

F.A.U. R/L	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19 00177 00-BR	GRUNDY	28	1
FED. ROAD DIST. NO. 7 ILLINOIS		CONTRACT NO. 87768		

**INDEX OF SHEETS**

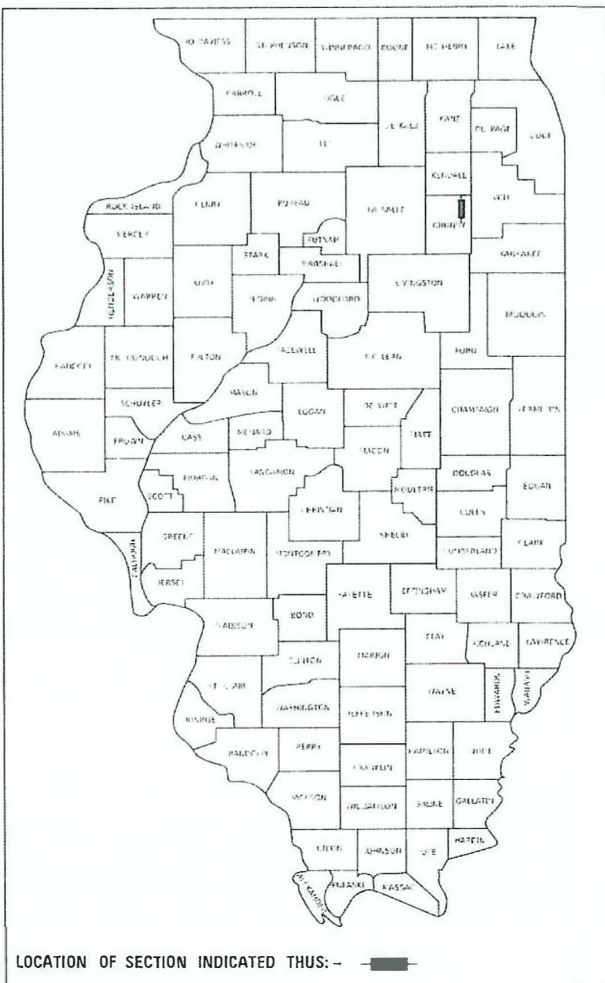
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, TYPICAL SECTIONS, PAVEMENT DESIGN INFORMATION, DETAILS
3	SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES
4	TRAFFIC CONTROL PLAN
5	EROSION CONTROL PLAN
6	PLAN AND PROFILE
7-19	STRUCTURE PLANS
20-23	EXISTING STRUCTURE PLANS
24-28	CROSS SECTIONS

11/18/2022 LETTING ITEM 093

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

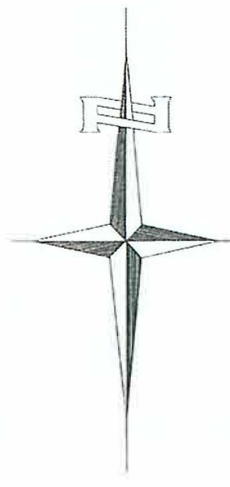
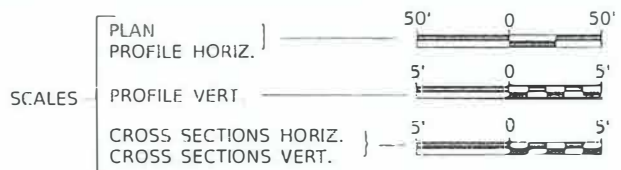
# PLANS FOR PROPOSED SURFACE TRANSPORTATION PROGRAM-BRIDGE GRUNDY COUNTY

## SECTION 19-00177-00-BR F.A.U. 401 (C.H. 27) OVER COLLINS RUN CREEK PROJECT NO. 4BWY(452) JOB NUMBER C-93-003-22



**HIGHWAY STANDARDS**

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 420406 PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
- 515001-04 NAME PLATE FOR BRIDGES
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 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

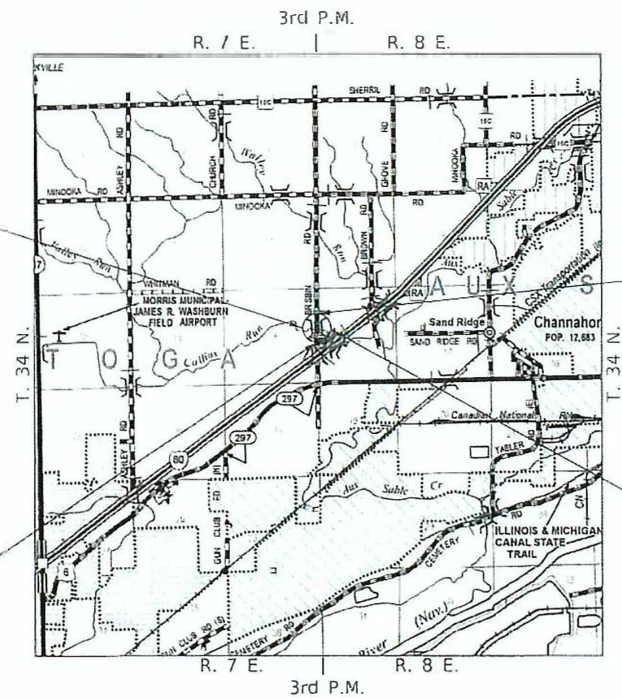


PROPOSED STRUCTURE SN 032-3911  
THREE SPAN 17" PPC DECK BEAM  
SUPERSTRUCTURE ON THE EXISTING  
CLOSED ABUTMENTS AND CONCRETE  
SOLID WALL PIERS, 96'-3" BK TO BK,  
32'-0" O TO O DECK, NO SKEW.

SECTION 19-00177-00-BR  
BEGINS  
STATION 128+61.61

SECTION 19-00177-00-BR  
ENDS  
STATION 132+76.00

EXISTING STRUCTURE SN 032-3911  
THREE SPAN BRIDGE CONSISTING OF PCC  
CHANNEL BEAM SUPERSTRUCTURE ON CLOSED  
ABUTMENTS AND SOLID WALL CONCRETE PIERS,  
94'-3" BK TO BK, 26'-3" O TO O DECK,  
NO SKEW. (SUPERSTRUCTURE TO BE REMOVED)



**LOCATION MAP**



NET LENGTH OF PROJECT = 414.39 FEET = 0.078 MILES  
DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)  
DESIGN ADT = 1,120 (2041)  
DESIGN SPEED = 50 MPH

**UTILITY COMPANIES**

- COMED
- CHICAGO, ILLINOIS
- AT&T
- OAK BROOK, ILLINOIS

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

**CONTRACT NO. 87768**

DATE: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
ENGINEERS SEAL

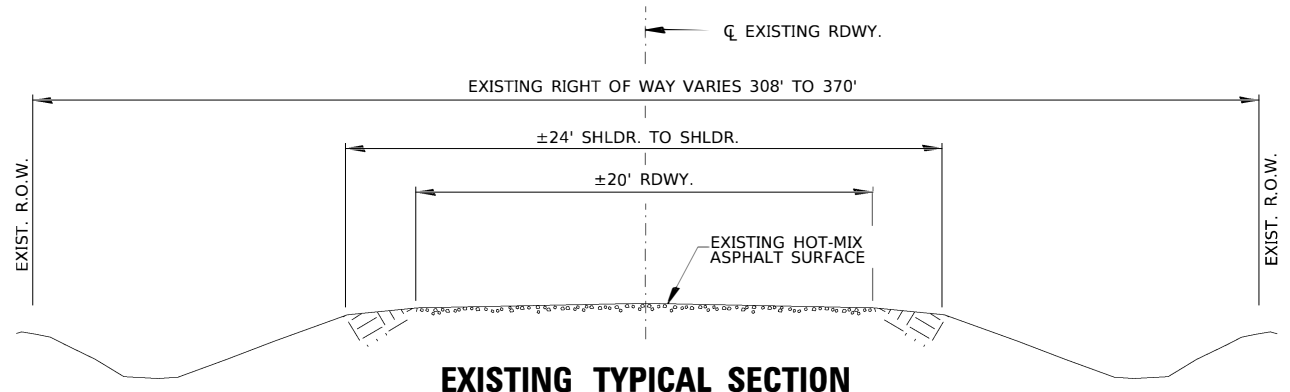
APPROVED August 31 2022  
GRUNDY COUNTY ENGINEER

PASSED SEPTEMBER 13, 2022  
DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

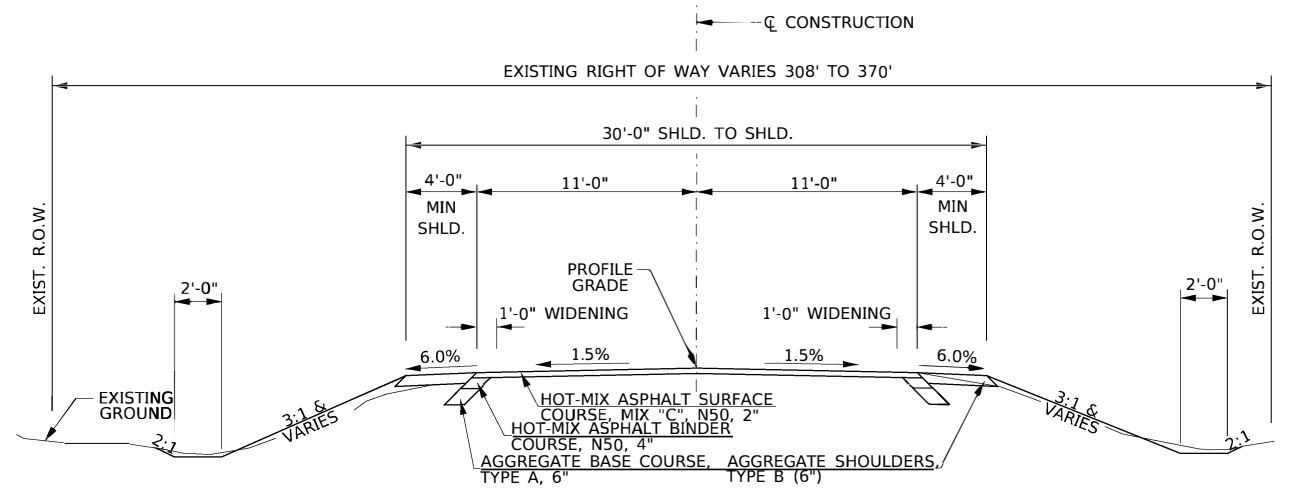
Released For Bid Based on Limited Review SEPTEMBER 13, 2022  
REGION TWO ENGINEER  
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

*Hutchison Engineering, Inc.*  
JACKSONVILLE-SHOREWOOD  
PEORIA-QUAD CITIES-CARBONDALE  
2022 JOB#4726

FILE NAME: W4726 - 01 V23.dwg, Collins Run Creek, 19-00177-00-BR, Sheets: 4726-01.dwg



**EXISTING TYPICAL SECTION**



**PROPOSED TYPICAL SECTION**

CONSTRUCT GUARDRAIL SHOULDER WIDENING IN ACCORDANCE WITH STD 630301

2" HMA OVERLAY  
STA. 129+82.50 TO STA. 129+96.08  
STA. 131+58.50 TO STA. 132+76.00

EXCEPT TRANSITIONS

BRIDGE OMISSION  
STA. 130+30.08 TO STA. 131+24.50

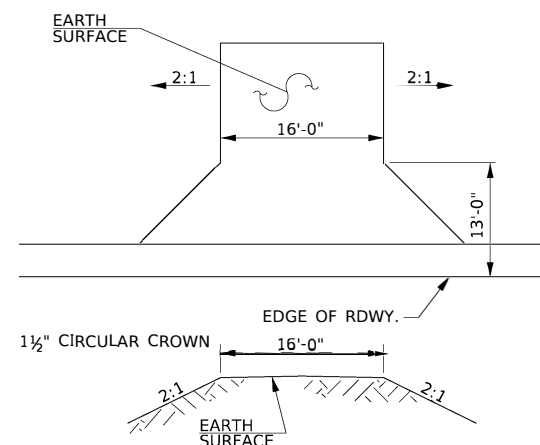
BRIDGE APPROACH PAVEMENTS  
STA. 130+06.08 TO STA. 130+30.08  
STA. 131+24.50 TO STA. 131+48.50

BRIDGE APPROACH CONNECTORS  
STA. 129+96.08 TO STA. 130+06.08  
STA. 131+48.50 TO STA. 131+58.50

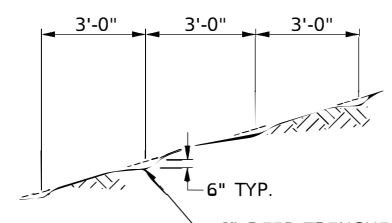
**HOT-MIX ASPHALT MIXTURE REQUIREMENTS**

	HMA BINDER	HMA SURFACE
PG GRADE:	PG 64-22	PG 64-22
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):	STA. 129+96.08-130+06.08 & STA. 131+48.50-132+76.00	STA. 129+82.50-130+06.08 & STA. 131+48.50-132+76.00

**COMMITMENTS**  
THERE ARE NO COMMITMENTS FOR THIS PROJECT



**FIELD ENTRANCE STA. 132 + 54.00**



6" DEEP TRENCHES APPROXIMATELY 3'-0" C-C PARALLEL TO THE CONTOUR LINES OF THE FILL.  
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**

**GENERAL NOTES**

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 (EXCEPT FOR SCHEDULED 2" SURFACE REMOVAL).

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 OR ADJUSTED BY THE CONTRACTOR THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

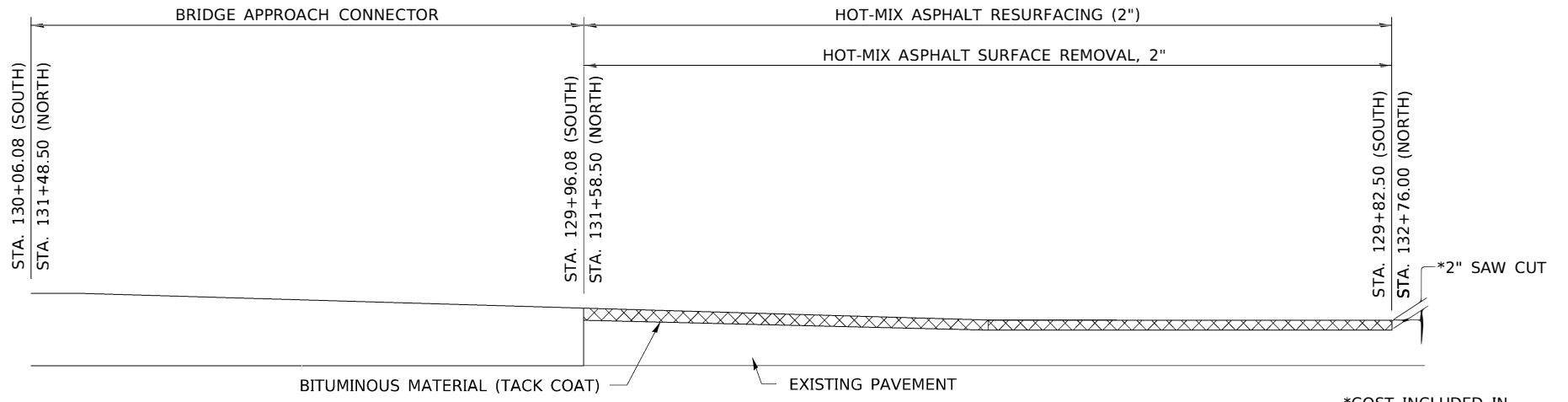
ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

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.



**HOT-MIX ASPHALT RESURFACING DETAIL**

\*COST INCLUDED IN SURFACE REMOVAL.

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

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

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 128+61.61 TO STA. 132+76.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	2
CONTRACT NO. 87768				
FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT NO. 4BWY(452)	

MODEL: s4MODELNAME  
FILE NAME: V141725 - CH 27 over Collins Run Creek (Grundy) (CADD) (CADD Sheets) 17/6-001.dgn

USER NAME = BNebe1	DESIGNED - BAN	REVISED - _____
	DRAWN - BAN	REVISED - _____
PLOT SCALE = 2.0000' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 2/8/2022	DATE - 11/01/2021	REVISED - _____

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	280
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	95
28000305	TEMPORARY DITCH CHECKS	FOOT	108
28000400	PERIMETER EROSION BARRIER	FOOT	90
28000500	INLET AND PIPE PROTECTION	EACH	1
35100100	AGGREGATE BASE COURSE, TYPE A	TON	9
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	59
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	157
① 40603080	HOT-MIX ASPHALT BINDER COURSE, 11-19 0, N50	TON	6
① 40604050	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "C", N50	TON	82
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	62
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	317
48101200	AGGREGATE SHOULDERS, TYPE B	TON	81
① 50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50102400	CONCRETE REMOVAL	CU YD	21.6
50105220	PIPE CULVERT REMOVAL	FOOT	20
50200100	STRUCTURE EXCAVATION	CU YD	55
50300225	CONCRETE STRUCTURES	CU YD	58.4
50300260	BRIDGE DECK GROOVING	SQ YD	160
50300300	PROTECTIVE COAT	SQ YD	171
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	77.4
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	3,017
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	35,680
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1, 15"	FOOT	26
① 58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	336
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	165
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	40
△ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
△ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
67100100	MOBILIZATION	L SUM	1
△ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
△ 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	956
① X2300017	STEEL RAILING, TYPE SM (SPECIAL)	FOOT	285
① X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2
① X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
① Z0073500	TEMPORARY SUPPORT SYSTEM	L SUM	1

① SEE SPECIAL PROVISIONS  
 △ SPECIALTY ITEMS

PERIMETER EROSION BARRIER			
STATION TO STATION	SIDE	FOOT	
129+83	130+20	LEFT	62
132+41	132+67	LEFT	28
TOTAL			90

TEMPORARY DITCH CHECKS		
STATION	SIDE	FOOT
129+00	RT	12
129+40	RT	12
129+80	RT	12
130+20	RT	12
131+25	LT	12
131+25	RT	12
131+75	RT	12
131+95	LT	12
132+25	RT	12
TOTAL		108

INLET AND PIPE PROTECTION		
STATION	SIDE	EACH
132+67	LT	1
TOTAL		1

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT			
STATION TO STATION	SIDE	EACH	
129+19.46	129+68.90	RT	1
131+86.00	132+35.99	LT	1
TOTAL			2

TRAFFIC BARRIER TERMINAL, TYPE 6A			
STATION TO STATION	SIDE	EACH	
129+68.90	130+06.08	RT	1
131+48.50	131+86.00	LT	1
TOTAL			2

PIPE CULVERTS		
STATION	SIDE	CLASS D, TYPE 1, 15" FOOT
132+54	LT	26
TOTAL		26

PIPE CULVERT REMOVAL		
STATION	SIDE	FOOT
132+54	LT	20
TOTAL		20

PAVEMENT SCHEDULE									
STATION TO STATION	WIDTH	LENGTH	AGGREGATE	BITUMINOUS	HOT-MIX	BITUMINOUS	HOT-MIX	PAVEMENT	
			BASE CSE, TYPE A 140#/CF	MATERIALS (PRIME COAT) 0.25LBS/SQ FT	ASPHALT BINDER CSE 112#/SQ YD/IN	MATERIALS (TACK COAT) 0.050LBS/SQ FT	ASPHALT SURFACE CSE 112#/SQ YD/IN	CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	
			TON	POUND	TON	POUND	TON	SQ YD	
129+82.50	129+96.08	36.52' AVG.	13.58'			25			
129+82.50	129+96.08	36.35' AVG.	13.58'				6		
129+96.08	130+06.08	33.25' AVG.	10.00'					37	
BRIDGE DECK			32.00'	94.42'			43		
131+48.50	131+58.50	22.00'	10.00'					25	
131+58.50	132+76.00	2.00'	117.50'	9					
131+58.50	132+76.00	2.00'	117.50'		59				
131+58.50	132+76.00	2.00'	117.50'			6			
131+58.50	132+76.00	22.33'	117.50'				132		
131+58.50	132+76.00	22.17'	117.50'					33	
TOTAL				9	59	6	157	82	62

HOT-MIX SURFACE ASPHALT REMOVAL, 2"			
STATION TO STATION	WIDTH	LENGTH	SQ YD
129+82.50 - 129+96.08	36.18' AVG.	13.58'	55
131+58.50 - 132+76.00	20.00'	117.50'	262
TOTAL			317

EARTHWORK SUMMARY				
STATION TO STATION	EARTH EXCAVATION	STRUCTURE EXCAVATION	FILL	WASTE (SHORTAGE)
RDWY 128+61.61 - 130+29.17	165		21	103
RDWY 131+25.42 - 132+76.00	113		141	(56)
STRUCTURE		55		
TOTAL	278	55	162	47
USE	280	55	-	45

(@ 25% SHRINKAGE)

AGGREGATE SHOULDERS, TYPE B 140#/CF					
STATION TO STATION	SIDE	WIDTH	LENGTH	TON	
128+61.61	129+09.46	RT	4.88' AVG.	47.85'	8
129+09.46	129+43.70	RT	6.70' AVG.	34.24'	8
129+43.70	129+90.43	RT	4.40' AVG.	46.73'	7
129+90.43	130+11.34	RT	2.22' AVG.	20.91'	2
131+36.50	131+48.50	LT	2.00' AVG.	12.00'	1
131+48.50	132+76.00	RT	4.00'	127.50'	18
131+48.50	132+45.99	LT	9.00'	97.49'	30
132+45.99	132+76.00	LT	6.50' AVG.	30.01'	7
TOTAL					81

PAINT PAVEMENT MARKING - LINE 4"			
STATION TO STATION	SIDE	DESCRIPTION	FOOT
129+82.50 - 132+76.00	LEFT	SOLID WHITE	294
129+82.50 - 132+76.00	CL	LT YELLOW SOLID	294
129+82.50 - 132+76.00	CL	RT YELLOW SKIP-DASH	74
129+82.50 - 132+76.00	RIGHT	SOLID WHITE	294
TOTAL			956

MODEL: MODELNAMES  
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	DRAWN - BAN	REVISED - _____
PLOT SCALE = 100.0000' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 1/27/2022	DATE = 11/01/2021	REVISED - _____

**GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN**

**SUMMARY OF QUANTITIES,  
 SCHEDULES OF QUANTITIES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. 128+61.61 TO STA. 132+76.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	3
CONTRACT NO. 87768				
FED. ROAD DIST. NO. 7 ILLINOIS				FED. AID PROJECT NO. 48WY1452

R 7 E R 8 E, 3rd PM



- 1 ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY R11-3
- 2 ROAD CLOSED 1 1/2 MILE AHEAD LOCAL TRAFFIC ONLY R11-3
- 3 ROAD CLOSED 2 1/2 MILE AHEAD LOCAL TRAFFIC ONLY R11-3
- 4 BRISBIN RD CLOSED NORTH OF I-80 R11-3
- 5 ROAD CLOSED AHEAD W20-3
- 6 ROAD CLOSED 500 FT W20-3
- 7 TYPE III BARRICADES SEE STANDARD BLR 21 AND SPECIAL PROVISIONS

MODEL: s:\MODEL\NAME FILE NAME: C:\1728 - CH 27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\1728001.dgn

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DRAWN - JPS	REVISIONS -	
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PLOT DATE = 1/27/2022	DATE - 11/5/2021	REVISIONS -

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**TRAFFIC CONTROL PLAN**

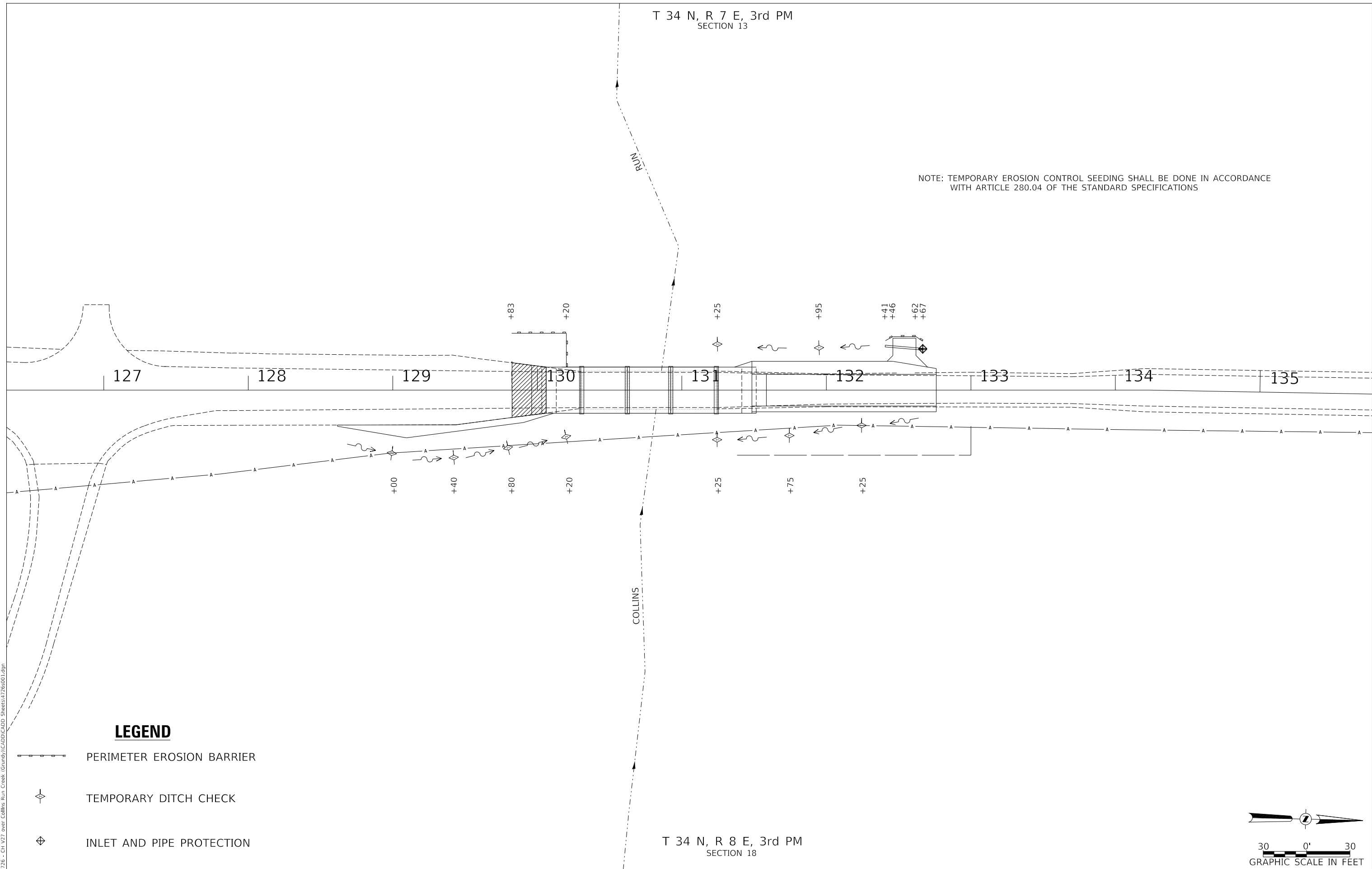
SCALE: NONE SHEET 1 OF 1 SHEETS STA. 128+61.61 TO STA. 132+76.00

F.A.U. RTE. 401	SECTION 19-00177-00-BR	COUNTY GRUNDY	TOTAL SHEETS 28	SHEET NO. 4
FED. ROAD DIST. NO. 7 ILLINOIS			CONTRACT NO. 87768	
			FED. AID PROJECT NO. 4BWY(452)	






T 34 N, R 7 E, 3rd PM  
SECTION 13

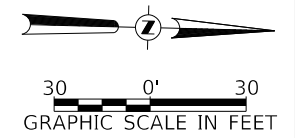
NOTE: TEMPORARY EROSION CONTROL SEEDING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 280.04 OF THE STANDARD SPECIFICATIONS



T 34 N, R 8 E, 3rd PM  
SECTION 18

**LEGEND**

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK
-  INLET AND PIPE PROTECTION



MODEL: s:\06\B\N\ME\FILE NAME: V:\1725 - CH 27 over Collins Run Creek (Grundy)\CAD\CADD Sheets\1725\001.dgn

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DRAWN - JPS	REVISOR - _____	
PLOT SCALE = 60.0000 ' / in.	CHECKED - BAN	REVISED - _____
PLOT DATE = 1/27/2022	DATE - 10/28/2021	REVISED - _____

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

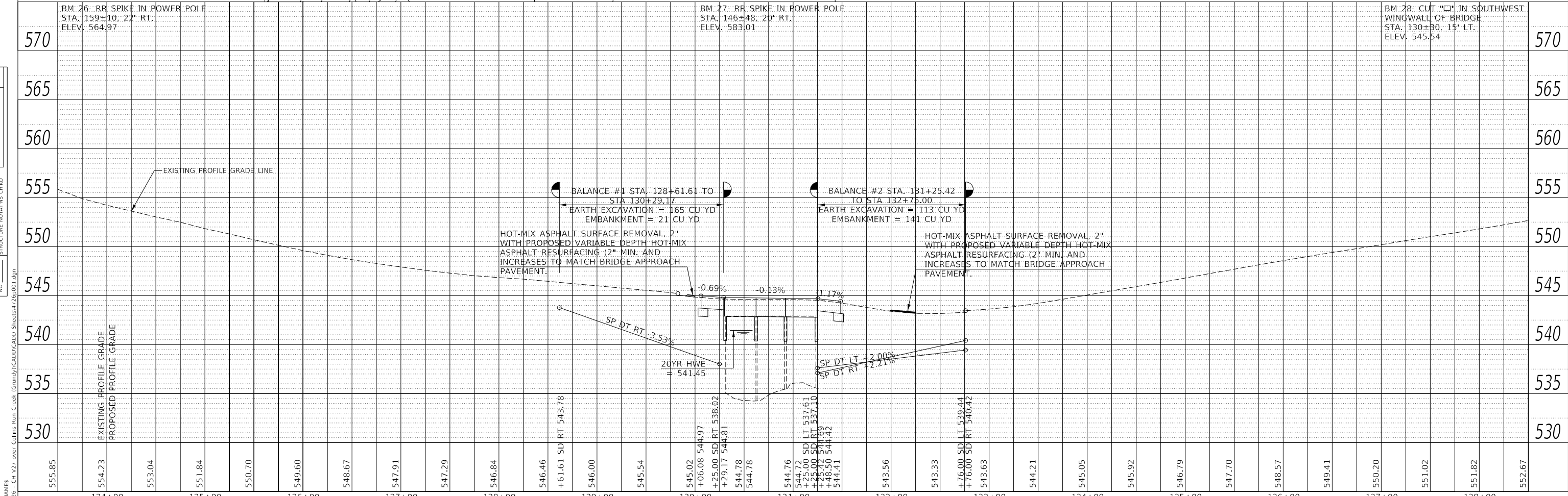
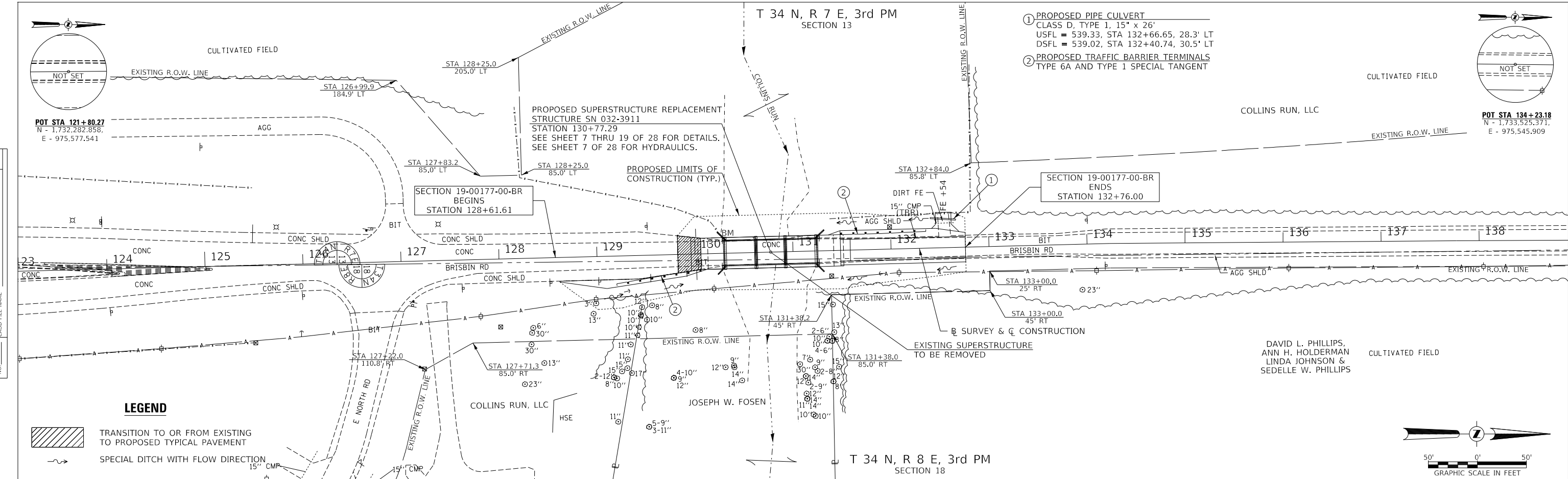
**EROSION CONTROL PLAN**

SCALE: 1"=30' SHEET 1 OF 1 SHEETS STA. 128+61.61 TO STA. 132+76.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	5
CONTRACT NO. 87768				
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT NO. 4BWY(452)

DATE	
BY	
PLAN	SURVEYED
	PLOTTED
	ALIGNED
	CHECKED
	FILED
	NO. _____
	NO. _____

DATE	
BY	
PROFILE	SURVEYED
	PLOTTED
	GRADES CHECKED
	STRUCTURE NOTATIONS CHECKED
	NO. _____
	NO. _____



555.85	554.23	553.04	551.84	550.70	549.60	548.67	547.91	547.29	546.84	546.46	+61.61 SD RT 543.78	546.00	545.54	545.02	+06.08 544.97	+25.00 SD RT 538.02	+29.17 544.81	544.78	544.78	544.76	544.72	SD LT 537.61	+25.00 SD RT 537.10	+25.42 544.69	+48.30 544.42	544.41	543.56	543.33	+76.00 SD LT 539.44	+76.00 SD RT 540.42	543.63	544.21	545.05	545.92	546.79	547.70	548.57	549.41	550.20	551.02	551.82	552.67
124+00		125+00		126+00		127+00		128+00		129+00		130+00		131+00		132+00		133+00		134+00		135+00		136+00		137+00		138+00														
USER NAME = Bnebel		DESIGNED - BAN		REVISED -		DRAWN - JCW		REVISED -		CHECKED - BAN		REVISED -		DATE - 11/02/2021		REVISED -		SCALE: 1"=50'		SHEET NO. 1 OF 1 SHEETS		STA. 128+61.61 TO STA. 132+76.00		F.A.U. RTE. 401		SECTION 19-00177-00-BR		COUNTY GRUNDY		TOTAL SHEETS 28		SHEET NO. 6		CONTRACT NO. 87768		FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT NO. 48WY(452)				

MODEL: SPODEL\MAMES  
FILE NAME: V:\3722 - CH V27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\4726p001.dgn

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**PLAN AND PROFILE**

**GENERAL NOTES**

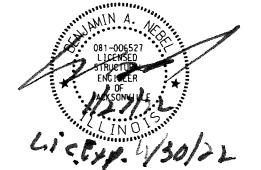
A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(10) and 1021.07 of the Standard Specifications.  
 Reinforcement Bars designated (E) shall be epoxy coated.  
 Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. If temporary supports are utilized, this excavation is not required.  
 Bridge Deck Grooving and Protective Coat shall only be applied to the Approach Slabs.

**TOTAL BILL OF MATERIAL**

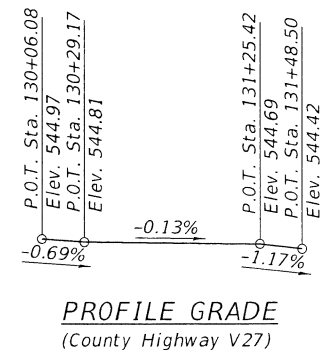
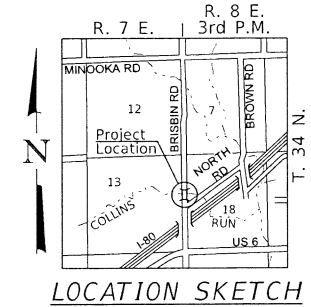
ITEM	UNIT	SUPER	SUB	TOTAL
① Hot-Mix Asphalt Surface Course, 1L-9.5, Mix "C", N50	TON	43	—	43
① Removal of Existing Superstructures	EACH	1	—	1
Concrete Structures	CU YD	—	58.4	58.4
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	3,017	—	3,017
Reinforcement Bars, Epoxy Coated	POUND	31,350	4,330	35,680
① Steel Railing, Type SM (Special)	FOOT	285	—	285
Name Plates	EACH	—	1	1
Portland Cement Mortar Fairing Course	FOOT	165	—	165
① Water-Proofing Membrane System	SQ YD	336	—	336
Concrete Removal	CU YD	—	21.6	21.6
Bridge Deck Grooving	SQ YD	160	—	160
Protective Coat	SQ YD	171	—	171
Concrete Superstructure (Approach Slab)	CU YD	77.4	—	77.4
Structure Excavation	CU YD	—	55	55
① Temporary Support System	L SUM	—	1	1
Granular Backfill for Structures	CU YD	40	—	40

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

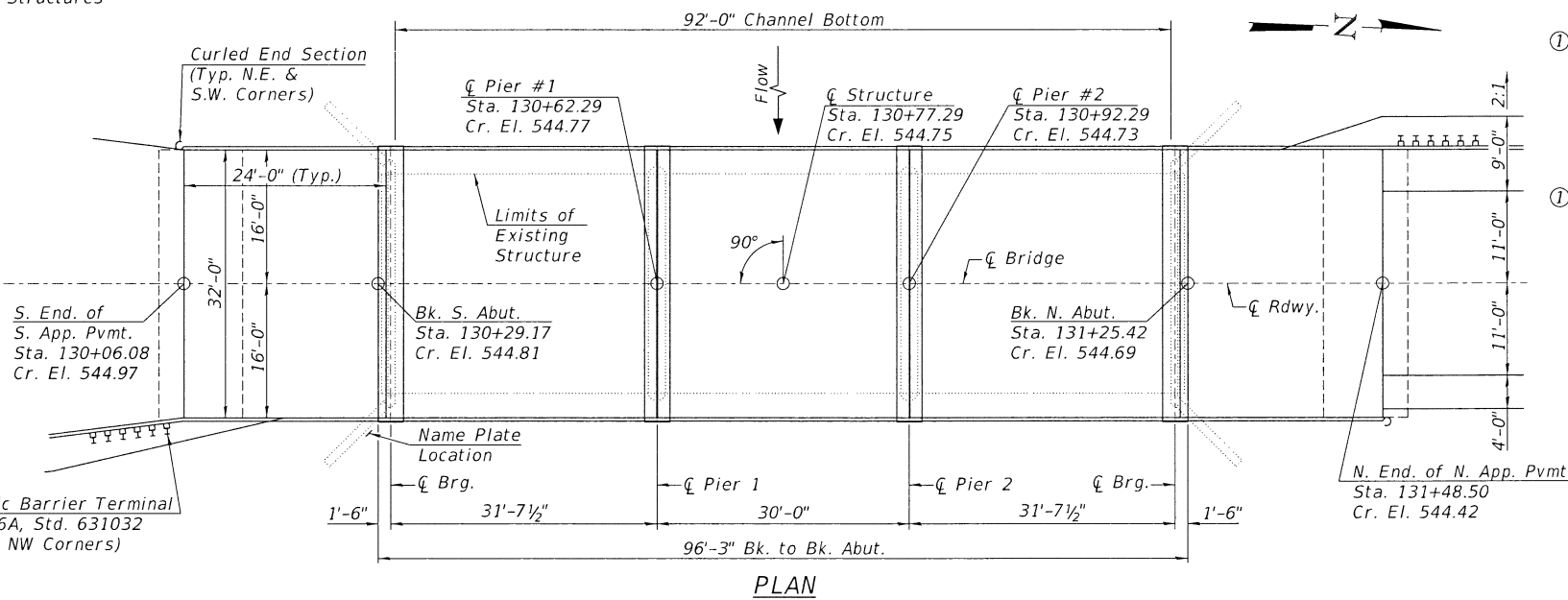
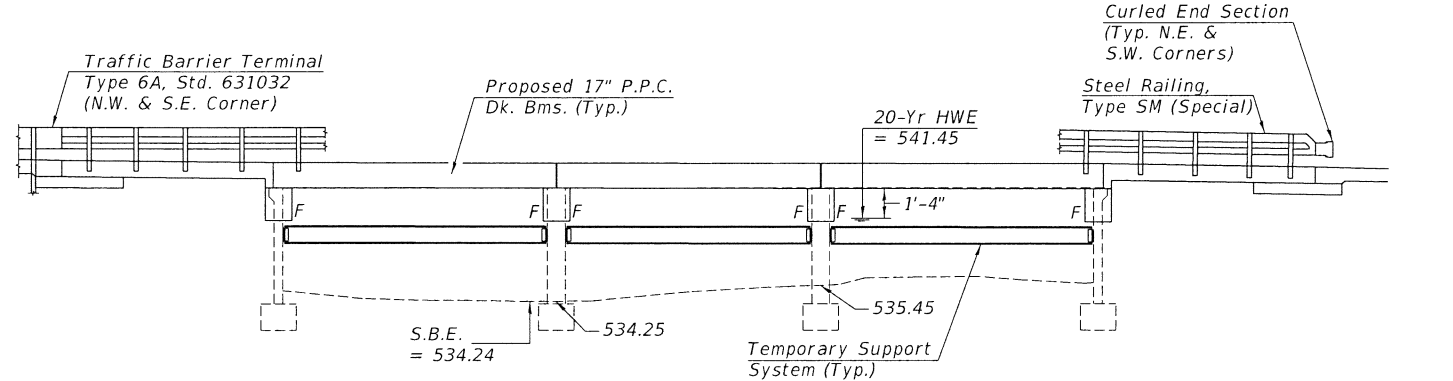
*[Signature]* 1/27/22  
 Illinois Structural No. 6527  
 Expires 11/30/2022



**GENERAL PLAN & ELEVATION**  
 GRUNDY COUNTY  
 SECTION 19-00177-00-BR  
 STA. 130+77.29  
 CH V27 (FAU 401)  
 COLLINS RUN CREEK



**NAME PLATE**  
 COLLINS RUN  
 BUILT 202 BY  
 GRUNDY COUNTY  
 SEC. 19-00177-00-BR  
 C.H. V27 STATION 130+77.29  
 STR. NO. 032-3911 LOADING HL-93  
 Locate Name Plate at S.W. Wingwall Corner of Bridge (See Std. 515001). Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



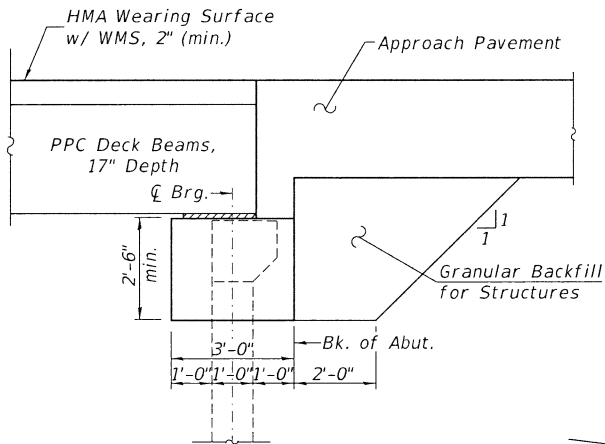
B.M.: RR Spike in Power Pole Sta. 15+85, 28' RT. Elev. 622.95  
 RR Spike in Power Pole Sta. 24+02, 26' RT. Elev. 621.08

Existing Structure:  
 Three span precast prestressed concrete channel beam superstructure. The structure is 94'-3" back to back of abutments, 26'-3" out to out of deck, and is not skewed. Str. No. 032-3911

Existing Superstructure to be removed and replaced.

Salvage: None

Road to be closed to traffic during construction.



**DESIGN SCOUR ELEVATION TABLE**

	Design Scour Elevations (ft.)				Item 113
	S. Abut.	Pier 1	Pier 2	N. Abut.	
Q100	534.6	534.6	534.6	534.6	8
Q200	534.6	534.6	534.6	534.6	
Design	534.6	534.6	534.6	534.6	
Check	534.6	534.6	534.6	534.6	

**WATERWAY INFORMATION**

Drainage Area=28.73 Sq. Mi. Low Grade Elev.= 543.33 @ Sta. 132+50.00

Flood Yr.	Freq.	Q	Opening	Sq. Ft.	Nat. Head - Ft.	Headwater El
		C.F.S.	Exist.	Prop.	Exist.	Prop.
Design	20	1,906	560	555	541.45	0.09
Base	100	2,740	644	636	542.41	0.21

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**

(FIELD UNITS - NEW CONSTRUCTION) (PRECAST PRESTRESSED UNITS)  
 f'c = 3,500 p.s.i. (Substructure) f'c = 6,000 p.s.i.  
 f'c = 5,000 p.s.i. (Superstructure) f'ci = 5,000 p.s.i.  
 fy = 60,000 p.s.i. (Rein.) f's = 270,000 p.s.i. (1/2" Strands)  
 (FIELD UNITS - EXISTING CONSTRUCTION) f'si = 201,960 p.s.i. (1/2" Strands)  
 f'c = 2,500 p.s.i.  
 fy = 40,000 p.s.i. (Rein.)

**LOADING HL-93**

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

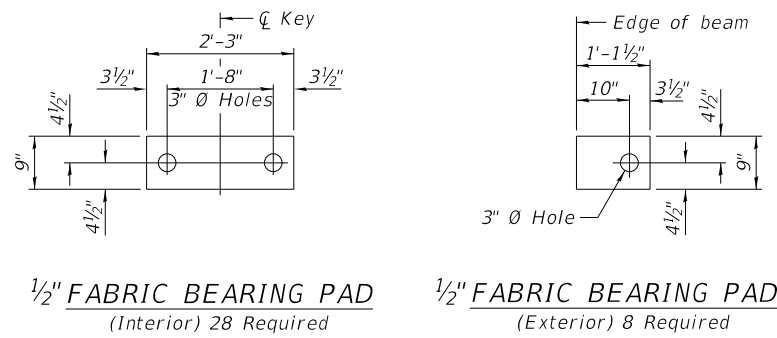
**GRUNDY COUNTY**  
**CH 27 (BRISBIN RD)**  
**OVER COLLINS RUN**

**GENERAL PLAN & ELEVATION**

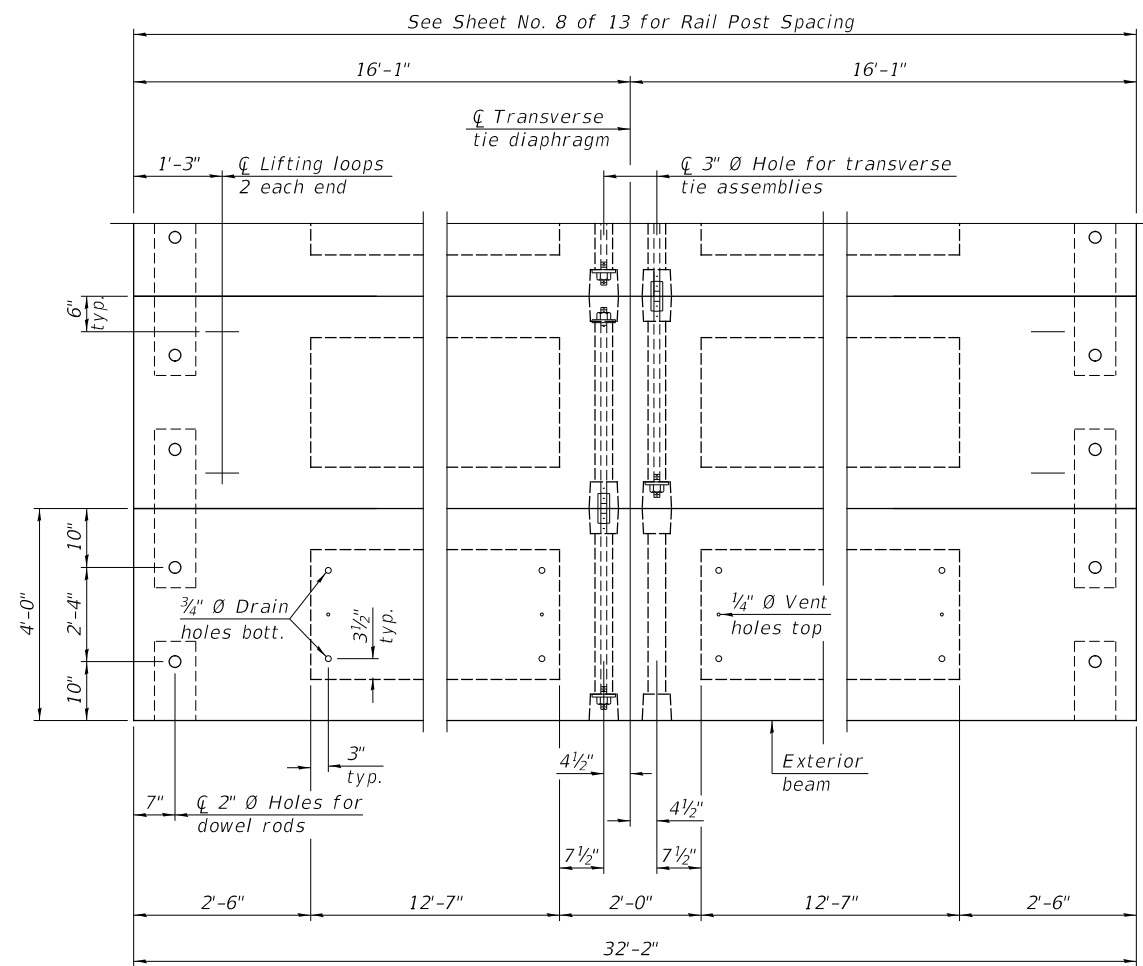
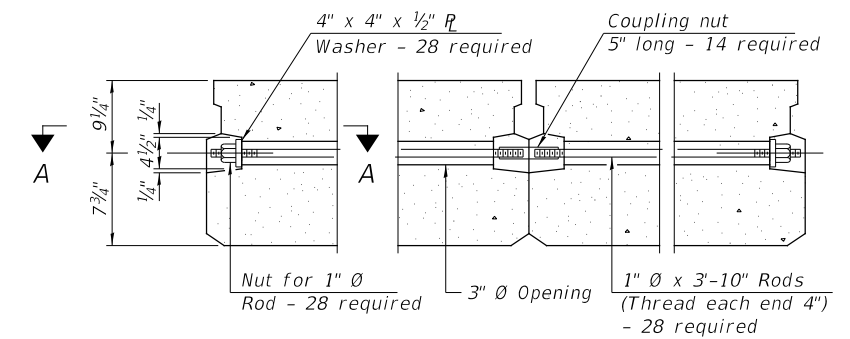
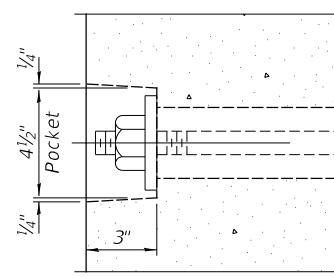
SHEET 1 OF 13 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	7
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT 48WY(452)		

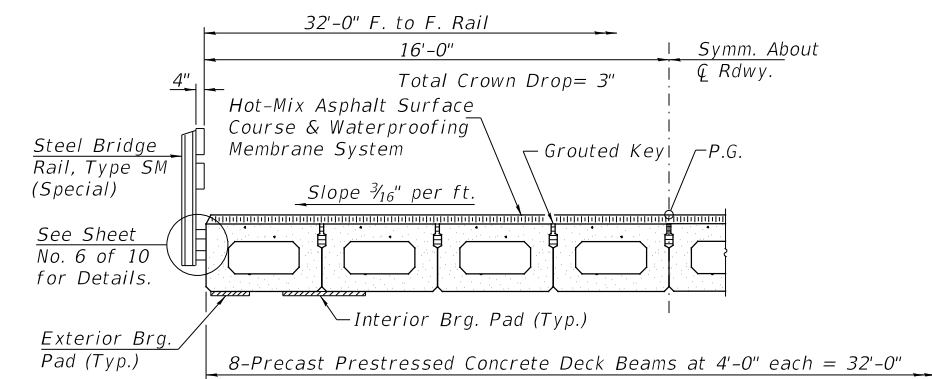
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**FIXED**



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



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	2,059

**NOTES**

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

(Sheet 1 of 2)

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PLOT SCALE =	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - ZL	REVISED -
	CHECKED - BAN	REVISED -

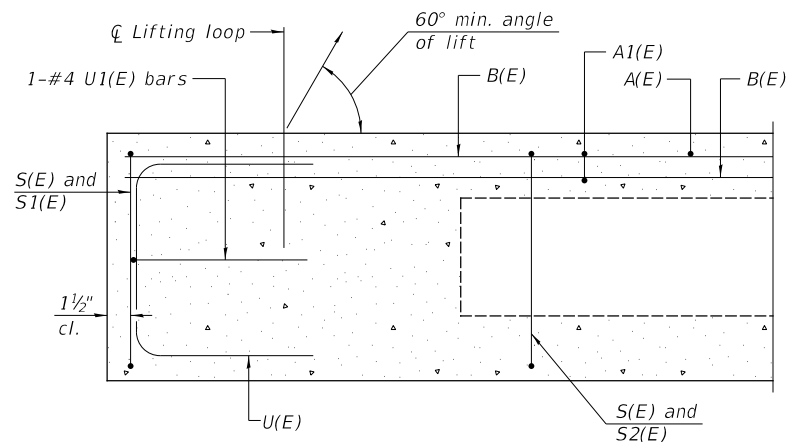
**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**SUPERSTRUCTURE - SPANS 1 & 3**

SHEET 2 OF 13 SHEETS

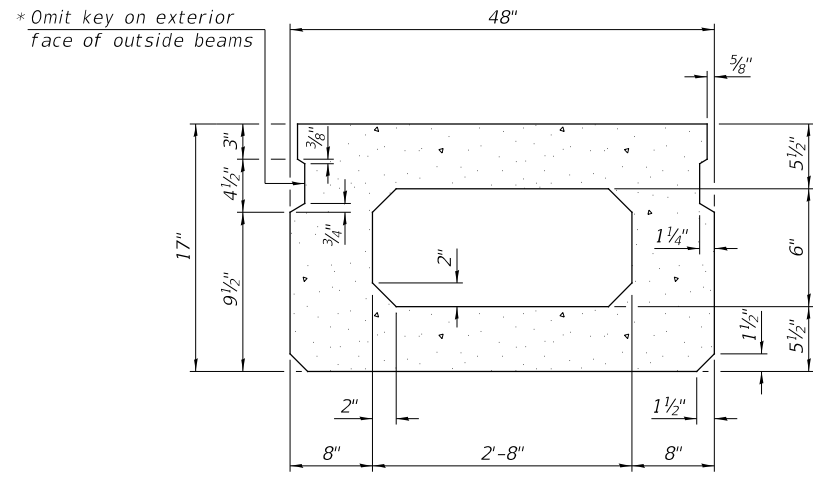
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	8
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 48WY(452)		



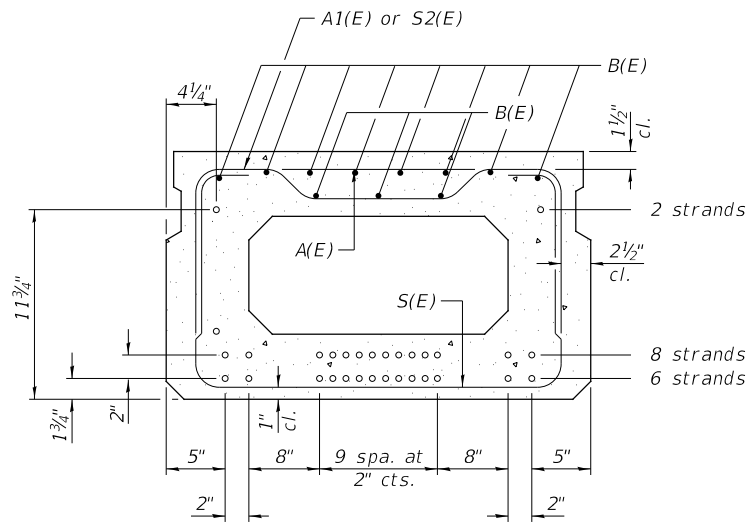


SECTION A-A

\* Rail post anchor devices (Sheet No. 6 of 10) to be cast into exterior face of outside beams.



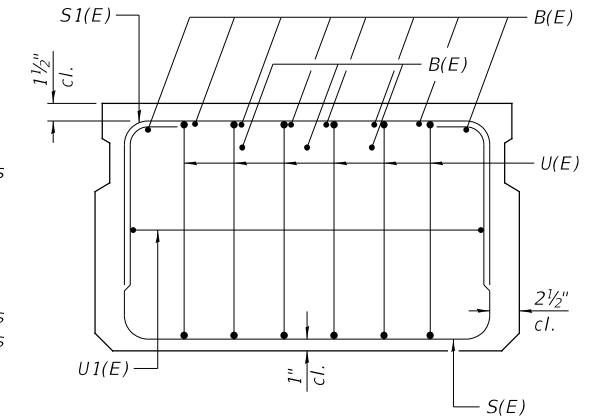
SECTION B-B  
(Showing dimensions)



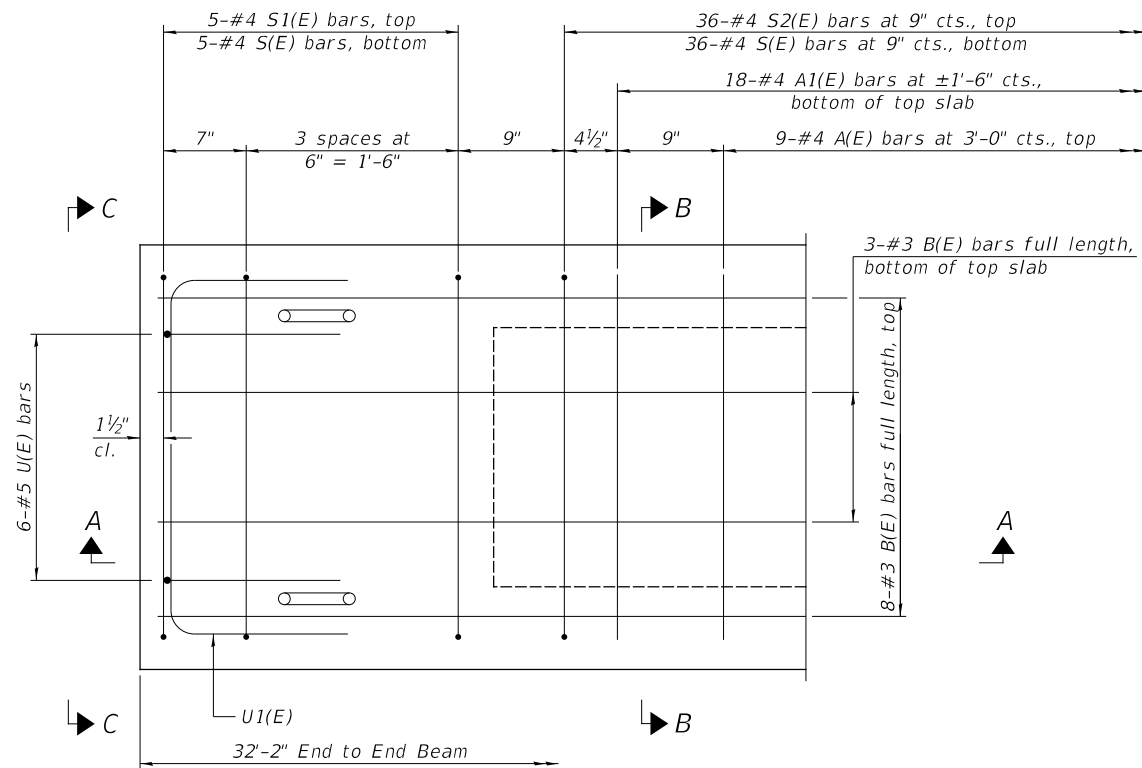
SECTION B-B

16-1/2" Strands Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 8-Strands 3 3/4" up,  
2-Strands 11 3/4" up

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

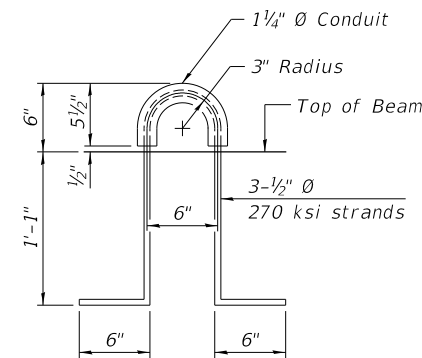


VIEW C-C

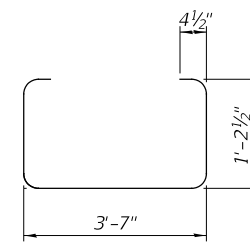


PLAN VIEW

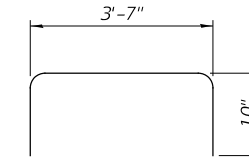
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



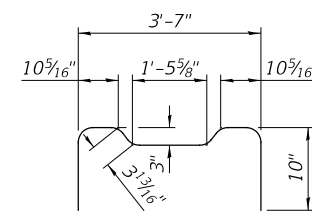
LIFTING LOOP DETAIL



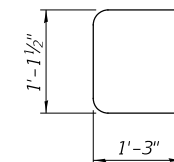
BAR S(E)



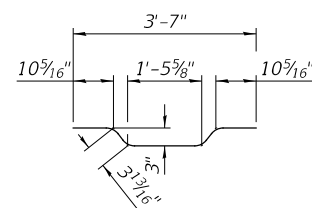
BAR S1(E)



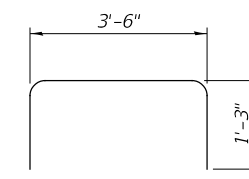
BAR S2(E)



BAR U(E)



BAR A1(E)



BAR U1(E)

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	9	#4	3'-7"	—
A1(E)	18	#4	3'-10"	—
B(E)	11	#3	*31'-11"	—
S(E)	46	#4	6'-9"	□
S1(E)	10	#4	5'-3"	□
S2(E)	36	#4	5'-6"	□
U(E)	12	#5	3'-8"	□
U1(E)	2	#4	6'-0"	□

\* Total Length, Lap as necessary.

Note:  
See Sheet No. 2 of 10 for additional details and Bill of Material.

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

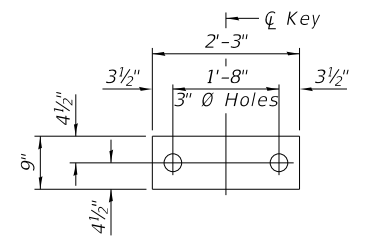
(Sheet 2 of 2)

GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN

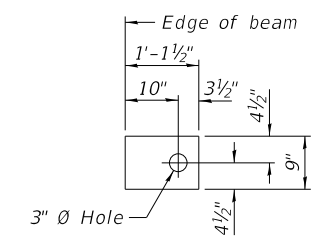
SUPERSTRUCTURE DETAILS - SPANS 1 & 3

SHEET 3 OF 13 SHEETS

F.A.U. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	9
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4B(WY)4521		

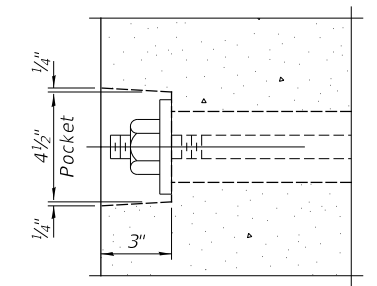


1/2" FABRIC BEARING PAD  
(Interior) 14 Required

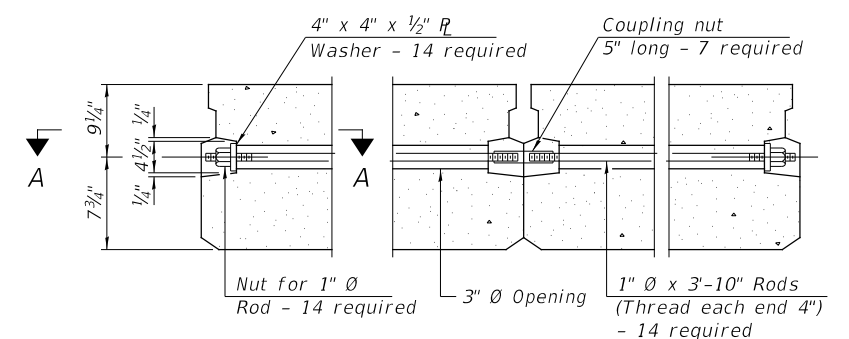


1/2" FABRIC BEARING PAD  
(Exterior) 4 Required

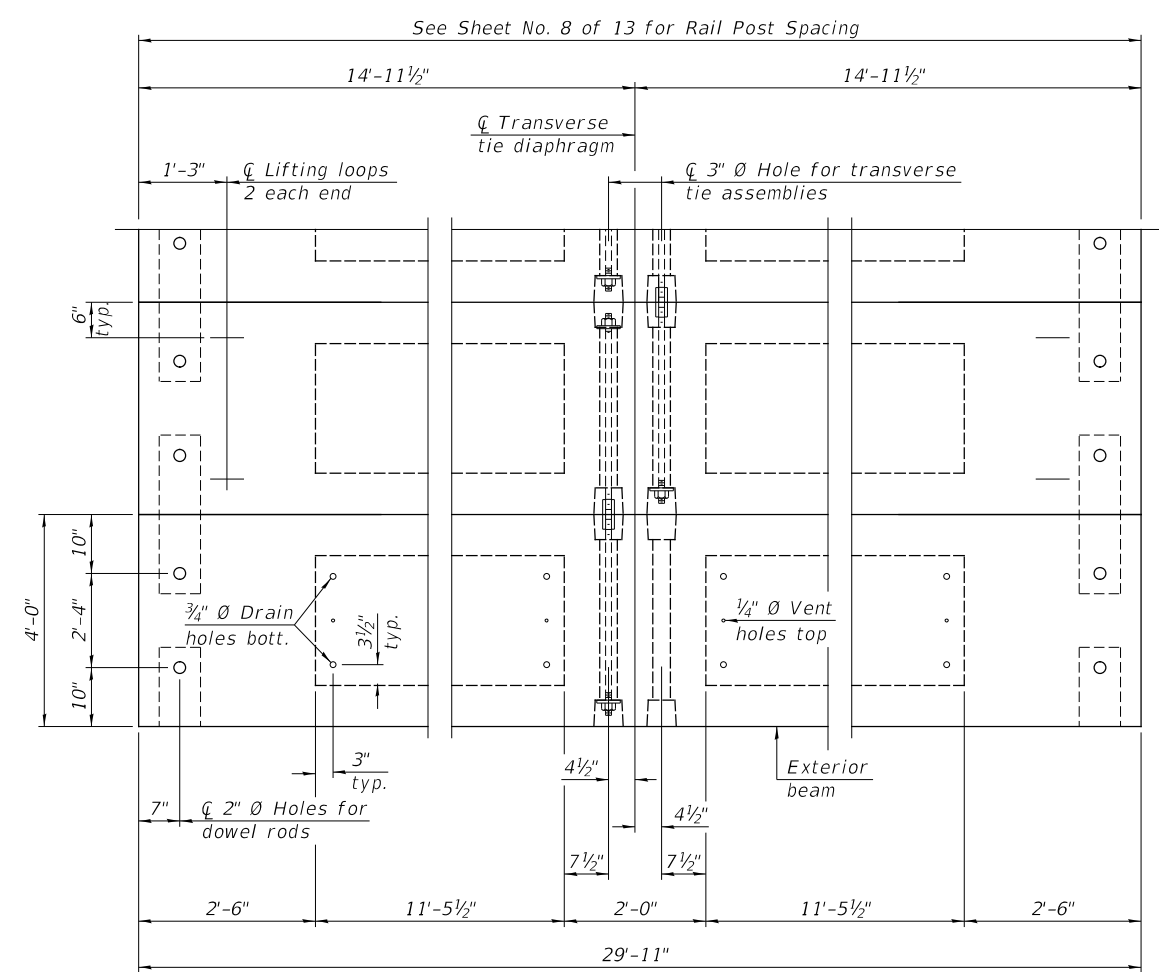
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SECTION A-A

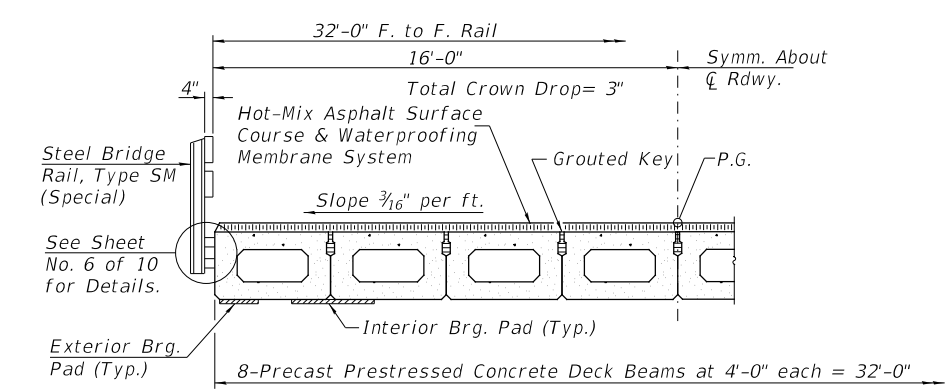


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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



HALF CROSS SECTION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	958

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

(Sheet 1 of 2)

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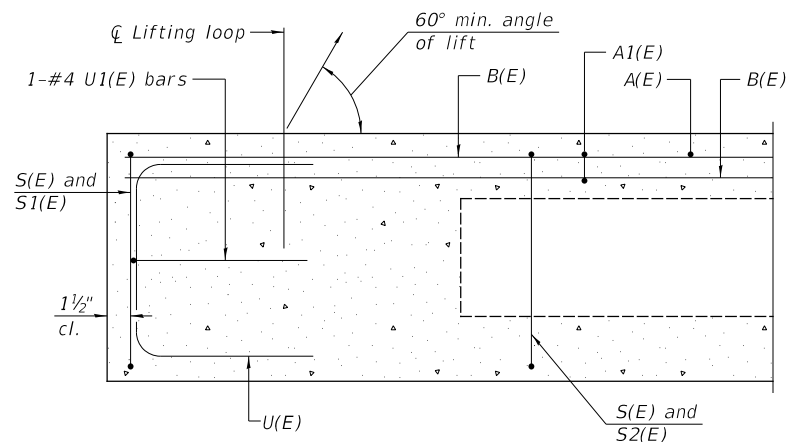
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CHECKED - BAN	REVISIONS -	
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN

SUPERSTRUCTURE - SPAN 2

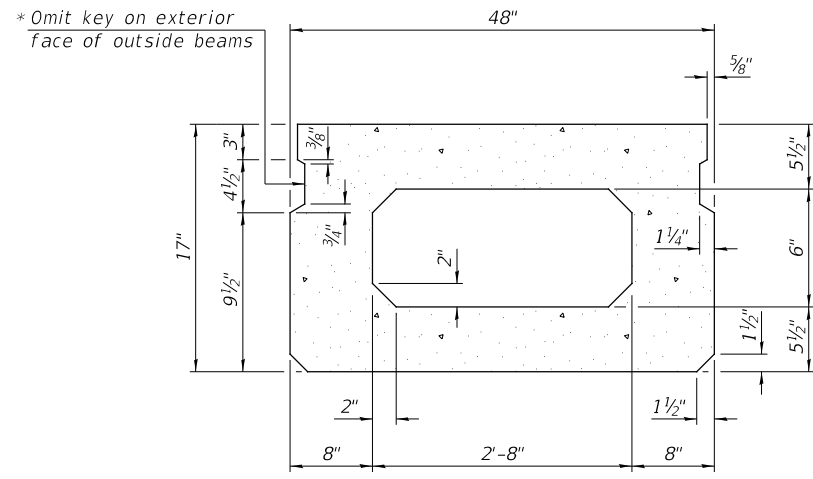
SHEET 4 OF 13 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	10
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 48WY(452)		

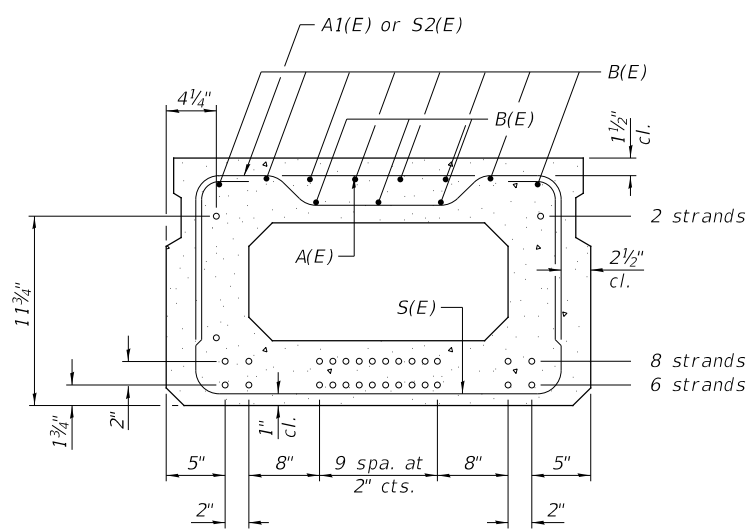


SECTION A-A

\* Rail post anchor devices (Sheet No. 6 of 10) to be cast into exterior face of outside beams.



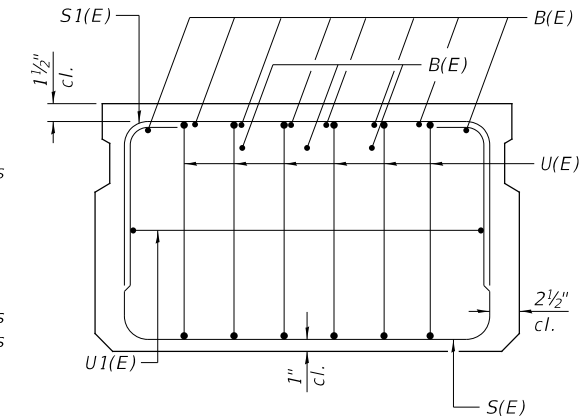
SECTION B-B  
(Showing dimensions)



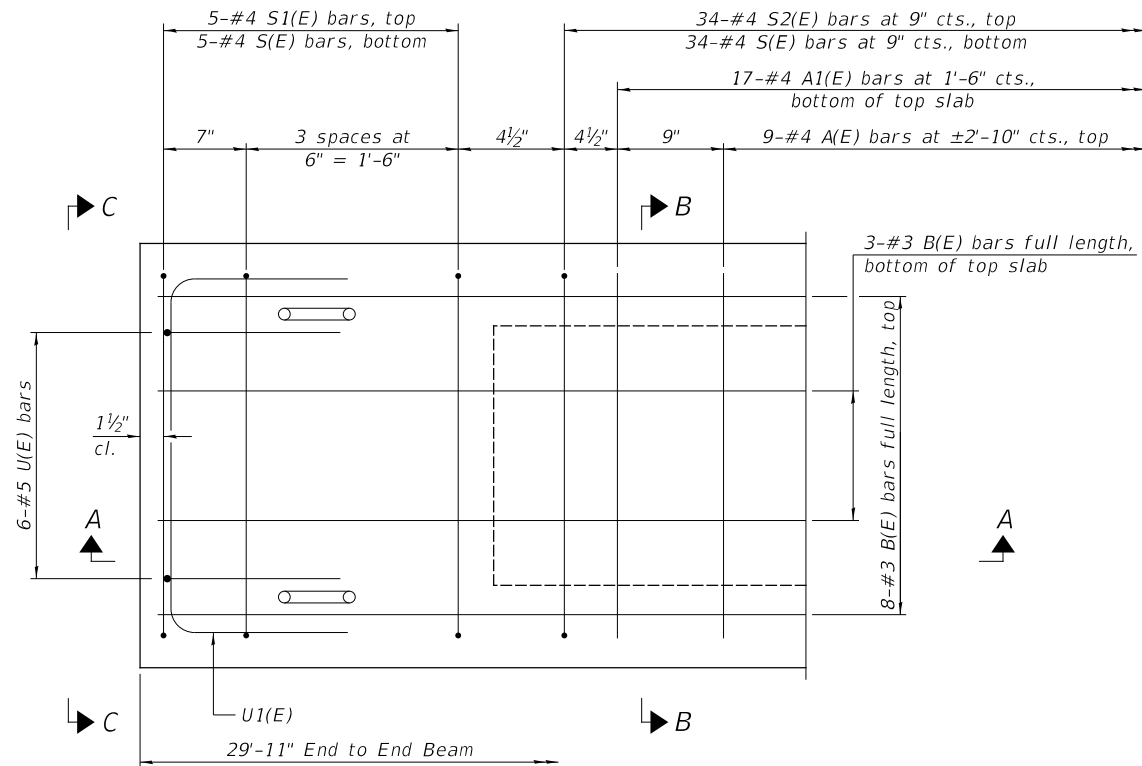
SECTION B-B

16-1/2"Ø Strands Each Strand Stressed to 30,900 Lbs.  
6-Strands 1 3/4" up, 8-Strands 3 3/4" up,  
2-Strands 11 3/4" up

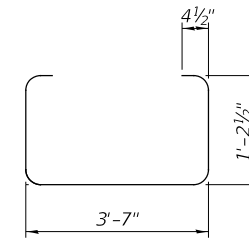
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



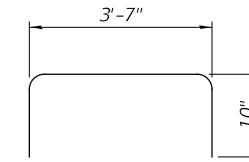
VIEW C-C



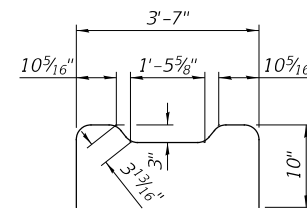
PLAN VIEW



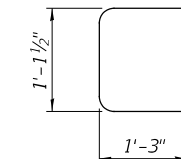
BAR S(E)



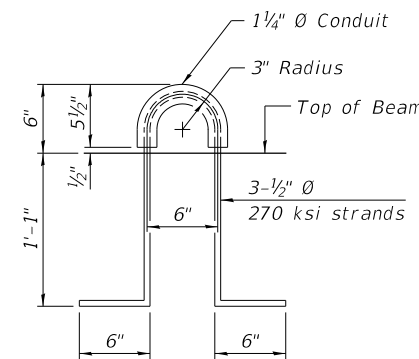
BAR S1(E)



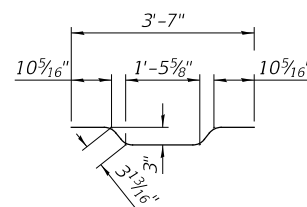
BAR S2(E)



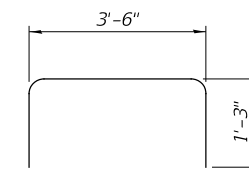
BAR U(E)



LIFTING LOOP DETAIL



BAR A1(E)



BAR U1(E)

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	9	#4	3'-7"	—
A1(E)	17	#4	3'-10"	~
B(E)	11	#3	*29'-8"	—
S(E)	44	#4	6'-9"	U
S1(E)	10	#4	5'-3"	U
S2(E)	34	#4	5'-6"	U
U(E)	12	#5	3'-8"	U
U1(E)	2	#4	6'-0"	U

\*Total Length, Lap as necessary.

Note:  
See Sheet No. 4 of 10 for additional details and Bill of Material.

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

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

(Sheet 2 of 2)

GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN

SUPERSTRUCTURE DETAILS - SPAN 2

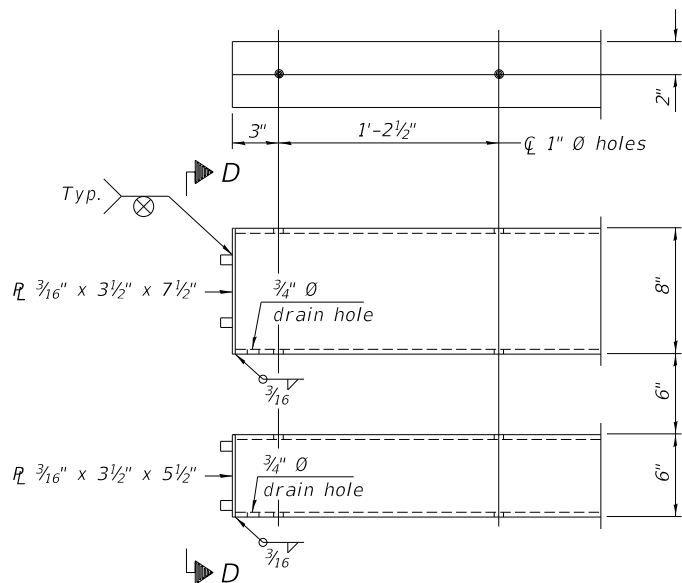
SHEET 5 OF 13 SHEETS

F.A.U. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	11
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4BWI(452)		

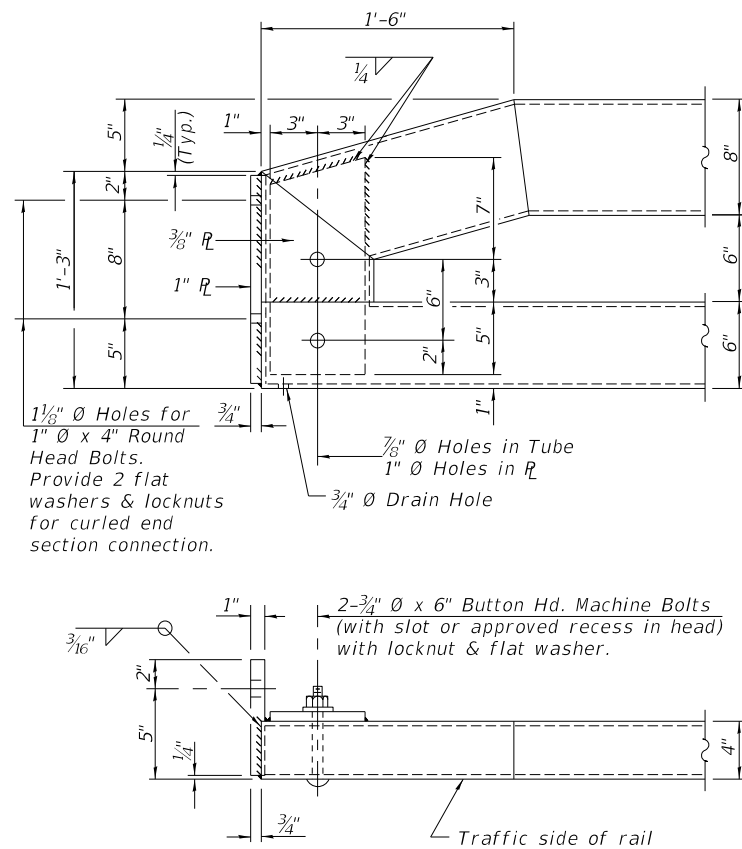




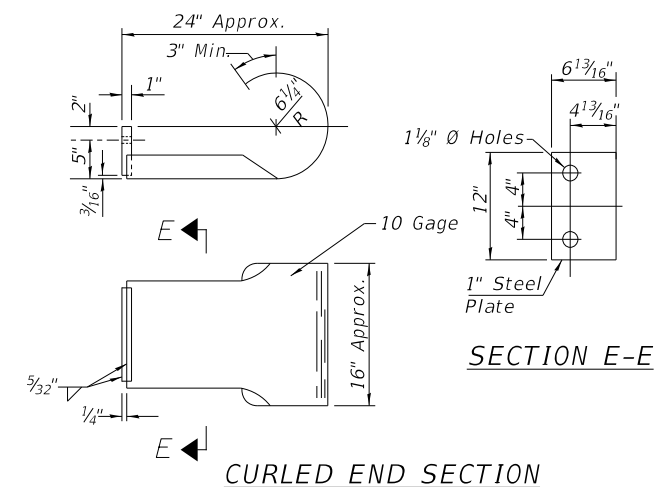
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 FILE NAME: V:\4726 - CH V27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\4726b007.dgn



**END OF RAIL DETAILS**  
 (NW & SE Corners)



**END OF RAIL DETAILS**  
 (NE & SW Corners)



**CURLED END SECTION**  
 (2 Req'd) Cost Included with Steel Railing, Type SM (Special).  
 Terminal Markers - Direct Applied shall be placed on  
 end of each Curled End Section. (Typ. NE & SW corners)

(Sheet 2 of 2)

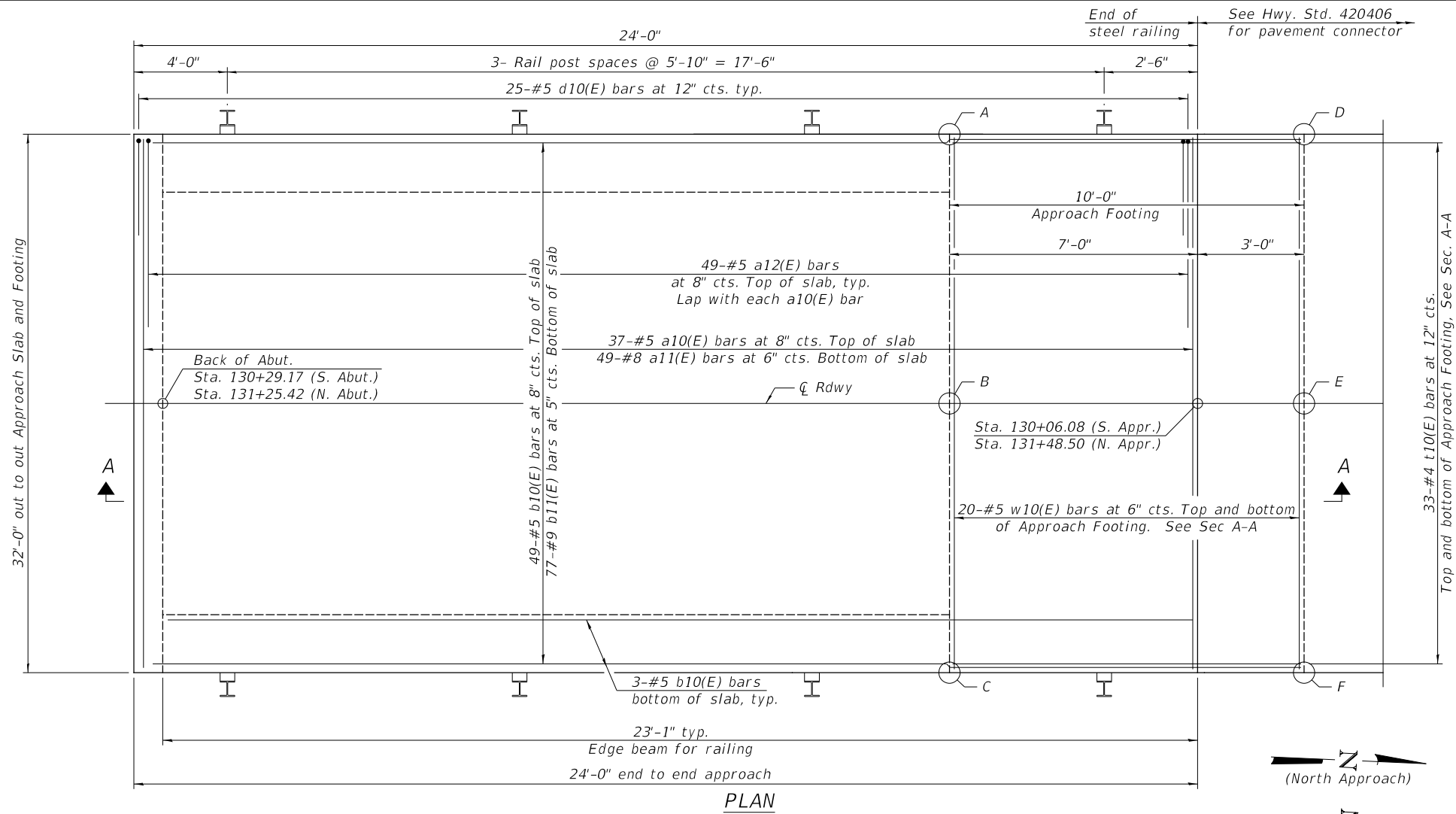
USER NAME =	DESIGNED - ZL	REVISED -
	CHECKED - BAN	REVISED -
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

**GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN**

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

SHEET 7 OF 13 SHEETS

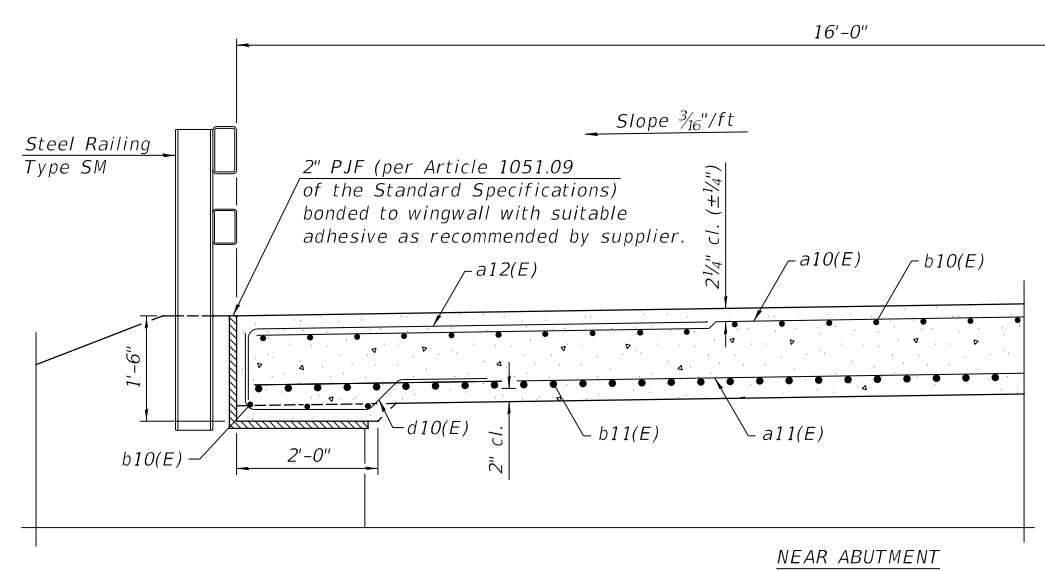
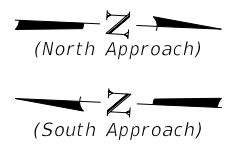
F.A.U. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	13
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 48WY(452)		



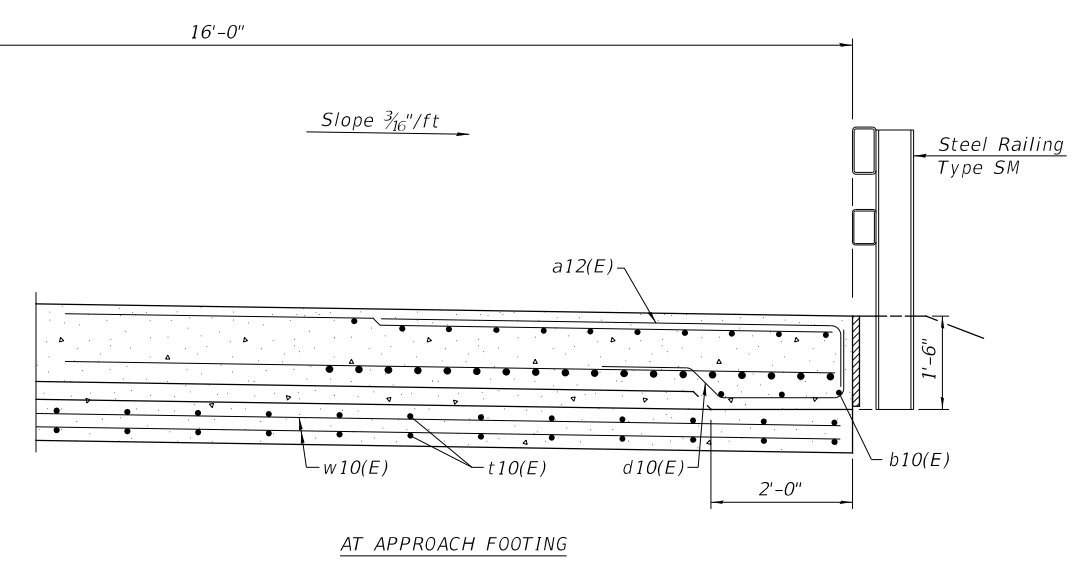
TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	South Approach		North Approach	
	Top	Bottom	Top	Bottom
A	543.16	542.33	542.74	541.91
B	543.41	542.58	542.99	542.16
C	543.16	542.33	542.74	541.91
D	543.23	542.40	542.62	541.79
E	543.48	542.65	542.87	542.04
F	543.23	542.40	542.62	541.29

PLAN



CROSS SECTION (Looking North)



AT APPROACH FOOTING

(Sheet 1 of 2)

MODEL: \$MODELNAMES  
FILE NAME: V4726 - CH V27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\4726b008.dgn

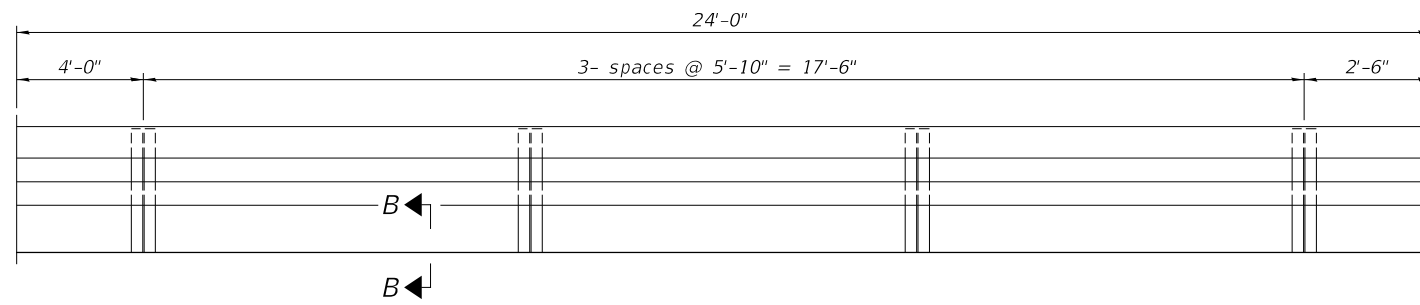
USER NAME =	DESIGNED - ZL	REVISED -
CHECKED - BAN	REVISOR -	
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**BRIDGE APPROACH SLAB DETAILS**

SHEET 8 OF 13 SHEETS

F.A.U. RTE. 401	SECTION 19-00177-00-BR	COUNTY GRUNDY	TOTAL SHEETS 28	SHEET NO. 14
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4BWY(452)		

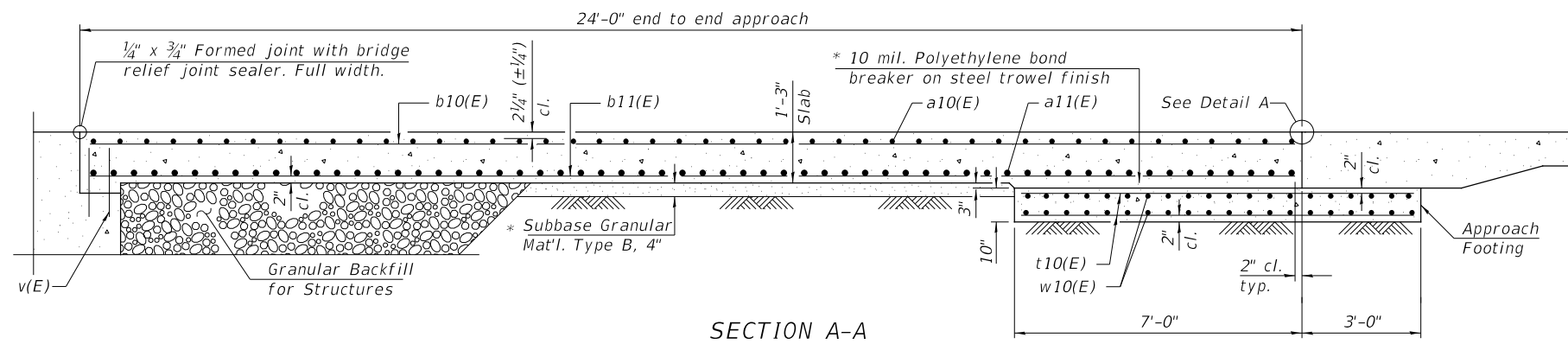


INSIDE ELEVATION OF RAILING

Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures details, see sheet 1 of 13.  
 For railing details, see sheet 6 & 7 of 13.

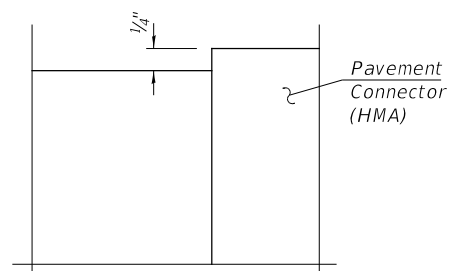
TWO APPROACHES  
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	74	#5	31'-8"	—
a11(E)	98	#8	31'-8"	—
a12(E)	196	#5	7'-6"	—
b10(E)	110	#5	23'-8"	—
b11(E)	154	#9	23'-8"	—
d10(E)	100	#5	4'-8"	—
t10(E)	132	#4	9'-8"	—
w10(E)	80	#5	31'-8"	—
Concrete Superstructure (Approach Slab)			Cu. Yd.	77.4
Concrete Structures			Cu. Yd.	19.8
Reinforcement Bars, Epoxy Coated			Pound	31,350

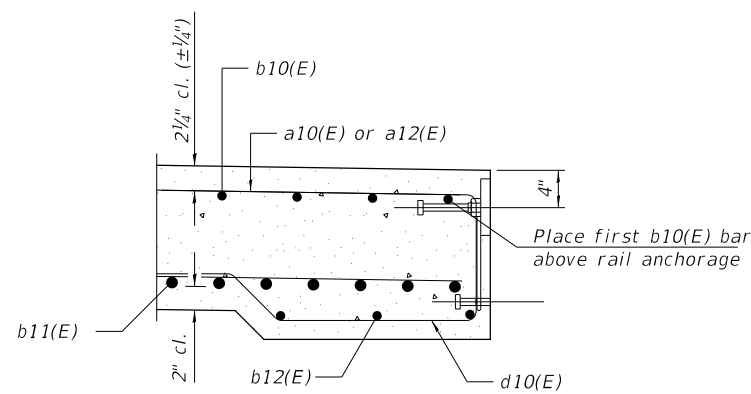


SECTION A-A

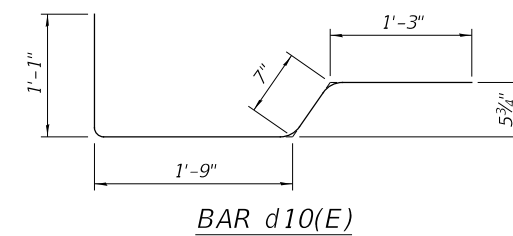
\* Cost included with Concrete Superstructure (Approach Slab).



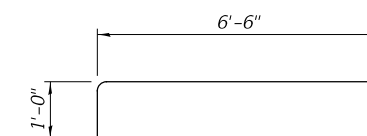
DETAIL A



SECTION B-B



BAR d10(E)



BAR a12(E)

(Sheet 2 of 2)

MODEL: \$MODELNAME\$  
 FILE NAME: V4726 - CH V27 over Collins Run Creek (Grundy)CADD\CADD Sheets\4726b009.dgn

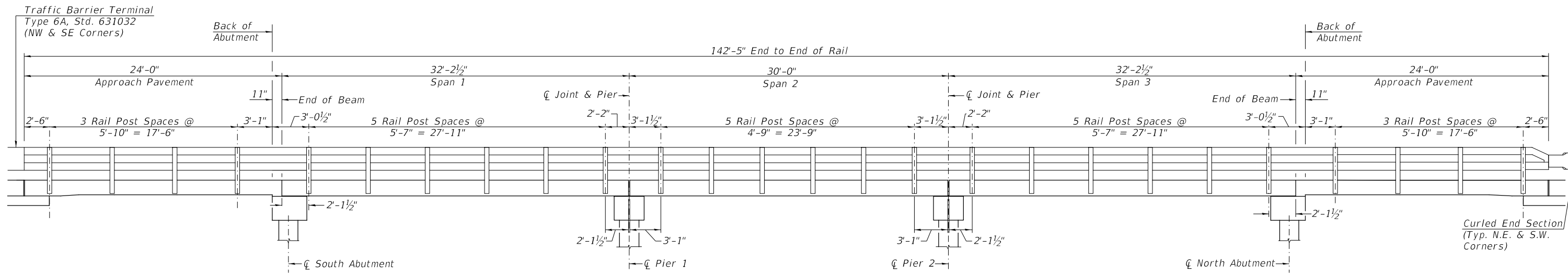
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CHECKED - BAN	REVISED -	
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PLOT DATE =	CHECKED - BAN	REVISED -

GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN

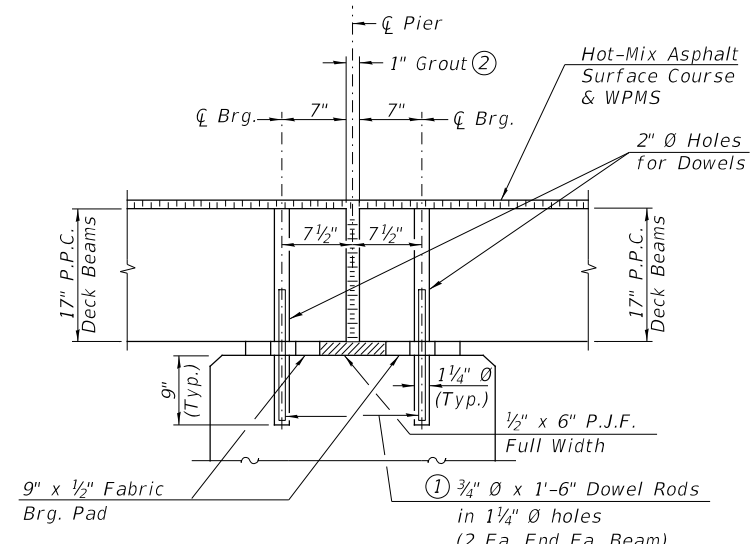
BRIDGE APPROACH SLAB DETAILS

SHEET 9 OF 13 SHEETS

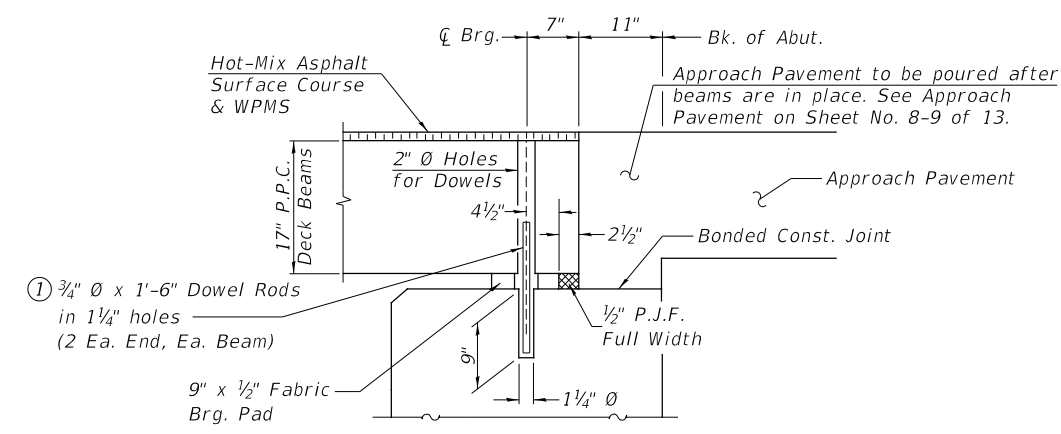
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	15
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 48WY(452)		



**RAIL POST SPACING**

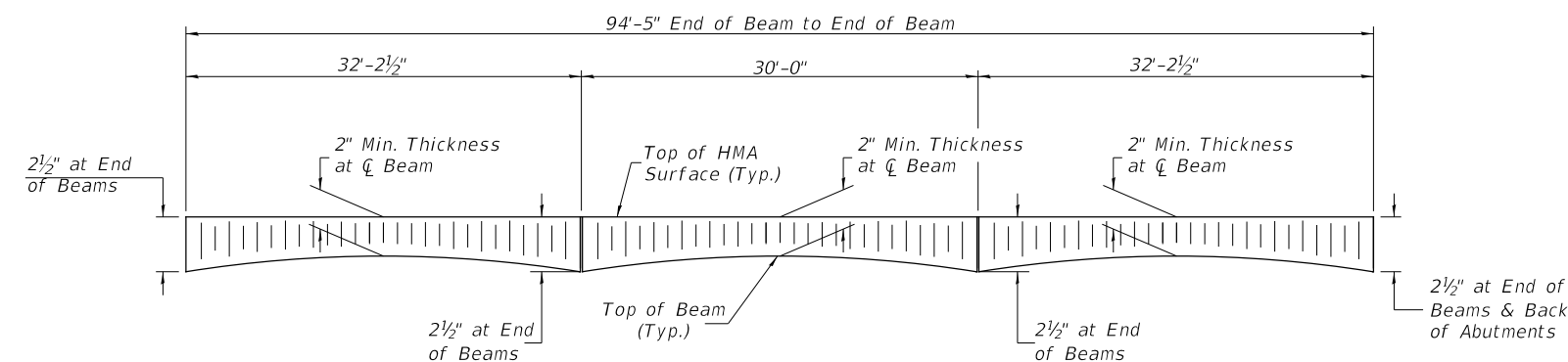


**SECTION THRU PIERS**



**SECTION THRU ABUTMENTS**

- ① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.
- ② 1" Joint shall be packed with a very dry mix of 2:1 sand and P.C. mortar. 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.



**HOT-MIX ASPHALT SURFACE PROFILE**  
(Includes Waterproofing Membrane System)

MODEL: \$MODELNAMES  
FILE NAME: V414726 - CH V27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\4726b010.dgn

USER NAME =	DESIGNED - ZL	REVISED -
CHECKED - BAN	REVISED -	
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

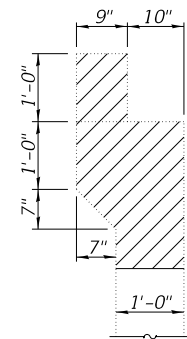
**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**RAIL POST SPACING AND  
SUPERSTRUCTURE DETAILS**

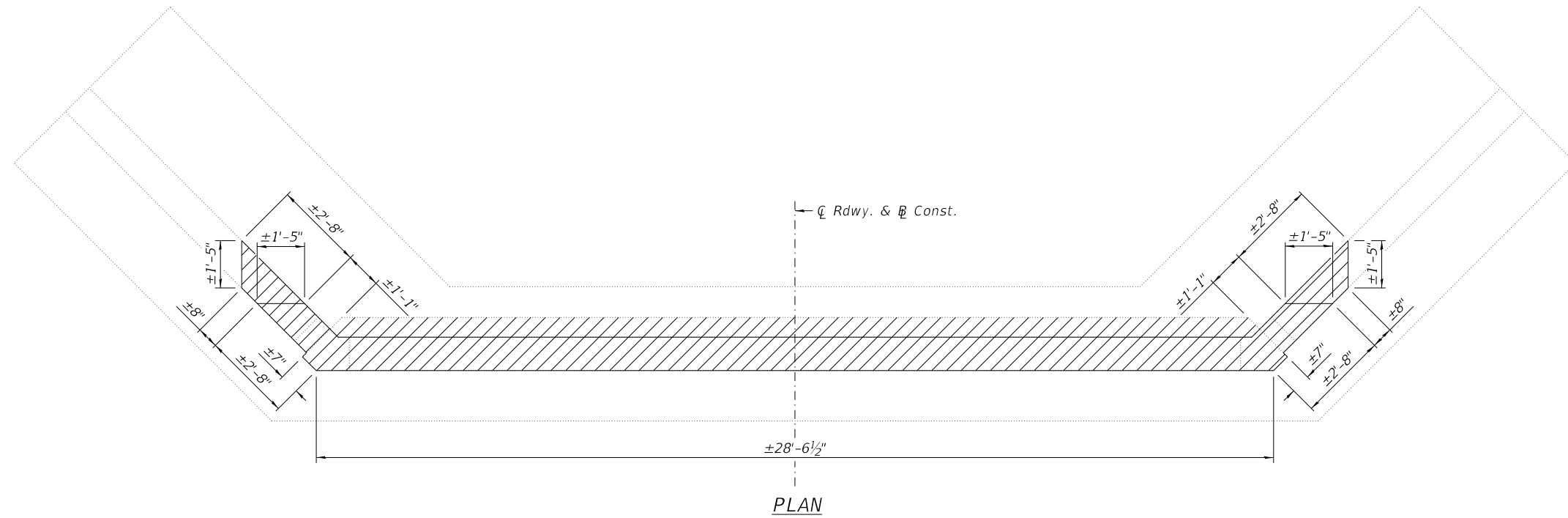
SHEET 10 OF 13 SHEETS

F.A.U. RTE. 401	SECTION 19-00177-00-BR	COUNTY GRUNDY	TOTAL SHEETS 28	SHEET NO. 16
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4BWY(452)		

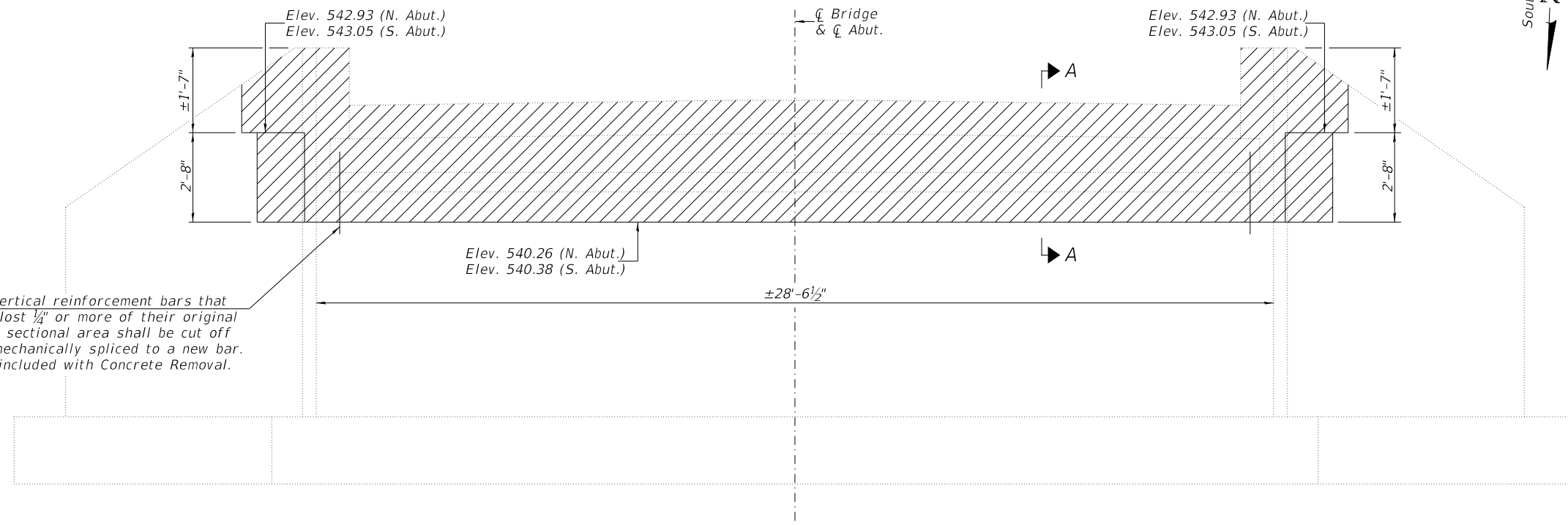




SECTION A-A

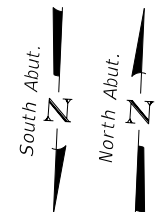


PLAN



ELEVATION  
(N. Abut. Looking North)  
(S. Abut. Looking South)

Any vertical reinforcement bars that have lost 1/4" or more of their original cross sectional area shall be cut off and mechanically spliced to a new bar. Cost included with Concrete Removal.



**NOTES**

Hatched area indicates Concrete Removal. Existing vertical reinforcement extending from abutment wall shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	CU YD	11.4

MODEL: \$MODELNAME\$  
FILE NAME: V4726 - CH V27 over Collins Run Creek (Grundy)CADD\CADD Sheets\4726b01.dgn

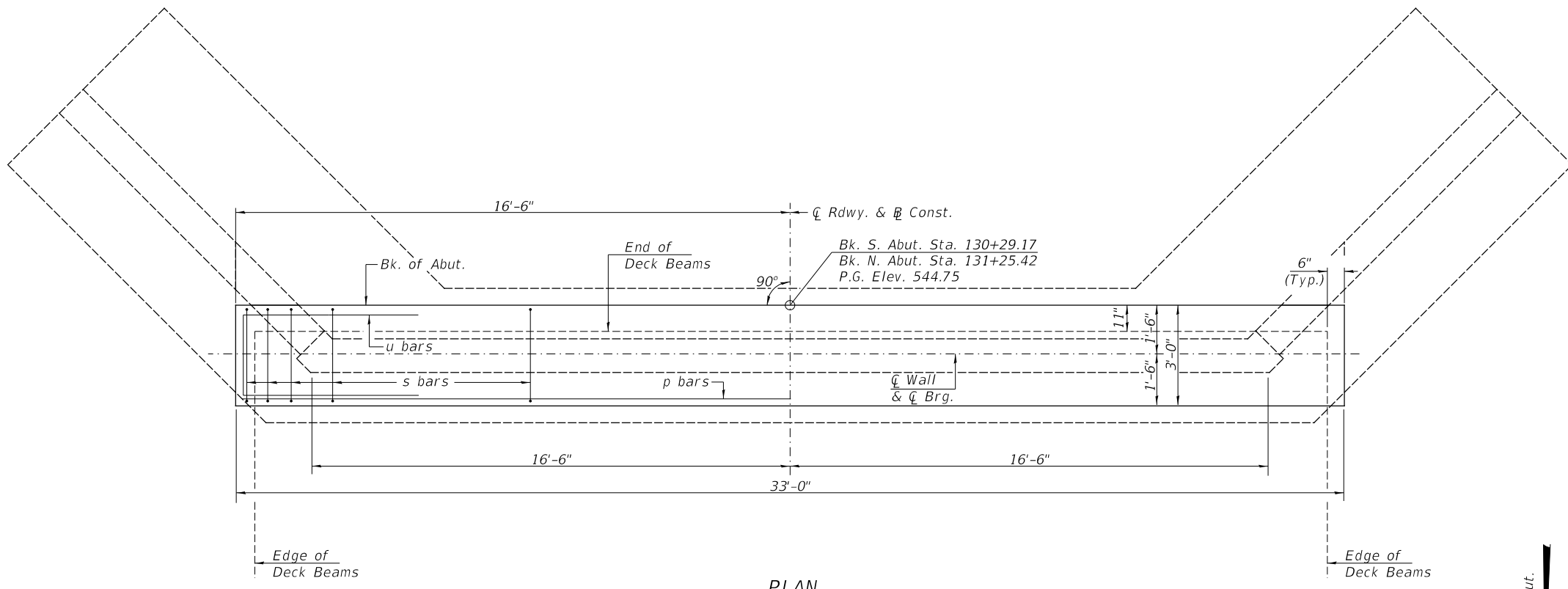
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	CHECKED - BAN	REVISED -
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

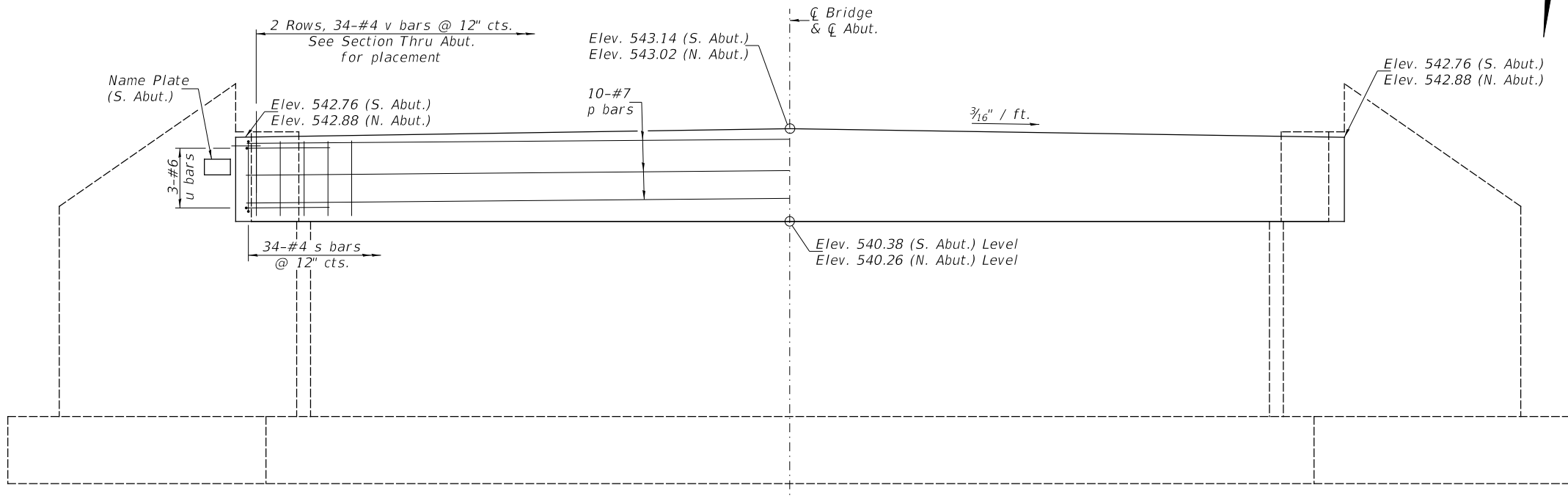
**ABUTMENT CONCRETE REMOVAL**

SHEET 11 OF 13 SHEETS

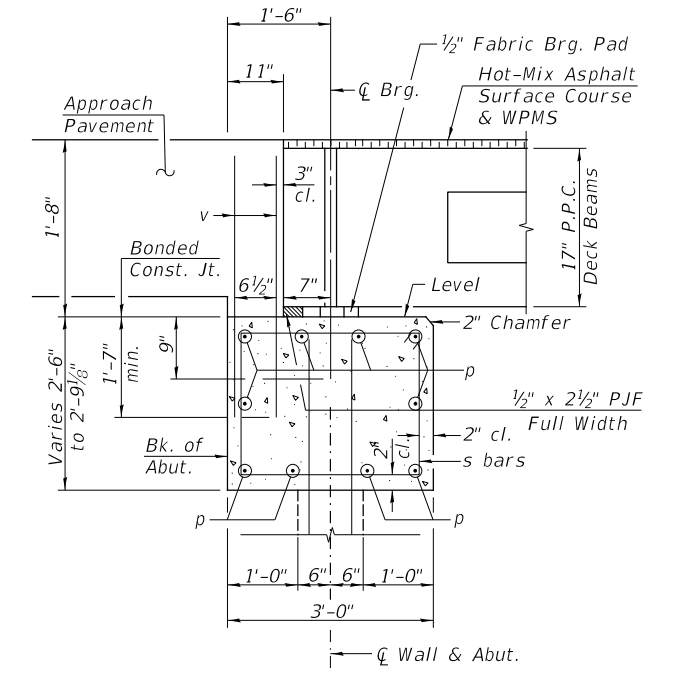
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	17
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 48WY(452)		



PLAN



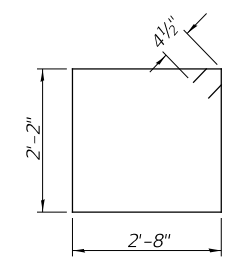
ELEVATION  
(Front View of Abutment)  
(N. Abut. looking North)  
(S. Abut. looking South)



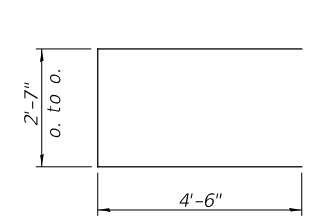
SECTION THRU ABUT.

TWO ABUTMENTS  
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
p	20	#7	32'-9"	—
s	68	#4	10'-5"	□
u	12	#6	11'-7"	□
v	136	#4	3'-2"	—
Concrete Structures			CU YD	19.3
Reinforcement Bars			POUND	2,310
Name Plates			EACH	1
Structure Excavation			CU YD	55



BAR s



BAR u

NOTES

1. The Approach Pavement shall be cast against the in-place beams.

MODEL: \$MODELNAMES  
FILE NAME: V4726 - CH V27 over Collins Run Creek (Grundy)CADD\CADD Sheets\4726b012.dgn

USER NAME =	DESIGNED - ZL	REVISED -
PLOT SCALE =	CHECKED - BAN	REVISED -
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	CHECKED - BAN	REVISED -

GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN

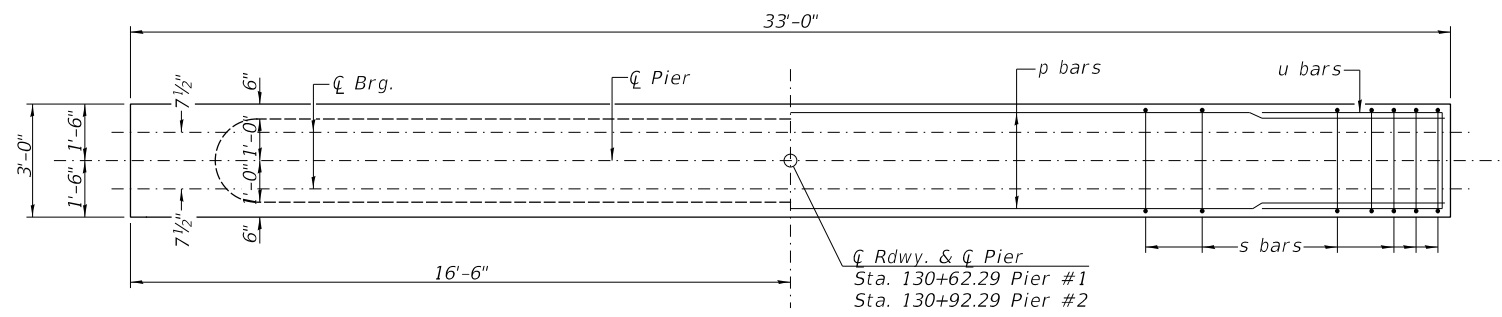
ABUTMENTS

SHEET 12 OF 13 SHEETS

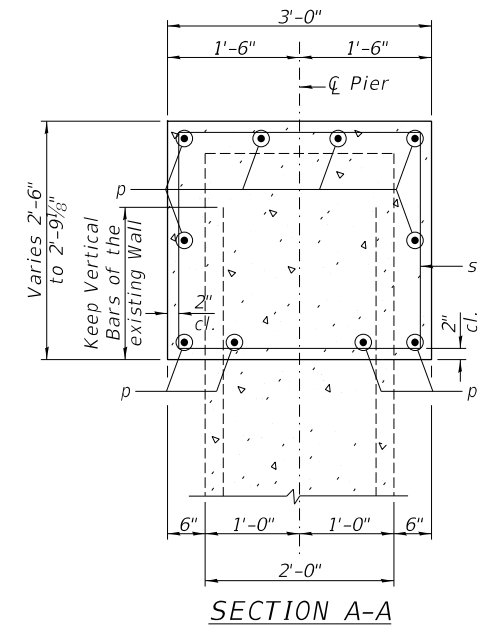
F.A.U. RTE. 401	SECTION 19-00177-00-BR	COUNTY GRUNDY	TOTAL SHEETS 28	SHEET NO. 18
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4BWW(452)		

**NOTES**

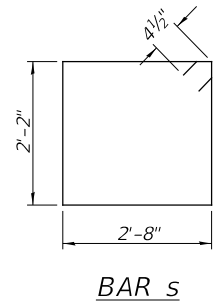
All edges shall have standard 3/4" chamfer.



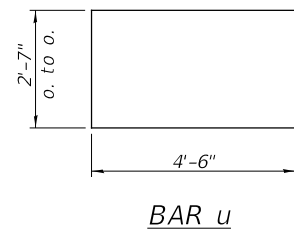
**TOP PLAN**



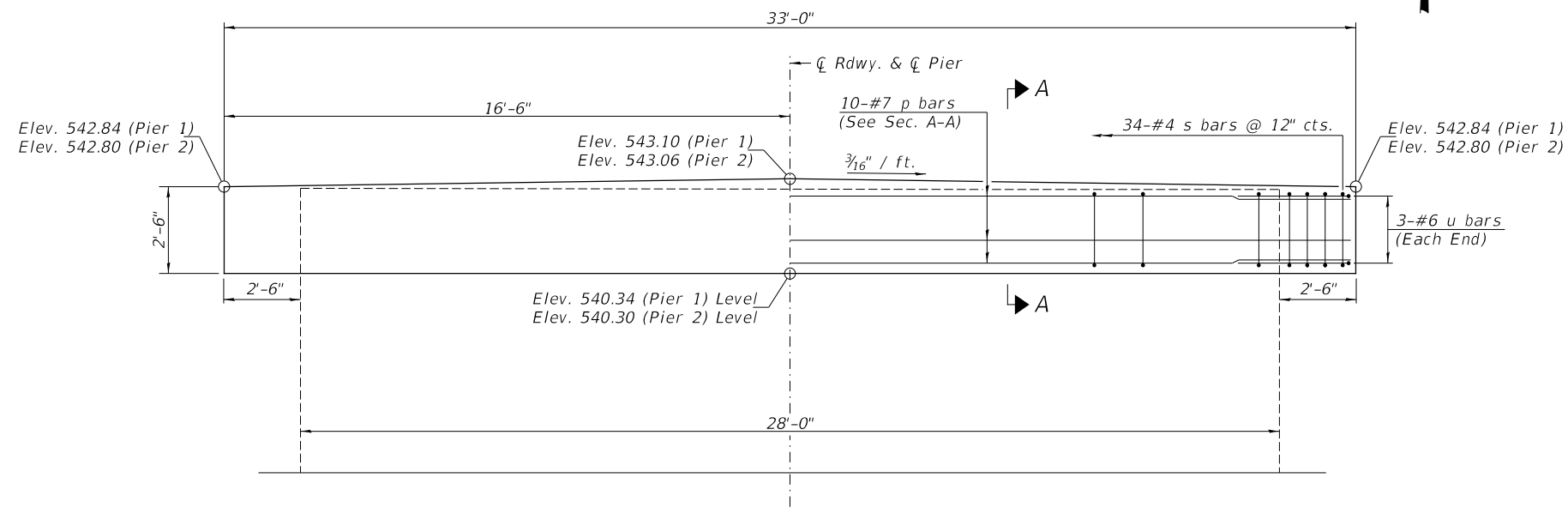
**SECTION A-A**



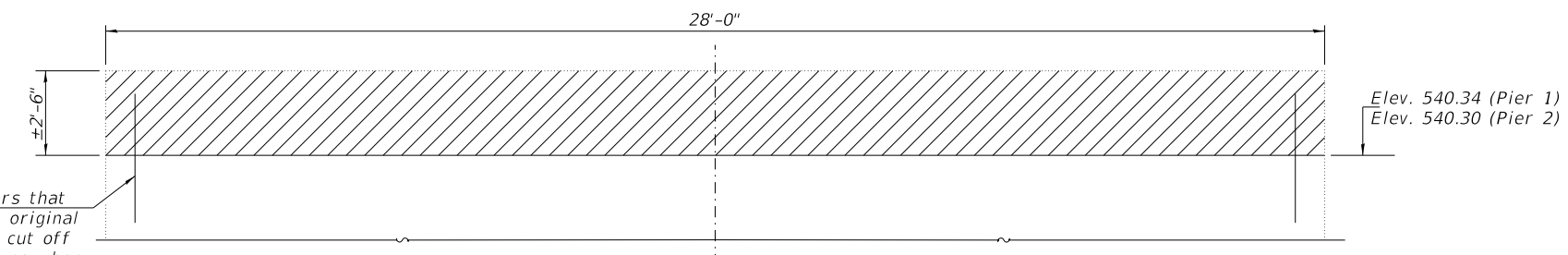
**BAR s**



**BAR u**



**ELEVATION**



**ELEVATION (CONCRETE REMOVAL)**

Any vertical reinforcement bars that have lost 1/4" or more of their original cross sectional area shall be cut off and mechanically spliced to a new bar. Cost included with Concrete Removal.

**TWO PIERS  
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
p	20	#7	32'-9"	—
s	68	#4	10'-5"	□
u	12	#6	11'-7"	□
Concrete Structures			CU YD	19.3
Reinforcement Bars			POUND	2,020
Concrete Removal			CU YD	10.2

**NOTES**

Hatched area indicates Concrete Removal. Existing vertical reinforcement extending from abutment wall shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

MODEL: \$MODELNAMES  
FILE NAME: V4726 - CH V27 over Collins Run Creek (Grundy)\CADD\CADD Sheets\4726b013.dgn

USER NAME =	DESIGNED - ZL	REVISED -
CHECKED - BAN	REVISED -	
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE =	CHECKED - BAN	REVISED -

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**PIERS**

SHEET 13 OF 13 SHEETS

F.A.U. RTE. 401	SECTION 19-00177-00-BR	COUNTY GRUNDY	TOTAL SHEETS 28	SHEET NO. 19
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4BWI452		

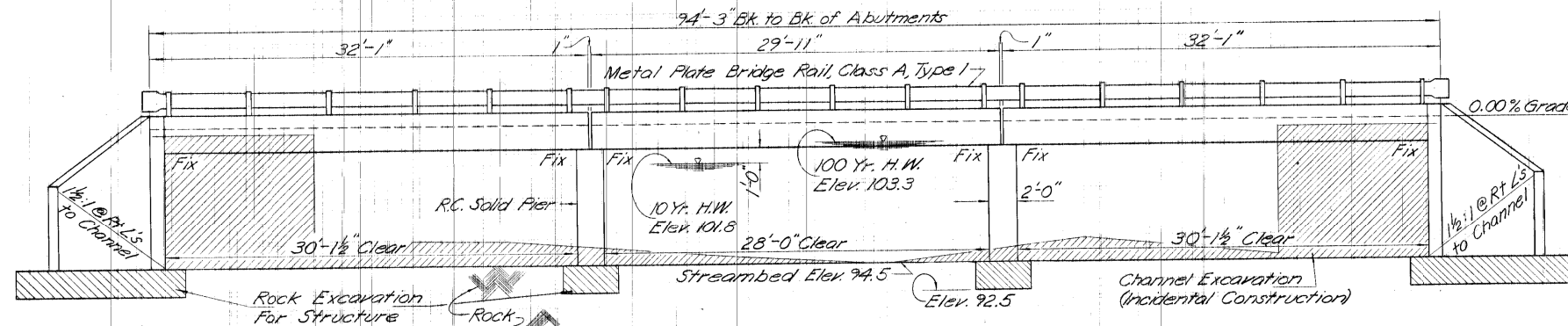
Existing Structure is a 5 panel pony truss  
 70' bk to bk. of abutments, 16 roadway,  
 4" timber deck on stringers, closed  
 masonry abutments and wingwalks on  
 concrete mud sills, sta 4+00.  
 Telephone cable attached to bridge.  
 Existing structure to be removed  
 by contractor.

B.M. 'A' is a R.R. spike in power pole 26' r.t.  
 of Sta. 0+13. Elev. 110.07

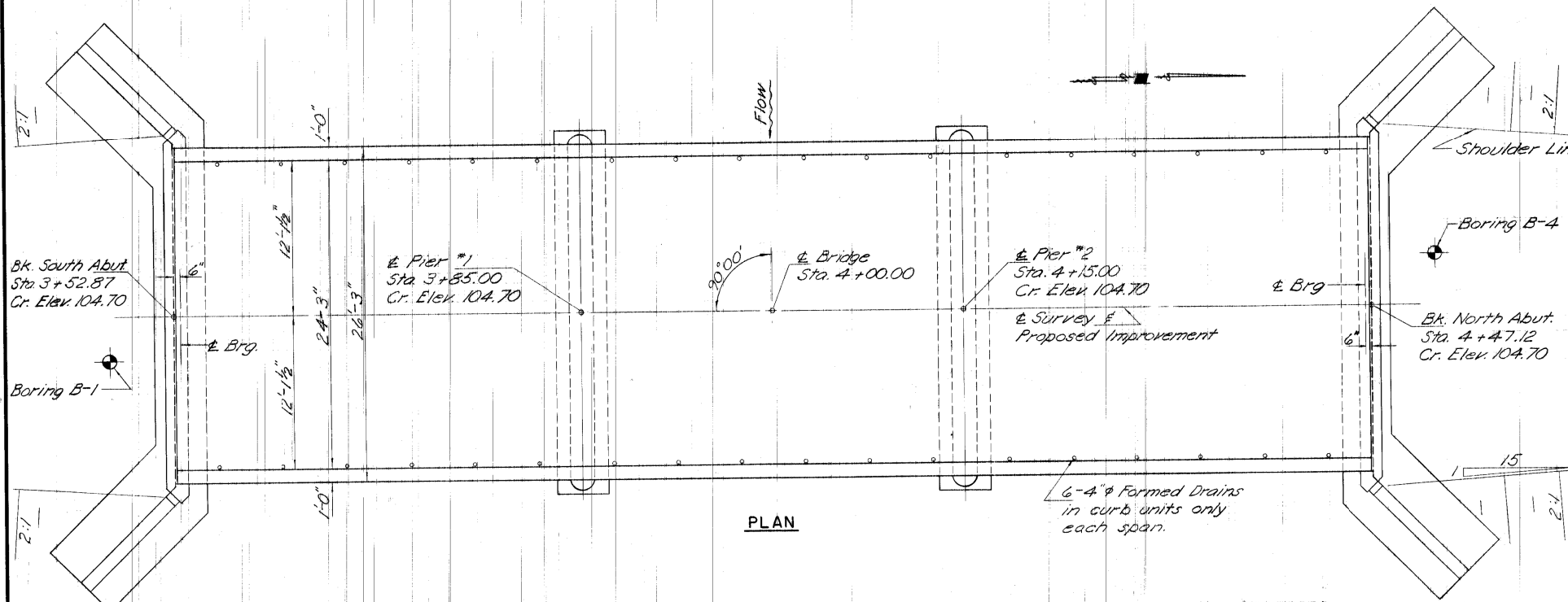
B.M. 'B' is a R.R. spike in power pole 25' r.t.  
 of Sta. 5+31. Elev. 105.13

**GENERAL NOTES**

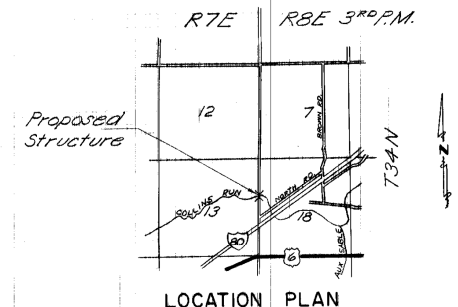
Class X Concrete shall be used throughout.  
 All reinforcement bars shall be lapped as shown  
 on plans.  
 The Standard Specifications adopted by the Department  
 of Transportation July 1, 1976 shall apply to  
 this work.  
 For Items: Metal Plate Bridge Rail and Boring Data,  
 see Special Provisions.  
 Backfill behind the abutments shall not be placed  
 until superstructure is in place. See Article 502.11  
 of the Standard Specifications.  
 Excavation for structure, except rock excavation,  
 shall not be paid for as a separate item.



**ELEVATION**



**PLAN**



**LOCATION PLAN**

**TOTAL BILL OF MATERIAL**

ITEM	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	-	1
Rock Excavation For Structures	Cu.Yd.	543	543
Class X Concrete	Cu.Yd.	1.5	123.1
Precast Concrete Bridge Slab	Sq.Ft.	2461	2461
Reinforcement Bars	Lb.	6,880	6,880
Name Plates	Each	1	1
Metal Plate Bridge Rail, Class A, Type 1	Lin.Ft.	182	182

**WATERWAY DATA**

Drainage Area	19,970 Acres
Present Opening	381 Sq. Ft.
Required Opening	650 Sq. Ft.
Proposed Opening	650 Sq. Ft.
Design Discharge	2,500 c.f.s. (10 Yr.)
Created Head	0.3 Ft.
100 Yr. Discharge	4,620 c.f.s.
Created Head	1.0 Ft.

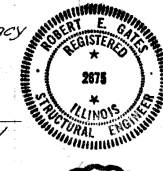
**DESIGN STRESSES**

$f'_c = 4,500$  p.s.i. (Super)  
 $f'_c = 1,800$  p.s.i. (Super)  
 $f'_c = 1,400$  p.s.i. (Class X Conc), 1000 p.s.i. (Abut)  
 $f_s = 20,000$  p.s.i. (Reint)  
 $n = 8$  (Super)  
 $n = 8.5$  (Sub)  
 $v = 56.2$  p.s.i.  
 Design footing pressure 1.26 ton/sq.ft. max.  
 Design Specifications - A.A.S.H.T.O. 1973 &  
 Interims as applicable.

Approved For  
 Structural Adequacy

Robert C. Oglesby  
 Illinois Structural  
 No. 2675

Robert C. Oglesby  
 Illinois Professional  
 No. 21190



COLLINS RUN  
 BUILT 1978  
 SEC. 77-01109-00-BR AUX SABLE R.D.  
 SEC. 77-15114-00-BR SARATOGA R.D.  
 GRUNDY COUNTY  
 LOADING HS20  
 STR. NO. 032-3911

**LETTERING FOR NAME PLATE**

Locate Name Plate at Southeast Corner  
 of bridge. See Standard 2113.

**GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN**

**EXISTING PLANS  
 (FOR INFORMATION ONLY)**

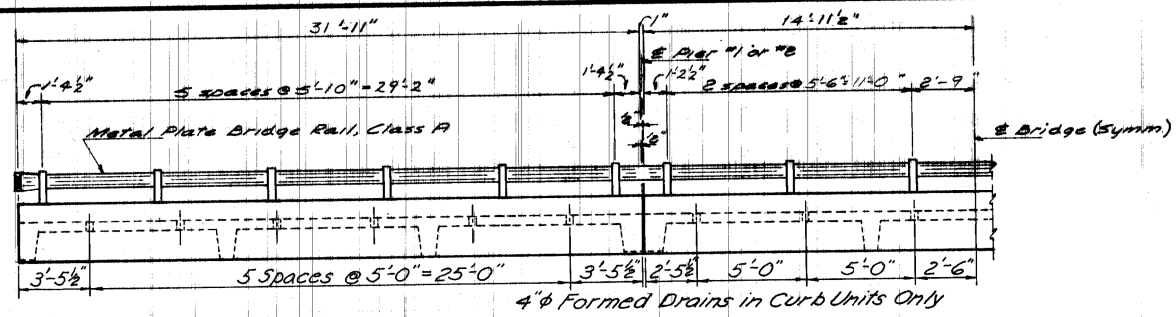
SHEET 1 OF 4 SHEETS

F.A.U. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	20
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT 4B(WY)452	

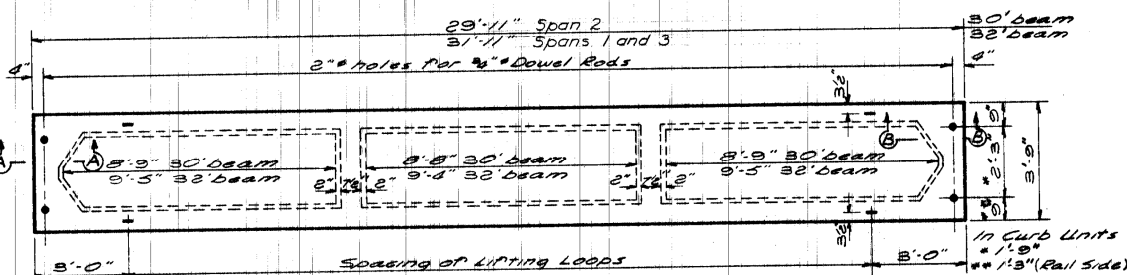
MODEL: \$MODEL\$  
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 1/27/2022 \$TIMES\$

USER NAME	DESIGNED	REVISION
ZL	ZL	ZL
BAN	BAN	BAN
ZL	ZL	ZL
BAN	BAN	BAN

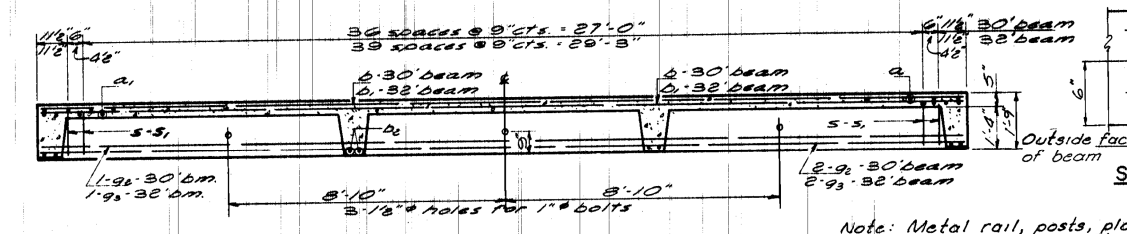




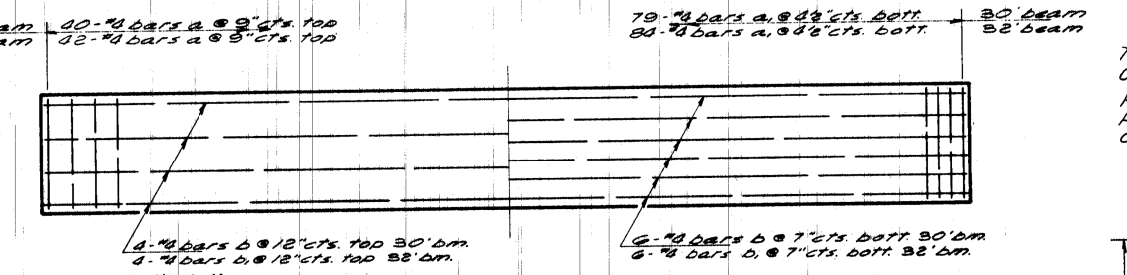
ELEVATION



TYPICAL PLAN OF BEAMS

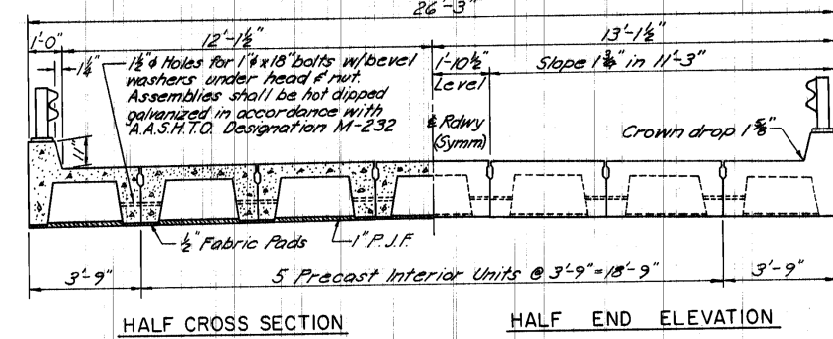


SECTION ALONG C.L. OF BEAM



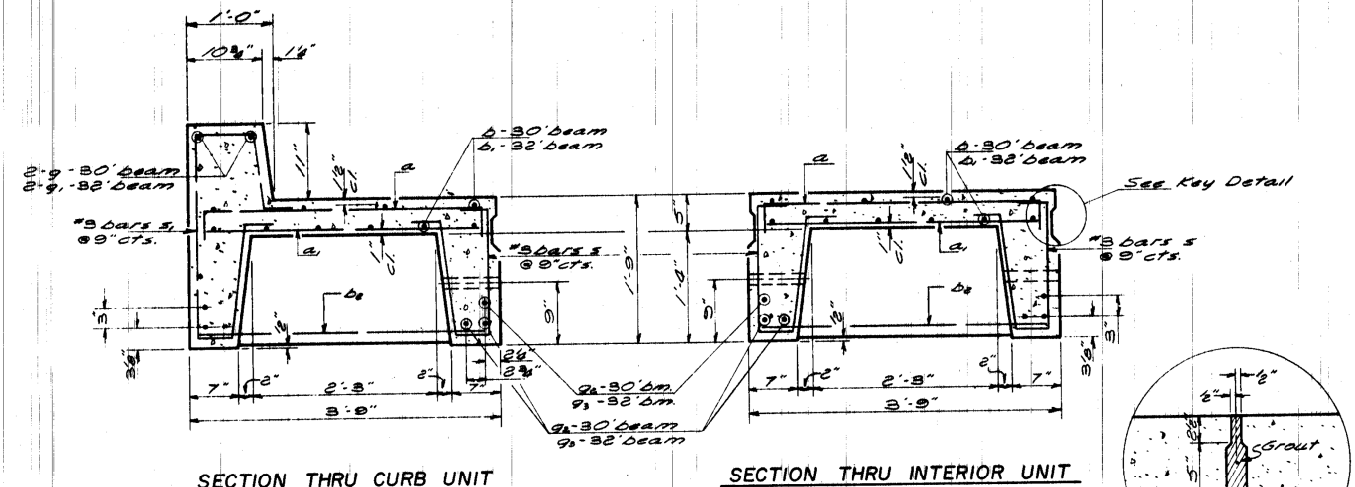
PLAN SHOWING SLAB REINFORCEMENT

NOTE: Tack welding of stirrups to the bottom longitudinal reinforcement bars will not be permitted except as otherwise authorized in writing by the Engineer.



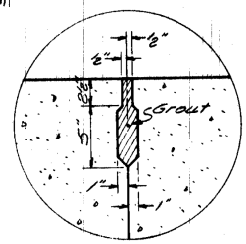
HALF CROSS SECTION

HALF END ELEVATION

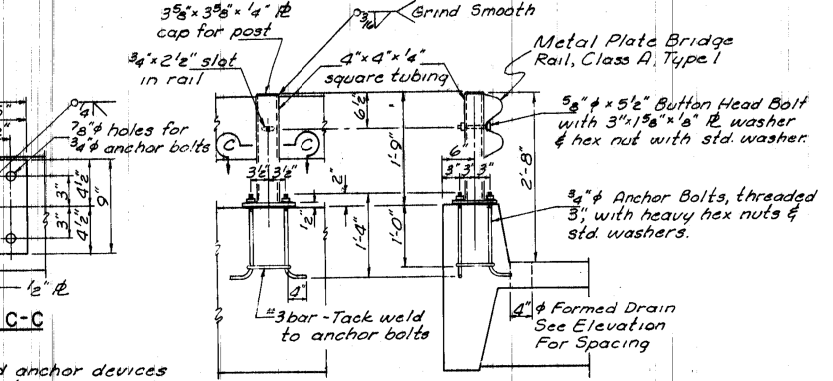


SECTION THRU CURB UNIT

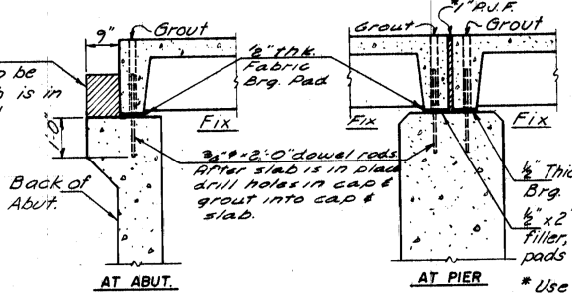
SECTION THRU INTERIOR UNIT



KEY DETAIL

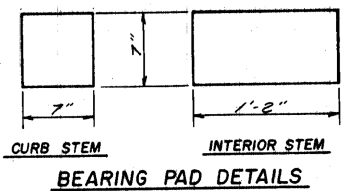


RAIL POST DETAILS

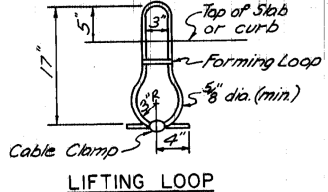


SECTION A-A

SECTION B-B



BEARING PAD DETAILS



LIFTING LOOP

NOTE: Lifting loops shall be 4x25 class wire rope with fiber core. Min. ultimate tensile strength shall be 33,000 lbs. Loops shall be burned off after slab has been erected.

BILL OF MATERIAL-PRECAST SLABS\*

BAR SIZE	LENGTH	SHAPE	REINFORCEMENT BARS			
			30' BEAM		32' BEAM	
			CURB UNIT	INT. UNIT	CURB UNIT	INT. UNIT
2	4'-0"	□	40	60	48	68
2	3'-3"	□	79	79	84	84
4	20'-0"	□	10	10	-	-
4	21'-6"	□	-	-	10	10
4	3'-0"	□	8	8	8	8
9	29'-6"	□	2	-	-	-
9	31'-6"	□	-	-	2	-
9	29'-6"	□	6	6	-	-
9	31'-6"	□	-	-	6	6
9	3'-10"	□	39	78	48	84
9	6'-5"	□	39	-	48	-

ITEM	ESTIMATED QUANTITIES			
	Concrete Cu. Yd.	Rein. Bars Lbs.	30' B.M.	32' B.M.
One Curb Unit	5.1	5.4	1,624	1,730
One Interior Unit	4.1	4.4	1,597	1,686

BILL OF MATERIAL-SUPERSTRUCTURE

ITEM	AMOUNT	TOTAL
Precast Concrete Bridge Slab	54 Sq. Ft.	2461
Metal Plate Bridge Rail, Cl. A, Type 1, 182		182
Class X Concrete	Cu. Yd.	1.5

SUPERSTRUCTURE  
 SEC. 77-0109-00-BR AUX SABLE R. D.  
 SEC. 77-1514-00-BR SARATOGA R. D.  
 GRUNDY COUNTY  
 STATION 4+00

aubynoglesby & bartolomucci consulting engineers  
 land surveyors  
 planners  
 1323 south first street / springfield, illinois 62704

DRAWN H.E.B. DATE 4-12-78 JOB NO. 77-107 SHEET NO. 3 of 5  
 CHECKED REC

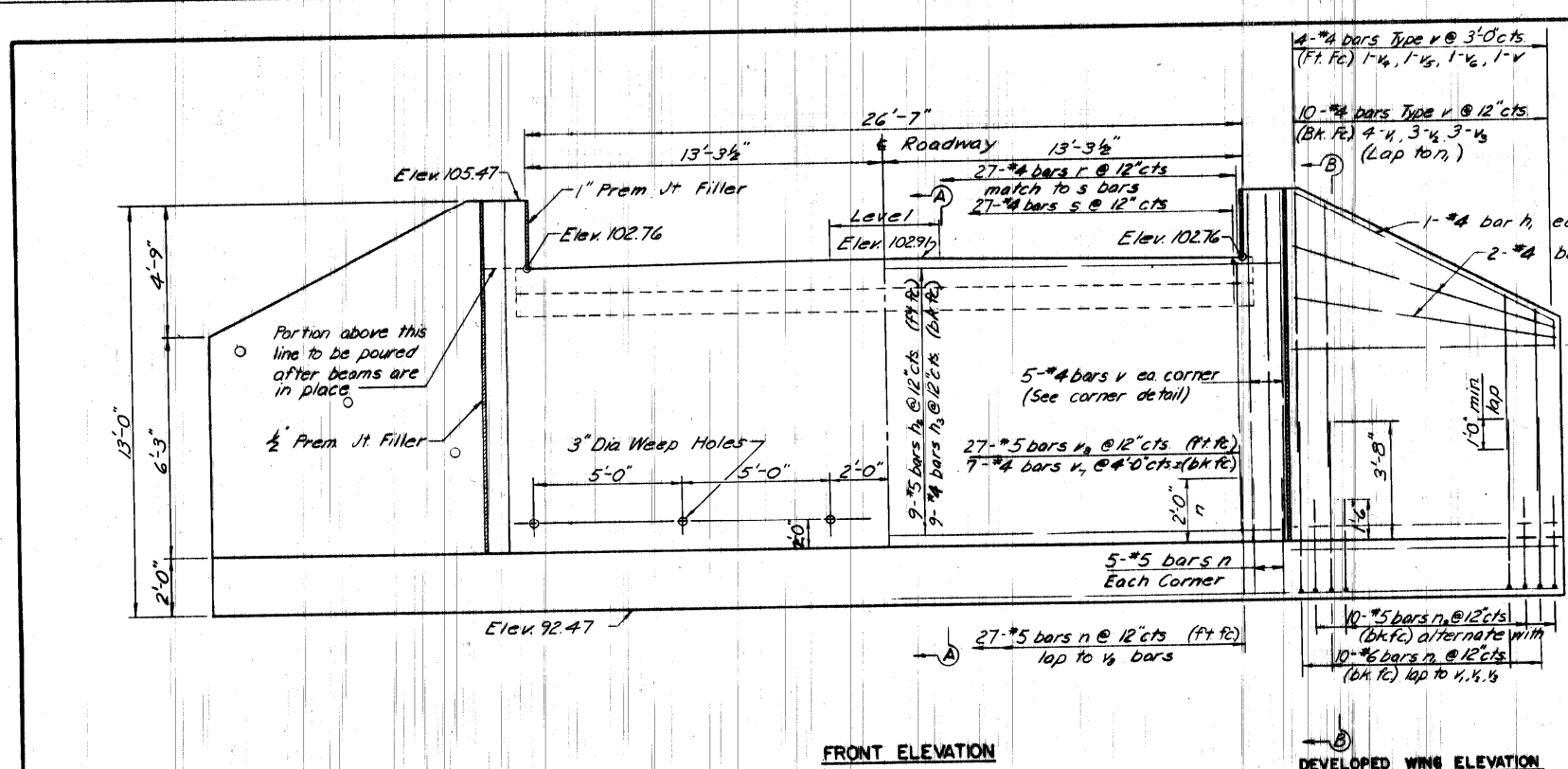
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ZL	ZL	-
BAN	BAN	-
ZL	ZL	-
BAN	BAN	-

GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN

EXISTING PLANS  
 (FOR INFORMATION ONLY)

F.A.U. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	21
	S.N. 032-3911			CONTRACT NO. 87768
FED. ROAD DIST. NO. 7	ILLINOIS			FED. AID PROJECT 48WY(452)

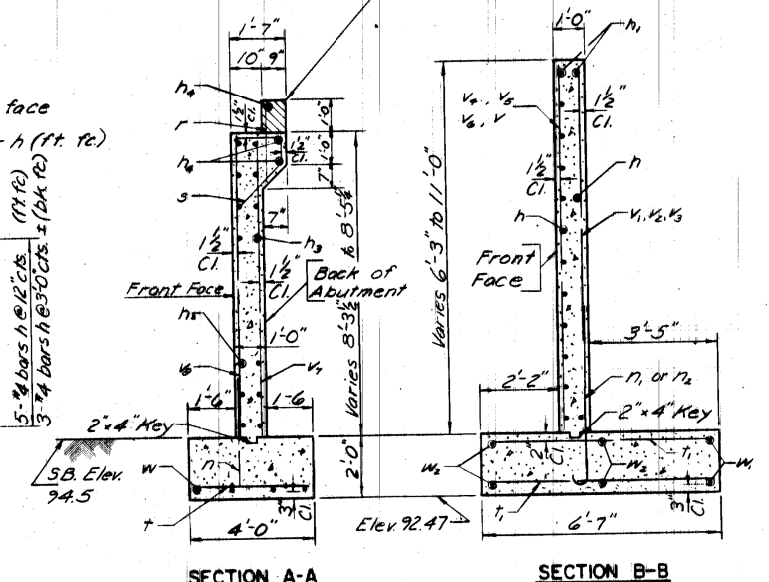


DEVELOPED WING ELEVATION  
SHOWING DIMENSIONS

FRONT ELEVATION

DEVELOPED WING ELEVATION  
SHOWING STEEL

Thrust block to be poured after beams are set. Class X Concrete included with super-structure quantities.



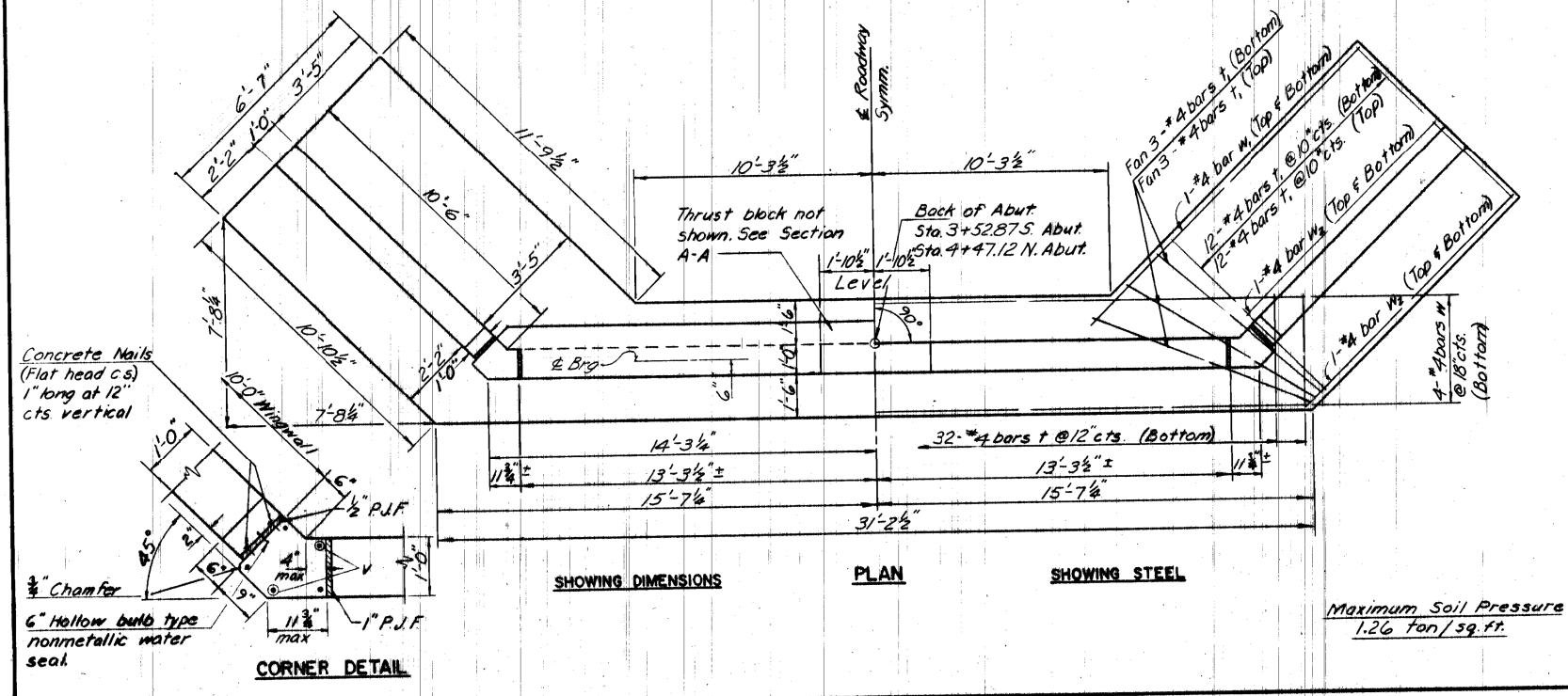
SECTION A-A

SECTION B-B

BILL OF MATERIAL  
(2 ABUTMENTS)

BAR NO.	SIZE	LENGTH	SHAPE	BAR NO.	SIZE	LENGTH	SHAPE
h	40 #4	9'-8"	—	v <sub>2</sub>	4 #4	7'-6"	—
n	8 #4	11'-8"	—	v <sub>4</sub>	4 #4	9'-0"	—
n <sub>1</sub>	18 #5	28'-6"	—	v <sub>1/2</sub>	14 #4	8'-0"	—
n <sub>2</sub>	18 #4	28'-6"	—	v <sub>6</sub>	54 #5	8'-0"	—
r	6 #4	26'-10"	—				
n	74 #5	3'-9"	—				
n <sub>1</sub>	40 #6	6'-7"	—				
n <sub>2</sub>	40 #5	3'-10"	—				
r	54 #4	2'-4"	—	w	8 #4	30'-9"	—
s	54 #4	4'-0"	7	w <sub>1</sub>	8 #4	13'-6"	—
t	64 #4	3'-9"	—	w <sub>2</sub>	16 #4	10'-8"	—
t <sub>1</sub>	120 #4	6'-4"	—				
v	24 #4	10'-9"	—				
v <sub>1</sub>	16 #4	8'-2"	—				
v <sub>2</sub>	12 #4	6'-3"	—				
v <sub>3</sub>	12 #4	4'-9"	—				
v <sub>4</sub>	4 #4	6'-0"	—				

Class X Concrete Cu.Yd 70.6  
Reinforcement Bars Lb. 4300  
Rock Excavation Cu.Yd 37.4

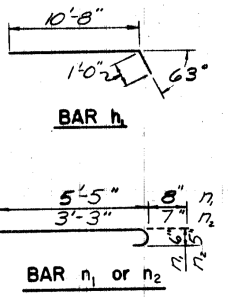
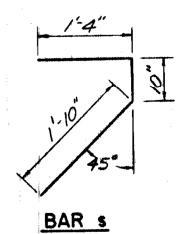


SHOWING DIMENSIONS

PLAN

SHOWING STEEL

Maximum Soil Pressure  
1.26 ton/sq. ft.



ABUTMENTS  
SEC. 77-0109-00-BR AUX SABLE R.D.  
SEC. 77-15114-00-BR SARATOGA R.D.  
GRUNDY COUNTY  
STATION 4+00

DRAWN	H.E.B.	DATE	4-12-78	JOB NO.	77-107	SHEET NO.	4 of 5
	CHECKED	J.B.G.					

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CHECKED - BAN	REVISOR -	
PLOT SCALE =	DRAWN - ZL	REVISED -
PLOT DATE	CHECKED - BAN	REVISED -

GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN

EXISTING PLANS  
(FOR INFORMATION ONLY)

SHEET 3 OF 4 SHEETS

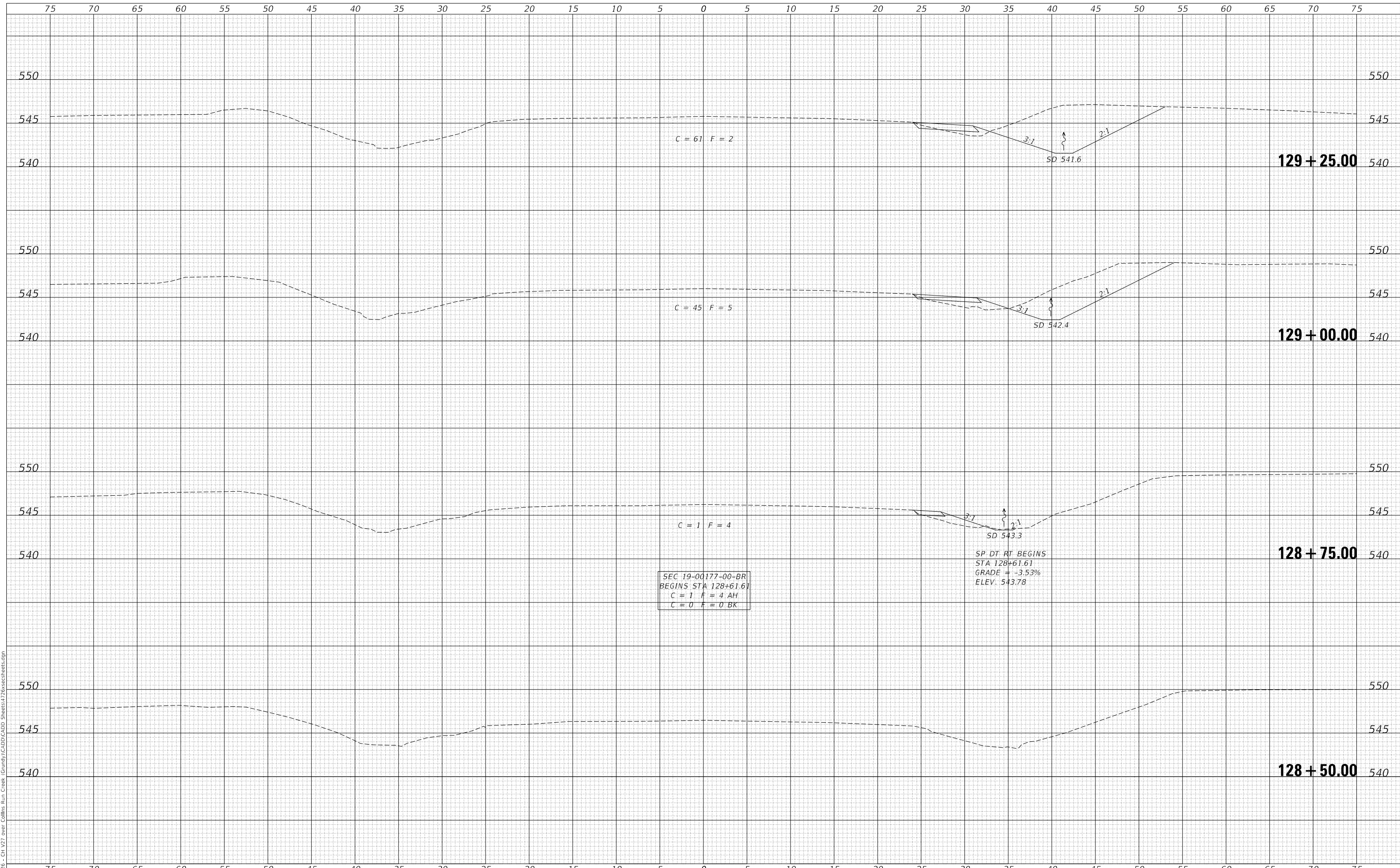
F.A.U. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	22
S.N. 032-3911		CONTRACT NO. 87768		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT 4B(1452)		



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

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

MODEL: \$MODELNAME\$  
FILE NAME: V:\1728 - CH V27 over Collins Run Creek - Grundy\CADD\CADD Sheets\1728\sscsheets.dgn



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	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 1/27/2022	DATE - 10/29/2021	REVISED - _____

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**CROSS SECTIONS**

SCALE: 1" = 5' SHEET 1 OF 5 SHEETS STA. 128+50.00 TO STA. 129+25.00

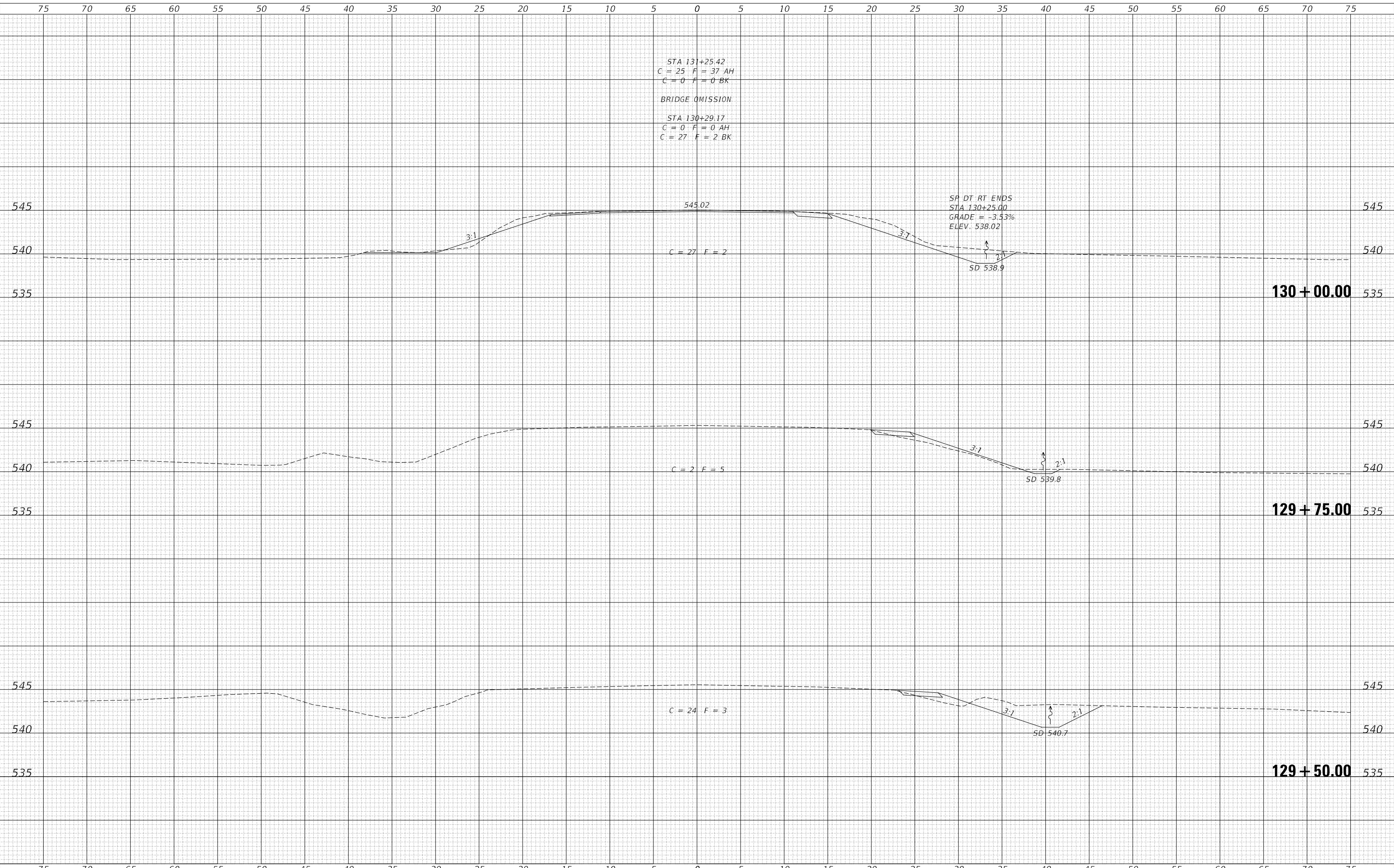
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401	19-00177-00-BR	GRUNDY	28	24
ILLINOIS			CONTRACT NO. 87768	
			FED. AID PROJECT 4BWY(452)	



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

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

MODEL: \$MODELNAME\$  
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STA 131+25.42  
C = 25 F = 37 AH  
C = 0 F = 0 BK  
BRIDGE OMISSION  
STA 130+29.17  
C = 0 F = 0 AH  
C = 27 F = 2 BK

SP DT RT ENDS  
STA 130+25.00  
GRADE = -3.53%  
ELEV: 538.02  
SD 538.9

C = 27 F = 2

C = 2 F = 5

C = 24 F = 3

USER NAME = BNeibel	DESIGNED - BAN	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 1/27/2022	DATE - 10/29/2021	REVISED - _____

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**CROSS SECTIONS**

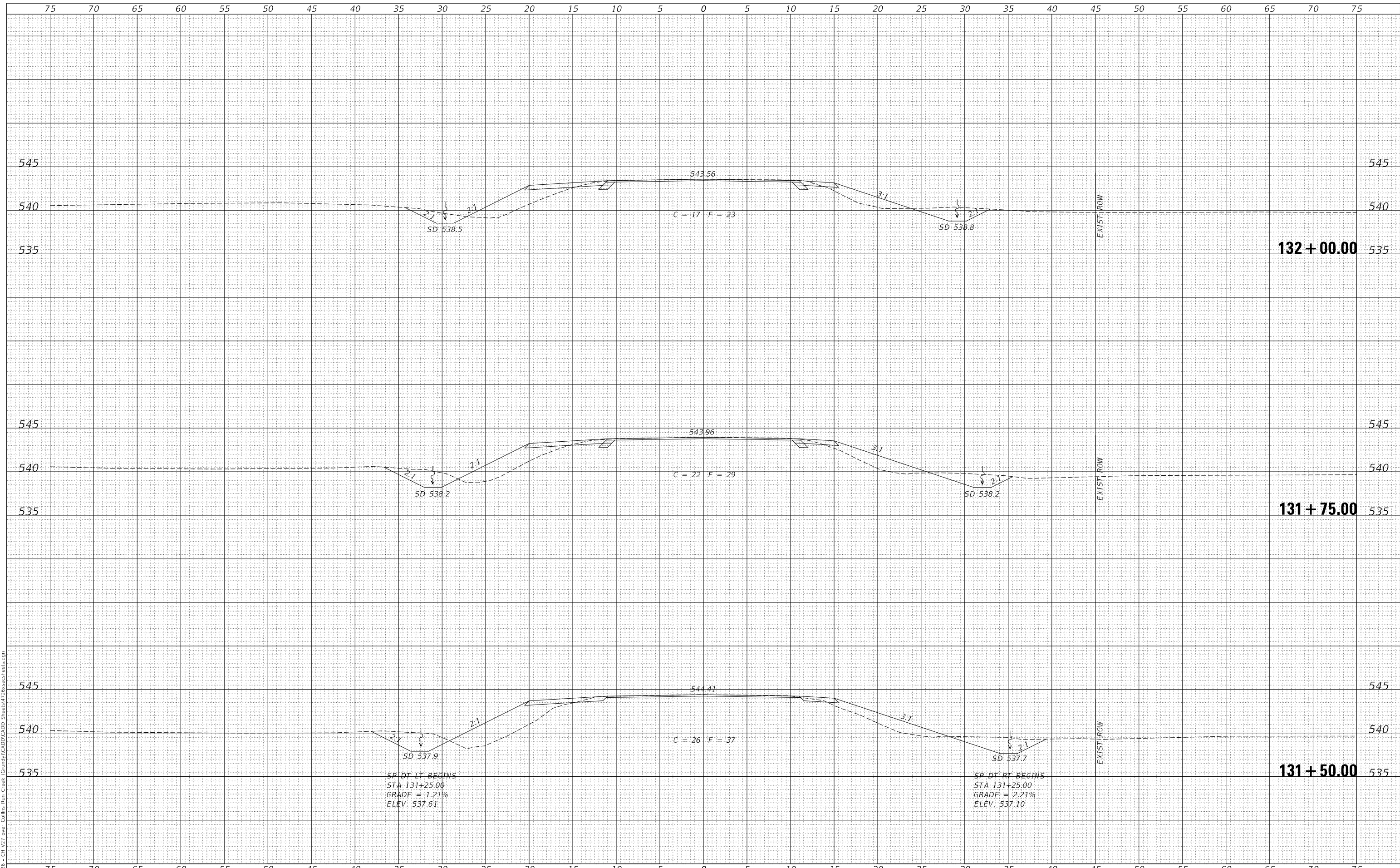
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	25
				CONTRACT NO. 87768
				ILLINOIS FED. AID PROJECT 4BWY(452)

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

MODEL: \$MODELNAME\$  
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		DRAWN -	JPS	REVISED -	_____
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PLOT DATE =	2/8/2022	DATE -	10/29/2021	REVISED -	_____

**GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN**

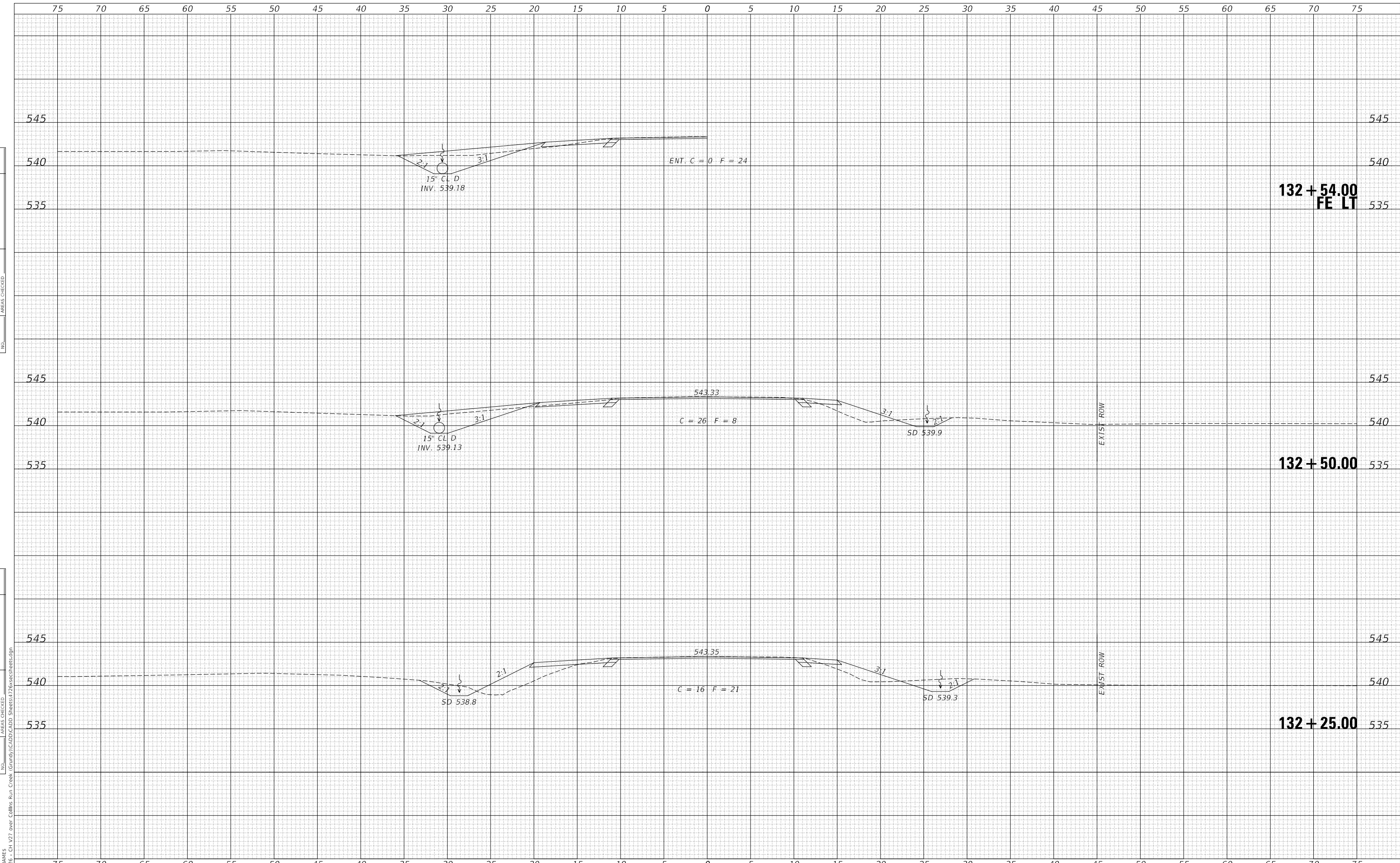
**CROSS SECTIONS**

SCALE: 1" = 5'    SHEET 3    OF 5    SHEETS    STA. 131+25.000    TO STA. 131+75.000

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	26
			CONTRACT NO. 87768	
			ILLINOIS    FED. AID PROJECT 4BWY(452)	

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

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



MODEL: \$MODELNAME\$  
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USER NAME = BNebe1	DESIGNED - BAN	REVISED - _____
	DRAWN - JPS	REVISED - _____
PLOT SCALE = 10.0000 ' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 2/8/2022	DATE - 10/29/2021	REVISED - _____

**GRUNDY COUNTY  
 CH 27 (BRISBIN RD)  
 OVER COLLINS RUN**

**CROSS SECTIONS**

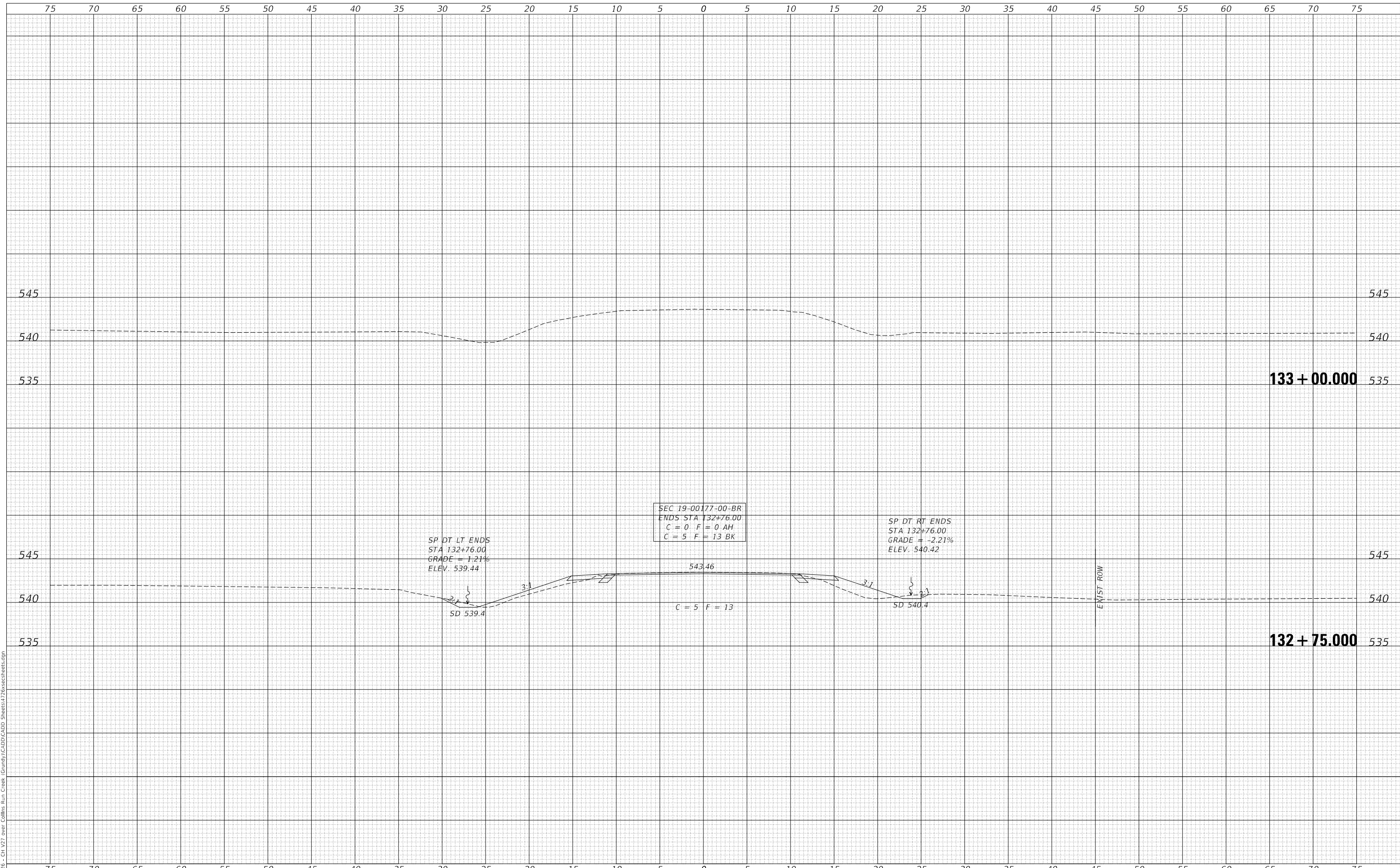
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	27
CONTRACT NO. 87768				
ILLINOIS		FED. AID PROJECT 4BWy(452)		

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

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

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USER NAME = BNebe1	DESIGNED - BAN	REVISED - _____
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PLOT SCALE = 10.0000' / in.	CHECKED - JPS	REVISED - _____
PLOT DATE = 2/8/2022	DATE - 10/29/2021	REVISED - _____

**GRUNDY COUNTY  
CH 27 (BRISBIN RD)  
OVER COLLINS RUN**

**CROSS SECTIONS**

SCALE: 1" = 5'    SHEET 5    OF 5    SHEETS    STA. 132+75.00    TO STA. 133+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
401	19-00177-00-BR	GRUNDY	28	28
CONTRACT NO. 87768				
ILLINOIS		FED. AID PROJECT 4BWY(452)		