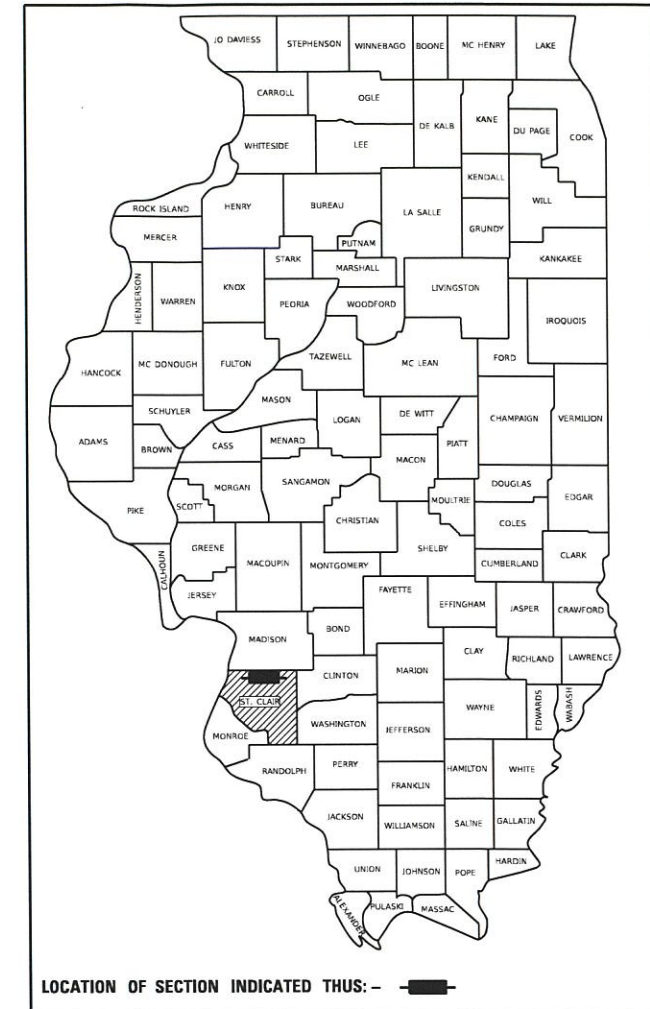


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST. CLAIR	14	1
CONTRACT NO. 97799			GCL JOB NO. 21-6007	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PLANS FOR PROPOSED  
STP-URBAN BRIDGE**

- INDEX OF SHEETS**
- 1 COVER SHEET
  - 2 SUMMARY OF QUANTITIES, TYPICAL SECTIONS, GENERAL NOTES, AND COMMITMENTS
  - 3 PLAN AND PROFILE OF ROADWAY
  - 4 DETOUR ROUTE PLAN
  - 5 GENERAL PLAN AND ELEVATION
  - 6 GENERAL DATA AND SUMMARY OF BRIDGE QUANTITIES
  - 7-8 PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
  - 9 STEEL RAILING, TYPE SM
  - 10-11 ABUTMENT DETAILS
  - 12 HP PILE DETAILS
  - 13-14 CROSS SECTIONS OF ROADWAY

**FAU 9170A (SIMMONS ROAD)  
BRIDGE OVER OGLE CREEK  
SECTION 19-00053-03-BR  
PROJECT NO. 6XE7(798)  
CITY OF O'FALLON  
ST. CLAIR COUNTY  
JOB NO. C-98-013-23**

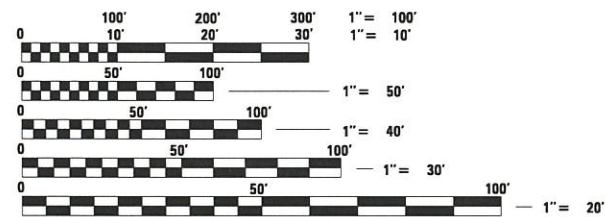


- HIGHWAY STANDARDS (SEE SPECIFICATIONS)
- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
  - 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
  - 515001-04 NAME PLATE FOR BRIDGES
  - 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
  - 631032-10 TRAFFIC BARRIER TERMINAL, TYPE 6A
  - 701901-08 TRAFFIC CONTROL DEVICES
  - 725001-01 OBJECT AND TERMINAL MARKERS
  - 780001-05 TYPICAL PAVEMENT MARKINGS
  - BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
  - BLR 23-4 TRAFFIC BARRIER TERMINAL TYPE 1
  - BLR 24-1 MAILBOX TURNOUT FOR LOCAL ROADS

SOIL BORINGS (SEE SPECIFICATIONS)

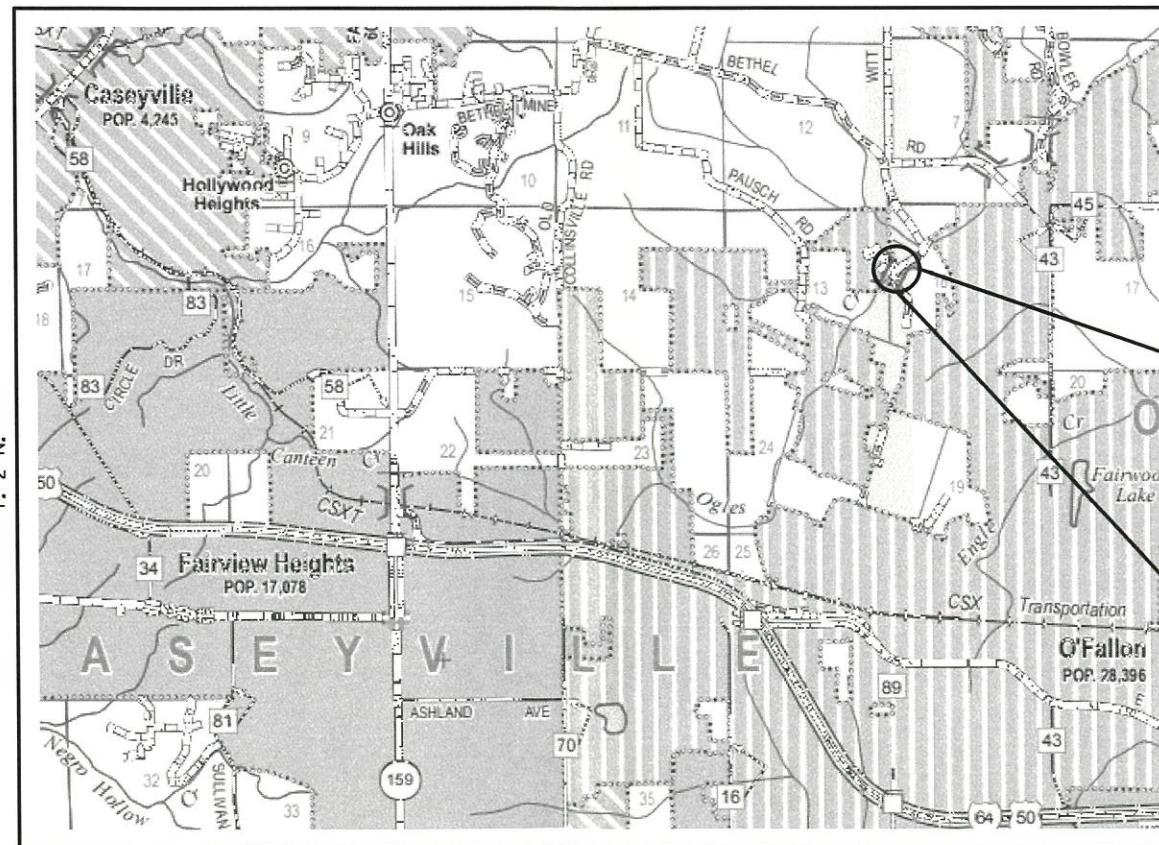
DESIGN CLASSIFICATION: MAJOR COLLECTOR  
ADT<sub>2022</sub> :1900

DESIGN SPEED: 35 MPH



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 LOCATING INFORMATION FOR EXCAVATORS  
1-800-892-0123 or 811 Website: <http://www.illinois1call.com>



NOT TO SCALE  
LOCATION: NEAR THE SW CORNER, NW 1/4, SECTION 18, T2N , R7W 3rd P.M.  
NET LENGTH OF PROJECT: 351.00 FT. = 0.066 MI.  
GROSS LENGTH OF PROJECT: 351.00 FT. = 0.066 MI.

SECTION ENDS  
STA. 102+11.00

SECTION 19-00053-03-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING FAU 9170A OVER OGLE CREEK, 93'-0" BK. TO BK. ABUTMENTS X 39' WIDE, NO SKEW. EXISTING STRUCTURE NO. 082-4113 PROPOSED STRUCTURE NO. 082-6508

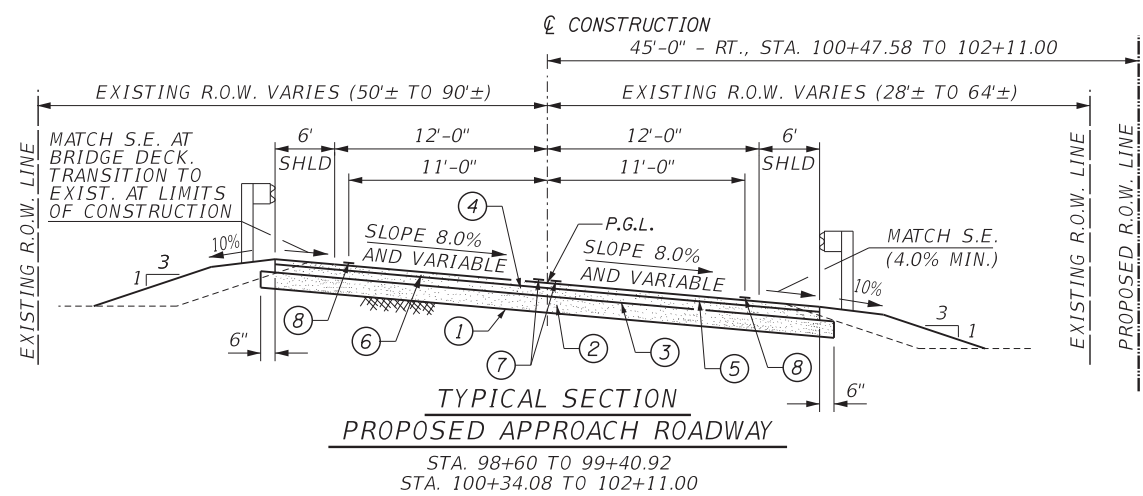
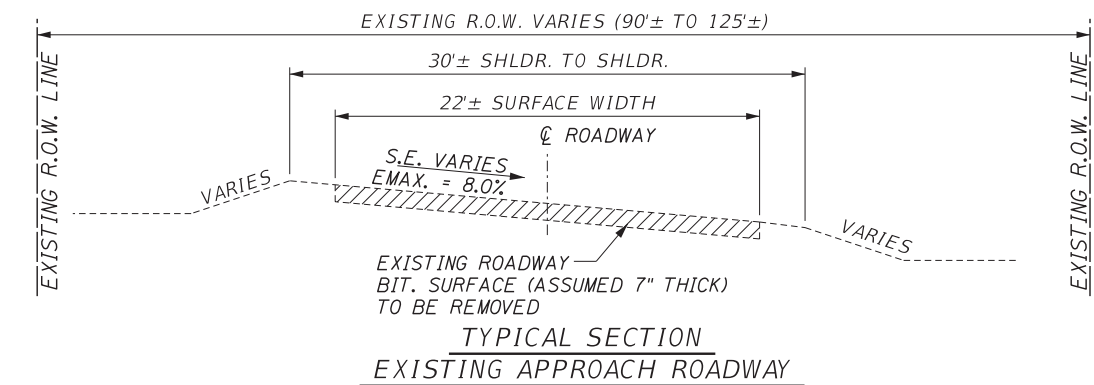
SECTION BEGINS  
STA. 98+60.00

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

APPROVED	<u>12/12/2022</u> 
PASSED	<u>12-19-22</u> 
RELEASING FOR BID BASED ON LIMITED REVIEW	<u>12-19-22</u> 



Brent L. Taylor 12/07/2022  
BRENT L. TAYLOR  
SALEM, ILLINOIS  
ILLINOIS LICENSED PROFESSIONAL  
ENGINEER NO. 062-066114  
EXPIRES NOV. 30, 2023



- ① GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- ② AGGREGATE BASE COURSE, TYPE A, 10" THICKNESS
- ③ BITUMINOUS MATERIALS (PRIME COAT)
- ④ HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70, 2 1/4"
- ⑤ BITUMINOUS MATERIALS (TACK COAT)
- ⑥ HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70, 1 1/2"
- ⑦ PAINT PAVEMENT MARKING - LINE 4", YELLOW (CENTERLINE, NO PASSING)
- ⑧ PAINT PAVEMENT MARKING - LINE 4" WHITE (EDGE STRIPE)

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
MIXTURE USE(S):	SURFACE COURSE	BINDER COURSE
AC/PG:	64-22	64-22
RAP% (MAX):	15%	25%
DESIGN AIR VOIDS:	4.0% @ N=70	4.0% @ N=70
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5	IL 19.0
FRICTION AGGREGATE:	MIXTURE C	N.A.

**UTILITIES**  
 DESIGN PHASE LOCATE  
 J.U.L.I.E. DIG NO. A222624002-00A  
 DATE: 09/19/2022  
 ATT / DISTRIBUTION  
 G11629@ATT.COM  
 VILLAGE OF CASEYVILLE  
 BRIAN K. RADER 618-578-3383  
 AMEREN ILLINOIS (SOUTH)  
 SAM KASSING 618-972-1965  
 CHARTER COMMUNICATIONS  
 JORDAN STAAT 314-393-3321  
 CASEYVILLE TOWNSHIP SEWER SYSTEM  
 RANDY LE PERE 618-632-2414  
 CITY OF O'FALLON  
 HEIDE BELLE 618-624-4500 x8750

**GENERAL NOTES**

- THIS SECTION SHALL BE CONSTRUCTED ACCORDING TO THE PLANS, THE SPECIAL PROVISIONS, AND THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2022.
- ROADWAY CENTERLINE PROFILES REFER TO THE FINISHED SURFACE
- EXISTING UTILITES SHOWN ARE LOCATED FROM SURFACE OBSERVATIONS OR INFORMATION PROVIDED BY THE RESPECTIVE UTILITES AND MUST BE CONSIDERED APPROXIMATE AND ARE ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THERE MAY BE OTHERS, THE EXACT LOCATION OF WHICH ARE UNKNOWN AND NOT SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE RESPECTIVE UTILITES BEFORE WORK IS BEGUN. FIELD MARKING OF UNDERGROUND UTILITIES MAY BE OBTAINED BY PROVIDING A MINIMUM 48 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 1-800-892-0123, 811, OR BY DIRECT CONTACT WITH NON-MEMBERS OF J.U.L.I.E.
- FACTORS USED FOR QUANTITY CALCULATIONS ARE AS FOLLOWS:  
 STONE DUMPED RIPRAP 130 POUNDS/CU. FT.  
 AGGREGATE BASE / SURFACE COURSE 2.1 TONS/CU. YD.  
 HOT-MIX ASPHALT 0.056 TONS/SQ. YD./INCH  
 BIT. MATERIALS (PRIME COAT) 0.25 POUNDS/SQ. FT. (ON AGGREGATE)  
 BIT. MATERIALS (TACK COAT) 0.025 POUNDS/SQ. FT. (BETWEEN HMA LIFTS)

**COMMITMENTS**

NO TREE CLEARING WILL BE ALLOWED OR PERFORMED FROM APRIL 1 THROUGH SEPTEMBER 30, IN AN EFFORT TO CONSERVE THE NORTHERN LONG-EARED BAT AND THE INDIANA BAT.  
 THE CITY OF O'FALLON WILL NOTIFY PUBLIC SERVICE PROVIDERS PRIOR TO THE START OF CONSTRUCTION.

SUMMARY OF QUANTITIES			
Code No.	Item	Unit	Total
20200100	EARTH EXCAVATION	CU YD	195
20300100	CHANNEL EXCAVATION	CU YD	340
20400800	FURNISHED EXCAVATION	CU YD	185
20800150	TRENCH BACKFILL	CU YD	14
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
28000305	TEMPORARY DITCH CHECKS	FOOT	60
28000400	PERIMETER EROSION BARRIER	FOOT	190
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	991
35100100	AGGREGATE BASE COURSE, TYPE A	TON	576
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	2254
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	218
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	122
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	152
50105220	PIPE CULVERT REMOVAL	FOOT	30
50300225	CONCRETE STRUCTURES	CU YD	69.2
50300280	CONCRETE ENCASEMENT	CU YD	5.6
50400705	PRECAST PRESTRESSED CONCRETE DECK BEAMS (42" DEPTH)	SQ FT	3549
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	10430
50901050	STEEL RAILING, TYPE SM	FOOT	186
51201600	FURNISHING STEEL PILES HP12x53	FOOT	345
51202305	DRIVING PILES	FOOT	345
51203600	TEST PILE STEEL HP12x53	EACH	1
51500100	NAME PLATES	EACH	1
542A0229	PIPE CULVERTS, CLASS A, TYPE 1 24"	FOOT	62
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	403
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1092
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	144
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	3
67100100	MOBILIZATION	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1308
X2300007	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	1
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.25
X2810808	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	TON	515
X4404400	PAVEMENT REMOVAL (SPECIAL)	SQ YD	662
X5010205	REMOVAL OF EXISTING STRUCTURE, SPECIAL	EACH	1
# Z0076600	TRAINEES	HOURL	500
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
# Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOURL	500

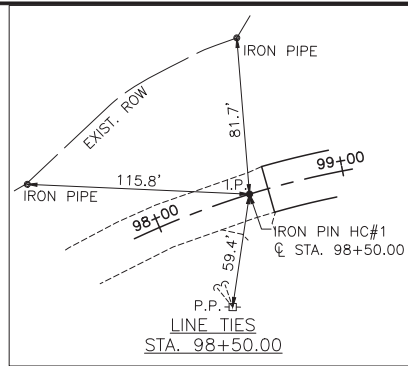
**gonzalez**  
 GONZALEZ COMPANIES, LLC  
 7 CARPENTER DRIVE  
 SALEM, IL 62881  
 PHONE (618) 222-2221  
 WWW.GONZALEZCOS.COM  
 ILLINOIS PROFESSIONAL DESIGN FIRM 184,004564

DESIGNED - BLT	REVISED -
DRAWN - JN, JMW	REVISED -
CHECKED - BLT	REVISED -
DATE - 12/07/2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

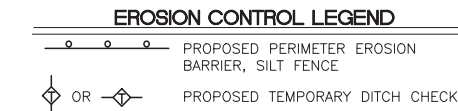
**SUMMARY OF QUANTITIES, TYPICAL SECTIONS,**  
**GENERAL NOTES, AND COMMITMENTS**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST CLAIR	14	2
CONTRACT NO. 97799				



EROSION CONTROL SCHEDULE				
LOCATION			TEMPORARY DITCH CHECK	PERIMETER EROSION BARRIER
BEGIN STATION	END STATION	OFFSET	FOOT	FOOT
98+60	99+00	RT	20	40
98+80	99+40	LT	10	
99+00	99+40	RT	10	
100+35	100+80	LT	10	
100+51	102+11	RT		150
100+80	101+65	LT	20	
<b>TOTAL</b>			<b>60</b>	<b>190</b>

\* TEMPORARY DITCH CHECKS ARE ASSUMED 10' LENGTH EACH LOCATION.

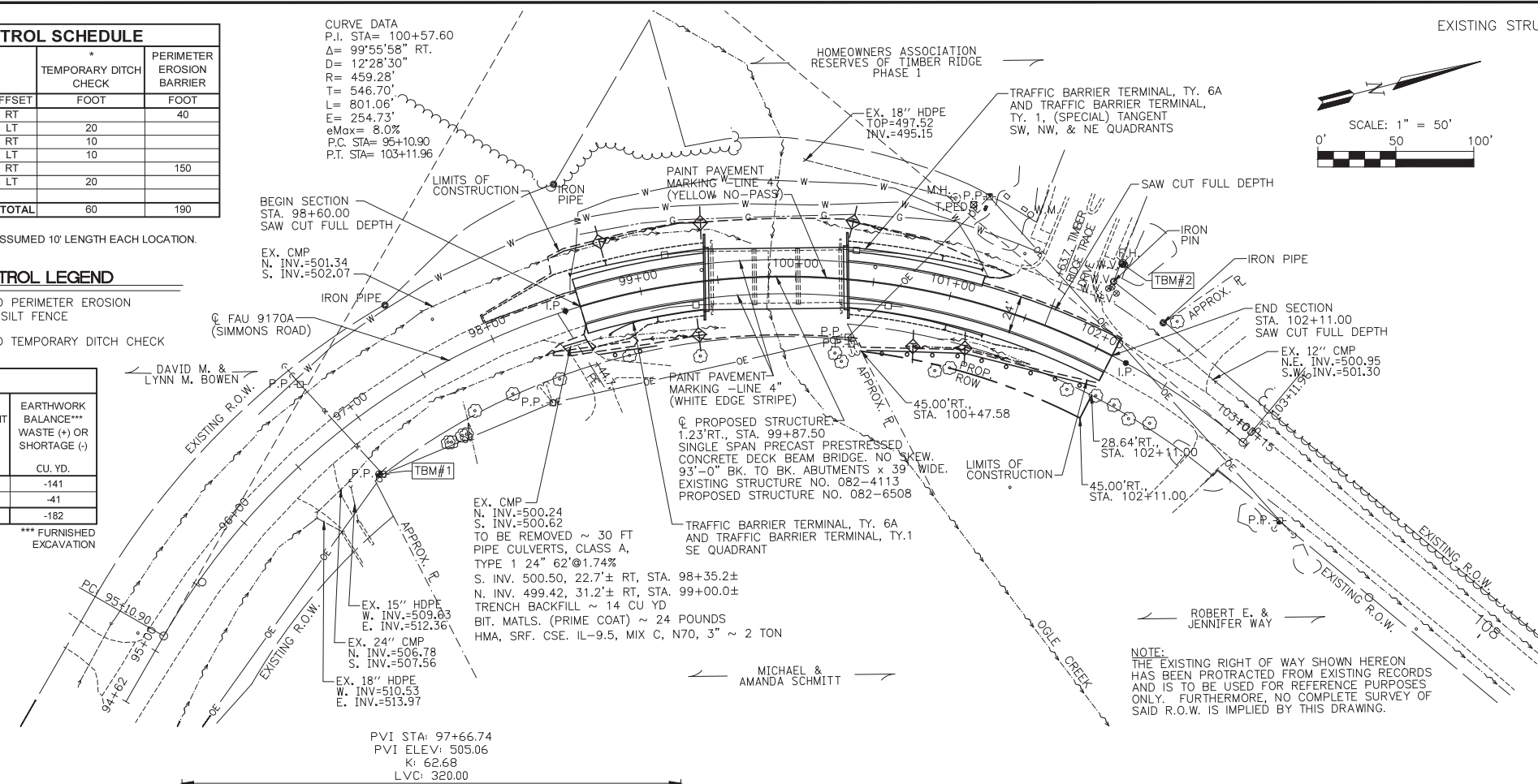


EARTHWORK SCHEDULE					
LOCATION	GROSS CUT FROM CROSS SECTIONS	EARTH EXCAVATION (WITH PAVEMENT REMOVAL DEDUCTED)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE FACTOR (25%)	EMBANKMENT (FILL)	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
STA. 98+00.00 TO STA. 99+40.92	100	58	43	184	-141
STA. 98+60.00 TO STA. 102+11	224	139	104	145	-41
<b>TOTALS:</b>	<b>324</b>	<b>197</b>	<b>147</b>	<b>329</b>	<b>-182</b>

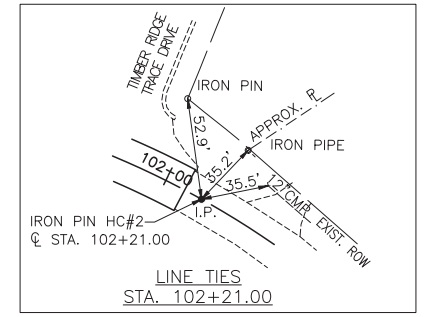
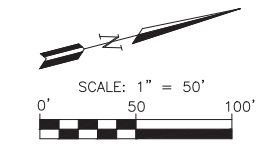
GROSS CUT QUANTITIES REFLECT AREAS FROM CROSS-SECTIONS (INCLUDING PAVEMENT)  
 EARTH EXCAVATION HAS BEEN MODIFIED TO REFLECT THE DEDUCTION FOR PAVEMENT REMOVAL  
 \*\*\* FURNISHED EXCAVATION

PAVEMENT MARKING SCHEDULE					
LOCATION		PAINT PAVEMENT MARKING - LINE 4" FOOT	PAINT PAVEMENT MARKING - LINE 4" FOOT		
			YELLOW SOLID	WHITE SOLID	
11' LT.	STA. 98+60.00 TO STA. 101+18.00			264	
0.5' LT.	STA. 98+60.00 TO STA. 102+11.00	351			
0.5' RT.	STA. 98+60.00 TO STA. 102+11.00	351			
11' RT.	STA. 98+60.00 TO STA. 102+11.00		342		
<b>TOTAL:</b>		<b>702</b>		<b>606</b>	

CURVE DATA  
 P.I. STA= 100+57.60  
 $\Delta = 99^{\circ}55'58''$  RT.  
 $D = 12^{\circ}28'30''$   
 $R = 459.28'$   
 $T = 546.70'$   
 $L = 801.06'$   
 $E = 254.73'$   
 $e_{Max} = 8.0\%$   
 P.C. STA= 95+10.90  
 P.T. STA= 103+11.96

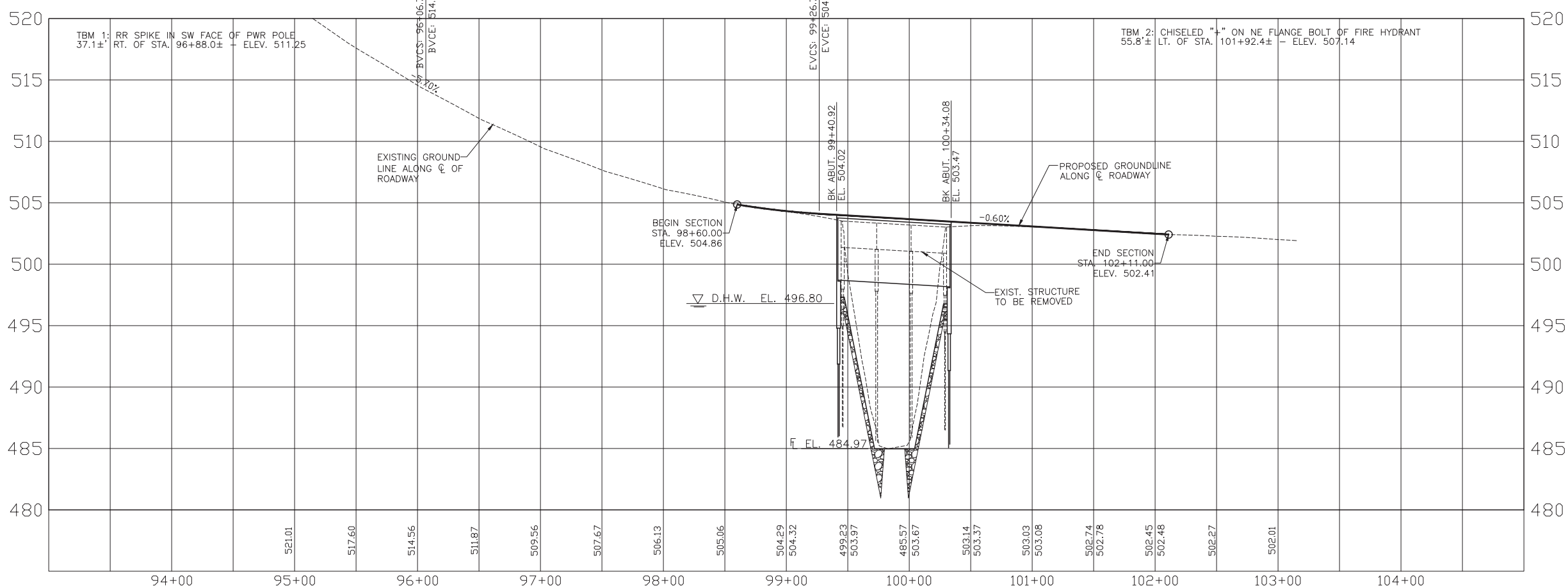


EXISTING STRUCTURE: STRUCTURE NO. 082-4113, THREE SPAN BRIDGE WITH PRECAST CONCRETE CHANNEL BEAMS ON SPILL THRU CONCRETE ABUTMENTS AND PILE BENT PIERS. 85'-9"± L. x 33'-9"± W. TO BE REMOVED.



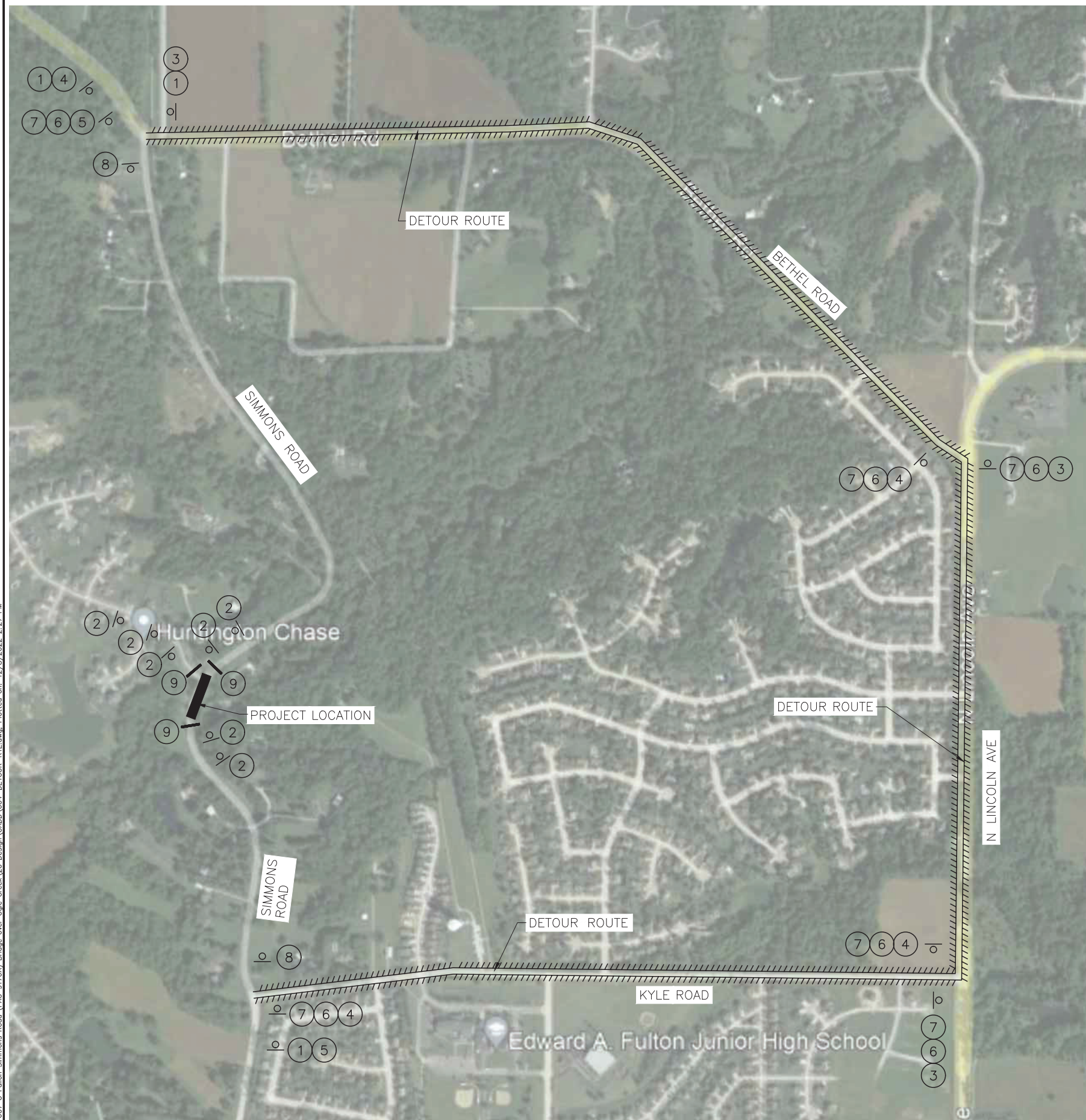
REFERENCE STATION CONTROL		
STATION POINT	N. COOR.	E. COOR.
98+00.00	712148.61	2364701.05
HC#1 @ 98+50.00	712198.27	2364695.40
BEG. SECTION 98+60.00	712208.25	2364694.92
99+00.00	712248.24	2364695.17
BACK ABUT. 99+40.92	712288.97	2364699.03
BACK ABUT. 100+34.08	712379.29	2364721.17
101+00.00	712439.60	2364747.64
102+00.00	712522.30	2364803.52
END SECTION 102+11.00	712530.60	2364810.73
HC#2 @ 102+21.00	712538.00	2364817.46

PAVEMENT REMOVAL (SPECIAL) SCHEDULE		
LOCATION		SQ YD
RT. STA. 98+41.11 TO STA. 98+59.98		11
STA. 98+60.00 TO STA. 99+45.50		214
STA. 100+29.50 TO STA. 102+11.00		437
<b>TOTAL:</b>		<b>662</b>



S:\Projects\2021\21-607.g Fallon Simmons Road (FAU 9170A) Bridge over Ogles Creek\20 Design\CADD\003\_PlanProfile-21607.dwg, Plotted on: 12/8/2022 2:20 PM

S:\Projects\2021\21-607 - o Fallon Simmons Road (FAU 9170A) Bridge over Ogile Creek\20 Design\CADD\04-DETOUR-RTE.dwg, Plotted on: 12/15/2022 2:27 PM



CONSTRUCTION DETOUR SIGN LEGEND							
SIGN NUMBER	SIGN DESCRIPTION	MUTCD SIGN TYPE	MUTCD SIGN DESIGNATION	SIGN SIZE	SPECIAL COLOR	SIGN TO READ	MUTCD REFERENCE
1	ROAD CLOSED (DIST.)	TRAFFIC CONTROL ZONE WARNING SIGN	W20-3	48x48	-	ROAD CLOSED AHEAD	FIGURE 6F-4
2	PER BLR 21-9	ROAD CLOSED AHEAD SIGNAGE	-	-	-	-	-
3	DIRECTION - LEFT	DIRECTIONAL ARROW AUXILIARY SIGN	M5-1(L)	21x15	ORANGE	-	FIGURE 2D-5
4	DIRECTION - RIGHT	DIRECTIONAL ARROW AUXILIARY SIGN	M5-1(R)	21x15	ORANGE	-	FIGURE 2D-5
5	DIRECTION - STRAIGHT	DIRECTIONAL ARROW AUXILIARY SIGN	M6-3	21x15	ORANGE	-	FIGURE 2D-5
6	DETOUR SIGN	EXIT/DETOUR CLOSURE SIGN	M4-8	24x12	-	DETOUR	FIGURE 6F-5
7	ROAD NAME SIGN	GUIDE SIGN	D3-1	36x12	-	SIMMONS ROAD	FIGURE 2D-8
8	ROAD CLOSED TO THRU TRAFFIC	TRAFFIC CONTROL ZONE REGULATORY SIGN	R11-3a	60x30	-	ROAD CLOSED ## MILES AHEAD LOCAL TRAFFIC ONLY	FIGURE 6F-3
9	PER BLR 21-9	TYPE III BARRIADAES & SIGNAGE	-	-	-	-	-

**NOTES**

1. THIS DRAWING IS NOT TO SCALE.
2. ALL TRAFFIC CONTROL SIGNS/DEVICES SHALL CONFORM TO AND BE PLACED/IMPLEMENTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" IN EFFECT ON THE DATE OF THE INVITATION FOR BIDS.
3. ANY ROAD CLOSED TO THRU TRAFFIC SIGNS SHALL BE ATTACHED TO A TYPE III BARRICADE PER IDOT STANDARD 701901 AND PLACED IN THE APPROPRIATE LANE TO DETER TRAFFIC FROM THE CONSTRUCTION ZONE.
4. SEE APPROPRIATE IDOT TRAFFIC CONTROL AND PROTECTION STANDARD FOR LOCATION AND SPACING OF DETOUR ROUTE SIGNS.



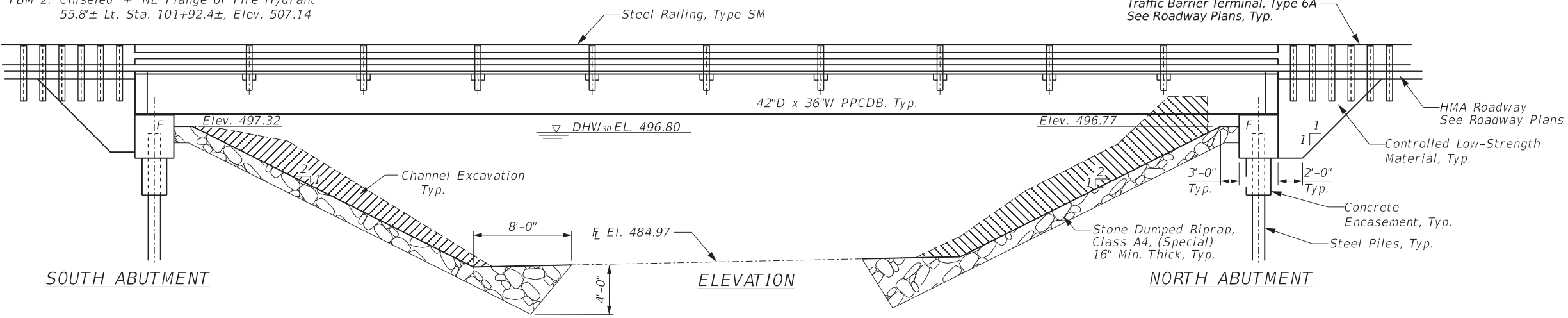
**LEGEND**

- CONSTRUCTION ZONE (CLOSED TO ALL TRAFFIC)
- DETOUR ROUTE

TBM 1: RR Spike in SW Face of Power Pole  
37.1'± Rt, Sta. 96+88.0±, Elev. 511.25

TBM 2: Chiseled "+" NE Flange of Fire Hydrant  
55.8'± Lt, Sta. 101+92.4±, Elev. 507.14

Existing Structure: Structure No.: 082-4113. three span bridge with precast concrete channel beams on spill thru conc. abutments and pile bent piers. 85'9"± L. x 33'9"± W. To be removed.



**LOADING HL-93**  
50#/sq. ft. included in dead load for future wearing surface.

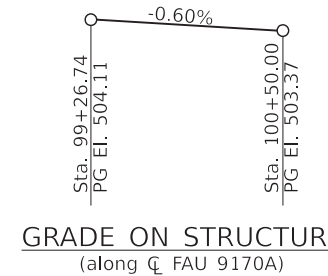
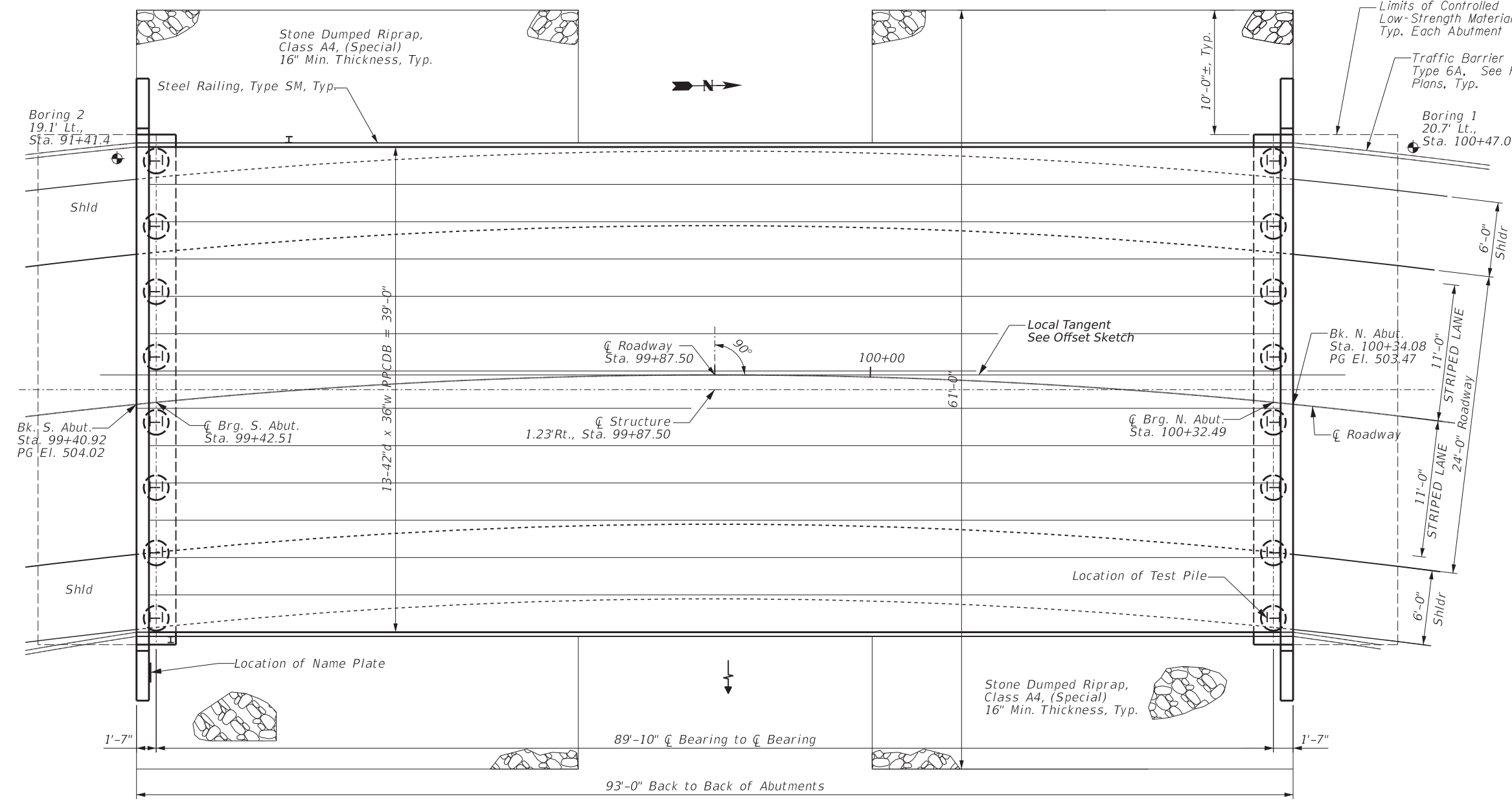
**DESIGN SPECIFICATIONS**  
AASHTO LRFD Bridge Design Specifications 2020 (9th Edition)

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 2  
Soil Site Classification = D  
 $S_{D1} = 0.247$   $S_{D5} = 0.564$

**DESIGN STRESSES**  
**FIELD UNITS**  
 $f_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

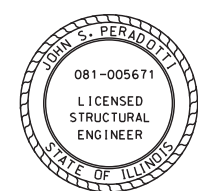
**PRECAST PRESTRESSED UNITS**  
 $f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $1/2$ " low lax. strands)  
 $f_{pbt} = 201,960$  psi ( $1/2$ " low lax. strands)  
 $f_y = 60,000$  psi (reinforcement)

**CURVE DATA**  
 $\Delta = 99^\circ 55' 58''$  RT.  
 $D = 12^\circ 28' 30''$   
 $T = 546.70'$   
 $L = 801.06'$   
 $E = 254.74'$   
 $R = 459.28'$   
 $e_{Max} = 8.0\%$   
P.C. STA = 95+10.90  
P.T. STA = 103+11.96 (ARC)  
P.I. STA = 100+57.60

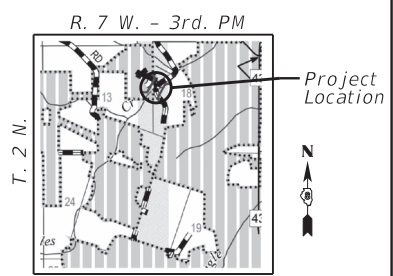


**GRADE ON STRUCTURE**  
(along  $\bar{C}$  FAU 9170A)

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.



*John S. Peradotti* 12/07/22  
John S. Peradotti  
Salem, Illinois  
Illinois Licensed Structural Engineer No. 081-005671  
Expires Nov. 30, 2024



**PLAN**

**gonzalez**  
GONZALEZ COMPANIES, LLC  
7 CARPENTER DRIVE  
SALEM, IL 62881  
PHONE (618) 222-2221  
www.gonzalezcos.com  
ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED - JSP	REVISED -
DRAWN - KMA, JMW	REVISED -
CHECKED - BLT	REVISED -
DATE - 12/07/2022	REVISED -

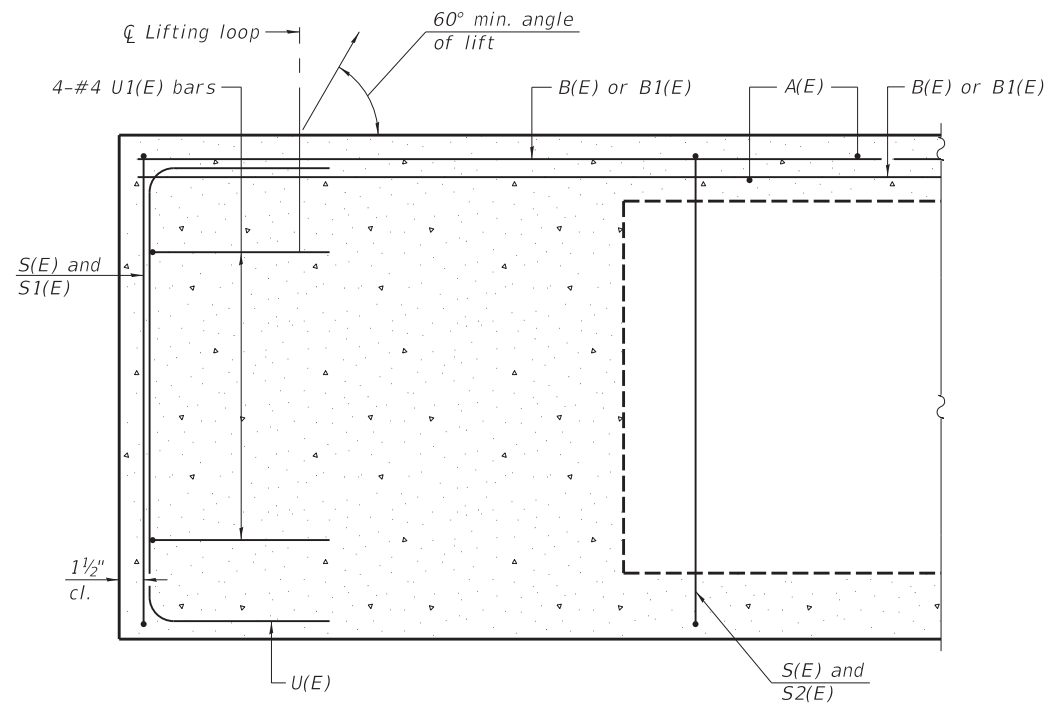
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 082-6508**

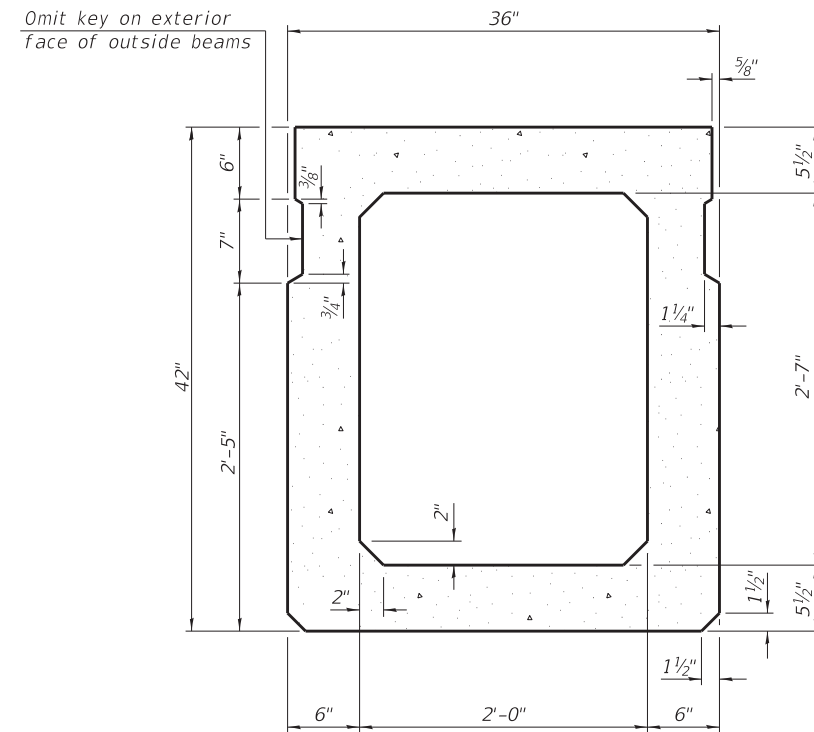
GCL JOB NO. 21-6007

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST. CLAIR	14	5
			CONTRACT NO. 97799	

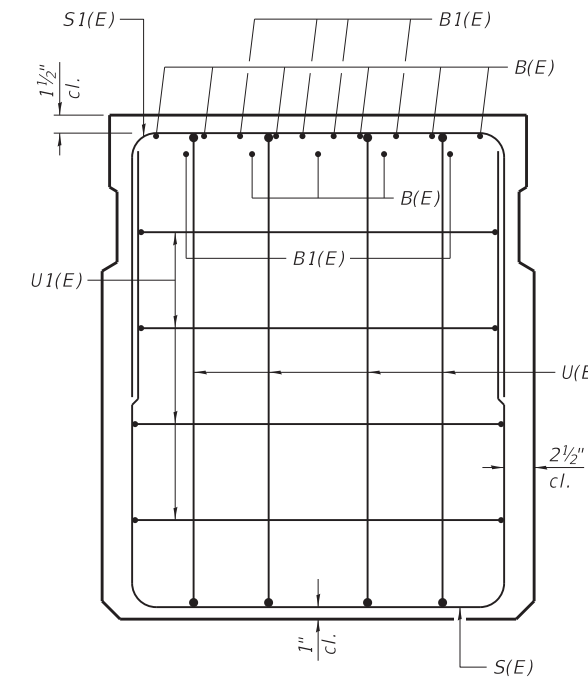




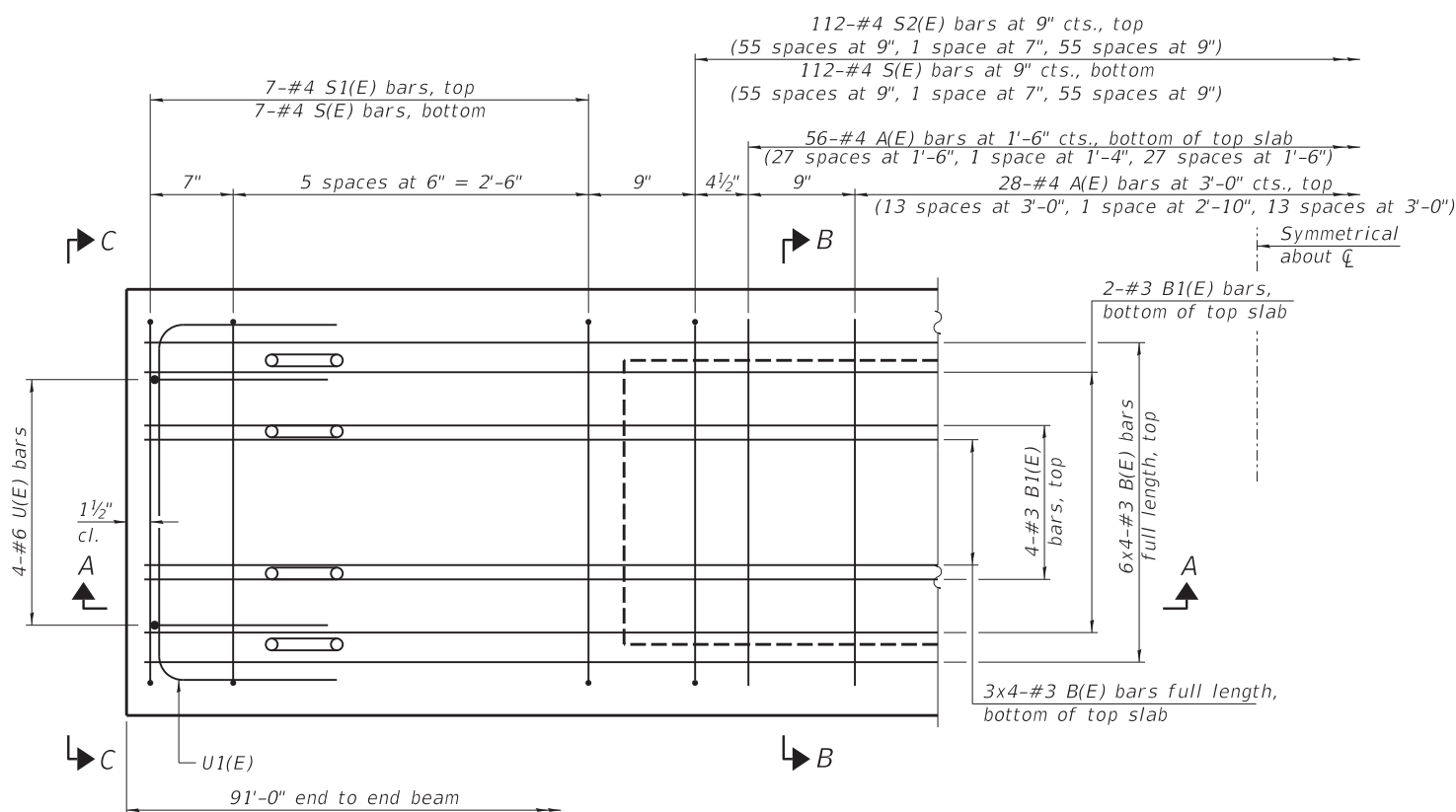
SECTION A-A



SECTION B-B  
(Showing dimensions)



VIEW C-C

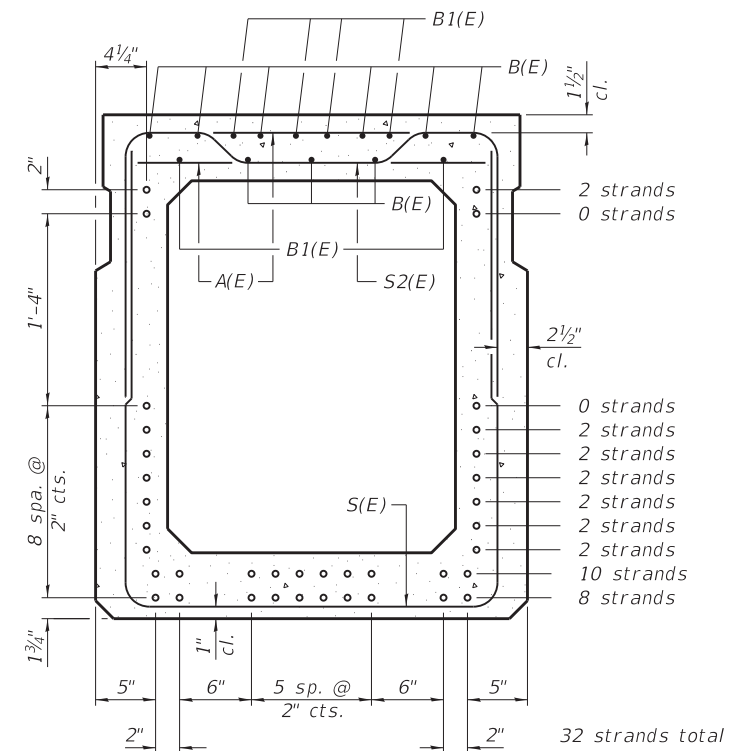


PLAN VIEW

Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus: 6x4-#3 etc. indicates 6 lines of bars with 4 lengths per line.

MINIMUM BAR LAP  
#3 bar = 1'-6"



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

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

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	84	#4	2'-7"	—
B(E)	36	#3	23'-10"	—
B1(E)	12	#3	10'-0"	—
S(E)	126	#4	9'-2"	U
S1(E)	14	#4	6'-5"	U
S2(E)	112	#4	6'-8"	U
U(E)	8	#6	5'-9"	C
U1(E)	8	#4	5'-0"	C

Note:  
See sheet 7 for additional details and Bill of Material.



GONZALEZ COMPANIES, LLC  
7 CARPENTER DRIVE  
SALEM, IL 62881  
PHONE (618) 222-2221  
www.gonzalezcos.com  
ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED - JSP  
DRAWN - KMA, JMW  
CHECKED - BLT  
DATE - 12/07/2022

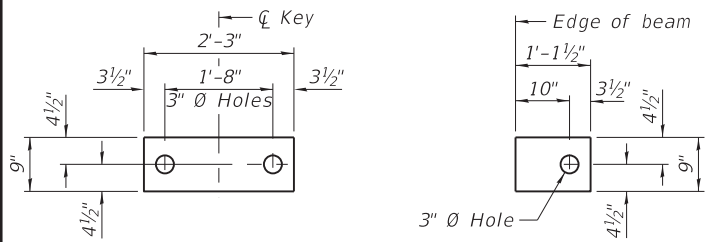
REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS

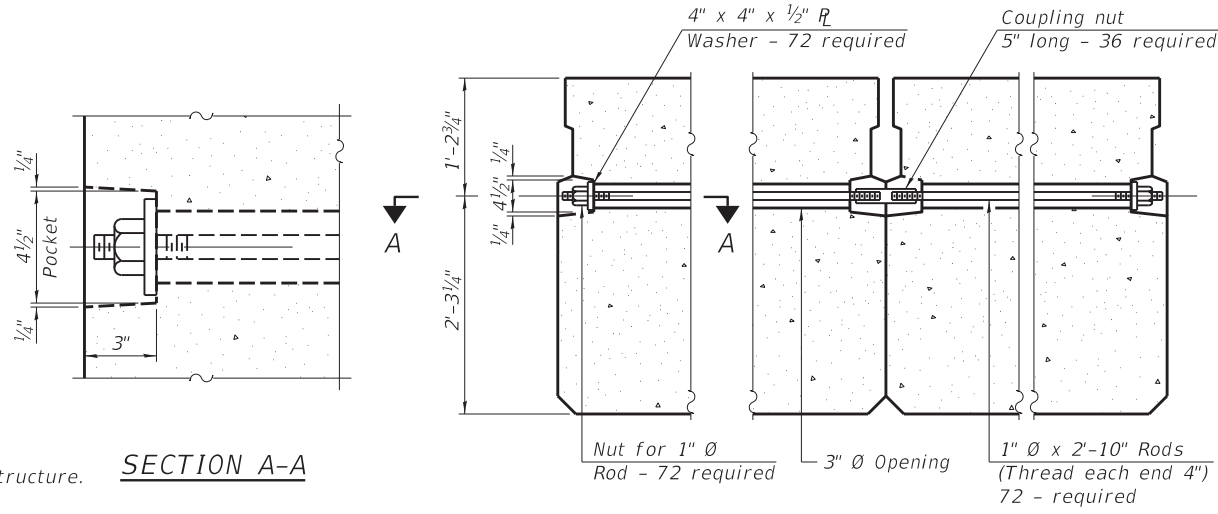
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST. CLAIR	14	7
			CONTRACT NO. 97799	

GCL JOB NO. 21-6007

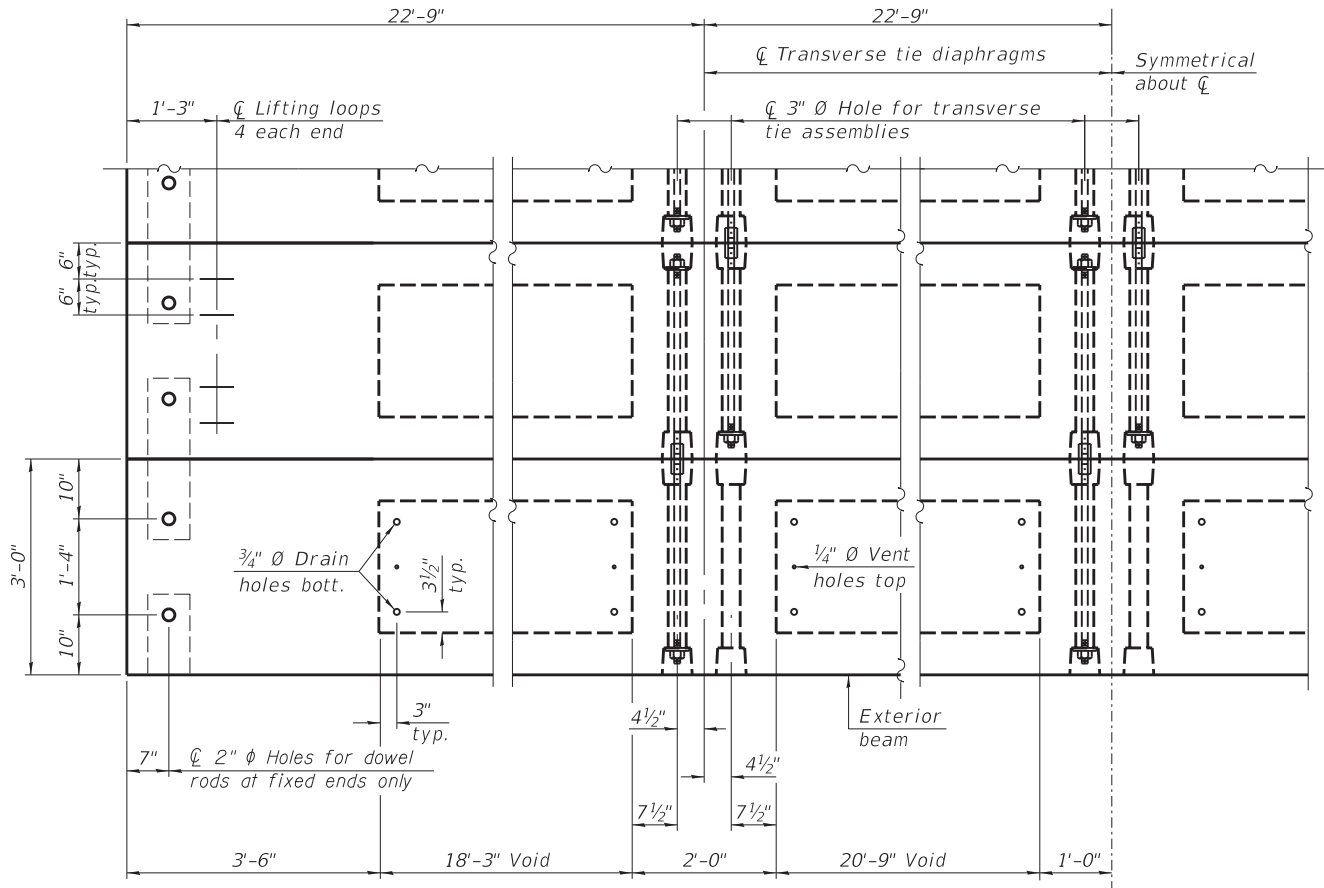
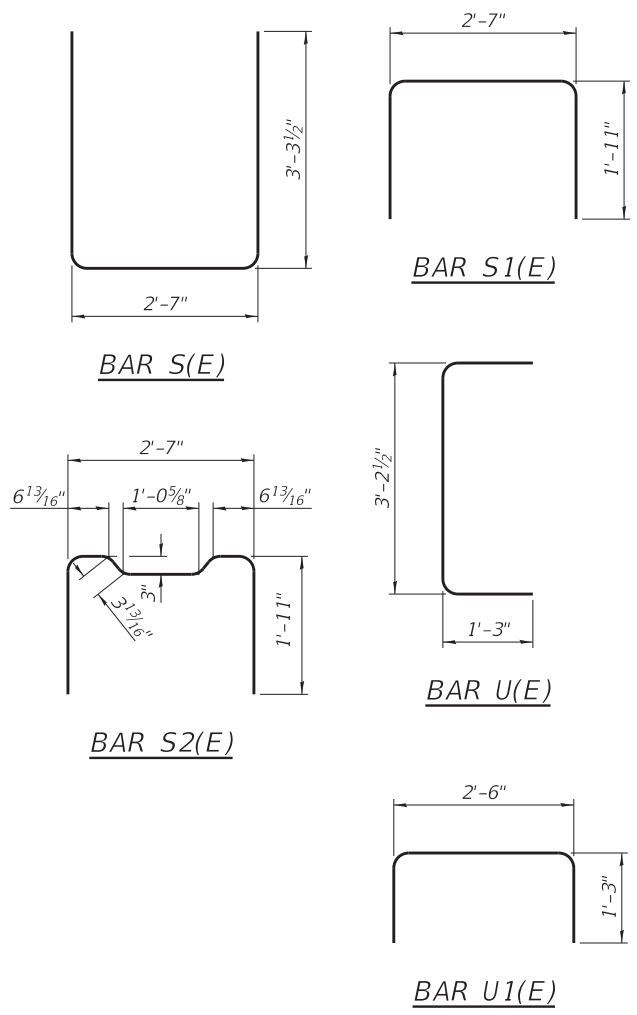


**FABRIC BEARING PAD**  
(Interior) **FIXED**  
**FABRIC BEARING PAD**  
(Exterior)

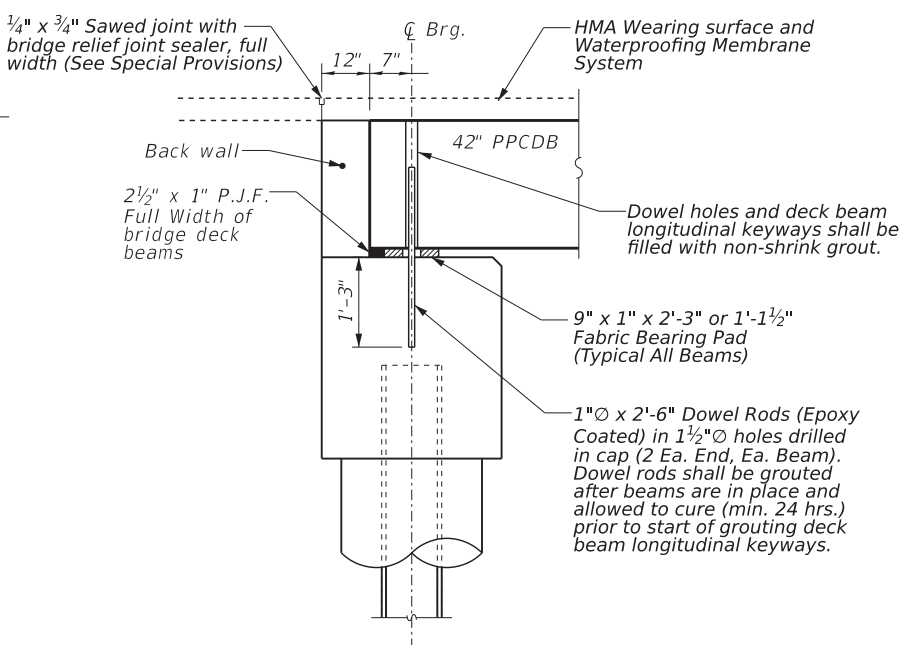
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pads shall be bonded to the substructure.



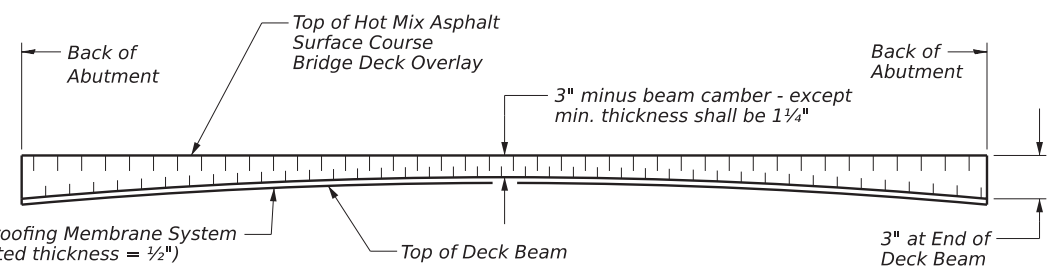
**TYPICAL TRANSVERSE TIE ASSEMBLY**



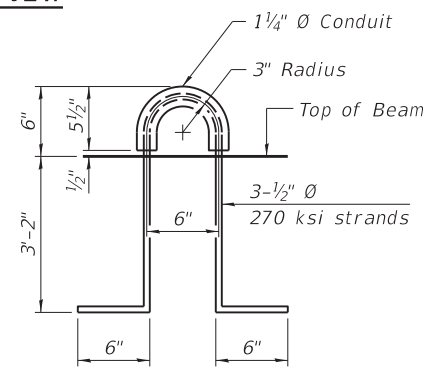
**PLAN VIEW**



**FIXED BEARING ABUTMENT**  
(Normal to centerline)



**PROFILE OF HMA WEARING SURFACE**



**LIFTING LOOP DETAIL**

Note:  
Connect beams in pairs with the transverse tie configuration shown.

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

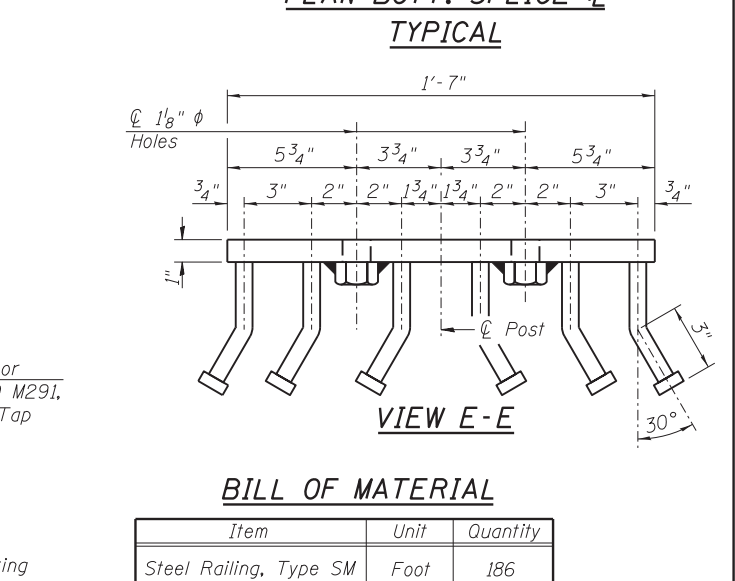
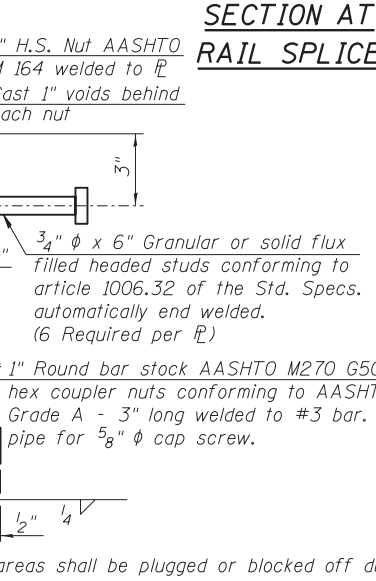
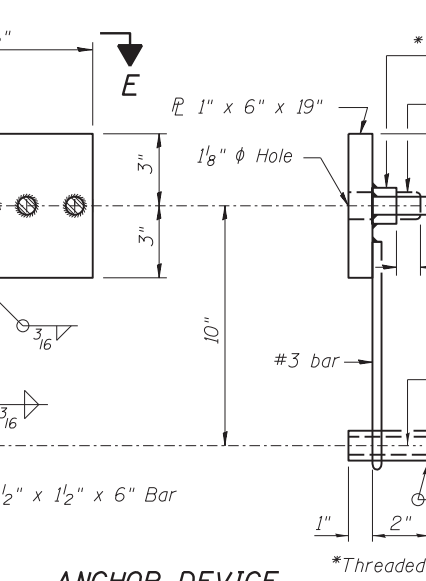
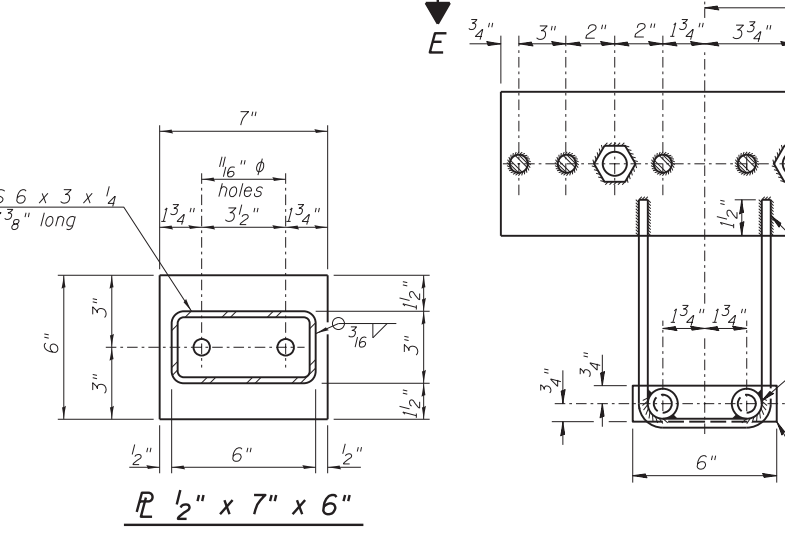
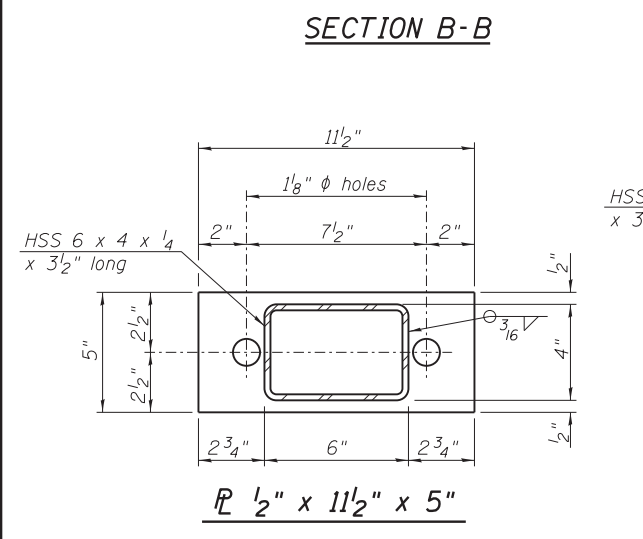
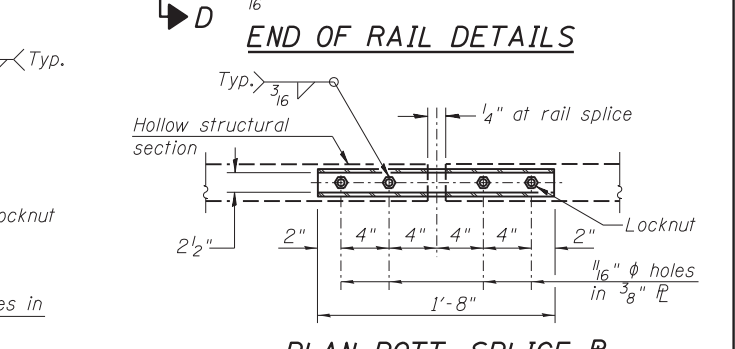
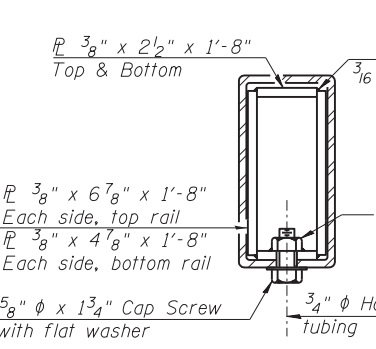
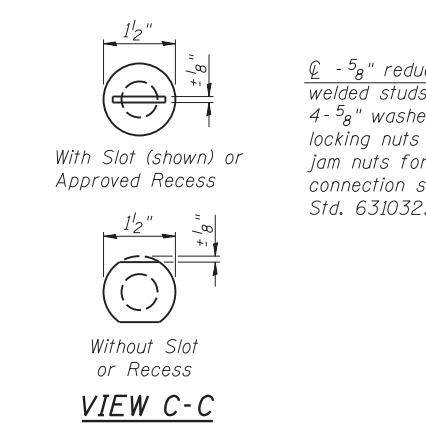
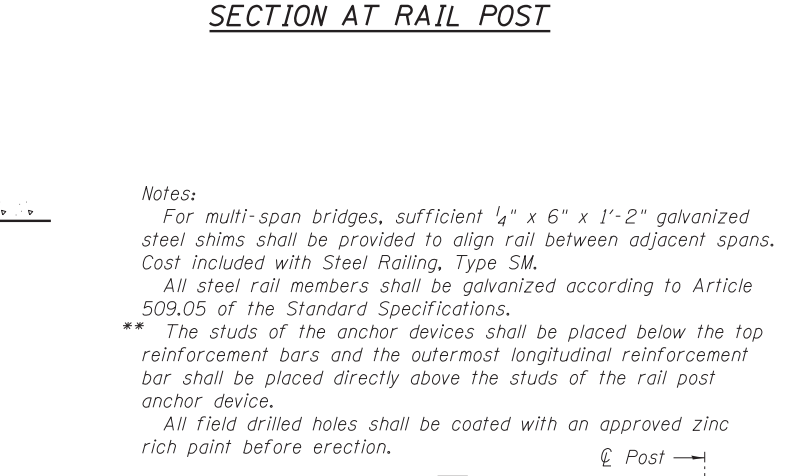
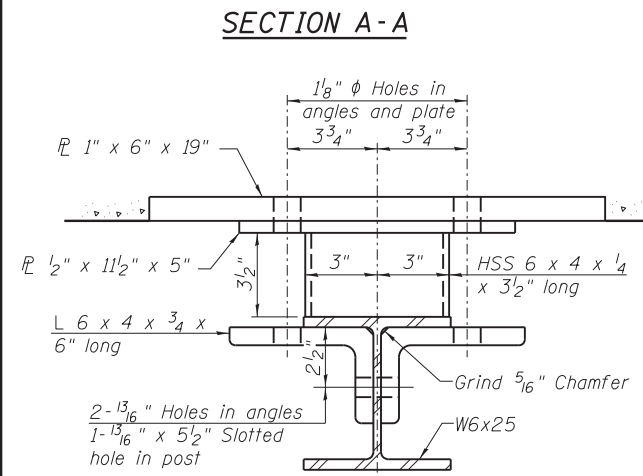
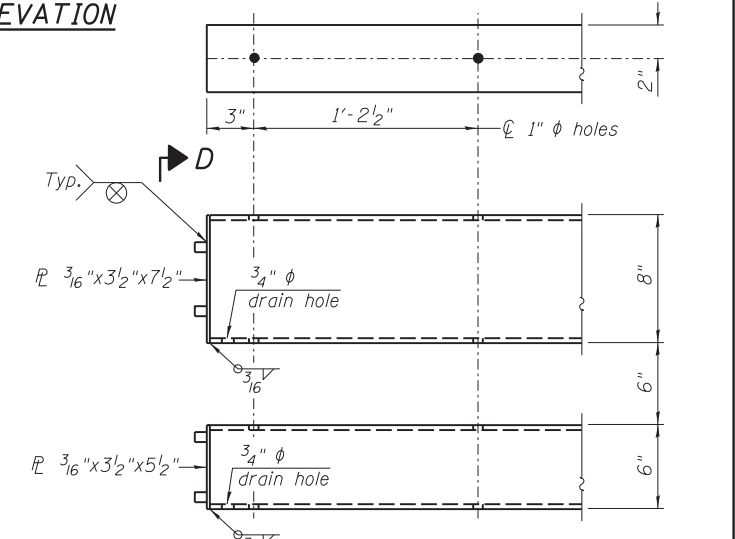
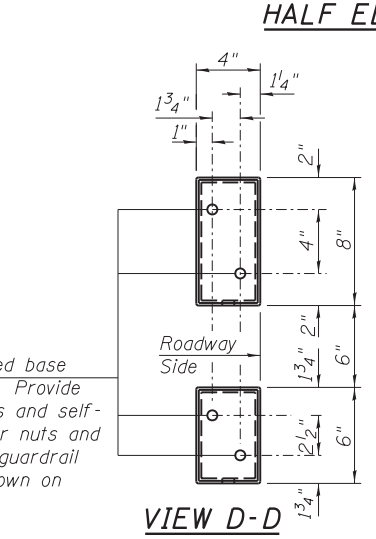
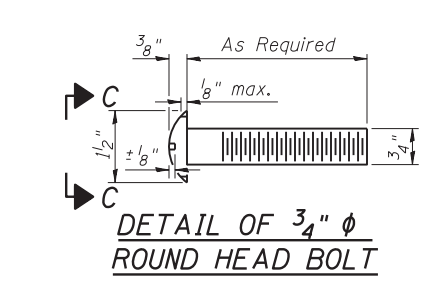
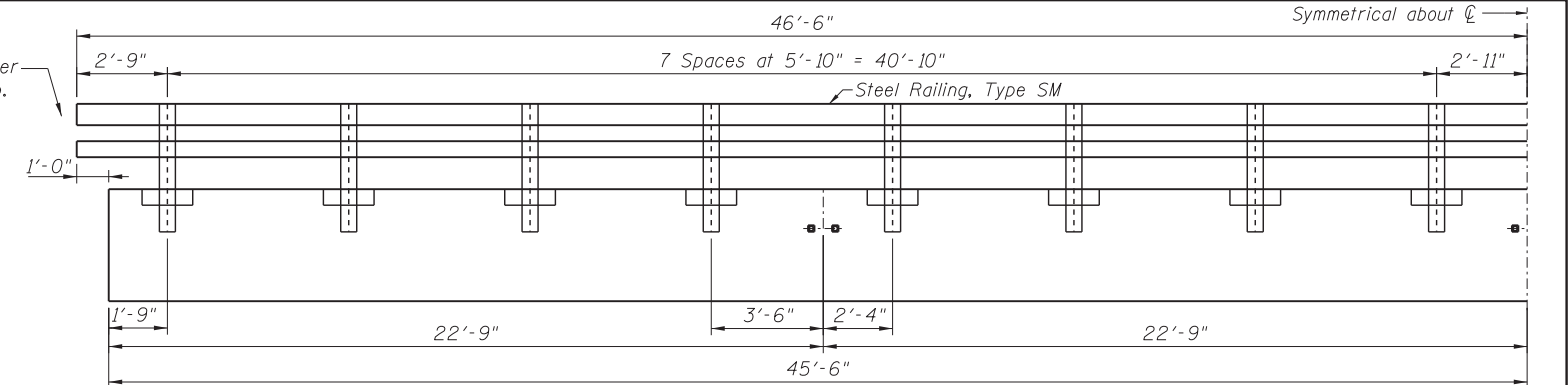
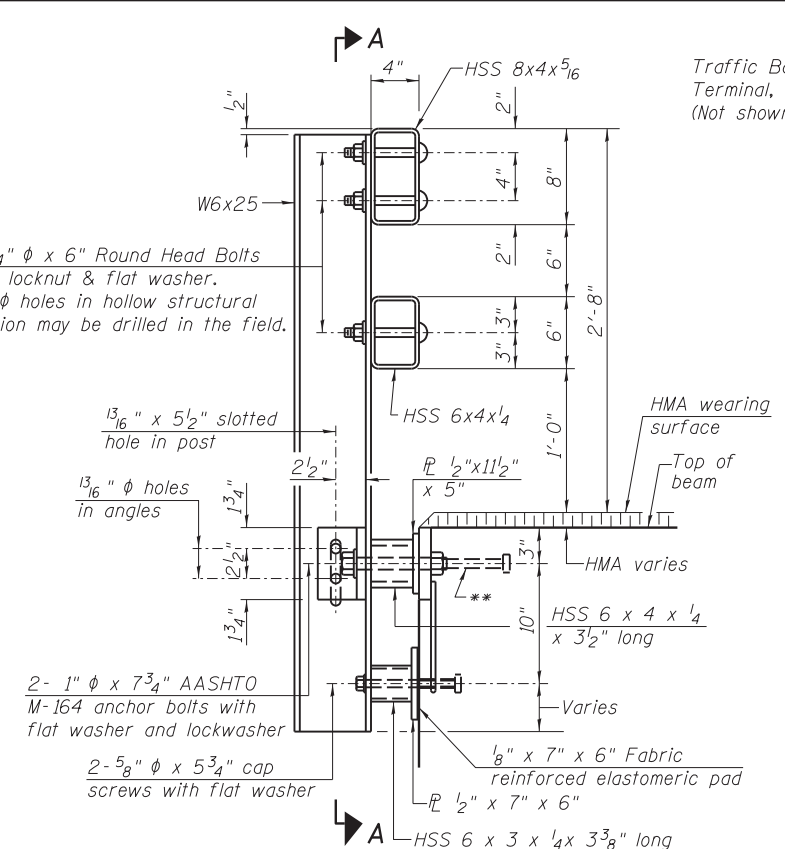
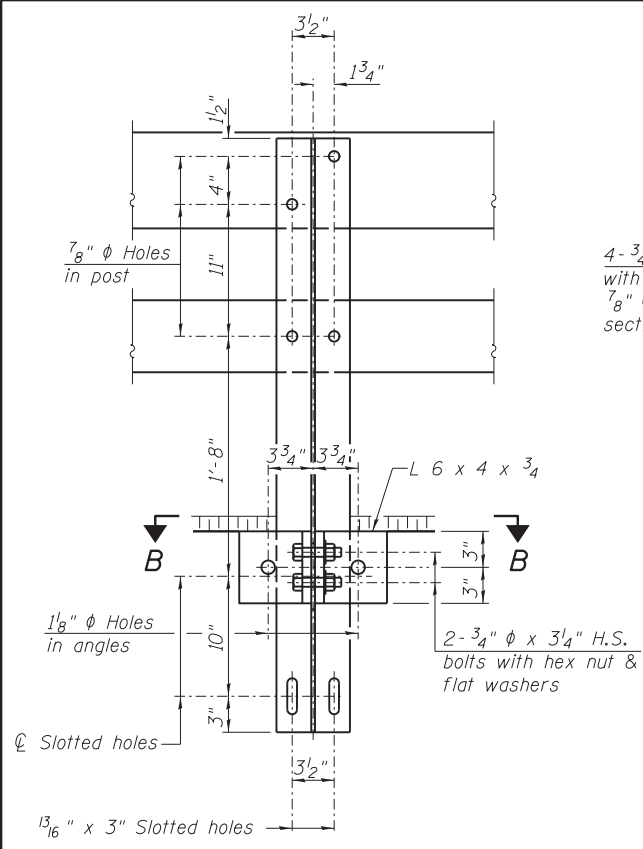
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

Reinforcement bars shall conform to ASTM A 706 (IL Modified), Grade 60.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (42" depth)	Sq. Ft.	3549
---	---------	------





Notes:  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.

5/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.

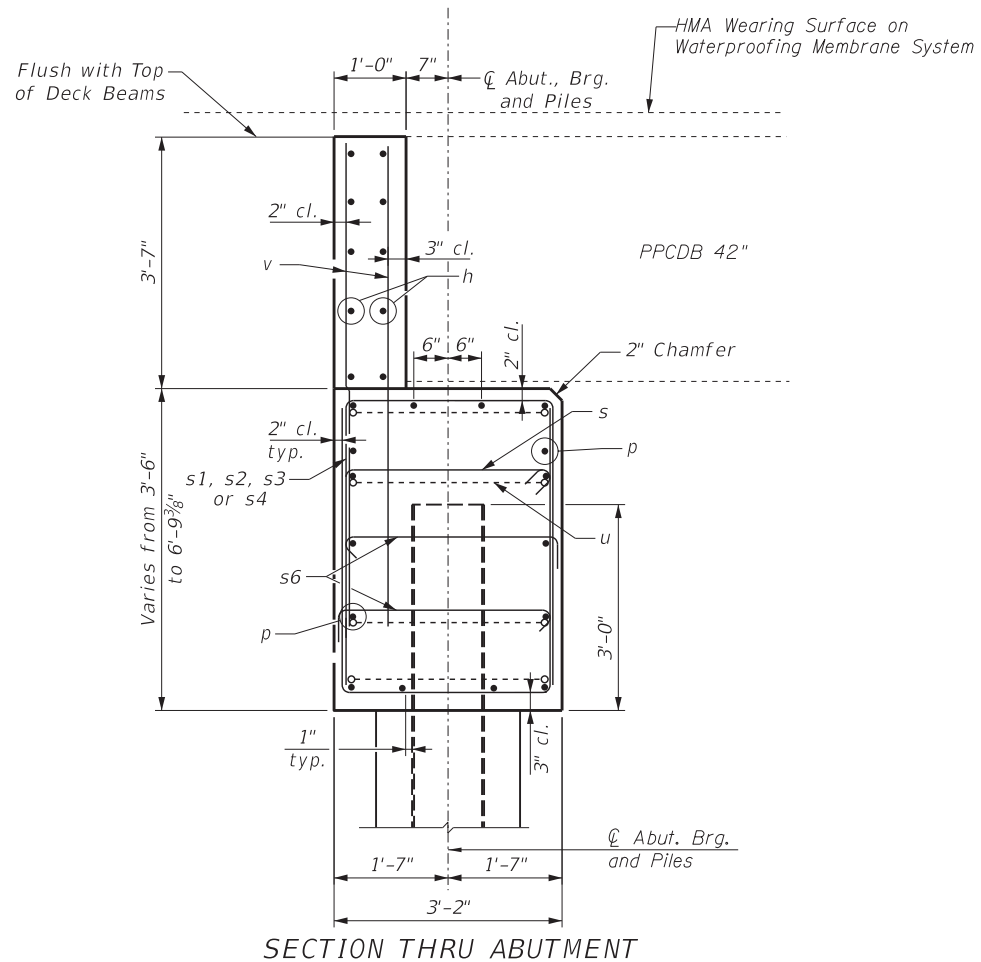
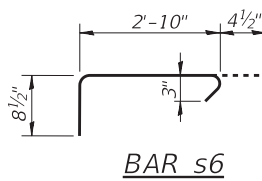
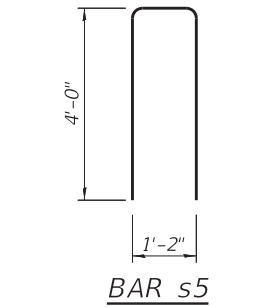
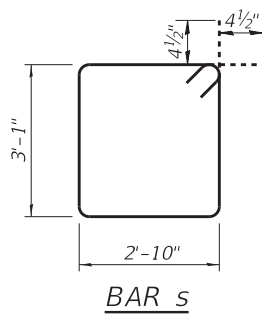
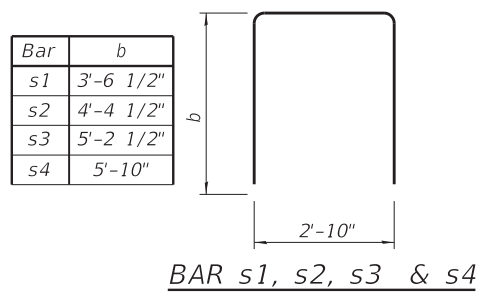
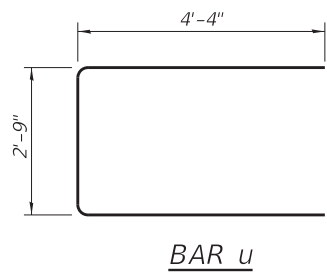
1" H.S. Nut AASHTO M 164 welded to 1/2" x 11 1/2" x 5" Cast 1" voids behind each nut  
 3/4" x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically end welded. (6 Required per 1/2")  
 1" Round bar stock AASHTO M270 G50 or hex coupler nuts conforming to AASHTO M291, Grade A - 3" long welded to #3 bar. Tap pipe for 5/8" cap screw.

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	186



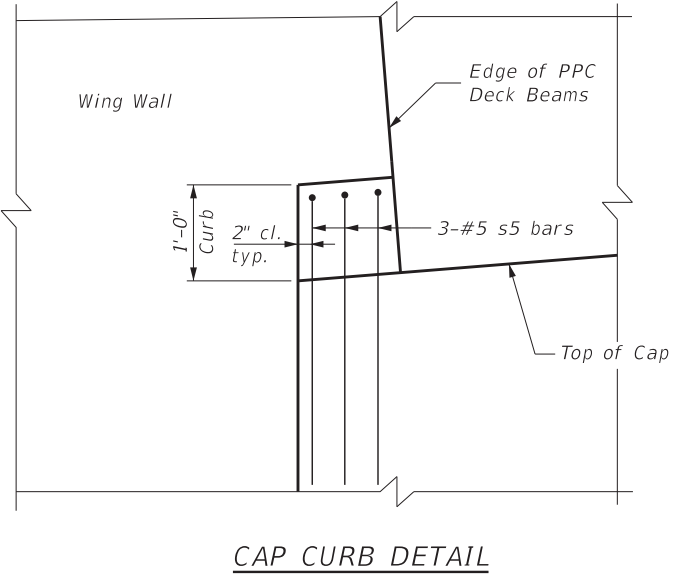


**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	10	#5	38'-8"	—
h1	14	#7	13'-6"	—
h2	17	#6	13'-8"	—
h3	22	#6	11'-0"	—
p	18	#7	40'-8"	—
s	41	#4	12'-7"	□
s1	22	#4	9'-11"	□
s2	22	#4	11'-7"	□
s3	22	#4	13'-3"	□
s4	14	#4	14'-6"	□
s5	3	#5	9'-2"	□
s6	42	#4	3'-11"	□
u	12	#6	11'-5"	□
v	78	#5	6'-7"	—
v1	18	#5	10'-2"	Cut in Field
v2	12	#5	7'-1"	Cut in Field
Concrete Structures			Cu Yd	34.6
Concrete Encasement			Cu Yd	2.8
Reinforcement Bars, Epoxy Coated			Pound	5150
Furnishing Steel Piles HP12x53		Foot	S. Abut.	184
			N. Abut.	161
Driving Piles		Foot	S. Abut.	184
			N. Abut.	161
Test Pile Steel HP12x53		Each	S. Abut.	0
			N. Abut.	1

**GENERAL NOTES**

- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (1L Modified).
- All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
- All clearances between rebar and form surface shall be 2", unless otherwise noted.
- Space reinforcement in cap to miss PPCDB dowel rods.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- The Contractor shall drive one (1) Test Pile of the size indicated in a permanent location as shown on the plans or as directed by the Engineer before ordering the remainder of the piles.
- The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.
- The back wall, curb (on abutment cap) and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.
- The position of the 90° & 135° hooked ends of the s1 bar shall be alternated horizontally & vertically between adjacent bars.

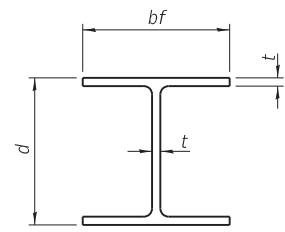


**PILE DATA SOUTH ABUTMENT**

Type:	Steel HP12x53
Nominal Required Bearing:	418 kips
Factored Resistance Available:	230 kips
Est. Length:	23'/pile
No. Production Piles:	8
No. Test Piles:	0

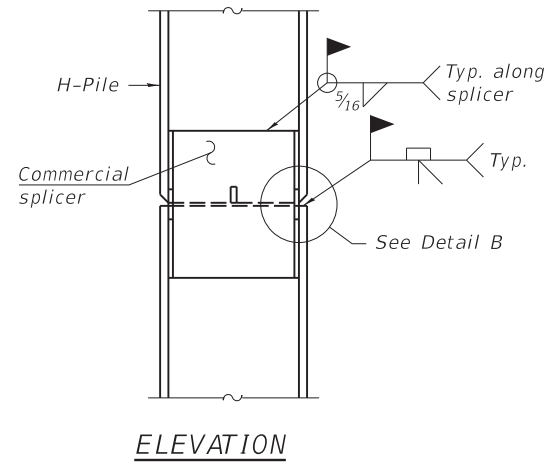
**PILE DATA NORTH ABUTMENT**

Type:	Steel HP12x53
Nominal Required Bearing:	418 kips
Factored Resistance Available:	230 kips
Est. Length:	23'/pile
No. Production Piles:	7
No. Test Piles:	1

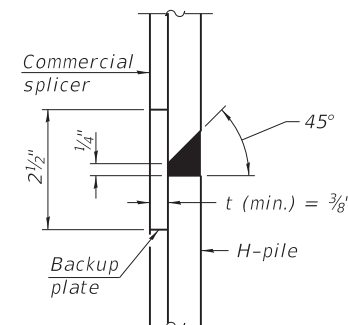


**STEEL PILE TABLE**

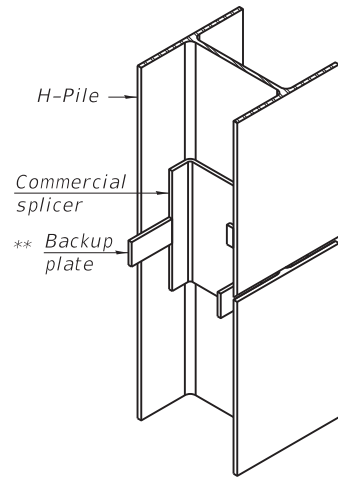
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

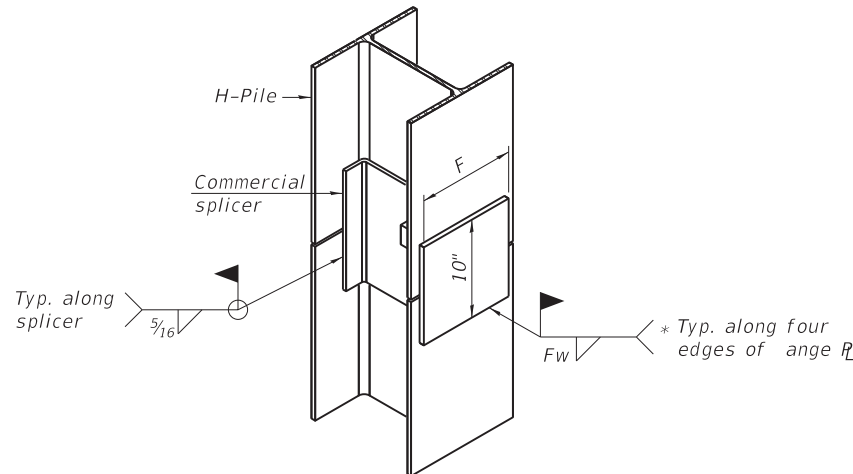


**DETAIL "B"**



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**



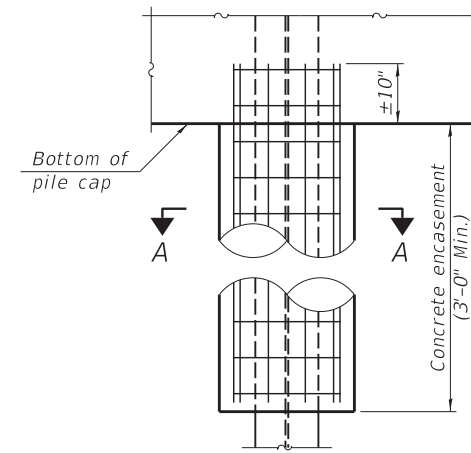
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

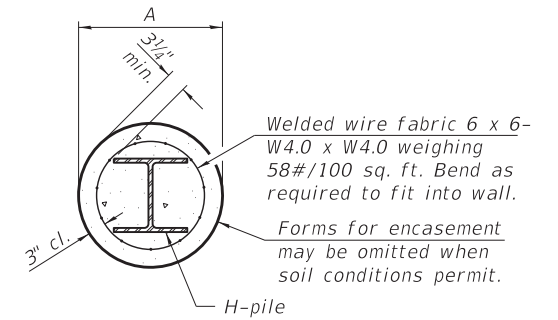
\* Interrupt welds 1/4" from end of web and/or each flange.

\*\* Remove portions of backup plates that extend outside the flanges.

\*\*\* Weld size per pile shoe manufacturer (5/16" min.).

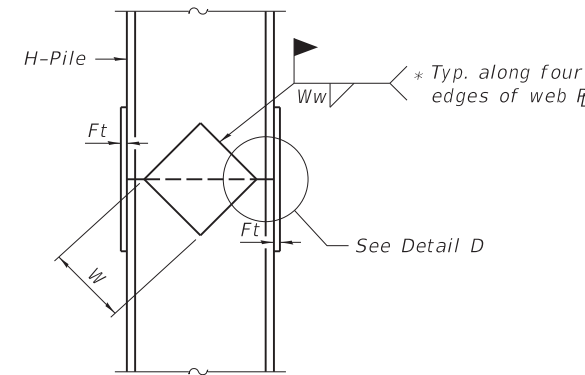


**ELEVATION**

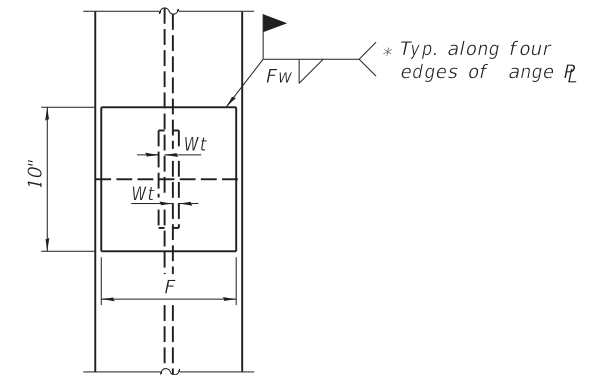


**SECTION A-A**

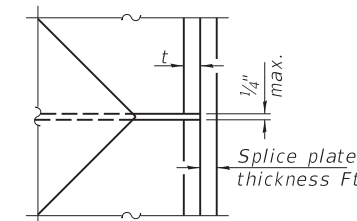
**INDIVIDUAL PILE CONCRETE ENCASEMENT**



**ELEVATION**



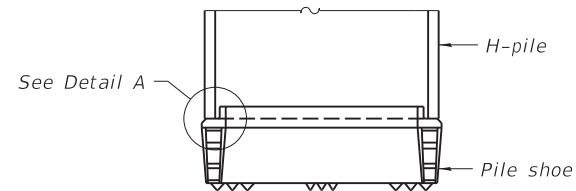
**END VIEW**



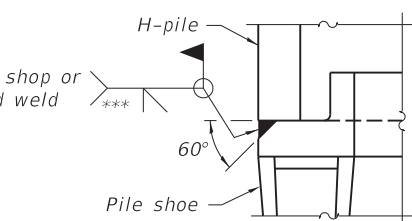
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.



GONZALEZ COMPANIES, LLC  
7 CARPENTER DRIVE  
SALEM, IL 62881  
PHONE (618) 222-2221  
www.gonzalezcos.com  
ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED - JSP  
DRAWN - KMA, JMW  
CHECKED - BLT  
DATE - 12/07/2022

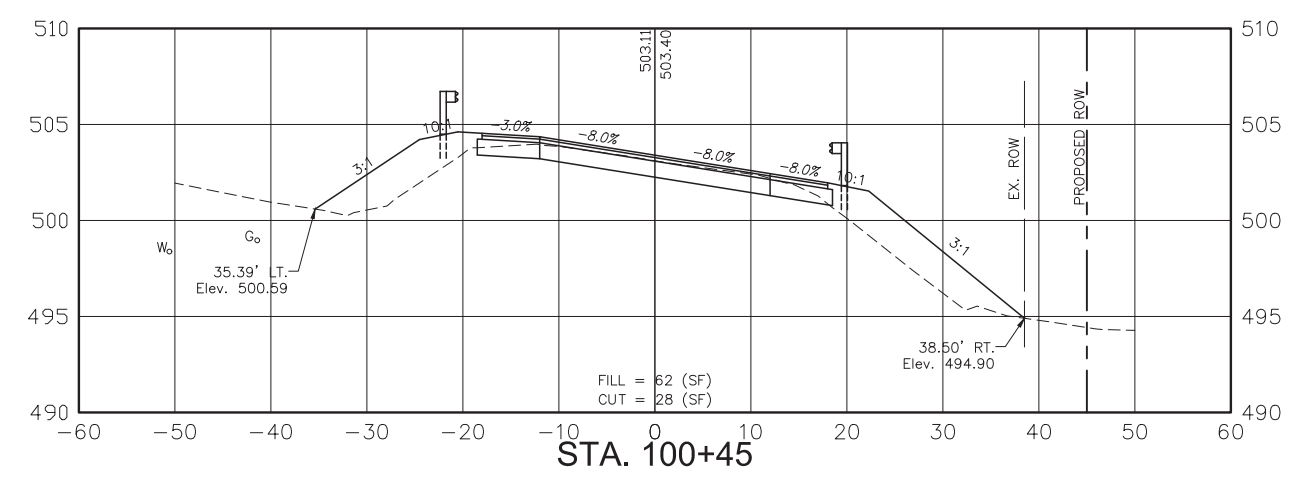
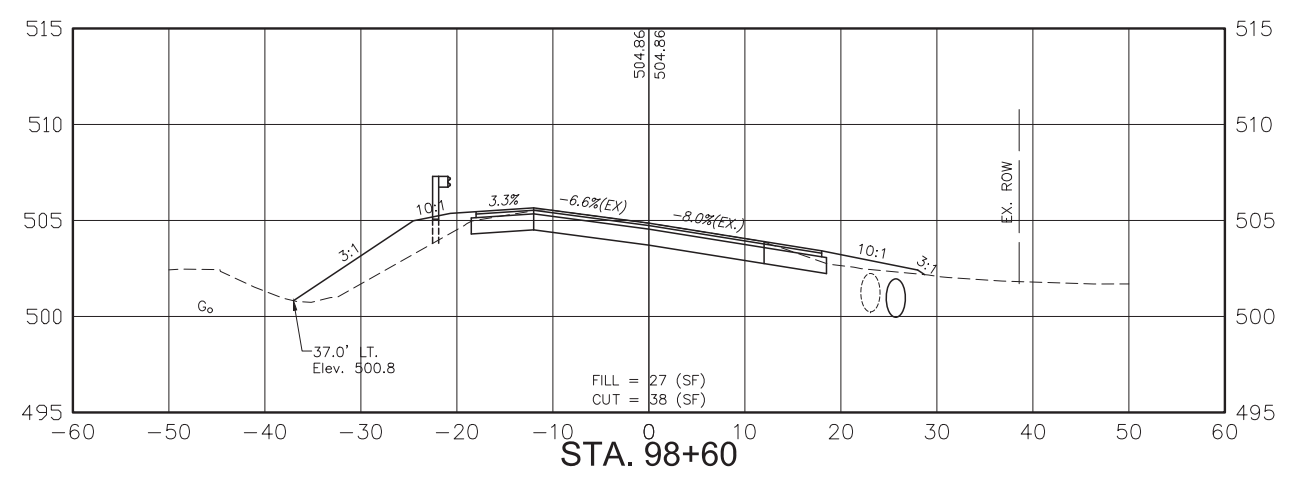
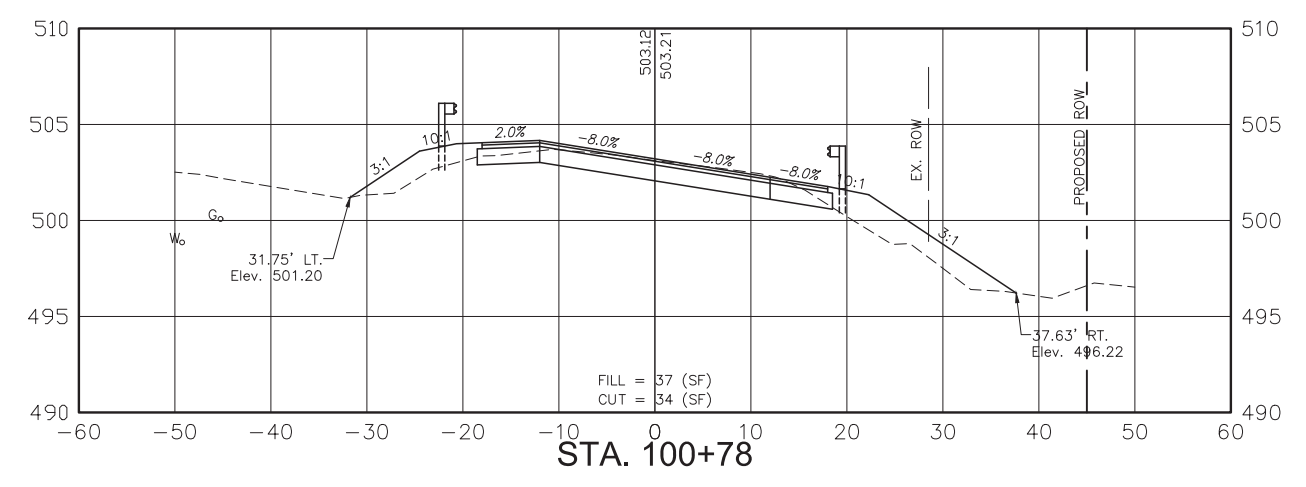
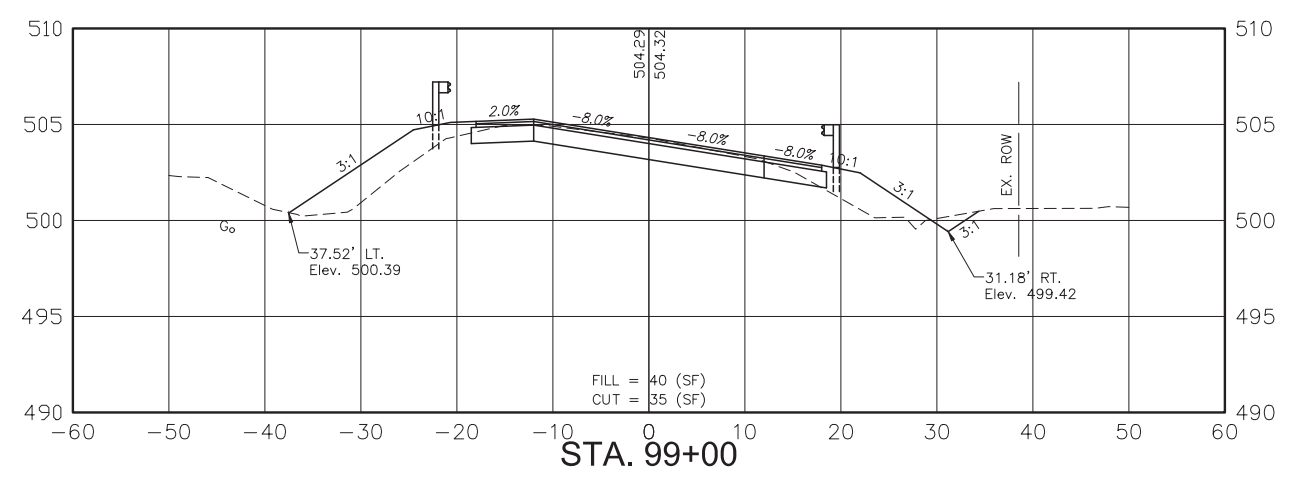
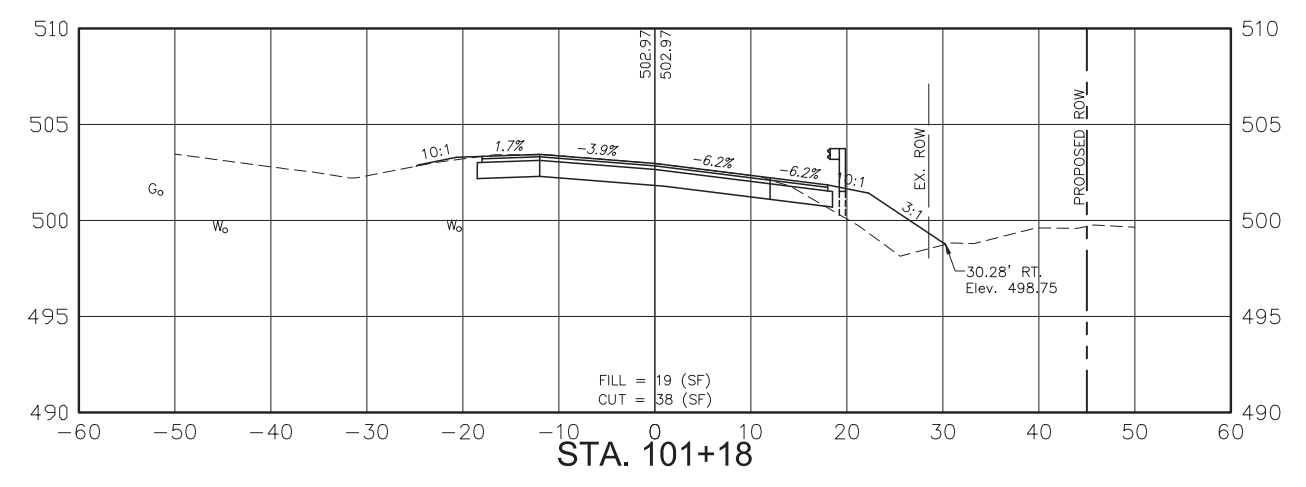
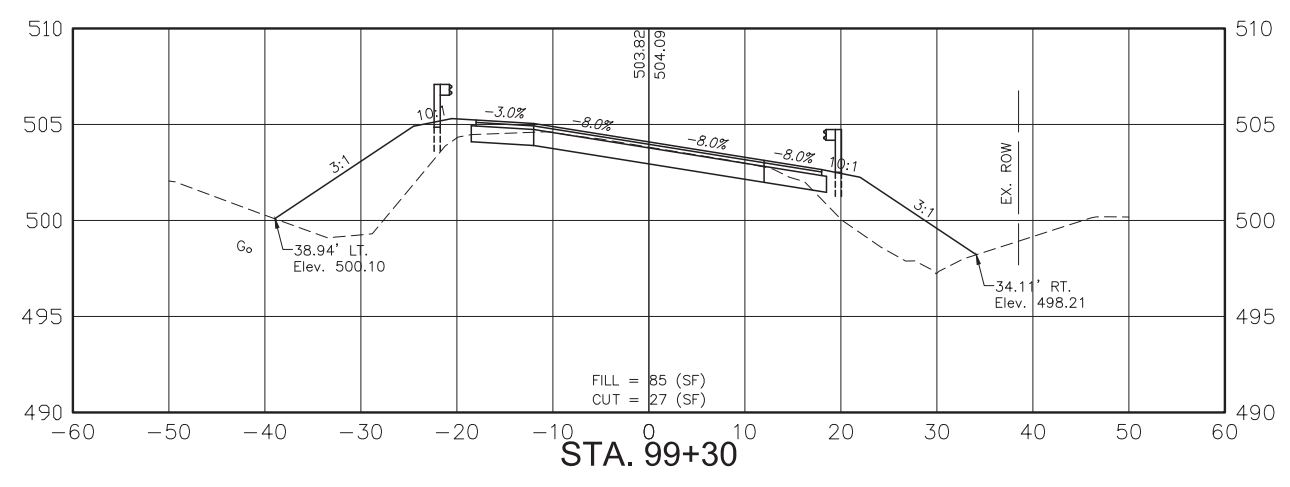
REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS

GCL JOB NO. 21-6007  
ROUTE SECTION COUNTY TOTAL SHEETS SHEET NO.  
FAU 9170A 19-00053-03-BR ST. CLAIR 14 12  
CONTRACT NO. 97799

BRIDGE



BRIDGE

S:\Projects\2021\21-607.g Fallin Simmons Road (FAU 9170A) Bridge over Ogles Creek\20 Design\CADD\03\_PlanProfile-21607.dwg, Plotted on: 12/8/2022 2:21 PM

GONZALEZ COMPANIES, LLC  
7 CARPENTER DRIVE  
SALEM, IL 62881  
PHONE (618) 222-2221  
www.gonzalezcos.com  
ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED - BLT	REVISED -
DRAWN - JMW, KMA	REVISED -
CHECKED - BLT	REVISED -
DATE - 12/07/2022	REVISED -

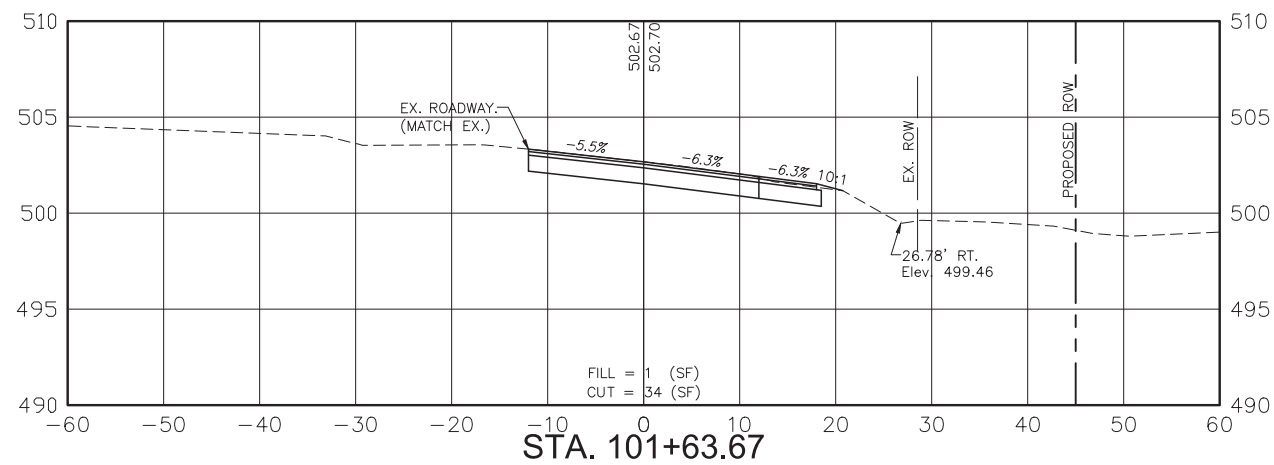
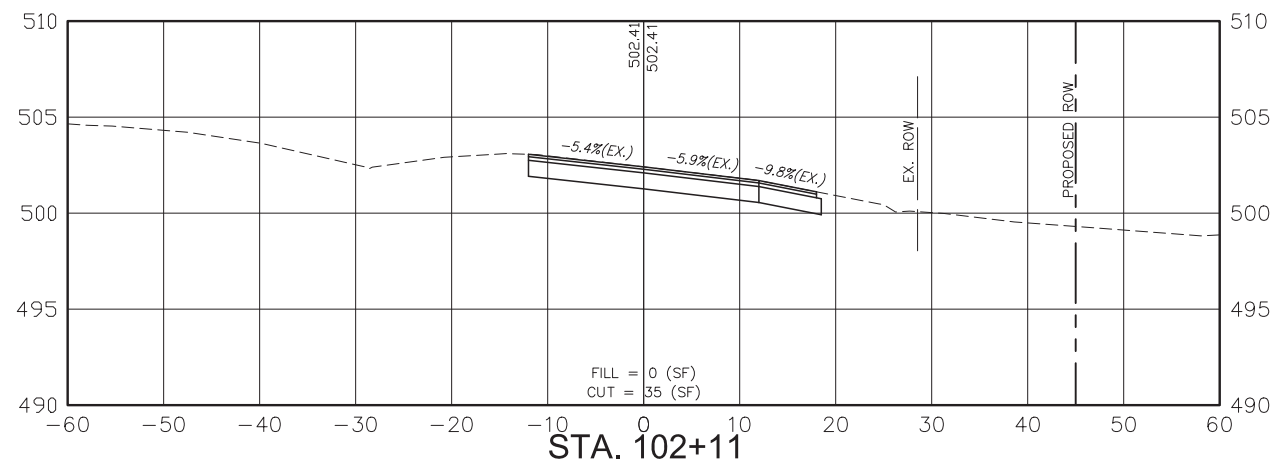
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS OF ROADWAY  
STA. 98+60 TO STA. 101+18

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST. CLAIR	14	13
CONTRACT NO. 97799				

GCL JOB NO. 21-6007

S:\Projects\2021\21-607 G. Fallon Simmens Road (FAU 9170A) Bridge over Ogles Creek\26 Design\CADD\003\_PlanProfile-21607.dwg, Plotted on: 12/8/2022 4:27 PM



**gonzalez**  
 GONZALEZ COMPANIES, LLC  
 7 CARPENTER DRIVE  
 SALEM, IL 62881  
 PHONE (618) 222-2221  
 www.gonzalezcos.com  
 ILLINOIS PROFESSIONAL DESIGN FIRM 184.004564

DESIGNED	- BLT	REVISED	-
DRAWN	- JMW, KMA	REVISED	-
CHECKED	- BLT	REVISED	-
DATE	- 12/07/2022	REVISED	-

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS OF ROADWAY  
 STA. 101+63.67 TO STA. 102+11

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 9170A	19-00053-03-BR	ST. CLAIR	14	14
CONTRACT NO. 97799				

GCL JOB NO. 21-6007