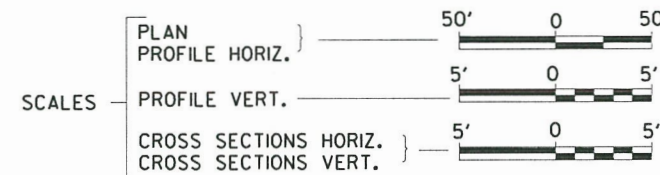


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
MAJOR BRIDGE PROGRAM
PIKE COUNTY
SECTION 15-00098-00-BR
F.A.S. 597 (CH 4) OVER KISER CREEK
PROJECT NO. C37W(680)
JOB NUMBER C-96-066-16



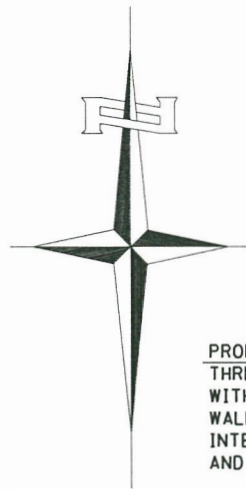
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, TIE POINTS, DETAILS
3	SUMMARY OF QUANTITIES
4	SCHEDULES OF QUANTITIES
5	TRAFFIC CONTROL PLAN
6	EROSION CONTROL PLAN
7	PLAN AND PROFILE
8-28	STRUCTURE PLANS
29-34	CROSS SECTIONS

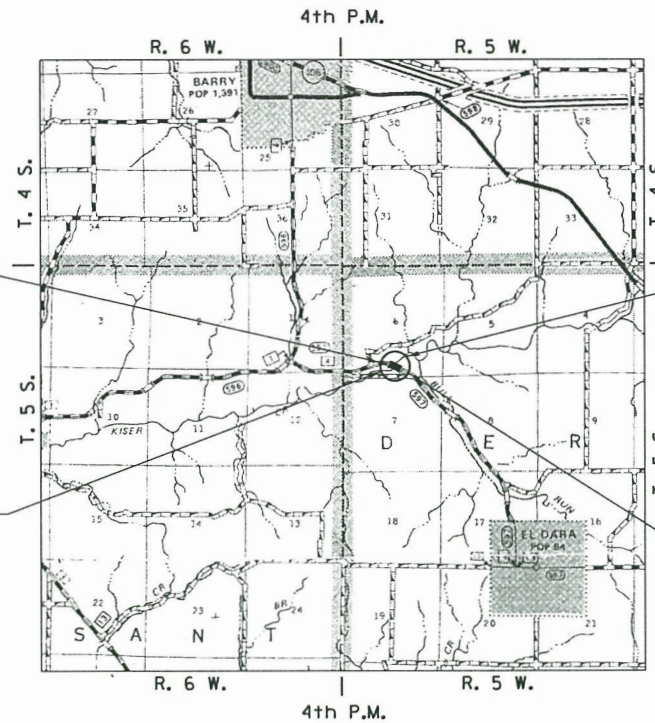


REQUIRED HIGHWAY STANDARDS

- 000001-07
- 280001-07
- 515001-03
- 601101-02
- 630301-09
- 631032-09
- 701901-08
- 725001-01
- 780001-05
- BLR 21-9



SECTION 15-00098-00-BR
 BEGINS
 STATION 25+75.00



EXISTING STRUCTURE SN 075-3002
 THREE SPAN STEEL BEAM SUPERSTRUCTURE
 WITH A REINFORCED CONCRETE DECK ON
 REINFORCED CONCRETE PILE BENT ABUTMENTS
 AND PILE BENT PIERS WITH REINFORCED
 CONCRETE CAPS, ±215'-0" BK. TO BK.,
 ±26'-0" O. TO O., NO SKEW.
 (TO BE REMOVED)

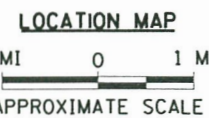
SECTION 15-00098-00-BR
 ENDS
 STATION 33+75.00

PROPOSED STRUCTURE SN 075-3328
 THREE SPAN STEEL PLATE GIRDER SUPERSTRUCTURE
 WITH A REINFORCED CONCRETE DECK ON CONCRETE
 WALL PIERS ON CONCRETE FOOTINGS AND CONCRETE
 INTEGRAL ABUTMENTS, 280'-0" BK TO BK,
 AND 32'-0" O TO O DECK, NO SKEW.

UTILITY COMPANIES

- FRONTIER COMMUNICATIONS
 JACKSONVILLE, ILLINOIS
- ILLINOIS ELECTRIC COOPERATIVE
 WINCHESTER, ILLINOIS
- PIKE COUNTY WATER DIST. NO. 1
 PITTSFIELD, ILLINOIS

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



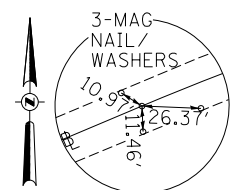
NET LENGTH OF PROJECT = 800.00 FEET = 0.152 MILES
 DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 DESIGN ADT = 398 (I9)
 DESIGN SPEED = 40 MPH

Hutchison Engineering, Inc.
 JACKSONVILLE-SHOREWOOD
 PEORIA-QUAD CITIES



Li. Exp. 4/30/20
 SIGNATURE
 ENGINEER'S SEAL

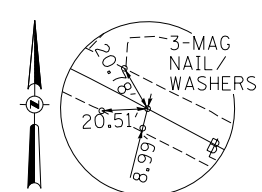
APPROVED	<i>3-5</i>	2019
	<i>[Signature]</i>	PIKE COUNTY ENGINEER
PASSED	<i>3-13</i>	2019
	<i>[Signature]</i>	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS
Released For Bid Based on Limited Review	<i>3-13</i>	2019
	<i>[Signature]</i>	REGION FOUR ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



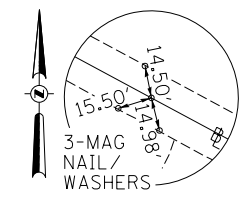
PC STA 16+48.19
MAG-SPIKE



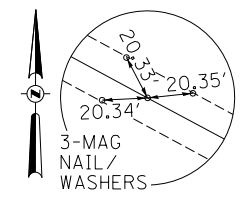
PI STA 22+77.11
IRON ROD
BURIED 12"



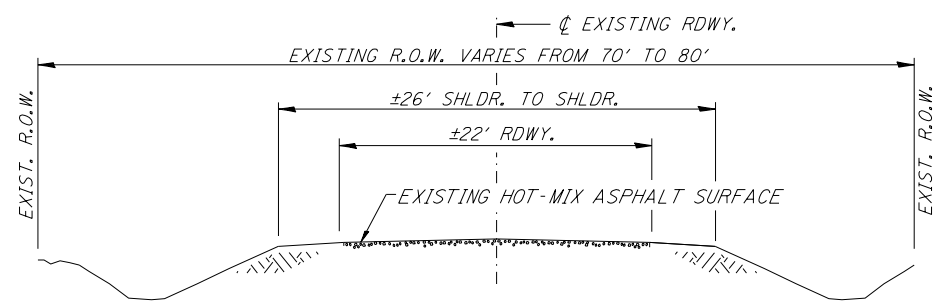
PT STA 28+21.45
MAG-SPIKE



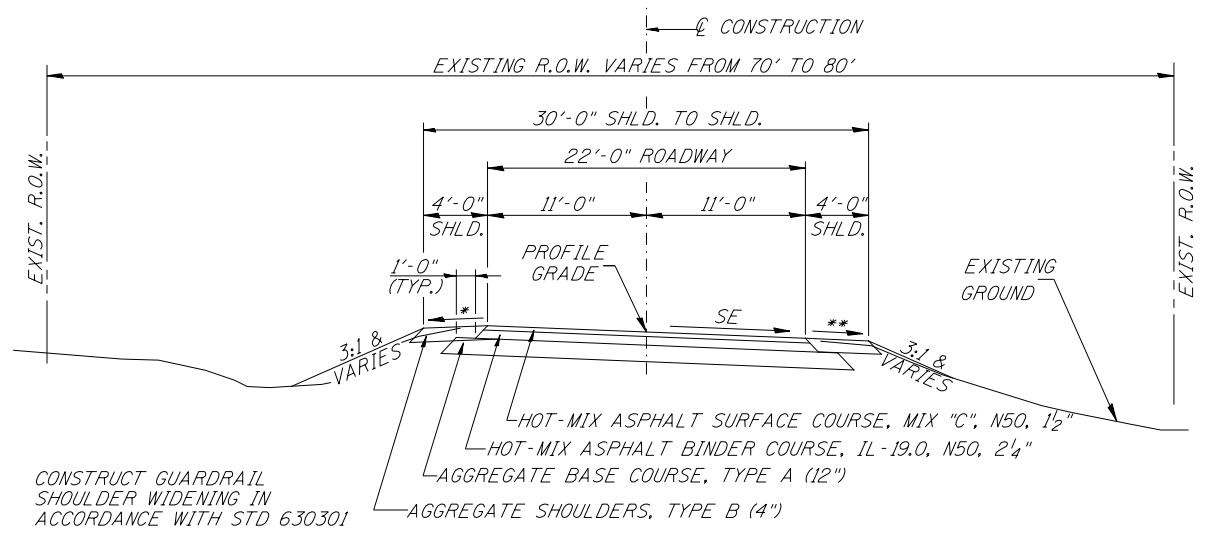
POT STA 34+55.63
MAG-SPIKE



POT STA 37+49.18
MAG-SPIKE



EXISTING TYPICAL SECTION



PROPOSED TYPICAL RECONSTRUCTION SUPERELEVATION SECTION

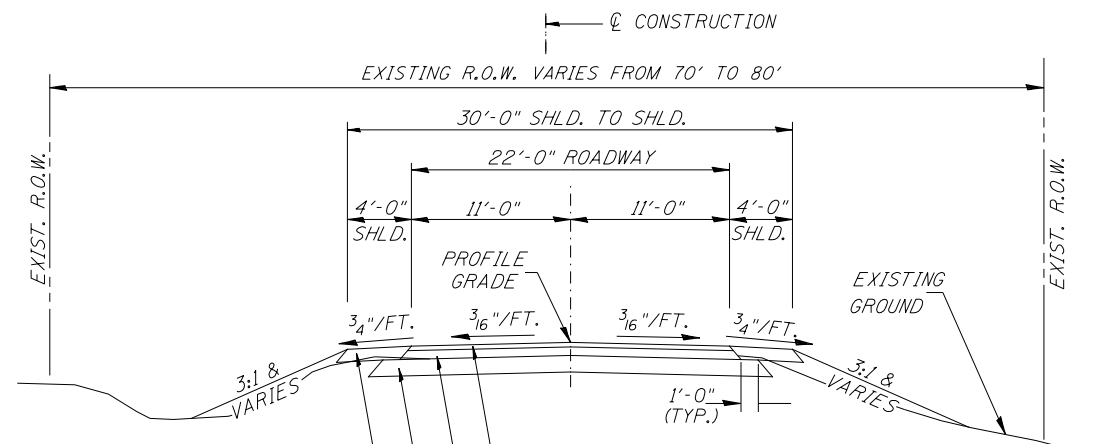
STA. 25+75.00 TO STA. 27+38.04 (FULL 7.0% SE)
STA. 27+38.04 TO STA. 28+32.33 (SE TRANSITION, 7.0% TO 2.0%)
STA. 31+12.33 TO STA. 31+78.04 (SE TRANSITION, 2.0% TO NC)
EXCEPT TRANSITIONS

BRIDGE OMISSION
STA. 28+32.33 TO STA. 31+12.33

* HIGH SIDE: 8% MAX BREAKOVER
** LOW SIDE: 6% OR SE, WHICHEVER IS GREATER

CONSTRUCT GUARDRAIL
SHOULDER WIDENING IN
ACCORDANCE WITH STD 630301

CONSTRUCT GUARDRAIL
SHOULDER WIDENING IN
ACCORDANCE WITH STD 630301



PROPOSED TYPICAL SECTION

STA. 31+78.04 TO STA. 33+75.00
EXCEPT TRANSITIONS

GENERAL NOTES

PLAN QUANTITIES FOR TREE REMOVAL HAVE BEEN BASED ON ALL TREES WITHIN THE EXISTING RIGHT OF WAY. THIS QUANTITY MAY BE REVISED DURING CONSTRUCTION, AT THE DIRECTION OF THE ENGINEER, BY DELETING FROM THE TREE REMOVAL QUANTITIES, SUCH TREES THAT DO NOT INTERFERE WITH THE PROPOSED CONSTRUCTION.

THE REMOVAL OF EXISTING HOT-MIX ASPHALT 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.

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.

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.

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.

ALL EXISTING DRAINAGE STRUCTURES NOT BEING REMOVED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

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.

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.

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.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

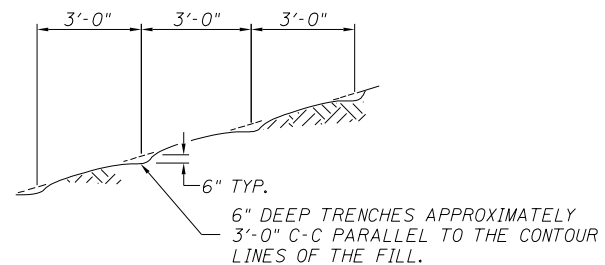
STRUCTURAL DESIGN INFORMATION
COUNTY HIGHWAY 4

ROAD CLASSIFICATION: CLASS III 80,000 lb./15 YEAR DESIGN
STRUCTURAL DESIGN TRAFFIC:
PV = 379 SU = 30 MU = 22
PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
P = 88% S = 7% M = 5%
DESIGN E_{RI}: 3 ksi
ASPHALT PAVEMENT THICKNESS: 3 3/4"
AGGREGATE BASE COURSE, TYPE A: 12"

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE USE	BINDER	SURFACE (MIX "C")
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIX COMPOSITION	IL-19.0	IL-9.5

If RAP option is selected, the asphalt cement grade may need to be adjusted. This will be determined by the Engineer.



DETAIL OF CONTOUR PLOWING

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).

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	240
20300100	CHANNEL EXCAVATION	CU YD	2,925
① 20400800	FURNISHED EXCAVATION	CU YD	855
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	750
28000400	PERIMETER EROSION BARRIER	FOOT	1,110
35100100	AGGREGATE BASE COURSE, TYPE A	TON	935
① 40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	3,206
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	164
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	107
48101200	AGGREGATE SHOULDERS, TYPE B	TON	117
① 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	225
50200300	COFFERDAM EXCAVATION	CU YD	420
50201121	COFFERDAM (TYPE 2) (LOCATION-1)	EACH	1
50201122	COFFERDAM (TYPE 2) (LOCATION-2)	EACH	1
① 50300225	CONCRETE STRUCTURES	CU YD	206.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	278.5
50300260	BRIDGE DECK GROOVING	SQ YD	934
50300265	SEAL COAT CONCRETE	CU YD	165.0
50300300	PROTECTIVE COAT	SQ YD	1,089
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	4,035
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	101,700

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: 0010

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
51200959	FURNISHING METAL SHELL PILES 14" X 0.312"	FOOT	1,489
51202305	DRIVING PILES	FOOT	1,489
51203200	TEST PILE METAL SHELLS	EACH	4
51204650	PILE SHOES	EACH	34
51500100	NAME PLATES	EACH	1
① 52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	5
52100520	ANCHOR BOLTS, 1"	EACH	30
52100530	ANCHOR BOLTS, 1 1/4"	EACH	10
① 58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	165
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	70
△ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
△ ① 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	312
67100100	MOBILIZATION	L SUM	1
△ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
△ 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,600
① X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.6
① X2810210	STONE RIPRAP, CLASS A5 (SPECIAL)	TON	1,705
① X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
① Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	121
△ XX006199	STEEL BRIDGE RAIL, TYPE SM (SPECIAL)	FOOT	560
# ① Z0076600	TRAINEES	Hour	1,000
# ① Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	Hour	1,000

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: 0010

△ SPECIALTY ITEMS

0042

FILE NAME =	USER NAME = BNebe1	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 4 OVER KISER CREEK	SUMMARY OF QUANTITIES			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
W:\4194 - CH 4 over Kiser Creek (Pike)\CADD Sheets\4194q001.dgn	DRAWN -	REVISED -	597					15-00098-00-BR	PIKE	34	3	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -	CONTRACT NO. 93730									
PLOT DATE = 3/6/2019	DATE -	REVISED -	SCALE: NONE		SHEET 1 OF 2 SHEETS	STA. 25+75.00 TO STA. 33+75.00	FED. ROAD DIST. NO. 7 ILLINOIS	FED. AID PROJECT NO. C37W6801				

PERIMETER EROSION BARRIER			
STATION TO STATION		SIDE	FOOT
25+75	28+32	LEFT	280
25+75	28+32	RIGHT	270
31+12	33+75	LEFT	280
31+12	33+75	RIGHT	280
TOTAL			1,110

EARTHWORK SUMMARY						
STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	COFFERDAM EXCAVATION	FILL	WASTE (SHORTAGE)
RDWY 25+75.00 - 28+32.33	125				545	(451)
RDWY 31+12.33 - 33+75.00	116				489	(402)
CHANNEL		2,925				
STRUCTURE			225			
COFFERDAM				420		
TOTAL	241	2,925	225	420	1,034	(853)
USE	240	2,925	225	420	-	(855)

(@ 25% SHRINKAGE)

TRAFFIC BARRIER TERMINAL, TYPE 6A			
STATION TO STATION		SIDE	EACH
27+94.50	28+33.32	RIGHT	1
31+12.33	31+49.83	LEFT	1
TOTAL			2

GUARDRAIL REMOVAL			
STATION TO STATION		SIDE	FOOT
28+14	28+93	RIGHT	79
28+15	28+93	LEFT	78
31+08	31+86	LEFT	78
31+08	31+85	RIGHT	77
TOTAL			312

PAINT PAVEMENT MARKING - LINE 4"			
STATION TO STATION		DESCRIPTION	FOOT
25+75	33+75	CL DOUBLE YELLOW	1,600
TOTAL			1,600

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT			
STATION TO STATION		SIDE	EACH
27+43.88	27+94.50	RIGHT	1
31+49.83	31+99.43	LEFT	1
TOTAL			2

AGGREGATE SHOULDERS, TYPE B					
STATION TO STATION		SIDE	WIDTH	LENGTH	TON
25+75.00	26+25.00	LEFT	3.50' AVG.	50.00'	4
25+75.00	26+25.00	RIGHT	3.50' AVG.	50.00'	4
26+25.00	28+32.33	LEFT	4.00'	207.33'	19
26+25.00	27+05.23	RIGHT	4.00'	80.23'	7
27+05.23	27+33.72	RIGHT	6.50' AVG.	28.49'	4
27+33.72	27+69.26	RIGHT	9.00'	35.54'	7
27+69.26	27+94.45	RIGHT	8.88' AVG.	25.19'	5
27+94.45	28+14.98	RIGHT	8.75'	20.53'	4
28+14.98	28+32.33	RIGHT	7.38' AVG.	17.35'	3
31+12.33	33+25.00	RIGHT	4.00'	212.67'	20
31+12.33	31+28.83	LEFT	7.38' AVG.	16.50'	3
31+28.83	31+49.83	LEFT	8.75'	21.00'	4
31+49.83	31+74.83	LEFT	8.88' AVG.	25.00'	5
31+74.83	32+09.83	LEFT	9.00'	35.00'	7
32+09.83	32+39.83	LEFT	6.50' AVG.	30.00'	5
32+39.83	33+25.00	LEFT	4.00'	85.17'	8
33+25.00	33+75.00	RIGHT	3.50' AVG.	50.00'	4
33+25.00	33+75.00	LEFT	3.50' AVG.	50.00'	4
TOTAL					117

PAVEMENT SCHEDULE							
STATION TO STATION		WIDTH	LENGTH	AGGREGATE BASE COURSE, TYPE A	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT BINDER COURSE, 1L-19.0, N50	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
				TON	0.25 LBS/SQ FT POUND	112#/SQ YD/IN TON	112#/SQ YD/IN TON
25+75.00	26+25.00	25.67' AVG.	50.00'	90			
26+25.00	28+32.33	25.63'	207.33'	372			
31+12.33	33+25.00	25.63'	212.67'	382			
33+25.00	33+75.00	25.86' AVG.	50.00'	91			
25+75.00	26+25.00	24.67' AVG.	50.00'		308		
26+25.00	28+32.33	24.63'	207.33'		1,277		
31+12.33	33+25.00	24.63'	212.67'		1,310		
33+25.00	33+75.00	24.86' AVG.	50.00'		311		
25+75.00	26+25.00	22.48' AVG.	50.00'			16	
26+25.00	28+32.33	22.44'	207.33'			65	
31+12.33	33+25.00	22.44'	212.67'			67	
33+25.00	33+75.00	22.67' AVG.	50.00'			16	
25+75.00	26+25.00	22.17' AVG.	50.00'				10
26+25.00	28+32.33	22.13'	207.33'				43
31+12.33	33+25.00	22.13'	212.67'				44
33+25.00	33+75.00	22.35' AVG.	50.00'				10
TOTAL				935	3,206	164	107

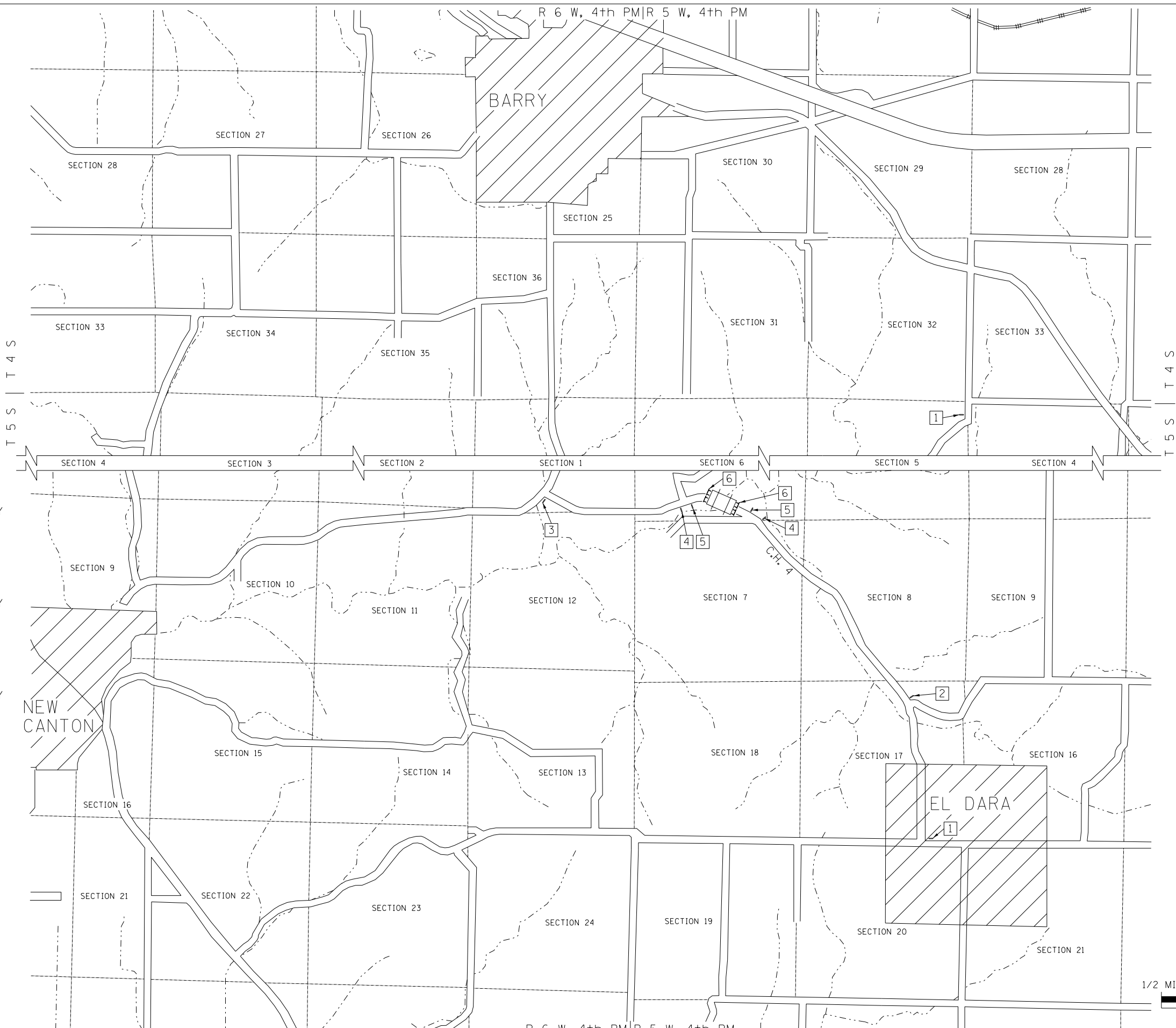
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V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD Sheets\4194g002.dgn		DRAWN -	REVISED -
	PLOT SCALE = 100.0000' / 1IN.	CHECKED -	REVISED -
	PLOT DATE = 3/6/2019	DATE -	REVISED -

**PIKE COUNTY
COUNTY HIGHWAY 4
OVER KISER CREEK**

SCHEDULES OF QUANTITIES

SCALE: NONE SHEET 2 OF 2 SHEETS STA. 25+75.00 TO STA. 33+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	4
CONTRACT NO. 93730				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. C37W(680)	



- 1

ROAD CLOSED
2 1/2 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

ROAD CLOSED
2 1/2 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

- 2

ROAD CLOSED
1 3/4 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

ROAD CLOSED
1 3/4 MILES AHEAD
LOCAL TRAFFIC ONLY

R11-3a

- 3

ROAD CLOSED
1 MILE AHEAD
LOCAL TRAFFIC ONLY

R11-3a

ROAD CLOSED
1 MILE AHEAD
LOCAL TRAFFIC ONLY

R11-3a

- 4

ROAD CLOSED
AHEAD

W20-3

ROAD CLOSED
AHEAD

W20-3

- 5

ROAD CLOSED
500 FT

W20-3

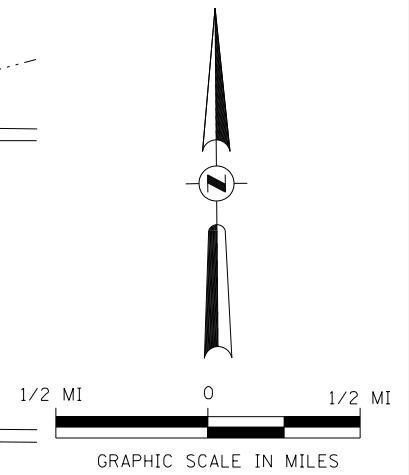
ROAD CLOSED
500 FT

W20-3

- 6

TYPE III BARRICADES

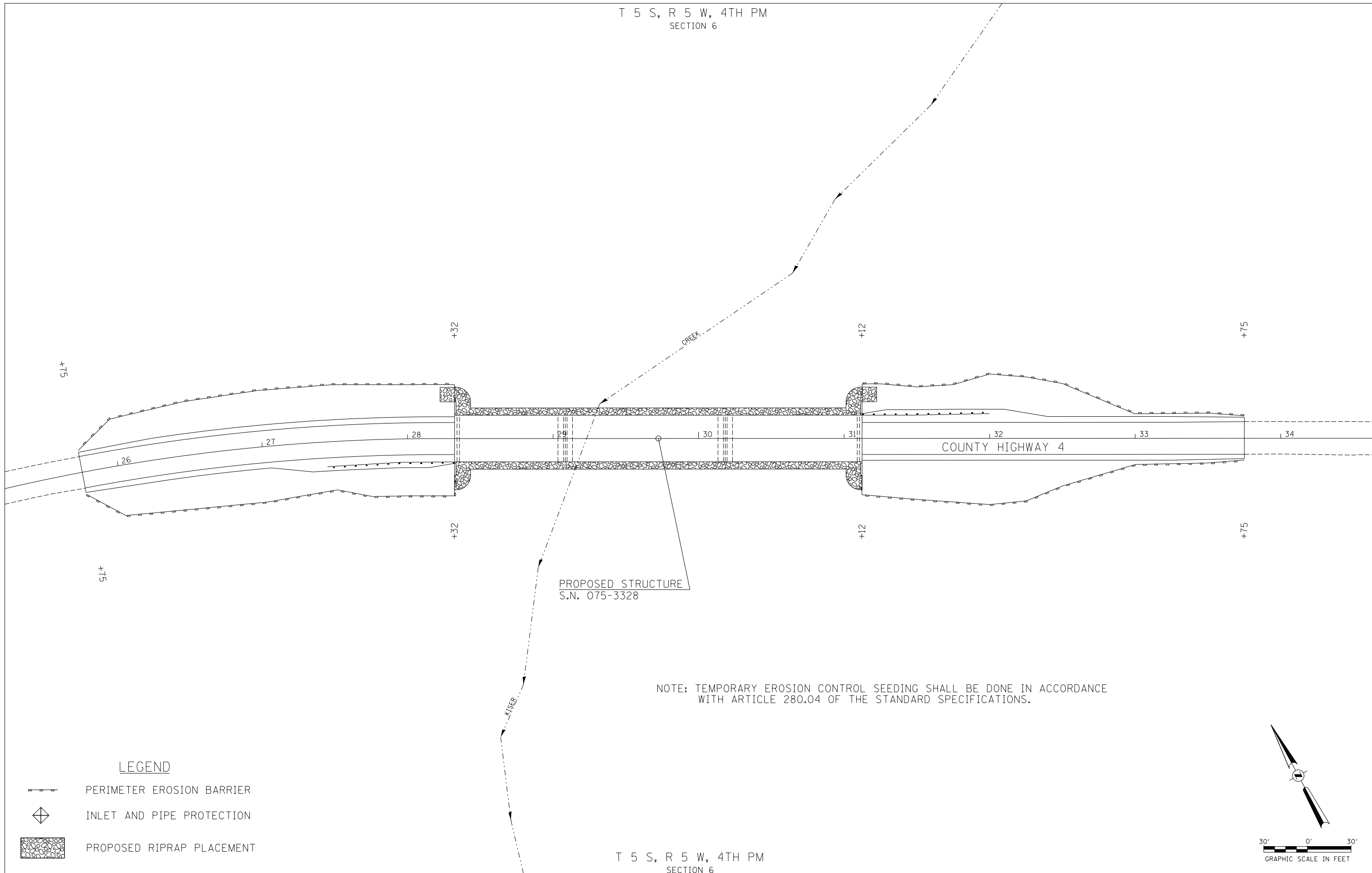
SEE STANDARD BLR 21
AND SPECIAL PROVISIONS



FILE NAME =	USER NAME = BNebe1	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 4 OVER KISER CREEK				TRAFFIC CONTROL PLAN				F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD Sheets\4194\001.dgn		DRAWN -	REVISED -									597	15-00098-00-BR	PIKE	34	5
\$MODELNAME\$		CHECKED -	REVISED -									CONTRACT NO. 93730				
		DATE -	REVISED -									FED. ROAD DIST. NO. 7 ILLINOIS				FED. AID PROJECT NO. C37W6801

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 25+75.00 TO STA. 33+75.00




T 5 S, R 5 W, 4TH PM
SECTION 6

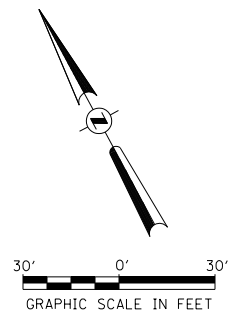


PROPOSED STRUCTURE
S.N. 075-3328

NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS.

LEGEND

-  PERIMETER EROSION BARRIER
-  INLET AND PIPE PROTECTION
-  PROPOSED RIPRAP PLACEMENT



T 5 S, R 5 W, 4TH PM
SECTION 6

FILE NAME =	USER NAME = BNebe1	DESIGNED -	REVISED -
V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD Sheets\4194s001.dgn		DRAWN -	REVISED -
	PLOT SCALE = 60.0000' / in.	CHECKED -	REVISED -
\$MODELNAME\$	PLOT DATE = 3/6/2019	DATE -	REVISED -

**PIKE COUNTY
COUNTY HIGHWAY 4
OVER KISER CREEK**

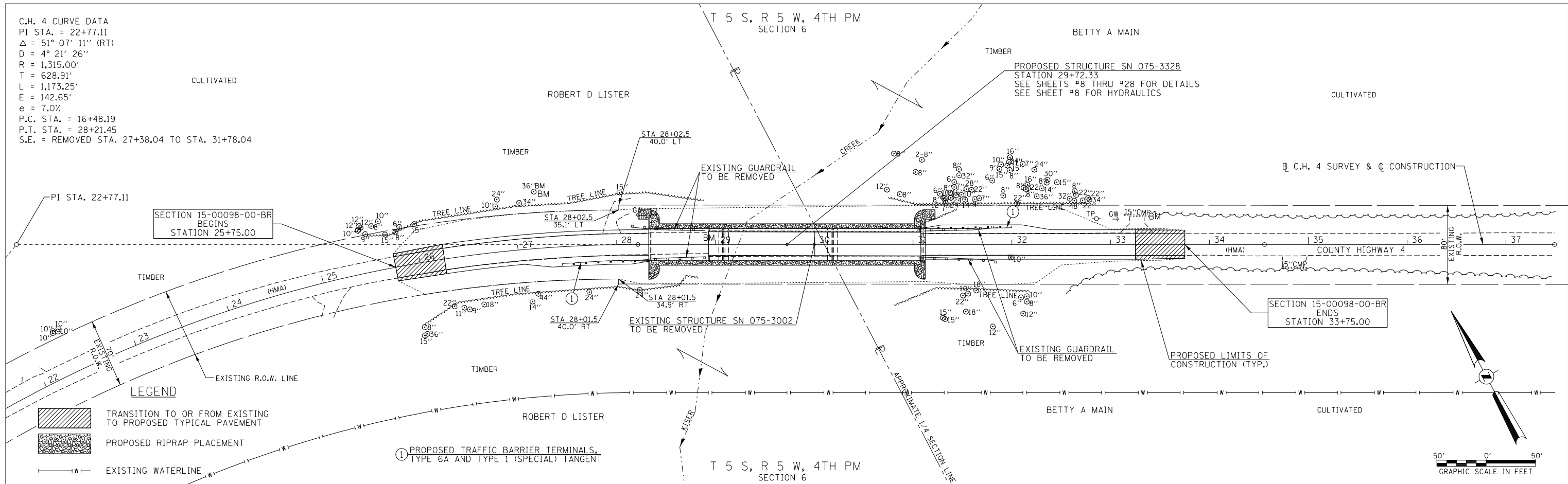
EROSION CONTROL PLAN

SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 25+75.00 TO STA. 33+75.00

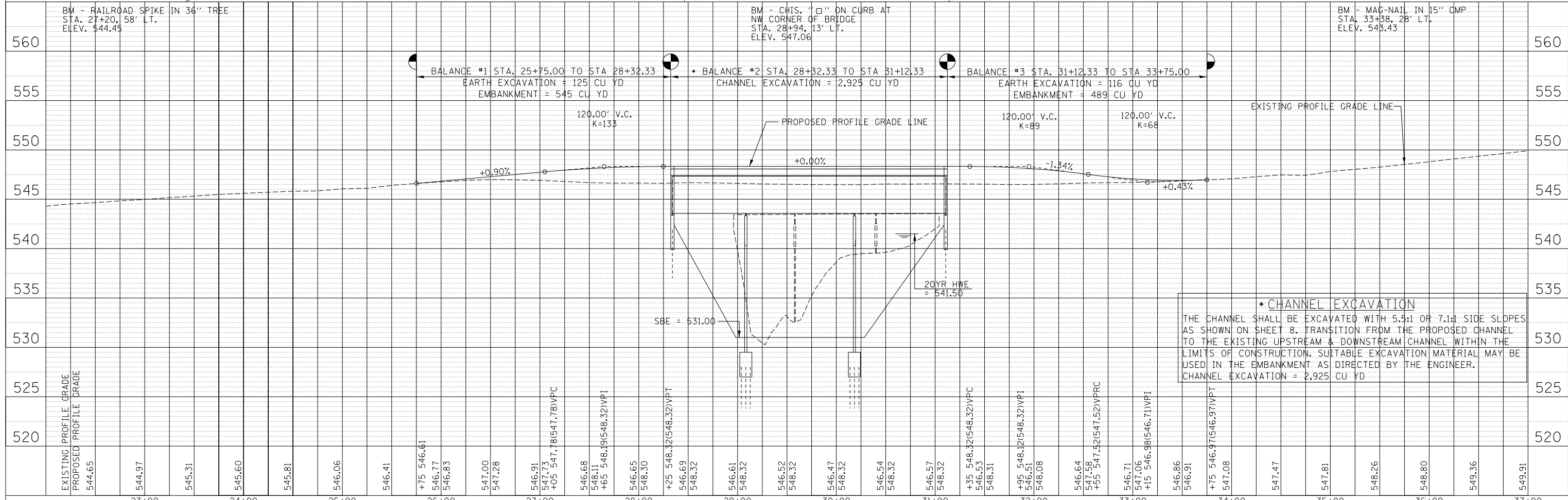
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	6
CONTRACT NO. 93730				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. C37W(680)	

C.H. 4 CURVE DATA
 PI STA. = 22+77.11
 $\Delta = 51^\circ 07' 11''$ (RT)
 $D = 4^\circ 21' 26''$
 $R = 1,315.00'$
 $T = 628.91'$
 $L = 1,173.25'$
 $E = 142.65'$
 $e = 7.0\%$
 P.C. STA. = 16+48.19
 P.T. STA. = 28+21.45
 S.E. = REMOVED STA. 27+38.04 TO STA. 31+78.04

DATE	
BY	
PLAN	SURVEYED
	NOTED
	PLOTTED
	ALIGNED
	CHECKED
	FILED
	NO.
	FILE NAME



DATE	
BY	
PROFILE	SURVEYED
	NOTED
	PLOTTED
	GRADES
	CHECKED
	STRUCTURE
	NOTATIONS
	CHKD
	NO.



FILE NAME =	USER NAME = BNebl	DESIGNED -	REVISED -	PIKE COUNTY COUNTY HIGHWAY 4 OVER KISER CREEK	PLAN AND PROFILE	F.A.S. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
V:\4194 - CH 4 over Kiser Creek (Pike)\CADD Sheets\4194p001.dgn		DRAWN -	REVISED -			597	15-00098-00-BR	PIKE	34	7	
#MODELNAMEs		CHECKED -	REVISED -			CONTRACT NO. 93730					
		DATE -	REVISED -			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. C37W6801					

B.M.: RR Spike in 36" Tree
Sta. 27+20, 58' Lt.
Elev. 544.45
Mag-nail in 15" CMP
Sta. 33+38, 28' Lt.
Elev. 543.43

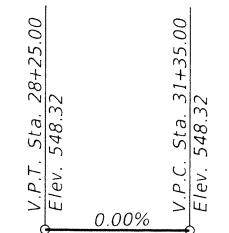
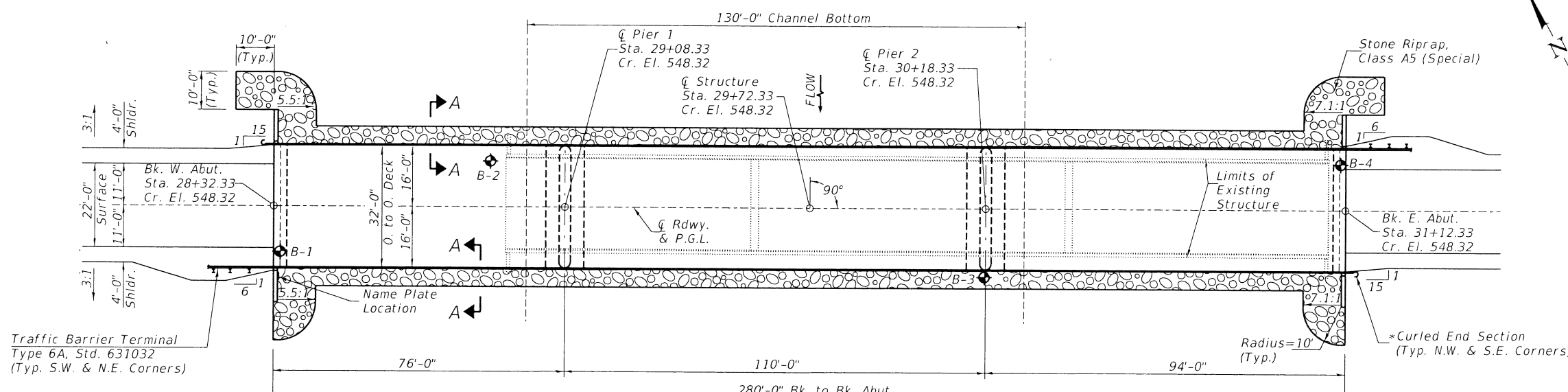
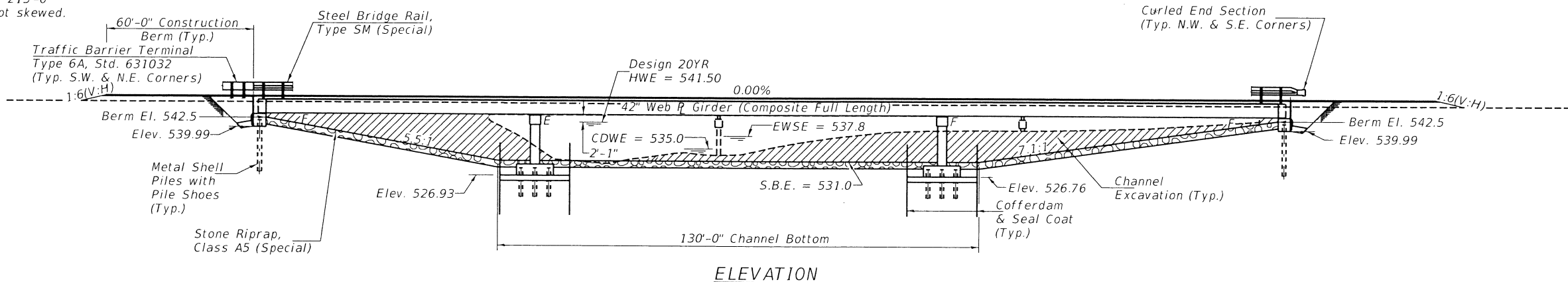
Notes:
See Sheet 2 of 21 for Index of
Sheets and Section A-A.

Existing Structure:

Three span steel beam superstructure with a reinforced concrete deck supported on reinforced concrete pile bent abutments and pile bent piers with reinforced concrete caps. The structure is 215'-0" back to back of abutments, 26'-0" out to out deck, and is not skewed. The structure was built in 1958. Str. No. 075-3002.

Salvage: None

Road to be closed to traffic during construction.



PROFILE GRADE
F.A.S. 597 (CH 4)

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

f'c = 3,500 psi (Substructure)
f'c = 5,000 psi (Superstructure)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

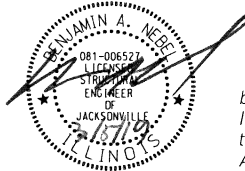
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.137g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.224g
Soil Site Class = D

LOADING HL-93

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

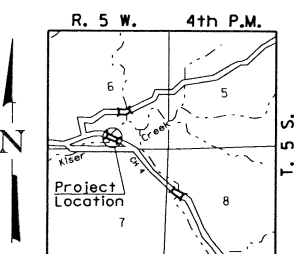
CURVE DATA

PI STA. = 22+77.11
Δ = 51° 07' 11" (RT)
D = 4° 21' 26"
R = 1,315.00'
T = 628.91'
L = 1,173.25'
E = 142.65'
e = 5.0%
P.C. STA. = 16+48.19
P.T. STA. = 28+21.45
S.E. = TRANSITION EXISTING SE TO PROPOSED SE
STA. 25+75.00 TO STA. 26+25.00 (CONSTANT
2% SE ELEVATION ACROSS STRUCTURE)
S.E. = REMOVED STA. 27+59.95 TO STA. 28+82.95



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 LRFD Bridge Design Specifications. This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of Highway Bridges.

Signature
3/5/19
Illinois Structural No. 6527
Expires 11/30/2020



LOCATION SKETCH

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)					Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	540.0	516.9	516.9	540.0	5
Q200	540.0	514.4	514.4	540.0	
Design	540.0	516.9	516.9	540.0	
Check	540.0	514.4	514.4	540.0	

WATERWAY INFORMATION

Drainage Area = 44.42 Sq. Mi. Low Grade Elev. = 542.25 @ Sta. 15+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	20	7,106	898	2,011	541.50	1.29	0.96	542.79	542.46
Base	100	10,600	1,035	2,191	542.19	2.27	1.60	544.46	543.79

Construction of this project complies with IDNR, Office of Water Resources Statewide Permit No. 2

DESIGNED	B.A.N.
CHECKED	C.T.M.
DRAWN	J.C.W.
CHECKED	B.A.N./C.T.M.

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

GENERAL PLAN

AND ELEVATION
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 1 21 SHEETS	F.A.S. ROUTE 597	SECTION 15-00098-00-BR	COUNTY PIKE	TOTAL SHEETS 34	SHEET NO. 8
	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT C37W(680)					

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 type 3 in unpainted areas. Bolts 7/8" Ø, holes 1 1/16" Ø, unless otherwise noted.

Calculated weight of Structural Steel = 256,930 lb (AASHTO M270 Gr. 50W)

All structural steel shall be AASHTO M270 Gr. 50W.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 18 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

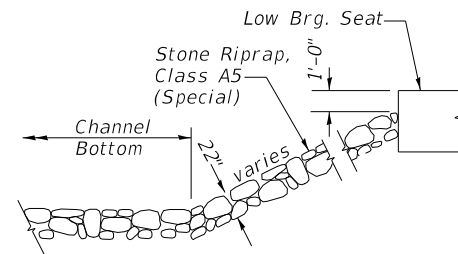
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

For Soil Boring Logs, See Special Provisions.

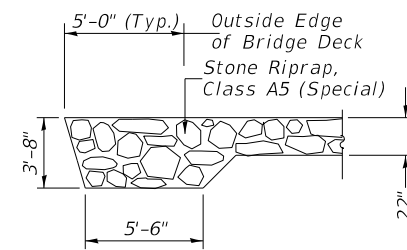
Protective Coat shall be applied to the top and sides of the bridge deck.

Bridge Deck Grooving is figured 1'-0" from the face of the rail. It shall be applied to the bridge deck.

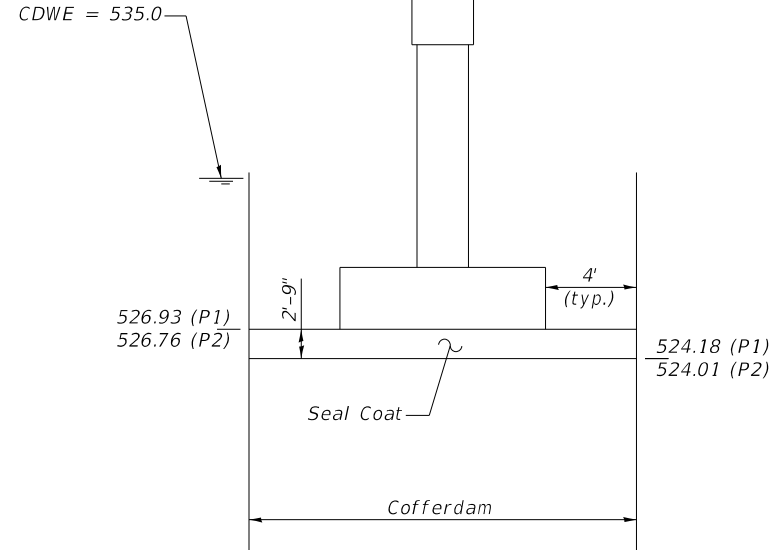
Soil borings indicate hard driving of piles is anticipated. Care shall be taken to avoid damaging the piles while driving.



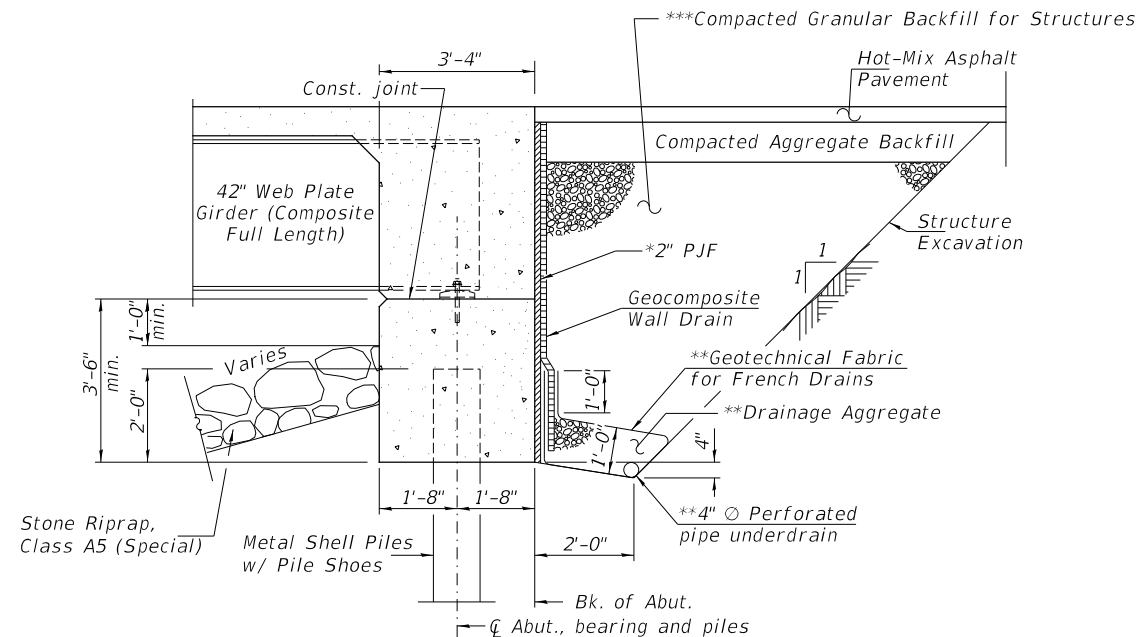
STONE RIPRAP DETAIL



SECTION A-A



COFFERDAM DETAIL



SECTION THRU INTEGRAL ABUTMENTS

- * Cost included in Concrete Structures.
- ** Included in the cost of Pipe Underdrains for Structures
- *** To be compacted per Special Provisions.

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into **concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

INDEX OF SHEETS	
SH. #'s	DESCRIPTION
1	General Plan and Elevation
2	Bill of Material, Details and General Notes
3	Footing Layout
4-6	Top of Slab Elevations
7	Superstructure
8	Superstructure Details
9	Diaphragm Details
10-11	Steel Bridge Rail, Type SM (Special)
12	Framing Plan
13-14	Structural Steel Details
15-16	Bearing Details
17	West Abutment
18	East Abutment
19	Pier #1
20	Pier #2
21	Metal Shell Pile Details

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	2,925	2,925
Stone Riprap, Class A5 (Special)	TON	—	945	1,705
Granular Backfill for Structures	CU YD	—	165	165
Removal of Existing Structures	EACH	—	—	1
Structure Excavation	CU YD	—	225	225
Concrete Structures	CU YD	—	206.1	206.1
Concrete Superstructure	CU YD	278.5	—	278.5
Bridge Deck Grooving	SQ YD	934	—	934
Protective Coat	SQ YD	1,089	—	1,089
Furnishing and Erecting Structural Steel	L SUM	1	—	1
Reinforcement Bars, Epoxy Coated	POUND	76,080	25,620	101,700
Stud Shear Connectors	EACH	4,035	—	4,035
Anchor Bolts, 1"	EACH	—	30	30
Anchor Bolts, 1 1/4"	EACH	—	10	10
Furnishing Metal Shell Piles 14"x0.312"	FOOT	—	1,489	1,489
Test Pile Steel Metal Shells	EACH	—	4	4
Driving Piles	FOOT	—	1,489	1,489
Name Plates	EACH	—	1	1
Geocomposite Wall Drain	SQ YD	—	70	70
Pipe Underdrains For Structures 4"	FOOT	—	121	121
Terminal Marker - Direct Applied	EACH	2	—	2
Pile Shoes	EACH	—	34	34
Seal Coat Concrete	CU YD	—	165.0	165.0
Cofferdam Excavation	CU YD	—	420	420
Elastomeric Bearing Assembly Type I	EACH	5	—	5
Cofferdam (Type 2) (Location-1)	EACH	—	1	1
Cofferdam (Type 2) (Location-2)	EACH	—	1	1
Steel Bridge Rail, Type SM (Special)	FOOT	560	—	560

① See Special Provisions

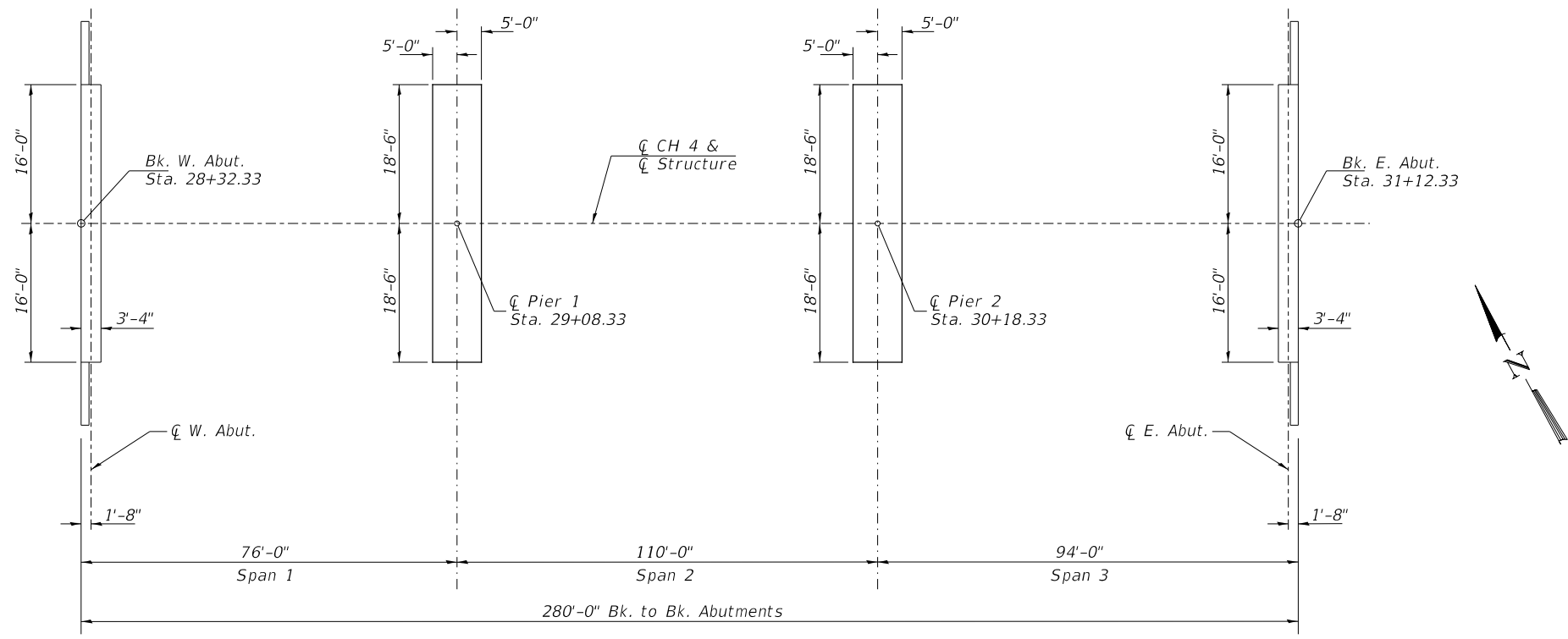
**BILL OF MATERIAL,
GENERAL PLAN DETAILS
AND GENERAL NOTES
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328**

KISER CREEK
BUILT 20 BY
PIKE COUNTY
SEC. 15-00098-00-BR
C.H. 4 STATION 29+72.33
F.A. PROJ. C37W(680)
STR. NO. 075-3328 LOADING HL-93

NAME PLATE

Locate Name Plate on Wingwall
S.W. Corner of Bridge (See Std. 515001)

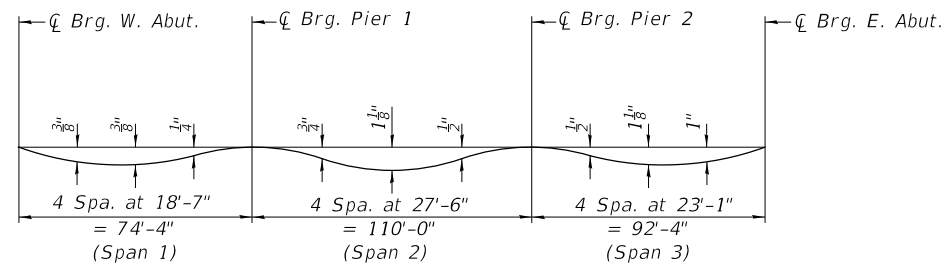
SHEET NO. 2	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	597	15-00098-00-BR	PIKE	34	9
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



FOOTING LAYOUT

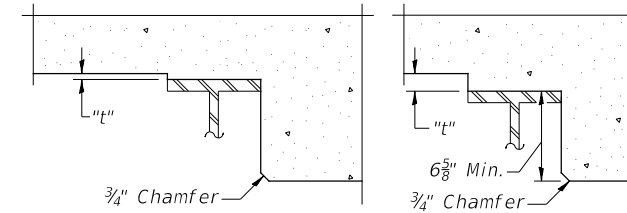
FOOTING LAYOUT
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 3	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	597	15-00098-00-BR	PIKE	34	10
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

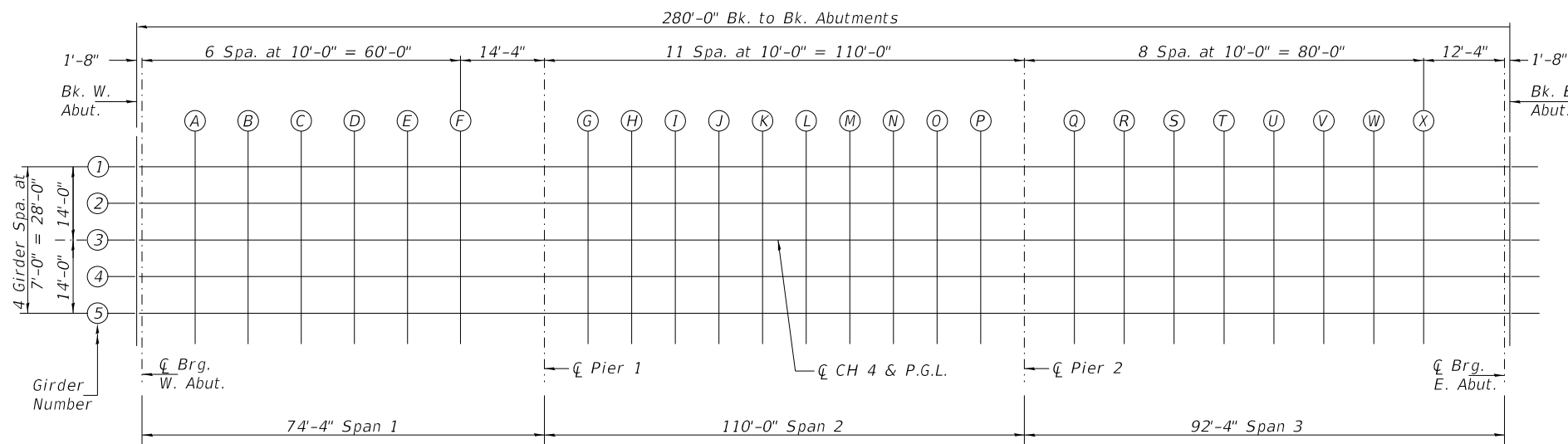
Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in tables on Sheets 5 & 6 of 21 Sheets.



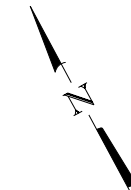
At Minimum Fillet At Maximum Fillet

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 5 & 6 of 21, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN



TOP OF SLAB ELEVATIONS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 4 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	11
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	2832.33	-14.00	548.60	548.60
CL Brg. W. Abut.	2834.00	-14.00	548.60	548.60
A	2844.00	-14.00	548.60	548.61
B	2854.00	-14.00	548.60	548.63
C	2864.00	-14.00	548.60	548.63
D	2874.00	-14.00	548.60	548.63
E	2884.00	-14.00	548.60	548.61
F	2894.00	-14.00	548.60	548.60
Pier 1	2908.33	-14.00	548.60	548.60
G	2918.33	-14.00	548.60	548.62
H	2928.33	-14.00	548.60	548.64
I	2938.33	-14.00	548.60	548.67
J	2948.33	-14.00	548.60	548.69
K	2958.33	-14.00	548.60	548.70
L	2968.33	-14.00	548.60	548.69
M	2978.33	-14.00	548.60	548.68
N	2988.33	-14.00	548.60	548.65
O	2998.33	-14.00	548.60	548.63
P	3008.33	-14.00	548.60	548.61
Pier 2	3018.33	-14.00	548.60	548.60
Q	3028.33	-14.00	548.60	548.61
R	3038.33	-14.00	548.60	548.63
S	3048.33	-14.00	548.60	548.66
T	3058.33	-14.00	548.60	548.69
U	3068.33	-14.00	548.60	548.70
V	3078.33	-14.00	548.60	548.70
W	3088.33	-14.00	548.60	548.68
X	3098.33	-14.00	548.60	548.65
CL Brg. E. Abut.	3110.66	-14.00	548.60	548.60
Bk. E. Abutment	3112.33	-14.00	548.60	548.60

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	2832.33	-7.00	548.46	548.46
CL Brg. W. Abut.	2834.00	-7.00	548.46	548.46
A	2844.00	-7.00	548.46	548.47
B	2854.00	-7.00	548.46	548.49
C	2864.00	-7.00	548.46	548.49
D	2874.00	-7.00	548.46	548.49
E	2884.00	-7.00	548.46	548.47
F	2894.00	-7.00	548.46	548.46
Pier 1	2908.33	-7.00	548.46	548.46
G	2918.33	-7.00	548.46	548.48
H	2928.33	-7.00	548.46	548.50
I	2938.33	-7.00	548.46	548.53
J	2948.33	-7.00	548.46	548.55
K	2958.33	-7.00	548.46	548.56
L	2968.33	-7.00	548.46	548.55
M	2978.33	-7.00	548.46	548.54
N	2988.33	-7.00	548.46	548.51
O	2998.33	-7.00	548.46	548.49
P	3008.33	-7.00	548.46	548.47
Pier 2	3018.33	-7.00	548.46	548.46
Q	3028.33	-7.00	548.46	548.47
R	3038.33	-7.00	548.46	548.49
S	3048.33	-7.00	548.46	548.52
T	3058.33	-7.00	548.46	548.55
U	3068.33	-7.00	548.46	548.56
V	3078.33	-7.00	548.46	548.56
W	3088.33	-7.00	548.46	548.54
X	3098.33	-7.00	548.46	548.51
CL Brg. E. Abut.	3110.66	-7.00	548.46	548.46
Bk. E. Abutment	3112.33	-7.00	548.46	548.46

☐ ROADWAY, PROFILE GRADE, & BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	2832.33	0.00	548.32	548.32
CL Brg. W. Abut.	2834.00	0.00	548.32	548.32
A	2844.00	0.00	548.32	548.33
B	2854.00	0.00	548.32	548.35
C	2864.00	0.00	548.32	548.35
D	2874.00	0.00	548.32	548.35
E	2884.00	0.00	548.32	548.33
F	2894.00	0.00	548.32	548.32
Pier 1	2908.33	0.00	548.32	548.32
G	2918.33	0.00	548.32	548.34
H	2928.33	0.00	548.32	548.36
I	2938.33	0.00	548.32	548.39
J	2948.33	0.00	548.32	548.41
K	2958.33	0.00	548.32	548.42
L	2968.33	0.00	548.32	548.41
M	2978.33	0.00	548.32	548.40
N	2988.33	0.00	548.32	548.37
O	2998.33	0.00	548.32	548.35
P	3008.33	0.00	548.32	548.33
Pier 2	3018.33	0.00	548.32	548.32
Q	3028.33	0.00	548.32	548.33
R	3038.33	0.00	548.32	548.35
S	3048.33	0.00	548.32	548.38
T	3058.33	0.00	548.32	548.41
U	3068.33	0.00	548.32	548.42
V	3078.33	0.00	548.32	548.42
W	3088.33	0.00	548.32	548.40
X	3098.33	0.00	548.32	548.37
CL Brg. E. Abut.	3110.66	0.00	548.32	548.32
Bk. E. Abutment	3112.33	0.00	548.32	548.32

TOP OF SLAB ELEVATIONS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 5	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	12
21 SHEETS	S.N. 075-3328		CONTRACT NO. 93730		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)		

BEAM #4

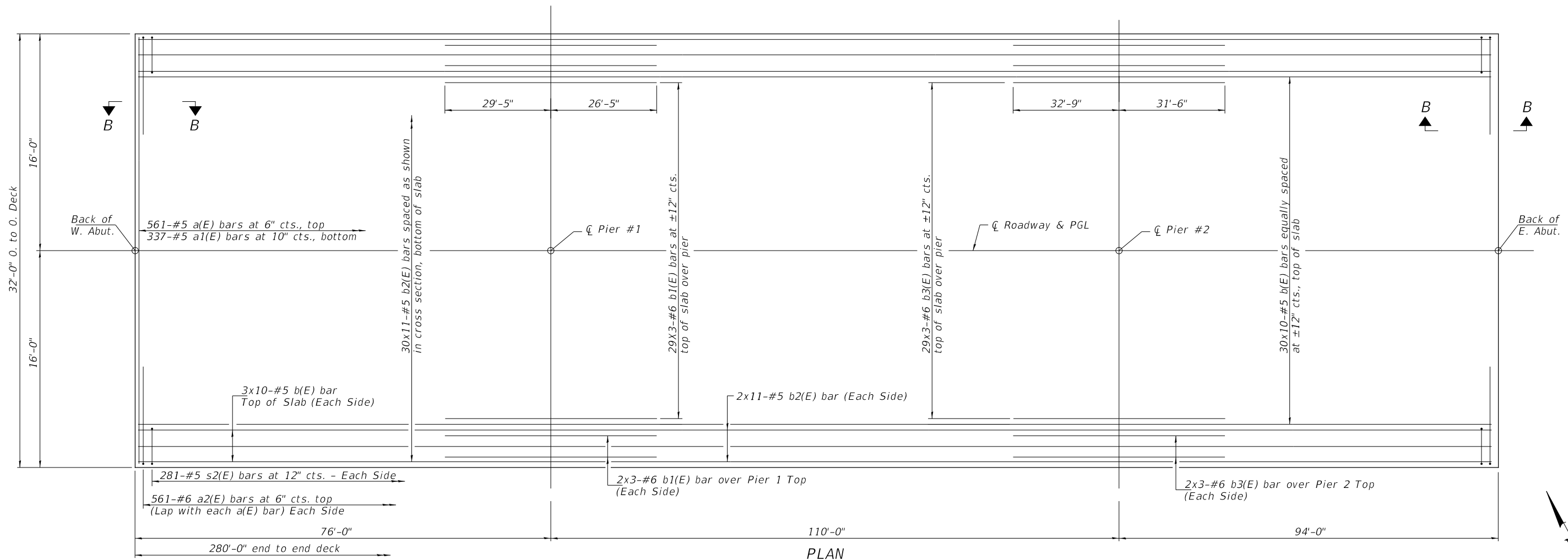
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	2832.33	7.00	548.18	548.18
CL Brg. W. Abut.	2834.00	7.00	548.18	548.18
A	2844.00	7.00	548.18	548.19
B	2854.00	7.00	548.18	548.21
C	2864.00	7.00	548.18	548.21
D	2874.00	7.00	548.18	548.21
E	2884.00	7.00	548.18	548.19
F	2894.00	7.00	548.18	548.18
Pier 1	2908.33	7.00	548.18	548.18
G	2918.33	7.00	548.18	548.20
H	2928.33	7.00	548.18	548.22
I	2938.33	7.00	548.18	548.25
J	2948.33	7.00	548.18	548.27
K	2958.33	7.00	548.18	548.28
L	2968.33	7.00	548.18	548.27
M	2978.33	7.00	548.18	548.26
N	2988.33	7.00	548.18	548.23
O	2998.33	7.00	548.18	548.21
P	3008.33	7.00	548.18	548.19
Pier 2	3018.33	7.00	548.18	548.18
Q	3028.33	7.00	548.18	548.19
R	3038.33	7.00	548.18	548.21
S	3048.33	7.00	548.18	548.24
T	3058.33	7.00	548.18	548.27
U	3068.33	7.00	548.18	548.28
V	3078.33	7.00	548.18	548.28
W	3088.33	7.00	548.18	548.26
X	3098.33	7.00	548.18	548.23
CL Brg. E. Abut.	3110.66	7.00	548.18	548.18
Bk. E. Abutment	3112.33	7.00	548.18	548.18

BEAM #5

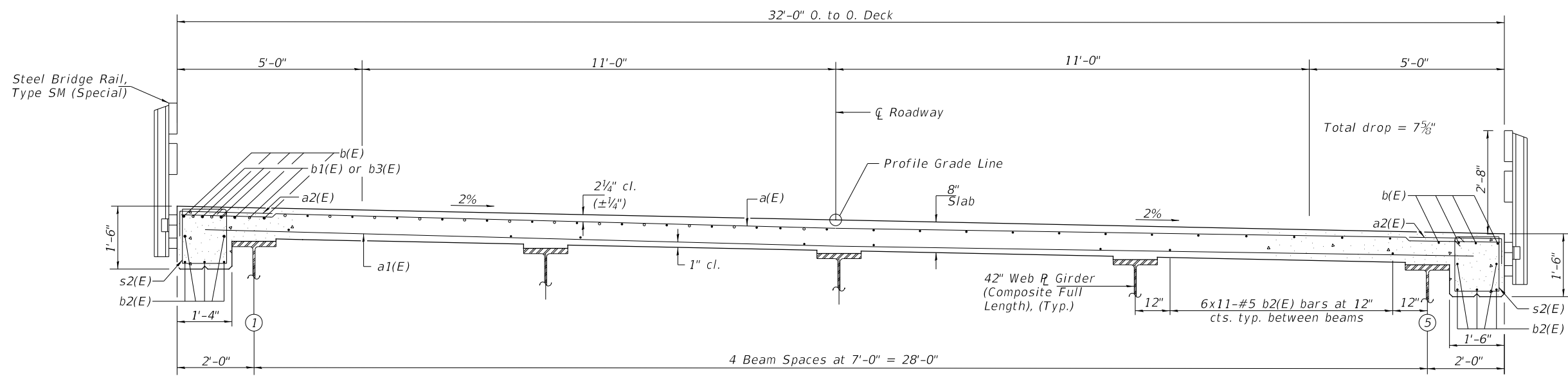
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abutment	2832.33	14.00	548.04	548.04
CL Brg. W. Abut.	2834.00	14.00	548.04	548.04
A	2844.00	14.00	548.04	548.05
B	2854.00	14.00	548.04	548.07
C	2864.00	14.00	548.04	548.07
D	2874.00	14.00	548.04	548.07
E	2884.00	14.00	548.04	548.05
F	2894.00	14.00	548.04	548.04
Pier 1	2908.33	14.00	548.04	548.04
G	2918.33	14.00	548.04	548.06
H	2928.33	14.00	548.04	548.08
I	2938.33	14.00	548.04	548.11
J	2948.33	14.00	548.04	548.13
K	2958.33	14.00	548.04	548.14
L	2968.33	14.00	548.04	548.13
M	2978.33	14.00	548.04	548.12
N	2988.33	14.00	548.04	548.09
O	2998.33	14.00	548.04	548.07
P	3008.33	14.00	548.04	548.05
Pier 2	3018.33	14.00	548.04	548.04
Q	3028.33	14.00	548.04	548.05
R	3038.33	14.00	548.04	548.07
S	3048.33	14.00	548.04	548.10
T	3058.33	14.00	548.04	548.13
U	3068.33	14.00	548.04	548.14
V	3078.33	14.00	548.04	548.14
W	3088.33	14.00	548.04	548.12
X	3098.33	14.00	548.04	548.09
CL Brg. E. Abut.	3110.66	14.00	548.04	548.04
Bk. E. Abutment	3112.33	14.00	548.04	548.04

TOP OF SLAB ELEVATIONS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 6	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	13
21 SHEETS	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)			



PLAN



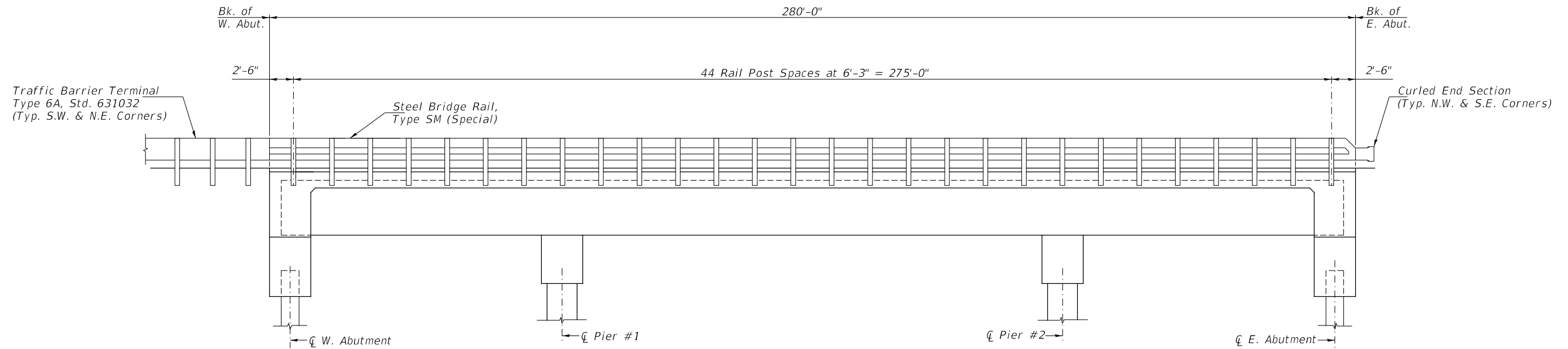
CROSS SECTION
(Looking East)

MINIMUM BAR LAP
(Deck)
#5 bar = 3'-6"
#6 bar = 3'-7"

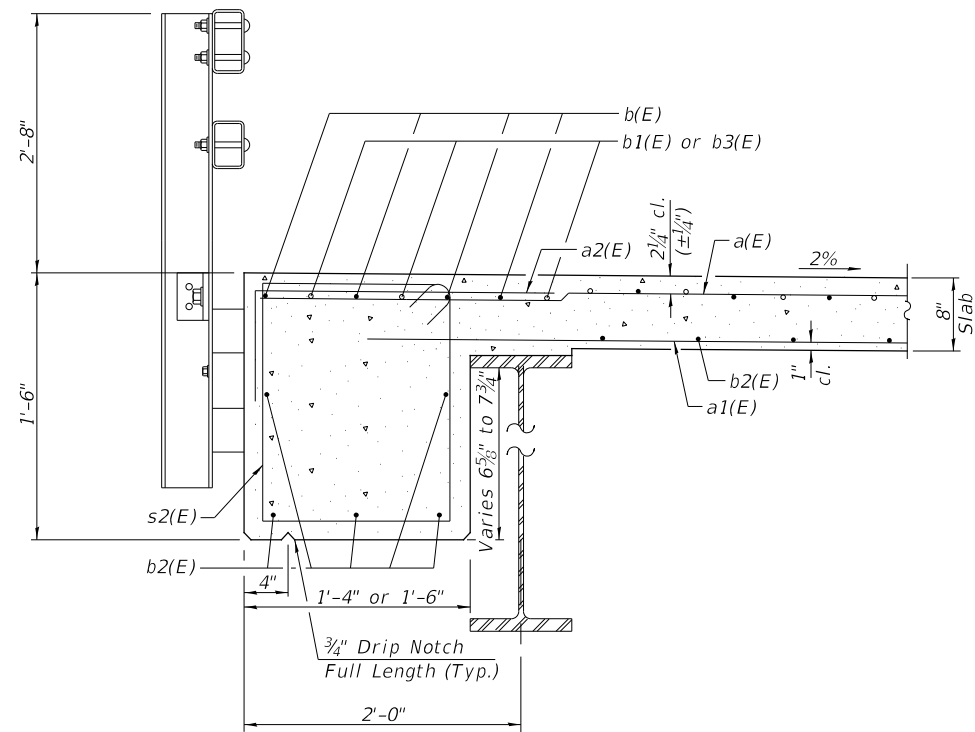
SUPERSTRUCTURE
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

Notes:
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 8 of 21 for superstructure details, rail post spacing and Bill of Material.
See Sheet 9 of 21 for Section B-B and diaphragm details.

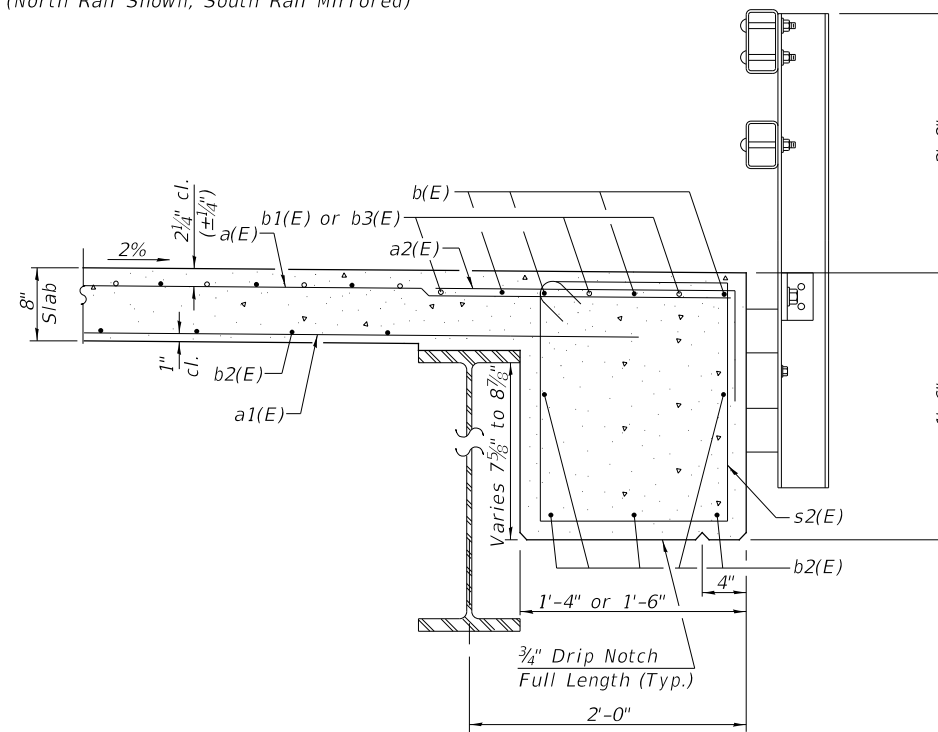
SHEET NO. 7 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	14
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



RAIL POST SPACING
(North Rail Shown, South Rail Mirrored)



SECTION THRU NORTH DECK OVERHANG
See Sheet 10 of 21 for Rail Post Anchor Details.



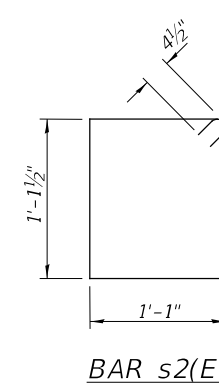
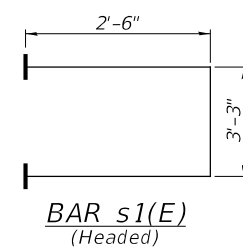
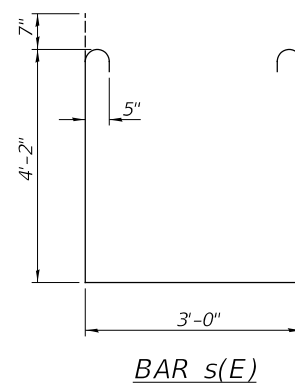
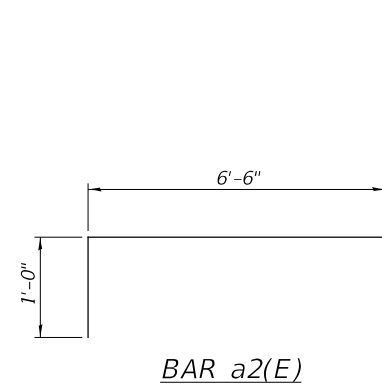
SECTION THRU SOUTH DECK OVERHANG
See Sheet 10 of 21 for Rail Post Anchor Details.

**SUPERSTRUCTURE
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	561	#5	31'-9"	—
a1(E)	337	#5	30'-9"	—
a2(E)	1,122	#6	7'-6"	□
b(E)	360	#5	31'-2"	—
b1(E)	99	#6	21'-0"	—
b2(E)	374	#5	28'-8"	—
b3(E)	99	#6	23'-10"	—
m(E)	10	#6	31'-8"	—
m1(E)	40	#6	6'-8"	—
m2(E)	20	#6	1'-8"	—
m3(E)	50	#5	4'-0"	—
s(E)	64	#5	12'-6"	□
s1(E)	64	#5	8'-3"	□
s2(E)	562	#4	5'-2"	□
v(E)	20	#4	3'-5"	—
Reinforcement Bars, Epoxy Coated			POUND	76,080
Concrete Superstructure			CU YD	278.5

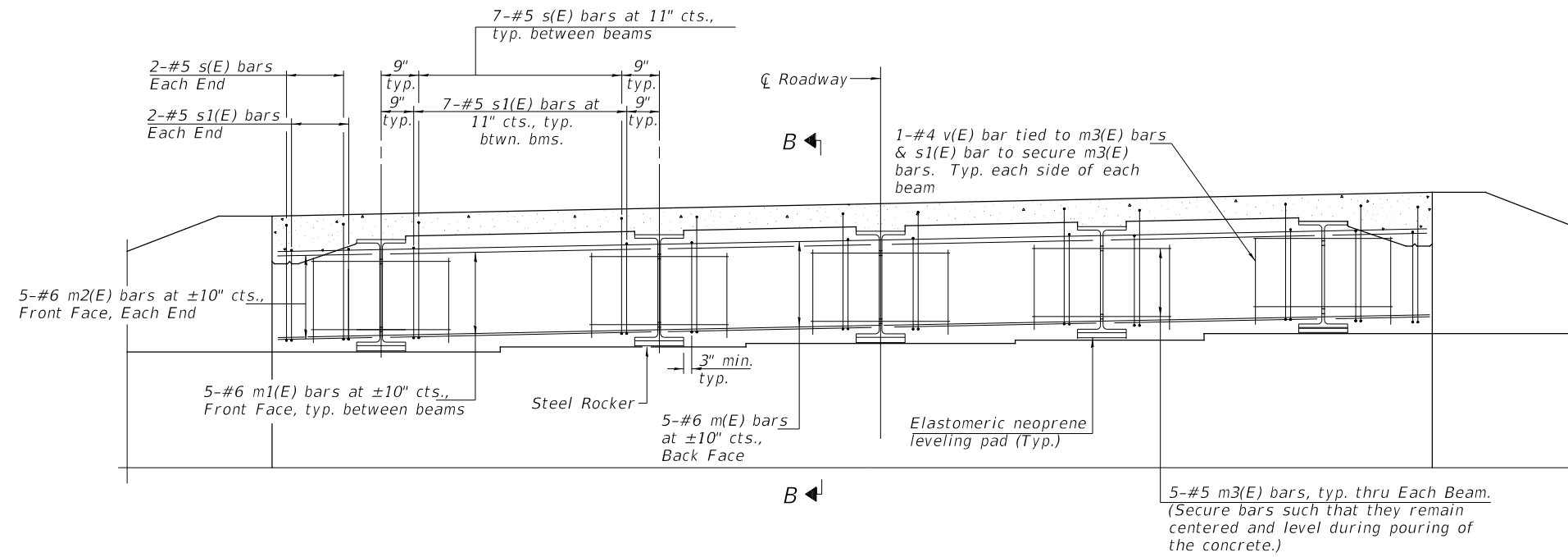
① See Special Provisions

Notes:
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



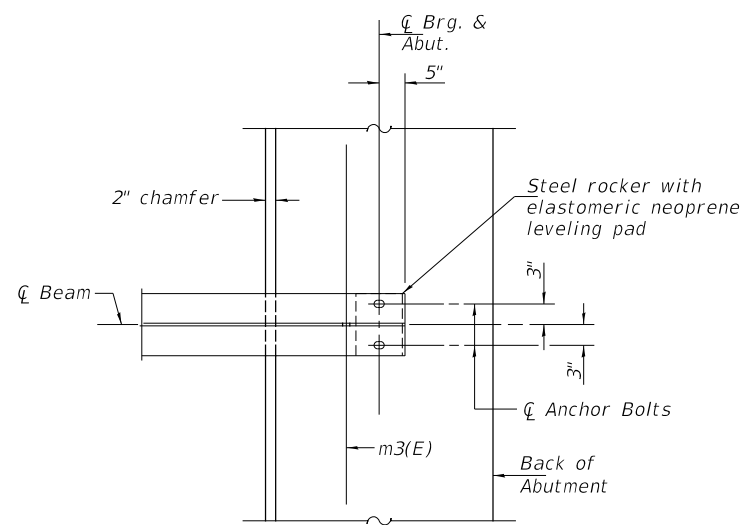
SUPERSTRUCTURE DETAILS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 8 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	15
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



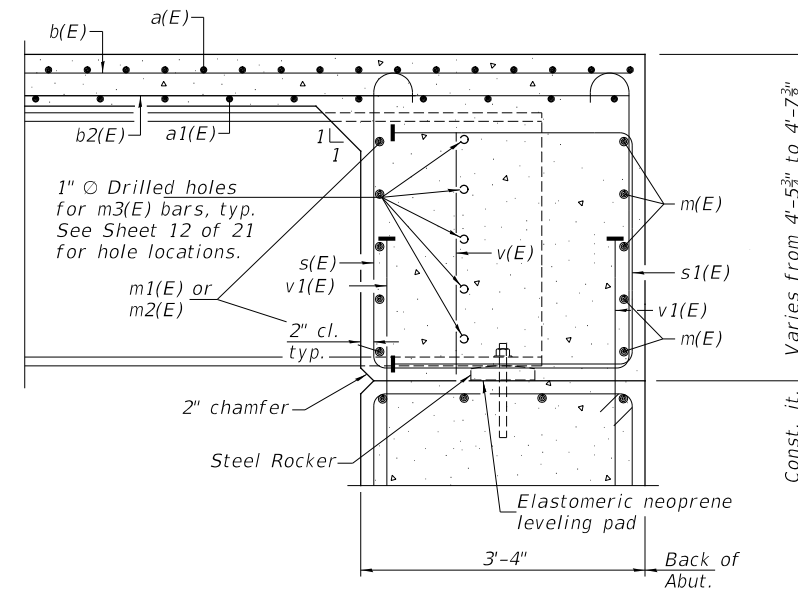
DIAPHRAGM ELEVATION AT ABUTMENTS

(West Abut. Looking West, East Abut. Mirrored)



PARTIAL PLAN AT ABUTMENTS

(Showing bottom flange of beam)

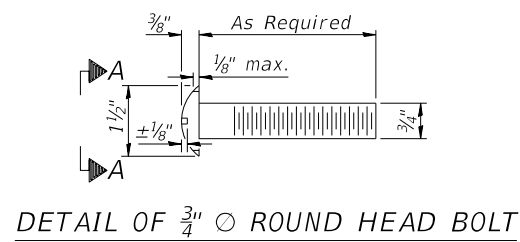


SECTION B-B

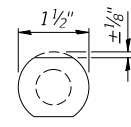
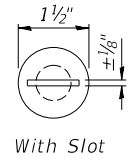
DIAPHRAGM DETAILS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on Sheet 8 of 21.
 Concrete in diaphragm is included with Concrete Superstructure on Sheet 8 of 21.
 See Sheet 8 of 21 for details of bars s(E) and s1(E).
 See Sheet 15 of 21 for bearing details.
 Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

SHEET NO. 9 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	16
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		

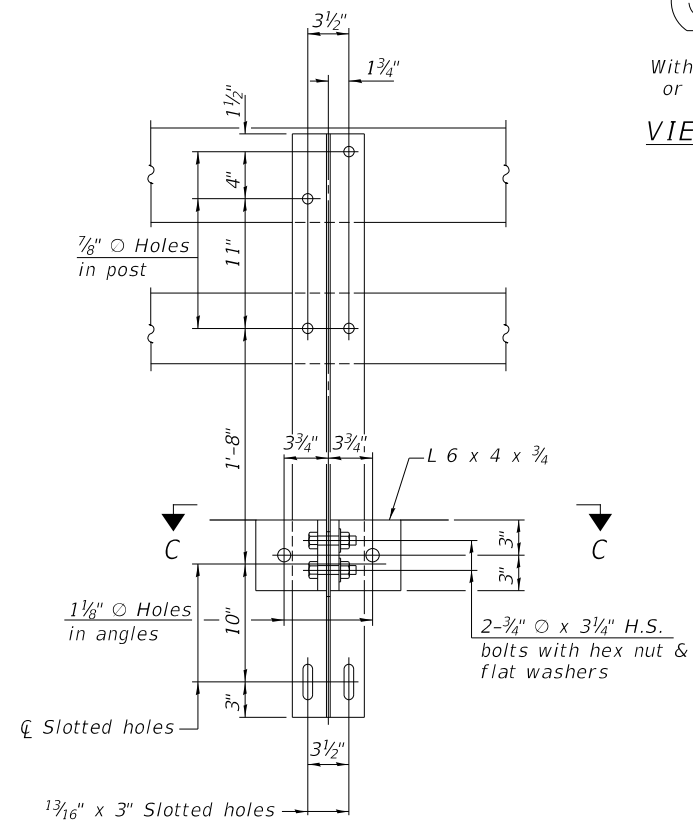


DETAIL OF 3/4" ϕ ROUND HEAD BOLT

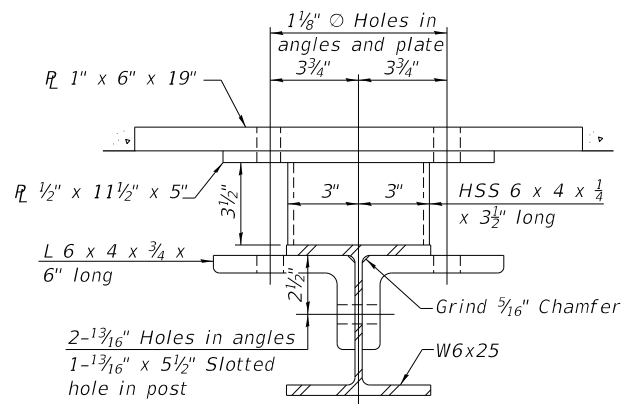


VIEW A-A

FOR RAIL POST SPACING SEE SH.#8 OF 21

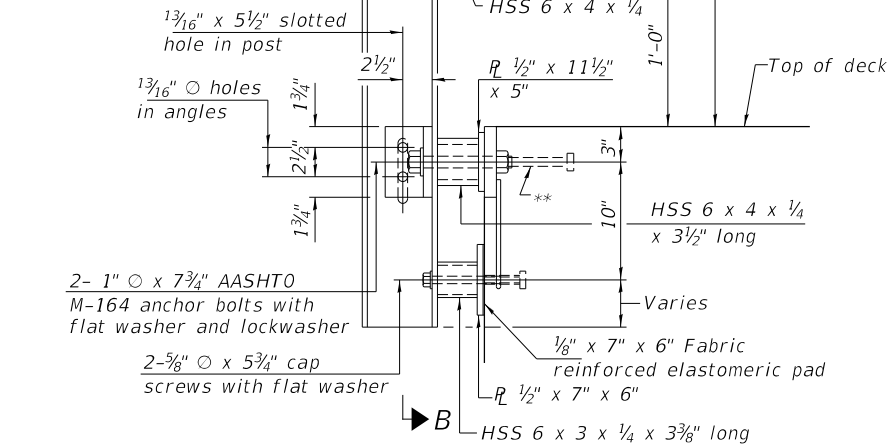


SECTION B-B

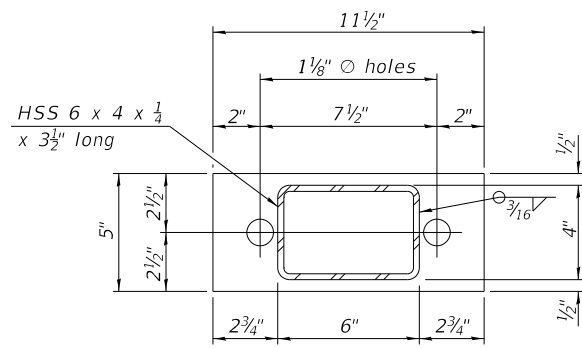


SECTION C-C

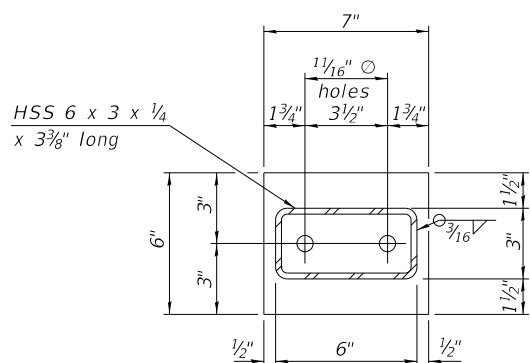
4-3/4" ϕ x 6" Round Head Bolts with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.



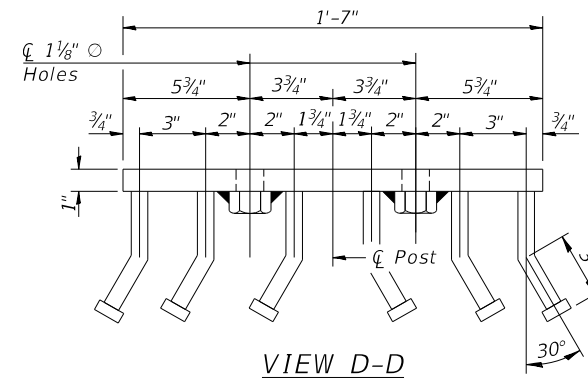
SECTION AT RAIL POST



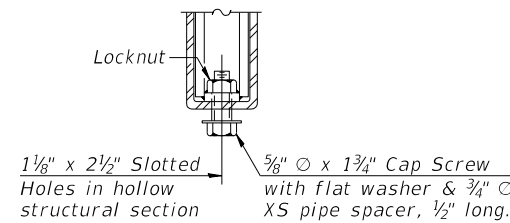
R 1/2" x 11 1/2" x 5"



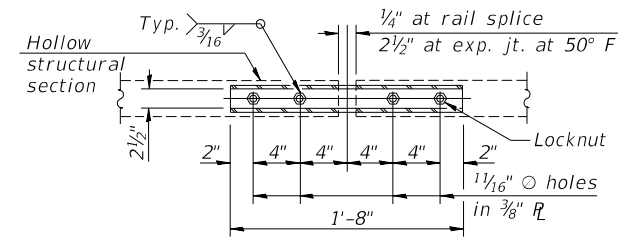
R 1/2" x 7" x 6"



VIEW D-D

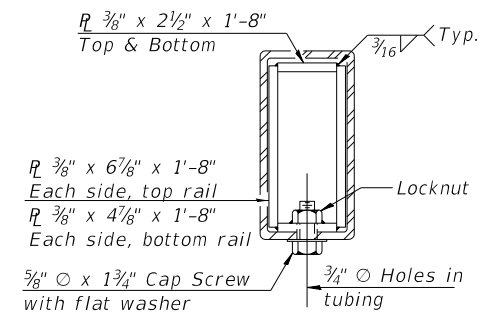


RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE R TYPICAL

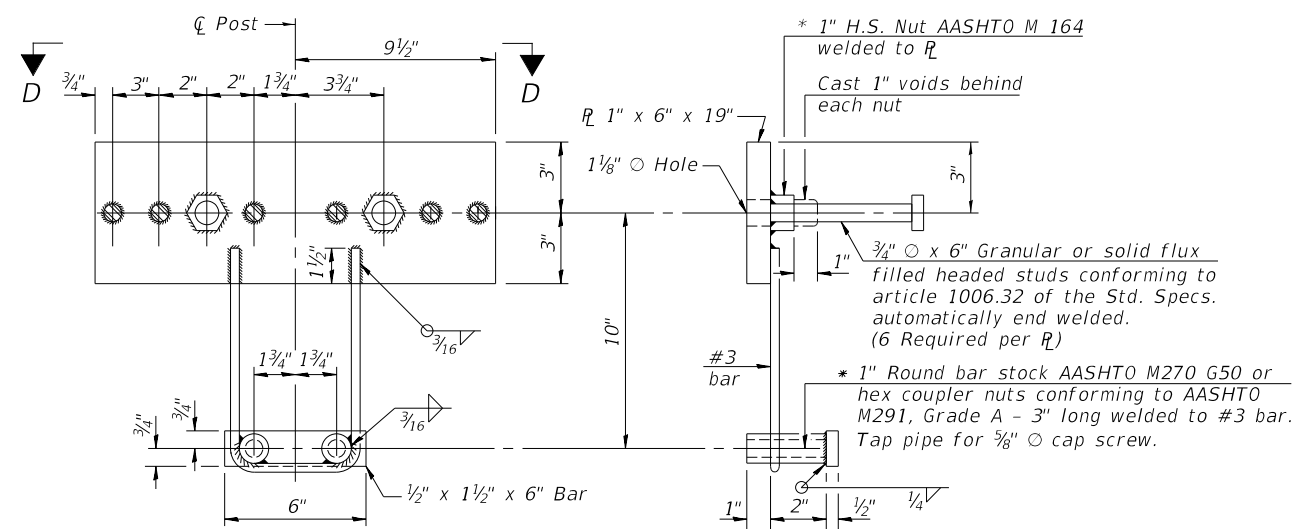
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM (Special).
 All steel rail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



SECTION AT RAIL SPLICE

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Steel Bridge Rail, Type SM (Special)	FOOT	560

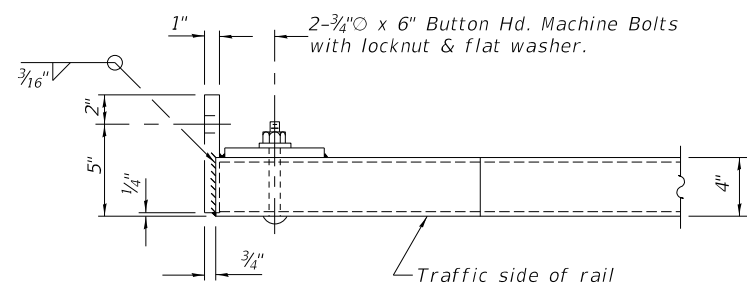
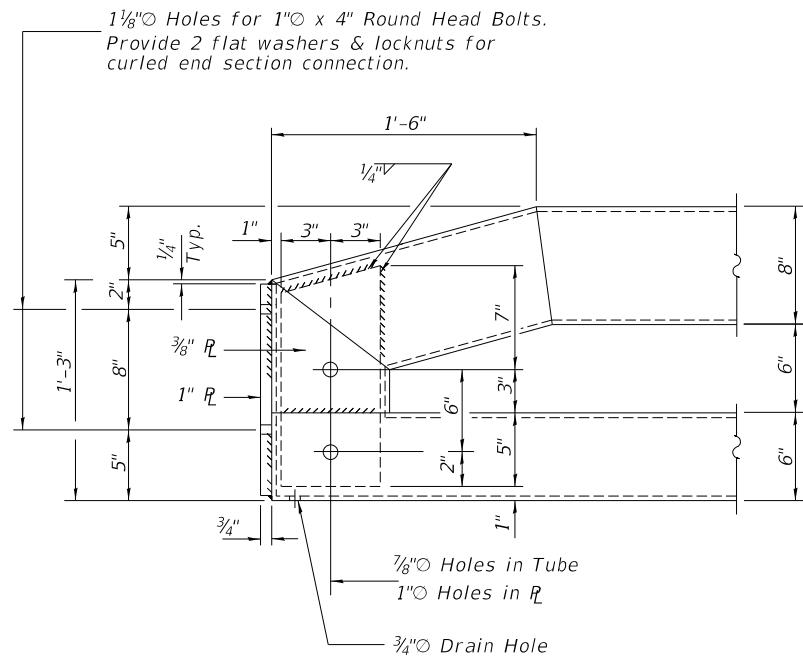


ANCHOR DEVICE

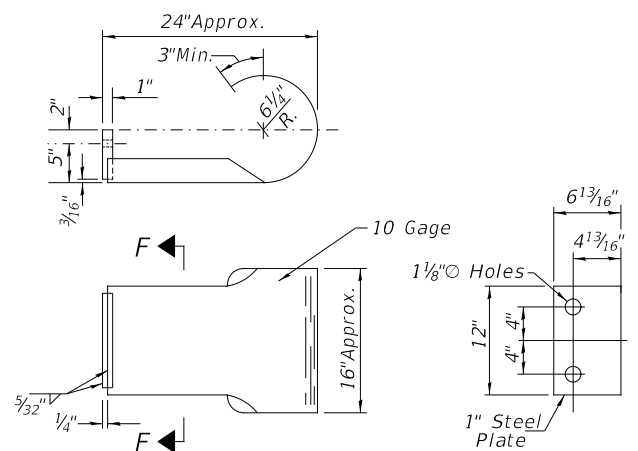
*Threaded areas shall be plugged or blocked off during pouring of deck. Galvanized after fabrication.

STEEL BRIDGE RAIL, TYPE SM (SPECIAL)
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328

SHEET NO.	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10	597	15-00098-00-BR	PIKE	34	17
21 SHEETS		S.N. 075-3328		CONTRACT NO. 93730	
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



END OF RAIL DETAILS
N.W. & S.E. CORNERS

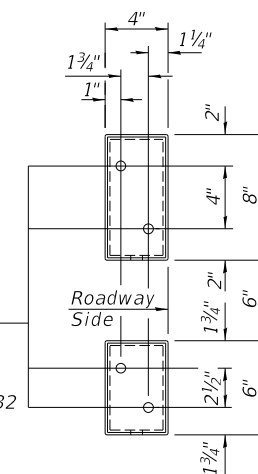


SECTION F-F

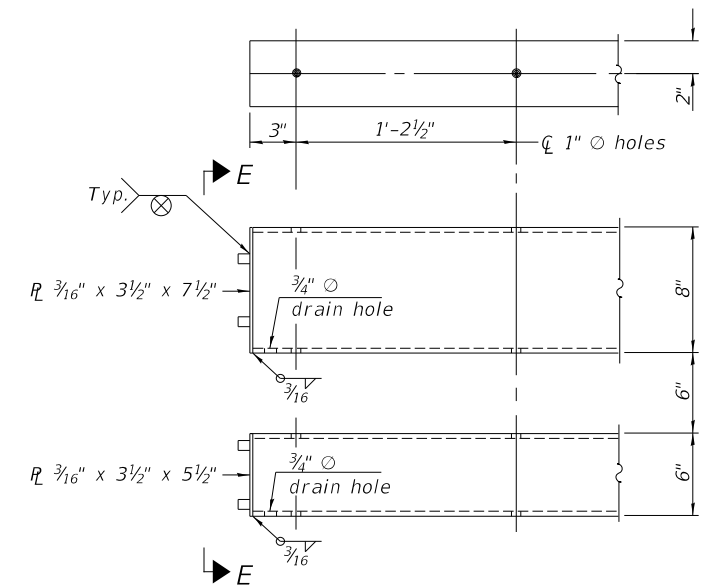
CURLED END SECTION

(2 Req'd) Cost Included with Steel Bridge Rail, Type SM (Special).
Terminal Markers - Direct Applied shall be placed on end of each Curled End Section. (Typ. N.W. & S.E. Corners)

1/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032



VIEW E-E

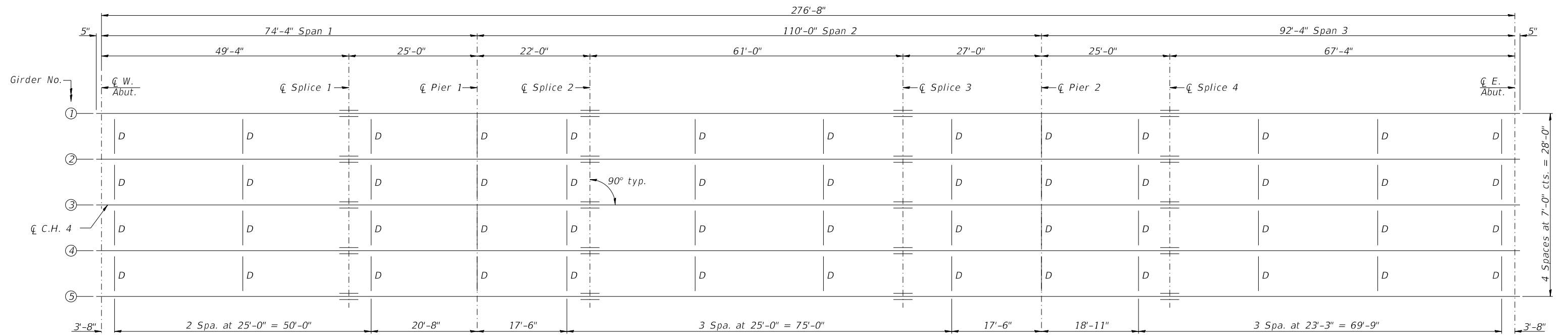


END OF RAIL DETAILS
N.E. & S.W. CORNERS

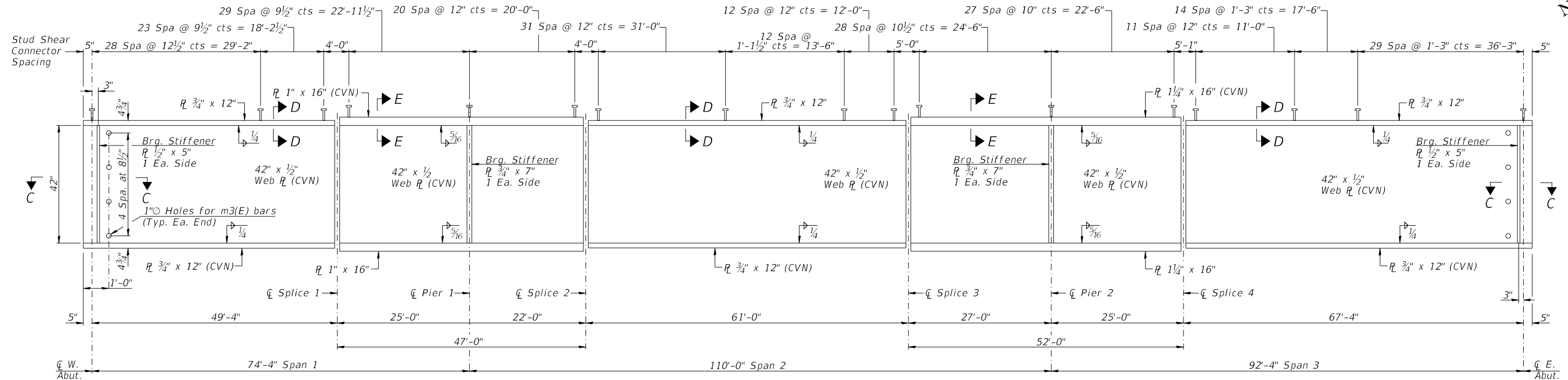
STEEL BRIDGE RAIL,
TYPE SM (SPECIAL)
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 11	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	597	15-00098-00-BR	PIKE	34	18
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		

(Sheet 2 of 2)

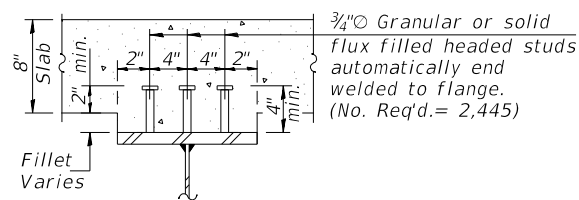


FRAMING PLAN

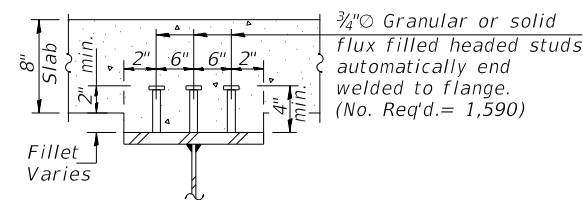


GIRDER ELEVATION

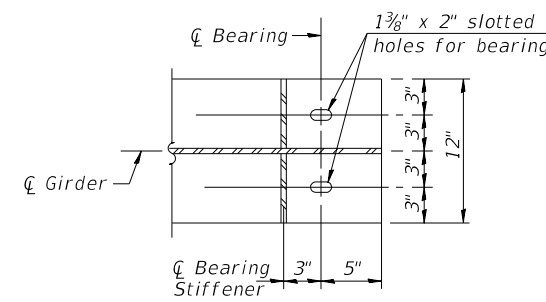
All plates and bearing stiffeners shall be AASHTO M270, Grade 50W.



SECTION D-D



SECTION E-E



SECTION C-C

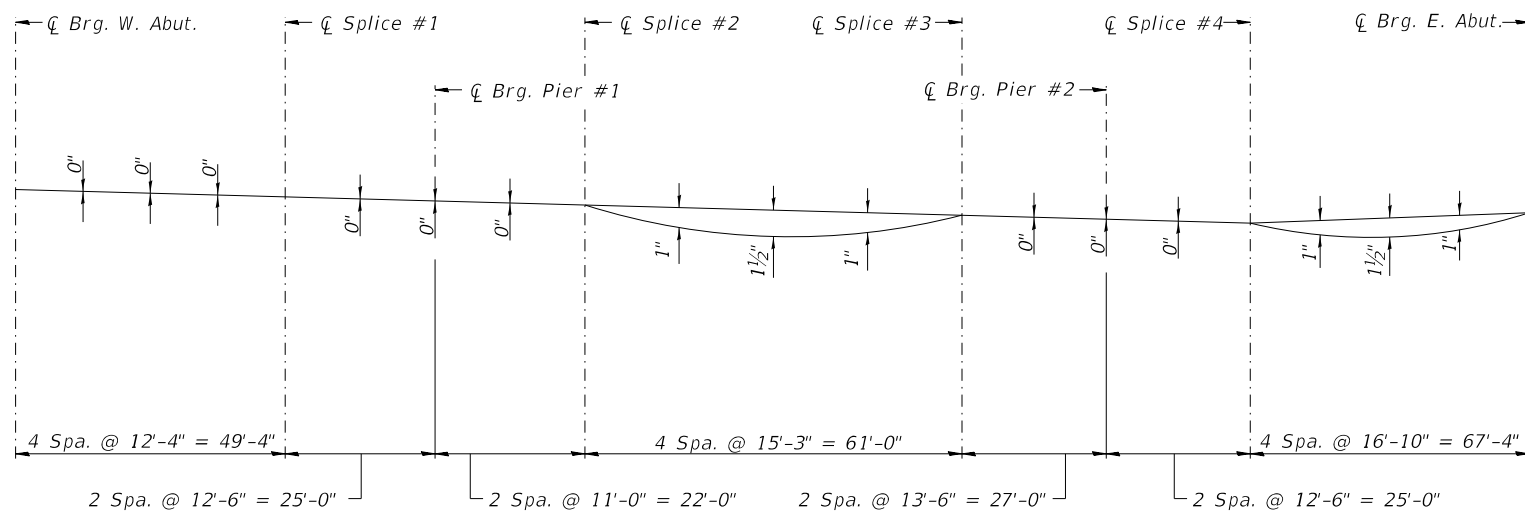
Notes:

"CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

See Sheets 13 and 14 of 21 for Structural Steel Details.

FRAMING PLAN
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328

SHEET NO. 12 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	19
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



CAMBER DIAGRAM

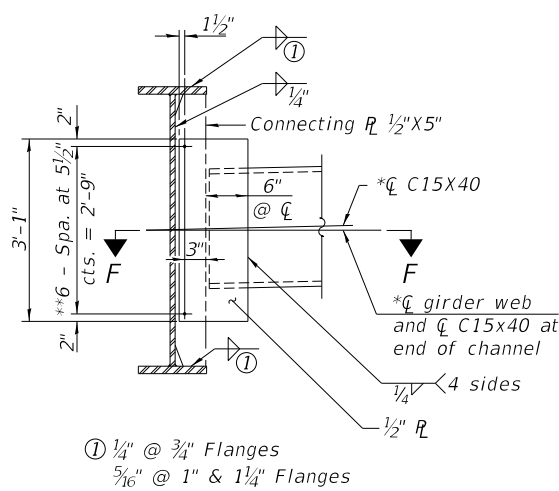
*TOP OF WEB ELEVATIONS

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5
☐ Brg. at W. Abut.	547.79	547.65	547.51	547.37	547.23
☐ Splice 1	547.74	547.60	547.46	547.32	547.18
☐ Brg. at Pier 1	547.76	547.62	547.48	547.34	547.20
☐ Splice 2	547.78	547.64	547.50	547.36	547.22
☐ Splice 3	547.75	547.61	547.47	547.33	547.19
☐ Brg. at Pier 2	547.75	547.61	547.47	547.33	547.19
☐ Splice 4	547.75	547.61	547.47	547.33	547.19
☐ Brg. at E. Abut.	547.79	547.65	547.51	547.37	547.23

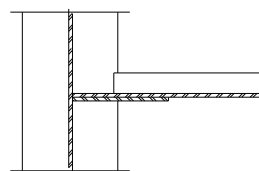
* For fabrication only

Notes:

"CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
 All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



INTERIOR DIAPHRAGM



SECTION F-F

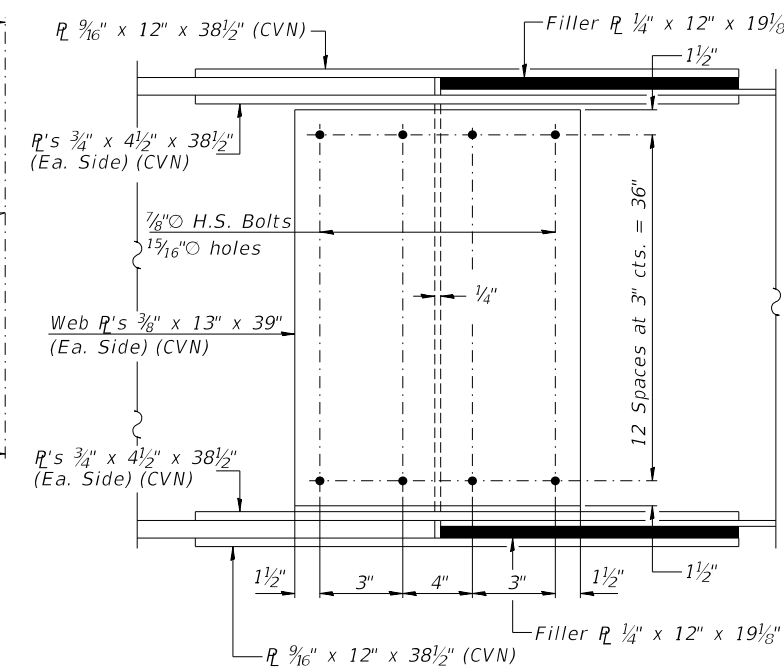
Note:

Two hardened washers required for each set of oversized holes.

*Alternate channels C15X50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the C15X40 sections.

The alternate, if utilized, shall be provided at no additional cost to the County.

**3/4" Ø HS bolts, 1 5/16" Ø holes

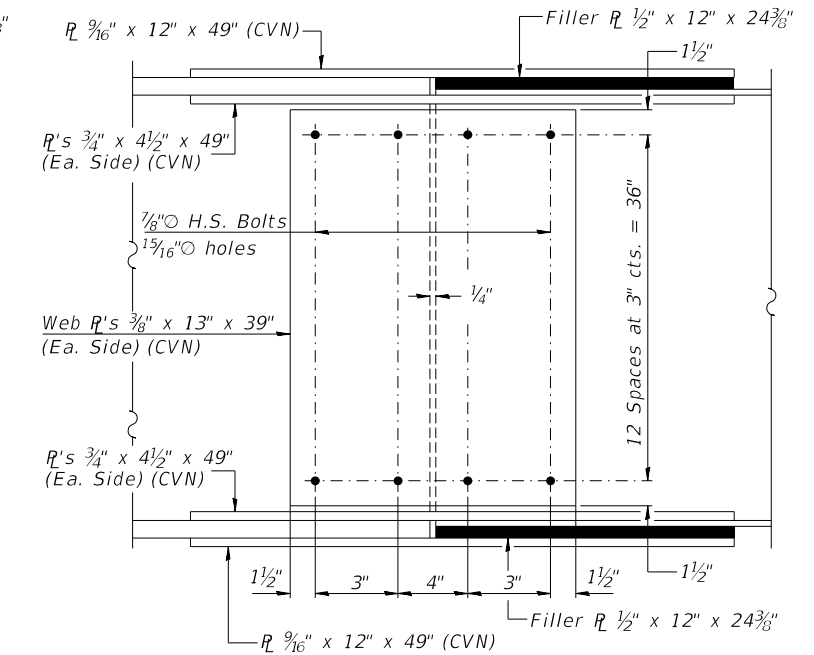


ELEVATION

FIELD SPLICE 1 & 2 DETAILS

(10 req'd)

All plates shall be AASHTO M270, Grade 50W (CVN)

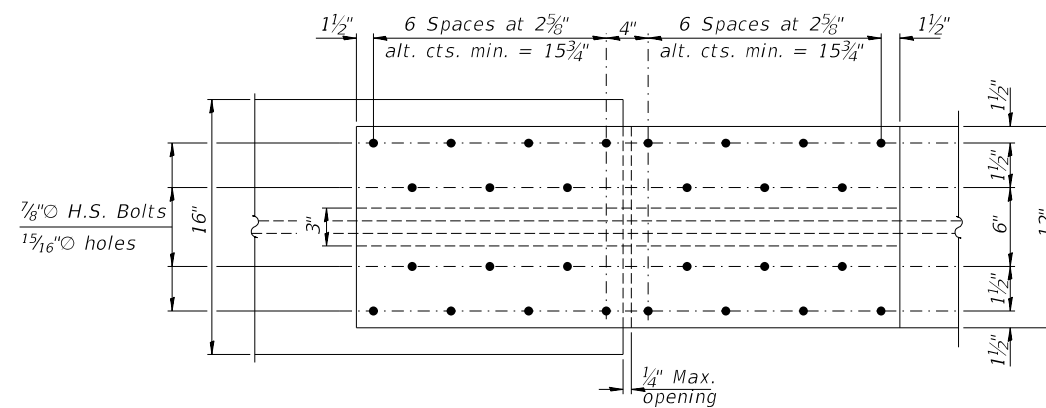


ELEVATION

FIELD SPLICE 3 & 4 DETAILS

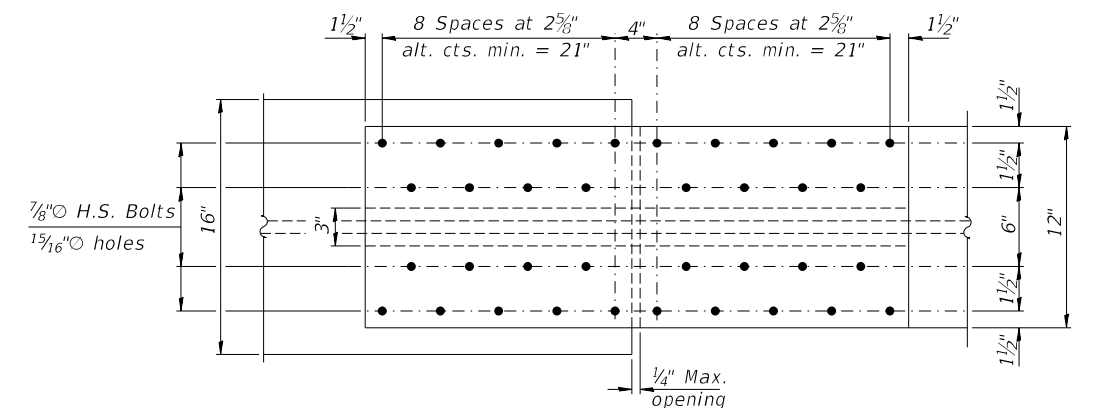
(10 req'd)

All plates shall be AASHTO M270, Grade 50W (CVN)



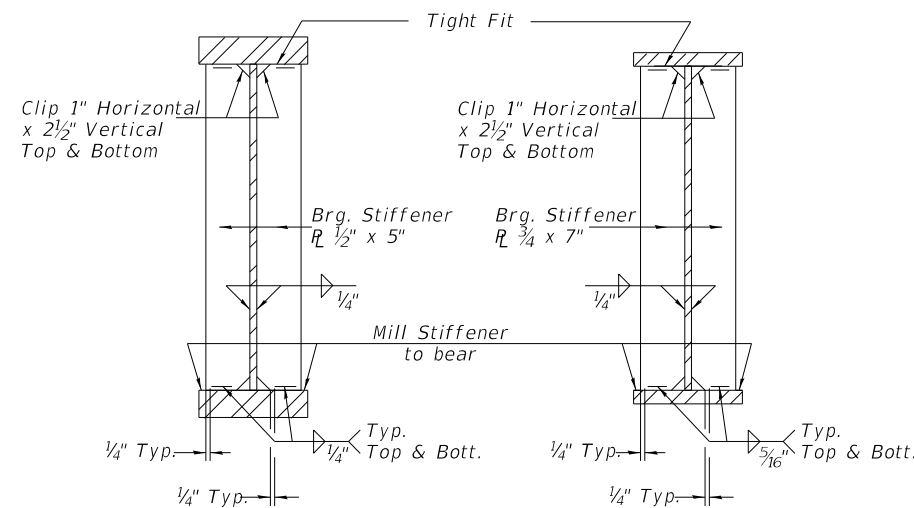
FLANGE SPLICE PLATE

(Top and Bottom flange splice 1 & 2)



FLANGE SPLICE PLATE

(Top and Bottom flange splice 3 & 4)



SECTION AT ABUTMENTS

SECTION AT PIERS

STRUCTURAL STEEL DETAILS

F.A.S. 597 (C.H. 4)

OVER KISER CREEK

SECTION 15-00098-00-BR

PIKE COUNTY

STATION 29+72.33

STRUCTURE NO. 075-3328

SHEET NO. 13 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	20
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		

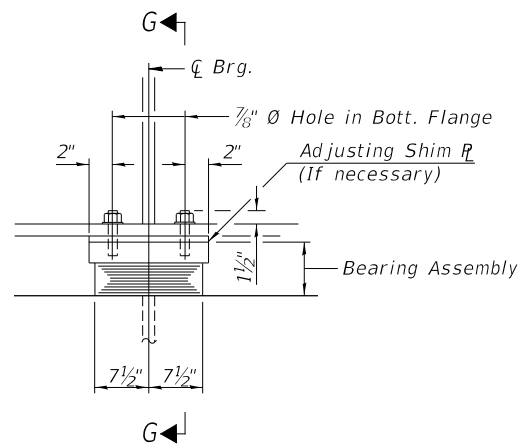
INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier #1	0.5 Sp. 2	Pier #2	0.6 Sp. 3
<i>I_s</i>	(in ⁴)	11,312	17,882	11,312	21,798	11,312
<i>I_c(n)</i>	(in ⁴)	30,448	41,830	30,448	48,436	30,448
<i>I_c(3n)</i>	(in ⁴)	23,405	31,890	23,405	36,825	23,405
<i>I_c(cr)</i>	(in ⁴)	-	22,129	-	26,195	-
<i>S_s</i>	(in ³)	520	813	520	980	520
<i>S_c(n)</i>	(in ³)	756	1,073	756	1,256	756
<i>S_c(3n)</i>	(in ³)	696	995	696	1,168	696
<i>S_c(cr)</i>	(in ³)	-	883	-	1,048	-
<i>DC1</i>	(k/')	0.880	0.944	0.880	0.976	0.880
<i>MDC1</i>	(k)	261	825	371	1,144	454
<i>DC2</i>	(k/')	0.030	0.030	0.030	0.030	0.030
<i>MDC2</i>	(k)	9	27	14	36	16
<i>DW</i>	(k/')	0.350	0.350	0.350	0.350	0.350
<i>MDW</i>	(k)	106	315	160	424	189
<i>M_ℓ + IM</i>	(k)	930	1,277	1,032	1,378	1,139
<i>M_u (Strength I)</i>	(k)	2,123	3,771	2,528	4,523	2,865
<i>φ_fM_n</i>	(k)	3,884	4,106	3,793	4,850	3,726
<i>f_s DC1</i>	(ksi)	6.02	12.17	8.57	14.01	10.49
<i>f_s DC2</i>	(ksi)	0.16	0.33	0.24	0.37	0.28
<i>f_s DW</i>	(ksi)	1.82	3.80	2.76	4.35	3.25
<i>f_s (ℓ+IM)</i>	(ksi)	14.76	14.28	16.38	13.17	18.08
<i>f_s (Service II)</i>	(ksi)	27.18	34.86	32.86	35.85	37.52
<i>0.95R_hF_{yf}</i>	(ksi)	47.50	47.50	47.50	47.50	47.50
<i>f_s (Total)(Strength I)</i>	(ksi)	-	-	-	-	-
<i>φ_fF_n</i>	(ksi)	-	-	-	-	-
<i>V_f</i>	(k)	29.6	34.0	27.0	32.3	30.2

GIRDER REACTION TABLE								
	WEST ABUTMENT		PIER 1		PIER 2		EAST ABUTMENT	
	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR	INTERIOR	EXTERIOR
<i>LLDF</i>	0.743	0.595	0.743	0.595	0.743	0.595	0.743	0.595
<i>OCF</i>	-	-	-	-	-	-	-	-
<i>RDC1 (k)</i>	21.9	21.9	92.2	92.2	108.8	108.8	28.6	28.6
<i>RDC2 (k)</i>	0.8	0.8	3.0	3.0	3.5	3.5	1.0	1.0
<i>RDW (k)</i>	8.8	8.8	35.5	35.5	41.0	41.0	11.6	11.6
<i>R_{LL} (k)</i>	62.2	49.8	119.3	95.4	127.8	102.2	65.4	52.3
<i>R_{IM} (k)</i>	15.0	12.0	21.9	17.5	23.0	18.4	15.2	12.2
<i>R(Total) (k)</i>	108.6	93.1	271.9	243.7	304.1	273.9	121.7	105.6

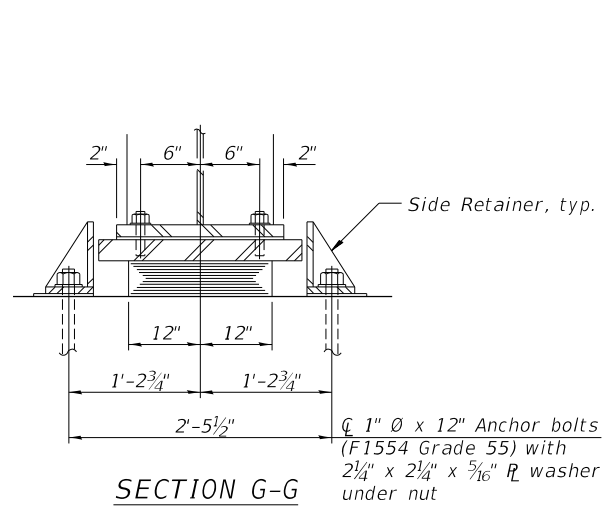
- I_s, S_s*: Non-composite moment of inertia and section modulus of the steel section used for computing *f_s*(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- I_c(n), S_c(n)*: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing *f_s*(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- I_c(3n), S_c(3n)*: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing *f_s*(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- I_c(cr), S_c(cr)*: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing *f_s* (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- DC1*: Un-factored non-composite dead load (kips/ft.).
- MDC1*: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2*: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- MDC2*: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW*: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- MDW*: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M_ℓ + IM*: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I)*: Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_ℓ + IM
- φ_f M_n*: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f_s DC1*: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ S_cn
- f_s DC2*: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ S_c(3n) or MDC2/ S_c(cr) as applicable.
- f_s DW*: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ S_c(3n) or MDW/ S_c(cr) as applicable.
- f_s (ℓ+IM)*: Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_ℓ + IM / S_c(n) or M_ℓ + IM / S_c(cr) as applicable.
- f_s (Service II)*: Sum of stresses as computed below (ksi).
f_sDC1 + f_sDC2 + f_sDW + 1.3 f_s(ℓ + IM)
- 0.95R_hF_{yf}*: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s (Total)(Strength I)*: Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_sDC1 + f_sDC2) + 1.5 f_sDW + 1.75 f_s(ℓ + IM)
- φ_f F_n*: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V_f*: Maximum factored shear range in span computed according to Article 6.10.10.

STRUCTURAL STEEL DETAILS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

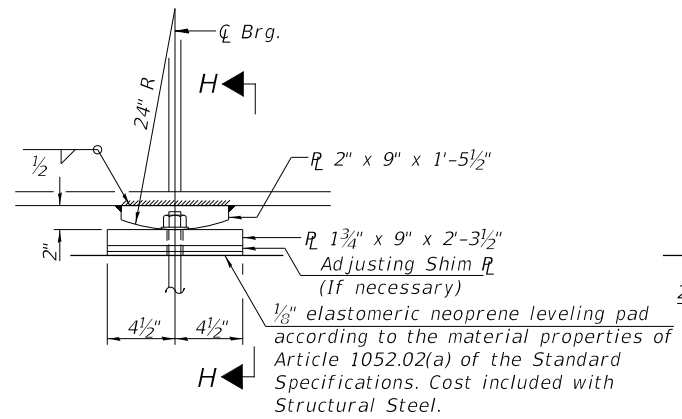
SHEET NO. 14	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	21
21 SHEETS	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)			



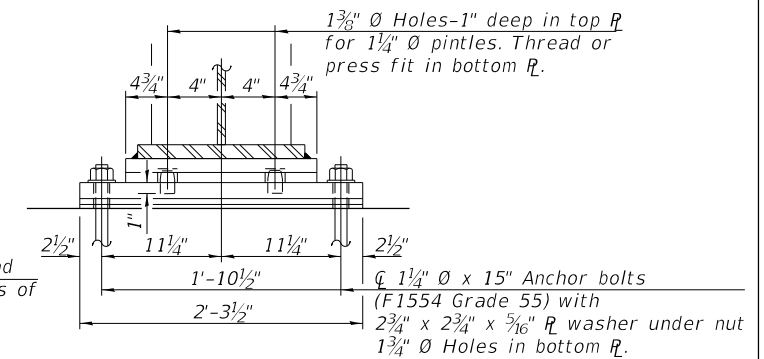
ELEVATION AT PIER 1



SECTION G-G



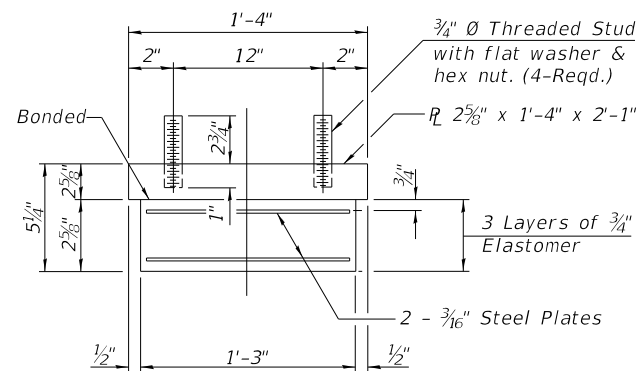
ELEVATION AT PIER 2



SECTION H-H

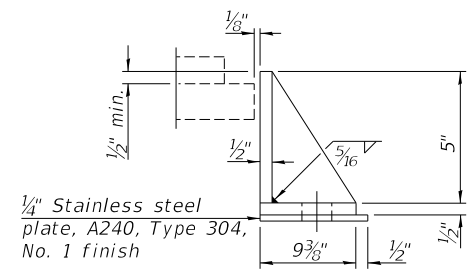
TYPE I ELASTOMERIC EXP. BRG.
(5 required)

FIXED BEARING
(5 required)



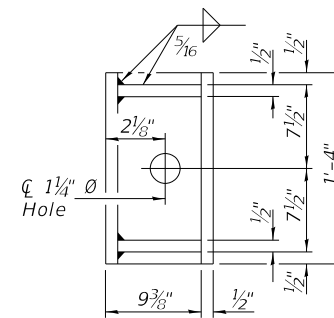
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

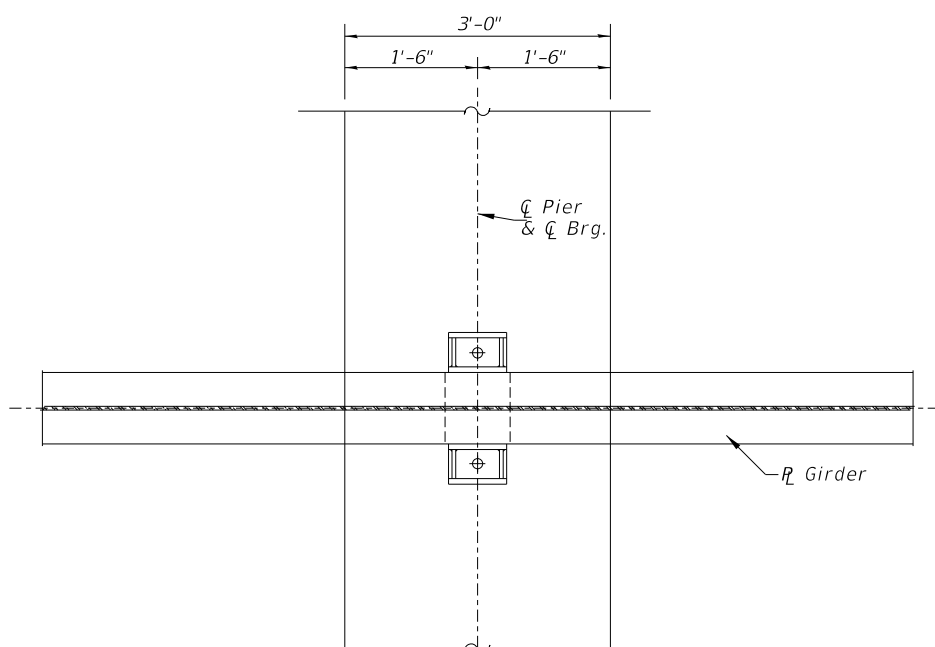
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



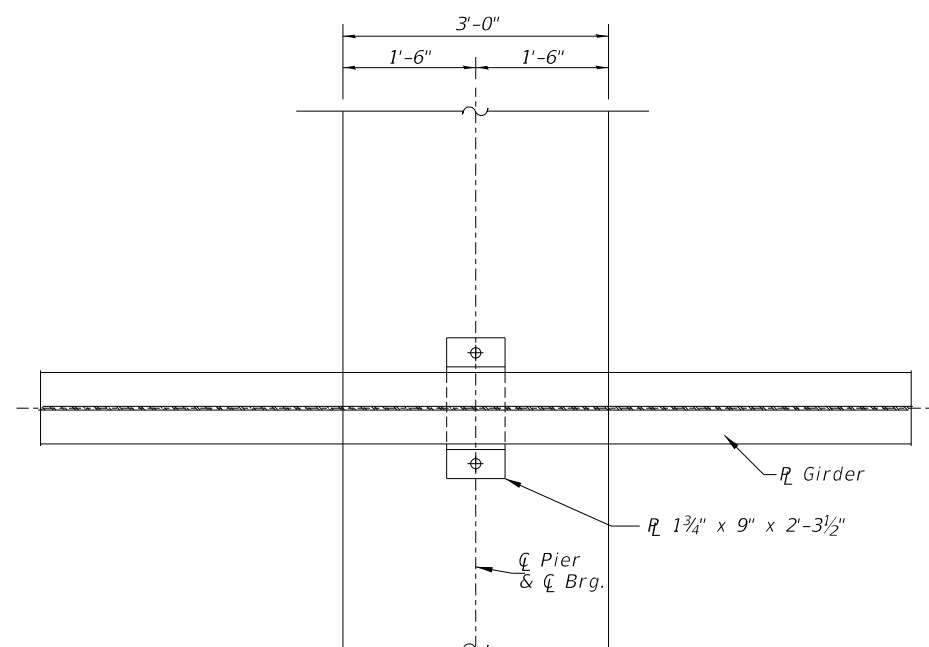
PINTLE

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
Anchor bolts at fixed bearings may be either cast-in-place or installed in holes drilled after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specification.



PARTIAL PLAN AT PIER 1



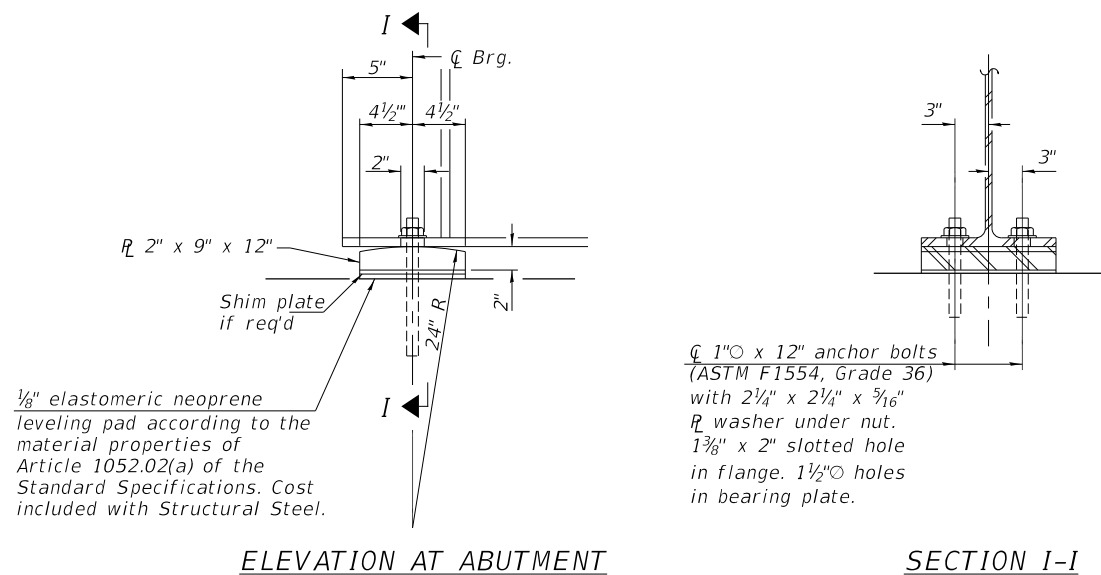
PARTIAL PLAN AT PIER 2

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type I	Each	5
Anchor Bolts, 1"	Each	10
Anchor Bolts, 1 1/4"	Each	10

BEARING DETAILS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 15	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	597	15-00098-00-BR	PIKE	34	22
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		



ELEVATION AT ABUTMENT

SECTION I-I

FIXED BEARING AT ABUTMENTS

(10 Required)

Notes:

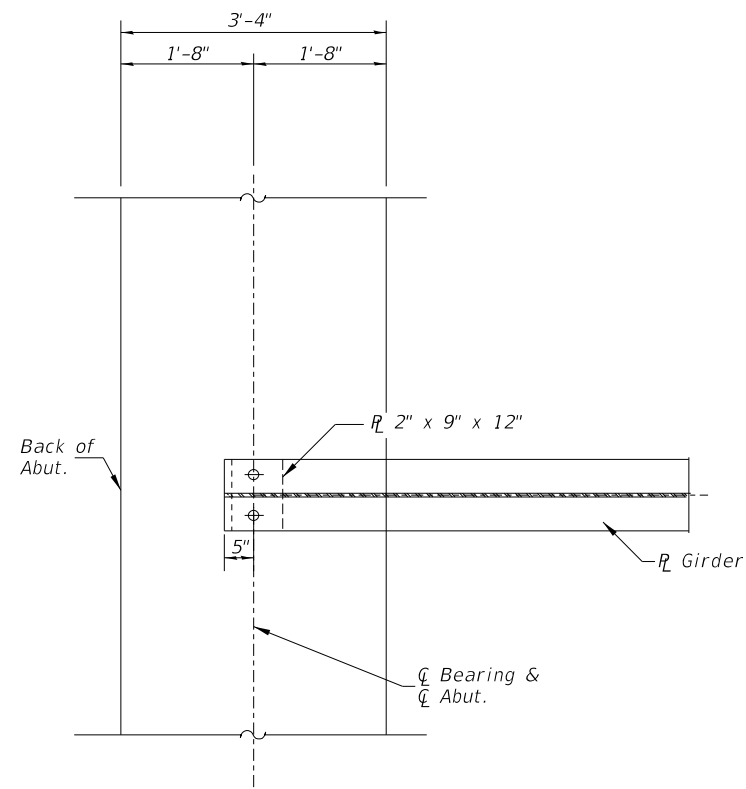
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

The structural steel bearing plates shall conform to the requirements of AASHTO M270 Grade 50W.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after members are in place.



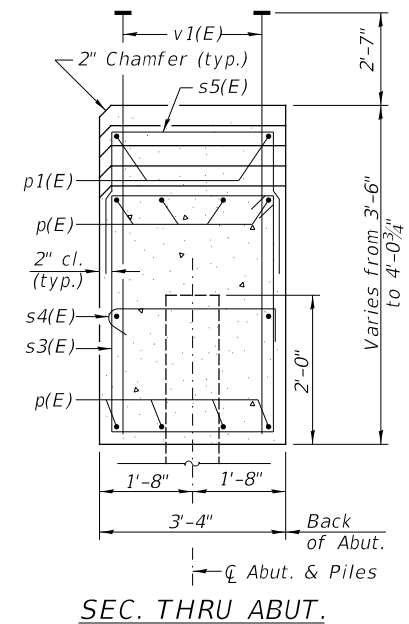
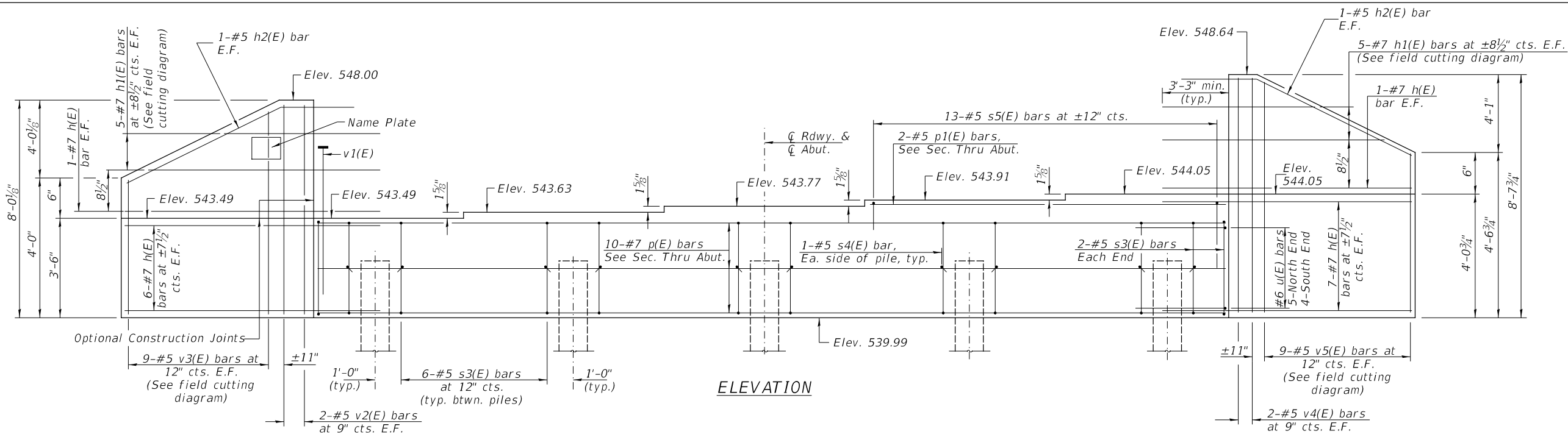
PARTIAL PLAN AT ABUTMENTS

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	EACH	20

BEARING DETAILS
F.A.S. 597 (C.H. 4)
OVER KISER CREEK
SECTION 15-00098-00-BR
PIKE COUNTY
STATION 29+72.33
STRUCTURE NO. 075-3328

SHEET NO. 16	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21 SHEETS	597	15-00098-00-BR	PIKE	34	23
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT C37W(680)		

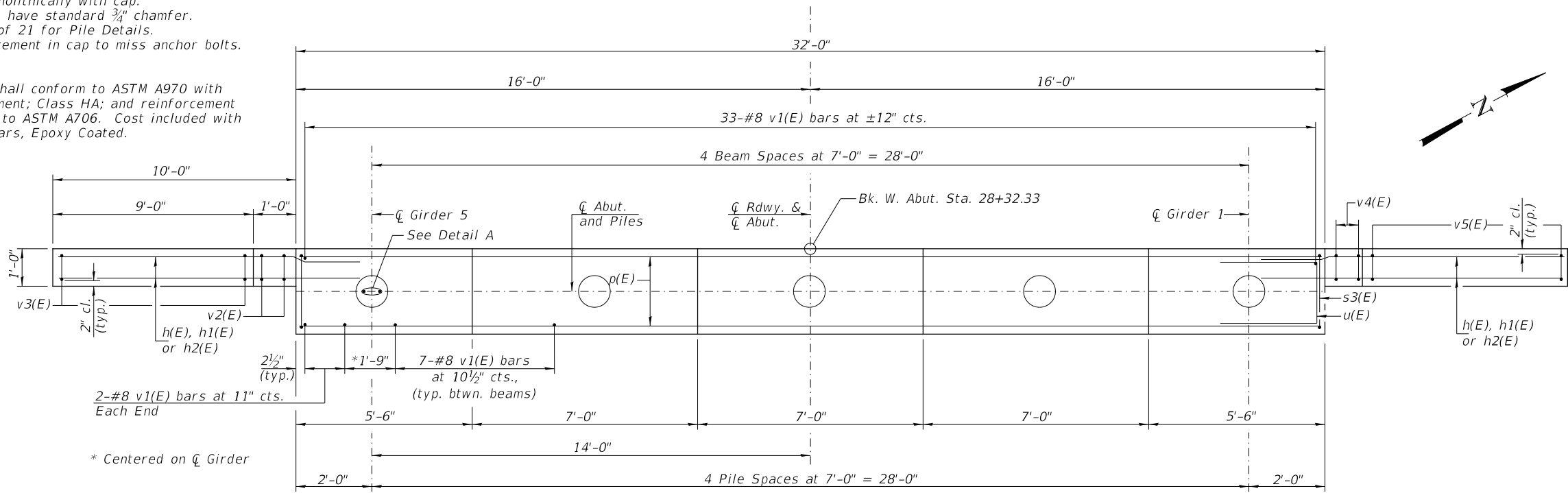


Notes:
 Pour steps monolithically with cap.
 All edges shall have standard 3/4\"/>

ELEVATION

BILL OF MATERIAL

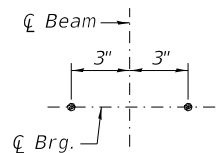
BAR	NO.	SIZE	LENGTH	SHAPE	
h(E)	30	#7	13'-1"	—	
h1(E)	10	#7	17'-9"	—	
h2(E)	4	#5	12'-8"	—	
p(E)	10	#7	31'-8"	—	
p1(E)	2	#5	12'-2"	—	
s3(E)	28	#5	13'-3"	□	
s4(E)	10	#5	4'-0"	□	
s5(E)	13	#5	9'-4"	□	
u(E)	9	#6	10'-7"	□	
v1(E)	65	#8	5'-11"	—	
v2(E)	4	#5	7'-8"	—	
v3(E)	9	#5	10'-11"	—	
v4(E)	4	#5	8'-3"	—	
v5(E)	9	#5	12'-2"	—	
Structure Excavation				CU YD	115
Concrete Structures				CU YD	19.4
Reinforcement Bars, Epoxy Coated				POUND	3,900
Furnishing Metal Shell Piles 14"x0.312"				FOOT	156
Driving Piles				FOOT	156
Test Pile Metal Shells				EACH	1
Pile Shoes				EACH	5
Name Plates				EACH	1



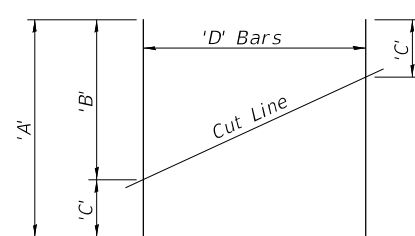
PLAN

PILE DATA

Type: Metal Shell 14"x0.312" w/ Pile Shoes
 Nominal Required Bearing: 282 kips
 Factored Resistance Available: 155 kips
 Est. Length: 39'
 No. Required: 5 (Includes 1 Test Pile)

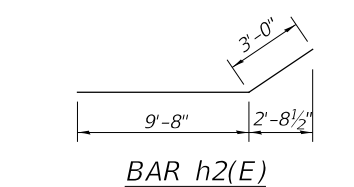


DETAIL A

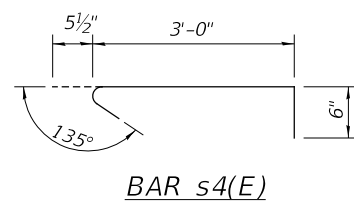


FIELD CUTTING DIAGRAM

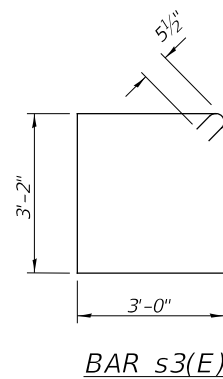
Order h1(E), v3(E) and v5(E) full length. Cut as shown and use remainder of bars in opposite face.



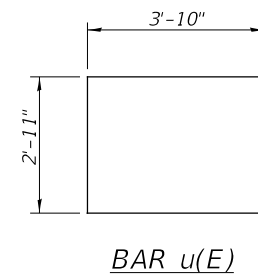
BAR h2(E)



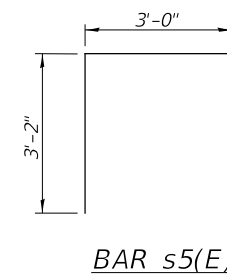
BAR s4(E)



BAR s3(E)



BAR u(E)

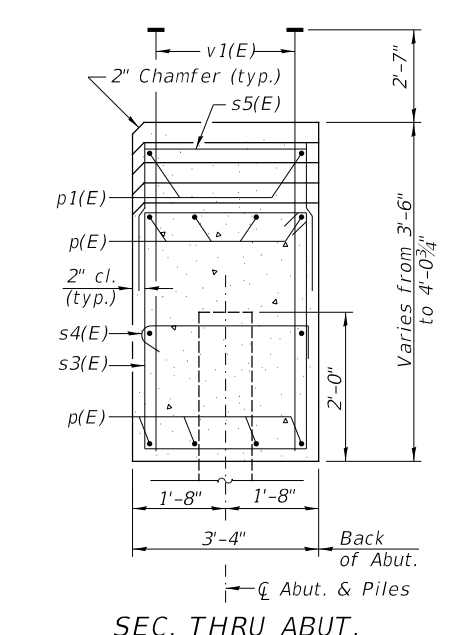
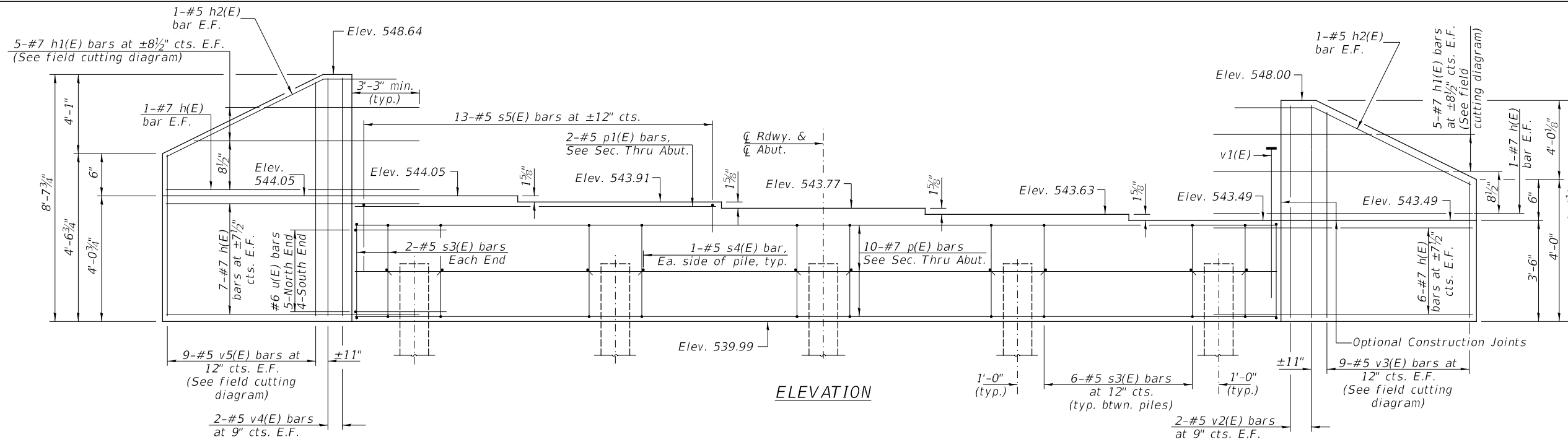


BAR s5(E)

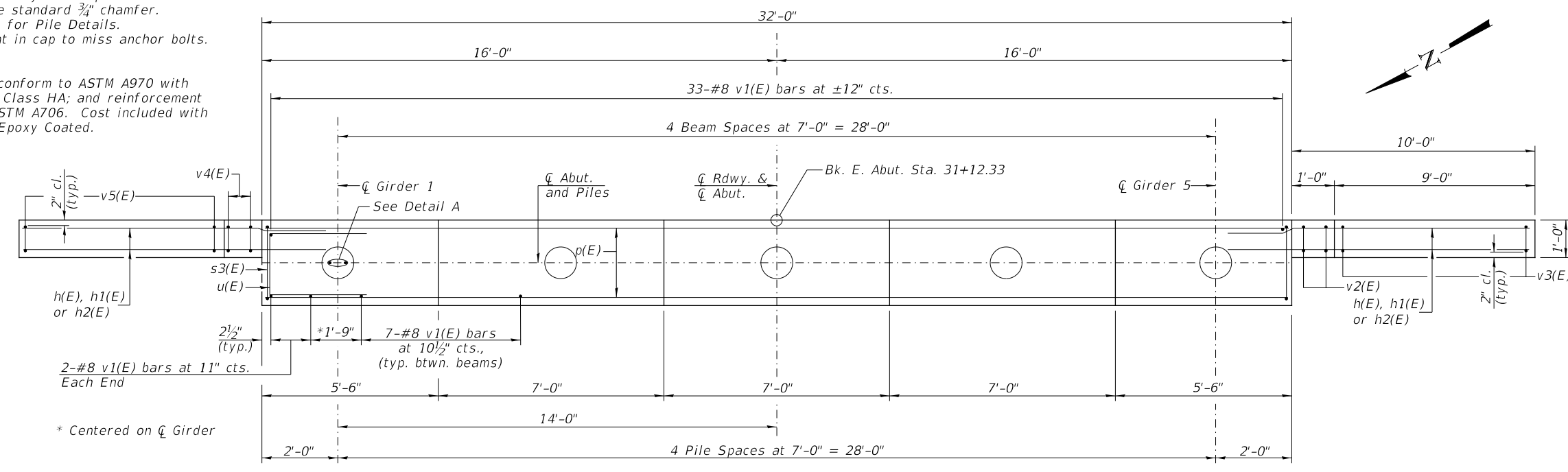
Bar	'D'	'A'	'B'	'C'
h1(E)	5	17'-9"	12'-0"	5'-9"
v3(E)	9	10'-11"	7'-3"	3'-8"
v5(E)	9	12'-2"	7'-11"	4'-3"

WEST ABUTMENT
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328

SHEET NO. 17	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	24
21 SHEETS	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT C37W(680)					



Notes:
 Pour steps monolithically with cap.
 All edges shall have standard 3/4\"/>



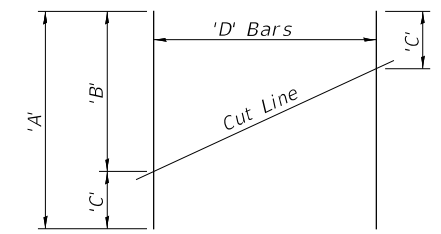
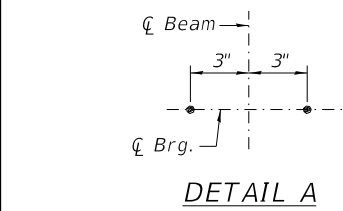
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE	
h(E)	30	#7	13'-1"	—	
h1(E)	10	#7	17'-9"	—	
h2(E)	4	#5	12'-8"	—	
p(E)	10	#7	31'-8"	—	
p1(E)	2	#5	12'-2"	—	
s3(E)	28	#5	13'-3"	□	
s4(E)	10	#5	4'-0"	□	
s5(E)	13	#5	9'-4"	□	
u(E)	9	#6	10'-7"	□	
v1(E)	65	#8	5'-11"	—	
v2(E)	4	#5	7'-8"	—	
v3(E)	9	#5	10'-11"	—	
v4(E)	4	#5	8'-3"	—	
v5(E)	9	#5	12'-2"	—	
Structure Excavation				CU YD	110
Concrete Structures				CU YD	19.4
Reinforcement Bars, Epoxy Coated				POUND	3,900
Furnishing Metal Shell Piles 14"x0.312"				FOOT	156
Driving Piles				FOOT	156
Test Pile Metal Shells				EACH	1
Pile Shoes				EACH	5

PILE DATA

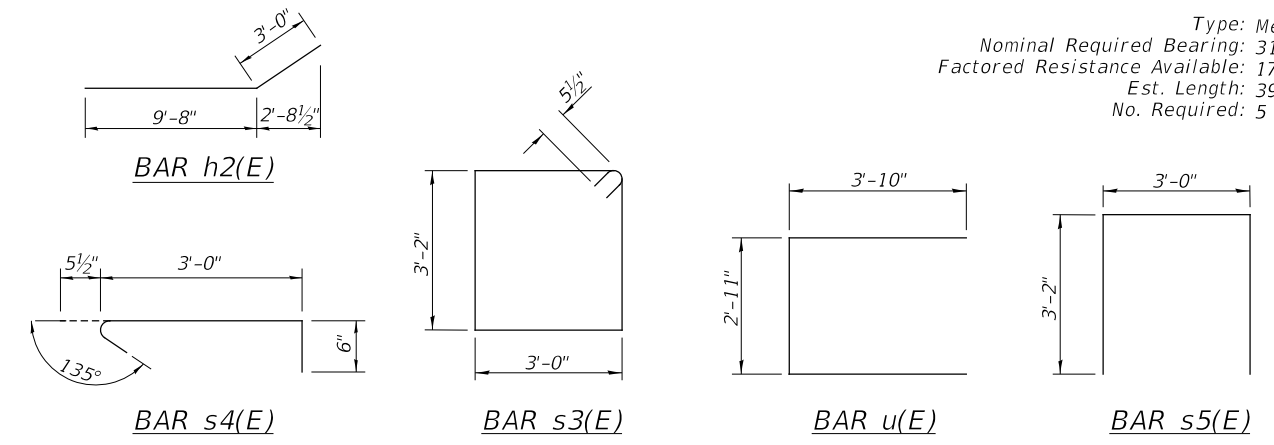
Type: Metal Shell 14"x0.312" w/ Pile Shoes
 Nominal Required Bearing: 316 kips
 Factored Resistance Available: 174 kips
 Est. Length: 39'
 No. Required: 5 (Includes 1 Test Pile)

EAST ABUTMENT
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328



Bar	'D'	'A'	'B'	'C'
h1(E)	5	17'-9"	12'-0"	5'-9"
v3(E)	9	10'-11"	7'-3"	3'-8"
v5(E)	9	12'-2"	7'-11"	4'-3"

FIELD CUTTING DIAGRAM
 Order h1(E), v3(E) and v5(E) full length. Cut as shown and use remainder of bars in opposite face.

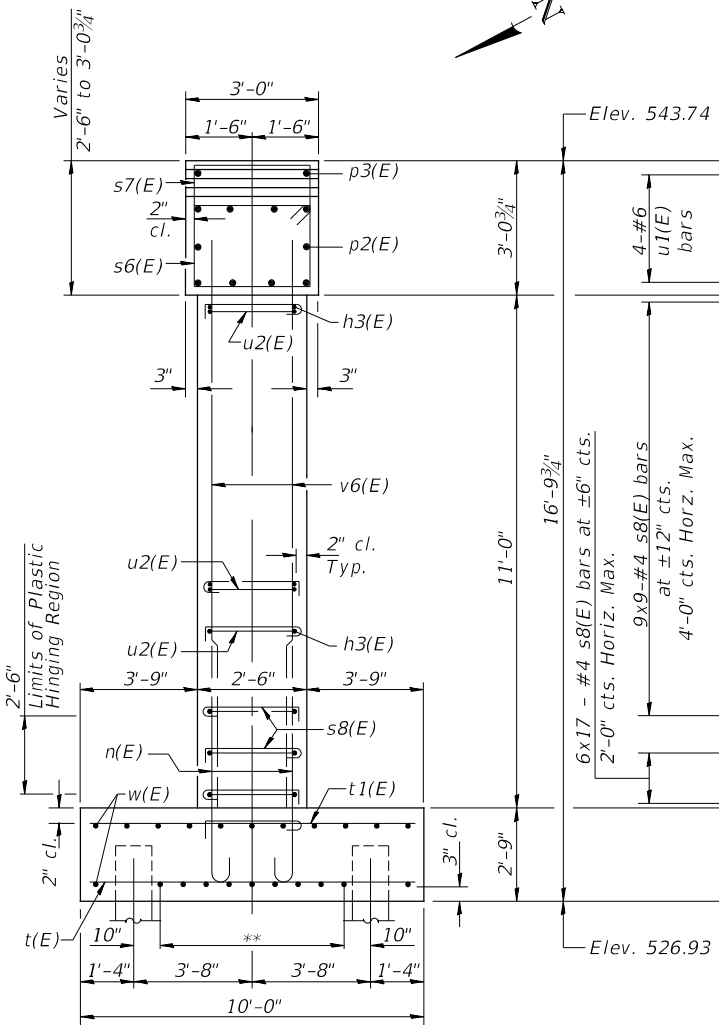


SHEET NO. 18	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	25
21 SHEETS	S.N. 075-3328		CONTRACT NO. 93730		
	FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)		

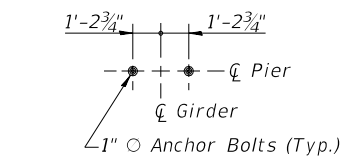
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 21 of 21.

PILE DATA

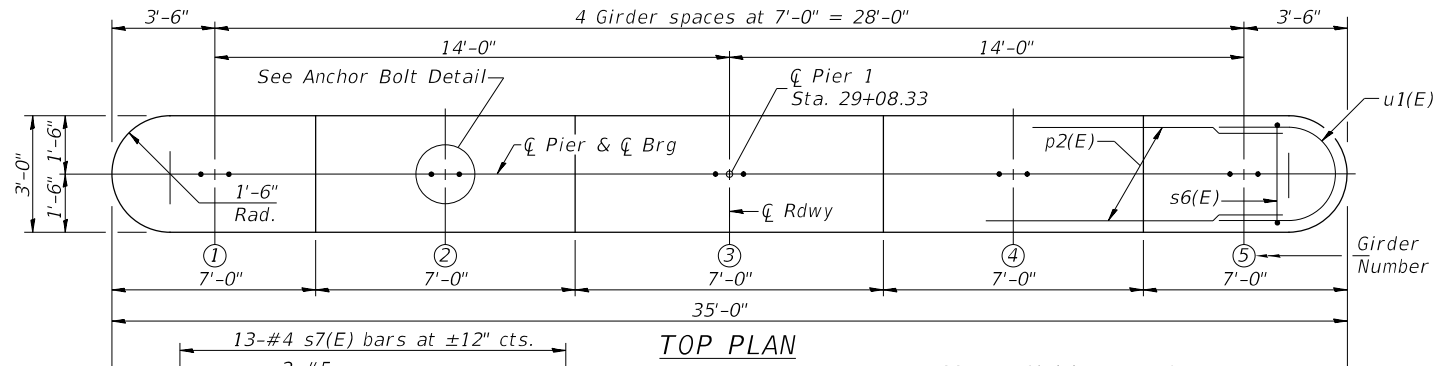
Type: Metal Shell 14"x0.312" w/ Pile Shoes
 Nominal Required Bearing: 428 kips
 Factored Resistance Available: 190 kips
 Est. Length: 54 Ft.
 No. Required: 12 (Includes 1 Test Pile)



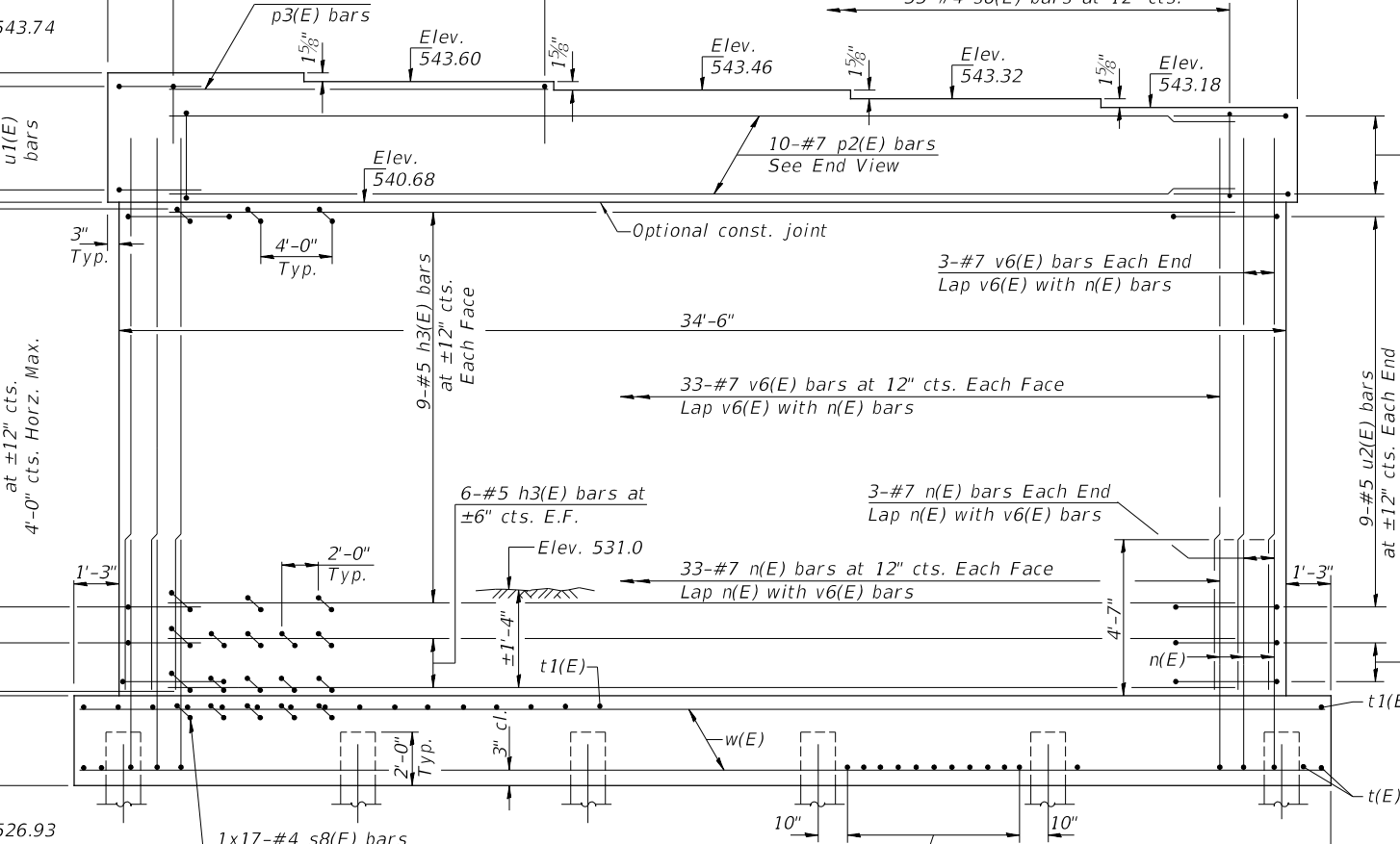
END VIEW **9-#5 w(E) bars at 8 1/2" cts. Typ. Between Piles



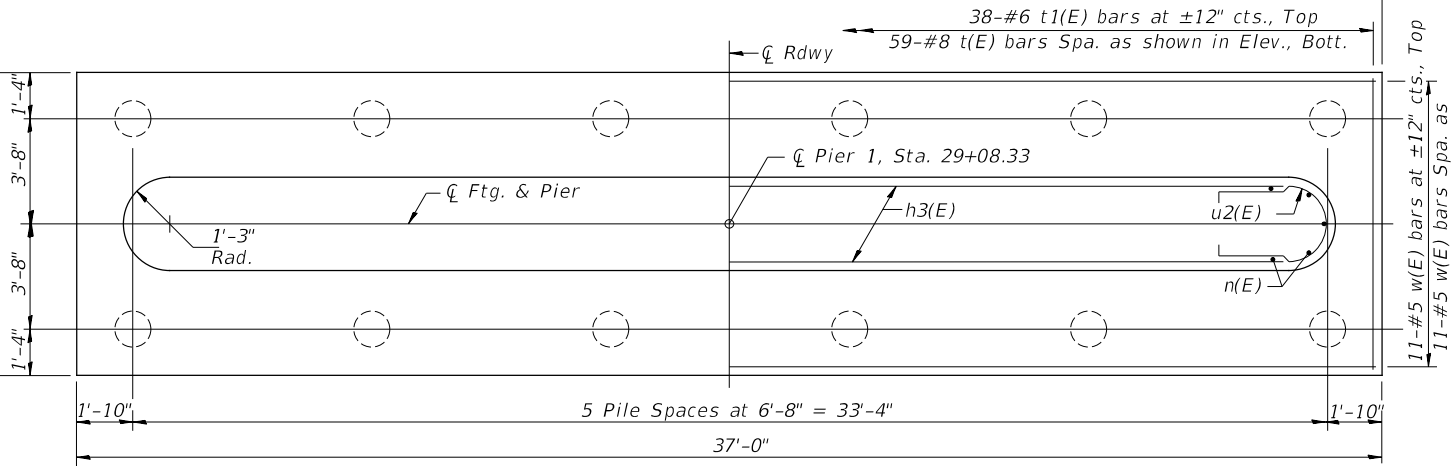
ANCHOR BOLT DETAIL



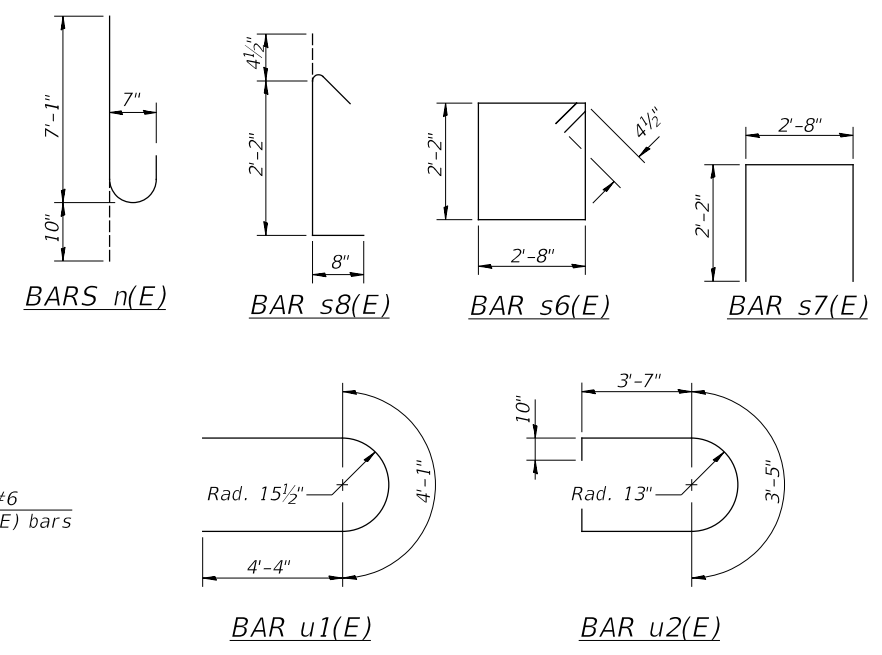
TOP PLAN



ELEVATION
(Looking East)



FOOTING PLAN



**PIER 1
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h3(E)	30	#5	32'-0"	—
n(E)	72	#7	7'-11"	U
p2(E)	10	#7	32'-0"	—
p3(E)	2	#5	12'-4"	—
s6(E)	33	#4	10'-5"	□
s7(E)	13	#4	7'-0"	□
s8(E)	200	#4	3'-3"	L
t(E)	59	#8	9'-8"	—
t1(E)	38	#6	9'-8"	—
u1(E)	7	#6	12'-9"	U
u2(E)	30	#5	12'-3"	U
v6(E)	72	#7	12'-10"	—
w(E)	22	#5	36'-8"	—
Cofferdam Excavation		CU. YD.	210	
Concrete Structures		CU. YD.	81.9	
Reinforcement Bars, Epoxy Coated		POUND	8,890	
Metal Shell Piles 14"x0x312"		FOOT	594	
Driving Piles		FOOT	594	
Pile Shoes		EACH	12	
Test Pile Metal Shell		EACH	1	
Seal Coat Concrete		CU. YD.	82.5	
Cofferdam (Type 2) (Location-1)		EACH	1	

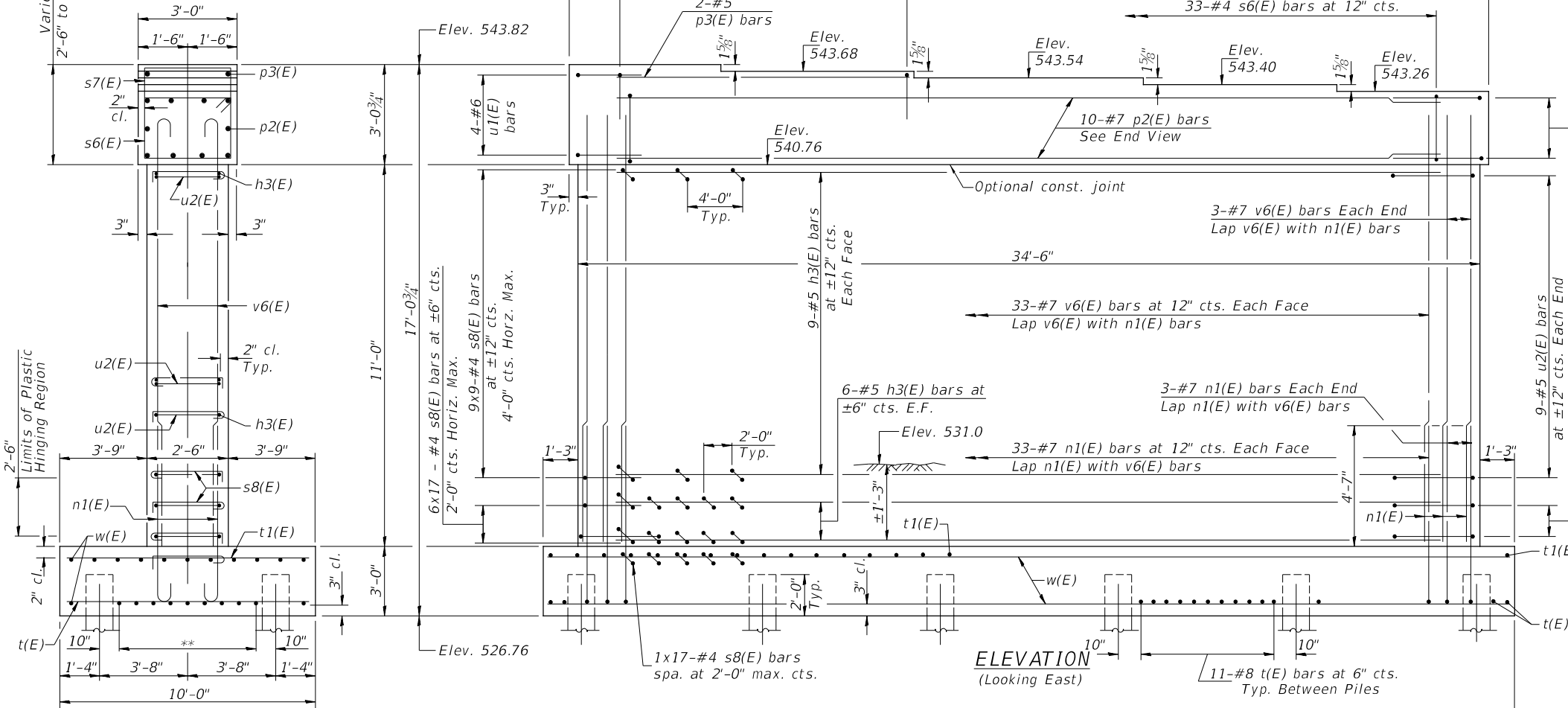
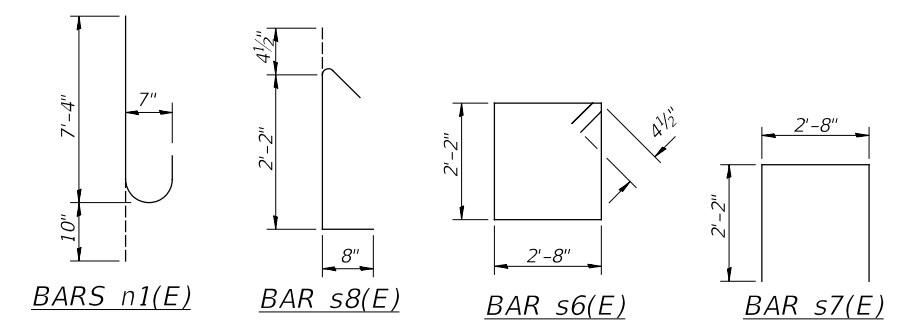
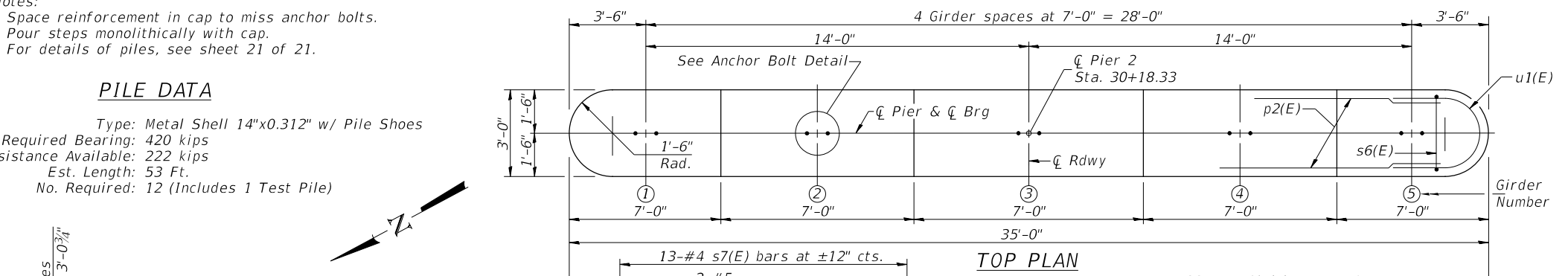
PIER 1
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328

SHEET NO. 19 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	26
	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)			

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet 21 of 21.

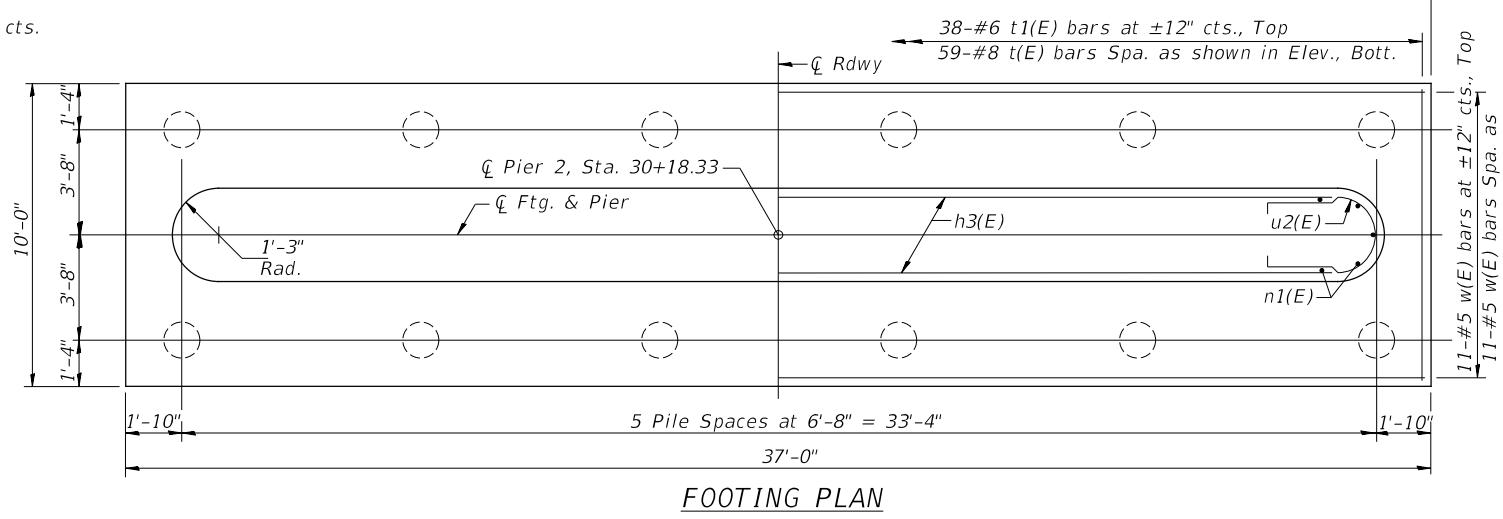
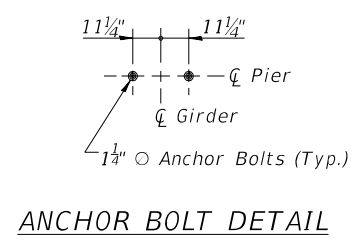
PILE DATA

Type: Metal Shell 14"x0.312" w/ Pile Shoes
 Nominal Required Bearing: 420 kips
 Factored Resistance Available: 222 kips
 Est. Length: 53 Ft.
 No. Required: 12 (Includes 1 Test Pile)



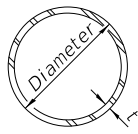
**PIER 2
 BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h3(E)	30	#5	32'-0"	—
n1(E)	72	#7	8'-2"	U
p2(E)	10	#7	32'-0"	—
p3(E)	2	#5	12'-4"	—
s6(E)	33	#4	10'-5"	□
s7(E)	13	#4	7'-0"	□
s8(E)	200	#4	3'-3"	L
t(E)	59	#8	9'-8"	—
t1(E)	38	#6	9'-8"	—
u1(E)	7	#6	12'-9"	U
u2(E)	30	#5	12'-3"	U
v6(E)	72	#7	12'-10"	—
w(E)	22	#5	36'-8"	—
Cofferdam Excavation		CU. YD.	210	
Concrete Structures		CU. YD.	85.4	
Reinforcement Bars, Epoxy Coated		POUND	8,930	
Metal Shell Piles 14"x0x312"		FOOT	583	
Driving Piles		FOOT	583	
Pile Shoes		EACH	12	
Test Pile Metal Shell		EACH	1	
Seal Coat Concrete		CU. YD.	82.5	
Cofferdam (Type 2) (Location-2)		EACH	1	



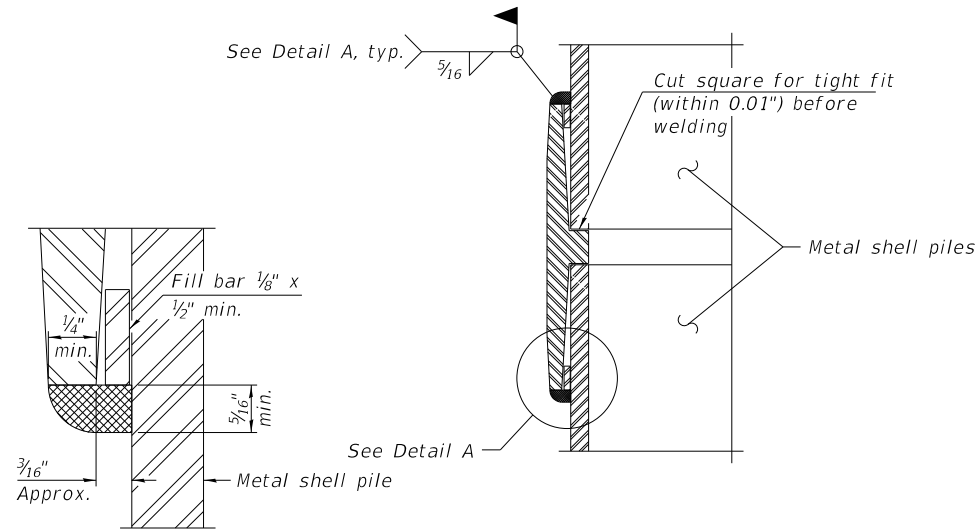
PIER 2
 F.A.S. 597 (C.H. 4)
 OVER KISER CREEK
 SECTION 15-00098-00-BR
 PIKE COUNTY
 STATION 29+72.33
 STRUCTURE NO. 075-3328

SHEET NO. 20 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	27
	S.N. 075-3328		CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)			

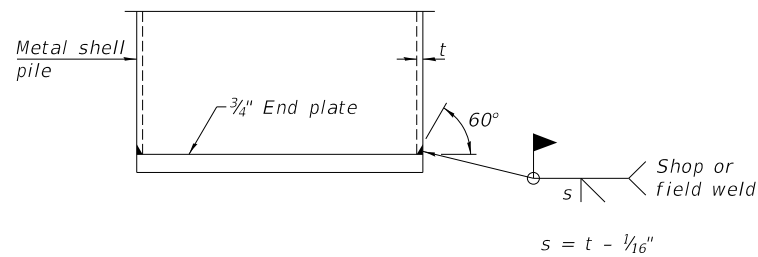


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



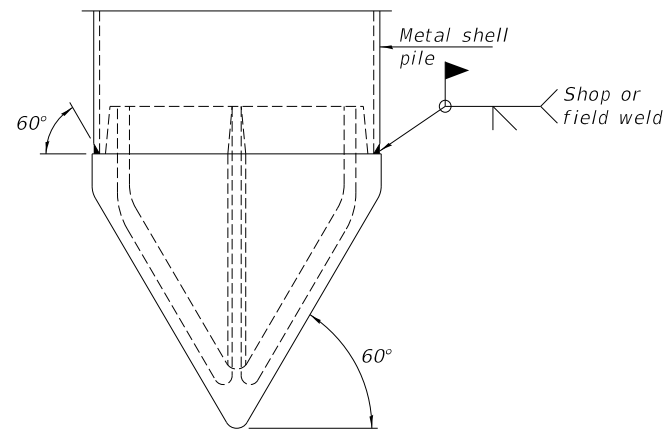
DETAIL A



END PLATE ATTACHMENT

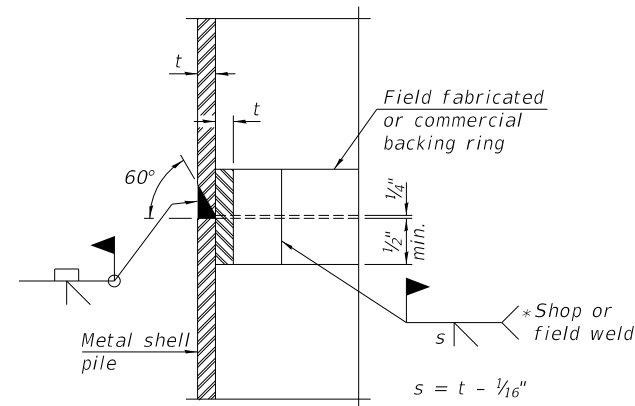
WELDED COMMERCIAL SPLICE

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.



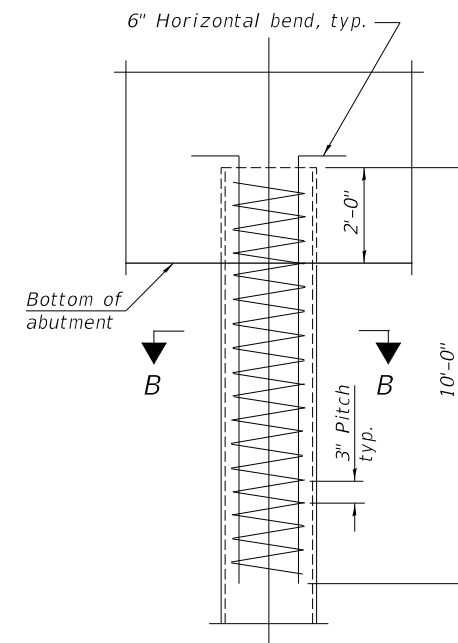
PILE SHOE ATTACHMENT

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

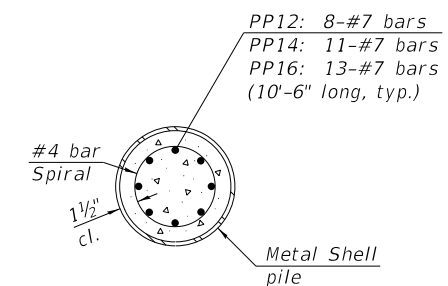


COMPLETE PENETRATION WELD SPLICE

* 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



SECTION B-B

REINFORCEMENT AT ABUTMENTS & PIERS

METAL SHELL PILE DETAILS

F.A.S. 597 (C.H. 4)

OVER KISER CREEK

SECTION 15-00098-00-BR

PIKE COUNTY

STATION 29+72.33

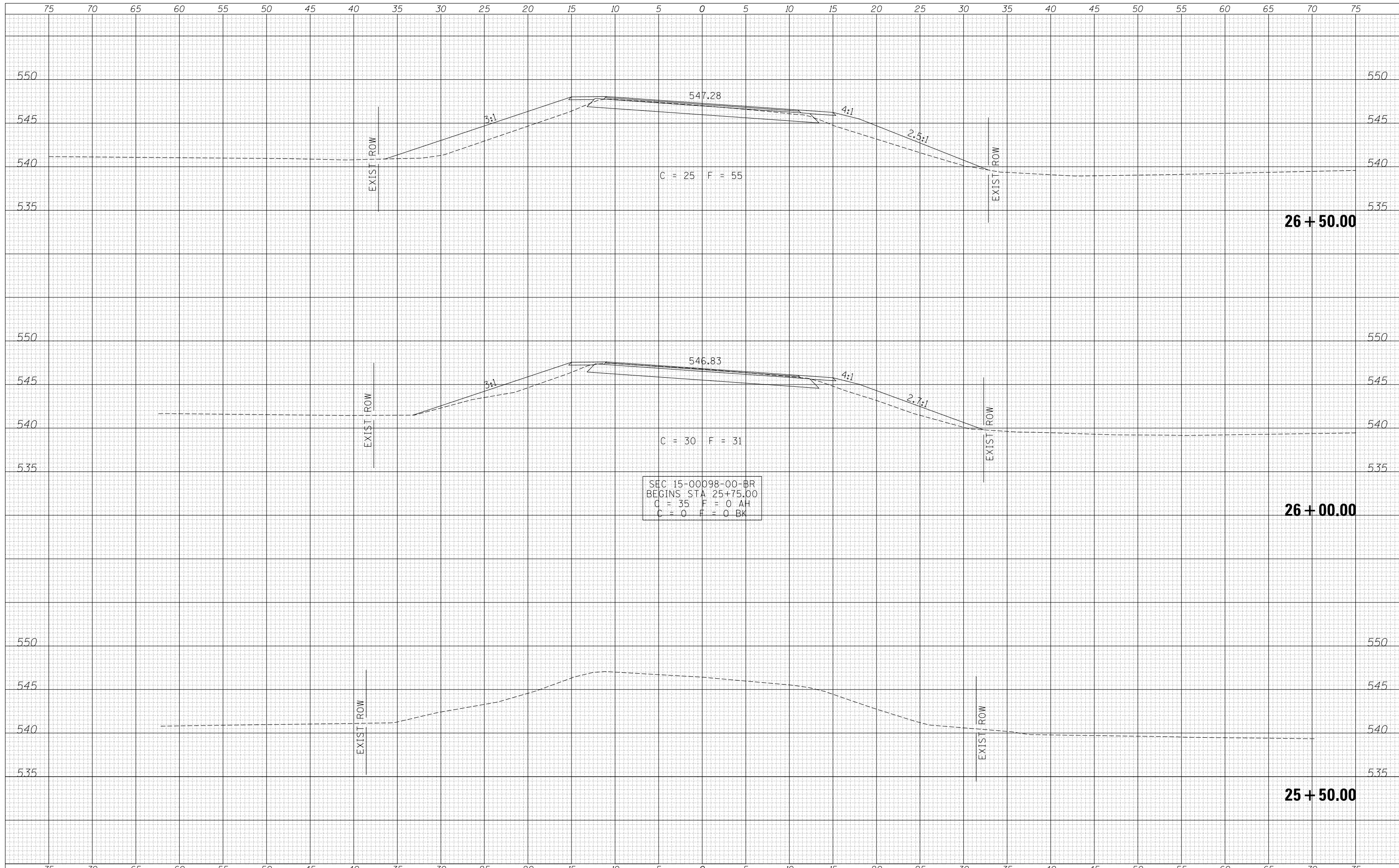
STRUCTURE NO. 075-3328

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

SHEET NO. 21 21 SHEETS	F.A.S. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	597	15-00098-00-BR	PIKE	34	28
S.N. 075-3328			CONTRACT NO. 93730		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT C37W(680)			

DATE	
BY	
FINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	

DATE	
BY	
ORIGINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	



FILE NAME = V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD
 USER NAME = BNebe1
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 3/6/2019

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**PIKE COUNTY
 COUNTY HIGHWAY 4
 OVER KISER CREEK**

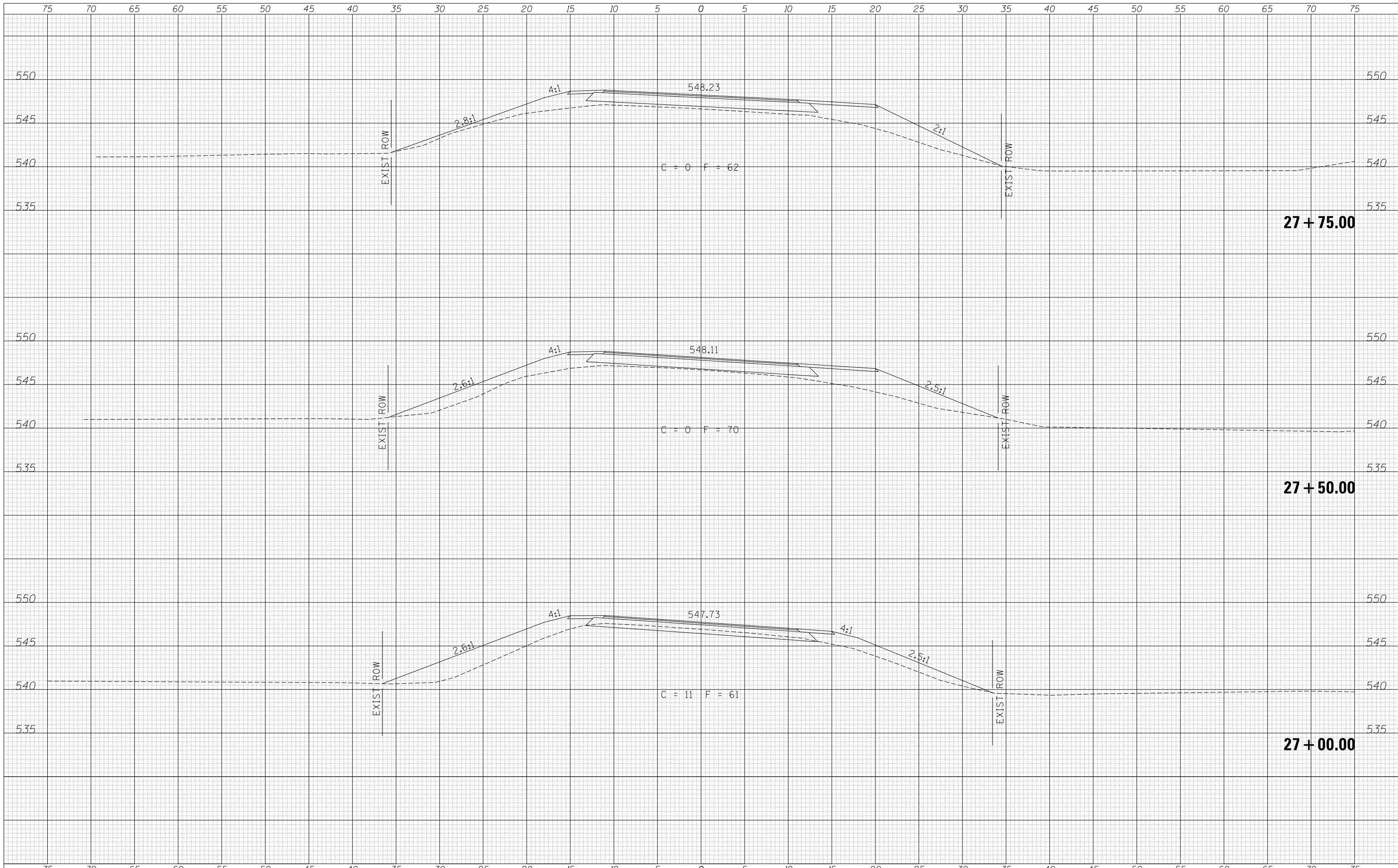
CROSS SECTIONS

SCALE: 1"=5' SHEET 1 OF 6 SHEETS STA. 25+50.00 TO STA. 26+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	29
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93730	
FED. AID PROJECT NO. C37W(680)				

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

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



FILE NAME = V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD
 USER NAME = BNebe1
 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 3/6/2019

DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

**PIKE COUNTY
 COUNTY HIGHWAY 4
 OVER KISER CREEK**

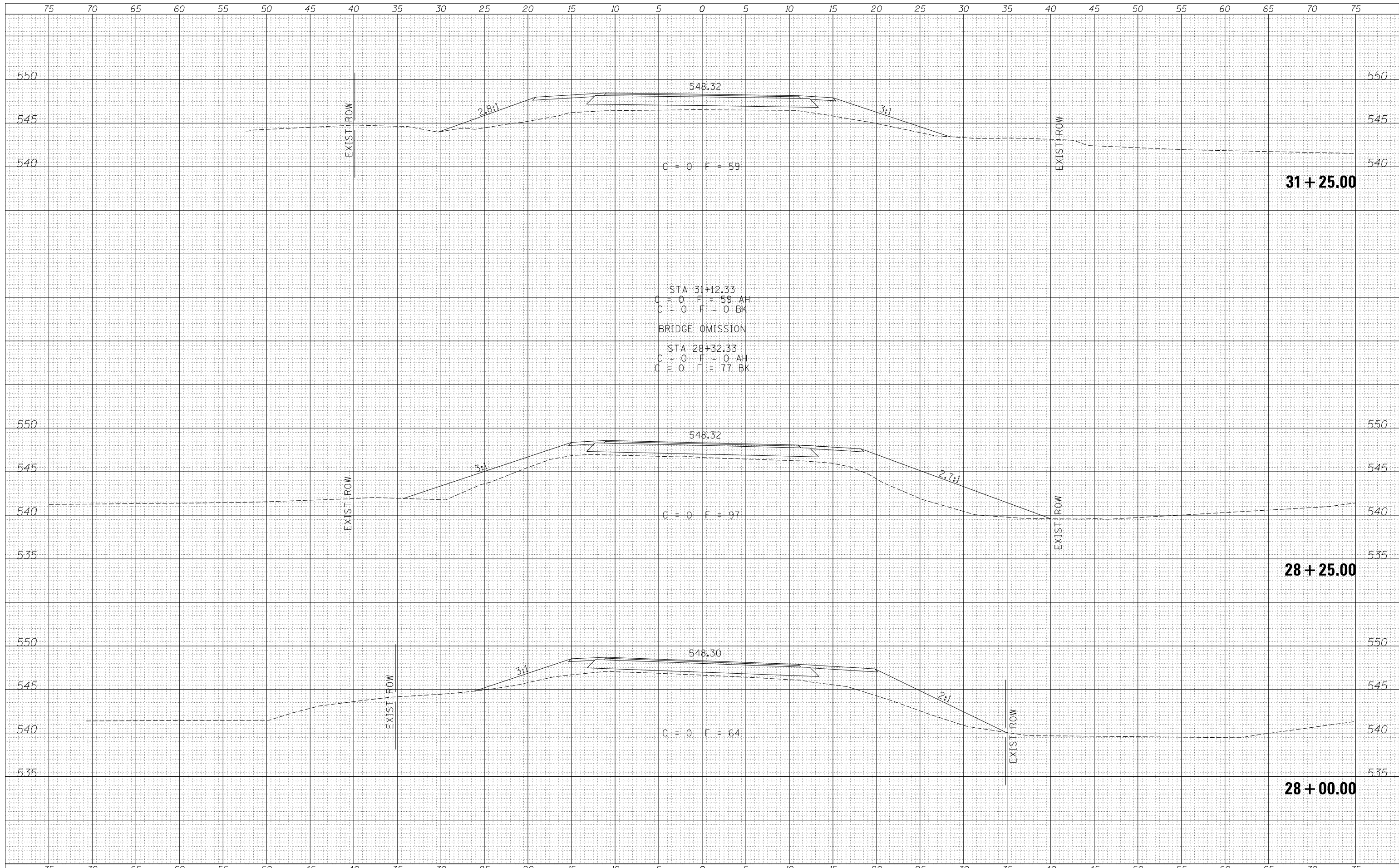
CROSS SECTIONS

SCALE: 1"=5' SHEET 2 OF 6 SHEETS STA. 27+00.00 TO STA. 27+75.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	30
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93730	
FED. AID PROJECT NO. C37W(680)				

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

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



**PIKE COUNTY
 COUNTY HIGHWAY 4
 OVER KISER CREEK**

CROSS SECTIONS

FILE NAME = V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD
 USER NAME = BNebe1

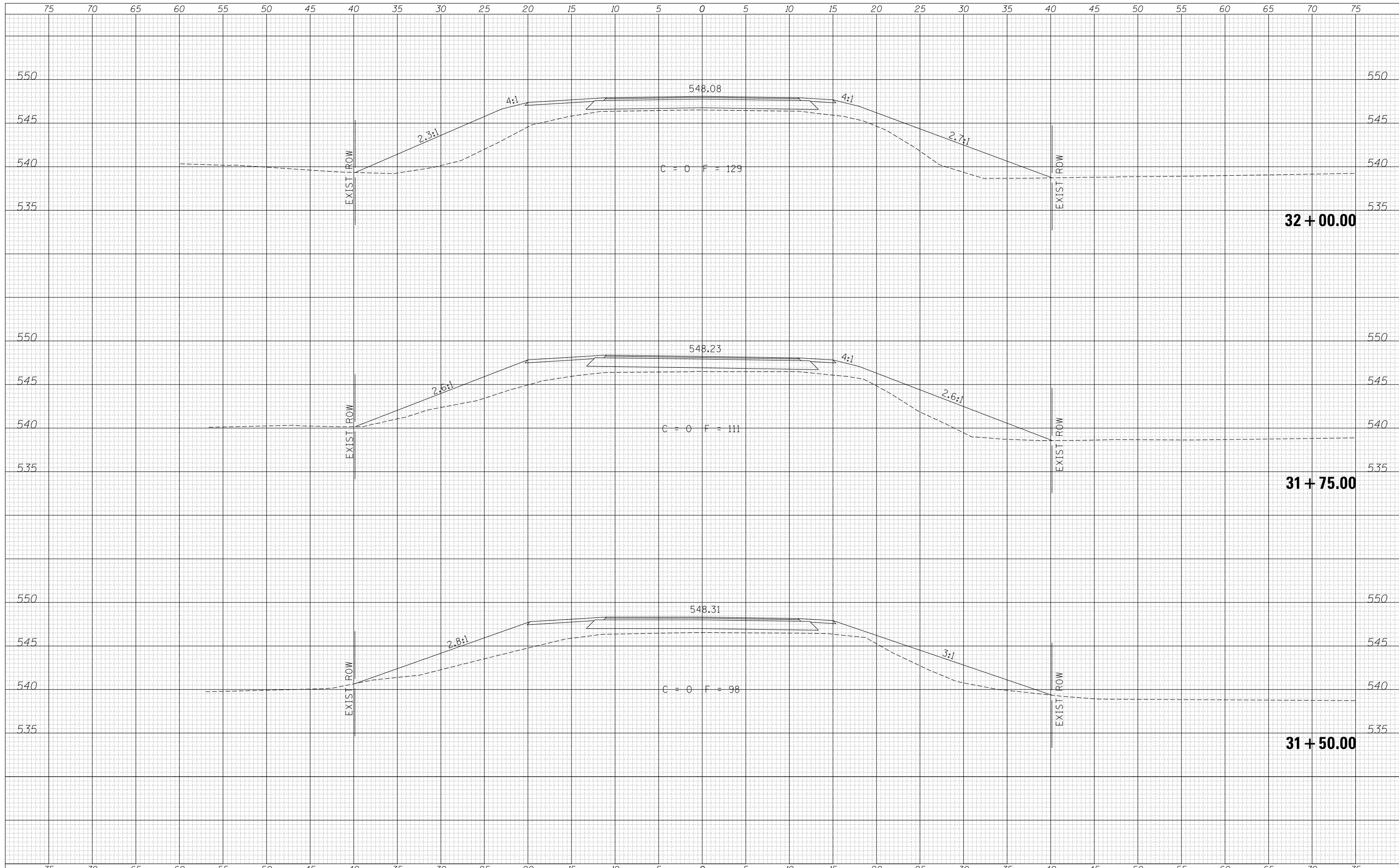
DESIGNED -	REVISIED -
DRAWN -	REVISIED -
CHECKED -	REVISIED -
DATE -	REVISIED -

SCALE: 1"=5' SHEET 3 OF 6 SHEETS STA. 28+00.00 TO STA. 31+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	31
CONTRACT NO. 93730				
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. C37W(680)		

DATE	
BY	
FINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	

DATE	
BY	
ORIGINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	



FILE NAME = V:\4194 - CH 4 over Kiser Creek (Pike)\CADD\CADD
 USER NAME = BNebe1
 DESIGNED -
 DRAWN -
 CHECKED -
 DATE -
 PLOT SCALE = 10.0000 / in.
 PLOT DATE = 3/6/2019

REVISIED -
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 REVISIED -

**PIKE COUNTY
 COUNTY HIGHWAY 4
 OVER KISER CREEK**

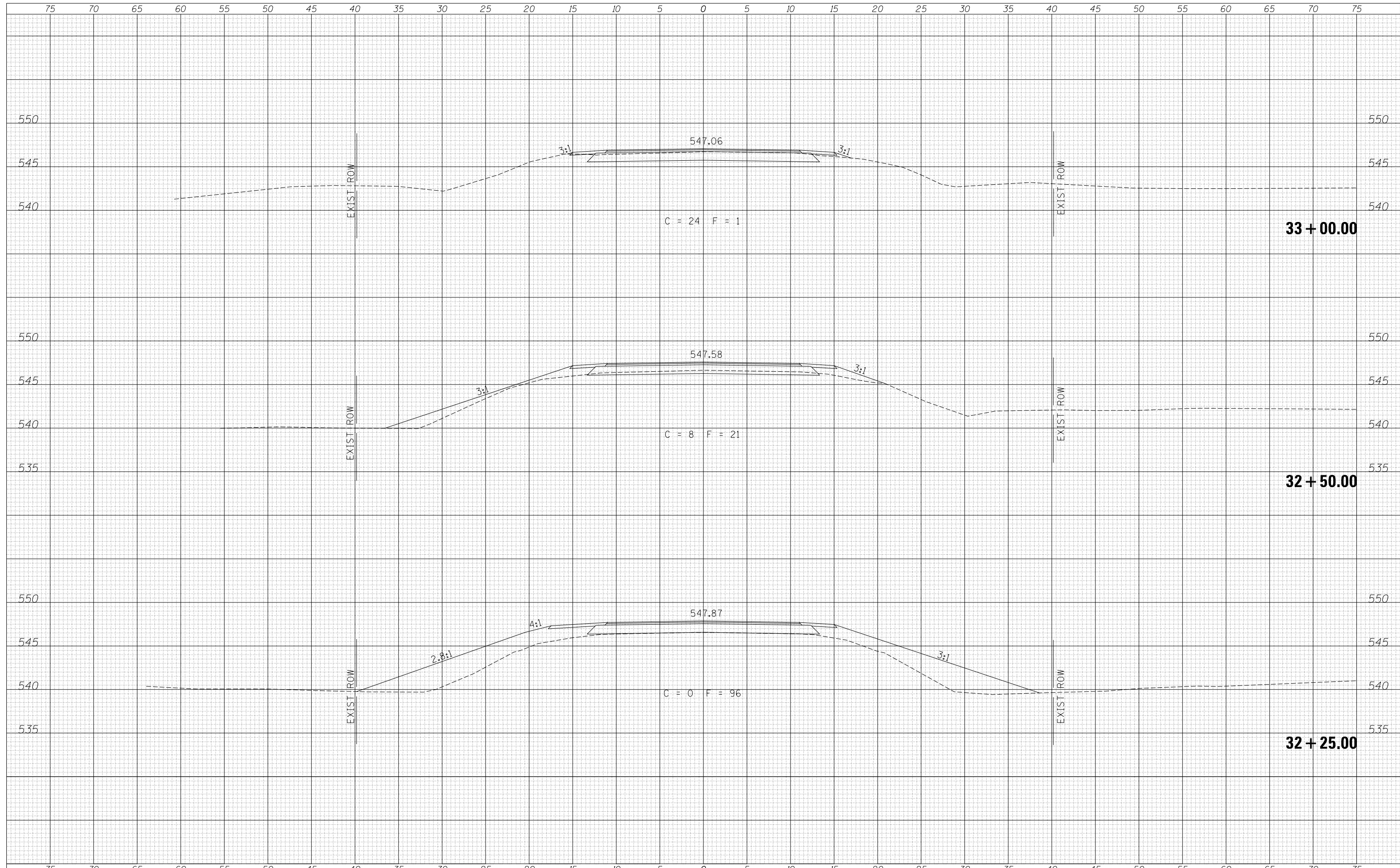
CROSS SECTIONS

SCALE: 1"=5' SHEET 4 OF 6 SHEETS STA. 31+50.00 TO STA. 32+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	32
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 93730	
FED. AID PROJECT NO. C37W(680)				

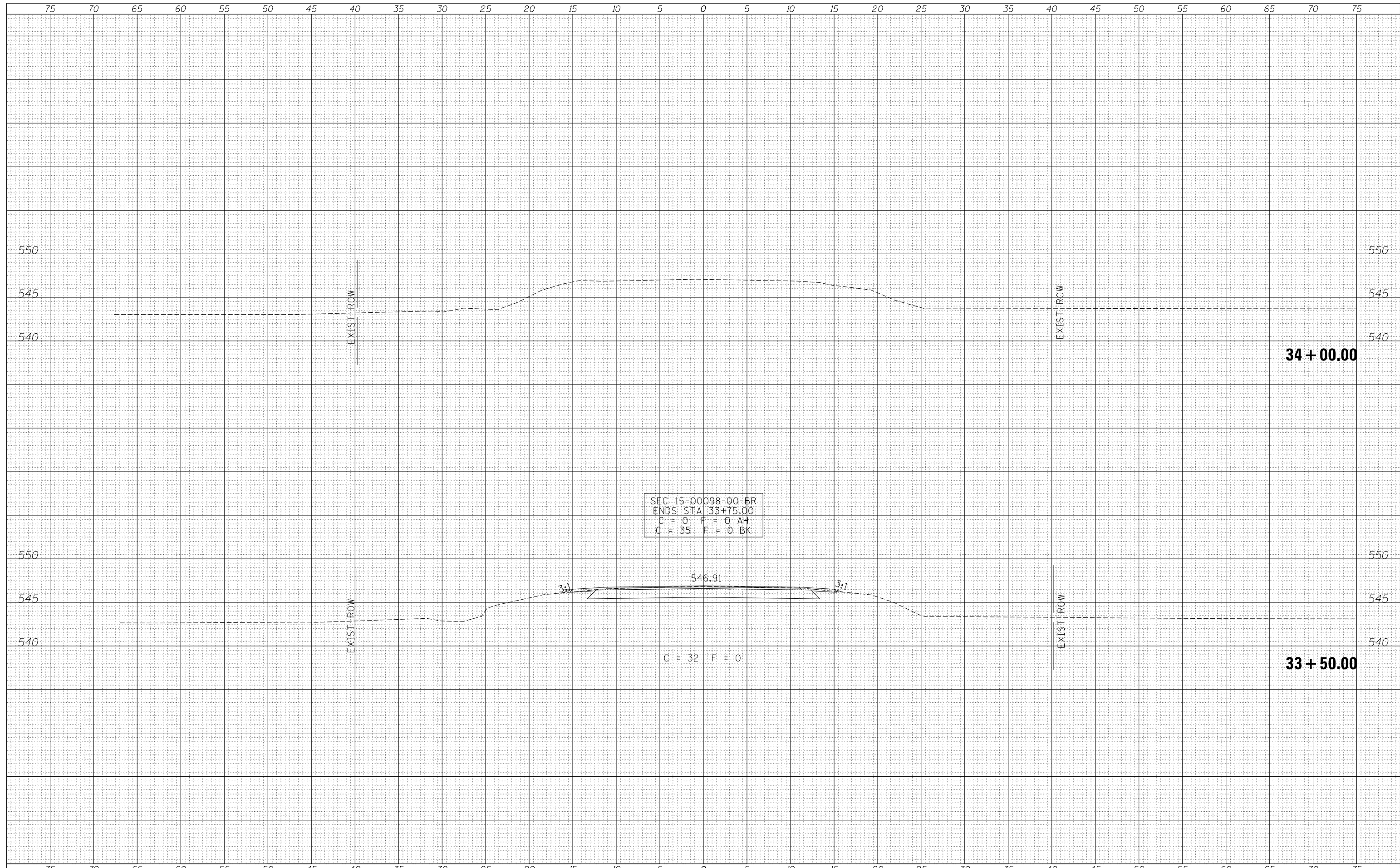
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BY	
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NOTE BOOK AREAS CHECKED	

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



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

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



SEC 15-00098-00-BR
 ENDS STA 33+75.00
 C = 0 F = 0 AH
 C = 35 F = 0 BK

C = 32 F = 0

FILE NAME =	USER NAME = BNebe1	DESIGNED -	REVISED -
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	PLOT SCALE = 10.0000' / in.	CHECKED -	REVISED -
MODELNAME	PLOT DATE = 3/6/2019	DATE -	REVISED -

**PIKE COUNTY
 COUNTY HIGHWAY 4
 OVER KISER CREEK**

CROSS SECTIONS

SCALE: 1"=5' SHEET 6 OF 6 SHEETS STA. 33+50.00 TO STA. 34+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
597	15-00098-00-BR	PIKE	34	34
CONTRACT NO. 93730			FED. ROAD DIST. NO. 7 ILLINOIS	
FED. AID PROJECT NO. C37W(680)				