

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR425	15-21122-00-BR	SHELBY	15	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 95827	

04-27-2018 LETTING ITEM 172

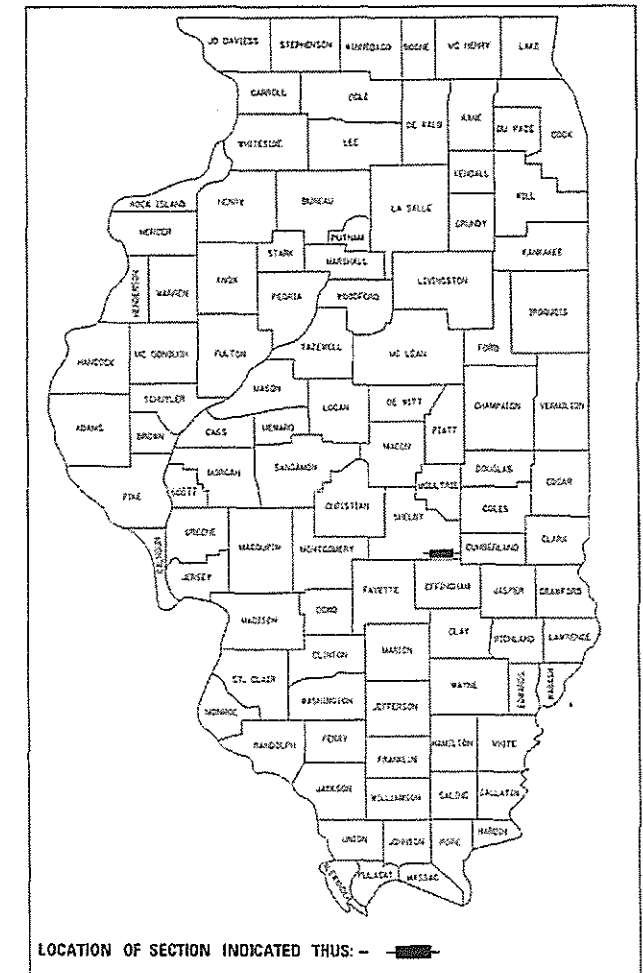
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
STP BRIDGE
SECTION 15-21122-00-BR
SIGEL TOWNSHIP
TR 425
SHELBY COUNTY**

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES
3. PLAN AND PROFILE
- 4.-11. BRIDGE PLANS
- 12-15. CROSS SECTIONS

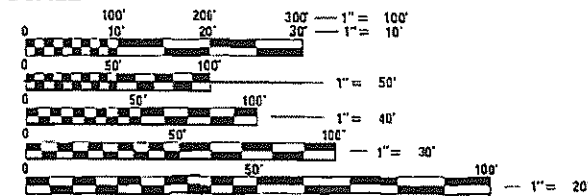
HIGHWAY STANDARDS

- | | |
|-----------|-----------------------------------------------------------------------------------------|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 280001-07 | TEMPORARY EROSION CONTROL SYSTEMS |
| 515001-03 | NAME PLATES FOR BRIDGES |
| 701901-07 | TRAFFIC CONTROL DEVICES |
| 725001-01 | OBJECT AND TERMINAL MARKERS |
| BLR 21-9 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |



ADT-CURRENT <175 DESIGN ADT 200
CLASS-RURAL LOCAL ROAD
DESIGN SPEED-30 MPH
DESIGN YEAR 2035

SCALE

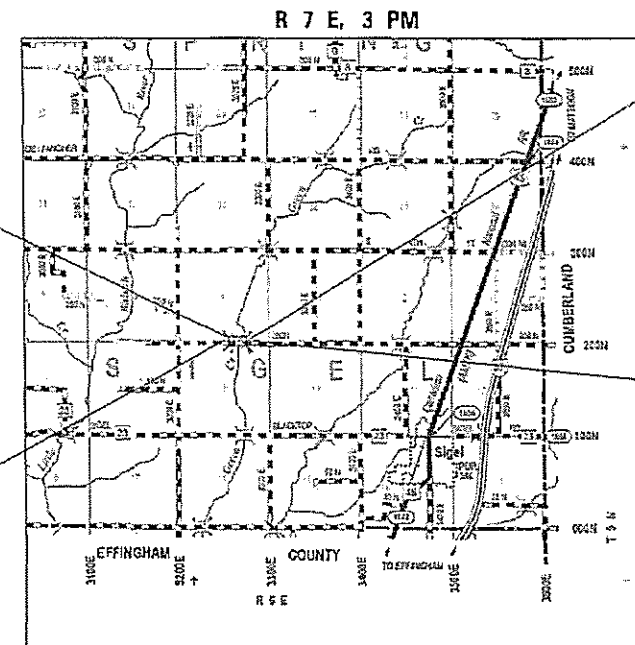


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

§ EXISTING STRUCTURE # 087-3260
STA 16+00, 16' WIDE X 39' LONG
SINGLE SPAN STEEL BEAM WITH
TIMBER DECK, TIMBER ABUTMENTS
AND PILES.

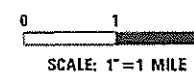
PROJECT BEGINS
STA. 12+50



§ PROPOSED STRUCTURE # 087-3588
STA. 16+00, 24'-0" WIDE X 62'-0"
LONG, SINGLE SPAN PRECAST,
PRESTRESSED CONCRETE DECK BEAM
BRIDGE, 27" DEPTH, NO SKEW

PROJECT ENDS
STA. 18+00

LOCATION MAP



TOTAL AND NET LENGTH OF PROJECT = 550 FT. = 0.10 MI.



Stanley J. Fearday
Licensed Professional Engineer
State of Illinois No. 062-057499
Expires 11-30-2019

APPROVED 2-9-2018
[Signature]
SHELBY COUNTY ENGINEER

APPROVED 2/9/18
[Signature]
SIGEL ROAD COMMISSIONER

PASSED 2/21/18
[Signature]
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS AND STREETS

RELEASING FOR
BID BASED ON
LIMITED REVIEW 2/21/18
[Signature]
REGION FOUR ENGINEER

CONTRACT NO. 95827

SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	0.3
20200100	EARTH EXCAVATION	CU. YD.	2131
20300100	CHANNEL EXCAVATION	CU. YD.	375
25000200	SEEDING, CLASS 2	ACRE	0.70
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	63
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	63
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	63
25100115	MULCH, METHOD 2	ACRE	0.70
25100630	EROSION CONTROL BLANKET	SQYD	378
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100207	STONE RIPRAP, CLASS A4	TON	716
28200200	FILTER FABRIC	SQ. YD.	1070
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	523
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	70
50300225	CONCRETE STRUCTURES	CU. YD.	21.4
50300280	CONCRETE ENCASEMENT	CU. YD.	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAM (27" DEPTH)	SQ. FT.	1456
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3110
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	124
51201400	FURNISHING STEEL PILES HP10x42	FOOT	303
51202305	DRIVING PILES	FOOT	303
51203400	TEST PILE STEEL HP10x42	EACH	2
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L. SUM	1
Δ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2830495	AGGREGATE DITCH (SPECIAL)	TON	129
X1200094	PIPE CULVERTS, SPECIAL	FOOT	50

Δ SPECIALTY ITEMS

GENERAL NOTES

- TEMPORARY EROSION CONTROL TO BE IMPLEMENTED AS DIRECTED BY THE ENGINEER
- THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS AND PREVENT DRAINAGE OR PONDING OF WATER ONTO PRIVATE PROPERTY.
- ONLY TREES OR SHRUBS MARKED FOR REMOVAL BY THE ENGINEER SHALL BE REMOVED BY THE CONTRACTOR.
- ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE R.O.W. AND EASEMENTS SHALL BE SEEDDED AS DIRECTED BY THE ENGINEER.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- A SIGNIFICANT AMOUNT OF BROKEN CONCRETE EXISTS WITHIN THE LIMITS OF THIS PROJECT. THE BROKEN CONCRETE WILL NEED TO BE DISPOSED OF OFF-SITE AS CALLED FOR IN THE SPECIAL PROVISIONS AND IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TREE REMOVAL SCHEDULE

STA 13+00 TO STA 18+00 RT = 0.14 ACRE
 STA 13+00 TO STA 18+00 LT = 0.16 ACRE
 TOTAL = 0.30 ACRES

TEMPORARY EROSION CONTROL SEEDING

STA 13+00 TO STA 18+00 RT = 75 POUNDS
 STA 13+00 TO STA 18+00 LT = 75 POUNDS
 TOTAL = 150 POUNDS

EARTHWORK SCHEDULE

1 LOCATION	2 EARTH EXCAVATION	3 STRUCTURE EXCAVATION	4 •CHANNEL EXCAVATION	5 EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	6 EMBANKMENT	7 CARTIWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
STA 12+50 TO STA 15+69	1526	34	183	1307	253	1054
STA 16+31 TO STA 18+00	605	36	155	597	994	-397
TOTAL	2131	70	338	1904	1247	657**

COLUMN 1,2,&6 - LOCATION AND QUANTITIES FROM CROSS SECTIONS,
 CUT = EARTH EXCAVATION FILL = EMBANKMENT

COLUMN 3 - QUANTITIES OF STRUCTURAL EXCAVATION (CUT) FROM BRIDGE PLANS

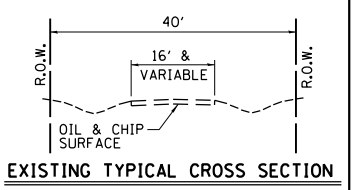
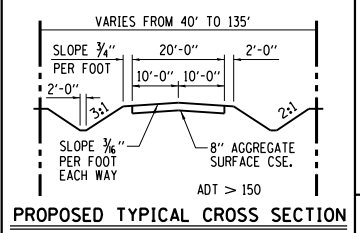
COLUMN 4 - •QUANTITY OF CHANNEL EXCAVATION (CUT) REDUCED 10% FOR UNSUITABLE MATERIAL FOR USE AS FILL

COLUMN 5 - QUANTITY OF EARTH EXCAVATION (CUT) ADJUSTED FOR A SHRINKAGE FACTOR OF 25%

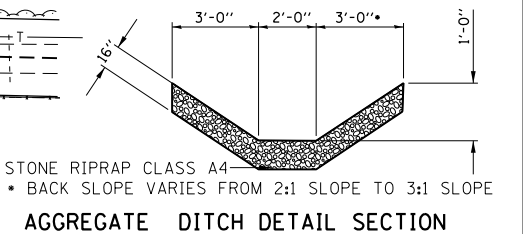
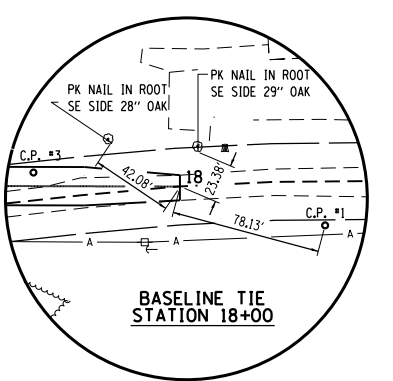
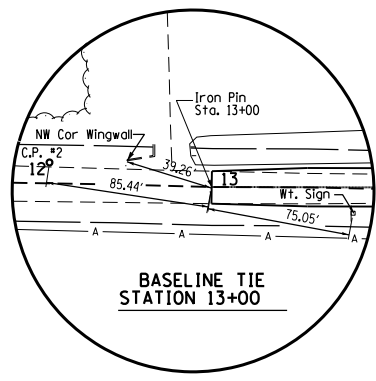
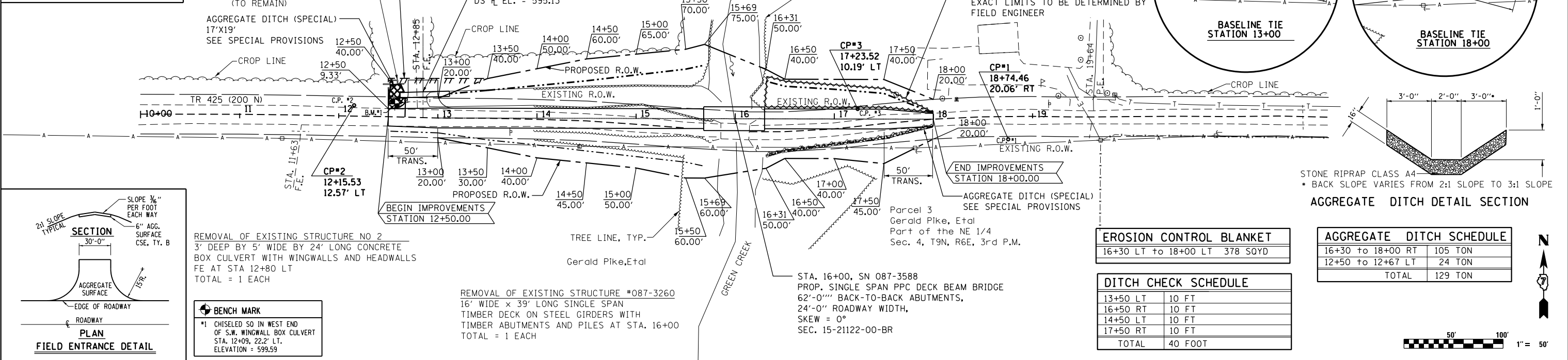
COLUMN 7 - EARTHWORK BALANCE (-) = QUANTITY OF FURNISHED EXCAVATION NEEDED EARTHWORK BALANCE
 (+) = QUANTITY OF EARTH EXCAVATION ADJUSTED FOR SHRINKAGE TO BE WASTED

** DOES INCLUDE EXCAVATION FOR AGGREGATE DITCH (SPECIAL)

T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588



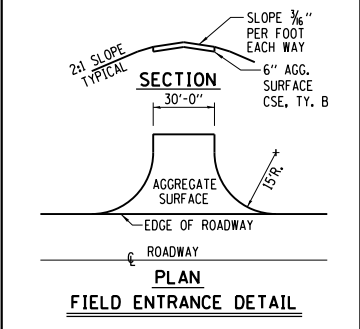
DATE	
BY	
PLAN	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHECKED	
NOTE BOOK NO.	
CHECKED BY	
FILE NAME	



EROSION CONTROL BLANKET	
16+30 LT to 18+00 LT	378 SOYD

AGGREGATE DITCH SCHEDULE	
16+30 to 18+00 RT	105 TON
12+50 to 12+67 LT	24 TON
TOTAL	129 TON

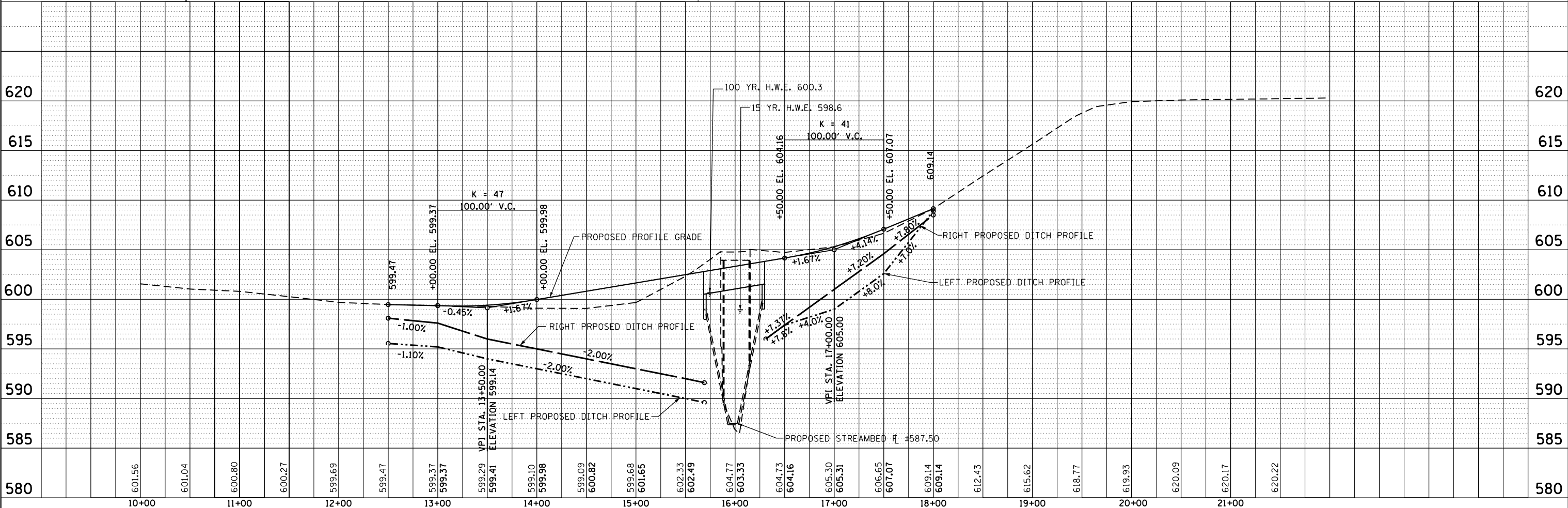
DITCH CHECK SCHEDULE	
13+50 LT	10 FT
16+50 RT	10 FT
14+50 LT	10 FT
17+50 RT	10 FT
TOTAL	40 FOOT



REMOVAL OF EXISTING STRUCTURE NO 2
3' DEEP BY 5' WIDE BY 24' LONG CONCRETE BOX CULVERT WITH WINGWALLS AND HEADWALLS FE AT STA 12+80 LT
TOTAL = 1 EACH

BENCH MARK
*1 CHISELED SO IN WEST END OF S.W. WINGWALL BOX CULVERT STA. 12+09, 22.2' LT. ELEVATION = 599.59

REMOVAL OF EXISTING STRUCTURE *087-3260
16' WIDE x 39' LONG SINGLE SPAN TIMBER DECK ON STEEL GIRDERS WITH TIMBER ABUTMENTS AND PILES AT STA. 16+00
TOTAL = 1 EACH



DATE	
BY	
PROFILE	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHECKED	
NOTE BOOK NO.	

Bench Mark: Chiseled square @ the West end of the SW Wingwall of a Box Culvert
F.E. Sta. 12+09, 22.2 Lt., Elev. 599.59.

Existing Structure: S.N. 087-3260 was built in 1909. Existing structure is a single span steel beam bridge with timber planks, on closed timber abutments and piles, 39' back to back abutments, and 16.0' width of deck. Road shall be closed to traffic during construction.

DESIGN SPECIFICATIONS
2013 AASHTO LRFD Bridge Design Specifications,
7th Edition

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

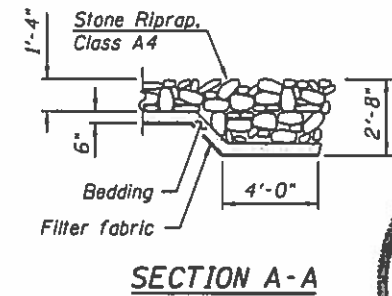
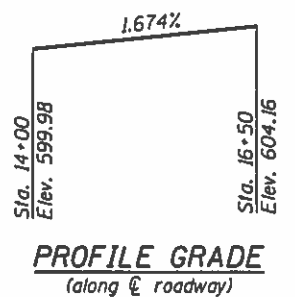
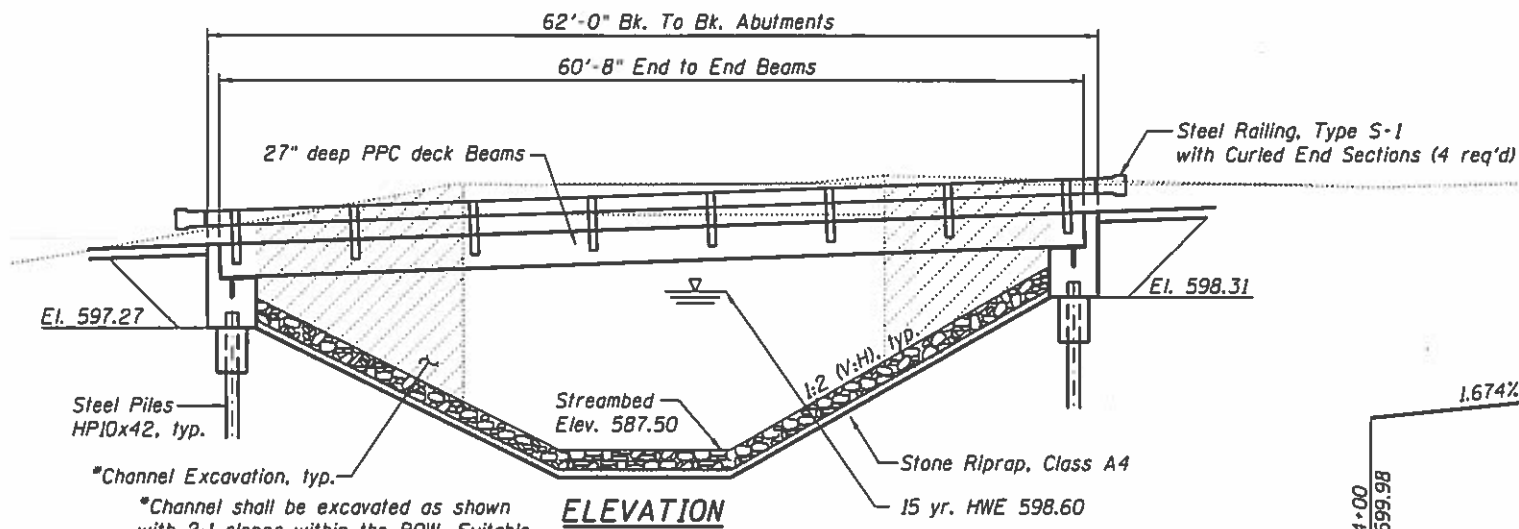
DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS
f'c = 6,000 psi
f'ci = 5,000 psi
fs = 270,000 psi (1/2" φ low lax. strands)
f'si = 201,960 psi (1/2" φ low lax. strands)

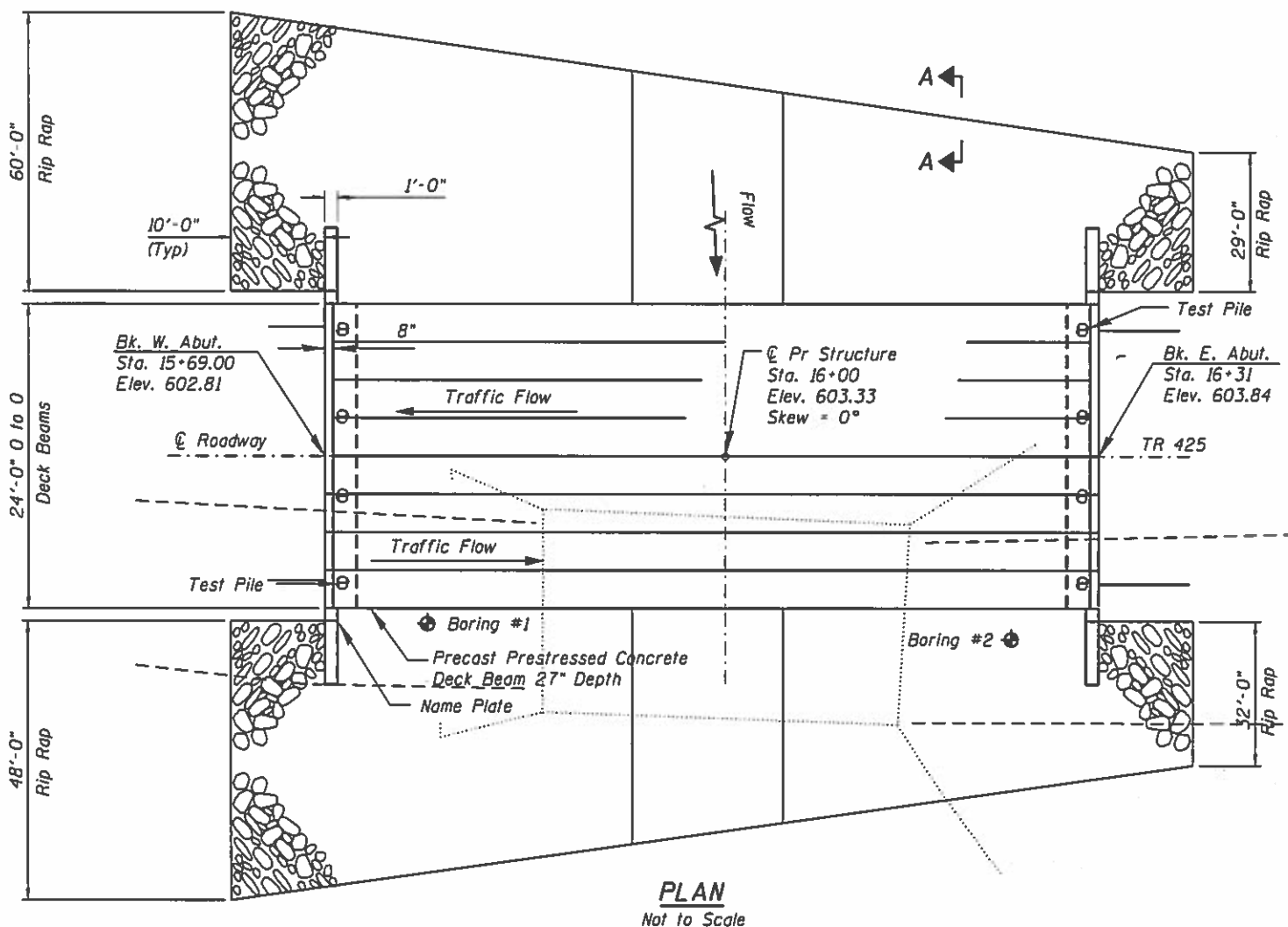
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.140g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.329g
Soil Site Class = C



MARTIN J. SILVESTER
081-004873
LICENSED STRUCTURAL ENGINEER OF CHICAGO, ILLINOIS

Martin J. Silvester Date 02-14-2018
Licensed Structural Engineer
State of Illinois No. 081-004873
Expires 11-30-2018



INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
3. 27" x 36" PPC Deck Beam
4. 27" x 36" PPC Deck Beam Details
5. Superstructure Details
6. Steel Railing, Type S-1
7. Abutment Details
8. HP Pile Details

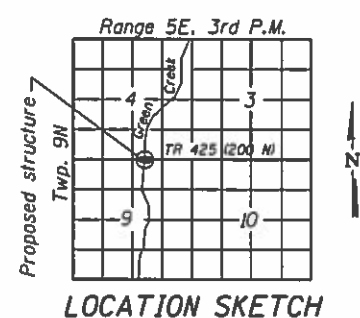
I certify that to the best of my knowledge, information and belief, that this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of the structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

WATERWAY INFORMATION

Drainage Area = 5.97 mi² Exist. Low Grade Elev. 599.1 @ Sta. 14+50
Prop. Low Grade Elev. 599.4 @ Sta. 13+00

Flood	Freq. Yr.	Opening Sq. Ft.		H.W.E.		Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	15	1518	252.0	341.0	598.7	0.1	0.0	598.8	598.6
Base	100	2566	289.0	429.0	600.1	0.9	0.2	601.0	600.3
Max. Calc.	500	3478	312.0	480.0	600.9	1.7	0.6	602.6	601.5

10 year velocity through existing bridge = 5.6 fps
10 year velocity through prop. bridge = 4.2 fps



T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588

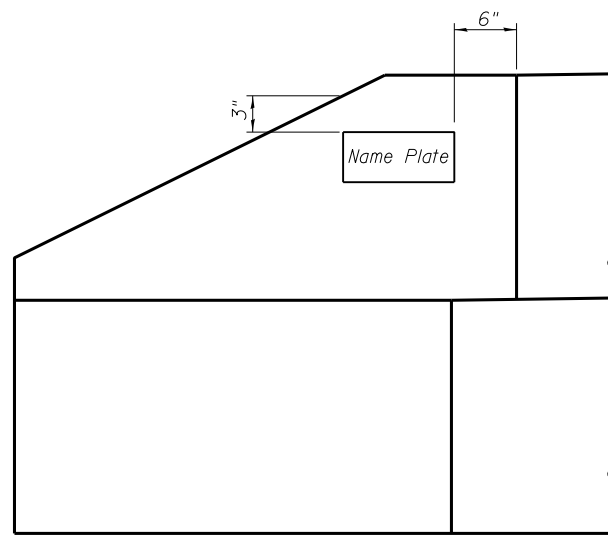
FILE NAME • General Plan & Elevation.dgn	USER NAME • Sts18	DESIGNED - ALB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 087-3588			F.A. RTE. 425	SECTION 15-21122-00-BR	COUNTY SHELBY	TOTAL SHEETS 15	SHEET NO. 4
Default	PLOT SCALE • 0.1667" / 1'	DRAWN - ALB	REVISED -		SCALE:	SHEET NO. 1 OF 8 SHEETS	STA.	TO STA.	CONTRACT NO. 95827			
	PLOT DATE • 2/13/2018	CHECKED - MJS	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -									

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The Contractor shall drive one test pile in a permanent location at the East and West Abutments to 110% of the nominal required bearing specified as directed by the Engineer in the field prior to ordering the remainder of piles.

T.R. 425 OVER GREEN CREEK
 BUILT 20 BY
 SIGEL ROAD DISTRICT
 SHELBY COUNTY
 SEC. 15-21122-00-BR
 STA. 16+00.00
 STR. NO. 087-3588 LOADING HL-93

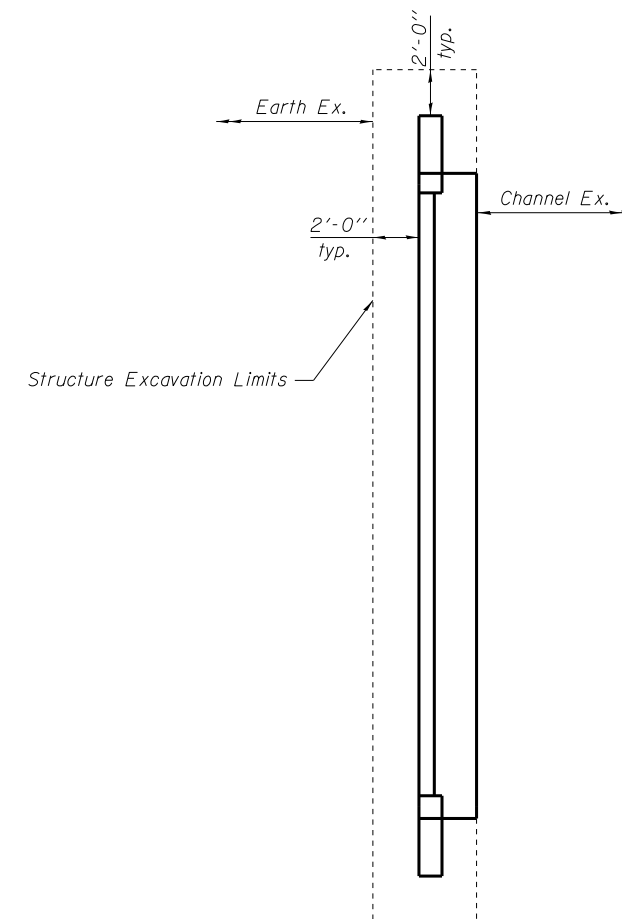
NAME PLATE
 See Std. 515001



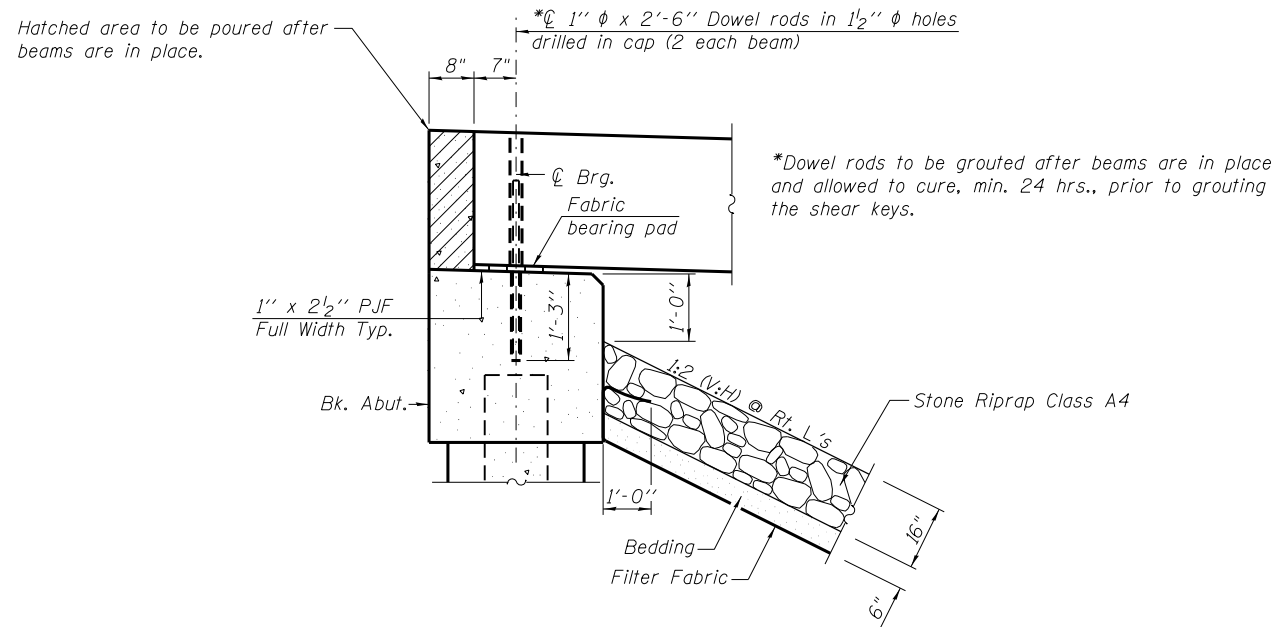
SOUTHWEST WINGWALL ELEVATION

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton.		716	716
Filter Fabric	Sq. Yd.		1070	1070
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.		70	70
Concrete Structures	Cu. Yd.		21.4	21.4
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1456		1456
Reinforcement Bars, Epoxy Coated	Pound		3110	3110
Steel Railing, Type S1	Foot	124		124
Furnishing Steel Piles HP10x42	Foot		303	303
Driving Piles	Foot		303	303
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each		1	1



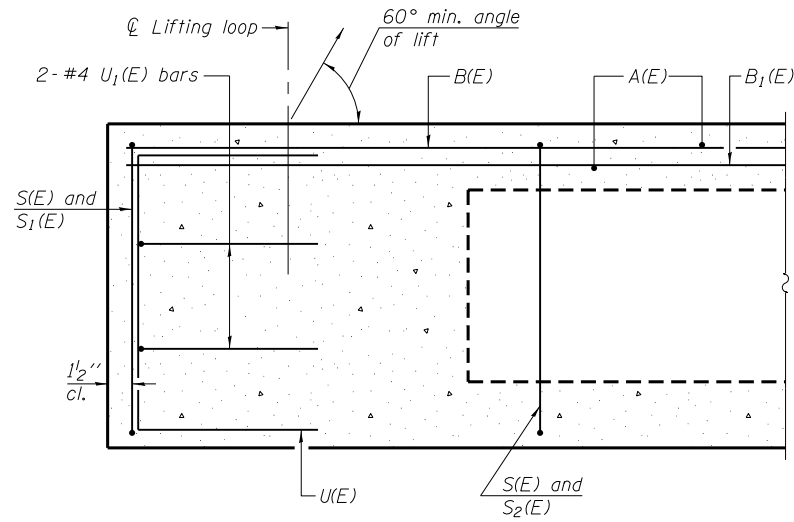
PARTIAL PLAN



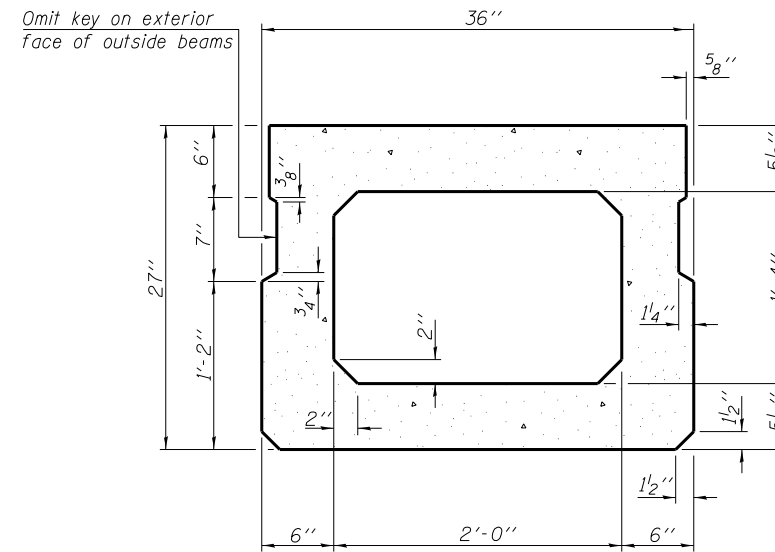
SECTION THRU ABUTMENT

T.R. 425 OVER GREEN CREEK
 SEC. 15-21122-00-BR
 SHELBY COUNTY
 STATION 16+00.00
 STRUCTURE NO. 087-3588

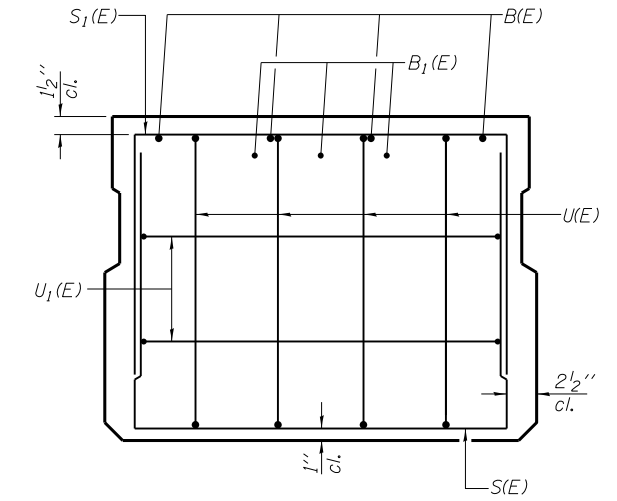
FILE NAME = General Data.dgn	USER NAME = Stc10	DESIGNED - ALB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 087-3588			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
12.Pile Details	PLOT SCALE = 1/31/2018	DRAWN - ALB	REVISED -		SCALE:	SHEET NO. 2 OF 8 SHEETS	STA.	TO STA.	425	15-21122-00-BR	SHELBY	15	5
		CHECKED - MJS	REVISED -		CONTRACT NO. 95827								
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



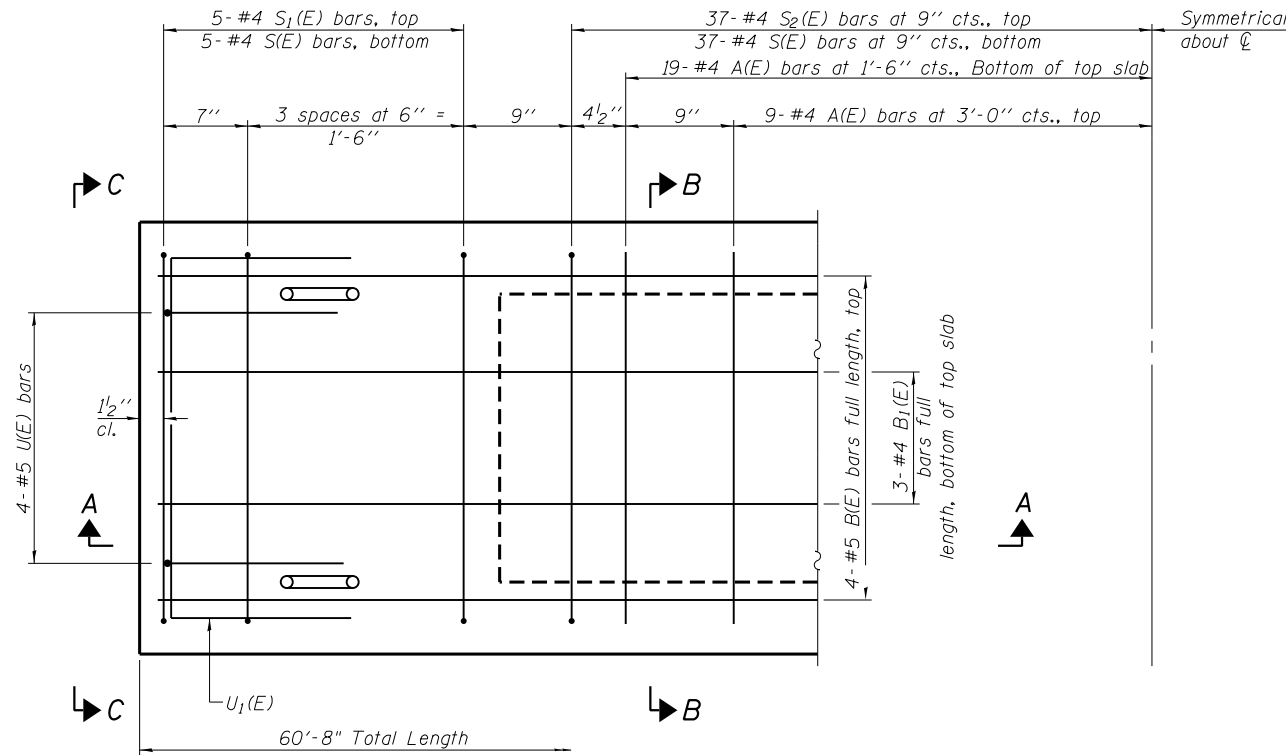
SECTION A-A



SECTION B-B
(Showing dimensions)

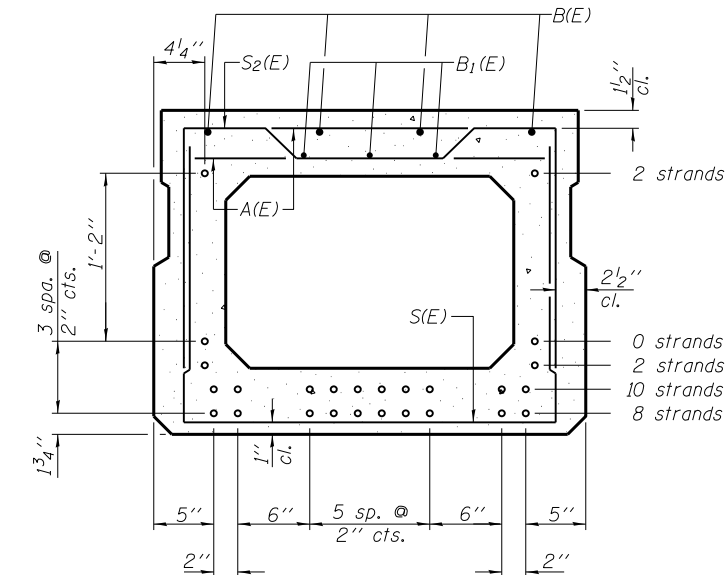


VIEW C-C



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.



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)	18	#4	2'-7"	—
B(E)	8	#5	31'-6"	—
B ₁ (E)	6	#4	31'-3"	—
S(E)	84	#4	6'-5"	U
S ₁ (E)	10	#4	5'-11"	U
S ₂ (E)	74	#4	6'-2"	U
U(E)	8	#5	4'-6"	C
U ₁ (E)	4	#4	5'-0"	U

Note: See sheet 4 of 8 for additional details and Bill of Material.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

PD-2736-0

7-1-10

FILE NAME = PCCDeckBm_Details.dgn	USER NAME = Stc10	DESIGNED - ALB	REVISED -
PLOT SCALE = 1/8" = 1'-0"	CHECKED - MJS	DRAWN - ALB	REVISED -
PLOT DATE = 1/31/2018	DATE -		REVISED -

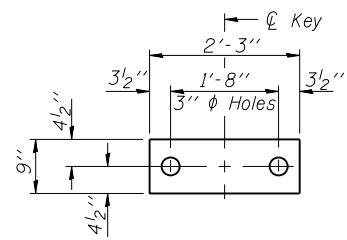
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 36" PPC DECK BEAM
STRUCTURE NO. 087-3588

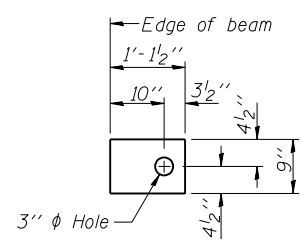
SCALE: SHEET NO. 3 OF 8 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
425	15-21122-00-BR	SHELBY	15	6
				CONTRACT NO. 95827
ILLINOIS FED. AID PROJECT				

T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588



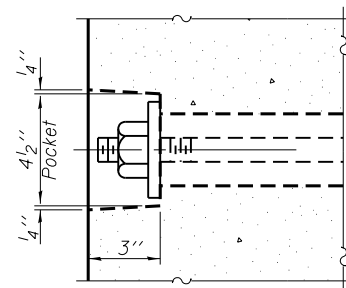
FABRIC BEARING PAD
(Interior)



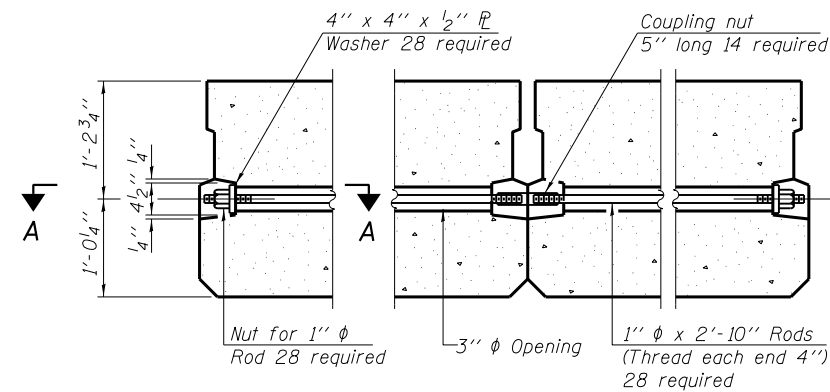
FABRIC BEARING PAD
(Exterior)

FIXED

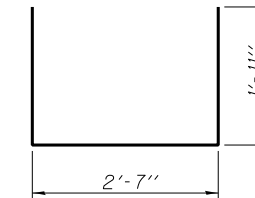
Notes:
All bearing pads shall be 1" thick.



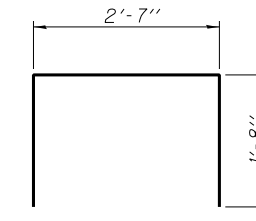
SECTION A-A



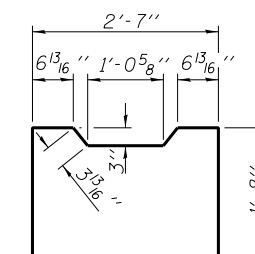
TYPICAL TRANSVERSE TIE ASSEMBLY



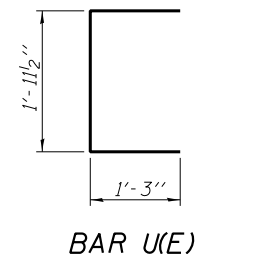
BAR S(E)



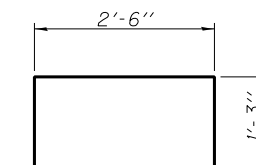
BAR S1(E)



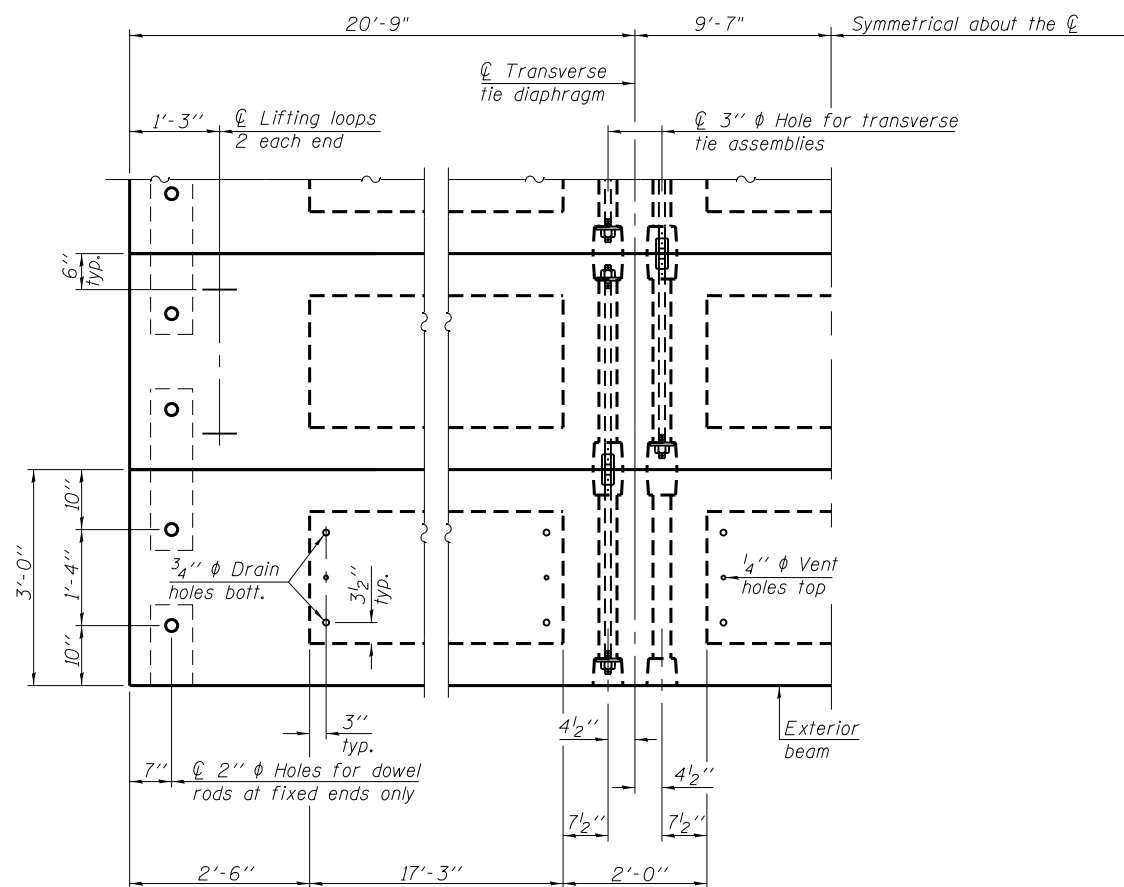
BAR S2(E)



BAR U(E)



BAR U1(E)



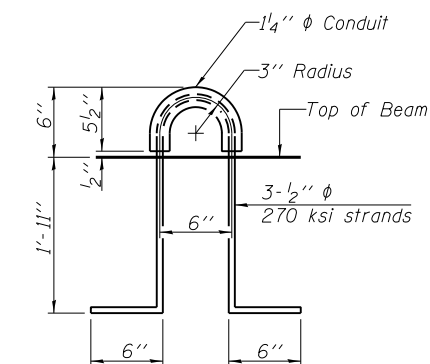
PLAN VIEW

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)(12) and 1021.06 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.



LIFTING LOOP DETAIL

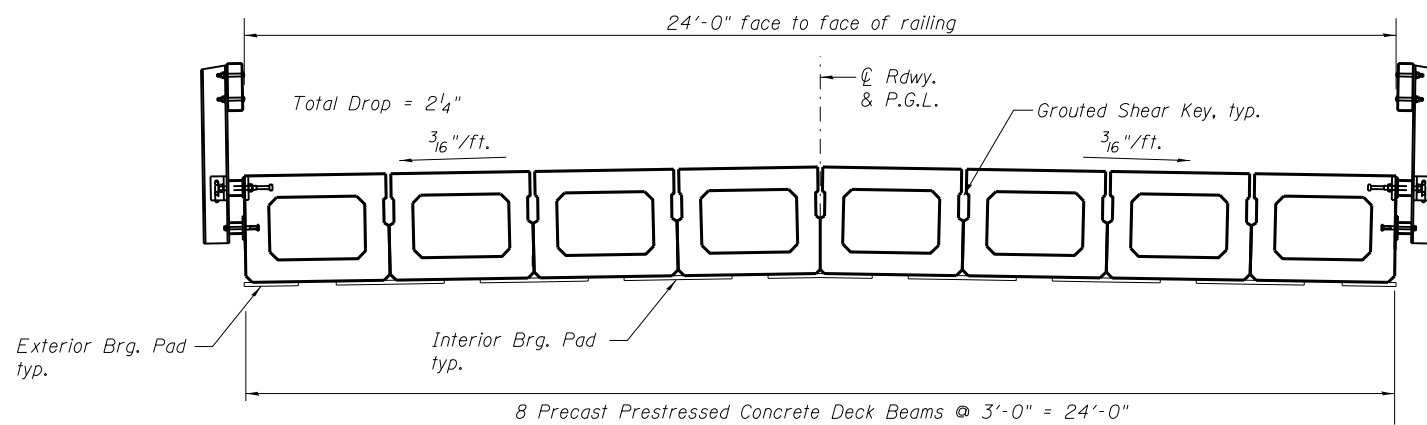
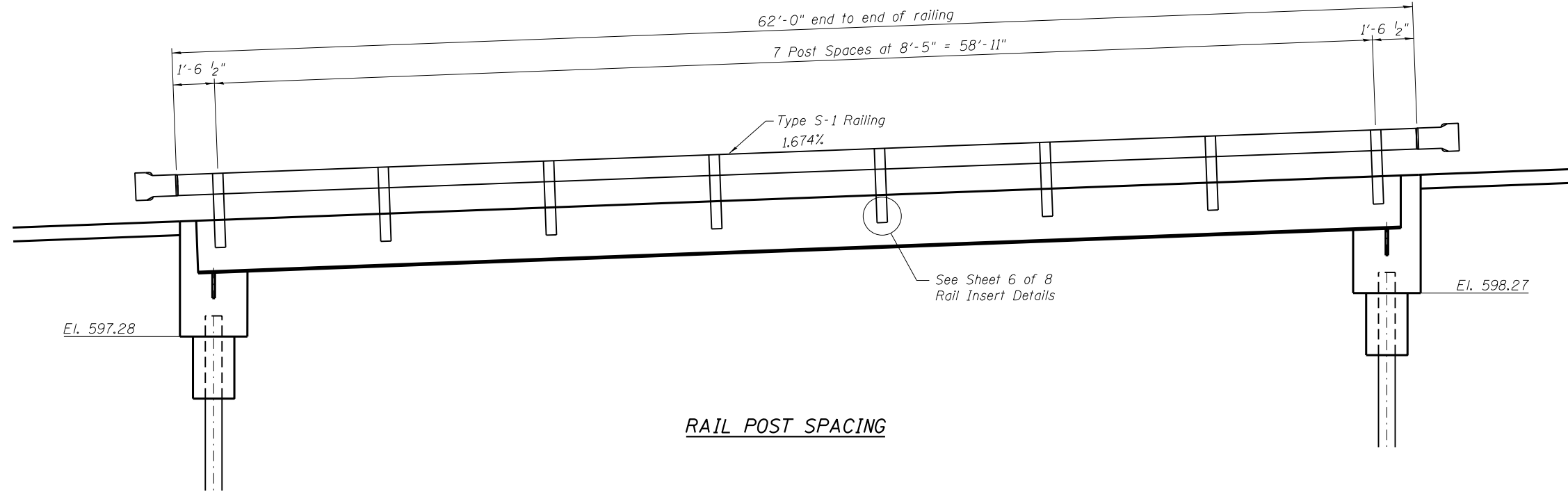
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft. 1456
-------------------------------------------------	--------------

T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588

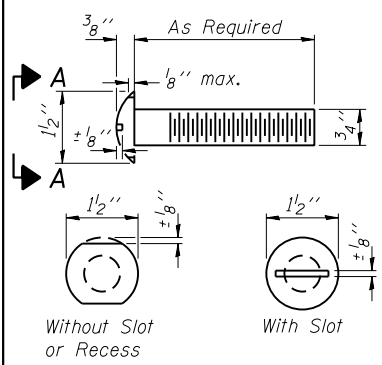
PD-2736-0D 7-1-10

FILE NAME = PCCDeckBm.dgn	USER NAME = Ssto10	DESIGNED - ALB	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	27" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 087-3588			F.A. RTÉ. 425	SECTION 15-21122-00-BR	COUNTY SHELBY	TOTAL SHEETS 15	SHEET NO. 7
05_Deck Beam Spans 1 and 3	PLOT SCALE = 1/31/2018	DRAWN - ALB	REVISIONS -		SCALE:	SHEET NO. 4 OF 8 SHEETS	STA.	TO STA.	CONTRACT NO. 95827			
		CHECKED - MJS	REVISIONS -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISIONS -									

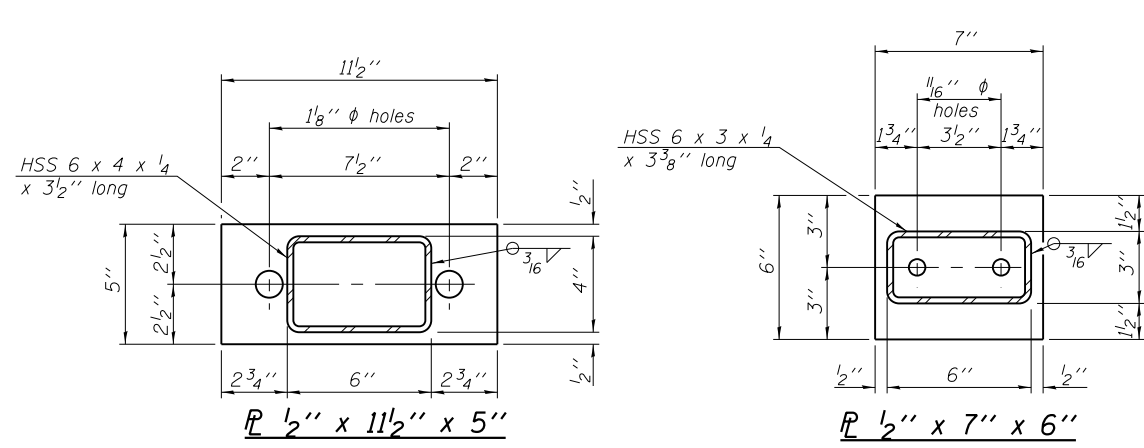


T.R. 425 OVER GREEN CREEK
 SEC. 15-21122-00-BR
 SHELBY COUNTY
 STATION 16+00.00
 STRUCTURE NO. 087-3588

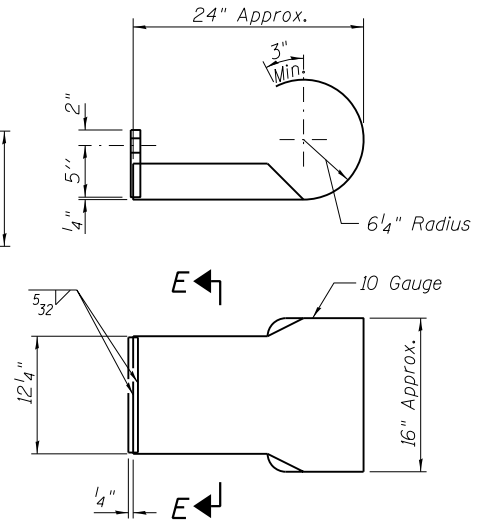
FILE NAME = Superstructure Details.dgn	USER NAME = Stc10	DESIGNED - ALB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 087-3588			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1/9999' / in.	CHECKED - MJS	REVISED -					425	15-21122-00-BR	SHELBY	15	8
12.Pile Details	PLOT DATE = 1/31/2018	DATE -	REVISED -	SCALE:	SHEET NO. 5 OF 8 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT CONTRACT NO. 95827				



**VIEW A-A
ROUND HEAD BOLT**



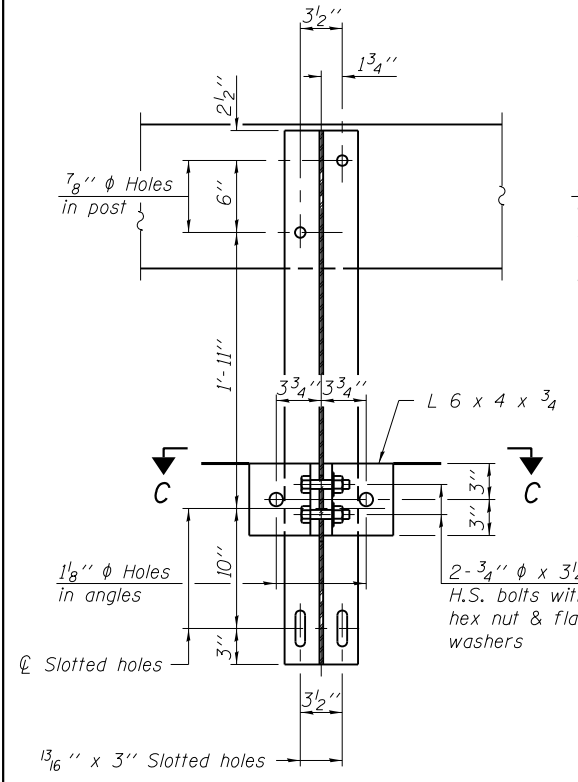
SECTION E-E



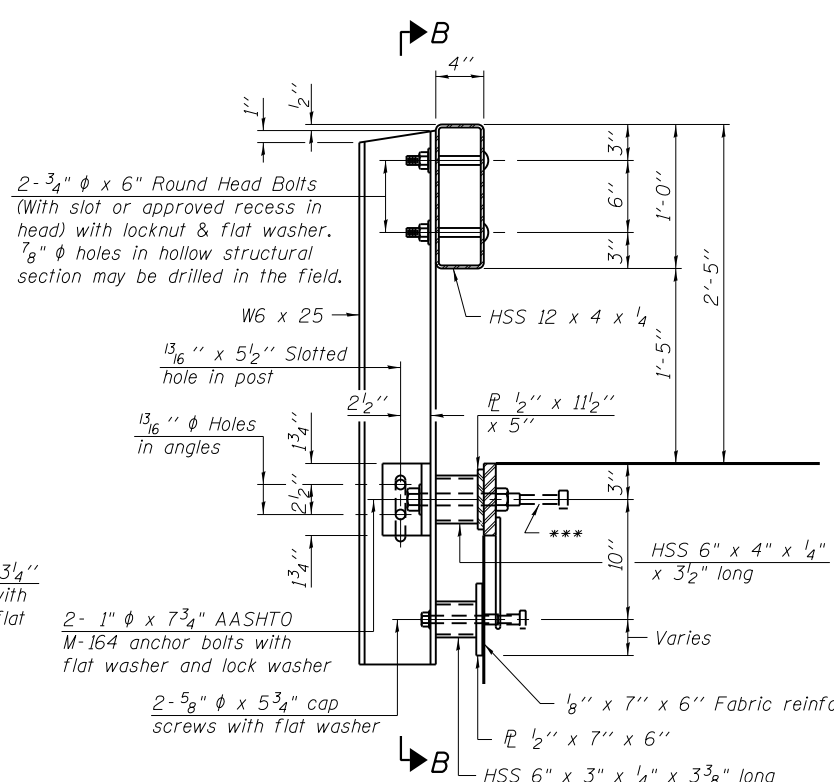
CURLED END SECTION DETAIL

Note:
Cost of Curled End Sections shall be included in the cost of Steel Railing, Type S-1.
(4 Required)

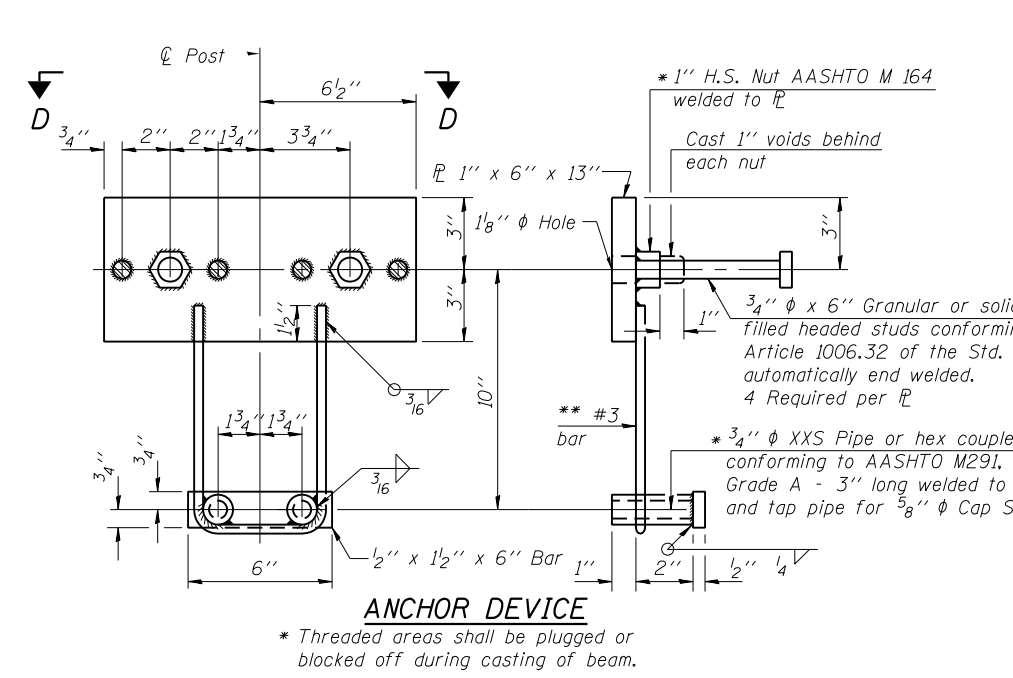
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4\"/>



SECTION B-B

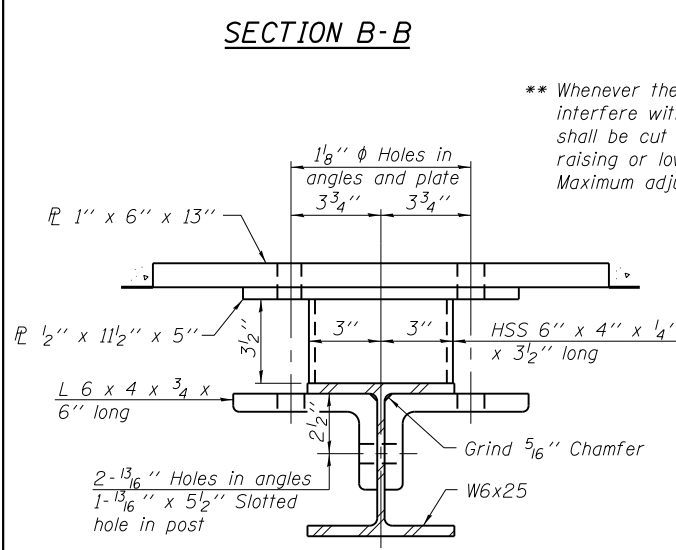


SECTION AT RAILING POST



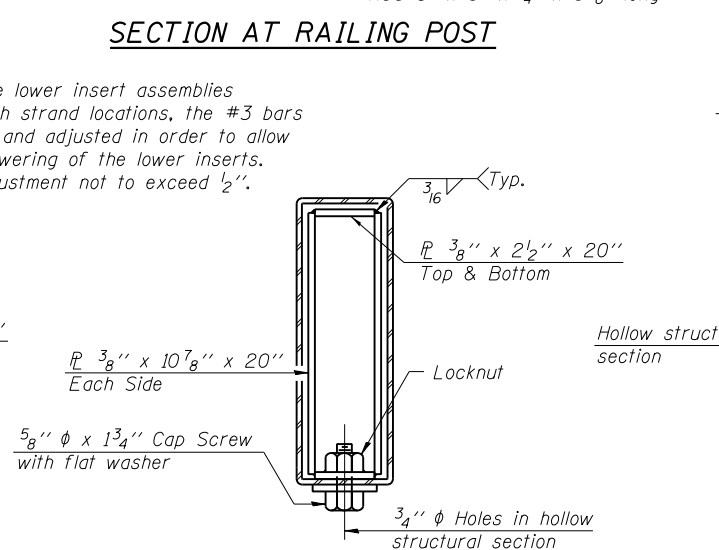
ANCHOR DEVICE

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

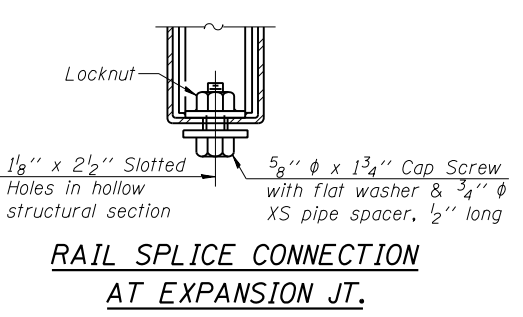


SECTION C-C

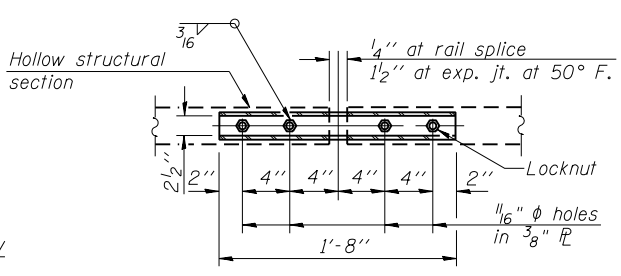
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2\"/>



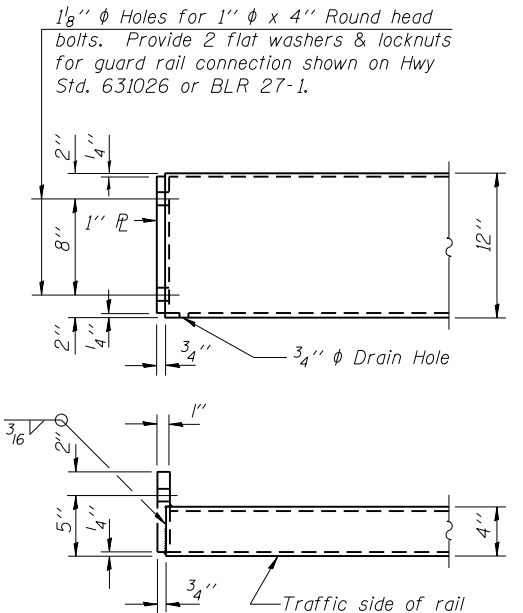
SECTIONS AT RAIL SPLICE



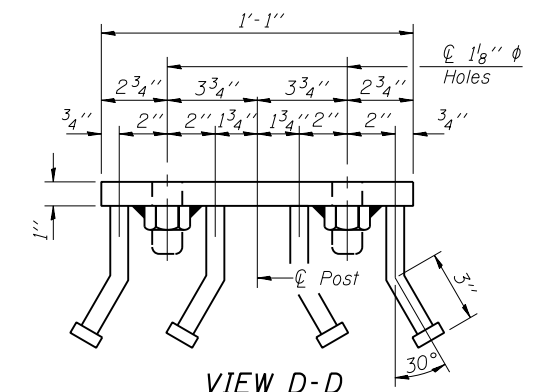
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE P TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	124

**T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588**

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

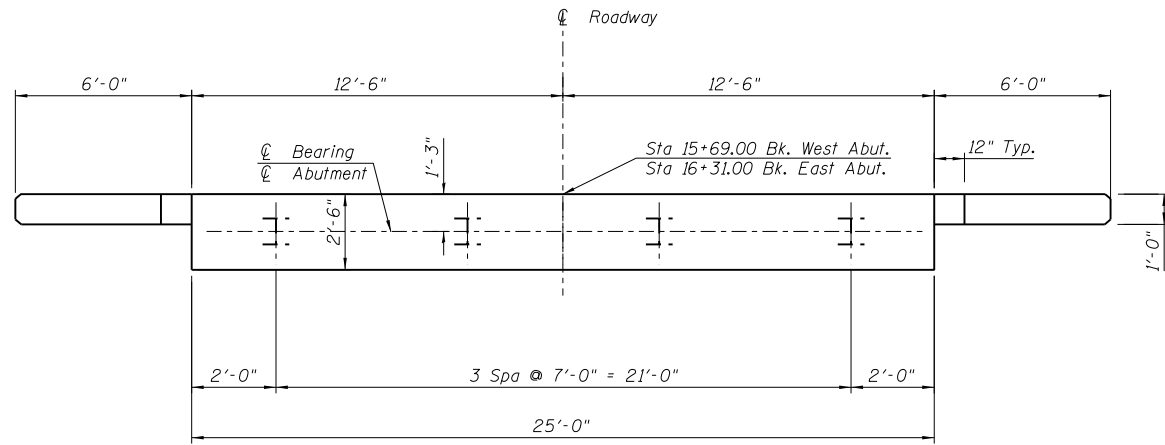
FILE NAME	USER NAME	DESIGNED	REVISIONS
S-trail.dgn	Ssto10	ALB	-
		ALB	-
		MJS	-
			-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING, TYPE S-1
STRUCTURE NO. 087-3588**

SCALE: SHEET NO. 6 OF 8 SHEETS STA. TO STA.

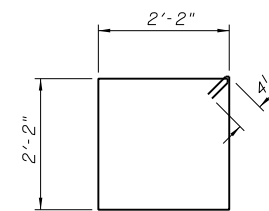
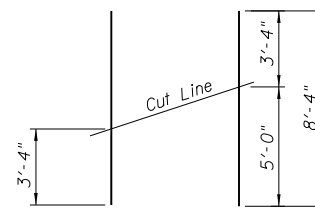
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
425	15-21122-00-BR	SHELBY	15	9
CONTRACT NO. 95827				
ILLINOIS FED. AID PROJECT				



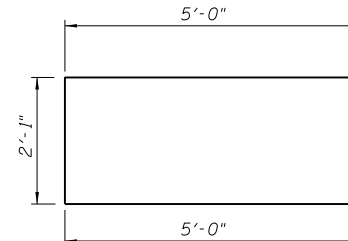
PLAN
Not to Scale

FIELD CUTTING DIAGRAM

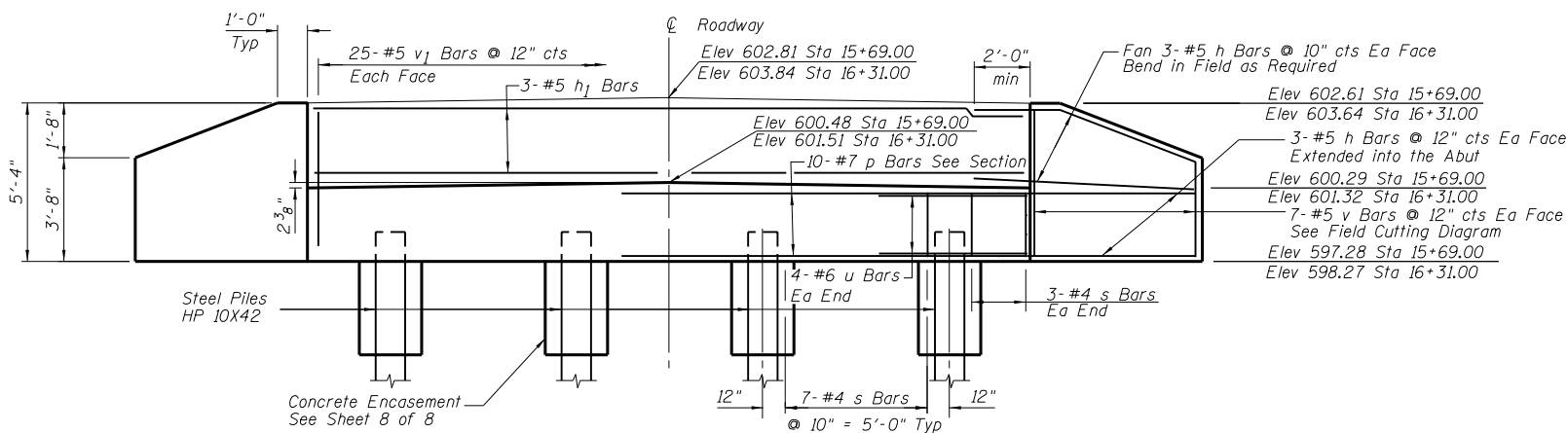
Order v bars full length. Cut as shown and use remainder of bars in opposite face.



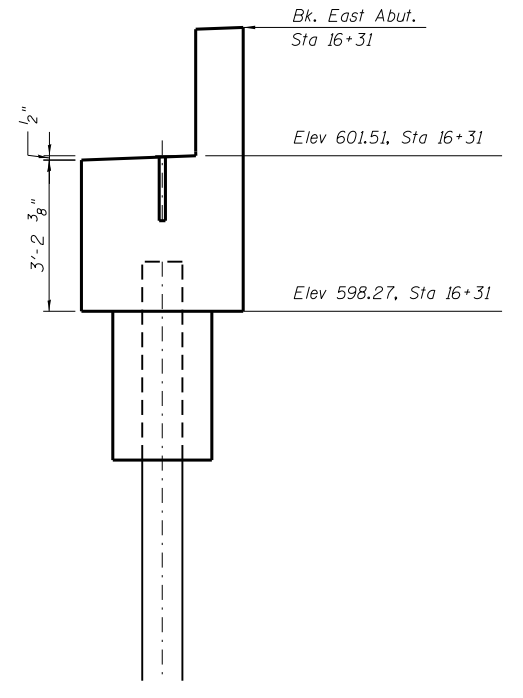
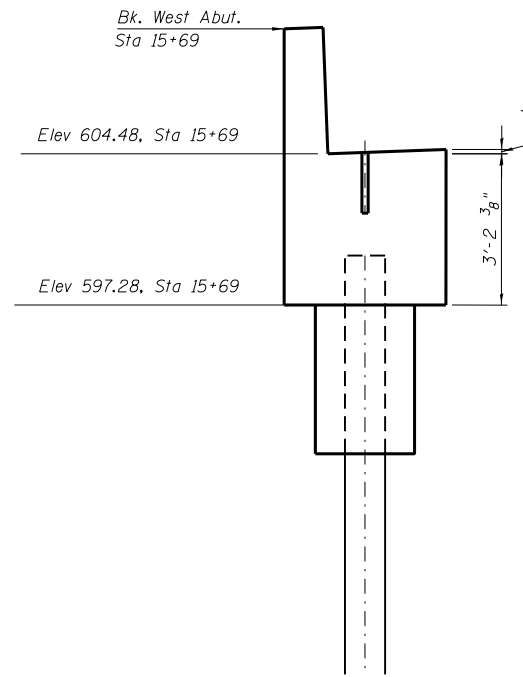
BAR s



BAR u

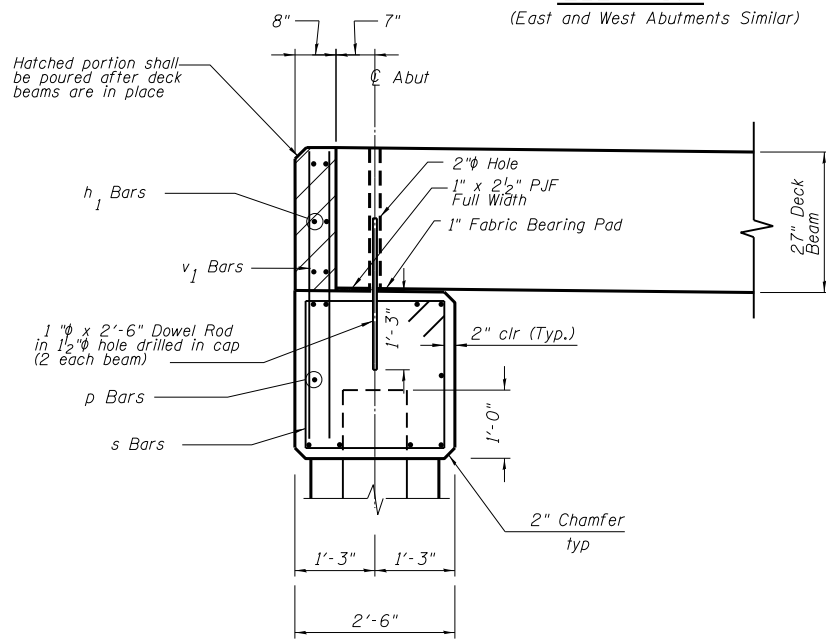


ELEVATION
(East and West Abutments Similar)



BEAM SEAT SLOPES

(Along \bar{C} Roadway)
Not to Scale



SECTION THRU ABUTMENT

Not to Scale

PILE DATA

Type: Steel Pile HP 10X42
No. Required: 8*
Nominal Required Bearing: 335 kips
Allowable Resistance Available: 184 kips
Est. Length (E. Abut.): 51 Ft.
Est. Length (W. Abut.): 50 Ft.

*Includes one Test Pile at East Abutment and one Test Pile at West Abutment

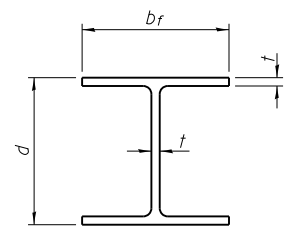
Notes:
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
All horizontal dimensions are at right angles to beam ends.
Hatched area to be poured after beams are in place.
See sheet 4 of 8 for bearing pad details.

BILL OF MATERIAL

BOTH ABUTMENTS AND FOUR WINGS				
BAR	SIZE	NO. REQ'D.	LENGTH	SHAPE
h	#5	48	8'-4"	—
h ₁	#5	12	24'-8"	—
p	#7	20	24'-8"	—
s	#4	54	9'-5"	□
u	#6	16	12'-1"	—
v	#5	28	8'-4"	—
v ₁	#5	100	4'-9"	—
Structure Excavation			Cu. Yd.	70.0
Concrete Structures			Cu. Yd.	21.4
Reinforcement Bars			Pound	3110
Furnishing Steel Piles HP 10X42			Foot	303
Driving Piles			Foot	303
Test Pile Steel HP 10X42			Each	2
Concrete Encasement			Cu. Yd.	2.8

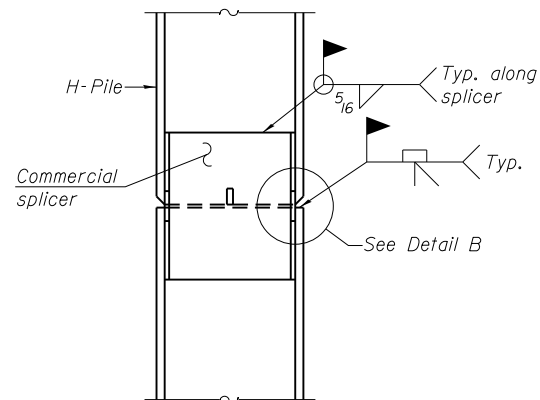
ABUTMENT DETAILS
T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588

FILE NAME = Abut.dgn	USER NAME = Stc10	DESIGNED - ALB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENT DETAILS STRUCTURE NO. 087-3588	F.A. RTE. = 425	SECTION = 15-21122-00-BR	COUNTY = SHELBY	TOTAL SHEETS = 15	SHEET NO. = 10		
10.Abutment	PLOT SCALE = 2.9999' / in.	DRAWN - ALB	REVISED -			SCALE:	SHEET NO. 7 OF 8 SHEETS	STA.	TO STA.	CONTRACT NO. 95827		
	PLOT DATE = 1/31/2018	CHECKED - MJS	REVISED -			ILLINOIS FED. AID PROJECT						

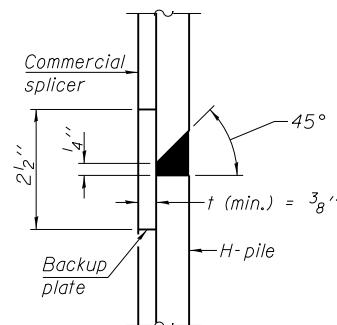


STEEL PILE TABLE

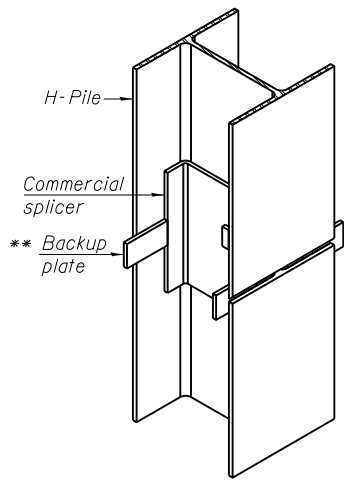
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
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

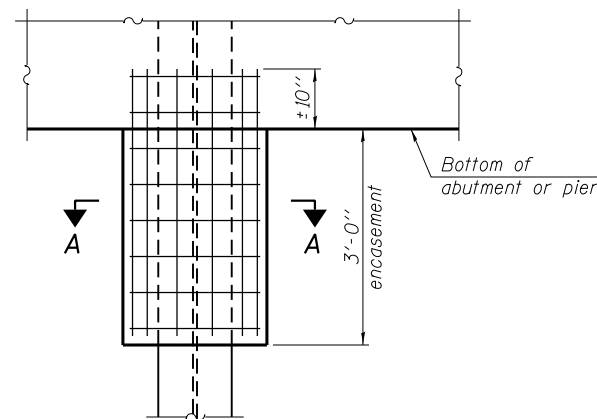


DETAIL "B"



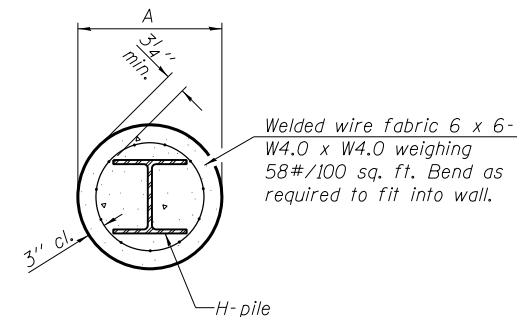
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



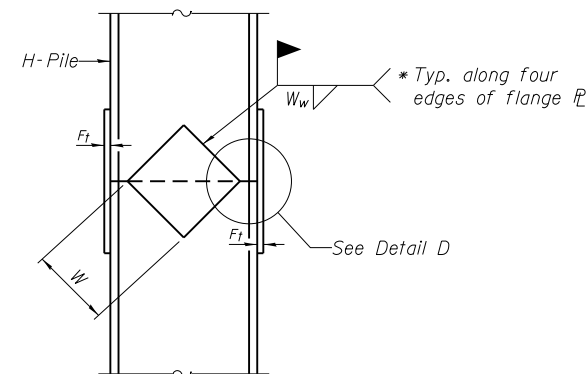
ELEVATION

PILE ENCASEMENT

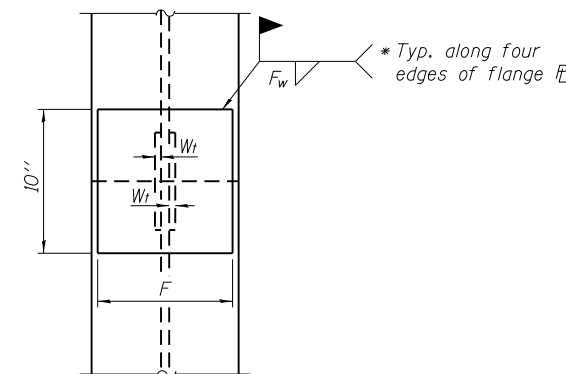


SECTION A-A

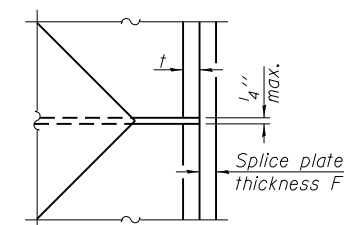
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



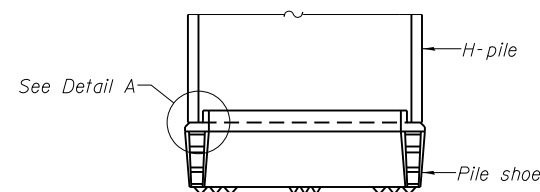
END VIEW



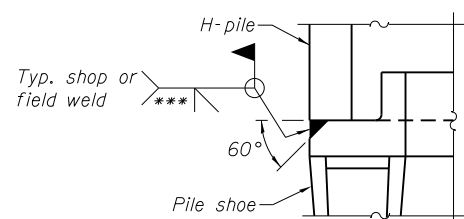
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5 1/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5 1/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5 1/8"	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"

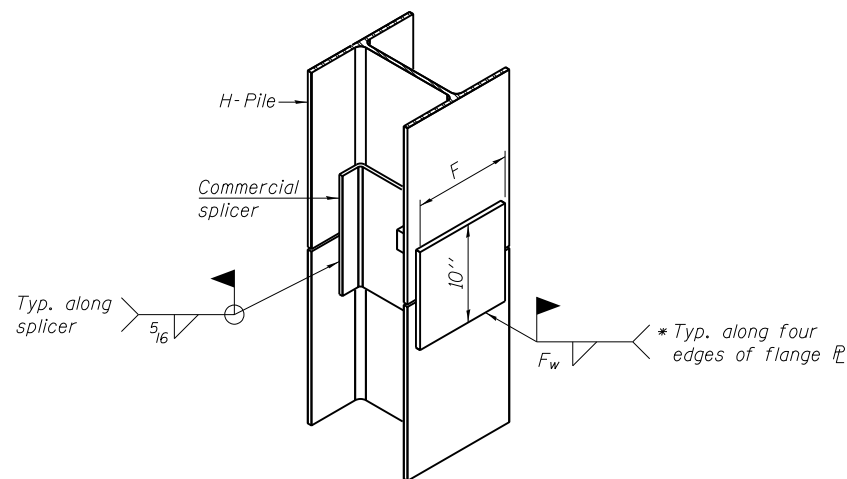


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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.).

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

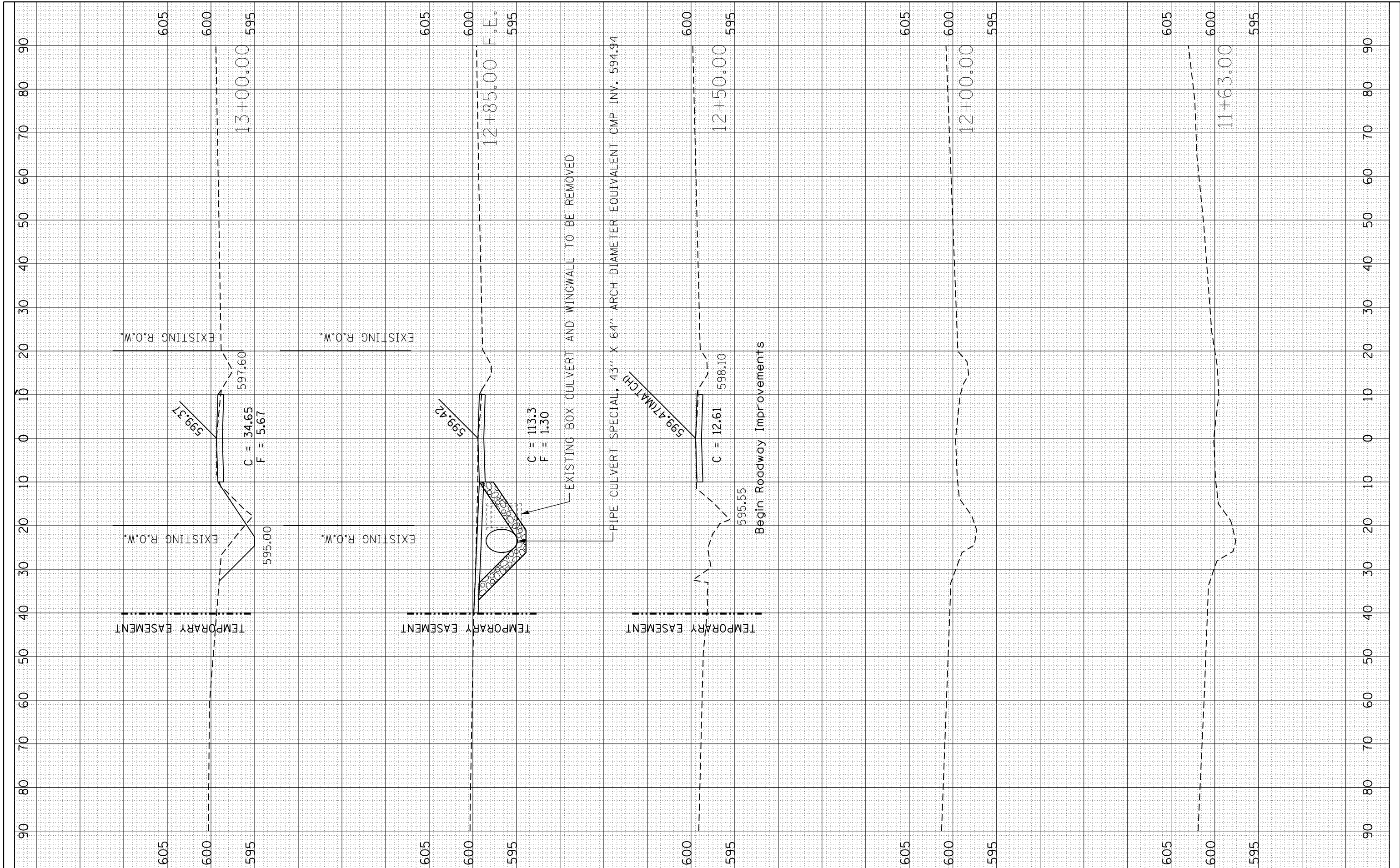
F-HP 7-1-10

FILE NAME = PileDet.dgn	USER NAME = S1010	DESIGNED - ALB	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 087-3588	F.A. RTE. = 425	SECTION = 15-21122-00-BR	COUNTY = SHELBY	TOTAL SHEETS = 15	SHEET NO. = 11		
12.Pile Details	PLOT SCALE = 1/31/2018	CHECKED - MJS	REVISIONS -			SCALE:	SHEET NO. 8 OF 8 SHEETS	STA.	TO STA.	CONTRACT NO. 95827		
		DATE -	REVISIONS -			ILLINOIS FED. AID PROJECT						

T.R. 425 OVER GREEN CREEK
SEC. 15-21122-00-BR
SHELBY COUNTY
STATION 16+00.00
STRUCTURE NO. 087-3588

FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



FILE NAME = XS_Sheeting Prop2.dgn
 Default

USER NAME = S1010
 PLOT SCALE = 20.0000' / in.
 PLOT DATE = 2/6/2018

DESIGNED - ALB
 DRAWN - ALB
 CHECKED - MJS
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

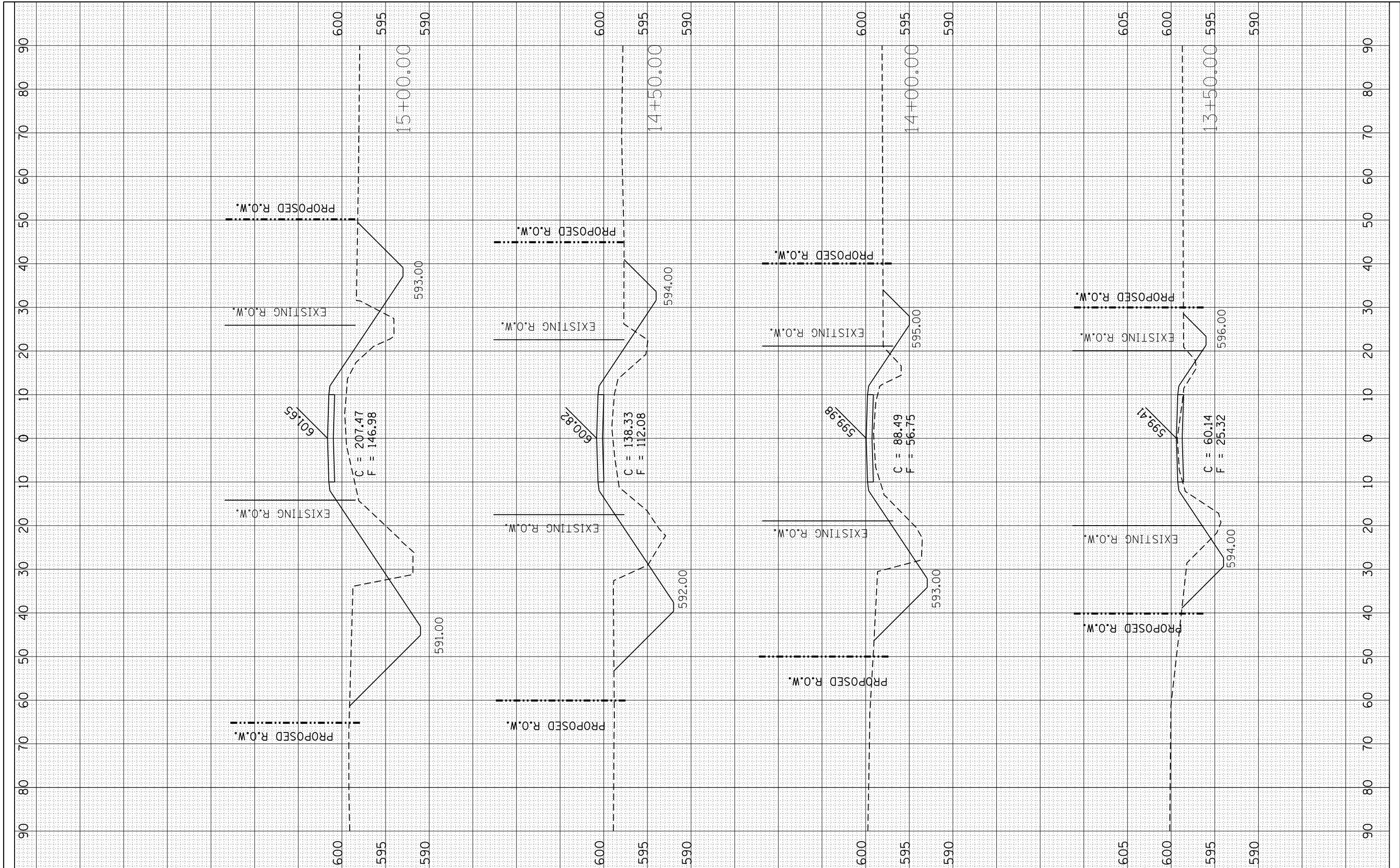
**STRUCTURE NO. 087-3588
 CROSS SECTIONS SHEET 1**

SCALE: SHEET OF SHEETS STA. 11+63.00 TO STA. 13+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR425	15-21122-00-BR	SHELBY	15	12
CONTRACT NO. 95827				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		



FILE NAME = XS_Sheeting Prop2.dgn
 Default

USER NAME = S1010
 PLOT SCALE = 20.0000' / in.
 PLOT DATE = 1/31/2018

DESIGNED - ALB
 DRAWN - ALB
 CHECKED - MJS
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

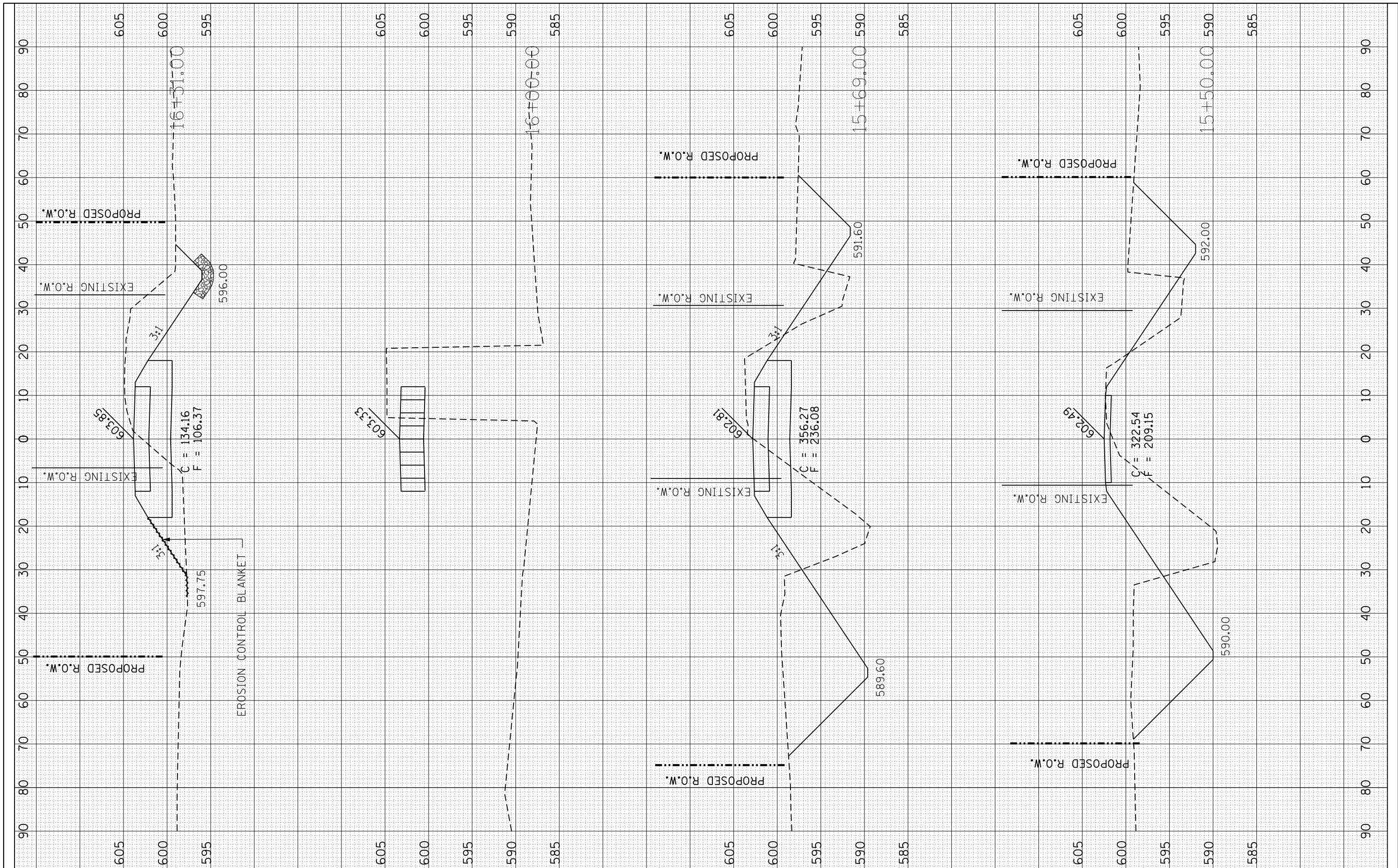
**STRUCTURE NO. 087-3588
 CROSS SECTIONS SHEET 2**

SCALE: SHEET OF SHEETS STA. 13+50.00 TO STA. 15+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR425	15-21122-00-BR	SHELBY	15	13
CONTRACT NO. 95827				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.	AREAS CHECKED		



FILE NAME = XS_Sheeting Prop2.dgn
 Default

USER NAME = S1010
 PLOT SCALE = 20.0000' / in.
 PLOT DATE = 1/31/2018

DESIGNED - ALB
 DRAWN - ALB
 CHECKED - MJS
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

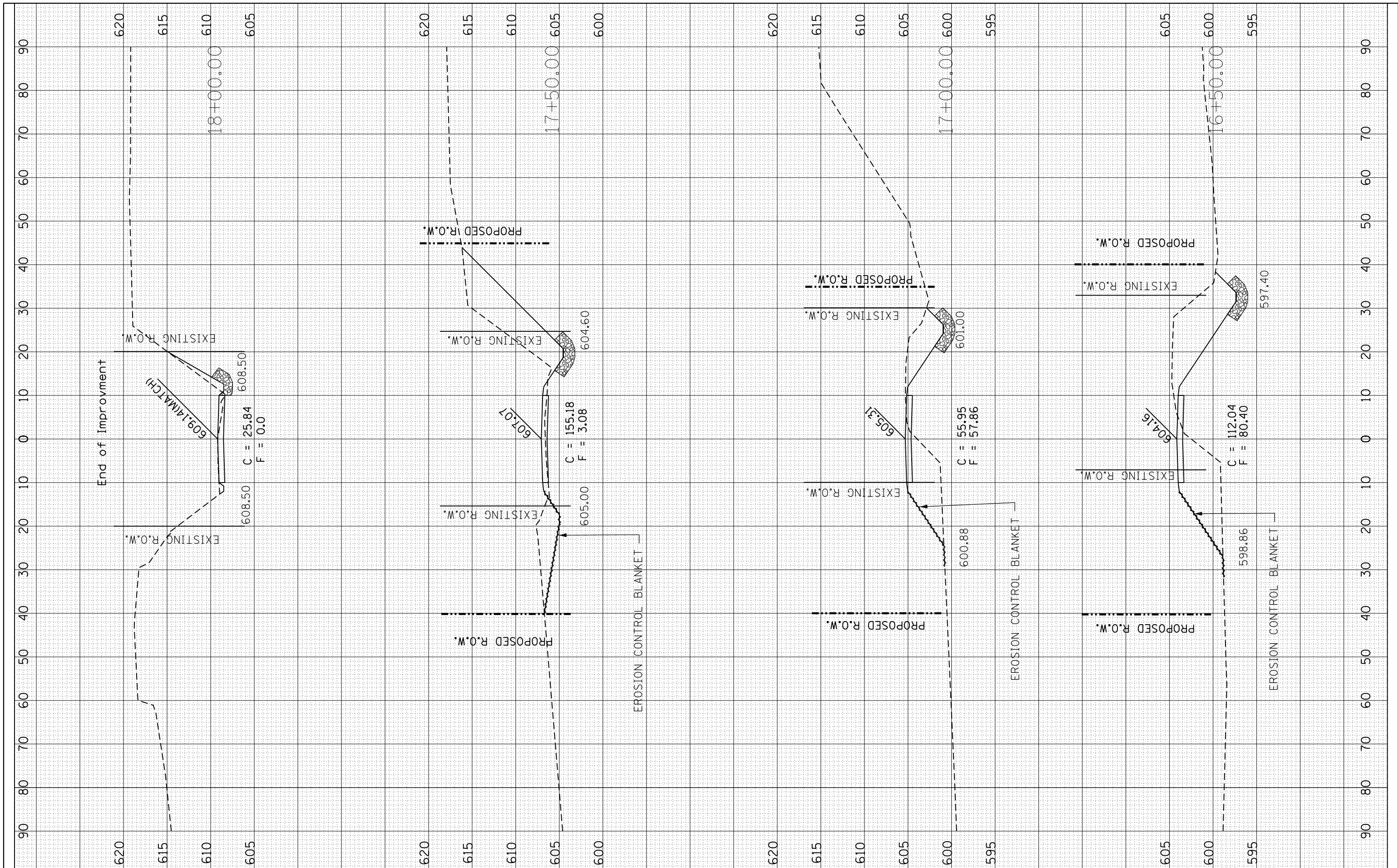
**STRUCTURE NO. 087-3588
 CROSS SECTIONS SHEET 3**

SCALE: SHEET OF SHEETS STA. 15+50.00 TO STA. 16+31.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR425	15-21122-00-BR	SHELBY	15	14
CONTRACT NO. 95827				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



FILE NAME = XS_Sheeting Prop2.dgn
 USER NAME = S1010
 PLOT SCALE = 20.0000' / in.
 PLOT DATE = 1/31/2018

DESIGNED - ALB
 DRAWN - ALB
 CHECKED - MJS
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURE NO. 087-3588
 CROSS SECTIONS SHEET 4**

SCALE: SHEET OF SHEETS STA. 16+50.00 TO STA. 18+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR425	15-21122-00-BR	SHELBY	15	15
CONTRACT NO. 95827				
ILLINOIS FED. AID PROJECT				