

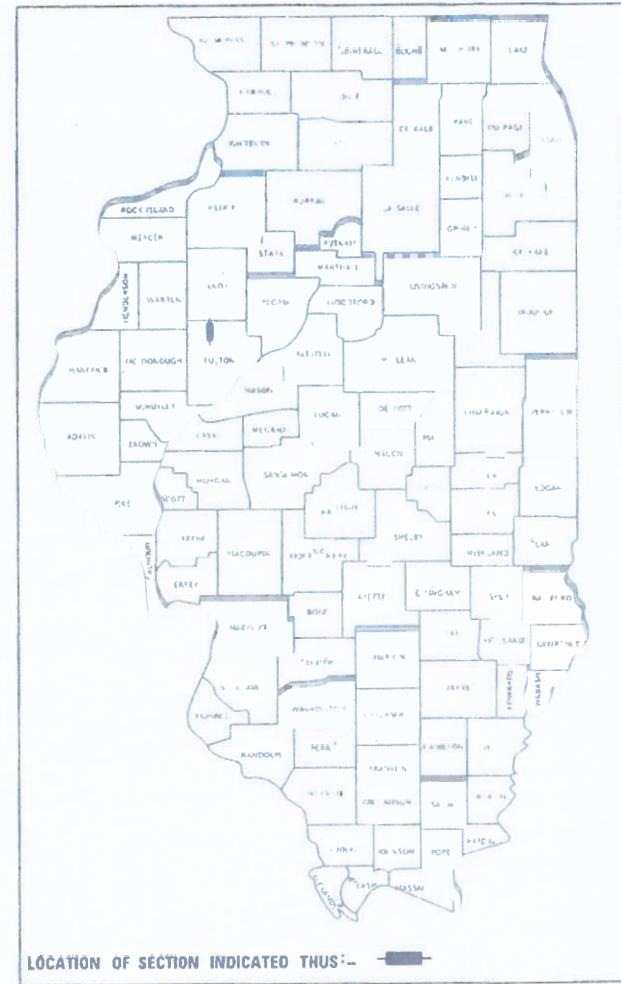
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	1
FED. ROAD DIST. NO. 7 ILLINOIS		CONTRACT NO. 89795		

INDEX OF SHEETS

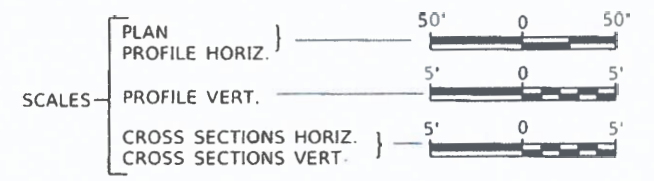
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, DETAILS
3	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4	TRAFFIC CONTROL PLAN
5	EROSION CONTROL PLAN
6	PLAN AND PROFILE
7-26	STRUCTURE PLANS
27-30	CROSS SECTIONS

09-12-2021 LETTING ITEM 068

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM-BRIDGE
FULTON COUNTY
SECTION 20-00130-14-BR
F.A.S. 452 (C.H. 2) OVER COAL CREEK
PROJECT NO. GPKN(447)
JOB NUMBER C-94-124-20



- HIGHWAY STANDARDS**
- 000001-08 ABBREVIATIONS, SYMBOLS AND PATTERNS
 - 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
 - 515001-04 NAME PLATE FOR BRIDGES
 - 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
 - 631011-10 TRAFFIC BARRIER TERMINAL, TYPE 2
 - 631032-09 TRAFFIC BARRIER TERMINAL, TYPE 6A
 - 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
 - BLR 26-3 STEEL PLATE BEAM GUARDRAIL 29 IN. HEIGHT
 - BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A



PROPOSED STRUCTURE SN 029-3211
 THREE SPAN BRIDGE WITH CONCRETE DECK ON W27 STEEL BEAMS SUPPORTED ON INTEGRAL ABUTMENTS AND CONCRETE ENCASED PIERS, 170'-0" BK. TO BK. OF ABUT., 30'-0" OUT TO OUT DECK WITH A 25° SKEW RT. AHEAD.



SECTION 20-00130-14-BR BEGINS STATION 18+50.00

SECTION 20-00130-14-BR ENDS STATION 22+25.00

EXISTING STRUCTURE SN 029-3011
 THREE SPAN BRIDGE CONTINUOUS STEEL BEAM SUPERSTRUCTURE WITH A REINFORCED CONCRETE DECK ON INDIVIDUAL ENCASED PILE BENT PIERS W/ REINFORCED CONCRETE CAPS AND OPEN CONCRETE CAP ABUTMENTS, 148'-0" BK TO BK, 26'-0" O TO O DECK, 35° SKEW RT. AHEAD. (TO BE REMOVED)

UTILITY COMPANIES
 PRAIRIE POWER INC.
 SPRINGFIELD, ILLINOIS

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

LOCATION MAP
 1 MI 0 1 MI
 APPROXIMATE SCALE

NET LENGTH OF PROJECT = 375.00 FEET = 0.071 MILES
 DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 DESIGN AOT = 335 (2021)
 DESIGN SPEED = 40 MPH

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

DATE

 SIGNATURE
 ENGINEERS SEAL

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

APPROVED July 20th 2021
Kate O. Mack
 FULTON COUNTY ENGINEER

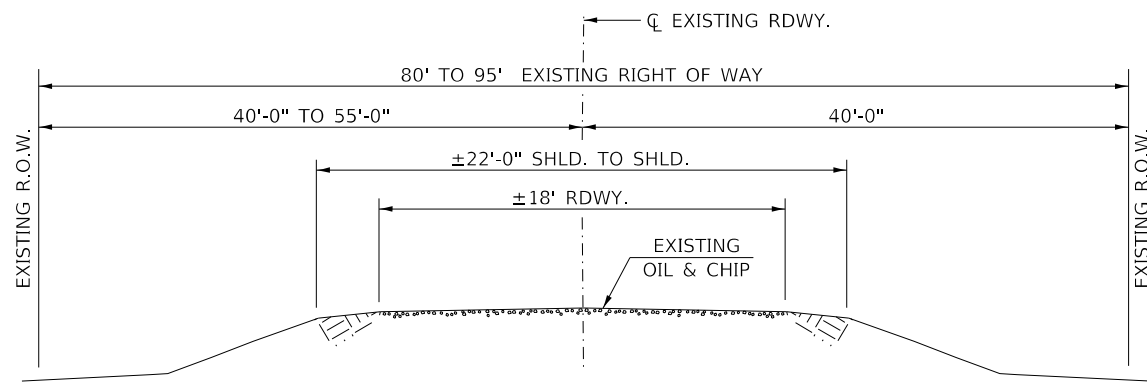
PASSED July 26, 2021
Tony Sarsine SA
 DISTRICT FOUR ENGINEER OF LOCAL ROADS & STREETS

Released For Bid Based on Limited Review July 26 2021
Ronald A. James
 REGION THREE ENGINEER
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 89795 CATALOG NO. 036107-00

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

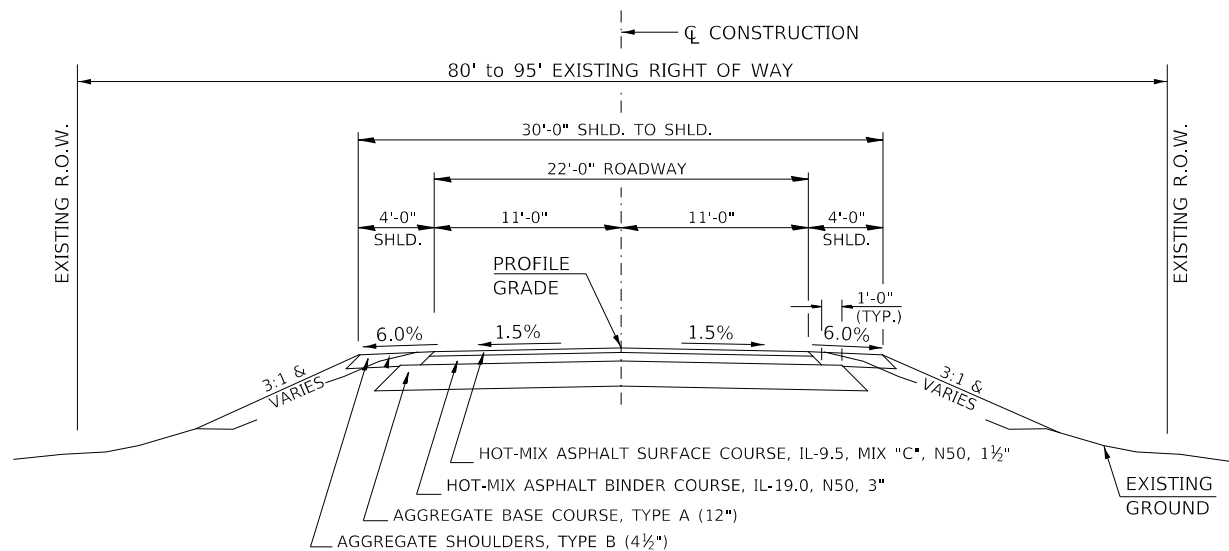
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EXISTING TYPICAL SECTION

STA. 18+50.00 TO STA. 19+26.00
 STA. 20+74.00 TO STA. 21+25.00

BRIDGE OMISSION
 STA. 19+26.00 TO STA. 20+74.00

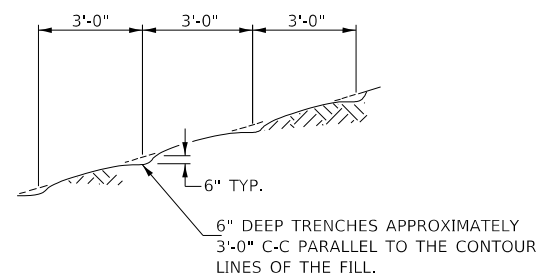


PROPOSED TYPICAL SECTION

STA. 18+50.00 TO STA. 19+15.00
 STA. 20+85.00 TO STA. 21+25.00

EXCEPT TRANSITIONS

BRIDGE OMISSION
 STA. 19+15.00 TO STA. 20+85.00



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

**STRUCTURAL DESIGN INFORMATION
 COUNTY HIGHWAY 2**

ROAD CLASSIFICATION: CLASS III 80,000 lb./20 YEAR DESIGN
 STRUCTURAL DESIGN TRAFFIC:
 PV = 400 SU = 32 MU = 23
 PERCENT OF STRUCTURAL DESIGN TRAFFIC IN DESIGN LANE:
 P = 88% S = 7% M = 5%
 MINIMUM SUBGRADE SUPPORT RATING: FAIR
 FLEXIBLE PAVEMENT DESIGN: MINIMUM TF = 0.123
 ASPHALT PAVEMENT THICKNESS: 4 1/2"
 AGGREGATE BASE COURSE, TYPE A: 12"

COMMITMENTS

TREE CLEARING RESTRICTION. TREES THREE (3) INCHES OR GREATER IN DIAMETER AT BREAST HEIGHT SHALL NOT BE CLEARED BETWEEN APRIL 1 AND SEPTEMBER 30 OF ANY GIVEN YEAR.

BRIDGE BAT SURVEY. THE STRUCTURE WAS SURVEYED FOR SIGNS OF BATS AND THIS ASSESSMENT IS VALID FOR TWO YEARS. IF THIS ASSESSMENT EXPIRES, A NEW BRIDGE BAT SURVEY/ASSESSMENT WILL BE CONDUCTED PRIOR TO CONSTRUCTION. THE CURRENT BRIDGE BAT ASSESSMENT EXPIRES DECEMBER 21, 2022.

ENVIRONMENTAL REVIEWS

PRIOR TO THE USE OF ANY PROPOSED BORROW AREAS, USE AREAS (TEMPORARY ACCESS ROADS, DETOURS, RUN-AROUNDS, ETC.) AND/OR WASTE AREAS, THE CONTRACTOR SHALL FILE THE REQUIRED ENVIRONMENTAL RESOURCE REQUEST SURVEYS ACCORDING TO SECTION 107.22 OF THE STANDARD SPECIFICATIONS. THESE SURVEYS ARE REQUIRED IN ORDER FOR THE DEPARTMENT TO CONDUCT CULTURAL AND BIOLOGICAL RESOURCE SURVEYS FOR THE PROPOSED SITE.

THE REQUIRED ENVIRONMENTAL RESOURCE DOCUMENTATION SHALL INCLUDE THE FOLLOWING:

- BDE FORM 2289 (BORROW SITE REVIEW)
- BDE FORM 2290 (WASTE/USE AREA REVIEW)
- A LOCATION MAP SHOWING THE SIZE LIMITS AND LOCATION OF THE USE AREA
- COLOR PHOTOGRAPHS DEPICTING THE USE AREA
- BORROW AREA ENTRY AGREEMENT FORM -D4 PI0101

PRIOR TO ANY WASTE MATERIALS BEING REMOVED FROM THE CONSTRUCTION SITE THE REQUIRED ENVIRONMENTAL RESOURCE SURVEYS SHALL BE OBTAINED AND FILED BY THE CONTRACTOR. EXCESS WASTE PRODUCTS REMOVED FROM THE CONSTRUCTION SITE SHALL BE DISPOSED OF AS REQUIRED IN SECTION 202.03 OF THE STANDARD SPECIFICATIONS.

ANY PROTRUDING METAL BARS SHALL BE REMOVED PRIOR TO THE DISPOSAL OF BROKEN CONCRETE AT APPROVED DISPOSAL SITES.

PLEASE NOTE THAT A MINIMUM OF FOUR WEEKS SHALL BE ALLOWED FOR THE DISTRICT TO OBTAIN THE REQUIRED WASTE SITE ENVIRONMENTAL CLEARANCES AND SIX WEEKS FOR THE REQUIRED BORROW SITE ENVIRONMENTAL CLEARANCES.

GENERAL NOTES

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.

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 AT THE CONTRACTOR'S EXPENSE.

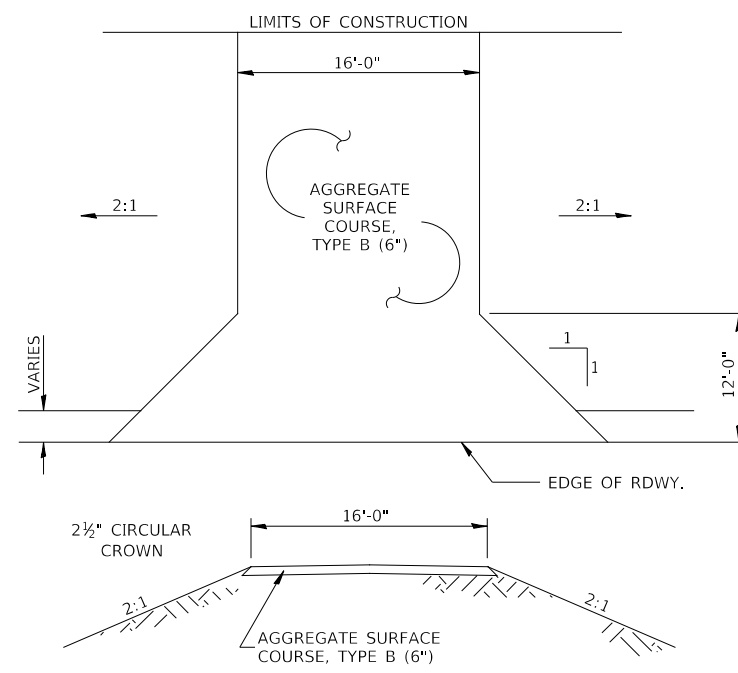
ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

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.



FIELD ENTRANCES

STA 18+89 RT

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

	HMA BINDER	HMA SURFACE
PG GRADE:	PG 64-22	PG 58-28
DESIGN AIR VOIDS:	4% @ N50	4% @ N50
MIXTURE COMPOSITION:	IL-19.0	IL-9.5
FRICTION AGGREGATE:		MIXTURE C
DENSITY TEST METHOD:	CORES	CORES
MIXTURE WEIGHT:	112#/SQ YD/IN	112#/SQ YD/IN
QUALITY MANAGEMENT PROGRAM:	QC/QA	QC/QA
SUBLOT SIZE:	N/A	N/A
LOCATION(S):	ENTIRE PROJECT	ENTIRE PROJECT

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

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	DRAWN - JCW	REVISED -
PLOT SCALE = 2,0000' / in.	CHECKED - BAN	REVISED -
PLOT DATE = 7/20/2021	DATE - 6/9/2021	REVISED -

**FULTON COUNTY
 COUNTY HIGHWAY 2 (F.A.S. 452)
 OVER COAL CREEK**

**GENERAL NOTES, TYPICAL SECTIONS,
 PAVEMENT DESIGN INFORMATION, DETAILS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. 18+50.00 TO STA. 22+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	2
CONTRACT NO. 89795				
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. GPKN(447)

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	113
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	58
20200100	EARTH EXCAVATION	CU YD	200
20300100	CHANNEL EXCAVATION	CU YD	1010
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	300
28000400	PERIMETER EROSION BARRIER	FOOT	405
28100209	STONE RIPRAP, CLASS A5	TON	945
28200200	FILTER FABRIC	SQ YD	795
35100100	AGGREGATE BASE COURSE, TYPE A	TON	182
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	21
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	632
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	54
40603080	HOT-MIX ASPHALT BINDER COURSE, 1L-19.0, N50	TON	42
40604050	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "C", N50	TON	21
48101200	AGGREGATE SHOULDERS, TYPE B	TON	42
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	220
50200300	COFFERDAM EXCAVATION	CU YD	155
50201101	COFFERDAM (TYPE 1) (LOCATION-1)	EACH	1
50201102	COFFERDAM (TYPE 1) (LOCATION-2)	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	154.5
50300255	CONCRETE SUPERSTRUCTURE	CU YD	167.5
50300260	BRIDGE DECK GROOVING	SQ YD	529
50300300	PROTECTIVE COAT	SQ YD	624
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	3,540
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	59,020
51201600	FURNISHING STEEL PILES HP12x53	FOOT	594
51202305	DRIVING PILES	FOOT	216
51203600	TEST PILE STEEL HP12x53	EACH	2
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS 1"	EACH	40
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	93
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	54
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	1
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	1
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
63200310	GUARDRAIL REMOVAL	FOOT	311
67100100	MOBILIZATION	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	93
Z0065000	SETTING PILES IN ROCK	EACH	12
XX006199	STEEL BRIDGE RAIL, TYPE SM (SPECIAL)	FOOT	340
# Z0076600	TRAINEES	HOURL	1000
# Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOURL	1000

① SEE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS
 # 0042

TREE REMOVAL				
STATION	OFFSET	SIDE	6 TO 15 UNITS	15+ UNITS
18+56	38'	RIGHT	12	
18+62	38'	RIGHT	14	
19+32	32'	RIGHT	12	
19+45	36'	RIGHT	12	
19+45	33'	RIGHT	10	
19+65	32'	RIGHT	14	
19+86	31'	RIGHT	9	
19+90	39'	RIGHT	12	
20+43	33'	RIGHT		18
20+68	31'	RIGHT		18
20+78	30'	RIGHT	10	
20+86	27'	RIGHT		22
20+96	29'	RIGHT	8	
TOTAL			113	58

GUARDRAIL REMOVAL			
STATION TO STATION	SIDE	FOOT	
19+04	19+38	RT	34
18+41	19+18	LT	77
20+83	21+83	RT	100
20+64	21+64	LT	100
TOTAL			311

PERIMETER EROSION BARRIER			
STATION TO STATION	SIDE	FOOT	
18+50	19+25	RIGHT	100
18+50	19+05	LEFT	80
20+95	21+25	RIGHT	55
20+75	22+25	LEFT	170
TOTAL			405

PAVEMENT SCHEDULE								
STATION TO STATION	WIDTH	LENGTH	AGGREGATE BASE CSE, TYPE A 140#/CF	BITUMINOUS MATERIALS (PRIME COAT) 0.25LBS/SQ FT	HOT-MIX ASPHALT BINDER CSE 112#/SQ YD/IN	BITUMINOUS MATERIALS (TACK COAT) 0.025LBS/SQ FT	HOT-MIX ASPHALT SURFACE CSE 112#/SQ YD/IN	
			TON	POUND	TON	POUND	TON	
18+50.00	19+00.00	24.79' AVG.	50.00'	87				
19+00.00	19+15.00	25.75'	15.00'	27				
20+85.00	21+25.00	24.30' AVG.	40.00'	68				
18+50.00	19+00.00	23.75' AVG.	50.00'		297			
19+00.00	19+15.00	24.75'	15.00'		93			
20+85.00	21+25.00	24.20' AVG.	40.00'		242			
18+50.00	19+00.00	21.50' AVG.	50.00'			20		
19+00.00	19+15.00	22.50'	15.00'			6		
20+85.00	21+25.00	21.40' AVG.	40.00'			16		
18+50.00	19+00.00	20.25' AVG.	50.00'				25	
19+00.00	19+15.00	22.25'	15.00'				8	
20+85.00	21+25.00	21.12' AVG.	40.00'				21	
18+50.00	19+00.00	21.13' AVG.	50.00'				10	
19+00.00	19+15.00	22.13'	15.00'				3	
20+85.00	21+25.00	21.13' AVG.	40.00'				8	
TOTAL				182	632	42	54	21

EARTHWORK SUMMARY						
STATION TO STATION	EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	COFFERDAM EXCAVATION	FILL	WASTE (SHORTAGE)
RDWY 18+50.00 - 19+15.00	149				46	66
RDWY 20+85.00 - 22+25.00	51				61	(23)
CHANNEL		1010				
STRUCTURE			220			
COFFERDAM				155		
TOTAL	200	1010	220	155	107	43
USE	200	1010	220	155	-	45

(@ 25% SHRINKAGE)

AGGREGATE SURFACE COURSE, TYPE B 140#/CF				
STATION TO STATION	SIDE	WIDTH	LENGTH	TON
ENTR. - 18+89.00	RT	16' & VAR.	21.15'	21
TOTAL				21

AGGREGATE SHOULDERS, TYPE B 140#/CF					
STATION TO STATION	SIDE	WIDTH	LENGTH	TON	
18+50.00	19+00.00	LT	3.88' AVG.	50.00'	5
18+50.00	18+66.75	RT	3.72' AVG.	16.75'	2
19+00.00	19+08.75	LT	4.50' AVG.	8.75'	1
19+09.25	19+21.25	RT	6.42' AVG.	12.00'	2
20+78.75	20+93.28	LT	6.82' AVG.	14.53'	3
20+91.25	21+25.00	RT	3.93' AVG.	33.75'	3
20+93.28	21+40.45	LT	8.72' AVG.	47.17'	11
21+40.45	21+75.45	LT	9.16' AVG.	35.00'	8
21+75.45	22+27.42	LT	5.13' AVG.	51.97'	7
TOTAL					42

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT			
STATION TO STATION	SIDE	EACH	
21+15.50	21+65.50	LT	1
TOTAL			1

TRAFFIC BARRIER TERMINAL, TYPE 2			
STATION TO STATION	SIDE	EACH	
18+99.30	19+09.20	RT	1
TOTAL			1

TRAFFIC BARRIER TERMINAL, TYPE 6A			
STATION TO STATION	SIDE	EACH	
20+78.00	21+15.50	LT	1
TOTAL			1

TRAFFIC BARRIER TERMINAL, TYPE 5A			
STATION TO STATION	SIDE	EACH	
19+09.20	19+22.00	RT	1
TOTAL			1

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DRAWN - JPS	CHECKED - BAN	REVISED - _____
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PLOT DATE = 7/20/2021		

**FULTON COUNTY
 COUNTY HIGHWAY 2 (F.A.S. 452)
 OVER COAL CREEK**

**SUMMARY OF QUANTITIES,
 SCHEDULES OF QUANTITIES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+50.00 TO STA. 22+25.00

F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 3
CONTRACT NO. 89795			FED. ROAD DIST. NO. 7 ILLINOIS	
			FED. AID PROJECT NO. GPKM447	



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

ROAD CLOSED
1/2 MILE AHEAD
LOCAL TRAFFIC ONLY

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

ROAD CLOSED
1 1/2 MILE AHEAD
LOCAL TRAFFIC ONLY

3 ROAD CLOSED
AHEAD
W20-3

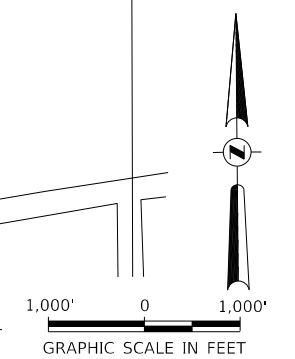
ROAD CLOSED
AHEAD

4 ROAD CLOSED
500 FT
W20-3

ROAD CLOSED
500 FT

5 TYPE III BARRICADES

SEE STANDARD BLR 21
AND SPECIAL PROVISIONS



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PLOT SCALE = 2,000' / in.	CHECKED - BAN	REVISED - _____
PLOT DATE = 7/20/2021	DATE - 6/9/2021	REVISED - _____

**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

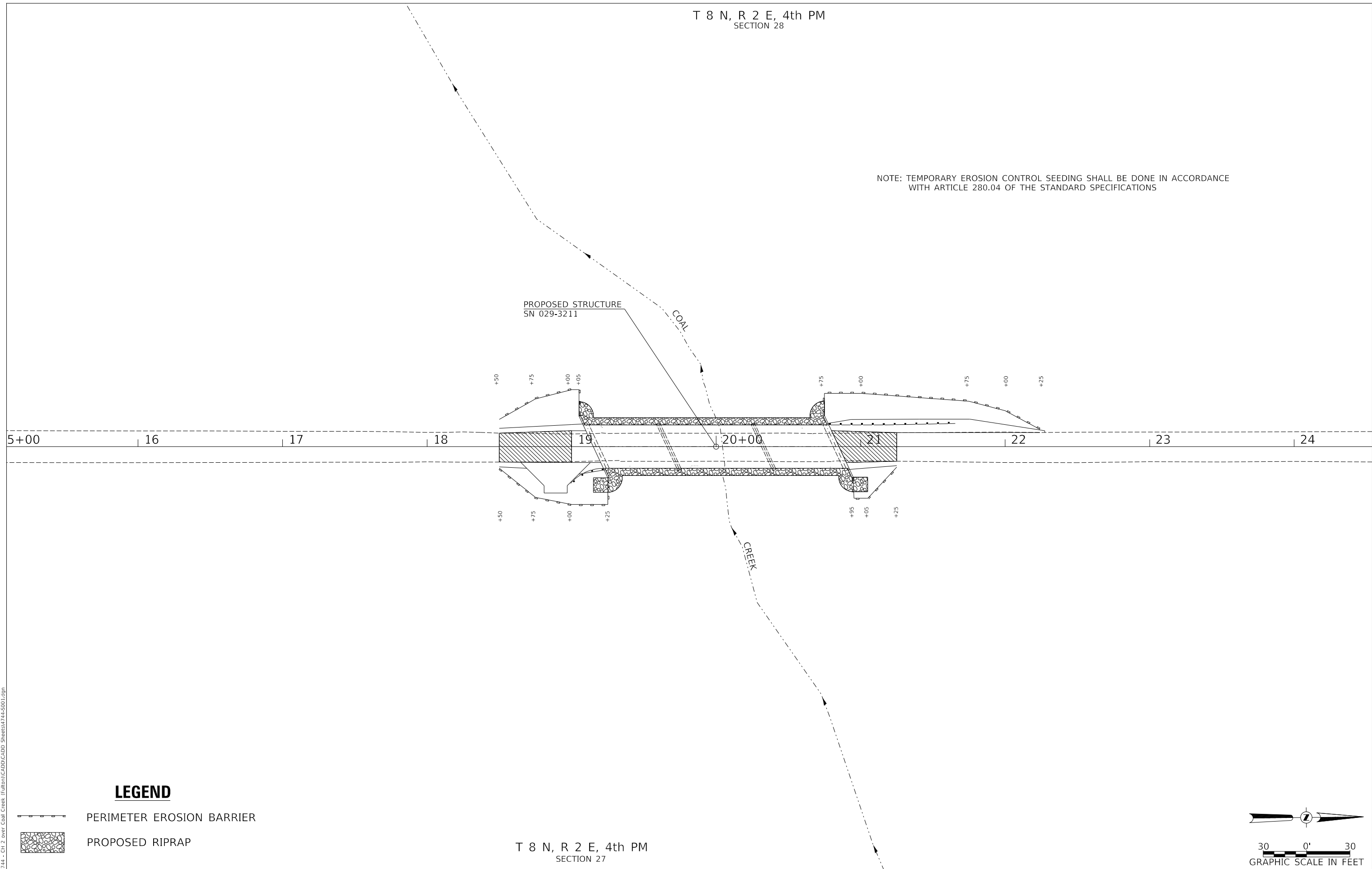
TRAFFIC CONTROL PLAN

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 18+50.00 TO STA. 22+25.00


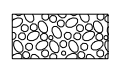
F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 4
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 89795	
FED. AID PROJECT NO. GPKN(447)				

T 8 N, R 2 E, 4th PM
SECTION 28

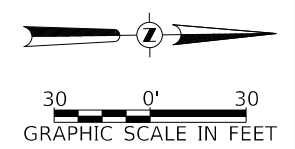
NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS



LEGEND

-  PERIMETER EROSION BARRIER
-  PROPOSED RIPRAP

T 8 N, R 2 E, 4th PM
SECTION 27



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DRAWN - JPS	REVISOR - _____	REVISION - _____
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PLOT DATE = 7/20/2021	DATE - 6/09/2021	REVISION - _____

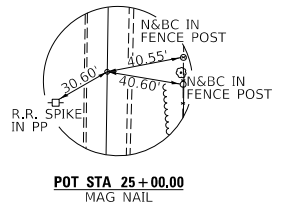
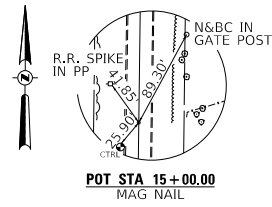
**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

EROSION CONTROL PLAN

SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 18+50.00 TO STA. 22+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	5
CONTRACT NO. 89795				
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. GPKN(447)

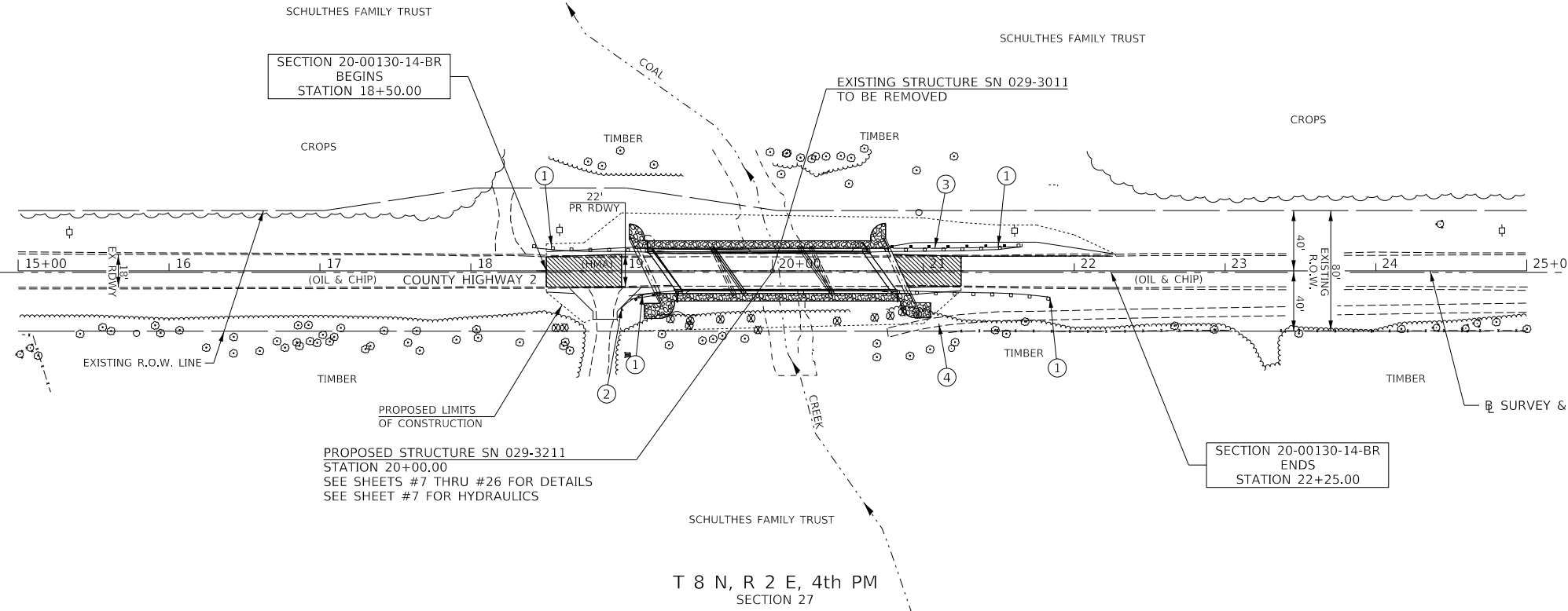
T 8 N, R 2 E, 4th PM
SECTION 28



DATE	
BY	
SURVEYED	
PLOTTED	
ALIGNMENT CHECKED	
FIELD FILE NAME	
NO.	
NOTE BOOK	
NO.	
PLAN	

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

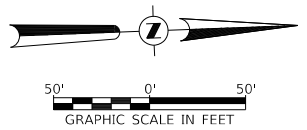
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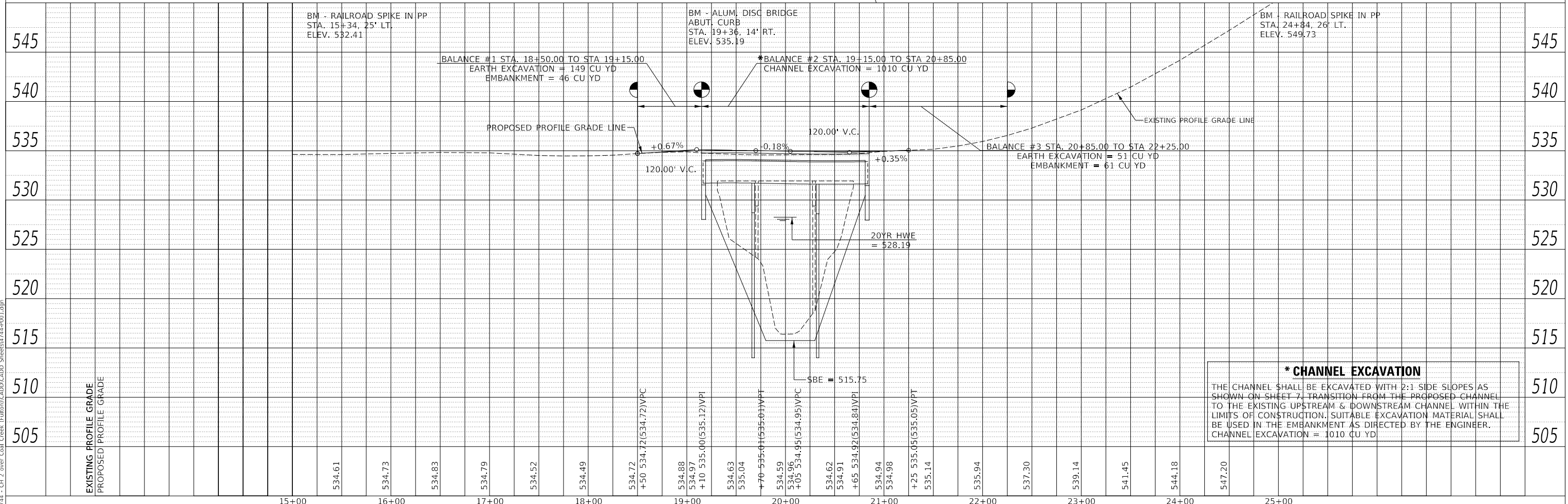
- ① EXISTING GUARDRAIL TO BE REMOVED
- ② PROPOSED TRAFFIC BARRIER TERMINALS, TYPE 5A AND TYPE 2
- ③ PROPOSED TRAFFIC BARRIER TERMINALS, TYPE 6A AND TYPE 1 SPECIAL TANGENT
- ④ EXISTING PAVED DITCH (TO REMAIN IN PLACE)

LEGEND

- TRANSITION TO OR FROM EXISTING TO PROPOSED TYPICAL PAVEMENT
- PROPOSED RIPRAP PLACEMENT
- PROPOSED TREE REMOVAL



T 8 N, R 2 E, 4th PM
SECTION 27



*** CHANNEL EXCAVATION**
THE CHANNEL SHALL BE EXCAVATED WITH 2:1 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 SHALL BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.
CHANNEL EXCAVATION = 1010 CU YD

USER NAME = BNebe1	DESIGNED - JPS	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN - JPS	REVISED -
PLOT DATE = 7/21/2021	CHECKED - ZL/BAN	REVISED -
	DATE - 1/8/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

PLAN AND PROFILE

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. 18+50.00 TO STA. 22+25.00

F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 6
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 89795	
			FED. AID PROJECT NO. GPKN(447)	

B.M.: RR Spike in Power Pole
Sta. 15+34, 25' Lt.
Elev. 532.41

RR Spike in Power Pole
Sta. 24+84, 26' Lt.
Elev. 549.73

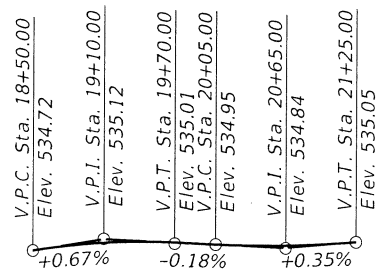
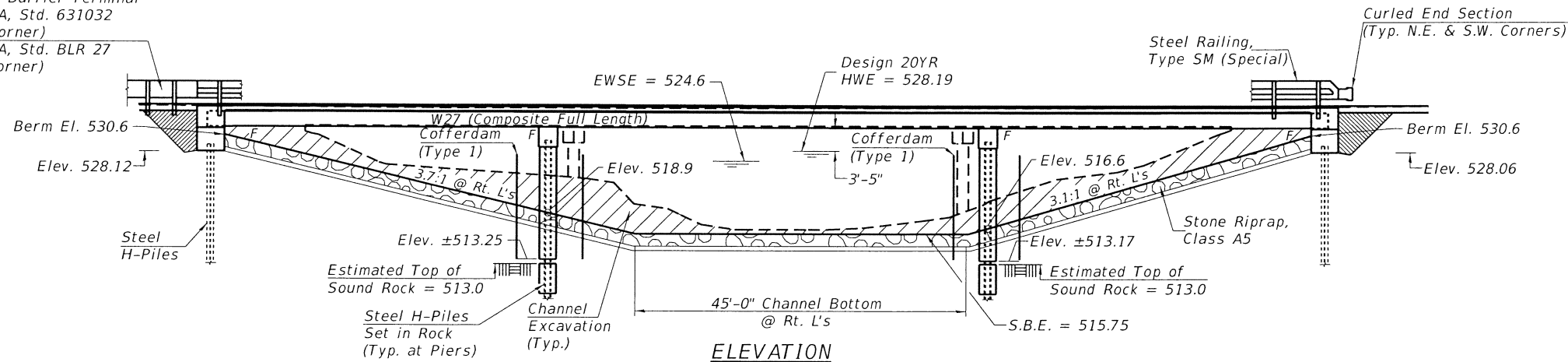
Existing Structure:

Three span continuous steel beam superstructure with a reinforced deck supported on concrete spill thru abutments and pile bent piers. The structure is ±148'-0" back to back of abutments, 26'-0" out to out of deck, and is skewed 35° Rt. Ah. The structure was constructed in 1953. Str. No. 029-3011

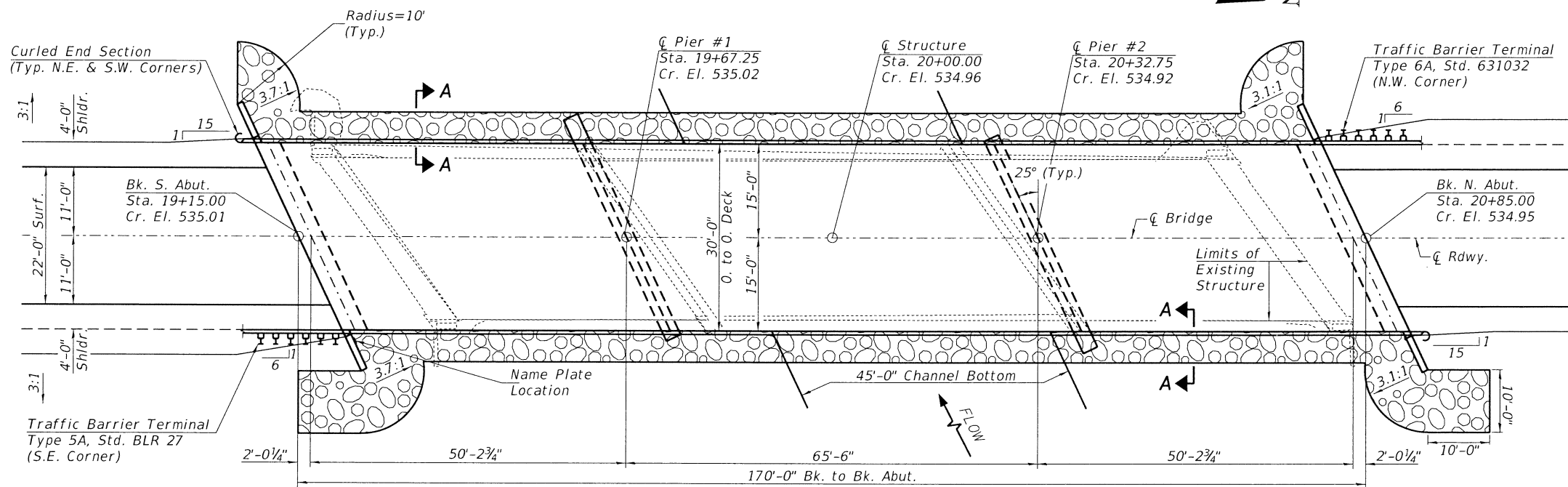
Salvage: None

Road to be closed to traffic during construction.

Traffic Barrier Terminal
Type 6A, Std. 631032
(N.W. Corner)
Type 5A, Std. BLR 27
(S.E. Corner)



PROFILE GRADE
County Highway 2



PLAN

Note:
See Sheet 2 of 20 for Index of Sheets and Total Bill of Material.

DESIGN SCOUR ELEVATION TABLE

	Design Scour Elevations (ft.)				Item 113
	S. Abut.	Pier #1	Pier #2	N. Abut.	
Q100	528.1	514.1	511.8	528.1	8
Q200	528.1	514.1	511.8	528.1	
Design	528.1	514.1	511.8	528.1	
Check	528.1	514.1	511.8	528.1	

WATERWAY INFORMATION

Drainage Area = 30.54 Sq. Mi.		Low Grade Elev. = 534.49 @ Sta. 18+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	20	4,480	642	1,047	528.19	0.65	0.18	528.84	528.37
Base	100	6,490	717	1,143	528.94	1.46	0.60	530.40	529.54

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

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

$f'_c = 3,500$ psi (Substructure)
 $f'_c = 5,000$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50W)

LOADING HL-93

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

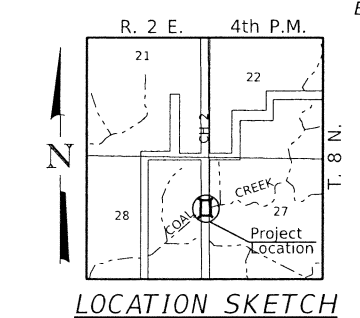
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.077g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.126g
Soil Site Class = C

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) 7/20/21
Illinois Structural No. 6527
Expires 11/30/2022

(Seal) JAMES A. NEBEL
081-00652
LICENSED
ENGINEER
OF
JACKSONVILLE
ILLINOIS
Lic. Exp. 11/30/22



LOCATION SKETCH

GENERAL PLAN & ELEVATION
COUNTY HIGHWAY 2
OVER COAL CREEK
SECTION 20-00130-14-BR
FULTON COUNTY
STATION 20+00.00
STRUCTURE NO. 029-3211

MODEL: Default
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DESIGNED - JCW	REVISED -	
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK

GENERAL PLAN & ELEVATION

SCALE: NONE SHEET NO. 1 OF 20 SHEETS

F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 7
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. GPKN(447)				

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" O, holes 1 1/16" O, unless otherwise noted.

Calculated weight of Structural Steel = 115,280 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.

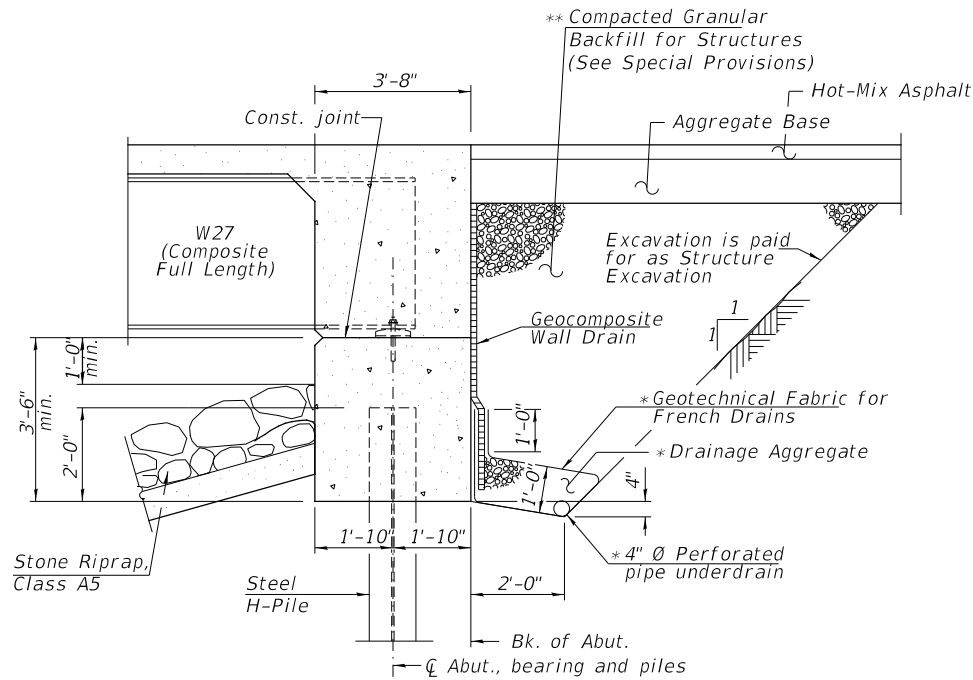
Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

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.



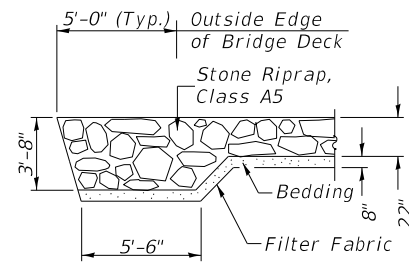
SECTION THRU INTEGRAL ABUTMENTS
(Horizontal Dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.
(See Special Provisions)

**Compact per Special Provisions.

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except and 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).



SECTION A-A

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	Structural Steel Details
14	Bearing Details
15	South Abutment
16	North Abutment
17	Pier #1
18	Pier #2
19	HP Pile Details
20	Cantilever Forming Brackets

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	CU YD	—	1,010	1,010
Stone Riprap, Class A5	TON	—	945	945
① Granular Backfill for Structures	CU YD	—	93	93
① Removal of Existing Structures	EACH	—	—	1
Structure Excavation	CU YD	—	220	220
Concrete Structures	CU YD	—	154.5	154.5
① Concrete Superstructure	CU YD	167.5	—	167.5
Bridge Deck Grooving	SQ YD	529	—	529
Protective Coat	SQ YD	624	—	624
Furnishing and Erecting Structural Steel	L SUM	1	—	1
Reinforcement Bars, Epoxy Coated	POUND	42,500	16,520	59,020
Stud Shear Connectors	EACH	3,540	—	3,540
Anchor Bolts, 1"	EACH	—	40	40
Furnishing Steel Piles HP12x53	FOOT	—	594	594
Test Pile Steel HP12x53	EACH	—	2	2
Driving Piles	FOOT	—	216	216
Name Plates	EACH	—	1	1
① Geocomposite Wall Drain	SQ YD	—	54	54
① Pipe Underdrains For Structures 4"	FOOT	—	93	93
Terminal Marker - Direct Applied	EACH	2	—	2
Cofferdam Excavation	CU YD	—	155	155
Cofferdam (Type 1) (Location-1)	EACH	—	1	1
Cofferdam (Type 1) (Location-2)	EACH	—	1	1
Steel Bridge Rail, Type SM (Special)	FOOT	340	—	340
① Setting Piles in Rock	EACH	—	12	12
Filter Fabric	SQ YD	—	795	795

① See Special Provisions

COAL CREEK
BUILT 20__ BY
FULTON COUNTY
SEC. 20-00130-14-BR
C.H. 2 STATION 20+00.00
F.A. PROJ. GPKN(447)
STR. NO. 029-3211 LOADING HL-93

NAME PLATE

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

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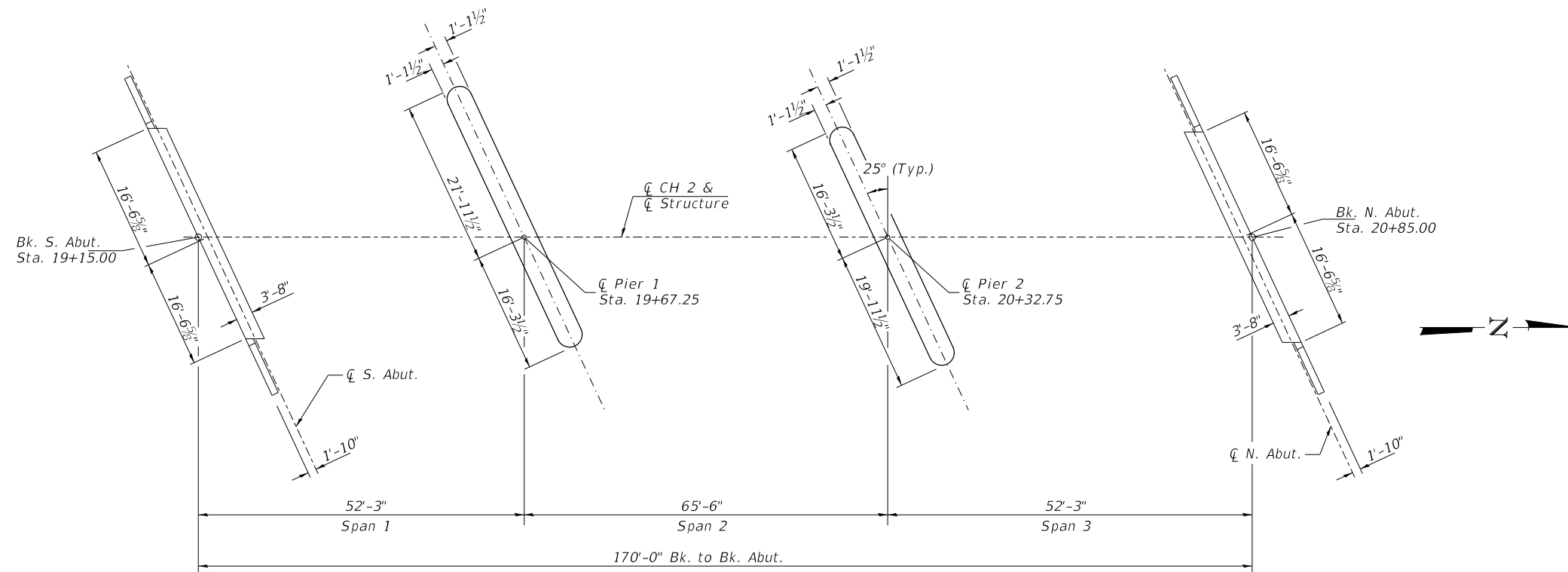
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**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

**BILL OF MATERIAL, GENERAL PLAN DETAILS
AND GENERAL NOTES**

SCALE: NONE SHEET NO. 2 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	8
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		



FOOTING LAYOUT

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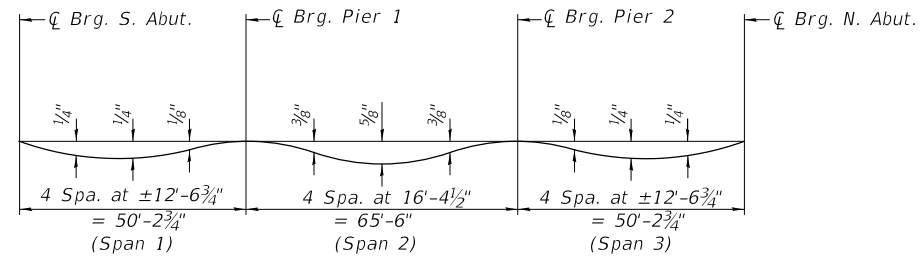
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

FOOTING LAYOUT

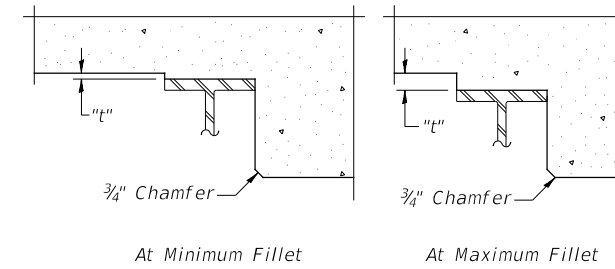
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		



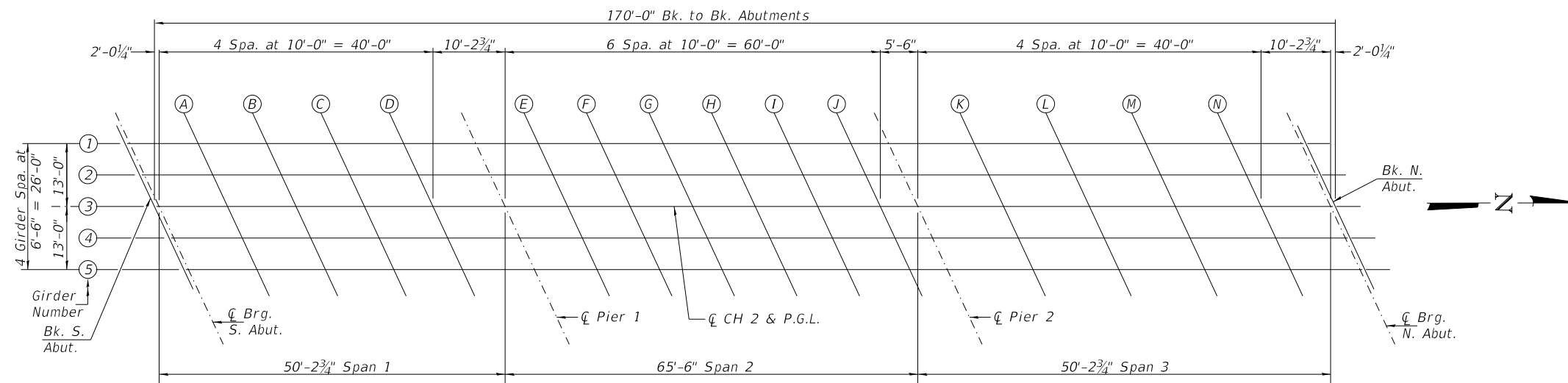
DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only.)

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 20 Sheets.



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 20, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

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DRAWN - JCW	REVISIONS -	
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

TOP OF SLAB ELEVATIONS

SCALE: NONE SHEET NO. 4 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	10
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS FED. AID PROJECT NO. GPKN(447)				

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	1908.94	-13.00	534.78	534.78
CL Brg. S. Abut.	1910.96	-13.00	534.78	534.78
A	1920.96	-13.00	534.80	534.82
B	1930.96	-13.00	534.82	534.84
C	1940.96	-13.00	534.82	534.84
D	1950.96	-13.00	534.82	534.83
CL Pier 1	1961.19	-13.00	534.81	534.81
E	1971.19	-13.00	534.80	534.81
F	1981.19	-13.00	534.78	534.81
G	1991.19	-13.00	534.76	534.81
H	2001.19	-13.00	534.74	534.79
I	2011.19	-13.00	534.73	534.75
J	2021.19	-13.00	534.71	534.72
CL Pier 2	2026.69	-13.00	534.71	534.71
K	2036.69	-13.00	534.70	534.71
L	2046.69	-13.00	534.70	534.72
M	2056.69	-13.00	534.70	534.73
N	2066.69	-13.00	534.71	534.73
CL Brg. N. Abut.	2076.92	-13.00	534.72	534.72
Bk. N. Abutment	2078.94	-13.00	534.72	534.72

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	1911.97	-6.50	534.90	534.90
CL Brg. S. Abut.	1913.99	-6.50	534.90	534.90
A	1923.99	-6.50	534.92	534.94
B	1933.99	-6.50	534.93	534.96
C	1943.99	-6.50	534.94	534.96
D	1953.99	-6.50	534.93	534.94
CL Pier 1	1964.22	-6.50	534.92	534.92
E	1974.22	-6.50	534.90	534.92
F	1984.22	-6.50	534.89	534.92
G	1994.22	-6.50	534.87	534.91
H	2004.22	-6.50	534.85	534.90
I	2014.22	-6.50	534.83	534.86
J	2024.22	-6.50	534.82	534.83
CL Pier 2	2029.72	-6.50	534.82	534.82
K	2039.72	-6.50	534.81	534.82
L	2049.72	-6.50	534.81	534.83
M	2059.72	-6.50	534.81	534.84
N	2069.72	-6.50	534.82	534.84
CL Brg. N. Abut.	2079.95	-6.50	534.84	534.84
Bk. N. Abutment	2081.97	-6.50	534.84	534.84

ROADWAY, PROFILE GRADE, & BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	1915.00	0.00	535.01	535.01
CL Brg. S. Abut.	1917.02	0.00	535.01	535.01
A	1927.02	0.00	535.03	535.04
B	1937.02	0.00	535.04	535.06
C	1947.02	0.00	535.04	535.06
D	1957.02	0.00	535.03	535.04
CL Pier 1	1967.25	0.00	535.02	535.02
E	1977.25	0.00	535.00	535.02
F	1987.25	0.00	534.98	535.02
G	1997.25	0.00	534.96	535.01
H	2007.25	0.00	534.95	534.99
I	2017.25	0.00	534.93	534.95
J	2027.25	0.00	534.92	534.93
CL Pier 2	2032.75	0.00	534.92	534.92
K	2042.75	0.00	534.91	534.92
L	2052.75	0.00	534.91	534.93
M	2062.75	0.00	534.92	534.95
N	2072.75	0.00	534.93	534.95
CL Brg. N. Abut.	2082.98	0.00	534.94	534.94
Bk. N. Abutment	2085.00	0.00	534.95	534.95

MODEL: \\001\B\M\ME...
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

TOP OF SLAB ELEVATIONS

SCALE: NONE SHEET NO. 5 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	11
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	1918.03	6.50	534.91	534.91
CL Brg. S. Abut.	1920.05	6.50	534.91	534.91
A	1930.05	6.50	534.93	534.95
B	1940.05	6.50	534.94	534.96
C	1950.05	6.50	534.93	534.95
D	1960.05	6.50	534.93	534.93
CL Pier 1	1970.28	6.50	534.91	534.91
E	1980.28	6.50	534.89	534.91
F	1990.28	6.50	534.88	534.91
G	2000.28	6.50	534.86	534.90
H	2010.28	6.50	534.84	534.88
I	2020.28	6.50	534.83	534.85
J	2030.28	6.50	534.82	534.82
CL Pier 2	2035.78	6.50	534.81	534.81
K	2045.78	6.50	534.81	534.82
L	2055.78	6.50	534.81	534.83
M	2065.78	6.50	534.82	534.85
N	2075.78	6.50	534.83	534.85
CL Brg. N. Abut.	2086.01	6.50	534.85	534.85
Bk. N. Abutment	2088.03	6.50	534.85	534.85

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abutment	1921.06	13.00	534.80	534.80
CL Brg. S. Abut.	1923.08	13.00	534.81	534.81
A	1933.08	13.00	534.82	534.84
B	1943.08	13.00	534.82	534.85
C	1953.08	13.00	534.82	534.84
D	1963.08	13.00	534.81	534.82
CL Pier 1	1973.31	13.00	534.79	534.79
E	1983.31	13.00	534.78	534.79
F	1993.31	13.00	534.76	534.79
G	2003.31	13.00	534.74	534.79
H	2013.31	13.00	534.72	534.77
I	2023.31	13.00	534.71	534.73
J	2033.31	13.00	534.70	534.71
CL Pier 2	2038.81	13.00	534.70	534.70
K	2048.81	13.00	534.70	534.71
L	2058.81	13.00	534.70	534.72
M	2068.81	13.00	534.71	534.74
N	2078.81	13.00	534.72	534.74
CL Brg. N. Abut.	2089.04	13.00	534.74	534.74
Bk. N. Abutment	2091.06	13.00	534.75	534.75

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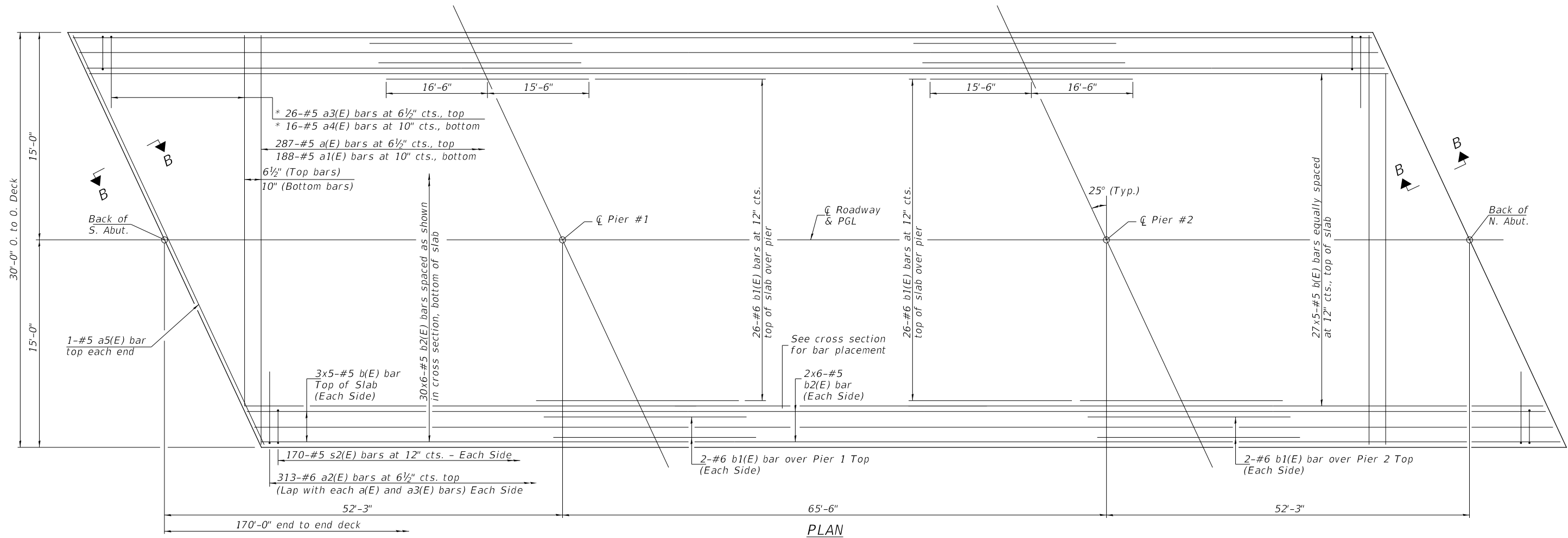
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

TOP OF SLAB ELEVATIONS

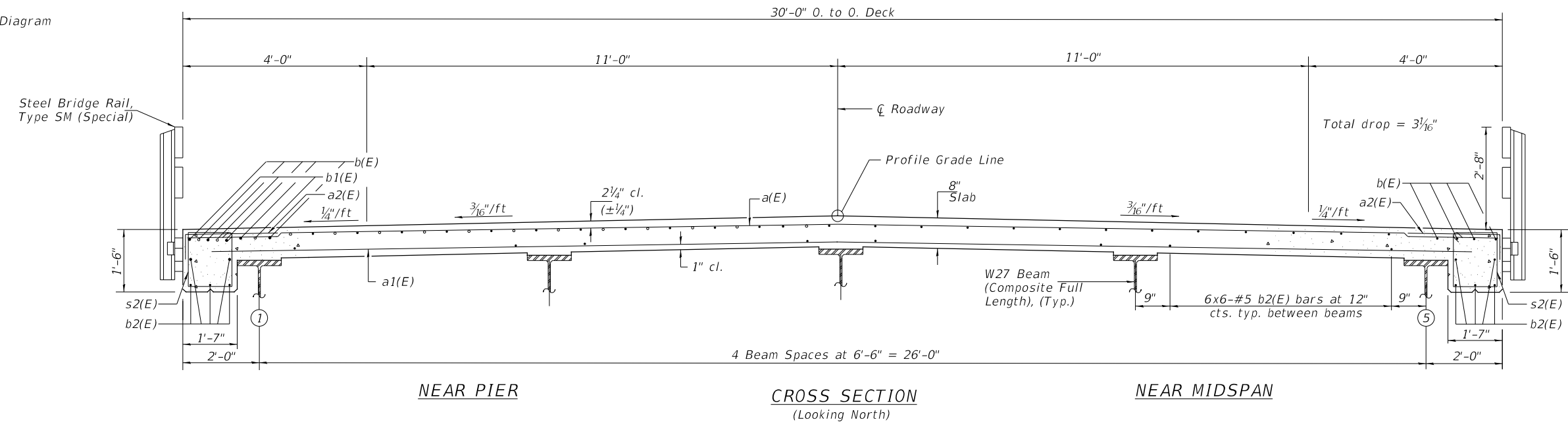
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		



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

*See Field Cutting Diagram on sheet 8 of 20.



Notes:
Bars indicated thus 30x6-#5 etc. indicates 30 lines of bars with 6 lengths per line.
See Sheet 8 of 20 for superstructure details, rail post spacing and Bill of Material.
See Sheet 9 of 20 for Section B-B and diaphragm details.

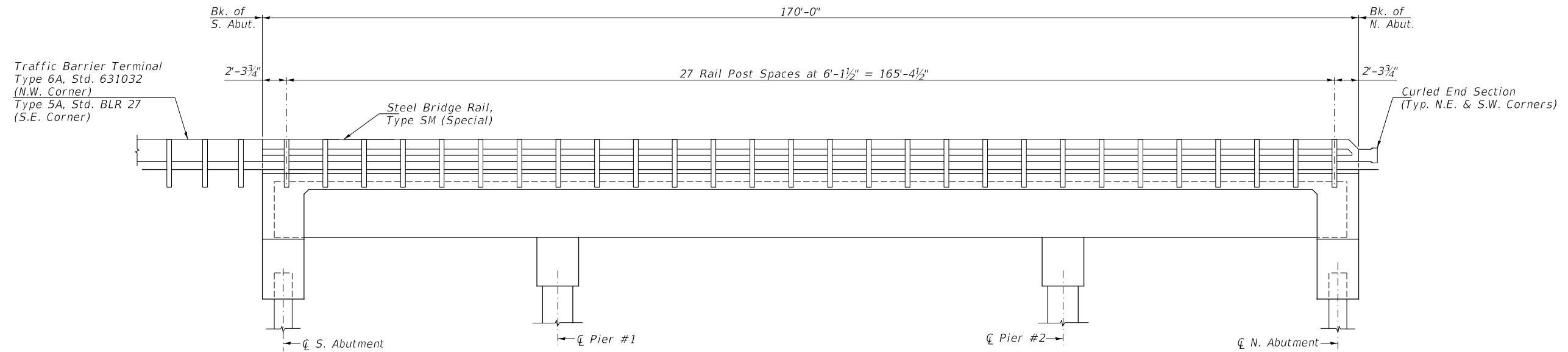
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	DATE - 2/12/2021	REVISED -

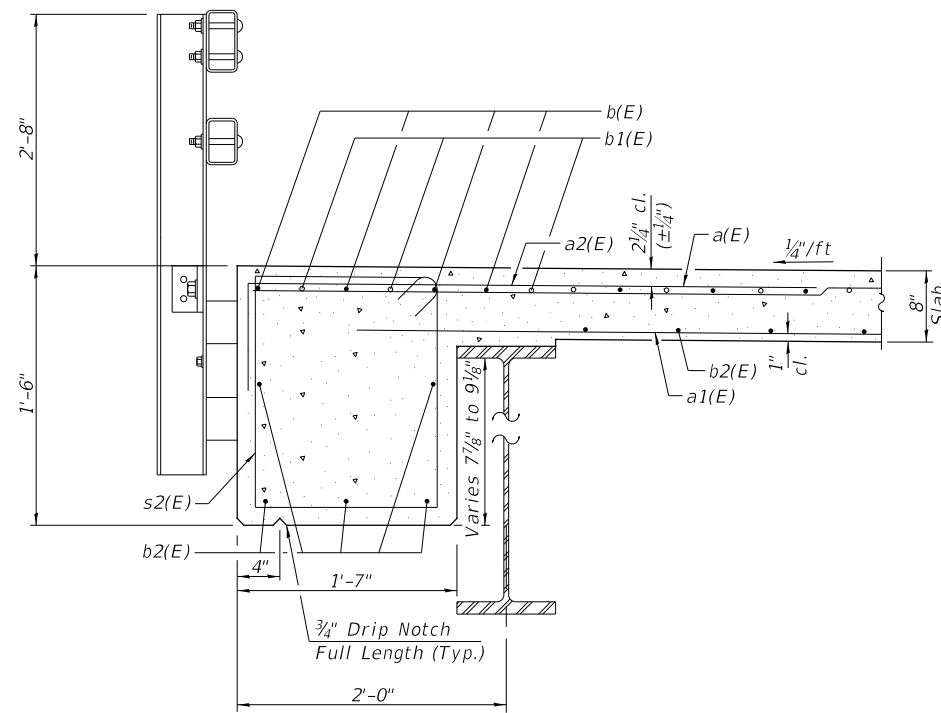
**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

SUPERSTRUCTURE
SCALE: NONE SHEET NO. 7 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	13
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		



RAIL POST SPACING
(East Rail Shown, West Rail Mirrored)



SECTION THRU EAST DECK OVERHANG
See Sheet 10 of 19 for Rail Post Anchor Details.

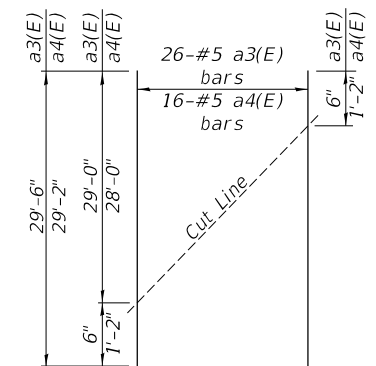
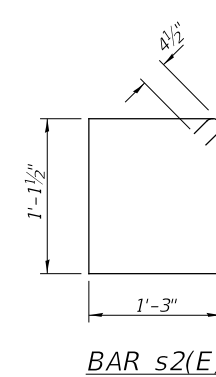
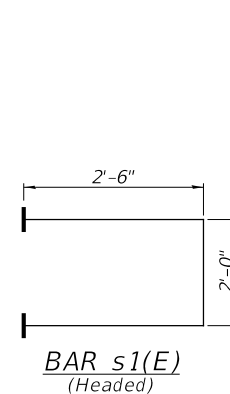
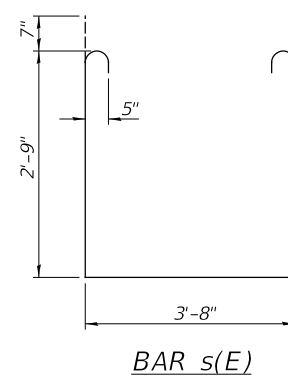
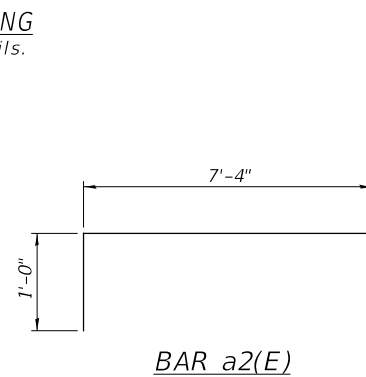
SUPERSTRUCTURE BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	287	#5	29'-9"	—
a1(E)	188	#5	28'-9"	—
a2(E)	626	#6	8'-4"	┌
a3(E)	26	#5	29'-6"	—
a4(E)	16	#5	29'-2"	—
a5(E)	2	#5	32'-9"	—
b(E)	165	#5	36'-9"	—
b1(E)	60	#6	32'-0"	—
b2(E)	204	#5	31'-3"	—
m(E)	6	#6	32'-9"	—
m1(E)	24	#6	6'-10"	—
m2(E)	12	#6	1'-10"	—
s(E)	60	#5	10'-4"	┌
s1(E)	60	#5	7'-0"	┌
s2(E)	340	#4	5'-6"	┌
Reinforcement Bars, Epoxy Coated			POUND	42,500
Concrete Superstructure			CU YD	167.5

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.



FIELD CUTTING DIAGRAM
Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

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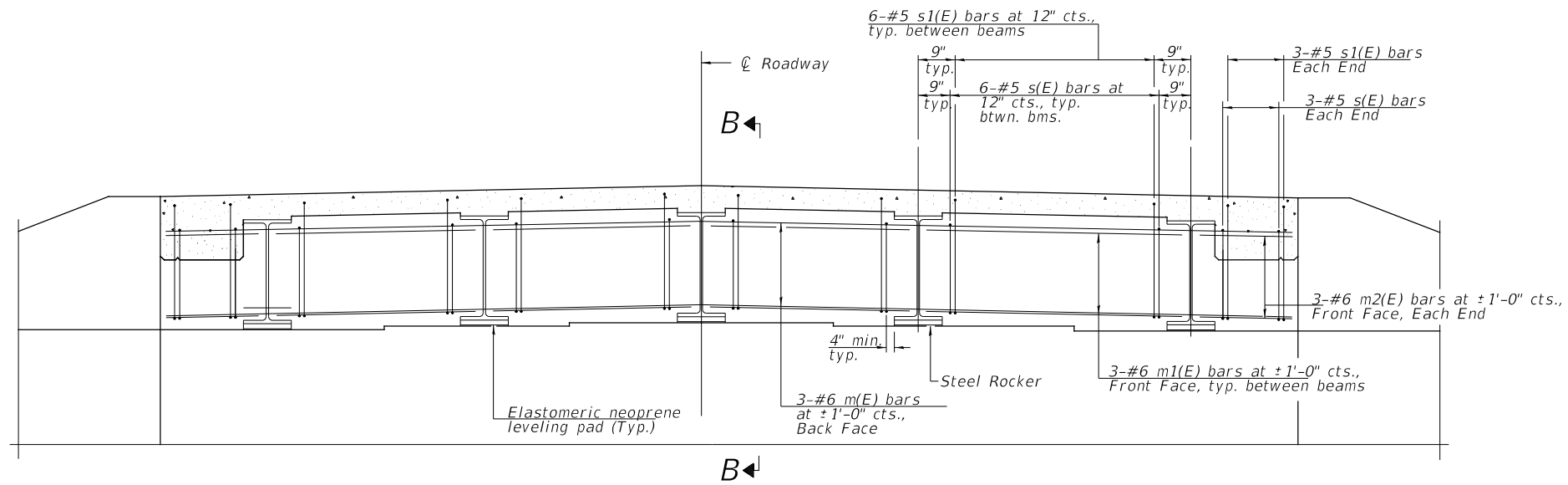
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISIONS -

FULTON COUNTY COUNTY HIGHWAY 2 OVER COAL CREEK

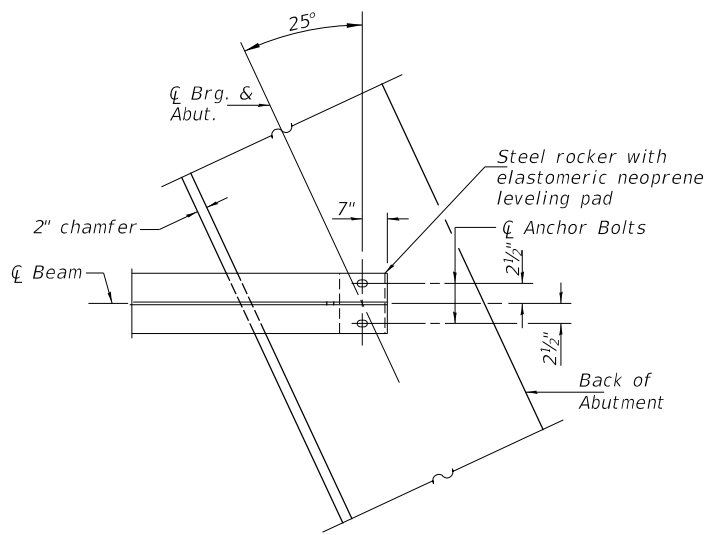
SUPERSTRUCTURE DETAILS

SCALE: NONE SHEET NO. 8 OF 20 SHEETS

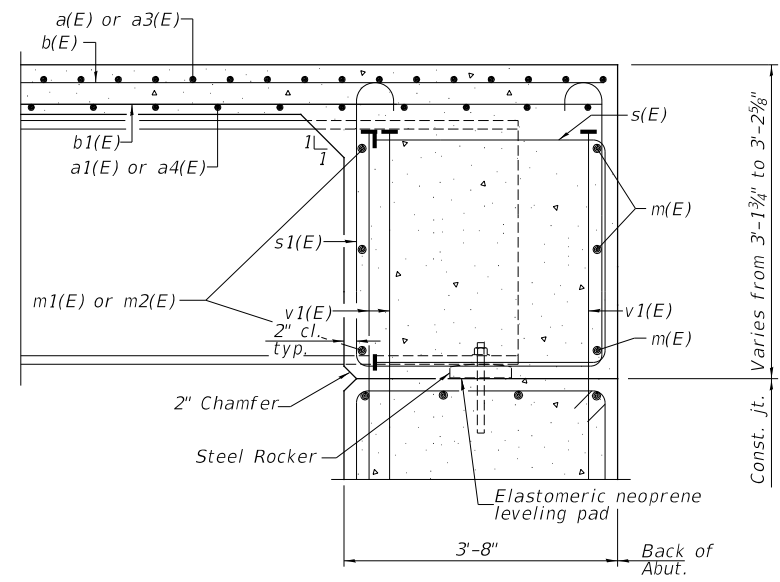
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452	20-00130-14-BR	FULTON	30	14
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		



DIAPHRAGM ELEVATION AT ABUTMENT
(South Abut. Looking South, North Abut. Looking North)



PARTIAL PLAN AT ABUTMENTS
(Showing bottom flange of beam)



SECTION B-B

Notes:
See Sheet 8 of 20 for superstructure details and Bill of Material.
See Sheet 14 of 20 for bearing details.
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.
The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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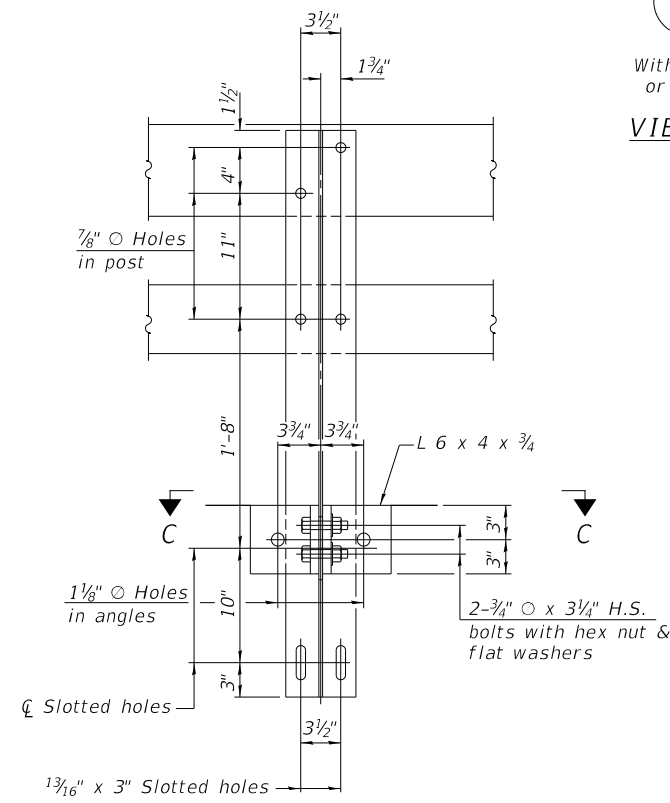
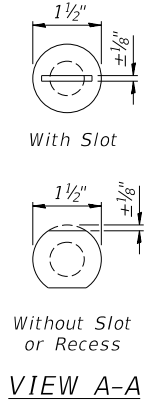
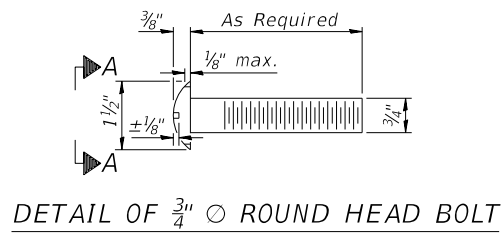
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**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

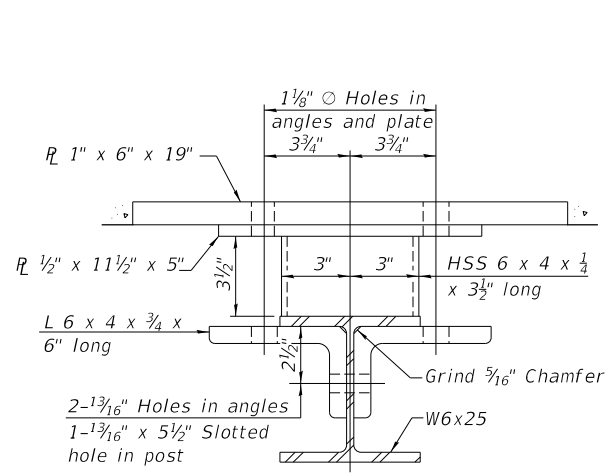
DIAPHRAGM DETAILS

SCALE: NONE SHEET NO. 9 OF 20 SHEETS

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S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		



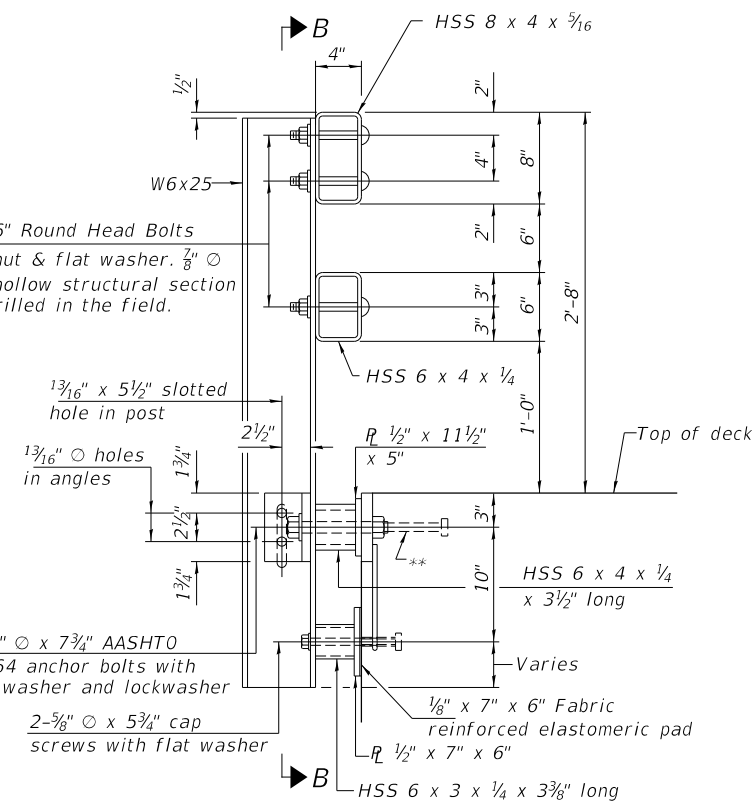
SECTION B-B



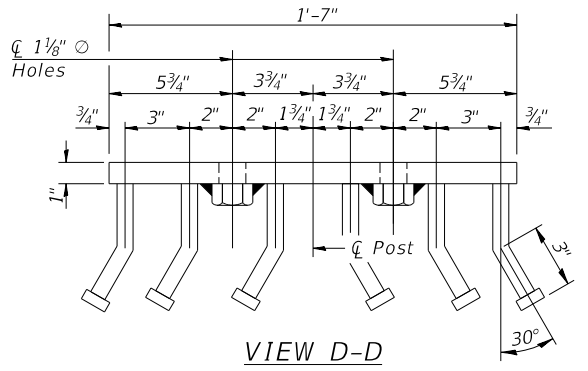
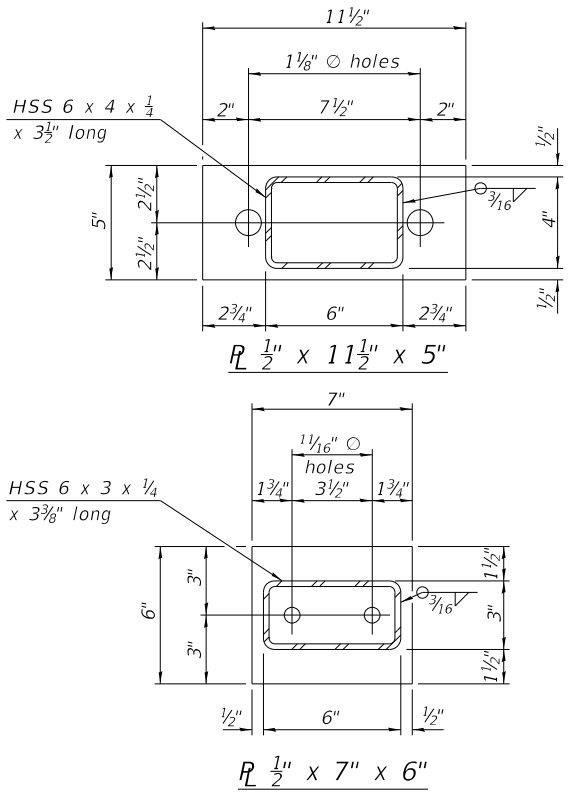
SECTION C-C

FOR RAIL POST SPACING SEE SH.#8 OF 20

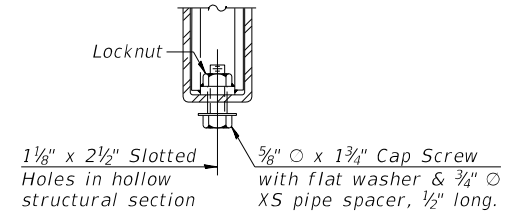
4- $\frac{3}{4}$ " \times 6" Round Head Bolts with locknut & flat washer. $\frac{7}{8}$ " ϕ holes in hollow structural section may be drilled in the field.



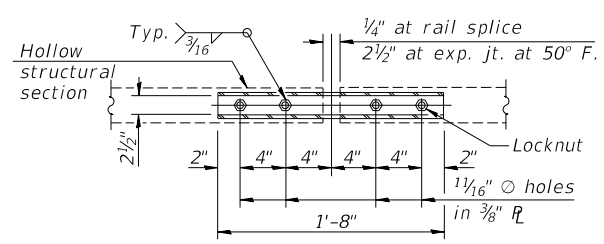
SECTION AT RAIL POST



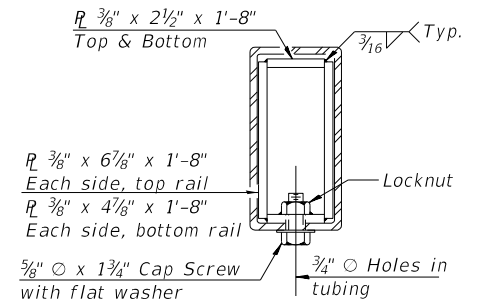
VIEW D-D



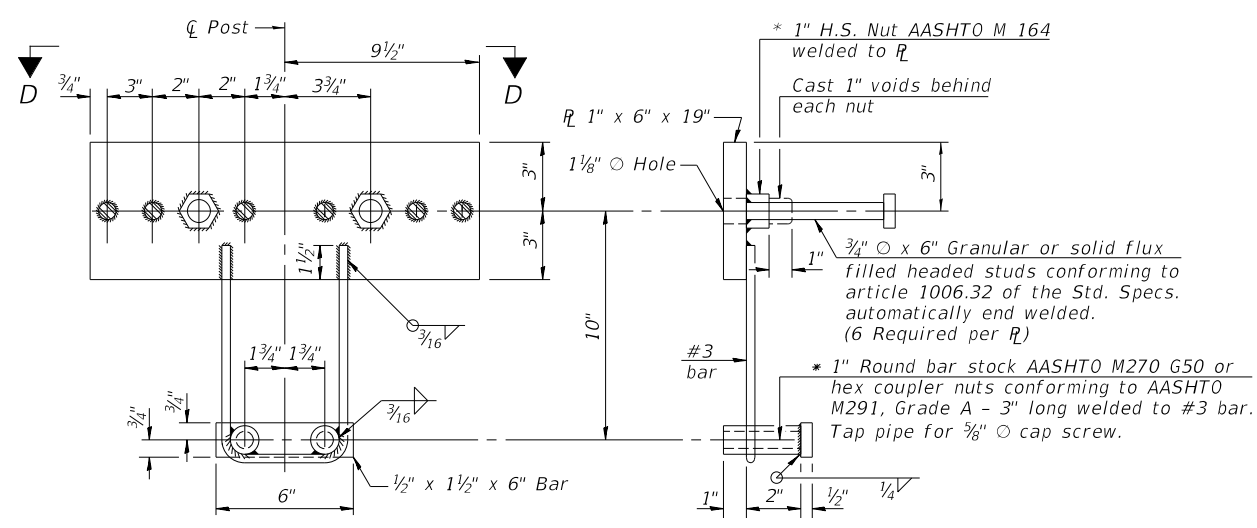
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE R TYPICAL



SECTION AT RAIL SPLICE



ANCHOR DEVICE

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

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient $\frac{1}{4}$ " \times 6" \times 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 $\frac{1}{2}$ " to accommodate the top reinforcement bar placement.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Steel Bridge Rail, Type SM (Special)	FOOT	340

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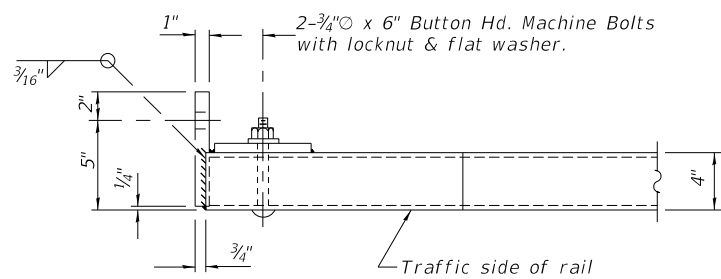
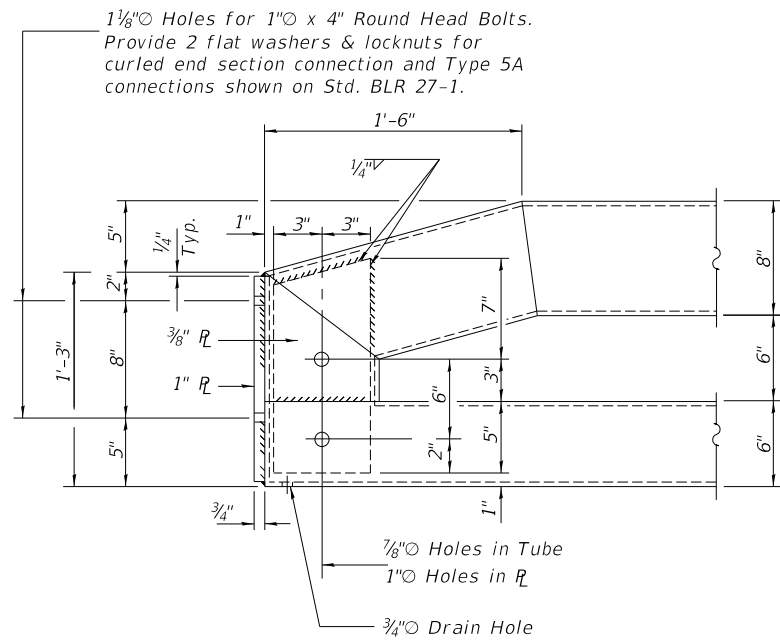
**FULTON COUNTY
 COUNTY HIGHWAY 2
 OVER COAL CREEK**

**STEEL BRIDGE RAIL,
 TYPE SM (SPECIAL)**

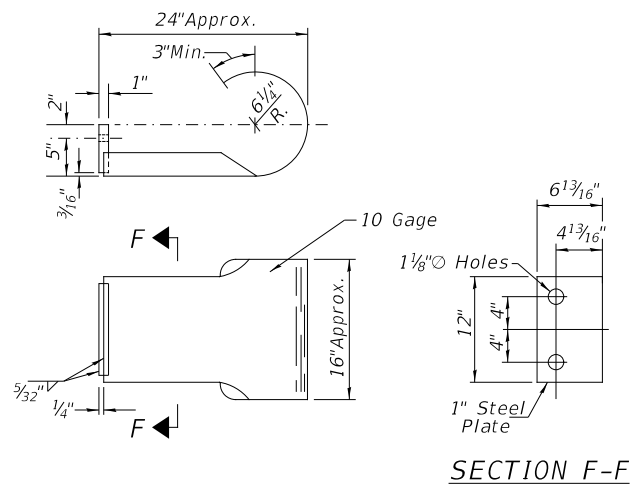
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(Sheet 1 of 2)

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	S.N. 029-3211		CONTRACT NO. 89795	
FED. RD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO. GPKN(447)		



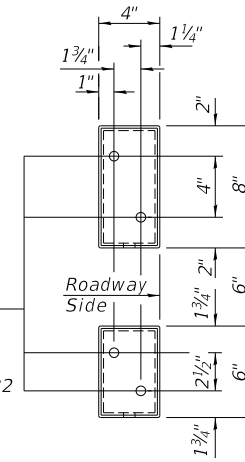
END OF RAIL DETAILS
N.E., S.W. & S.E. CORNERS



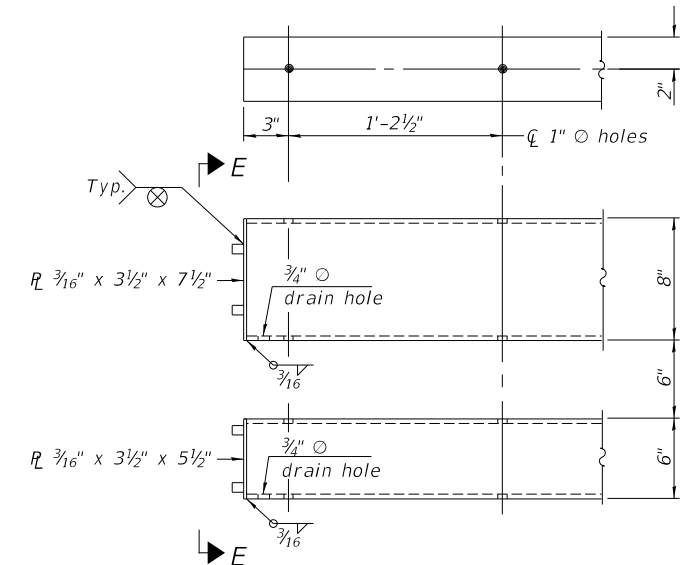
CURLED END SECTION

(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.E. & S.W. Corners)

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



VIEW E-E



END OF RAIL DETAILS
N.W. CORNER

(Sheet 2 of 2)

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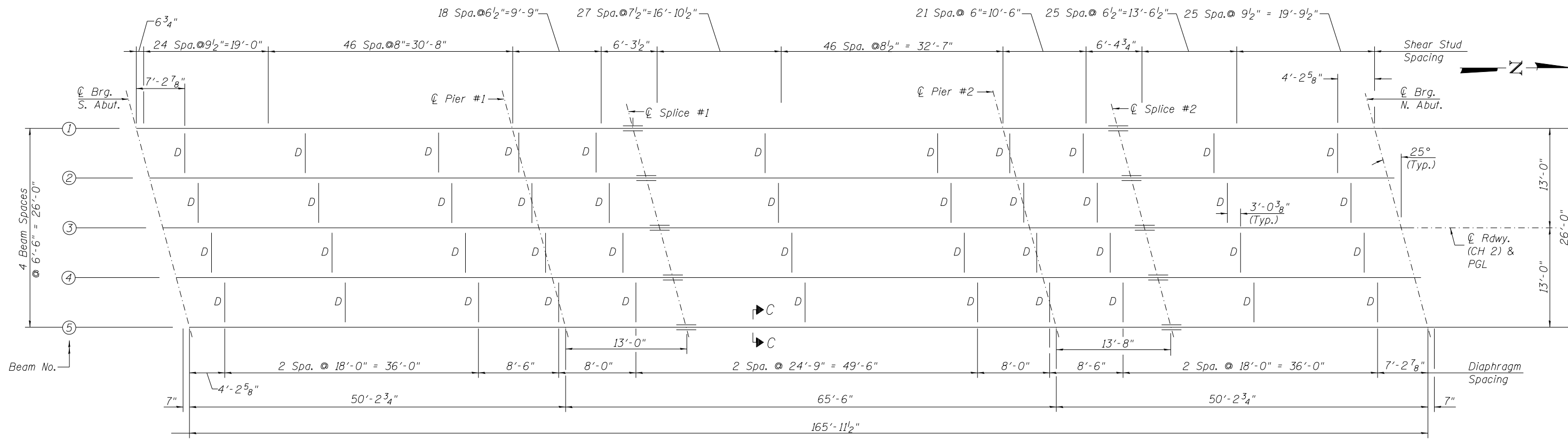
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK

STEEL BRIDGE RAIL,
TYPE SM (SPECIAL)

SCALE: NONE SHEET NO. 11 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	17
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		



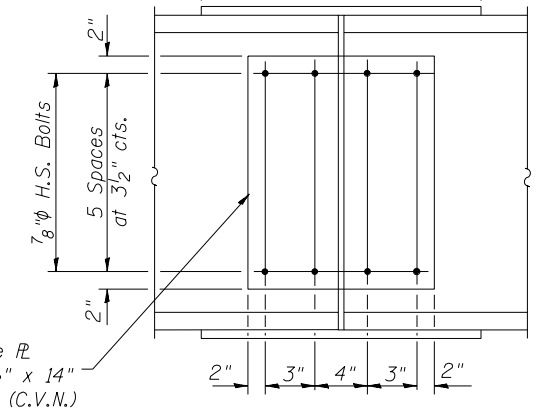
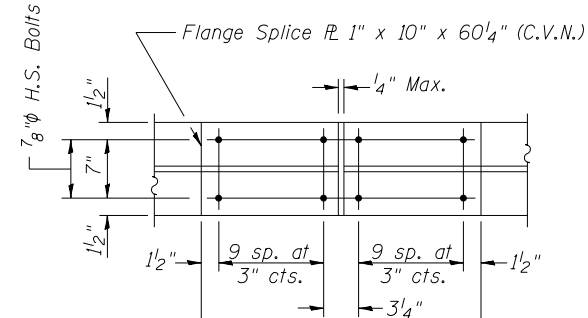
FRAMING PLAN

***TOP OF BEAM ELEVATIONS**

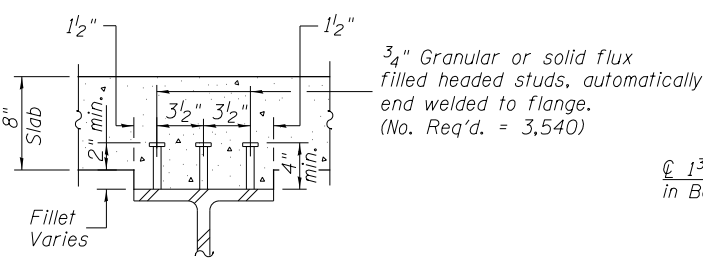
Beam No.	℄ Brg. South Abut.	℄ Brg. Pier #1	℄ Splice #1	℄ Brg. Pier #2	℄ Splice #2	℄ Brg. North Abut.
1	534.07	534.02	534.01	533.93	533.91	534.00
2	534.19	534.13	534.12	534.04	534.03	534.12
3	534.30	534.23	534.22	534.14	534.13	534.23
4	534.20	534.13	534.12	534.04	534.03	534.13
5	534.09	534.01	533.99	533.93	533.92	534.02

*For Fabrication Only.

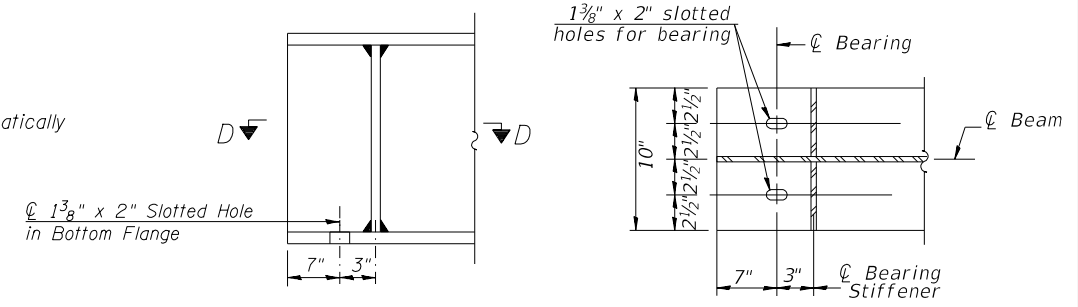
Notes:
 All beams are W27x114 AASHTO M270 Grade 50W (CVN).
 "CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.
 See Sheet 13 of 20 for Structural Steel Details.
 All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



SPLICE DETAIL
(10 Required)



SECTION C-C



TYPICAL END OF BEAM DETAIL

SECTION D-D

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**FULTON COUNTY
 COUNTY HIGHWAY 2
 OVER COAL CREEK**

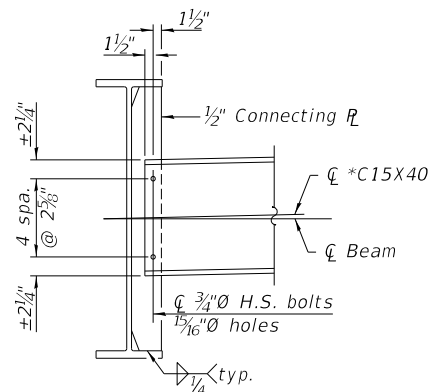
FRAMING PLAN AND DETAILS

SCALE: NONE SHEET NO. 12 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		

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.



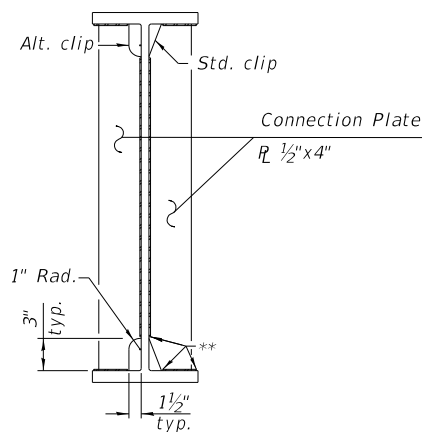
INTERIOR DIAPHRAGM

Note:

Two hardened washers required for each set of oversized holes.

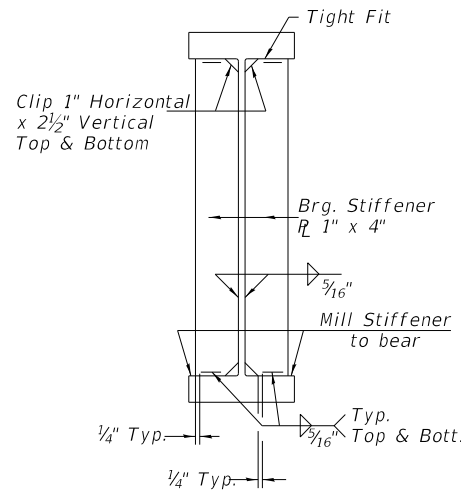
*Alternate channels C15X50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the C15X40 sections.

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



CONNECTION PLATE WELD LIMITS AND CLIP DETAILS

** Stop welds 1/4" (±1/8") from edges as shown. Typical.



SECTION AT ABUTMENTS

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 & 0.6 Sp. 3	Piers	0.5 Sp. 2
<i>I_s</i>	(in ⁴)	4,080	4,080	4,080
<i>I_c(n)</i>	(in ⁴)	12,244	-	12,244
<i>I_c(3n)</i>	(in ⁴)	9,256	-	9,256
<i>I_c(cr)</i>	(in ⁴)	-	5,090	-
<i>S_s</i>	(in ³)	299	299	299
<i>S_c(n)</i>	(in ³)	460	-	460
<i>S_c(3n)</i>	(in ³)	418	-	418
<i>S_c(cr)</i>	(in ³)	-	330	-
<i>DC1</i>	(k/')	0.797	0.797	0.797
<i>MDC1</i>	(k)	133	271	157
<i>DC2</i>	(k/')	0.020	0.020	0.020
<i>MDC2</i>	(k)	3	7	4
<i>DW</i>	(k/')	0.300	0.300	0.300
<i>MDW</i>	(k)	50	102	59
<i>M_ℓ + iM</i>	(k)	511	471	533
<i>M_u (Strength I)</i>	(k)	1,139	1,325	1,223
<i>∅fM_n</i>	(k)	2,365	-	2,342
<i>f_s DC1</i>	(ksi)	5.34	10.88	6.30
<i>f_s DC2</i>	(ksi)	0.09	0.25	0.11
<i>f_s DW</i>	(ksi)	1.44	3.71	1.69
<i>f_s (ℓ+iM)</i>	(ksi)	13.33	17.13	13.90
<i>f_s (Service II)</i>	(ksi)	24.19	37.11	26.19
<i>0.95R_hF_{yf}</i>	(ksi)	47.50	47.50	47.50
<i>f_s (Total)(Strength I)(ksi)</i>	(ksi)	-	49.45	-
<i>∅F_n</i>	(ksi)	-	50.00	-
<i>V_f</i>	(k)	24.4	28.1	20.8

GIRDER REACTION TABLE		
	ABUTMENTS	PIERS
<i>R_{DC1}</i>	(k)	14.6
<i>R_{DC2}</i>	(k)	0.4
<i>R_{DW}</i>	(k)	5.5
<i>R_{LL & R_{IM}}</i>	(k)	63.1
<i>R_{Total}</i>	(k)	83.6

- 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.).
 $1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{ℓ} + iM$
- ∅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).
 $MDC1 / S_{nc}$
- 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).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_{s(ℓ+iM)}$
- ∅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.

MODEL: s:\06\B\M\MS...
 FILE NAME: 021744 - C1.2 over Coal Creek - Fulton\CADD\CADD_Sheet\1744b013.dgn

USER NAME = BNebe1	DESIGNED - ZL	REVISED -
	DRAWN - JCW	REVISED -
PLOT SCALE = 86.4706 ' / in.	CHECKED - ZL/BAN	REVISED -
PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

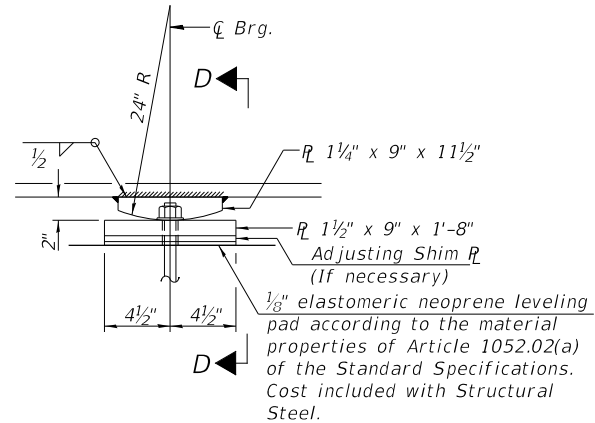
FULTON COUNTY COUNTY HIGHWAY 2 OVER COAL CREEK

STRUCTURAL STEEL DETAILS

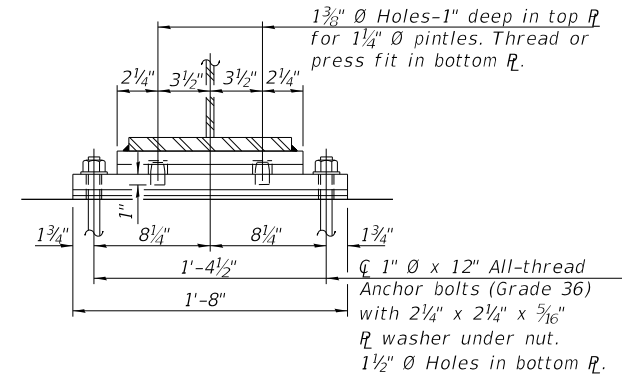
SCALE: NONE SHEET NO. 13 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	19
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		

Notes:
 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" 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.

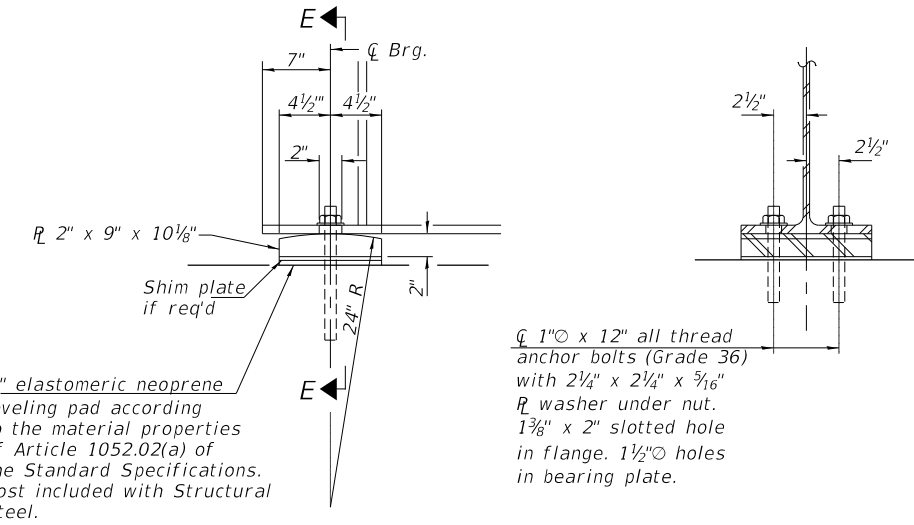


ELEVATION AT PIER

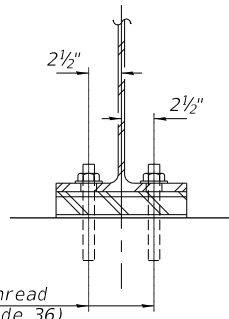


SECTION D-D

FIXED BEARING AT PIERS
 (10 required)



ELEVATION AT ABUTMENT

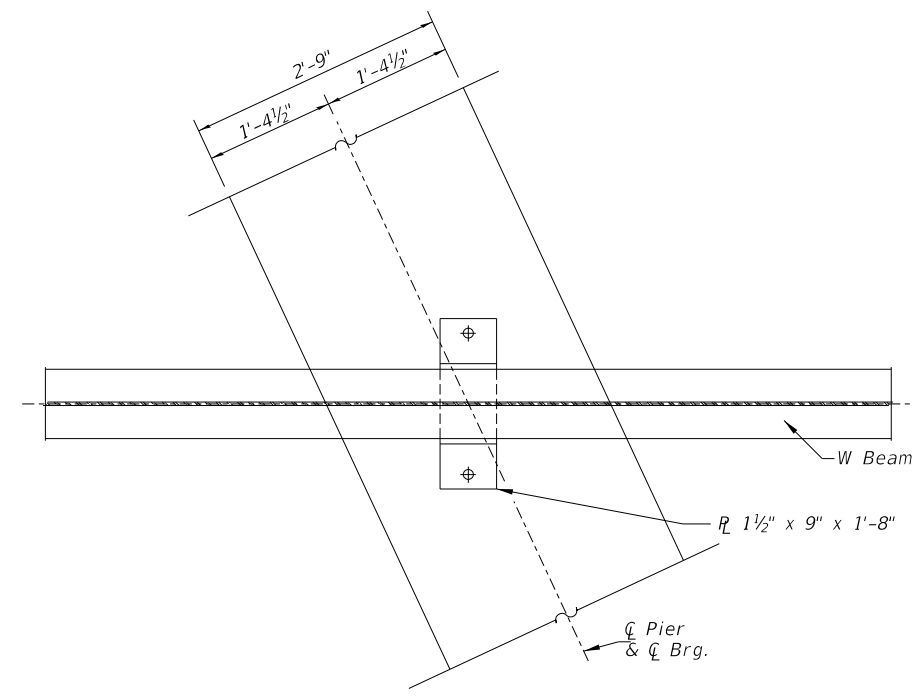


SECTION E-E

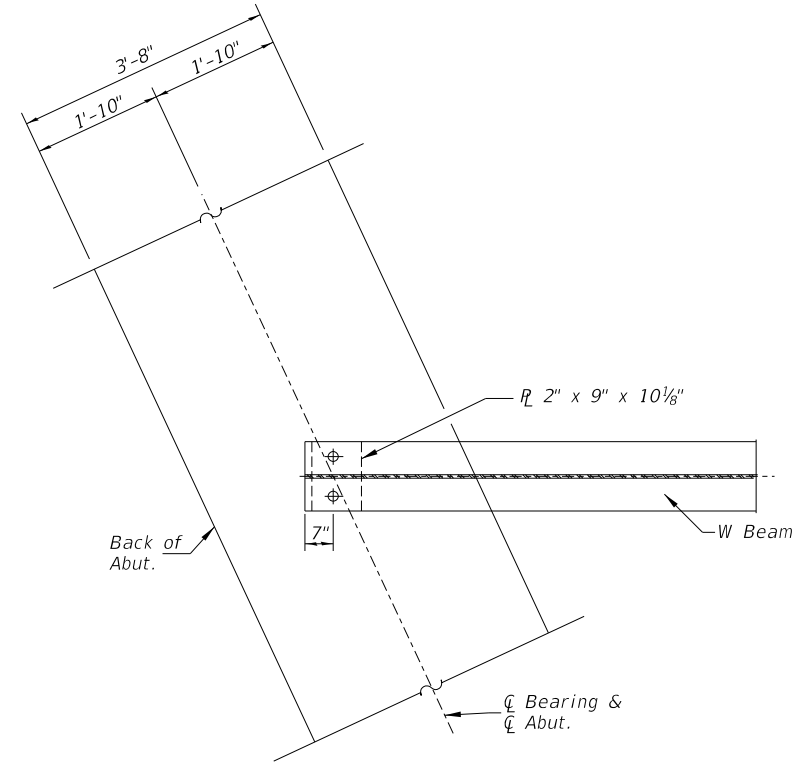
FIXED BEARING AT ABUTMENTS
 (10 Required)

BILL OF MATERIAL

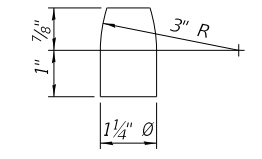
ITEM	UNIT	TOTAL
Anchor Bolts, 1"	Each	40



PARTIAL PLAN AT PIERS



PARTIAL PLAN AT ABUTMENTS



PINTLE
 (Gr50W)

MODEL: s:\09\B\MM\MS...
 FILE NAME: 021741 - C1.2 over Coal Creek - (Fulton)\CADD\CADD_Sheet\17414b014.dgn

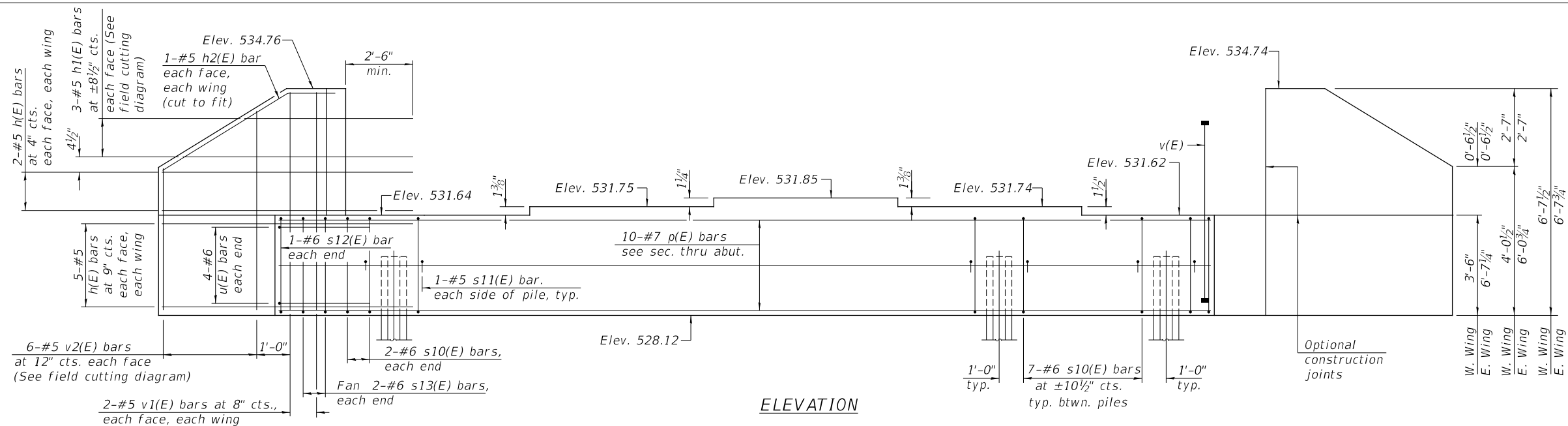
USER NAME = BNebel	DESIGNED - ZL	REVISED -
PLOT SCALE = 86.4706 ' / in.	CHECKED - ZL/BAN	REVISED -
PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

FULTON COUNTY
 COUNTY HIGHWAY 2
 OVER COAL CREEK

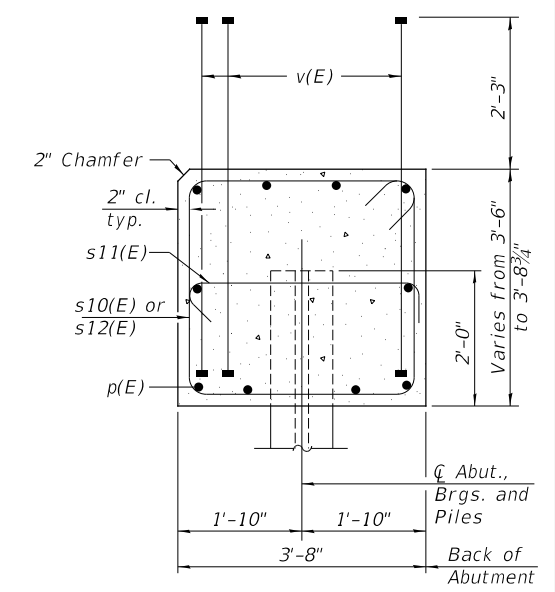
BEARING DETAILS

SCALE: NONE SHEET NO. 14 OF 20 SHEETS

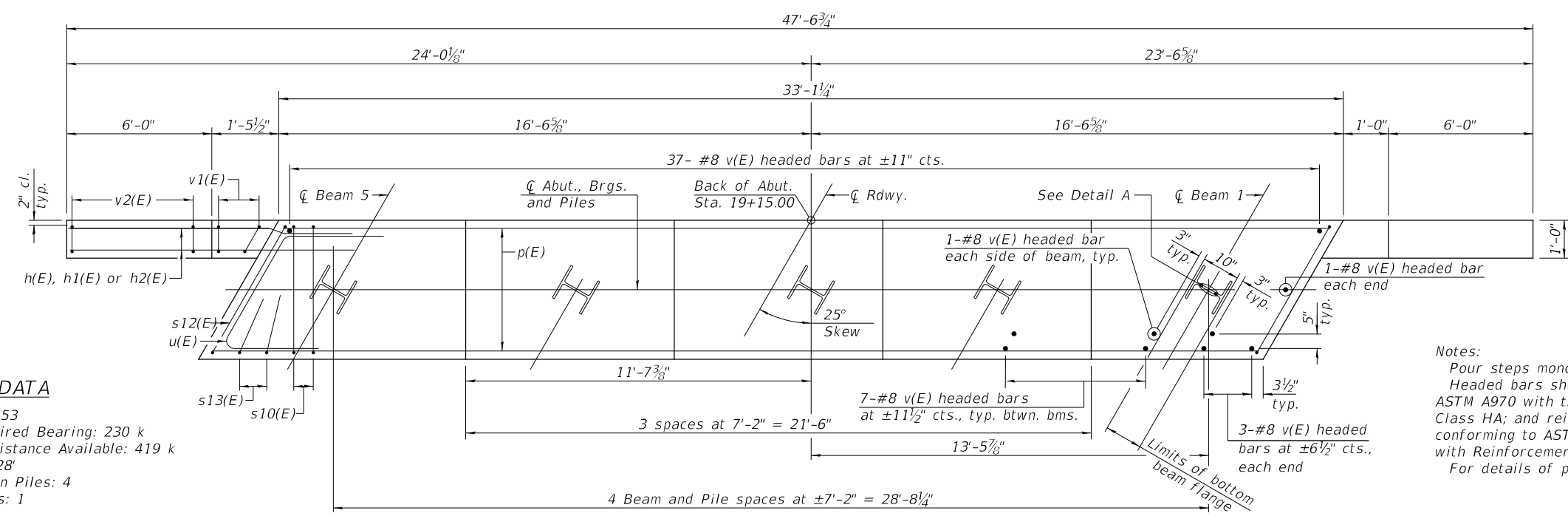
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	20
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		



ELEVATION



SEC. THRU ABUT.
(Dimensions at right angles to Abutment)



PLAN

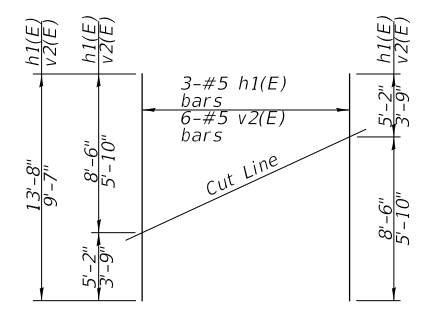
Notes:
Pour steps monolithically with cap.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
For details of piles see sheet 19 of 20.

PILE DATA

Type: HP12x53
Nominal Required Bearing: 230 k
Factored Resistance Available: 419 k
Est. Length: 28'
No. Production Piles: 4
No. Test Piles: 1

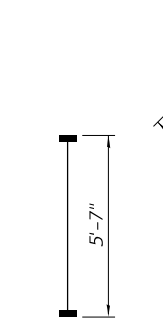
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#5	9'-4"	—
h1(E)	6	#5	13'-8"	—
h2(E)	4	#5	9'-10"	—
p(E)	10	#7	32'-9"	—
s10(E)	32	#6	14'-4"	□
s11(E)	10	#5	4'-4"	—
s12(E)	2	#6	15'-10"	□
s13(E)	4	#6	8'-2"	□
u(E)	8	#6	12'-2"	—
v(E)	81	#8	5'-7"	—
v1(E)	8	#5	6'-3"	—
v2(E)	12	#5	9'-7"	—
Structure Excavation		Cu. Yd.	110	
Concrete Structures		Cu. Yd.	19.2	
Reinforcement Bars, Epoxy Coated		Pound	3,430	
Furnishing Steel Piles, HP12X53		Foot	112	
Driving Piles		Foot	112	
Test Pile Steel HP12x53		Each	1	

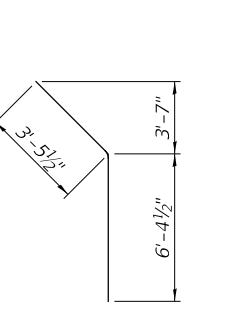


FIELD CUTTING DIAGRAM

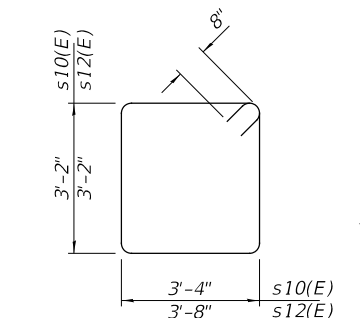
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



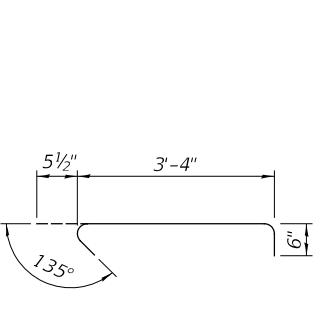
BAR v(E)
(Headed)



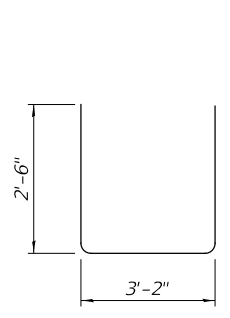
BAR h2(E)



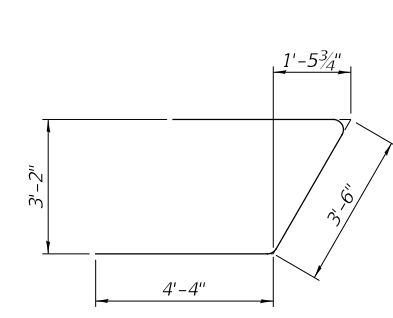
BAR s10(E) & s12(E)



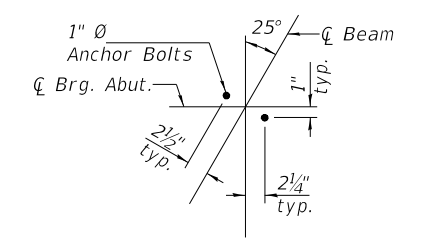
BAR s11(E)



BAR s13(E)



BAR u(E)



DETAIL A

MODEL: s409ELMAME
FILE NAME: V21741 - C1.2 over Coal Creek (Fulton)CADD/CADD_Sheet1741b015.dgn

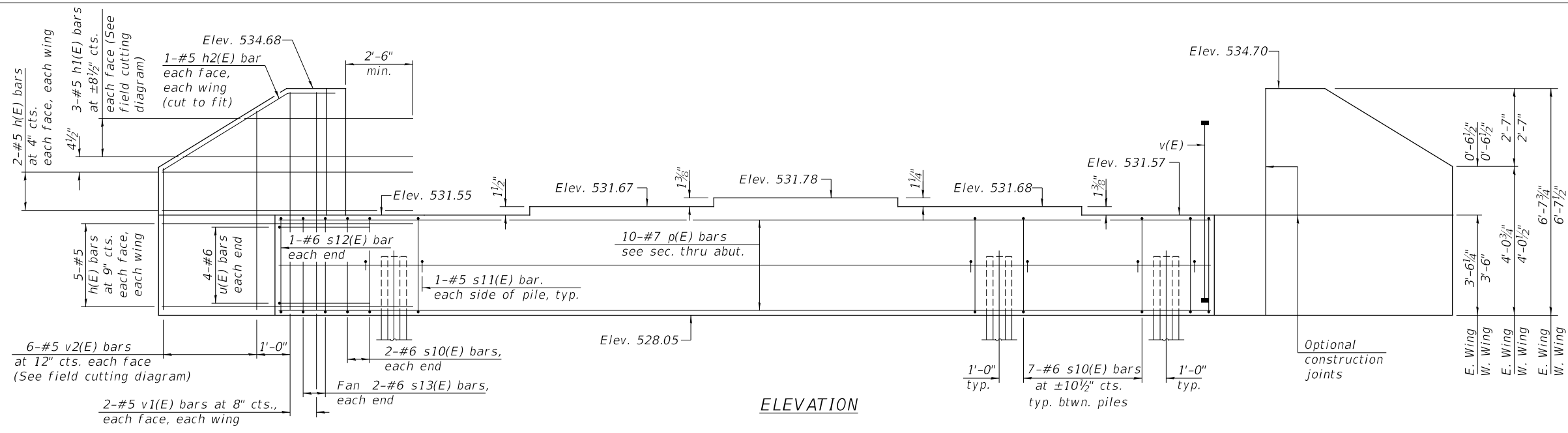
USER NAME = BNebel	DESIGNED - ZL	REVISED -
DRAWN - JCW	REVISED -	
PLOT SCALE = 86.4706' / in.	CHECKED - ZL/BAN	REVISED -
PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK

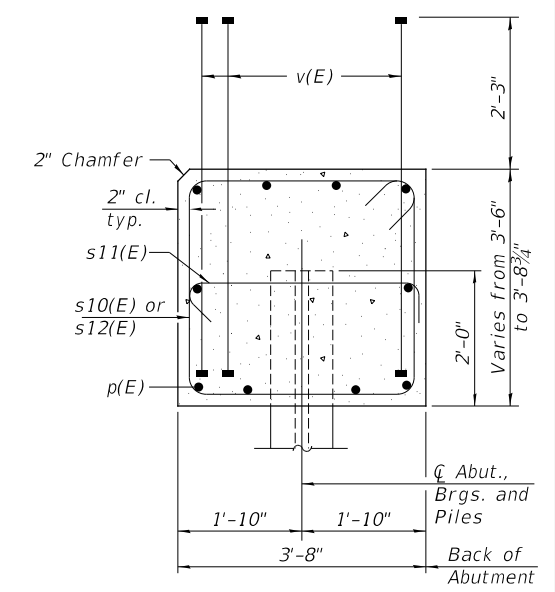
SOUTH ABUTMENT

SCALE: NONE SHEET NO. 15 OF 20 SHEETS

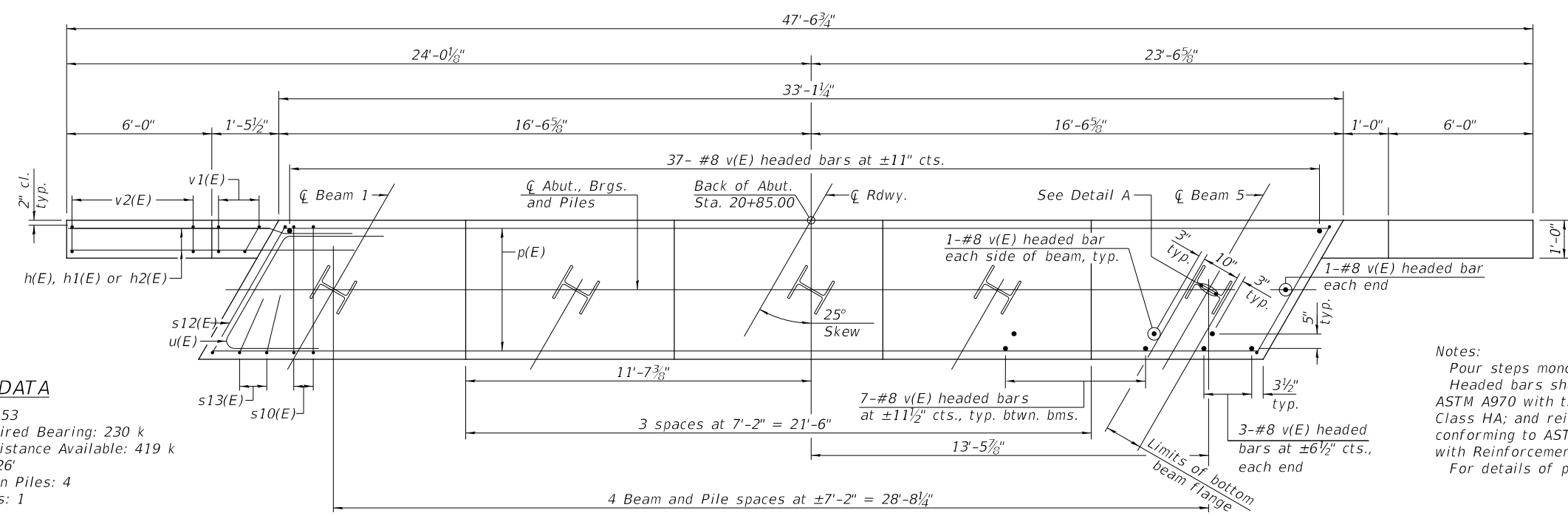
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	21
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		



ELEVATION



SEC. THRU ABUT.
(Dimensions at right angles to Abutment)



PLAN

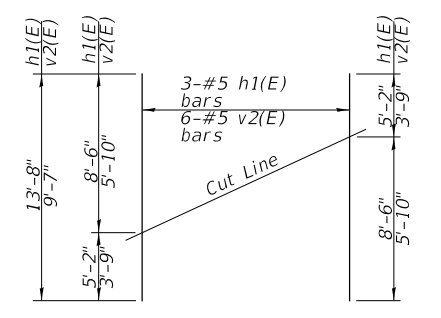
PILE DATA

Type: HP12x53
 Nominal Required Bearing: 230 k
 Factored Resistance Available: 419 k
 Est. Length: 26'
 No. Production Piles: 4
 No. Test Piles: 1

BILL OF MATERIAL

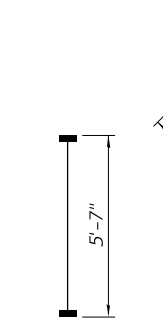
Bar	No.	Size	Length	Shape
h(E)	28	#5	9'-4"	—
h1(E)	6	#5	13'-8"	—
h2(E)	4	#5	9'-10"	—
p(E)	10	#7	32'-9"	—
s10(E)	32	#6	14'-4"	□
s11(E)	10	#5	4'-4"	—
s12(E)	2	#6	15'-10"	□
s13(E)	4	#6	8'-2"	□
u(E)	8	#6	12'-2"	—
v(E)	81	#8	5'-7"	—
v1(E)	8	#5	6'-3"	—
v2(E)	12	#5	9'-7"	—
Structure Excavation		Cu. Yd.	110	
Concrete Structures		Cu. Yd.	19.2	
Reinforcement Bars, Epoxy Coated		Pound	3,430	
Furnishing Steel Piles, HP12X53		Foot	104	
Driving Piles		Foot	104	
Test Pile Steel HP12x53		Each	1	

Notes:
 Pour steps monolithically with cap.
 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.
 For details of piles see sheet 19 of 19.

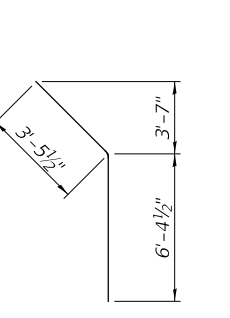


FIELD CUTTING DIAGRAM

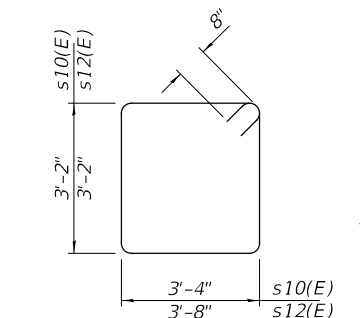
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



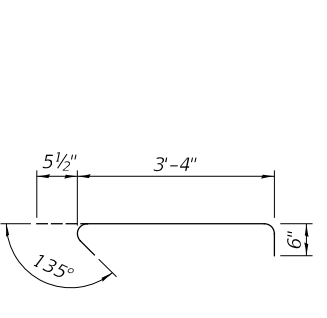
BAR v(E)
(Headed)



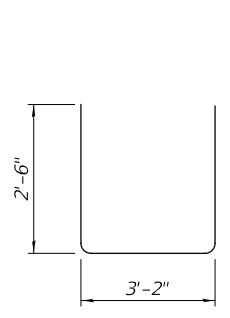
BAR h2(E)



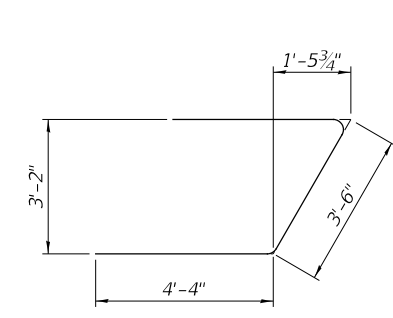
BAR s10(E) & s12(E)



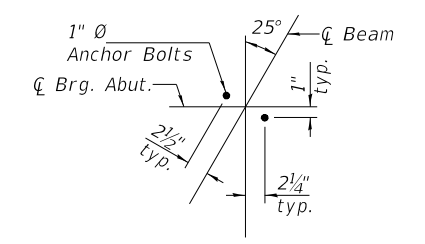
BAR s11(E)



BAR s13(E)



BAR u(E)



DETAIL A

MODEL: s409ELNAME
 FILE NAME: V21741 - C1.2 over Coal Creek (Fulton)CADD\CADD_Sheet1741.dwg

USER NAME = BNebel	DESIGNED - ZL	REVISED -
DRAWN - JCW	REVISED -	
PLOT SCALE = 86.4706' / in.	CHECKED - ZL/BAN	REVISED -
PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

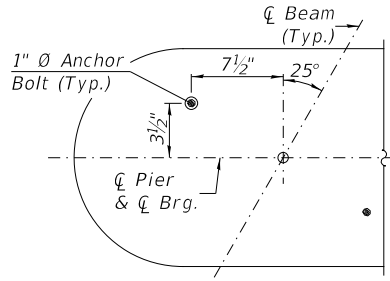
FULTON COUNTY
 COUNTY HIGHWAY 2
 OVER COAL CREEK

NORTH ABUTMENT

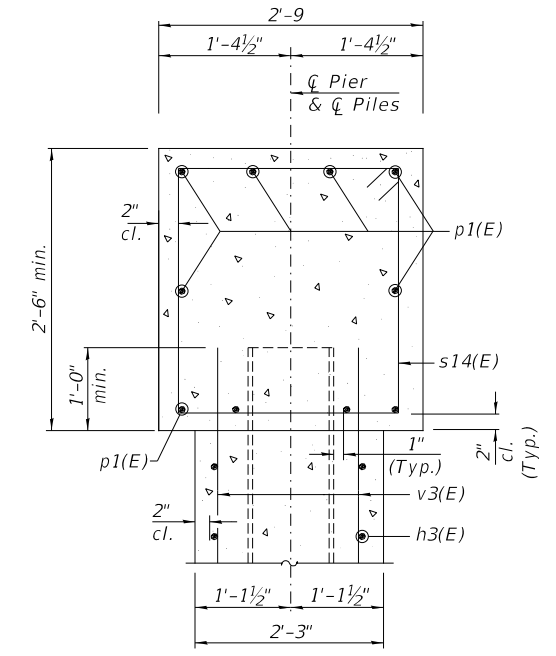
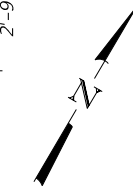
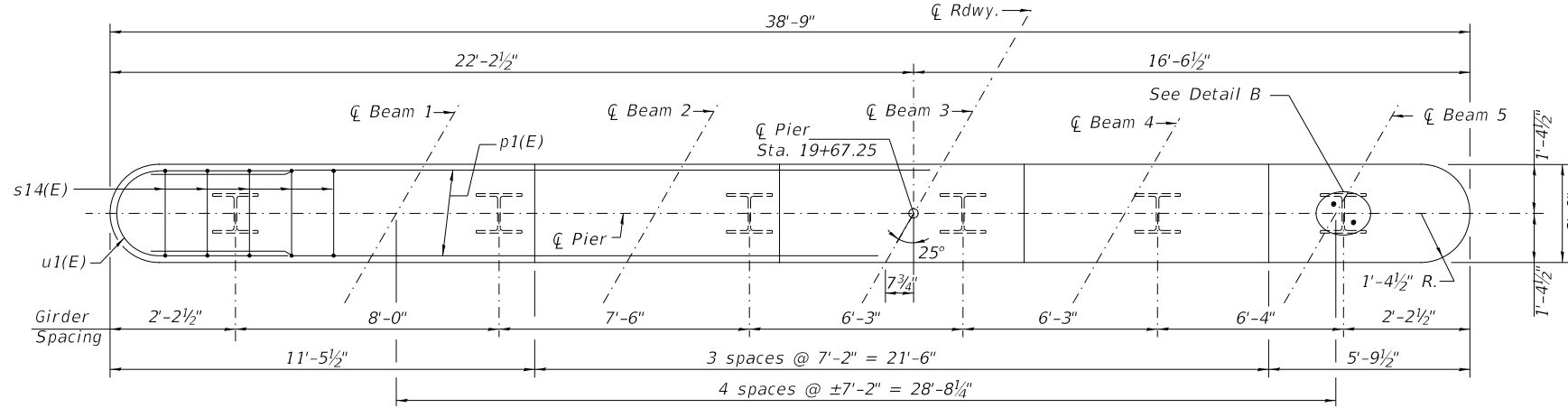
SCALE: NONE SHEET NO. 16 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	22
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		

Notes:
 All edges shall have standard 3/4" chamfer.
 Pour steps monolithically with cap.
 Space reinforcement to miss anchor bolts.
 See Sh. 19 of 20 for pile and rock socket details.



DETAIL B
ANCHOR BOLT LOCATION

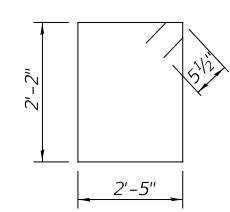
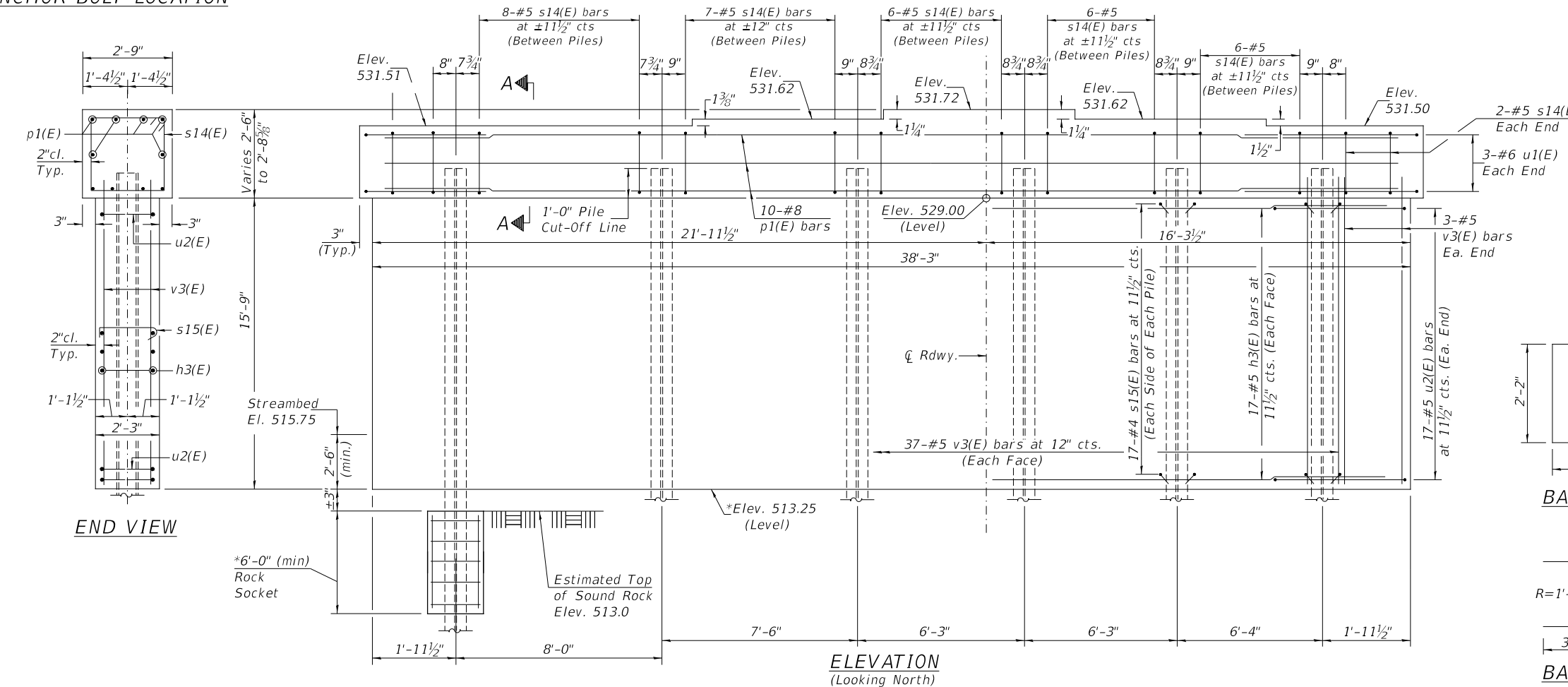


SECTION A-A
 (Dimensions at right angles to Pier)

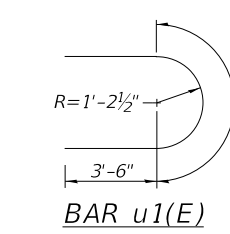
PIER 1
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE	
h3(E)	34	#5	36'-0"	—	
p1(E)	10	#8	36'-0"	—	
s14(E)	37	#5	10'-1"	□	
s15(E)	204	#4	3'-0"	U	
u1(E)	6	#6	10'-10"	U	
u2(E)	34	#5	11'-8"	U	
v3(E)	80	#5	16'-8"	—	
Concrete Structures				CU YD	59.6
Cofferdam Excavation				CU YD	100
Reinforcement Bars, Epoxy Coated				POUND	4,940
Furnishing Metal Shell Piles HP12"x53"				FOOT	174
Cofferdam (Type 1) (Location-1)				EACH	1
Setting Piles in Rock				EACH	6

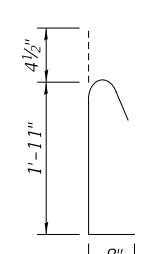
① See Special Provisions



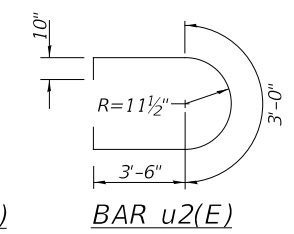
BAR s5(E)



BAR u1(E)



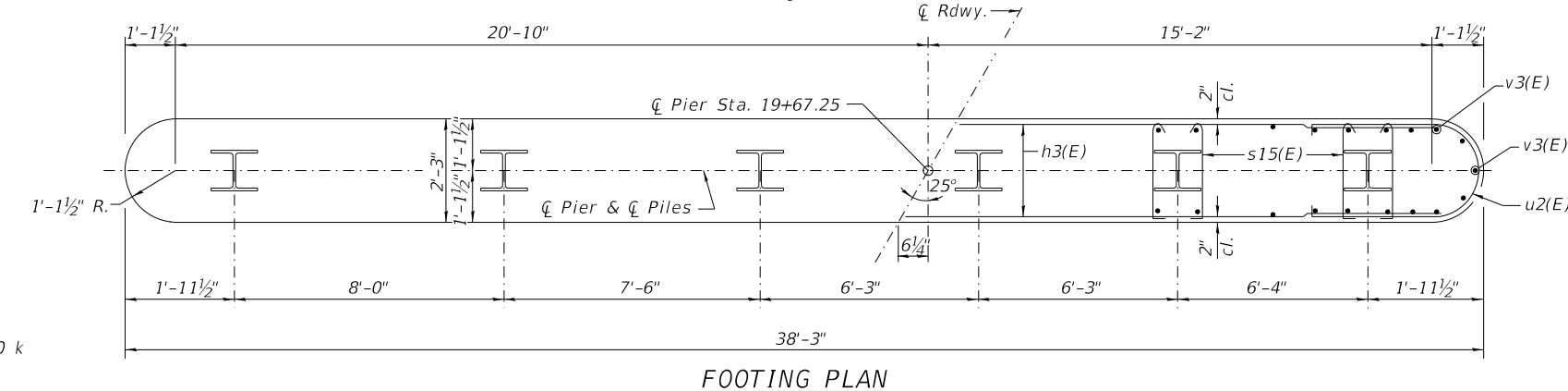
BAR s6(E)



BAR u2(E)

END VIEW

ELEVATION
 (Looking North)



FOOTING PLAN

PILE DATA

Type: HP12x53 (*Set in Rock)
 Nominal Required Bearing: 419 k
 Factored Resistance Available: 230 k
 Est. Length: 29'
 No. Required: 6

* Holes to be drilled into rock, pile shall be driven to bearing in drilled hole. See Special Provisions.

MODEL: s409ELMAME
 FILE NAME: C:\1741 - C1.2 over Coal Creek (Fulton)\CADD\CADD_Sheet\1741.dgn

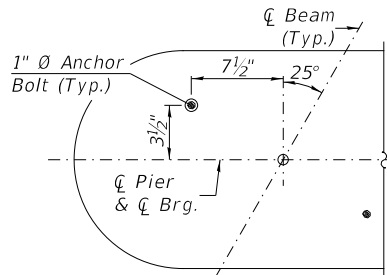
USER NAME = BNebe1	DESIGNED - ZL	REVISED -
PLOT SCALE = 86.4706 ' / in.	DRAWN - JCW	REVISED -
PLOT DATE = 7/20/2021	CHECKED - ZL/BAN	REVISED -
	DATE - 2/12/2021	REVISED -

FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK

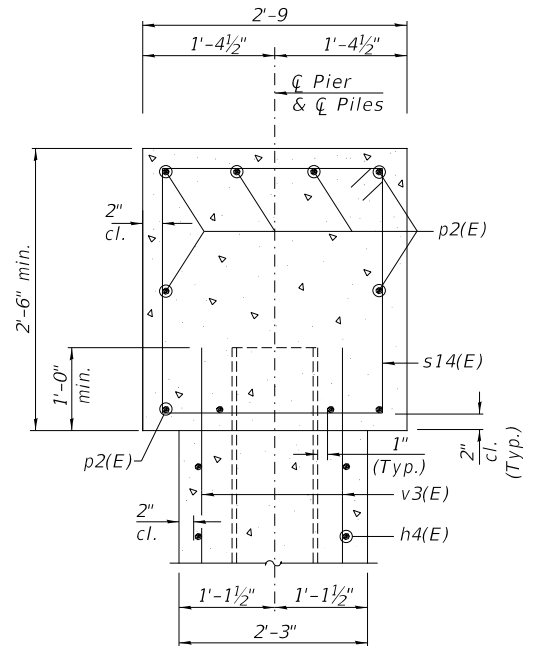
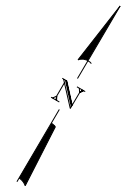
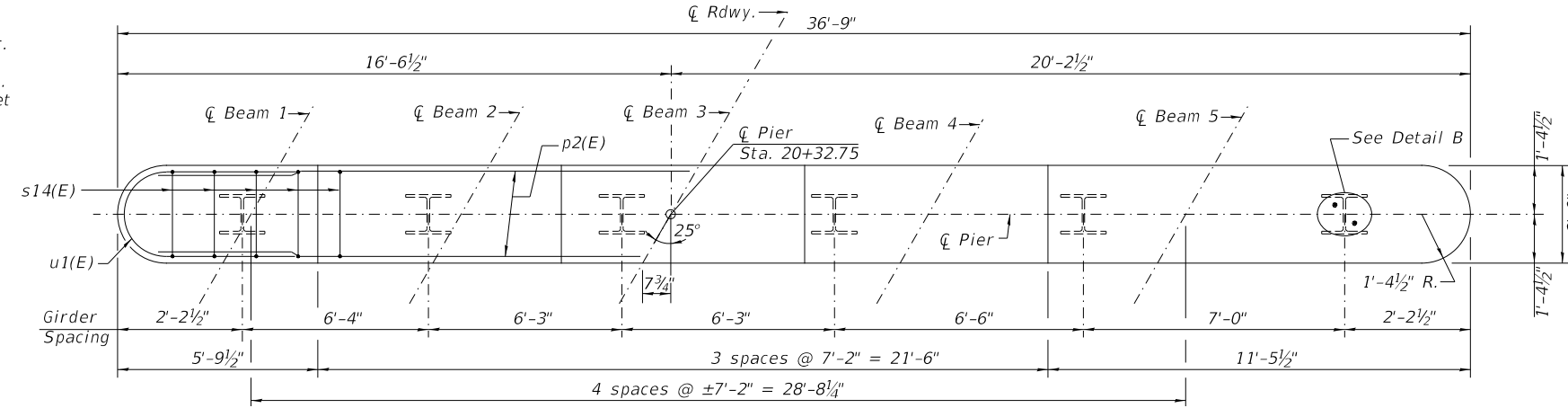
PIER 1
 SCALE: NONE SHEET NO. 17 OF 20 SHEETS

F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 23
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		

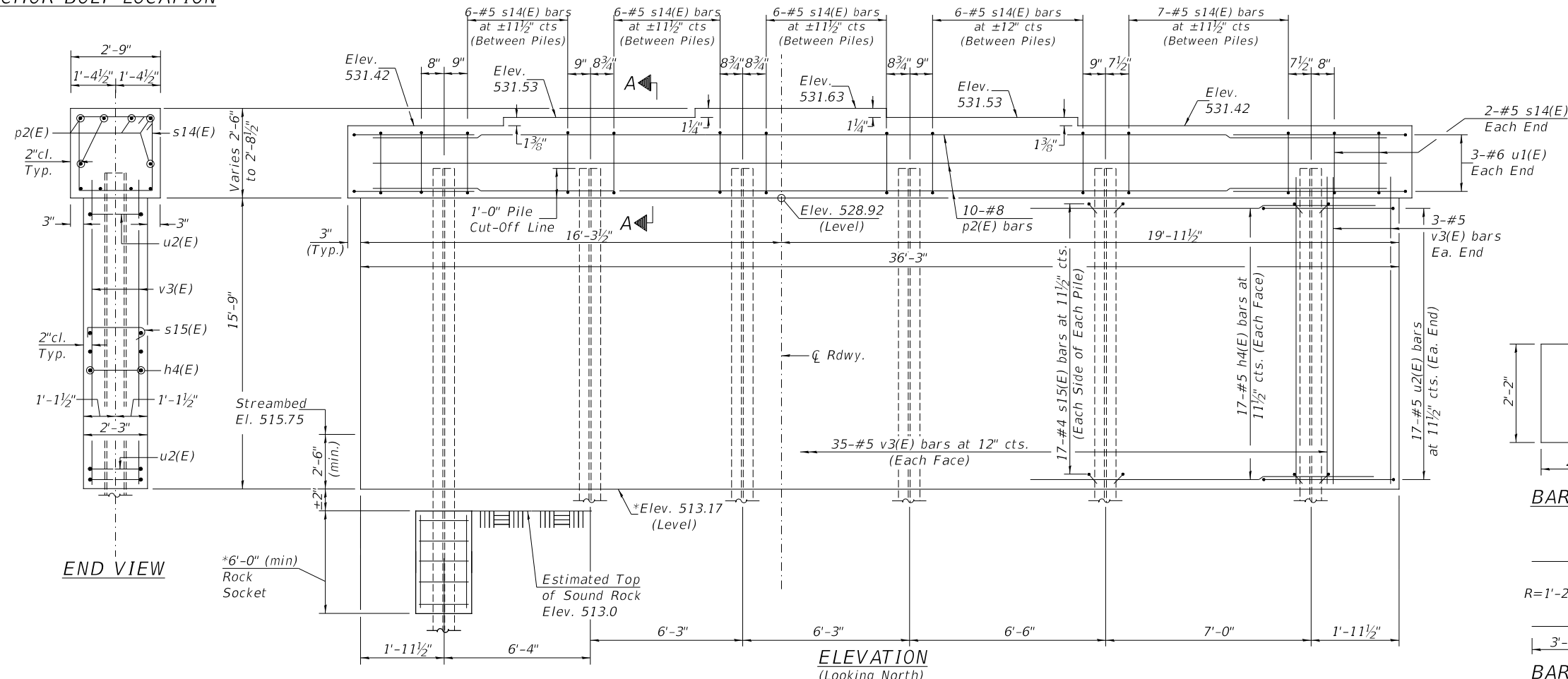
Notes:
 All edges shall have standard 3/4" chamfer.
 Pour steps monolithically with cap.
 Space reinforcement to miss anchor bolts.
 See Sh. 19 of 20 for pile and Rock Socket details.



DETAIL B
ANCHOR BOLT LOCATION



SECTION A-A
 (Dimensions at Right angles to Pier)

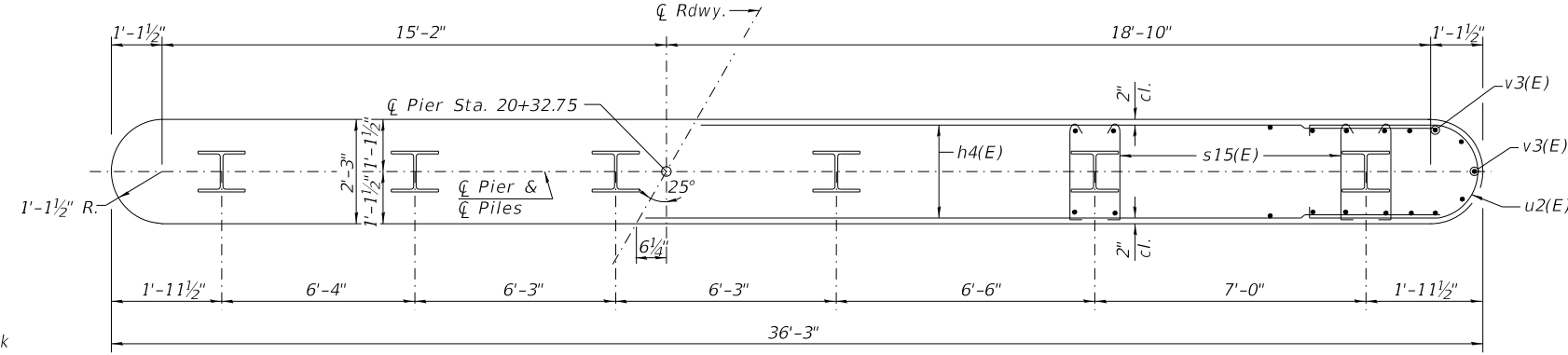


ELEVATION
 (Looking North)

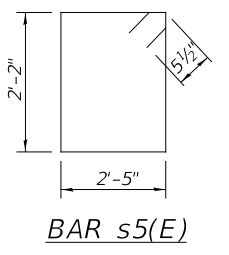
* Holes to be drilled into rock, pile shall be driven to bearing in hole. See Special Provisions.

PILE DATA

Type: HP12x53 *Set in Rock
 Nominal Required Bearing: 419 k
 Factored Resistance Available: 230 k
 Est. Length: 29'
 No. Required: 6



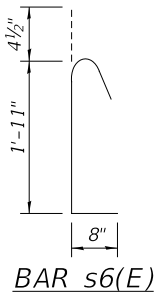
FOOTING PLAN



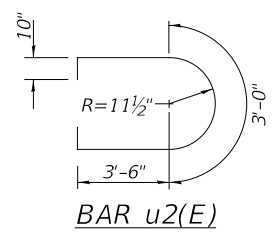
BAR s5(E)



BAR u1(E)



BAR s6(E)



BAR u2(E)

PIER 1
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE	
h4(E)	34	#5	34'-0"	—	
p2(E)	10	#8	34'-0"	—	
s14(E)	35	#5	10'-1"	□	
s15(E)	204	#4	3'-0"	U	
u1(E)	6	#6	10'-10"	U	
u2(E)	34	#5	11'-8"	U	
v3(E)	76	#5	16'-8"	—	
Concrete Structures				CU YD	56.5
Cofferdam Excavation				CU YD	55
Reinforcement Bars, Epoxy Coated				POUND	4,720
Furnishing Metal Shell Piles HP12"x53"				FOOT	174
Cofferdam (Type 1) (Location-2)				EACH	1
Setting Piles in Rock				EACH	6

① See Special Provisions

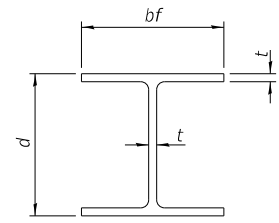
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PLOT DATE = 7/20/2021	CHECKED - ZL/BAN	REVISED -
	DATE - 2/12/2021	REVISED -

FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK

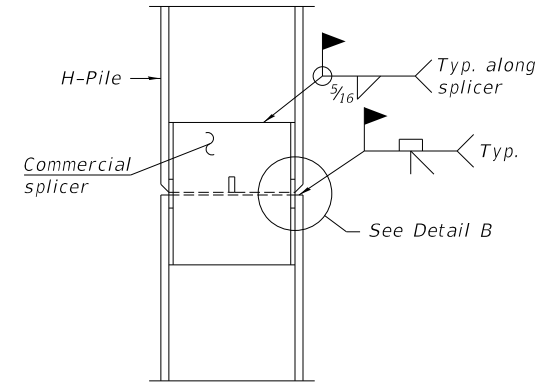
PIER 2
 SCALE: NONE SHEET NO. 18 OF 20 SHEETS

F.A.S. RTE. 452	SECTION 20-00130-14-BR	COUNTY FULTON	TOTAL SHEETS 30	SHEET NO. 24
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		

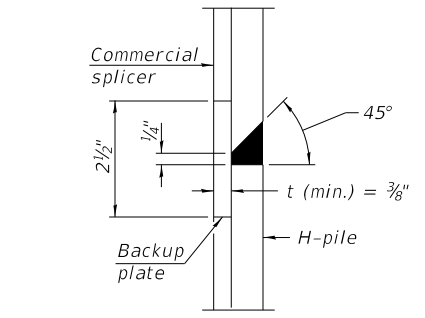


STEEL PILE TABLE

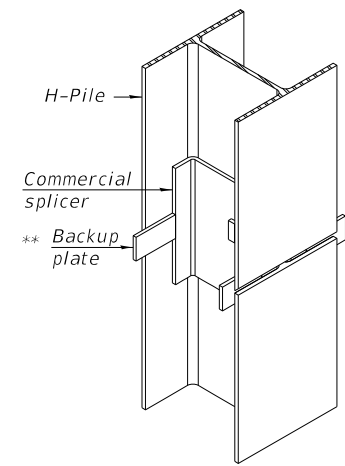
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



ELEVATION

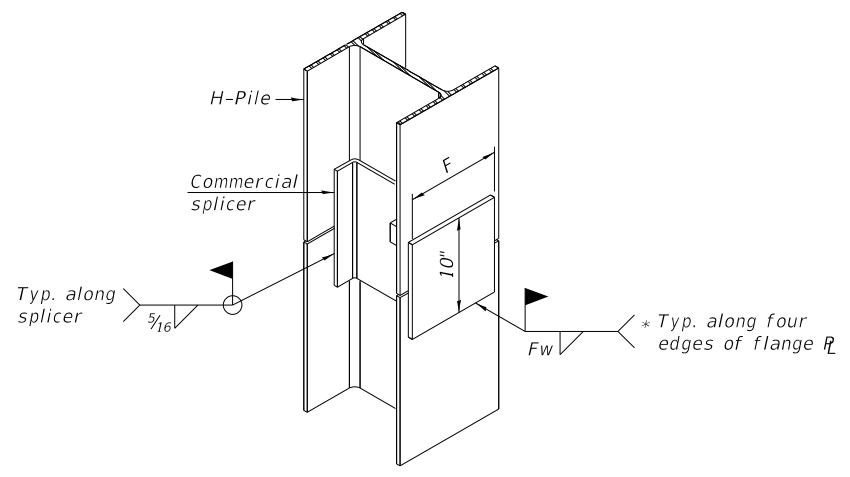


DETAIL "B"



ISOMETRIC VIEW

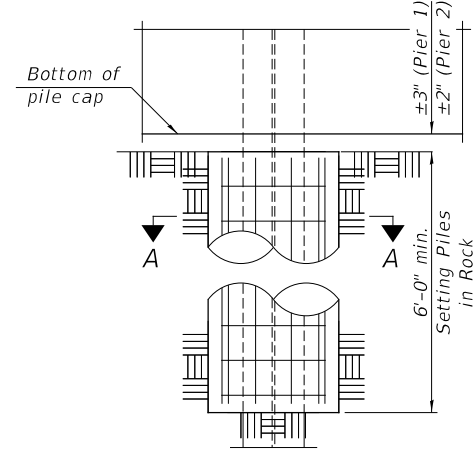
WELDED COMMERCIAL SPLICE



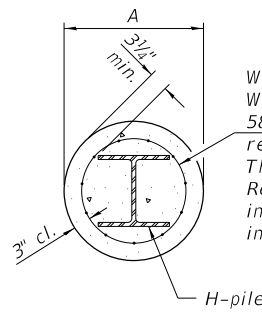
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



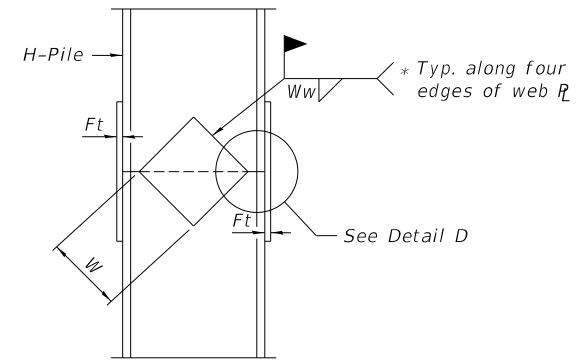
PIER ELEVATION



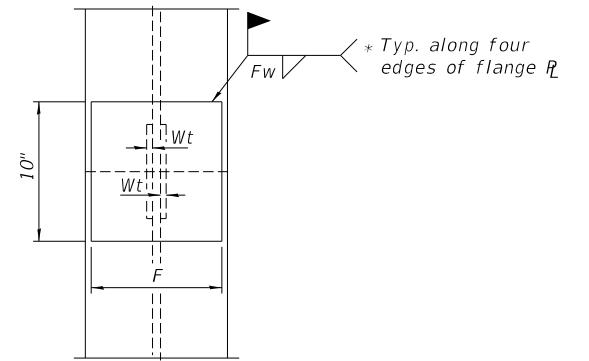
SECTION A-A

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. Bend as required to fit into wall. The cost of Excavation and Reinforcement is included in the cost of Setting Piles in Rock as indicated.

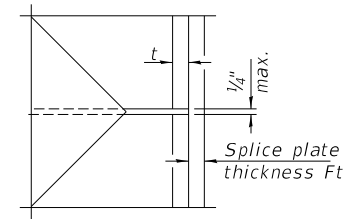
INDIVIDUAL PILE CONCRETE ENCASEMENT
(Forms for encasement may be omitted when soil conditions permit).



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

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	DRAWN - JCW	REVISED -
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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

FULTON COUNTY COUNTY HIGHWAY 2 OVER COAL CREEK

HP PILE DETAILS

SCALE: NONE SHEET NO. 19 OF 20 SHEETS

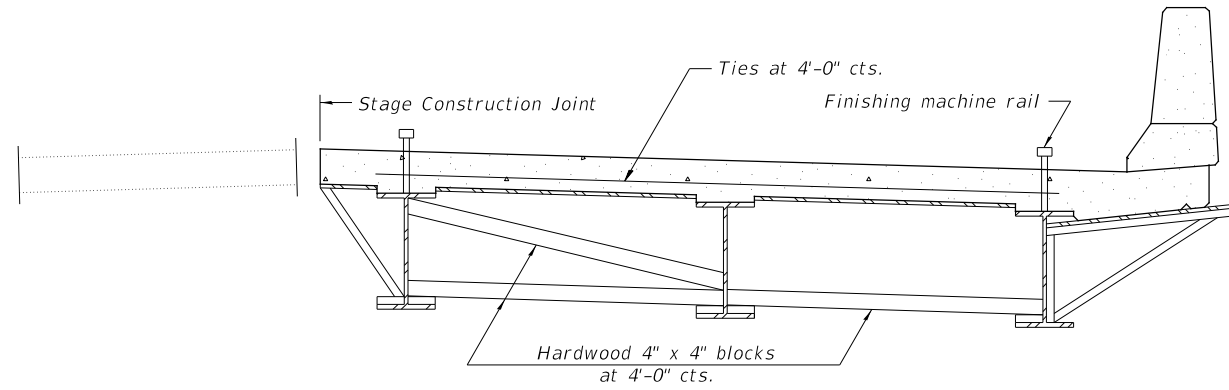
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	25
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. GPKN(447)		

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

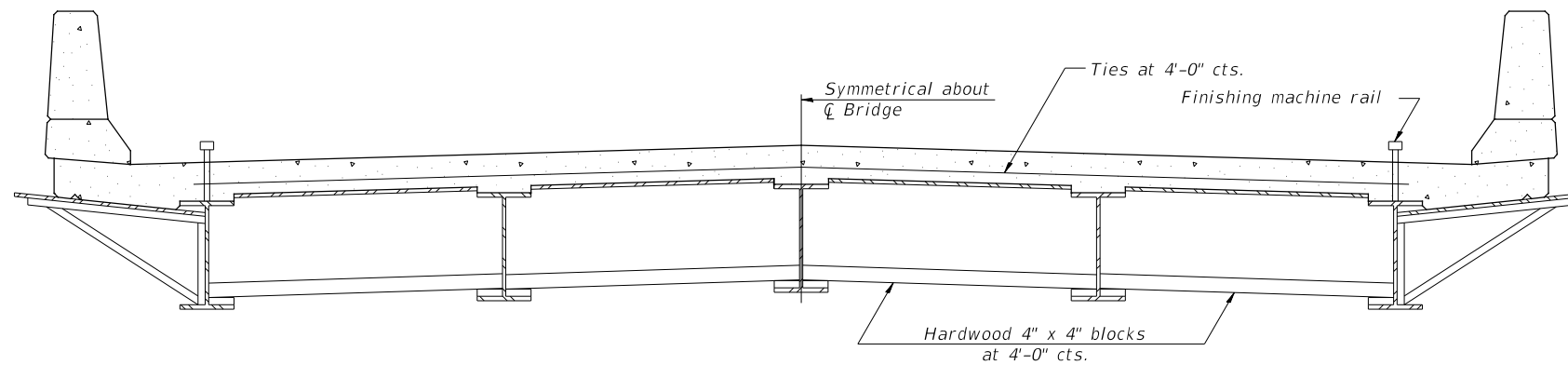
The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

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PLOT DATE = 7/20/2021	DATE - 2/12/2021	REVISED -

**FULTON COUNTY
COUNTY HIGHWAY 2
OVER COAL CREEK**

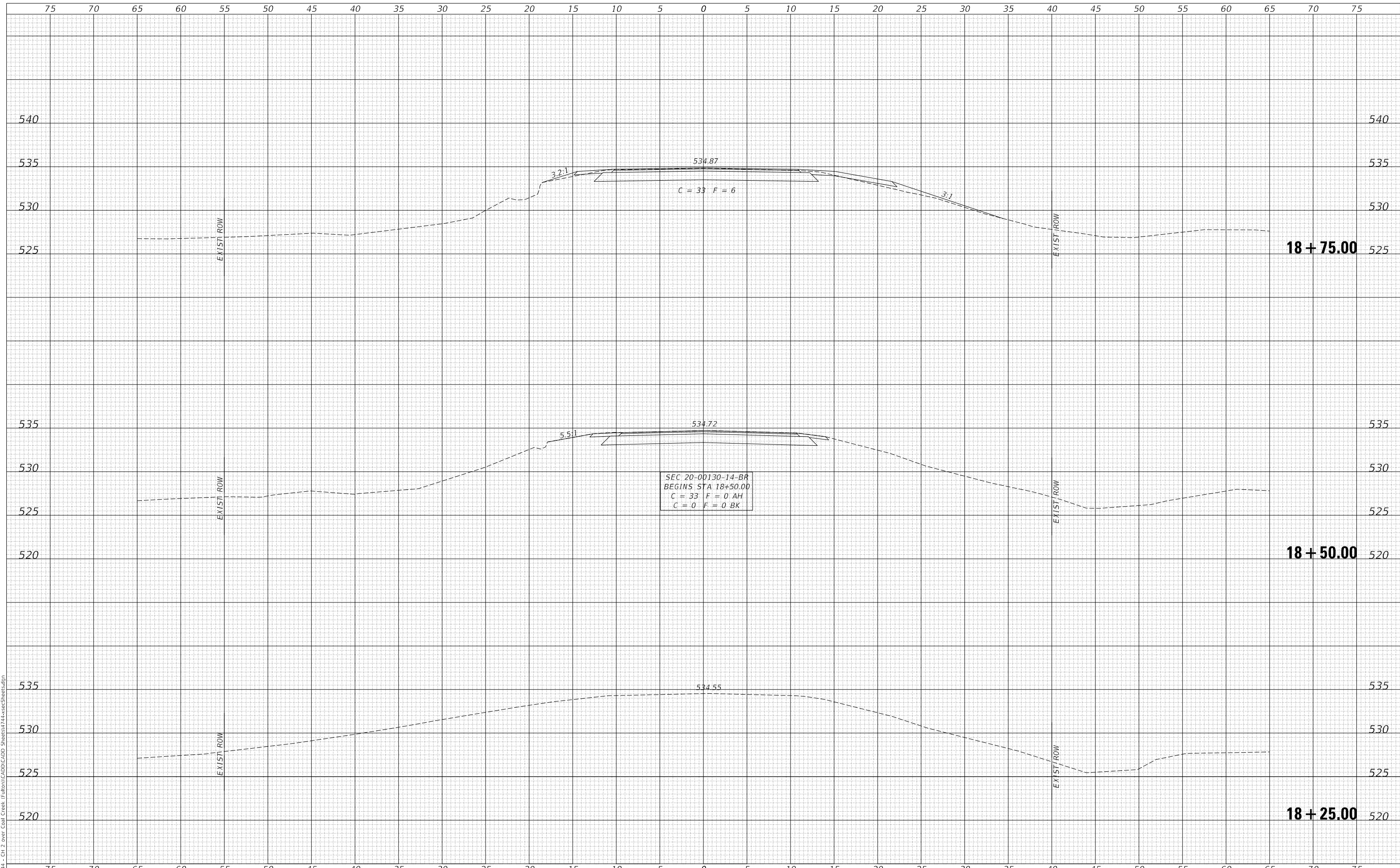
CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES WITH W27 BEAMS AND SMALLER	
SCALE: NONE	SHEET NO. 20 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	26
S.N. 029-3211		CONTRACT NO. 89795		
FED. RD DIST. NO. 7		ILLINOIS FED. AID PROJECT NO. GPKN(447)		

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

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

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PLOT DATE =	7/20/2021	DATE -	_____	REVISED -	_____

**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

CROSS SECTIONS

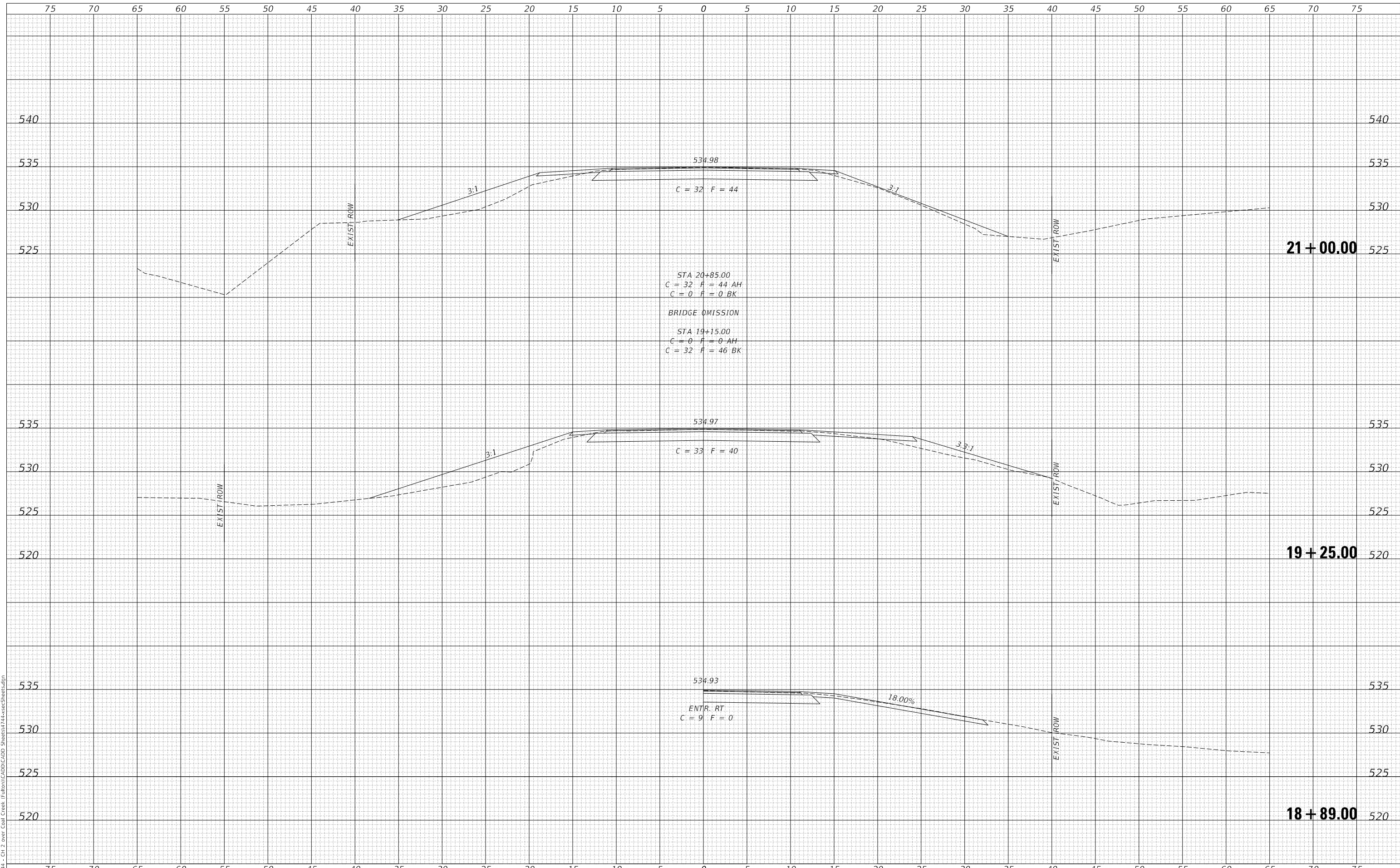
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	27
CONTRACT NO. 89795				
ILLINOIS FED. AID PROJECT GPKN(447)				

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

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

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**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

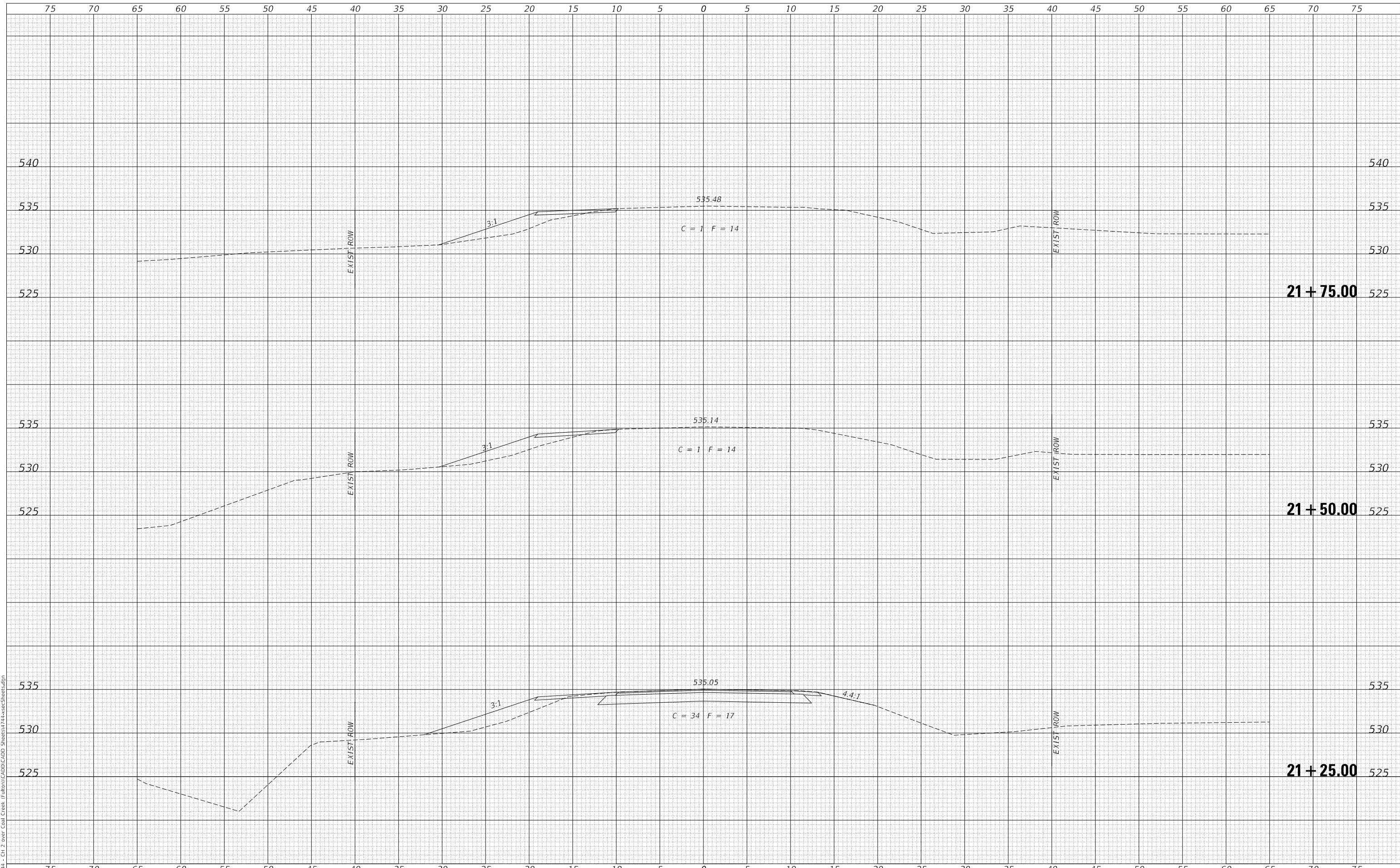
CROSS SECTIONS
SCALE: 1"=5' SHEET 2 OF 4 SHEETS STA. 18+89.00 TO STA. 21+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	28
CONTRACT NO. 89795				
ILLINOIS FED. AID PROJECT GPKN(447)				

DATE	
BY	
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NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED

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

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PLOT DATE =	7/20/2021	DATE -	_____	REVISED -	_____

**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

CROSS SECTIONS

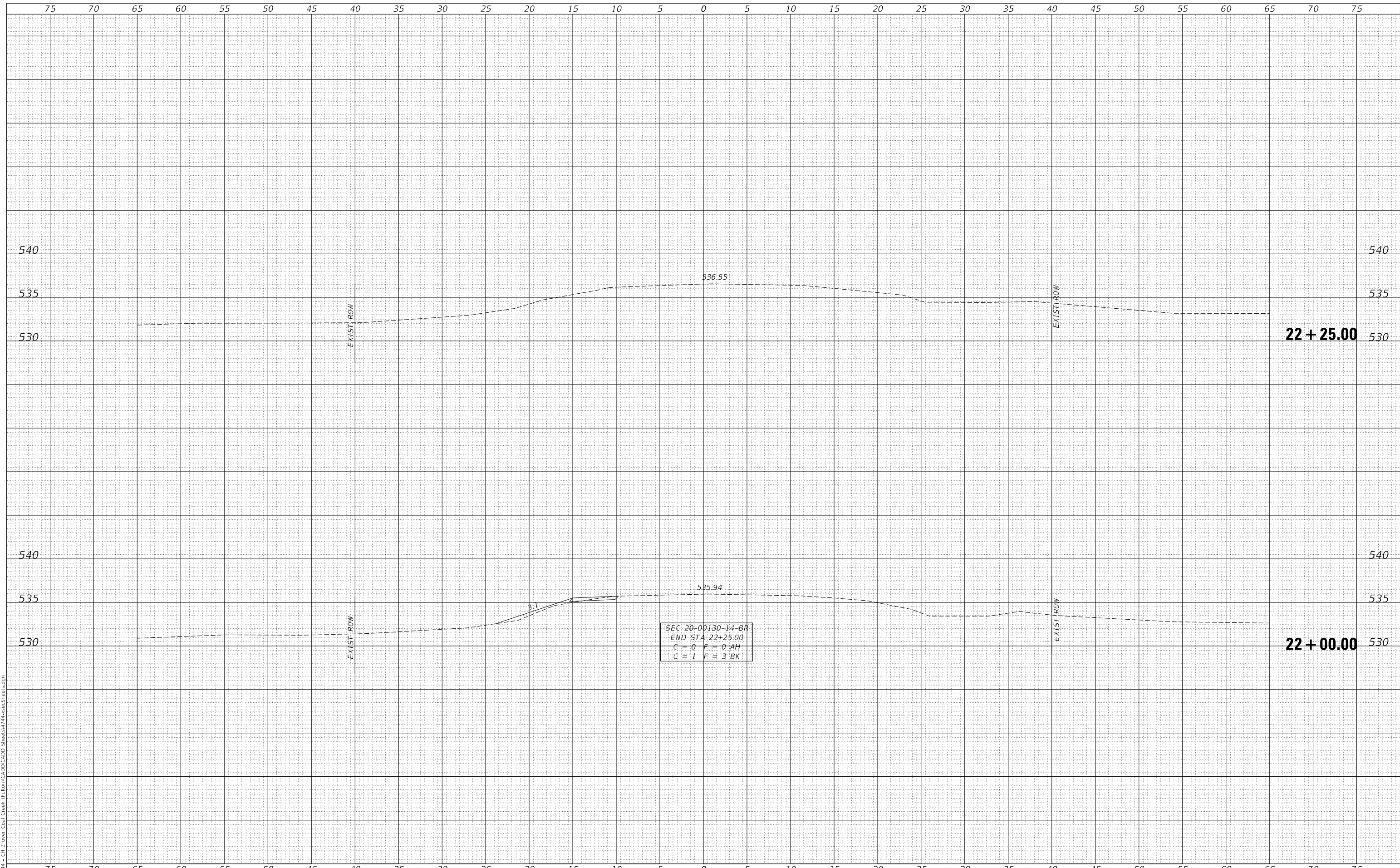
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	29
CONTRACT NO. 89795				
ILLINOIS FED. AID PROJECT GPKN(447)				

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

ORIGINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	DATE
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	DRAWN - JPS	REVISED - _____
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PLOT DATE = 7/20/2021	DATE - _____	REVISED - _____

**FULTON COUNTY
COUNTY HIGHWAY 2 (F.A.S. 452)
OVER COAL CREEK**

CROSS SECTIONS

SCALE: 1"=5' SHEET 4 OF 4 SHEETS STA. 22+00.00 TO STA. 22+25.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
452	20-00130-14-BR	FULTON	30	30
CONTRACT NO. 89795				
ILLINOIS FED. AID PROJECT GPKN(447)				