

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	1
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 85711	

INDEX OF SHEETS

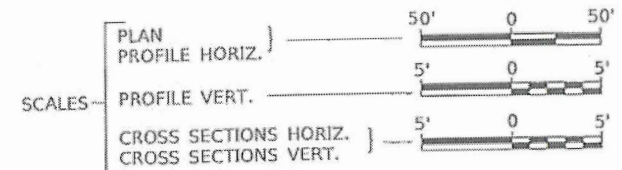
04-23-2021 LETTING ITEM 161

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, DETAILS
3	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4	TRAFFIC CONTROL PLAN
5	EROSION CONTROL PLAN
6	PLAN AND PROFILE
7-13	STRUCTURE PLANS
14-18	CROSS SECTIONS

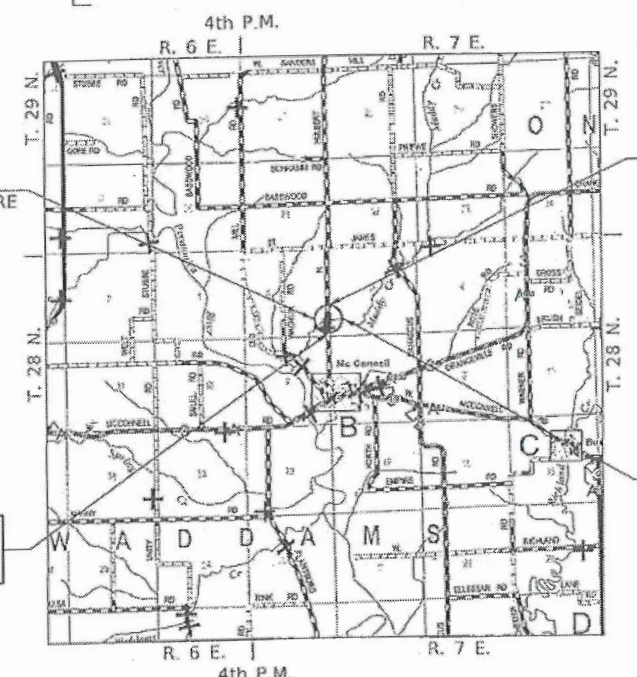
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM-BRIDGE
STEPHENSON COUNTY
WADDAMS TOWNSHIP SECTION 19-16124-00-BR
TOWNSHIP ROAD 130 (N. HULBERT ROAD)
OVER MUDDY CREEK
PROJECT NO. LZKM(739)
JOB NUMBER C-92-040-20



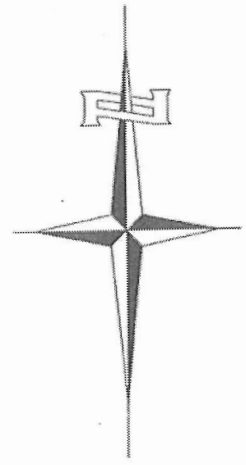
- HIGHWAY STANDARDS (INCLUDED IN PROPOSAL)**
- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 - 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
 - 515001-04 NAME PLATE FOR BRIDGES
 - 701901-08 TRAFFIC CONTROL DEVICES
 - 725001-01 OBJECT AND TERMINAL MARKERS
 - BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



PROPOSED STRUCTURE SN 089-3293
 SINGLE SPAN 33" PPC DK BM SUPERSTRUCTURE
 ON CONCRETE SPILL-THRU ABUTMENTS,
 76'-0" BK TO BK, 28'-0" O TO O DECK,
 NO SKEW.



SECTION 19-16124-00-BR
 ENDS
 STATION 23+25.00



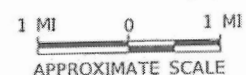
EXISTING STRUCTURE SN 089-3116
 THREE SPAN REINFORCED CONCRETE SLAB SUPERSTRUCTURE
 SUPPORTED ON TIMBER PILE CLOSED ABUTMENTS AND
 INDIVIDUAL CONCRETE PILE BENT PIERS WITH MONOLITHIC
 CONCRETE CAPS. 64'-0" BK TO BK, AND 28'-3" O TO O DECK,
 NO SKEW. (TO BE REMOVED)

SECTION 19-16124-00-BR
 BEGINS
 STATION 18+00.00

- UTILITY COMPANIES**
- COMED
JOLIET, ILLINOIS
 - FRONTIER COMMUNICATIONS
FREEPORT, ILLINOIS
 - MEDIACOM
FREEPORT, ILLINOIS

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

LOCATION MAP

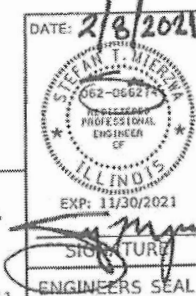


NET LENGTH OF PROJECT = 525.00 FEET = 0.099 MILES

DESIGN CLASSIFICATION: LOCAL ROAD (NON-URBAN)
 DESIGN ADT = 205 (2021)
 DESIGN SPEED = 30 MPH
 20% TRUCKS

Hutchison Engineering, Inc.
 JACKSONVILLE SHOREWOOD
 PEORIA-QUAD CITIES

2021 JOB#4571



APPROVED	<i>[Signature]</i>	2021
STEPHENSON COUNTY ENGINEER		
PASSED	<i>[Signature]</i>	2021
DISTRICT TWO ENGINEER OF LOCAL ROADS & STREETS		
Released For Bid Based on Limited Review	<i>[Signature]</i>	2021
REGION TWO ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

CONTRACT NO. 85711

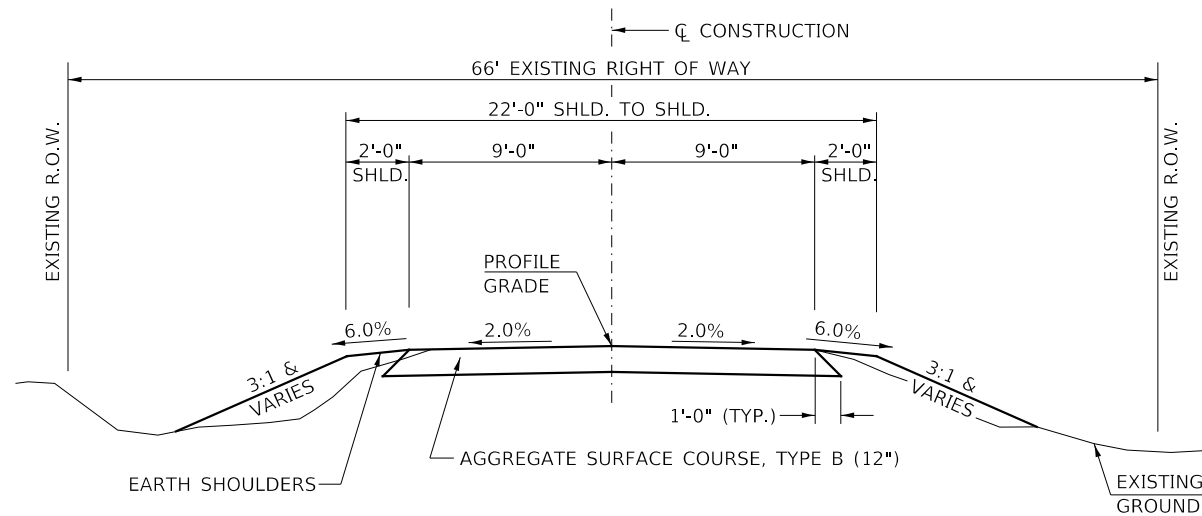
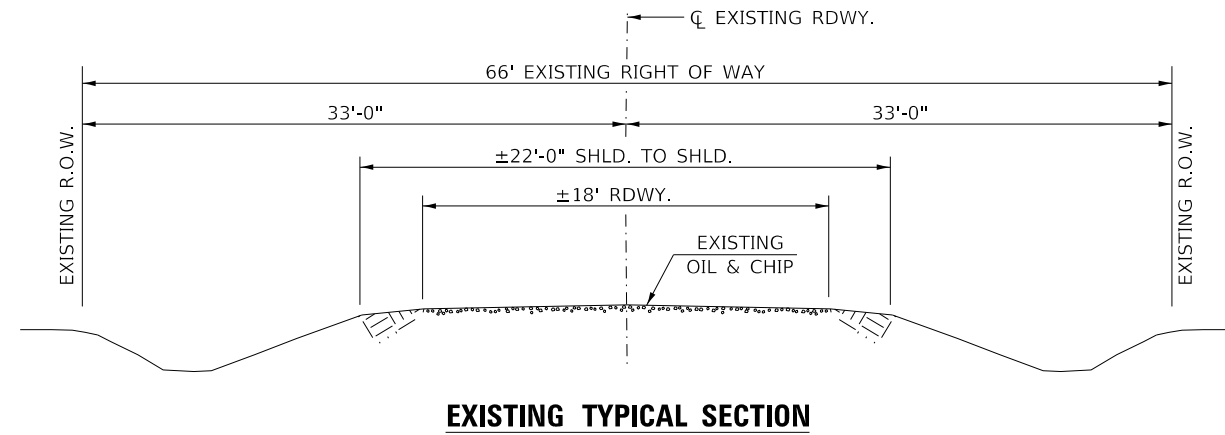
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GENERAL NOTES

1. THE REMOVAL OF EXISTING OIL & CHIP SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.
2. ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.
3. ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.
4. THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.
5. ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.
7. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.
8. THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
9. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
10. ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

COMMITMENTS

THERE ARE NO COMMITMENTS FOR THIS PROJECT.

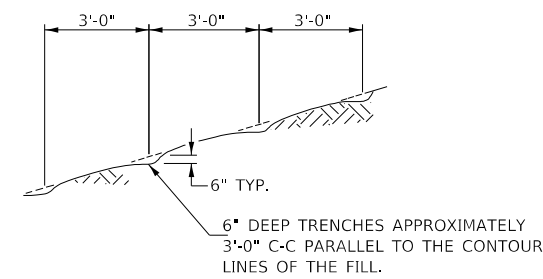


PROPOSED TYPICAL SECTION

STA. 18+00.00 TO STA. 19+62.00
 STA. 20+38.00 TO STA. 23+25.00

EXCEPT TRANSITIONS

BRIDGE OMISSION
 STA. 19+62.00 TO STA. 20+38.00



NOTE: ALL SLOPES 3:1 OR STEEPER AND GREATER THAN 5' IN HEIGHT SHALL BE CONTOUR PLOWED AS SHOWN IN DETAIL, COST SHALL BE INCLUDED WITH SEEDING, CLASS 2 (SPECIAL).

DETAIL OF CONTOUR PLOWING

MODEL: s:\MODEL\MM\MS...
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USER NAME = SMierzwa	DESIGNED - STM	REVISED -
PLOT SCALE = 2,0000' / in.	DRAWN - JCW	REVISED -
PLOT DATE = 2/8/2021	CHECKED - STM	REVISED -
	DATE - 2/8/2021	REVISED -

**STEPHENSON COUNTY
 TOWNSHIP ROAD 130
 OVER MUDDY CREEK**

GENERAL NOTES, TYPICAL SECTIONS, DETAILS

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. 18+00.00 TO STA. 23+25.00

RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	2
			CONTRACT NO. 85711	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO. LZKM(739)	

SUMMARY OF QUANTITIES				
SP	CODE NO.	ITEM	UNIT	QUANTITY
	20200100	EARTH EXCAVATION	CU YD	300
	20300100	CHANNEL EXCAVATION	CU YD	260
SP	20700220	POROUS GRANULAR EMBANKMENT	CU YD	39.6
SP	28000400	PERIMETER EROSION BARRIER	FOOT	960
	28100209	STONE RIPRAP, CLASS A5	TON	485
SP	28200200	FILTER FABRIC	SQ YD	370
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	603
SP	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	120
	50300225	CONCRETE STRUCTURES	CU YD	25.2
	50300280	CONCRETE ENCASEMENT	CU YD	2.6
	50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2,077
	50800105	REINFORCEMENT BARS	POUND	2,810
Δ	50900205	STEEL RAILING, TYPE S1	FOOT	152
	51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	432
	51202305	DRIVING PILES	FOOT	432
	51203200	TEST PILE METAL SHELLS	EACH	2
	51500100	NAME PLATES	EACH	1
SP	63200310	GUARDRAIL REMOVAL	FOOT	112
	67100100	MOBILIZATION	L SUM	1
Δ	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
SP	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
SP	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
SP	Z0013798	CONSTRUCTION LAYOUT	L SUM	1

SP: SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: 0010

Δ SPECIALTY ITEMS

EARTHWORK SUMMARY					
STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
RDWY 18+00.00 - 19+62.00	100			27	48
RDWY 20+38.00 - 23+25.00	198			12	137
CHANNEL		260			
STRUCTURE			120		
TOTAL	298	260	120	39	185
USE	300	260	120	-	185

(@ 25% SHRINKAGE)

PERIMETER EROSION BARRIER			
STATION TO STATION	SIDE	FOOT	
18+00	19+62	LEFT	175
18+00	19+62	RIGHT	180
20+38	23+25	LEFT	300
20+38	23+25	RIGHT	305
TOTAL			960

GUARDRAIL REMOVAL			
STATION TO STATION	SIDE	FOOT	
19+39	19+67	RIGHT	28
19+43	19+68	LEFT	28
20+33	20+60	LEFT	28
20+33	20+60	RIGHT	28
TOTAL			112

AGGREGATE SURFACE COURSE, TYPE B					
STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON	
18+00.00	18+50.00	1.00'	19.99' AVG.	50.00'	70
18+50.00	19+62.00	1.00'	19.00'	112.00'	149
20+38.00	22+75.00	1.00'	19.00'	237.00'	315
22+75.00	23+25.00	1.00'	19.78' AVG.	50.00'	69
TOTAL					603

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PLOT DATE = 2/8/2021	CHECKED - STM	REVISED - _____
	DATE - 2/8/2021	REVISED - _____

STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK

SUMMARY OF QUANTITIES,
SCHEDULES OF QUANTITIES

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+00.00 TO STA. 23+25.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	3
CONTRACT NO. 85711				
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. LZKM739				



- 1

ROAD CLOSED
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 2

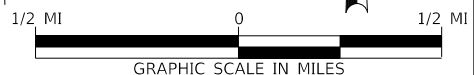
ROAD CLOSED
3/4 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 3

ROAD CLOSED
1 1/4 MILE AHEAD
LOCAL TRAFFIC ONLY
R11-3
- 4

ROAD CLOSED
AHEAD
W20-3
- 5

ROAD CLOSED
500 FT
W20-3
- 6

TYPE III BARRICADES
SEE STANDARD BLR 21
AND SPECIAL PROVISIONS



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PLOT DATE = 2/8/2021	CHECKED - STM	REVISED -
	DATE - 2/8/2021	REVISED -

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

TRAFFIC CONTROL PLAN

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+00.00 TO STA. 23+25.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	4
		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. LZKM(739)

T 28 N, R 7 E, 4th PM
SECTION 6

T 28 N, R 7 E, 4th PM
SECTION 5

MUDDY

CREEK

PROPOSED STRUCTURE
SN 089-3293

TOWNSHIP ROAD 130

+00

+62

+38

+25

+00

+62

+38

+25

16

17

18

19

20+00



21

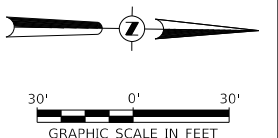
22

23

24

LEGEND

-  PERIMETER EROSION BARRIER
-  PROPOSED RIPRAP PLACEMENT



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DRAWN - JPS	REVISIONS - _____	
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PLOT DATE = 2/8/2021	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

EROSION CONTROL PLAN

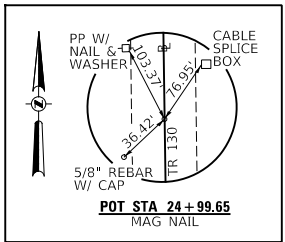
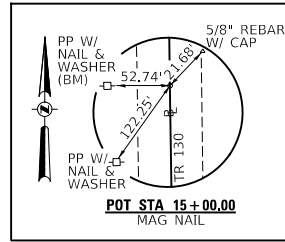
SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 18+00.00 TO STA. 23+25.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	5
CONTRACT NO. 85711				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. LZKM(739)		

DATE	
BY	
PLAN	
NO.	
DATE	
BY	
PROFILE	
NO.	

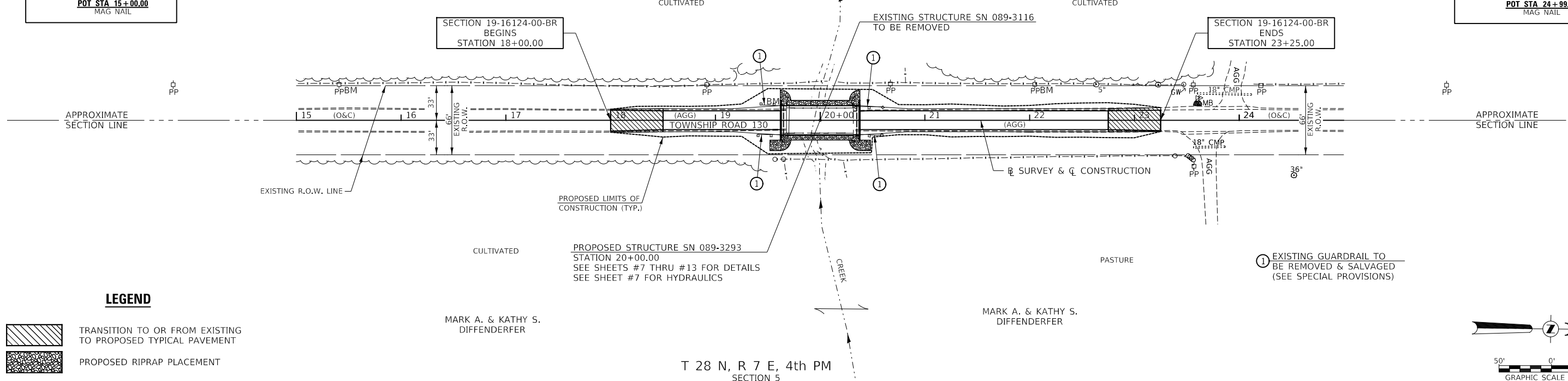
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BY	
PROFILE	
NO.	

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T 28 N, R 7 E, 4th PM
SECTION 6

T 28 N, R 7 E, 4th PM
SECTION 5

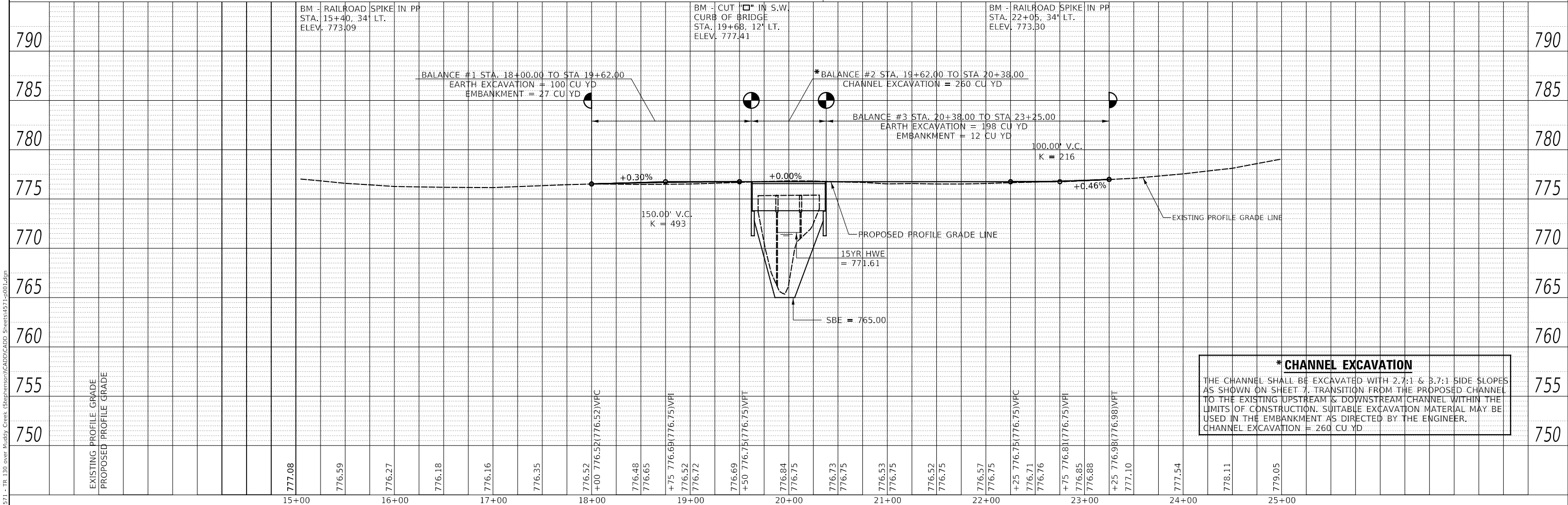
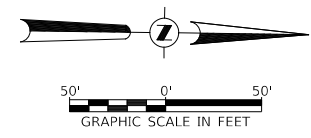


LEGEND

TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT

PROPOSED RIPRAP PLACEMENT

① EXISTING GUARDRAIL TO BE REMOVED & SALVAGED (SEE SPECIAL PROVISIONS)



*** CHANNEL EXCAVATION**

THE CHANNEL SHALL BE EXCAVATED WITH 2.7:1 & 3.7:1 SIDE SLOPES AS SHOWN ON SHEET 7. TRANSITION FROM THE PROPOSED CHANNEL TO THE EXISTING UPSTREAM & DOWNSTREAM CHANNEL WITHIN THE LIMITS OF CONSTRUCTION. SUITABLE EXCAVATION MATERIAL MAY BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 260 CU YD

USER NAME = SMierzwa	DESIGNED - MMO	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN - MMO	REVISED -
PLOT DATE = 2/8/2021	CHECKED - STM	REVISED -
	DATE - 2/8/2021	REVISED -

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

PLAN AND PROFILE	
SCALE: 1"=50'	SHEET NO. 1 OF 1 SHEETS
STA. 18+00.00	TO STA. 23+25.00

TR 130	SECTION 19-16124-00-BR	COUNTY STEPHENSON	TOTAL SHEETS 18	SHEET NO. 6
CONTRACT NO. 85711			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT NO. LZKM(739)				

B.M.: RR Spike in Power Pole
Sta. 15+40, 34' Lt.
Elev. 773.09

RR Spike in Power Pole
Sta. 22+05, 34' Lt.
Elev. 773.30

MUDDY CREEK
BUILT 202 BY
STEPHENSON COUNTY
SEC. 19-16124-00-BR
T.R. 130 STATION 20+00.00
F.A. PROJ. NO. LZKM(739)
STR. NO. 089-3293 LOADING HL-93

GENERAL NOTES

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.
For Soil Boring Logs, See Special Provisions.
A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Articles 1020.05(b)(10) and 1021.07 of the Standard Specifications.
Reinforcement Bars designated (E) shall be epoxy coated.
Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Existing Structure:

Three span reinforced concrete slab superstructure with a concrete railing supported on timber pile closed abutments and exposed concrete pile bent piers with monolithic concrete caps. The structure is 64'-0" back to back of abutments, 28'-3" out to out deck, and is not skewed.
Str. No. 089-3116

Salvage: Existing Guardrail (See Special Provisions)

Road to be closed to traffic during construction.

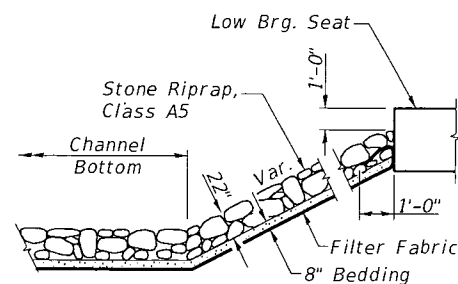
NAME PLATE

Locate Name Plate at S.E. Wingwall
Corner of Bridge (See Std. 515001)

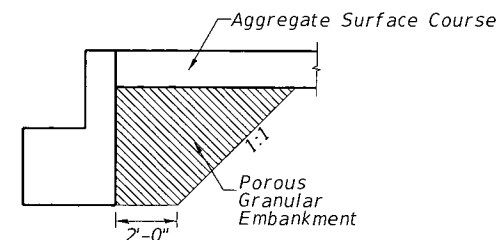
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	260	260
① Porous Granular Embankment	CU YD	—	39.6	39.6
Stone Riprap, Class A5	TON	—	485	485
① Filter Fabric	SQ YD	—	370	370
① Removal of Existing Structures	EACH	—	—	1
Structure Excavation	CU YD	—	120	120
Concrete Structures	CU YD	—	25.2	25.2
Concrete Encasement	CU YD	—	2.6	2.6
Precast Prestressed Concrete Deck Beams (33" Depth)	SQ FT	2,077	—	2,077
Reinforcement Bars	POUND	—	2,810	2,810
Steel Railing, Type S1	FOOT	152	—	152
Furnishing Metal Shell Piles 12"x0.250"	FOOT	—	432	432
Driving Piles	FOOT	—	432	432
Test Pile Metal Shells	EACH	—	2	2
Name Plates	EACH	—	1	1
Terminal Marker - Direct Applied	EACH	4	—	4

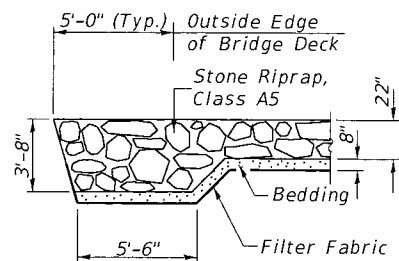
① See Special Provisions



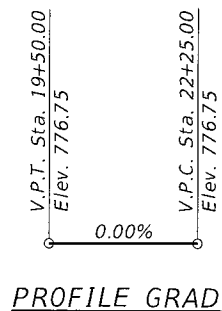
STONE RIPRAP DETAIL



SECTION B-B
(See Special Provisions)



SECTION A-A



PROFILE GRADE

DESIGN SCOUR TABLE

Location	S. Abut.	N. Abut.
Design Scour Elevation	771.26	771.26

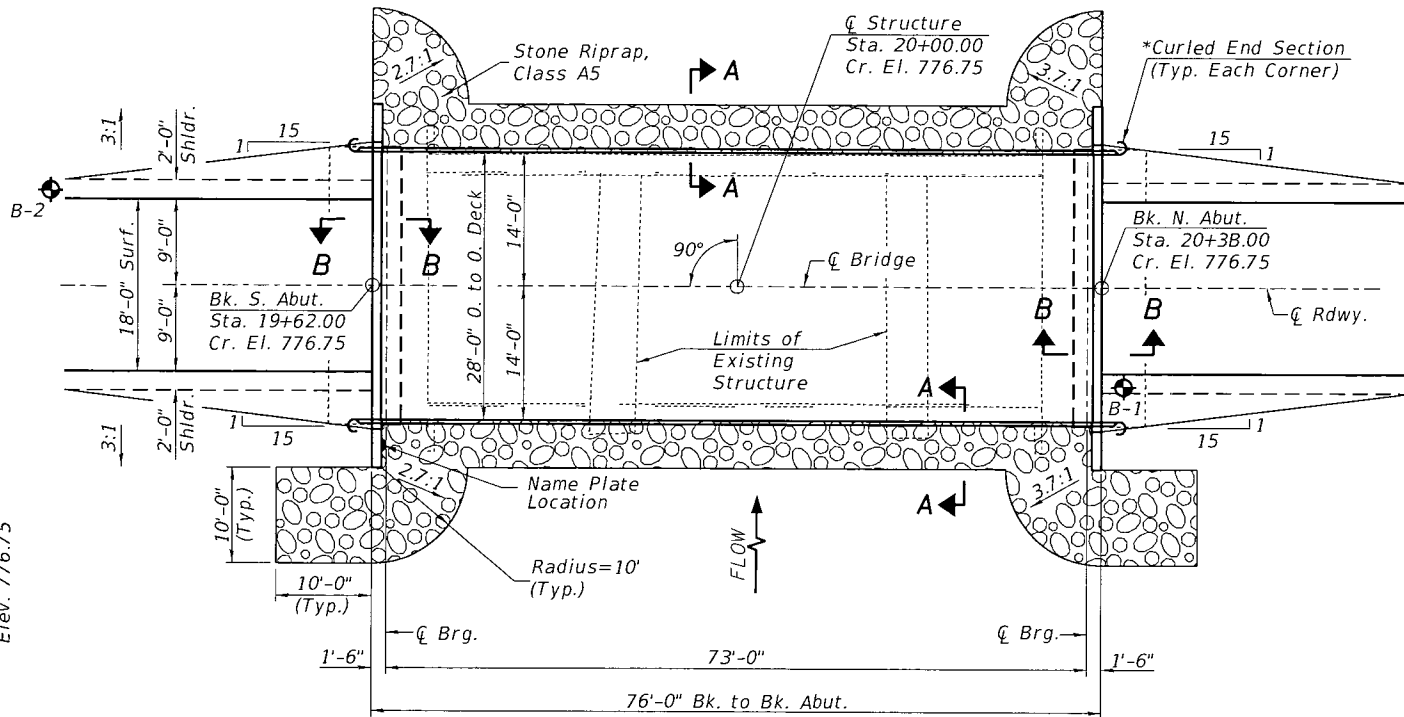
WATERWAY INFORMATION

Drainage Area = 7.11 Sq. Mi. Low Grade Elev. = 776.16 @ Sta. 17+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	1,557	141	273	771.61	2.47	1.47	774.08	773.08
Base	100	2,540	164	305	772.11	3.79	2.03	775.90	774.14

ELEVATION

*Terminal Marker-Direct Applied to be placed on Curled End Sections in accordance with Std. 725001



PLAN

DESIGN SPECIFICATIONS

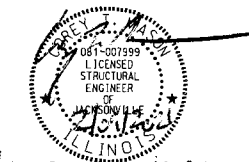
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

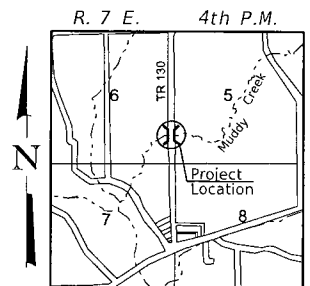
(FIELD UNITS) (PRECAST PRESTRESSED UNITS)
 $f'_c = 3,500$ p.s.i. $f'_c = 6,000$ p.s.i.
 $f_y = 60,000$ p.s.i. (Rein.) $f'_{ci} = 5,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. ($1/2$ " Strands)
 $f'_{si} = 201,960$ p.s.i. ($1/2$ " Strands)

LOADING HL-93

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



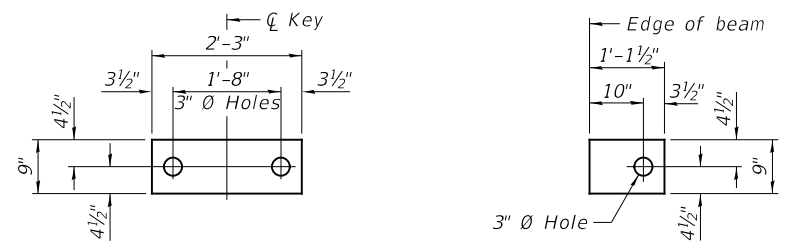
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specification for Highway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



LOCATION SKETCH

**GENERAL PLAN & ELEVATION
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

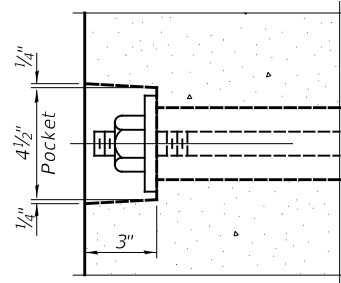
SHEET NO. 1 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	7
S.N. 089-3293			CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		



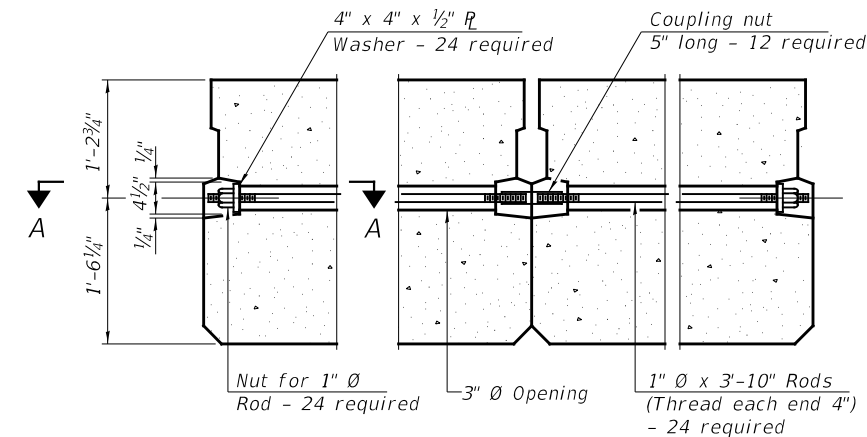
1/2" FABRIC BEARING PAD
(Interior) 12 Required

1/2" FABRIC BEARING PAD
(Exterior) 4 Required

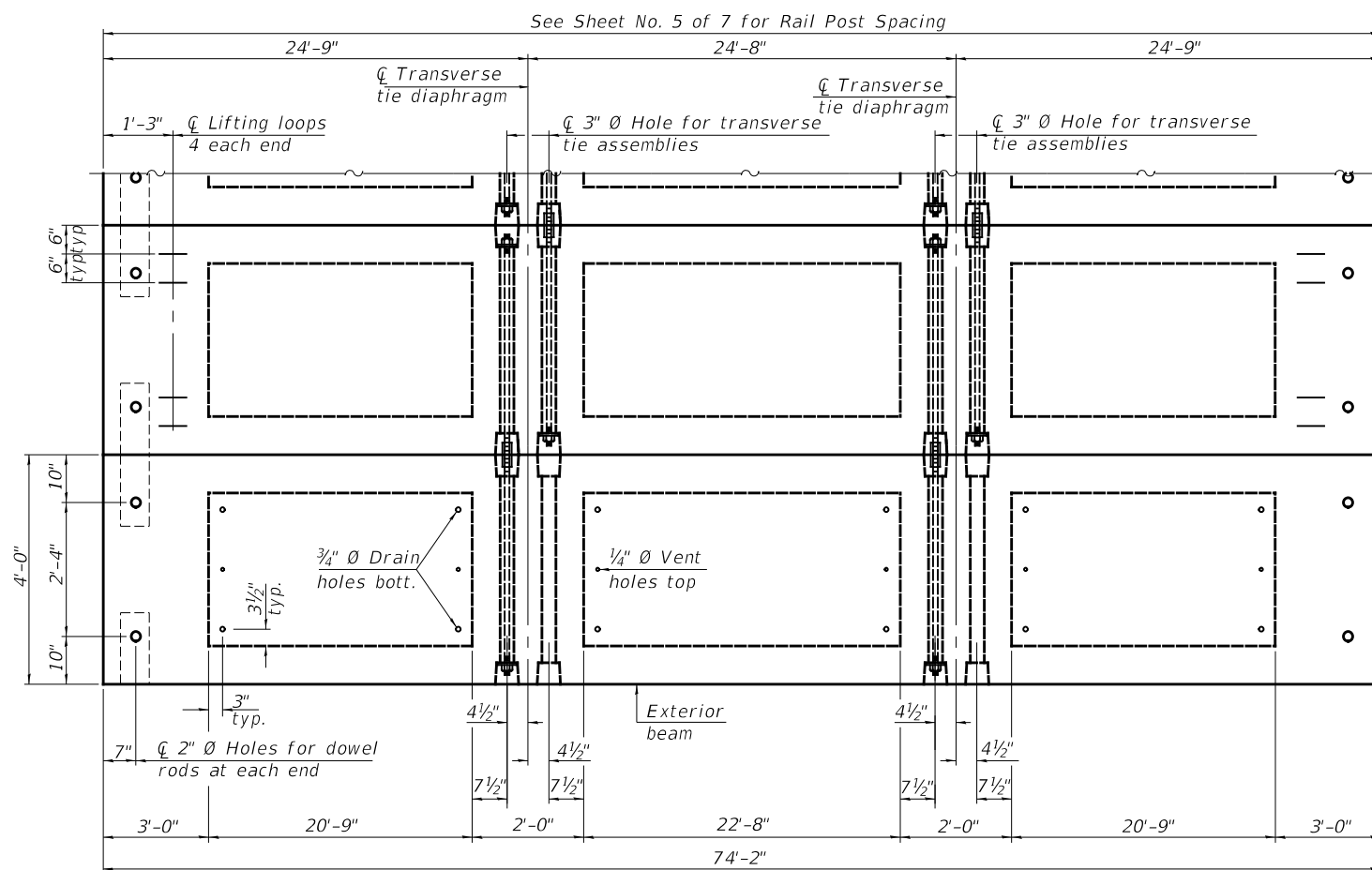
FIXED



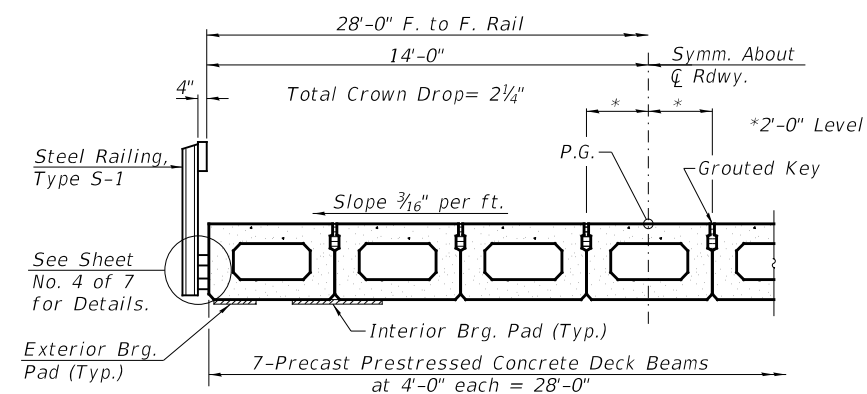
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW



HALF CROSS SECTION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (33" Depth)	SQ FT	2,077

NOTES

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

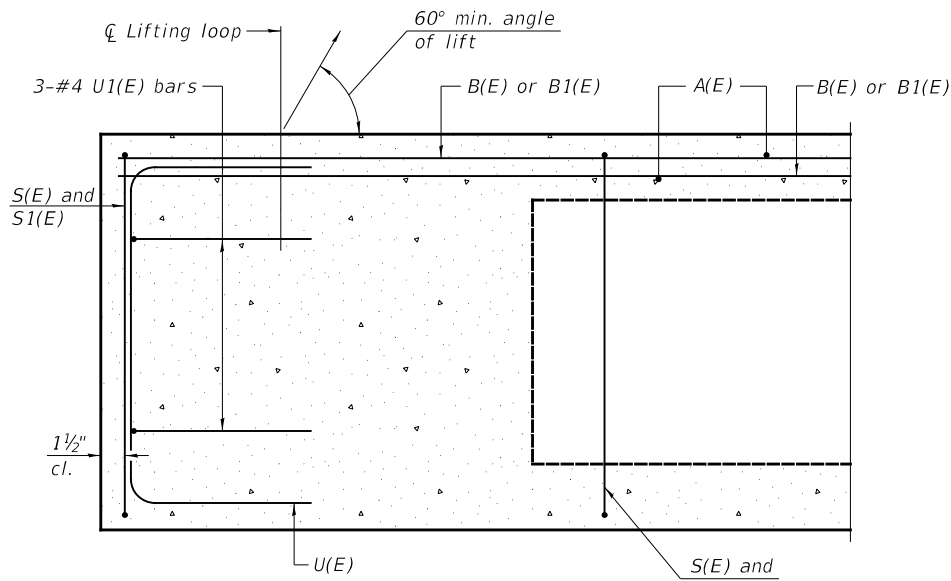
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" \varnothing rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets 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" \varnothing lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, $f'c$, shall be 6000 psi. Compressive strength of prestressed concrete at release, $f'ci$, shall be 5000 psi.

SUPERSTRUCTURE
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK

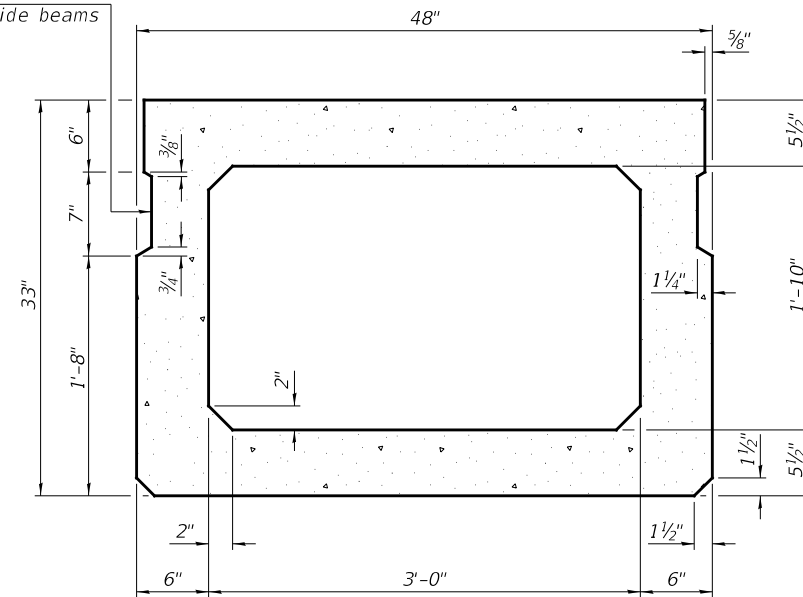
SHEET NO. 2 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	8
S.N. 089-3293			CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		

** Rail post anchor devices (Sheet 4 of 7) to be cast into exterior face of outside beams.

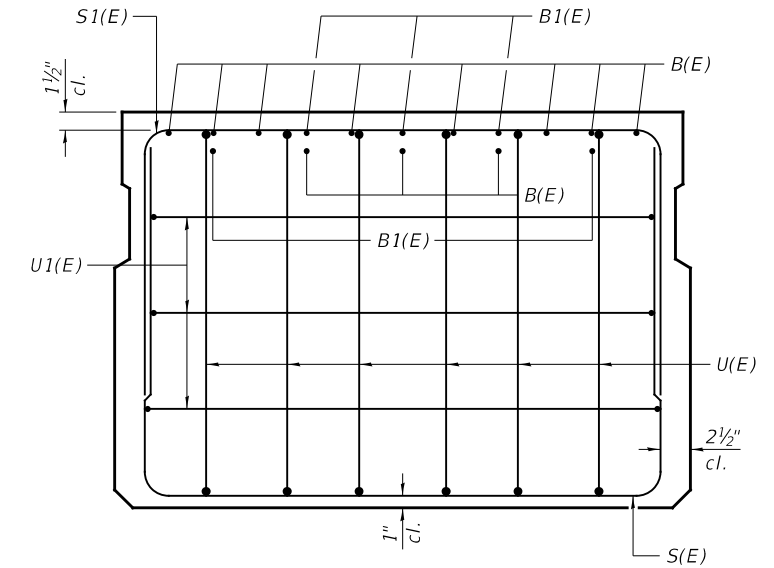
** Omit key on exterior face of outside beams



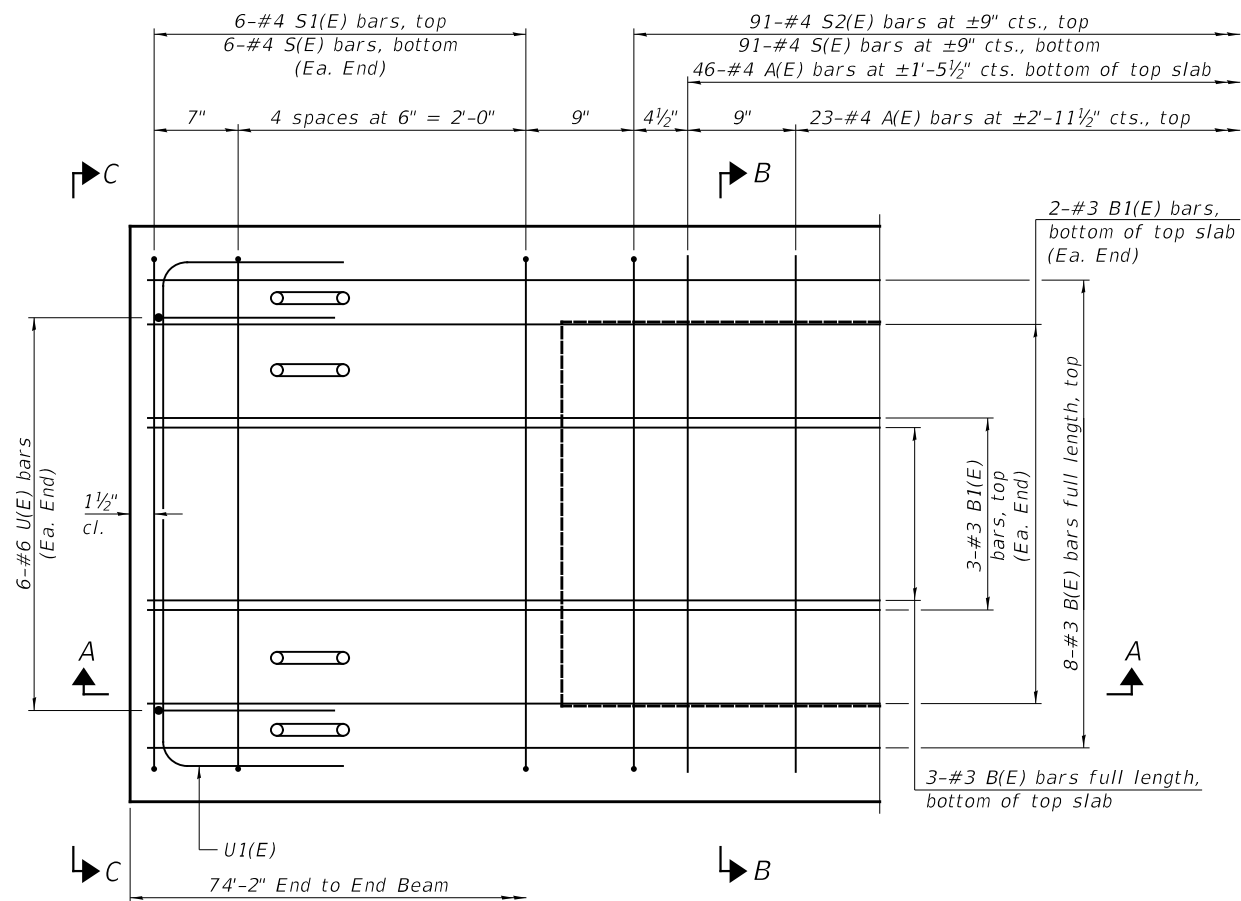
SECTION A-A



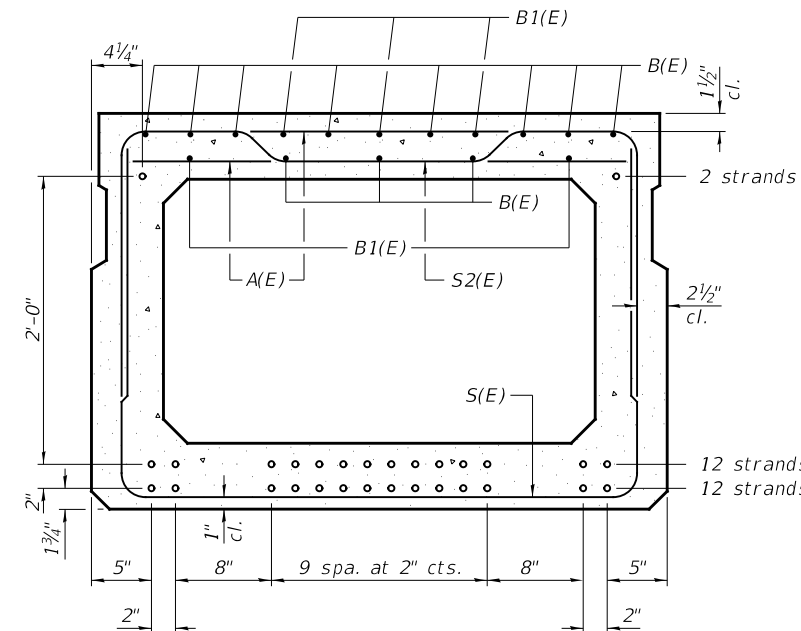
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B

(Showing reinforcement and permissible strand locations)
26-1/2" Ø Strands Each Strand Stressed to 30,900 Lbs.
12-Strands 1 3/4" up, 12-Strands 3 3/4" up,
2-Strands 27 3/4" up

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)

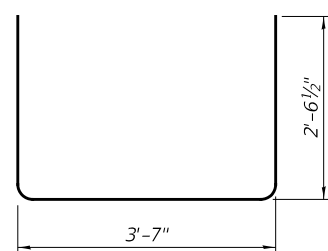
BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	69	#4	3'-7"	—
B(E)	11	#3	*73'-11"	—
B1(E)	10	#3	10'-0"	—
S(E)	103	#4	8'-8"	⌋
S1(E)	12	#4	7'-5"	⌋
S2(E)	91	#4	7'-8"	⌋
U(E)	12	#6	5'-0"	⌋
U1(E)	6	#4	6'-0"	⌋

Note:
See Sheet 2 of 7 for additional details and Bill of Material.

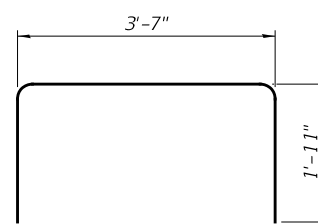
*Total length, lap as necessary.

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

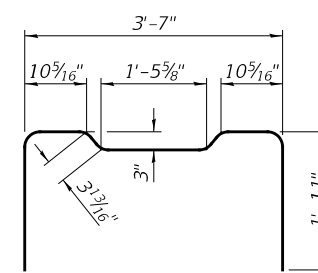
Note:
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



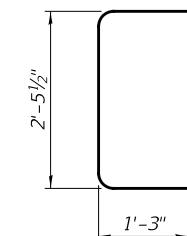
BAR S(E)



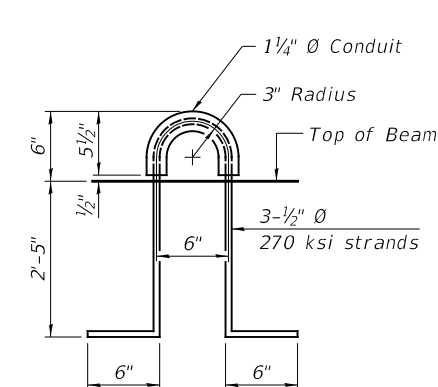
BAR S1(E)



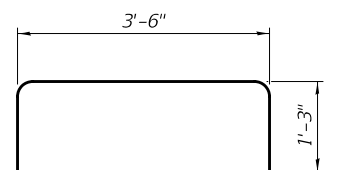
BAR S2(E)



BAR U(E)



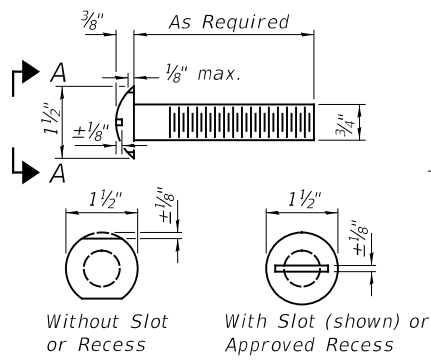
LIFTING LOOP DETAIL



BAR U1(E)

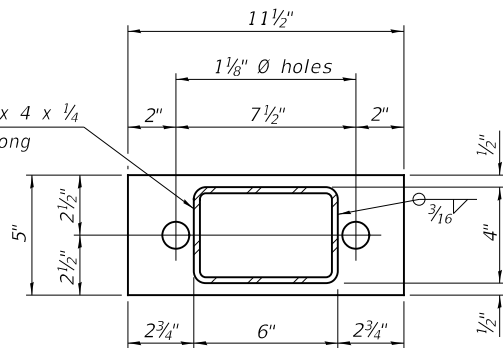
SUPERSTRUCTURE DETAILS
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK

SHEET NO. 3 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	9
	S.N. 089-3293		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		



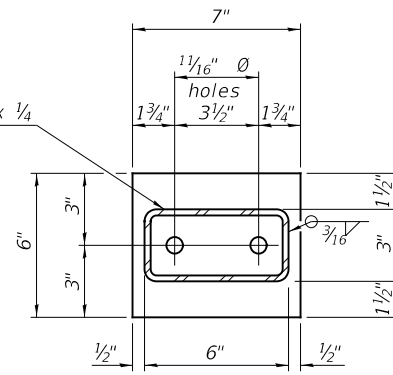
VIEW A-A
ROUND HEAD BOLT

HSS 6 x 4 x 1/4
x 3 1/2" long

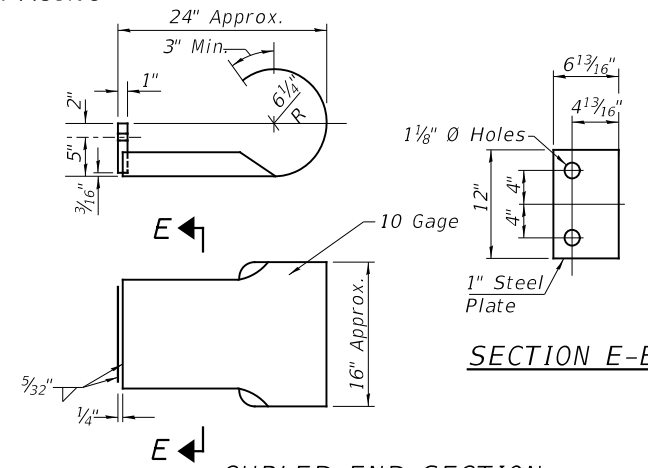


SECTION B-B
R 1/2" x 11 1/2" x 5"

HSS 6 x 3 x 1/4
x 3 3/8" long

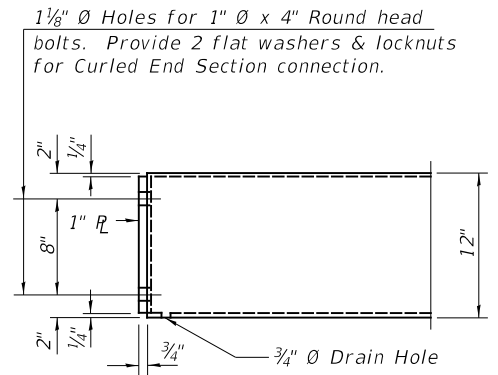


SECTION AT RAILING POST
R 1/2" x 7" x 6"

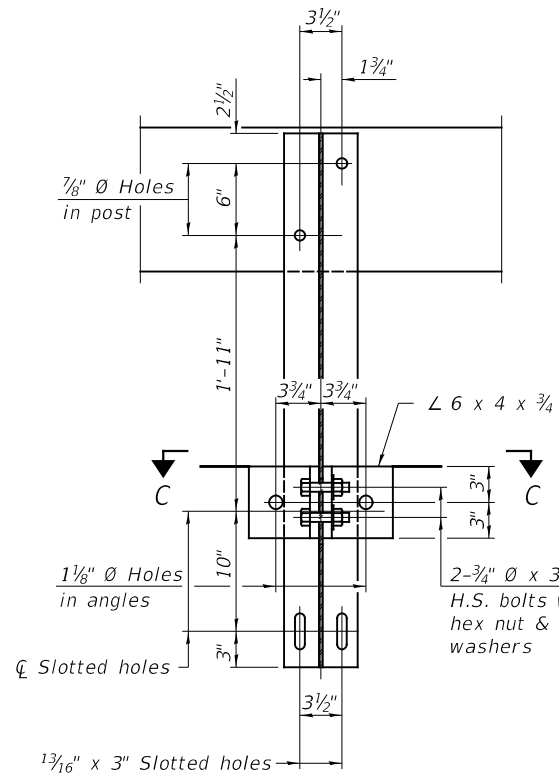


CURLED END SECTION

(4 Req'd) Cost Included with Steel Railing, Type S-1.
Terminal Markers - Direct Applied shall be placed on
end of each Curled End Section. (Typ. Each Corner)



END OF RAIL DETAILS



SECTION C-C

2-3/4" Ø x 6" Round Head Bolts
with locknut & flat washer.
7/8" Ø holes in hollow structural
section may be drilled in the
field.

W6 x 25
1 3/16" x 5 1/2" Slotted
hole in post

1 3/16" Ø Holes
in angles

2-3/4" Ø x 3 3/4"
H.S. bolts with
hex nut & flat
washers

2- 1" Ø x 7 3/4" AASHTO
M-164 anchor bolts with
flat washer and lock washer

2-5/8" Ø x 5 3/4" cap
screws with flat washer

1 3/16" x 3" Slotted
holes

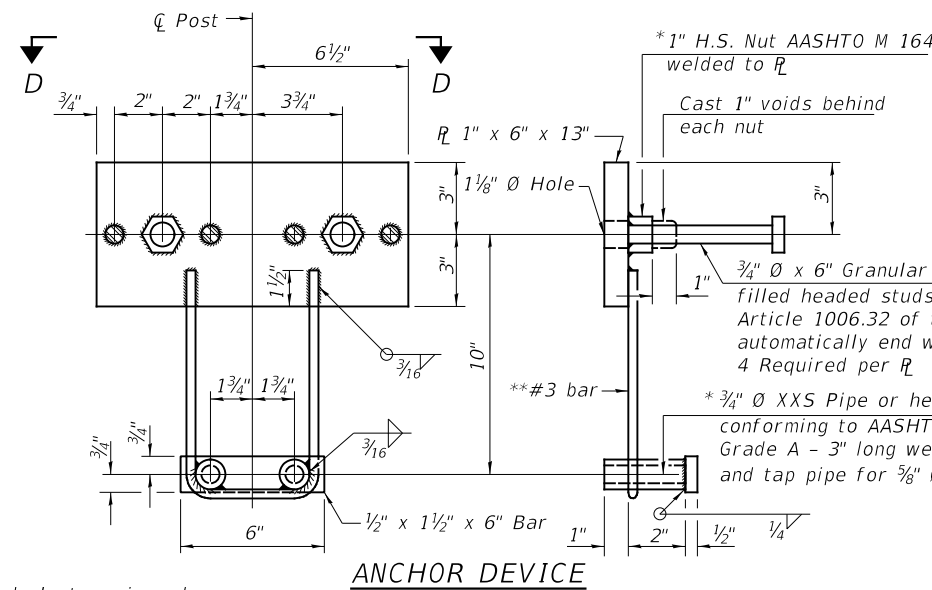
Top of Beam

HSS 6" x 4" x 1/4"
x 3 1/2" long

HSS 6" x 3" x 1/4" x 3 3/8" long

Varies

SECTION AT RAILING POST



ANCHOR DEVICE

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

* 1" H.S. Nut AASHTO M 164
welded to R

Cast 1" voids behind
each nut

3/4" Ø x 6" Granular or solid flux
filled headed studs conforming to
Article 1006.32 of the Std. Specs.
automatically end welded.
4 Required per R

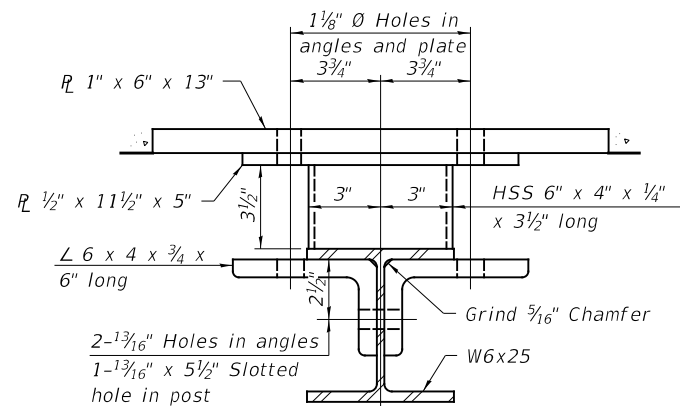
* 3/4" Ø XXS Pipe or hex coupler nuts
conforming to AASHTO M291,
Grade A - 3" long welded to #3 bar
and tap pipe for 5/8" Ø Cap Screw.

**#3 bar

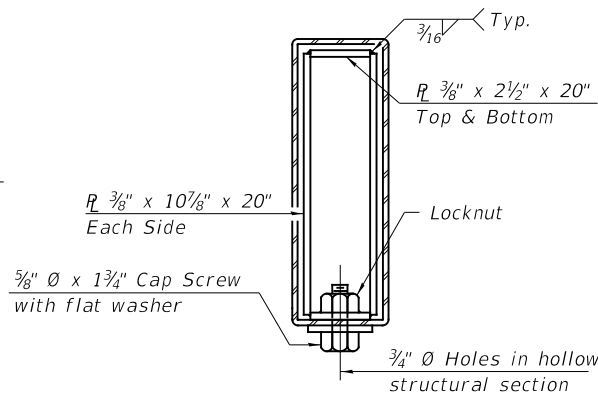
NOTES

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.

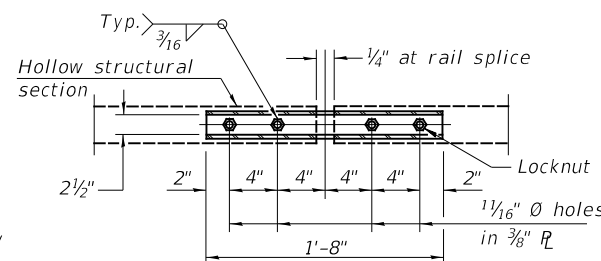


SECTION C-C

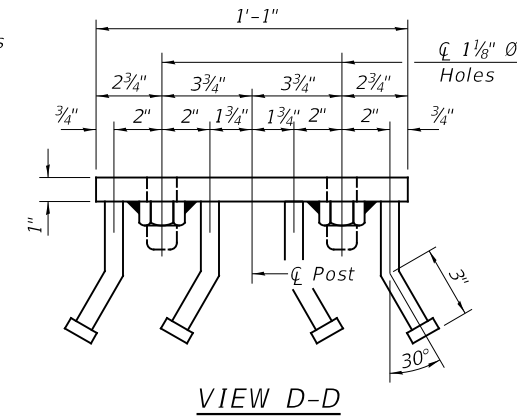


SECTIONS AT RAIL SPLICE

**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".



PLAN-BOTT. SPLICE R
TYPICAL



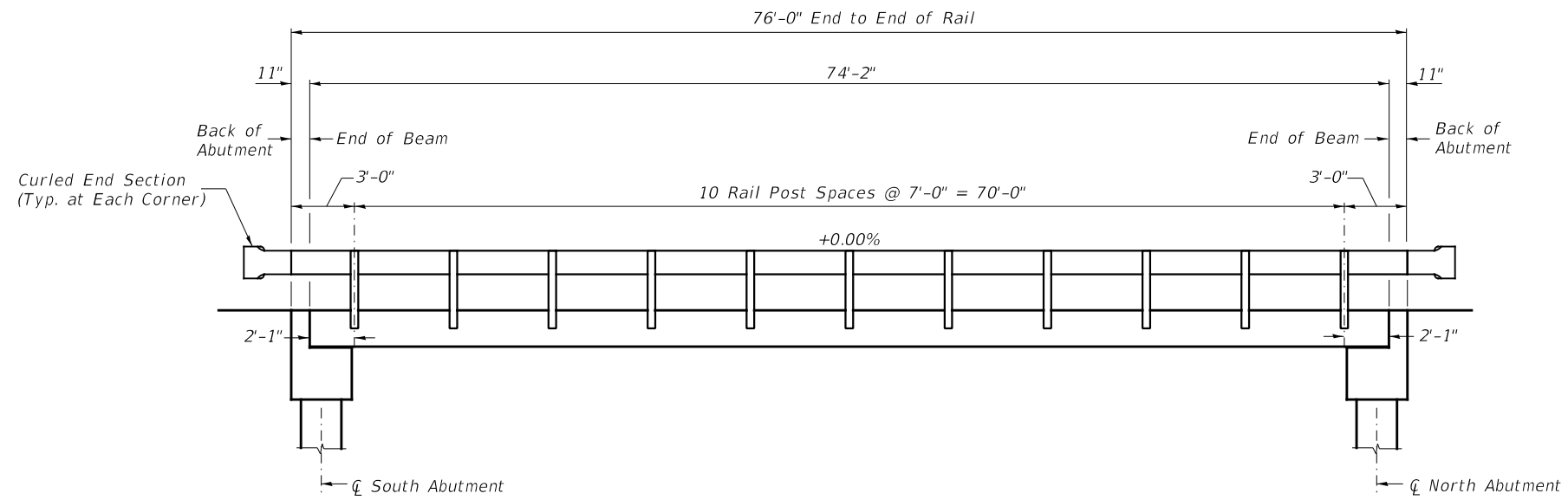
VIEW D-D

BILL OF MATERIAL

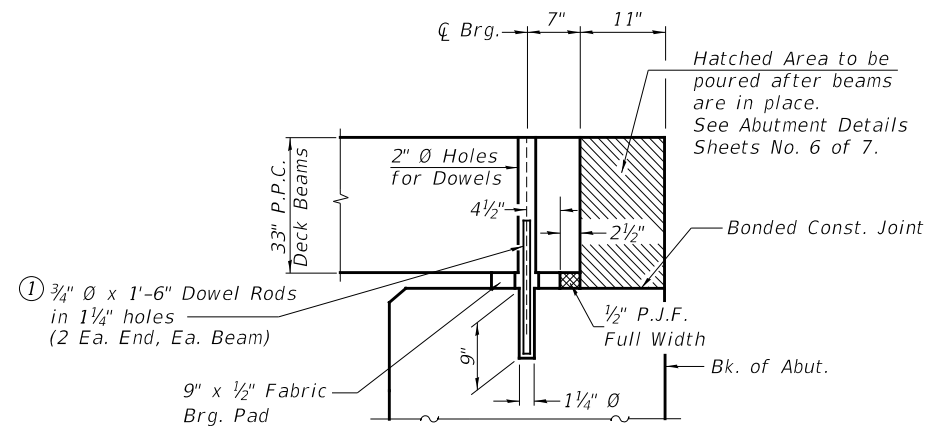
ITEM	UNIT	QUANTITY
Steel Railing, Type S-1	FOOT	152

STEEL RAILING, TYPE S-1
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK

SHEET NO. 4 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	10
S.N. 089-3293			CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		



RAIL POST SPACING

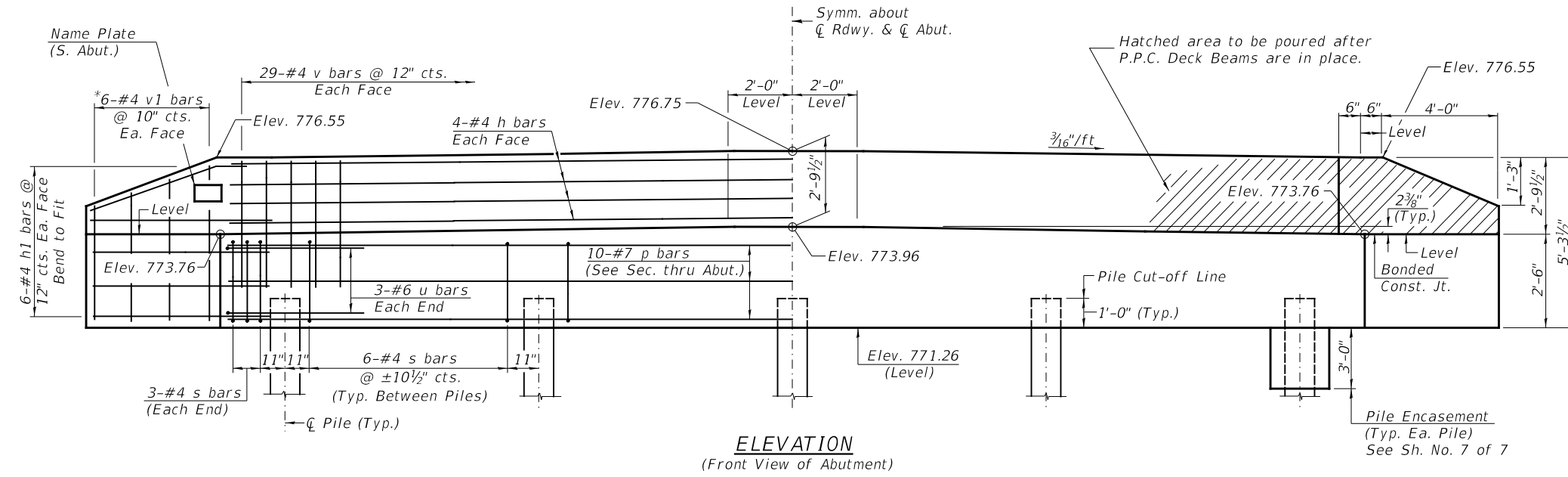
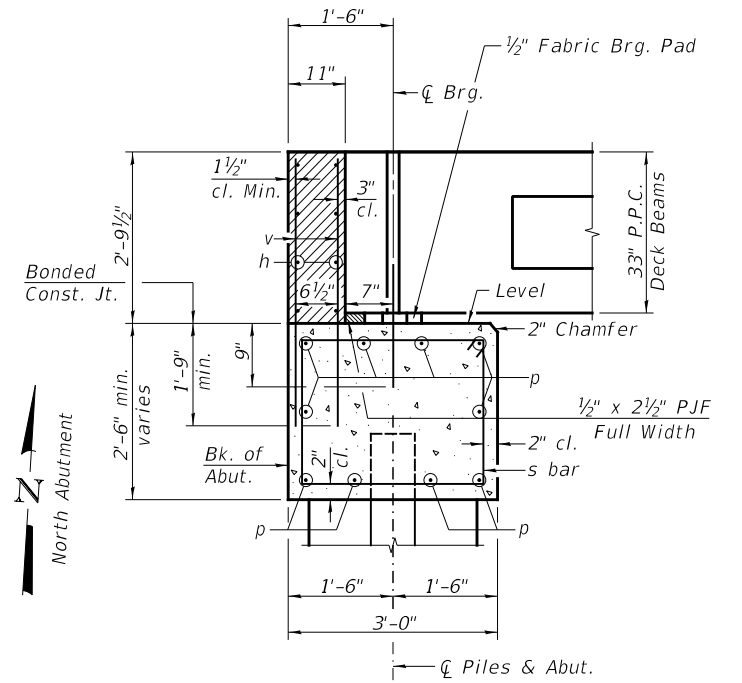
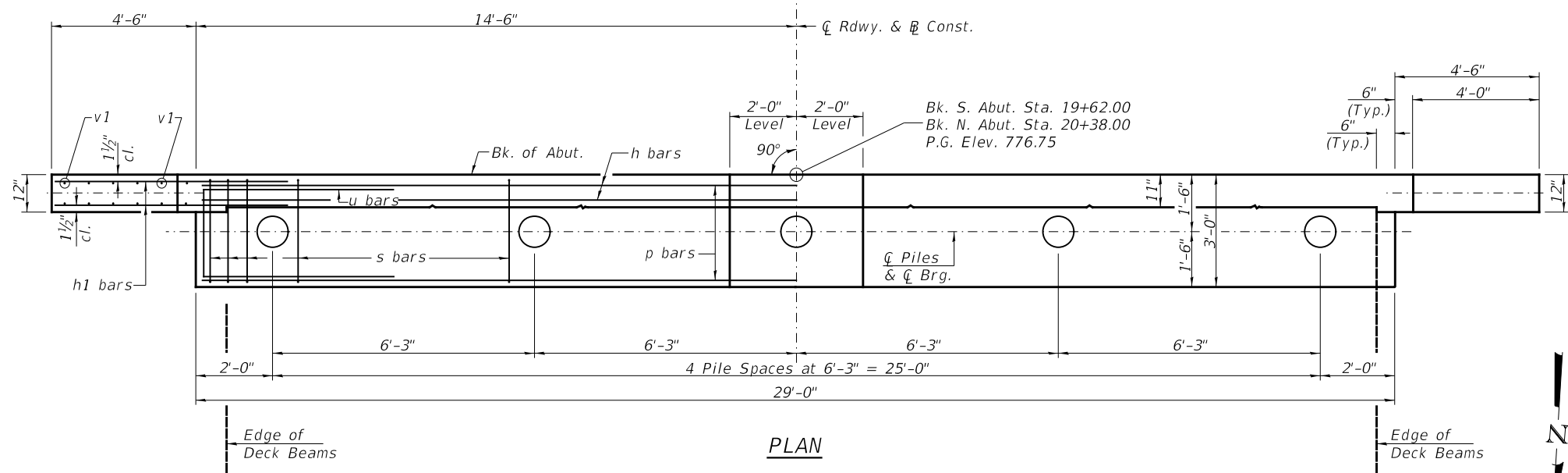


SECTION THRU ABUTMENTS

① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.

RAIL POST SPACING AND
SUPERSTRUCTURE DETAILS
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK

SHEET NO. 5 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	11
S.N. 089-3293			CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		



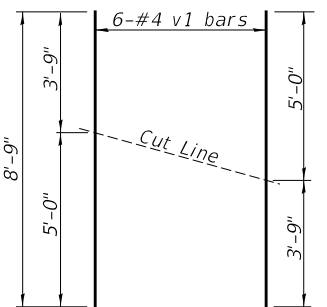
SECTION THRU ABUTMENTS

TWO ABUTMENTS
BILL OF MATERIAL

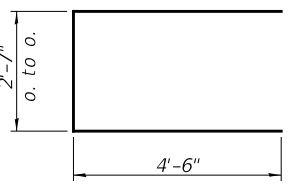
BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	28'-9"	—
h1	48	#4	6'-6"	—
p	20	#7	28'-9"	—
s	60	#4	10'-5"	□
u	12	#6	11'-7"	□
v	116	#4	4'-6"	—
v1	24	#4	8'-9"	—
Concrete Structures			CU YD	25.2
Reinforcement Bars			POUND	2,810
Structure Excavation			CU YD	120
Name Plates			EACH	1
Furnishing Metal Shell Piles 12"x0.250"			FOOT	432
Driving Piles			FOOT	432
Test Pile Metal Shells			EACH	2
Concrete Encasement			CU YD	2.6

PILE DATA

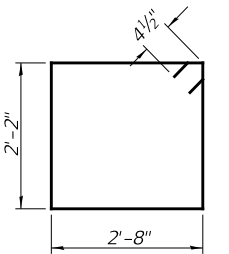
Type & Size: Metal Shell 12" x 0.250" walls
 Nominal Required Bearing: 285 kips
 Factored Resistance Available: 155 kips
 Est. Length: 54' N. Abutment
 54' S. Abutment
 No. Req'd.: 10 (Includes 1 Test Pile at Each Abut.)



BAR CUTTING DIAGRAM
 *Order v1 bars full length. Cut as shown and use remainder of bars in opposite face.



BAR u



BAR s

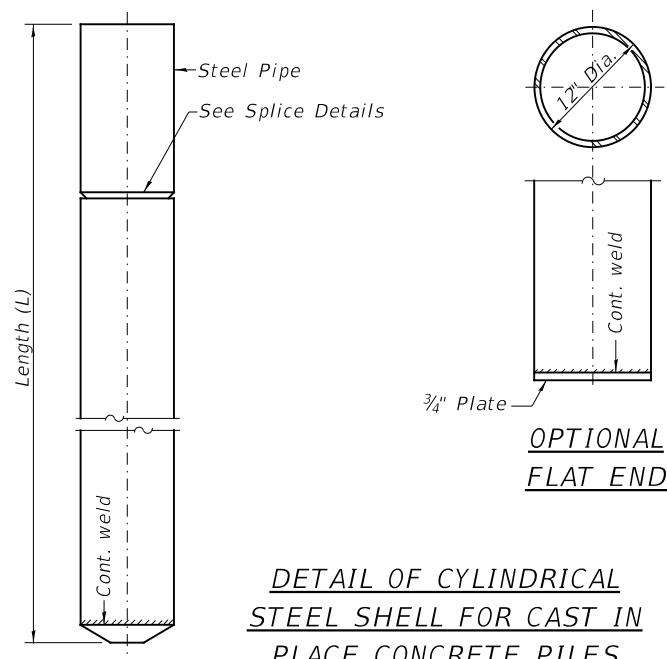
NOTES

- The backwall and the portion of the wingwalls above the bonded construction joint shall be cast against the in-place beam.
- All edges shall have standard 3/4" chamfer.

ABUTMENTS
 STEPHENSON COUNTY
 SECTION 19-16124-00-BR
 TOWNSHIP ROAD 130
 OVER MUDDY CREEK

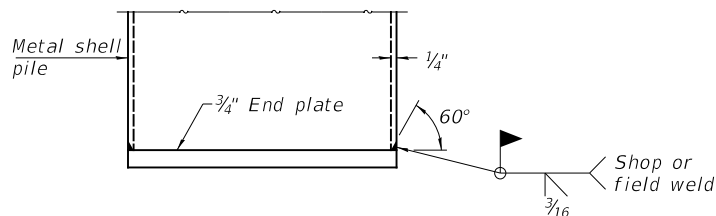
SHEET NO. 6 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	12
	S.N. 089-3293		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		

Notes: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.25 inches with a tolerance of 5%. The shell shall be according to Article 1006.05(a) of the Standard Specifications, and shall be ASTM A252 Grade 3.

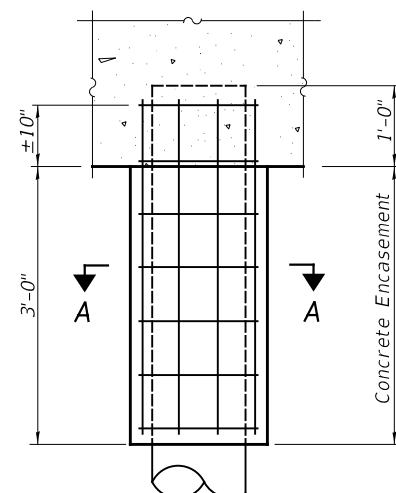


DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

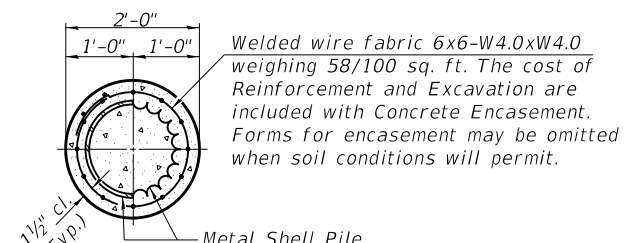
OPTIONAL FLAT END



END PLATE ATTACHMENT

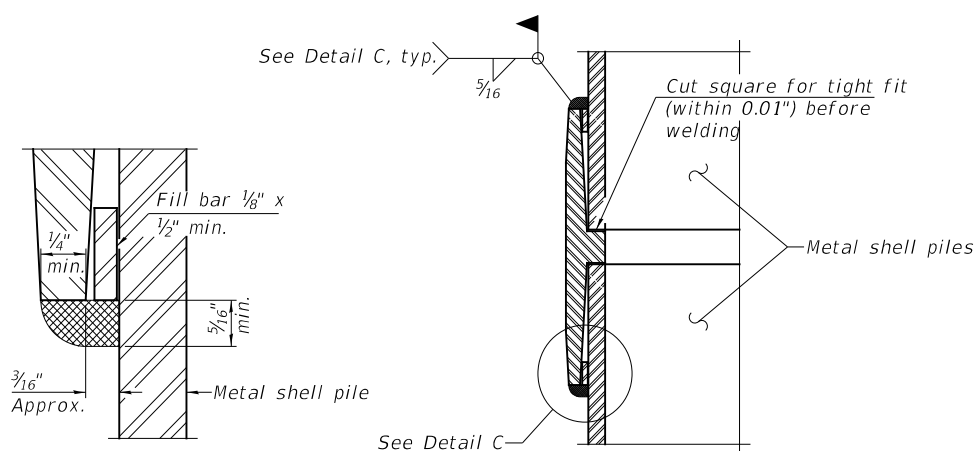


ELEVATION



SECTION A-A

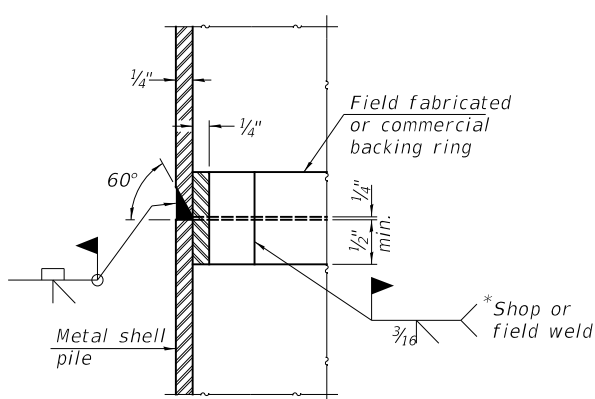
DETAIL OF METAL SHELL PILE ENCASEMENT AT ABUTMENTS



DETAIL C

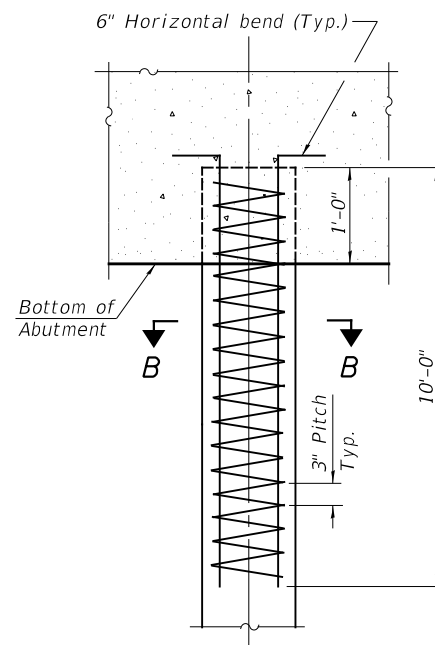
WELDED COMMERCIAL SPLICE

Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.



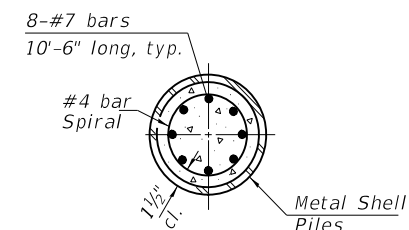
COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION

REINFORCEMENT AT ABUTMENTS



SECTION B-B

The cost of Reinforcement is included with Furnishing Metal Shell Piles 12"x0.250"

METAL SHELL PILE DETAILS
STEPHENSON COUNTY
SECTION 19-16124-00-BR
TOWNSHIP ROAD 130
OVER MUDDY CREEK

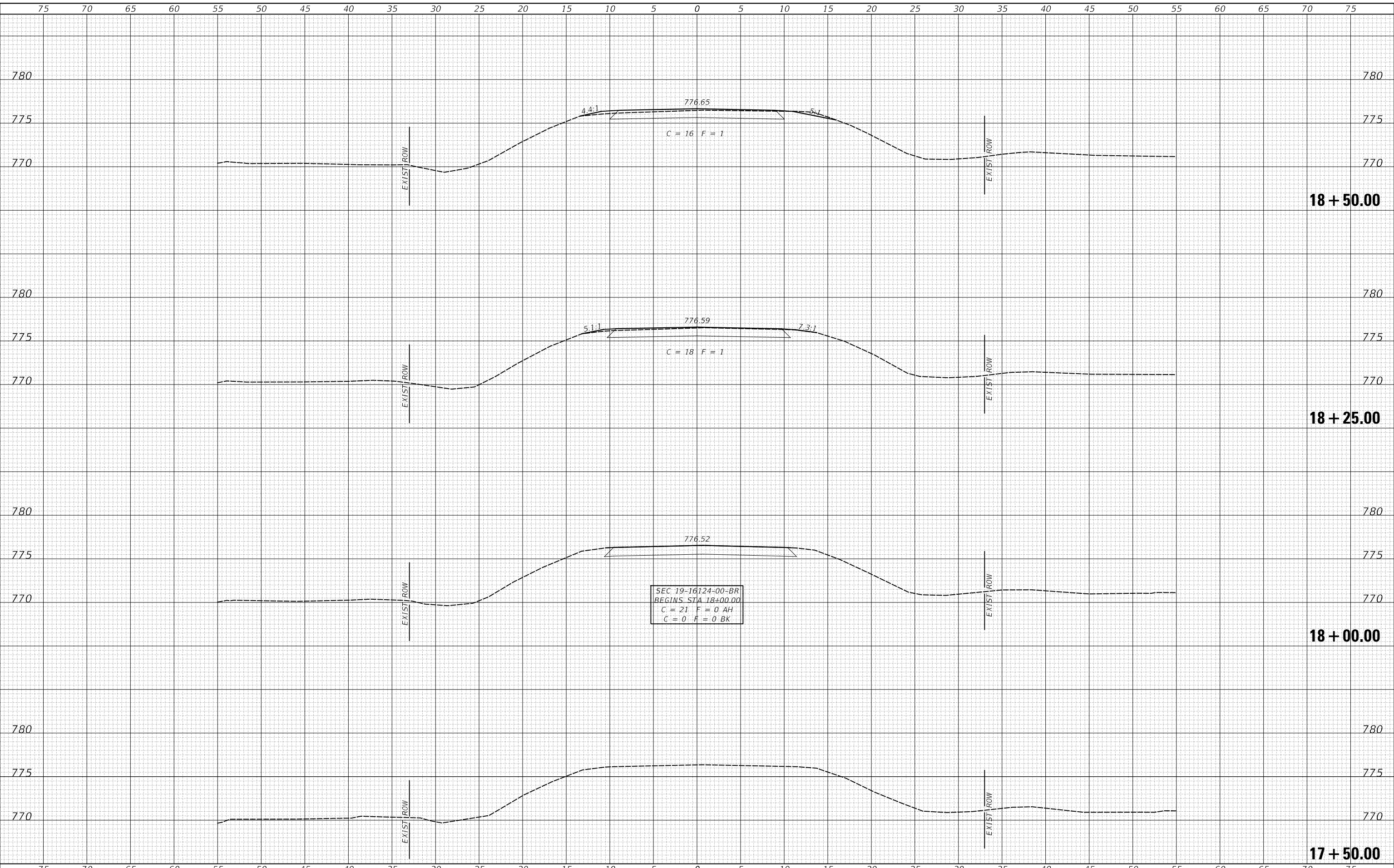
Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

SHEET NO. 7 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TR 130	19-16124-00-BR	STEPHENSON	18	13
	S.N. 089-3293		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. LZKM(739)		

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

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

MODEL: S:\MODEL\MAMES
FILE NAME: V:\571 - TR 130 over Muddy Creek (Stephenson)\CADD\CADD Sheets\571-Xsec\tr130.dgn



USER NAME = smierzwa	DESIGNED - STM	REVISED - _____
	DRAWN - JCW	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - STM	REVISED - _____
PLOT DATE = 2/8/2021	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

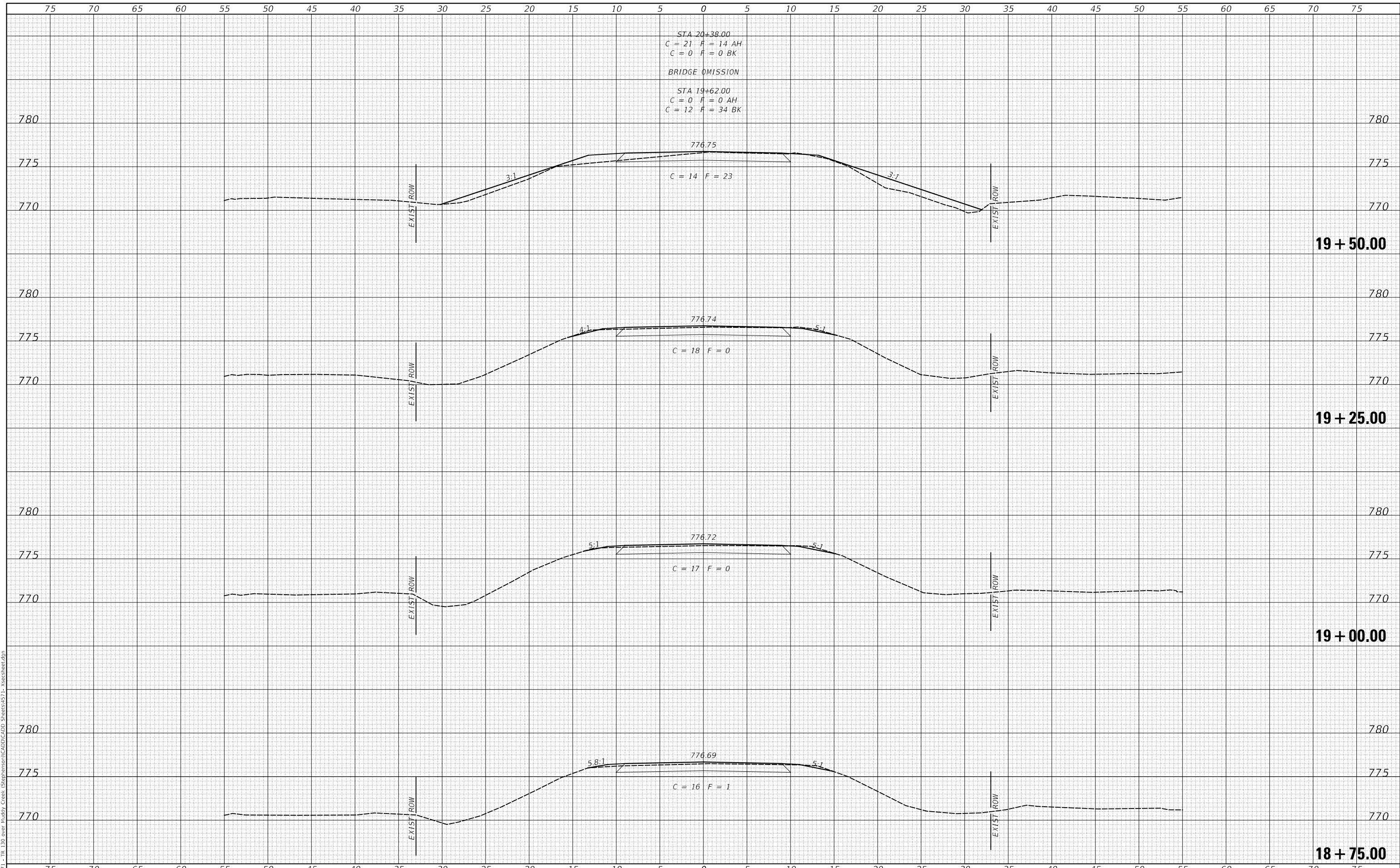
CROSS SECTIONS
SCALE: 1"=5' SHEET 1 OF 5 SHEETS STA. 17+50.00 TO STA. 18+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	14
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 85711	
FED. AID PROJECT NO. LZKM1739				

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

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

MODEL: S:\MODEL\MAMES
FILE NAME: V:\571 - TR 130 over Muddy Creek (Stephenson)\CADD\CADD Sheets\571-Xsec\tr130.dgn



USER NAME = smierzwa	DESIGNED - STM	REVISED - _____
	DRAWN - JCW	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - STM	REVISED - _____
PLOT DATE = 2/8/2021	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

CROSS SECTIONS

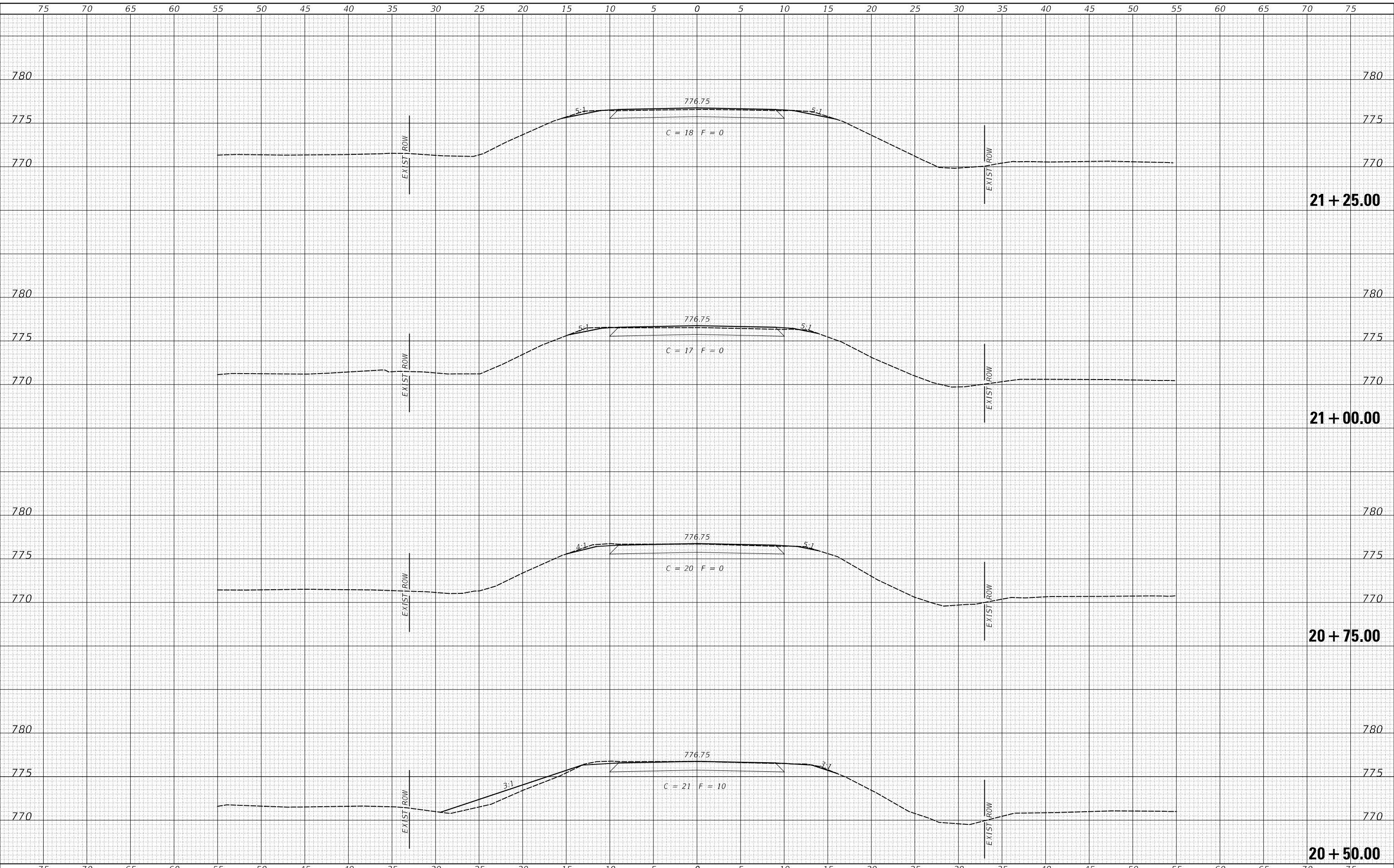
SCALE: 1"=5' SHEET 2 OF 5 SHEETS STA. 18+75.00 TO STA. 19+50.00

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	15
		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO. LZKM1739	

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

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

MODEL: S:\MODEL\MAMES
FILE NAME: V:\571 - TR 130 over Muddy Creek (Stephenson)\CADD\CADD Sheets\571-Xsec\tr130.dgn



USER NAME = smierzwa	DESIGNED - STM	REVISED - _____
PLOT SCALE = 10.0000 ' / in.	DRAWN - JCW	REVISED - _____
PLOT DATE = 2/8/2021	CHECKED - STM	REVISED - _____
	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

SCALE: 1"=5' SHEET 3 OF 5 SHEETS STA. 20+50.00 TO STA. 21+25.00

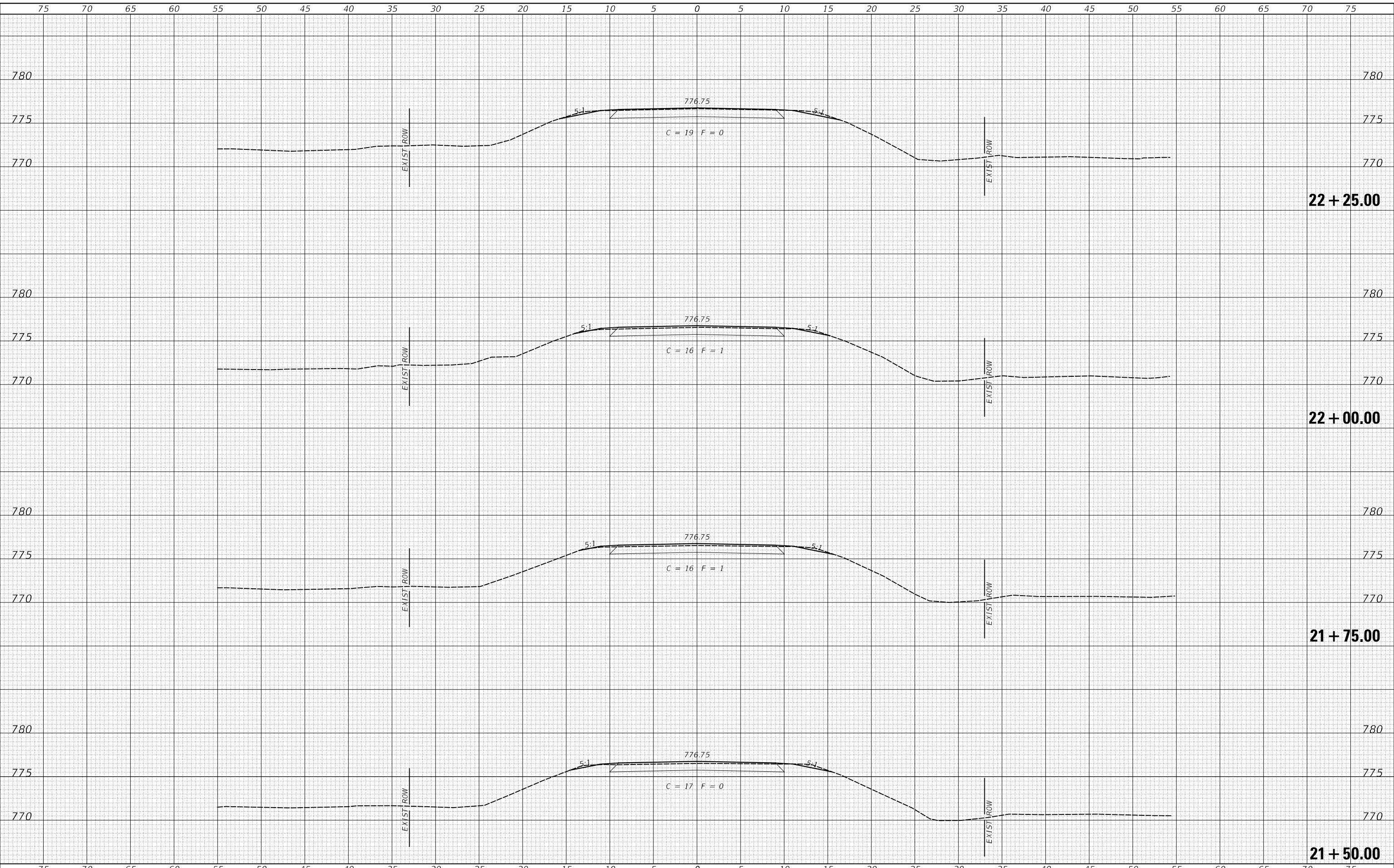
CROSS SECTIONS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	16
FED. ROAD DIST. NO. 7		ILLINOIS	CONTRACT NO. 85711	
			FED. AID PROJECT NO. LZKM1739	

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

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

MODEL: \$MODELNAME\$
FILE NAME: V:\571 - TR 130 over Muddy Creek (Stephenson)\CADD\CADD Sheets\571-Xsec\tr130.dgn



USER NAME = smierzwa	DESIGNED - STM	REVISED - _____
PLOT SCALE = 10.0000' / in.	DRAWN - JCW	REVISED - _____
PLOT DATE = 2/8/2021	CHECKED - STM	REVISED - _____
	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

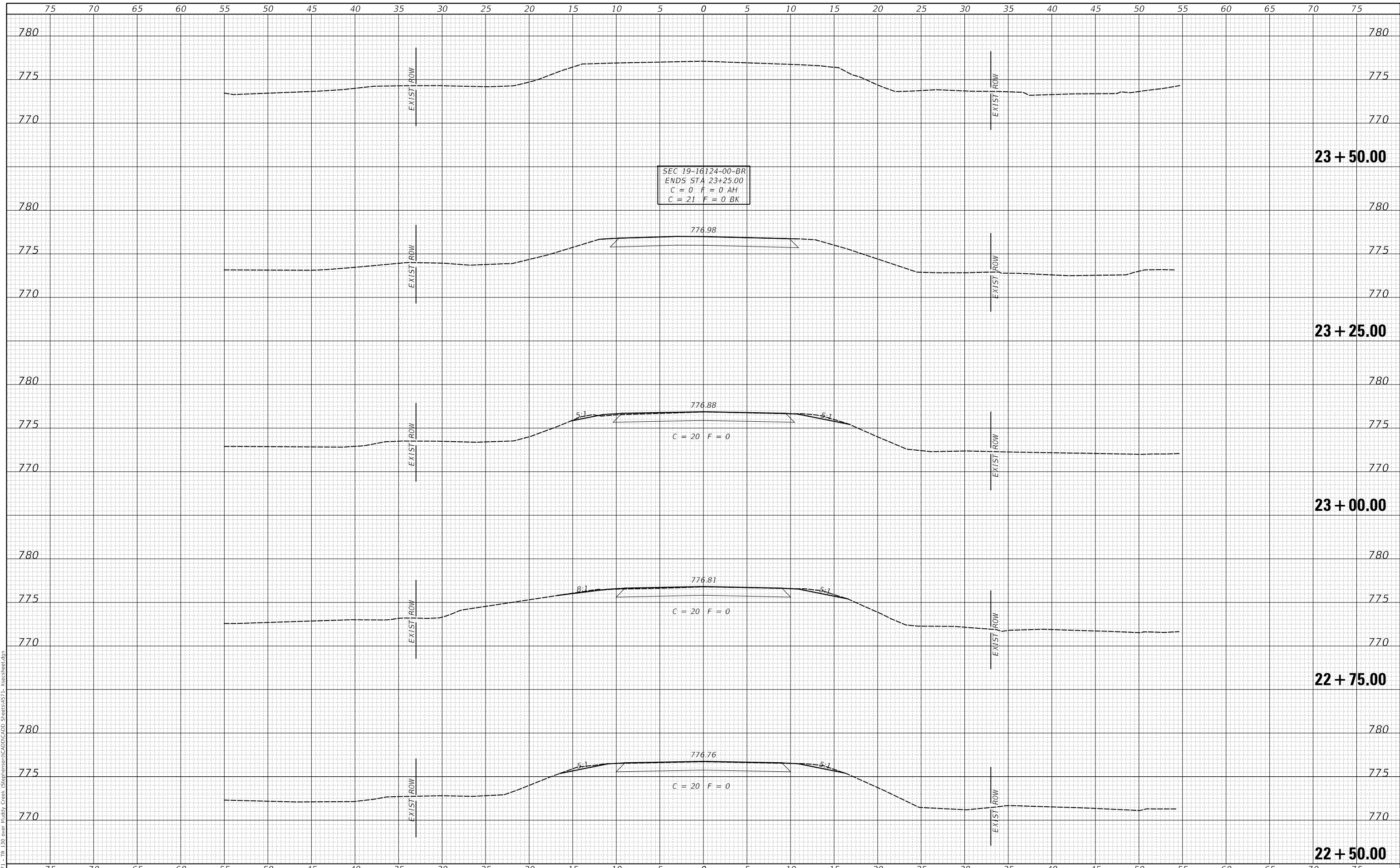
CROSS SECTIONS
SCALE: 1"=5' SHEET 4 OF 5 SHEETS STA. 21+50.00 TO STA. 22+25.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	17
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 85711	
			FED. AID PROJECT NO. LZKM1739	

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

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

MODEL: S:\MODEL\MAMES
FILE NAME: V:\571 - TR 130 over Muddy Creek (Stephenson)\CADD\CADD Sheets\571-Xsec\tr130.dgn



SEC 19-16124-00-BR
ENDS STA 23+25.00
C = 0 F = 0 AH
C = 21 F = 0 BK

USER NAME = smierzwa	DESIGNED - STM	REVISED - _____
PLOT SCALE = 10.0000' / in.	DRAWN - JCW	REVISED - _____
PLOT DATE = 2/8/2021	CHECKED - STM	REVISED - _____
	DATE - 2/8/2021	REVISED - _____

**STEPHENSON COUNTY
TOWNSHIP ROAD 130
OVER MUDDY CREEK**

CROSS SECTIONS

SCALE: 1"=5' SHEET 5 OF 5 SHEETS STA. 22+50.00 TO STA. 23+50.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 130	19-16124-00-BR	STEPHENSON	18	18
		CONTRACT NO. 85711		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. LZKM(739)