



# SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	950
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	700
* 20101300	TREE PRUNING (1 TO 10 INCH DIAMETER)	EACH	12
* 20101350	TREE PRUNING (OVER 10 INCH DIAMETER)	EACH	6
△ 20200100	EARTH EXCAVATION	CU YD	6,297
△ 20200200	ROCK EXCAVATION	CU YD	550
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	2,500
△ 20300100	CHANNEL EXCAVATION	CU YD	3,850
20700110	POROUS GRANULAR EMBANKMENT	TON	12,500
20800150	TRENCH BACKFILL	CU YD	2,150
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	29,500
21101505	TOP SOIL EXCAVATION AND PLACEMENT	CU YD	5,787
* 25000110	SEEDING, CLASS 1A	ACRE	3.44
* 25000312	SEEDING, CLASS 4A	ACRE	4.25
* 25000314	SEEDING, CLASS 4B	ACRE	0.1
* 25000320	SEEDING, CLASS 5	ACRE	4.25
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	352
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	352
* 25100630	EROSION CONTROL BLANKET	SQ YD	38,000
* 25100900	TURF REINFORCEMENT MAT	SQ YD	1,000
* 25200100	SODDING	SQ YD	300
* 25200110	SODDING, SALT TOLERANT	SQ YD	2,900
* 25200200	SUPPLEMENTAL WATERING	UNIT	215
28000400	PERIMETER EROSION BARRIER	FOOT	5,600
28000510	INLET FILTERS	EACH	90
28100105	STONE RIPRAP, CLASS A3	SQ YD	117
28100707	STONE DUMPED RIPRAP, CLASS A4	SQ YD	100
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	1,100
28200200	FILTER FABRIC	SQ YD	1,500
30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	2,500
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	29,500
35101600	AGGREGATE BASE COURSE, TYPE B 4"	SQ YD	3,700
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	54,000

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	11,000
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	250
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	11,200
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	2,950
42000300	PORTLAND CEMENT CONCRETE PAVEMENT 8"	SQ YD	30
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	33,000
42400800	DETECTABLE WARNINGS	SQ FT	200
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	500
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	500
44000600	SIDEWALK REMOVAL	SQ FT	400
△ 50105220	PIPE CULVERT REMOVAL	FOOT	120
△ 50200100	STRUCTURE EXCAVATION	CU YD	8,100
△ 50200400	ROCK EXCAVATION FOR STRUCTURES	CU YD	755
△ 50300225	CONCRETE STRUCTURES	CU YD	1,052
△ 50300285	FORM LINER TEXTURED SURFACE	SQ FT	1,200
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	110,000
* 50900105	ALUMINUM RAILING, TYPE L	FOOT	180
* 50901720	BICYCLE RAILING	FOOT	40
* 50901750	PARAPET RAILING	FOOT	180
△ * 50901760	PIPE HANDRAIL	FOOT	250
△ 51500100	NAME PLATES	EACH	1
54210194	PIPE ELBOW, 42"	EACH	1
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	9
54213693	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 48"	EACH	1
550A2320	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 12"	FOOT	3,029
550A2330	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1 15"	FOOT	725
550A2420	STORM SEWERS, RUBBER GASKET, CLASS A, TYPE 1, 48"	FOOT	184
55100500	STORM SEWER REMOVAL 12"	FOOT	8
55101900	STORM SEWER REMOVAL, 48"	FOOT	58
△ 58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	2,800
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	60
60108204	PIPE UNDERDRAINS, TYPE 2, 4"	FOOT	400
60200205	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	9
60201105	CATCH BASIN, TYPE A, 4'-DIAMETER, TYPE 11, FRAME AND GRATE	EACH	1
60206905	CATCH BASIN, TYPE C, TYPE 1 FRAME, OPEN LID	EACH	1

\* SPECIALITY ITEMS  
 △ SPECIAL PROVISIONS

△ REV 2/20/2019

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		DRAWN - G.R./L.V.	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

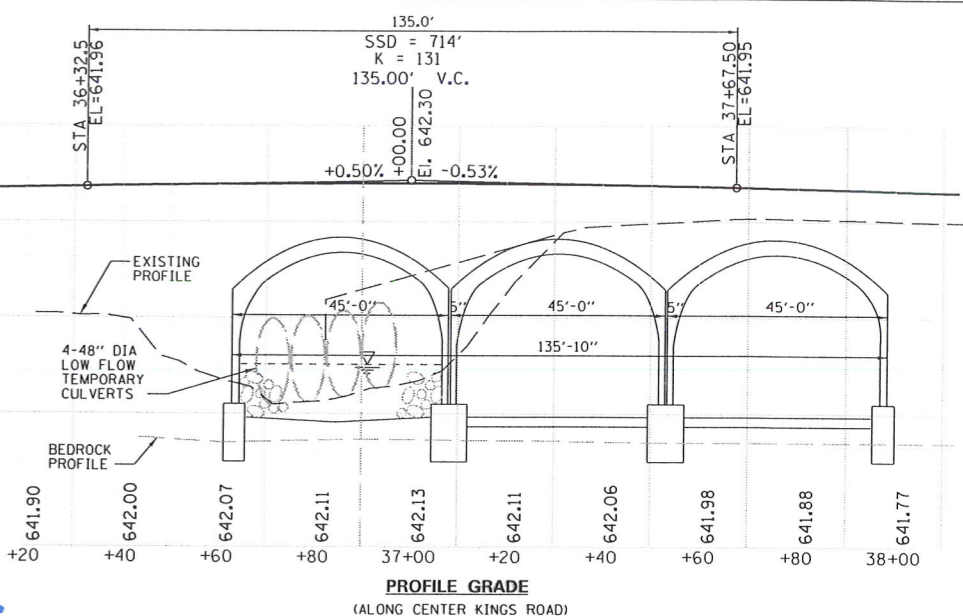
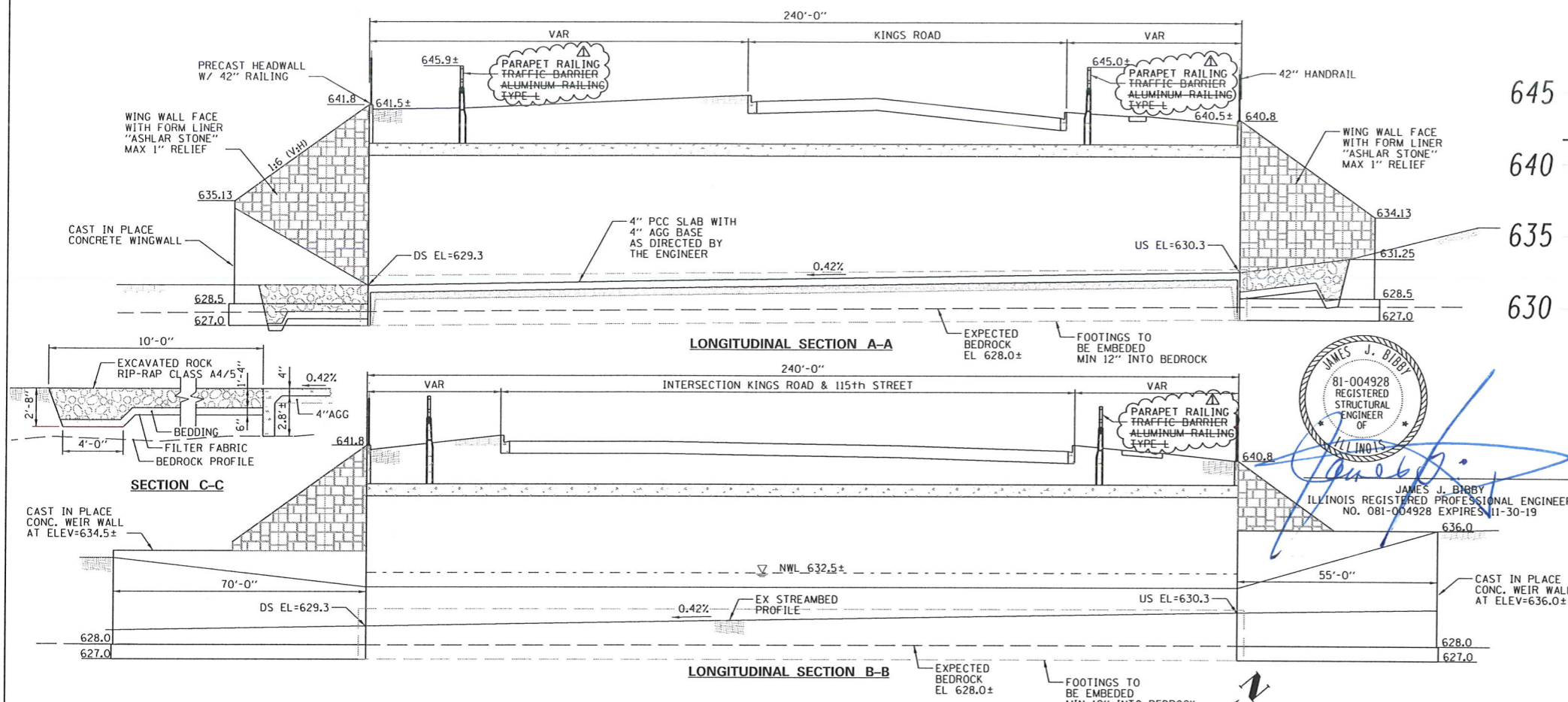
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	15-00059-00-PV	WILL	145	3
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	CONTRACT NO. 61F40



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 NOTE BOOK \_\_\_\_\_  
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 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_



**JAMES J. BIBBY**  
 81-004928 REGISTERED STRUCTURAL ENGINEER OF ILLINOIS  
 JAMES J. BIBBY  
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER  
 NO. 081-004928 EXPIRES 11-30-19  
 636.0

**WATERWAY INFORMATION TABLE**

Flood Event	Freq. Yr.	Discharge Ft <sup>3</sup> /s	Waterway Opening - ft <sup>2</sup>		Natural H.W.E. ft	Head - ft		Headwater Elevation ft	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
Design	10	3990	N/A	561	637.5	N/A	0.0	637.5	637.5
Base	30	3536	N/A	580	638.0	N/A	0.0	638.0	638.0
Scour Design Check	100	4978	N/A	585	638.5	N/A	0.0	638.5	638.5
Overtop Existing	200	5728	N/A	585	638.7	N/A	0.1	638.7	638.8
Overtop Proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	6812	N/A	585	639.1	N/A	1.8	639.1	640.9

Drainage Area = 16.7 Sq. Mi. Existing Overtopping Elev.=N/A at Sta. N/A Proposed Overtopping Elev.=640.9 at Sta. 201+34 (115th Street)

10 YEAR VELOCITY THROUGH EXISTING BRIDGE=N/A ft/s  
 10 YEAR VELOCITY THROUGH PROPOSED BRIDGE=5.9 ft/s

**DESIGN SCOUR ELEVATION TABLE**

Event/ Limit State	Design Scour Elevations (ft)	Item
0100	628.1	113
0200	628.1	5
Design Check	627.0	

**HIGHWAY CLASSIFICATION**

F.A.U. Route 7002 (Kings Road)  
 Functional Class: Collector  
 ADT: 6,900 (2040)  
 ADTT: 69 (2040)  
 DHV: 479 (2040)  
 Design Speed: 45 mph  
 Posted Speed: 40 pmh  
 Two-Way Traffic  
 Directional Distribution: 50%/50%

**LOADING HL-93**  
 Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

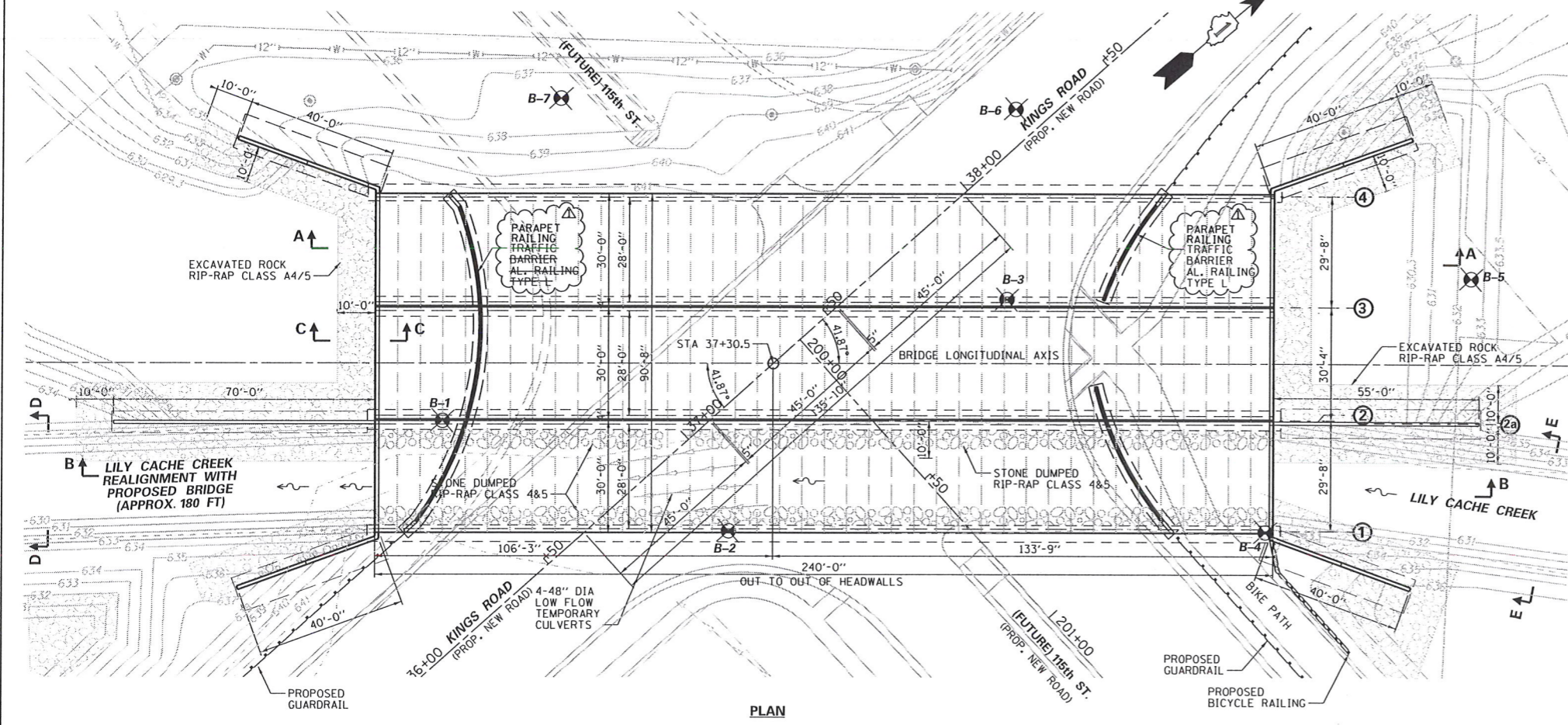
2017 AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 8th Edition

**DESIGN STRESSES**

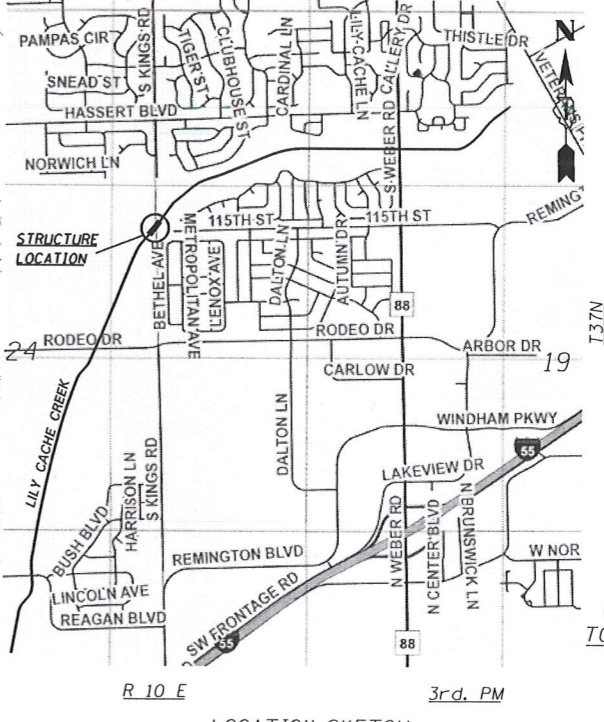
**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)  
**PRECAST UNITS**  
 $f'_c = 5,000$  psi  
 $f_y = 65,000$  psi  
**MAX BEARING PRESSURE (Bottom of Footing)**  
 $O_{max} = 7.55$  ksf

**GENERAL PLAN AND SECTIONS**

KINGS ROAD OVER LILY CACHE CREEK  
 TOWNSHIP 37N, SEC 19 & 24, R10E & R9E  
 WILL COUNTY  
 STATION 37+30.5  
 STRUCTURE NO. 099-6867

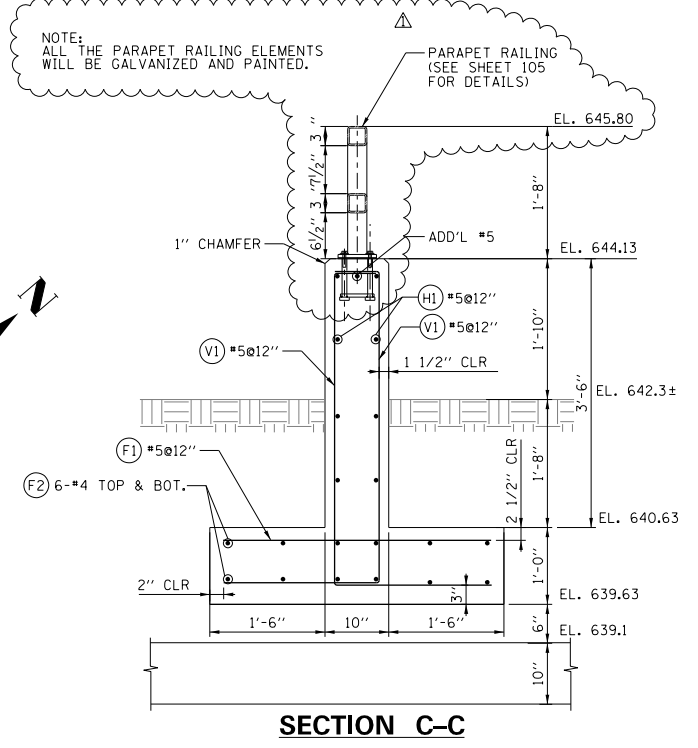
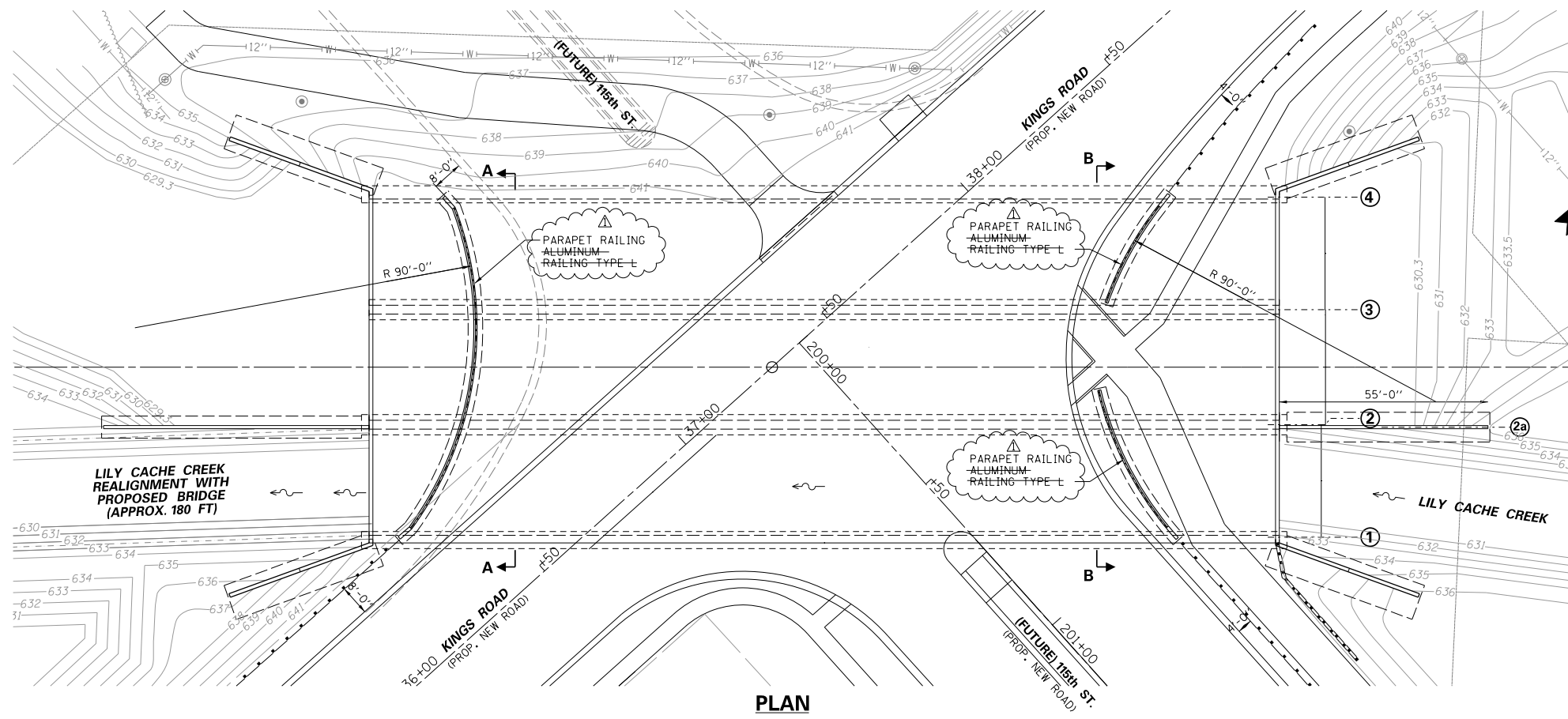


**BENCHMARK:**  
 BERNSTEIN 3D TOP SECURITY MONUMENT, CONSISTING OF A 9/16" DIA STAINLESS STEEL DATUM POINT ON THREADED 9/16"x41-01" LONG ROD TOTALING 16'-0" IN LENGTH WITH GREASED TOP SECURITY SLEEVE ENCLOSED IN SAND AND 6" PVC PIPE WITH BMAC 6 ALUMINUM COVER LOCATED AT THE NORTHEAST CORNER OF WILD TIMOTHY ROAD AND SWITCH LANE.  
 ELEV=651.59 NAVD88  
 ELEV=651.87 NGVD 29 (-0.284'-NAVD88)  
 NO EXISTING BRIDGE STRUCTURE



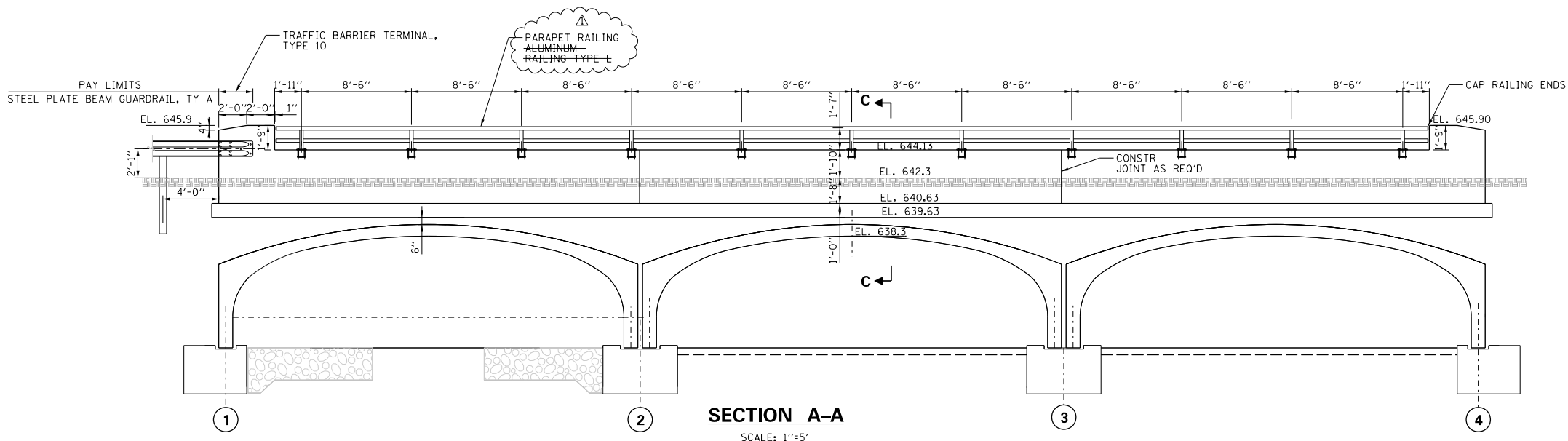
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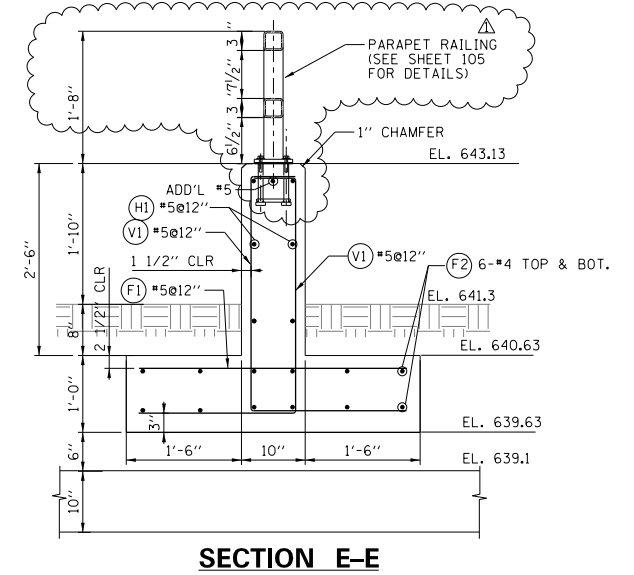
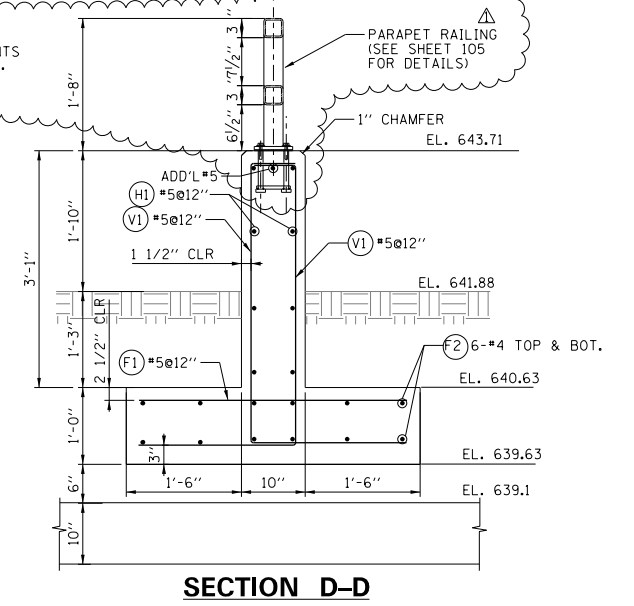
**REBAR SCHEDULE**

BAR	SIZE	SHAPE	LENGTH	QTY.
V1	#5	□	6'-7"	198
H1	#5	—	98'-8"	9
F1	#5	—	3'-6"	99
F2	#4	—	98'-8"	12



NOTE:  
LOCATION FOR THE STRUCTURE NAME PLATE SHAL BE APPROVED BY THE VILLAGE OF BOLINGBROOK.

NOTE: ALL THE PARAPET RAILING ELEMENTS WILL BE GALVANIZED AND PAINTED.



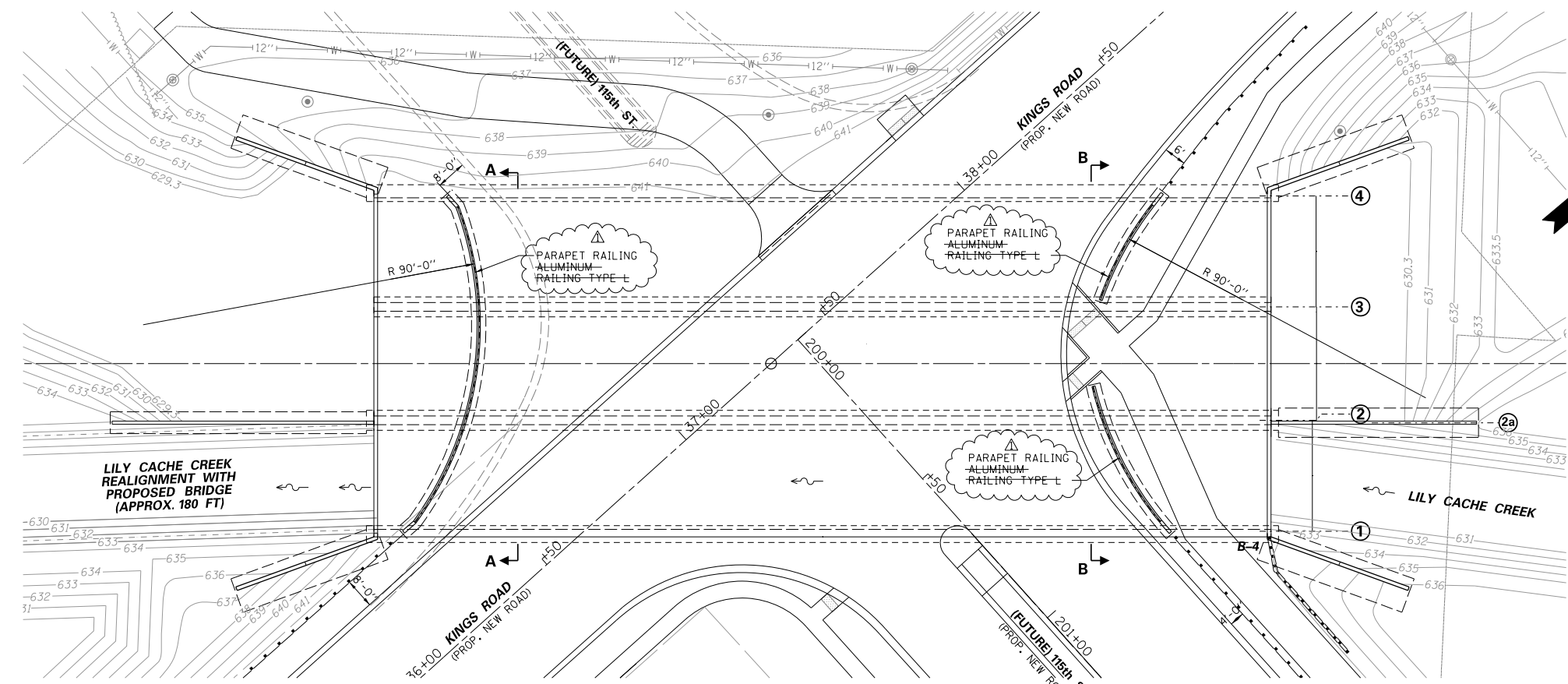
REBAR SCHEDULE SECTION D-D

BAR	SIZE	SHAPE	LENGTH	QTY.
V1	#5	□	6'-2"	68
H1	#5	—	33'-0"	9
F1	#5	—	3'-6"	34
F2	#4	—	33'-0"	12

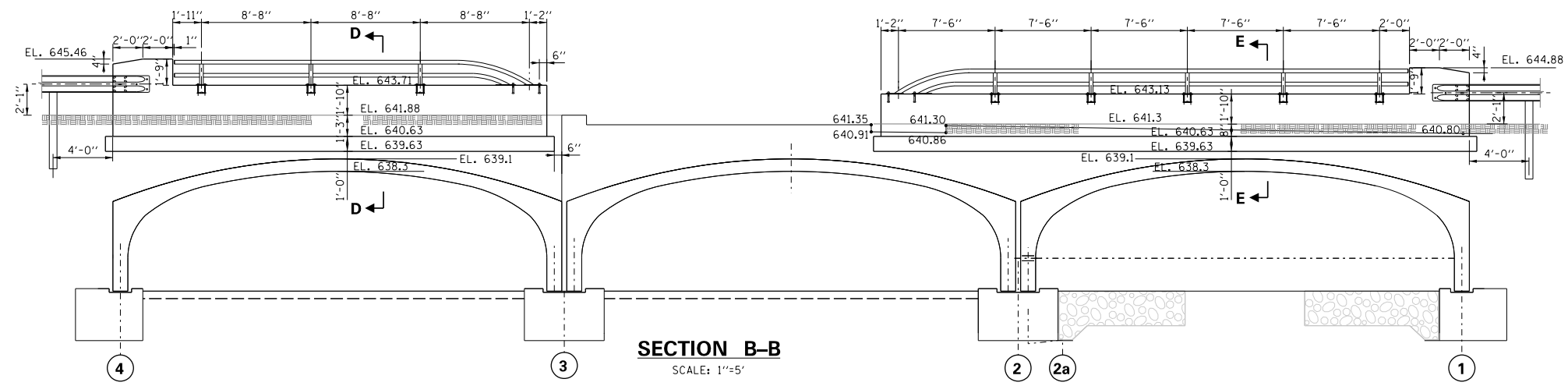
REBAR SCHEDULE SECTION E-E

BAR	SIZE	SHAPE	LENGTH	QTY.
V1	#5	□	5'-8"	96
H1	#5	—	47'-0"	7
F1	#5	—	3'-6"	48
F2	#4	—	47'-0"	12

ITEM	UNIT	QTY.
STRUCTURAL CONCRETE	CU.YD.	20
REINFORCEMENT BARS EPOXY COATED	POUND	2656
ADDITIONAL REBAR (FOR OVERLAP) *1.08	POUND	2868



PLAN SCALE: 1"=20'



SECTION B-B SCALE: 1"=5'

NOTE: LOCATION FOR THE STRUCTURE NAME PLATE SHALL BE APPROVED BY THE VILLAGE OF BOLINGBROOK.

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NOTE BOOK NO.	
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GRADES CHECKED	
NOTE BOOK NO.	
STRUCTURE NOTATIONS CHK'D	

FILE NAME =

USER NAME = .USER.	DESIGNED - S.S.	REVISED -
	CHECKED - J.B.	REVISED -
PLOT SCALE = 40.00 ft / in.	DRAWN - G.R./L.V.	REVISED -
PLOT DATE = 2/20/2019	CHECKED -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL PLAN  
GUARDRAIL PLAN AND DETAILS  
UPSTREAM

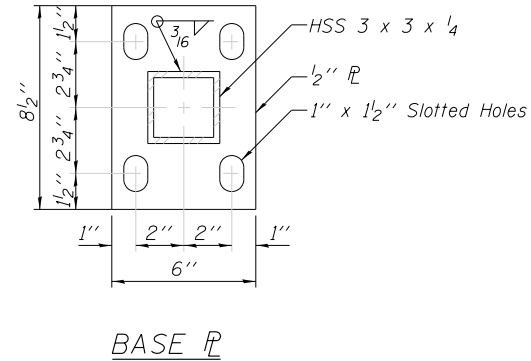
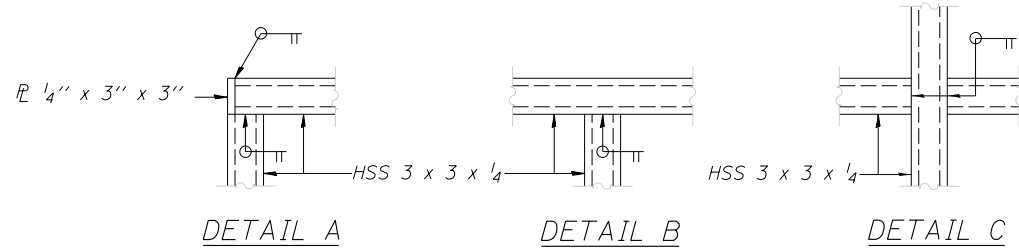
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	15-00059-00-PV	WILL	145	91
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	CONTRACT NO. 61F40	

REV 2/20/2019

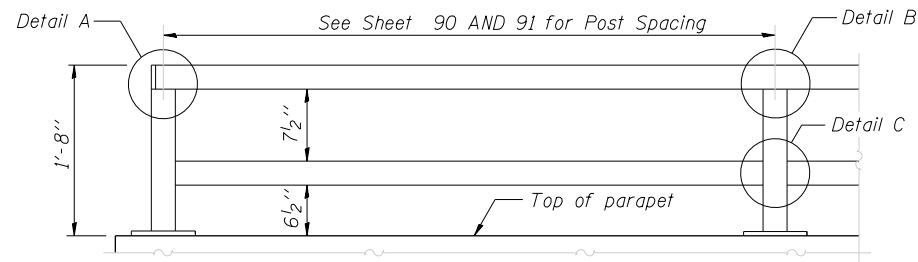
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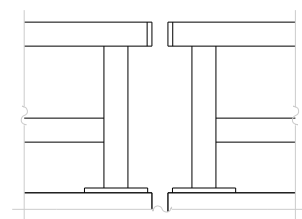
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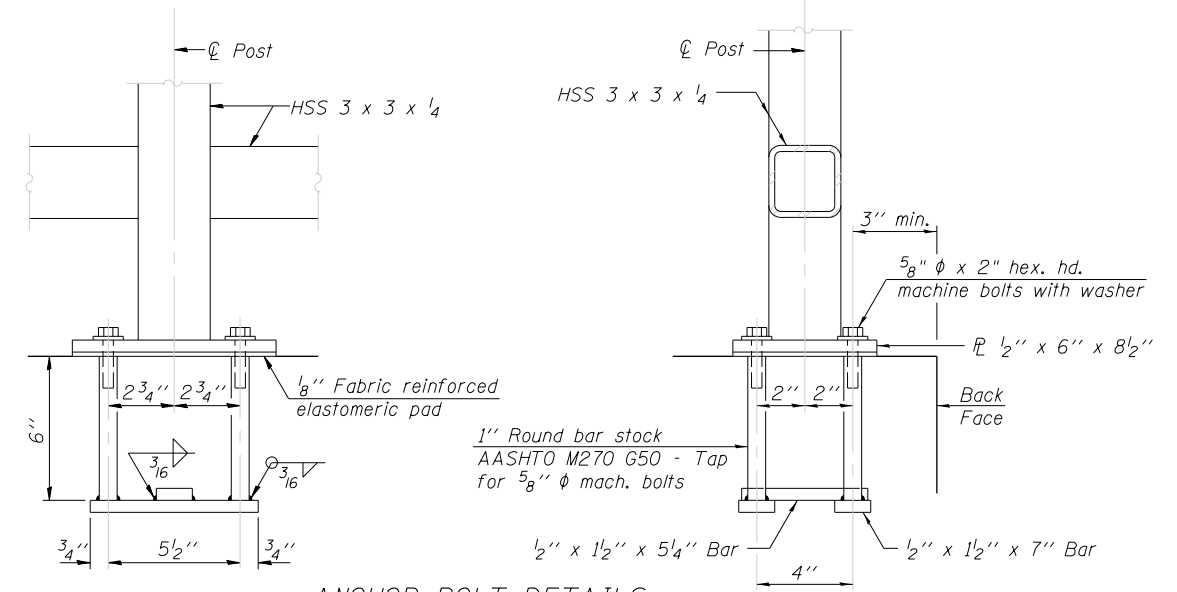
**NOTE:**  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 All post, railing, splices, anchor devices, and bent plates shall be painted using the (List the appropriate paint system for Structural Steel).  
 All the parapet railing elements will be galvanized and painted. The color of the railing shall be selected and approved by the Village of Bolingbrook.



**PARAPET RAILING  
 ELEVATION**  
 (Inside Face of Two Element Rail)

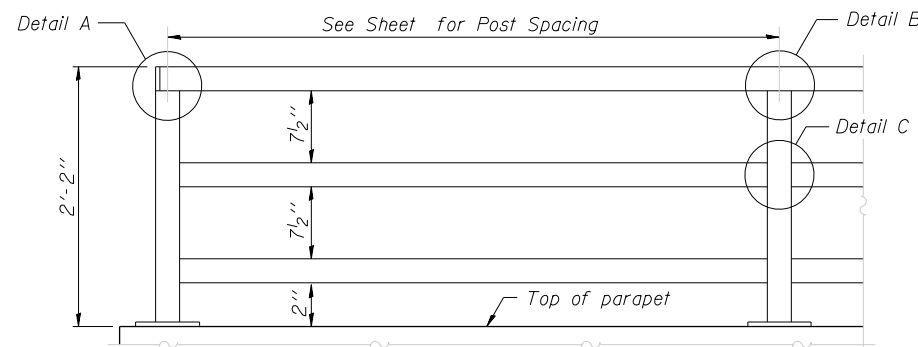


**PARAPET RAILING  
 ELEVATION AT EXPANSION JOINT**  
 (Two Element Rail Shown - Three Element Rail Similar)

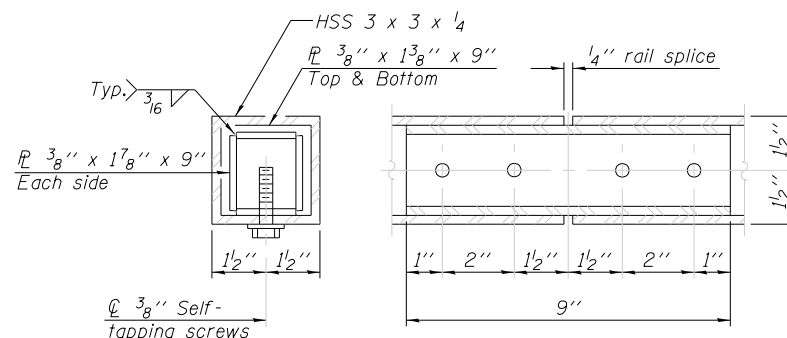


**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8 inch diameter anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



**PARAPET RAILING  
 ELEVATION**  
 (Inside Face of Three Element Rail)



**RAIL SPLICE**

THE SHEET 105, ALUMINUM RAILING TYPE L WAS REPLACED ENTIRELY WITH THIS SHEET PARAPET RAILING

**BILL OF MATERIAL**

Item	Unit	Quantity
Bicycle Railing	Foot	
Parapet Railing	Foot	

R-29 1-27-12 (10'-0" Maximum Post Spacing)

FILE NAME =	USER NAME = USER.	DESIGNED - S.S.	REVISED -	<b>STATE OF ILLINOIS        DEPARTMENT OF TRANSPORTATION</b>	<b>PARAPET RAILING        STRUCTURE NO.</b>			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED - J.B.	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	15-00059-00-PV	WILL	145	105
		DRAWN - G.R./L.V.	REVISED -							CONTRACT NO. 61F40			
		CHECKED -	REVISED -							FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	

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