04-24-2015 LETTING ITEM 156

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR243	13-16121-00-BR 13-16122-00-BR	SHELBY	30	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 95751		

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND GENERAL NOTES
3. PLAN AND PROFILE
4.–10. BRIDGE PLANS SN 087–3583
11.–17. BRIDGE PLANS SN 087–3584
18.–19 BORING LOGS
20. EROSION CONTROL PLAN
21.–30. CROSS SECTIONS

HIGHWAY STANDARDS

000001–06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001–07	TEMPORARY EROSION CONTROL SYSTEMS
515001–03	NAME PLATE FOR BRIDGES
635006–03	REFLECTOR AND TERMINAL MARKER REPLACEMENT
701901–04	TRAFFIC CONTROL DEVICES
BLR–21–9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL HIGHWAYS

UTILITIES

ELECTRIC: SHELBY ELECTRIC COOPERATIVE, INC.
ILLINOIS 128
SHELBYVILLE, IL 62565 (217) 774–3986

GAS: NUSTAR PIPELINE OPERATING PARTNERSHIP, L.P.
7340 WEST 21ST ST. SUITE 200
WICHITA, KS 67205 (316) 721–7078
LOCAL: (217) 273–5481

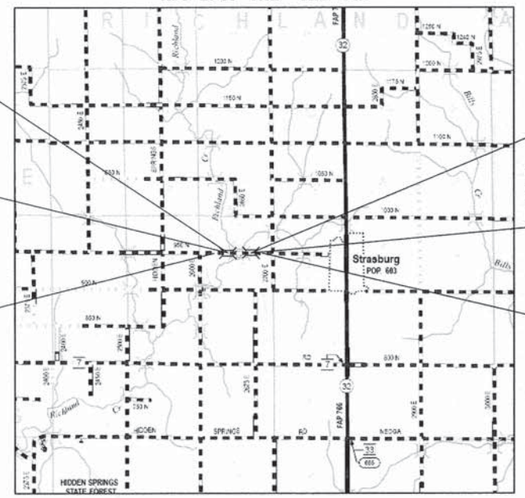
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED STP–BRIDGE

RICHLAND ROAD DISTRICT
SECTIONS 13–16121–00–BR & 13–16122–00–BR
SHELBY COUNTY
PROJECT NO. BROS–173(184)
T.R. 243
JOB NO. C–97–034–15

LOCATION OF SECTION INDICATED THUS: –■–

R. 5 E. OF THE 3RD PM



℄ EXISTING STRUCTURE # 087–3320
STA 15+00, 20' WIDE X 68' LONG
SINGLE SPAN STEEL BEAM WITH
TIMBER DECK, TIMBER ABUTMENTS.

℄ PROPOSED STRUCTURE # 087–3583
STA. 15+00, 24'–0" WIDE x 81'–4"
LONG, SINGLE SPAN PRECAST,
PRESTRESSED CONCRETE DECK BEAM
BRIDGE, 33" DEPTH, SKEWED 10° RIGHT

IMPROVEMENT BEGINS
STA. 9+50

℄ EXISTING STRUCTURE # 087–3175
STA 19+40, 19' WIDE X 60' LONG
SINGLE SPAN STEEL BEAM WITH
CONCRETE DECK, TIMBER ABUTMENTS.

℄ PROPOSED STRUCTURE # 087–3584
STA. 19+39, 24'–0" WIDE x 80'–4"
LONG, SINGLE SPAN PRECAST,
PRESTRESSED CONCRETE DECK BEAM
BRIDGE, 33" DEPTH, SKEWED 20° LEFT

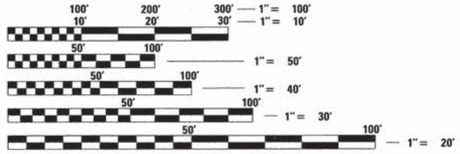
IMPROVEMENT ENDS
STA. 24+50

LOCATION MAP

0 1 2 MILES
SCALE: 1"=1 MILE

GROSS LENGTH OF PROJECT = 1500 FT. = 0.28 MI.
NET LENGTH OF PROJECT = 1500 FT. = 0.28 MI.

FUNCTIONAL CLASSIFICATION = LOCAL ROAD (NON–URBAN)
DESIGN SPEED = 40 MPH
DESIGN ADT = 250 (2015), 300 (2035)
DESIGN DHV = 30 (2015), 36 (2035)
% TRUCKS = 8% (2035)



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

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

PROJECT ENGINEER
PROJECT MANAGER

CONTRACT NO. 95751

The Upchurch Group, Inc.
architects - engineeers - surveyors
123 North 15th Street
Mattoon, IL 61938
217.235.3177
IL PROFESSIONAL DESIGN FIRM LICENSE NO. 184-003401

LICENSED PROFESSIONAL ENGINEER
ANDY L. BAKER
062-057920
STATE OF ILLINOIS

Andy L. Baker 2-3-15
Andy L. Baker Date
Licensed Professional Engineer
State of Illinois No. 062-057920
Expires 11-30-2015

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

APPROVED 2/6 20 15
COUNTY ENGINEER

APPROVED 02/06 20 15
HIGHWAY COMMISSIONER

PASSED 2/17 20 15
DISTRICT SEVEN ENGINEER OF LOCAL ROADS AND STREETS

REALEASING FOR BID BASED ON LIMITED REVIEW 2/17 20 15
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

	CODE	ITEM	UNIT	QUANTITY
•	20100500	TREE REMOVAL, ACRES	ACRE	0.50
	20200100	EARTH EXCAVATION	CU. YD.	1715
	20300100	CHANNEL EXCAVATION	CU. YD.	737
	20400800	FURNISHED EXCAVATION	CU. YD.	5778
	20800150	TRENCH BACKFILL	CU. YD.	40.0
	25000200	SEEDING, CLASS 2	ACRE	2.0
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	180
	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	180
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	180
	25100115	MULCH, METHOD 2	ACRE	2.0
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	400
	28000305	TEMPORARY DITCH CHECKS	FOOT	108
	28000400	PERIMETER EROSION BARRIER	FOOT	3175
	28100207	STONE RIPRAP, CLASS A4	TON	1715
	28200200	FILTER FABRIC	SQ. YD.	2205
•	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	1513
•	50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1
•	50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1
	50200100	STRUCTURE EXCAVATION	CU. YD.	123
	50300225	CONCRETE STRUCTURES	CU. YD.	45.4
	50300280	CONCRETE ENCASEMENT	CU. YD.	5.6
•	50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ. FT.	3818
	50800105	REINFORCEMENT BARS	POUND	7219
Δ	50900205	STEEL RAILING, TYPE S1	FOOT	324
	51201400	FURNISHING STEEL PILES HP10x42	FOOT	396
	51202305	DRIVING PILES	FOOT	396
	51203400	TEST PILE STEEL HP10x42	EACH	4
	51500100	NAME PLATES	EACH	2
	542D0220	PIPE CULVERTS, CLASS D, TYPE 1, 15"	FOOT	110
	542D1069	PIPE CULVERTS, CLASS D, TYPE 2, 24"	FOOT	94
	67100100	MOBILIZATION	L. SUM	1
Δ	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	8
•	X2830495	AGGREGATE DITCH (SPECIAL)	TON	220

• SEE SPECIAL PROVISIONS
Δ SPECIALTY ITEMS

AGGREGATE SURFACE COURSE TYPE B SCHEDULE

STA 9+50 TO STA 14+59.29 = 553 TONS
STA 15+40.71 TO 18+98.79 = 363 TONS
STA 19+79.21 TO STA 24+50 = 477 TONS

FE STA 12+00 LT = 30 TONS
FE STA 13+25.9 RT = 30 TONS
FE STA 17+00 LT = 30 TONS
FE STA 17+50 RT = 30 TONS

TREE REMOVAL SCHEDULE

STA 15+38 TO STA 17+50 RT = 0.11 ACRE
STA 17+50 TO STA 19+07 RT = 0.07 ACRE
STA 19+62 TO STA 23+50 RT = 0.24 ACRE
STA 13+23 TO STA 14+78 LT = 0.06 ACRE
STA 22+66 TO STA 24+37 LT = 0.02 ACRE
TOTAL = 0.50 ACRES

SEEDING, CLASS 2

STA 09+50 LT TO STA 17+50 LT = 0.50 ACRE
STA 09+50 RT TO STA 17+50 RT = 0.50 ACRE
STA 17+50 LT TO STA 24+50 LT = 0.50 ACRE
STA 17+50 RT TO STA 24+50 RT = 0.50 ACRE
TOTAL = 2.0 ACRES

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012, THESE PLANS, AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.

2. ALL CLEARING AND GRUBBING, FENCE REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. THE REMOVAL OF THE EXISTING BITUMINOUS SURFACE SHALL BE PAID FOR AS EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR OR IN A METHOD APPROVED BY THE ENGINEER. PROPER DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

3. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE. HOWEVER, THE EXACT LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

4. TEMPORARY EROSION CONTROL TO BE IMPLEMENTED PER THE PLANS AND AS DIRECTED BY THE ENGINEER.

5. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS AND PREVENT DRAINAGE OR PONDING OF WATER ONTO PRIVATE PROPERTY.

6. TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION ACTIVITIES SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER. THE AREA DESIGNATED FOR REMOVAL SHALL BE CLEARLY MARKED AND MEASURED FOR PAYMENT BY THE ENGINEER PRIOR TO REMOVAL.

7. ALL DISTURBED EARTH SURFACES WITHIN THE LIMITS OF THE R.O.W. AND EASEMENTS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.

8. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTHS OF PIPE CULVERTS PRIOR TO ORDERING THESE ITEMS.

9. THE AGGREGATE SURFACE COURSE, TYPE B GRADATION SHALL BE CA6 OR CA10.

10. 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.

11. THE FOLLOWING APPLICATION RATES HAVE BEEN USED TO CALCULATE PLAN QUANTITIES:
AGGREGATE SURFACE COURSE = 2.05 TONS PER CU. YD.
STONE RIPRAP, CLASS A4 = 1.75 TONS PER CU. YD.
AGGREGATE DITCH SPECIAL = 0.67 TONS PER SQ. YD.
NITROGEN FERTILIZER NUTRIENT = 90 LBS PER ACRE
PHOSPHOROUS FERTILIZER NUTRIENT = 90 LBS PER ACRE
POTASSIUM FERTILIZER NUTRIENT = 90 LBS PER ACRE
TEMPORARY EROSION CONTROL SEEDING = 200 POUNDS PER ACRE
MULCH, METHOD 2 = 2 TONS PER ACRE

AGGREGATE DITCH SPECIAL

STA 22+40 LT TO STA 22+50 LT = 6.0 TONS
STA 22+50 LT TO STA 24+00 LT = 83.0 TONS
STA 22+15 RT TO STA 22+50 RT = 20.0 TONS
STA 22+50 RT TO STA 24+00 RT = 83.0 TONS
STA 24+00 RT TO STA 24+50 RT = 28.0 TONS
TOTAL = 220 TONS

EARTHWORK SCHEDULE

1 LOCATION	2 EARTH EXCAVATION	3 STRUCTURE EXCAVATION	4 •CHANNEL EXCAVATION	5 EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	6 EMBANKMENT	7 EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
STA 9+50 TO STA 14+59	418	58	377	640	1924	-1284
STA 15+40 TO STA 17+00	124			93	1285	-1192
STA 17+50 TO STA 18+99	161	65	286	384	1971	-1587
STA 19+79 TO STA 24+50	1012			759	2474	-1715
TOTAL	1715	123	663	1876	7654	-5778

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

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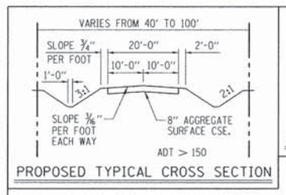
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

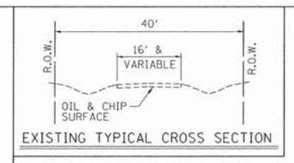
SUMMARY OF QUANTITIES AND GENERAL NOTES

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

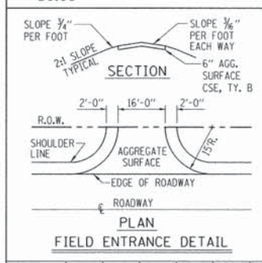
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	2
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		



PROPOSED TYPICAL CROSS SECTION



EXISTING TYPICAL CROSS SECTION



SECTION

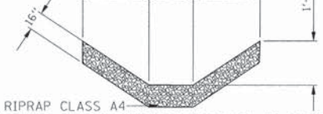
PLAN

FIELD ENTRANCE DETAIL

BENCH MARKS

*1 RAILROAD SPIKE IN GATE POST.
STA. 13+34, 19.5' RT.
ELEVATION = 609.66

*2 RAILROAD SPIKE IN BASE OF TREE.
STA. 20+54.7, 29.1' RT.
ELEVATION = 608.39



STONE RIPRAP CLASS A4
* BACK SLOPE VARIES FROM 2:1 SLOPE TO 3:1 SLOPE

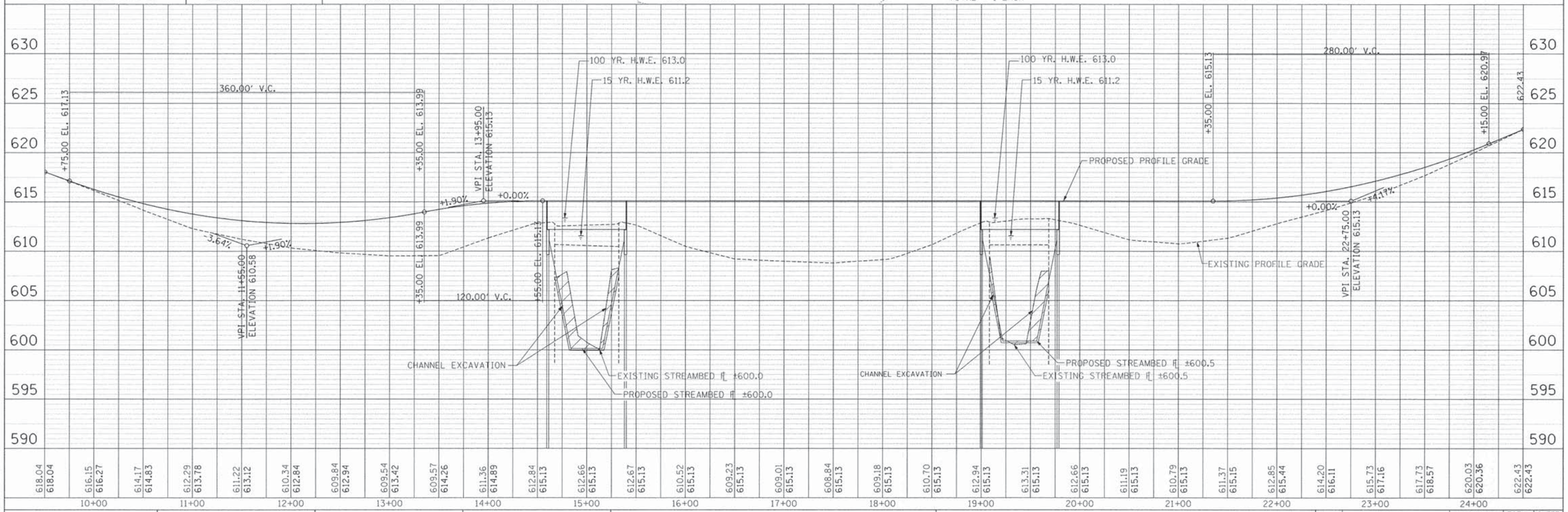
AGGREGATE DITCH DETAIL SECTION

*SEE SHEET 18 OF 30 FOR BORING LOGS

**SEE SHEET 19 OF 30 FOR BORING LOGS

STATION
22+40 to 22+50 LT
22+50 to 24+00 LT
22+15 to 22+50 RT
22+50 to 24+00 RT
24+00 to 24+50 RT

AGGREGATE DITCH SCHEDULE



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PLAN AND PROFILE

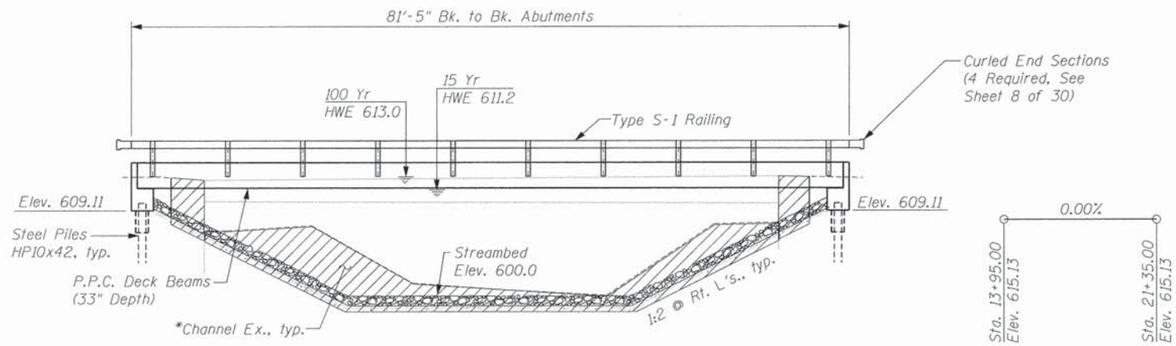
SCALE: 1"=50' | SHEET 1 OF 1 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	3
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

Benchmark: Railroad Spike in gate post. Sta. 13+34, 19.5' Right, Elev. 609.66

Existing Structure: S.N. 087-3320 was built in 1974. Existing structure is a single span steel beam bridge on closed timber abutments with timber piling. Road shall be closed to traffic during construction.

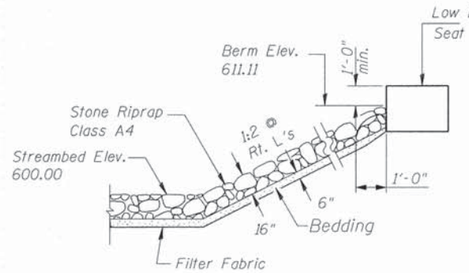
Salvage: Any materials deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Richland Road District. The Contractor shall dispose of all remaining materials.



ELEVATION

*Channel shall be excavated as shown with 2:1 slopes within the R.O.W. Suitable excavated materials may be used in new embankments.

PROFILE GRADE
(along ℄ roadway)



STONE RIPRAP DETAIL

GENERAL NOTES

1. 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.
2. Boring data is shown in the special provisions only as a guide to the bidders in estimating soil conditions that may be encounted.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
4. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
5. Bridge salvage see removal of exsiting structure in the special provisions.

DESIGN SPECIFICATIONS

2013 AASHTO LRFD Bridge Design Specifications, 6th 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
f'_s = 270,000 psi (½" ϕ low lax. strands)
f_{si} = 201,960 psi (½" ϕ low lax. strands)
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

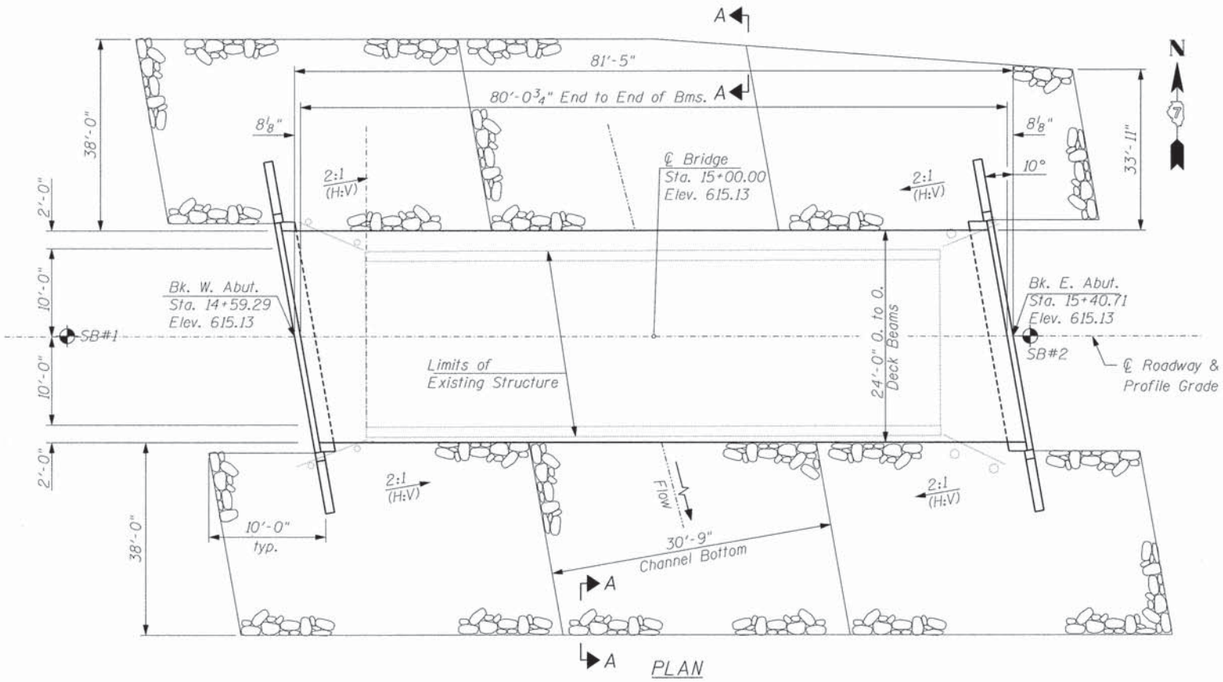
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.134g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.302g
Soil Site Class = C

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	609.61	609.61

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		419	419
Stone Riprap, Class A4	Ton		858	858
Filter Fabric	Sq. Yd.		1103	1103
Removal of Existing Structure No. 1	Each		1	1
Structure Excavation	Cu. Yd.		58	58
Concrete Structures	Cu. Yd.		22.3	22.3
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1922		1922
Reinforcement Bars	Pound		3574	3574
Steel Railing, Type S1	Foot	163		163
Furnishing Steel Piles, HP10x42	Foot		228	228
Driving Piles	Foot		228	228
Test Pile, Steel HP10x42	Each		2	2
Name Plates	Each		1	1



PLAN

INDEX OF SHEETS

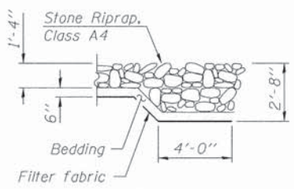
1. General Plan and Elevation
2. General Details
3. 33" PPC Deck Beam
4. 33" PPC Deck Beam Details
5. Steel Railing, Type S-1
6. Abutment Details
7. HP Pile Details

WATERWAY INFORMATION

Drainage Area = 20.1 mi^2
Exist. Low Grade Elev. 608.80 @ Sta. 17+50
Prop. Low Grade Elev. 612.84 @ Sta. 12+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	3514	407	571	611.0	0.1	0.2	611.1	611.2
Base	100	5950	407	661	612.4	0.1	0.6	612.5	613.0
Max. Calc.	500	8060	407	661	613.4	0.1	0.7	613.5	614.1

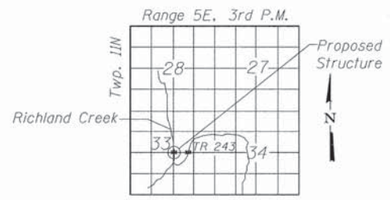
10 year velocity through existing bridge = 2.4 fps
10 year velocity through prop. bridge = 2.9 fps



SECTION A-A

RICHLAND CREEK
BUILT 20__ BY
RICHLAND ROAD DISTRICT
SHELBY COUNTY
SEC. 13-16122-00-BR
STATION 15+00.00
STR. NO. 087-3583 LOADING HL-93

LETTERING FOR NAME PLATE
Locate on the face of SW Wingwall
(See Std. 515001)



LOCATION SKETCH

LICENSED STRUCTURAL ENGINEER
ADAM D. BOHNHOFF
081-007431
EFFINGHAM
STATE OF ILLINOIS

Adam Bohnhoff 2-4-15

Adam D. Bohnhoff Date
Licensed Structural Engineer
State of Illinois No. 081-007431
Expires 11-30-2016

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.

GENERAL PLAN AND ELEVATION
T.R. 243 OVER RICHLAND CREEK
SEC. 13-16122-00-BR
SHELBY COUNTY
STATION 15+00.00
STRUCTURE NO. 087-3583

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
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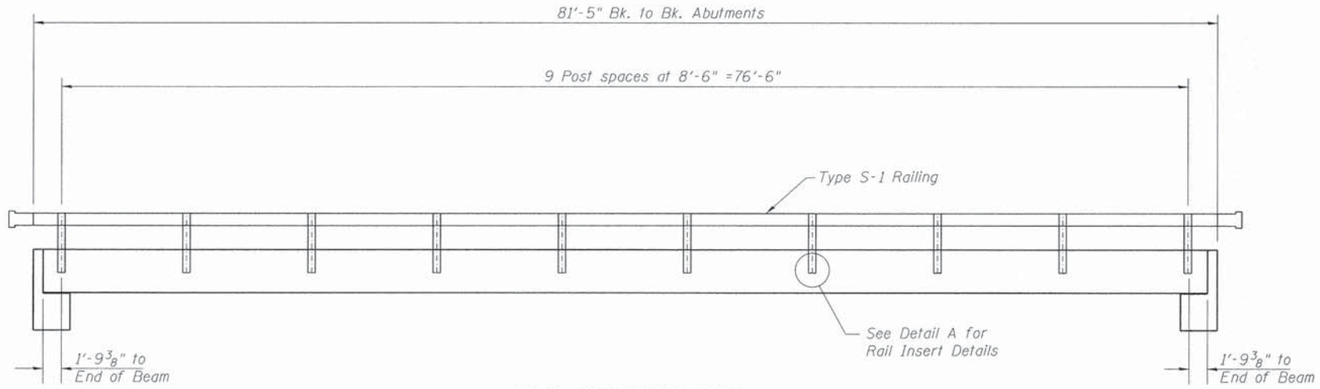
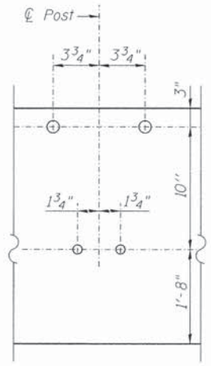
	PLOT DATE = $DATE$	DATE -	REVISED -

SCALE: SHEET 1 OF 7 SHEETS STA. TO STA.

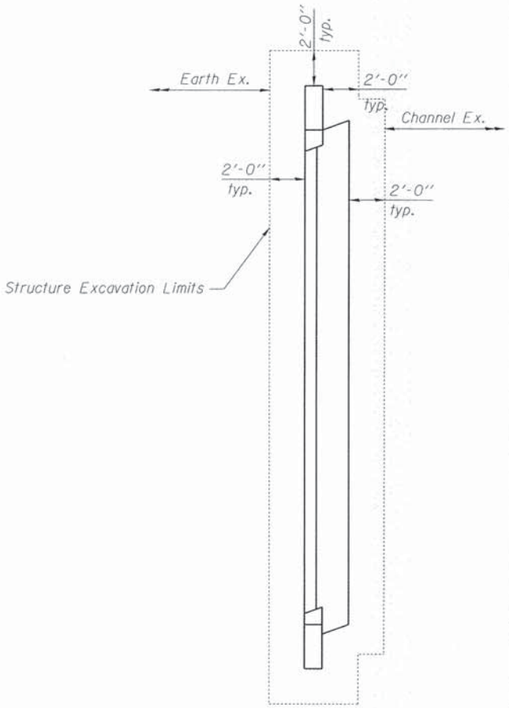
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	4
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



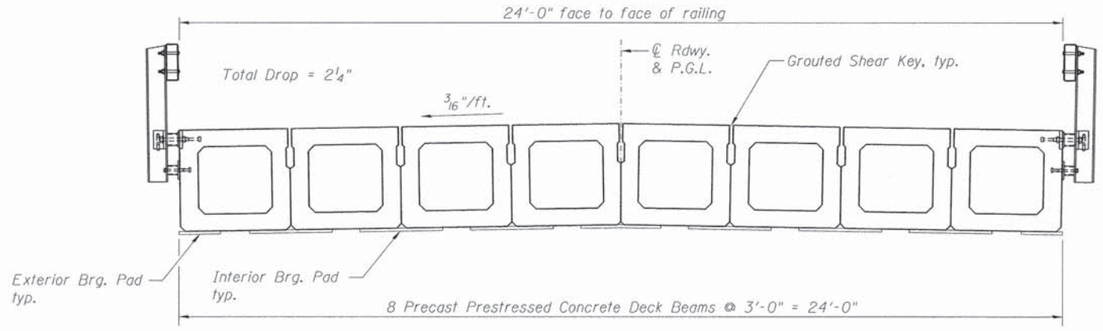
RAIL POST SPACING



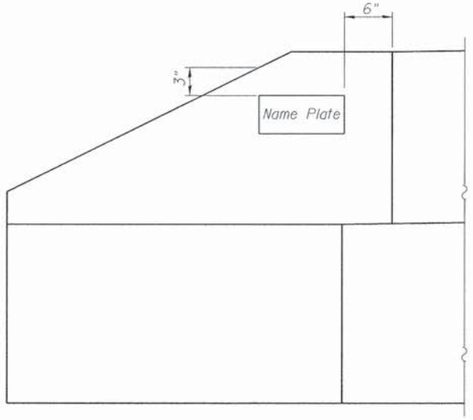
DETAIL "A"



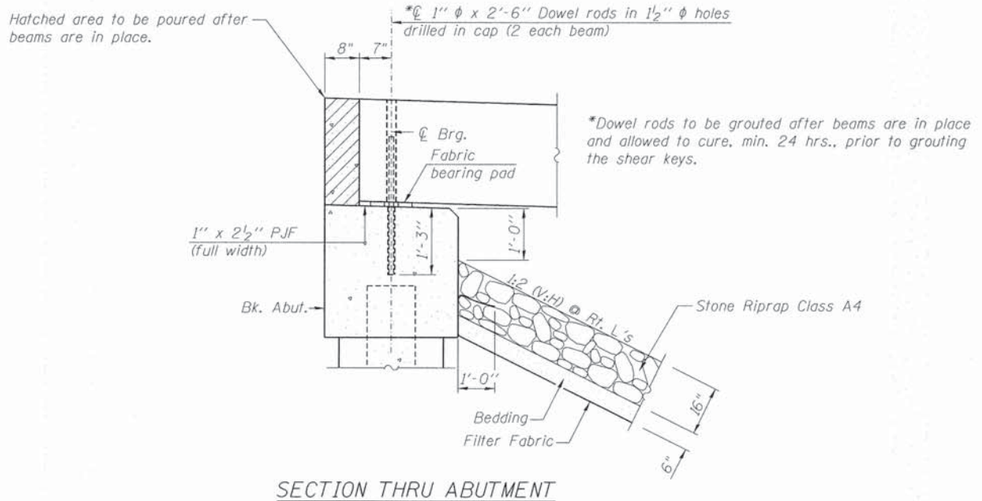
PARTIAL PLAN



CROSS SECTION



SOUTHWEST WINGWALL ELEVATION



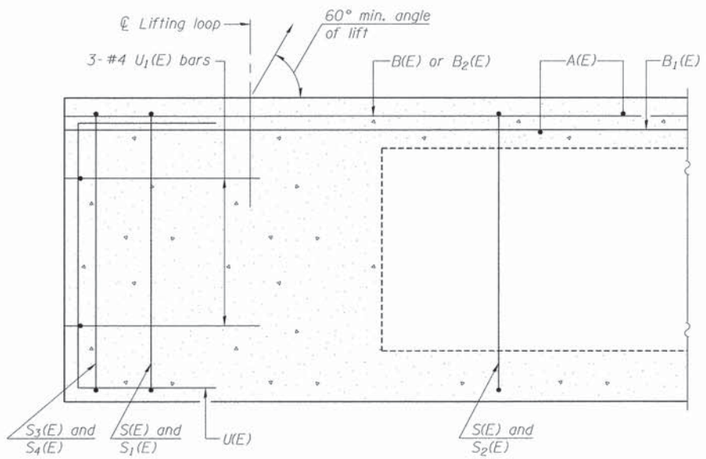
SECTION THRU ABUTMENT

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ADB	REVISED -
$MODELNAME$	PLOT DATE = $DATE$	DATE -	REVISED -

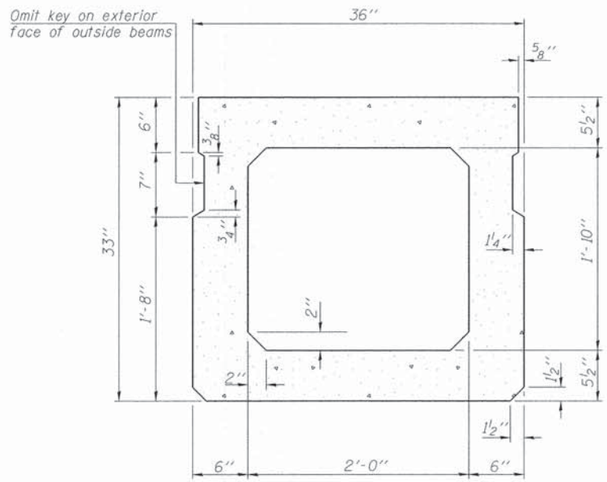
GENERAL DETAILS
STRUCTURE NO. 087-3583

SCALE: | SHEET 2 OF 7 SHEETS | STA. | TO STA.

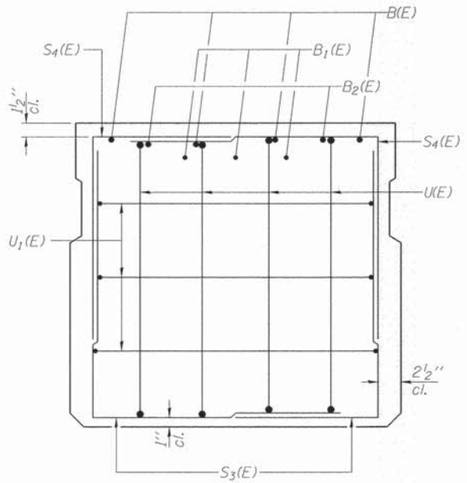
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	5
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



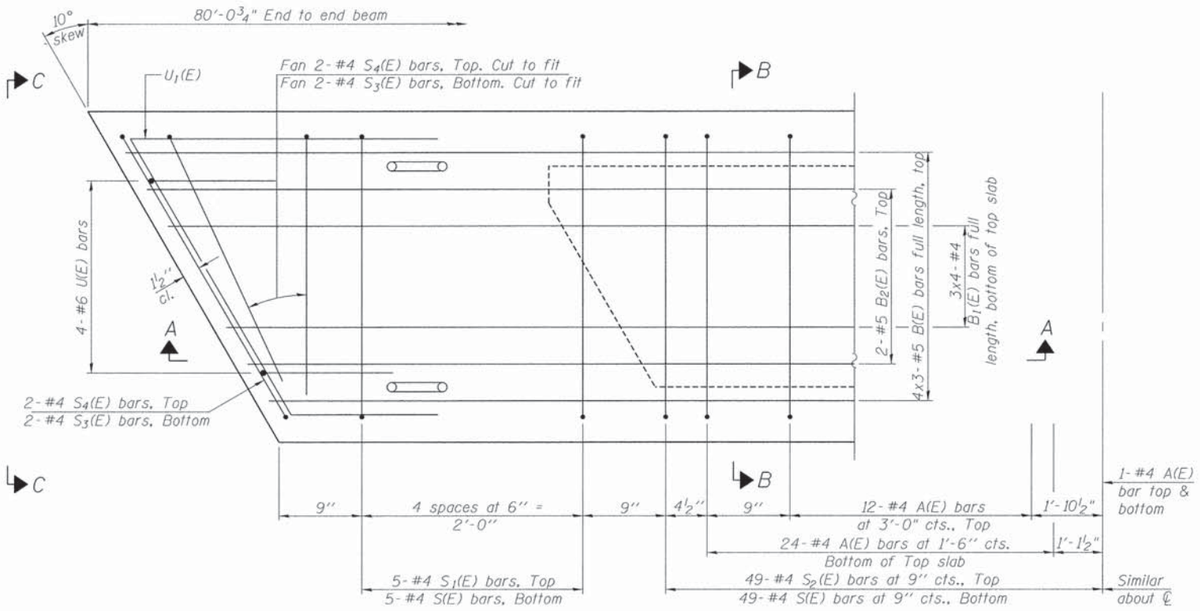
SECTION A-A



SECTION B-B
(Showing dimensions)

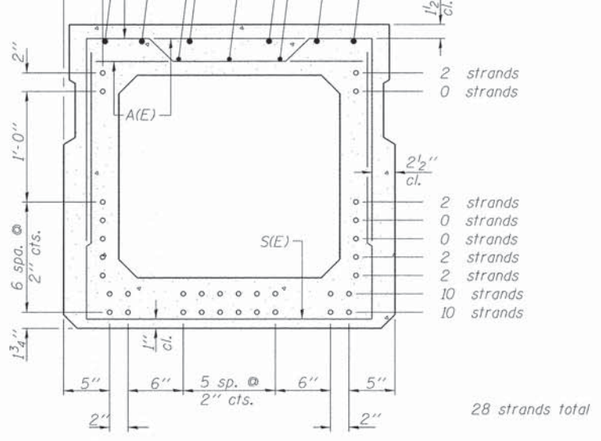


VIEW C-C



PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ 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.



28 strands total

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)	74	#4	2'-7"	—
B(E)	12	#5	28'-3"	—
$B_1(E)$	12	#4	21'-5"	—
$B_2(E)$	4	#5	10'-0"	—
S(E)	108	#4	7'-5"	⊔
$S_1(E)$	10	#4	6'-3"	⊓
$S_2(E)$	98	#4	6'-6"	⊓
$S_3(E)$	8	#4	4'-10"	⊔
$S_4(E)$	8	#4	4'-3"	⊔
U(E)	8	#6	5'-0"	⊏
$U_1(E)$	6	#4	5'-7"	▽

Note: See sheet 7 of 30 for additional details and Bill of Material.
Reinforcement designated (E) shall be epoxy coated.
Bars indicated thus 3 x 4 -#4 etc. indicates 3 line of bars with 4 lengths per line.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

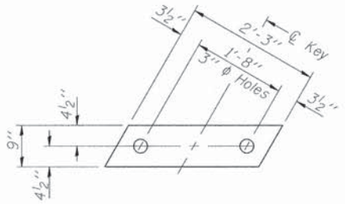
PD-3336-R 7-1-10

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - ADB	REVISED -
$MODELNAME$	PLOT DATE = $DATE$	DATE -	REVISED -

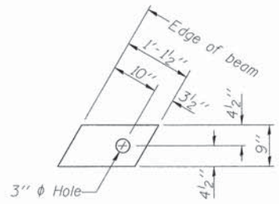
33" x 36" PPC DECK BEAM
STRUCTURE NO. 087-3583

SCALE: | SHEET 3 OF 7 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	6
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



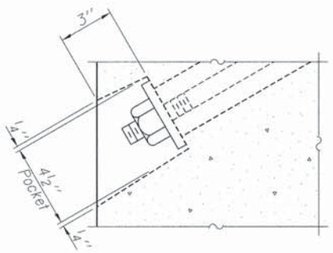
FABRIC BEARING PAD
(Interior)
(14 required)



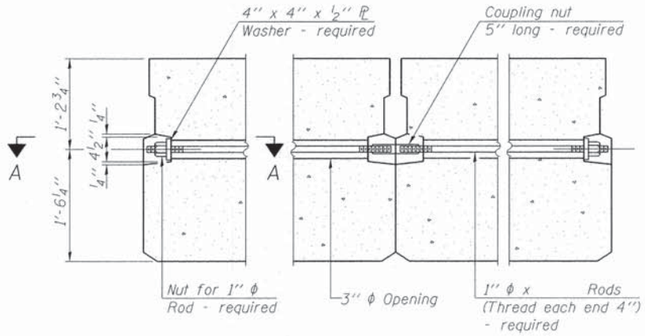
FABRIC BEARING PAD
(Exterior)
(4 required)

FIXED

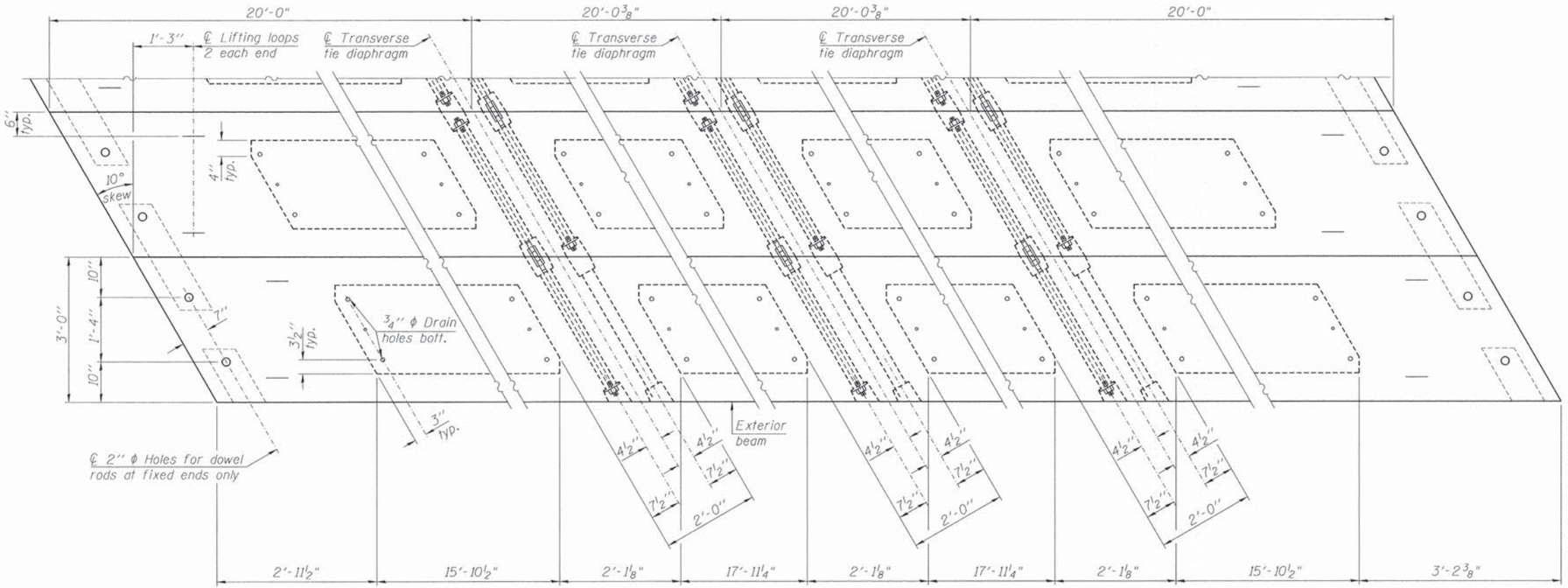
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

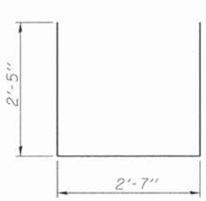


TYPICAL TRANSVERSE TIE ASSEMBLY

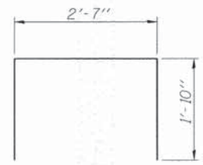


PLAN VIEW

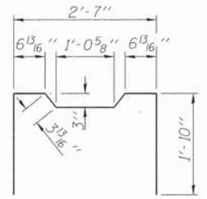
Note: Connect beams in pairs with the transverse tie configuration shown.



BAR S(E)



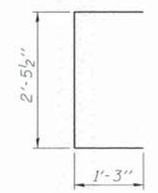
BAR S_1(E)



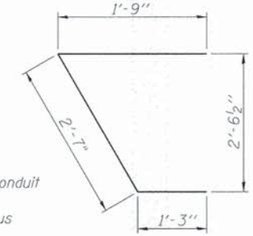
BAR S_2(E)

BAR S_3(E)

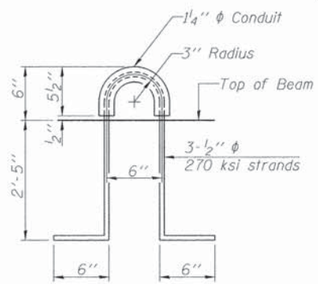
BAR S_4(E)



BAR U(E)



BAR U_1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ 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.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ 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.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	1922	Sq. Ft.

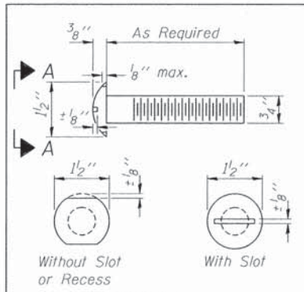
PD-3336-RD 7-1-10

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4\6114002\Drawings\Cad_Sheets\07_087-3583_PPCDetails.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 01 '1' / in.	CHECKED - ADB	REVISED -
05_Deck Beam Spans 1 and 3	PLOT DATE = 2/3/2015	DATE -	REVISED -

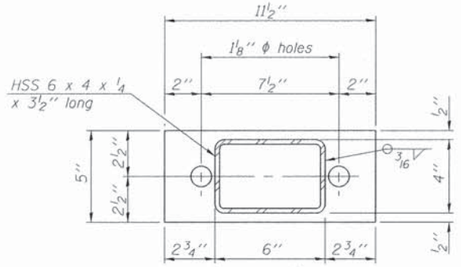
33" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 087-3583

SCALE: | SHEET 4 OF 7 SHEETS | STA. | TO STA.

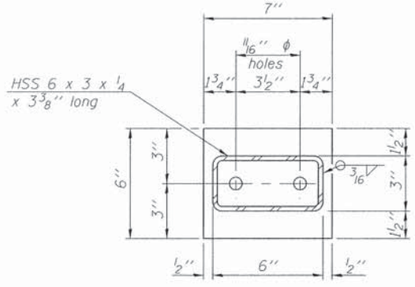
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	7
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		



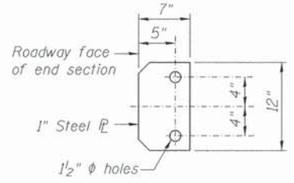
VIEW A-A
ROUND HEAD BOLT



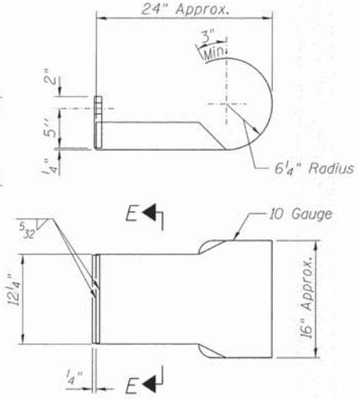
℄ 1/2" x 11 1/2" x 5"



℄ 1/2" x 7" x 6"

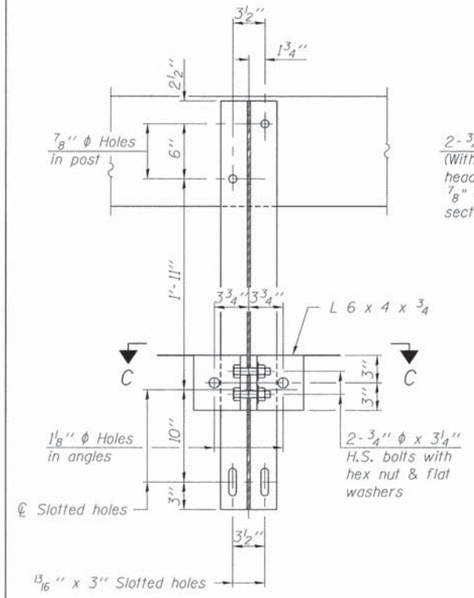


SECTION E-E

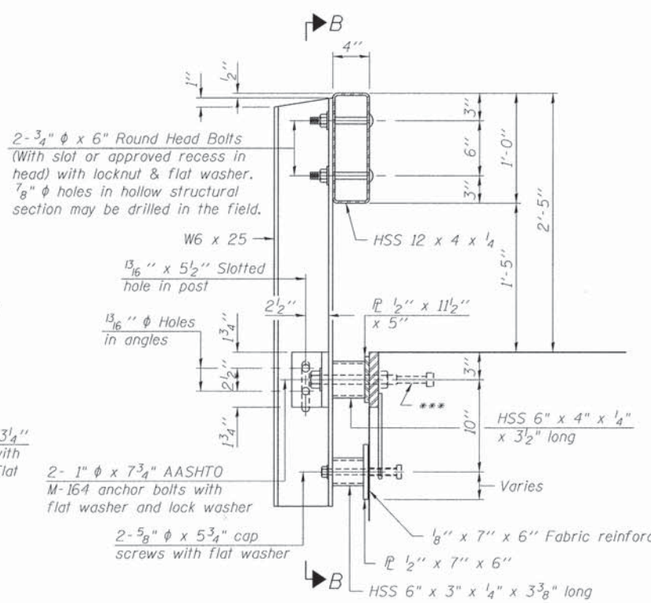


CURLED END SECTION DETAIL

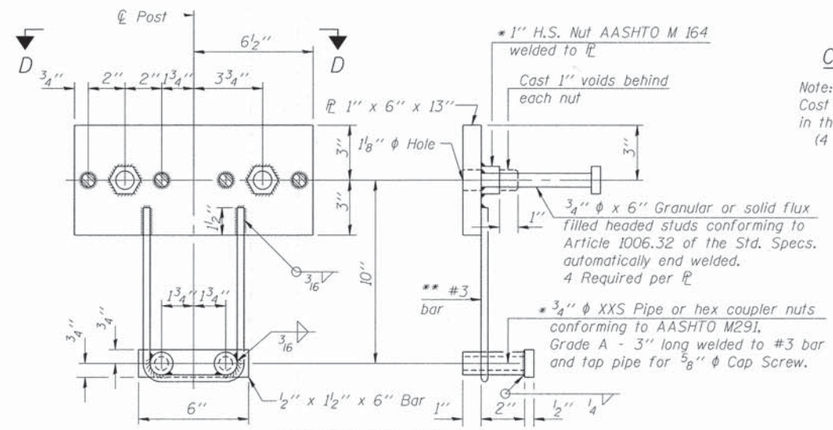
Note:
Cost of Curled End Sections shall be included in the cost of Steel Railing, Type S-1.
(4 Required)



SECTION B-B



SECTION AT RAILING POST

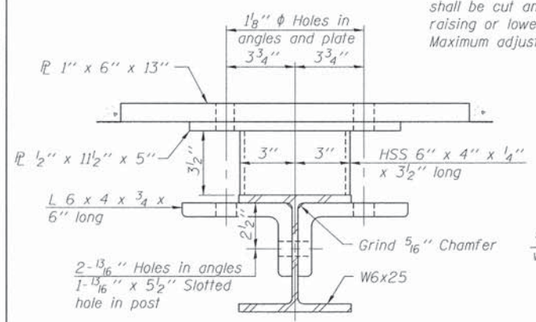


ANCHOR DEVICE

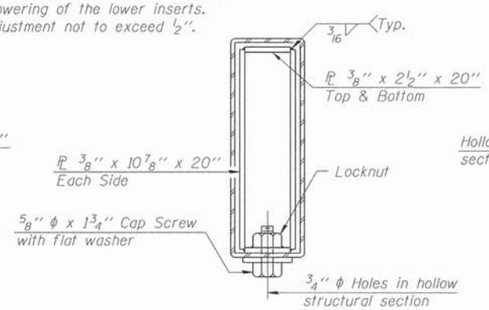
* Threaded areas shall be plugged or blocked off during casting of beam.

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
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 S-1.
All steel rail elements 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.

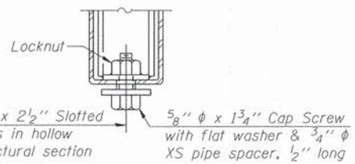
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



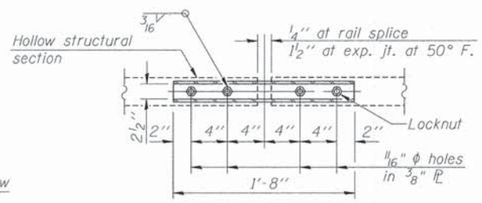
SECTION C-C



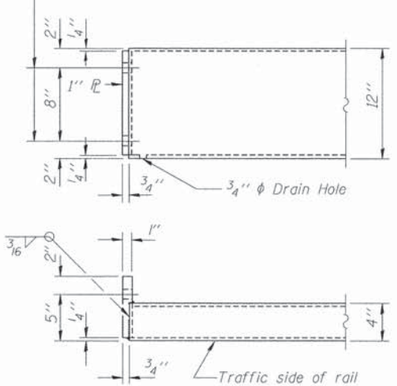
SECTIONS AT RAIL SPLICE



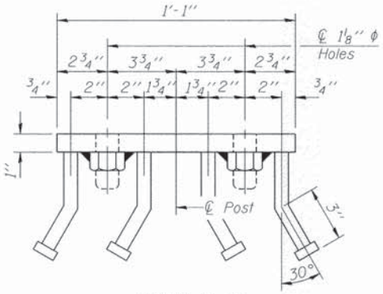
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE ℄ TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	163

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

FILE NAME =	USER NAME = Station 15	DESIGNED - ALB	REVISED -
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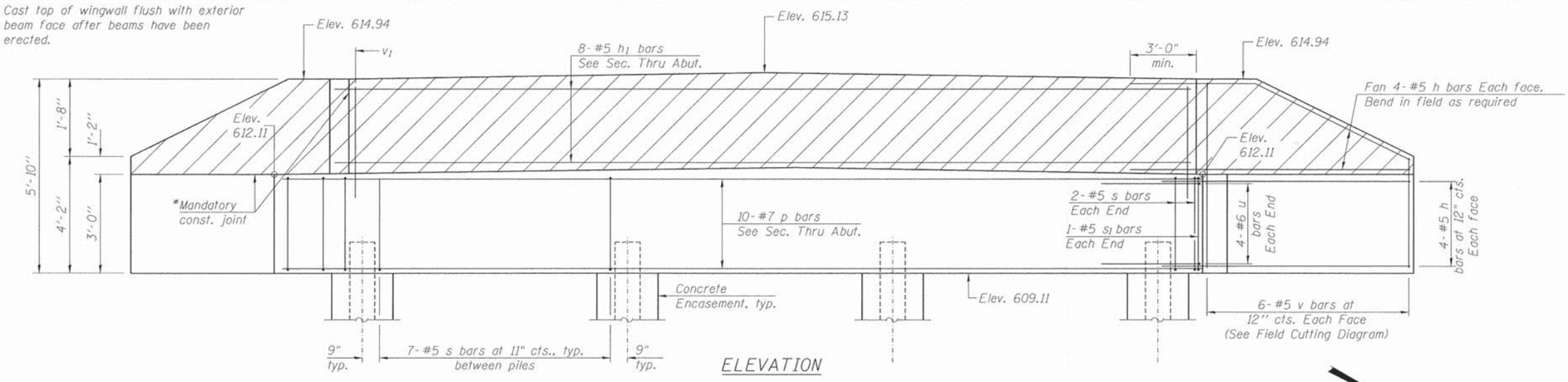
	PLOT SCALE = 0.9468 ' / in.	CHECKED - ADB	REVISED -
09_S1 Railing	PLOT DATE = 2/3/2015	DATE -	REVISED -

STEEL RAILING, TYPE S-1
STRUCTURE NO. 087-3583

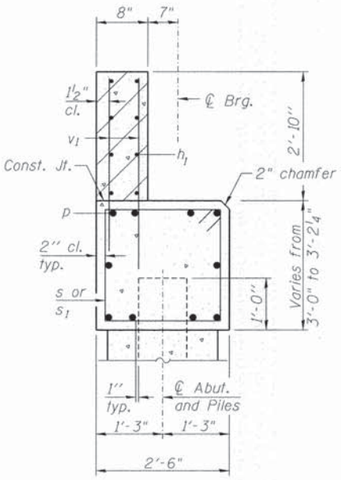
SCALE: SHEET 5 OF 7 SHEETS STA. TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	8
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

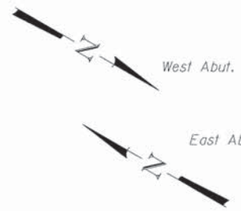
* Cast top of wingwall flush with exterior beam face after beams have been erected.

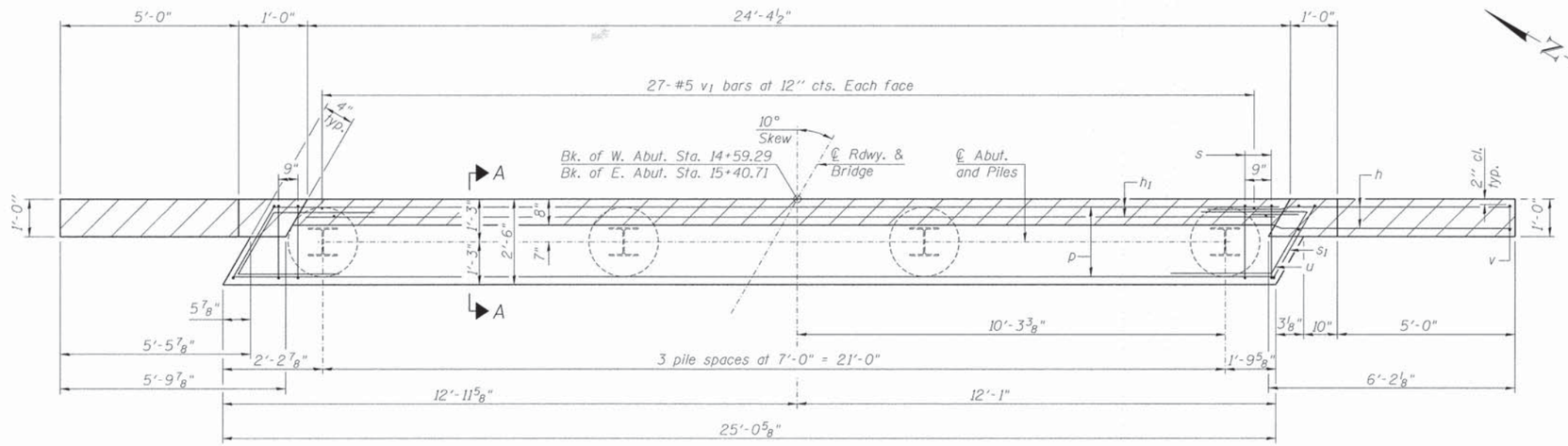


ELEVATION



SECTION A-A
(Dimensions are at Rt. L's)





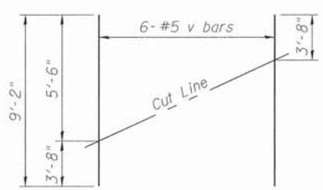
PLAN

BILL OF MATERIAL
(2 abutments)

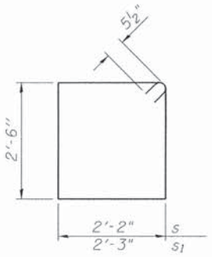
Bar	No.	Size	Length	Shape
h	64	#5	9'-4"	——
h_1	16	#5	24'-0"	——
p	20	#7	24'-8"	——
s	50	#5	10'-3"	□
s_1	4	#5	10'-5"	□
u	16	#6	11'-1"	⌐
v	24	#5	9'-2"	——
v_1	108	#5	4'-2"	——
Structure Excavation		Cu. Yd.	58	
Concrete Structures		Cu. Yd.	22.3	
Reinforcement Bars		Pound	3574	
Furnishing Steel Piles, HP10x42		Foot	228	
Driving Piles		Foot	228	
Test Pile, Steel HP10x42		Each	2	
Concrete Encasement		Cu. Yd.	2.8	

Notes:
For details of piles and Concrete Encasement, see sheet 10 of 30.
The hatched area shall be poured after beams are in place.

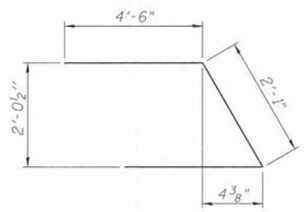
PILE DATA
Type: HP10x42
Nominal Required Bearing: 335 kips
Factored Resistance Available: 184 kips
Est. Length: 38 ft.
No. Production Piles: 3 (East), 3 (West)
No. Test Piles: 1 (East), 1 (West)



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



BARS s & s_1



BAR u

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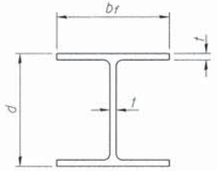
	PLOT DATE = 2/3/2015	CHECKED - ADB	REVISED -
		DATE -	REVISED -

ABUTMENT DETAILS
STRUCTURE NO. 087-3583

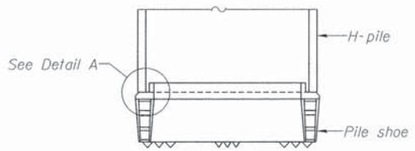
SCALE: | SHEET 6 OF 7 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	9
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

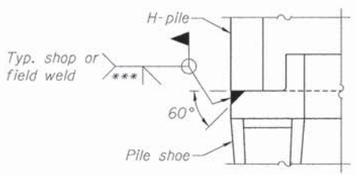


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}$''	$14\frac{7}{8}$''	$\frac{13}{16}$''	30''
x102	14''	$14\frac{3}{4}$''	$\frac{11}{16}$''	30''
x89	$13\frac{7}{8}$''	$14\frac{3}{4}$''	$\frac{5}{8}$''	30''
x73	$13\frac{5}{8}$''	$14\frac{5}{8}$''	$\frac{1}{2}$''	30''
HP 12x84	$12\frac{1}{4}$''	$12\frac{1}{4}$''	$\frac{11}{16}$''	24''
x74	$12\frac{1}{8}$''	$12\frac{1}{4}$''	$\frac{5}{8}$''	24''
x63	12''	$12\frac{1}{8}$''	$\frac{1}{2}$''	24''
x53	$11\frac{3}{4}$''	12''	$\frac{7}{16}$''	24''
HP 10x57	10''	$10\frac{1}{4}$''	$\frac{9}{16}$''	24''
x42	$9\frac{3}{4}$''	$10\frac{1}{8}$''	$\frac{7}{16}$''	24''
HP 8x36	8''	$8\frac{1}{8}$''	$\frac{7}{16}$''	18''

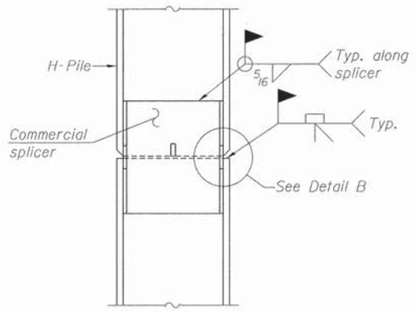


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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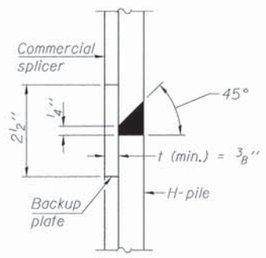
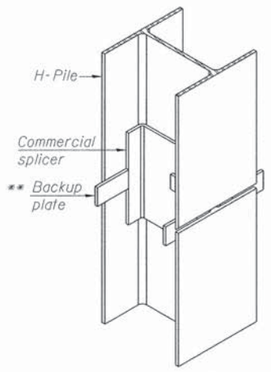
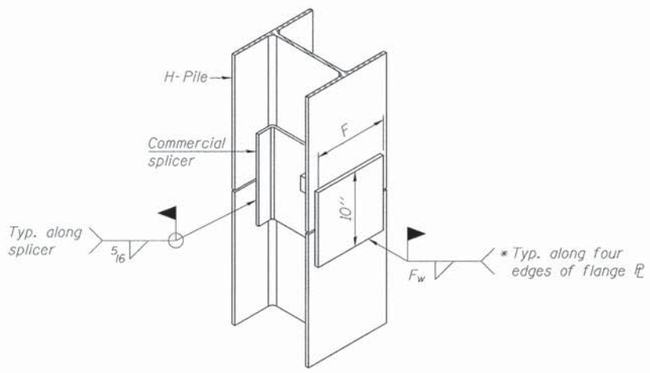


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



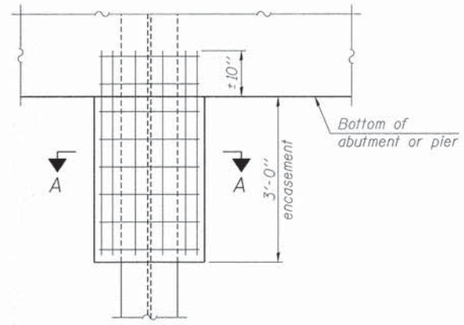
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

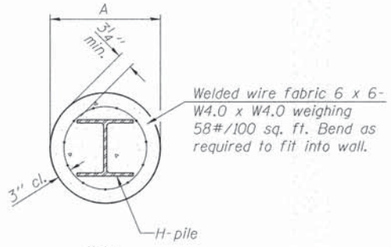
* Interrupt welds ¼'' from end of web and/or each flange.

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

*** Weld size per pile shoe manufacturer ($\frac{5}{16}$'' min.).



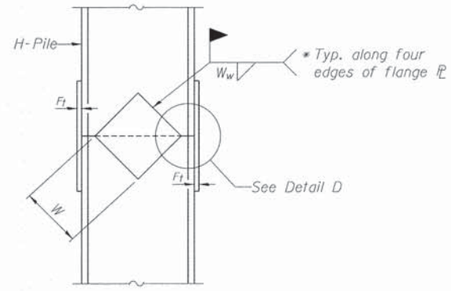
ELEVATION



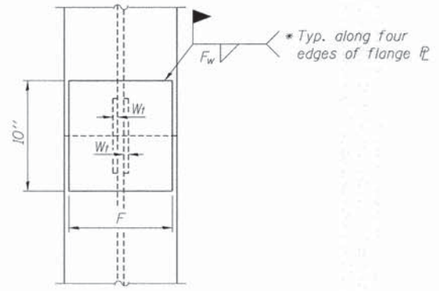
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

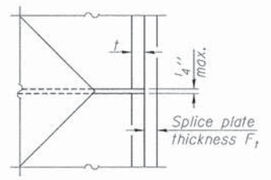
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	$12\frac{1}{2}$''	1''	$\frac{7}{8}$''	$7\frac{3}{4}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
x102	$12\frac{1}{2}$''	$\frac{7}{8}$''	$\frac{3}{4}$''	$7\frac{3}{4}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
x89	$12\frac{1}{2}$''	$\frac{3}{4}$''	$\frac{11}{16}$''	$7\frac{3}{4}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
x73	$12\frac{1}{2}$''	$\frac{5}{8}$''	$\frac{9}{16}$''	$7\frac{3}{4}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
HP 12x84	10''	$\frac{7}{8}$''	$\frac{11}{16}$''	$6\frac{1}{2}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
x74	10''	$\frac{7}{8}$''	$\frac{11}{16}$''	$6\frac{1}{2}$''	$\frac{5}{8}$''	$\frac{1}{2}$''
x63	10''	$\frac{5}{8}$''	$\frac{1}{2}$''	$6\frac{1}{2}$''	$\frac{1}{2}$''	$\frac{3}{8}$''
x53	10''	$\frac{5}{8}$''	$\frac{1}{2}$''	$6\frac{1}{2}$''	$\frac{1}{2}$''	$\frac{3}{8}$''
HP 10x57	8''	$\frac{3}{4}$''	$\frac{9}{16}$''	$5\frac{1}{4}$''	$\frac{1}{2}$''	$\frac{3}{8}$''
x42	8''	$\frac{5}{8}$''	$\frac{9}{16}$''	$5\frac{1}{4}$''	$\frac{1}{2}$''	$\frac{3}{8}$''
HP 8x36	7''	$\frac{5}{8}$''	$\frac{7}{16}$''	$4\frac{1}{4}$''	$\frac{1}{2}$''	$\frac{3}{8}$''

WELDED PLATE FIELD SPLICE

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

F-HP 7-1-10

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\10_087-3583-Pile Details\12_Pile Details	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 0.9445 '/ in.	CHECKED - ADB	REVISED -
	PLOT DATE = 2/3/2015	DATE -	REVISED -

HP PILE DETAILS
STRUCTURE NO. 087-3583

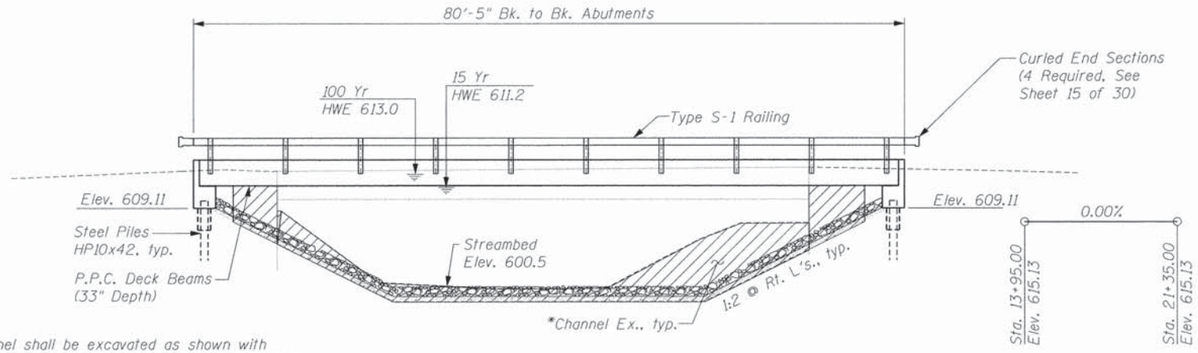
SCALE: | SHEET 7 OF 17 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	10
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

Benchmark: Railroad Spike in base of tree, Sta. 20+54.7, 29.1' Right, Elev. 608.39

Existing Structure: S.N. 087-3175 was built in 1974. Existing structure is a single span steel beam bridge on closed concrete abutments with timber piling. Road shall be closed to traffic during construction.

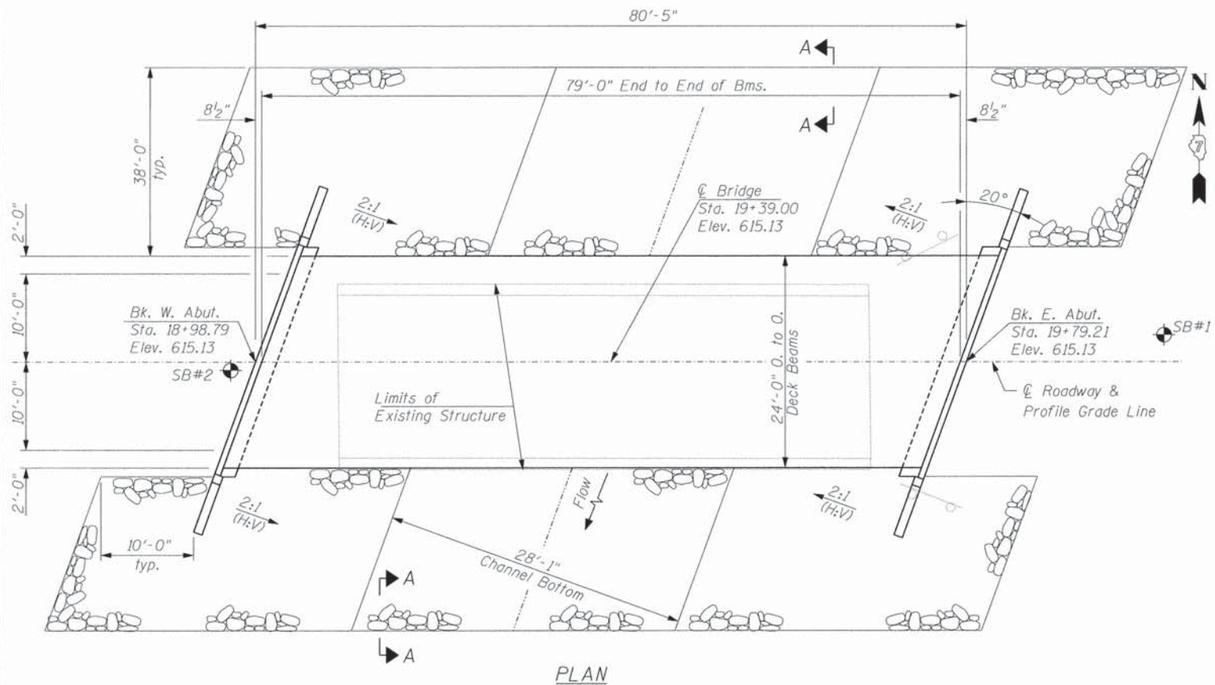
Salvage: Any materials deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Richland Road District. The Contractor shall dispose of all remaining materials.



*Channel shall be excavated as shown with 2:1 slopes within the R.O.W. Suitable excavated materials may be used in new embankments.

ELEVATION

PROFILE GRADE
(along ℄ roadway)



PLAN

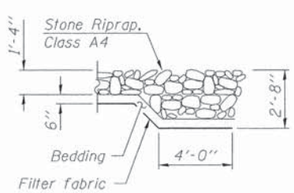
WATERWAY INFORMATION

Drainage Area = 20.1 mi²

Exist. Low Grade Elev. 608.80 @ Sta. 17+50
Prop. Low Grade Elev. 612.84 @ Sta. 12+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	3514	407	571	611.0	0.1	0.2	611.1	611.2
Base	100	5950	407	661	612.4	0.1	0.6	612.5	613.0
Max. Calc.	500	8060	407	661	613.4	0.1	0.7	613.5	614.1

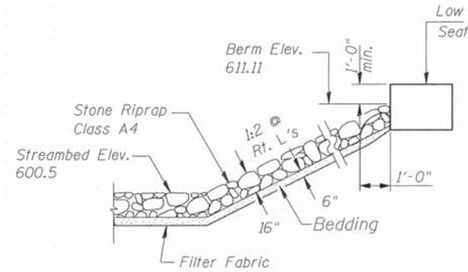
10 year velocity through existing bridge = 2.4 fps
10 year velocity through prop. bridge = 2.9 fps



SECTION A-A

TRIBUTARY TO RICHLAND CREEK
BUILT 20__ BY
RICHLAND ROAD DISTRICT
SHELBY COUNTY
SEC. 13-16121-00-BR
STATION 19+39.00
STR. NO. 087-3584 LOADING HL-93

LETTERING FOR NAME PLATE
Locate on the face of SW Wingwall
(See Std. 515001)



STONE RIPRAP DETAIL

DESIGN SPECIFICATIONS

2013 AASHTO LRFD Bridge Design Specifications, 6th 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
f's = 270,000 psi (½" ϕ low lax. strands)
fsi = 201,960 psi (½" ϕ low lax. strands)
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.134g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.302g
Soil Site Class = C

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	609.11	609.11

INDEX OF SHEETS

1. General Plan and Elevation
2. General Details
3. 33" PPC Deck Beam
4. 33" PPC Deck Beam Details
5. Steel Railing, Type S-1
6. Abutment Details
7. HP Pile Details

GENERAL NOTES

1. 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.
2. Boring data is shown in the special provisions only as a guide to the bidders in estimating soil conditions that may be encounted.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
4. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
5. Bridge salvage see removal of exsiting structure in the special provisions.

TOTAL BILL OF MATERIAL

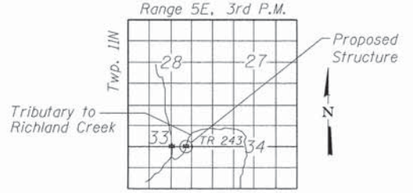
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		318	318
Stone Riprap, Class A4	Ton		857	857
Filter Fabric	Sq. Yd.		1102	1102
Removal of Existing Structure No. 2	Each		1	1
Structure Excavation	Cu. Yd.		65	65
Concrete Structures	Cu. Yd.		23.1	23.1
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1896		1896
Reinforcement Bars	Pound		3645	3645
Steel Railing, Type S1	Foot	161		161
Furnishing Steel Piles, HP10x42	Foot		168	168
Driving Piles	Foot		168	168
Test Pile, Steel HP10x42	Each		2	2
Name Plates	Each		1	1

ADAM D. BOHNHOFF 081-007431 EFFINGHAM
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

Adam D. Bohnhoff 2-4-15

Adam D. Bohnhoff — Date
Licensed Structural Engineer
State of Illinois No. 081-007431
Expires 11-30-2016

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.



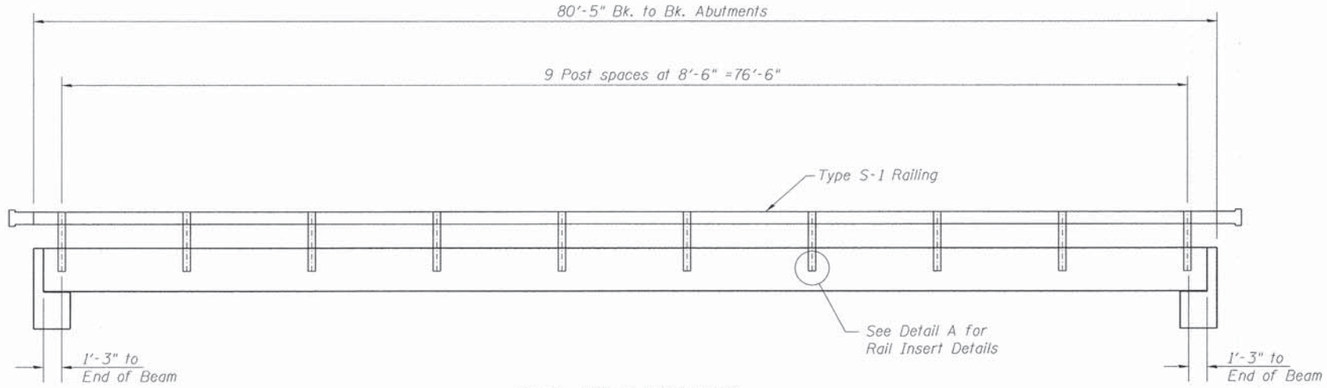
LOCATION SKETCH

GENERAL PLAN AND ELEVATION
T.R. 243 OVER
TRIBUTARY TO RICHLAND CREEK
SEC. 13-16121-00-BR
SHELBY COUNTY
STATION 19+39.00
STRUCTURE NO. 087-3584

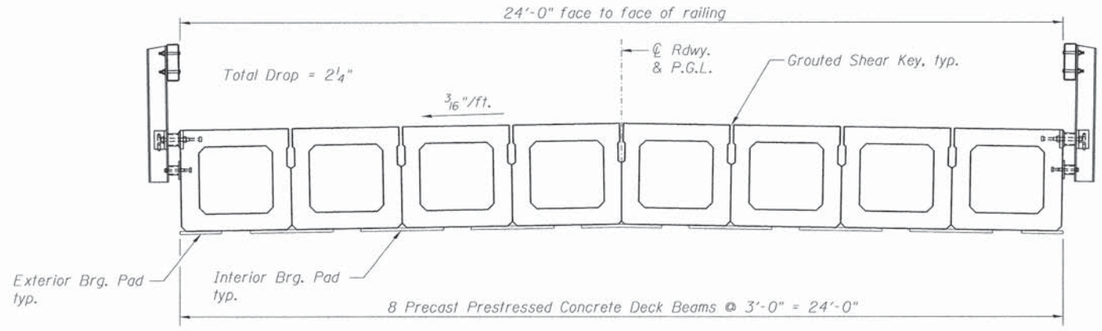
FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
$MODELNAME$	PLOT SCALE = $SCALE$	CHECKED - ADB	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

SCALE: | SHEET 1 OF 7 SHEETS | STA. | TO STA.

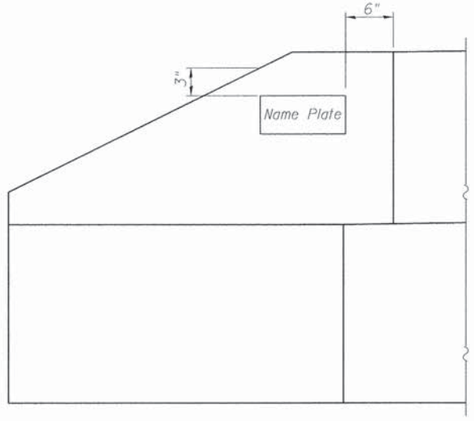
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	11
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



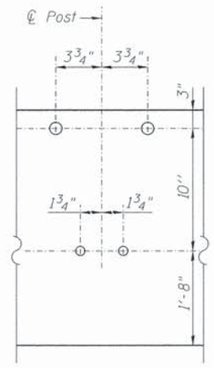
RAIL POST SPACING



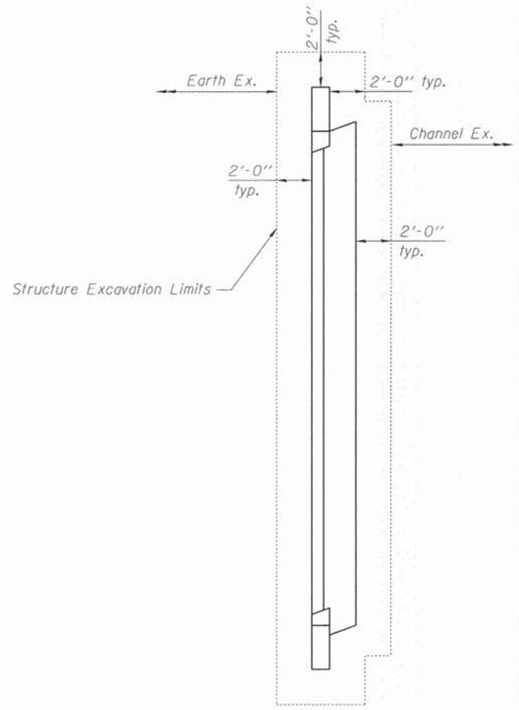
CROSS SECTION



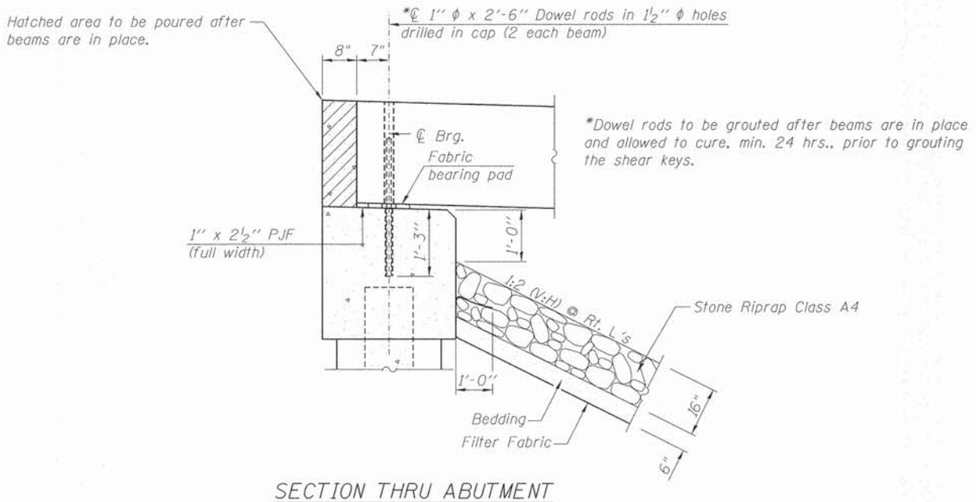
SOUTHWEST WINGWALL ELEVATION



DETAIL "A"



PARTIAL PLAN



SECTION THRU ABUTMENT

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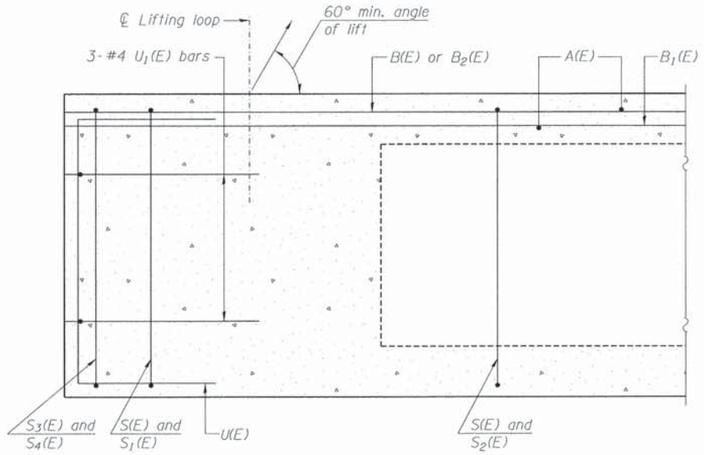
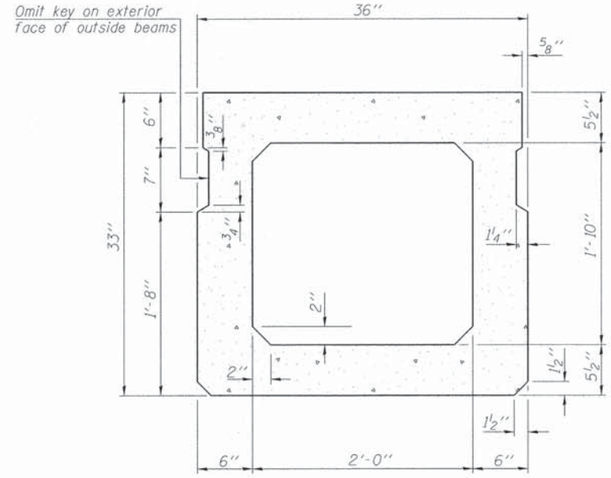
GENERAL DETAILS
STRUCTURE NO. 087-3584

SCALE: | SHEET 2 OF 7 SHEETS | STA. | TO STA.

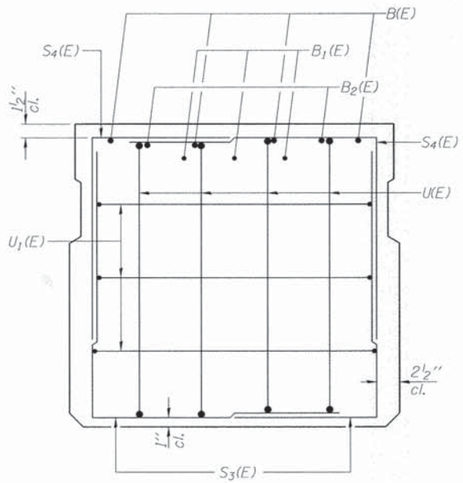
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	12
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



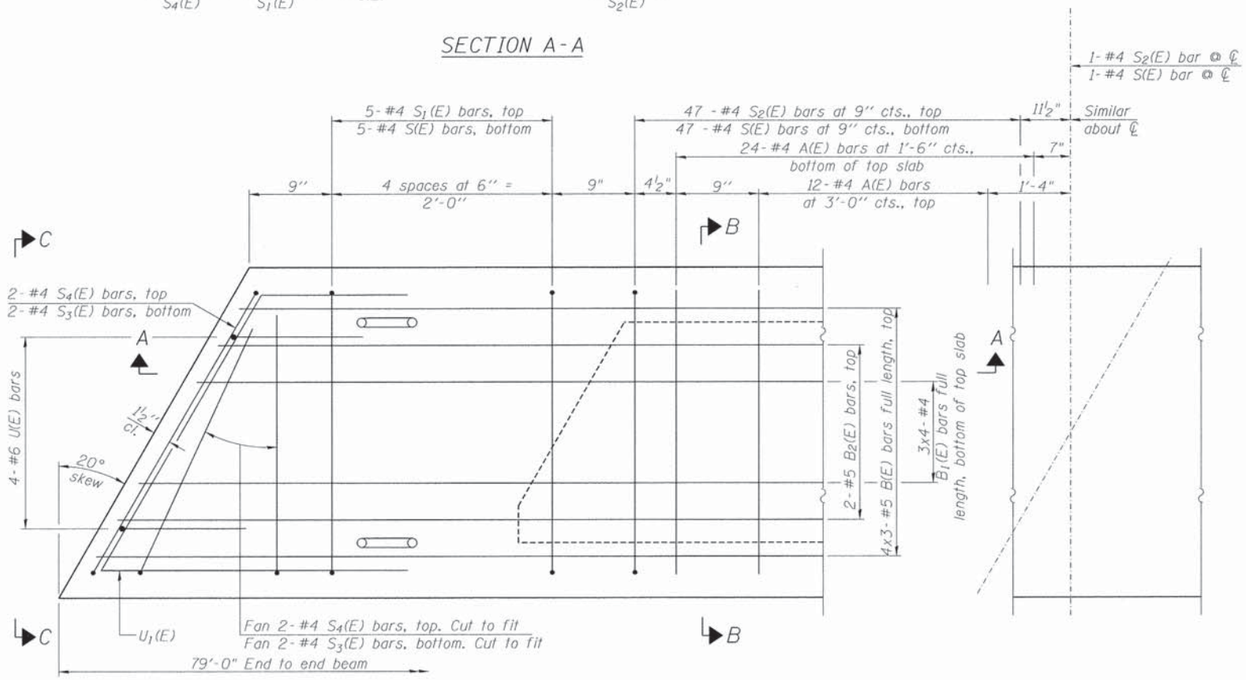
SECTION A-A



SECTION B-B
(Showing dimensions)

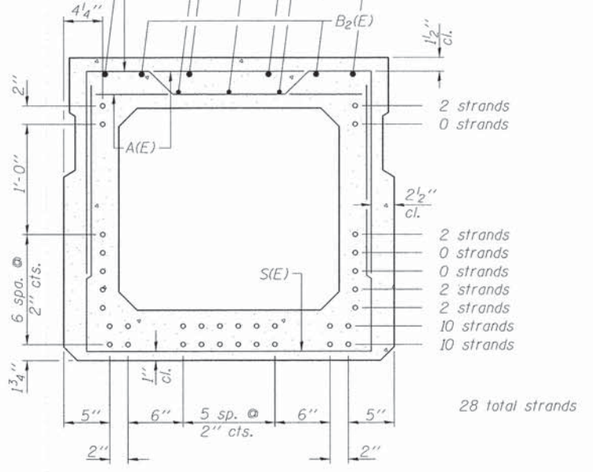


VIEW C-C



PLAN VIEW

Note: Spacing of S(E) and $S_2(E)$ 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)

28 total strands

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)	72	#4	2'-7"	—
B(E)	10	#5	27'-11"	—
$B_1(E)$	10	#4	21'-2"	—
$B_2(E)$	4	#5	10'-0"	—
S(E)	105	#4	7'-5"	⊏⊐
$S_1(E)$	12	#4	6'-3"	⊏⊐
$S_2(E)$	95	#4	6'-6"	⊏⊐
$S_3(E)$	8	#4	4'-10"	⊔
$S_4(E)$	8	#4	4'-3"	⊔
U(E)	8	#6	5'-0"	⊏⊐
$U_1(E)$	6	#4	6'-0"	⊏

Note: See sheet 14 of 30 for additional details and Bill of Material.
Reinforcement designated (E) shall be epoxy coated.
Bars indicated thus 3 x 4 -#4 etc. indicates 3 line of bars with 4 lengths per line.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

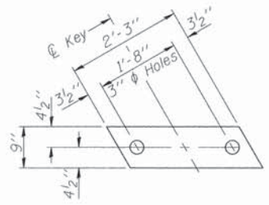
PD-3336-L 7-1-10

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4\6114002\Drawings\Cad_Sheets\13_087-3584_PPCDeckBeam\05_Deck Beam Spans 1 and 3	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 01 '1' / in.	CHECKED - ADB	REVISED -
	PLOT DATE = 2/3/2015	DATE -	REVISED -

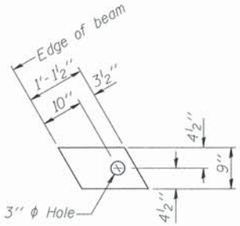
33" x 36" PPC DECK BEAM
STRUCTURE NO. 087-3584

SCALE: | SHEET 3 OF 7 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	13
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



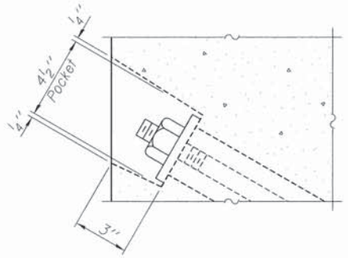
FABRIC BEARING PAD
(Interior)
(14 required)



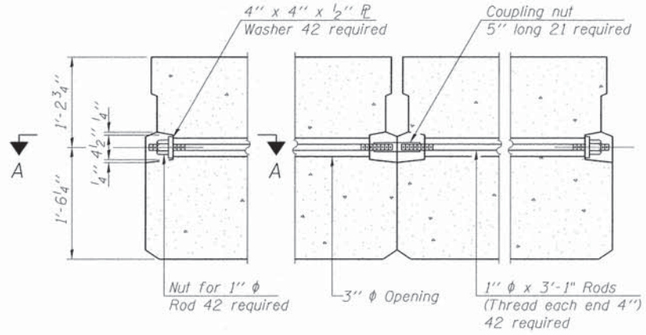
FABRIC BEARING PAD
(Exterior)
(4 required)

FIXED

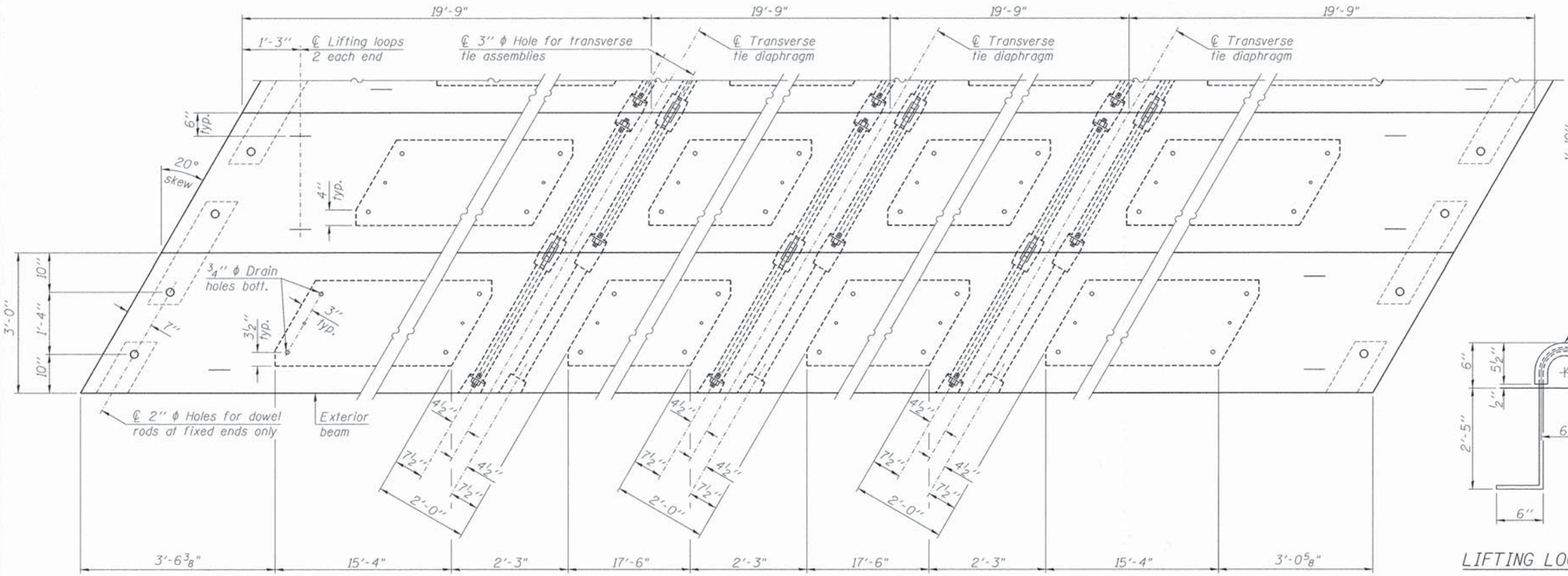
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

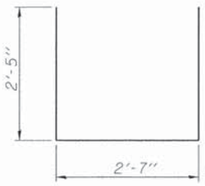


TYPICAL TRANSVERSE TIE ASSEMBLY

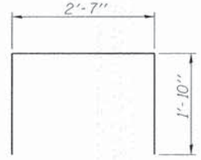


PLAN VIEW

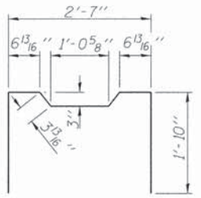
Note: Connect beams in pairs with the transverse tie configuration shown.



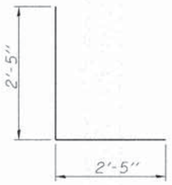
BAR S(E)



BAR S1(E)

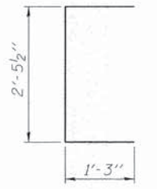


BAR S2(E)

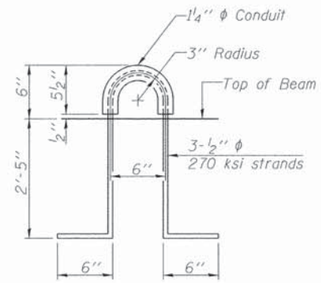


BAR S3(E)

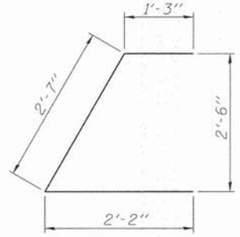
BAR S4(E)



BAR U(E)



LIFTING LOOP DETAIL



BAR U1(E)

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ 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.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ 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.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	1896	Sq. Ft.

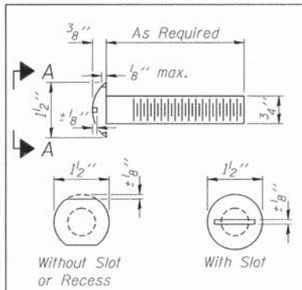
PD-3336-LD 7-1-10

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\14_087-3584_PPCDetails.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = Ø.1 '/ / in.	CHECKED - ADB	REVISED -
Ø5_Deck Beam Spans 1 and 3	PLOT DATE = 2/3/2015	DATE -	REVISED -

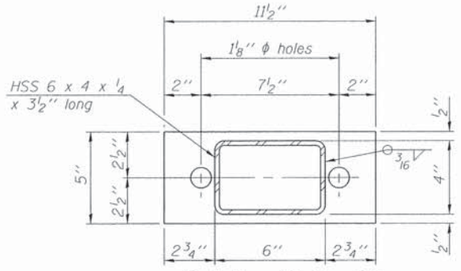
33" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 087-3584

SCALE: | SHEET 4 OF 7 SHEETS | STA. | TO STA.

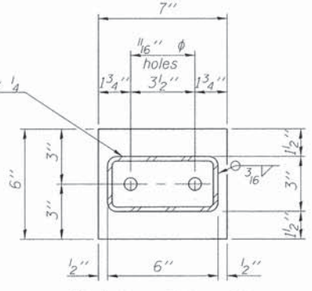
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	14
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



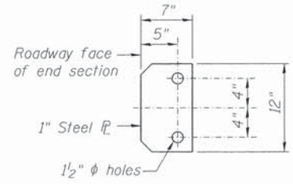
VIEW A-A
ROUND HEAD BOLT



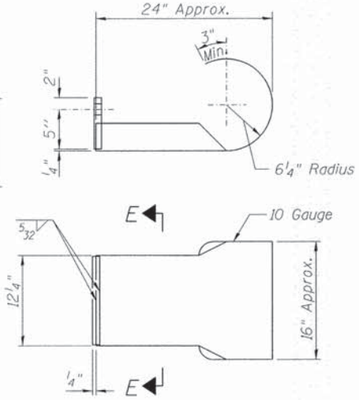
℄ 1/2" x 11 1/2" x 5"



℄ 1/2" x 7" x 6"

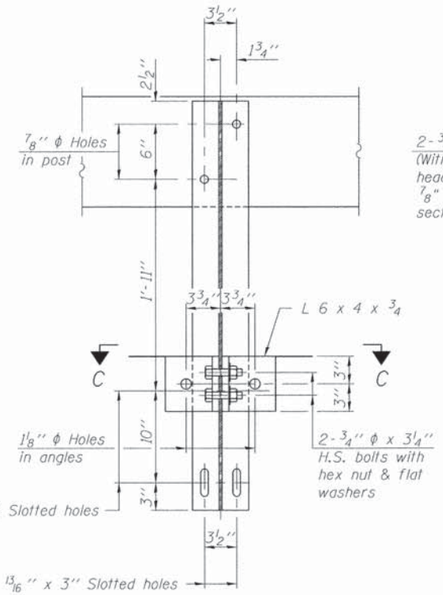


SECTION E-E

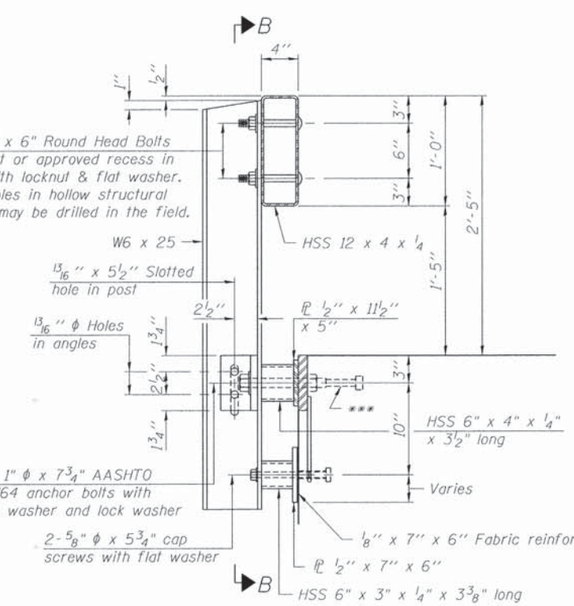


CURLED END SECTION DETAIL

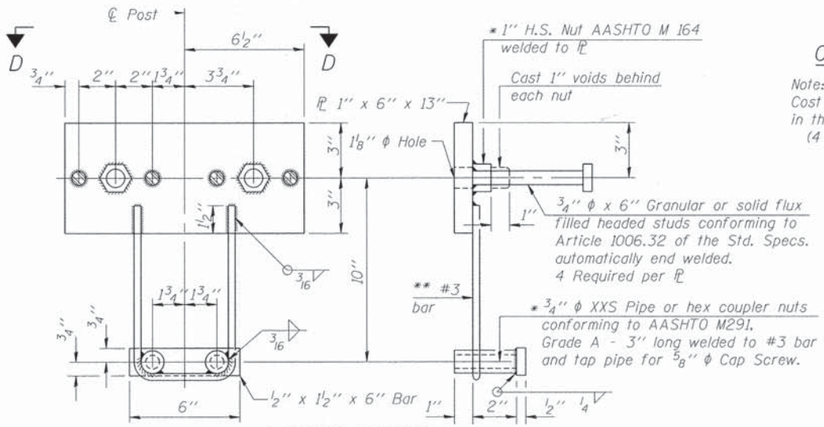
Note:
Cost of Curled End Sections shall be included in the cost of Steel Railing, Type S-1.
(4 Required)



SECTION B-B



SECTION AT RAILING POST

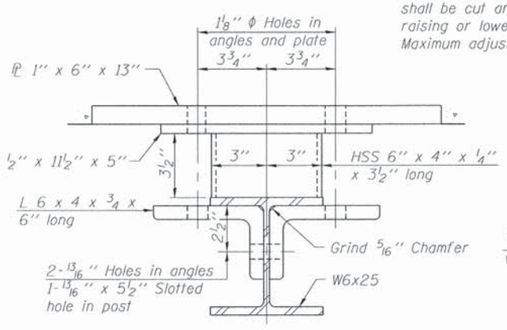


ANCHOR DEVICE

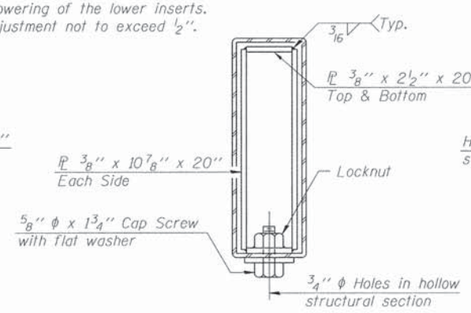
* Threaded areas shall be plugged or blocked off during casting of beam.

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
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 S-1.
All steel rail elements 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.

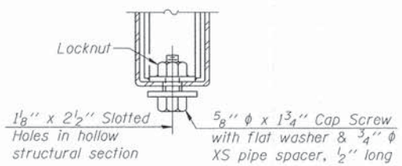
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



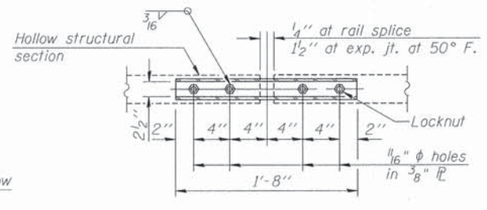
SECTION C-C



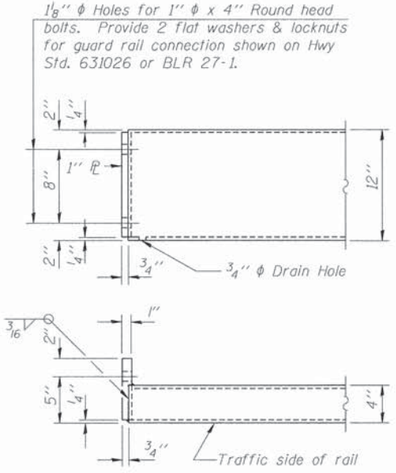
SECTIONS AT RAIL SPLICE



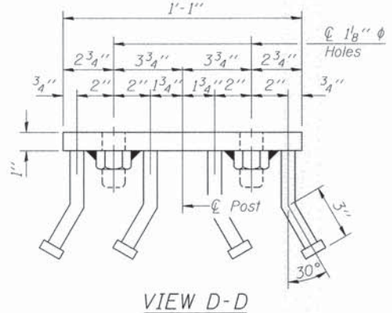
RAIL SPLICE CONNECTION
AT EXPANSION JT.



PLAN-BOTT. SPLICE ℄
TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	161

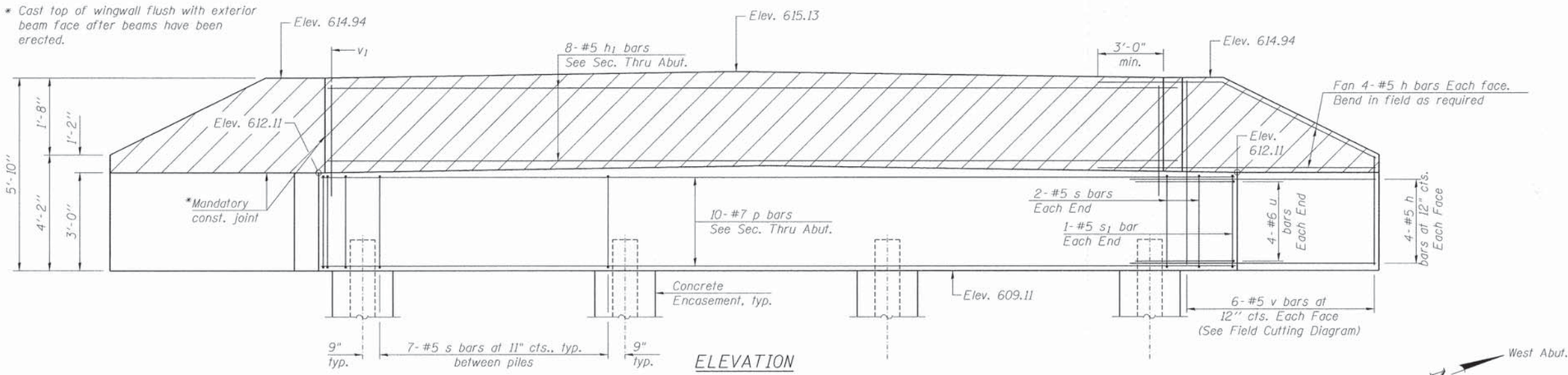
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4\6114002\Drawings\Cad_Sheets\15_087-3584-s-1a.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 0.9444 ' / in.	CHECKED - ADB	REVISED -
Ø9_S1 Railing	PLOT DATE = 2/3/2015	DATE -	REVISED -

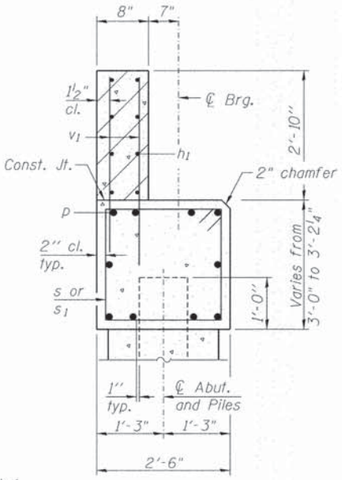
STEEL RAILING, TYPE S-1
STRUCTURE NO. 087-3584

SCALE: | SHEET 5 OF 7 SHEETS | STA. | TO STA.

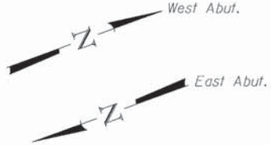
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	15
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

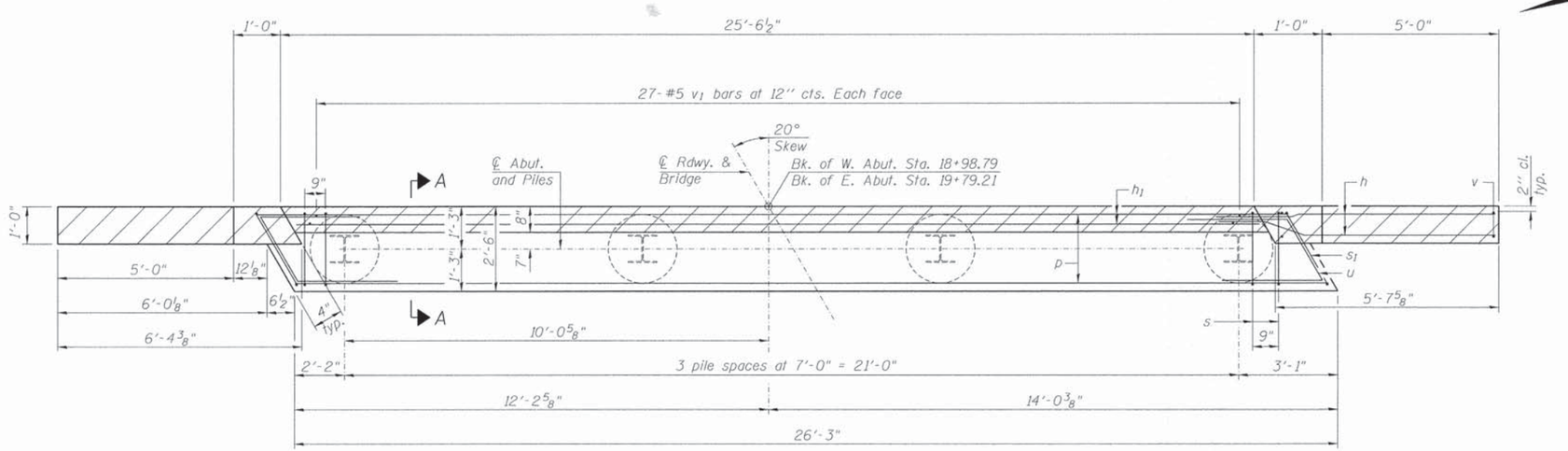


ELEVATION



SECTION A-A
(Dimensions are at Rt. L's)





PLAN

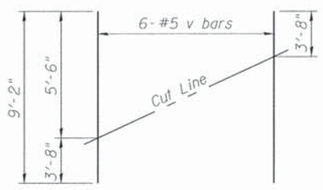
BILL OF MATERIAL
(2 abutments)

Bar	No.	Size	Length	Shape
h	64	#5	9'-4"	——
h_1	16	#5	25'-2"	——
p	20	#7	25'-11"	——
s	50	#5	10'-3"	⌐
s_1	4	#5	10'-5"	⌐
u	16	#6	11'-1"	⌐
v	24	#5	9'-2"	——
v_1	108	#5	4'-2"	——
Structure Excavation		Cu. Yd.	65	
Concrete Structures		Cu. Yd.	23.1	
Reinforcement Bars		Pound	3645	
Furnishing Steel Piles, HP10x42		Foot	168	
Driving Piles		Foot	168	
Test Pile, Steel HP10x42		Each	2	
Concrete Encasement		Cu. Yd.	2.8	

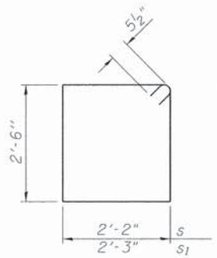
Notes:
For details of piles and Concrete Encasement, see sheet 17 of 29.
The hatched area shall be poured after beams are in place.

PILE DATA

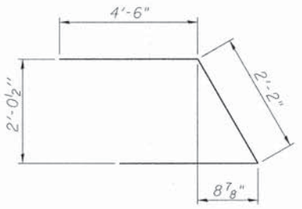
Type: HP10x42
Nominal Required Bearing: 335 kips
Factored Resistance Available: 184 kips
Est. Length: 28 ft.
No. Production Piles: 3 (East), 3 (West)
No. Test Piles: 1 (East), 1 (West)



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



BARS s & s_1



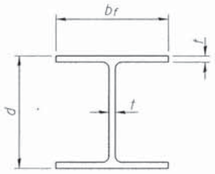
BAR u

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\16_087-3584-Abut_Det\16_Abutment	USER NAME = Station 15	DESIGNED - ALB	REVISED 5-13-14
		DRAWN - ALB	REVISED -
	PLOT SCALE = 01 '' / in.	CHECKED - ADB	REVISED -
	PLOT DATE = 2/3/2015	DATE -	REVISED -

ABUTMENT DETAILS
STRUCTURE NO. 087-3584

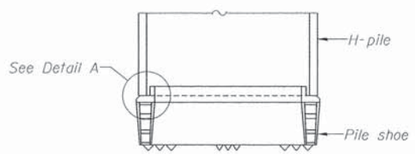
SCALE: | SHEET 6 OF 7 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	16
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

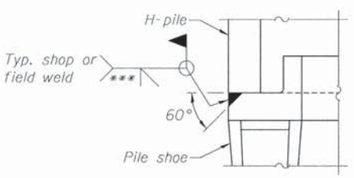


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	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"	11/16"	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"

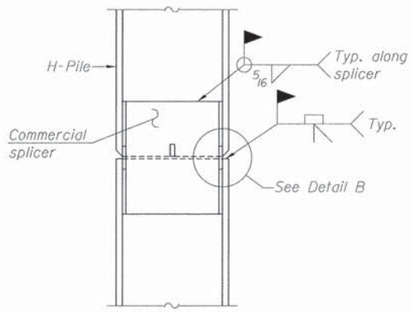


ELEVATION

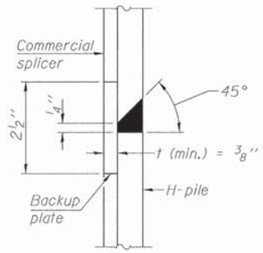


DETAIL A

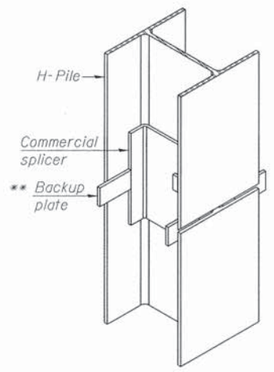
H-PILE SHOE ATTACHMENT



ELEVATION

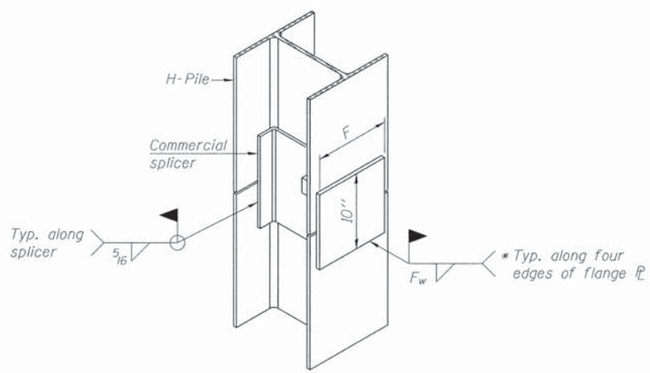


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



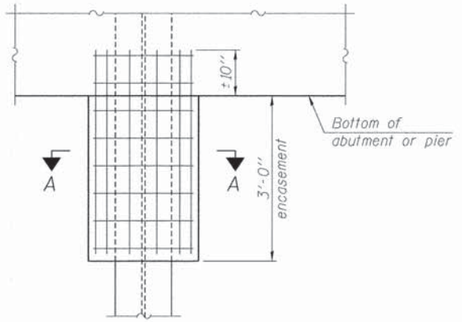
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

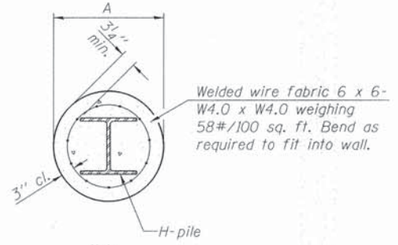
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



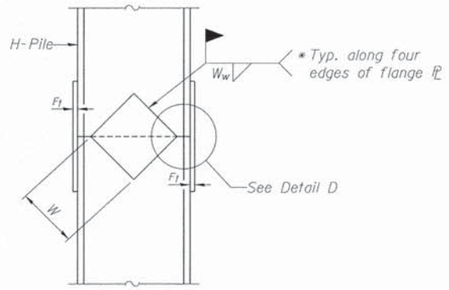
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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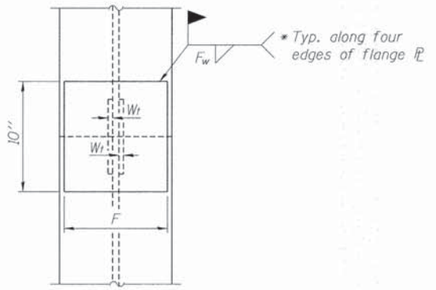
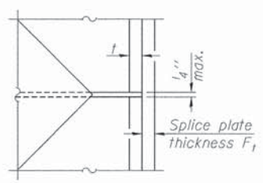


END VIEW



DETAIL D

Designation	F	F_f	F_w	W	W_f	W_w
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"	11/16"	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"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	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"

WELDED PLATE FIELD SPLICE

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

F-HP 7-1-10

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4\6114002\Drawings\Cad_Sheets\17_087-3584-PileDetails\12_Pile Details	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 0.9457 ' / in.	CHECKED - ADB	REVISED -
	PLOT DATE = 2/3/2015	DATE -	REVISED -

HP PILE DETAILS
STRUCTURE NO. 087-3584

SCALE: | SHEET 7 OF 7 SHEETS | STA. | TO STA.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	17
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

SEE PLAN AND PROFILE (SHEET 3 OF 30) FOR BORING LOCATIONS

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Page 1 of 1

Bridge Foundation Boring Log

Project: H-13272
Section: 13-16121-00-BR
Structure: 087-3320
County: Shelby
Bridge TR243 over Richland Creek
Station
Date: 12/18/13
Bored by: B. Schwartz
Checked by: T. Holcomb

Boring No: 1
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 600.2
Upon Completion 601.2

	Elevation	N	Qu tsf	w %
Ground Surface	611.2	0		
3" A-3 Surface				
Gray Sandy CLAY (A-6)		12	1.7S	17
	-5	16	2.5S	22
	605.2			
Gray Mottled Brown Silty CLAY to CLAY (A-6) with sand		6	1.4S	25
	-10	6	2.0B	26
	600.2			
Gray CLAY (A-6) with sand and gravel		4	1.0B	22
	597.7			
Gray Sandy CLAY (A-6) with pebbles		13	3.9S	9
	-15			
		30	3.9S	8
	-20	33	2.9S	9
		32	4.2S	8
sandy clay (continued)				
	587.7			
Brown Mottled Gray CLAY (A-6) with pebbles		69	3.7S	16
	-25			
	585.2			
Gray Silty CLAY (A-6) with limestone fragments		85	4.2S	14
	-30	130	2.9B	13
	577.7			
Gray SHALE		100/6"	5.9S	15
	-35			
	575.2			
Gray LIMESTONE		100/1"	--	3
	572.2	100/1"	--	-
End of Boring @ -39.0'	-40			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
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Page 1 of 1

Bridge Foundation Boring Log

Project: H-13272
Section: 13-16121-00-BR
Structure: 087-3320
County: Shelby
Bridge TR243 over Richland Creek
Station
Date: 12/18/13
Bored by: B. Schwartz
Checked by: T. Holcomb

Boring No: 2
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 598.5
Upon Completion 602.0

	Elevation	N	Qu tsf	w %
Ground Surface	612.0	0		
A-3 Surface over 3" Crushed Stone				
Gray Silty to Sandy CLAY (A-6)		13	3.6S	17
	608.5			
Brown Mottled Gray Silty CLAY (A-6)		16	--	14
	-5			
		13	--	6
	603.5			
Gray Mottled Brown Silty to Sandy CLAY (A-6)		8	3.1B	17
	-10			
		2	--	17
	598.5			
Gray Sandy CLAY (A-6) with pebbles		18	3.3S	8
	-15			
		26	3.0S	8
	-20	34	4.2S	10
		77	1.7S	8
sandy clay (continued)				
	-25	34	0.8S	9
		45	1.4S	12
	-30	100/3"	2.8S	12
	581.0	100/1"	--	5
Gray LIMESTONE				
	578.5			
Gray LIMESTONE with clay seams	-35	41	--	6
		100/1"	--	10
Auger Refusal	573.0			
End of Boring @ -39.0'	-40			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4\6114002\Drawings\Cad_Sheets\18_Borings.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
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12_Pile Details	PLOT DATE = 2/3/2015	CHECKED - ADB	REVISED -
		DATE -	REVISED -

BORING LOGS

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

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	18
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

SEE PLAN AND PROFILE (SHEET 3 OF 30) FOR BORING LOCATIONS

HOLCOMB FOUNDATION ENGINEERING INC.
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Bridge Foundation Boring Log

Project: H-13273 Bridge TR243 over Richland Creek Trib. Date: 12/19/13
Section: 13-16122-00-BR Station
Structure: 087-3175 Bored by: B. Schwartz
County: Shelby Checked by: T. Holcomb

Boring No: 1
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 598.4
Upon Completion 597.9

Elevation	N	Qu tsf	w %
Ground Surface 611.9 (0)			
1" A-3 Surface/4" Crushed Stone			
Brown Mottled Gray Sandy CLAY (A-6) with pebbles	41	3.6S	5
-5	4	1.7S	17
605.9			
Gray Mottled Brown Silty CLAY (A-6) with sand	5	1.9S	25
-10	7	2.2S	22
600.9			
Gray Mottled Brown Sandy CLAY (A-6)	2	0.4B	24
598.4			
Brown SAND (A-2-4) with gravel			
-15	3	--	21
595.9			
Gray Weathered SHALE	17	1.8S	13
593.4			
Gray SHALE			
-20	20	1.8S	15
	100/5"	--	13
shale (continued)			
-25	100/6"	3.6S	15
585.4	100/5"	2.6S	15
End of Boring @ -26.5'			
-30			
-35	100		
	100		
-40			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
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Bridge Foundation Boring Log

Project: H-13273 Bridge TR243 over Richland Creek Trib. Date: 12/19/13
Section: 13-16122-00-BR Station
Structure: 087-3175 Bored by: B. Schwartz
County: Shelby Checked by: T. Holcomb

Boring No: 2
Station:
Offset:

Surface Water Elev.
Ground Water Elev. During Drilling 601.2
Upon Completion 602.2

Elevation	N	Qu tsf	w %
Ground Surface 612.2 (0)			
1.5" A-3 Surface/1" Crushed Stone			
Brown Sandy CLAY (A-6) with pebbles			
610.2	42	1.5S	14
Gray Sandy CLAY (A-6) with pebbles			
608.7			
Brown Sandy CLAY (A-6)			
-5	11	1.5S	18
	4	0.6S	11
603.7			
Gray Sandy CLAY (A-6)			
-10	6	1.9S	14
601.2			
Brown Mottled Gray Clayey SAND (A-2-4)	3	2.3B	20
-15	7	--	23
596.2			
Gray Weathered Shale	18	2.8S	14
-20	19	--	17
591.2			
Gray SHALE	100/4"	3.5S	16
shale (continued)			
-25	100/6"	3.5S	14
585.2	100/2"	2.5S	16
End of Boring @ -27.0'			
-30			
-35	100		
	100		
-40			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

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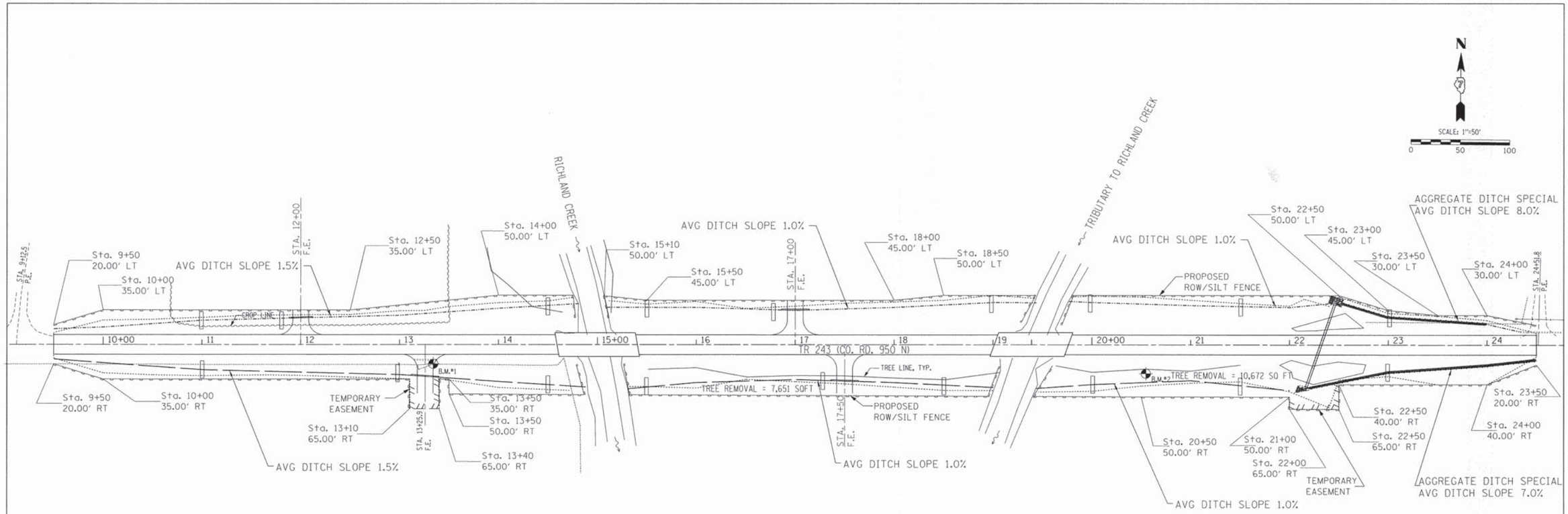
	6114002\Drawings\Cad_Sheets\18_Borings.dgn	DRAWN - ALB	REVISED -
	PLOT SCALE = 0.9444 '/ in.	CHECKED - ADB	REVISED -
	PLOT DATE = 2/3/2015	DATE -	REVISED -

BORING LOGS

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

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	19
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



GENERAL NOTES:

1. SEEDING CL. 2 WITH FERTILIZER AND MULCH WITHIN CONSTRUCTION LIMITS AND ALL DISTURBED AREAS.
2. PERIMETER EROSION BARRIER NEEDS TO BE ERECTED AS DIRECTED BY THE ENGINEER BEFORE ANY WORK BEGINS SEE STD. 280001.
3. MAINTENANCE OF ALL EROSION CONTROL DEVICES WILL BE PERFORMED IMMEDIATELY AFTER A RAIN EVENT OR ANY DISTURBANCE OF THE CONTROL.
4. REMOVAL AND PROPER CLEAN UP OF ALL TEMPORARY EROSION DEVICES WILL BE REQUIRED AFTER PERMANENT EROSION CONTROL IS IN PLACE AND FUNCTIONING.

TOTAL AREA OF CONSTRUCTION : 131,033 S.F.

ESTIMATED RUNOFF COEFFICIENT AFTER CONSTRUCTION:
COURSE TEXTURED GRASS
SOIL GREATER THAN 40% CLAY
MODERATE SLOPE
C=0.25

LEGEND

PERIMETER EROSION BARRIER

DITCH CHECK

TEMPORARY DITCH CHECK SCHEDULE

STATION	LT	RT	LENGTH
11+00	25'	25'	12'
11+80	27'		6'
13+00		30'	6'
14+50	40'	40'	12'
15+50	38'	43'	12'
16+75	35'		6'
17+25		36'	6'
18+50		42'	6'
19+00	42'		6'
20+00	42'	40'	12'
21+50	40'	42'	12'
23+00	28'	28'	12'

BILL OF MATERIAL

ITEM	UNIT	QTY
TEMPORARY EROSION CONTROL SEEDING	POUND	400
TEMPORARY DITCH CHECKS	FOOT	108
PERIMETER EROSION BARRIER	FOOT	3175

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	PLOT DATE = 2/3/2015	DATE -	REVISED -

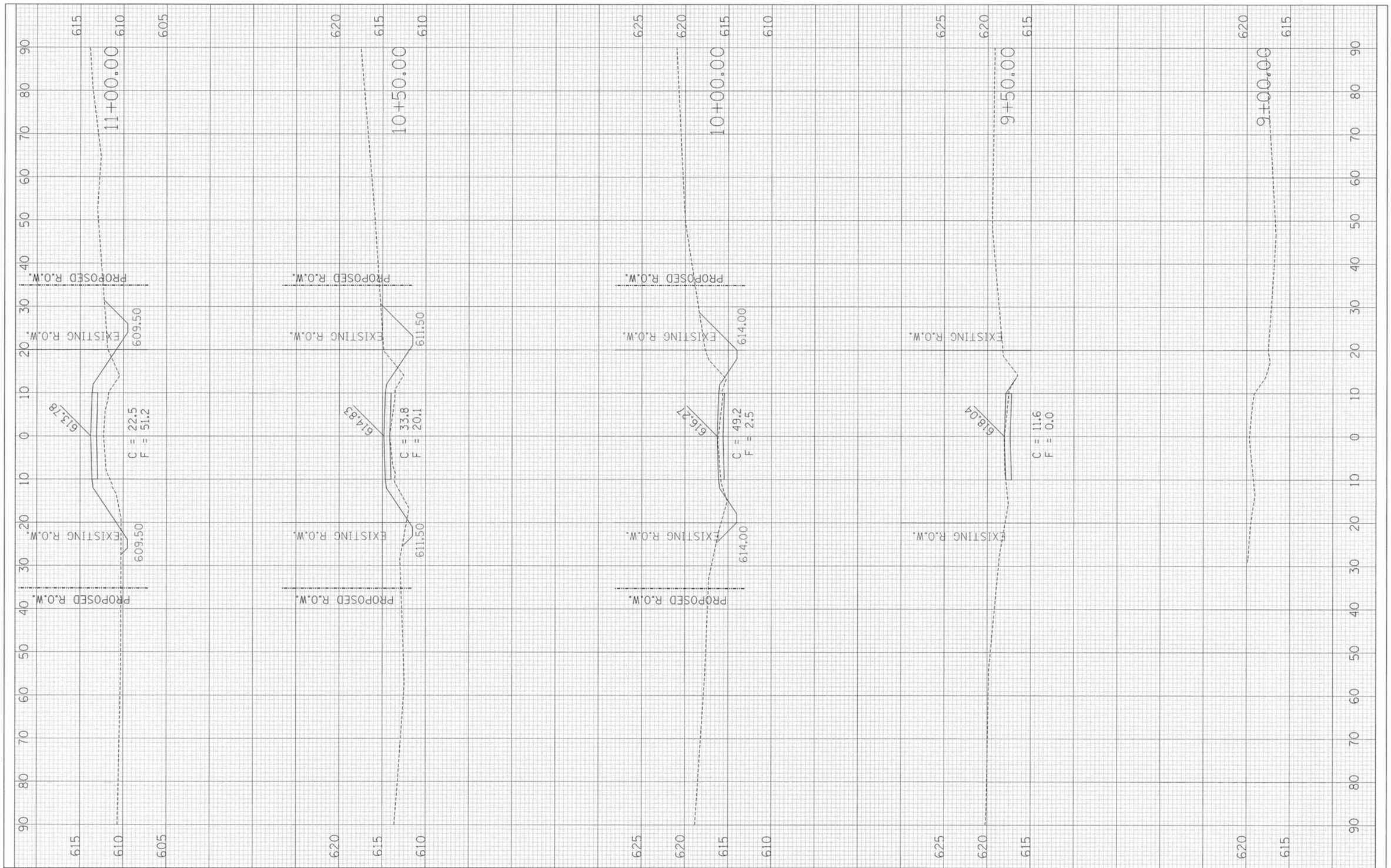
EROSION CONTROL PLAN

SCALE: 1"=50' | SHEET 1 OF 1 SHEETS | STA. 9+00 TO STA. 21+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	20
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

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

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



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		DRAWN - ALB	REVISED -
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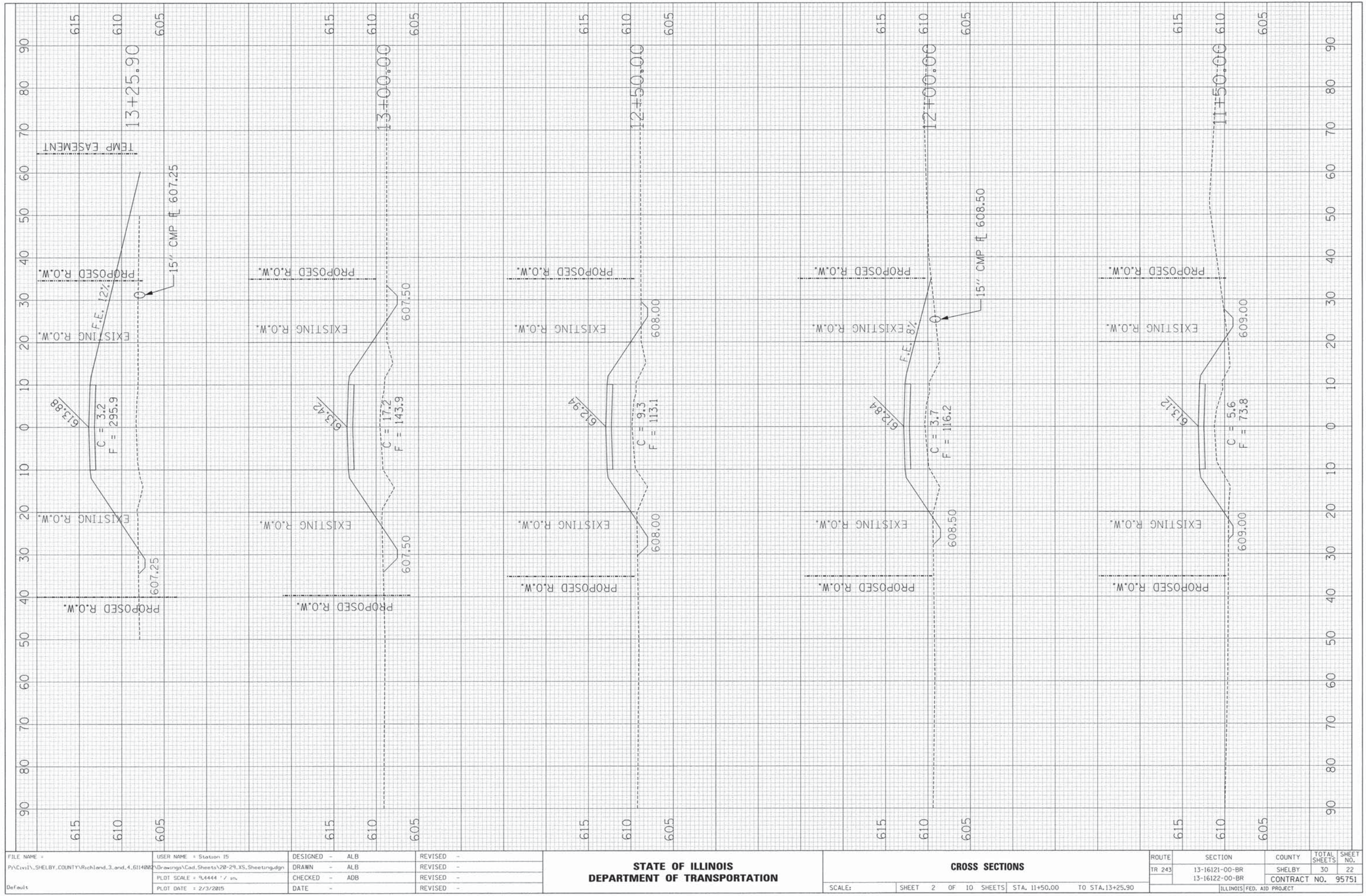
Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 1 OF 10 SHEETS | STA. 9+00.00 TO STA. 11+00.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
IR 243	13-16121-00-BR	SHELBY	30	21
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		



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

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

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Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

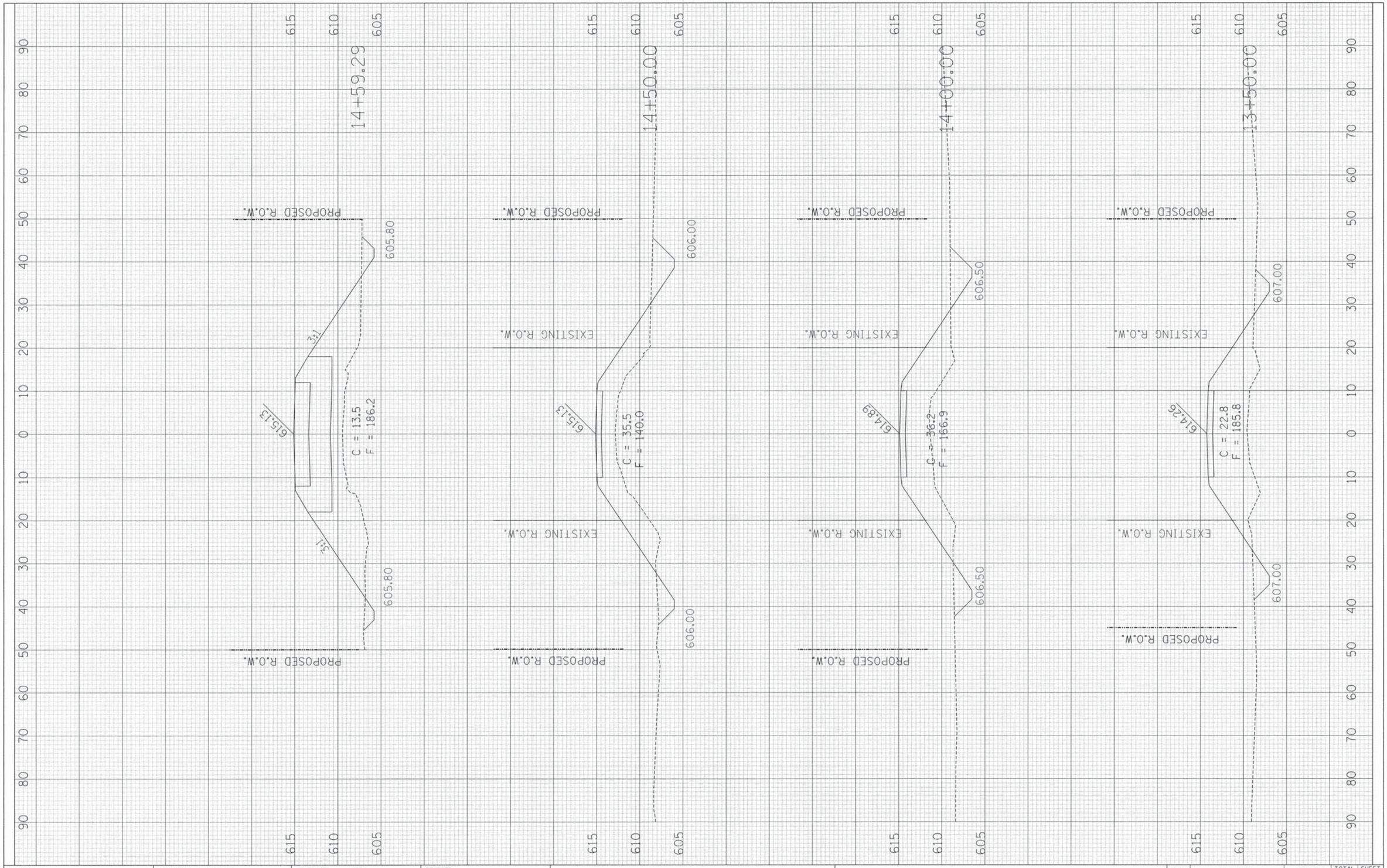
CROSS SECTIONS

SCALE: | SHEET 2 OF 10 SHEETS | STA. 11+50.00 | TO STA. 13+25.90

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	22
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

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

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



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Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

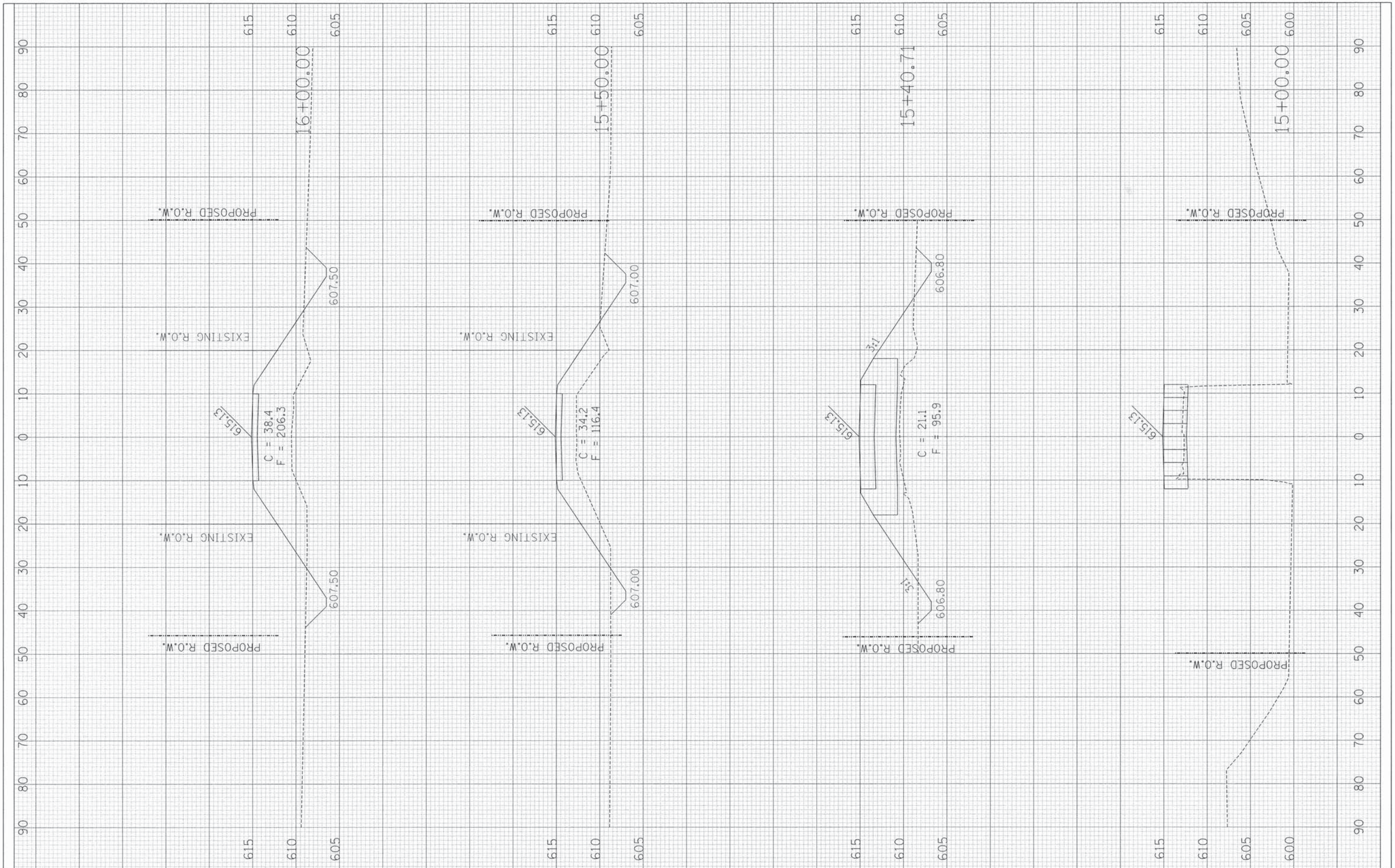
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 3 OF 10 SHEETS | STA. 13+50.00 | TO STA. 14+59.11

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	23
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

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



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

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Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

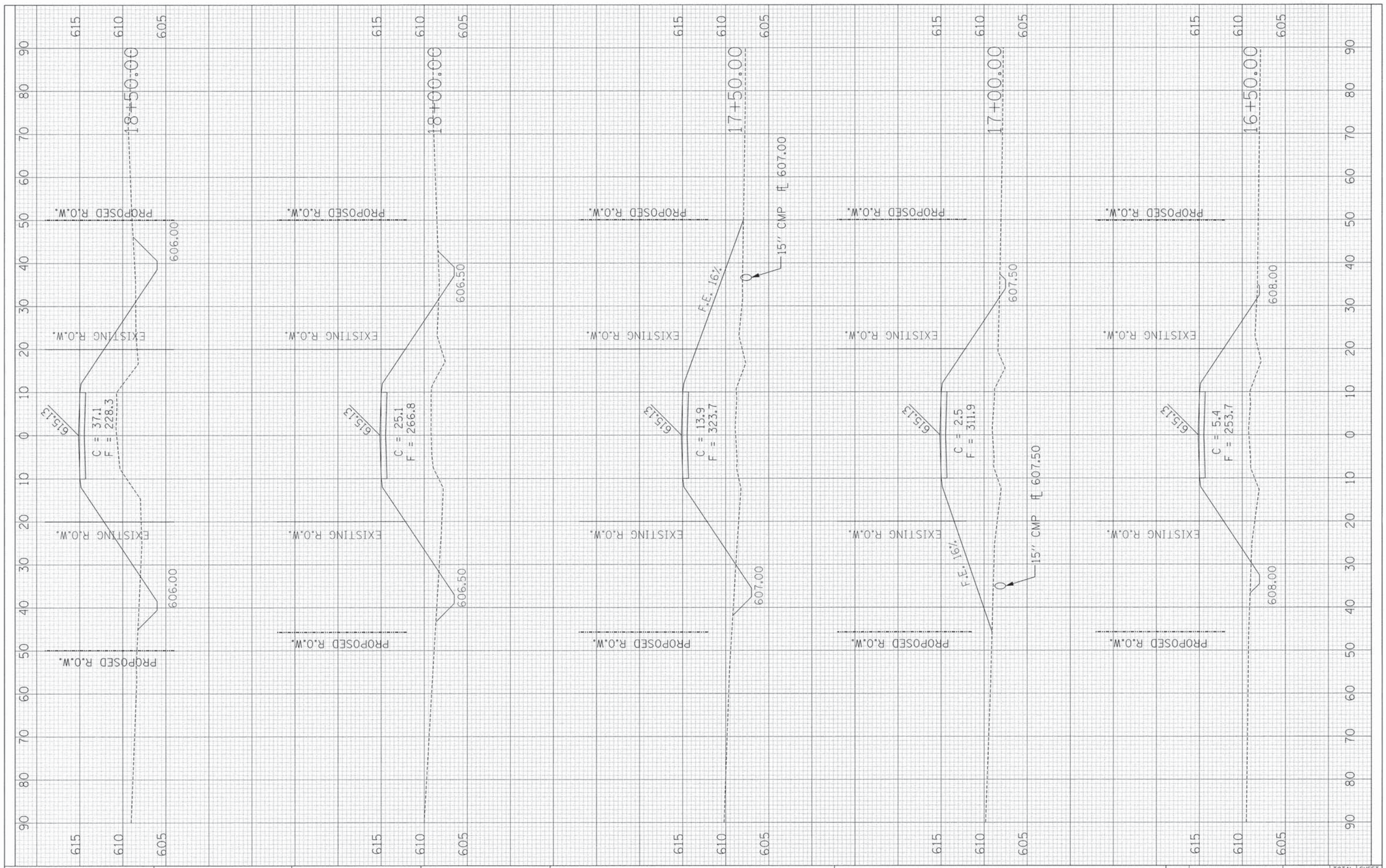
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 4 OF 10 SHEETS | STA. 15+00.00 | TO STA. 16+00.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	24
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS	FED. AID PROJECT	

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



ORIGINAL SURVEY	SURVEYED	BY	DATE
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NOTE BOOK	TEMPLATE		
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	AREAS CHECKED		

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Default	PLOT DATE = 2/3/2015	CHECKED - ADB	REVISED -
		DATE -	REVISED -

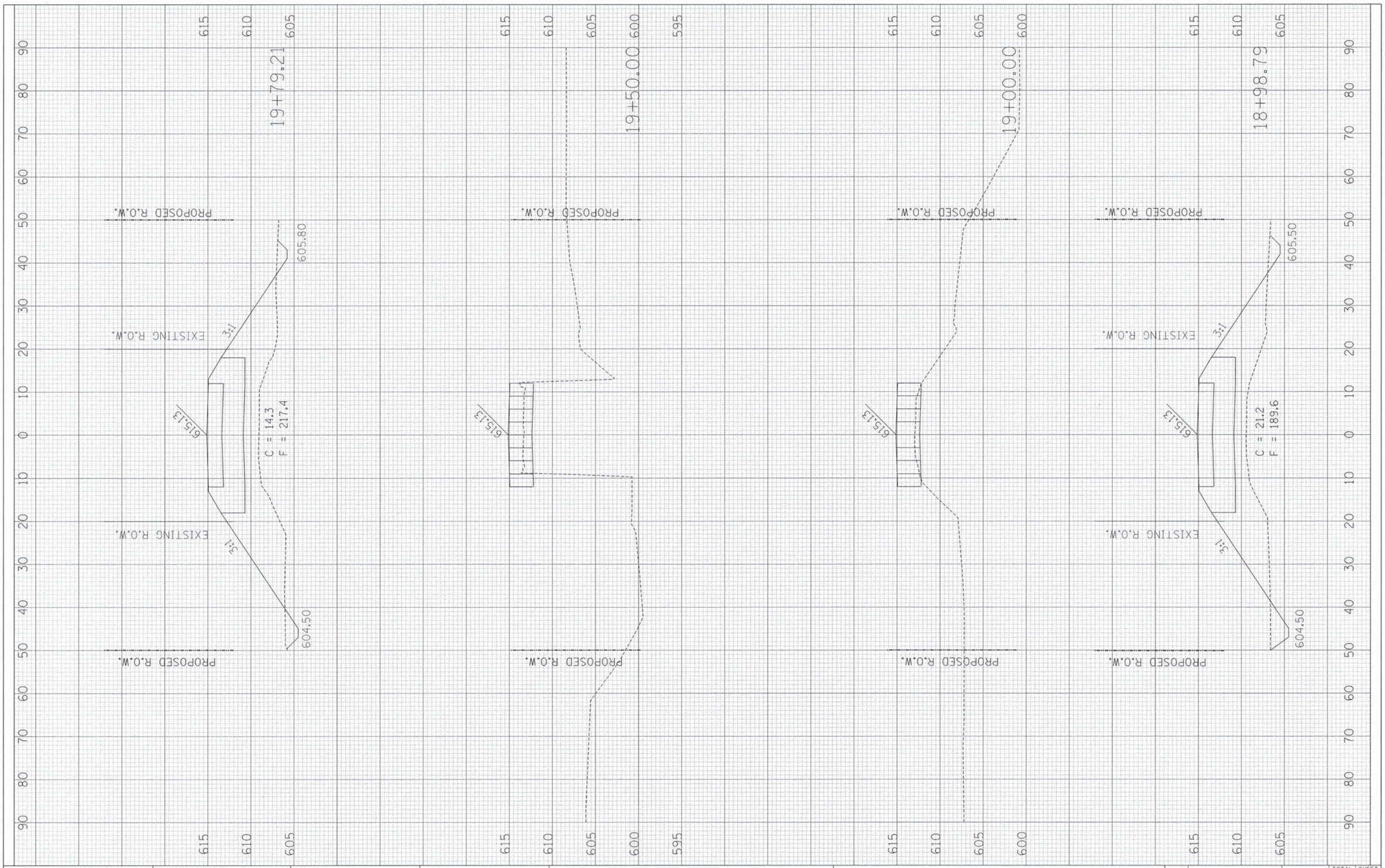
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 5 OF 10 SHEETS | STA. 16+50.00 | TO STA. 18+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	25
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

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



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

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Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

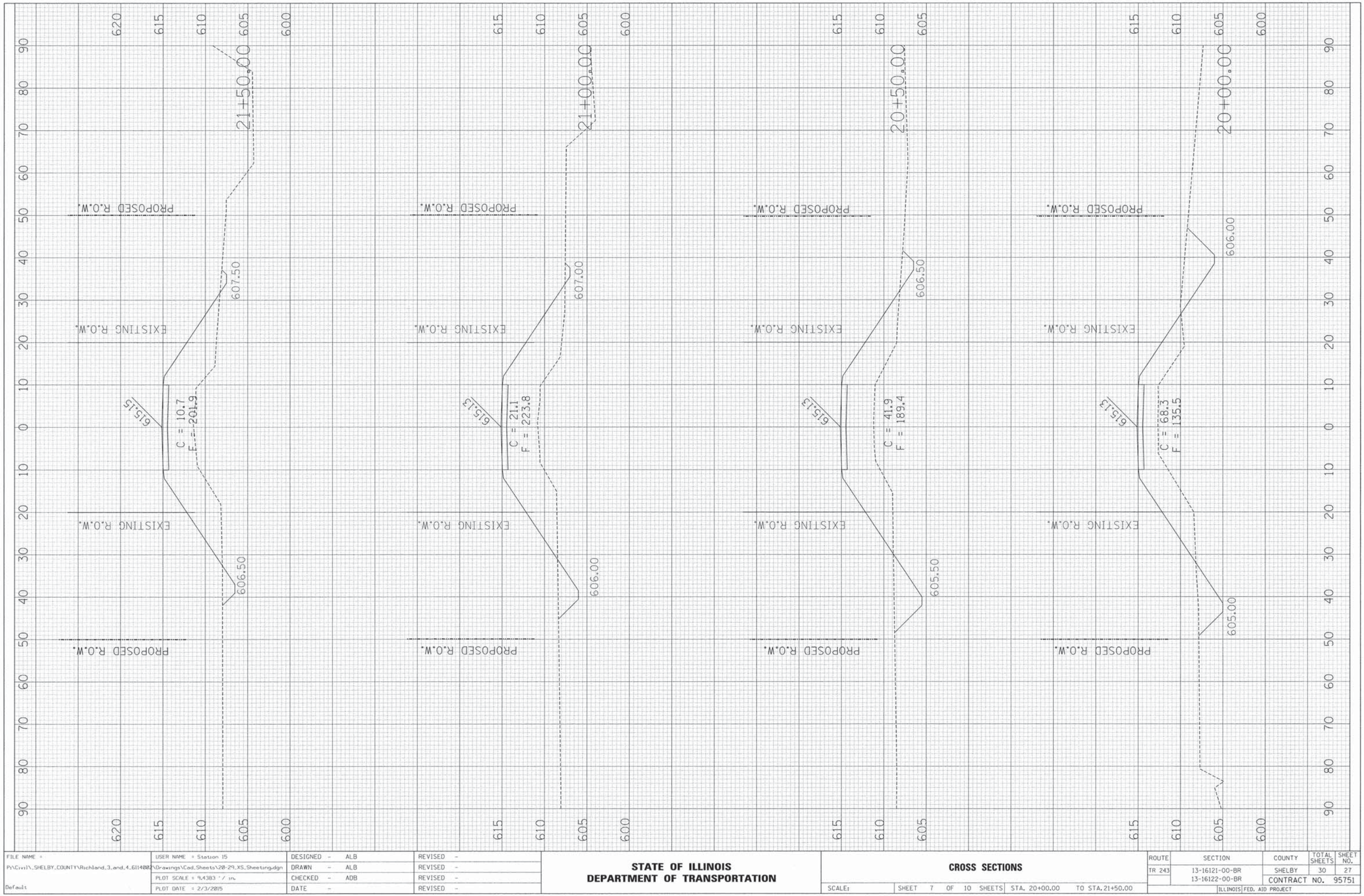
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 6 OF 10 SHEETS | STA. 18+98.66 | TO STA. 19+79.06

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	26
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

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



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

FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\20-29_XS_Sheeting.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 9.4383 ' / in.	CHECKED - ADB	REVISED -
Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

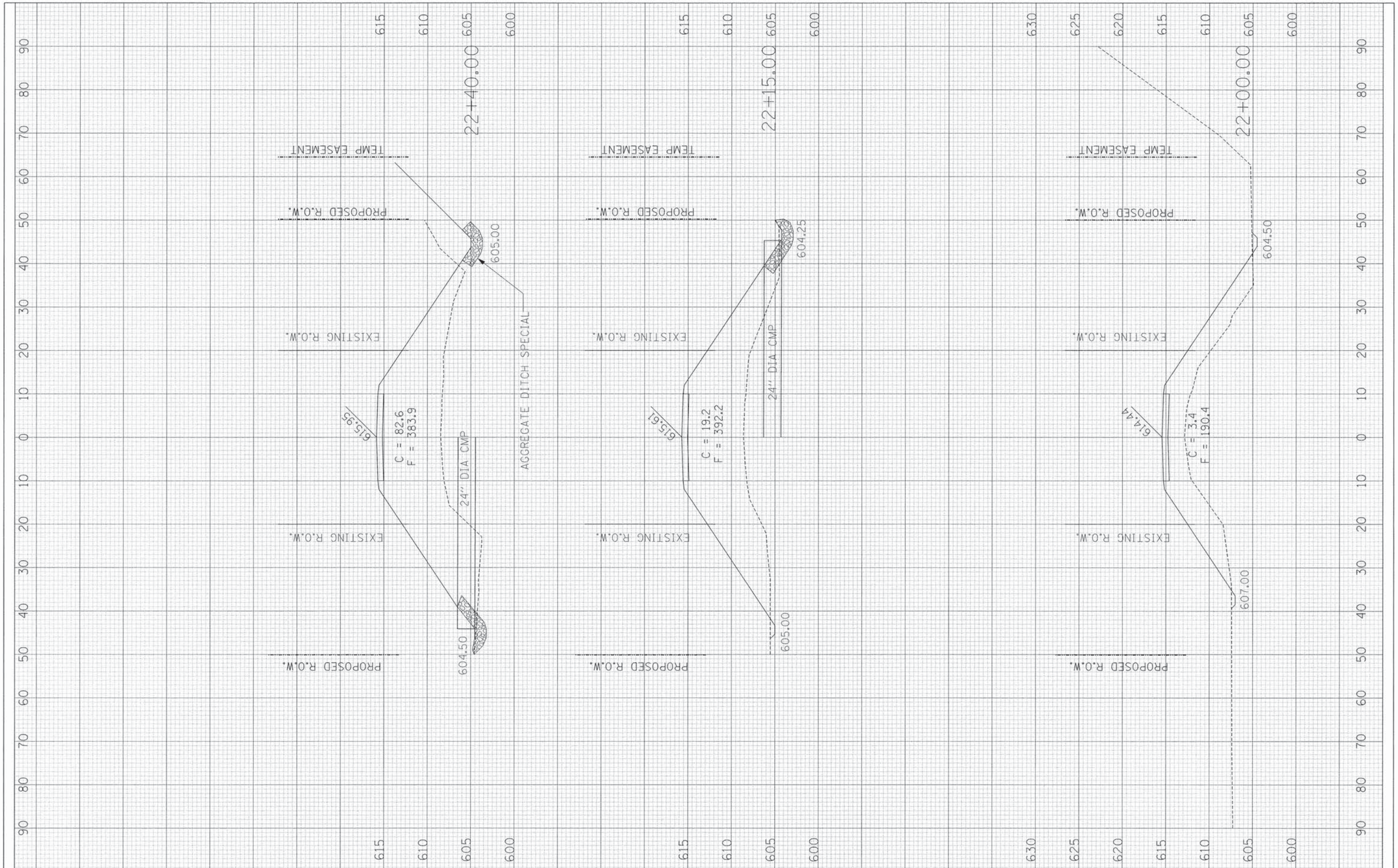
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 7 OF 10 SHEETS | STA. 20+00.00 TO STA. 21+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	27
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			

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



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

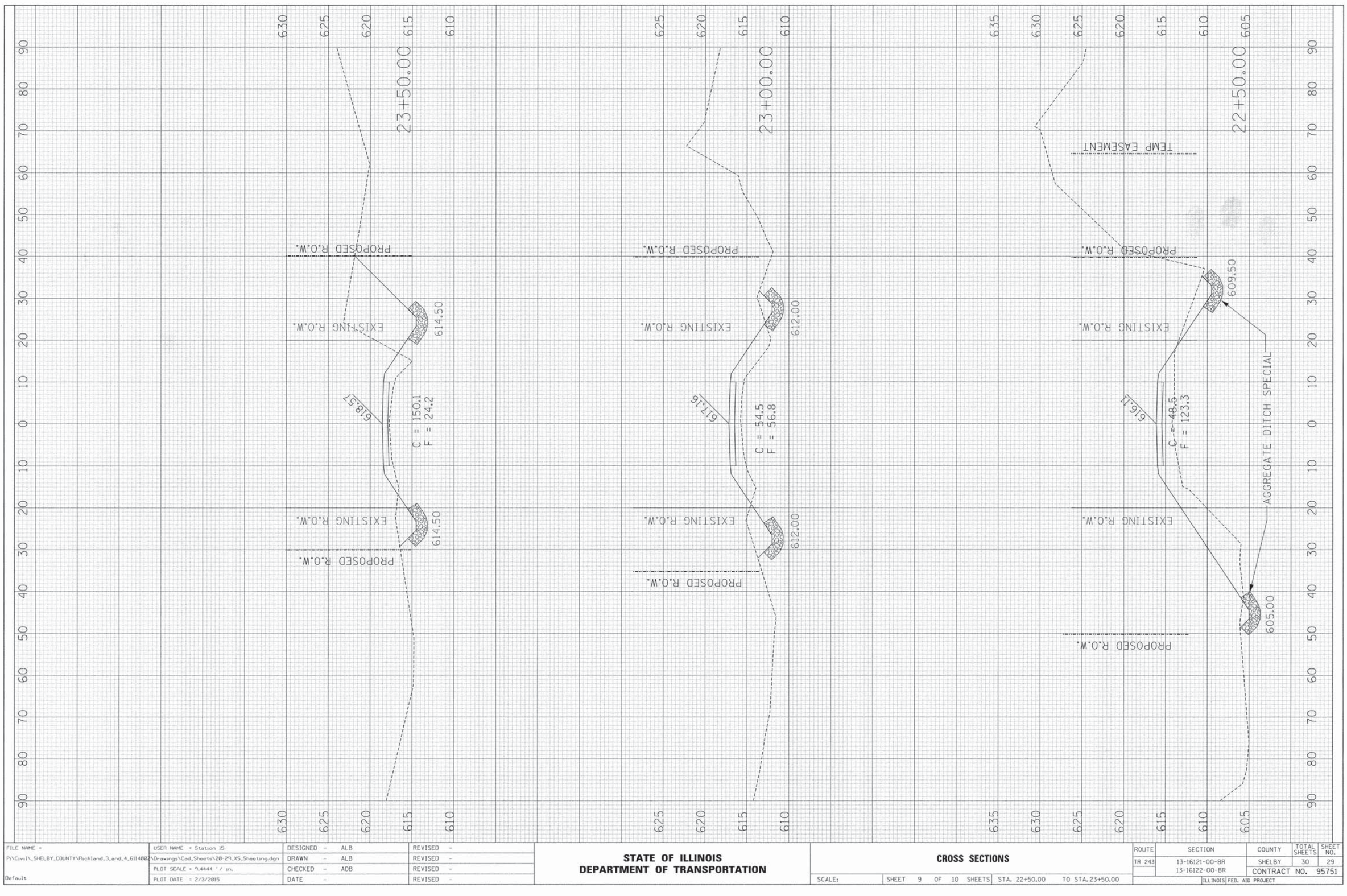
FILE NAME = P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\28-29_XS_Sheeting.dgn	USER NAME = Station 15	DESIGNED - ALB	REVISED -
		DRAWN - ALB	REVISED -
	PLOT SCALE = 9.4444 ' / in.	CHECKED - ADB	REVISED -
Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 8 OF 10 SHEETS | STA. 22+00.00 | TO STA. 22+40.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	28
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			



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

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

FILE NAME =	USER NAME = Station 15	DESIGNED - ALB	REVISED -
P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\20-29_XS_Sheeting.dgn		DRAWN - ALB	REVISED -
	PLOT SCALE = 9.4444 ' / in.	CHECKED - ADB	REVISED -
Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

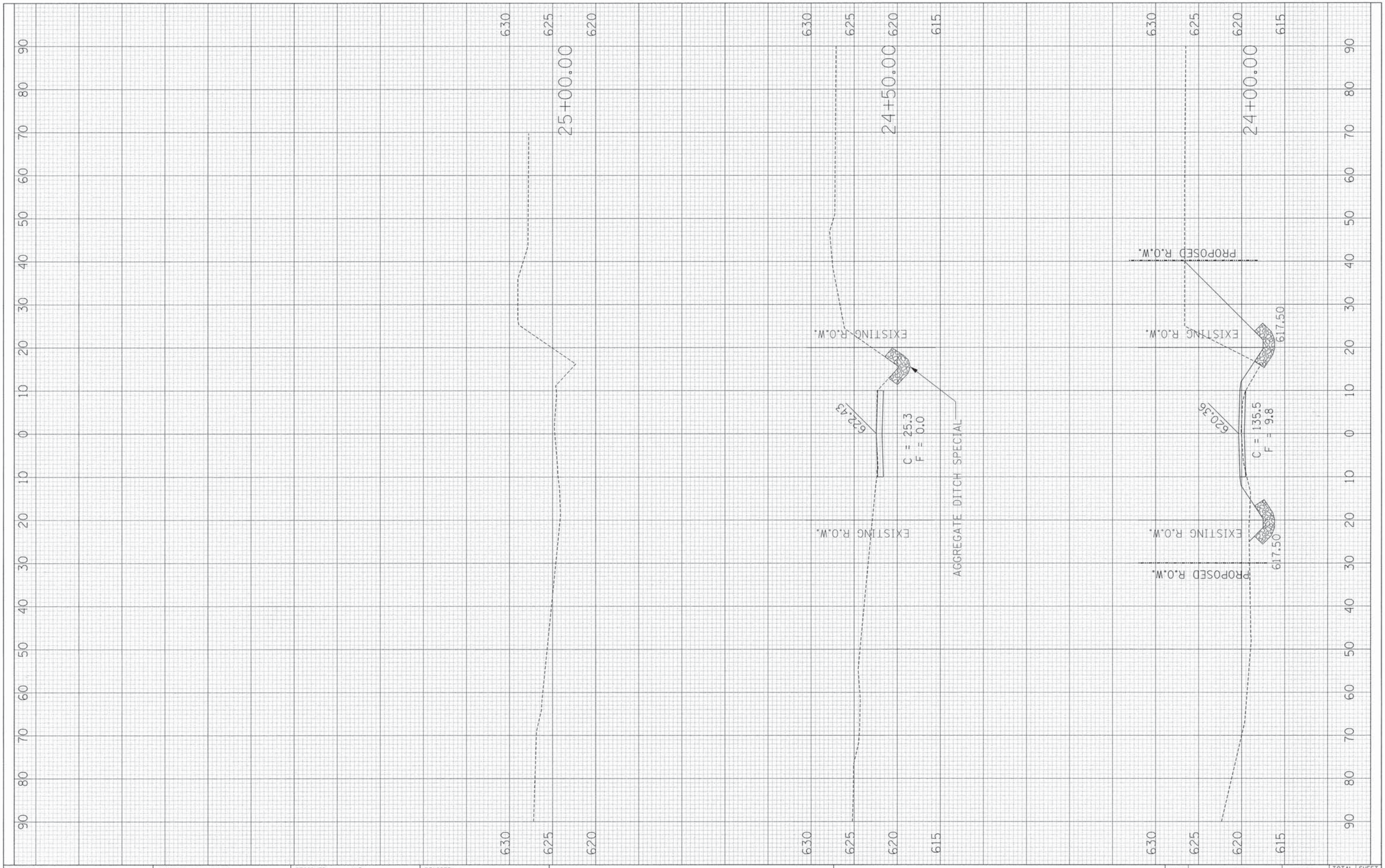
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 9 OF 10 SHEETS | STA. 22+50.00 | TO STA. 23+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	29
	13-16122-00-BR	CONTRACT NO. 95751		
		ILLINOIS FED. AID PROJECT		

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



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

FILE NAME =	USER NAME = Station 15	DESIGNED - ALB	REVISED -
P:\Civil_SHELBY_COUNTY\Richland_3_and_4_6114002\Drawings\Cad_Sheets\20-29_XS_Sheeting.dgn		DRAWN - ALB	REVISED -
	PLOT SCALE = 9.3912 ' / in.	CHECKED - ADB	REVISED -
Default	PLOT DATE = 2/3/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET 10 OF 10 SHEETS | STA. 24+00.00 | TO STA. 25+00.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 243	13-16121-00-BR	SHELBY	30	30
	13-16122-00-BR	CONTRACT NO. 95751		
	ILLINOIS FED. AID PROJECT			