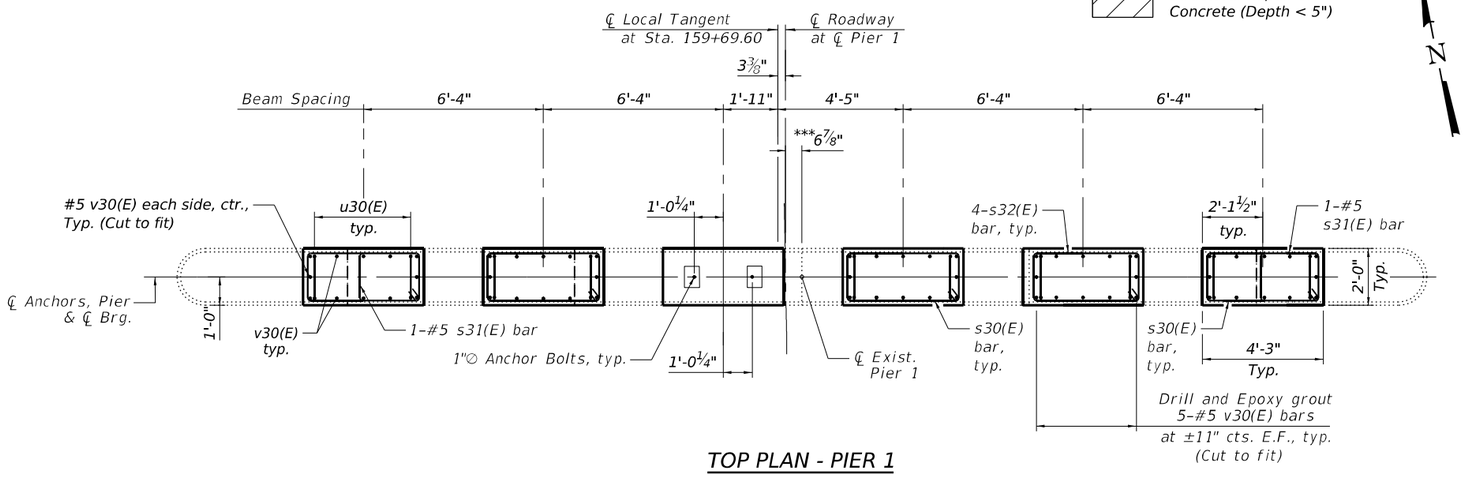


SECTION C-C
(At Beams 1, 5 & 6)

TOP OF CONCRETE PEDESTAL ELEVATIONS

Location	Pier 1
Beam 1	699.22
Beam 2	698.84
Beam 3	698.46
Beam 4	698.08
Beam 5	697.70
Beam 6	697.32

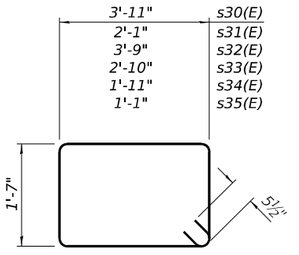
ELEVATION - PIER 1
(Looking North)



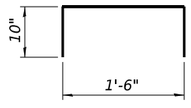
TOP PLAN - PIER 1

LEGEND

Structural Repair of Concrete (Depth < 5")



BAR s30(E) thru s35(E)



BAR u30(E)

TWO PIERS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s30(E)	15	#5	11'-11"	
s31(E)	2	#5	8'-3"	
s32(E)	4	#5	11'-7"	
s33(E)	18	#5	9'-9"	
s34(E)	1	#5	7'-11"	
s35(E)	1	#5	6'-3"	
u30(E)	54	#5	3'-2"	
v30(E)	132	#5	2'-4"	
Structural Repair of Concrete, Depth equal to or less than 5 inches			Sq. Ft.	53
Concrete Structures			Cu. Yd.	4.8
Reinforcement Bars, Epoxy Coated			Pound	950

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USER NAME =	DESIGNED - SPN	REVISED -	
	CHECKED - MJT	REVISED -	
PLOT SCALE =	DRAWN - MMY	REVISED -	
PLOT DATE =	CHECKED - SPN/MJT	REVISED -	

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DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIR DETAILS
STRUCTURE NO. 057-0056
SHEET 19 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	27
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

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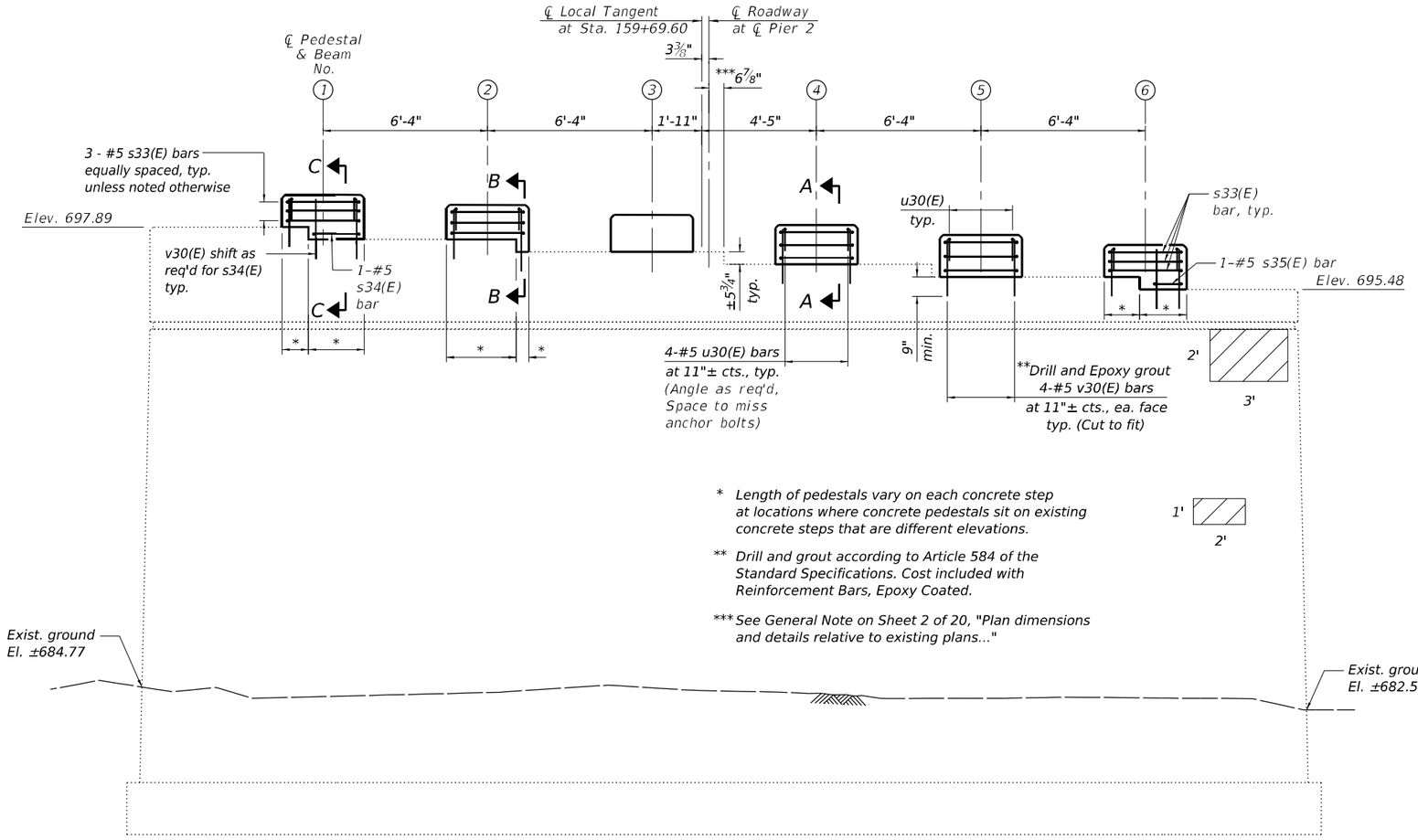
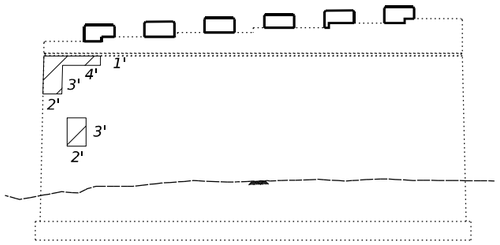
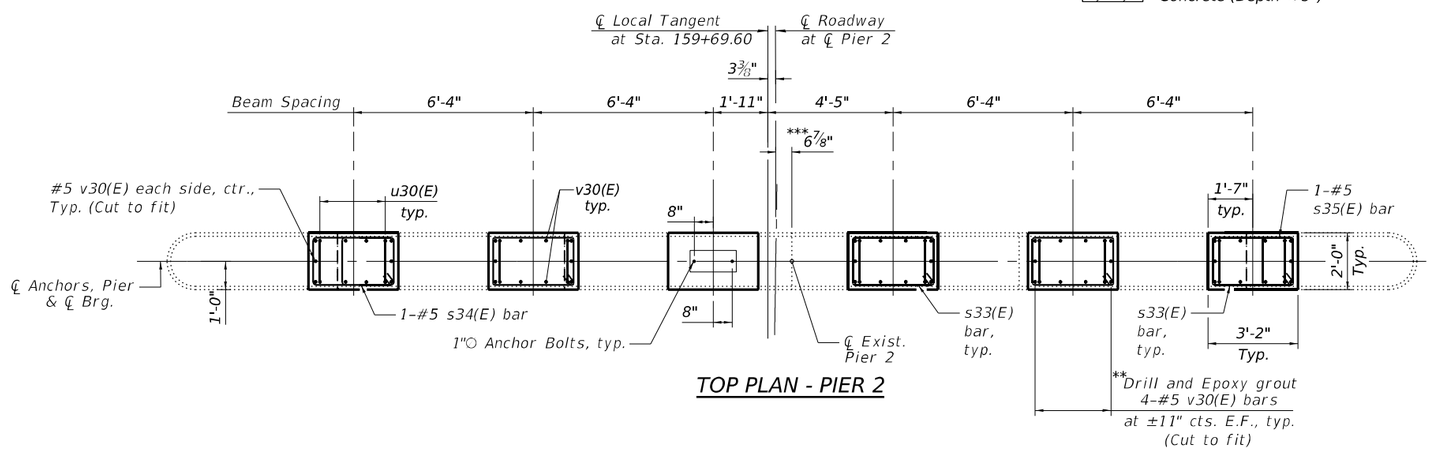


ELEVATION - PIER 2
(Looking North)

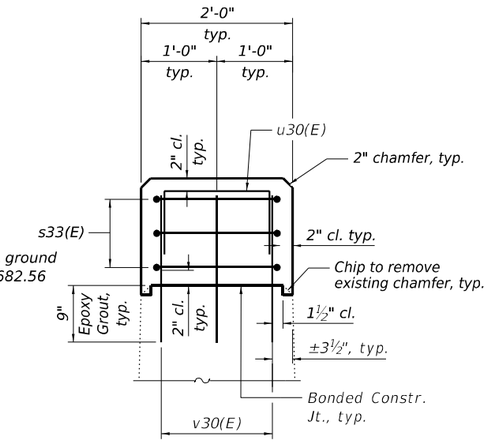


ELEVATION - PIER 2 - REPAIR LOCATIONS
(Looking South)

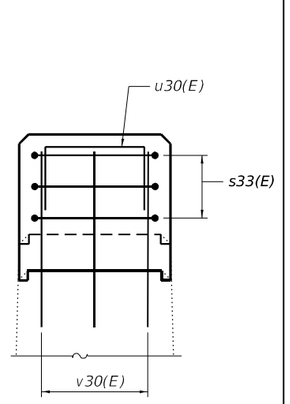
LEGEND
Structural Repair of Concrete (Depth < 5")



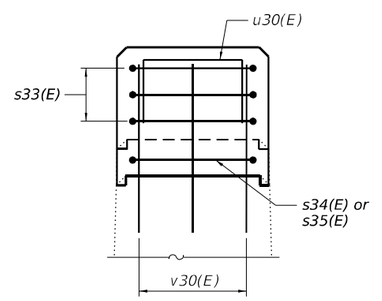
TOP PLAN - PIER 2



SECTION A-A
(At Beams 3, 4 & 5)
(Typ. dimensions shown above applicable to Sections B-B & C-C)



SECTION B-B
(At Beam 2)



SECTION C-C
(At Beams 1 & 6)

TOP OF CONCRETE PEDESTAL ELEVATIONS

Location	Pier 2
Beam 1	699.10
Beam 2	698.72
Beam 3	698.34
Beam 4	697.96
Beam 5	697.58
Beam 6	697.20

Note:
For bar diagrams and Bill of Material, see Sheet 19 of 20.

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PLOT SCALE =		DRAWN - MMY	REVISED -	
PLOT DATE =		CHECKED - SPN/MJT	REVISED -	

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DEPARTMENT OF TRANSPORTATION

PIER 2 REPAIR DETAILS
STRUCTURE NO. 057-0056
SHEET 20 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	28
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

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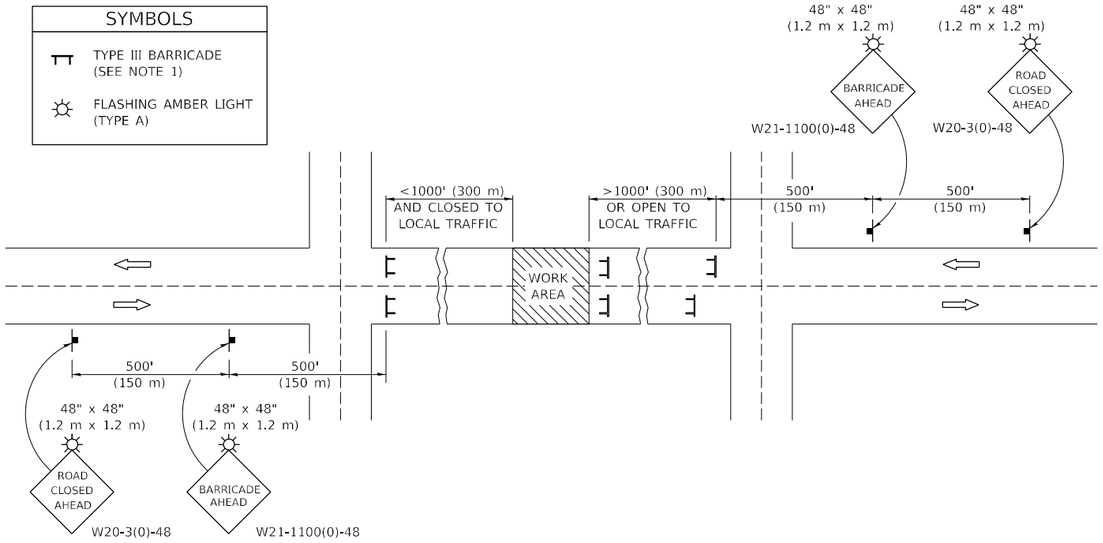
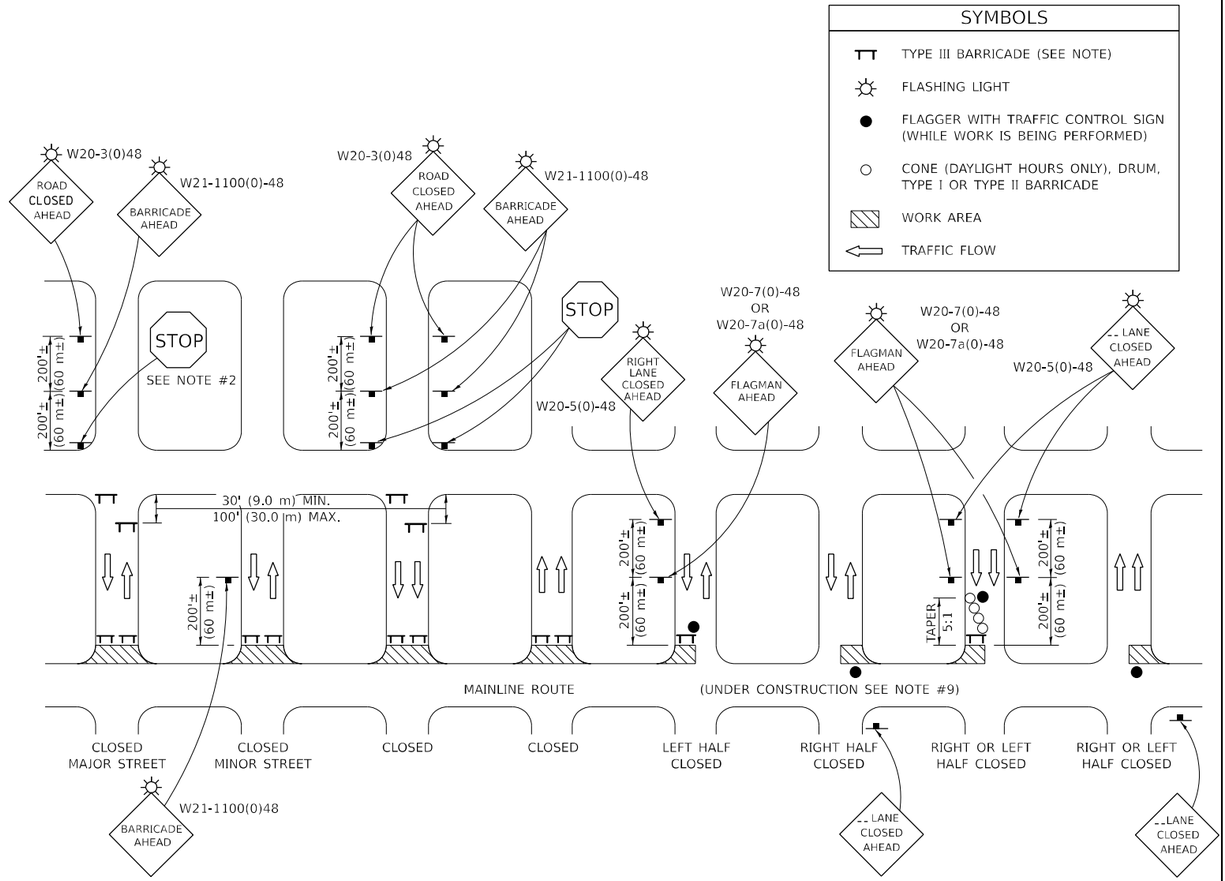
ROAD CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON STANDARD 701901 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR EXCEEDS 1000' (300 m), ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
3. WHEN A STOP CONDITION EXISTS, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' (30 m) OF THE INTERSECTION.
4. STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.
5. IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON AN NCHRP 350 TEMPORARY SIGN SUPPORT DIRECTLY IN FRONT OF THE BARRICADE.
6. REFLECTORIZED STRIPING SHALL APPEAR ON BOTH SIDES OF THE TY III BARRICADES IF ROAD IS OPEN TO LOCAL TRAFFIC.
7. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
8. A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
9. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
10. FORMS BT. 725 AND BT. 726 ARE REQUIRED.
11. WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.
12. AN ADDITIONAL SIGN MAY BE REQUIRED AT A MAJOR INTERSECTING ROAD IN ADVANCE OF THE CLOSURE. THE ADDITIONAL SIGN SHALL GIVE THE DISTANCE TO THE BARRICADE IN MILES OR FRACTIONS OF A MILE.

SIDEROAD / STREET CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. WHERE A STOP CONDITION EXISTS, AS SHOWN ABOVE, WARNING SIGNS MAY BE OMITTED IN ADVANCE OF THE "STOP" SIGN.
3. STANDARD 701901 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
4. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
5. ONE FLASHING LIGHT IS REQUIRED ABOVE EACH ADVANCE WARNING SIGN DURING HOURS OF DARKNESS.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
7. FORMS BT 725 AND BT 726 ARE REQUIRED.
8. THE MAINLINE ROUTE TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
9. ALL FLAGGERS REQUIRED AT SIDE ROADS AND ENTRANCES REMAINING OPEN TO TRAFFIC AND/OR ADDITIONAL BARRICADES REQUIRED BY THE ENGINEER TO CLOSE SIDE ROADS AND ENTRANCES WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 70200000

CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LIC. #184.003222

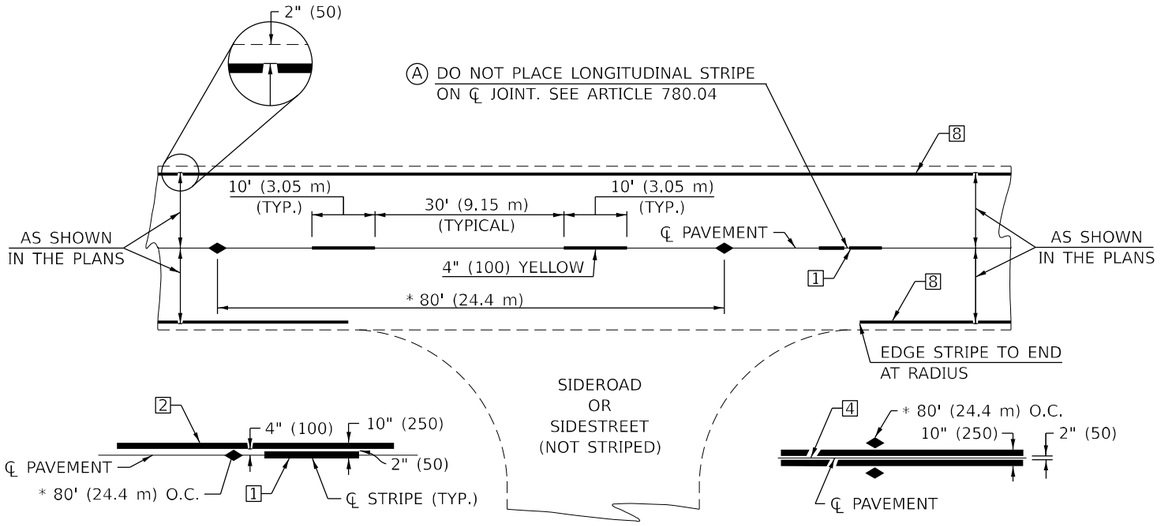
USER NAME = rhanfland	DESIGNED - RLH	REVISED -	
	DRAWN - JL	REVISED -	
PLOT SCALE = 0.16666633 ' / In.	CHECKED - RLH	REVISED -	
PLOT DATE = 12/7/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL & PROTECTION DEVICES
(ROAD & SIDEROAD /STREET CLOSURES)

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

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	29
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	



SINGLE NO PASSING

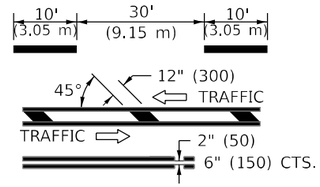
DOUBLE NO PASSING

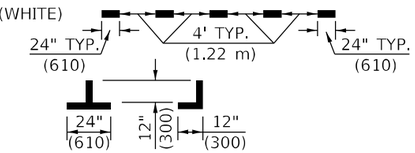
* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

TWO LANE/TWO WAY

TYPICAL PAVEMENT MARKING LEGEND

1. 4" (100) SKIP-DASH (YELLOW)
2. 4" (100) SOLID (YELLOW)
3. 12" (300) DIAGONAL (YELLOW)
4. 4" (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 4" (100) SKIP-DASH (WHITE)
8. 4" (100) SOLID (WHITE)
9. 12" (300) DIAGONAL (WHITE)
10. 6" (150) SOLID (WHITE)
11. 24" (600) STOP BAR (WHITE)
12. 8" (200) SOLID (WHITE)
13. 4" (100) LANE LINE EXTENSIONS (WHITE)
14. 4" (100) PARKING WHITE

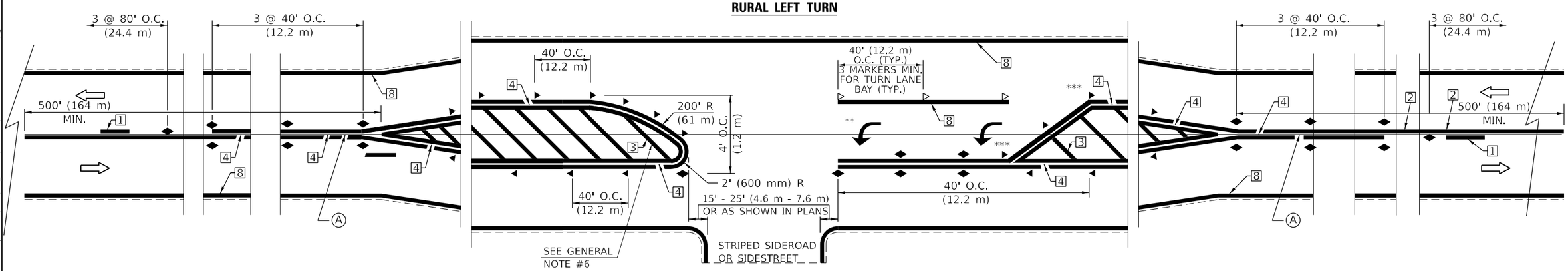




TYPICAL PAVEMENT MARKERS LEGEND

- TWO-WAY AMBER MARKER
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER

RURAL LEFT TURN



*** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

** TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET #2.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

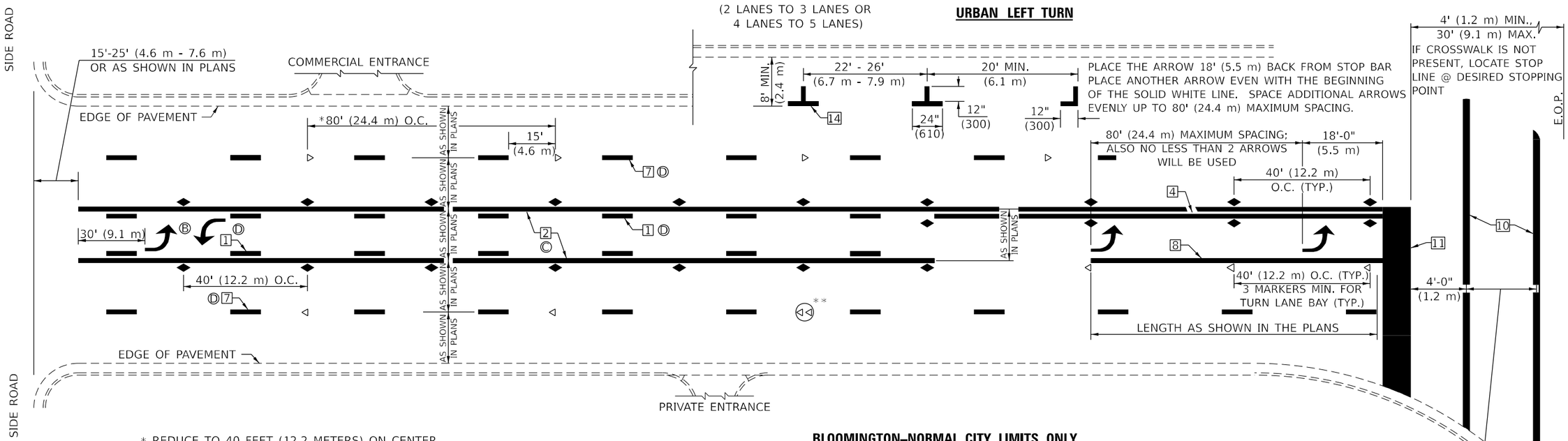
MODEL: Default
FILE NAME: P:\Effingham\4722 - IDOT PTB 197-029 DS_US 51 over Kickapoo Creek\CADD\ORD_Version9\CADsheets\ts0570541-ORD-sht-7800AAAA.dgn

CIVIL DESIGN, INC. WBE | DBE EFFINGHAM, IL LIC. #184.003222

USER NAME = rhanfland	DESIGNED - RLH	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)**	
	DRAWN - JL	REVISED -			
PLOT SCALE = 39.9940 ' / in.	CHECKED - RLH	REVISED -			
PLOT DATE = 12/7/2022	DATE -	REVISED -		SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.	

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	30
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

URBAN LEFT TURN



* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

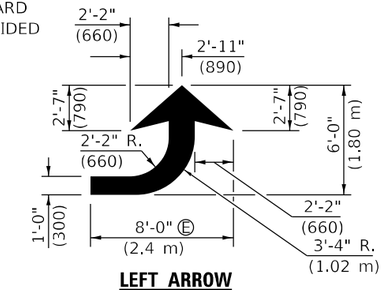
GENERAL NOTES:

Ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.

Ⓒ THE SOLID YELLOW PAVEMENT MARKINGS 2 SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.

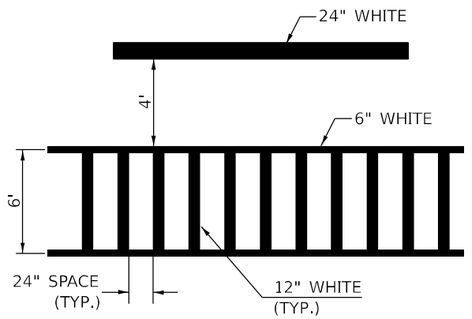
Ⓓ THE SKIP-DASH PAVEMENT MARKINGS 1 OR 7 SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.

Ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)

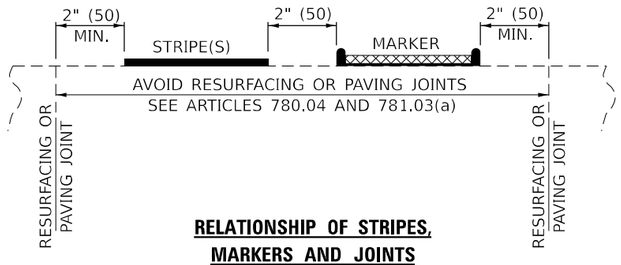


LEFT ARROW
REVERSE FOR RIGHT ARROW
AREA = 15.6 SQ. FT. (1.47 m^2)
(WHITE)

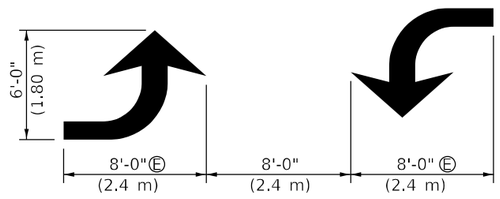
BLOOMINGTON–NORMAL CITY LIMITS ONLY



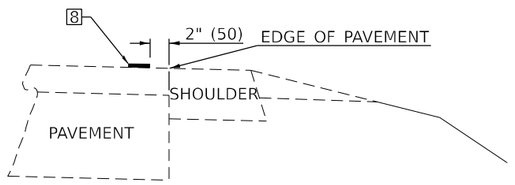
TYPICAL SPACING FOR CROSSWALKS & STOP BARS



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS



TYPICAL DOUBLE TURN ARROWS (WHITE)



RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT
(SAFETY SHOULDER OR PAVED SURFACE)
SEE ARTICLE 780.04

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

CIVIL DESIGN, INC.
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EFFINGHAM, IL
LIC. #184.003222

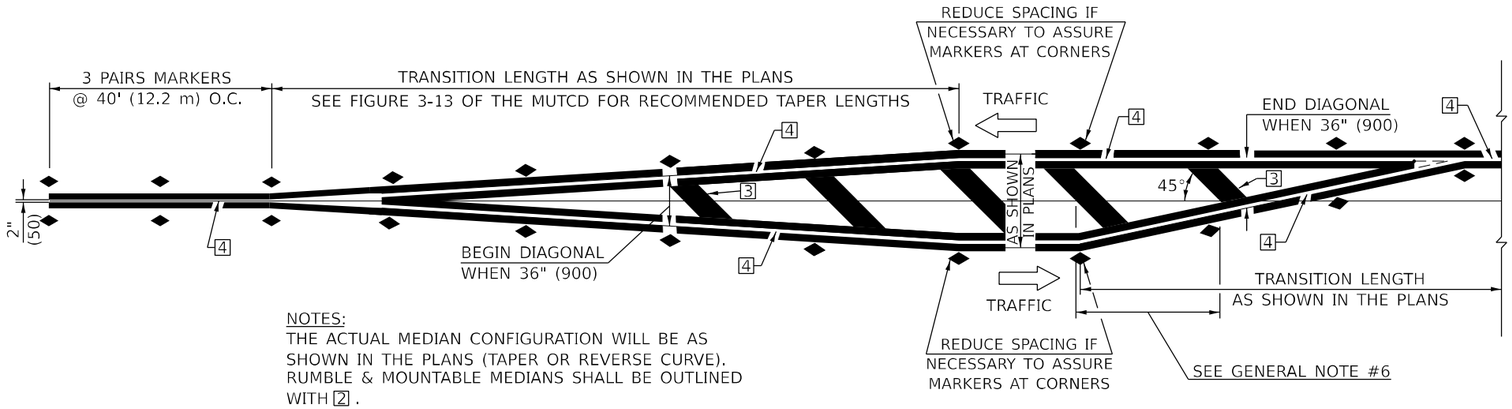
USER NAME = rhanfland	DESIGNED - RLH	REVISED -	
	DRAWN - JL	REVISED -	
PLOT SCALE = 39.9940 ' / in.	CHECKED - RLH	REVISED -	
PLOT DATE = 12/7/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

SCALE: | SHEET 2 OF 4 SHEETS | STA. | TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	31
		CONTRACT NO. 70541		
		ILLINOIS	FED. AID PROJECT	

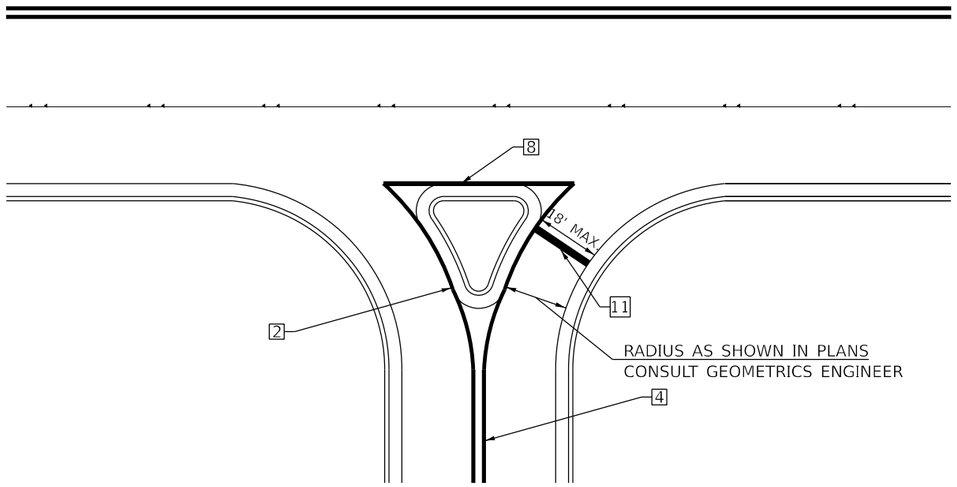


NOTES:
THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE). RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH 2 .

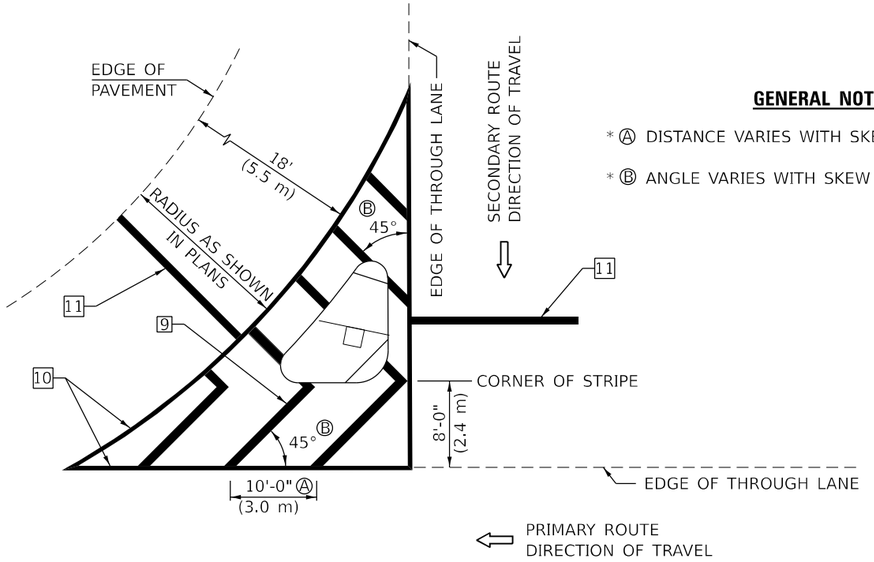
TYPICAL MEDIAN TRANSITIONS

GENERAL NOTES

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,
   <30 MPH USE 15' (<50 km/h USE 4.5 m)
   30-45 MPH USE 20' (50-75 km/h USE 6.0 m)
   >45 MPH USE 30' (>75 km/h USE 9.0 m)



RIGHT IN – RIGHT OUT ACCESS



GENERAL NOTES

* Ⓐ DISTANCE VARIES WITH SKEW OF INTERSECTION.
* Ⓑ ANGLE VARIES WITH SKEW OF INTERSECTION.

ISLAND

* FOR RIGHT TURN LANE AND ISLAND STRIPING CONSULT GEOMETRICS ENGINEER.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	32
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

CIVIL DESIGN, INC.
WBE / DBE
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LIC. #184.003222

USER NAME = rhanfland		DESIGNED - RLH	REVISED -	
		DRAWN - JL	REVISED -	
PLOT SCALE = 39.9940 ' / in.		CHECKED - RLH	REVISED -	
PLOT DATE = 12/7/2022		DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

MODEL: Default
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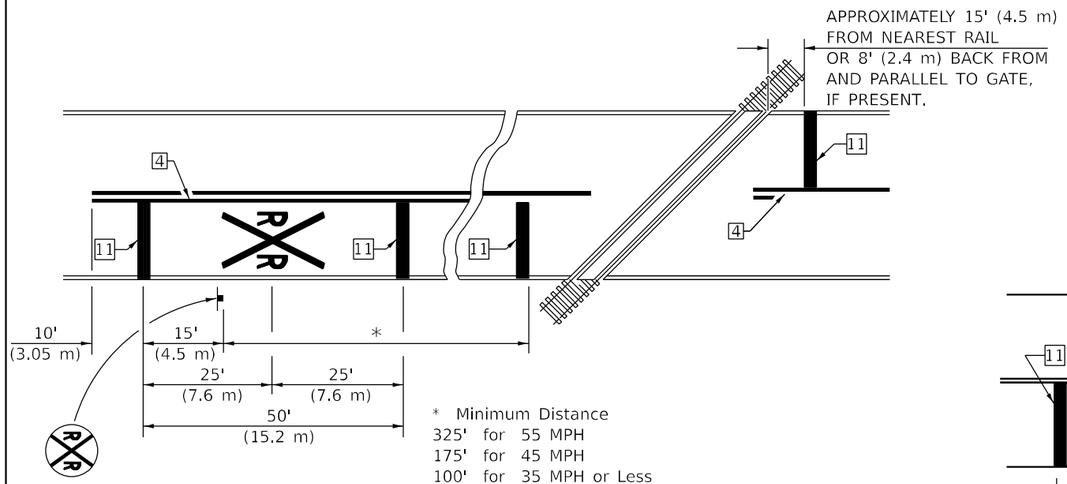
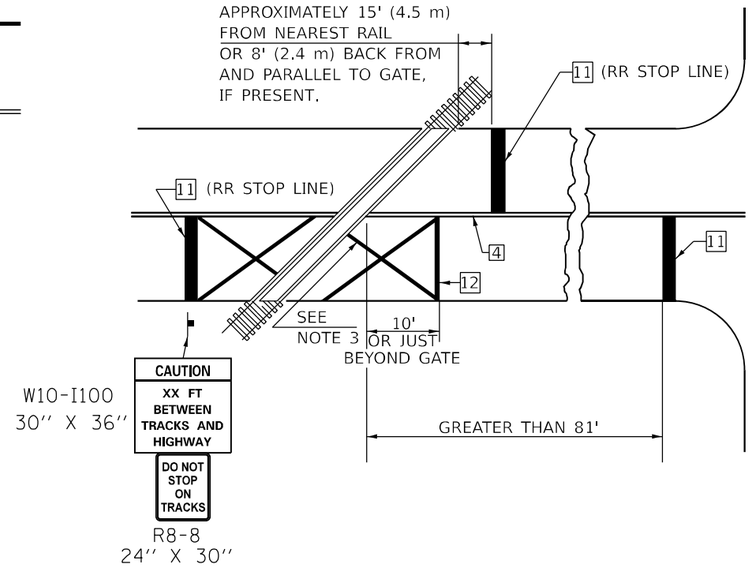
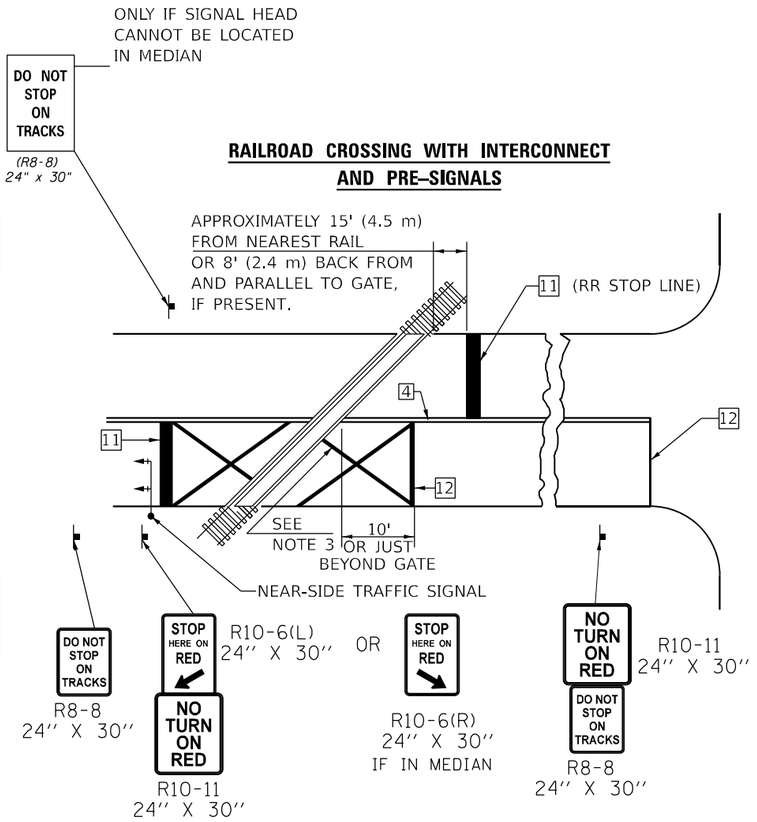


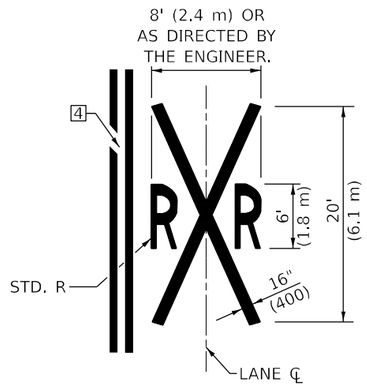
PAVEMENT MARKINGS AT
RAILROAD–HIGHWAY GRADE CROSSING

RAILROAD CROSSING WITH INTERCONNECT ONLY



RAILROAD CROSSING WITH INTERCONNECT
AND PRE–SIGNALS





GENERAL NOTES

1. SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.

2. EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.

3. 6" WHITE PAVEMENT MARKINGS AT 45° TO PAVEMENT, 8' CENTER TO CENTER.

4. XX DISTANCE TO BE SHOWN ON SIGN MEASURED FROM A POINT 6 FEET FROM THE RAIL CLOSEST TO THE INTERSECTION OR FROM THE CLOSEST POINT ALONG THE EXIT GATE IF PRESENT OVER THE ROADWAY WHEN IN THE LOWERED POSITION TO THE STOP BAR OR CROSSWALK, WHICH EVER IS CLOSEST, ROUNDED DOWN TO NEAREST 5 FEET. WHERE THERE IS NO STOP LINE, MEASURE TO POINT WHERE DRIVER HAS A VIEW OF APPROACHING TRAFFIC.

5. THE CLEARANCE SIGN IS ALSO TO BE USED AS AN INTERIM MEASURE AT LOCATIONS WITH INTERCONNECTED INTERSECTION TRAFFIC SIGNALS WHERE IT IS PLANNED TO CHANGE THEM TO NEAR-SIDE SIGNALS AT A FUTURE TIME. IN THIS CASE, THE DISTANCE TO BE SHOWN ON THE SIGN IS MEASURED FROM THE EDGE OF THE STRIPED-OUT AREA INSTEAD OF 6 FEET FROM THE RAIL. THE SIGN IS TO BE REMOVED WHEN THE NEAR-SIDE SIGNALS ARE INSTALLED AND THE PAVEMENT MARKINGS EXTENDED TO THE INTERSECTION.

SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR
RAILROAD–HIGHWAY GRADE CROSSING

ALTERNATE SIGNS

NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DESIGNER NOTE: SEE TABLE 2C-4 OF THE MUTCD FOR ADDITIONAL INFORMATION

MODEL: Default
FILE NAME: P:\Effingham\4722 - IDOT PTB 197-039_DS_US 51 over Kickapoo Creek\CADD\ORD Version\9\CADsheets\D570541-ORD-sht-7800AAAA.dgn

CIVIL DESIGN, INC.
WBE | DBE
EFFINGHAM, IL
LIC. #184.003322

USER NAME = rhanfland		DESIGNED - RLH		REVISED -	
		DRAWN - JL		REVISED -	
PLOT SCALE = 39.9940 ' / in.		CHECKED - RLH		REVISED -	
PLOT DATE = 12/7/2022		DATE -		REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

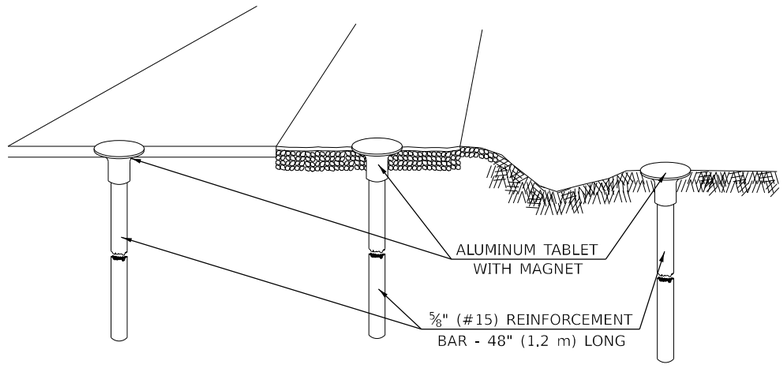
SCALE: | SHEET 4 OF 4 SHEETS | STA. | TO STA.

DISTRICT 5 DETAIL NO. 7800AAAA

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	33
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

XZ193300 – SURVEY MARKER, TYPE 1 (SPECIAL)

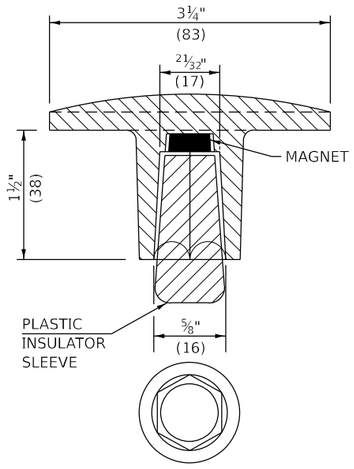
TO BE INSTALLED IN FLEXIBLE PAVEMENT OR SHOULDER, BITUMINOUS TREATED SURFACE AND TURF AREAS WITHIN THE RIGHT-OF-WAY FOR PRESERVING PERMANENT SURVEY MARKERS (PI'S, PT'S, PC'S, POC'S, & POT'S)

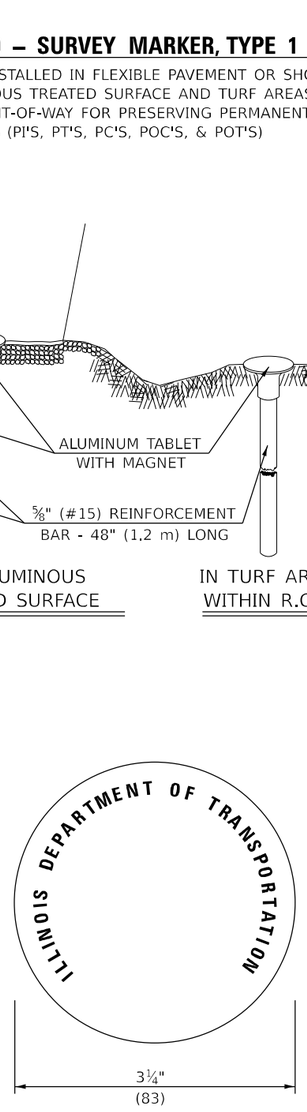


IN FLEXIBLE PAVEMENT OR SHOULDER

IN BITUMINOUS TREATED SURFACE

IN TURF AREAS WITHIN R.O.W.





THE DIMENSIONS SHOWN SHALL BE EXACT, OTHERS MAY VARY, BUT SHALL BE SHOWN ON SHOP DRAWINGS.

GENERAL NOTES

1. THE CONTRACT UNIT PRICE, EACH, FOR SURVEY MARKER, TYPE 1 (SPECIAL) SHALL BE PAYMENT IN FULL FOR FURNISHING THE REINFORCEMENT BAR AND ALUMINUM TABLET AND FOR ALL LABOR AND MATERIAL REQUIRED TO SET THE MARKER IN PLACE.
2. ALL SURVEY MARKERS, TYPE 1 (SPECIAL) SHALL BE PLACED ±1/4" (6 mm) BELOW THE FINAL SURFACE.
3. WHEN THE TABLET AND REBAR ARE PLACED AS PART OF A SURVEY MARKER VAULT, THEY SHALL BE CONSIDERED AS INCLUDED IN THAT PAY ITEM AND THERE WILL BE NO PAYMENT FOR THE SURVEY MARKER, TYPE 1 (SPECIAL).

SPECIFICATIONS FOR ALUMINUM TABLET

SURVEY CAP FOR REBAR. 3¼" (83 mm) CONVEX SURVEY CAP FOR ⅝" (15 mm) REBAR WITH ILLINOIS DEPARTMENT OF TRANSPORTATION LOGO. THIS LOGO SHALL PROVIDE LETTERS RECESSED INTO THE SURFACE A MINIMUM OF 1/32" (0.8 mm) FOR EASY AND LONG-TERM LEGIBILITY. THE ALUMINUM CAP FOR REBAR SHALL BE PRODUCED BY THE PROCESS OF ORBITAL FORGING TO PRODUCE A HIGH-STRENGTH AND DURABLE MARKER CAP WHICH WILL NOT CHIP OR BREAK AND PROVIDE A SMOOTH FINISH FOR STAMPING OF DATA IN THE FIELD. THE ALUMINUM CAP FOR REBAR SHALL BE TAPERED FOR A PERFECT COMPRESSION FIT. A SPECIAL PLASTIC INSULATOR SHALL BE INSTALLED TO PREVENT DISSIMILAR METAL CONTACT AND CORROSION. THE PLASTIC INSULATOR SHALL FORM READILY TO THE OUTER SHAPE OF THE REBAR AND TO THE INNER SHAPE OF THE ALUMINUM CAP SOCKET. THE PLASTIC INSULATOR SHALL BE LOW DENSITY POLYETHYLENE, A MINIMUM 1½" (38 mm) LONG AND CONFORM TO FEDERAL SPECIFICATION L-P 390.

COMPOSITION: ALUMINUM 98.3-98.7%; OTHER 1.3-1.7%; STRENGTH: YIELD 28 KSI (193 MPa), ULTIMATE 32 KSI (221 MPa). ELONGATION 15% [IN 2" (50 mm)]. SPECIFICATIONS: ALUMINUM ALLOY 6101-0; ASTM B317-83 (EXCEPT TEMPER) AS FORGED. NO EXCEPTIONS.

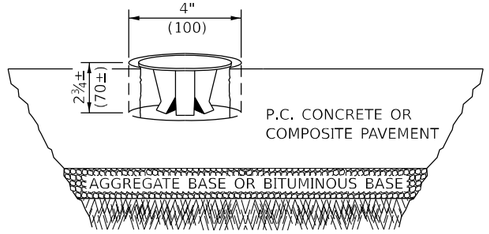
SPECIFICATIONS FOR REBAR

REBAR FOR ALUMINUM TABLET. REINFORCEMENT BAR SHALL BE ⅝" (#15) X 48" (1.2 m) (DEFORMED).

INSPECTION OF REINFORCEMENT BAR ⅝" (#15) SHALL BE DONE BY DISTRICT PERSONNEL OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS.

XZ193400 – SURVEY MARKER, TYPE 2 (SPECIAL)

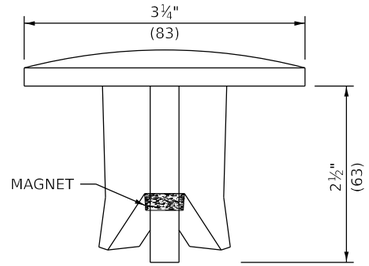
TO BE INSTALLED IN RIGID OR COMPOSITE PAVEMENT FOR PRESERVING PERMANENT SURVEY MARKERS (PI'S, PT'S, PC'S, POC'S, & POT'S)



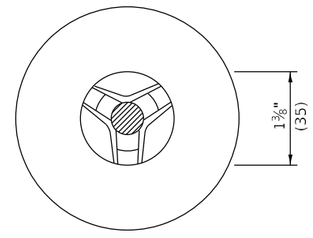
SPECIFICATIONS FOR ALUMINUM TABLET (FORKED)

ALUMINUM TABLET (FORKED) FOR USE WITH "SURVEY MARKER, TYPE 2, (SPECIAL)" SHALL BE AS SHOWN ON THE DETAIL FOR THE 3¼" (83 mm) CONVEX SURVEY TABLET WITH ILLINOIS DEPARTMENT OF TRANSPORTATION LOGO. THIS LOGO SHALL PROVIDE FOR LETTERS RECESSED INTO THE SURFACE A MINIMUM OF 1/32" (0.8 mm) FOR EASY AND LONG-TERM LEGIBILITY. THE ALUMINUM TABLET SHALL BE PRODUCED BY THE PROCESS OF ORBITAL FORGING TO PRODUCE A HIGH-STRENGTH AND DURABLE MARKER CAP WHICH WILL NOT CHIP OR BREAK AND PROVIDE A SMOOTH FINISH FOR STAMPING OF DATA IN THE FIELD. THE ALUMINUM TABLET SHALL BE DESIGNED NOT TO TURN OR ROTATE. THREE PRONGS ON A 2½" (63 mm) STEM SHALL BE SUCH THAT THE ALUMINUM TABLET CANNOT BE EASILY REMOVED.

COMPOSITION: ALUMINUM 92-93%; MAGNESIUM 6.5-7.5%. STRENGTH: YIELD 19,000-21,000 PSI (131-145 MPa); TENSILE 38,000-44,000 PSI (262-303 MPa); ELONGATION 10-15% [IN 2" (50 mm)]. SPECIFICATIONS: ALLOY 535.0; QQ-A-601ES. NO EXCEPTIONS.



SIDE VIEW



BOTTOM VIEW

THE DIMENSIONS SHOWN SHALL BE EXACT, OTHERS MAY VARY, BUT SHALL BE SHOWN ON SHOP DRAWINGS.

GENERAL NOTES

1. WORK ON THIS ITEM SHALL NOT START UNTIL THE FINAL SURFACE IS COMPLETED.
2. THE ALUMINUM TABLET (FORKED) SHALL REST UPON THE BOTTOM OF THE 4" (100 mm) CORE HOLE. IF THE HOLE IS TOO DEEP, EPOXY GROUT MUST BE USED TO DECREASE THE DEPTH AND ALLOWED TO HARDEN BEFORE PROCEEDING.
3. THE ALUMINUM TABLET SHALL BE ANCHORED IN THE 4" (100 mm) DIAMETER HOLE IN THE NEW PAVEMENT WITH TWO-COMPONENT EPOXY CONFORMING TO APPLICABLE PORTIONS OF ARTICLE 1025.01 OF THE STANDARD SPECIFICATIONS.
4. THE 4" (100 mm) CORE HOLE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. THE CONTRACT PRICE, EACH, FOR SURVEY MARKER, TYPE 2 (SPECIAL) SHALL BE PAYMENT IN FULL FOR FURNISHING THE ALUMINUM TABLET AND FOR ALL LABOR AND MATERIAL REQUIRED TO SET THE MARKER IN PLACE, AS SPECIFIED, INCLUDING CORING THE NEW PAVEMENT.
6. ALL SURVEY MARKERS, TYPE 2 (SPECIAL) SHALL BE PLACED ± 1/4" (6 mm) BELOW THE FINAL SURFACE.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. XZ193AAA

MODEL: D5 70200000 [Sheet]
FILE NAME: P:\Effingham\4722 - IDOT PTB 197-029_D5_US 51 over Kickapoo Creek\CADD\ORD_Verdenig\CADsheets\D570541-ORD-sht-XZ193AAA.dgn

CIVIL DESIGN, INC.
WBE / DBE
EFFINGHAM, IL
LIC. #184.003222

USER NAME = rhanfland		DESIGNED - RLH	REVISED -	
		DRAWN - JL	REVISED -	
PLOT SCALE = 0.16666633 ' / in.		CHECKED - RLH	REVISED -	
PLOT DATE = 12/7/2022		DATE -	REVISED -	

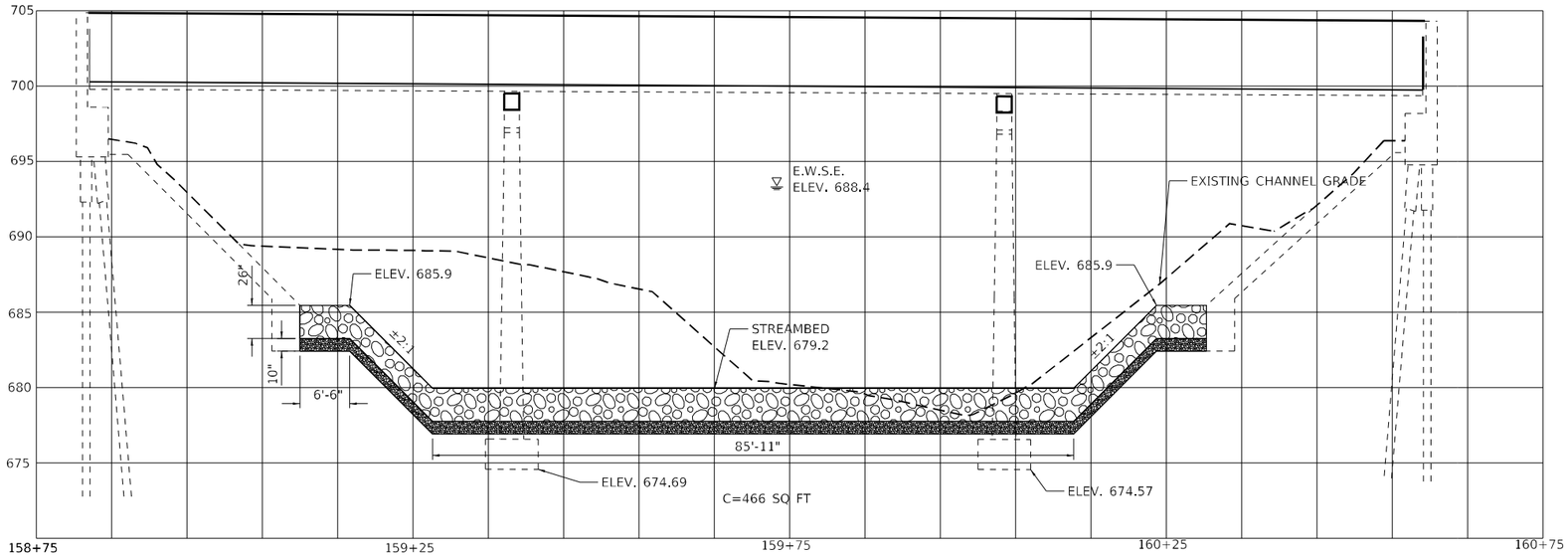
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SURVEY MARKERS TYPE 1 & 2 (SPECIAL)

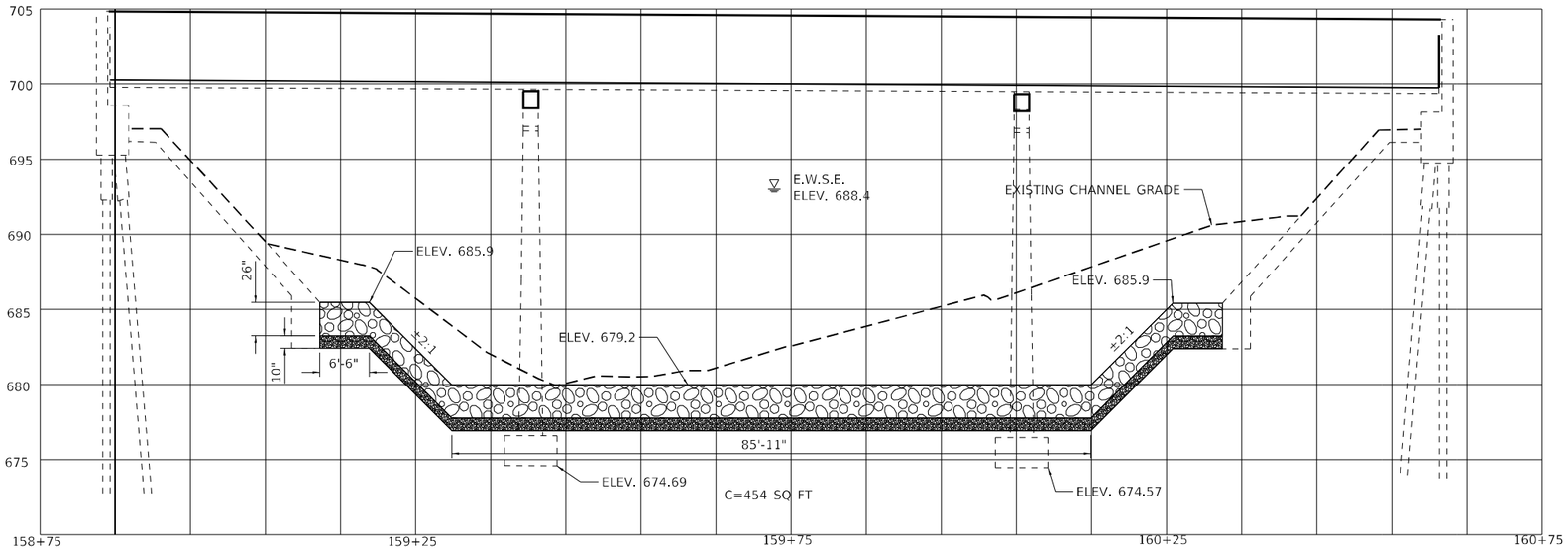
SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	34
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

UPSTREAM OPENING



DOWNSTREAM OPENING



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CIVIL DESIGN, INC.
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EFFINGHAM, IL
LIC. #184.003222

USER NAME = rhanfland	DESIGNED - RLH	REVISED -	
	DRAWN - JL	REVISED -	
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PLOT DATE = 12/9/2022	DATE -	REVISED -	

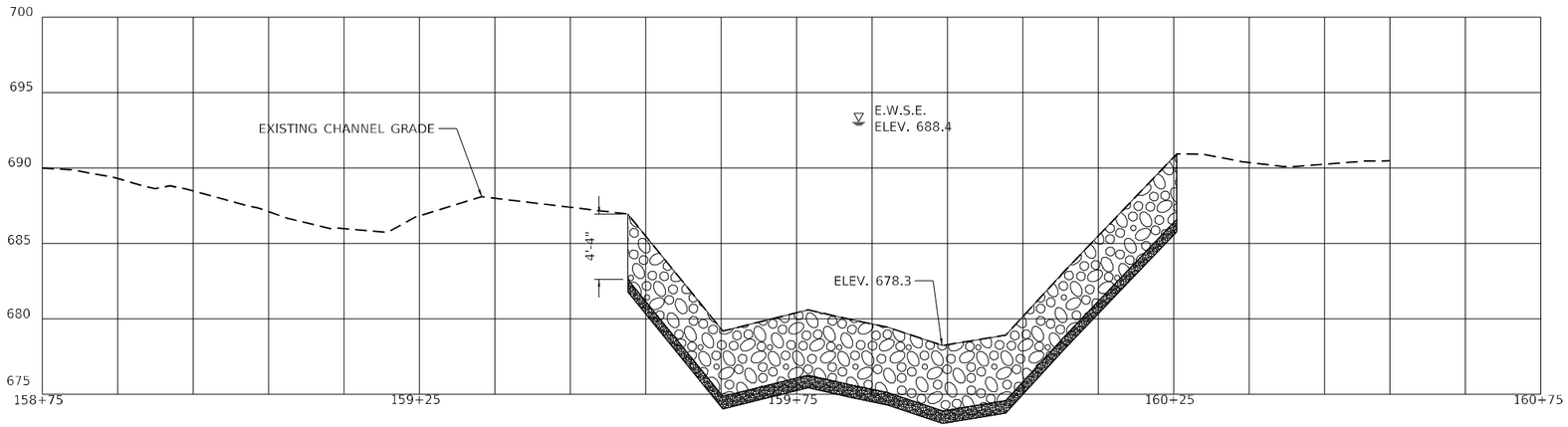
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHANNEL CROSS SECTIONS

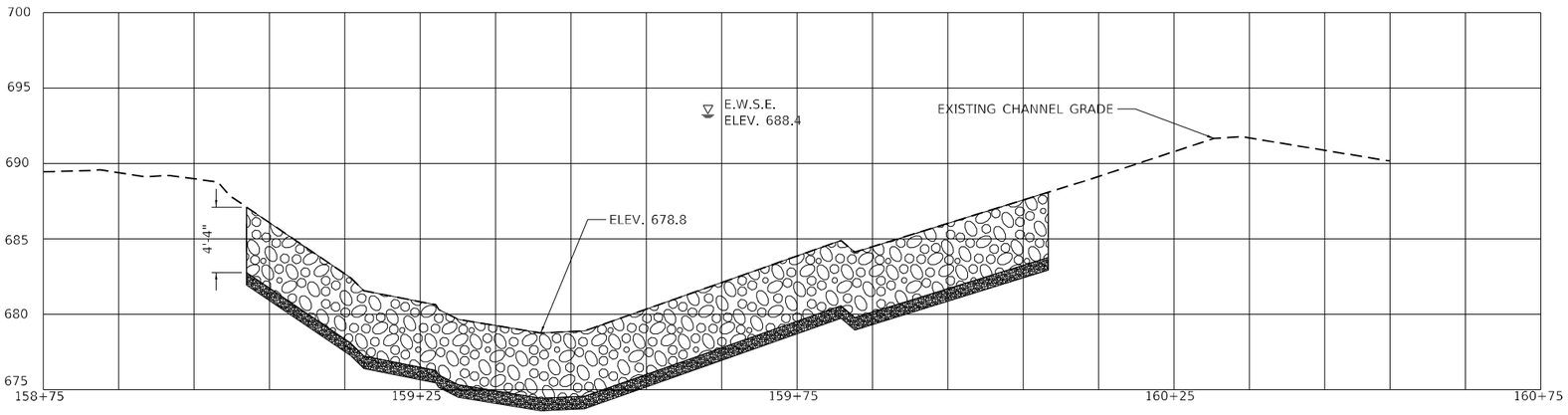
SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	35
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		

APPROX 60' UPSTREAM FROM PROPOSED UPSTREAM BRIDGE FACE



APPROX 65' DOWNSTREAM FROM PROPOSED DOWNSTREAM BRIDGE FACE



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USER NAME = rhanfland	DESIGNED - RLH	REVISED -	
	DRAWN - JL	REVISED -	
PLOT SCALE = 0.16666633 ' / in.	CHECKED - RLH	REVISED -	
PLOT DATE = 12/12/2022	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHANNEL CROSS SECTIONS

SCALE: | SHEET 2 OF 2 SHEETS | STA. | TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1476	55-BR-1	MCLEAN	36	36
		CONTRACT NO. 70541		
	ILLINOIS	FED. AID PROJECT		