

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	1
WHA# 148BD15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-0177(046)		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID PROJECT SURFACE TRANSPORTATION RURAL – BRIDGE (FY-17)

**FAS RTE 78 (N AYP ROAD)
SECTION 15-06120-00-BR
PROJECT NO. BROS-0177(046)
STRUCTURE REPLACEMENT
HARLEM TOWNSHIP
STEPHENSON COUNTY**



INDEX OF SHEETS:

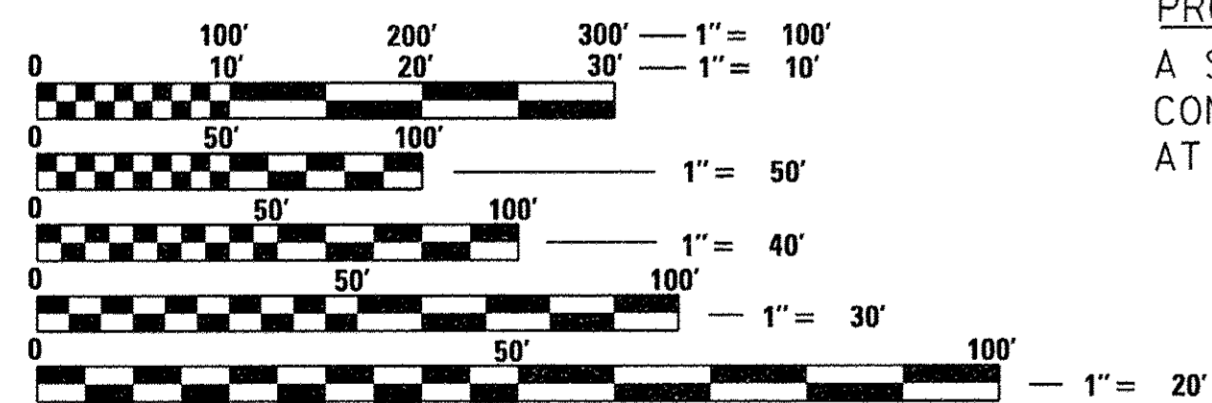
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STANDARDS:

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 701001-02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
- 701006-05 OFF-RD OPERATIONS, 2L, 2W, A5' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-03 LANE CLOSURE 2L, 2W MOVING OPERATIONS - DAY ONLY
- 701901-06 TRAFFIC CONTROL DEVICES
- 720001-01 SIGN PANEL MOUNTING DETAILS
- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 725001-01 OBJECT AND TERMINAL MARKERS
- 728001-01 TELESCOPING STEEL SIGN SUPPORT
- 729001-01 APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 22-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 24-2 MAILBOX TURNOUT FOR LOCAL ROADS

UTILITIES:

SEE SHEET 3

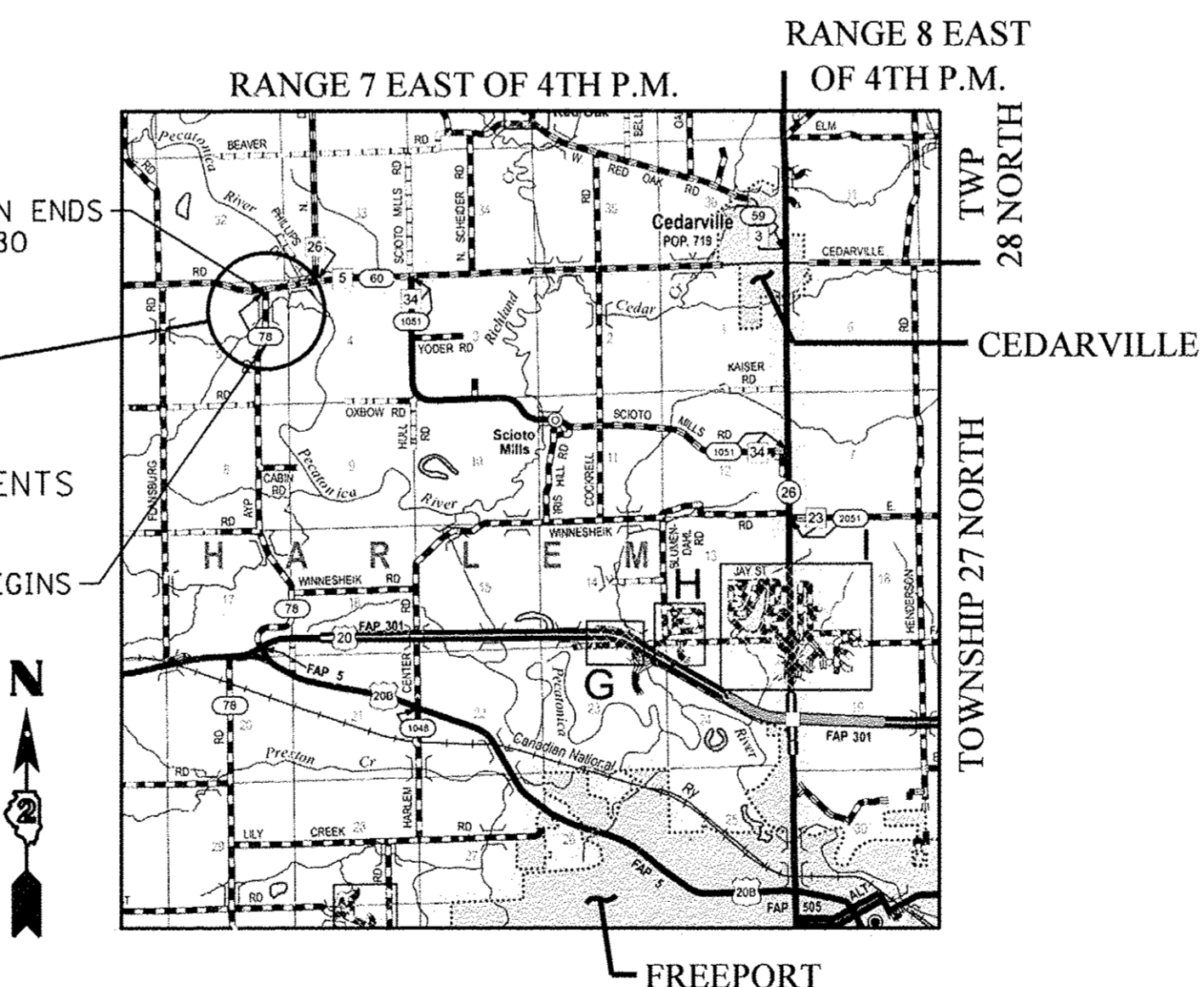
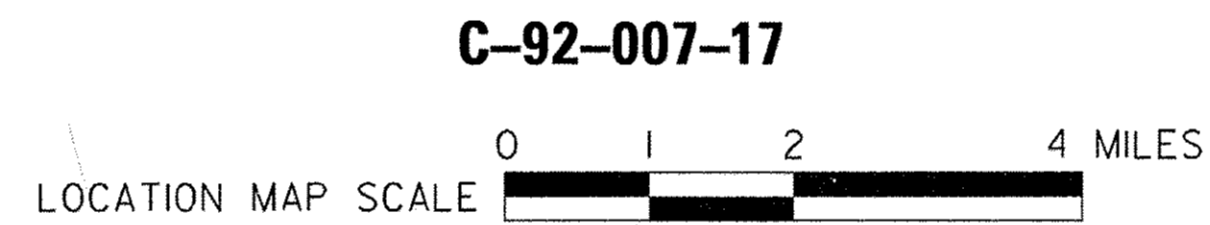


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E. DIG. NO. A0961743
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

**PROJECT ENGINEER – EEL
PROJECT MANAGER – BKC
CONTRACT NO. 85652**

PROPOSED STRUCTURE: S.N. 089-3288
A SINGLE SPAN (1073'-0") PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON SPILL-THRU ABUTMENTS AT STATION 20+00.00, SKEWED 25° RT AHEAD.



**FUNCTIONAL CLASSIFICATION
MAJOR COLLECTOR
DESIGN SPEED 40 MPH
2017 ADT – 345
NEW CONSTRUCTION / RECONSTRUCTION**

GROSS LENGTH = 560 FT. = 0.106 MILE
NET LENGTH = 560 FT. = 0.106 MILE

STEPHENSON COUNTY HIGHWAY DEPARTMENT	
APPROVED	2-14-17 2017 <i>[Signature]</i> HARLEM TOWNSHIP ROAD COMMISSIONER
APPROVED	2/14/17 2017 <i>[Signature]</i> STEPHENSON COUNTY ENGINEER
PASSED	MARCH 1 2017 <i>[Signature]</i> DISTRICT 2 LOCAL ROADS AND STREETS ENGINEER
RELEASING FOR BID BASED ON LIMITED REVIEW	MARCH 1 2017 <i>[Signature]</i> REGION 2 ENGINEER



Brian K. Converse
DATE: 2/16/2017
EXPIRES 11/30/17

**WILLETT HOFMANN
& ASSOCIATES INC**
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

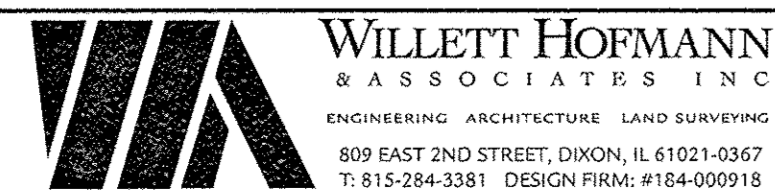
SUMMARY OF QUANTITIES
CONSTRUCTION TYPE CODE: 0011

PAY CODE	ITEM	UNIT	QUANTITY
20300100	CHANNEL EXCAVATION	CU YD	560
20400800	FURNISHED EXCAVATION	CU YD	140
20800150	TRENCH BACKFILL	CU YD	36
25100630	EROSION CONTROL BLANKET	SQ YD	3,121
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	65
28000305	TEMPORARY DITCH CHECKS	FOOT	60
28000400	PERIMETER EROSION BARRIER	FOOT	1,312
28000500	INLET AND PIPE PROTECTION	EACH	2
28100207	STONE RIPRAP, CLASS A4	TON	562
28200200	FILTER FABRIC	SQ YD	517
*30300011	AGGREGATE SUBGRADE IMPROVEMENT	TON	897
*40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	67
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	2,710
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	271
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	152
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	101
*48101200	AGGREGATE SHOULDERS, TYPE B	TON	45
*50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	115
50200100	STRUCTURE EXCAVATION	CU YD	92
50300225	CONCRETE STRUCTURES	CU YD	35.0
50300260	BRIDGE DECK GROOVING	SQ YD	215
50300300	PROTECTIVE COAT	SQ YD	232
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2,044
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	7,590
Δ *50901050	STEEL RAILING, TYPE SM	FOOT	149
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	595
51202305	DRIVING PILES	FOOT	595
51203200	TEST PILE METAL SHELLS	EACH	2
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	42
54200223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	38
67100100	MOBILIZATION	LSUM	1
Δ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*Z0013798	CONSTRUCTION LAYOUT	LSUM	1
*X0327171	SCARIFY EXISTING SURFACE	SQ YD	1,075
*X2020410	EARTH EXCAVATION (SPECIAL)	CU YD	530
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.65
*X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	232
*X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	84
*X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1

*SEE SPECIAL PROVISIONS.

Δ SPECIALTY ITEMS

FILE # S:\PROJECTS\2015\488D15_SCHA\DESIGN\STRUCT\20-Dr\overp\488D15_Summary of Quantities.dgn



DESIGNED - PLP	REVISED -
CHECKED - MAC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

SUMMARY OF QUANTITIES
SHEET NO. 1 OF 1 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	2
WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT BROS-01770461				

GENERAL NOTES:

EXISTING WELLS SHALL BE SEALED IN ACCORDANCE WITH SECTION 672 OF THE STANDARD SPECIFICATIONS, AND EXISTING STRUCTURES (INCLUDING FOUNDATIONS, WALLS, CISTERNS, OR OTHER UNDERGROUND STRUCTURES) WITHIN THE RIGHT OF WAY SHALL BE REMOVED IN ACCORDANCE WITH ARTICLE 501.04 AND 501.05 OF THE STANDARD SPECIFICATIONS, WITHOUT ADDITIONAL COMPENSATION, UNLESS OTHERWISE NOTED IN THE PLANS OR SPECIAL PROVISIONS.

NO OVERHAUL HAS BEEN COMPUTED AND NONE SHALL BE PAID FOR FROM ANY SOURCE.

THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS.

THE FINAL TOP FOUR INCHES OF SOIL IN ANY RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION AND APPROVED BY THE ENGINEER.

ALL UTILITY POLES, GAS PIPES, ETC. IN THE WAY OF THE IMPROVEMENTS SHALL BE MOVED BY THE UTILITIES PRIOR TO CONSTRUCTION AND SHALL NOT BE INCLUDED IN THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE RESPECTIVE UTILITIES TO MAKE THE NECESSARY ADJUSTMENTS PRIOR TO CONSTRUCTION.

THE LOCATION AND ELEVATION OF THE VARIOUS UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE NOT TO BE TAKEN AS EXACT. THE CONTRACTOR SHALL USE SPECIAL CARE WHEN CONDUCTING CONSTRUCTION OPERATIONS NEAR THEM TO PREVENT DAMAGE.

THE LOCATION OF EXISTING FIELD TILES AND ANY OTHER PUBLIC OR PRIVATE UTILITIES AS SHOWN IN THE PLANS ARE NOT TO BE TAKEN AS EXACT. EXACT LOCATION OF ALL FIELD TILES AND UTILITIES IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.39 OF THE STANDARD SPECIFICATIONS. ANY UTILITY PROPERTY DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

THE UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS INCLUDE:

COMED ONE LINCOLN CENTRE, SUITE 600 OAKBROOK TERRACE, IL 60181 PH: (815) 263-3123 ATTN: ADAM SADKOWSKI	FRONTIER COMMUNICATIONS C/O OSP ENGINEERING 2239 NEWBURG RD. BELVIDERE, IL 61008 PH: (815) 544-6171 ATTN: DON BELMORE
--	--

A NATIONWIDE 404 PERMIT HAS BEEN ISSUED FOR THIS PROJECT AND THE CONDITIONS OF THAT PERMIT MUST BE ADHERED TO.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS, MONUMENTS, AND RIGHT OF WAY PINS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

WHERE THE PROPOSED CONSTRUCTION MEETS AN EXISTING BITUMINOUS SURFACE, OR WHERE SAWING IS STATED ON THE PLANS, THE EXISTING SHALL BE SAWED IN A NEAT, STRAIGHT LINE. COST OF SAWING TO BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER CUBIC YARD FOR EARTH EXCAVATION (SPECIAL).

ALL BORROW/WASTE/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTHMOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUTSIDE THE LIMITS OF CONSTRUCTION.

SCHEDULE OF QUANTITIES

TRENCH BACKFILL		
STATION	CU YD	REMARKS
FAS 78 (N AYP RD)		
STA. 18+60	36	EXISTING 36" STORM SEWER
PROJECT TOTAL	36	

EROSION CONTROL BLANKET		
STATION	SQ YD	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 17+20 - 22+80	1,647	
RT. STA. 16+50 - 22+80	1,474	
PROJECT TOTAL	3,121	

SCHEDULE OF QUANTITIES - CONT.

TEMPORARY EROSION CONTROL SEEDING		
STATION	POUND	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 17+20 - 22+80	34	100 LBS./ACRE
RT. STA. 16+50 - 22+80	31	100 LBS./ACRE
PROJECT TOTAL	65	

TEMPORARY DITCH CHECKS		
STATION	FOOT	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 21+00	10	
LT. STA. 22+00	10	
LT. STA. 20+39	10	
RT. STA. 17+50	10	
RT. STA. 18+75	10	
RT. STA. 19+60	10	
PROJECT TOTAL	60	

PERIMETER EROSION BARRIER		
STATION	FOOT	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 17+20 - 19+50	276	
LT. STA. 19+72 - 22+80	363	
RT. STA. 16+50 - 17+93	166	
RT. STA. 18+21 - 19+28	107	
RT. STA. 19+44 - 20+03	140	
RT. STA. 20+24 - 22+80	260	
PROJECT TOTAL	1,312	

INLET AND PIPE PROTECTION		
STATION	EACH	REMARKS
FAS 78 (N AYP RD)		
F.E.R. STA. 17+86.50	1	
P.E.R. STA. 19+17	1	
PROJECT TOTAL	2	

SCHEDULE OF QUANTITIES - CONT.

AGGREGATE SUBGRADE IMPROVEMENT		
STATION	TON	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	456	12"
STA. 20+32.11 - 22+80	441	12"
PROJECT TOTAL	897	

AGGREGATE SURFACE COURSE, TYPE B		
STATION	TON	REMARKS
FAS 78 (N AYP RD)		
F.E.R. STA. 18+07	47	8"
P.E.R. STA. 19+36	20	8"
PROJECT TOTAL	67	

BITUMINOUS MATERIALS (PRIME COAT)		
STATION	POUND	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	1,381	0.25 LB./SQ. FT. OVER AGG.
STA. 20+32.11 - 22+80	1,329	0.25 LB./SQ. FT. OVER AGG.
PROJECT TOTAL	2,710	

BITUMINOUS MATERIALS (TACK COAT)		
STATION	POUND	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	138	0.025 LB./SQ. FT. OVER BINDER
STA. 20+32.11 - 22+80	133	0.025 LB./SQ. FT. OVER BINDER
PROJECT TOTAL	271	

HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50		
STATION	TON	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	77	2 1/4" - 112 LBS/SQ.YD./IN.
STA. 20+32.11 - 22+80	75	2 1/4" - 112 LBS/SQ.YD./IN.
PROJECT TOTAL	152	

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DESIGNED - PLP	REVISED -
CHECKED - MAC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

GENERAL NOTES AND SCHEDULE OF QUANTITIES

SHEET NO. 1 OF 2 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	3
WHA# 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-01770461		

SCHEDULE OF QUANTITIES – CONT.

HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50		
STATION	TON	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	51	1 1/2" - 112 LBS/SQ.YD./IN.
STA. 20+32.11 - 22+80	50	1 1/2" - 112 LBS/SQ.YD./IN.
PROJECT TOTAL	101	

AGGREGATE SHOULDERS, TYPE B		
STATION	TON	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 17+20 - 19+56.70	12	4"
LT. STA. 20+32.11 - 22+80	13	4"
RT. STA. 17+20 - 17+86.67	3	4"
RT. STA. 18+27.33 - 19+01.74	4	4"
RT. STA. 19+50 - 19+67.89	1	4"
RT. STA. 20+43.30 - 22+80	12	4"
PROJECT TOTAL	45	

PIPE CULVERT REMOVAL		
STATION	FOOT	REMARKS
FAS 78 (N AYP RD)		
F.E.R. STA. 18+07	52	EXISTING 15" DIA.
STA. 18+60	39	EXISTING 36" DIA.
P.E.R. STA. 19+36	24	EXISTING 18" DIA.
PROJECT TOTAL	115	

PIPE CULVERTS, CLASS D, TYPE 1 15"		
STATION	FOOT	REMARKS
FAS 78 (N AYP RD)		
F.E.R. RT. STA. 18+07	42	
PROJECT TOTAL	42	

PIPE CULVERTS, CLASS D, TYPE 1 18"		
STATION	FOOT	REMARKS
FAS 78 (N AYP RD)		
P.E.R. STA. 19+36	38	
PROJECT TOTAL	38	

SCHEDULE OF QUANTITIES – CONT.

TERMINAL MARKER – DIRECT APPLIED		
STATION	EACH	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 19+56.70	1	END OF SM RAIL
RT. STA. 19+67.89	1	END OF SM RAIL
LT. STA. 20+32.11	1	END OF SM RAIL
RT. STA. 20+43.30	1	END OF SM RAIL
PROJECT TOTAL	4	

SCARIFY EXISTING SURFACE		
STATION	SO. YD.	REMARKS
FAS 78 (N AYP RD)		
STA. 17+20 - 19+67.89	547	6" DEPTH
STA. 20+32.11 - 22+80	528	6" DEPTH
PROJECT TOTAL	1,075	

SEEDING, CLASS 2 (SPECIAL)		
STATION	ACRE	REMARKS
FAS 78 (N AYP RD)		
LT. STA. 17+20 - 22+80	0.34	
RT. STA. 16+50 - 22+80	0.31	
PROJECT TOTAL	0.65	

FAS 78 (N AYP RD) EARTHWORK TOTALS*						
LOCATION	EARTH EXCAVATION (SPECIAL)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE 25%	EMBANKMENT	CHANNEL EXCAVATION	CHANNEL EXCAVATION ADJUSTED FOR SHRINKAGE 62.5%	FURNISHED EXCAVATION
	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
FAS 78 (N AYP RD)						
STA. 16+50 - 22+80	533	400	751	560	210	142

* ROUNDED TO NEAREST 5 CU YD IN SUMMARY OF QUANTITIES PER BDE 64-1A.

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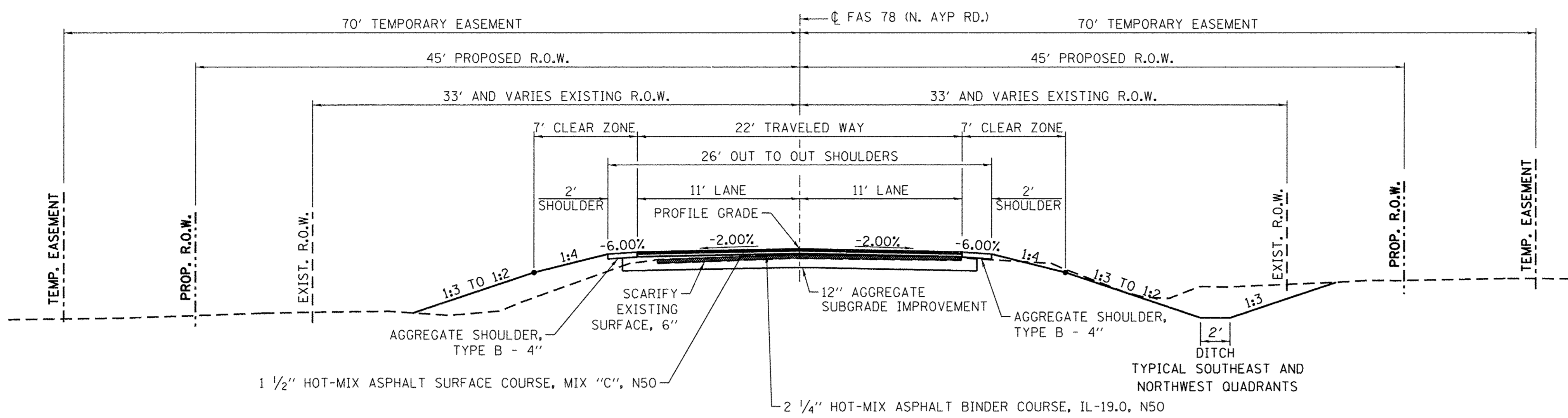
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DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

GENERAL NOTES AND SCHEDULE OF QUANTITIES

SHEET NO. 2 OF 2 SHEETS

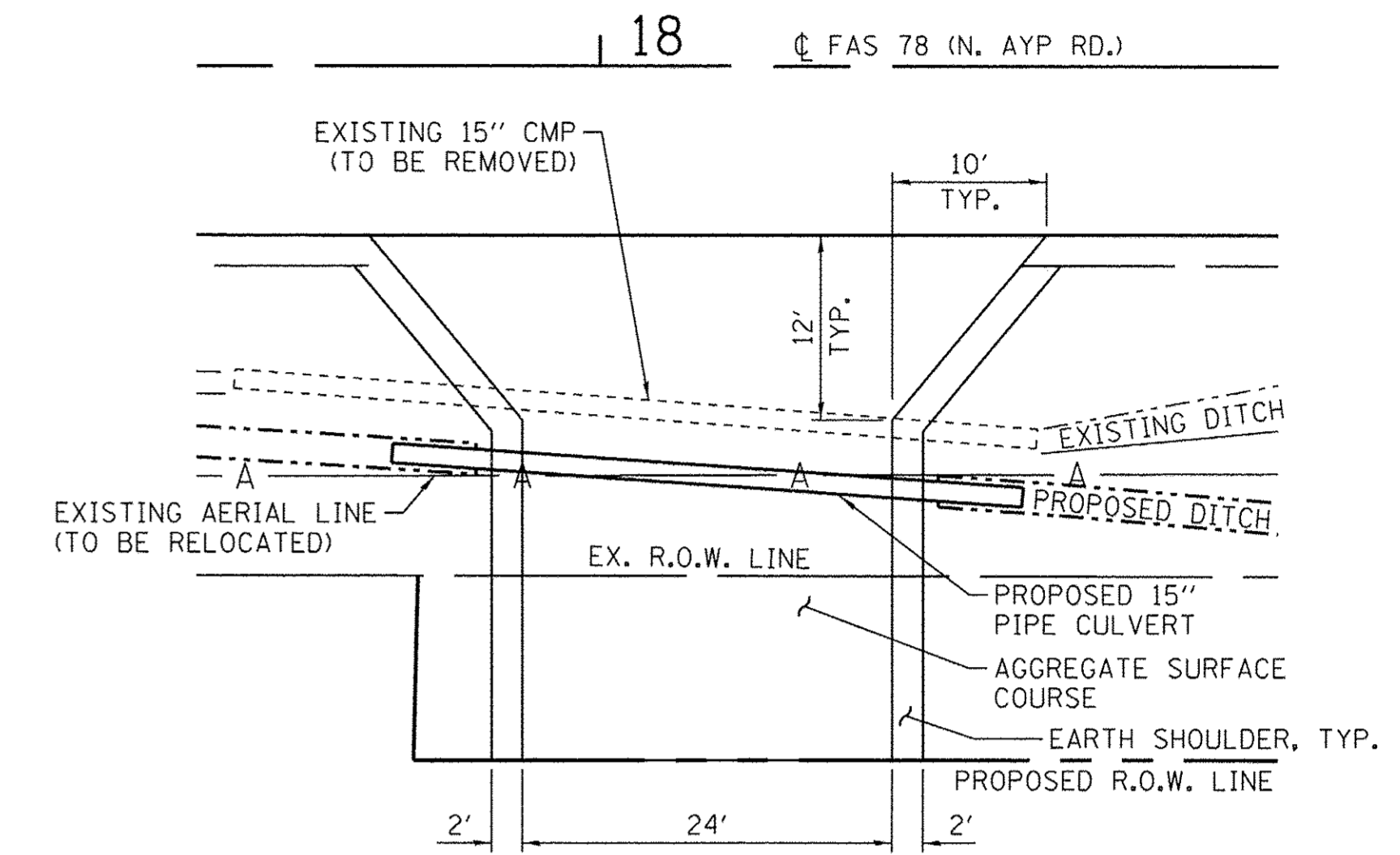
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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WHA# 1488D15		CONTRACT NO. 85652		
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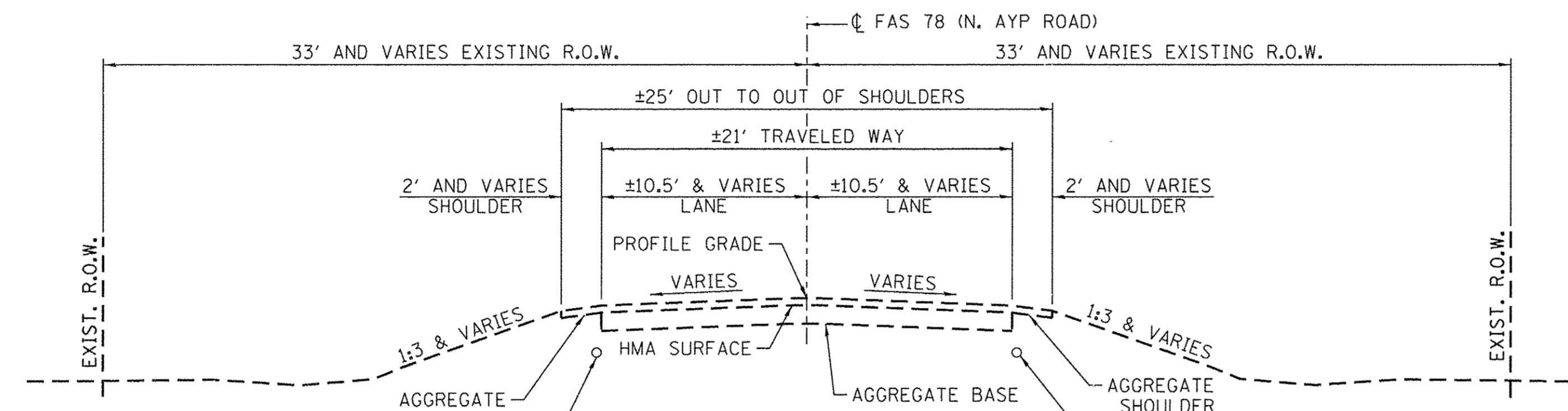
PROPOSED TYPICAL SECTION

(LOOKING NORTH)
 STA. 17+20.00 - 19+37.29
 STA. 20+63.00 - 22+80.00

1 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
 2 1/4" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50
 12" AGGREGATE SUBGRADE IMPROVEMENT
 AGGREGATE SHOULDER, TYPE B - 4"
 DITCH TYPICAL SOUTHEAST AND NORTHWEST QUADRANTS



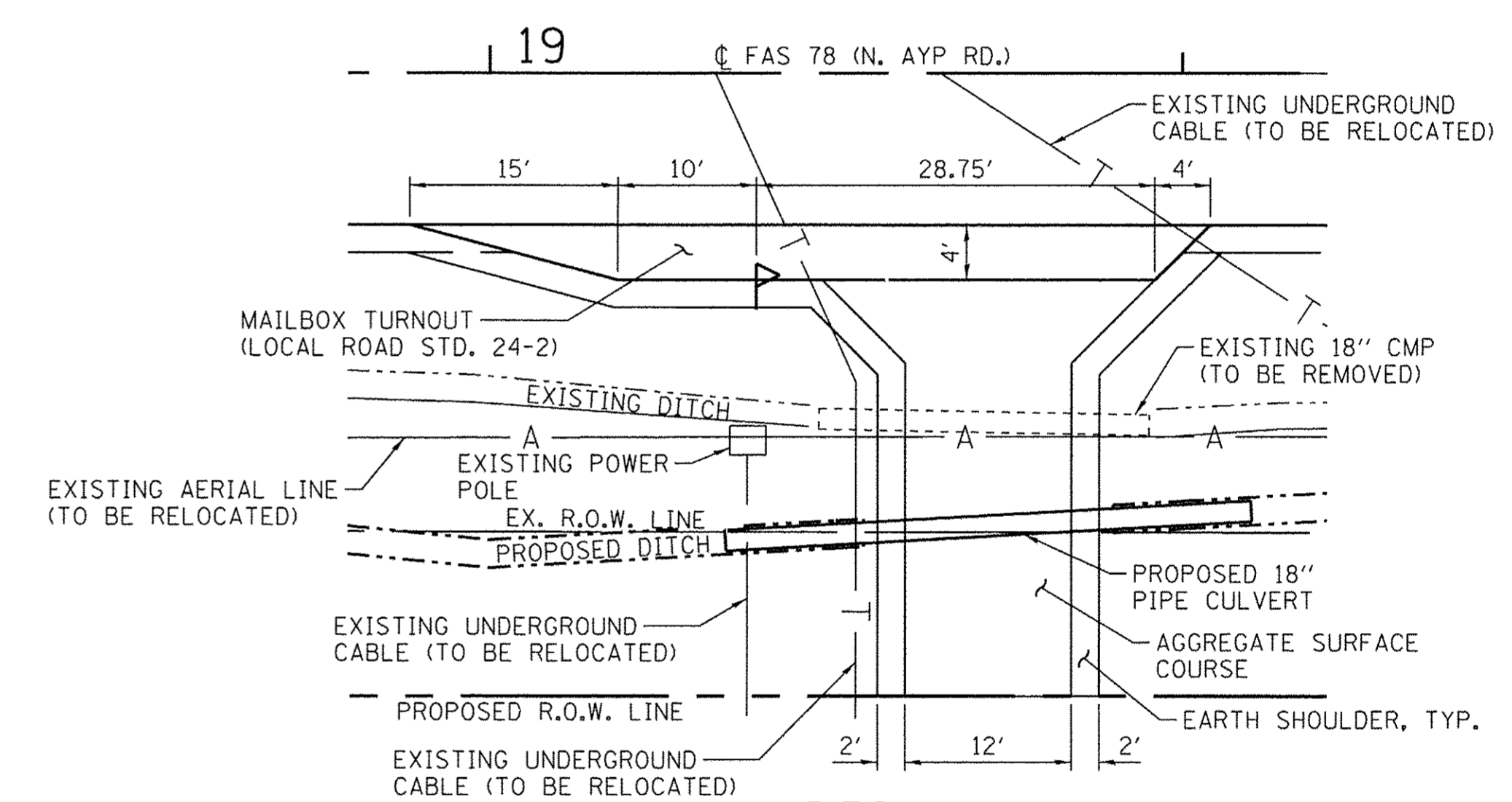
F.E.R. 18+07



EXISTING TYPICAL SECTION

(LOOKING NORTH)

EXISTING UNDERGROUND CABLE 24" DEPTH (STA. 17+20 - 20+00)
 AGGREGATE SHOULDER
 HMA SURFACE
 AGGREGATE BASE
 AGGREGATE SHOULDER
 EXISTING UNDERGROUND CABLE 33" DEPTH (STA. 20+00 - 22+80)



P.E.R. 19+36

PAVEMENT STRUCTURAL DESIGN
FAS 78 (N. AYP ROAD)

STRUCTURAL DESIGN TRAFFIC (SDT) = YEAR 2027
 CLASS III STREET
 80,000* TRUCK DESIGN

PV	382	} 434 ADT
SU	30	
MU	22	

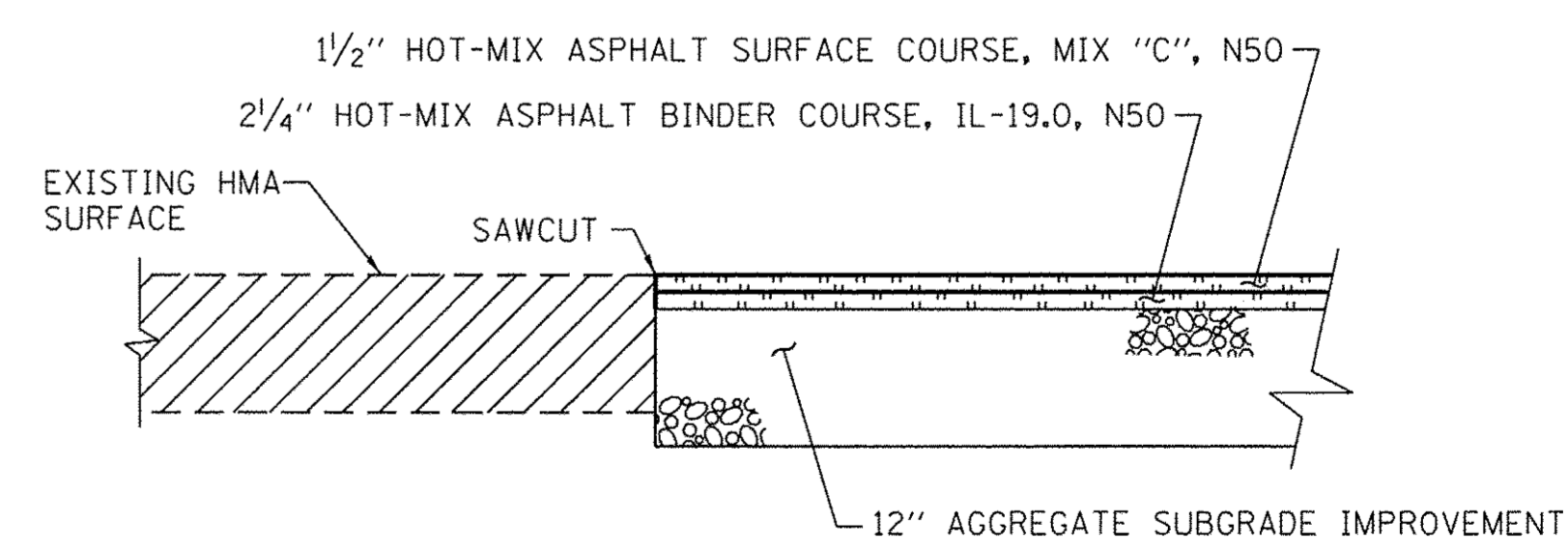
ER₁ = 2 KSI (POOR SUBGRADE)
 TF = 0.118
 HMA MIX TEMP. = 72°
 HMA E_{AC} = 655
 HMA DESIGN STRAIN = 275

USE:
 1 1/2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
 2 1/4" HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50
 12" AGGREGATE SUBGRADE IMPROVEMENT

SEE SECTION 44-3.03(a) OF THE LOCAL ROADS AND STREETS MANUAL.

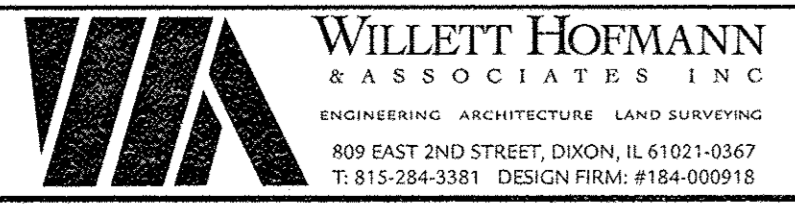
PAVEMENT MIXTURE REQUIREMENTS

MIXTURE USE:	BINDER	SURFACE
PG:	PG 58-22	PG 58-22
DESIGN AIR VOIDS	4.0 @ N50	4.0 @ N50
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL-19.0	IL-9.5
FRICTION AGGREGATE	N/A	MIX "C"
MIXTURE WEIGHT:	112 LBS/SY/IN	112 LBS/SY/IN



TYPICAL CORE JOINT DETAIL

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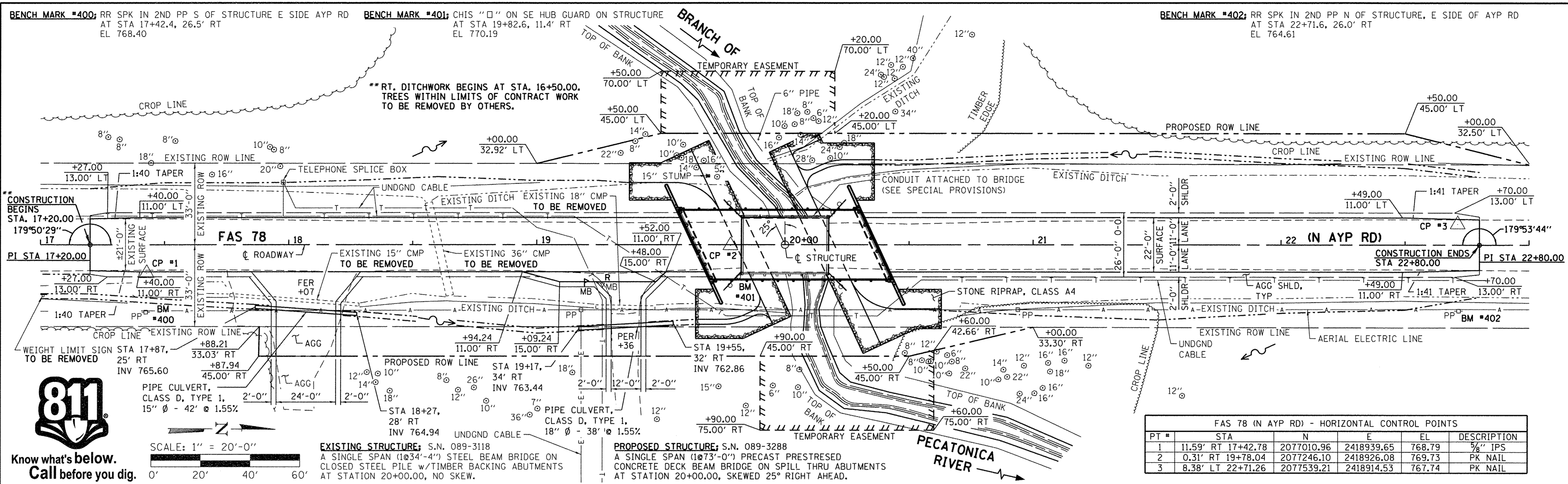


DESIGNED - MAH	REVISED -
CHECKED - PLP	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

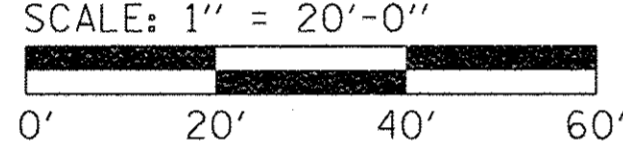
TYPICAL SECTIONS AND DETAILS
 SHEET NO. 1 OF 1 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	5
WHA# 1488015		CONTRACT NO. 85652		
		ILLINOIS FED. AID PROJECT BR05-01770461		



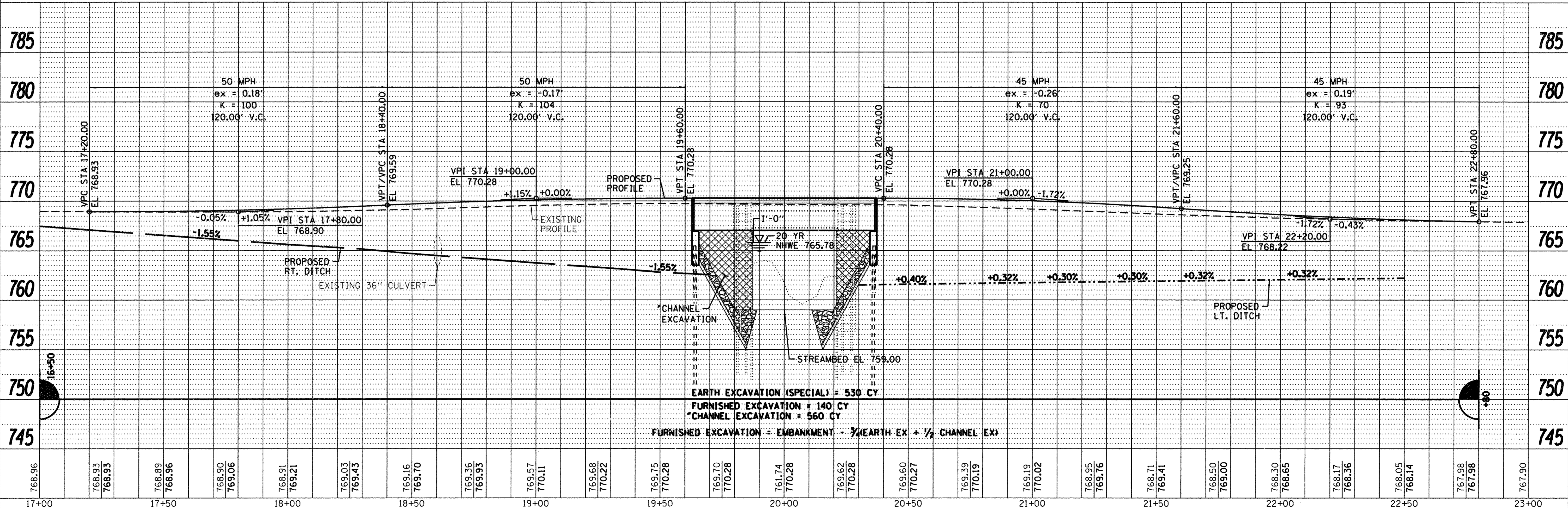
FAS 78 (N AYP RD) - HORIZONTAL CONTROL POINTS

PT #	STA	N	E	EL	DESCRIPTION
1	11.59' RT 17+42.78	2077010.96	2418939.65	768.79	3/4" IPS
2	0.31' RT 19+78.04	2077246.10	2418926.08	769.73	PK NAIL
3	8.38' LT 22+71.26	2077539.21	2418914.53	767.74	PK NAIL



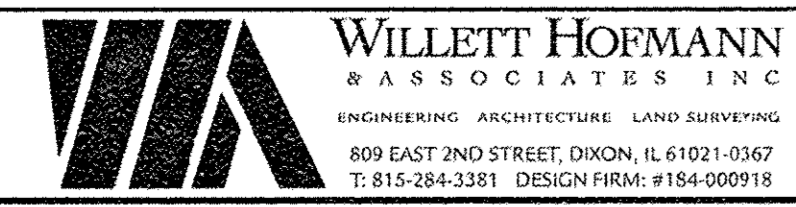
EXISTING STRUCTURE; S.N. 089-3118
 A SINGLE SPAN (118'34"-4") STEEL BEAM BRIDGE ON CLOSED STEEL PILE w/TIMBER BACKING ABUTMENTS AT STATION 20+00.00, NO SKEW.

PROPOSED STRUCTURE; S.N. 089-3288
 A SINGLE SPAN (107'3"-0") PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE ON SPILL THRU ABUTMENTS AT STATION 20+00.00, SKEWED 25° RIGHT AHEAD.



STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20+00.00

PLAN AND PROFILE



DESIGNED - EEL	REVISED -
CHECKED - MAC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

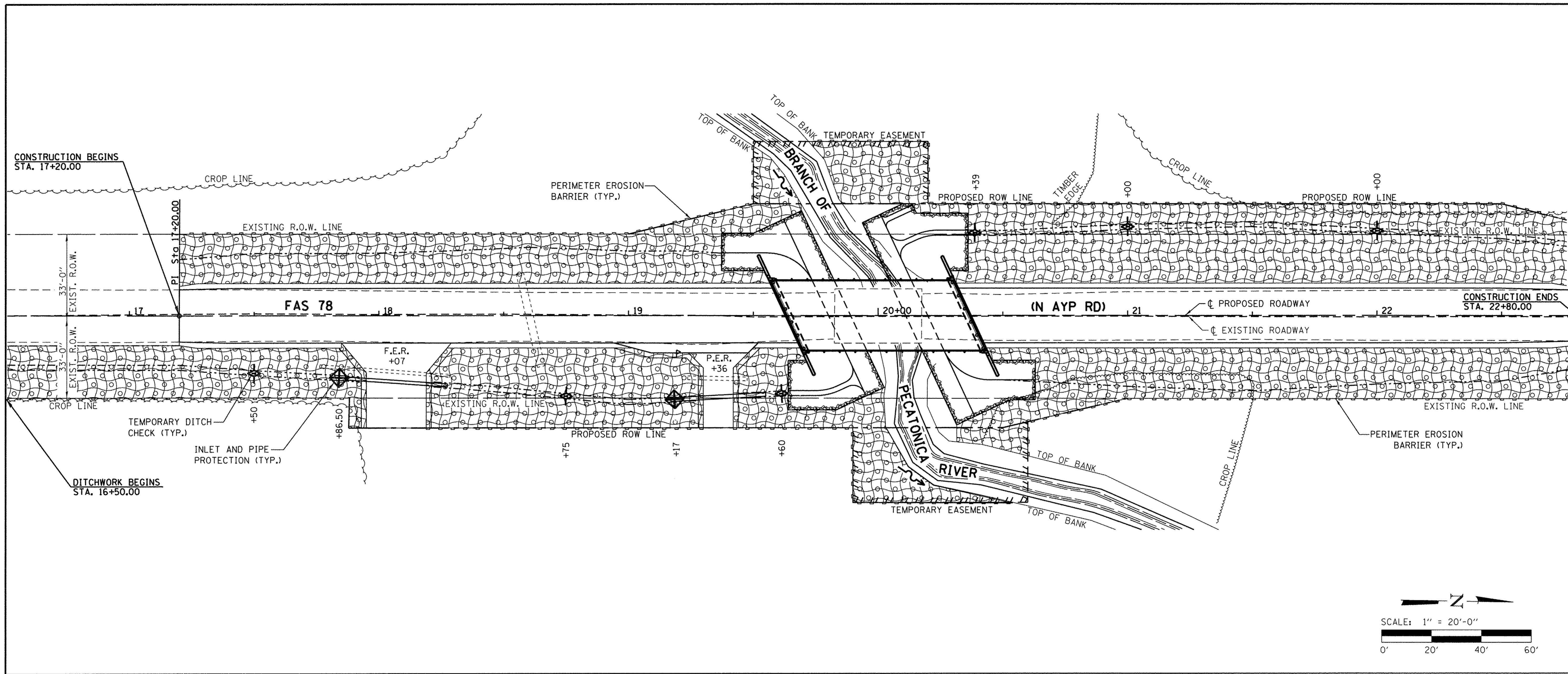
SCALE: 1" = 20'-0" SHEET NO. 1 OF 1 SHEETS STA. 17+00.00 TO STA. 23+00.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	6
WHA# 1488D15		CONTRACT NO. 85652		ILLINOIS FED. AID PROJECT BR05-01770461

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO.	

FILE: S:\PROJECTS\2015\1488D15\SCH\DESIGN\STRUCT\2D.Dwg; 1488D15_Plan and Profile.dwg



EROSION CONTROL NOTES

THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER 1/2" OF RAIN OR MORE BY THE INDIVIDUAL ON SITE IN CHARGE OF SOIL EROSION AND SEDIMENT CONTROL DURING THE CONSTRUCTION OF THE PROJECT.

PERIMETER EROSION BARRIER SHALL COMPLY WITH SECTION 280 OF THE STANDARD SPECIFICATIONS AND SHALL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND IN ACCORDANCE WITH STATIONS SHOWN ON THE SCHEDULE OF QUANTITIES SHEET OR AS DIRECTED BY THE ENGINEER.

SILT FENCE SHALL BE INSTALLED FOLLOWING THE COMPLETION AND STABILIZATION OF ALL AREAS ADJACENT TO THE ON-SITE DRAINAGES. THE SILT FENCE WILL REMAIN IN PLACE UNTIL THE CONTRIBUTING AREA IS STABILIZED.

FOR SEEDING, CLASS 2 (SPECIAL) SEE SPECIAL PROVISIONS.

EROSION CONTROL BLANKET SHALL BE PLACED IN DITCHES AND ALL DISTURBED AREAS AS SHOWN ON THIS EROSION CONTROL PLAN SHEET AND IN ACCORDANCE WITH SECTION 251 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE USE OF GREEN DYE IN THE EROSION CONTROL BLANKET IS NOT ACCEPTABLE.

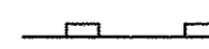
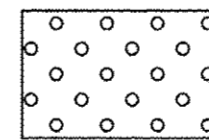

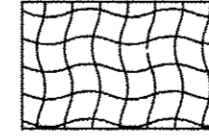

TEMPORARY DITCH CHECKS SHALL COMPLY WITH SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STANDARD 280001.

TEMPORARY DITCH CHECKS SHALL BE PLACED AT STATIONS CALLED OUT IN THE SCHEDULE OF QUANTITIES OR AS DIRECTED BY THE ENGINEER.

STOCKPILES OF SOIL AND OTHER BUILDING MATERIALS TO REMAIN IN PLACE MORE THAN THREE (3) DAYS SHALL BE FURNISHED WITH EROSION AND SEDIMENT CONTROL MEASURES (I.E. PERIMETER SILT FENCE). STOCKPILES TO REMAIN IN PLACE FOR 14 DAYS OR MORE SHALL RECEIVE TEMPORARY SEEDING.

ALL ADJACENT ENTRANCES MUST BE KEPT CLEAR OF DEBRIS. INSPECTED DAILY AND CLEANED WHEN NECESSARY.

LEGEND

-  PERIMETER EROSION BARRIER
-  SEEDING, CLASS 2 (SPECIAL)
-  TEMPORARY DITCH CHECKS
-  EROSION CONTROL BLANKET
-  INLET AND PIPE PROTECTION



Know what's below.
Call before you dig.



DESIGNED - PLP	REVISED -
CHECKED - MAC	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

EROSION CONTROL PLAN
SCALE: 1" = 20'-0"
SHEET NO. 1 OF 2 SHEETS
STA. 17+00.00 TO STA. 22+75.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	7
WHA# 1488D15			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT BROS-01770461				

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STORM WATER POLLUTION PREVENTION PLAN

THE FOLLOWING PLAN IS ESTABLISHED AND INCORPORATED IN THE PROJECT TO DIRECT THE CONTRACTOR IN THE PLACEMENT OF TEMPORARY EROSION CONTROL SYSTEMS AND TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN FOR COMPLIANCE UNDER NPDES.

THE PURPOSE OF THIS PLAN IS TO MINIMIZE EROSION WITHIN THE CONSTRUCTION SITE AND TO LIMIT SEDIMENTS FROM LEAVING THE CONSTRUCTION SITE BY UTILIZING PROPER TEMPORARY EROSION CONTROL SYSTEMS AND PROVIDING GROUND COVER WITHIN A REASONABLE AMOUNT OF TIME.

CERTAIN EROSION CONTROL FACILITIES SHALL BE INSTALLED BY THE CONTRACTOR AT THE BEGINNING OF CONSTRUCTION. OTHER ITEMS SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER ON A CASE BY CASE SITUATION DEPENDING ON THE CONTRACTOR'S SEQUENCE OF ACTIVITIES, TIME OF YEAR, AND EXPECTED WEATHER CONDITIONS.

THE CONTRACTOR SHALL INSTALL PERMANENT EROSION CONTROL SYSTEMS AND SEEDING WITHIN A TIME FRAME SPECIFIED HEREIN AND AS DIRECTED BY THE ENGINEER, THEREFORE MINIMIZING THE AMOUNT OF AREA SUSCEPTIBLE TO EROSION AND REDUCING THE AMOUNT OF TEMPORARY SEEDING. THE ENGINEER WILL DETERMINE IF ANY TEMPORARY EROSION CONTROL SYSTEMS SHOWN IN THE PLAN CAN BE DELETED AND IF ANY ADDITIONAL TEMPORARY EROSION CONTROL SYSTEMS, WHICH ARE NOT INCLUDED IN THIS PLAN, SHALL BE ADDED. THE CONTRACTOR SHALL PERFORM ALL WORK AS DIRECTED BY THE ENGINEER AND AS SHOWN IN STANDARD 280001 LOCATED IN THE SPECIFICATIONS.

SECTION 280, TEMPORARY EROSION CONTROL, OF THE STANDARD SPECIFICATIONS ADDITIONALLY SUPPLEMENTS THIS PLAN.

SITE DESCRIPTION:

DESCRIPTION OF CONSTRUCTION ACTIVITY:

1. THE PROJECT CONSISTS OF BRIDGE REPLACEMENT ON FAS 78 OVER A BRANCH OF THE PECATONICA RIVER & APPROACH ROADWAY WORK THERETO.
2. CONSTRUCTION INCLUDES PAVEMENT REMOVAL, EARTH EXCAVATION, CHANNEL EXCAVATION, VARIOUS PAVEMENT ITEMS, BRIDGE ITEMS AND OTHER MISCELLANEOUS ITEMS OF CONSTRUCTION.

DESCRIPTION OF INTENDED SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. STRUCTURE REMOVAL AND BRIDGE CONSTRUCTION
2. CHANNEL EXCAVATION
3. EARTH AND FURNISHED EXCAVATION
4. HMA SURFACE AND RELATED APPURTENANCES
5. PLACEMENT OF PERMANENT EROSION CONTROL, INCLUDING SEEDING

AREA OF CONSTRUCTION SITE:

THE TOTAL AREA OF THE CONSTRUCTION SITE IS ESTIMATED TO BE 1.15 ACRES OF WHICH 1.15 ACRES WILL BE DISTURBED BY EXCAVATION, GRADING, AND OTHER ACTIVITIES.

OTHER REPORTS, STUDIES, AND PLANS WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

1. INFORMATION OF THE SOILS AND TERRAIN WITHIN THE SITE WAS OBTAINED FROM SOIL BORINGS THAT WERE UTILIZED FOR THE DEVELOPMENT OF THE PROPOSED TEMPORARY EROSION CONTROL SYSTEMS.
2. PROJECT PLAN DOCUMENTS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND PLAN DRAWINGS INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER GRADING ACTIVITIES WERE UTILIZED FOR THE PROPOSED PLACEMENT OF THE TEMPORARY EROSION CONTROL SYSTEMS.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROL

DESCRIPTION OF STABILIZATION PRACTICES AT THE BEGINNING OF CONSTRUCTION:

1. THE DRAWINGS, SPECIFICATIONS, AND SPECIAL PROVISIONS WILL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED. STABILIZATION PRACTICES INCLUDE: TEMPORARY SEEDING, PERMANENT SEEDING, PERIMETER EROSION BARRIER, AND OTHER APPROPRIATE MEASURES AS DIRECTED BY THE ENGINEER. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
 - (A) AREAS OF EXISTING VEGETATION (WOOD AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED BY THE ENGINEER FOR PRESERVING AND SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES.
 - (B) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER, ALONG WITH REQUIRED TREE REMOVAL.
 - (C) AS SOON AS REASONABLE ACCESS IS AVAILABLE TO ALL LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, TEMPORARY DITCH CHECKS AND PERIMETER EROSION BARRIER SHALL BE INSTALLED AS CALLED OUT IN THIS PLAN AND DIRECTED BY THE ENGINEER.
 - (D) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE BEGINNING OF CONSTRUCTION WHERE NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN 7 DAYS.
 - (E) AT LOCATIONS WHERE A SIGNIFICANT AMOUNT OF WATER DRAINS INTO THE CONSTRUCTION ZONE FROM OUTSIDE AREAS (ADJACENT LANDOWNERS), TEMPORARY DITCH CHECKS WILL BE UTILIZED TO LOCALLY DIVERT WATER, REDUCE FLOW RATES, AND COLLECT OUTSIDE SILTATION INSIDE THE RIGHT-OF-WAY LINE.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED. THE CONTRACTOR SHALL NOT USE THIS AREA FOR STAGING (EXCEPT AS DESCRIBED ON THE PLANS AND DIRECTED BY THE ENGINEER), PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
 - (A) WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION.
 - (B) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN 14 DAYS.
 - (C) AS CONSTRUCTION PROCEEDS, THE CONTRACTOR SHALL INSTITUTE THE FOLLOWING AS DIRECTED BY THE ENGINEER:
 - I. PLACE TEMPORARY EROSION CONTROL FACILITIES AT LOCATIONS SHOWN ON THE PLANS.
 - II. TEMPORARILY SEED ERODIBLE BARE EARTH ON A WEEKLY BASIS TO MINIMIZE THE AMOUNT OF ERODIBLE SURFACE AREA WITHIN THE CONTRACT LIMITS.
 - (D) EXCAVATED AREAS AND EMBANKMENT SHALL BE PERMANENTLY SEEDED IMMEDIATELY AFTER FINAL GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDED IF NO CONSTRUCTION ACTIVITY IN THE AREA IS PLANNED FOR 7 DAYS.
 - (E) CONSTRUCTION EQUIPMENT SHALL BE STORED AND FUELED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR OTHER POLLUTANT IN ACCORDANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
 - (F) THE RESIDENT ENGINEER SHALL INSPECT THE PROJECT DAILY DURING CONSTRUCTION ACTIVITIES. INSPECTION SHALL ALSO BE DONE WEEKLY AND AFTER RAINS OF 1/2" OR GREATER OR EQUIVALENT SNOWFALL AND DURING THE WINTER SHUTDOWN PERIOD. THE PROJECT SHALL ADDITIONALLY BE INSPECTED BY THE CONSTRUCTION FIELD ENGINEER ON A BI-WEEKLY BASIS TO DETERMINE THAT EROSION CONTROL EFFORTS ARE IN PLACE AND EFFECTIVE AND IF OTHER EROSION CONTROL WORK IS NECESSARY.
 - (G) SEDIMENT COLLECTED DURING CONSTRUCTION OF THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON THE SITE ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER. THE COST OF THIS MAINTENANCE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR EARTH EXCAVATION (SPECIAL).
 - (H) THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AFTER USE IS NO LONGER NEEDED OR NO LONGER FUNCTIONING. THE COST OF THIS REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR VARIOUS TEMPORARY EROSION CONTROL PAY ITEMS.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING:

1. TEMPORARY EROSION CONTROL SYSTEMS SHALL BE LEFT IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY AND ALL PROPOSED TURF AREAS SEEDED AND ESTABLISHED.
2. ONCE PERMANENT EROSION CONTROL SYSTEMS AS PROPOSED IN THE PLANS ARE FUNCTIONAL AND ESTABLISHED, TEMPORARY ITEMS SHALL BE REMOVED, CLEANED UP, AND DISTURBED TURF RESEDED.

MAINTENANCE AFTER CONSTRUCTION:

1. CONSTRUCTION IS COMPLETE AFTER ACCEPTANCE BY STEPHENSON COUNTY & HARLEM TOWNSHIP FINAL INSPECTION. MAINTENANCE UP TO THIS DATE WILL BE BY THE CONTRACTOR.

MISCELLANEOUS:

1. TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS./ACRE.
2. TEMPORARY DITCH CHECKS SHALL COMPLY WITH SECTION 280 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STANDARD 280001.
3. ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO THE APPROVAL AND USE OF THE PRODUCT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCER STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

THIS PLAN HAS BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF THE NPDES PERMIT NUMBER ILR10, ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

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DESIGNED -	PLP	REVISED -	
CHECKED -	MAC	REVISED -	
DRAWN -	DAN	REVISED -	
CHECKED -	PLP	REVISED -	

**STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00**

EROSION CONTROL PLAN

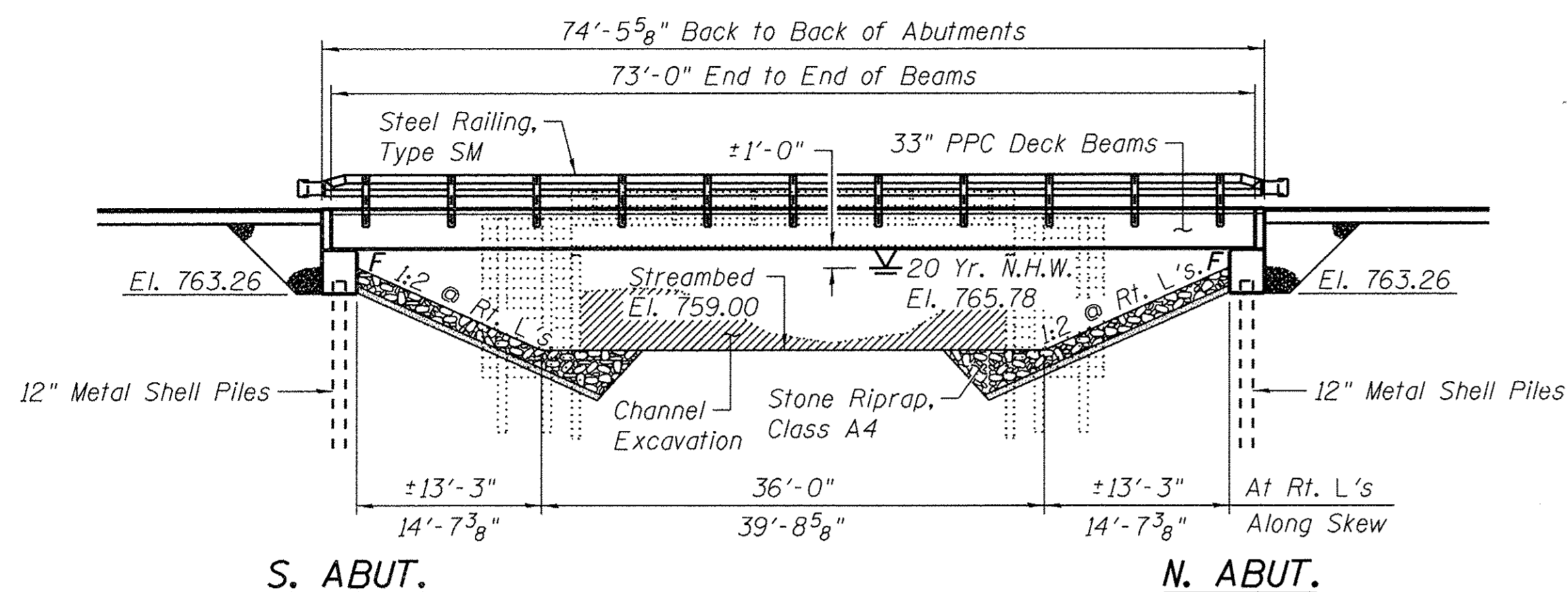
SHEET NO. 2 OF 2 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	8
WHA# 1488015		CONTRACT NO. 85652		
ILLINOIS		FED. AID	PROJECT	BROS-0177046

Bench Mark: Chiseled "□" on SE Hubguard on Structure at Sta. 19+82.55, 11.4' Rt., El. 770.19

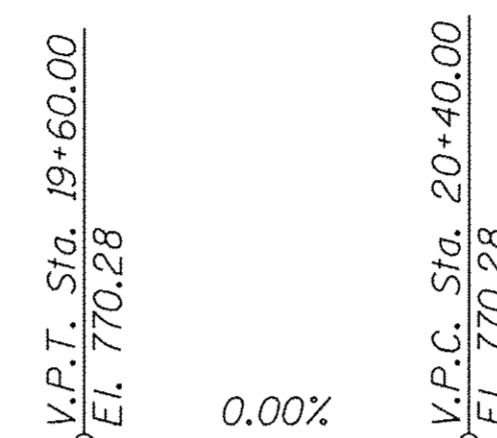
Existing Structure: S.N. 089-3118 built in 1954 as S.A.R. 9. The existing structure is a single span (1@34'-4") steel girder bridge on closed steel pile with timber backwall abutments. 35'-0" back to back of abutments and 23'-4" out to out of deck. Structure to be removed and replaced. Road to be closed during construction.

Existing Bridge Rail to be salvaged per Special Provisions.



INDEX OF SHEETS

- 1 General Plan and Elevation
- 2 Riprap and Pile Layout
- 3 Superstructure
- 4 Superstructure Details
- 5 33" x 48" PPC Deck Beam
- 6 33" x 48" PPC Deck Beam Details
- 7 South Abutment Details
- 8 North Abutment Details
- 9 Steel Railing, Type SM with Concrete Wearing Surface
- 10 Metal Shell Pile Details
- 11-14 Boring Logs



DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims

DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi (Substructure)
f_c = 5,000 psi (Superstructure)
f_y = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f_c = 6,000 psi
f_{ci} = 5,000 psi
f_{pu} = 270,000 psi (1/2" φ Low Lax Strands)
f_{pbt} = 201,960 psi (1/2" φ Low Lax Strands)

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}) = 0.105
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.175
Soil Site Class = E

BUILT 2017 BY
STEPHENSON COUNTY
SECTION 15-06120-00-BR
STATION 20+00
STR. NO. 089-3288 LOADING HL-93

NAME PLATE LETTERING

Refer To Std. 515001



Brian K. Conner
DATE: 2/16/2017
EXPIRES 11/30/18

"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 Bridge Design Specifications.'"

BILL OF MATERIAL - BRIDGE

ITEM	UNIT	SUB	SUPER	TOTAL
Channel Excavation	Cu. Yd.	560	—	560
Stone Riprap, Class A4	Ton	562	—	562
Filter Fabric	Sq. Yd.	517	—	517
* Removal of Existing Structures	Each	—	1	1
Structure Excavation	Cu. Yd.	92	—	92
Concrete Structures	Cu. Yd.	35.0	—	35.0
Bridge Deck Grooving	Sq. Yd.	—	215	215
Protective Coat	Sq. Yd.	—	232	232
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	—	2,044	2,044
Reinforcement Bars, Epoxy Coated	Pound	4,380	3,210	7,590
* Steel Railing, Type SM	Foot	—	149	149
Furnishing Metal Shell Piles 12"x0.250"	Foot	595	—	595
Driving Piles	Foot	595	—	595
Test Pile Metal Shells	Each	2	—	2
Name Plates	Each	1	—	1
* Concrete Wearing Surface, 5"	Sq. Yd.	—	232	232
* Granular Backfill for Structures	Cu. Yd.	84	—	84

*See Special Provisions

GENERAL NOTES:

Reinforcement bars designated (E) shall be epoxy coated.

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

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

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

The channel shall be transitioned to fit the proposed structure inside the Right of Way. Cost shall be included in price per Cubic Yard for Channel Excavation.

WATERWAY INFORMATION

Drain. Area = 3.11 sq. mi. Low Grade El. 767.73 at Sta. 24+00.00

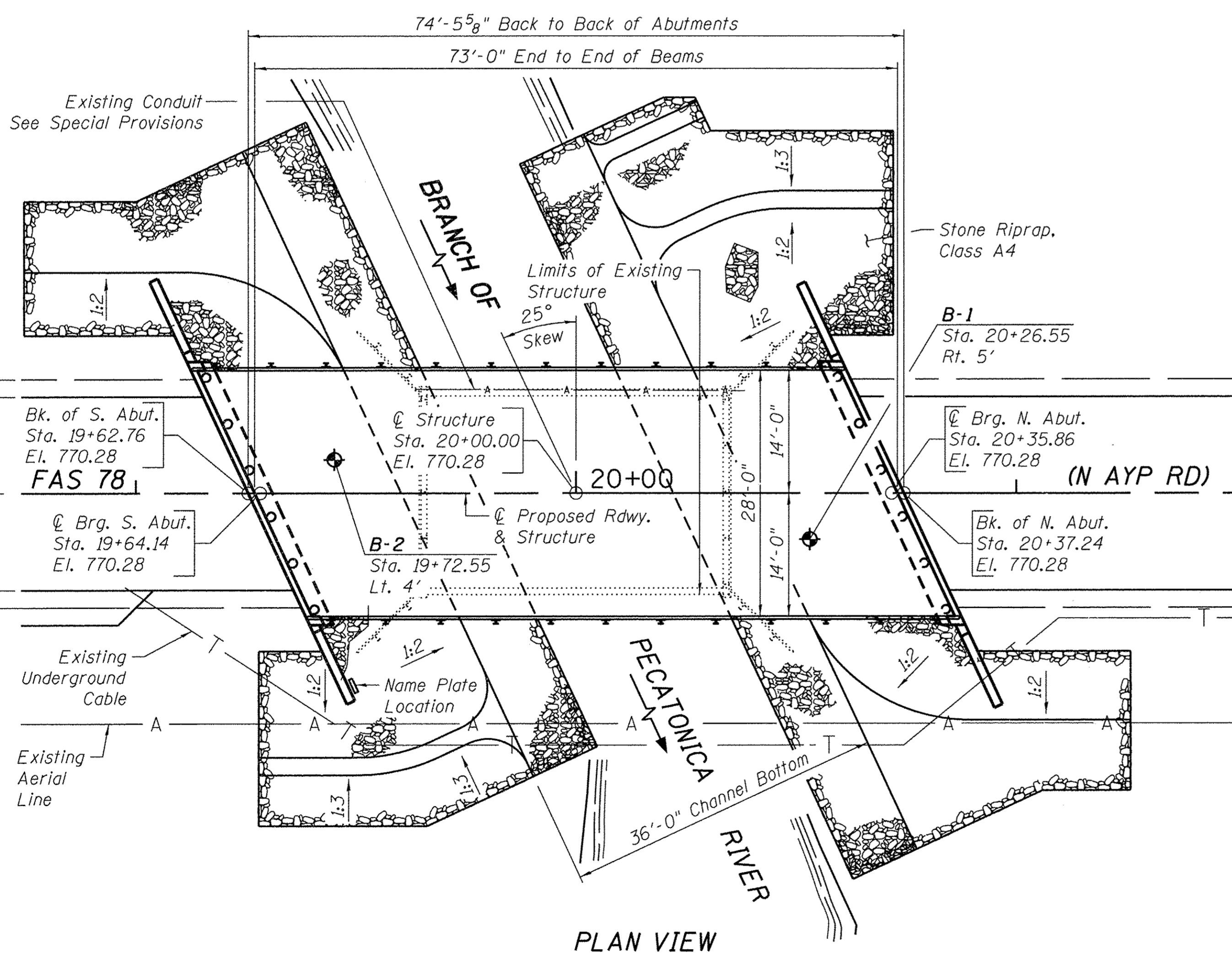
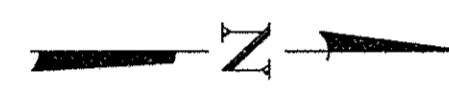
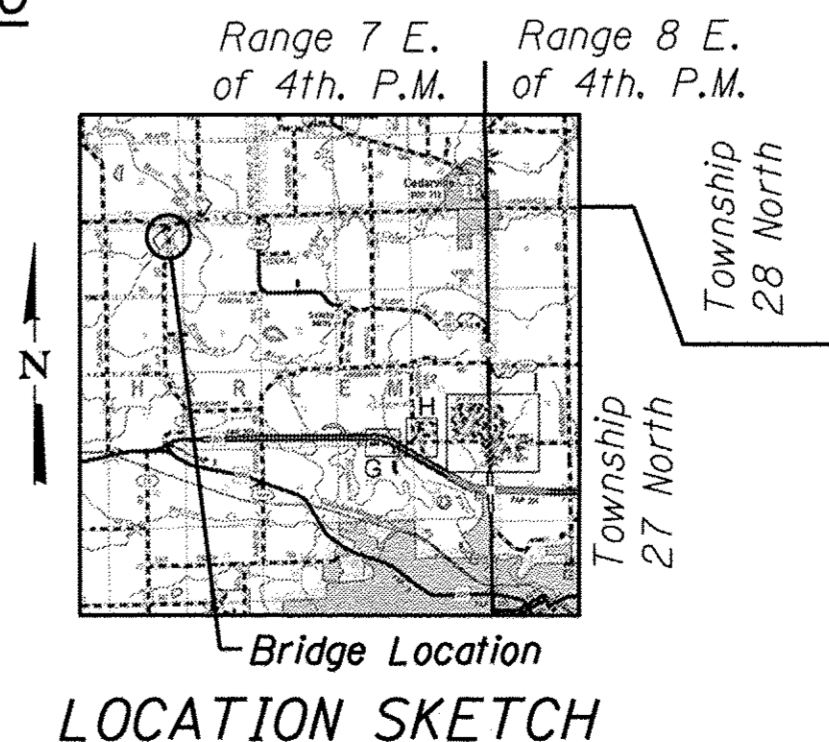
Flood	Freq. Yr	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
	10	839	128	325	765.6	1.0	0.3	766.6	765.9
Design & Overtopping (Ex)	20	1,085	135	337	765.8	1.8	0.5	767.6	766.3
Base	100	1,650	148	362	766.2	2.0	0.9	768.0	767.1
Scour Check	200	1,865	151	369	766.3	2.1	0.9	768.4	767.2
Max. Calc. & Overtopping (Pr)	500	2,310	161	387	766.6	2.1	1.1	768.7	767.7

BRIDGE DESIGN SCOUR ELEVATION TABLE

Event / Limit	Design Scour Elevations (ft.)		
	S. Abut.	N. Abut.	Item 113
Q100	762.1	762.4	8
Q200	761.6	762.0	
Design	763.2	763.2	
Check	763.2	763.2	

GENERAL PLAN AND ELEVATION

FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER SECTION 15-06120-00-BR STEPHENSON COUNTY STATION 20+00.00 STRUCTURE NO. 089-3288



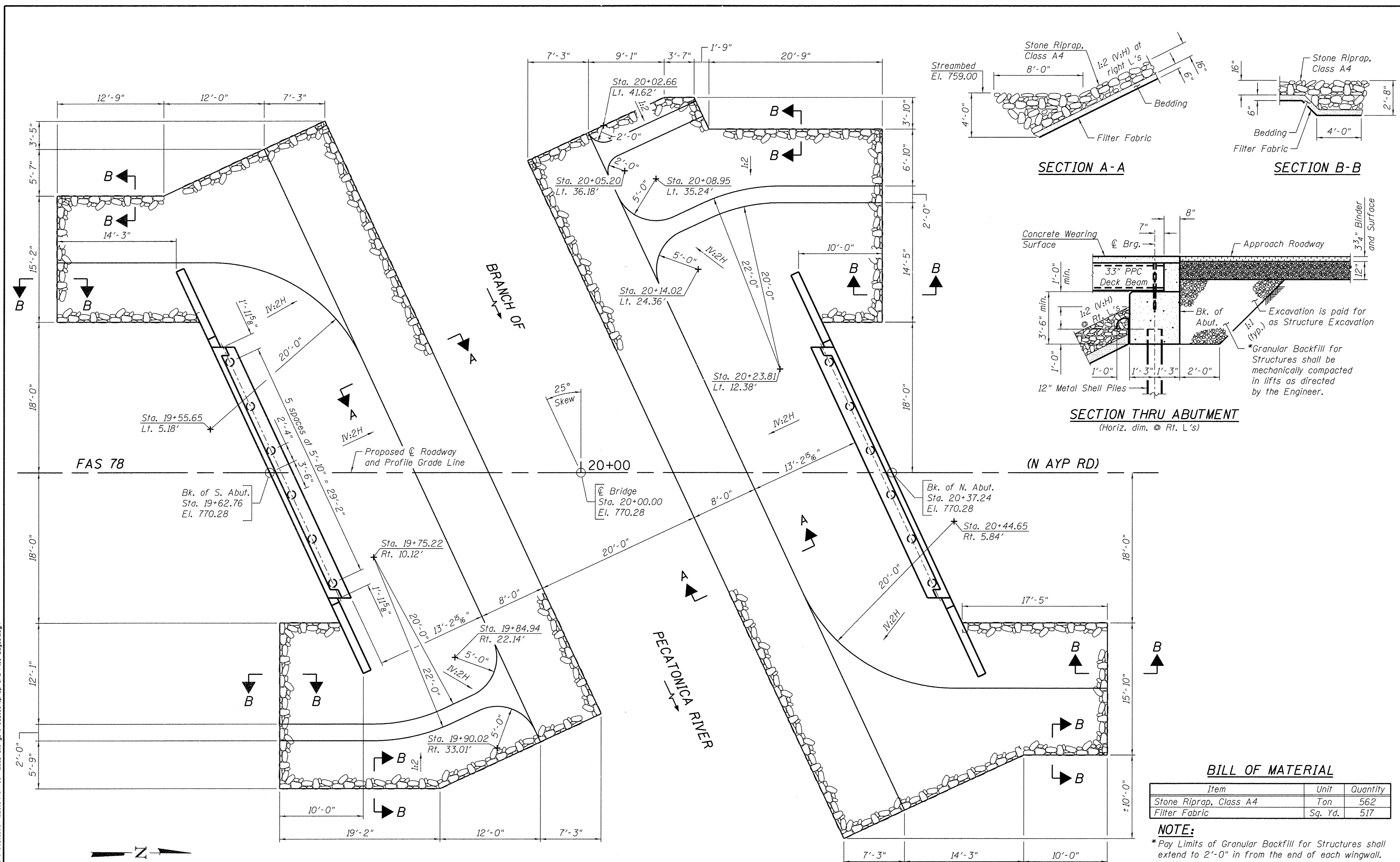
DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20+00.00

STRUCTURAL SHEET NO. 1 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	9
WHA* 1488015			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT			BROS-01770461	

FILE # SA-PROJECTS-2015-1488015-SCN DESIGN STRUCT 20-D-Drawings\1488015-General Plan and Elevation.dgn



PLAN VIEW
See Sheet 6 of 28 for Existing Utilities

BILL OF MATERIAL

Item	Unit	Quantity
Stone Riprap, Class A4	Ton	562
Filter Fabric	Sq. Yd.	517

NOTE:
*Pay Limits of Granular Backfill for Structures shall extend to 2'-0" in from the end of each wingwall.

FILE # SA\PROJECTS\2015\1488015_SCA\DESIGN\STRUCT\20\Drawings\1488015_Riprap and Pile Layout.dgn

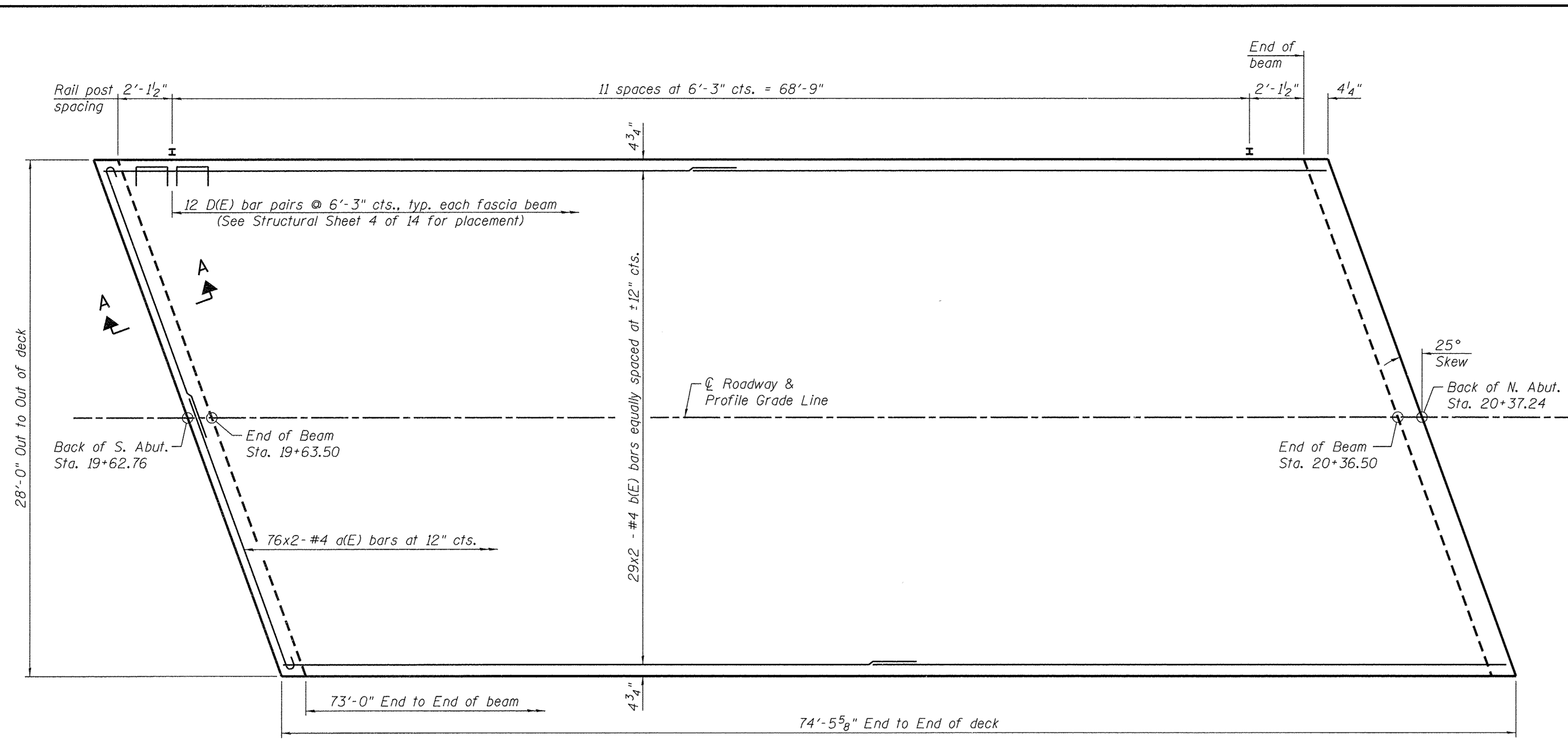
WILLET HOFMANN & ASSOCIATES INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

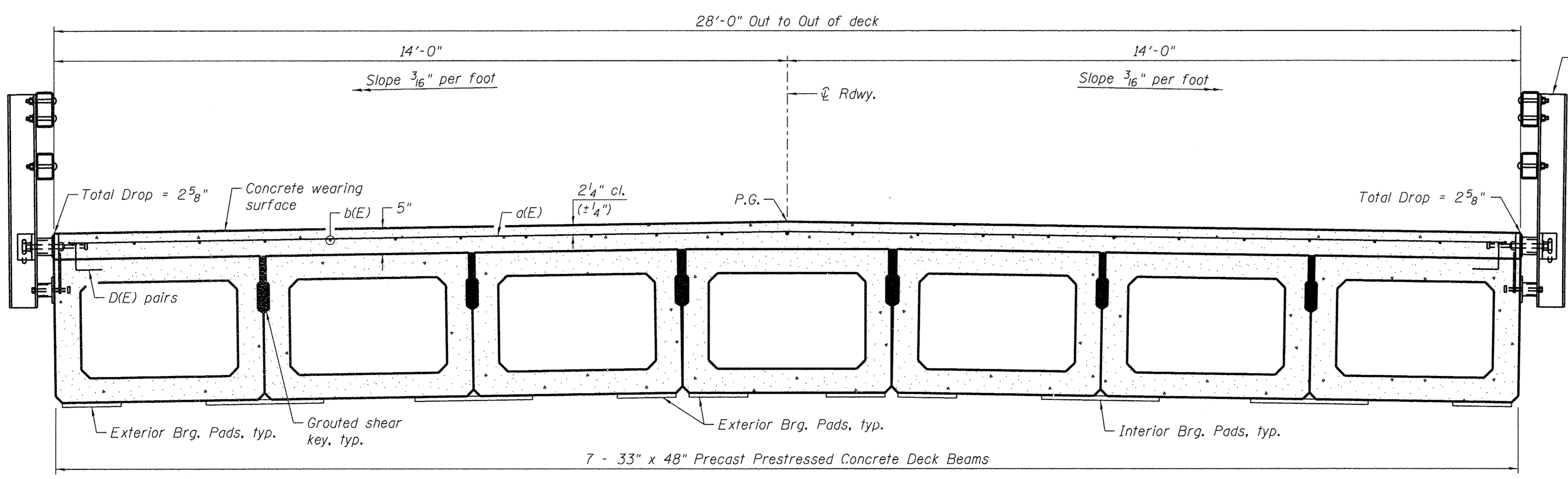
STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20+00.00

RIPRAP AND PILE LAYOUT
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 2 OF 14 SHEETS

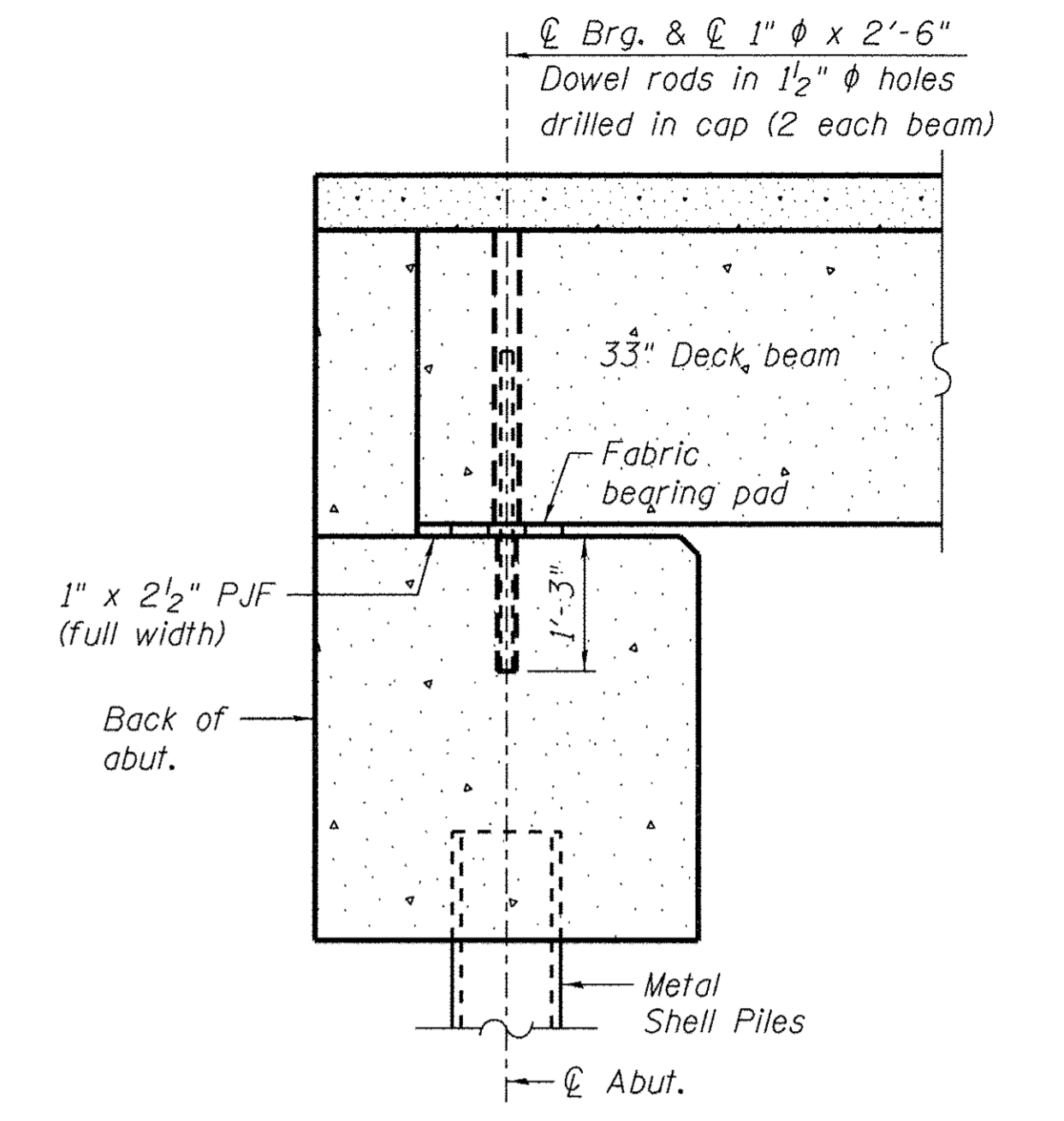
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	10
WHA# 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT BROS-01770461				



PLAN



CROSS SECTION
(Looking North)



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

NOTES:
See Structural Sheet 6 of 14 for bearing pad details.
See Structural Sheets 7 & 8 of 14 for abutment reinforcing details.

NOTES:
See Structural Sheet 4 of 14 for details and bill of material.
Bars indicated thus 76x2-#4 etc. indicates 76 lines of bars with 2 lengths per line.

FILE # S:\PROJECTS\2015\1488D15.SCH\DESIGN\STRUCT\20_Drawing\1488D15.Superstructure.dgn

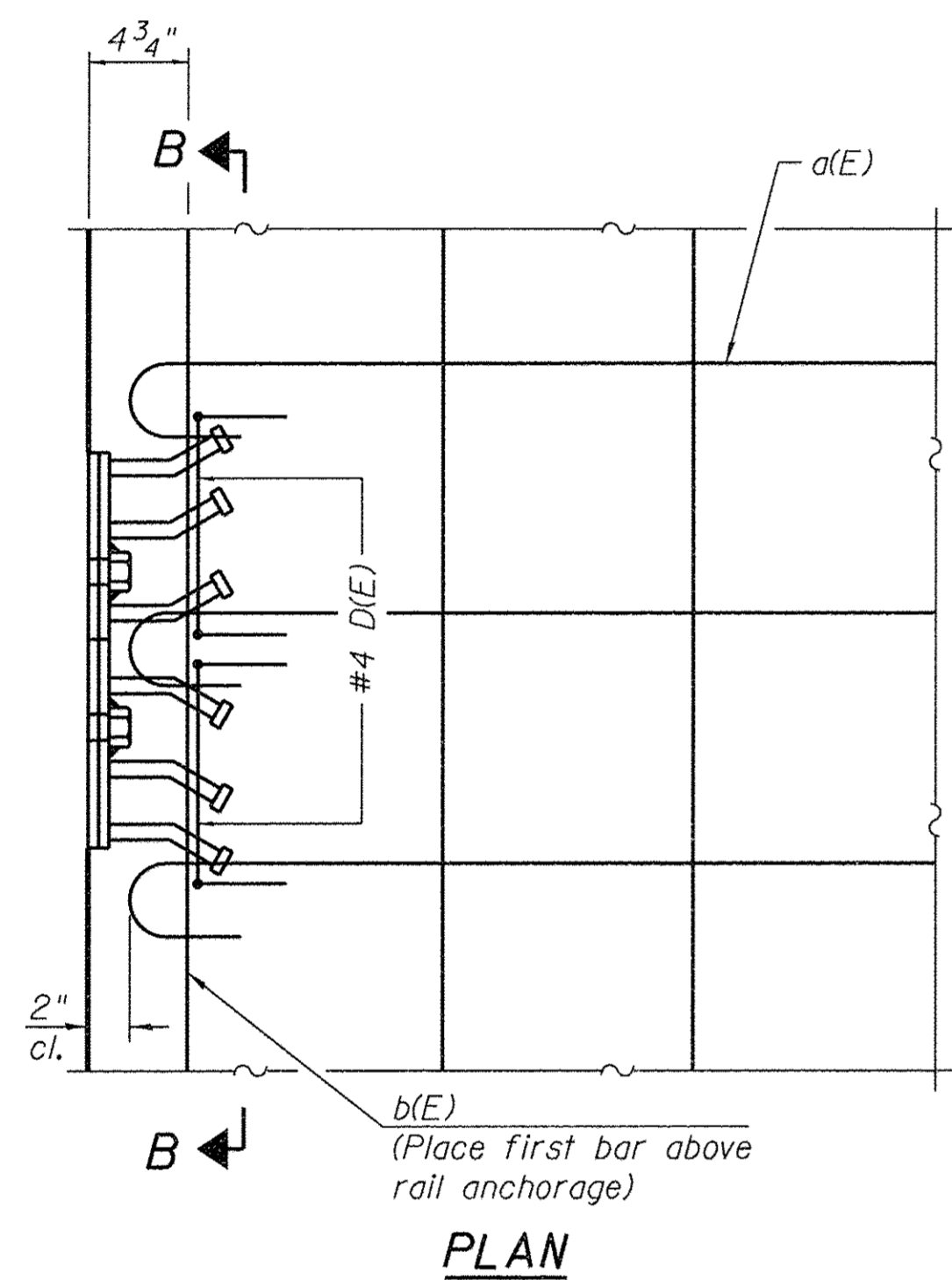
WILLET HOFMANN
ASSOCIATES INC
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

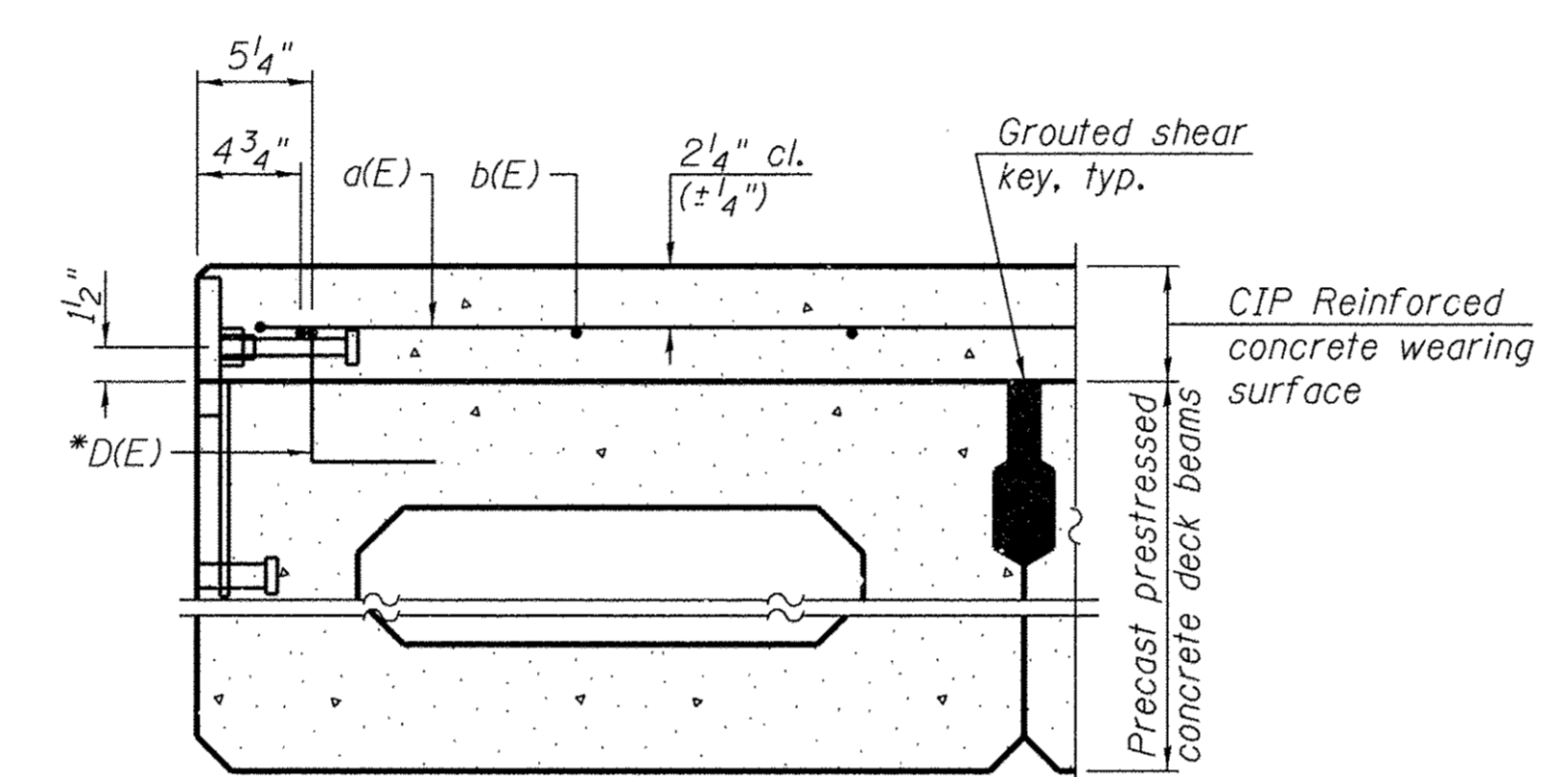
SUPERSTRUCTURE
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 3 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-01770461		

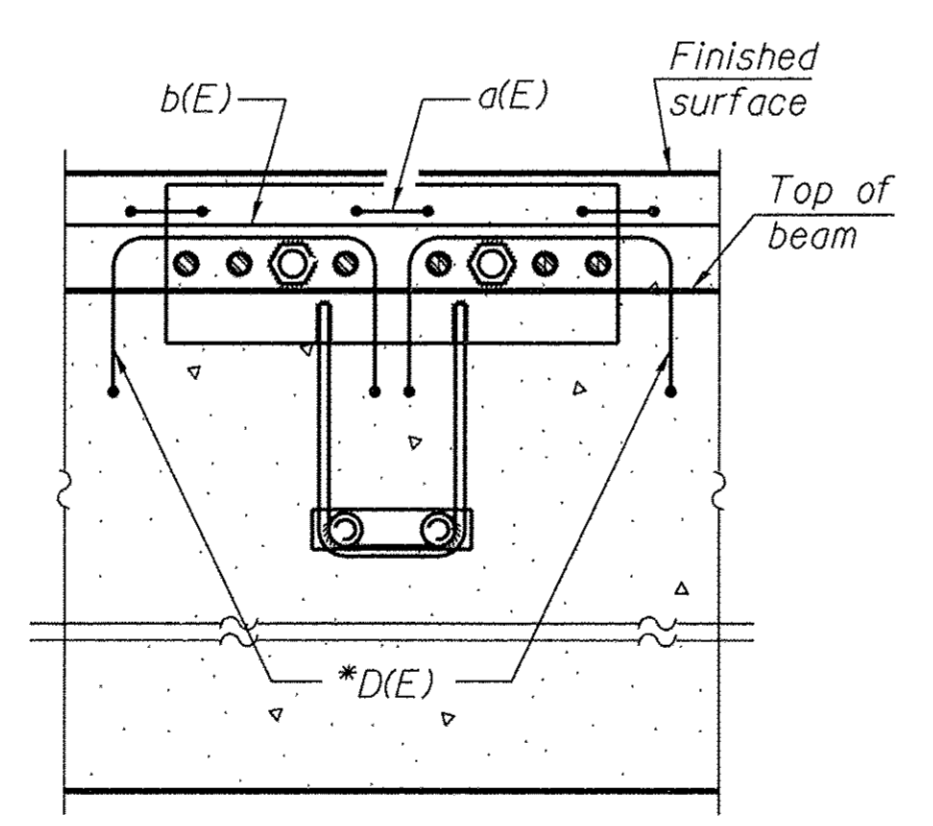


PLAN

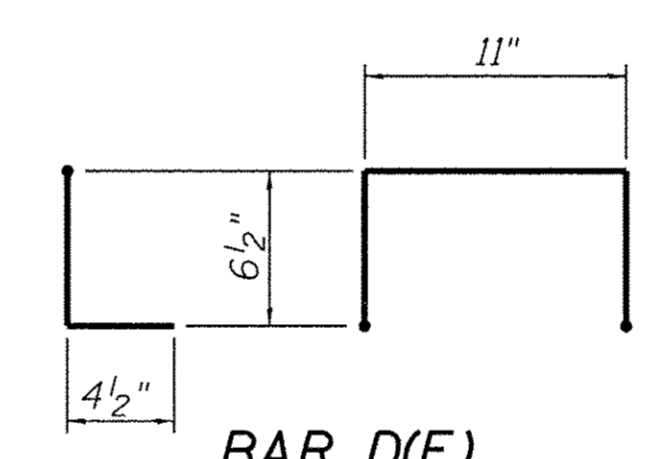
NOTE:
Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam.



SECTION THRU FASCIA BEAM

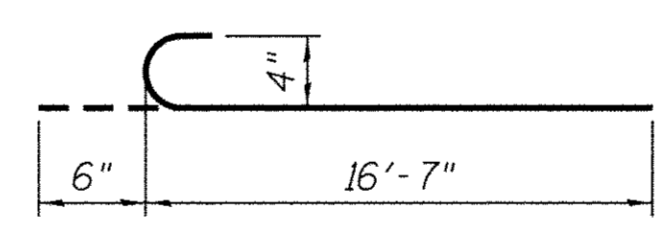


SECTION B-B

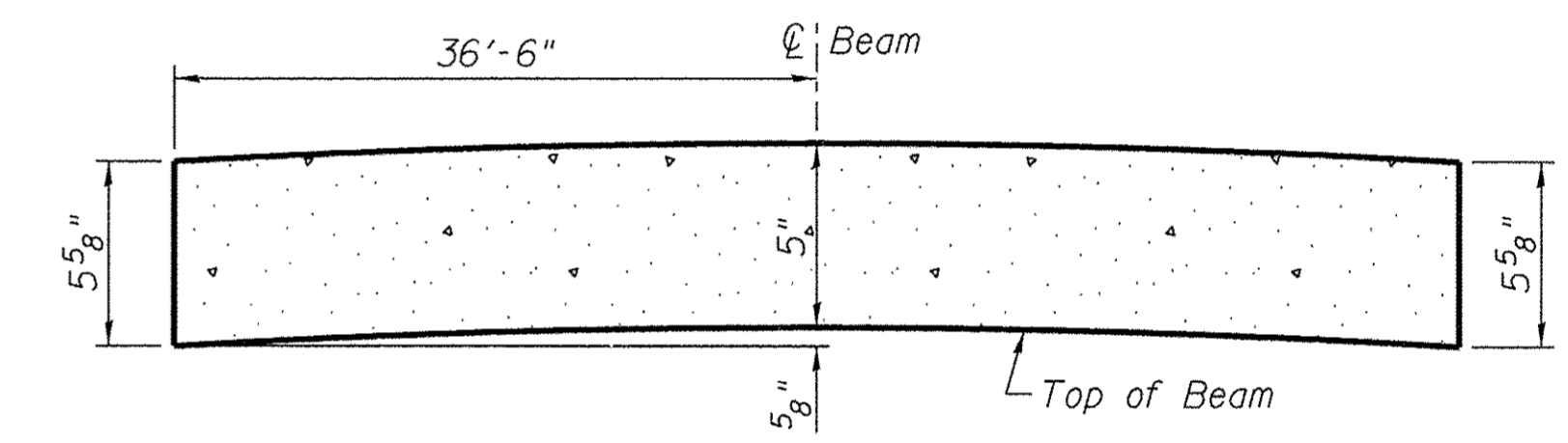


BAR D(E)

*Place 2- #4 D(E) bars in beam at each post location as shown. D(E) bar included in cost of beam. 24 required for each exterior beam.



BAR a(E)



ANTICIPATED CONCRETE WEARING SURFACE PROFILE
(For information only)

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	152	#4	17'-1"	C
b(E)	58	#4	38'-2"	—
Bridge Deck Grooving			Sq. Yd.	215
Protective Coat			Sq. Yd.	232
Reinforcement Bars, Epoxy Coated			Pound	3,210
Concrete Wearing Surface, 5"			Sq. Yd.	232

NOTES:
Bars indicated thus 76x2- #4 etc. indicates 76 lines of bars with 2 lengths per line.

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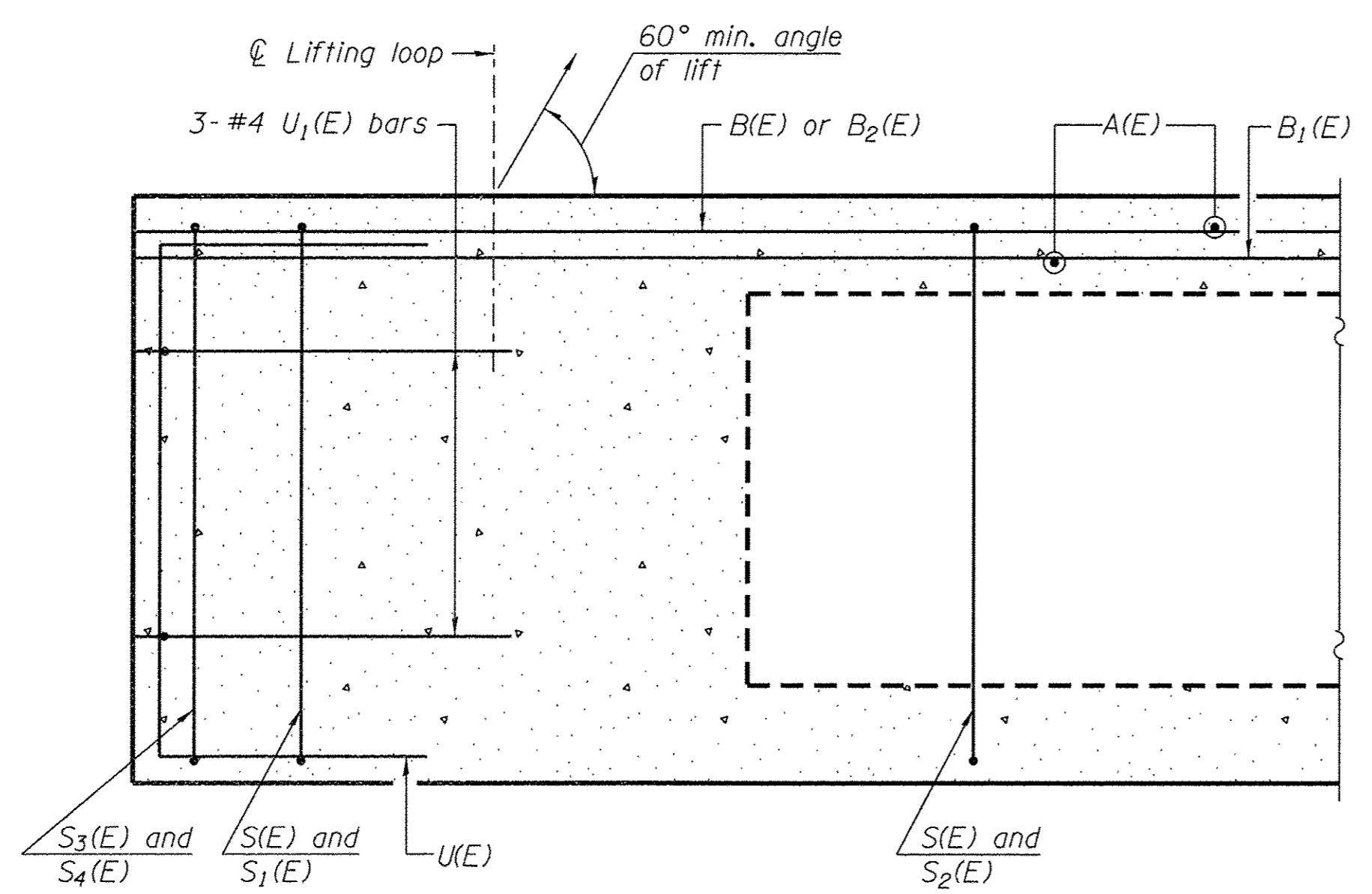
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CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

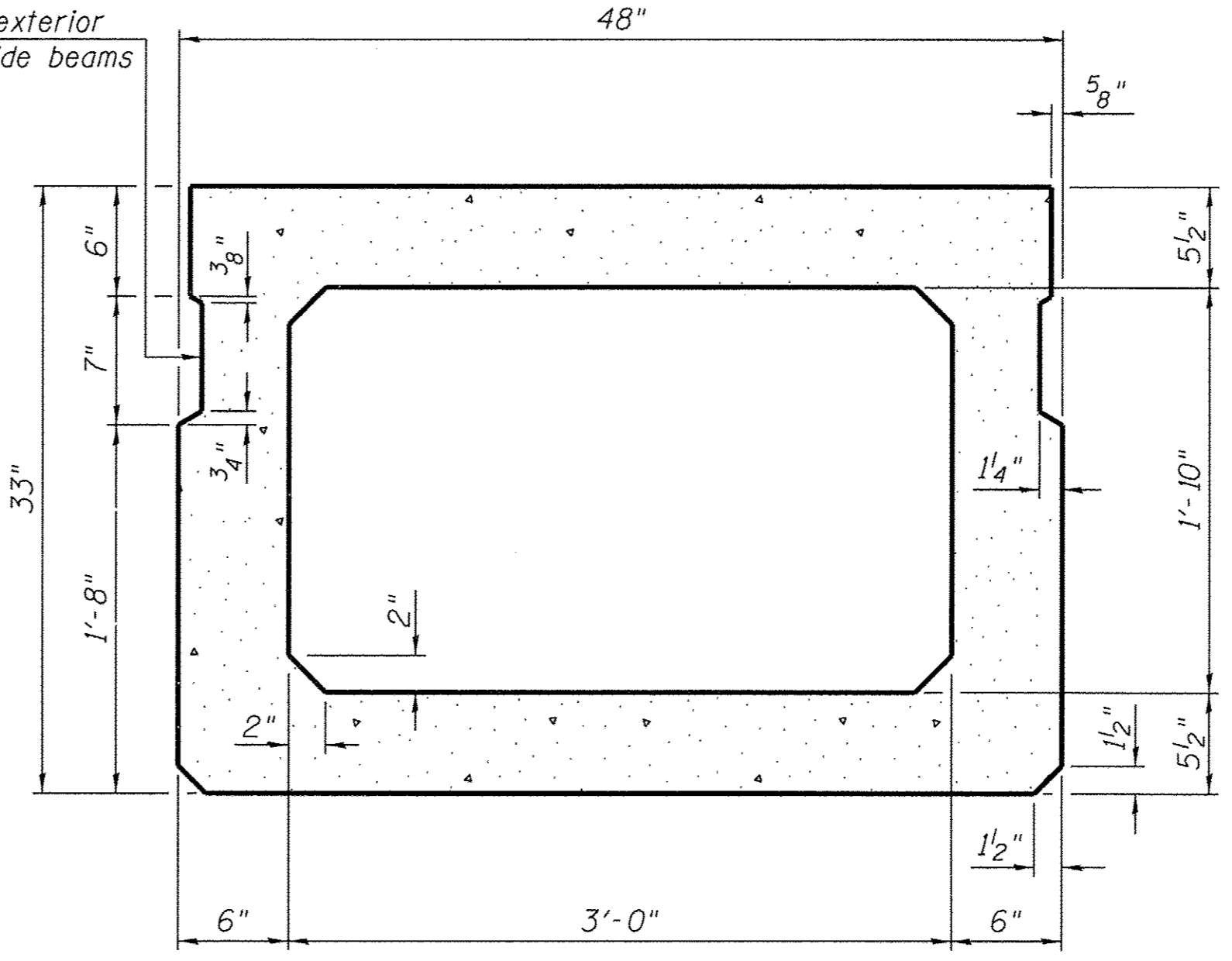
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STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 4 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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WHA# 1488015			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT			BROS-0177046	

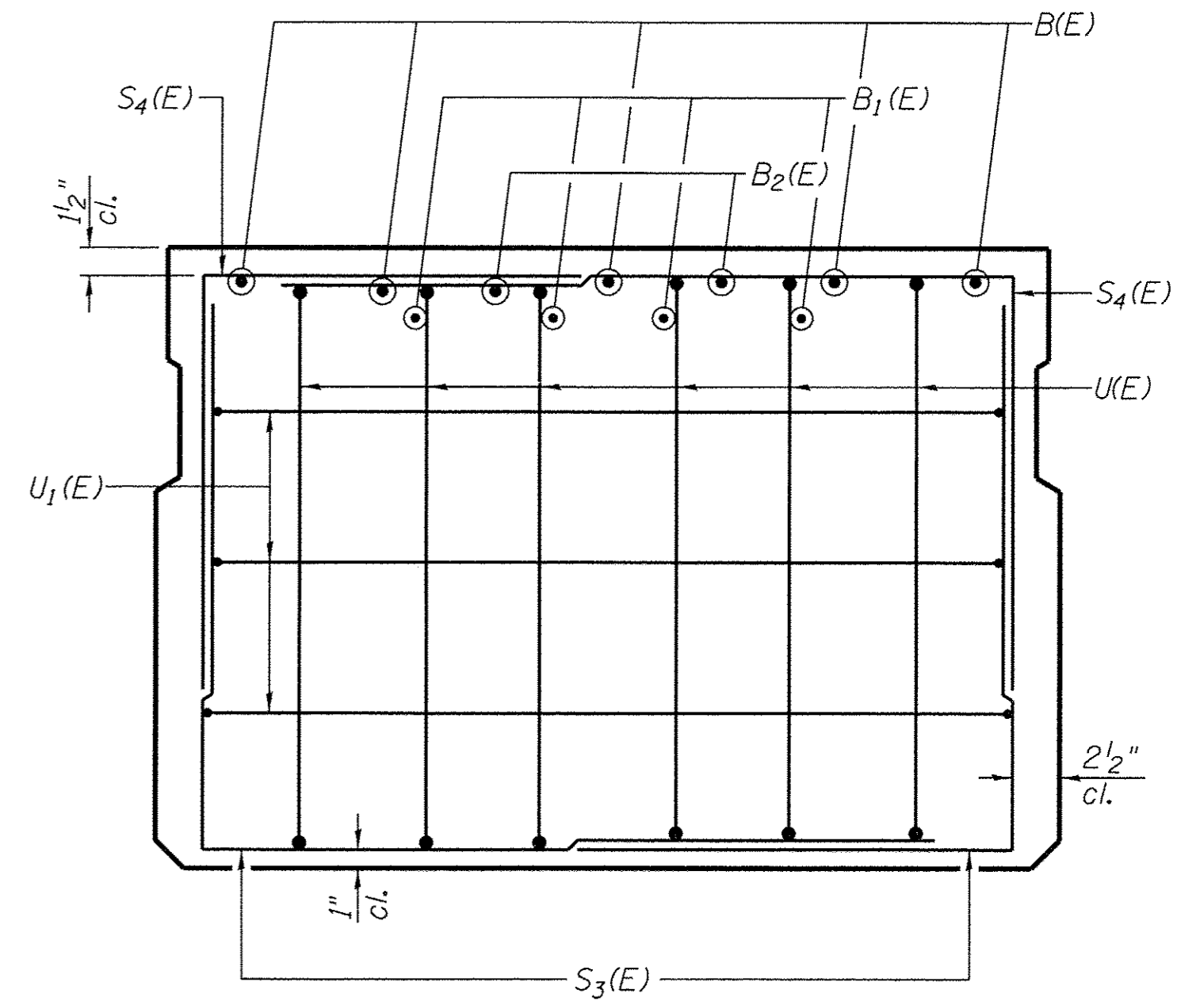


SECTION A-A
D(E) fascia bars not shown

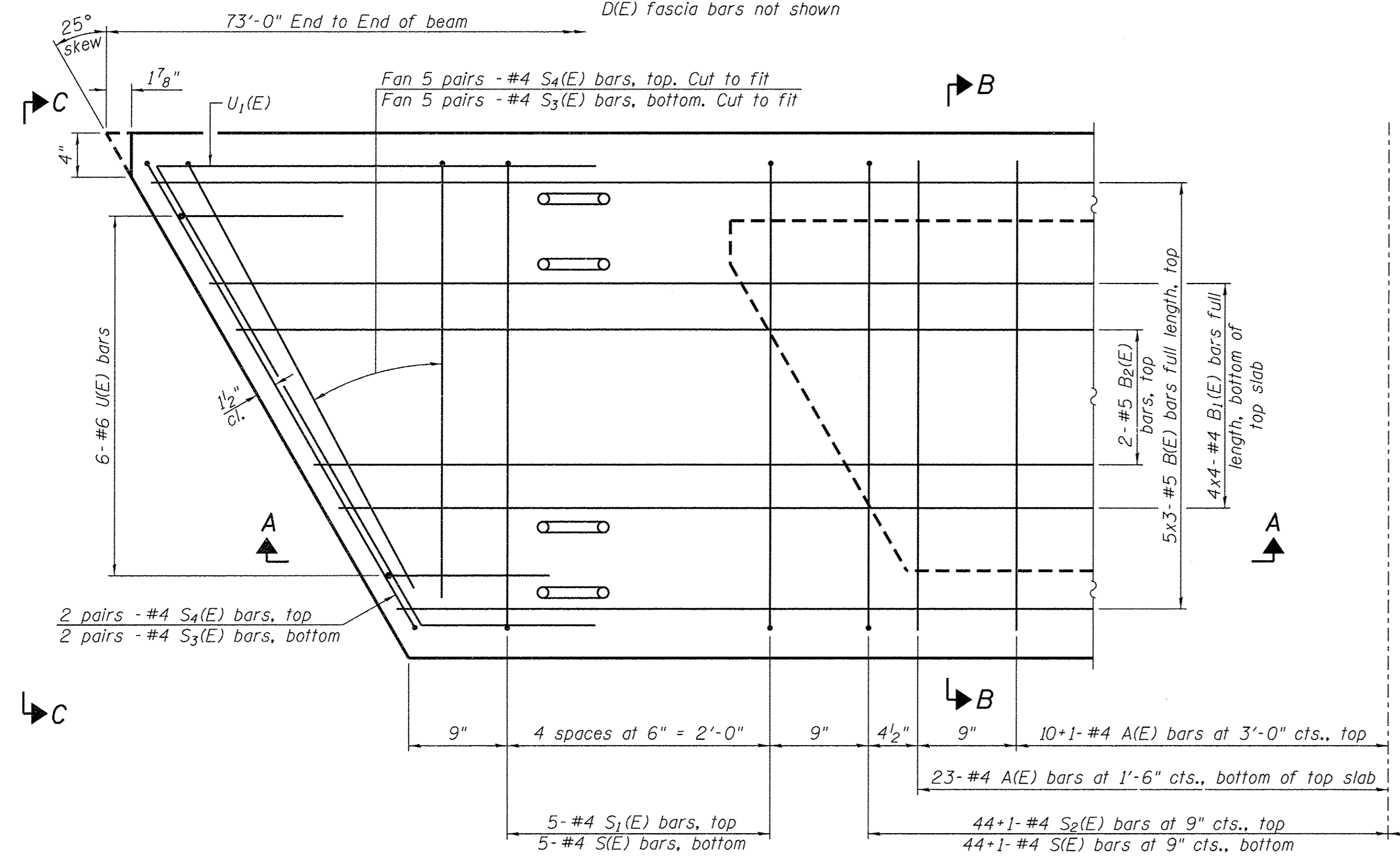
Omit key on exterior face of outside beams



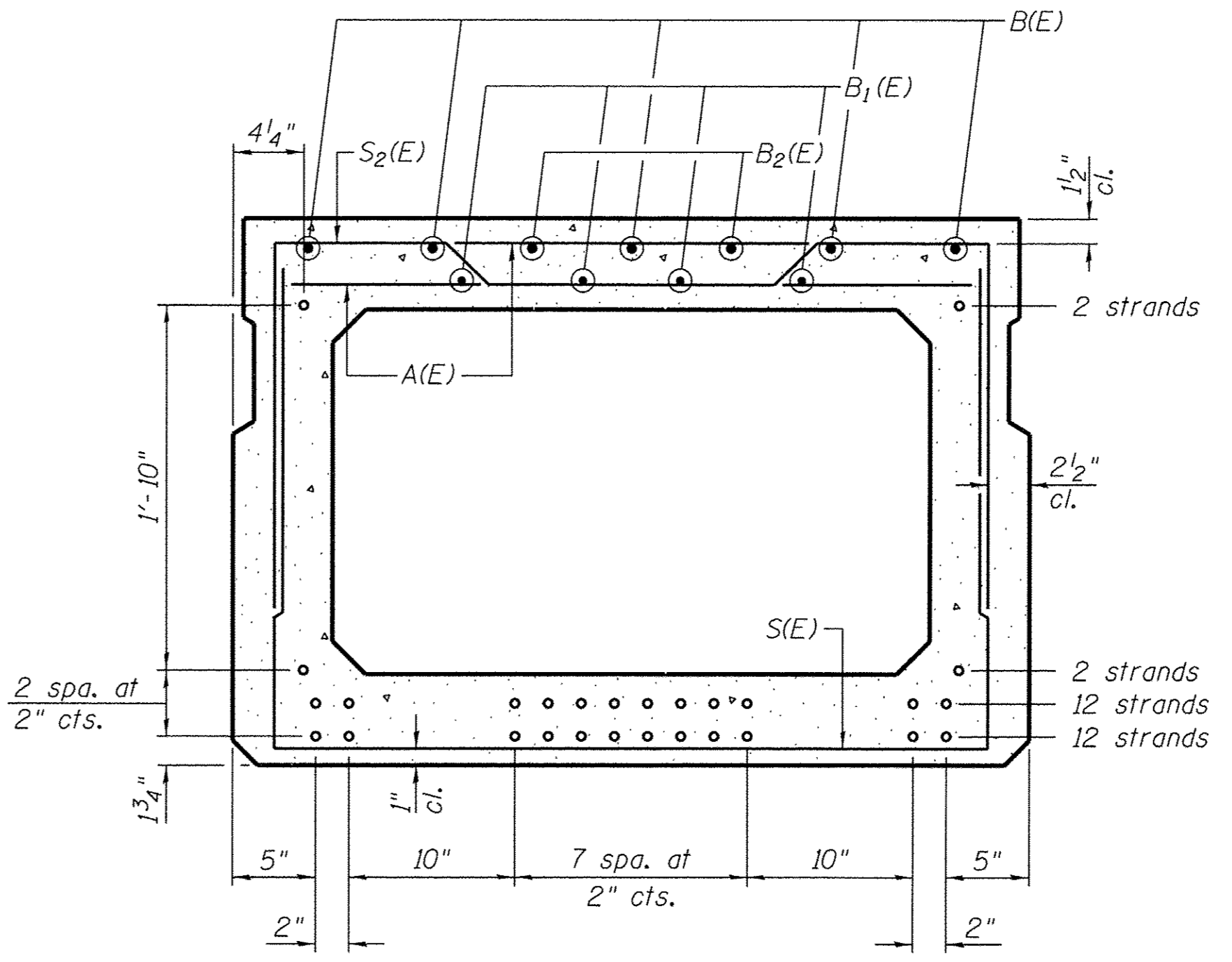
SECTION B-B
(Showing dimensions)
D(E) fascia bars not shown



VIEW C-C
D(E) fascia bars not shown



PLAN VIEW
D(E) fascia bars not shown



SECTION B-B
(Showing reinforcement and permissible strand locations)

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

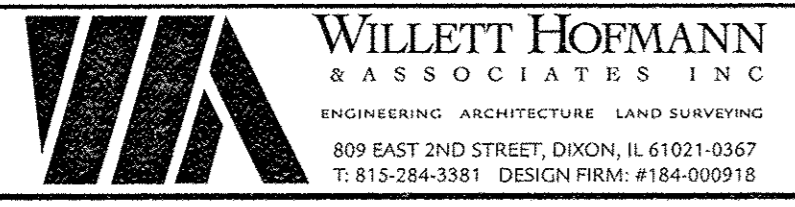
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	67	#4	3'-7"	—
B(E)	15	#5	25'-11"	—
B1(E)	16	#4	19'-8"	—
B2(E)	4	#5	10'-0"	—
S(E)	99	#4	8'-8"	U
S1(E)	10	#4	7'-5"	U
S2(E)	89	#4	7'-8"	U
S3(E)	28	#4	5'-7"	U
S4(E)	28	#4	4'-11"	U
U(E)	12	#6	5'-0"	C
U1(E)	6	#4	7'-11"	C

NOTES:
See Structural Sheets 3 & 4 of 14 for D(E) bars in fascia beam.
See Structural Sheet 6 of 14 for additional details and Bill of Material.
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.
Bars indicated thus 5x3-#5 etc. indicates 5 lines of bars with 3 lengths per line.
Bars indicated thus 10+1-#4 etc. indicates 10 bars each side of centerline plus 1 additional bar at centerline.

MINIMUM BAR LAP
#4 bar = 1'-11"
#5 bar = 2'-6"

FILE: S:\PROJECTS\2015\1488015_SCA\DESIGN\STRUCT\2D\dwg\ppc\1488015_33.in x 48.in PPC Deck Beam.dwg

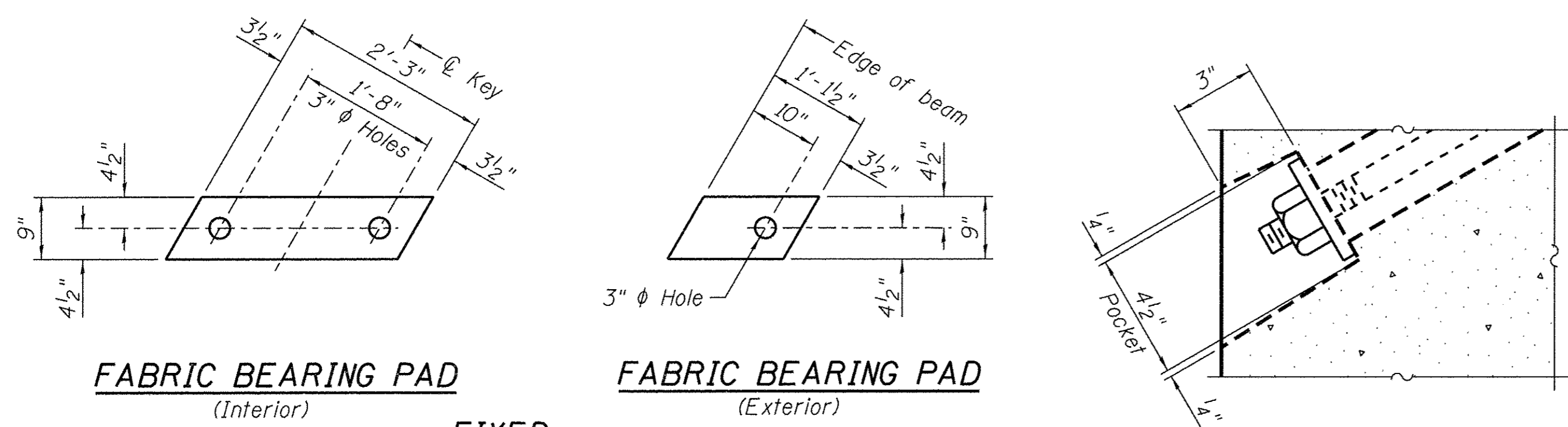


DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

33" x 48" PPC DECK BEAM
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 5 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	13
WHA# 1488015			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT			BROS-D177046J	



FABRIC BEARING PAD
(Interior)

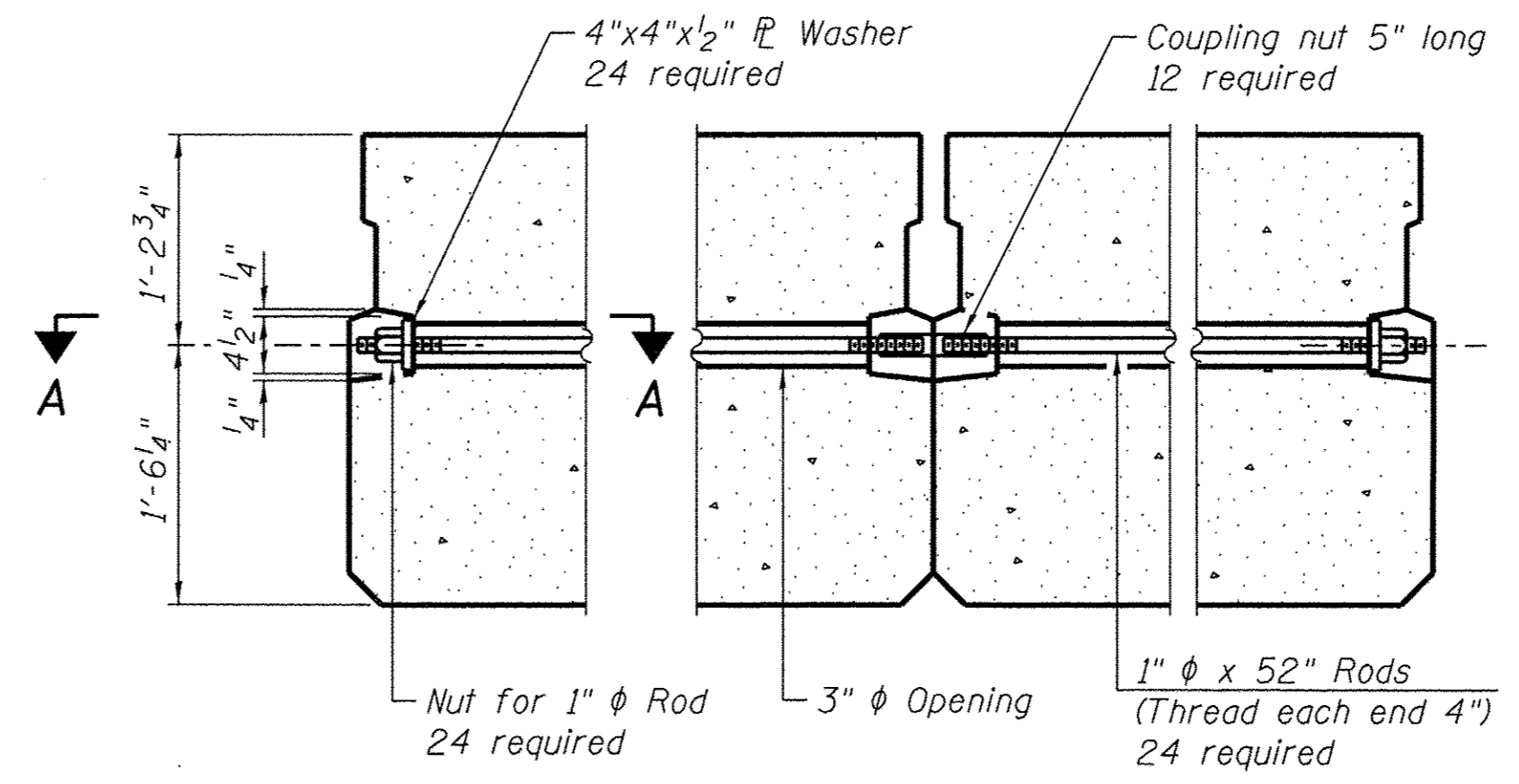
FABRIC BEARING PAD
(Exterior)

FIXED

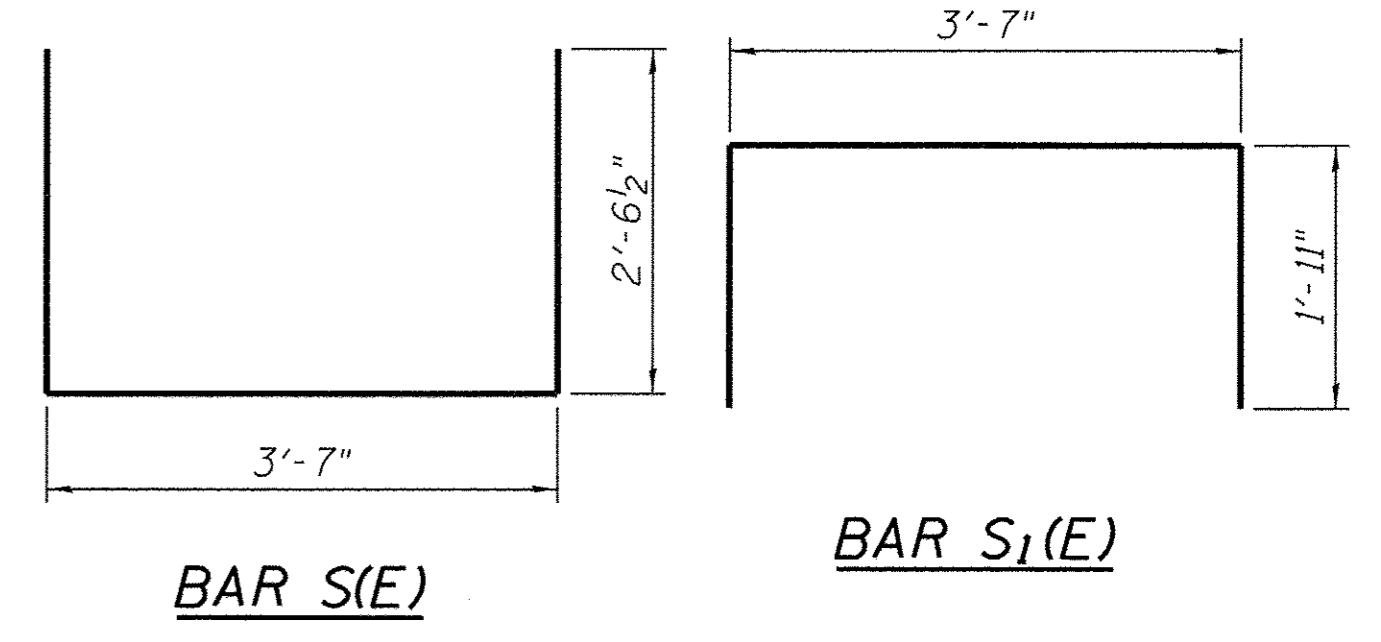
NOTE:

All bearing pads shall be 1" thick.
Exterior bearing pads shall be used as shown on Structural Sheet 3 of 14.

SECTION A-A

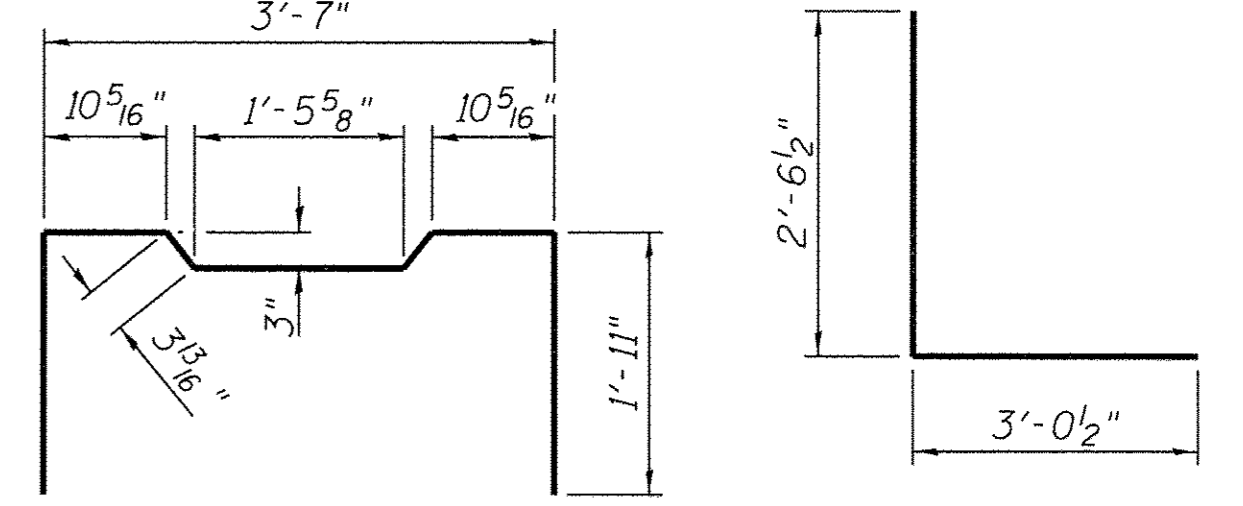


TYPICAL TRANSVERSE TIE ASSEMBLY



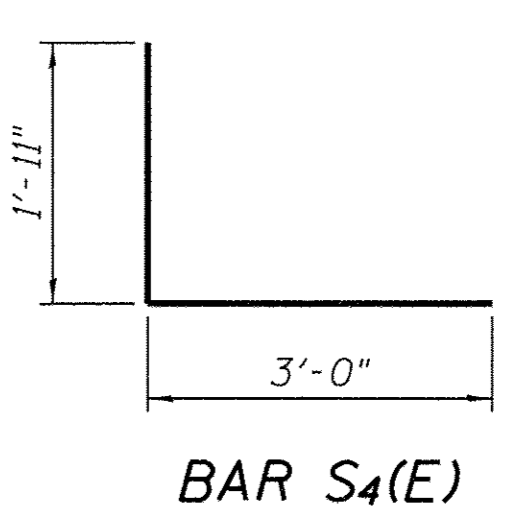
BAR S(E)

BAR S1(E)

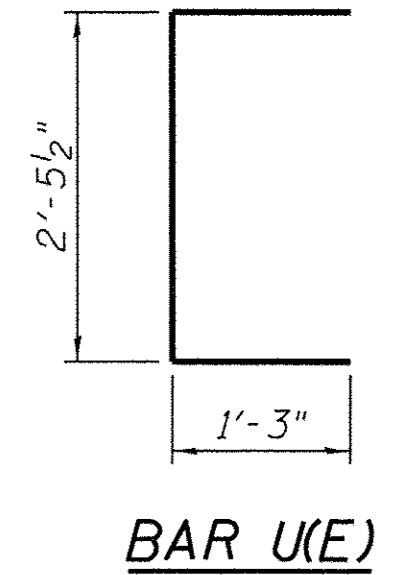


BAR S2(E)

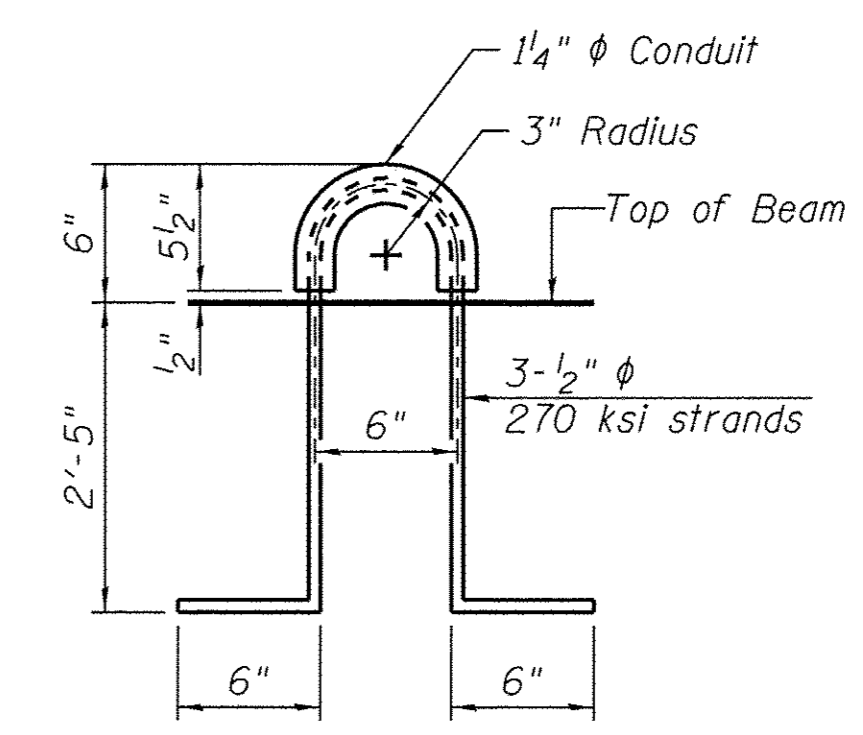
BAR S3(E)



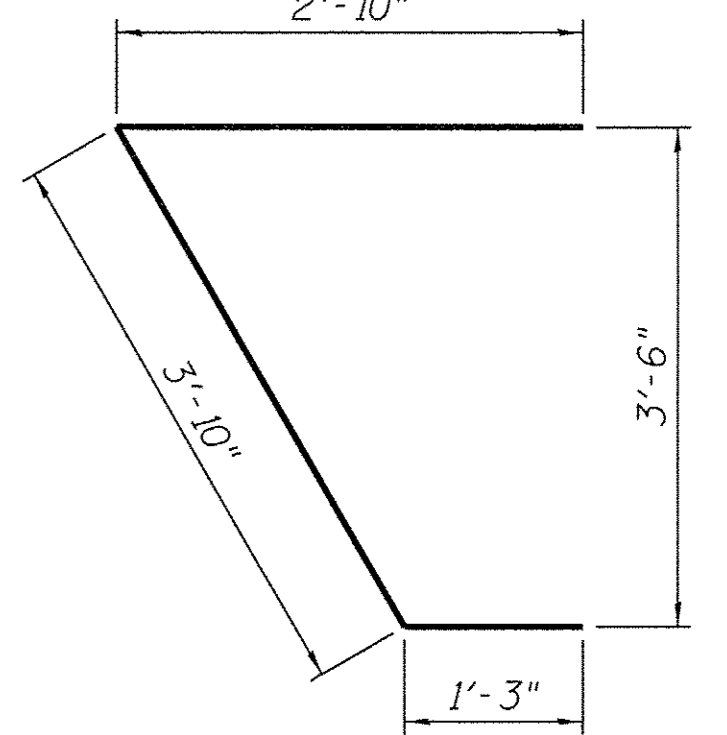
BAR S4(E)



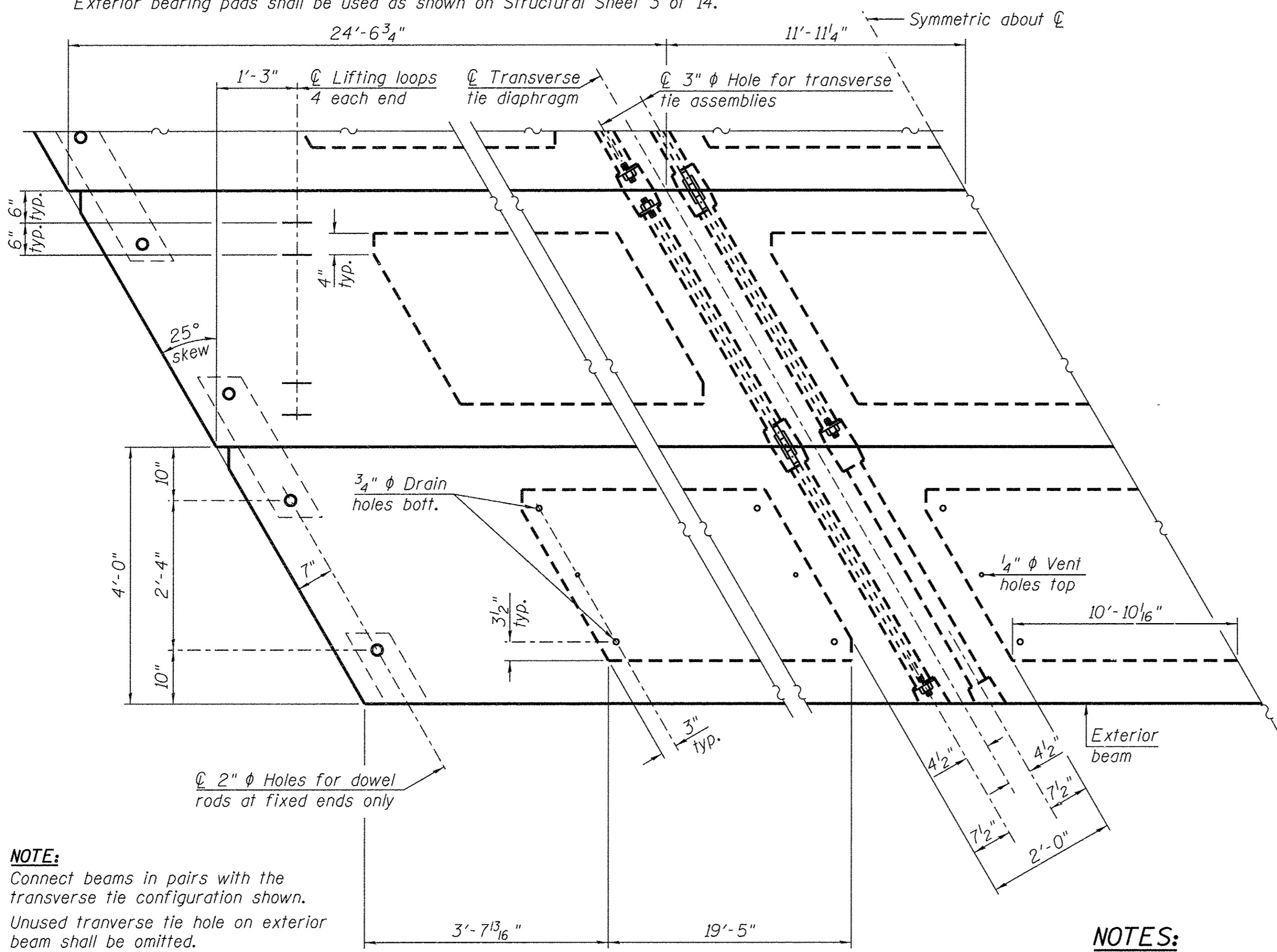
BAR U(E)



LIFTING LOOP DETAIL



BAR U1(E)



PLAN VIEW

NOTE:

Connect beams in pairs with the transverse tie configuration shown.
Unused transverse tie hole on exterior beam shall be omitted.

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" 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" 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 6,000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5,000 psi.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2,044

FILE: S:\PROJECTS\2015\1488015_SCA\DESIGN\STRUCT\20.Dwg\ppc Deck Beam Details.rvt

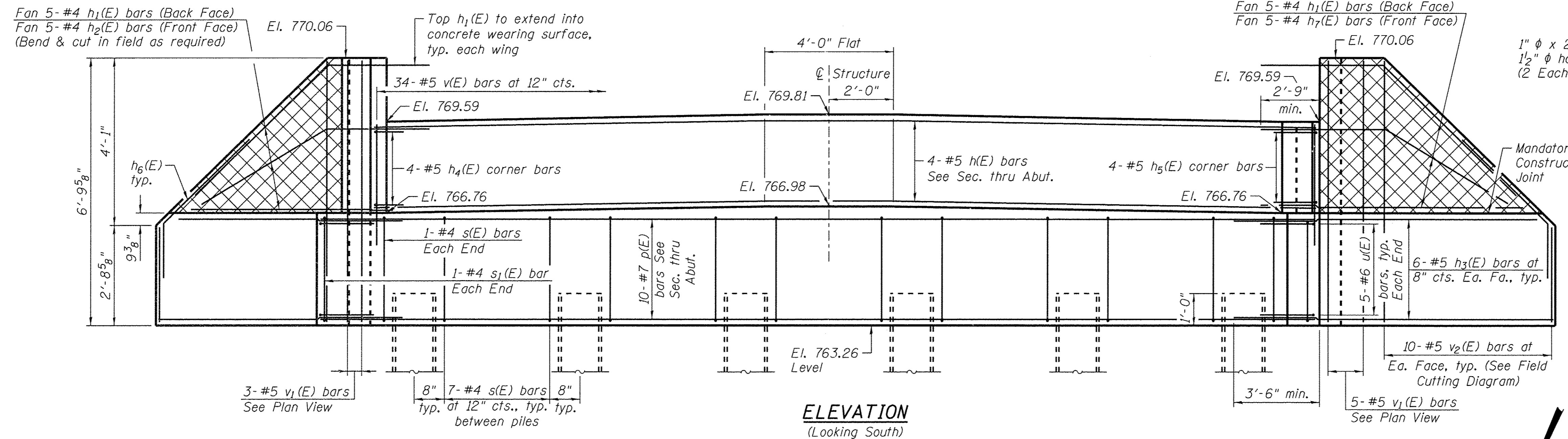
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809 EAST 2ND STREET, DIXON, IL 61021-0367
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DESIGNED - EEL	REVISED -
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DRAWN - RDA	REVISED -
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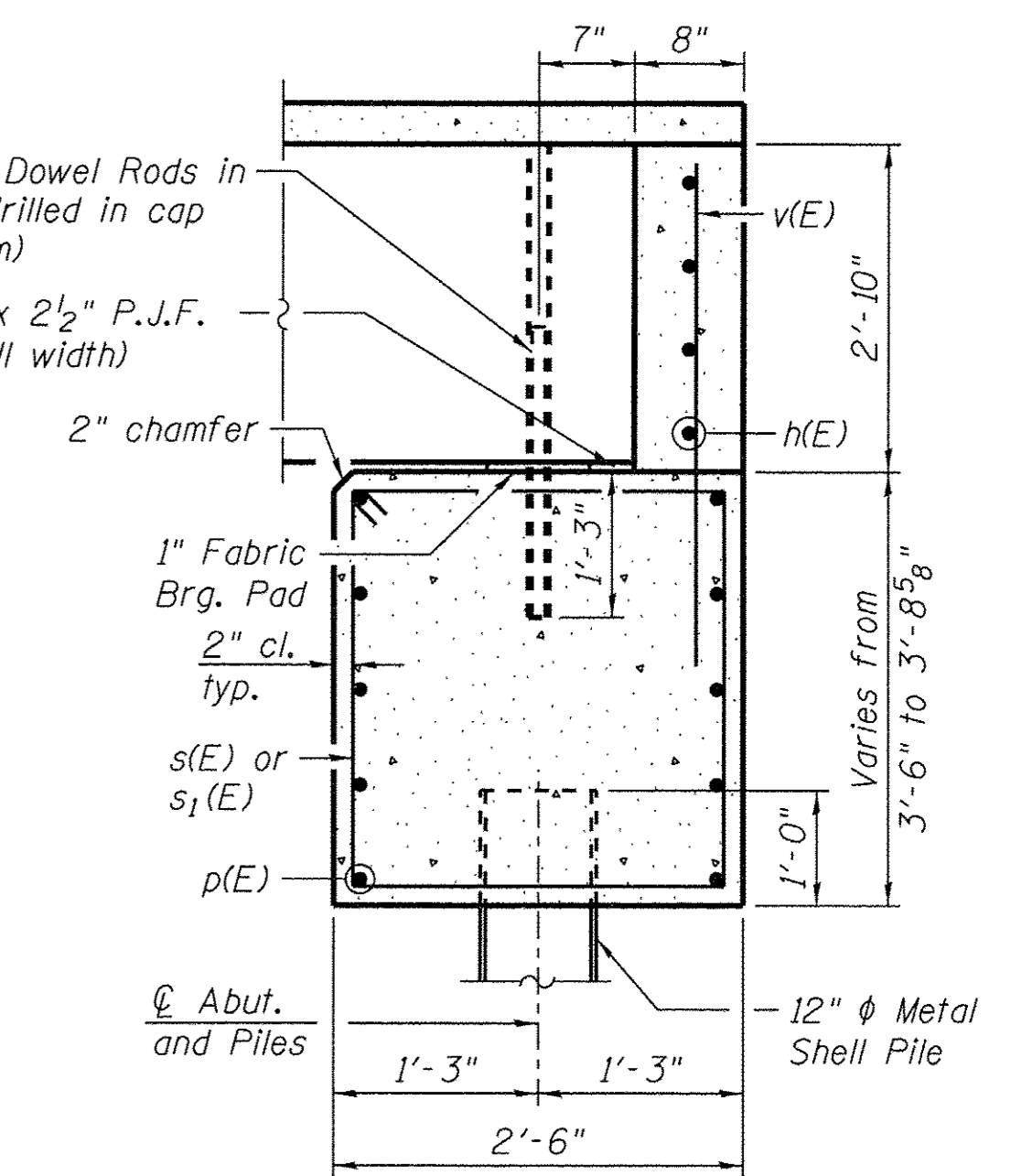
STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

33" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 6 OF 14 SHEETS

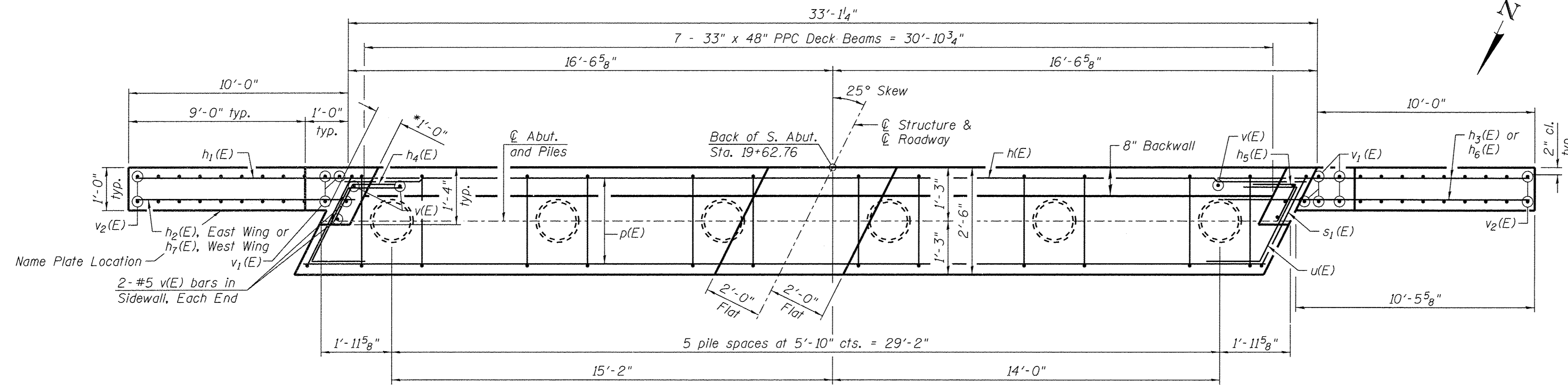
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	14
WHA# 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT BROS-01770461				



ELEVATION
(Looking South)



SEC. THRU ABUT.
(Dimensions are at Rt. L's)



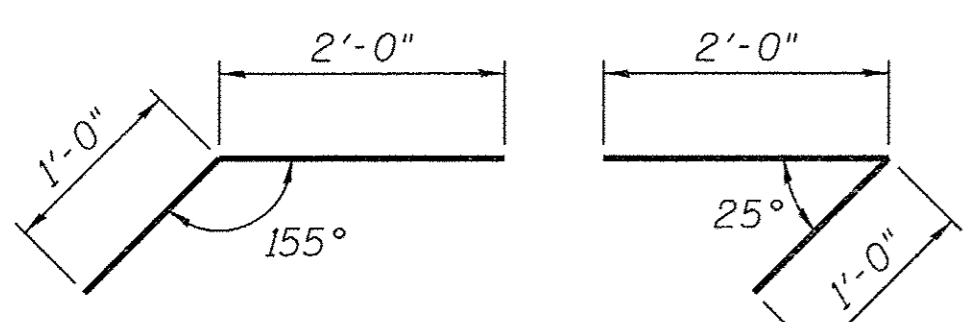
PLAN

**ABOVE CONSTRUCTION JOINT
IN WINGWALL**

**BELOW CONSTRUCTION JOINT
IN WINGWALL**

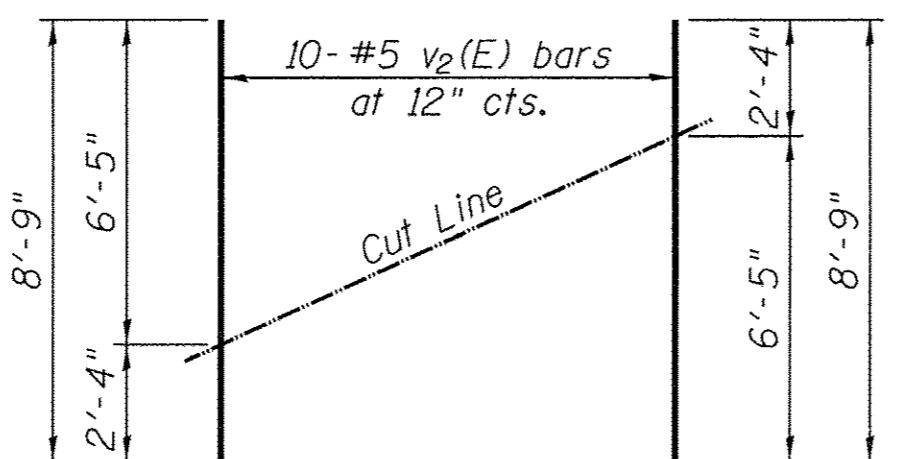
PILE DATA

Type: 12" ϕ Metal Shell with 0.250" Thick Walls
 Nominal Required Bearing: 271 kips
 Factored Resistance Available: 149 kips
 Est. Length: 59'
 No. Production Piles: 5
 No. Test Piles: 1



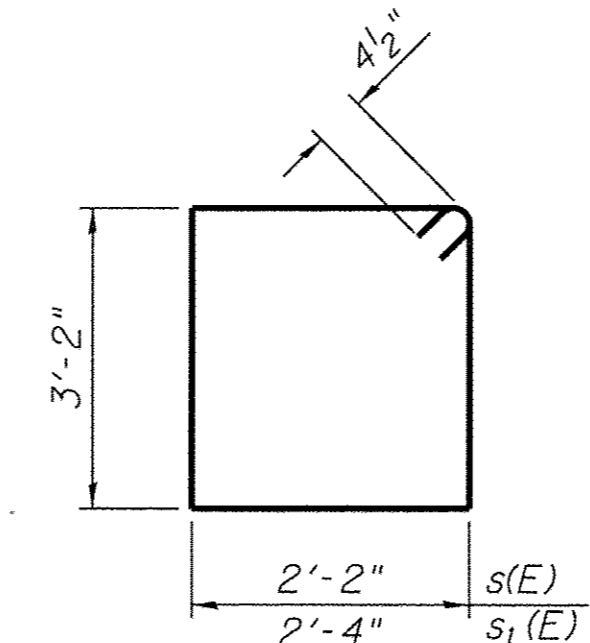
BAR h4(E)

BAR h5(E)

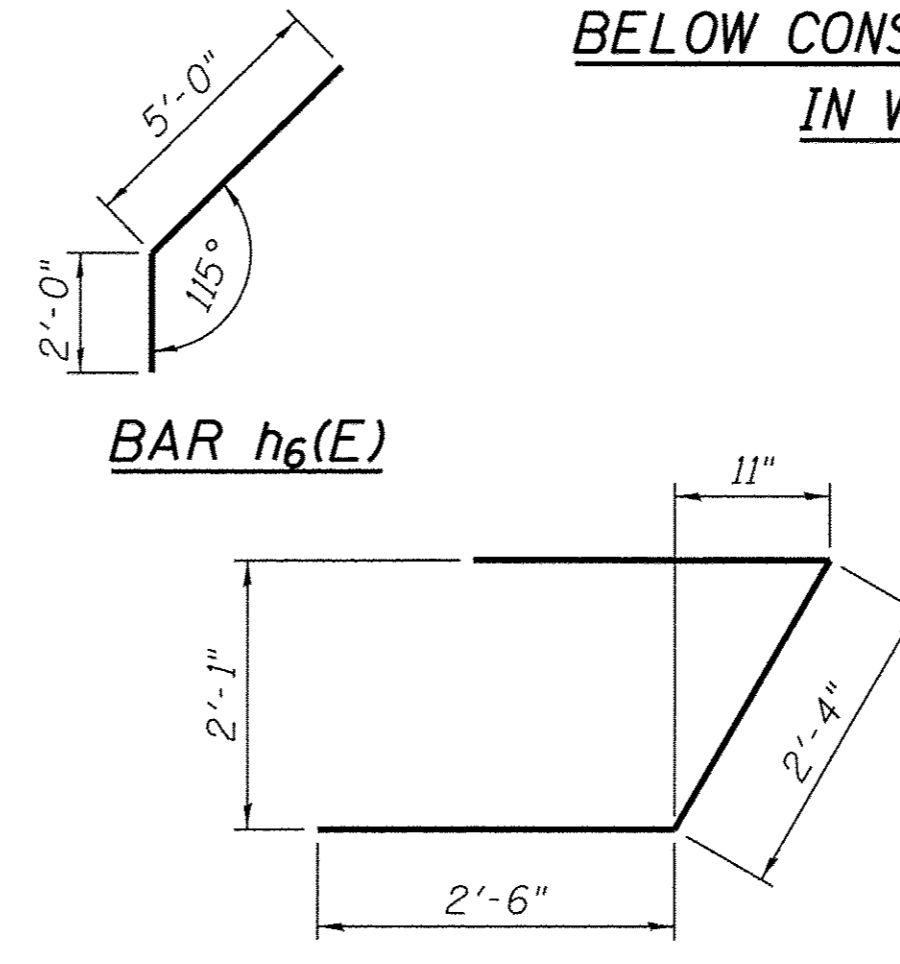


FIELD CUTTING DIAGRAM

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



BARS s(E) & s1(E)



BAR u(E)

NOTES:

Hatched portion of wingwalls to be poured with the backwall after the deck beams have been installed and grout has cured for a minimum of 24 hours.
 All exposed edges shall have standard 3/4" chamfers, except as noted.
 Space reinforcement in cap to miss dowel rods.
 After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a min. of 24 hours prior to grouting the shear keys.
 For pile details, see Structural Sheet 10 of 14.
 *May vary due to overrun of beams.
 **For drainage details, see Structural Sheet 2 of 14.

BILL OF MATERIAL - SOUTH ABUT.

Bar	No.	Size	Length	Shape
h(E)	4	#5	32'-9"	—
h1(E)	10	#4	13'-3"	—
h2(E)	5	#4	10'-11"	—
h3(E)	24	#5	13'-4"	—
h4(E)	4	#5	3'-0"	↘
h5(E)	4	#5	3'-0"	↗
h6(E)	4	#4	7'-0"	↘
h7(E)	5	#4	11'-5"	—
p(E)	10	#7	32'-9"	—
s(E)	37	#4	11'-5"	□
s1(E)	2	#4	11'-9"	□
u(E)	10	#6	7'-4"	↗
v(E)	38	#5	4'-10"	—
v1(E)	8	#5	6'-5"	—
v2(E)	20	#5	8'-9"	—
Structure Excavation			Cu. Yd.	46
Concrete Structures			Cu. Yd.	17.5
Reinforcement Bars, Epoxy Coated			Pound	2,190
Furnishing Metal Shell Piles, 12"x0.250"			Foot	295
Driving Piles			Foot	295
Test Pile Metal Shells			Each	1
** Granular Backfill for Structures			Cu. Yd.	42



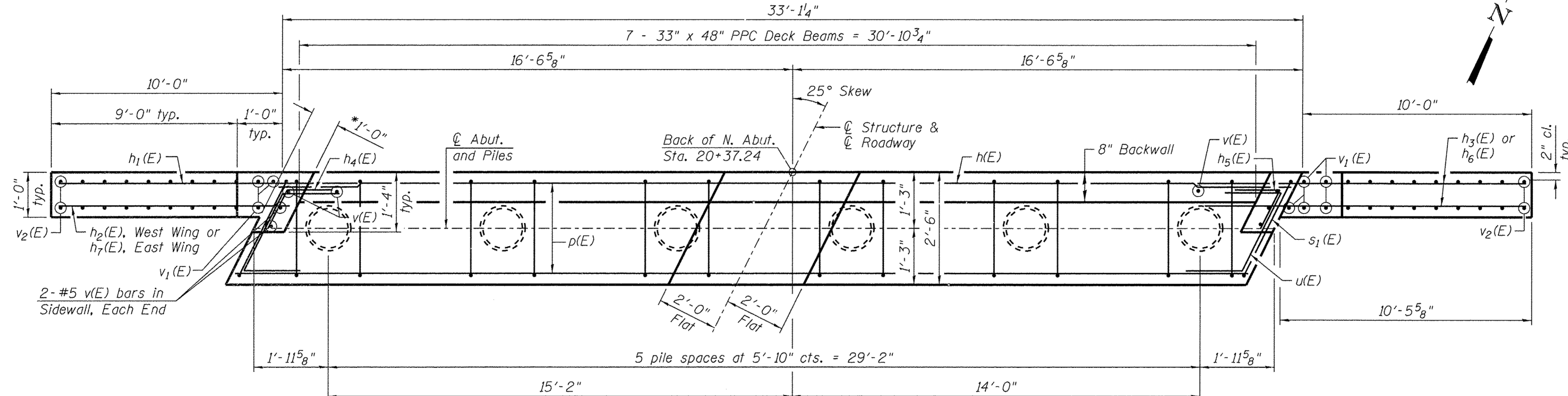
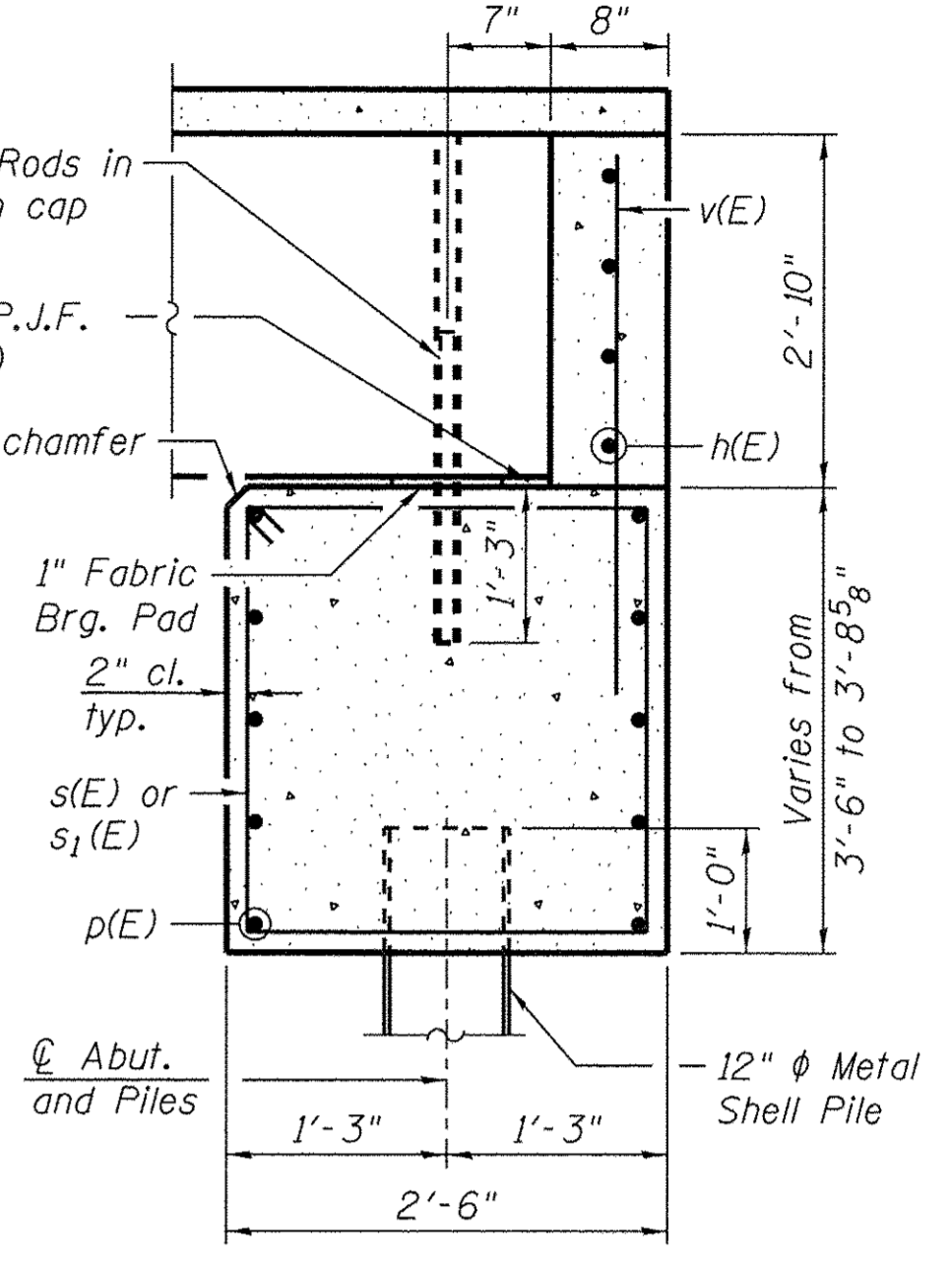
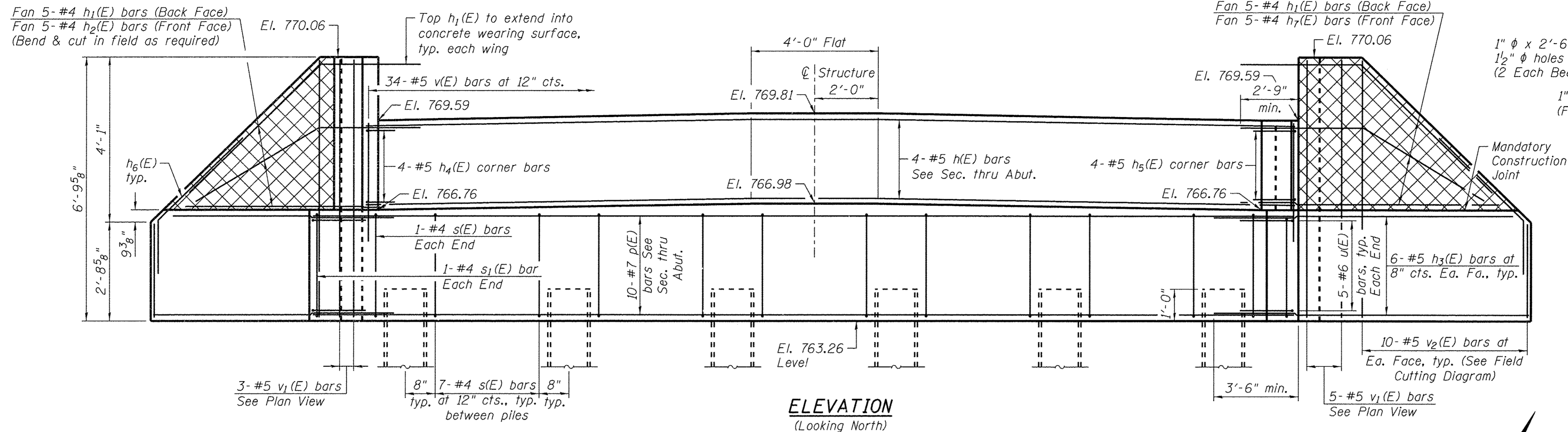
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DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

SOUTH ABUTMENT DETAILS
STRUCTURE NO. 089-3288
 STRUCTURAL SHEET NO. 7 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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WHA # 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT BROS-0177046J				

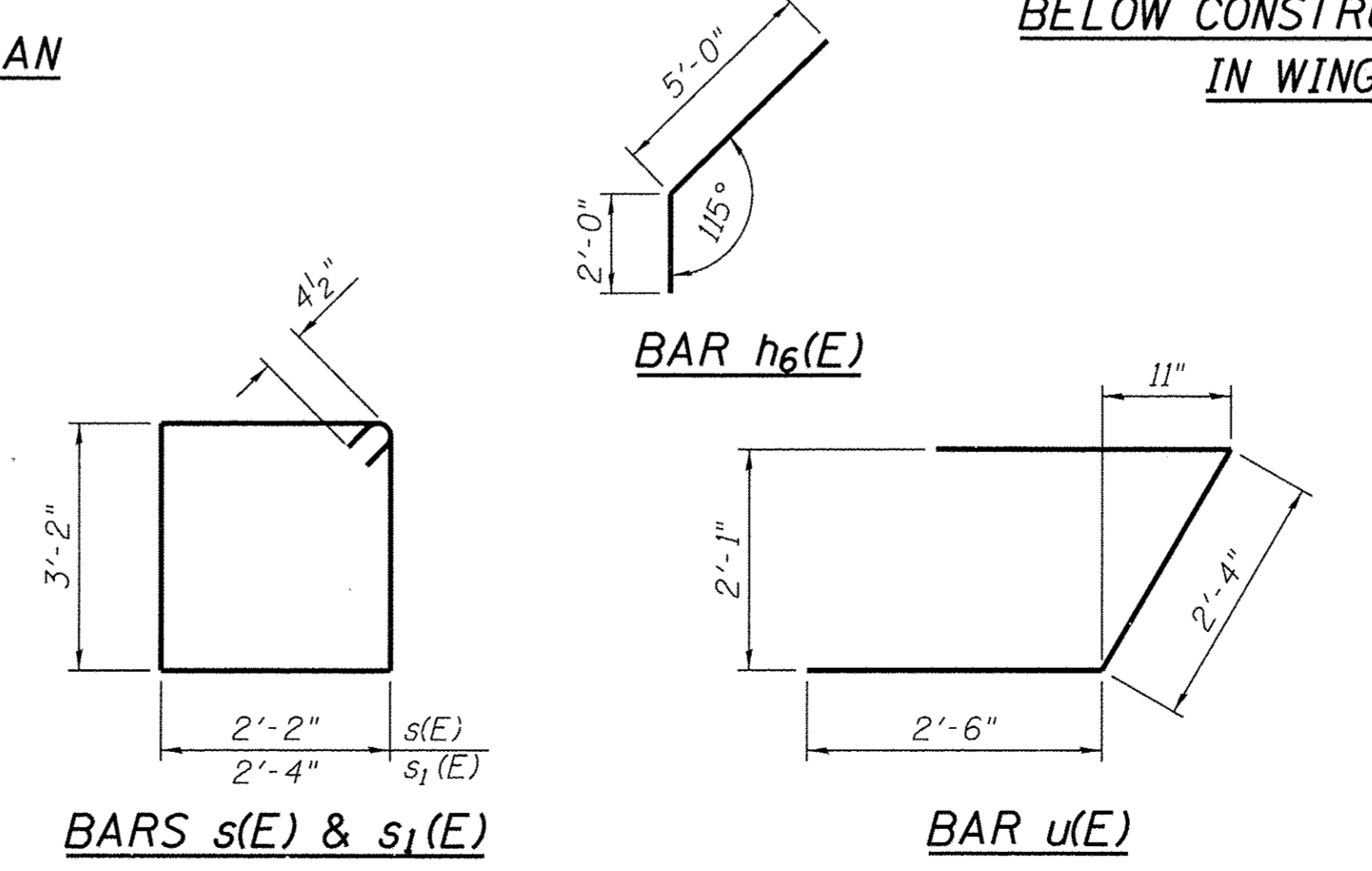
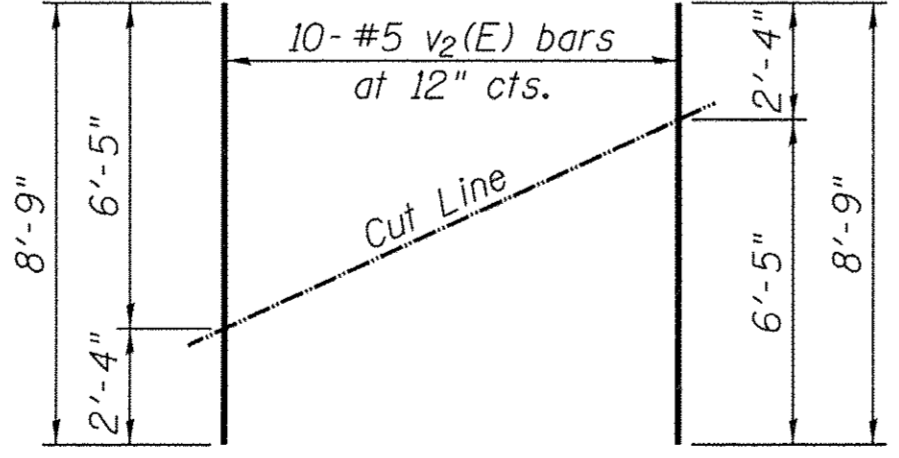
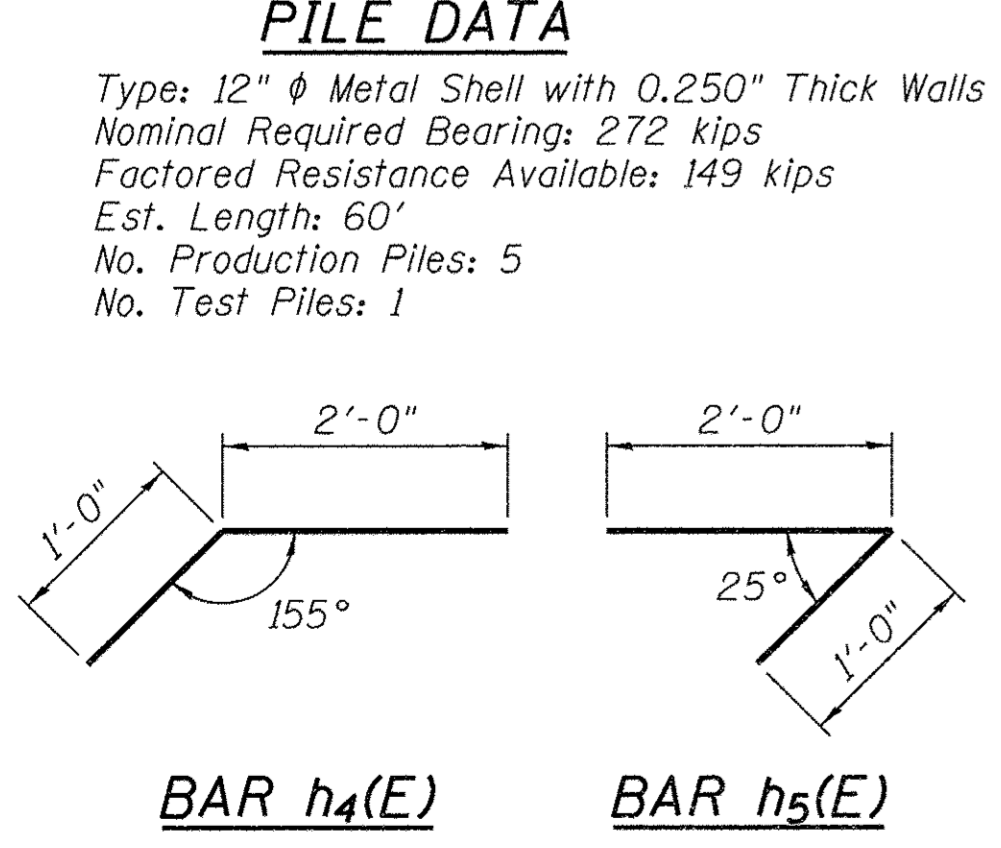
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BILL OF MATERIAL - NORTH ABUT.


Bar	No.	Size	Length	Shape
h(E)	4	#5	32'-9"	
h ₁ (E)	10	#4	13'-3"	
h ₂ (E)	5	#4	10'-11"	
h ₃ (E)	24	#5	13'-4"	
h ₄ (E)	4	#5	3'-0"	
h ₅ (E)	4	#5	3'-0"	
h ₆ (E)	4	#4	7'-0"	
h ₇ (E)	5	#4	11'-5"	
p(E)	10	#7	32'-9"	
s(E)	37	#4	11'-5"	
s ₁ (E)	2	#4	11'-9"	
u(E)	10	#6	7'-4"	
v(E)	38	#5	4'-10"	
v ₁ (E)	8	#5	6'-5"	
v ₂ (E)	20	#5	8'-9"	
Structure Excavation		Cu. Yd.	46	
Concrete Structures		Cu. Yd.	17.5	
Reinforcement Bars, Epoxy Coated		Pound	2,190	
Furnishing Metal Shell Piles, 12"x0.250"		Foot	300	
Driving Piles		Foot	300	
Test Pile Metal Shells		Each	1	
** Granular Backfill for Structures		Cu. Yd.	42	

ABOVE CONSTRUCTION JOINT IN WINGWALL and **BELOW CONSTRUCTION JOINT IN WINGWALL**



NOTES:
 Hatched portion of wingwalls to be poured with the backwall after the deck beams have been installed and grout has cured for a minimum of 24 hours.
 All exposed edges shall have standard 3/4" chamfers, except as noted.
 Space reinforcement in cap to miss dowel rods.
 After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a min. of 24 hours prior to grouting the shear keys.
 For pile details, see Structural Sheet 10 of 14.
 * May vary due to overrun of beams.
 ** For drainage details, see Structural Sheet 2 of 14.

FILE: S:\PROJECTS\2015\1488015\SCH\DESIGN\STRUCT\2D\Drawings\1488015-North Abutment_Details.dwg



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DESIGNED - EEL
CHECKED - BKC
DRAWN - RDA
CHECKED - PLP

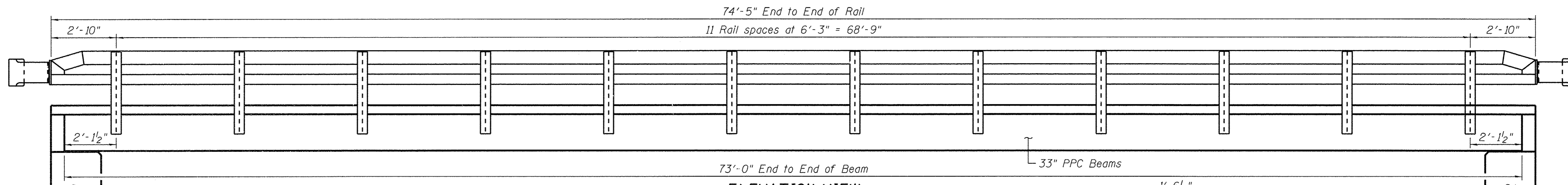
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STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

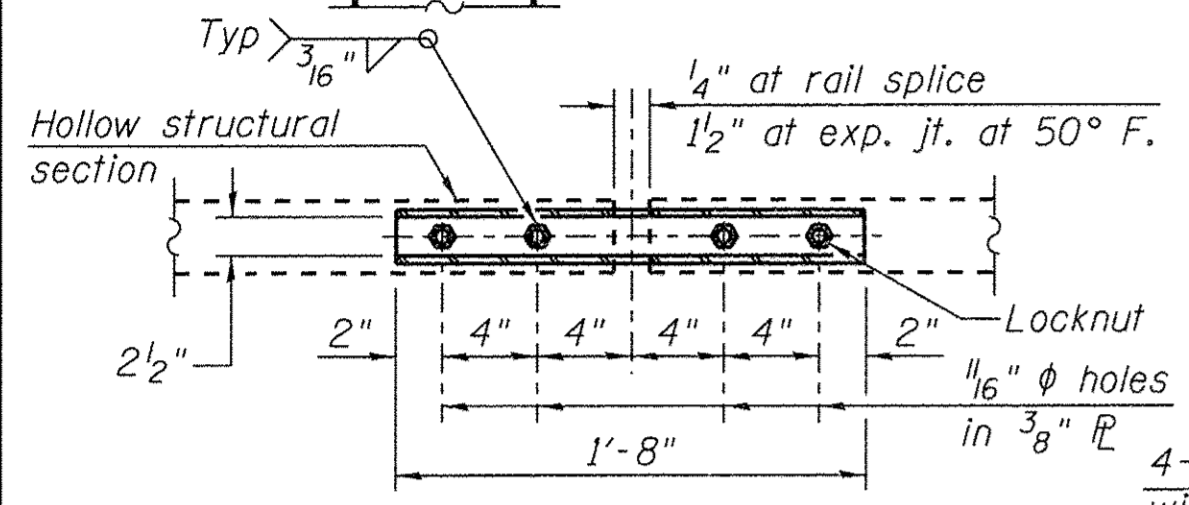
NORTH ABUTMENT DETAILS
STRUCTURE NO. 089-3288

STRUCTURAL SHEET NO. 8 OF 14 SHEETS

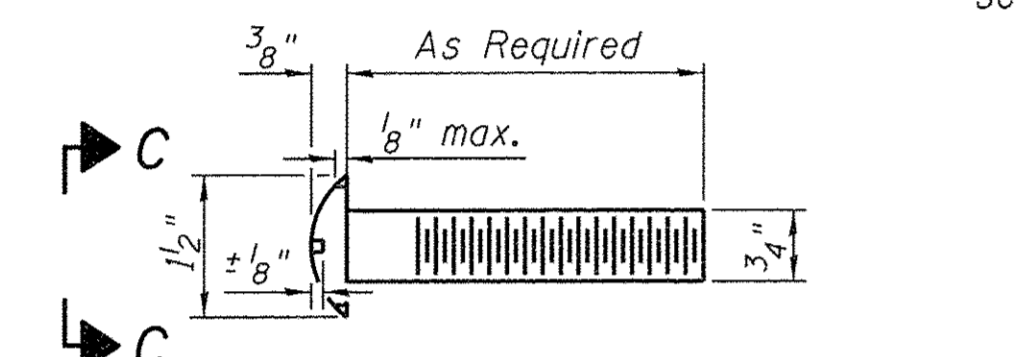
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	16
WHA 1488015			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT			BROS-017K046J	



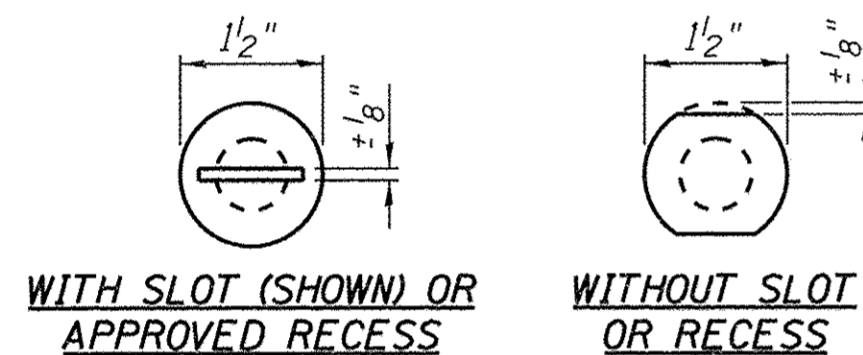
ELEVATION VIEW



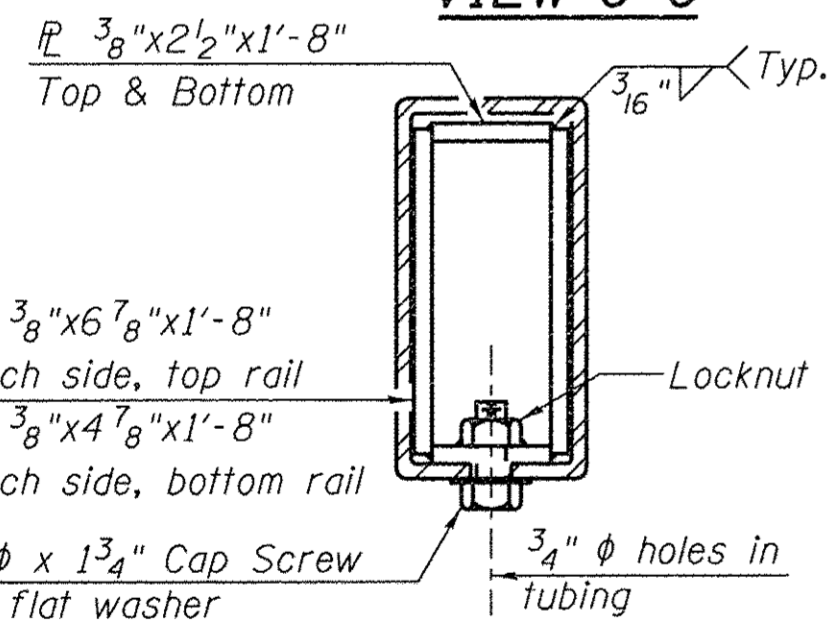
PLAN-BOTT SPLICE TYPICAL



DETAIL OF 3/4" ROUND HEAD BOLT

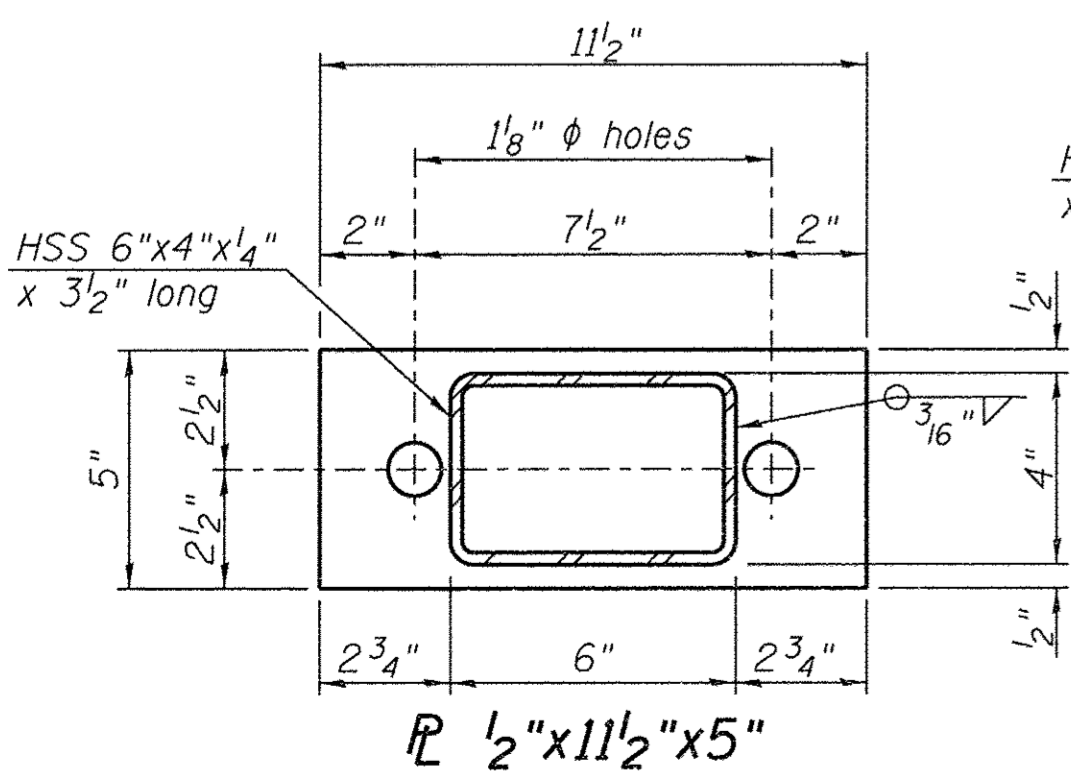


VIEW C-C

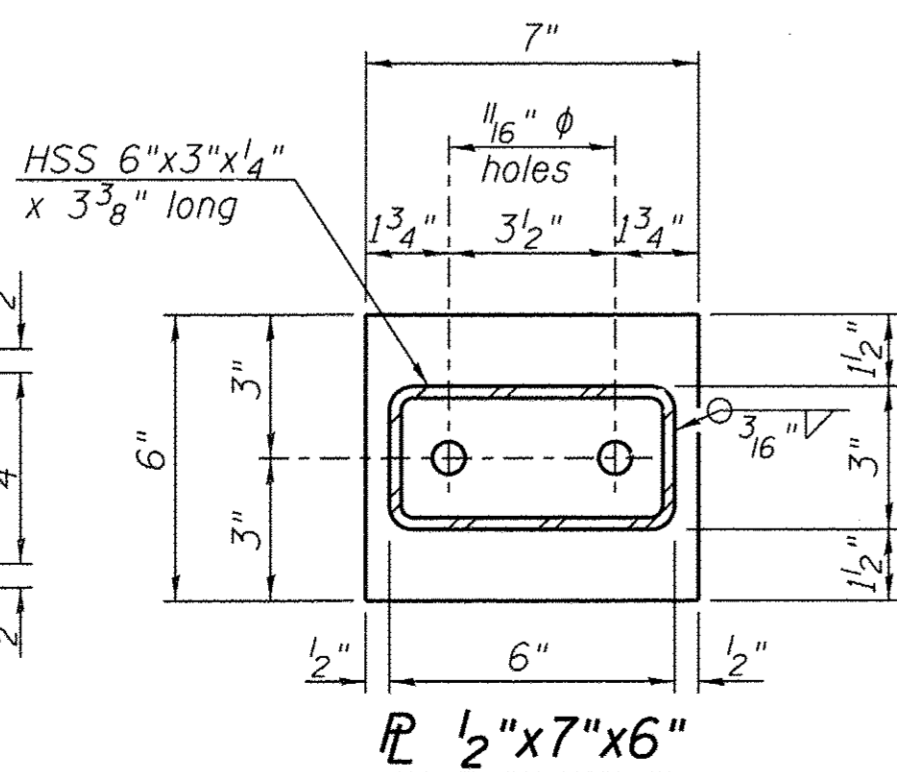


SECTION AT RAIL SPLICE

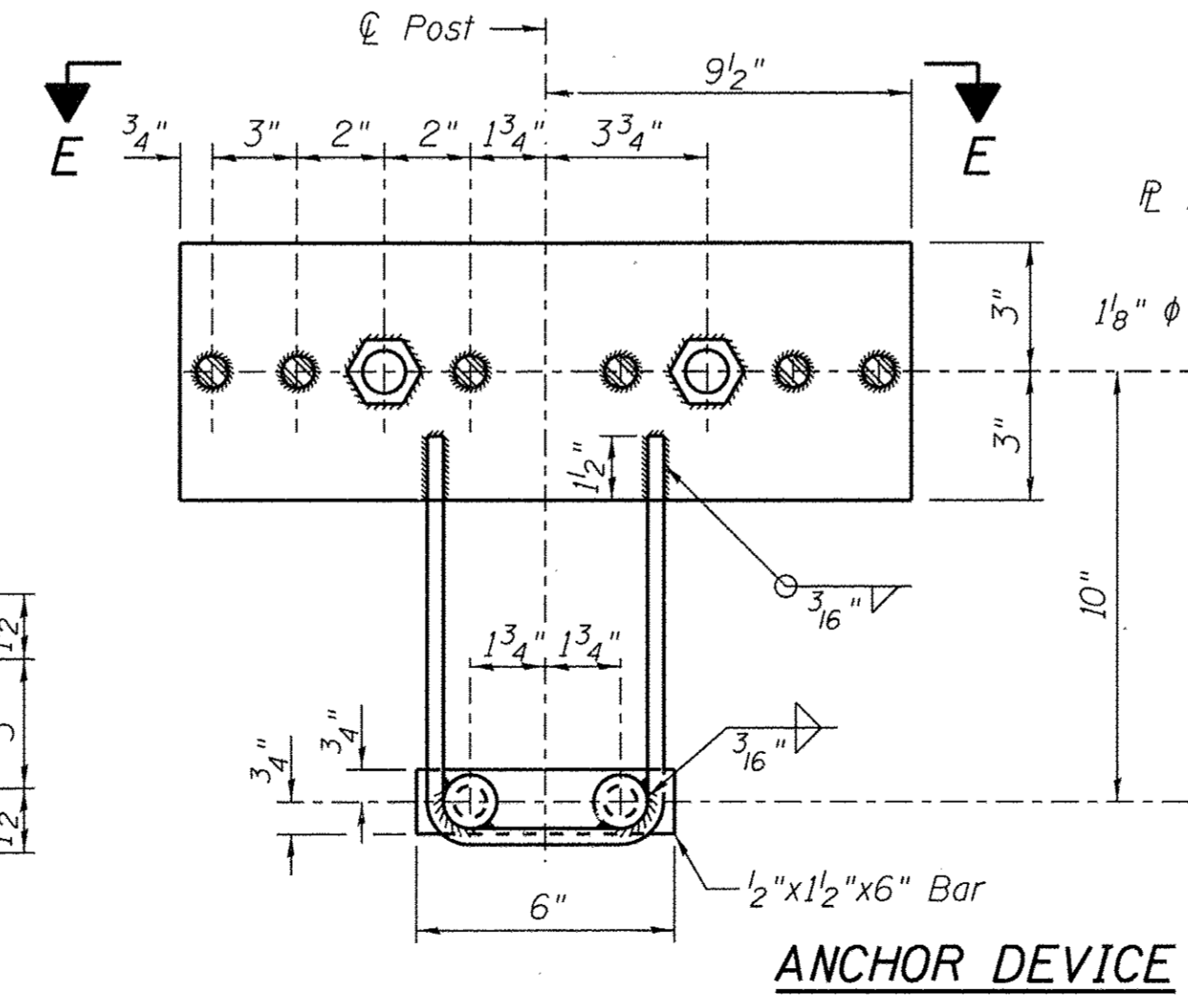
RAIL SPLICE CONNECTION AT EXPANSION JT.



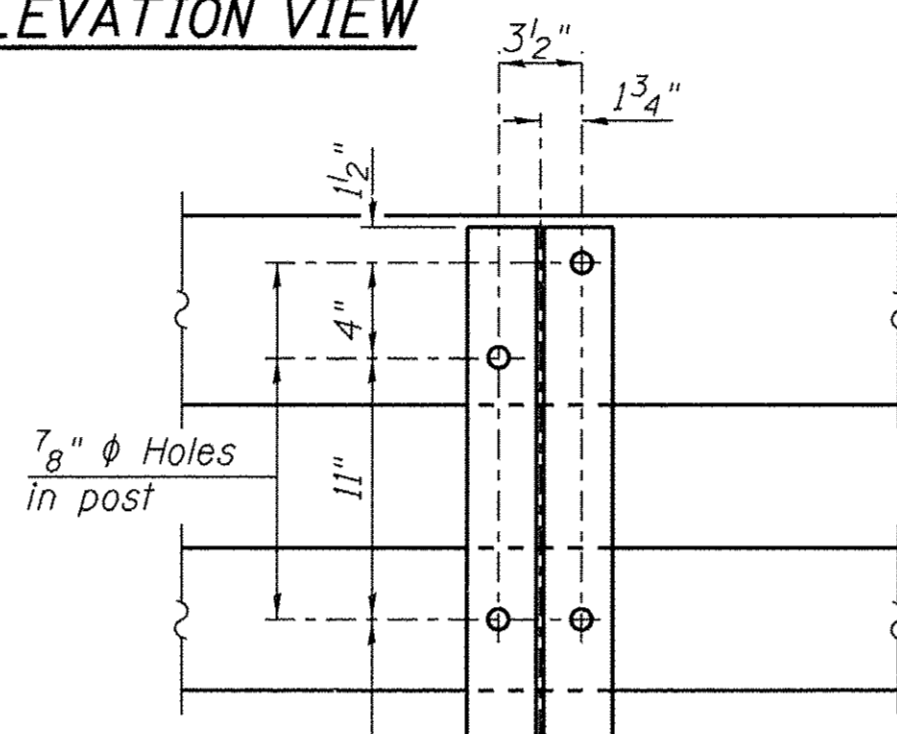
SECTION AT RAIL POST



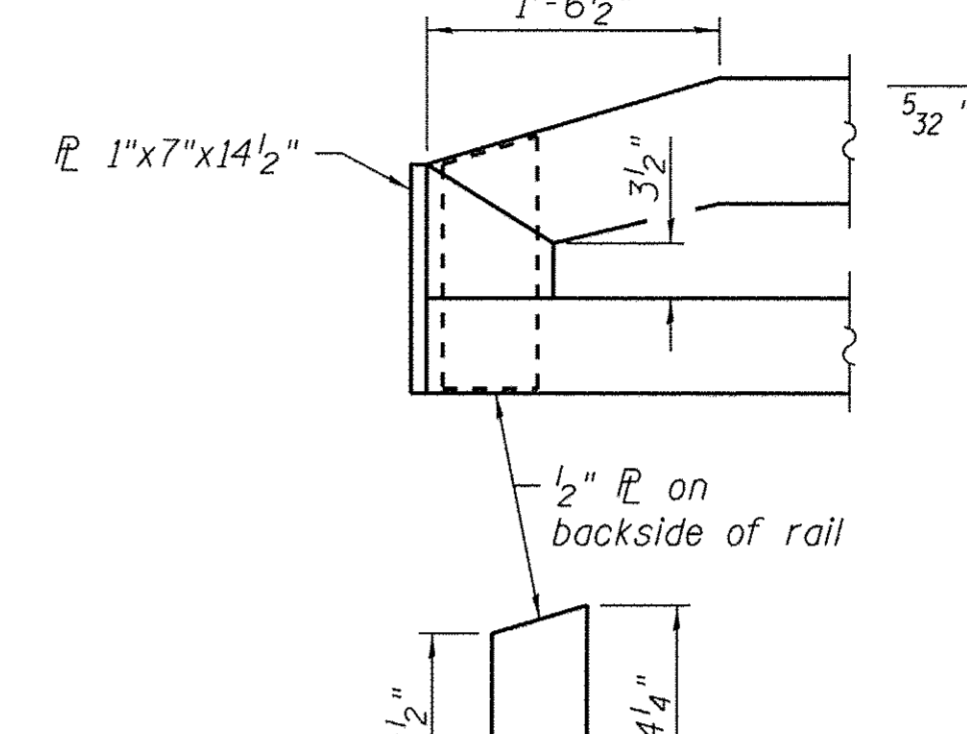
SECTION A-A



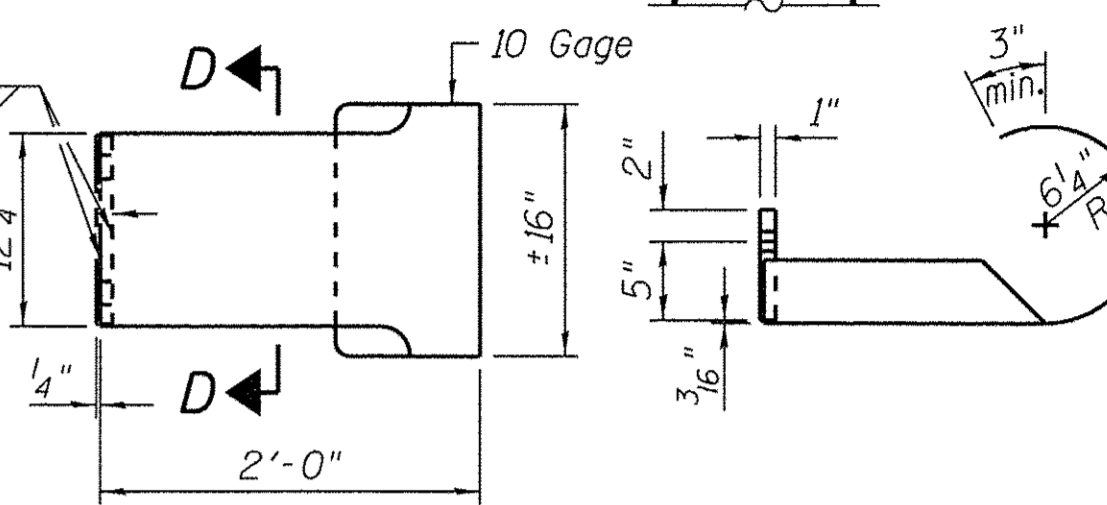
ANCHOR DEVICE



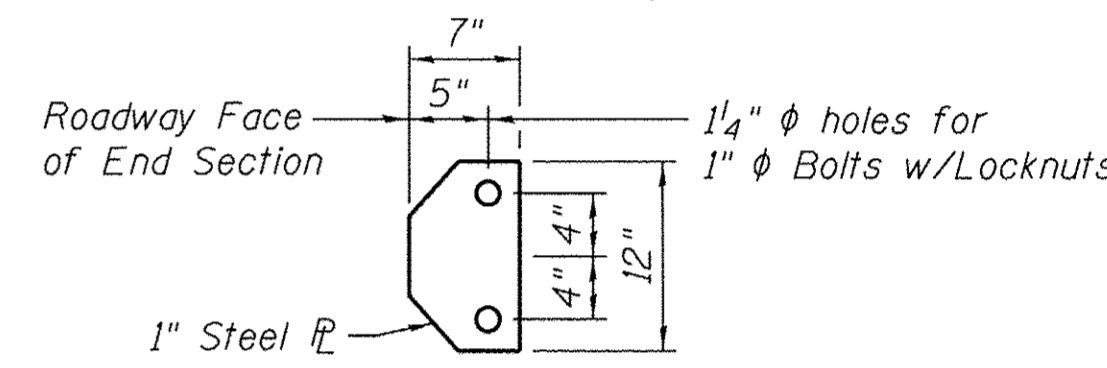
SECTION B-B



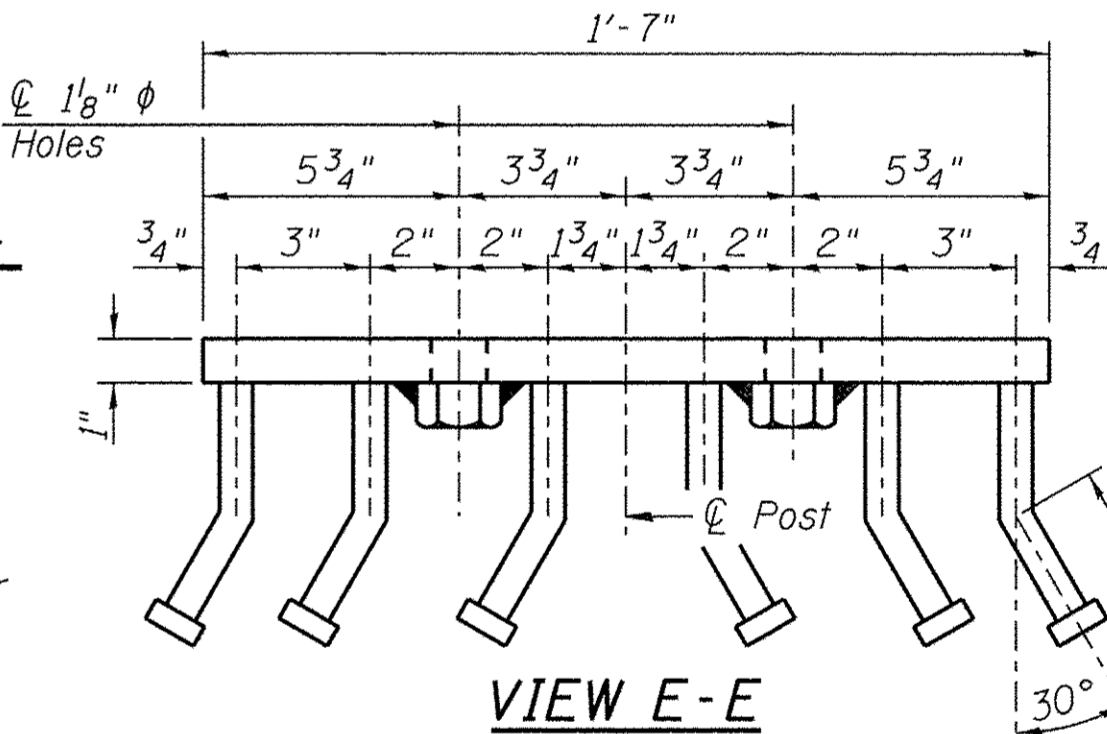
END OF RAIL DETAILS



CURLED END SECTION DETAILS



SECTION D-D



VIEW E-E

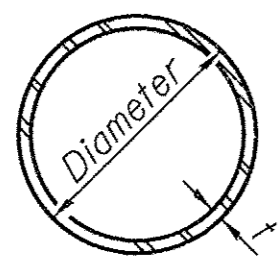
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	149

NOTES:

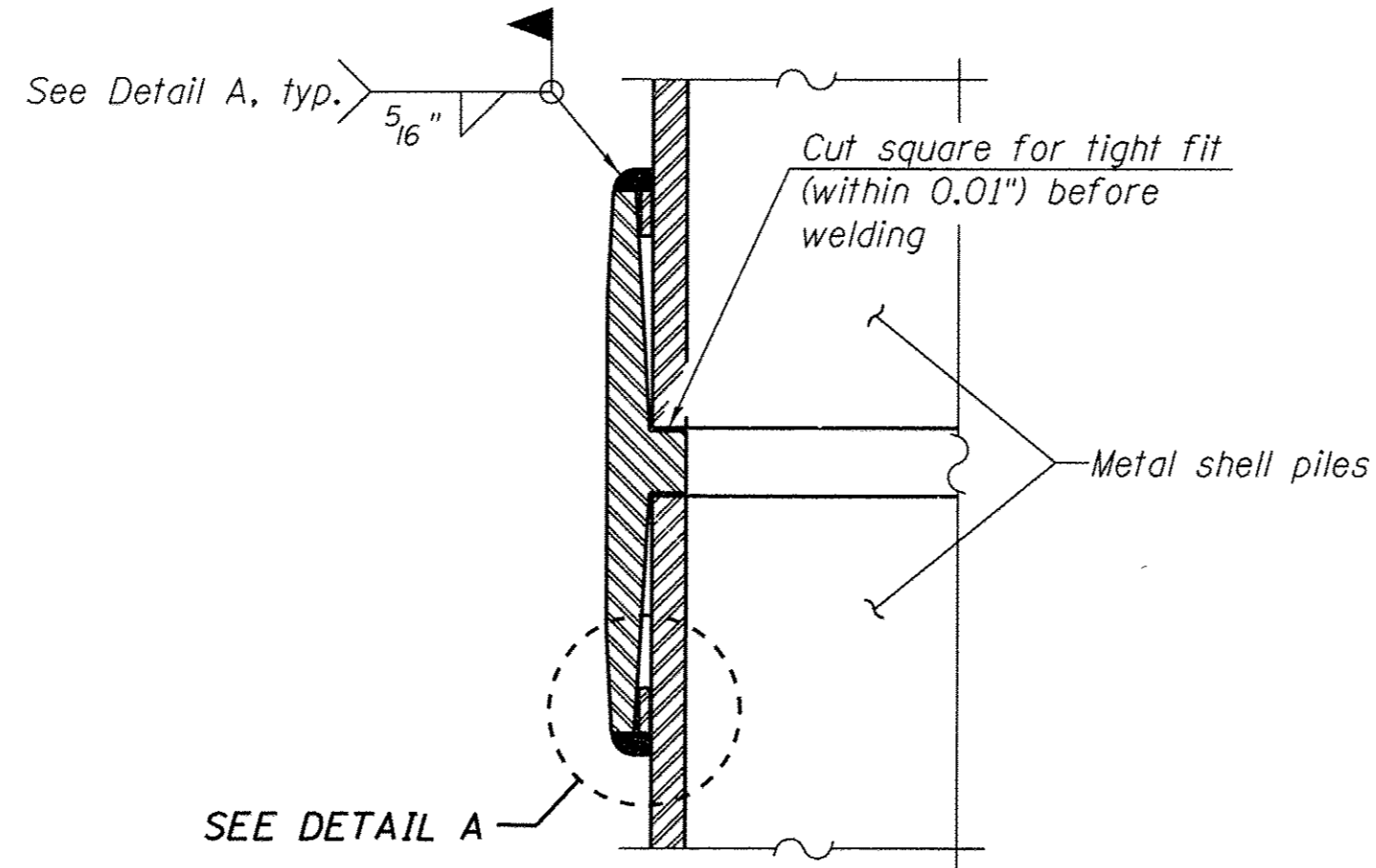
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
- Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
- * Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.
- ** 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. Coordinate with D(E) bars on Structural Sheets 3 & 4 of 14.
- *** Cost of Curled End Sections to be included with Steel Railing, Type SM.

FILE # S:\PROJECTS\2015\1488D15_SCA\DESIGN\STRUCT\20-Dr-emp\1488D15-Steel Railing Type SM with Concrete Wearing Surface.dgn



METAL SHELL PILE TABLE

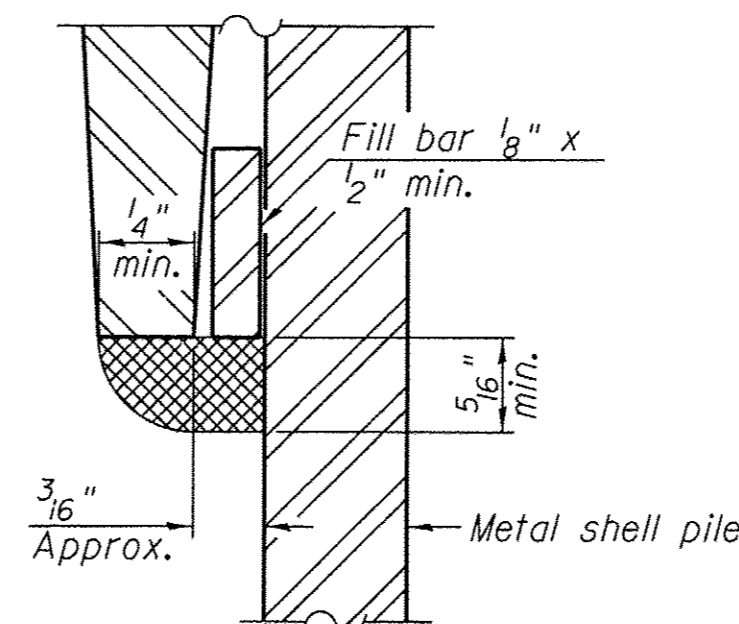
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267



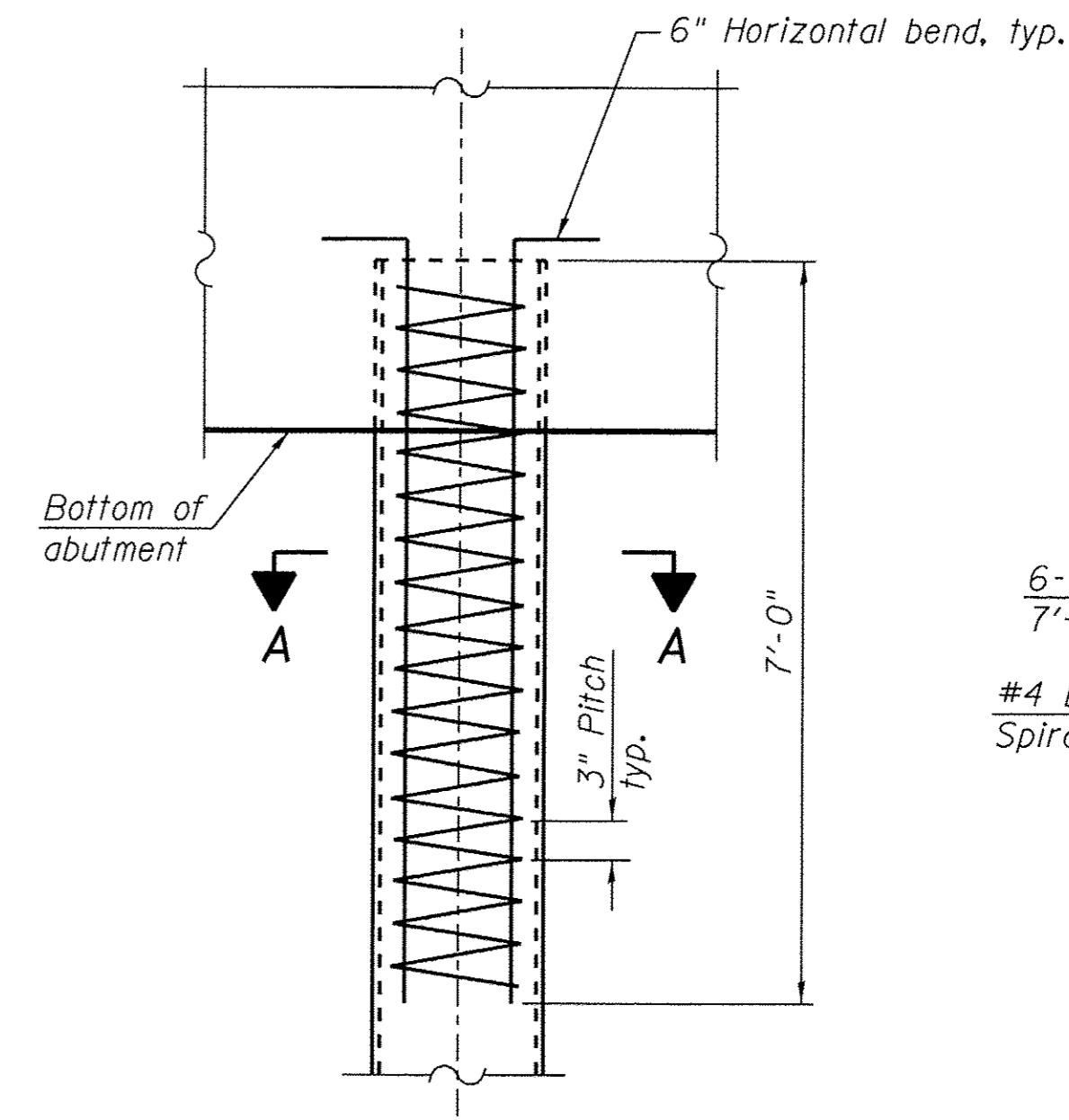
NOTES:

The 1/8"x1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

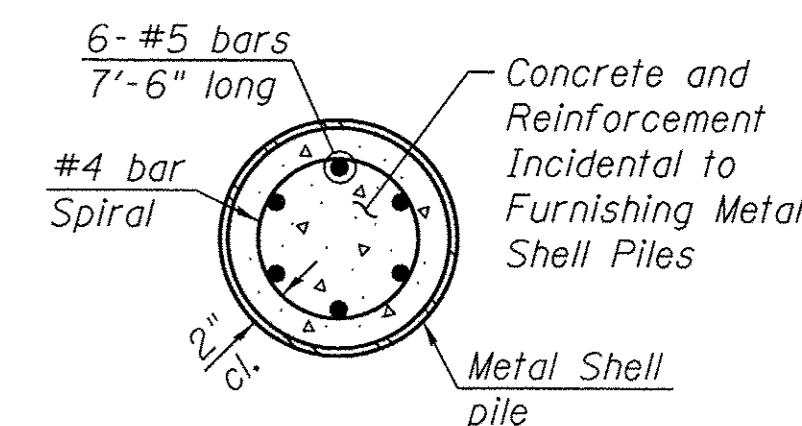
WELDED COMMERCIAL SPLICE



DETAIL A

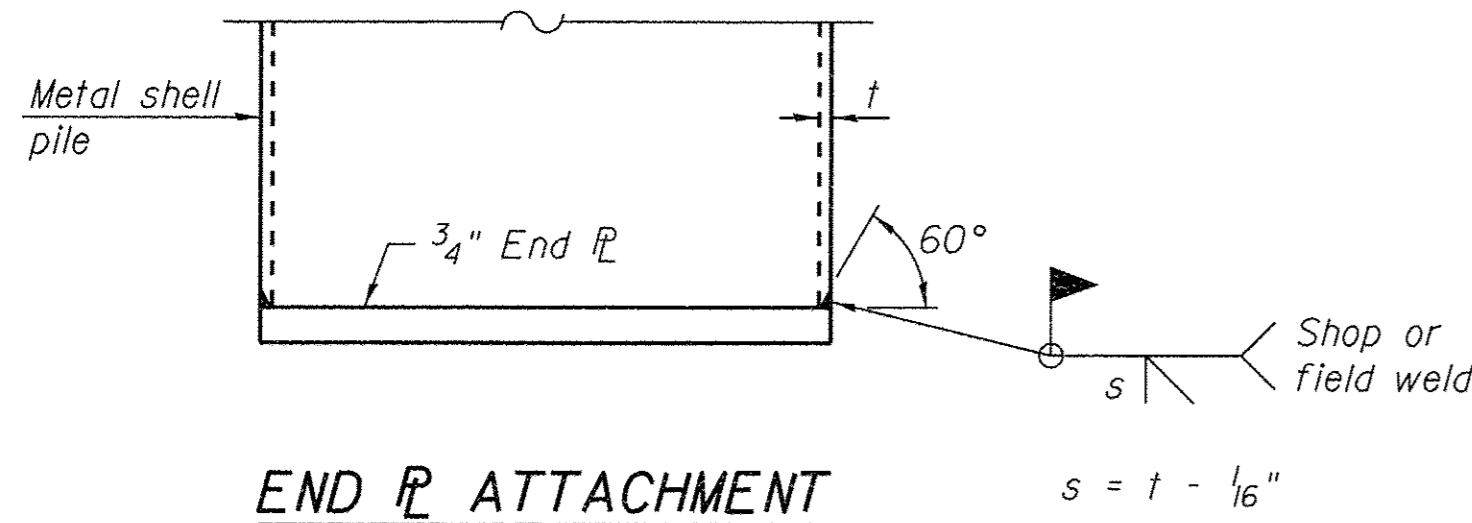


ELEVATION

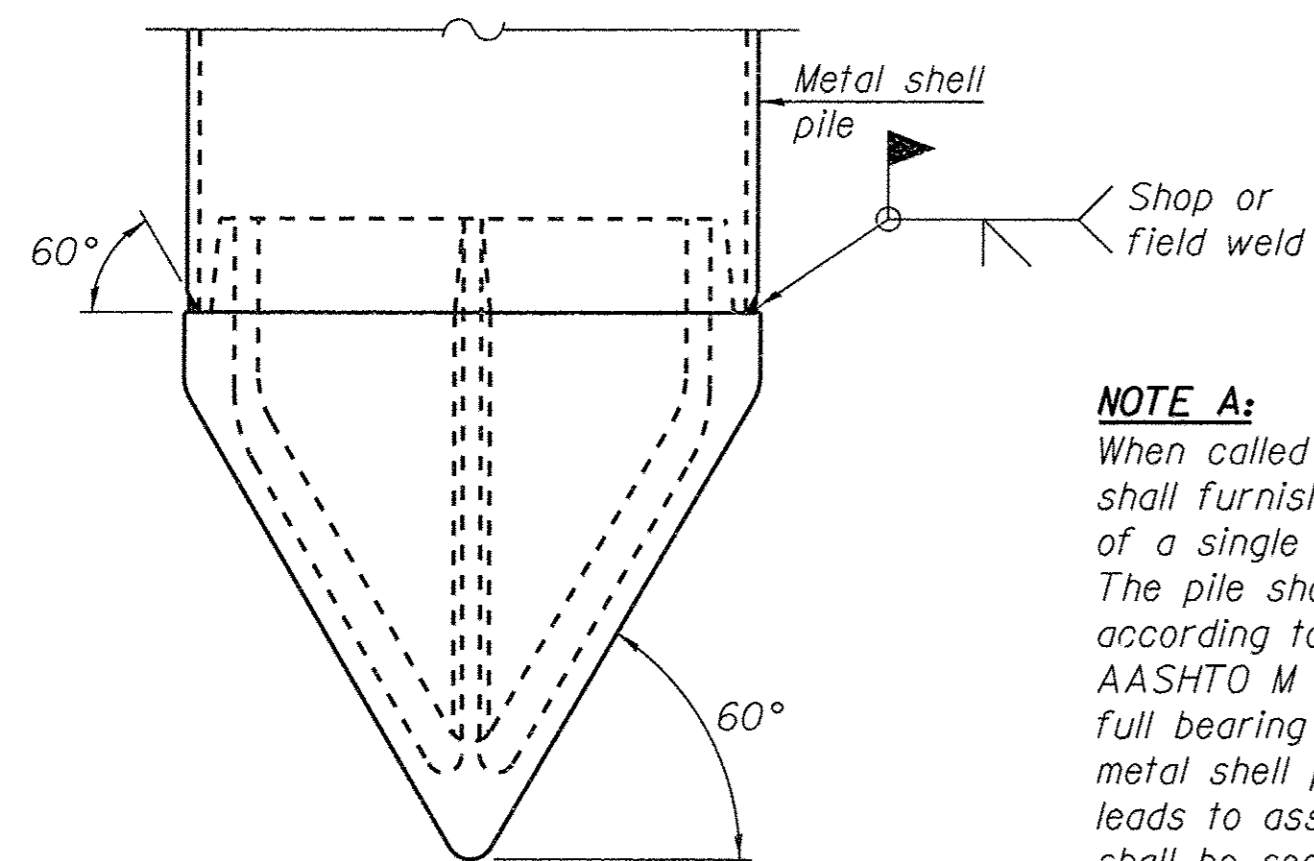


SECTION A-A

METAL SHELL REINFORCEMENT AT ABUTMENTS



END FILLET ATTACHMENT

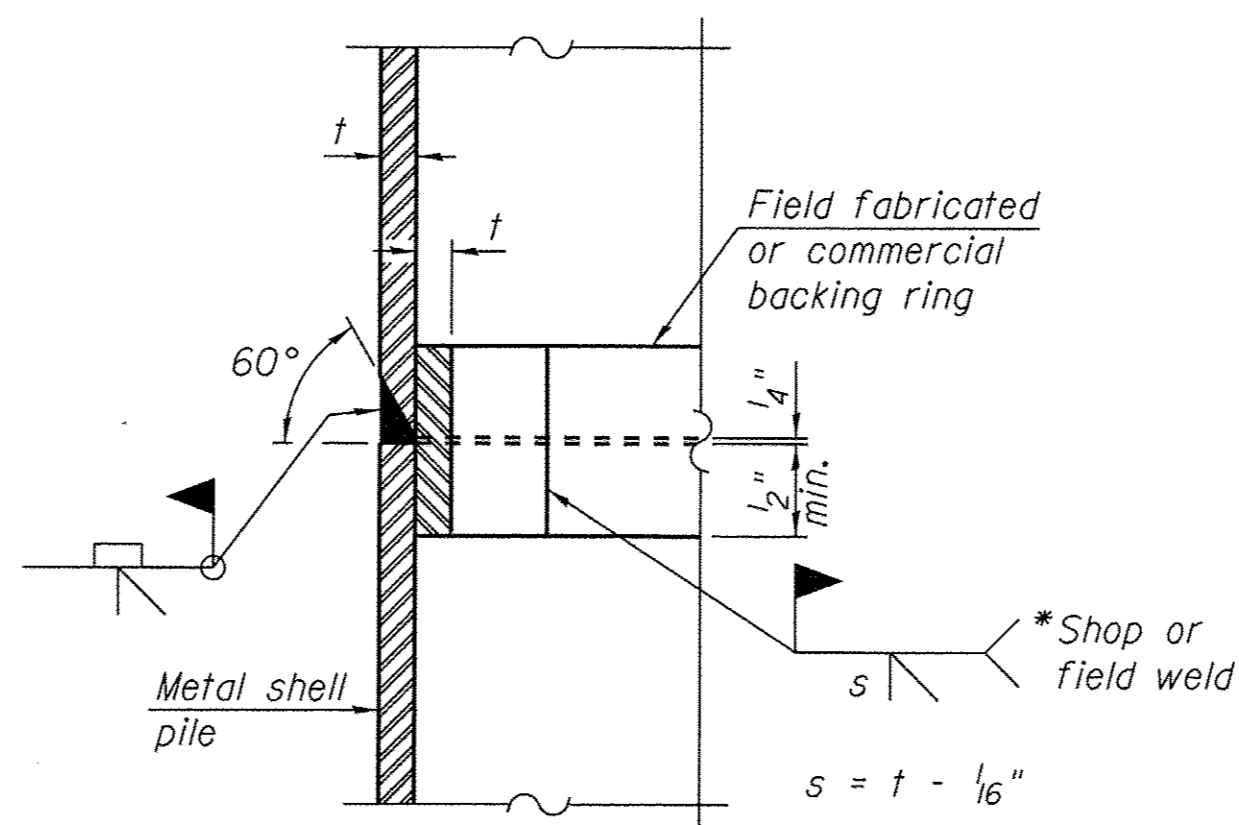


METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

NOTE A:

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



COMPLETE PENETRATION WELD SPLICE

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

NOTE:

The metal shell piles shall be according to ASTM A 252 Grade 3.

FILE # S:\PROJECTS\2015\488015_SCA\DESIGN\STRUCT\20-Dr-emp\pp\488015_Metal_Shell_Pile_Details.dgn

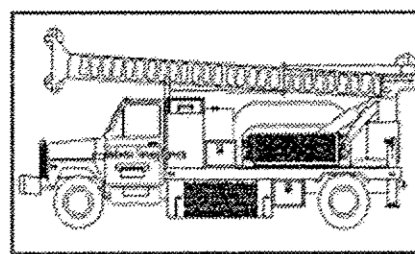


DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

METAL SHELL PILE DETAILS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 10 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	18
WHA* 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT BR05-01770461				



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG
Sheet 1 of 4

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

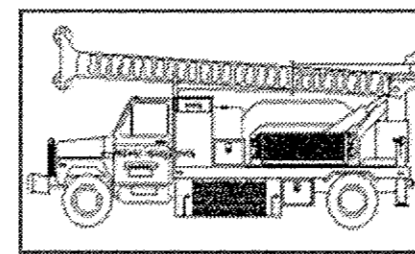
Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-1
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 5' Right of Station 20+27

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
769.70										Randy Safranski Diedrich D-120	
768.70			1								
767.70			2								
766.70	Medium Brown Sand And Gravel Mixed With Clay (Fill)		3	1	SS	---	24	---	10		
765.70			4								
764.70			5								
763.70			6	2	SS	1.8	15	S	15		
762.70			7								
761.70			8	3	SS	---	10	---	12		
760.70			9								
759.70	Stiff Black Silty Clay		10	4	SS	1.2	6	B	28		
758.70			11								
757.70			12								
756.70			13	5	SS	1.0	6	B	30		
755.70			14								
754.70	Loose Black And Gray Clay With Roots Fragments		15	6	SS	---	4	---	27		
753.70			16								
752.70			17								
751.70	Loose Gray Silty Loam		18	7	SS	---	5	---	26		
750.70			19								
749.70			20	8	SS	---	4	---	26		

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG
Sheet 2 of 4

Phone: 815-223-6696
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e-mail: mts37@comcast.net

Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-1
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 5' Right of Station 20+27

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
748.70										Randy Safranski Diedrich D-120	
747.70			22								
746.70	Loose Gray Silty Loam		23	9	SS	---	4	---	23		
745.70			24								
744.70			25								
743.70			26	10	SS	---	5	---	25		
742.70			27								
741.70			28	11	SS	---	5	---	25		
740.70			29								
739.70	Medium Gray Silt		30	12	SS	---	12	---	---		
738.70			31								
737.70			32								
736.70			33								
735.70			34								
734.70			35								
733.70			36	13	SS	---	12	---	---		
732.70			37								
731.70	Stiff Gray Clay		38								
730.70			39								
729.70			40								
728.70			41	14	SS	1.5	10	B	26		

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:

FILE # S:\PROJECTS\2015\1488D15.SCH\DESIGN\STRUCT\20_Dr_wing\1488D15.Boring_Logs.dgn



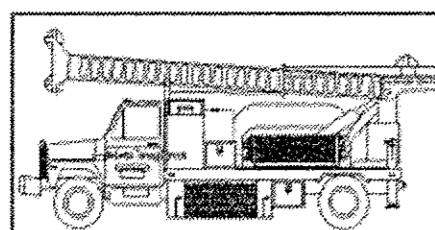
WILLET HOFMANN & ASSOCIATES, INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

BORING LOGS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 11 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	19
WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-0177046		



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
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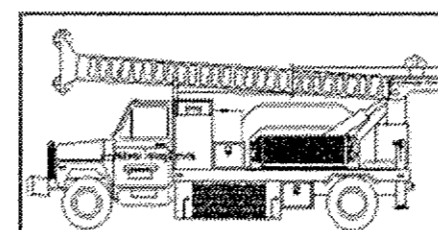
Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-1
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 5' Right of Station 20+27

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
727.70											
726.70			43								
725.70			44								
724.70			45	15	SS	1.7	12	B	25		
723.70			46								
722.70	Stiff Gray Clay With Occasional Sand Seams		47								
721.70			48								
720.70			49								
719.70			50	16	SS	1.9	14	B	25		
718.70			51								
717.70			52								
716.70			53								
715.70			54								
714.70			55	17	SS	2.4	20	B	26		
713.70			56								
712.70	Very Stiff Brownish Gray Clay		57								
711.70			58								
710.70			59								
709.70			60	18	SS	3.1	23	B	26		
708.70			61								
707.70			62								

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:



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3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-1
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 5' Right of Station 20+27

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
706.70											
705.70			64								
704.70			65								
703.70			66	19	SS	2.7	15	B	26		
702.70			67								
701.70	Very Stiff Brownish Gray To Tan Clay		68								
700.70			69								
699.70			70	20	SS	2.8	18	B	25		
698.70			71								
697.70			72								
696.70			73								
695.70			74								
694.70			75								
693.70			76	21	SS	2.7	18	B	25		
692.70			77								
691.70			78								
690.70			79								
689.70			80								
688.70			81								
687.70			82								
686.70			83								

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:

FILE # S:\PROJECTS\2015\1488D15_SCA\DESIGN\STRUCT\20.Draining\1488D15_Boring_Logs.dgn



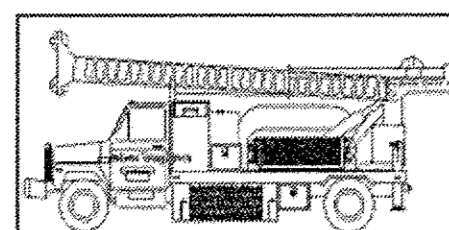
DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

BORING LOGS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 12 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	20
WHA# 1488D15			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT BROS-01770461				

85652



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
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Sheet 1 of 4

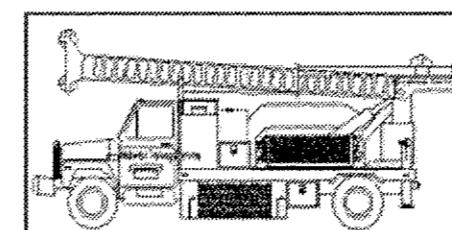
Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-2
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 4' Left of Station 19+73

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
769.70										Randy Safranski Diedrich D-120	
768.70			1								
767.70			2								
766.70	Medium Brown Sand And Gravel (Fill)		3	1	SS	---	12	---	8		
765.70			4								
764.70			5								
763.70			6	2	SS	---	10	---	12		
762.70	Stiff Brown And Black Clay (Fill)		7								
761.70			8	3	SS	1.3	8	B	21		
760.70			9								
759.70	Stiff Black Clay		10	4	SS	1.1	5	B	26		
758.70			11								
757.70			12								
756.70			13	5	SS	1.6	7	B	25		
755.70	Stiff Gray Clay		14								
754.70			15								
753.70			16	6	SS	1.4	6	B	24		
752.70			17								
751.70	Loose Gray Silty Loam		18	7	SS	---	6	---	25		
750.70			19								
749.70			20	8	SS	---	5	---	25		

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:



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3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Sheet 2 of 4

Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-2
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 4' Left of Station 19+73

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
748.70										Randy Safranski Diedrich D-120	
747.70			22								
746.70			23	9	SS	---	5	---	23		
745.70	Loose Gray Silty Loam		24								
744.70			25								
743.70			26	10	SS	---	4	---	26		
742.70			27								
741.70			28	11	SS	---	7	---	23		
740.70	Medium Gray Silt With Trace Organics		29								
739.70			30								
738.70			31	12	SS	---	14	---	32		
737.70			32								
736.70			33	13	SS	---	12	---	28		
735.70			34								
734.70			35								
733.70			36	14	SS	---	12	---	28		
732.70			37								
731.70	Stiff Gray Clay		38								
730.70			39								
729.70			40								
728.70			41	15	SS	1.8	12	B	26		

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:

FILE: S:\PROJECTS\2015\1488015_SCH\DESIGN\STRUCT\2D_Drawings\1488015_Boring_Log.dgn

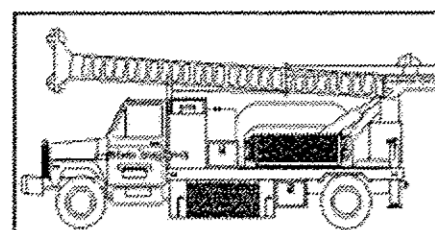


DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

BORING LOGS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 13 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	21
WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-0177(046)		



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

Phone: 815-223-6696
Fax: 815-223-6659
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Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-2
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

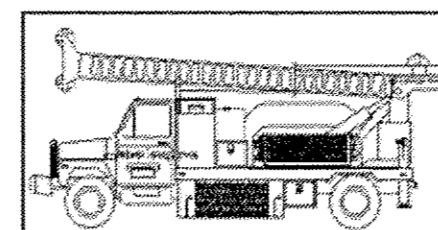
Location: 4' Left of Station 19+73

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet
727.70			
726.70			43
725.70			44
724.70			45
723.70	Stiff Gray Clay With Occasional Sand Seams	16	SS 1.9 13 B 26
722.70			
721.70			
720.70			
719.70			50
718.70			51
717.70	Very Stiff Brownish Gray Clay	18	SS 2.6 16 B 26
716.70			
715.70			
714.70			
713.70			
712.70			
711.70			
710.70			
709.70			
708.70			
707.70			62

SAMPLES							DRILLED BY	
Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	Randy Safranski Diedrich D-120	
16	SS	1.9	13	B	26			
17	SS	1.6	11	B	27			
18	SS	2.6	16	B	26			
19	SS	2.3	15	B	29			

REMARKS

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:



Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354

BORING LOG

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Client: Willet Hofmann & Associates, Inc.
Project Name: Section 15-06120-00-00-BR
Project Site: AYP Rd. Over Branch of Pecatonica River
Stephenson County, Illinois

Boring No. B-2
Surface Elev. 769.70
Auger Depth 76' Rotary Depth NA
Start Date 09/24/16 Finish Date 09/24/16

Location: 4' Left of Station 19+73

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet
706.70			
705.70			64
704.70			65
703.70			66
702.70	Very Stiff Brownish Gray To Tan Clay	20	SS 2.5 18 B 26
701.70			
700.70			
699.70			
698.70			70
697.70			71
696.70			72
695.70			73
694.70			74
693.70			75
692.70			76
691.70			77
690.70			78
689.70			79
688.70			80
687.70			81
686.70			82
			83

SAMPLES							DRILLED BY	
Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	Randy Safranski Diedrich D-120	
20	SS	2.5	18	B	26			
21	SS	2.5	17	B	26			
22	SS	3.0	20	B				

Bottom Of Boring

Groundwater Data: Static water level after auger removal - Elevation 742.0
Comments:

FILE: S:\PROJECTS\2015\1488D15.SCH\DESIGN\STRUCT\2D.Dwg\1488D15.Boring_Log.dwg



DESIGNED - EEL	REVISED -
CHECKED - BKC	REVISED -
DRAWN - RDA	REVISED -
CHECKED - PLP	REVISED -

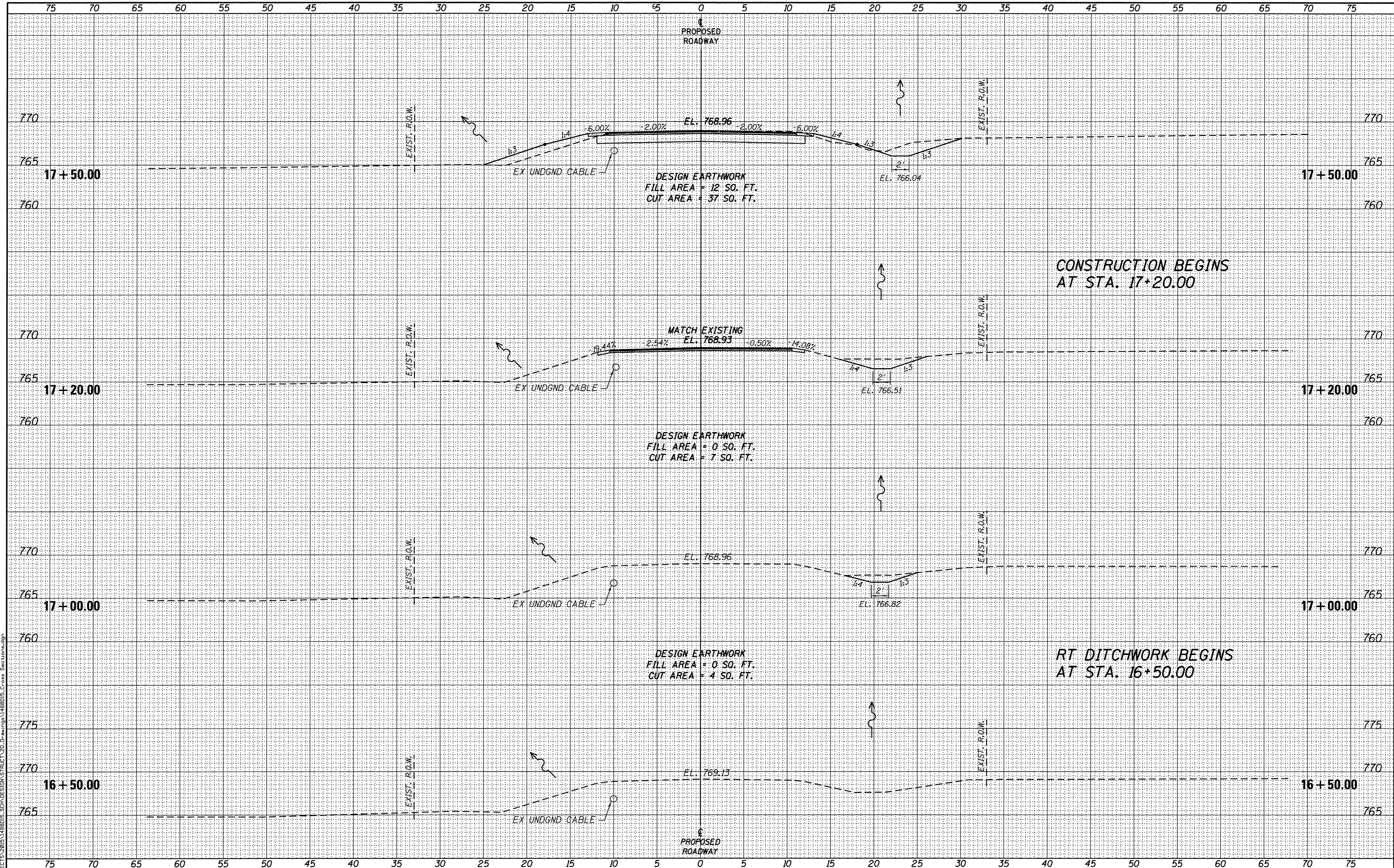
STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00.00

BORING LOGS
STRUCTURE NO. 089-3288
STRUCTURAL SHEET NO. 14 OF 14 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	22
WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-01770461		

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
DATE	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
DATE	
AREAS CHECKED	
NO.	



FILE: S:\PROJECTS\2015\1488D15_SCH\DESIGN\STRUCT\20_01.dwg; 1488D15_Cross Sections.dgn



DESIGNED - MAC	REVISED -
CHECKED - EEL	REVISED -
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CHECKED - PLP	REVISED -

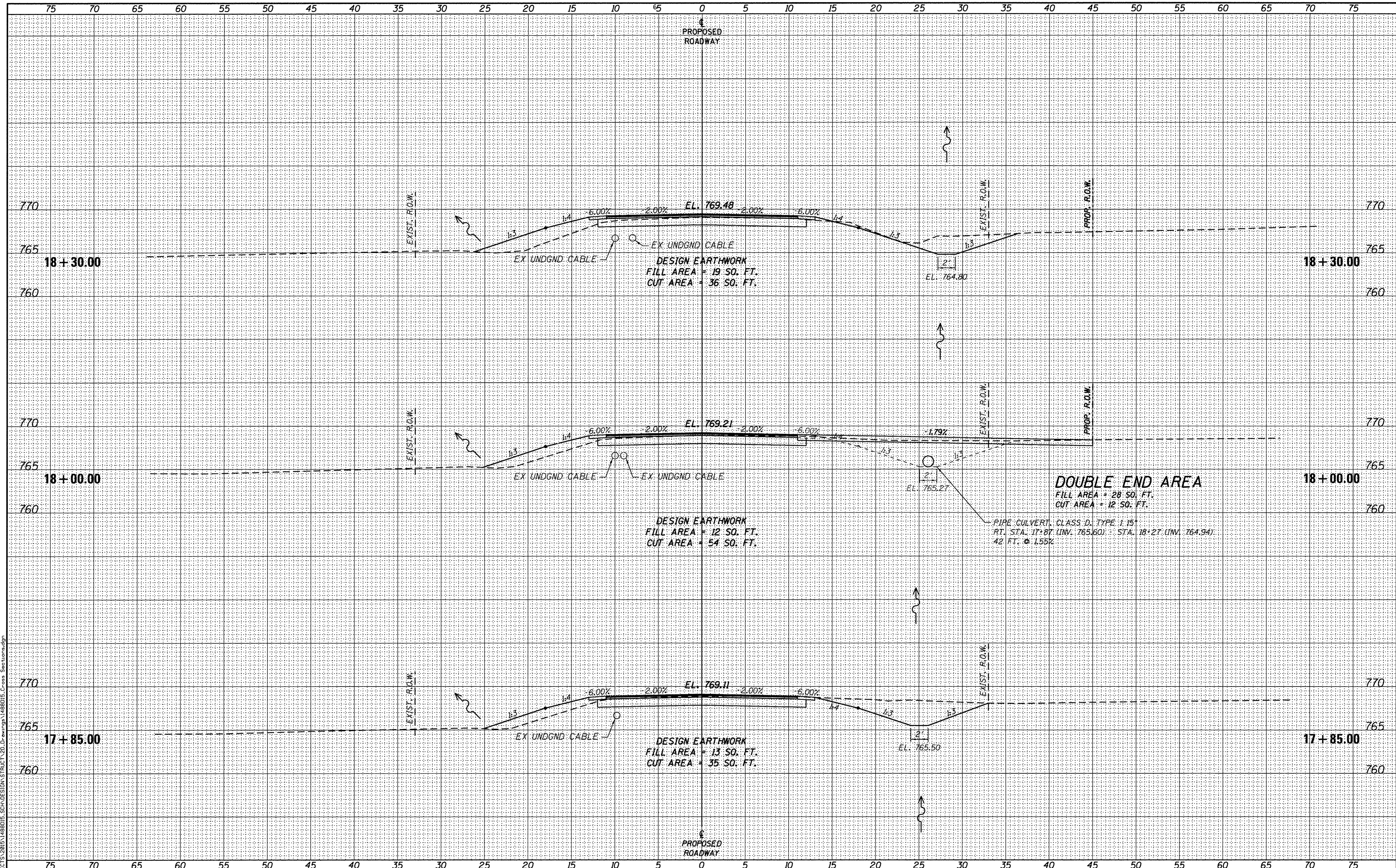
STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00

CROSS SECTIONS
 SCALE: 1" = 5'-0"
 SHEET NO. 1 OF 6 SHEETS
 STA. 16+50.00 TO STA. 17+50.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	23
WHA* 1488D15		CONTRACT NO.	85652	
ILLINOIS FED. AID PROJECT		BROS-01710461		

DATE	
BY	
FINAL SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	

DATE	
BY	
ORIGINAL SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	



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DESIGNED - MAC	REVISED -
CHECKED - EEL	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20+00

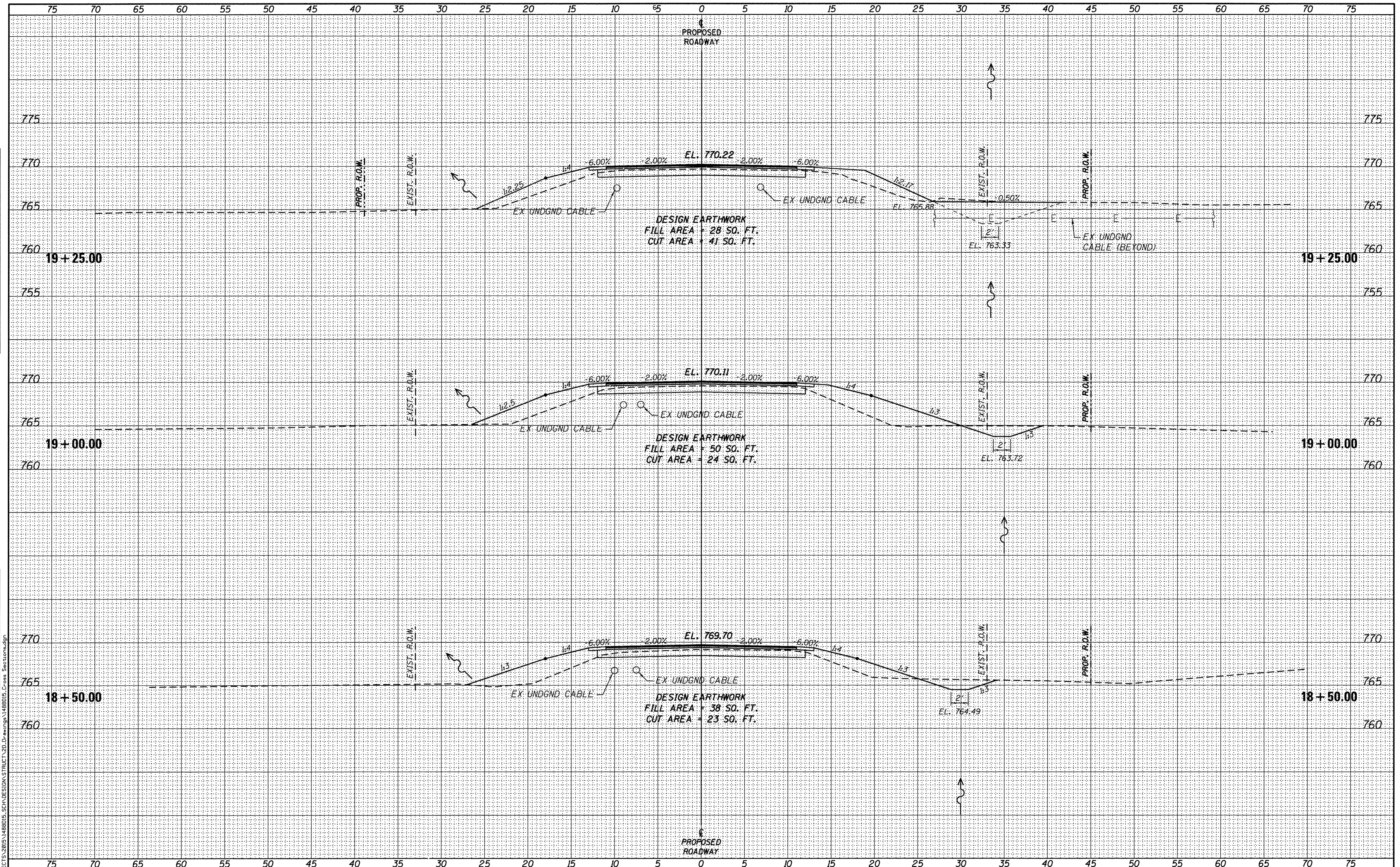
CROSS SECTIONS

SCALE: 1" = 5'-0"
 SHEET NO. 2 OF 6 SHEETS
 STA. 17+85.00 TO STA. 18+30.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	24
WHA# 1488015			CONTRACT NO. 85652	
ILLINOIS FED. AID PROJECT BR05-01770461				

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

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



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DESIGNED - MAC	REVISED -
CHECKED - EEL	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00

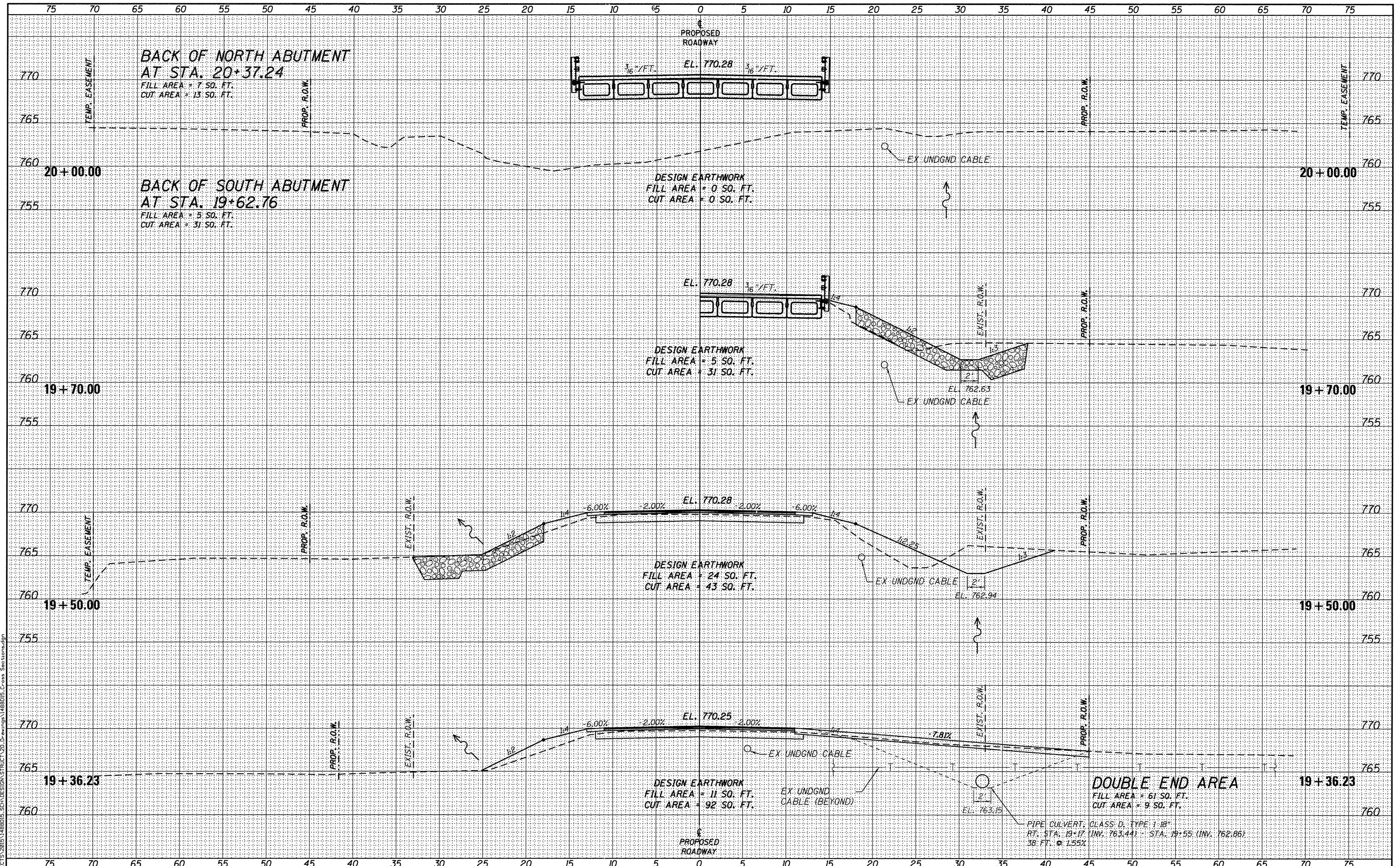
CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 3 OF 6 SHEETS STA. 18+50.00 TO STA. 19+25.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	25
WHA# 1488D15		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-01770461		

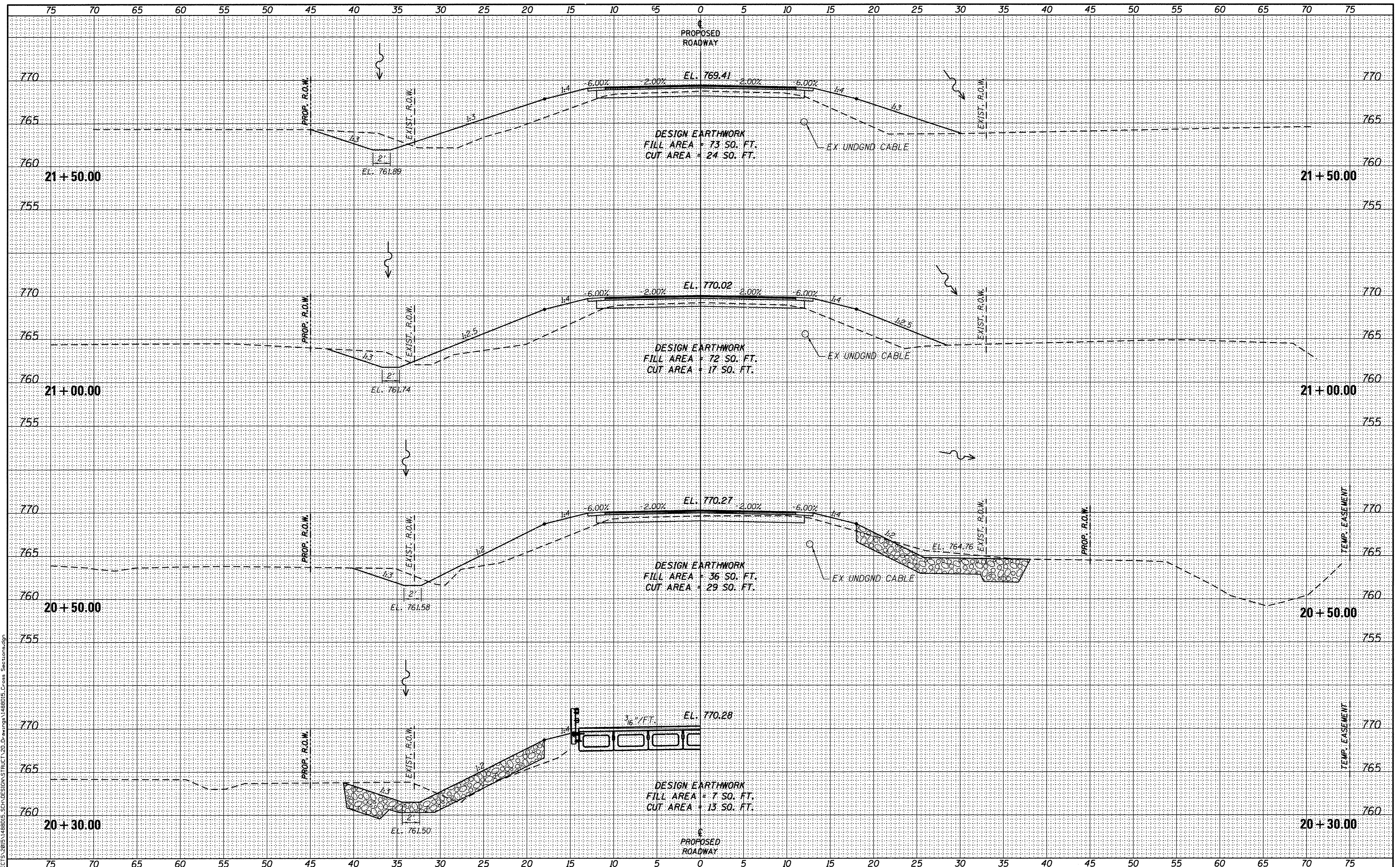
DATE	
BY	
ORIGINAL SURVEY	
DESIGNED	
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DRAWN	
NO. OF SHEETS	
DATE	
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DESIGNED	
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NO. OF SHEETS	
DATE	
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NO. OF SHEETS	

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NO. OF SHEETS	
DATE	
BY	
ORIGINAL SURVEY	
DESIGNED	
CHECKED	
DRAWN	
NO. OF SHEETS	



DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE: \\S:\PROJECTS\2805\1488015_SCH\DESIGN\STRUCT\20.DP\swings\1488015_Cross_Section.dgn

WILLETT HOFMANN & ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0367
 T: 815-284-3381 DESIGN FIRM: #184-009918

DESIGNED - MAC	REVISED -
CHECKED - EEL	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20+00

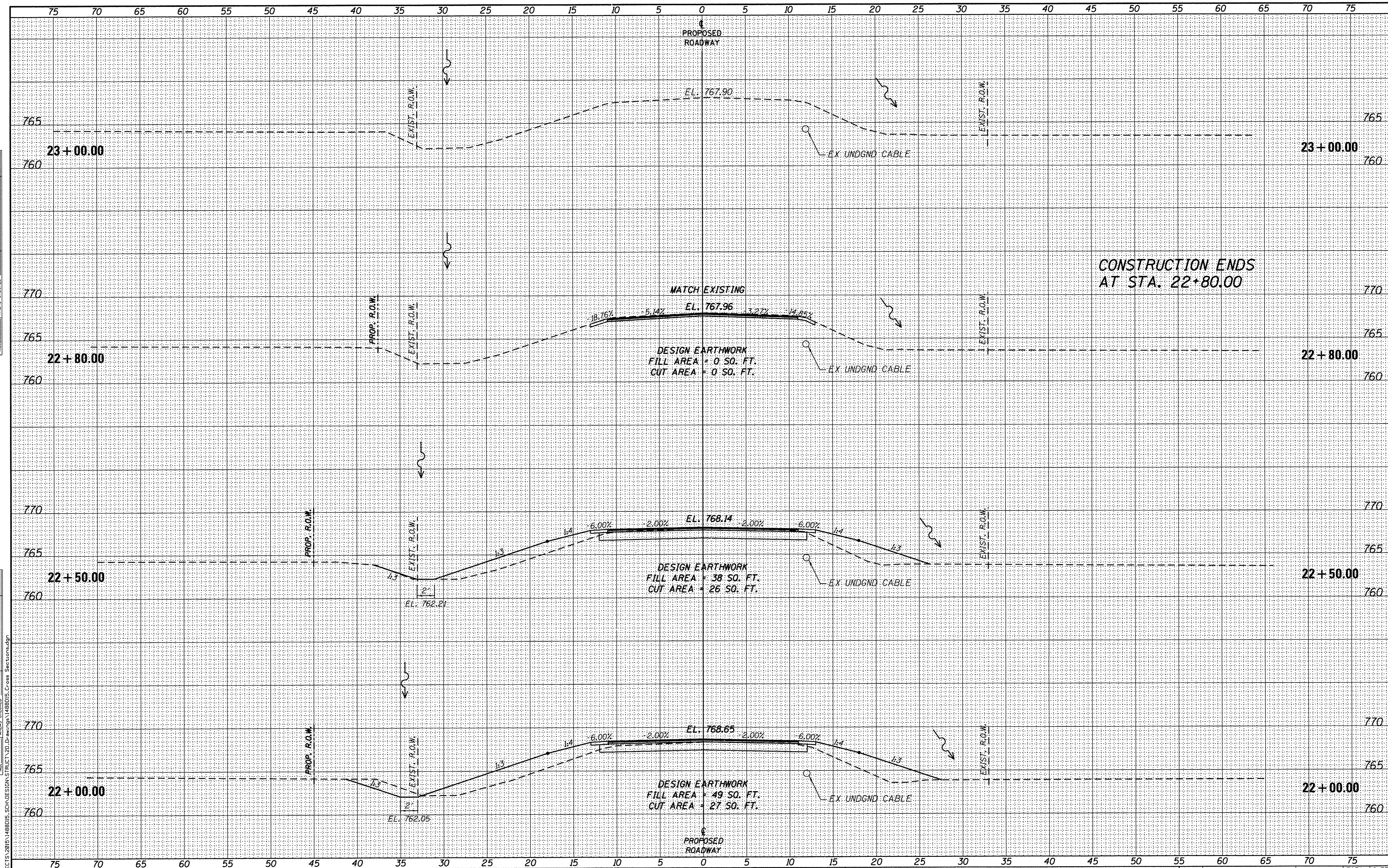
CROSS SECTIONS

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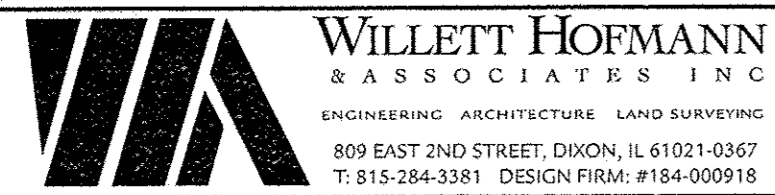
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	27
WHA# 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT		BROS-01770461		

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

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



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DESIGNED - MAC	REVISED -
CHECKED - EEL	REVISED -
DRAWN - DAN	REVISED -
CHECKED - PLP	REVISED -

STEPHENSON COUNTY
FAS 78 (N AYP RD) OVER BR OF PECATONICA RIVER
STATION 20 + 00

CROSS SECTIONS

SCALE: 1" = 5'-0" SHEET NO. 6 OF 6 SHEETS STA. 22+00.00 TO STA. 23+00.00

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
78	15-06120-00-BR	STEPHENSON	28	28
WHA* 1488015		CONTRACT NO. 85652		
ILLINOIS FED. AID PROJECT			BROS-0177046	