11-08-2019 LETTING ITEM 052

052

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
821	12B-2	JEFFERSON	74	1
	ILLINOIS	CONTRACT NO 78458		

ESCA PROJECT NO. 1259 10

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEETS 4-10

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

FAP ROUTE 821 (IL 15)
SECTION 12B-2
PROJECT STP-X1M3(255)
BRIDGE REPLACEMENT
OVER ELK HORN CREEK
JEFFERSON COUNTY

C-99-023-15

R1E, 3RD PM

TRAFFIC DATA

SN 041-0114

IL 15 (FAP 821)

FUNCTIONAL CLASSIFICATION:	MINOR ARTERIAL (NON-URBAN)
ADT:	2730 (2018)
PV:	92.7%
TRUCKS:	7.3%
DESIGN SPEED:	55 MPH
POSTED SPEED:	55 MPH

TOWNSHIP

CASNER

DESIGN DESIGNATION : N.A.

COORDINATE SYSTEM : NAD 1983 STATE PLANE ILLINOIS
EAST FIPS 1201 FEET (HORIZONTAL)
NAVD88 (VERTICAL)

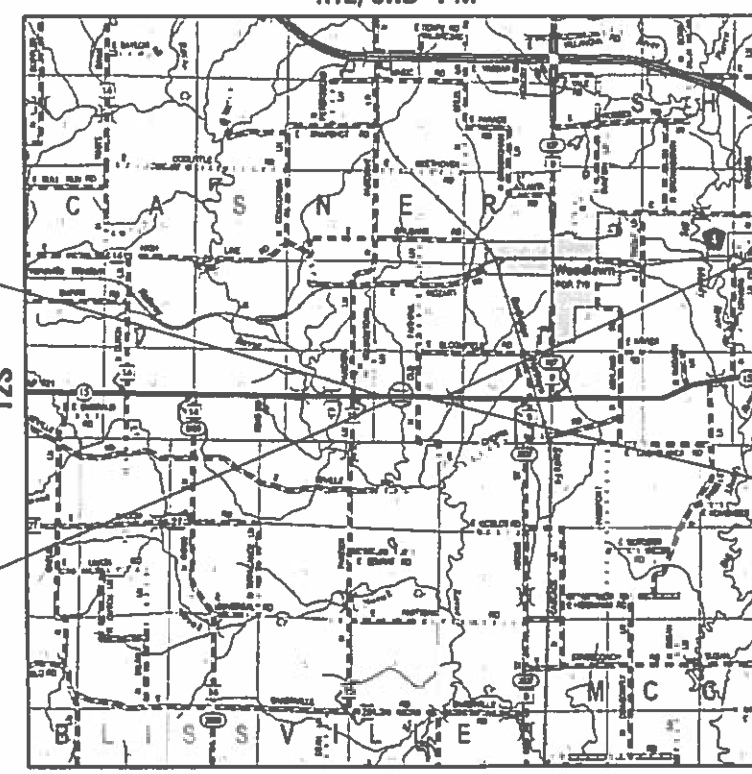
POSTED SPEED : 55 MPH

N

T2S

IMPROVEMENTS BEGIN
STA 960+80

EXISTING STRUCTURE NO 041-0020
STATION 963+30 00
PROPOSED STRUCTURE NO 041-0114
STATION 963+16 00
OVER ELK HORN CREEK
ONE-SPAN W33 STEEL BEAMS
66'-8" BK TO BK ABUTMENTS
NO SKEW



IL 15 (FAP 821)

IMPROVEMENTS END
STA 965+08

LOCATION MAP

APPROXIMATE SCALE

0 1 2 3 4 5 6 MILES

0 5000 10000 15000 20000 25000 30000 FEET

GROSS LENGTH = 428.00 FT. = 0.081 MILE

NET LENGTH = 428.00 FT. = 0.081 MILE

D-99-018-15

LOCATION OF SECTION INDICATED THUS:-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 15 20 19

Keith Roberts

REGION FIVE ENGINEER

Oct 4 20 19 E.A. Ets

ENGINEER OF DESIGN AND ENVIRONMENT

Oct 4 20 19 Paul P. Ch

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

ESCA CONSULTANTS, INC.

ESCA PROJECT NO. 1259 10

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

ERIC L. HENKEL
54498
LICENSED PROFESSIONAL ENGINEER OF
STATE OF ILLINOIS

EXPIRES 11-30-19

SIGNATURE

7-12-19

DATE

PROJECT ENGINEER: DAVID PICHE

PROJECT DESIGNER: ESCA CONSULTANTS, INC.

CONTRACT NO. 78458

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

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2.	INDEX OF SHEETS AND HIGHWAY STANDARDS
3.	GENERAL NOTES AND COMMITMENTS
4.-10.	SUMMARY OF QUANTITIES
11.-15.	FAP 821 (IL 15) TYPICAL SECTIONS
16.-17.	SCHEDULES OF QUANTITIES
18.-20.	ALIGNMENT, TIES, AND BENCHMARKS
21.-23.	FAP 821 (IL 15) PLAN AND PROFILE
24.-26.	FAP 821 (IL 15) STAGE CONSTRUCTION DETAILS
27.	EROSION CONTROL PLAN
28.	REMOVAL PLAN
29.	RIGHT-OF-WAY PLAT
30.	PAVEMENT CONNECTOR DETAILS
31.	PAVEMENT TRANSITION DETAILS
32.	ENTRANCE DETAILS
33.	SEEDING AND MULCHING DETAILS
34.	STEP CONSTRUCTION ON EXISTING FILL DETAILS
35.	BUTT JOINT DETAILS
36.	GENERAL PLAN & ELEVATION
37.	GENERAL DATA
38.-39.	STAGE CONSTRUCTION DETAILS
40.	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
41.	TOP OF SLAB ELEVATIONS
42.-43.	TOP OF APPROACH SLAB ELEVATIONS
44.	SUPERSTRUCTURE
45.	SUPERSTRUCTURE DETAILS
46.	DIAPHRAGM DETAILS
47.-48.	BRIDGE APPROACH SLAB DETAILS
49.	STEEL FRAMING PLAN AND DETAILS
50.	FRAMING DETAILS
51.	BEARING DETAILS
52.	WEST ABUTMENT
53.	EAST ABUTMENT
54.	HP PILE DETAILS
55.	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
56.-57.	BORING LOGS
58.-65.	EXISTING BRIDGE PLANS
66.-74.	FAS 821 (IL 15) CROSS SECTIONS

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-09	PAVEMENT JOINTS
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
482001-02	HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
542401-03	METAL FLARED END SECTION FOR PIPE CULVERTS
601101-02	CONCRETE HEADWALLS FOR PIPE UNDERDRAINS
606101-05	TYPE A GUTTER (INLET, OUTLET & ENTRANCE)
610001-08	SHOULDER INLET WITH CURB
630001-12	STEEL PLATE BEAM GUARDRAIL
630201-07	PCC / HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-15	TRAFFIC BARRIER TERMINAL, TYPE 6
635001-02	DELINEATORS
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W MOVING OPERATIONS - DAY ONLY
701321-17	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
720006-04	SIGN PANEL ERECTION DETAILS
720011-01	METAL POSTS FOR SIGNS, MARKERS, & DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREPARED BY: Charles Stein
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY:
DISTRICT LAND ACQUISITION ENGINEER

EXAMINED BY:
DISTRICT PROGRAM DEVELOPMENT ENGINEER

EXAMINED BY:
DISTRICT OPERATIONS ENGINEER

EXAMINED BY:
DISTRICT PROJECT IMPLEMENTATION ENGINEER

EXAMINED BY:
DISTRICT CONSTRUCTION ENGINEER

EXAMINED BY:
DISTRICT MATERIALS ENGINEER

MODEL: PLOT
FILE NAME: Y:\DOT\1259.10 78458\CADD\Highway\CADD Sheets\078458-sht-gennote01.dgn

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 07/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS AND HIGHWAY STANDARDS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	2

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

GENERAL NOTES

1. FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT-MIX ASPHALT	2.016 TONS/CU YD
ALL AGGREGATE	2.05 TONS/CU YD
RIPRAP	1.50 TONS/CU YD
EARTH	110 LBS/CU FT

2. IF SO DIRECTED BY THE ENGINEER, DITCHES ADJACENT TO EMBANKMENTS SHALL BE CONSTRUCTED PRIOR TO STARTING THE CONSTRUCTION OF THE EMBANKMENT FILL.

3. THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE HMA SURFACE REMOVAL, SURFACE COURSE, AND BINDER COURSE.

4. AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

5. THE CONTRACTOR SHALL STAMP STATIONING IN THE PROPOSED HOT MIX ASPHALT SURFACE AT 300 FT INTERVALS ON ALTERNATING SIDES OF THE PAVEMENT AND AS DIRECTED BY THE ENGINEER. THE STATION SYMBOL STAMPS USED SHALL BE FURNISHED BY THE CONTRACTOR. THEY SHALL BE 5 1/2 IN. TALL, OF A DESIGN APPROVED BY THE ENGINEER, AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

6. THE CENTERLINE PAVEMENT MARKING SHALL BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.

7. ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SET TO FLASH ALL RED.

8. AFTER A LIFT OF HOT MIX ASPHALT HAS BEEN PLACED, THE LANE SHALL REMAIN CLOSED TO TRAFFIC UNTIL THE NEW MAT HAS COOLED TO 150 DEGREES FAHRENHEIT.

9. THERE ARE NO AVAILABLE WASTE SITES ON THE EXISTING RIGHT OF WAY WITHIN THE PROJECT LIMITS. DISPOSAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND WASTE MUST BE DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.

10. REMOVAL OF ABANDONED UTILITIES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

11. THE EXISTING APPROACH SLAB BEAM REMOVAL IS INCLUDED IN REMOVAL OF EXISTING STRUCTURES.

12. PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHALL CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

13. FURNISHED EXCAVATION SHALL NOT BE USED. THE CONTRACTOR SHALL EXCAVATE ENOUGH MATERIAL FROM CUTTING BACK SLOPES EAST OF SN 041-0020 TO PROVIDE FOR THE PRE-STAGE I EMBANKMENT.

COMMITMENTS

1. DUE TO THE PRESENCE OF THE INDIANA BAT AND GRAY BAT, CLEARING OF TREES SHALL BE PROHIBITED FROM APRIL 1 THROUGH SEPTEMBER 30.

2. NO OTHER COMMITMENTS AS OF 08/16/2019.

HMA MIXTURES REQUIREMENTS

MIXTURE USE	HOT-MIX ASPHALT SHOULDERS (BOTTOM LIFTS)	HOT-MIX ASPHALT SURFACE COURSE MIX "C"	HOT-MIX ASPHALT BINDER	HOT-MIX ASPHALT SHOULDERS (TOP LIFTS)	BASE COURSE WIDENING
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ Ndes=70	4.0% @ Ndes=70	4.0% @ Ndes=70	4.0% @ Ndes=70	4.0% @ Ndes=70
MIX COMPOSITION	IL-19.0	IL-9.5	IL-19.0	IL-9.5	IL-19.0
FRICTION AGGREGATE	N/A	"C" SURFACE	N/A	N/A	N/A
LOCATIONS	IL 15 SHOULDERS	IL 15	IL 15	IL 15 SHOULDERS	IL 15 BASE COURSE
MIXTURE WEIGHT	112 LBS/SQ YD/IN	112 LBS/SQ YD/IN	112 LBS/SQ YD/IN	112 LBS/SQ YD/IN	112 LBS/SQ YD/IN
ABR% (MAX)	SEE BDE SPECIAL PROVISION	SEE BDE SPECIAL PROVISION	SEE BDE SPECIAL PROVISION	SEE BDE SPECIAL PROVISION	SEE BDE SPECIAL PROVISION
QUALITY MANAGEMENT PROGRAM	QCQA	QCQA	QCQA	QCQA	QCQA
SUBLOT SIZE	N/A	N/A	N/A	N/A	N/A

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N.041-0114
20100500	TREE REMOVAL, ACRES	ACRE	0.25	0.25	
20200100	EARTH EXCAVATION	CU YD	1590	1590	
25000210	SEEDING, CLASS 2A	ACRE	0.75	0.75	
25000350	SEEDING, CLASS 7	ACRE	0.75	0.75	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	70	70	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	70	70	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	70	70	
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1.5	1.5	
25100115	MULCH, METHOD 2	ACRE	0.75	0.75	
25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	2990	2990	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150	150	
28000305	TEMPORARY DITCH CHECKS	FOOT	10	10	
28000400	PERIMETER EROSION BARRIER	FOOT	1417	1417	
28000500	INLET AND PIPE PROTECTION	EACH	1	1	

● SPECIALTY ITEM

REV. - MS

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N.041-0114
28100107	STONE RIPRAP, CLASS A4	SQ YD	440		440
28200200	FILTER FABRIC	SQ YD	440		440
31100100	SUBBASE GRANULAR MATERIAL, TYPE A	TON	170	170	
35650500	BASE COURSE WIDENING 10"	SQ YD	240	240	
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	127	127	
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	2355	2355	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	267	267	
40600990	TEMPORARY RAMP	SQ YD	26	26	
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	360	360	
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	104	104	
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	122	122	
42001300	PROTECTIVE COAT	SQ YD	284	284	
44000100	PAVEMENT REMOVAL	SQ YD	350	350	
44000400	GUTTER REMOVAL	FOOT	385	385	

⊛ SPECIALTY ITEM

REV. - MS

ESCA CONSULTANTS, INC.	USER NAME = smo	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE 821	SECTION 12B-2	COUNTY JEFFERSON	TOTAL SHEETS 74	SHEET NO. 5
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -					CONTRACT NO. 78458		
	PLOT SCALE = 0.3667 ' / in.	CHECKED - SKM/ELH	REVISED -		SCALE NONE	SHEET NO. 2 OF 7 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT		
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -							

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N.041-0114
48203100	HOT-MIX ASPHALT SHOULDERS	TON	360	360	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50105220	PIPE CULVERT REMOVAL	FOOT	37	37	
50200100	STRUCTURE EXCAVATION	CU YD	120		120
50300225	CONCRETE STRUCTURES	CU YD	64.0		64.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	117.7		117.7
50300260	BRIDGE DECK GROOVING	SQ YD	471		471
50300300	PROTECTIVE COAT	SQ YD	591		591
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	106.0		106.0
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1
50500505	STUD SHEAR CONNECTORS	EACH	972		972
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	74550		74550
50800515	BAR SPLICERS	EACH	520		520
51201610	FURNISHING STEEL PILES HP12X63	FOOT	640		640

● SPECIALTY ITEM

REV. - MS

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N 041-0114
51202305	DRIVING PILES	FOOT	640		640
51203610	TEST PILE STEEL HP12X63	EACH	2		2
51500100	NAME PLATES	EACH	1		1
52100520	ANCHOR BOLTS,1"	EACH	24		24
52200010	TEMPORARY SHEET PILING	SQ FT	1200		1200
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	60	60	
54213459	END SECTIONS 24"	EACH	2	2	
54262712	METAL FLARED END SECTIONS 12"	EACH	2	2	
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	130		130
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	70		70
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	2	2	
60100945	PIPE DRAINS 12"	FOOT	40	40	
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	11.1	11.1	
60602500	CONCRETE GUTTER, TYPE A	FOOT	284	284	

● SPECIALTY ITEM

REV. - MS

MODEL: PLO104
FILE NAME: Y:\2001\1259.10 78458\CAD\Highway\CADD Sheets\D978458 sht S0001.dgn

ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -	
ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -	
PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -	
PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE NONE | SHEET NO. 4 OF 7 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	7

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N.041-0114
61000050	CONCRETE THRUST BLOCKS	EACH	2	2	
61000335	TYPE G INLET BOX, STANDARD 610001	EACH	2	2	
● 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	75	75	
● 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
● 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	3	3	
● 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	1	1	
63200310	GUARDRAIL REMOVAL	FOOT	664	664	
63500105	DELINEATORS	EACH	2	2	
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	14	14	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	14	14	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	

● SPECIALTY ITEM

REV. - MS

ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -
ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE NONE | SHEET NO. 5 OF 7 SHEETS | STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	8

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE ROADWAY 0010 ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE STRUCTURE 0010 S.N.041-0114
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	312	312	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	51	51	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2661	2661	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	412.5	412.5	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	412.5	412.5	
70500665	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2	2	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
● 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	6	6	
● 78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	2661	2661	

● SPECIALTY ITEM

REV. - MS

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 4259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0.1667 ' / in	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE NONE | SHEET NO. 6 OF 7 SHEETS | STA | TO STA.

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	9

CONTRACT NO. 78458

ILLINOIS | FED AID PROJECT

MODEL: PLO106
FILE NAME: Y:\0DOT\1259.10 78458\CADD\...

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE, ROADWAY, 0010, ROADWAY	CONSTRUCTION CODE: 80% FEDERAL 20% STATE, STRUCTURE, 0010, S.N.041-0114
*	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4	4	
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	5	5	
*	86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1	1	
	X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	887	887	
	X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	1774	1774	
	X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	48	48	
	X7050167	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	EACH	2	2	
	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	143		143
Ø	Z0076600	TRAINEES	HOUR	500	500	
Ø	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500	

* SPECIALTY ITEM   Ø 0042

REV. - MS

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0.1667 '/in.	CHECKED - ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

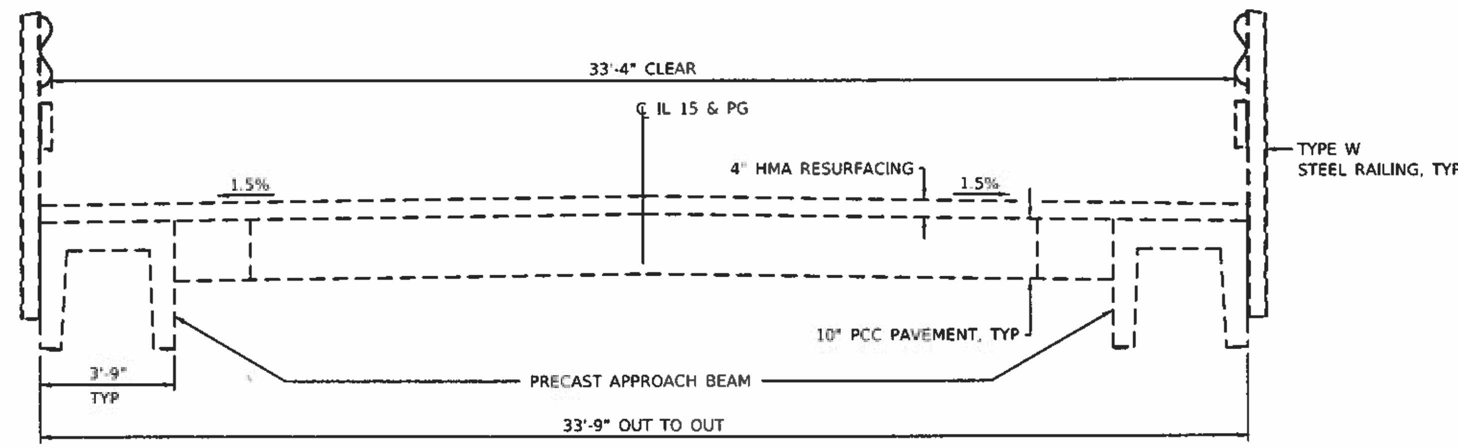
SUMMARY OF QUANTITIES

SCALE NONE | SHEET NO. 7 OF 7 SHEETS | STA. TO STA.

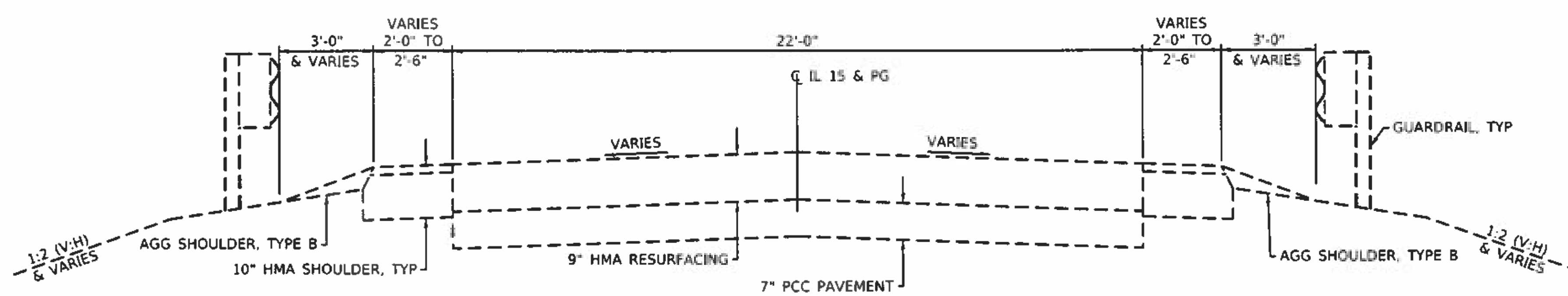
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	10

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

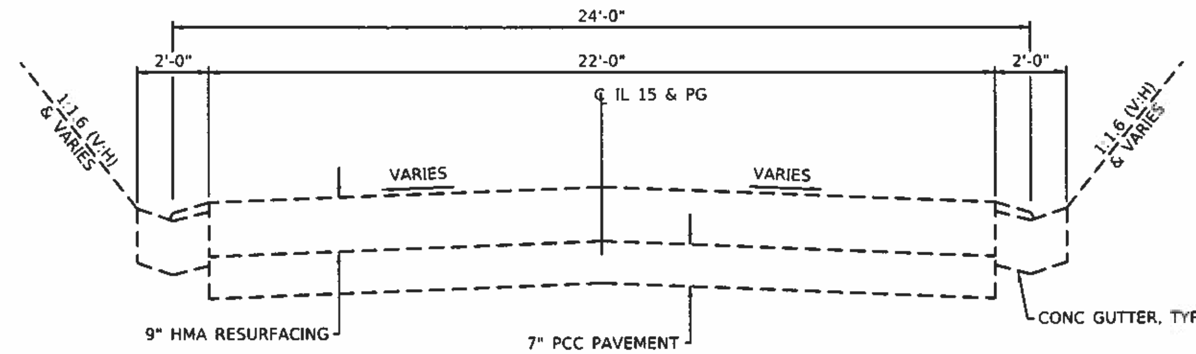


EXISTING TYPICAL SECTION
STA 962+88.08 TO STA 963+08.08
STA 963+51.92 TO STA 963+71.92



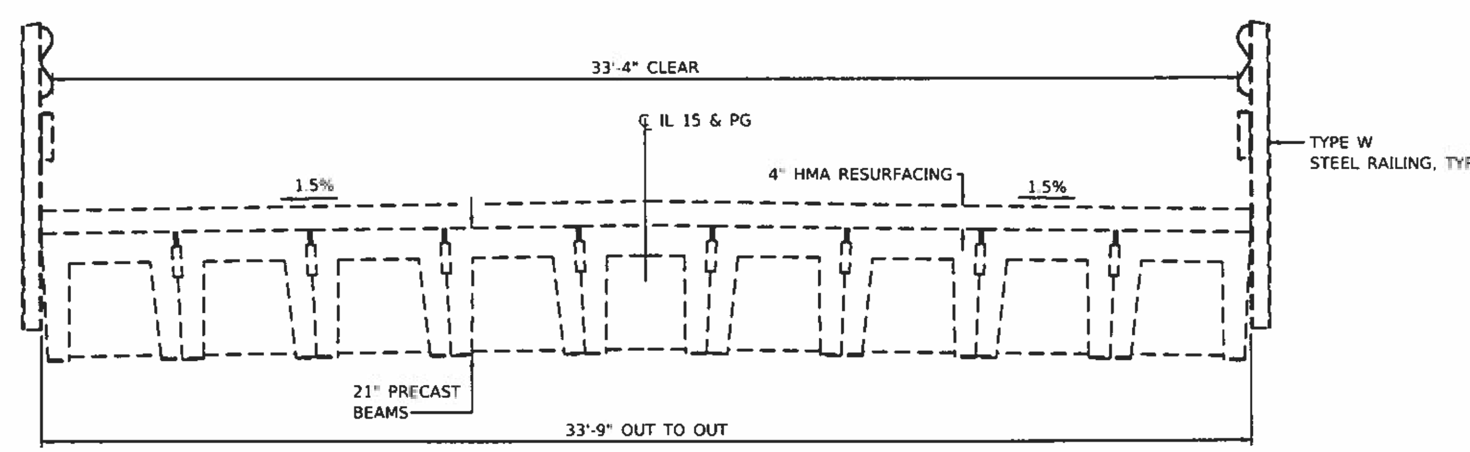
EXISTING TYPICAL SECTION
STA 959+00 TO STA 962+88.08
STA 963+71.92 TO STA 965+00

ESCA CONSULTANTS, INC.	USER NAME =	DESIGNED - SHL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) TYPICAL SECTIONS	F.A.P. RTE. 821	SECTION 128-2	COUNTY JEFFERSON	TOTAL SHEETS 74 / SHEET NO. 11
	ESCA PROJECT NO. 1259.10	DRAWN - SHL	REVISED -					CONTRACT NO. 78458	
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -		SCALE NONE / SHEET NO. 1 OF 5 SHEETS / STA. TO STA.			ILLINOIS FED. AID PROJECT	
	PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -						



EXISTING TYPICAL SECTION

STA 965+00 TO STA 966+83



EXISTING TYPICAL SECTION

STA 963+08.08 TO STA 963+51.92

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ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SHL	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SHL	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

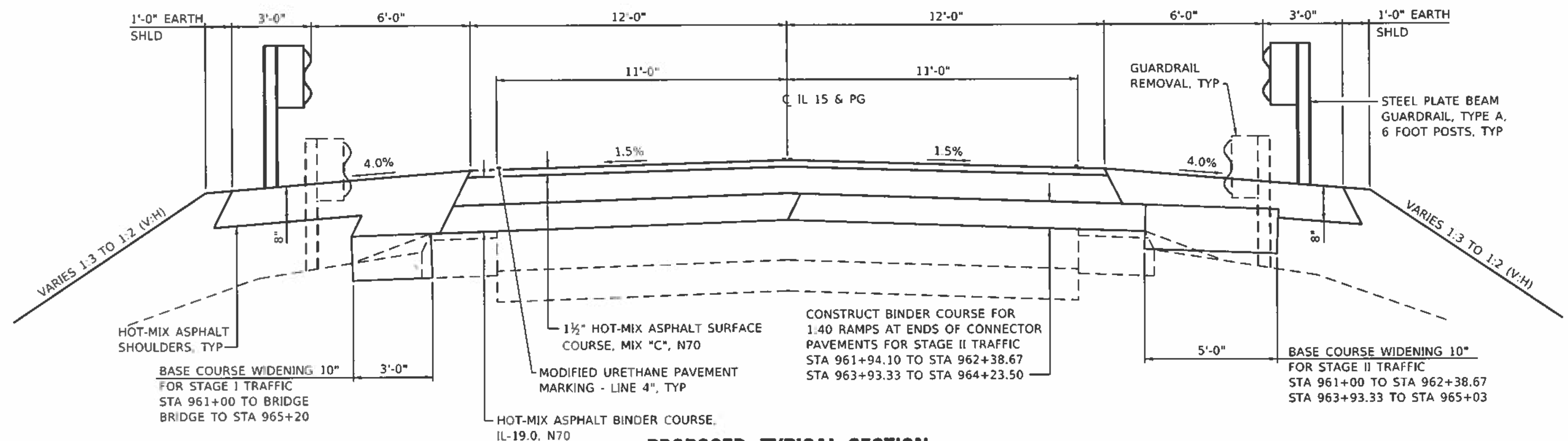
FAP 821 (IL 15) TYPICAL SECTIONS

SCALE NONE | SHEET NO. 2 OF 5 SHEETS | STA. TO STA.

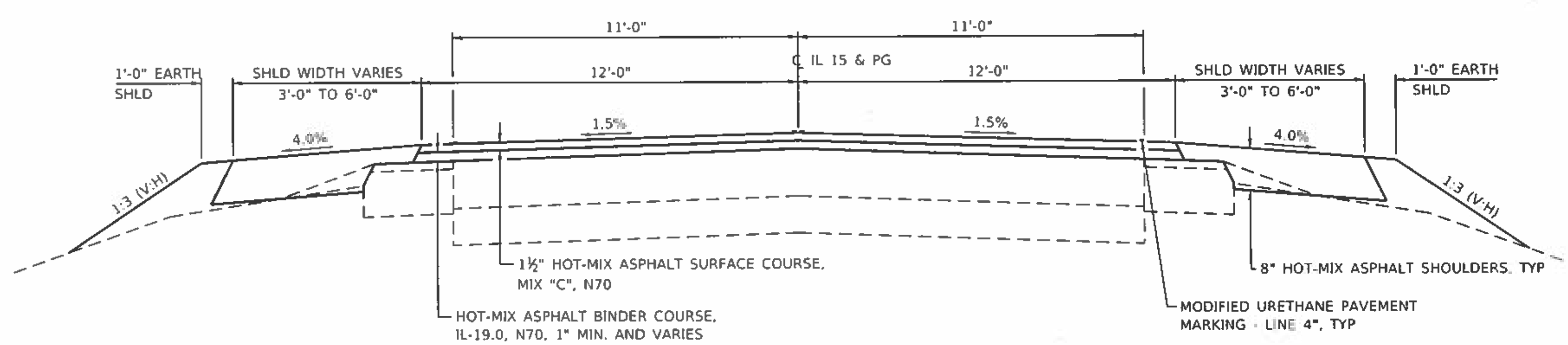
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	12

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

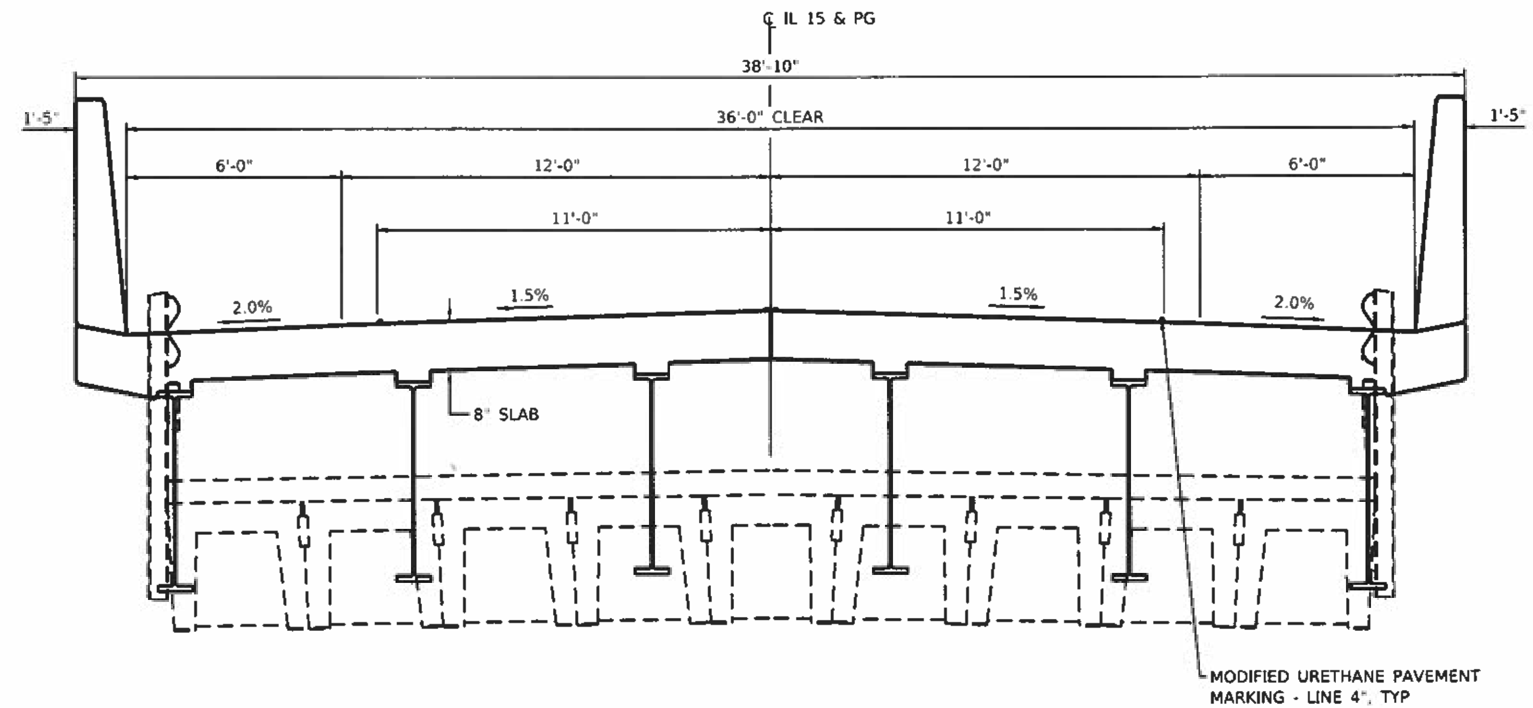


PROPOSED TYPICAL SECTION
STA 961+00.00 TO STA 962+38.67
STA 963+93.33 TO STA 965+00.00



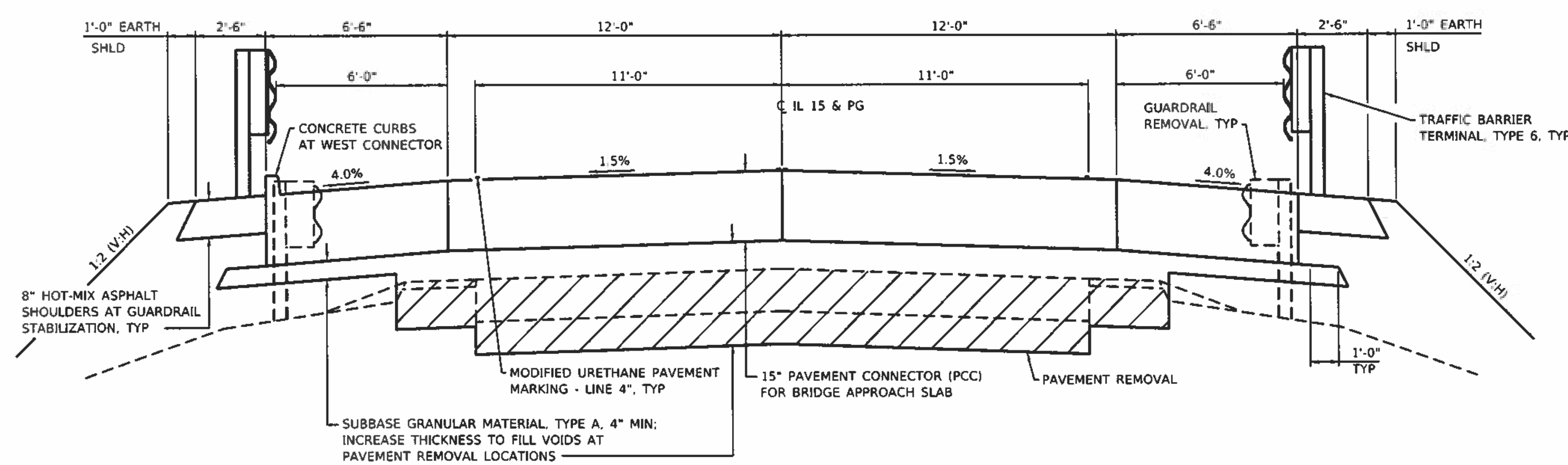
PROPOSED TYPICAL SECTION
STA 959+70 TO STA 961+00

ESCA CONSULTANTS, INC.	USER NAME = srra	DESIGNED - SHL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) TYPICAL SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1259.10	DRAWN - SHL	REVISED -			821	12B-2	JEFFERSON	74	13
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -					CONTRACT NO. 78458		
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -		SCALE: NONE SHEET NO. 3 OF 5 SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT			



PROPOSED TYPICAL SECTION

STA 962+83.67 TO STA 963+48.33

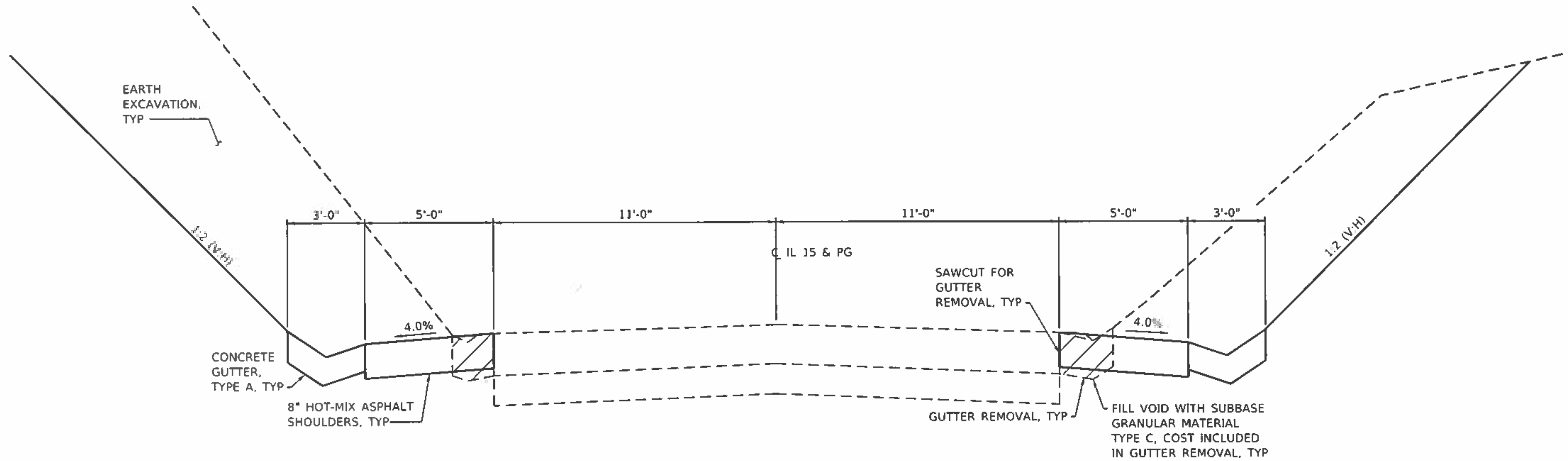


PROPOSED TYPICAL SECTION

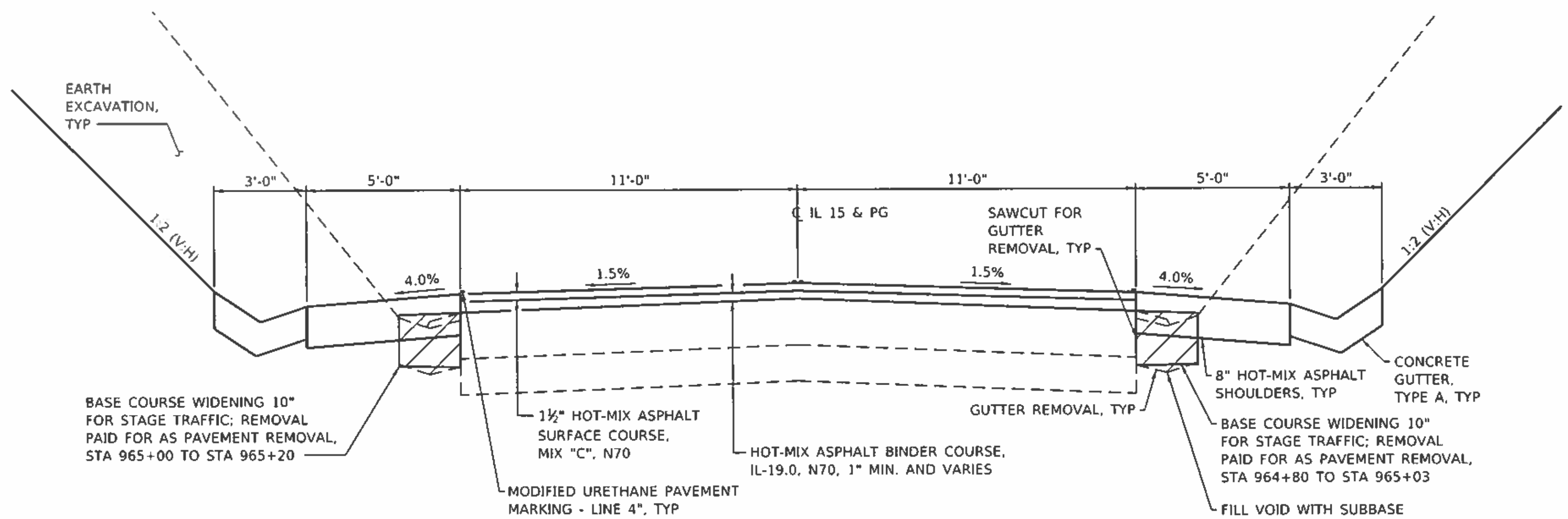
STA 962+38.67 TO STA 962+53.67

STA 963+78.33 TO STA 963+93.33

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SHL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) TYPICAL SECTIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1259.10	DRAWN - SHL	REVISED -			821	12B-2	JEFFERSON	74	14
	PLOT SCALE = 0:2 " / in.	CHECKED - SKM/ELH	REVISED -					CONTRACT NO. 78458		
	PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -		SCALE NONE / SHEET NO. 4 OF 5 SHEETS / STA. TO STA.			ILLINOIS FED. AID PROJECT		



PROPOSED TYPICAL SECTION
STA 965+50.00 TO STA 966+83.00



PROPOSED TYPICAL SECTION
STA 965+00.00 TO STA 965+50.00

ESCA CONSULTANTS, INC.	USER NAME = sra	DESIGNED - SHL	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SHL	REVISED -
	PLOT SCALE = 0:2 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) TYPICAL SECTIONS

SCALE: NONE | SHEET NO. 5 OF 5 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	15
		CONTRACT NO. 78458		
	ILLINOIS	FED. AID PROJECT		

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	EXCAVATION TO BE USED IN EMBANKMENT	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD
PRE-STAGE I				
FIELD ENTRANCE	0	0	200	-200 ③
STAGE I				
IL 15 SE QUADRANT	420	315	90	+225
IL 15 SW QUADRANT	180	135	220	-85
STAGE II				
IL 15 NE QUADRANT	800	600	100	+500
IL 15 NW QUADRANT	190	140	170	-30
TOTALS	1590	1190	780	+410

EXCAVATION TO BE USED IN EMBANKMENT = EARTH EXCAVATION * 0.75

③ CONTRACTOR SHALL EXCAVATE FROM CUTTING BACK SLOPES EAST OF SN 041-0020 TO PROVIDE FOR THE PROPOSED FIELD ENTRANCE PRE STAGE I.

BRIDGE APPROACH SCHEDULE

LOCATION	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SUBBASE GRANULAR MATERIAL, TYPE A ①	PROTECTIVE COAT	PAVEMENT REMOVAL ②
	SQ YD	TON	SQ YD	SQ YD
SN 041-0114 WEST APPROACH	61	77	63	208
SN 041-0114 EAST APPROACH	61	93	63	124
TOTALS	122	170	126	332

① 4" SUBBASE GRANULAR MATERIAL, TYPE A COST INCLUDED IN PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB PER HIGHWAY STANDARD 420401. QUANTITY SHOWN IS ADDITIONAL SUBBASE GRANULAR MATERIAL, TYPE A NECESSARY TO FILL VOID FROM PAVEMENT REMOVAL AND TO FACILITATE GRADE RAISE. SEE PAVEMENT TRANSITION SHEET FOR DETAILS.

② INCLUDES REMOVING 10" PCC PAVEMENT ADJACENT TO THE PRECAST CONCRETE APPROACH BEAMS.

STORM SEWER SCHEDULE

LOCATION	METAL FLARED END SECTIONS 12"	END SECTIONS 24"	PIPE CULVERTS, CLASS D, TYPE 1 24"	PIPE DRAINS 12"	CONCRETE THRUST BLOCKS	TYPE G INLET BOX STD 610001	PIPE CULVERT REMOVAL
	EACH	EACH	FOOT	FOOT	EACH	EACH	FOOT
IL 15 LT STA 961+26.35		1					
IL 15 LT STA 961+93.18		1					
IL 15 LT STA 961+26.35 TO STA 961+93.18			60				
IL 15 LT STA 962+24.00 TO STA 962+61.00							37
IL 15 STA 962+46.17	2			40	2	2	
TOTALS	2	2	60	40	2	2	37

PAVEMENT SCHEDULE

LOCATION	BITUMINOUS MATERIALS (TACK COAT)	HMA BINDER COURSE, IL-19.0, N70	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	AGGREGATE SURFACE COURSE, TYPE B
	POUND	TON	TON	TON
IL 15 STA 959+70.00 TO STA 962+38.67	585		68	
IL 15 STA 960+80.00 TO STA 962+38.67		185		
IL 15 STA 963+93.33 TO STA 965+08.00		175		
IL 15 STA 963+93.33 TO STA 965+50.00	449		36	
FIELD ENTRANCE				127
TOTALS	1034	360	104	127

REMOVAL SCHEDULE

LOCATION	PAVEMENT REMOVAL	HMA SURFACE REMOVAL - BUTT JOINT	TREE REMOVAL, ACRES	GUTTER REMOVAL
	SQ YD	SQ YD	ACRE	FOOT
IL 15 STA 959+70.00 TO STA 960+40.00		187		
IL 15 LT STA 965+00.00 TO STA 965+20.00	6			
IL 15 RT STA 964+80.00 TO STA 965+03.00	12			
IL 15 STA 965+20.00 TO STA 965+50.00		80		
IL 15 LT STA 962+12			0.07	
IL 15 RT STA 962+87			0.03	
IL 15 RT STA 963+34			0.01	
IL 15 RT STA 965+04			0.14	
IL 15 RT STA 964+65.00 TO STA 966+82.00				217
IL 15 LT STA 965+15.00 TO STA 966+83.00				168
TOTALS	18	267	0.25	385

SHOULDER SCHEDULE

LOCATION	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT SHOULDERS
	POUND	TON
IL 15 LT STA 959+70.00 TO STA 962+69.00	327	85
IL 15 RT STA 959+70.00 TO STA 962+69.00	342	85
IL 15 LT STA 963+63.00 TO STA 966+83.00	334	105
IL 15 RT STA 963+63.00 TO STA 966+83.00	318	85
TOTALS	1321	360

SEEDING SCHEDULE

LOCATION	SEEDING, CLASS 2A	SEEDING, CLASS 7	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH, METHOD 2
	ACRE	ACRE	POUND	POUND	POUND	TON	ACRE
IL 15 NW QUADRANT	0.19	0.19	17.5	17.5	17.5	0.38	0.19
IL 15 SW QUADRANT	0.19	0.19	17.5	17.5	17.5	0.38	0.19
IL 15 NE QUADRANT	0.19	0.19	17.5	17.5	17.5	0.38	0.19
IL 15 SE QUADRANT	0.19	0.19	17.5	17.5	17.5	0.38	0.19
TOTALS	0.75	0.75	70	70	70	1.5	0.75

EROSION CONTROL SCHEDULE

LOCATION	HEAVY DUTY EROSION CONTROL BLANKET	TEMPORARY EROSION CONTROL SEEDING	PERIMETER EROSION BARRIER	TEMPORARY DITCH CHECKS	INLET AND PIPE PROTECTION	STONE RIPRAP, CLASS A4	FILTER FABRIC
	SQ YD	POUND	FOOT	FOOT	EACH	SQ YD	SQ YD
IL 15 NW QUADRANT	888	37.5	419	10	1	105	105
IL 15 SW QUADRANT	724	37.5	311			105	105
IL 15 NE QUADRANT	784	37.5	343			115	115
IL 15 SE QUADRANT	594	37.5	344			115	115
TOTALS	2990	150	1417	10	1	440	440

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULES OF QUANTITIES	F.A.P. RTE. 821	SECTION 128-2	COUNTY JEFFERSON	TOTAL SHEETS 74	SHEET NO. 16
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -					CONTRACT NO. 78458		
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -		SCALE: NONE · SHEET NO. 1 OF 2 SHEETS · STA. TO STA.			ILLINOIS FED AID PROJECT		
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -							

GUARDRAIL SCHEDULE

LOCATION	GUARDRAIL REMOVAL	TBT, TYPE 6	SPBGR, TYPE A, 6 FOOT POSTS	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL REFLECTORS, TYPE A	TBT, TYPE 1 (SPL) TANGENT	TBT, TYPE 1 (SPL) FLARED	TEMPORARY TBT, TYPE 6	TEMPORARY TBT, TYPE 1 (SPL) TANGENT
	FOOT	EACH	FOOT	EACH	EACH	EACH	EACH	EACH	EACH
SN 041-0114 NORTHWEST CORNER	181	1		1	1	1			
SN 041-0114 SOUTHWEST CORNER	293	1	50	2	1	1		1	1
SN 041-0114 NORTHEAST CORNER	95	1	25	1	1		1		
SN 041-0114 SOUTHEAST CORNER	95	1		2	1	1		1	1
TOTALS	664	4	75	6	4	3	1	2	2

IMPACT ATTENUATOR SCHEDULE

LOCATION	IMPACT ATTENUATORS TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3
	EACH	EACH
IL 15 LT STA 961+09.75	1	1
IL 15 RT STA 965+23.50	1	1
TOTALS	2	2

TEMPORARY CONCRETE BARRIER SCHEDULE

LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	PINNING TEMPORARY CONCRETE BARRIER
	FOOT	FOOT	EACH
IL 15 RT STA 961+09.75 TO STA 962+09.75	100	100	3
IL 15 LT STA 962+09.75 TO STA 964+22.25	212.5	212.5	42
IL 15 LT STA 964+22.25 TO STA 965+22.25	100	100	3
TOTALS	412.5	412.5	48

BASE COURSE WIDENING SCHEDULE

LOCATION	BASE COURSE WIDENING 10"
	SQ YD
IL 15 LT STA 961+00.00 TO STA 962+88.00	63
IL 15 LT STA 963+72.00 TO STA 964+90.00	40
IL 15 LT STA 964+90.00 TO STA 965+20.00	8
IL 15 RT STA 961+00.00 TO STA 962+38.67	77
IL 15 RT STA 963+93.33 TO STA 964+70.00	39
IL 15 RT STA 964+70.00 TO STA 965+03.00	13
TOTALS	240

TEMPORARY PAVEMENT MARKING SCHEDULE

LOCATION	TEMPORARY PAVEMENT MARKING - LINE 4"		TEMPORARY PAVEMENT MARKING REMOVAL
	FOOT		SQ FT
	WHITE	YELLOW	
IL 15 STA 959+58.67 TO STA 966+91.33		1466	978
IL 15 RT STA 959+68.67 TO STA 966+31.33	663		442
IL 15 LT STA 960+16.67 TO STA 965+49.33	532		354
SUBTOTALS	1195	1466	
TOTALS	2661		1774

CONCRETE GUTTER SCHEDULE

LOCATION	CONCRETE GUTTER, TYPE A	CLASS SI CONCRETE (OUTLET)	PROTECTIVE COAT
	FOOT	CU YD	SQ YD
IL 15 LT STA 964+90.00 TO STA 965+36.00		4.32	23
IL 15 RT STA 964+63.00 TO STA 965+16.00		4.87	26
IL 15 LT STA 965+36.00 TO STA 966+68.00	132		46
IL 15 RT STA 965+16.00 TO STA 966+68.00	152		52
IL 15 LT STA 966+68.00 TO STA 966+80.00		0.93	6
IL 15 RT STA 966+68.00 TO STA 966+80.00		0.93	6
TOTALS	284	11.1	158

PAVEMENT MARKING SCHEDULE

LOCATION	SHORT TERM PAVEMENT MARKING		SHORT TERM PAVEMENT MARKING REMOVAL	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"		PAVEMENT MARKING REMOVAL - WATER BLASTING
	FOOT		SQ FT	FOOT		SQ FT
	WHITE	YELLOW		WHITE	YELLOW	
HMA SURFACE REMOVAL						
IL 15 STA 959+70.00 TO STA 965+50.00	16	40				
BINDER COURSE						
IL 15 STA 960+80.00 TO STA 965+08.00	32	72				
SURFACE COURSE						
IL 15 STA 959+70.00 TO STA 965+50.00	48	104	51			
IL 15 STA 959+58.67 TO STA 966+91.33					1466	489
IL 15 RT STA 959+68.67 TO STA 966+31.33				663		221
IL 15 LT STA 960+16.67 TO STA 965+49.33				532		177
IL 15 STA 960+40.00 TO STA 965+20.00						
SUBTOTALS	96	216		1195	1466	
TOTALS	312		51	2661		887

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

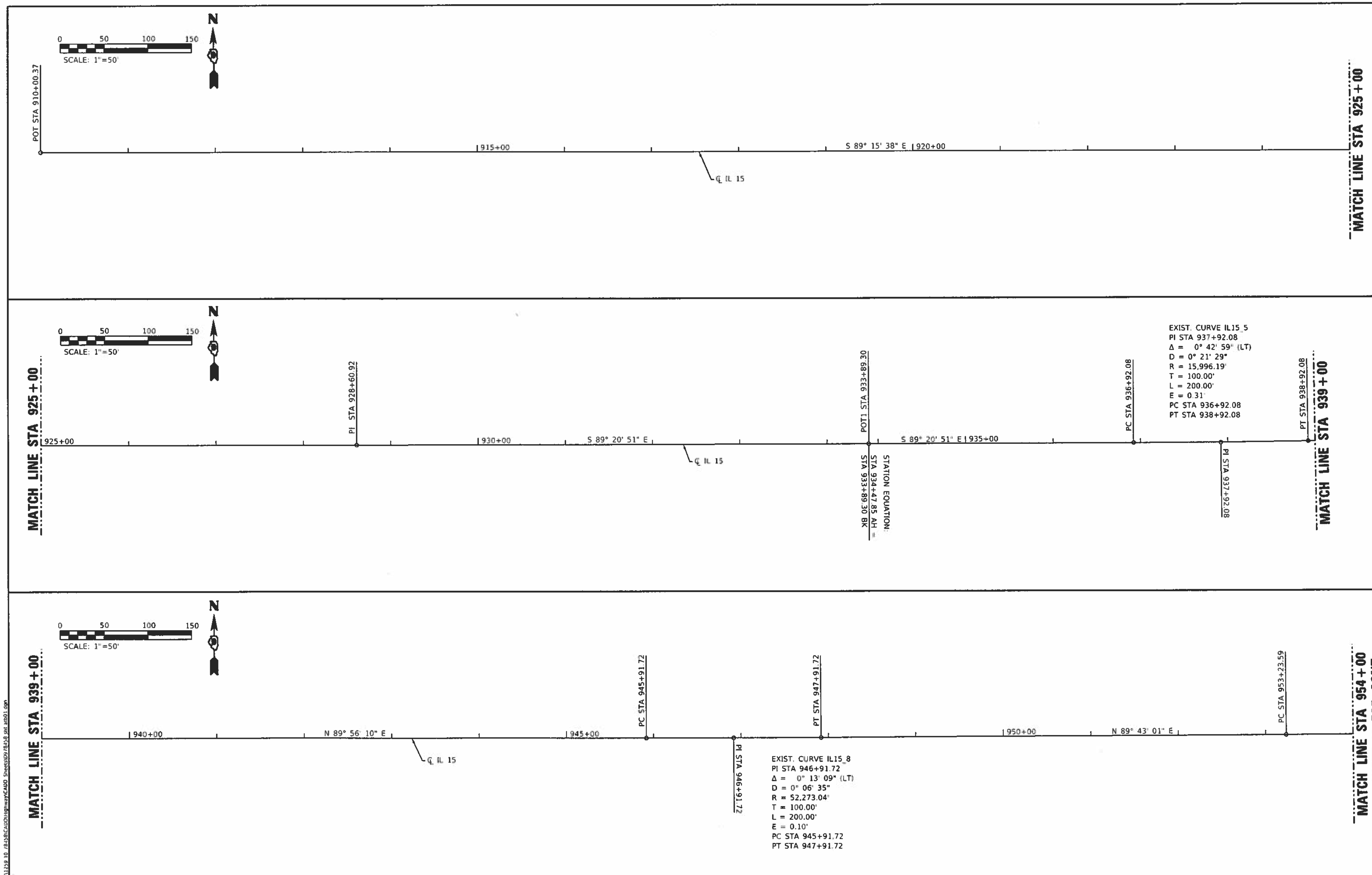
SCHEDULES OF QUANTITIES

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	17

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ALIGNMENT, TIES, AND BENCHMARKS
	ESCA PROJECT NO. 1259.10	DRAWN - KAH	REVISED -		
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM	REVISED -		
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -		SCALE: 1"=50' | SHEET NO. 1 OF 3 SHEETS | STA. 910+00.37 TO STA. 954+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	18
		CONTRACT NO. 78458		
		ILLINOIS | FED. AID PROJECT		

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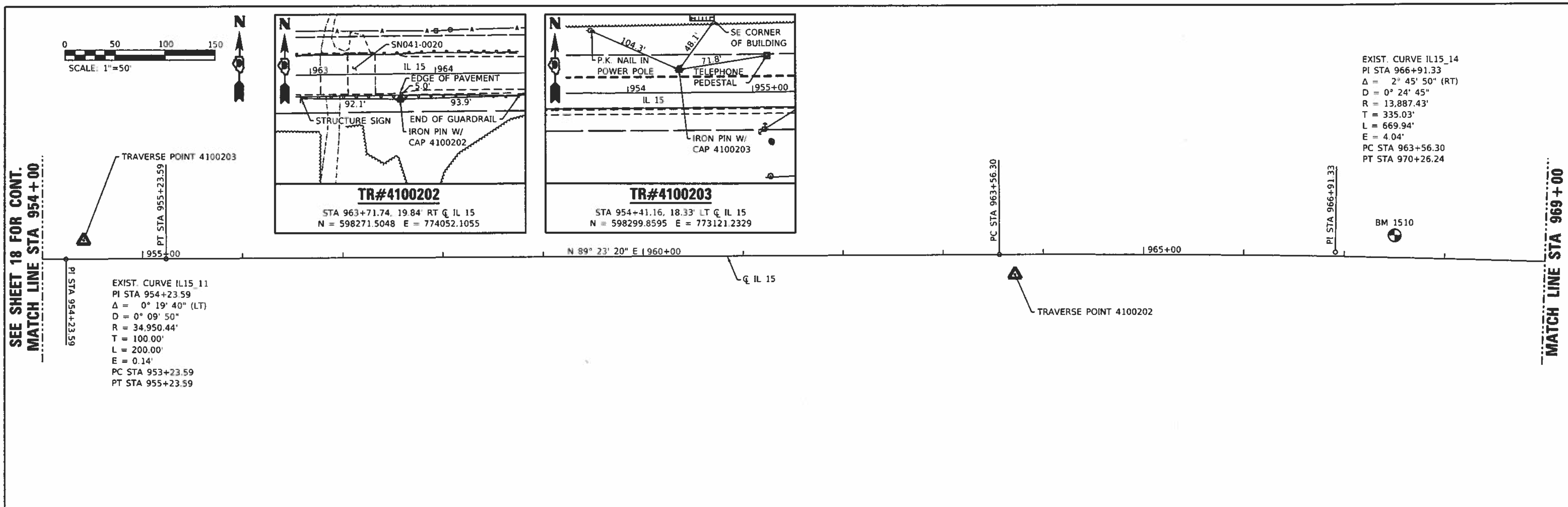
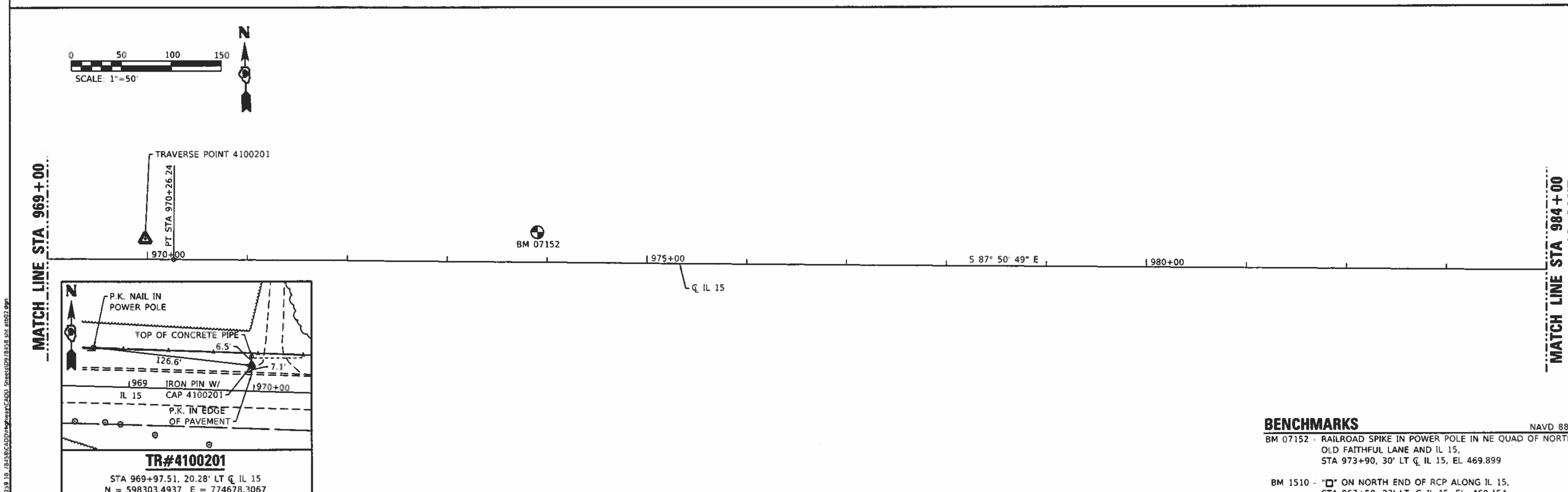




BENCHMARKS

NAVD 88

BM 07152 - RAILROAD SPIKE IN POWER POLE IN NE QUAD OF NORTH OLD FAITHFUL LANE AND IL 15, STA 973+90, 30' LT ℄ IL 15, EL 469.899

BM 1510 - "□" ON NORTH END OF RCP ALONG IL 15, STA 967+50, 22' LT. ℄ IL 15, EL. 460.154

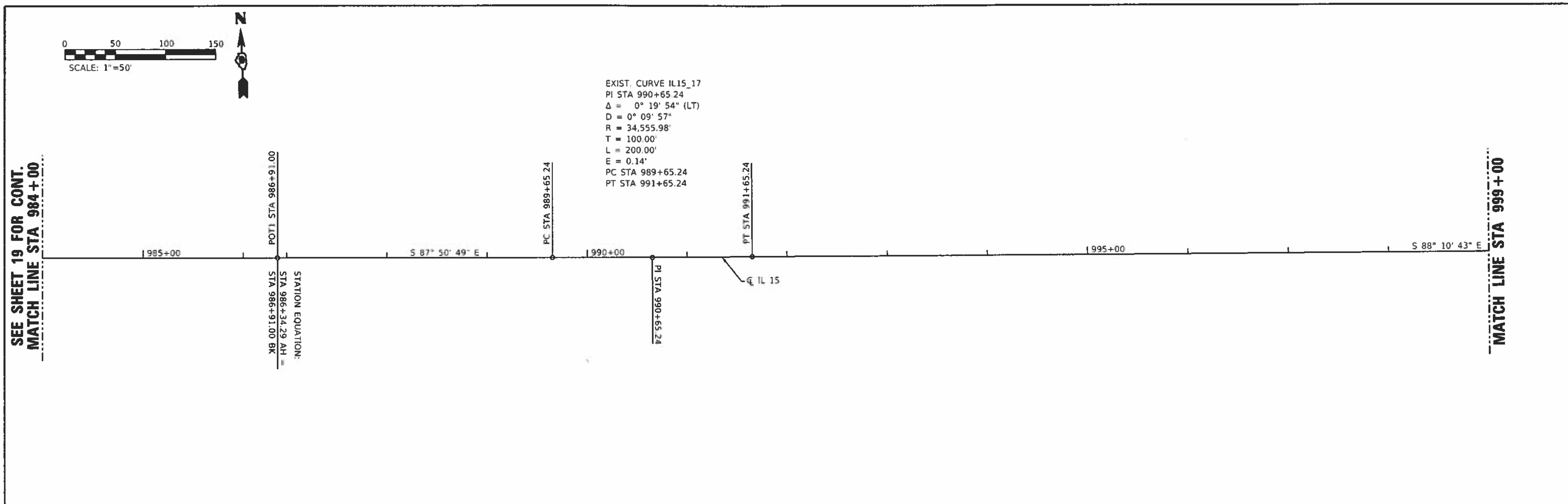
ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - KAH	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM	REVISED -
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

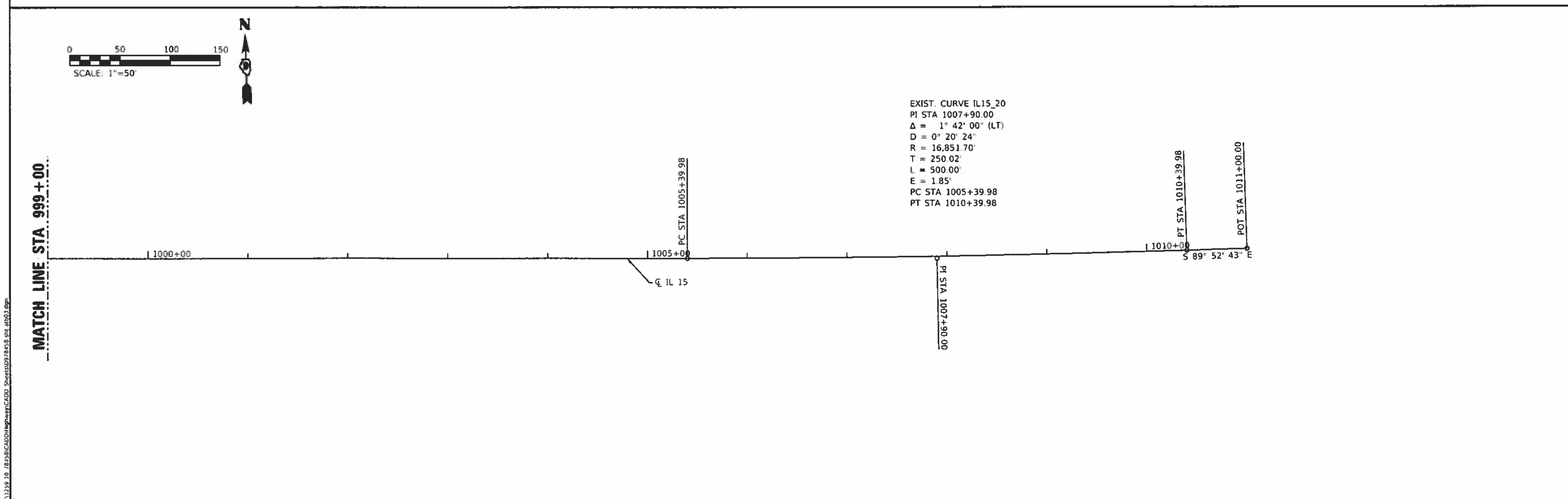
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES, AND BENCHMARKS

SCALE: 1"=50' | SHEET NO. 2 OF 3 SHEETS | STA. 954+00 TO STA. 984+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	19
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		





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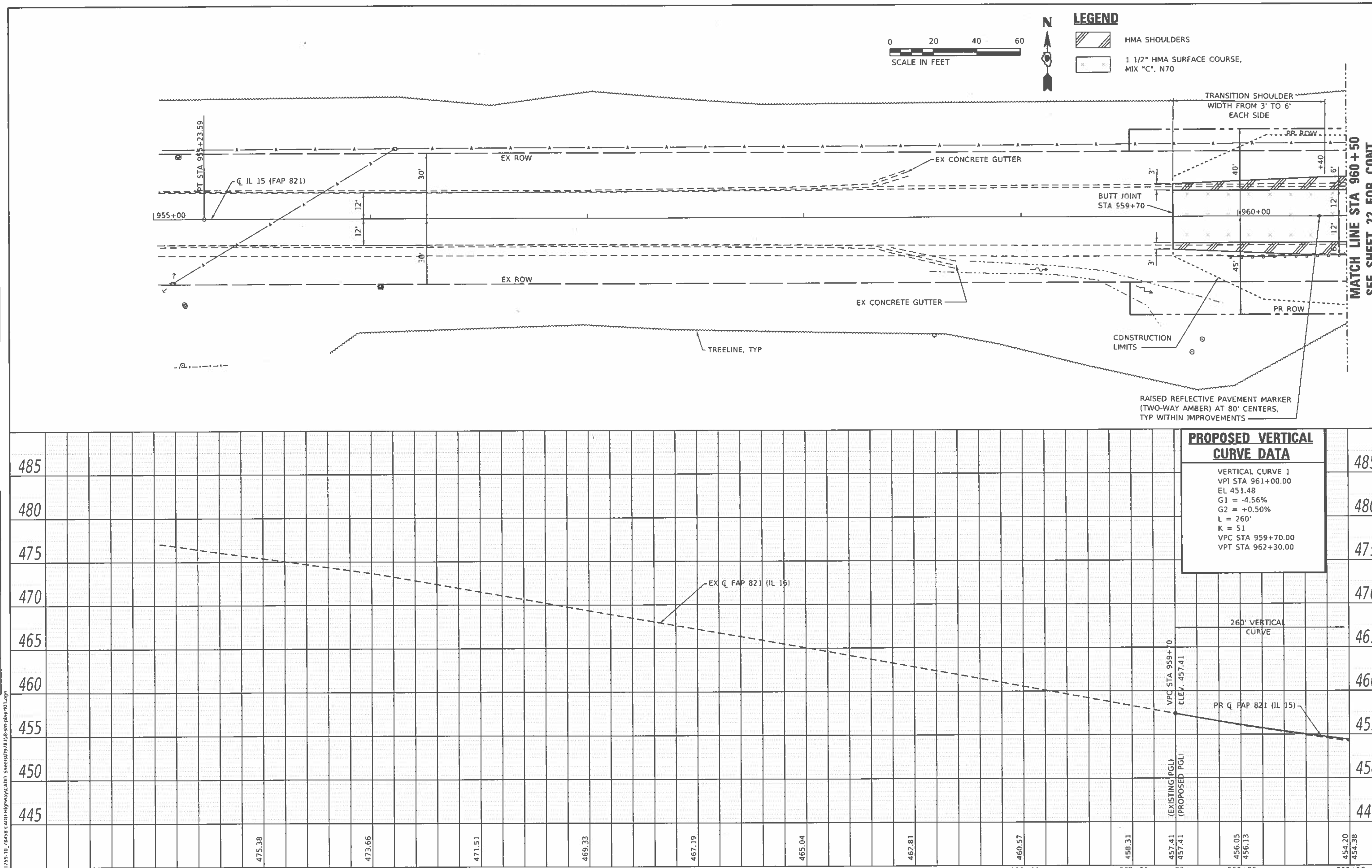
ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - KAH	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM	REVISED -
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES, AND BENCHMARKS

SCALE 1"=50' | SHEET NO. 3 OF 3 SHEETS | STA. 984+00 TO STA. 1011+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	20
		CONTRACT NO. 78458		
		ILLINOIS	FED. AID PROJECT	



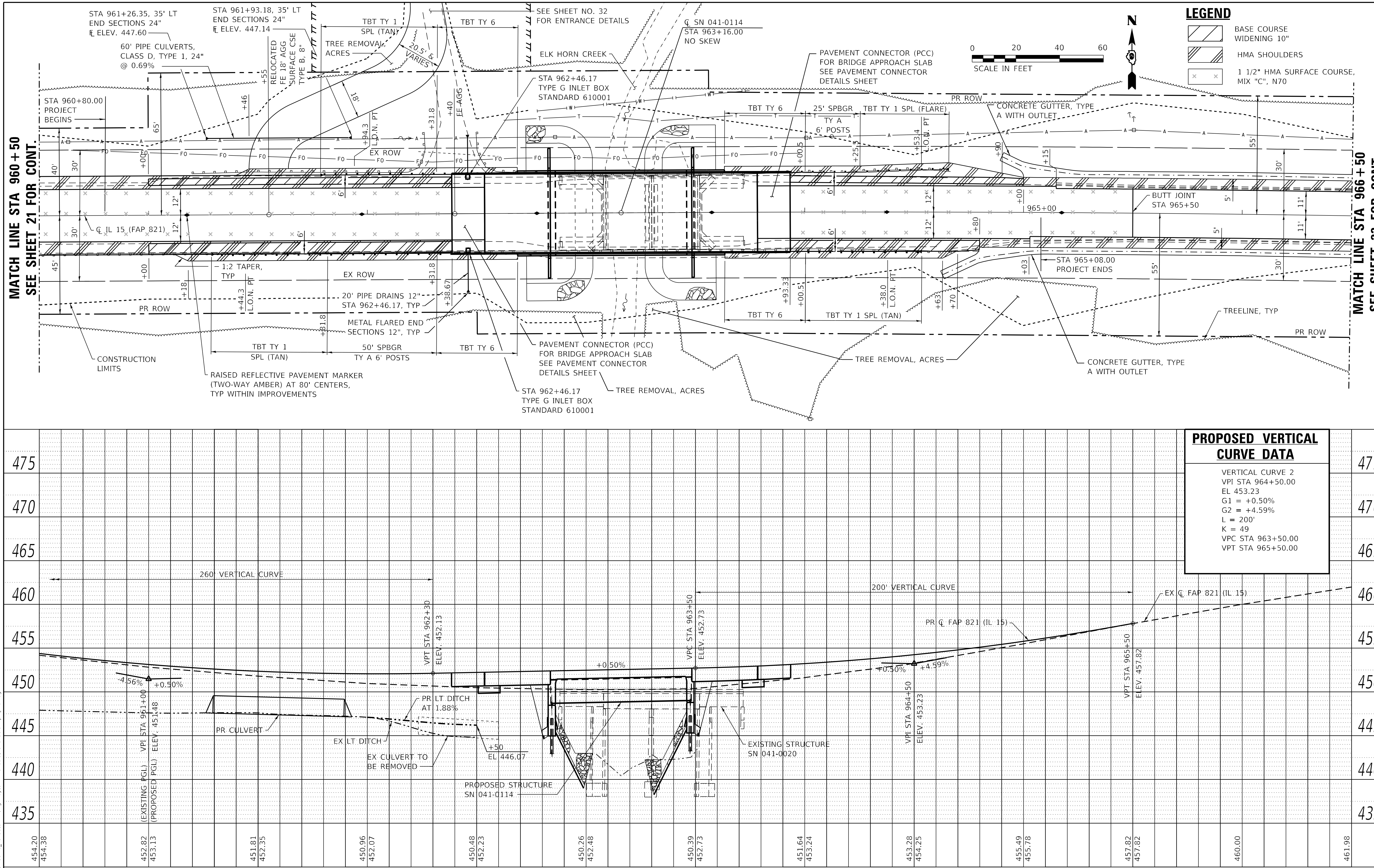
ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SHL/ELH	REVISED -
	ESCA JOB NO. 1259.10	DRAWN - SHL/JPC	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - SKM	REVISED -
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) PLAN AND PROFILE

SCALE: AS SHOWN | SHEET NO. 1 OF 3 SHEETS | STA. 955+00 TO STA. 960+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	21
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SHL/ELH	REVISED -	STATE OF ILLINOIS	FAP 821 (IL 15) PLAN AND PROFILE
ESCA JOB NO. 1259.10	DRAWN - SHL/JPC	REVISED -	DEPARTMENT OF TRANSPORTATION	
PLOT SCALE = 40.0000 ' / in.	CHECKED - SKM	REVISED -		
PLOT DATE = 9/23/2019	DATE - 09/19	REVISED -		SCALE: AS SHOWN SHEET NO. 2 OF 3 SHEETS STA. 960+50 TO STA. 966+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	22
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

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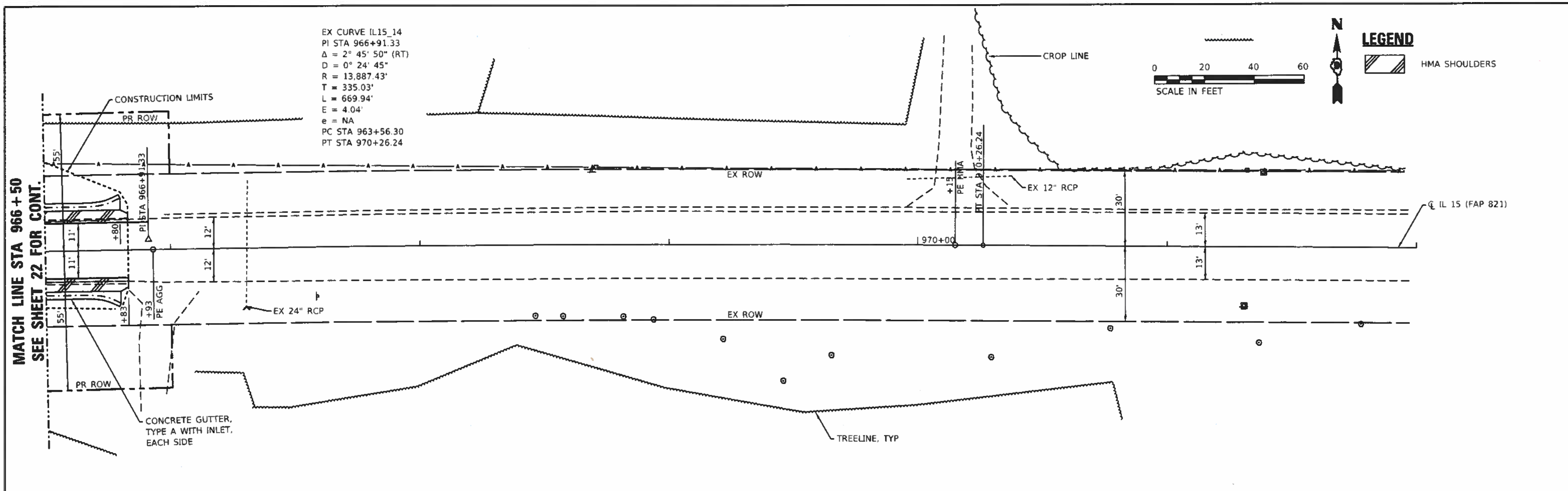
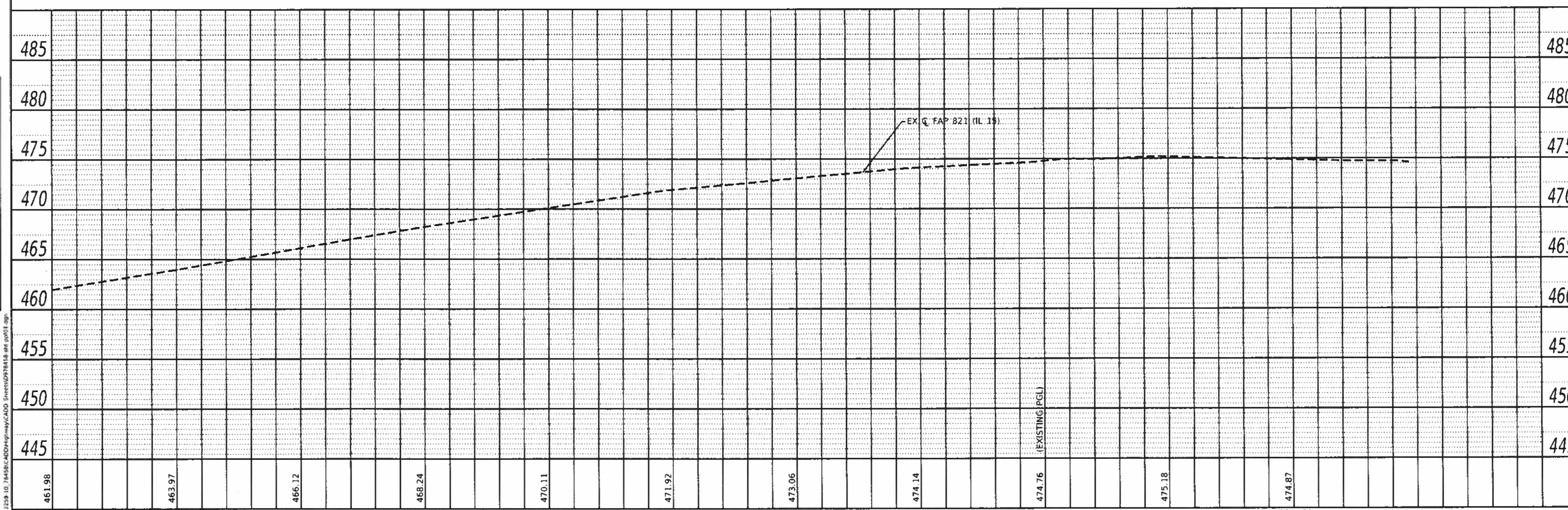




ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SHL/ELH	REVISED -	
ESCA JOB NO. 1259.10	DRAWN - SHL/JPC	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - SKM	REVISED -	
PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) PLAN AND PROFILE

SCALE: AS SHOWN | SHEET NO. 3 OF 3 SHEETS | STA. 966+50 TO STA. 972+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	23

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

GENERAL NOTES

1. PRE-STAGE I: CONSTRUCT THE BASE COURSE FROM LT STA 961+00 TO LT STA 965+20 AS SHOWN ON THIS SHEET PRIOR TO PLACING THE SIGNALS IN OPERATION AND PLACEMENT OF THE TEMPORARY BARRIERS. THE EXISTING DEBRIS AND AGGREGATE SHALL BE REMOVED FROM THE TOP OF THE BRIDGE DECK WITHIN THE AREA OF THE STAGE I TRAFFIC LANE. THE COST ASSOCIATED WITH THE REMOVAL WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE COST OF THE BASE COURSE WIDENING 10". TEMPORARY REPAIR OR PATCHING OF THE EXISTING BRIDGE DECK FOR STAGE I TRAFFIC, IF NEEDED AND DIRECTED BY THE ENGINEER, WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS. REMOVE GUARDRAIL AND CONSTRUCT RELOCATED FIELD ENTRANCE AND PROVIDE A 1:40 TEMPORARY TRANSITION TO THE BASE COURSE WIDENING. THIS TRANSITION WILL BE INCLUDED IN THE COST OF AGGREGATE SURFACE COURSE, TYPE B.
2. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. SEE STANDARD 701321 FOR THE COMPLETION OF THE STAGE CONSTRUCTION TRAFFIC CONTROL THAT IS NOT SHOWN THAT INCLUDES, BUT IS NOT LIMITED TO, ADVANCE SIGNING, ADVANCE LOOP PLACEMENT, DRUMS WITH STEADY BURNING LIGHTS, DOUBLE VERTICAL PANELS AND BARRIER WALL/GUARDRAIL MARKERS.
3. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
4. COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
5. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
6. ADVANCE WIDTH RESTRICTION WARNING SHALL BE INCLUDED IN THE COST OF STANDARD 701321.
7. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(0)-48) SHOWN ON STANDARD 701321 AND ON THE ADVANCED WARNING SIGN (W12-1103) SHOWN ON SHEET 26 SHALL BE 10'-11" FOR STAGE I CONSTRUCTION.
8. THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
9. THE STAGE I CONSTRUCTION SHALL INCLUDE COMPLETION OF THE BASE COURSE WIDENING, HMA BINDER RAMPS, AND TEMPORARY TRAFFIC BARRIER TERMINALS AS REFERENCED ON THIS SHEET. PLACEMENT OF THE BASE COURSE AS INDICATED MAY REQUIRE RELOCATION OF THE TEMPORARY BARRIERS AND THE IMPACT ATTENUATORS DURING THE DAYTIME HOURS. THE COST ASSOCIATED WITH THE STAGING, INCLUDING ANY RELOCATION OF THE TEMPORARY CONCRETE BARRIERS AND IMPACT ATTENUATORS, WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE VARIOUS PAY ITEMS INCLUDED IN THE PLANS.
10. THE TEMPORARY CONCRETE BARRIER SHALL BE PINNED AS SPECIFIED IN SECTION 704 OF THE STANDARD SPECIFICATIONS AND ACCORDING TO THE DETAILS SHOWN ON THE PLANS. THE TEMPORARY CONCRETE BARRIER FROM STA 963+09.75 TO STA 963+47.25 SHALL BE PINNED ACCORDING TO THE EXISTING SLAB DETAIL SHOWN ON SHEET 40.
11. 1:40 HMA BINDER RAMPS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE STAGE I PLAN DETAIL PRIOR TO STAGE II CONSTRUCTION. THE TOP WIDTH OF THE RAMP WILL EXTEND 1 FOOT BEYOND THE BACK OF THE STAGE II TEMPORARY CONCRETE BARRIER LOCATION BEFORE TAPERING ON A 1:1 TO THE EXISTING PAVEMENT.
12. THE CONTRACTOR AND THE ENGINEER SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER DURING CONSTRUCTION FOR THE FIELD ENTRANCE AT LT STA 962+40.

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER

STATION, O/S	TO	STATION, O/S	FEET
961+09.75, 4.1' RT		962+09.75, 4.3' LT	100'
962+09.75, 4.3' LT		964+22.25, 4.3' LT	212.5'
964+22.25, 4.3' LT		965+22.25, 4.1' RT	100'
		TOTAL	412.5'

PINNING TEMPORARY CONCRETE BARRIER

STATION	TO	STATION	TYPE	EACH
962+09.75		962+34.75	TRANSITION	3
962+34.75		963+09.75	CONTINUOUS	18
963+47.25		963+97.25	CONTINUOUS	12
963+97.25		964+22.25	TRANSITION	3
			TOTAL	36

TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH

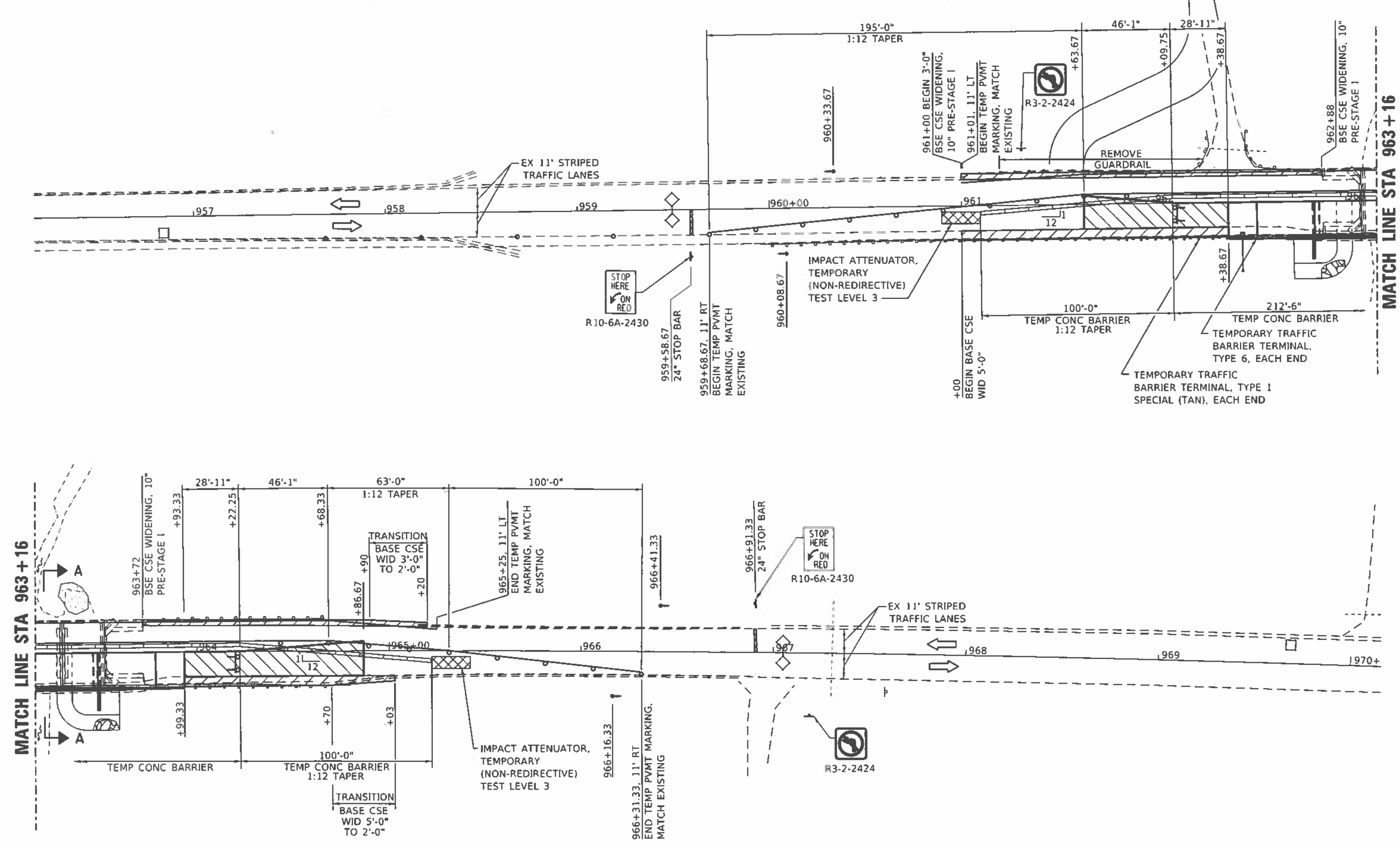
TEMPORARY RUMBLE STRIPS - 6 EACH

LEGEND

- DIRECTION OF TRAFFIC
- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
- DETECTOR LOOP
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TYPE III BARRICADE WITH FLASHING LIGHTS
- BASE COURSE WIDENING 10"
- 1:40 RAMPS HMA BINDER COURSE, IL-19.0, N70

30 0 30 60

SCALE IN FEET



STAGE I PLAN

ESCA CONSULTANTS, INC.	USER NAME = sra	DESIGNED - SHA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SHA	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 8/14/2019	DATE - 08/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) STAGE CONSTRUCTION DETAILS

SCALE: AS SHOWN | SHEET NO. 1 OF 3 SHEETS | STA. 956+17 TO STA. 970+16

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	24
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. SEE STANDARD 701321 FOR THE COMPLETION OF THE STAGE CONSTRUCTION TRAFFIC CONTROL THAT IS NOT SHOWN THAT INCLUDES, BUT IS NOT LIMITED TO, ADVANCE SIGNING, ADVANCE LOOP PLACEMENT, DRUMS WITH STEADY BURNING LIGHTS, DOUBLE VERTICAL PANELS AND BARRIER WALL/GUARDRAIL MARKERS.
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
4. ADVANCE WIDTH RESTRICTION WARNING SHALL BE INCLUDED IN THE COST OF STANDARD 701321.
5. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-I102(0)-48) SHOWN ON STANDARD 701321 AND ON THE ADVANCE WARNING SIGN (W12-I103) SHOWN ON SHEET 26 SHALL BE 13'-7" FOR STAGE II CONSTRUCTION.
6. THE TEMPORARY SIGNALS WILL REMAIN IN OPERATION AND THE TEMPORARY BARRIERS WILL REMAIN IN PLACE UNTIL THE BRIDGE, PCC PAVEMENT CONNECTORS AND APPROACH SLABS ARE COMPLETE INCLUDING CONSTANT SLOPE PARAPET. THE REMAINING HMA SHOULDERS, AGG SURFACE COURSE, HMA SURFACE COURSE, PIPE CULVERTS, CONCRETE GUTTER, GUARDRAIL, AND TRAFFIC BARRIER TERMINALS SHALL BE COMPLETED USING THE APPROPRIATE STANDARDS INCLUDED IN THE PLANS AND TRAFFIC SHALL BE OPEN TO BOTH LANES DURING NON-WORKING HOURS. THE CONTRACTOR SHALL SCHEDULE THEIR OPERATIONS SO THERE IS NO MORE THAN TWO WEEKS BETWEEN THE REMOVAL OF THE TEMPORARY BARRIERS AND THE START OF GUARDRAIL AND TERMINAL INSTALLATION.
7. THE TEMPORARY CONCRETE BARRIER SHALL BE PINNED AS SPECIFIED IN SECTION 704 OF THE STANDARD SPECIFICATIONS AND ACCORDING TO THE DETAILS SHOWN ON THE PLANS. THE TEMPORARY CONCRETE BARRIER PLACED ON THE PROPOSED CONNECTOR PAVEMENTS, APPROACH SLABS, AND BRIDGE DECK FROM STA 962+38.67 TO 963+93.33 SHALL BE RESTRAINED USING STEEL RETAINERS 1"x10"x10" SHOWN FOR DETAIL III ON SHEET NO. 40. THE STEEL RETAINERS SHALL BE PLACED ON 6'-0" CTS. WITH EXPANSION ANCHORS OR CAST IN PLACE INSERTS AT THE MID-DEPTH OF THE PAVEMENT. THE ANCHORS OR INSERTS SHALL HAVE A MINIMUM PROOF LOAD OF 5,000 POUNDS. THE COST OF PROVIDING THE RESTRAINING SYSTEM FOR THE TEMPORARY CONCRETE BARRIER ON TOP OF THE CONNECTOR PAVEMENTS, APPROACH SLABS, OR BRIDGE DECK WILL NOT BE PAID FOR SEPARATELY.
8. THE CONTRACTOR'S OPERATION MAY RESULT IN A DROP-OFF AT THE END OF THE PCC PAVEMENT THAT IS UNDER TRAFFIC PRIOR TO THE HMA RESURFACING. TEMPORARY RAMPS SHALL BE PROVIDED AT THESE LOCATIONS IF NEEDED ACCORDING TO ARTICLE 406.08 OF THE STANDARD SPECIFICATIONS. THE COST FOR THE TEMPORARY RAMPS AT THESE LOCATIONS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF VARIOUS HMA PAY ITEMS INCLUDED IN THE PLANS.
9. THE CONTRACTOR AND THE ENGINEER SHALL COORDINATE ACCESS WITH THE PROPERTY OWNER DURING CONSTRUCTION FOR THE FIELD ENTRANCE AT LT STA 962+40.

SCHEDULE OF QUANTITIES

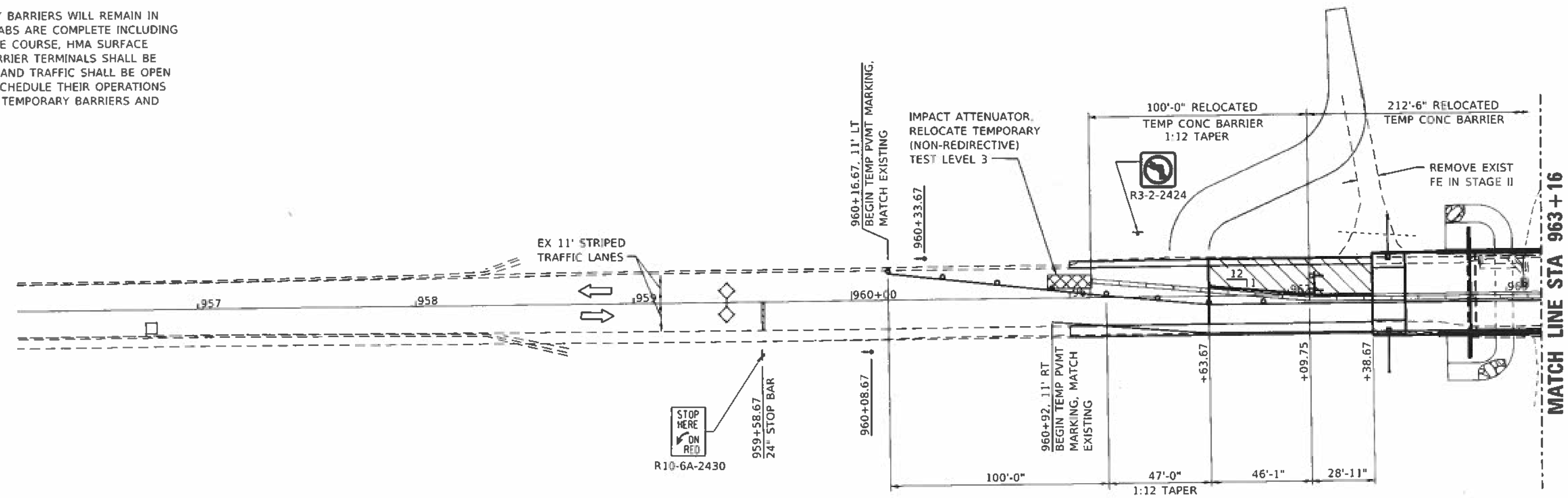
RELOCATE TEMPORARY CONCRETE BARRIER

STATION, O/S	TO	STATION, O/S	FEET
961+09.75, 5.5' LT		962+09.75, 2.9' RT	100'
962+09.75, 2.9' RT		964+22.25, 2.9' RT	212.5'
964+22.25, 2.9' RT		965+22.25, 5.5' LT	100'
		TOTAL	412.5'

PINNING TEMPORARY CONCRETE BARRIER

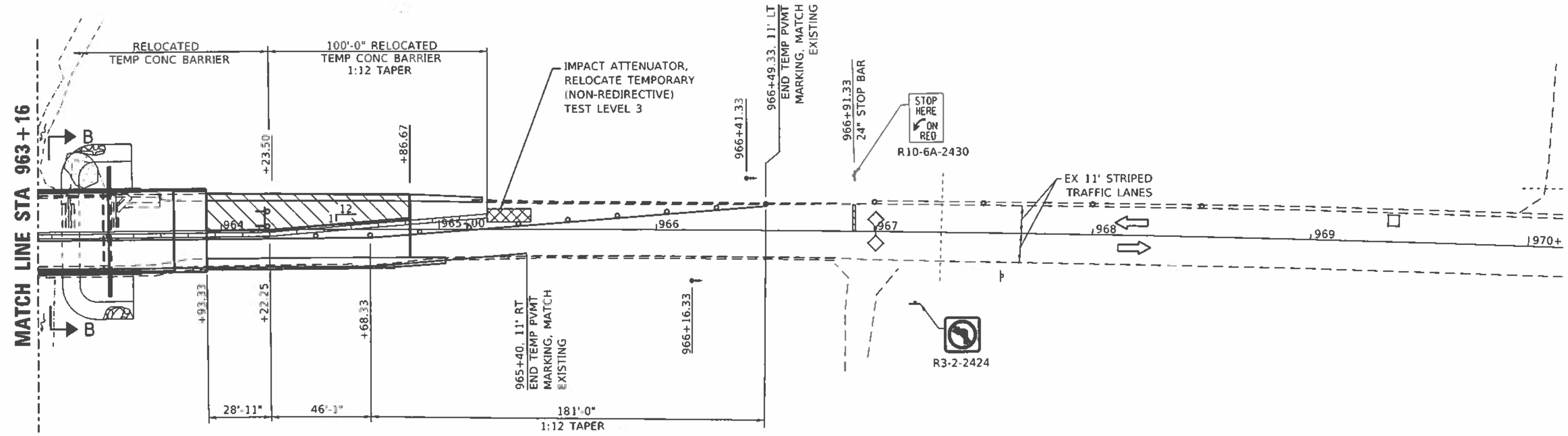
STATION	TO	STATION	TYPE	EACH
961+84.75		962+09.75	TRANSITION	3
962+09.75		962+22.25	CONTINUOUS	3
964+09.75		964+22.25	CONTINUOUS	3
964+22.25		964+47.25	TRANSITION	3
			TOTAL	12

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 - 2 EACH



LEGEND

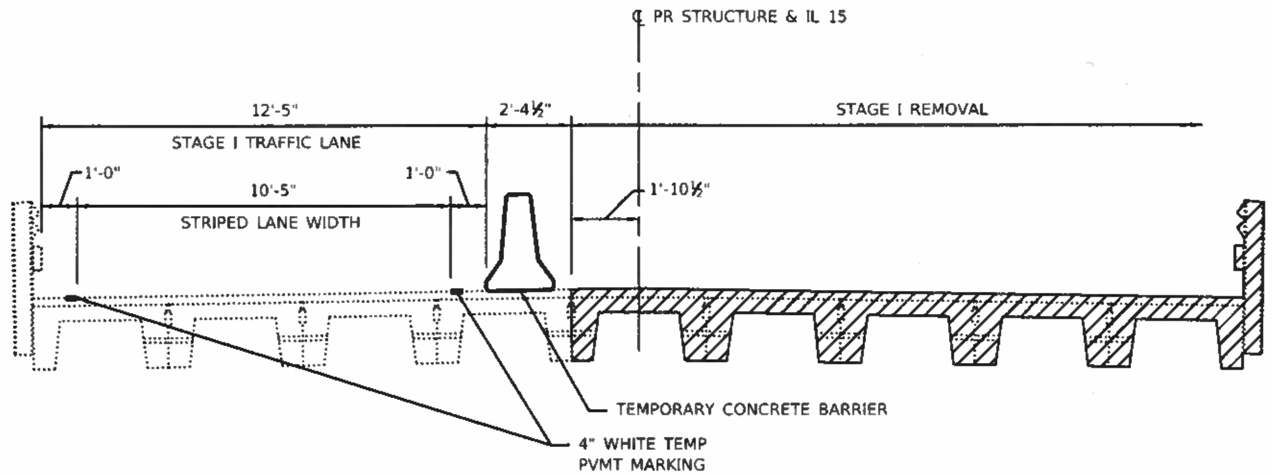
- DIRECTION OF TRAFFIC
- TRAFFIC SIGNAL WITH BACKPLATE, SIGNAL DIRECTION INDICATED
- DETECTOR LOOP
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TYPE III BARRICADE WITH FLASHING LIGHTS
- BASE COURSE WIDENING 10"
- 1:40 RAMPS HMA BINDER COURSE, IL-19.0, N70



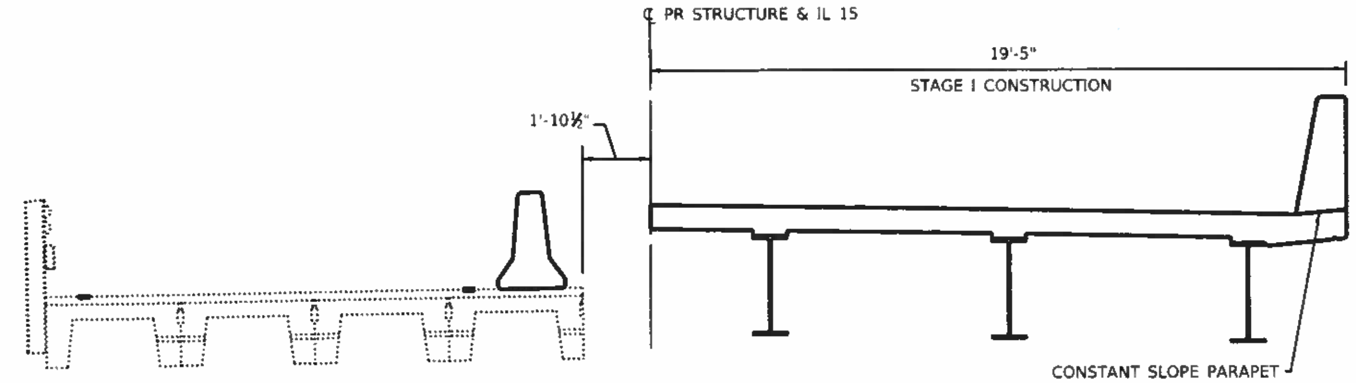
STAGE II PLAN

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) STAGE CONSTRUCTION DETAILS
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -		SCALE: AS SHOWN
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -		SHEET NO. 2 OF 3 SHEETS
	PLOT DATE = 8/14/2019	DATE - 08/19	REVISED -		STA. 956+17 TO STA. 970+16

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	25
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

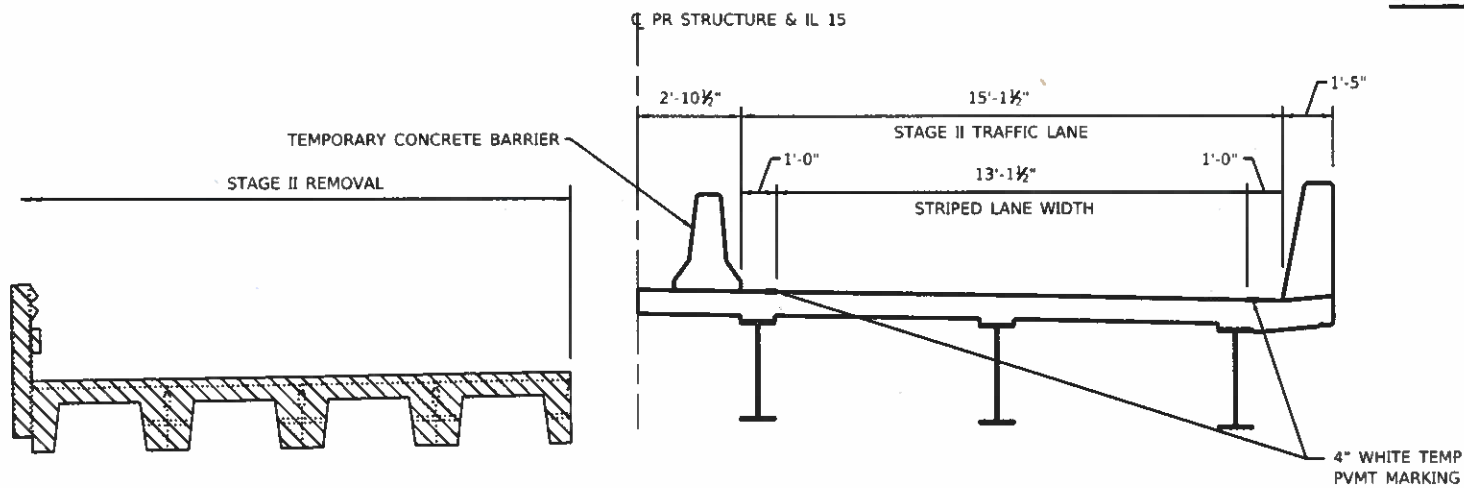


SECTION A–A REMOVAL

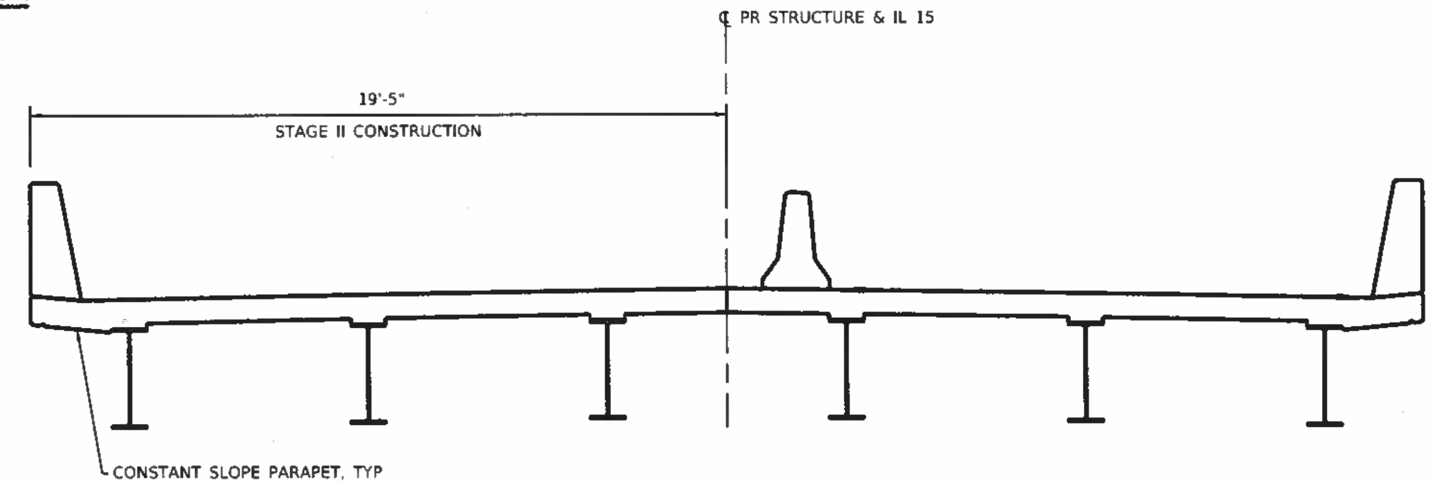


SECTION A–A CONSTRUCTION

STAGE I

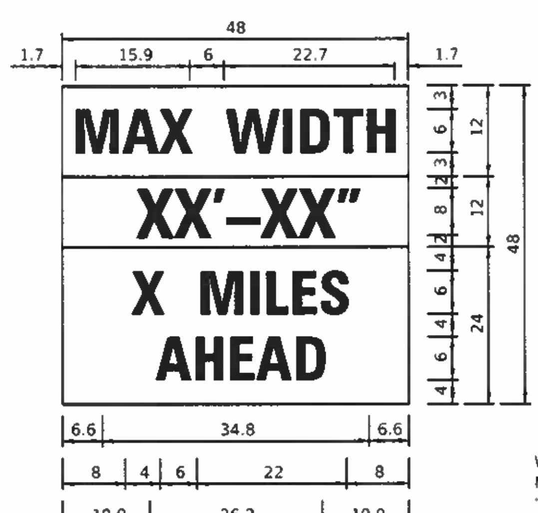


SECTION B–B REMOVAL



SECTION B–B CONSTRUCTION

STAGE II



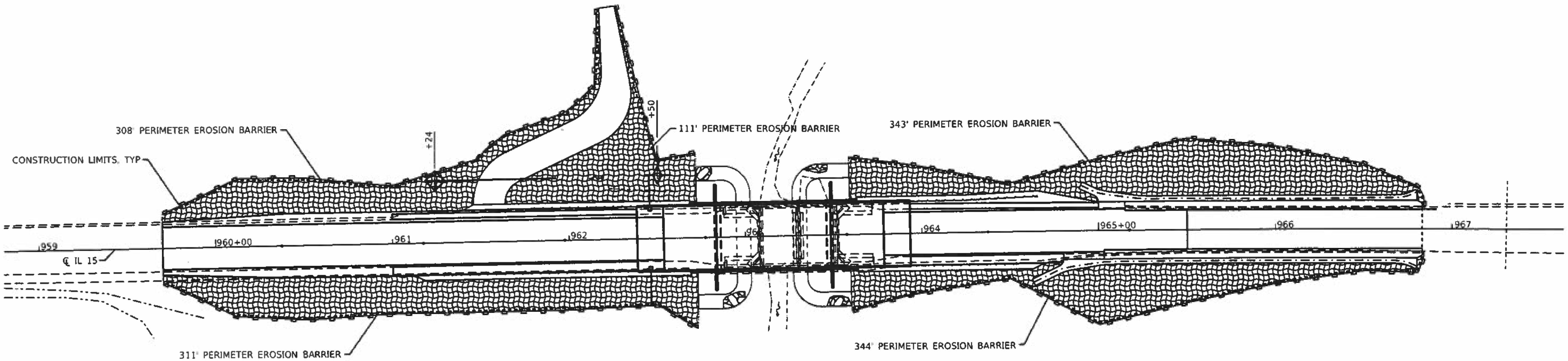
W12–I103

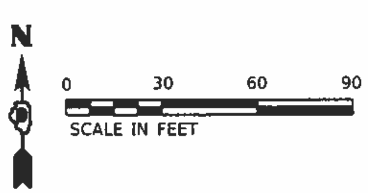
W12-I103 (Width is 8D);
No border, Black on White;
"MAX WIDTH" D;
No border, Black on Orange;
"XX'-XX"" D;
No border, Black on White;
"X MILES" D; "AHEAD" D

NOTE: THIS SIGN SHALL BE LOCATED AS DIRECTED BY THE ENGINEER. ONE SIGN SHALL BE PROVIDED FOR EACH APPROACH TO THE SITE.

WIDTH RESTRICTION SIGN

ESCA	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) STAGE CONSTRUCTION DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -			821	12B-2	JEFFERSON	74	26
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -					CONTRACT NO. 78458		
	PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -		SCALE: NONE · SHEET NO. 3 OF 3 SHEETS · STA. TO STA.			ILLINOIS · FED. AID PROJECT		





LEGEND

- PERIMETER EROSION BARRIER
- HEAVY DUTY EROSION CONTROL BLANKET
- CONSTRUCTION LIMITS
- INLET AND PIPE PROTECTION
- TEMPORARY DITCH CHECK

NOTE: THE PERIMETER EROSION BARRIER WILL BE PLACED 1' OUTSIDE OF THE CONSTRUCTION LIMITS.

MODEL: PLOT
FILE NAME: Y:\BO\11259 10 /8458\CADD\Highway\CADD Sheets\09/8458 sht eros01.dgn

ESCA CONSULTANTS, INC.	USER NAME = sm4	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO 1259 10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0:2 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 06/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

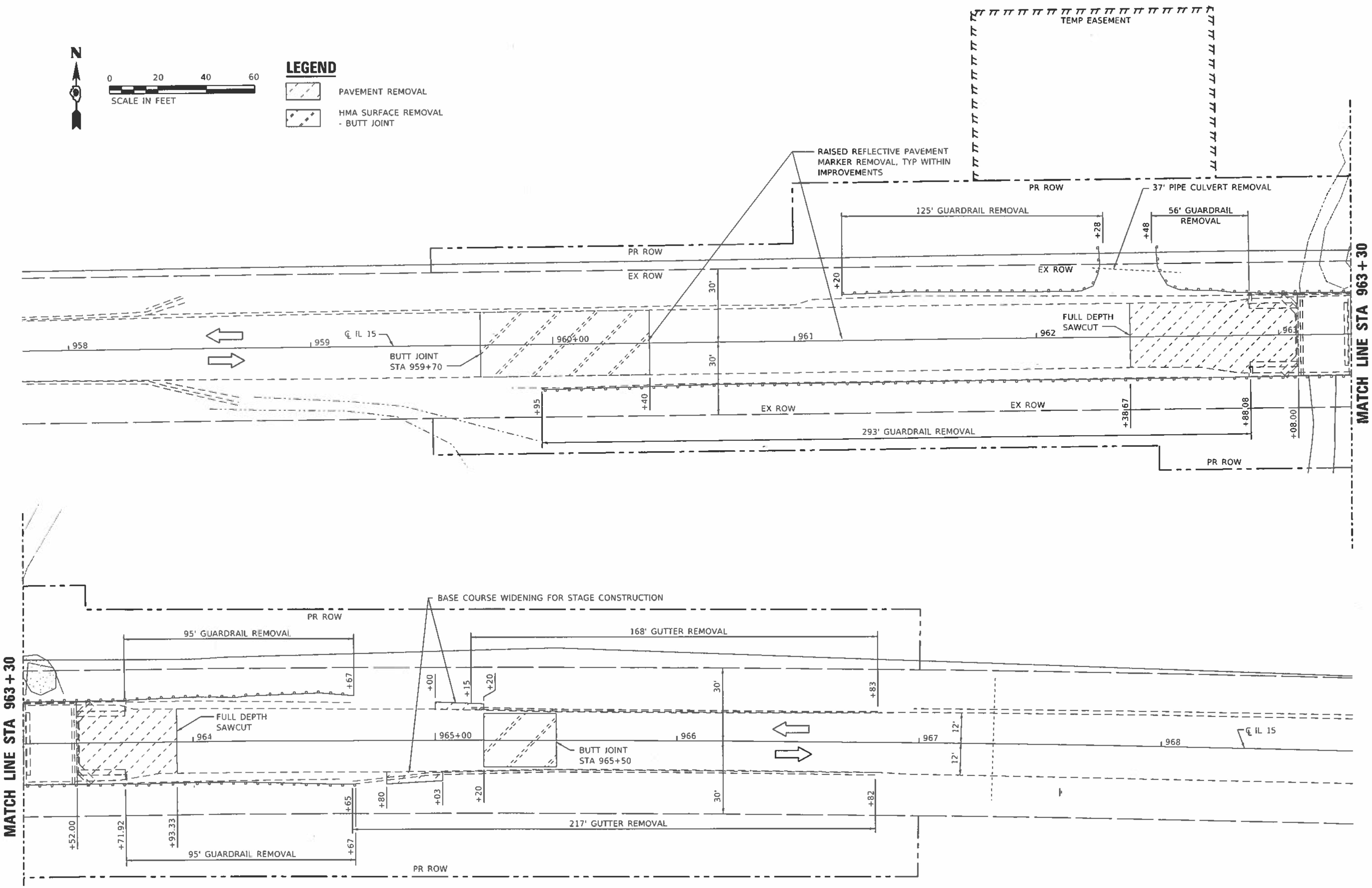
EROSION CONTROL PLAN

SCALE 1"=30' | SHEET NO. 1 OF 1 SHEETS | STA. 958+80 TO STA. 967+63

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	27

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



NOTE: GUTTER REMOVAL FROM LT STA 965+15 TO LT STA 965+20 AND RT STA 964+65 TO RT STA 965+03 TO BE REMOVED TO CONSTRUCT BASE COURSE WIDENING FOR STAGE CONSTRUCTION. THE REMAINING GUTTER REMOVAL SHALL BE COMPLETED AFTER STAGE CONSTRUCTION. THE REMOVAL OF THE EXISTING HMA RESURFACING ON THE CONCRETE GUTTER IS INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR GUTTER REMOVAL.

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0:2 '' / In.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

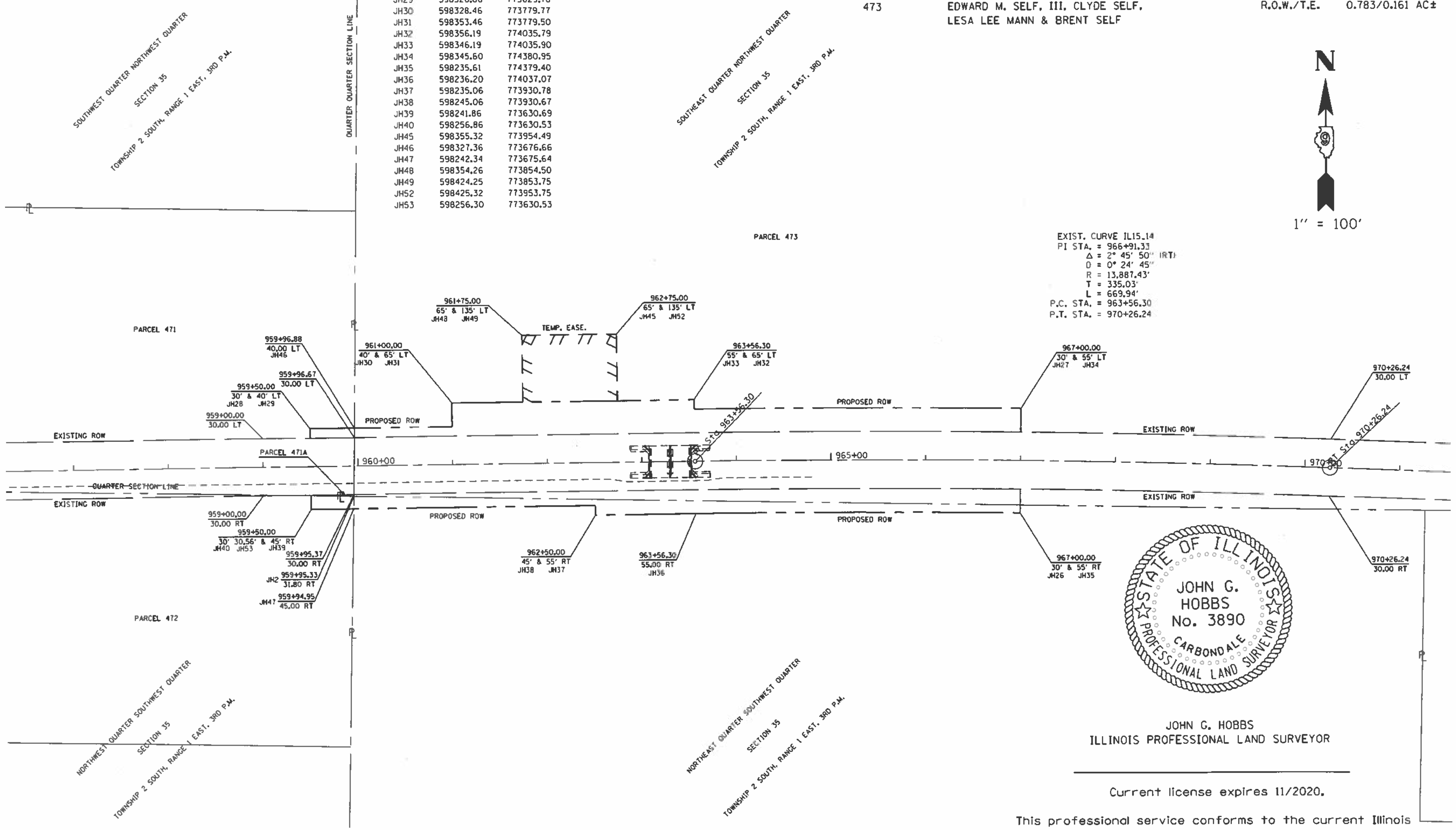
REMOVAL PLAN

SCALE: 1'=20' | SHEET NO. 1 OF 1 SHEETS | STA. 957+87 TO STA. 968+76

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	28
		CONTRACT NO. 78458		
	ILLINOIS	FED. AID PROJECT		

PARCEL#	PROPERTY OWNER	PURPOSE	ACREAGE
471	E.M. SELF, III	R.O.W.	0.011AC±
471A	E.M. SELF, III	R.O.W.	0.001AC±
472	EDWARD M. SELF, III, CLYDE SELF, LESA LEE MANN & BRENT SELF	R.O.W.	0.016AC±
473	EDWARD M. SELF, III, CLYDE SELF, LESA LEE MANN & BRENT SELF	R.O.W./T.E.	0.783/0.161 AC±

PT#	NORTHING	EASTING
JH2	598255.55	773675.87
JH26	598260.61	774379.75
JH27	598320.60	774380.60
JH28	598316.86	773629.89
JH29	598326.86	773629.78
JH30	598328.46	773779.77
JH31	598353.46	773779.50
JH32	598356.19	774035.79
JH33	598346.19	774035.90
JH34	598345.60	774380.95
JH35	598235.61	774379.40
JH36	598236.20	774037.07
JH37	598235.06	773930.78
JH38	598245.06	773930.67
JH39	598241.86	773630.69
JH40	598256.86	773630.53
JH45	598355.32	773954.49
JH46	598327.36	773676.66
JH47	598242.34	773675.64
JH48	598354.26	773854.50
JH49	598424.25	773853.75
JH52	598425.32	773953.75
JH53	598256.30	773630.53



JOHN G. HOBBS
ILLINOIS PROFESSIONAL LAND SURVEYOR

Current license expires 11/2020.

This professional service conforms to the current Illinois minumum standards for a boundary survey.

USER NAME = sma	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 8/15/2019	DATE -	REVISED -	

RIGHT OF WAY PLAT
SN 041-0020 ELK HORN CREEK

SCALE: 1" = 100' | SHEET 1 OF 1 SHEETS | STA. 959+00.00 TO STA. 970+26.24

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON		
IL RTE 15		CONTRACT NO. 78458		
R-99-013-18		ILLINOIS FED. AID PROJECT		

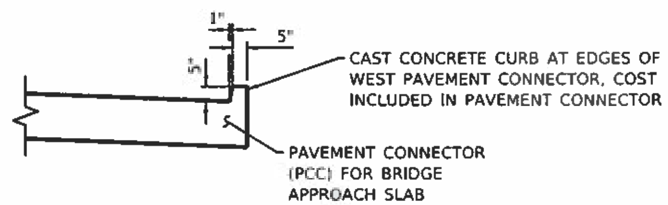
ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
ESCA PROJECT NO. 1295.10	DRAWN - SMA	REVISED -	
PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM	REVISED -	
PLOT DATE = 8/15/2019	DATE - 08/19	REVISED -	

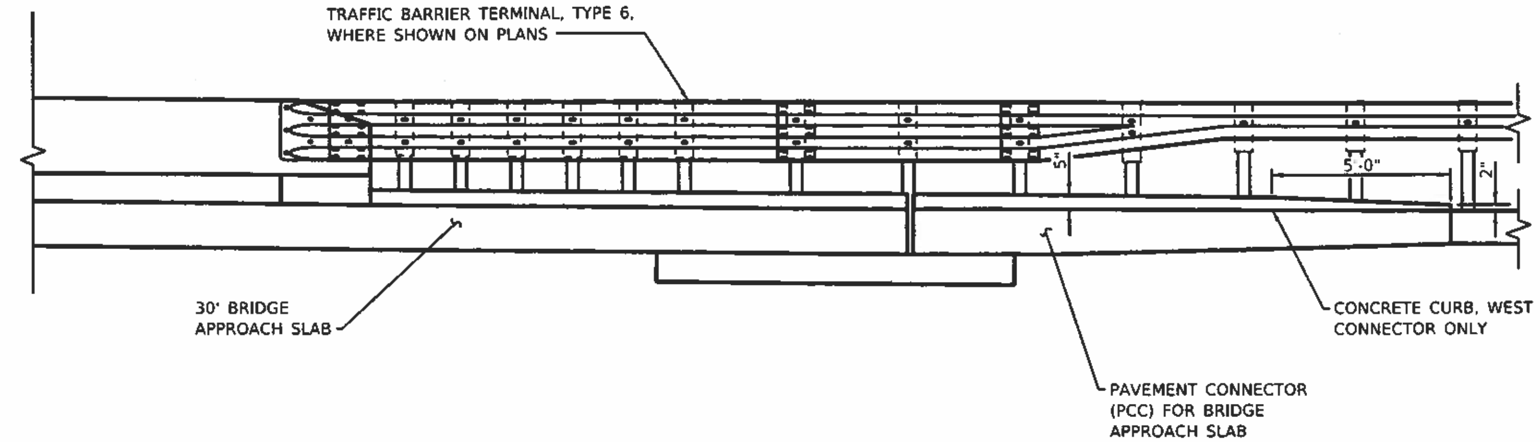
RIGHT-OF-WAY PLAT

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.

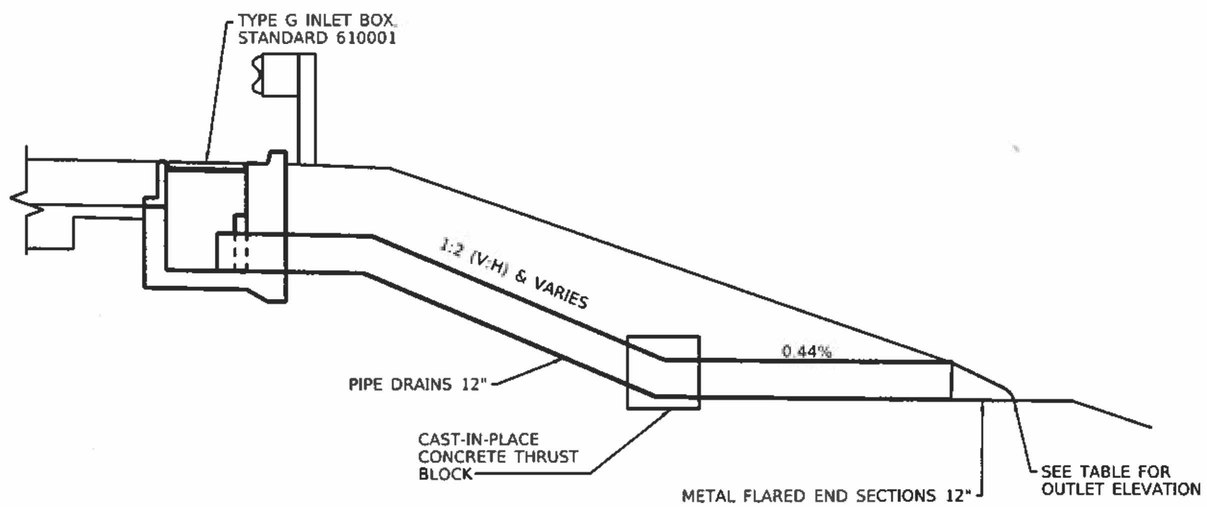
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	29
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



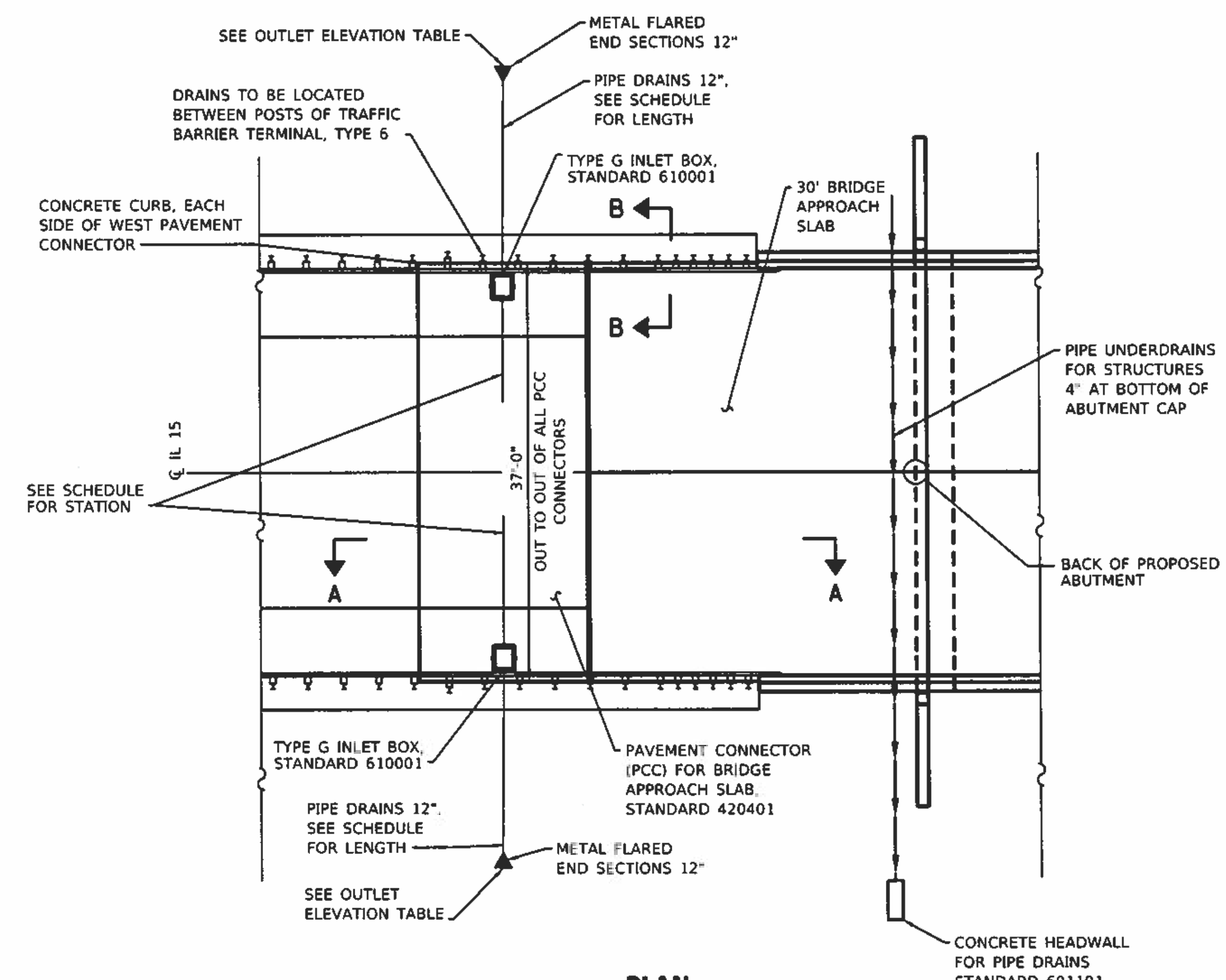
SECTION B–B



SECTION A–A



SECTION AT TYPE G INLET BOX



PLAN

(WEST ABUTMENT OF SN 041-0114 SHOWN; EAST ABUTMENT SIMILAR)

PCC PAVEMENT CONNECTOR DRAINAGE SCHEDULE

LOCATION			INLET BOX, STD 610001 TYPE G	CONCRETE THRUST BLOCKS	PIPE DRAINS 12"	METAL FLARED END SECTIONS 12"
STATION	LANE	OFFSET	EACH	EACH	FOOT	EACH
962+46.17	WBL	LEFT	1	1	20'	1
962+46.17	EBL	RIGHT	1	1	20'	1
		TOTALS	2	2	40'	2

OUTLET ELEVATION TABLE

LOCATION			OUTLET ELEVATION
STATION	LANE	OFFSET	
962+46.17	WBL	LEFT	446.24
962+46.17	EBL	RIGHT	445.92

MODEL: PLOT
FILE NAME: Y:\DO\11295 10 7845B\CADD\Highway\CADD Sheets\D9784S8 pnt details01.dgn

ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -
ESCA PROJECT NO. 1295.10	DRAWN - SMA	REVISED -
PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
PLOT DATE = 7/15/2019	DATE - 04/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

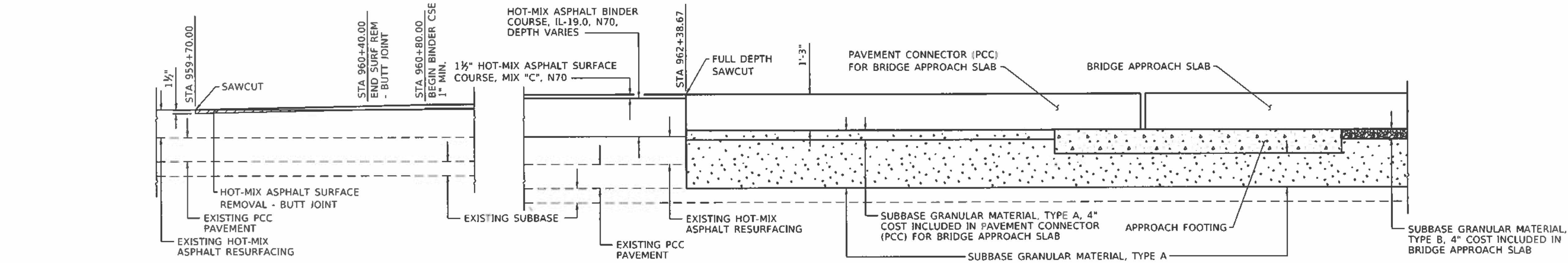
PAVEMENT CONNECTOR DETAILS

SCALE NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	30

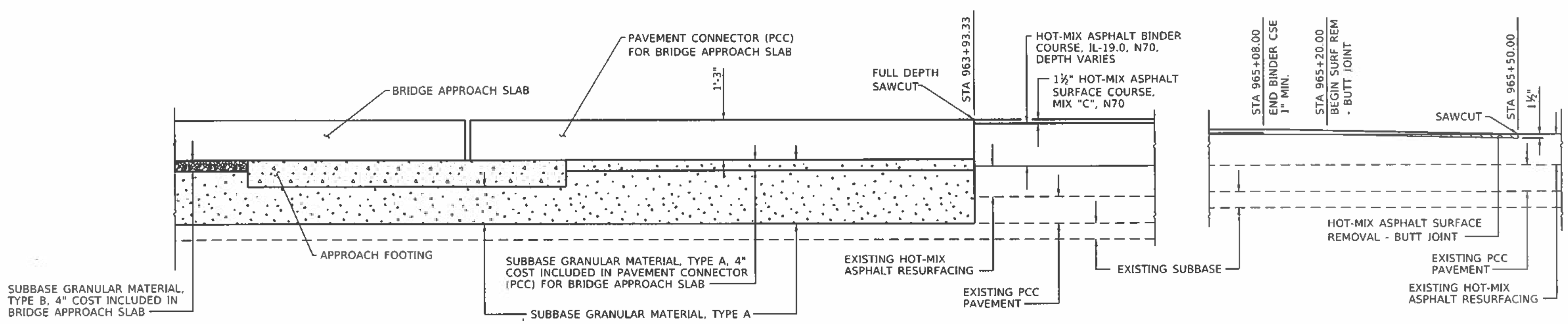
CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



LONGITUDINAL SECTION

FAP 821 (IL 15) STA 959+70.00 TO STA 962+38.67



LONGITUDINAL SECTION

FAP 821 (IL 15) STA 963+93.33 TO STA 965+50.00

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

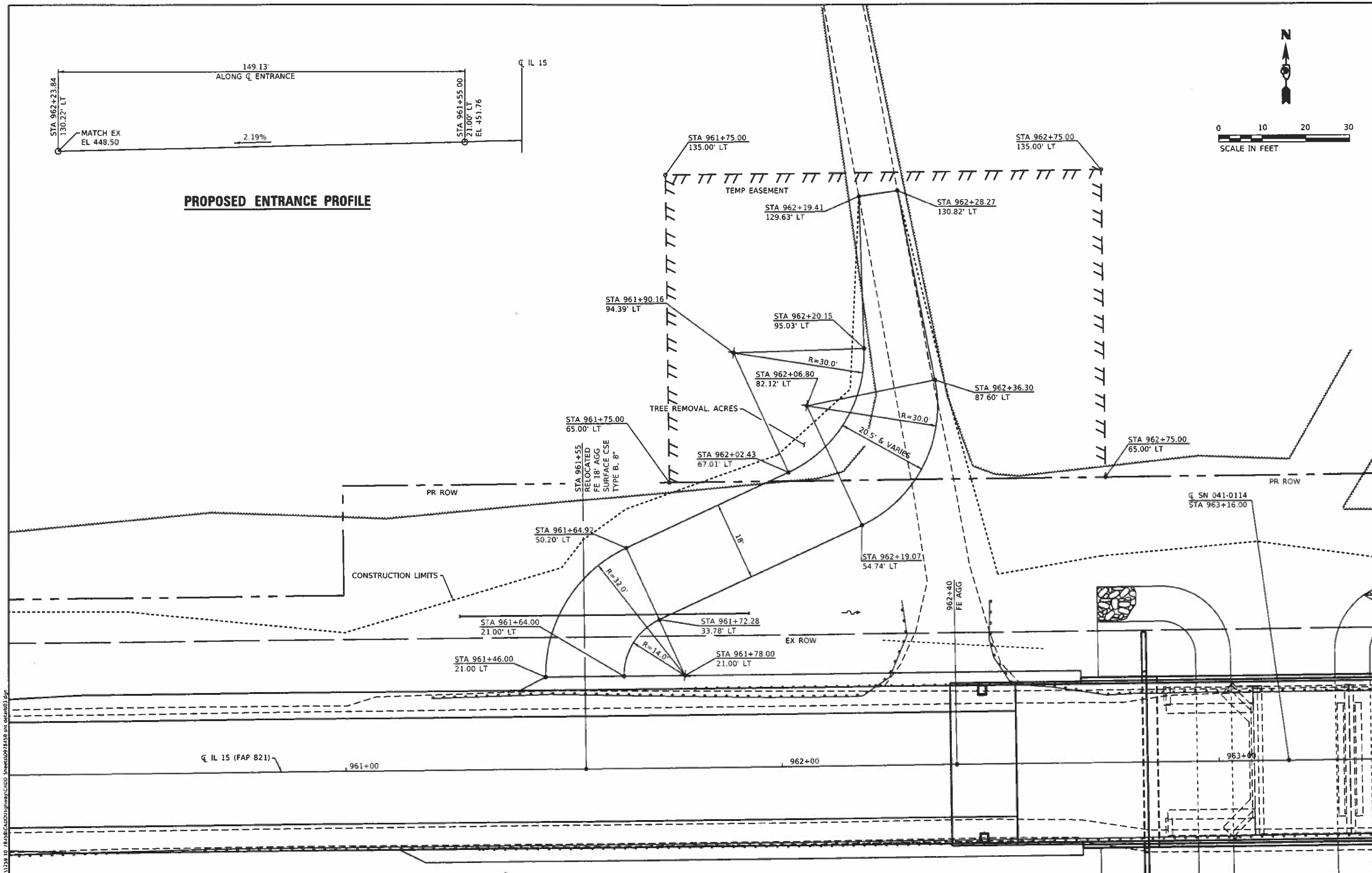
PAVEMENT TRANSITION DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	31

CONTRACT NO. 78458

ILLINOIS FED. AID PROJECT



ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SKM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ENTRANCE DETAILS STA 961+55
	ESCA PROJECT NO 1259.10	DRAWN - SKM	REVISED -		
	PLOT SCALE = 0.2 ' / in.	CHECKED - ELH	REVISED -		
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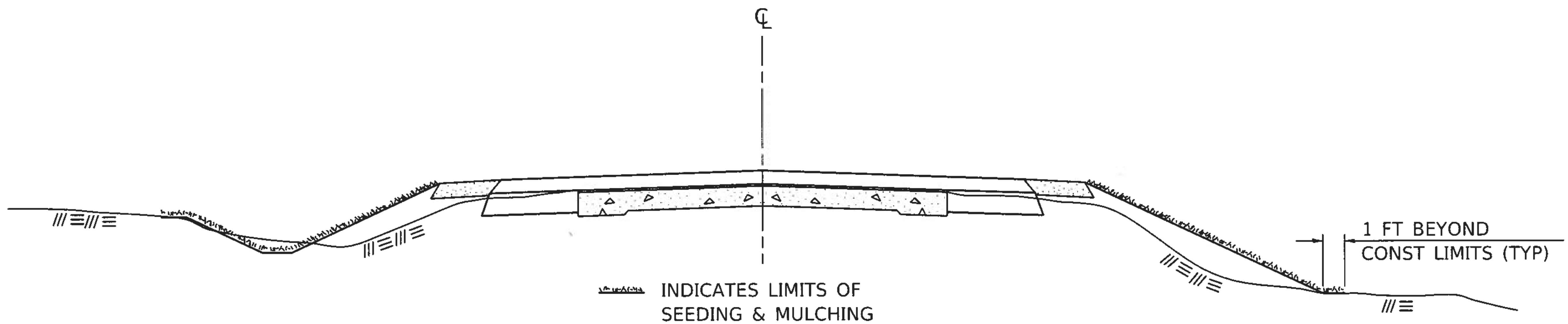
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	32
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

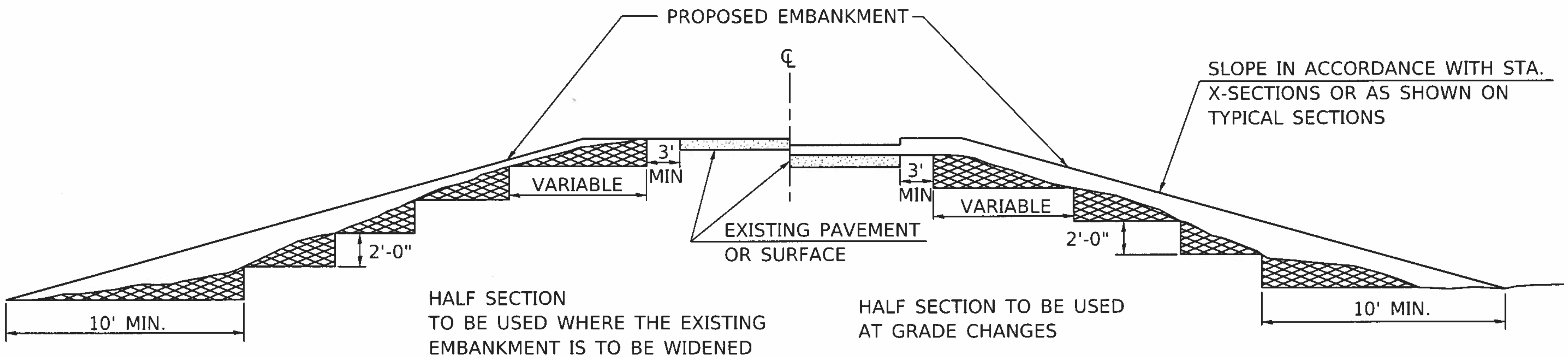
FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

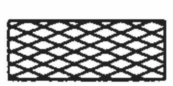
SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08

STD. 9-12

TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL





MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
CHECKED	6-3-99
RESIZED	5-7-08

STD. 9-16

MODEL: PLOT
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ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -
ESCA PROJECT NO 1259.10	DRAWN - SMA	REVISED -
PLOT SCALE = 0.1667 ' / in.	CHECKED - ELH	REVISED -
PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEP CONSTRUCTION ON EXISTING FILL DETAILS

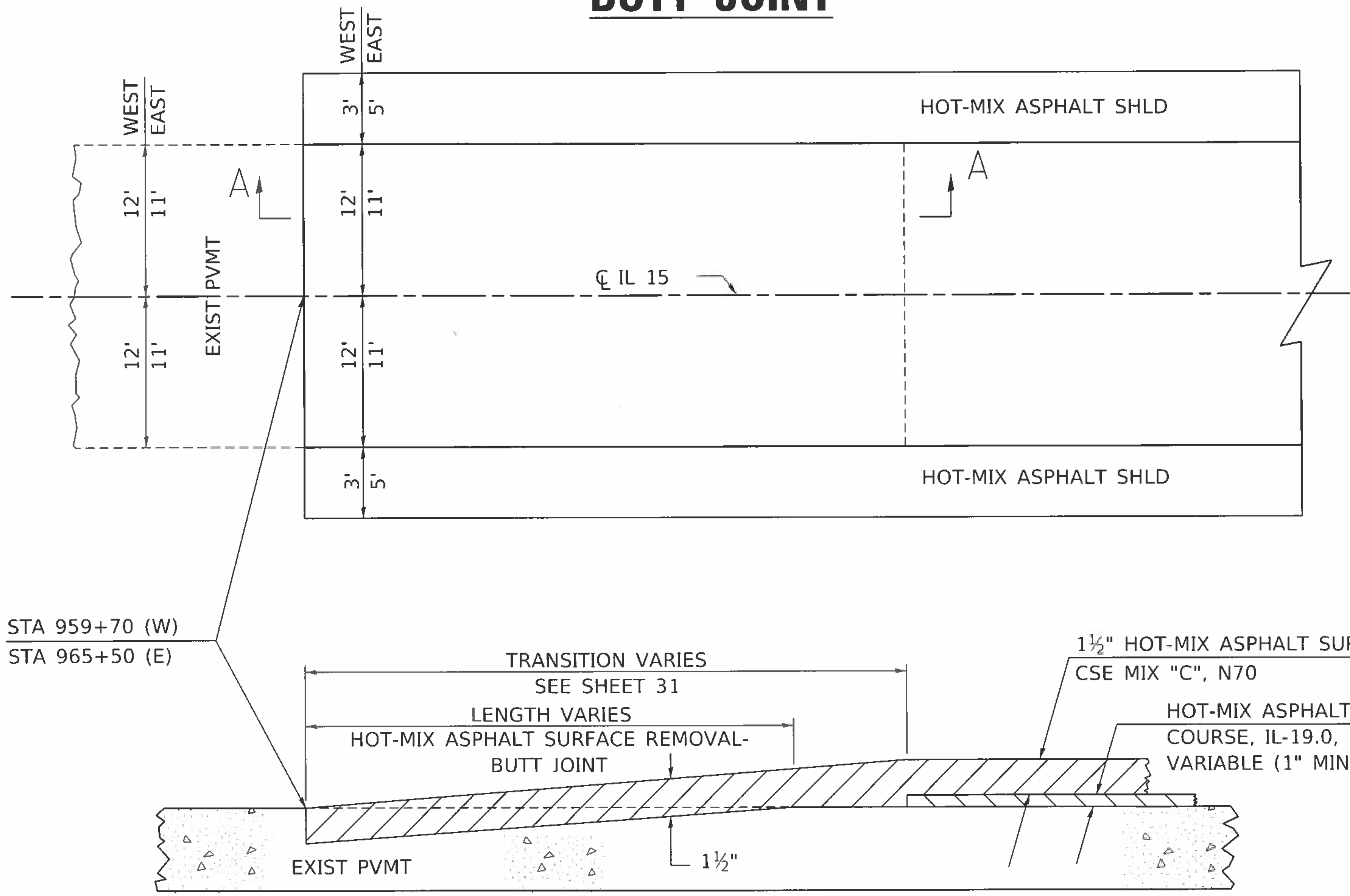
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	34

CONTRACT NO. 78458

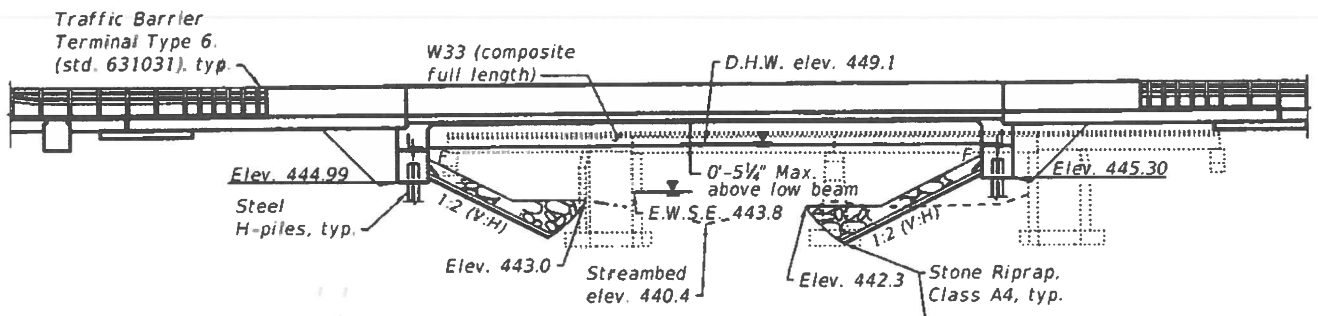
ILLINOIS | FED. AID PROJECT

BUTT JOINT

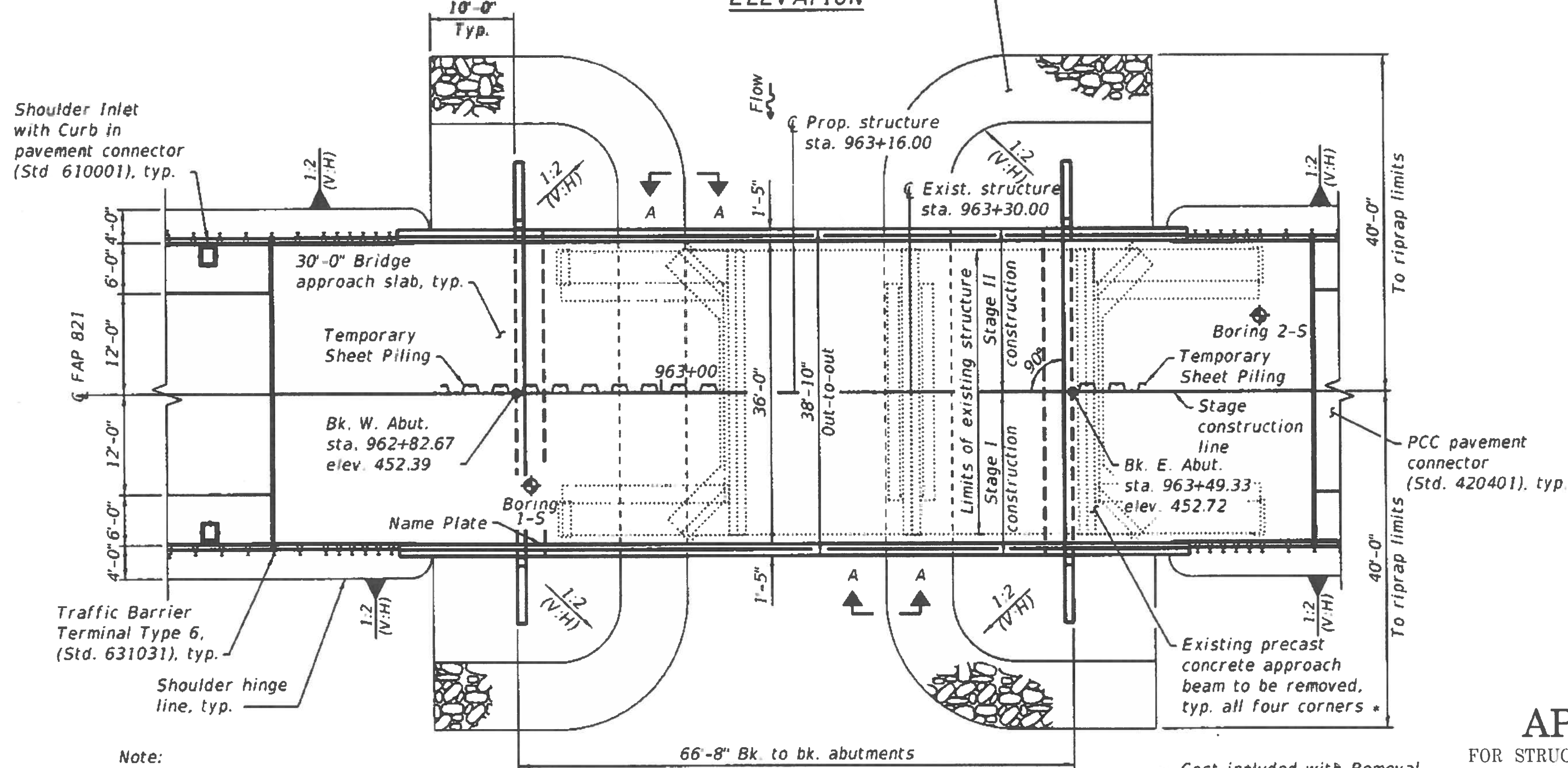


SECTION A–A

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BUTT JOINT DETAILS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -			821	12B-2	JEFFERSON	74	35
	PLOT SCALE = 0.1667 ' / in.	CHECKED - SKM/ELH	REVISED -					CONTRACT NO. 78458		
	PLOT DATE = 8/12/2019	DATE - 08/19	REVISED -		SCALE: NONE · SHEET NO. 1 OF 1 SHEETS · STA. · TO STA.			ILLINOIS FED. AID PROJECT		



ELEVATION



Note:
See Sheet 2 of 22 for Section A-A.

* Cost included with Removal of Existing Structures

PLAN

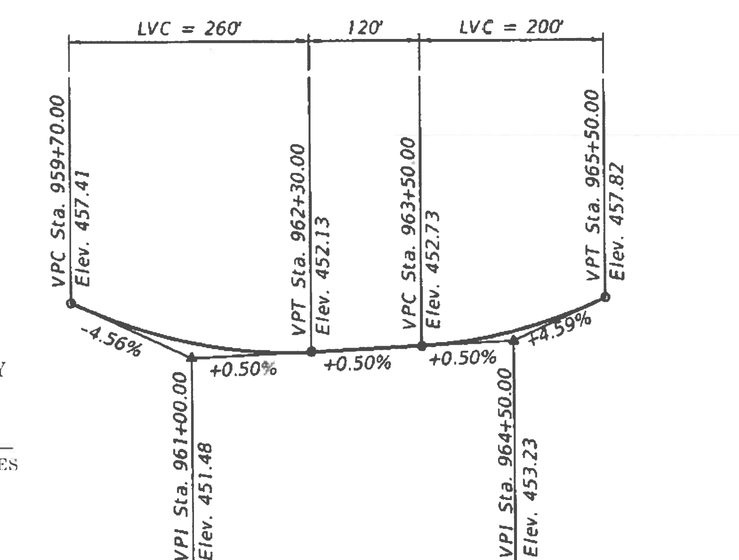
BENCHMARK: BM1510. Cut square on N. end of RCCP along IL 15, sta. 967+50 @ 22' LT., elev. 460.15 (NAVD 88)

EXISTING STRUCTURE:
SN 041-0020 was originally built in 1921 as Route 15 Section 12A & 12B. The superstructure was replaced, the abutments and pier were widened/reconstructed, and the railing/guardrail was installed in 1970. The deck was resurfaced and the keyways were repaired in 2006. Riprap with bedding and filter fabric was placed in 2009 during the scour remediation. The superstructure consists of two spans of nine 21" precast concrete channel beams. The spans are supported by a hammerhead pier on untreated timber piles and abutments on spread footings. The structure is not skewed. The back-to-back distance between the abutments is 44'-0", and the clear distance between the bridge rails is 33'-4". Traffic will be maintained using stage construction.

No salvage.

STRUCTURE INDEX OF SHEETS

General Plan & Elevation	Sheet No. 1 of 22
General Data	Sheet No. 2 of 22
Stage Construction Details	Sheet No. 3-4 of 22
Temporary Concrete Barrier for Stage Construction	Sheet No. 5 of 22
Top of Slab Elevations	Sheet No. 6 of 22
Top of Approach Slab Elevations	Sheet No. 7-8 of 22
Superstructure	Sheet No. 9 of 22
Superstructure Details	Sheet No. 10 of 22
Diaphragm Details	Sheet No. 11 of 22
Bridge Approach Slab Details	Sheet No. 12-13 of 22
Steel Framing Plan & Details	Sheet No. 14 of 22
Framing Details	Sheet No. 15 of 22
Bearing Details	Sheet No. 16 of 22
West Abutment	Sheet No. 17 of 22
East Abutment	Sheet No. 18 of 22
HP Pile Details	Sheet No. 19 of 22
Bar Splicer Assembly and Mechanical Splicer Details	Sheet No. 20 of 22
Boring Logs	Sheet No. 21-22 of 22



PROFILE GRADE
(Along ℄ roadway)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

DESIGN SCOUR ELEVATION TABLE

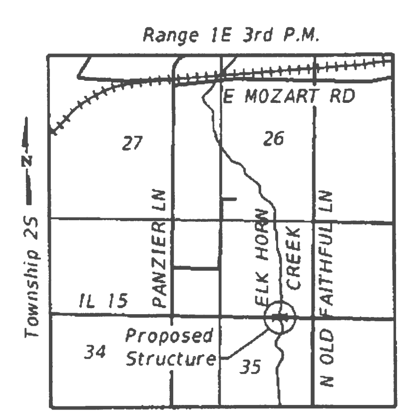
Event / Limit State	Design Scour Elevations (ft.) W. Abut.	E. Abut.	Item 113
Q100	445.0	445.3	8
Q200	445.0	445.3	
Design	445.0	445.3	
Check	445.0	445.3	

WATERWAY INFORMATION

Drainage Area = 1.9 Sq. Mi.
Exist. Overtopping Elev. 450.26 at Sta. 963+00
Prop. Overtopping Elev. 452.07 a. Sta. 962+04

Flood	Freq. Yr.	Discharge (C.F.S.)	Waterway Opening (sq. ft.) Exist.	Prop.	Natural H.W.E. (ft.)	Head (ft.) Exist.	Prop.	Headwater Elev. (ft.) Exist.	Prop.
	10	813	250	320	448.4	1.0	0.9	449.4	449.3
Design	50	1340	250	345	449.1	1.7	0.9	450.8	450.0
Base	100	1570	250	345	449.4	1.8	1.0	451.2	450.4
Scour Design Check	200	1830	250	345	449.6	2.1	1.2	451.7	450.8
Overtop Existing	30	1196	250	-	448.9	1.5	-	450.4	-
Overtop Proposed	-	-	-	-	-	-	-	-	-
Max. Calc.	500	2190	250	345	449.9	2.1	1.6	452.0	451.5

10 Year Velocity through Existing Bridge = 3.9 ft/s
10 Year Velocity through Proposed Bridge = 2.4 ft/s



LOCATION SKETCH

DESIGN SPECIFICATIONS

2017 AASHTO LRFD
Bridge Design Specifications
8th Edition

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN STRESSES
FIELD UNITS

f'c = 3,500 psi (substructure)
f'c = 4,000 psi (superstructure)
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (AASHTO M270 Grade 50)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.427g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.849g
Soil Site Classification = E

STATE OF ILLINOIS
LICENSED STRUCTURAL ENGINEER
No. 6159
EXPIRES 11-30-20
SIGNATURE
06/18/19
DATE

GENERAL PLAN & ELEVATION
IL 15 OVER ELK HORN CREEK
FAP ROUTE 821 - SECTION 12B-2
JEFFERSON COUNTY
STATION 963+16.00
STRUCTURE NO. 041-0114

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -
	PLOT SCALE = 0.167 ' / in	DRAWN - KAH 02/19	REVISED -
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 22 SHEETS

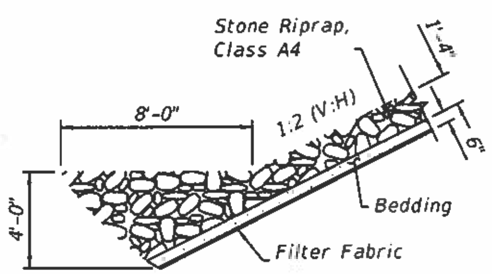
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	36
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts ⅞" ⌀, holes $^{15}/_{16}$" ⌀, unless otherwise noted.
2. Calculated weight of Structural Steel = 45,440 lbs. (Grade 50)
   5,400 lbs. (Grade 36)
3. No field welding is permitted except as specified in the contract documents.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8.
6. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
7. Slipforming of the parapets is not allowed.

STATION 963+16.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 821 SEC. 12B-2
LOADING HL-93
STR. NO. 041-0114

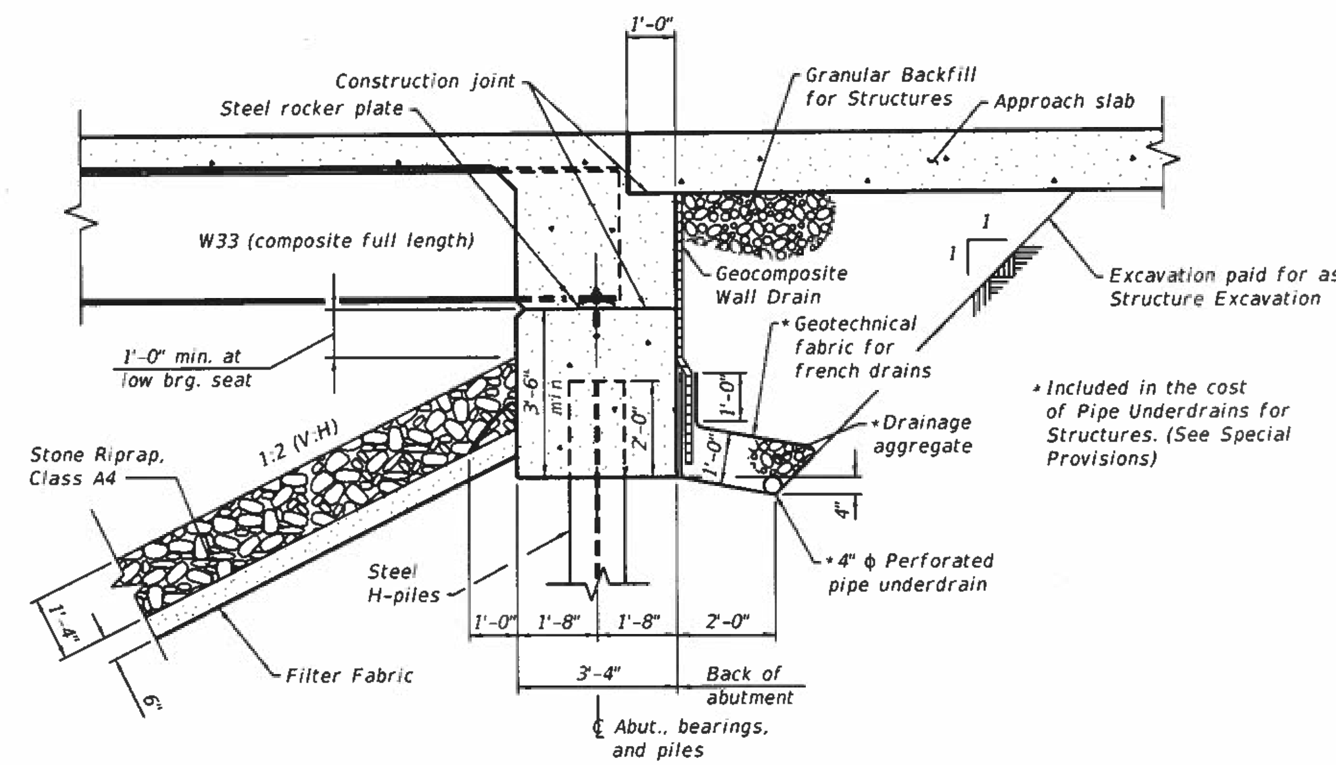
NAME PLATE
See Std. 515001



SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		440	440
Filter Fabric	Sq. Yd.		440	440
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		120	120
Concrete Structures	Cu. Yd.	22.8	41.2	64.0
Concrete Superstructure	Cu. Yd.	117.7		117.7
Bridge Deck Grooving	Sq. Yd.	471		471
Protective Coat	Sq. Yd.	591		591
Concrete Superstructure (Approach Slab)	Cu. Yd.	106.0		106.0
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	972		972
Reinforcement Bars, Epoxy Coated	Pound	62,830	11,720	74,550
Bar Splicers	Each	420	100	520
Furnishing Steel Piles HP12x63	Foot		640	640
Driving Piles	Foot		640	640
Test Pile Steel HP12x63	Each		2	2
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Temporary Sheet Piling	Sq. Ft.		1,200	1,200
Geocomposite Wall Drain	Sq. Yd.		70	70
Granular Backfill for Structures	Cu. Yd.		130	130
Pipe Underdrains for Structures 4"	Foot		143	143



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

SECTION THROUGH INTEGRAL ABUTMENT

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

ESCA CONSULTANTS, INC.

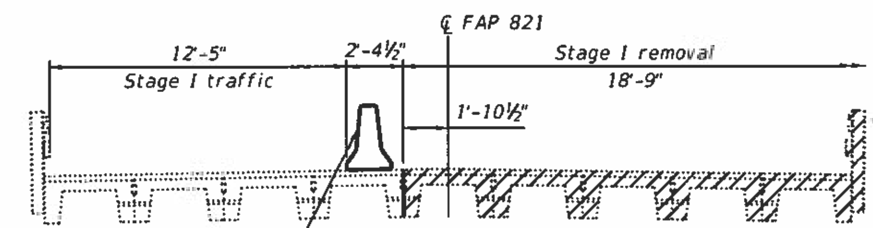
USER NAME = shl	DESIGNED - SHL 02/19	REVISED -
ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -
PLOT SCALE = 0:2 " / in.	DRAWN - KAH 02/19	REVISED -
PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

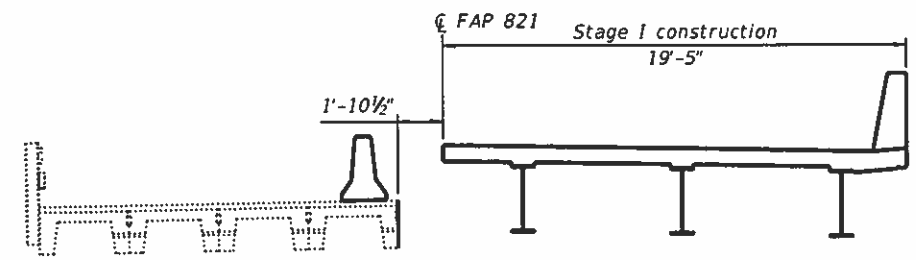
GENERAL DATA
STRUCTURE NO. 041-0114
SHEET 2 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	37

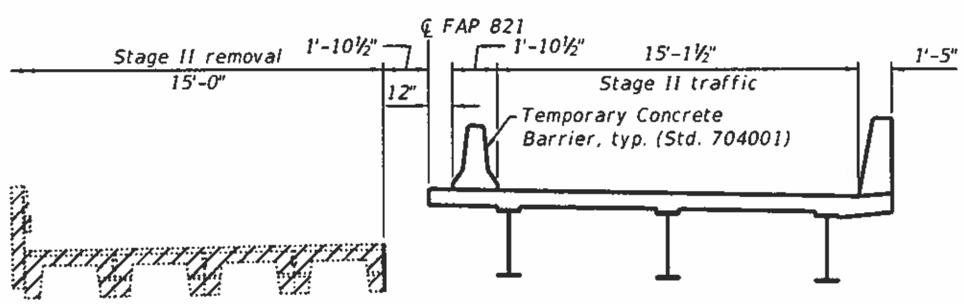
CONTRACT NO. 78458
ILLINOIS FED. AID PROJECT



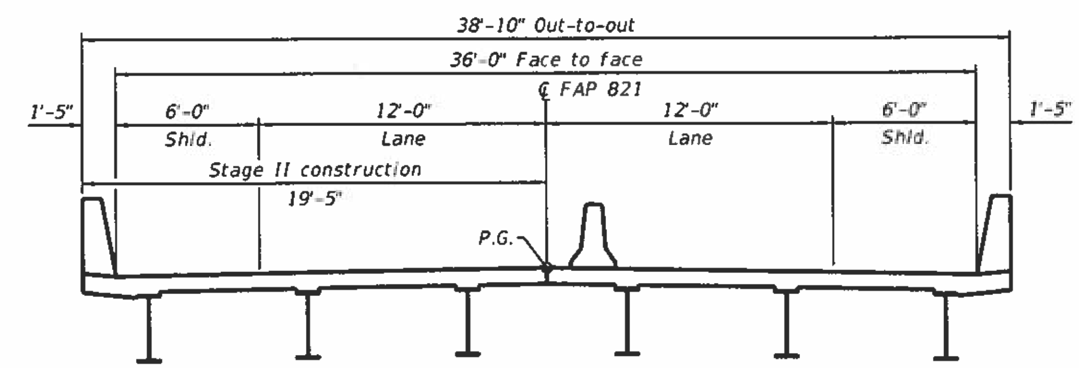
STAGE I REMOVAL
(Looking East)



STAGE I CONSTRUCTION
(Looking East)



STAGE II REMOVAL
(Looking East)



STAGE II CONSTRUCTION
(Looking East)

Notes:

Hatched areas indicate Removal of Existing Structures which shall include removal of the existing asphalt wearing surface.

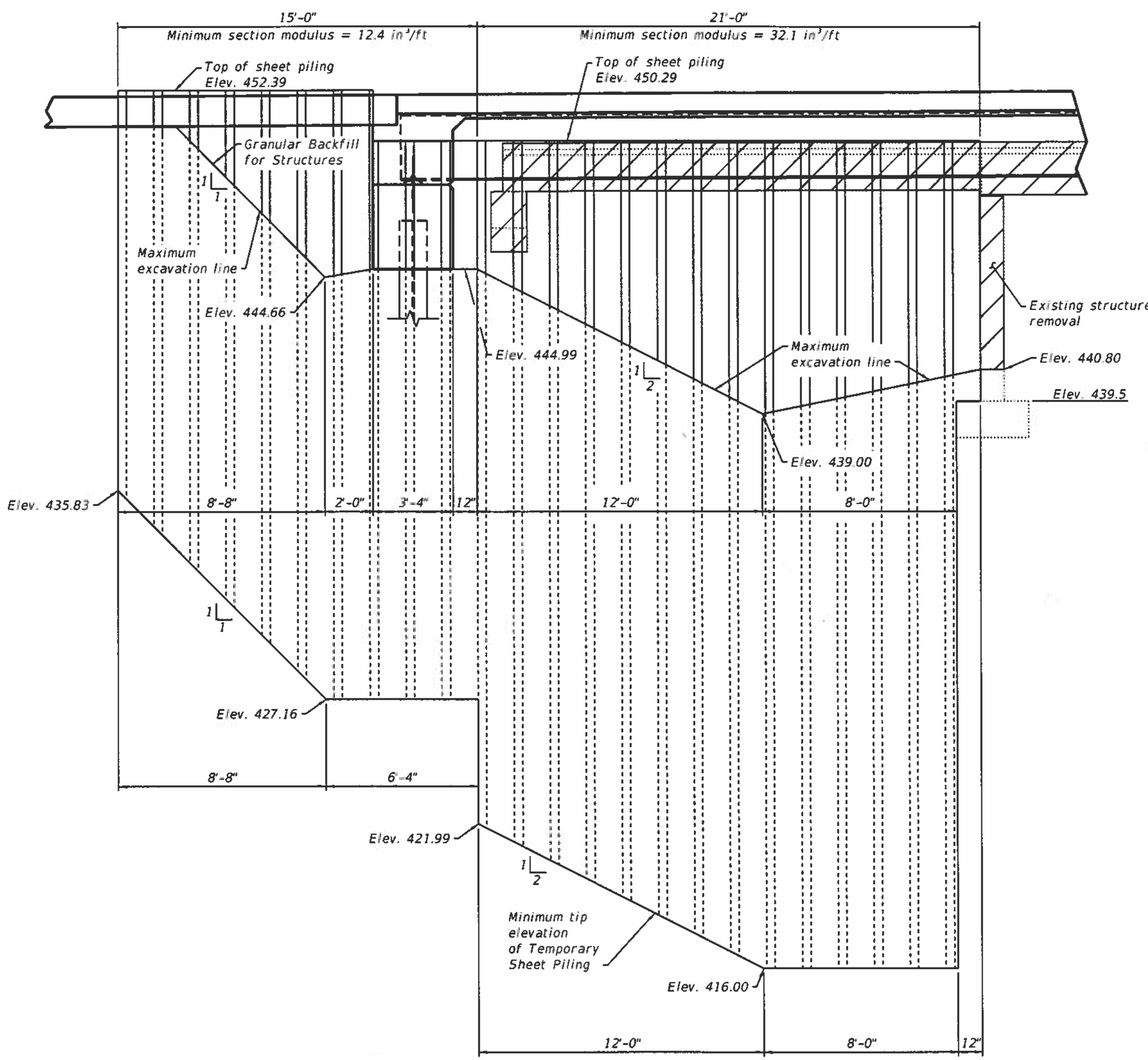
For quantities of Temporary Concrete Barrier, see Roadway Plans.

Cost of removing the existing bridge rail is included with Removal of Existing Structures.

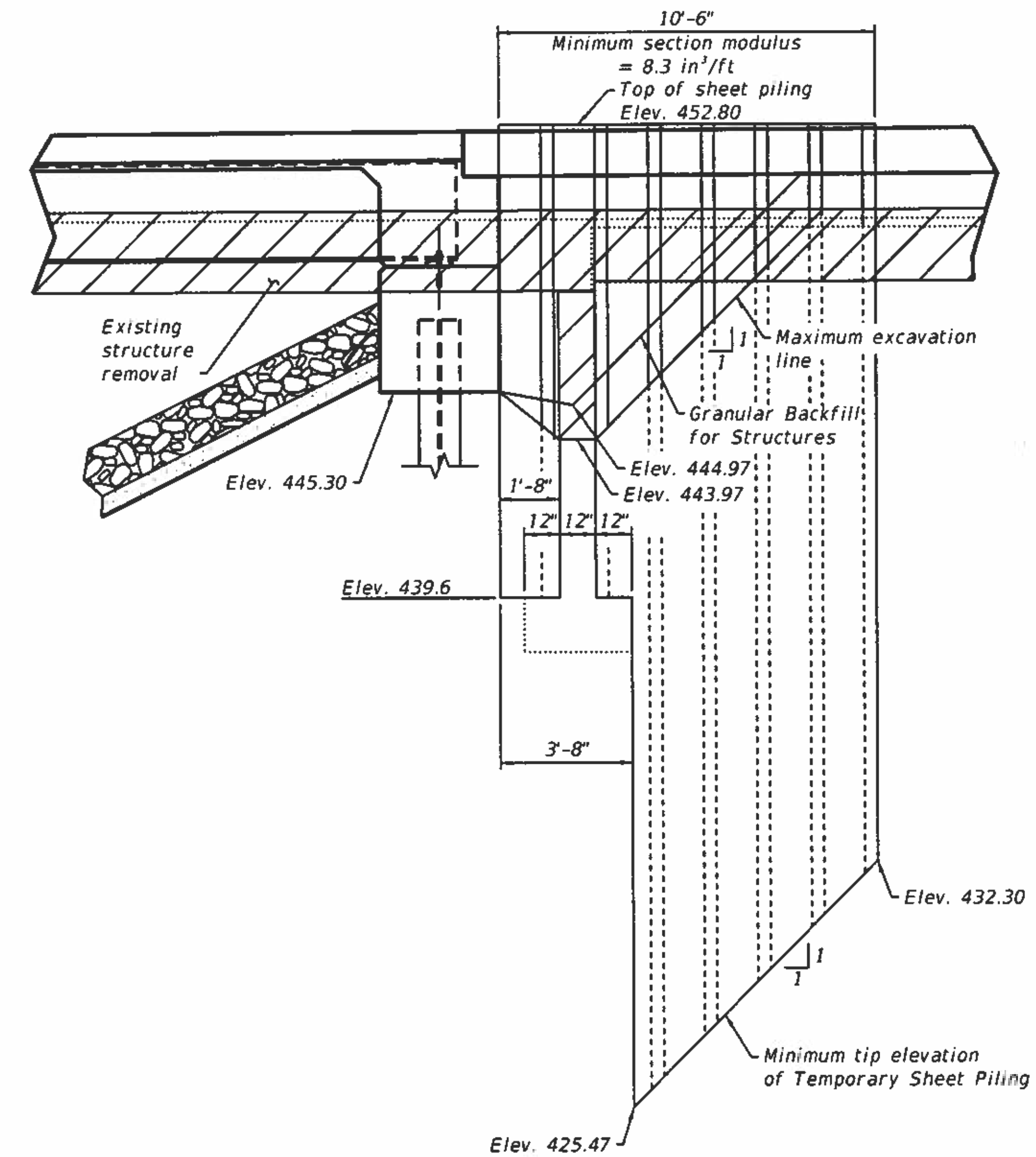
(Sheet 1 of 2)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS STRUCTURE NO. 041-0114
	ESCA PROJECT NO 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		
	PLOT SCALE = 0:2 ' / in.	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 3 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	38
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



TEMPORARY SHEET PILING
(West Abutment)



TEMPORARY SHEET PILING
(East Abutment)

Notes:

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

The Contractor shall connect the first sheet to the existing abutment wall and the proposed abutment cap to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

Existing structure details are taken from existing plans.

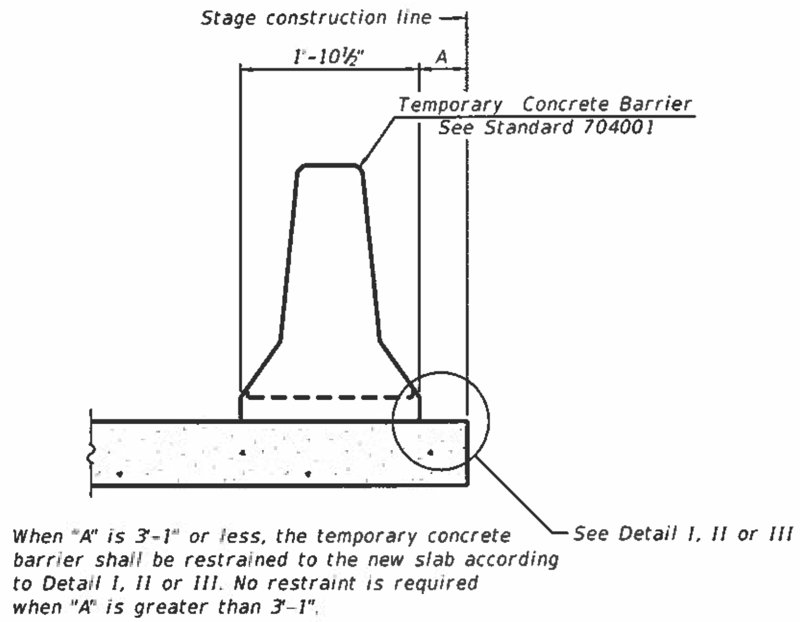
(Sheet 2 of 2)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -
	PLOT SCALE = 0.167 ' / in	DRAWN - KAH 02/19	REVISED -
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -

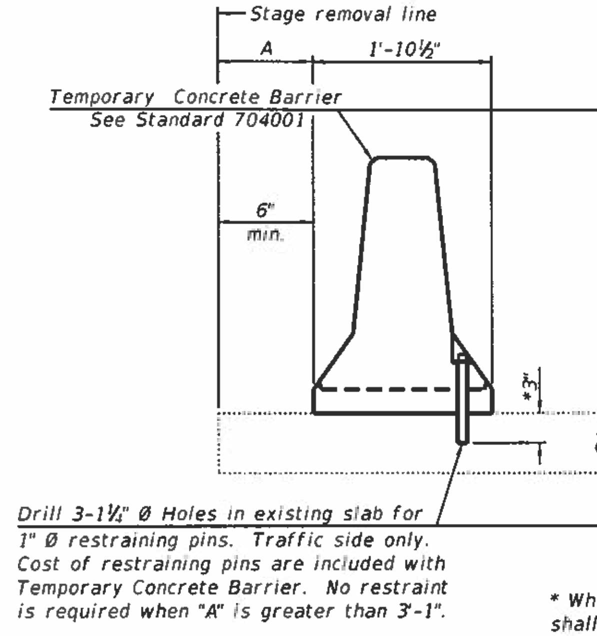
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 041-0114
SHEET 4 OF 22 SHEETS

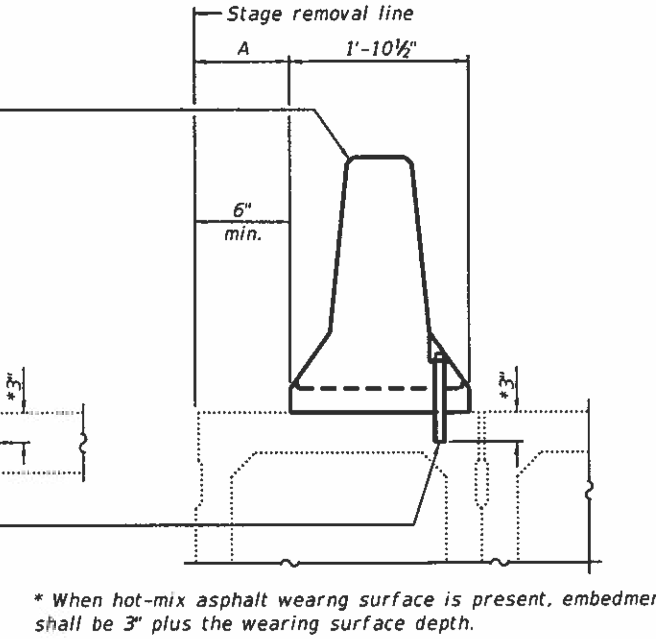
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	39
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



NEW SLAB OR NEW DECK BEAM

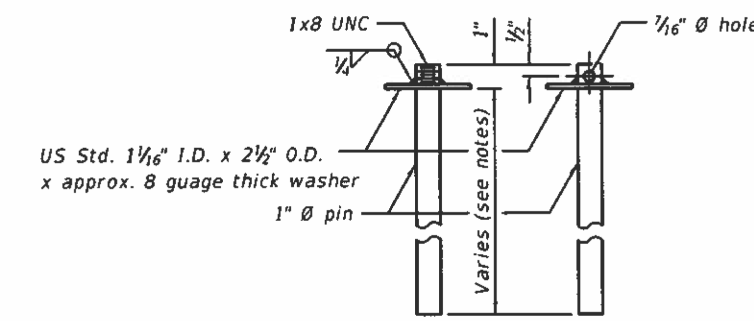


EXISTING SLAB

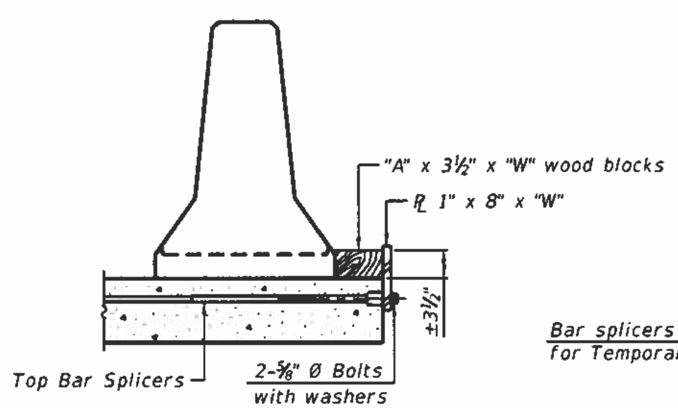


EXISTING DECK BEAM

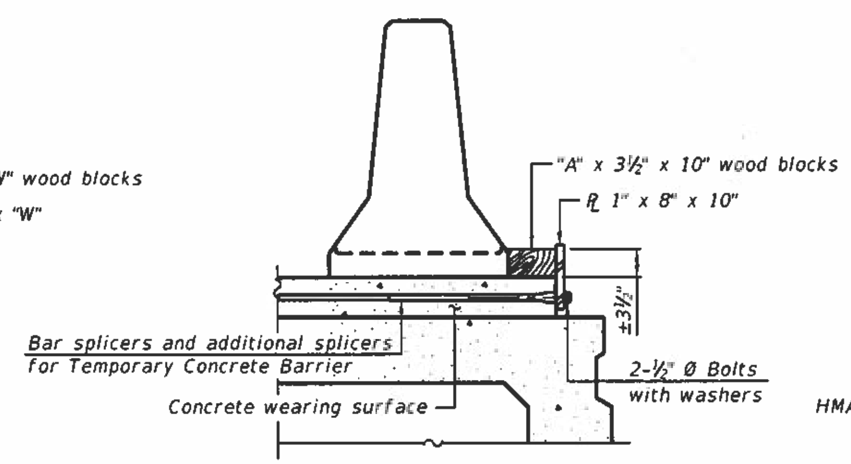
SECTIONS THRU SLAB OR DECK BEAM



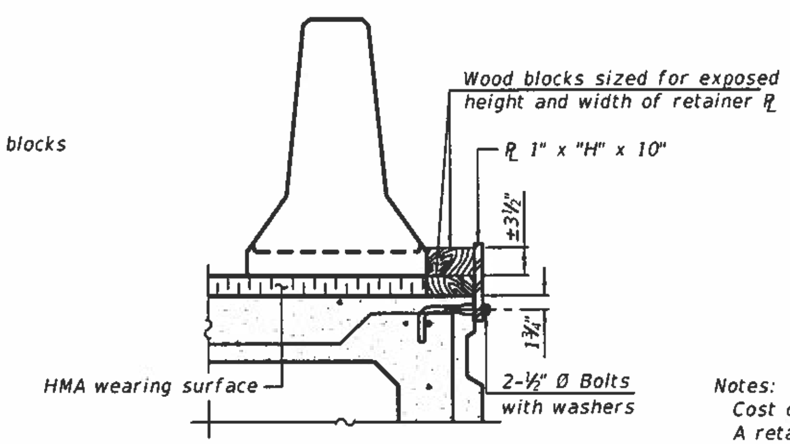
RESTRAINING PIN



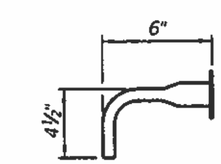
DETAIL I



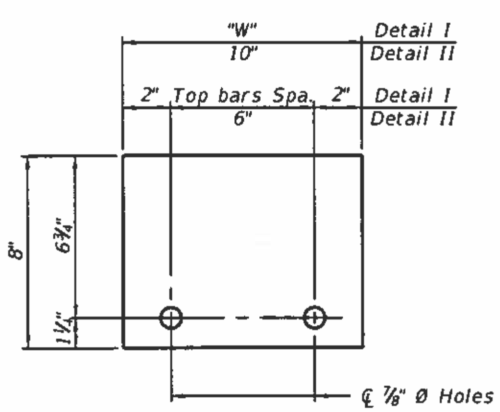
DETAIL II



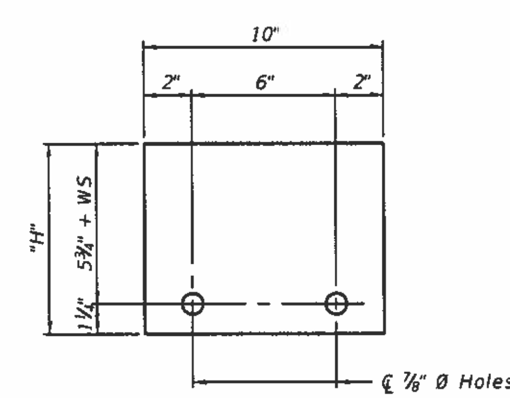
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER PL 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER PL 1" x "H" x 10"
(Detail III)

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ of each temporary concrete barrier.

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

R-27

8-11-2017

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 041-0114
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 5 OF 22 SHEETS
	PLOT SCALE =	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	40
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

BEAM 1

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	-16.67	452.12	452.12
℄ Brg. W. Abut.	962+84.34	-16.67	452.13	452.13
a	962+94.34	-16.67	452.18	452.24
b	963+04.34	-16.67	452.23	452.34
c	963+14.34	-16.67	452.28	452.41
d	963+24.34	-16.67	452.33	452.45
e	963+34.34	-16.67	452.38	452.46
℄ Brg. E. Abut.	963+47.66	-16.67	452.44	452.44
E. End of Slab	963+48.33	-16.67	452.44	452.44

BEAM 2

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	-10.00	452.25	452.25
℄ Brg. W. Abut.	962+84.34	-10.00	452.25	452.25
a	962+94.34	-10.00	452.30	452.36
b	963+04.34	-10.00	452.35	452.46
c	963+14.34	-10.00	452.40	452.53
d	963+24.34	-10.00	452.45	452.57
e	963+34.34	-10.00	452.50	452.58
℄ Brg. E. Abut.	963+47.66	-10.00	452.56	452.56
E. End of Slab	963+48.33	-10.00	452.57	452.57

BEAM 3

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	-3.33	452.35	452.35
℄ Brg. W. Abut.	962+84.34	-3.33	452.35	452.35
a	962+94.34	-3.33	452.40	452.46
b	963+04.34	-3.33	452.45	452.56
c	963+14.34	-3.33	452.50	452.63
d	963+24.34	-3.33	452.55	452.67
e	963+34.34	-3.33	452.60	452.68
℄ Brg. E. Abut.	963+47.66	-3.33	452.66	452.66
E. End of Slab	963+48.33	-3.33	452.67	452.67

BEAM 4

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	3.33	452.35	452.35
℄ Brg. W. Abut.	962+84.34	3.33	452.35	452.35
a	962+94.34	3.33	452.40	452.46
b	963+04.34	3.33	452.45	452.56
c	963+14.34	3.33	452.50	452.63
d	963+24.34	3.33	452.55	452.67
e	963+34.34	3.33	452.60	452.68
℄ Brg. E. Abut.	963+47.66	3.33	452.66	452.66
E. End of Slab	963+48.33	3.33	452.67	452.67

BEAM 5

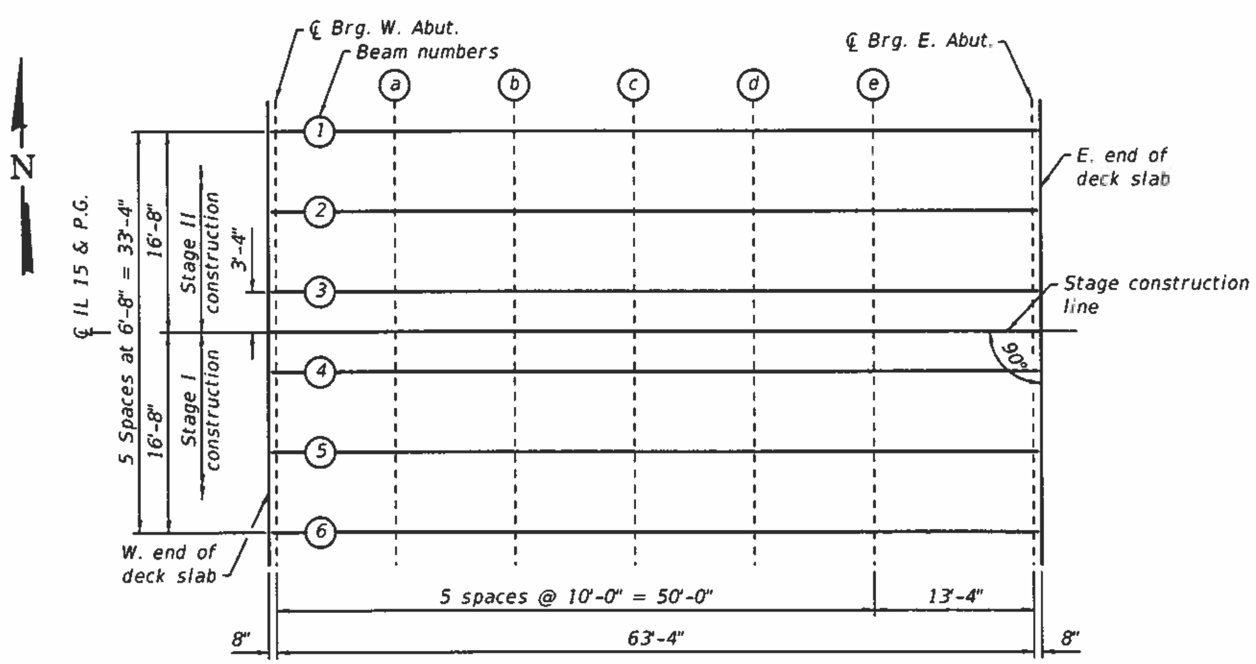
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	10.00	452.25	452.25
℄ Brg. W. Abut.	962+84.34	10.00	452.25	452.25
a	962+94.34	10.00	452.30	452.36
b	963+04.34	10.00	452.35	452.46
c	963+14.34	10.00	452.40	452.53
d	963+24.34	10.00	452.45	452.57
e	963+34.34	10.00	452.50	452.58
℄ Brg. E. Abut.	963+47.66	10.00	452.56	452.56
E. End of Slab	963+48.33	10.00	452.57	452.57

BEAM 6

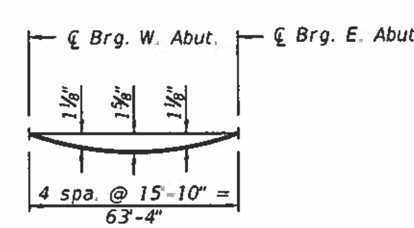
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	16.67	452.12	452.12
℄ Brg. W. Abut.	962+84.34	16.67	452.13	452.13
a	962+94.34	16.67	452.18	452.24
b	963+04.34	16.67	452.23	452.34
c	963+14.34	16.67	452.28	452.41
d	963+24.34	16.67	452.33	452.45
e	963+34.34	16.67	452.38	452.46
℄ Brg. E. Abut.	963+47.66	16.67	452.44	452.44
E. End of Slab	963+48.33	16.67	452.44	452.44

℄ ROADWAY, PROFILE GRADE & STAGE CONSTRUCTION LINE

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
W. End of Slab	962+83.67	0.00	452.40	452.40
℄ Brg. W. Abut.	962+84.34	0.00	452.40	452.40
a	962+94.34	0.00	452.45	452.51
b	963+04.34	0.00	452.50	452.61
c	963+14.34	0.00	452.55	452.68
d	963+24.34	0.00	452.60	452.72
e	963+34.34	0.00	452.65	452.73
℄ Brg. E. Abut.	963+47.66	0.00	452.71	452.71
E. End of Slab	963+48.33	0.00	452.72	452.72



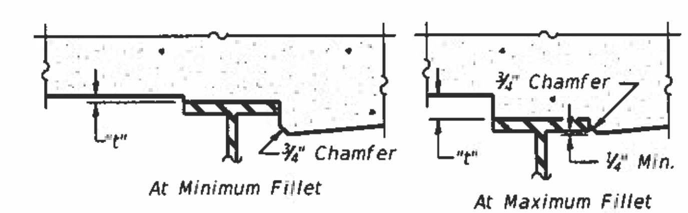
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet.



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

FILLET HEIGHTS

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS STRUCTURE NO. 041-0114
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 6 OF 22 SHEETS
	PLOT SCALE = 0.2 ' / in	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	41
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

WEST APPROACH SLAB

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	962+53.67	-18.00	451.95
A1	962+63.67	-18.00	452.00
A2	962+73.67	-18.00	452.05
E. End of W. Appr.	962+83.67	-18.00	452.10

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	962+53.67	-12.00	452.07
A1	962+63.67	-12.00	452.12
A2	962+73.67	-12.00	452.17
E. End of W. Appr.	962+83.67	-12.00	452.22

℄ ROADWAY, P.G. & STAGE CONSTRUCTION LINE

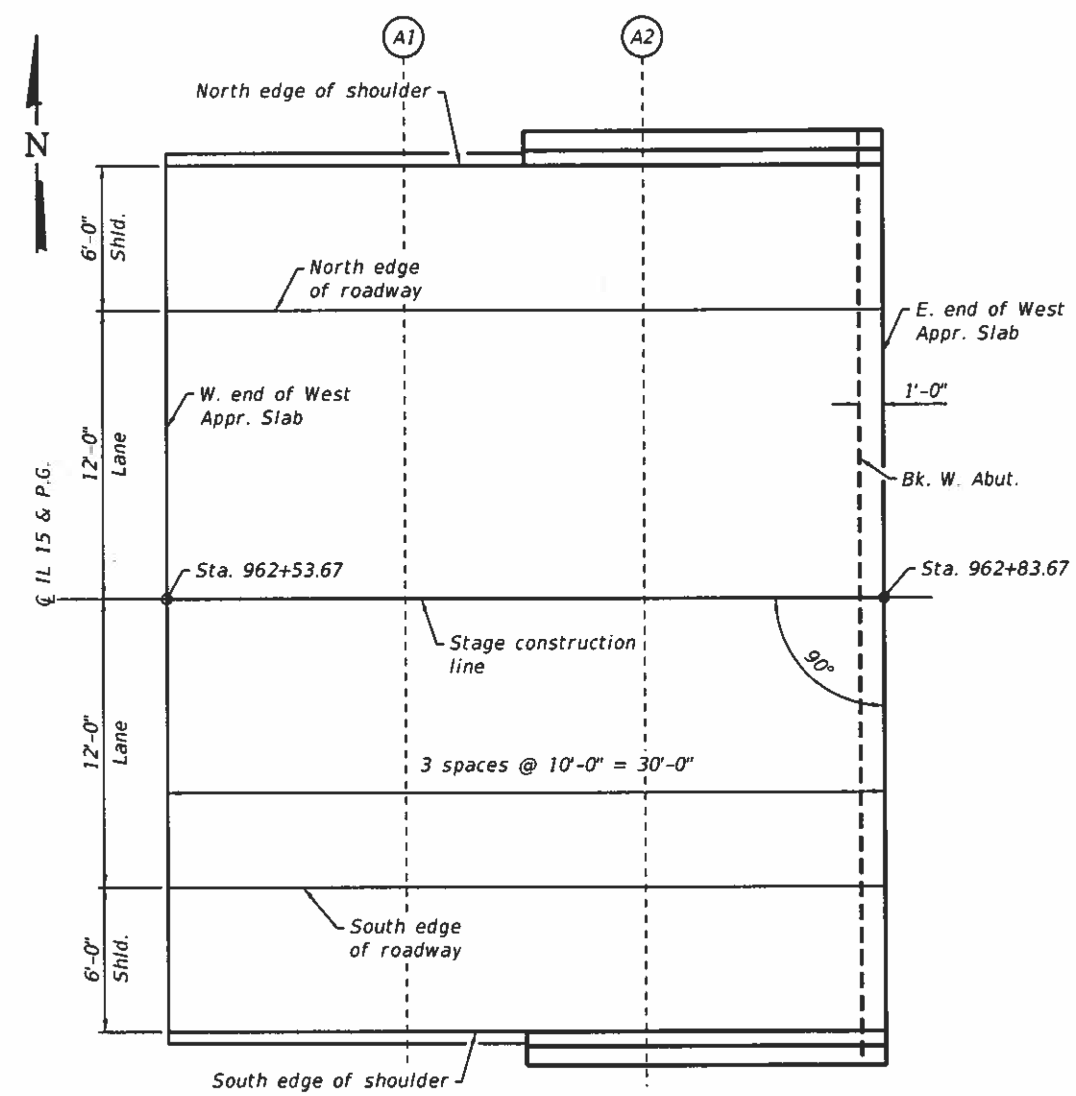
Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	962+53.67	0.00	452.25
A1	962+63.67	0.00	452.30
A2	962+73.67	0.00	452.35
E. End of W. Appr.	962+83.67	0.00	452.40

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	962+53.67	12.00	452.07
A1	962+63.67	12.00	452.12
A2	962+73.67	12.00	452.17
E. End of W. Appr.	962+83.67	12.00	452.22

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Appr.	962+53.67	18.00	451.95
A1	962+63.67	18.00	452.00
A2	962+73.67	18.00	452.05
E. End of W. Appr.	962+83.67	18.00	452.10

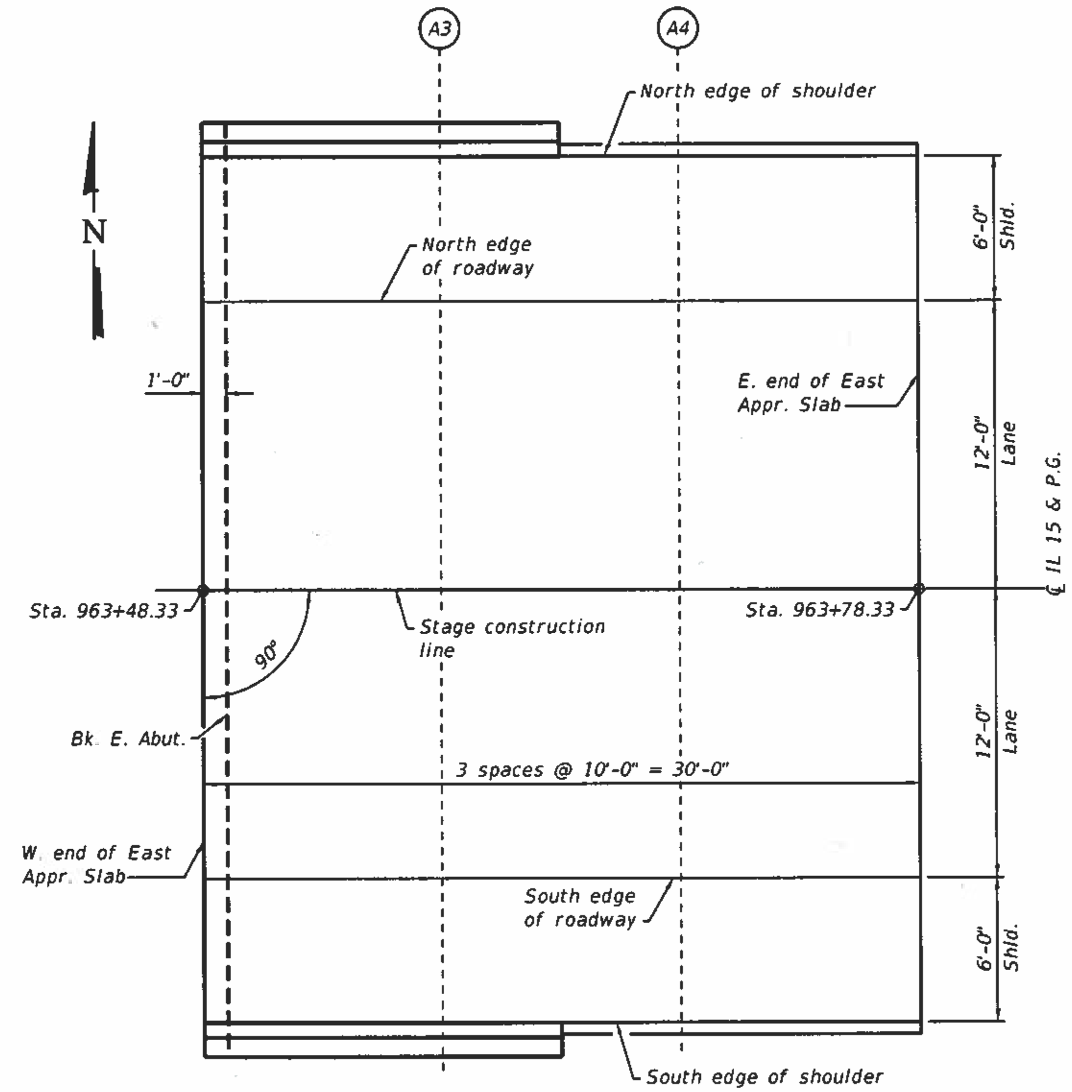


W. APPROACH SLAB PLAN

(Sheet 1 of 2)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF APPROACH SLAB ELEVATIONS STRUCTURE NO. 041-0114
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		
	PLOT SCALE = 0.2 ' / in.	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 7 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	42
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



E. APPROACH SLAB PLAN

EAST APPROACH SLAB

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	963+48.33	-18.00	452.42
A3	963+58.33	-18.00	452.48
A4	963+68.33	-18.00	452.56
E. End of E. Appr.	963+78.33	-18.00	452.65

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	963+48.33	-12.00	452.54
A3	963+58.33	-12.00	452.60
A4	963+68.33	-12.00	452.68
E. End of E. Appr.	963+78.33	-12.00	452.77

℄ ROADWAY, P.G. & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	963+48.33	0.00	452.72
A3	963+58.33	0.00	452.78
A4	963+68.33	0.00	452.86
E. End of E. Appr.	963+78.33	0.00	452.95

SOUTH EDGE OF ROADWAY

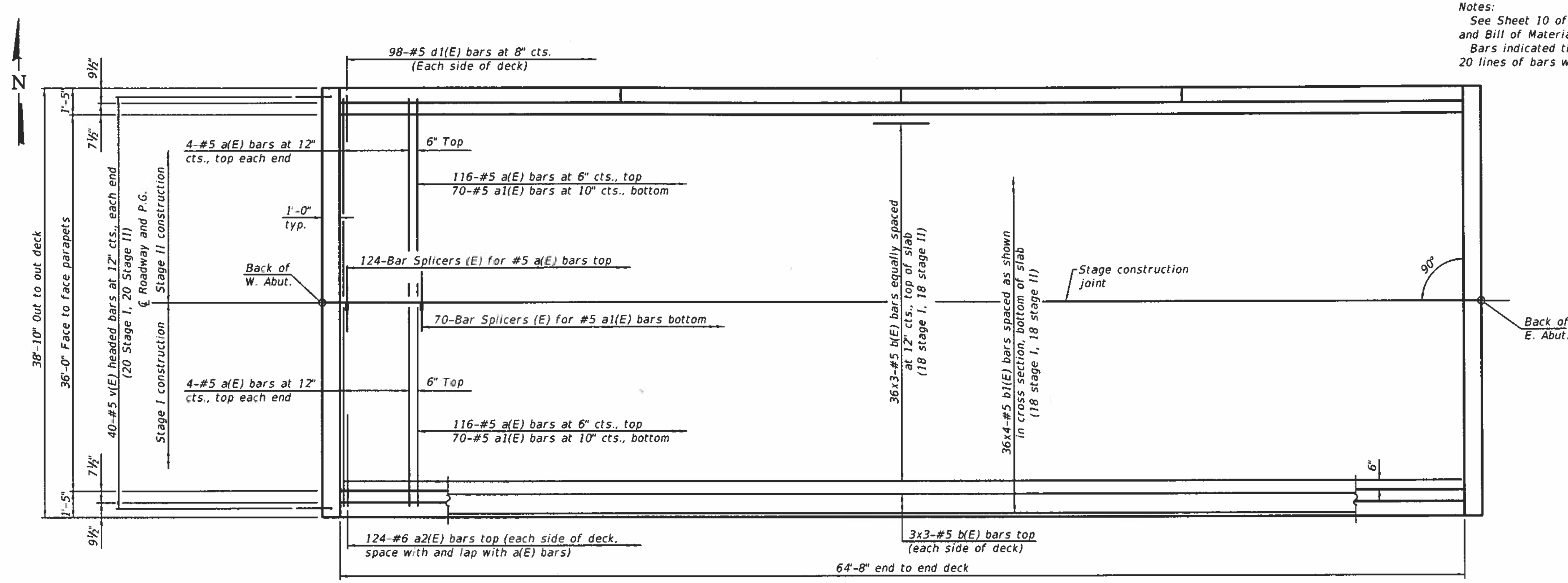
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	963+48.33	12.00	452.54
A3	963+58.33	12.00	452.60
A4	963+68.33	12.00	452.68
E. End of E. Appr.	963+78.33	12.00	452.77

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Appr.	963+48.33	18.00	452.42
A3	963+58.33	18.00	452.48
A4	963+68.33	18.00	452.56
E. End of E. Appr.	963+78.33	18.00	452.65

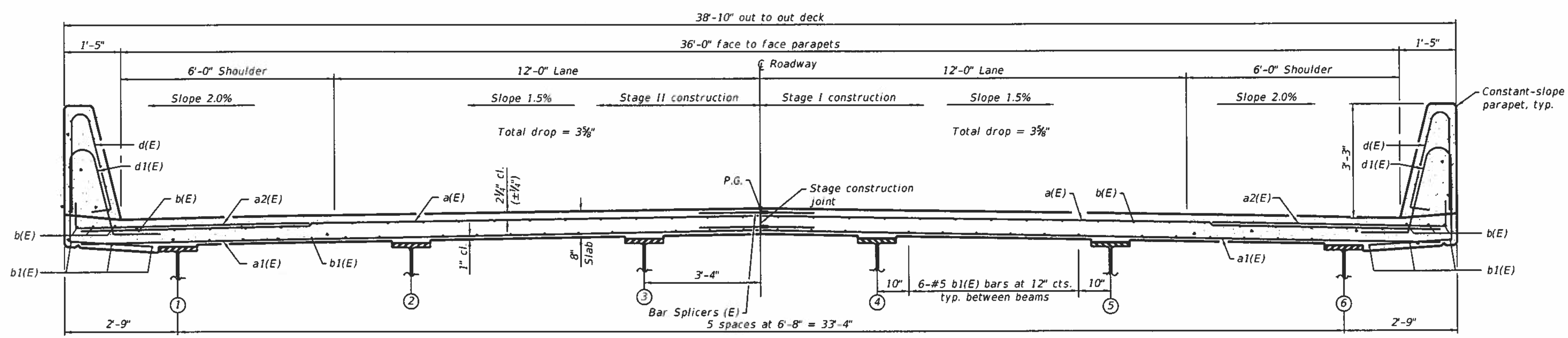
(Sheet 2 of 2)

Notes:
See Sheet 10 of 22 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



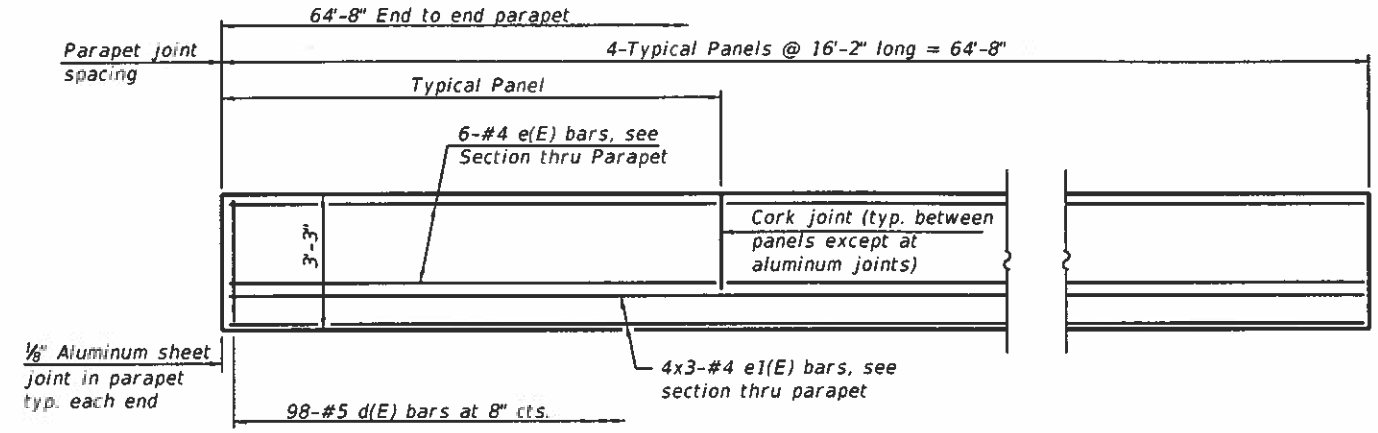
MINIMUM BAR LAP
(Deck)
#5 bar = 3'-6"

PLAN



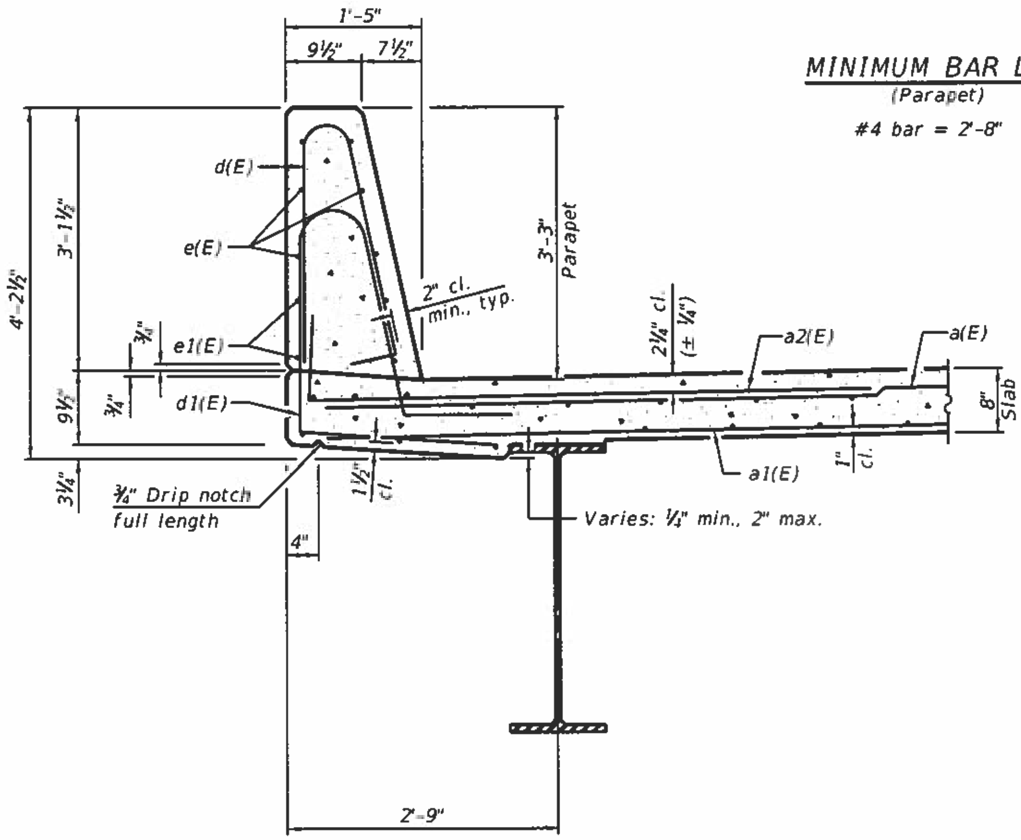
CROSS SECTION
(Looking East)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 041-0114	F.A.P. RTE. 821 / SECTION 12B-2 / COUNTY JEFFERSON / TOTAL SHEETS 74 / SHEET NO. 44
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -			CONTRACT NO. 78458
	PLOT SCALE = 0:2 ' / in.	DRAWN - KAH 02/19	REVISED -			
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 9 OF 22 SHEETS	ILLINOIS FED. AID PROJECT

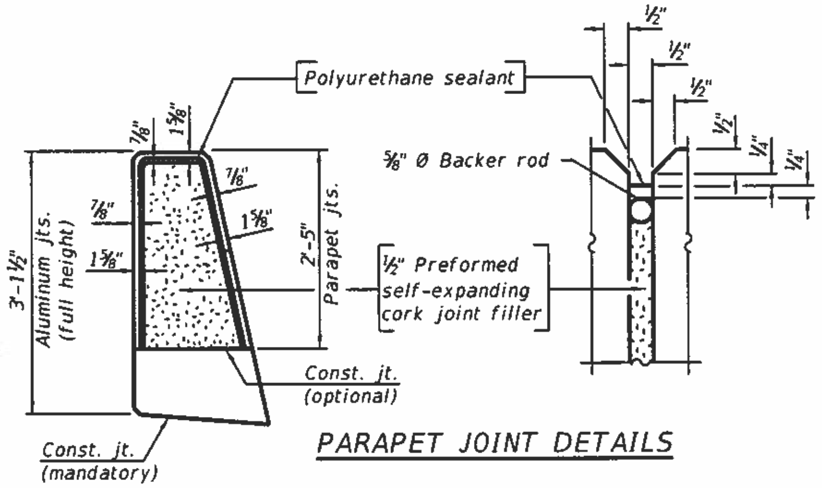


INSIDE ELEVATION OF PARAPET

MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-8"

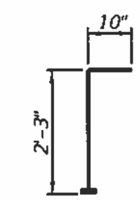


SECTION THRU PARAPET

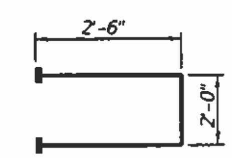


PARAPET JOINT DETAILS

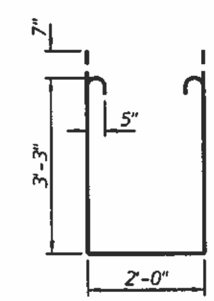
Notes:
The ⅛" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
Reinforcement bars shall not pass thru aluminum sheets and cork joint filler.



BAR v(E)
(Headed)



BAR s(E)
(Headed)

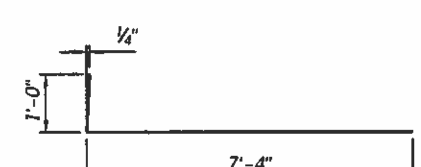


BAR s1(E)

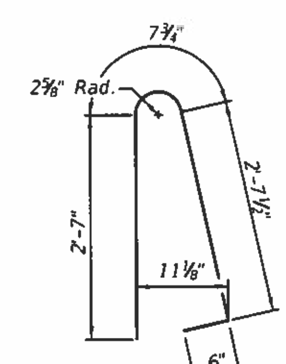
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	248	#5	19'-3"	
a1(E)	140	#5	18'-9"	
a2(E)	248	#6	8'-4"	
b(E)	126	#5	23'-10"	
b1(E)	144	#5	18'-9"	
d(E)	196	#5	6'-5"	
d1(E)	196	#5	8'-2"	
e(E)	48	#4	15'-10"	
e1(E)	24	#4	23'-3"	
m(E)	16	#6	19'-3"	
m1(E)	24	#6	6'-4"	
m2(E)	12	#6	2'-5"	
m3(E)	36	#5	4'-0"	
m4(E)	12	#6	3'-1"	
s(E)	72	#5	7'-0"	
s1(E)	72	#5	9'-8"	
v(E)	80	#5	3'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	23,090
Concrete Superstructure			Cu. Yd.	109.9

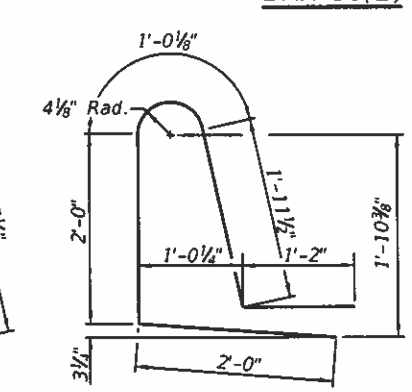
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



BAR a2(E)

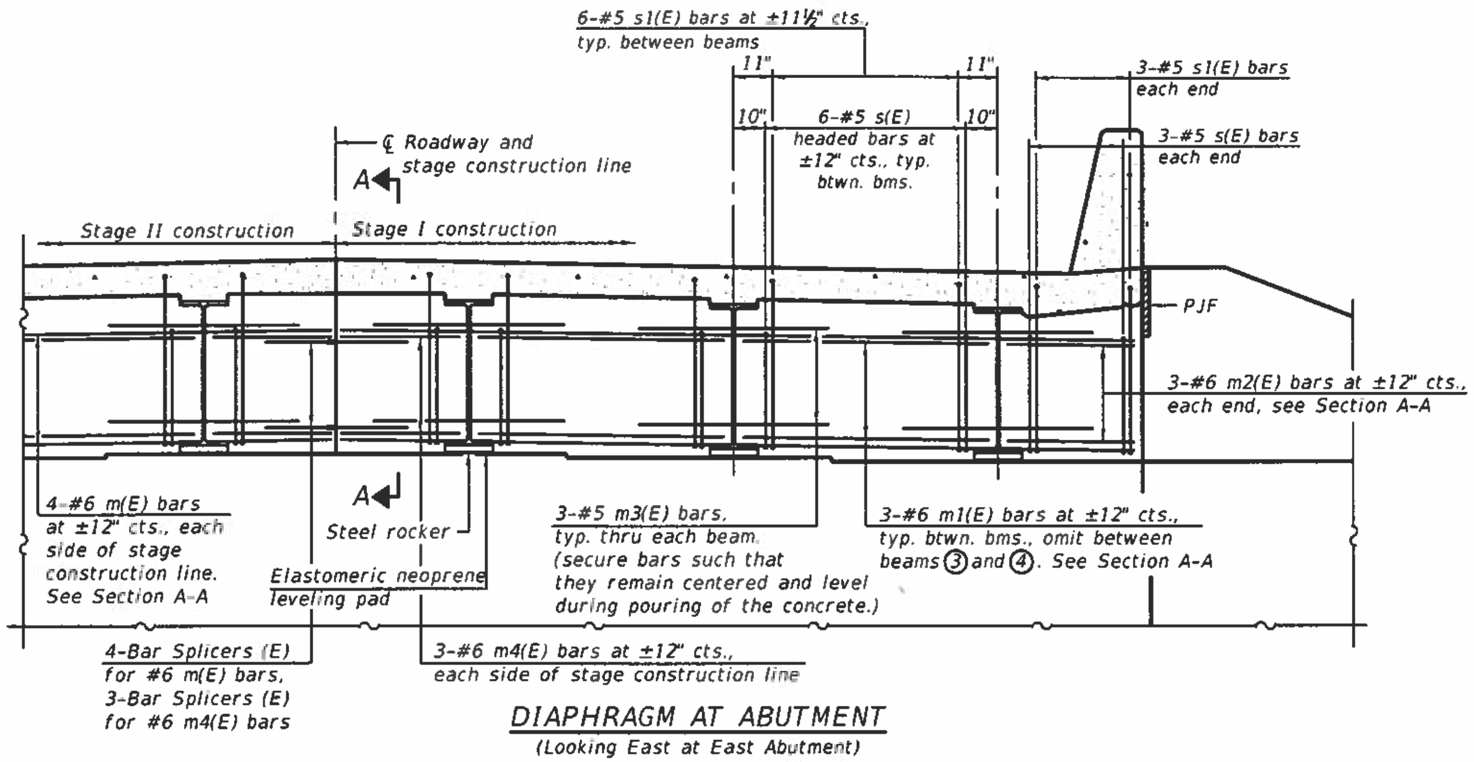


BAR d(E)

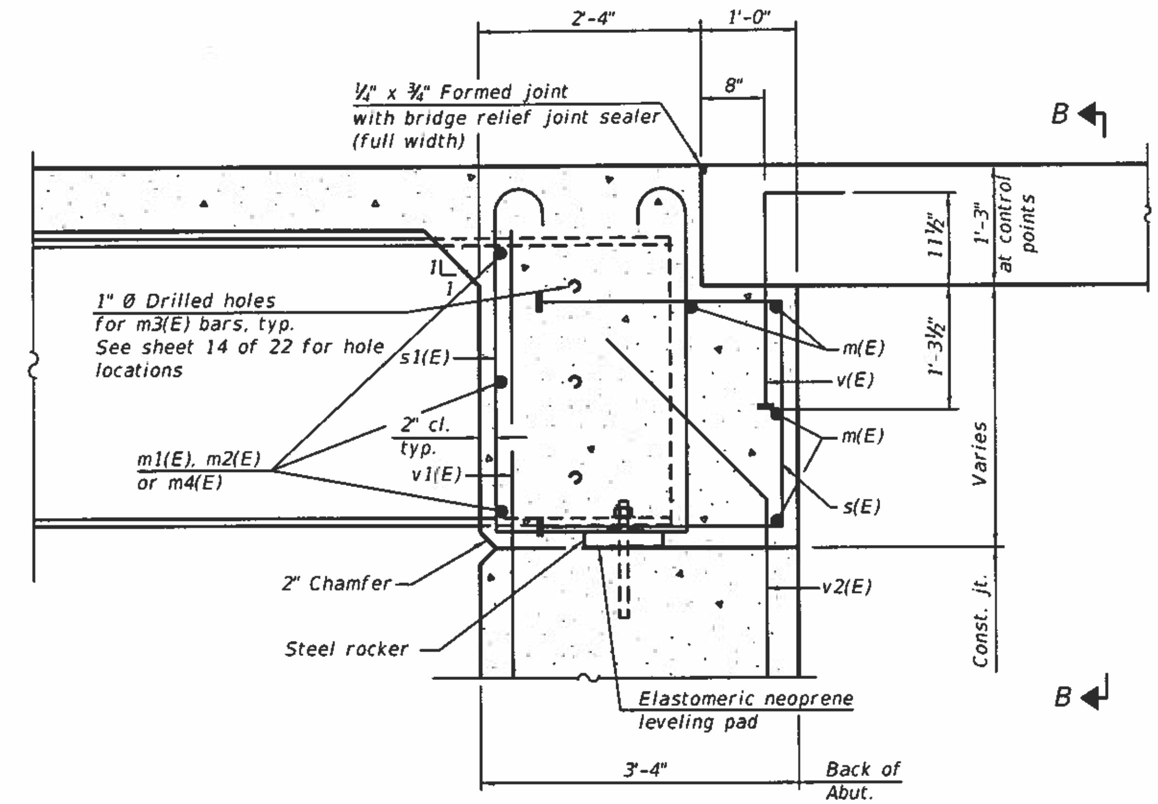


BAR d1(E)

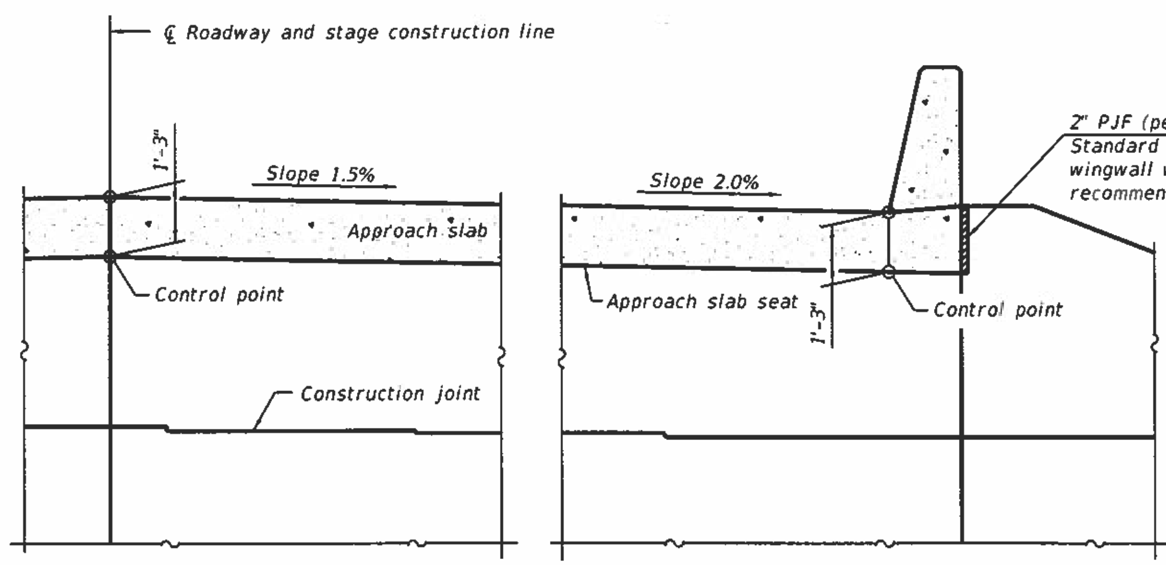
ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 041-0114	F.A.P. RTE 821	SECTION 12B-2
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -			COUNTY JEFFERSON	TOTAL SHEETS 74 / SHEET NO. 45
	PLOT SCALE = 0.1667 ' / in.	DRAWN - KAH 02/19	REVISED -			CONTRACT NO. 78458	
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 10 OF 22 SHEETS	ILLINOIS FED. AID PROJECT	



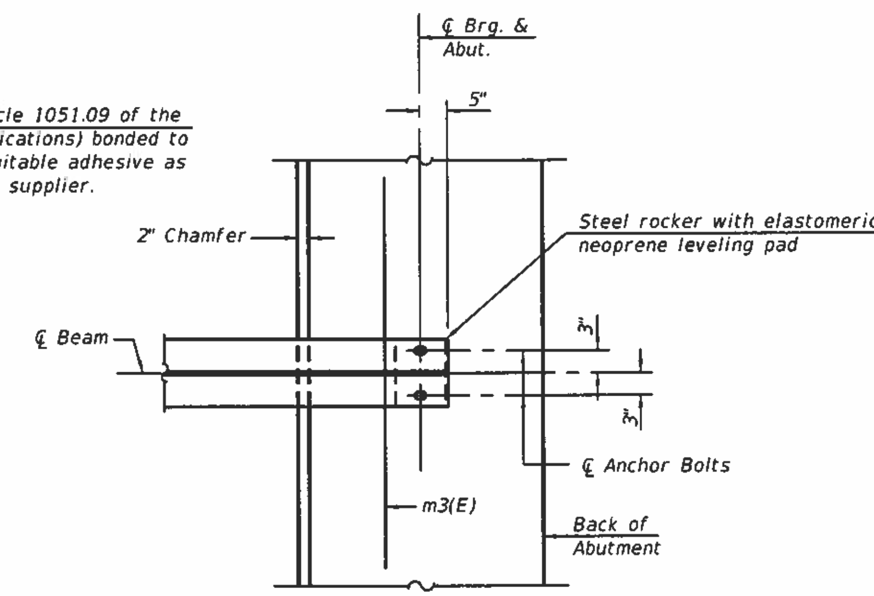
DIAPHRAGM AT ABUTMENT
(Looking East at East Abutment)



SECTION A-A



SECTION B-B



PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 22.
Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 22.
For details of bars s(E), s1(E) and v(E) see sheet 10 of 22.
For details of bars v1(E) and v2(E) see sheet 17 of 22 and 18 of 22.
The approach slab seat shall have a constant slope determined from the control points shown.
For bearing details see sheet 16 of 22.
Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

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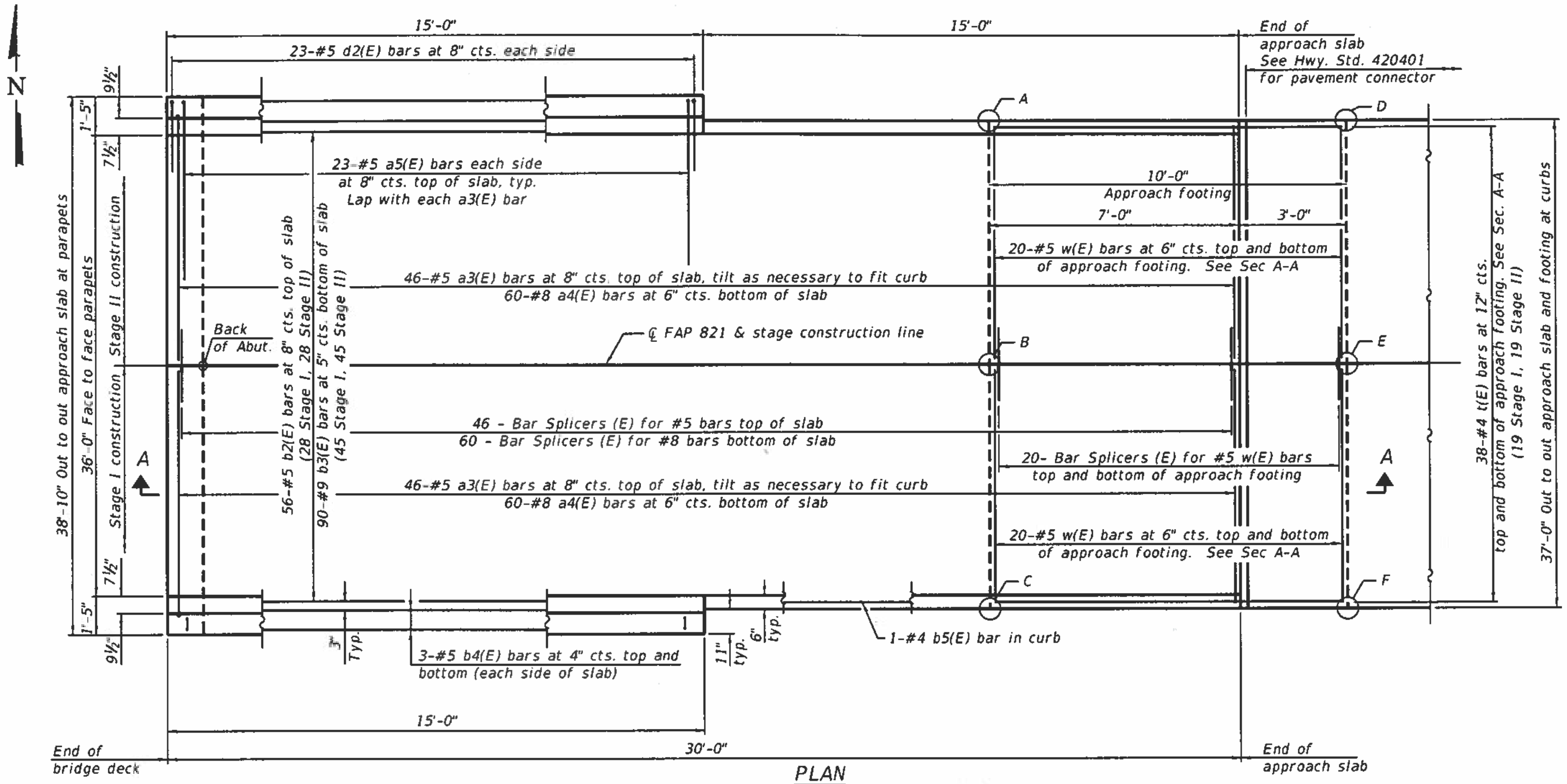
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		
	PLOT SCALE = 0.1667 ' / in.	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 11 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	46
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

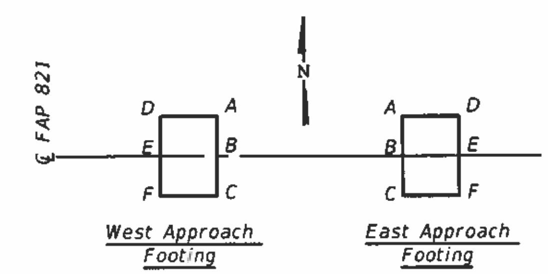
Note:
See Sheet 13 of 22 for Section A-A, details of bars a3(E), a5(E), and d2(E).



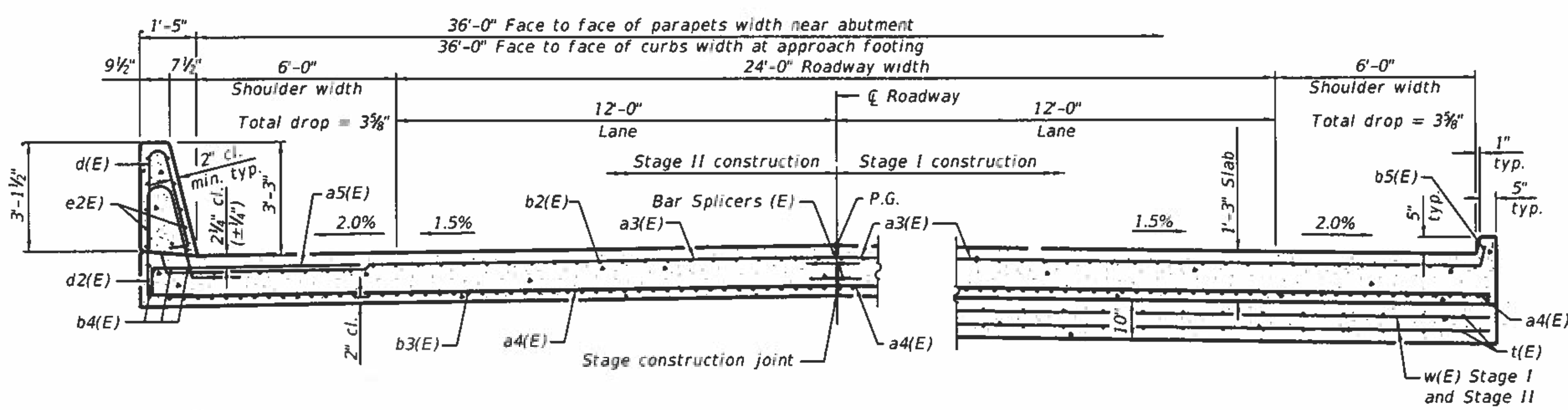
PLAN
(Showing East Approach - West Approach similar)

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

	West Approach		East Approach	
Point	Top	Bottom	Top	Bottom
A	450.72	449.89	451.32	450.49
B	451.03	450.20	451.63	450.80
C	450.72	449.89	451.32	450.49
D	450.67	449.84	451.43	450.60
E	450.98	450.15	451.74	450.91
F	450.67	449.84	451.43	450.60



LEGEND FOR APPROACH FOOTING ELEVATIONS

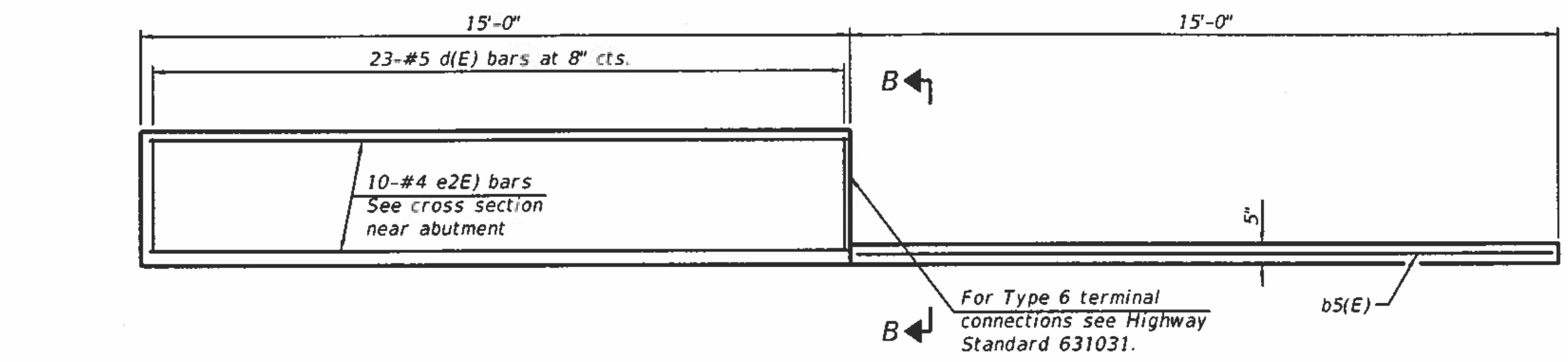


CROSS SECTION
(Looking East)

(Sheet 1 of 2)

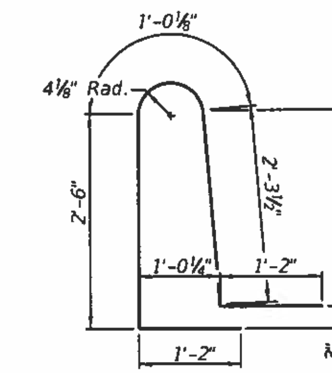
ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 041-0114
	ESCA PROJECT NO. 1258.10	CHECKED - RTM/ELH 02/19	REVISED -		
	PLOT SCALE = 0.1667 '/in	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 12 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	47
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

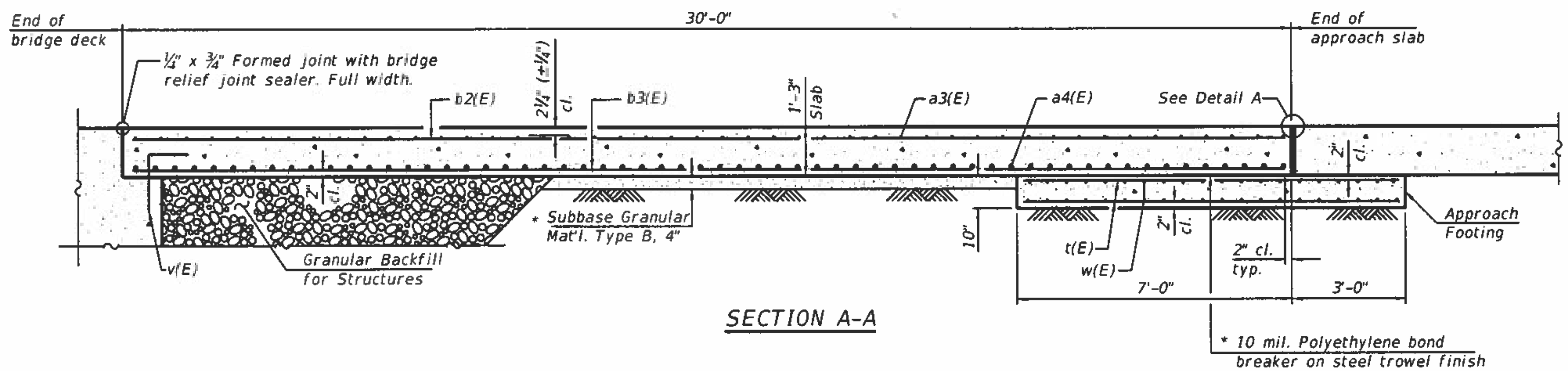


INSIDE ELEVATION OF PARAPET AND CURB

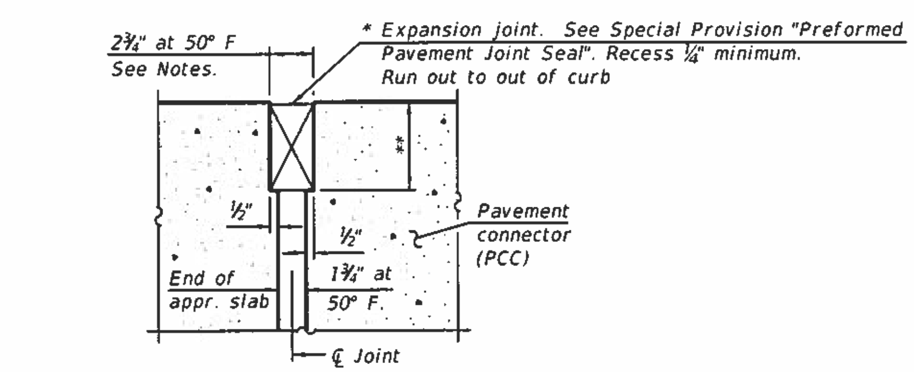
Notes:
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
Parapet concrete shall be paid for as Concrete Superstructure.
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 (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 22.
See Sheet 10 of 22 for details of Bar d(E).



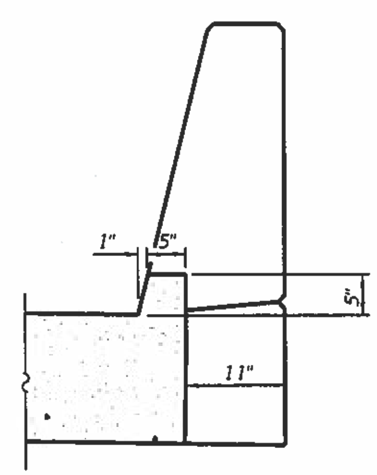
BAR d2(E)



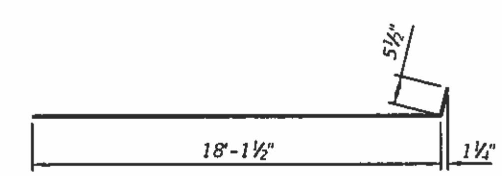
SECTION A-A



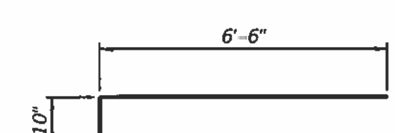
DETAIL A



VIEW B-B



BAR a3(E)



BAR a5(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a3(E)	184	#5	18'-7"	
a4(E)	240	#8	18'-2"	
a5(E)	92	#5	7'-4"	
b2(E)	112	#5	29'-8"	
b3(E)	180	#9	29'-8"	
b4(E)	24	#5	14'-8"	
b5(E)	4	#4	14'-8"	
d(E)	92	#5	6'-5"	
d2(E)	92	#5	8'-2"	
e2E)	40	#4	14'-8"	
t(E)	152	#4	9'-8"	
w(E)	160	#5	18'-4"	
Concrete Superstructure			Cu. Yd.	7.8
Concrete Superstructure (Approach Slab)			Cu. Yd.	106.0
Concrete Structures			Cu. Yd.	22.8
Reinforcement Bars, Epoxy Coated			Pound	43,780

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

(Sheet 2 of 2)

ESCA CONSULTANTS, INC.

USER NAME = shl	DESIGNED - SHL 02/19	REVISED -
ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - KAH 02/19	REVISED -
PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 041-0114
SHEET 13 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	48

CONTRACT NO. 78458
ILLINOIS FED. AID PROJECT

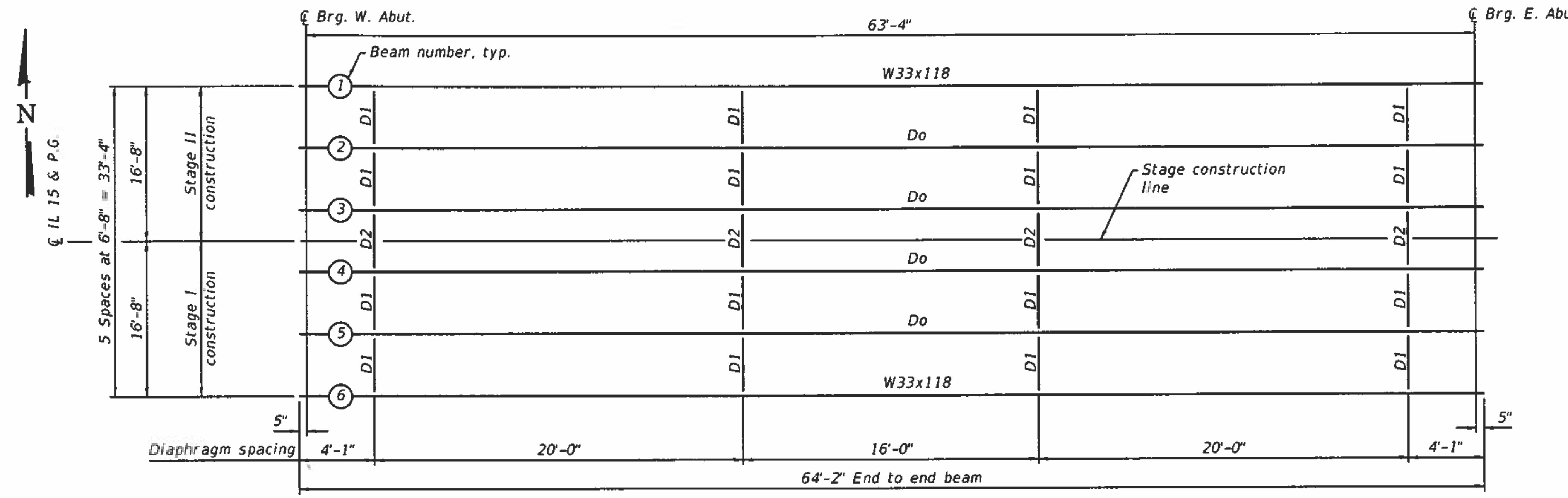
Notes:

See sheet 15 of 22 for additional steel details.

All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Load carrying components designated (CVN) denotes Charpy-V-Notch impact energy requirements, Zone 2.

Elevations shown do not include deflection and are intended only for use in fabrication of steel beams.

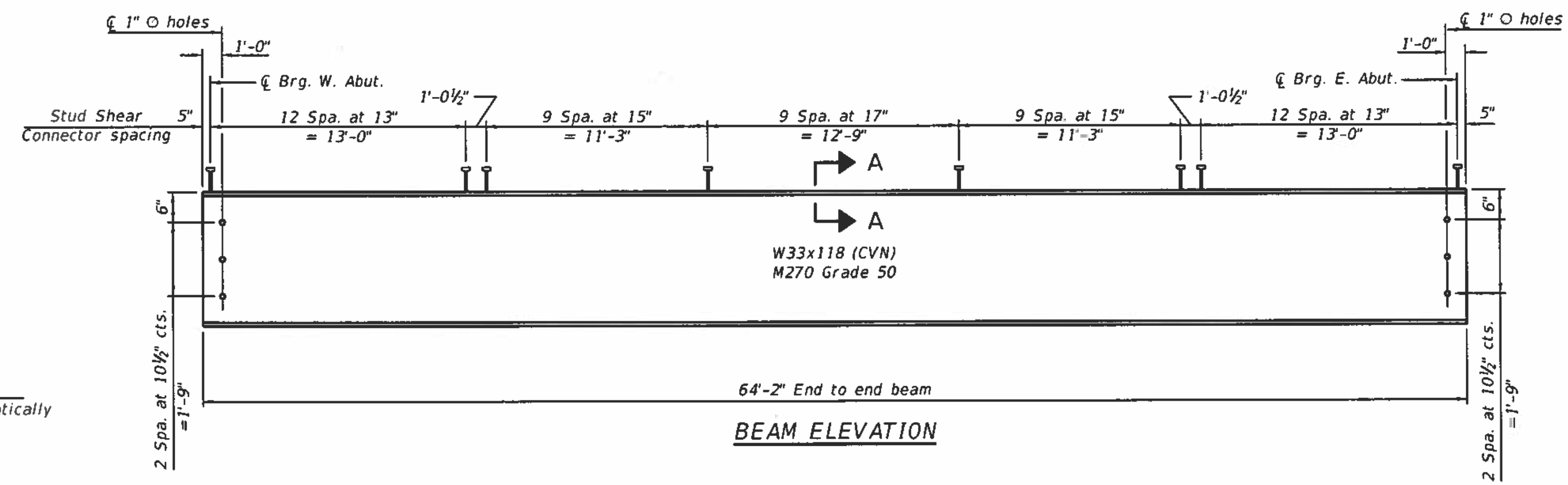


FRAMING PLAN

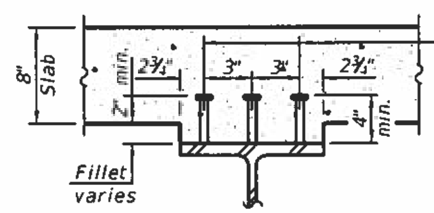
TOP OF BEAM ELEVATIONS

(For fabrication only)

Beam	℄ Brg. W. Abut.	℄ Brg. E. Abut.
1	451.41	451.72
2	451.53	451.84
3	451.63	451.94
4	451.63	451.94
5	451.53	451.84
6	451.41	451.72



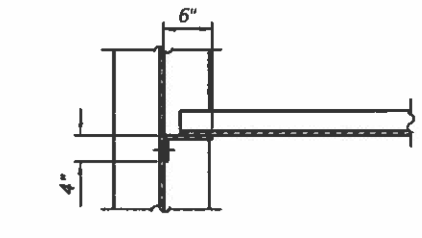
BEAM ELEVATION



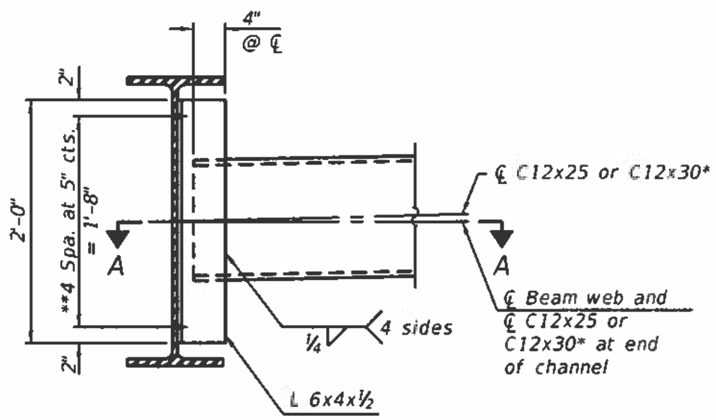
SECTION A-A

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL FRAMING PLAN & DETAILS STRUCTURE NO. 041-0114
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 14 OF 22 SHEETS
	PLOT SCALE = 0.2 " / in.	DRAWN - KAH 02/19	REVISED -		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	49
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		



SECTION A-A



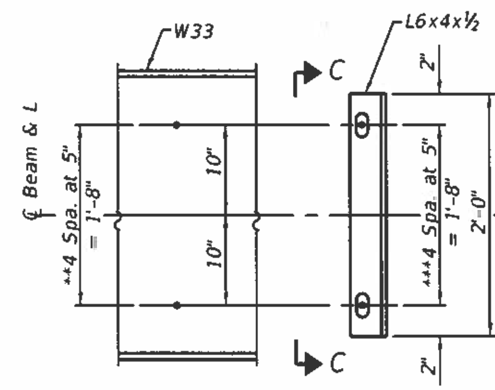
INTERIOR DIAPHRAGM - D1
(16 Required)

Note:
Two hardened washers required for each set of oversized holes.

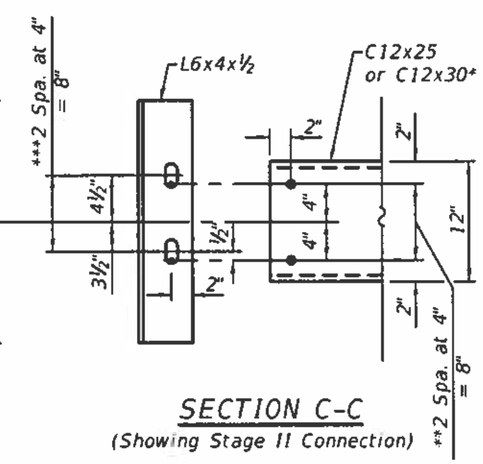
*Alternate channels C12x30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
**¾" Ø HS bolts, $^{15}/_{16}$" Ø holes.

BEAM REACTION TABLE			
		Abut.	
		Interior	Exterior
LLDF		0.719	0.527
OCF		-	-
RDC1	(k)	25.6	24.6
RDC2	(k)	5.5	5.5
RDW	(k)	9.5	9.5
R LL	(k)	59.3	43.5
R IM	(k)	14.8	10.8
R Total	(k)	114.7	93.9

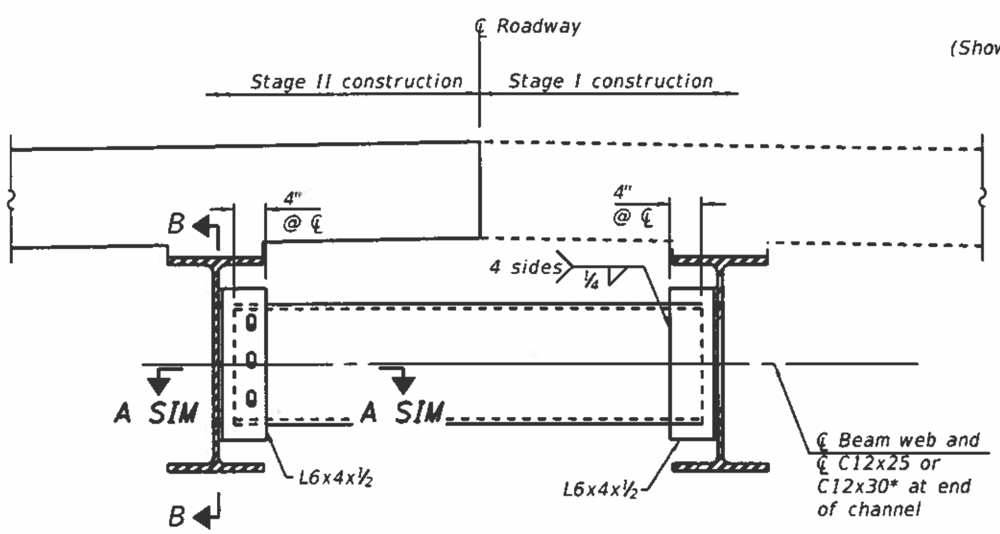
INTERIOR BEAM MOMENT TABLE		
		0.5 Span
Is	(in⁴)	5,900
Ic(n)	(in⁴)	16,929
Ic(3n)	(in⁴)	12,639
Ic(cr)	(in⁴)	-
Ss	(in³)	359
Sc(n)	(in³)	545
Sc(3n)	(in³)	495
Sc(cr)	(in³)	-
DC1	(k/')	0.814
MDC1	('k)	407.9
DC2	(k/')	0.175
MDC2	('k)	87.7
DW	(k/')	0.300
MDW	('k)	150.4
LLDF		0.601
M LL + IM	('k)	888.0
Mu (Strength I)	('k)	2,399.1
Øf Mn	('k)	3,043.0
fs DC1	(ksi)	13.63
fs DC2	(ksi)	2.13
fs DW	(ksi)	3.65
fs (LL+IM)	(ksi)	19.55
fs (Service II)	(ksi)	44.83
0.95Rh Fyf	(ksi)	47.50
fs (Total)(Strength I)	(ksi)	-
Øf Fn	(ksi)	-
Vf	(k)	25.20



SECTION B-B
(Showing Stage II Connection)



SECTION C-C
(Showing Stage II Connection)

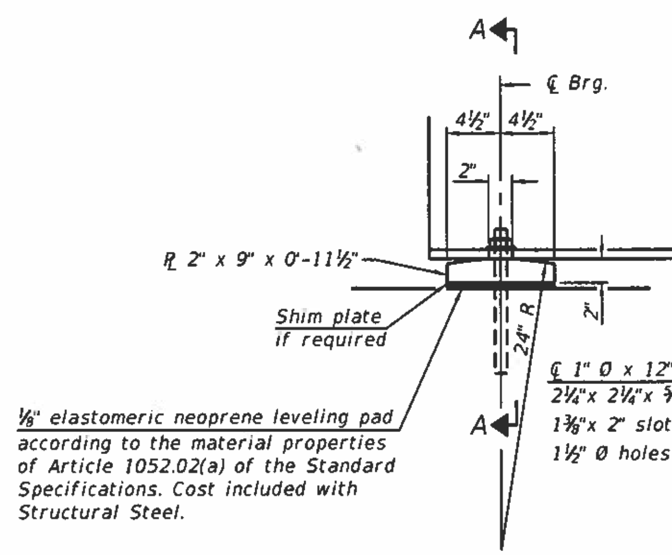


INTERIOR DIAPHRAGM - D2
(4 Required)

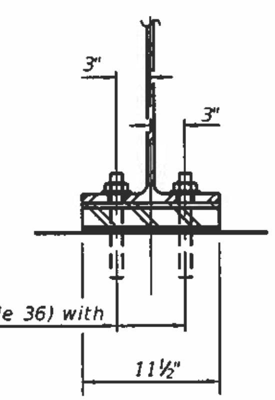
Note:
Two hardened washers required for each set of oversized holes.
Bolts in slots shall be finger tight until the second stage pour is complete. Fully tighten after Stage II deck pour is complete.

*Alternate channels C12x30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
**¾" Ø HS bolts, $^{15}/_{16}$" Ø holes.
***¾" Ø HS bolts, $^{15}/_{16}$" Ø holes Stage I connection unless noted otherwise, $1^{3}/_{16}$" Øx $1^{7}/_{8}$" Ø slotted holes Stage II connection. Position slots as shown with no concrete load present.

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
M LL + IM: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M LL + IM
Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).
fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ Snc
fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.
fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.
fs (LL+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M LL + IM / Sc(n) or M LL + IM / Sc(cr) as applicable.
fs (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(LL + IM)
0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(LL + IM)
Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
Vf: Maximum factored shear range in span computed according to Article 6.10.10.
LLDF: Live Load Distribution factor computed according to Table 4.6.2.2.2b-1, Table 4.6.2.2.2d-1, Table 4.6.2.2.3a-1, and Table 4.6.2.2.3b-1.
OCF: Obtuse correction factor computed according to Table 4.6.2.2.3c-1 or as simplified in Section 3.3.1 of the Bridge Manual.



ELEVATION



SECTION A-A

FIXED BEARING AT ABUTMENT

Notes:

Anchor bolts shall be according to Article 521.06 of the Standard Specifications.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

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

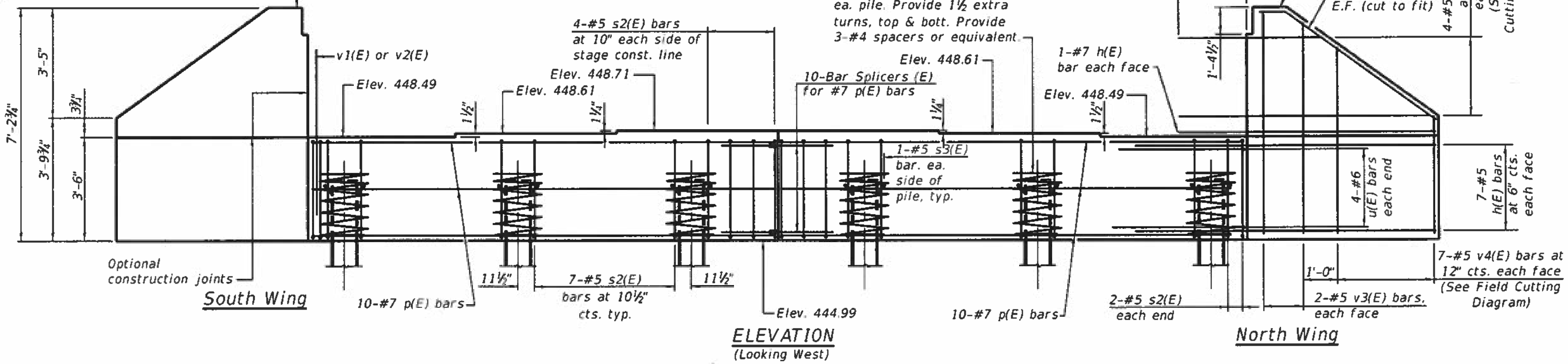
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BILL OF MATERIAL

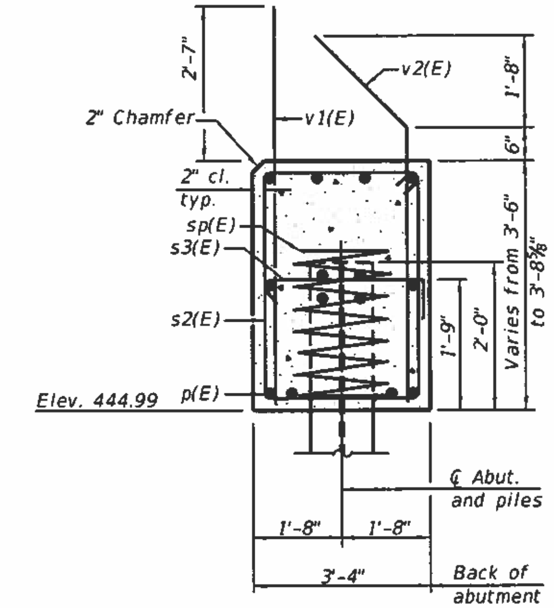
Item	Unit	Total
Anchor Bolts, 1"	Each	24

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS STRUCTURE NO. 041-0114	F.A.P. RTE. 821	SECTION 128-2	COUNTY JEFFERSON	TOTAL SHEETS 74 / SHEET NO. 51
	ESCA PROJECT NO 1259.10	CHECKED - RTM/ELH 02/19	REVISED -						CONTRACT NO. 78458
	PLOT SCALE = 0:2 " / in.	DRAWN - KAH 02/19	REVISED -		SHEET 16 OF 22 SHEETS			ILLINOIS	FED. AID PROJECT
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -						

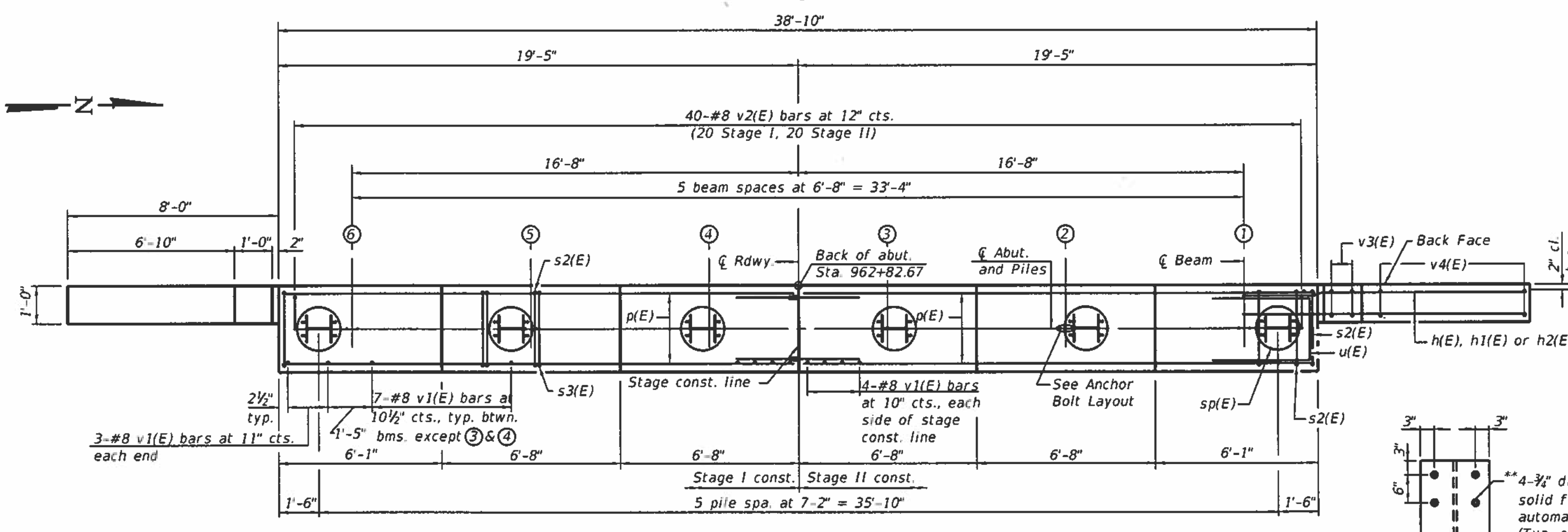
Notes:
Pour steps monolithically with cap.
For details of piles see sheet 19 of 22.
Space reinforcement in cap to miss anchor bolts.



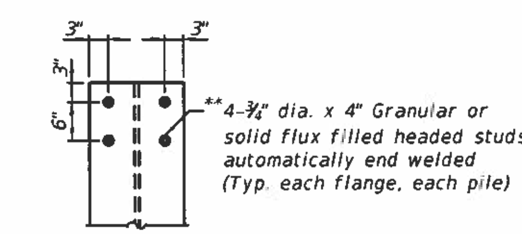
ELEVATION
(Looking West)



SEC. THRU ABUT.



PLAN



SHEAR STUD DETAIL

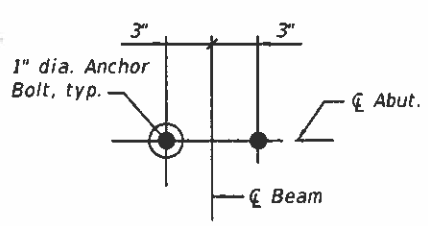
**Cost included with Furnishing Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-4"	
h1(E)	8	#5	16'-8"	
h2(E)	4	#5	8'-5"	
p(E)	20	#7	19'-1"	
s2(E)	40	#5	13'-3"	
s3(E)	12	#5	4'-0"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	10'-7"	
v1(E)	42	#8	5'-11"	
v2(E)	40	#8	6'-2"	
v3(E)	8	#5	6'-11"	
v4(E)	14	#5	10'-1"	

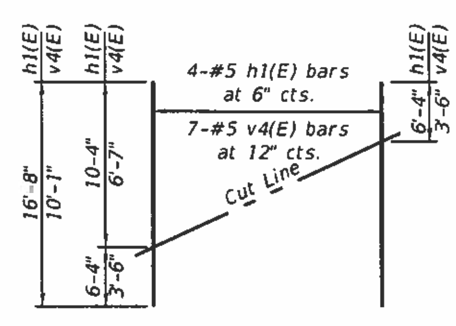
Structure Excavation	Cu. Yd.	93
Concrete Structures	Cu. Yd.	20.6
Reinforcement Bars, Epoxy Coated	Pound	3,840
Furnishing Steel Piles HP12x63	Foot	330
Driving Piles	Foot	330
Test Pile HP12x63	Each	1

*Length is height of spiral.



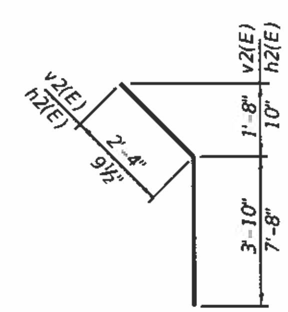
ANCHOR BOLT LAYOUT

PILE DATA
Type: HP12x63
Nominal Required Bearing: 497 kips
Factored Resistance Available: 273 kips
Est. Length: 66'
No. Production Piles: 5
No. Test Piles: 1

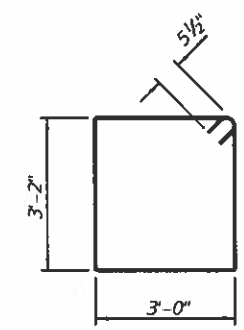


FIELD CUTTING DIAGRAM

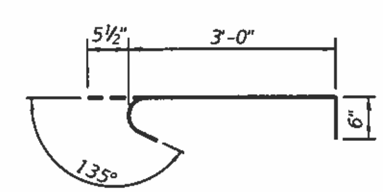
Order h1(E) and v4(E) full length. Cut as shown and use remainder of bars in opposite face.



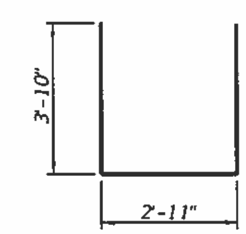
BAR v2(E) & h2(E)



BAR s2(E)



BAR s3(E)



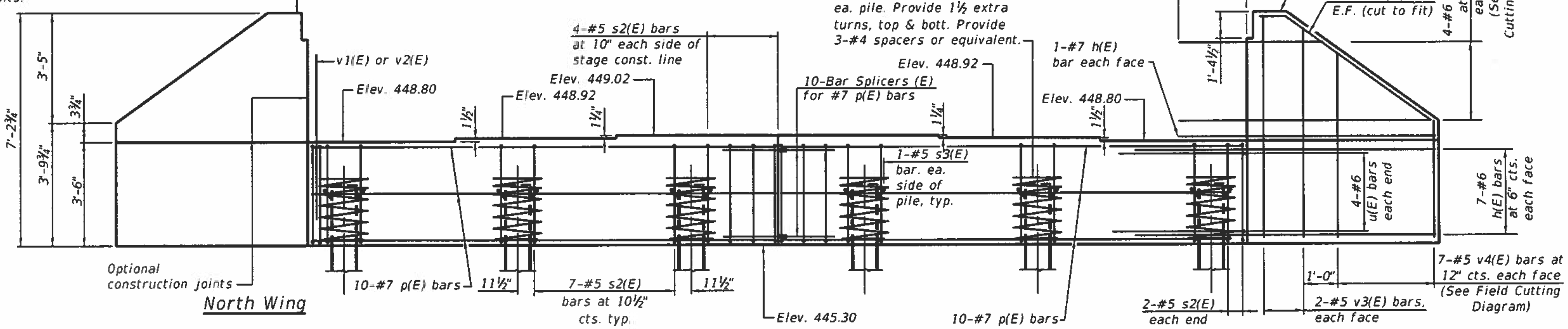
BAR u(E)

USER NAME = shl	DESIGNED - KJA 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT STRUCTURE NO. 041-0114
ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		
PLOT SCALE = 0:2 ' / in.	DRAWN - KAH 02/19	REVISED -		
PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 17 OF 22 SHEETS

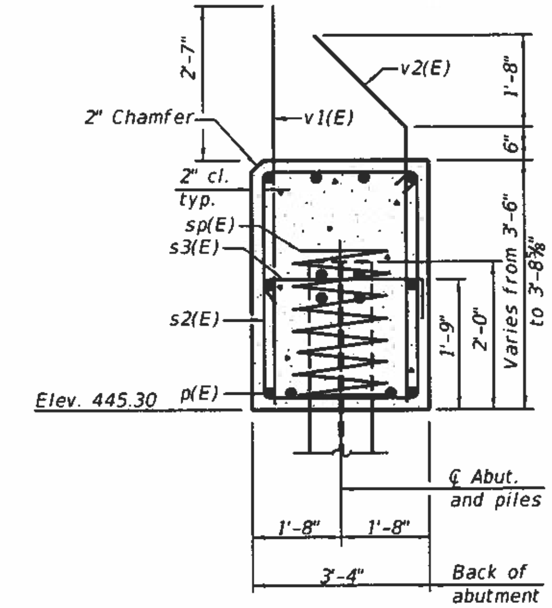
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	52
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

ESCA CONSULTANTS, INC.

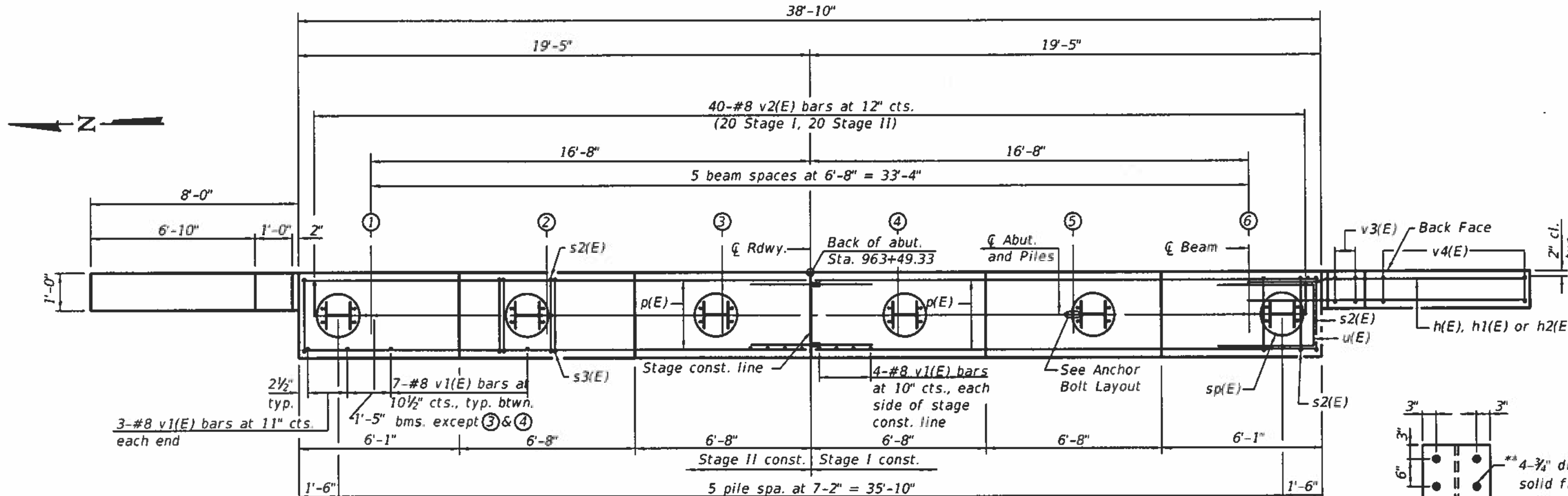
Notes:
Pour steps monolithically with cap.
For details of piles see sheet 19 of 22.
Space reinforcement in cap to miss anchor bolts.



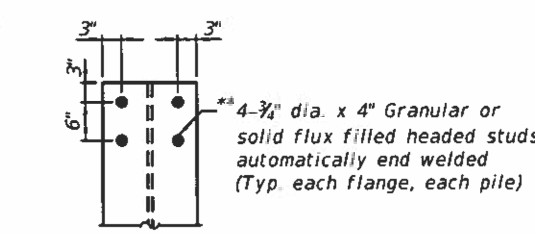
ELEVATION
(Looking West)



SEC. THRU ABUT.



PLAN



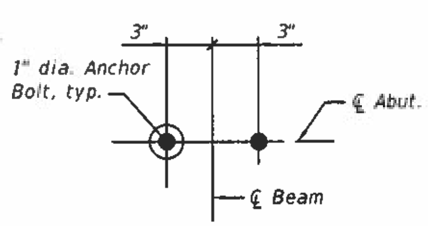
SHEAR STUD DETAIL

**Cost included with Furnishing Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-4"	
h1(E)	8	#5	16'-8"	
h2(E)	4	#5	8'-5"	
p(E)	20	#7	19'-1"	
s2(E)	40	#5	13'-3"	
s3(E)	12	#5	4'-0"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	10'-7"	
v1(E)	42	#8	5'-11"	
v2(E)	40	#8	6'-2"	
v3(E)	8	#5	6'-11"	
v4(E)	14	#5	10'-1"	
Structure Excavation			Cu. Yd.	27
Concrete Structures			Cu. Yd.	20.6
Reinforcement Bars, Epoxy Coated			Pound	3,840
Furnishing Steel Piles HP12x63			Foot	310
Driving Piles			Foot	310
Test Pile HP12x63			Each	1

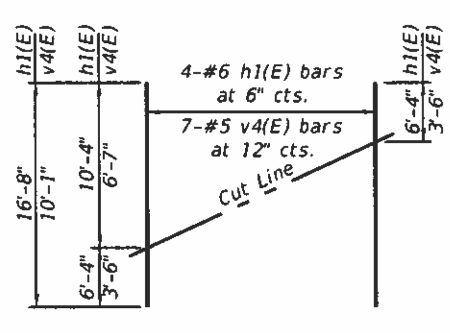
*Length is height of spiral.



ANCHOR BOLT LAYOUT

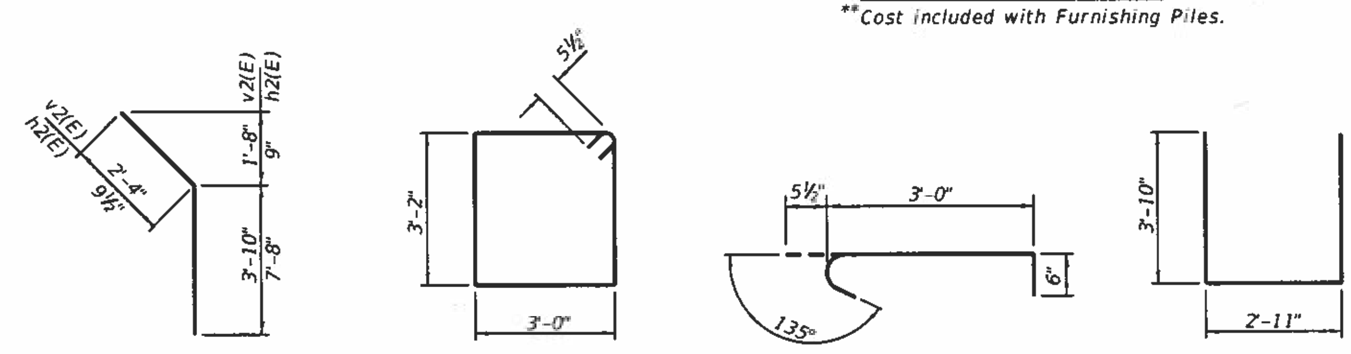
PILE DATA

Type: HP12x63
Nominal Required Bearing: 497 kips
Factored Resistance Available: 273 kips
Est. Length: 62'
No. Production Piles: 5
No. Test Piles: 1



FIELD CUTTING DIAGRAM

Order h1(E) and v4(E) full length. Cut as shown and use remainder of bars in opposite face.

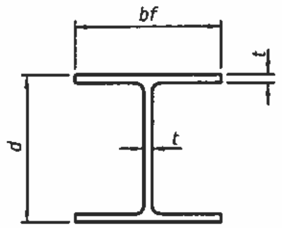


BAR v2(E) & h2(E)   BAR s2(E)   BAR s3(E)   BAR u(E)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - KJA 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -	
	PLOT SCALE = 0:2 " / in.	DRAWN - KAH 02/19	REVISED -	
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -	

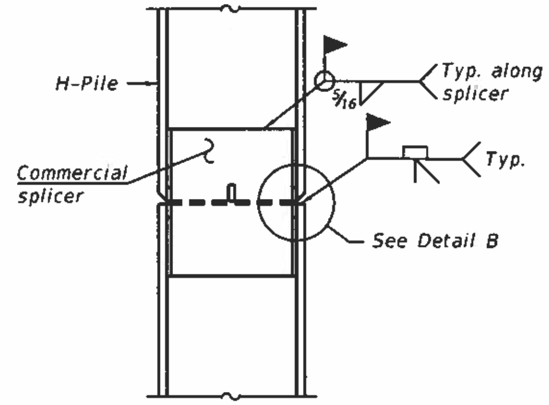
EAST ABUTMENT
STRUCTURE NO. 041-0114
SHEET 18 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	53
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

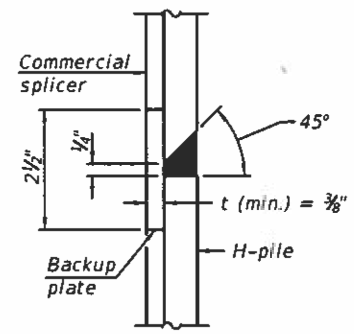


STEEL PILE TABLE

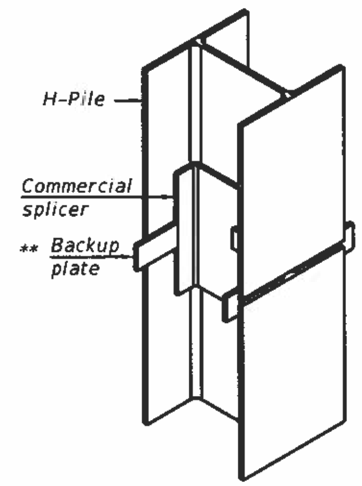
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



ELEVATION

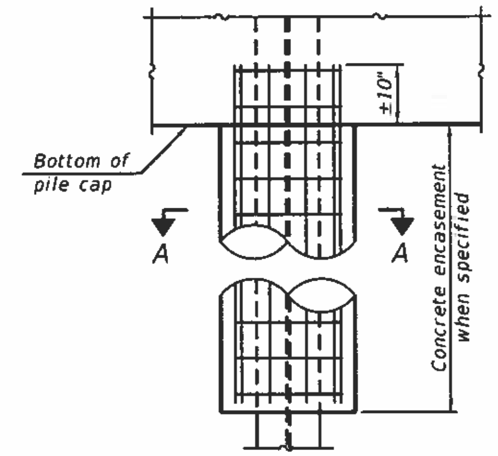


DETAIL "B"

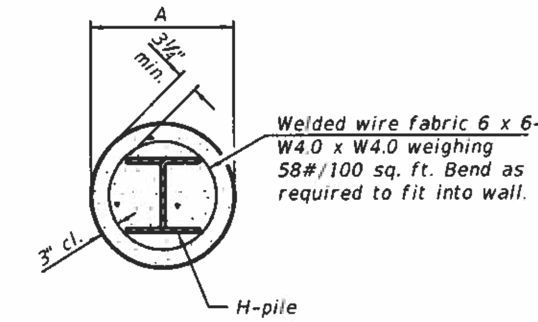


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

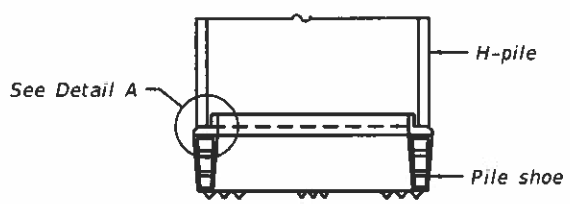


ELEVATION

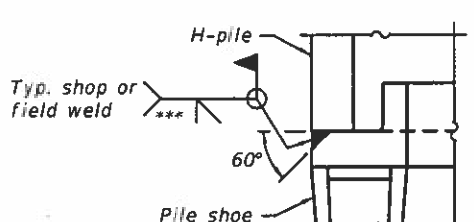


SECTION A-A

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

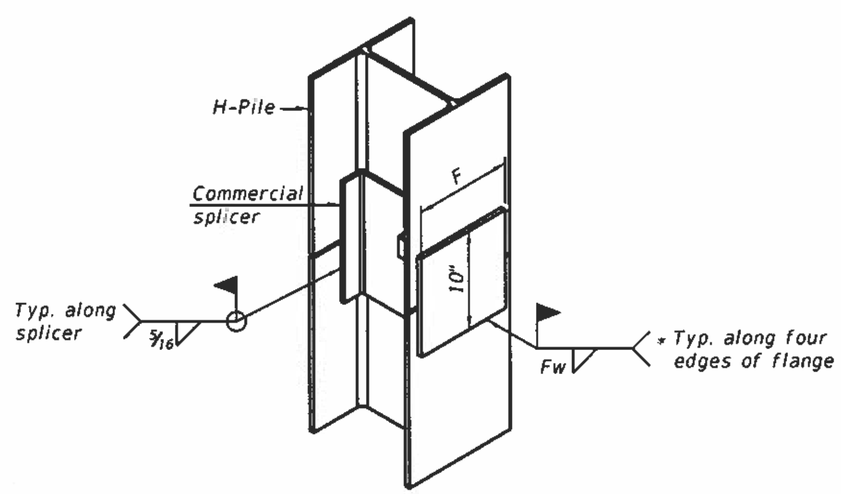


ELEVATION



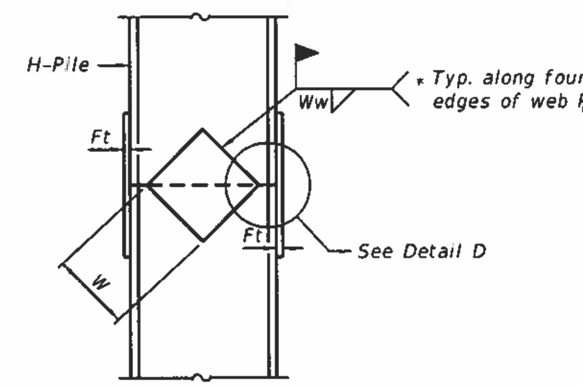
DETAIL A

SHOE ATTACHMENT

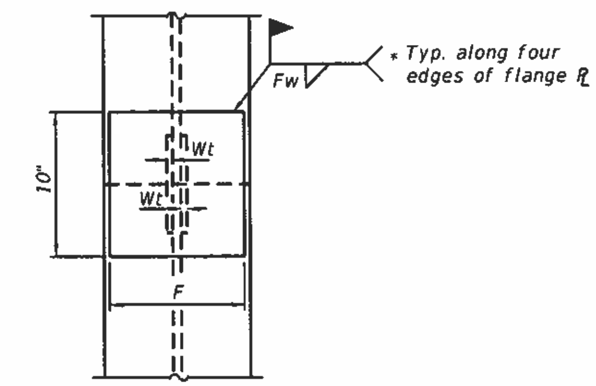


ISOMETRIC VIEW

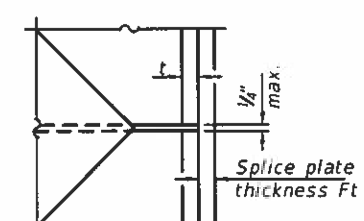
WELDED COMMERCIAL SPLICE ALTERNATE



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

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

* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

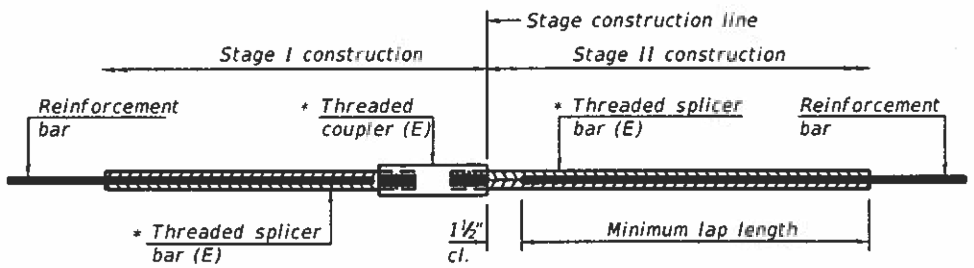
*** Weld size per pile shoe manufacturer (5/16" min.).

F-HP 8-11-2017

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -	
	PLOT SCALE = 0:2 " / in.	DRAWN - KAH 02/19	REVISED -	
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -	

HP PILE DETAILS
STRUCTURE NO. 041-0114
SHEET 19 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	54
		CONTRACT NO. 78458		
		ILLINOIS FED. AID PROJECT		

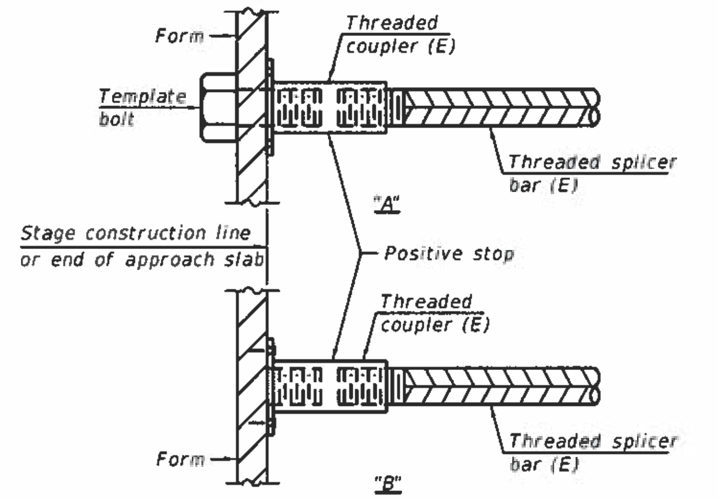


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

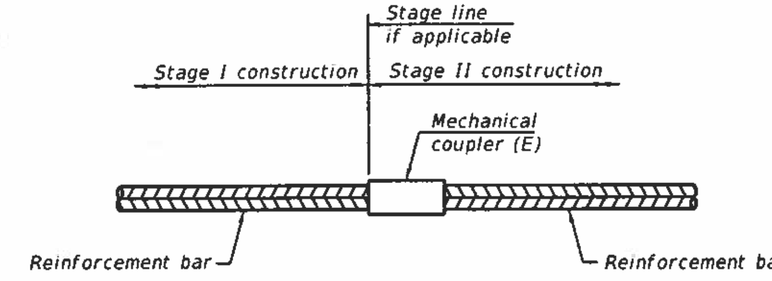
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Top of Slab	#5	124	3'-0"
Bottom of Slab	#5	70	3'-6"
Diaphragms	#6	14	4'-0"
Top of Approach	#5	92	3'-4"
Bottom of Approach	#8	120	4'-9"
Top of Approach Ftg.	#5	40	3'-2"
Bottom of Approach Ftg	#5	40	3'-2"
West Abutment	#7	10	5'-0"
East Abutment	#7	10	5'-0"



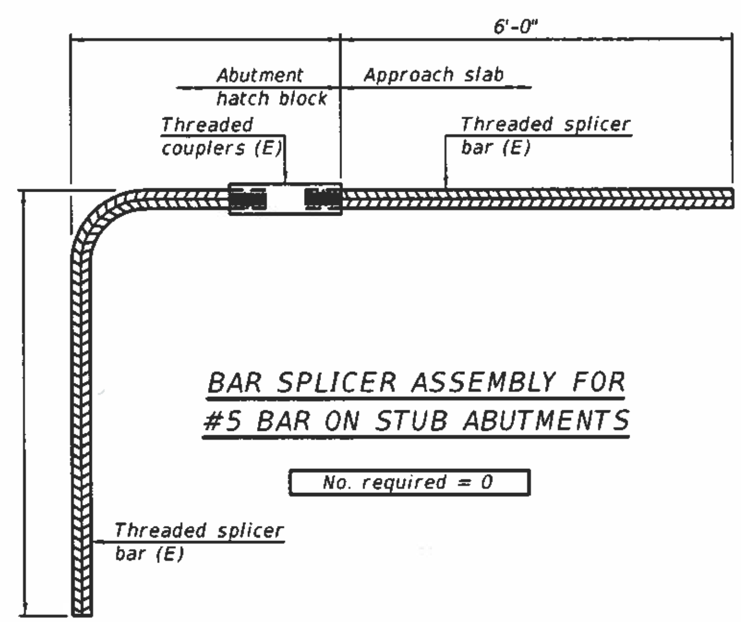
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 0

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 2-17-2017

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -
	PLOT SCALE = 0:2 " / in	DRAWN - KAH 02/19	REVISED -
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 041-0114
SHEET 20 OF 22 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	55

CONTRACT NO. 78458
ILLINOIS FED AID PROJECT

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

FAP 821 (IL 15) Over Elk Horn Creek

Route: FAP 821 (IL 15) Structure Number: 041-0020 Date: 5/12/2015

Section: 12,B,BR Bored By: R Moberly

County: Jefferson Location: 4.4 miles East of Washington Co. Checked By: R Moberly

Boring No 1-S
Station 23' W of W Abut
Offset 11' S CL
Ground Surface 450.2 Ft

Surf Wat Elev: 442.2
Ground Water Elevation
when Drilling 435.7
At Completion
At: Hrs:

Description	Elev.	DEPTH	BLOWS	Qu tsf	W%
Asphalt and crushed aggregate	448.7				
Medium, moist, brown, Silty Clay A-6			1		
			1	0.8B	22
	445.7		2		
Soft, very moist, brown, Silty Clay Loam A-6		5.0	1		
			1	0.4S	24
			1		
			WH		
			WH	0.3B	20
	440.7		WH		
Medium, moist to very moist, brown mottled grey, Silty Clay A-6		10.0	WH		
			1	0.7B	23
			2		
			WH		
			WH	0.7B	24
	435.7		1		
Very loose, wet, brown, Sandy Gravel with Clay A-4		15.0	1		
			2	0.4E	16
	433.2		1		
Soft, very moist, brown mottled grey, Silty Clay Loam A-4			WH		
			1	0.4B	23
	430.7		WH		
Loose, wet, brown, Sand with Gravel and some Clay A-2-4 57% Sand / 3% Silt 5% Clay / 30% Gravel		20.0	1		
			3		19
	428.2		3		
Stiff, moist, grey, Clay A7-6			1		
			2	1.6B	22
			2		
		25.0	1		

Description	Elev.	DEPTH	BLOWS	Qu tsf	W%
Stiff, moist, grey, Clay A7-6			2	1.4B	21
	423.2		2		
Very stiff, moist, grey mottled brown, Clay A7-6			2		
			4	2.3B	23
	420.7		6		
Stiff, moist, grey, Clay A7-6		30.0	1		
			2	1.9B	26
			2		
			1		
			1	1.6B	22
	415.7		2		
Medium, very moist, grey, Clay A7-6		35.0	1		
			1	0.8B	25
	413.2		1		
Stiff, moist, grey mottled brown, Clay A7-6			1		
			2	1.8B	22
	410.7		3		
Medium, very moist, grey, Clay A7-6		40.0	1		
			1	0.8B	21
	405.7		2		
Stiff, moist to very moist, grey, Silty Clay A-6		45.0	WH		
			1	1.1B	20
	401.7		1		
Very loose, wet, grey, Fine to Medium grained Sand		50.0	WR		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 821 (IL 15) Date: 5/12/2015

Section: 12,B,BR

County: Jefferson

Boring No: 1-S
Station: 23' W of W Abut
Offset: 11' S CL
Ground Surface: 450.2 Ft

Description	Elev.	DEPTH	BLOWS	Qu tsf	W%
Very loose, wet, grey, Fine to Medium grained Sand and Gravel 36% Sand / 2% Silt 1% Clay / 61% Gravel			WR		24
			WH		
(No sample recovered)		55.0	1		
			1		
	390.7		2		
Loose, wet, grey, Sand 76% Sand / 20% Silt 4% Clay		60.0	1		
			3		12
			6		
	387.7		8		
Hard, dry, grey, Clay Shale	387.2		100/4"		
		65.0			
		70.0			
		75.0			

Bottom of hole = 62.8 feet

Free water observed at 14.5 feet

Elevation referenced to BM 4100202; Elevation= 450.2 feet

Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)

To convert "N" values to "N60" multiply by 1.25

	DEPTH	BLOWS	Qu tsf	W%
	80.0			
	85.0			
	90.0			
	95.0			
	100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

(Sheet 1 of 2)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 041-0114	F.A.P. RTE. 821	SECTION 128-2	COUNTY JEFFERSON	TOTAL SHEETS 74	SHEET NO. 56
	ESCA PROJECT NO. 1259.10	CHECKED - RTM/ELH 02/19	REVISED -					CONTRACT NO. 78458		
	PLOT SCALE = 0.2 ' / in.	DRAWN - KAH 02/19	REVISED -							
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 21 OF 22 SHEETS	ILLINOIS FED. AID PROJECT				

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation
Boring Log
Sheet 1 of 2

FAP 821 (IL 15) Over Elk Horn Creek

Route: FAP 821 (IL 15) Structure Number: 041-0020 Date: 5/21/2015
Bored By: R Moberly
Section 12,B,BR
County: Jefferson Location: 4.4 miles East of Washington Co. Checked By: R Moberly

Boring No 2-S
Station 22' E of E Abut
Offset 9' N CL
Ground Surface 450.7 Ft

Surf Wat Elev: 442.2
Ground Water Elevation
when Drilling 431.2
At Completion
At: Hrs:

Description	DEPTH	BLOWS	Qu tsf	W%
9" Asphalt over 8" concrete				
449.2				
Medium, very moist, brown, Clay to Silty Clay A7-6		1		
		2	0.7B	29
		1		
	5.0	1		
		2	0.8B	29
		2		
443.7				
Soft, very moist, brown mottled grey, Clay to Silty Clay A7-6		WH		
		WH	0.4B	31
		1		
441.2				
Medium, very moist, grey, Silty Clay Loam A-6 with sand seam	10.0	1		
		2	0.6B	24
		2		
438.7				
Very soft, very moist, brown, Silty Clay Loam A-6		WH		
		WH	0.2B	20
		1		
435.7	15.0	WH		
Very stiff, moist, grey and brown, Clay to Clay Loam A7-6		2	3.9B	15
		5		
		2		
		5	2.9B	16
		7		
	20.0	2		
		5	2.9B	16
		6		
428.7				
Stiff, moist, grey, Clay A7-6		2		
		4	1.8B	17
		5		
	25.0	1		

Description	DEPTH	BLOWS	Qu tsf	W%
Stiff, moist, grey, Clay A7-6		3	1.4B	18
		5		
		1		
		2	1.2B	19
		4		
	30.0	1		
		2	1.2B	18
		3		
		1		
		3	1.2B	17
		3		
	35.0	1		
		2	1.1B	21
		3		
		1		
		2	1.2B	17
		3		
411.2				
Medium, very moist, grey, Clay A7-6	40.0	1		
		2	0.8B	21
		2		
406.2				
Stiff, moist, grey, Silty Clay A-6	45.0	1		
		2	1.1B	24
		3		
401.2	50.0	1		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 821 (IL 15) Date: 5/21/2015
Section: 12,B,BR
County: Jefferson

Boring No: 2-S
Station: 22' E of E Abut
Offset: 9' N CL
Ground Surface: 450.7 Ft

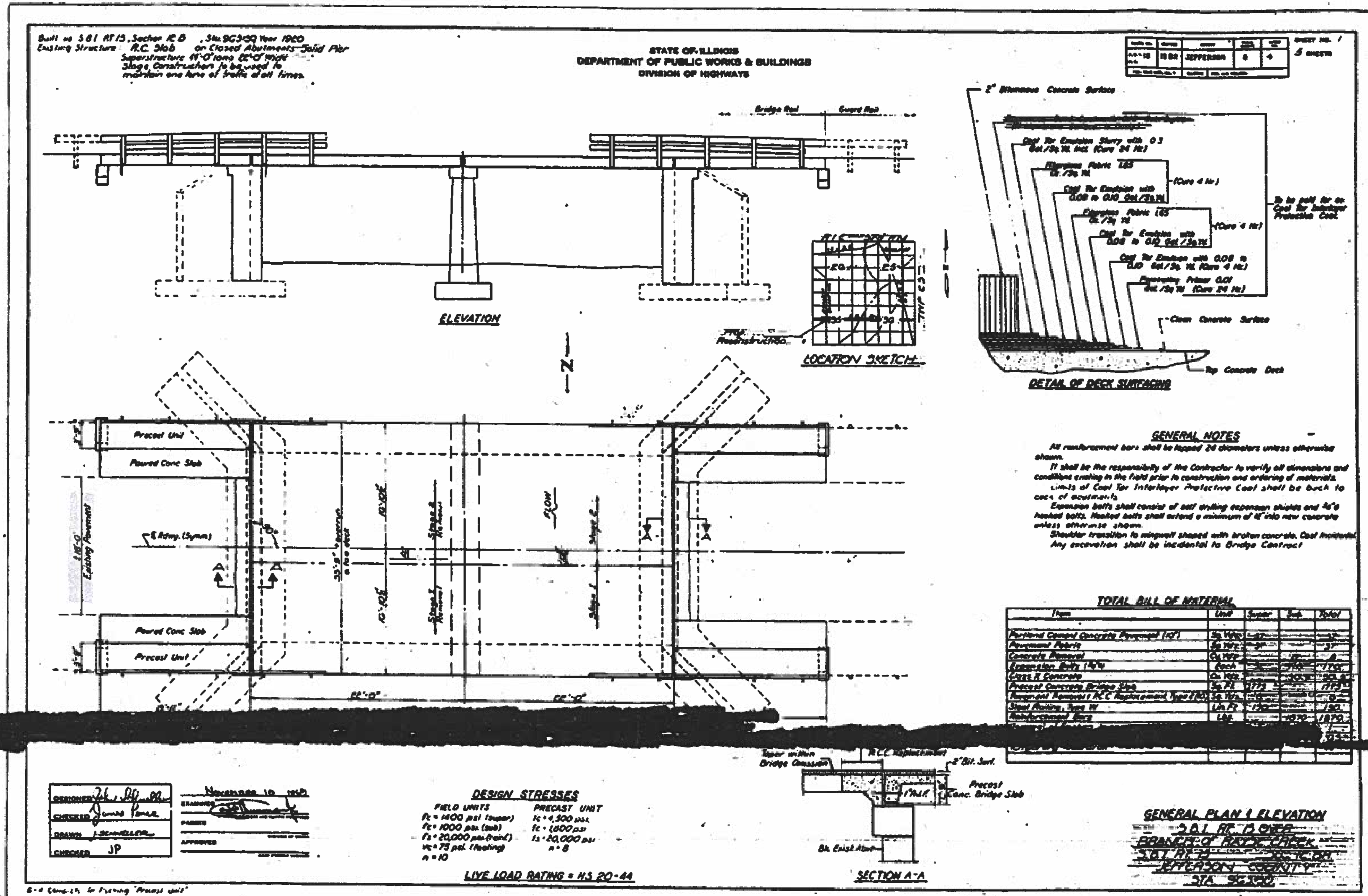
Description	DEPTH	BLOWS	Qu tsf	W%
Medium to stiff, moist, grey, Sandy Clay Loam A-4		3	1.0S	20
		4		
398.2				
Very loose, wet, grey, Sand with Some Gravel 73% Sand / 7% Silt 2% Clay / 18% Gravel	55.0	1		
		1		20
		1		
391.2				
Hard, damp to dry, grey, Clay Shale	60.0	20		
		100/6"		
388.7				
Hard, dry, grey, Clay Shale	65.0	100/2"		
Hard, dry, grey, Clay Shale 380.7	70.0	100/2"		
Bottom of hole = 69.7 feet				
	75.0			

Description	DEPTH	BLOWS	Qu tsf	W%
Bottom of hole = 69.7 feet				
Free water observed at 19.5 feet				
Elevation referenced to BM 4100202; Elevation = 450.2 feet	80.0			
Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)				
To convert "N" values to "N60" multiply by 1.25				
	85.0			
	90.0			
	95.0			
	100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

(Sheet 2 of 2)

ESCA CONSULTANTS, INC.	USER NAME = shl	DESIGNED - SHL 02/19	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 041-0114	F.A.P. RTE. 821	SECTION 12B-2	COUNTY JEFFERSON	TOTAL SHEETS 74	SHEET NO. 57
	ESCA PROJECT NO 1259.10	CHECKED - RTM/ELH 02/19	REVISED -		SHEET 22 OF 22 SHEETS			CONTRACT NO. 78458		
	PLOT SCALE = 0:2 ' / in.	DRAWN - KAH 02/19	REVISED -					ILLINOIS FED. AID PROJECT		
	PLOT DATE = 5/28/2019	CHECKED - RTM/ELH 02/19	REVISED -							



ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
	PLOT SCALE = 0:2 " / in.	CHECKED - ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 05/19	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

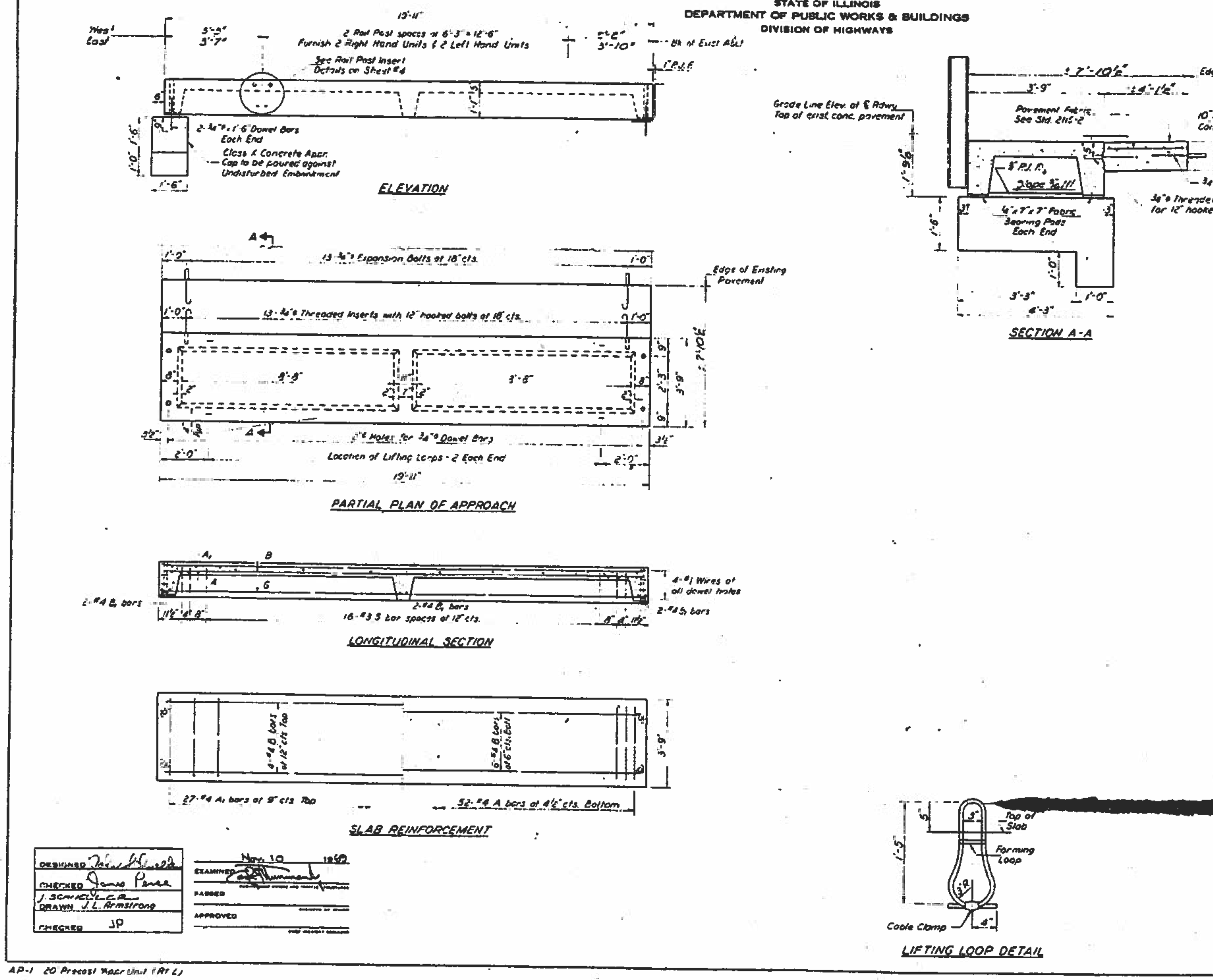
SCALE: NONE | SHEET NO. 1 OF 8 SHEETS | STA. | TO STA.

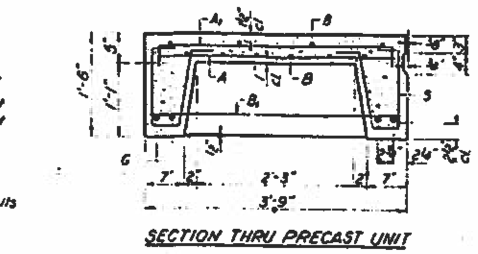
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	58

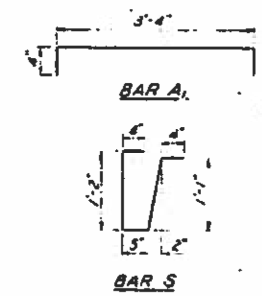
CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS







BAR LIST - ONE UNIT

Reinforcement to be cast into slab

Bar	No	Size	Length	Shape
A	52	#4	3'-5"	
A1	27	#4	4'-0"	
B	10	#4	19'-6"	
B1	6	#4	3'-6"	
G	4	#10	19'-6"	
S	42	#3	3'-4"	

NOTES

Unless otherwise approved by the Engineer, lifting loops shall be 1/2"φ, 6 x 19 class wire rope with fiber core and shall have a minimum ultimate strength of 18,700 lbs. Loops shall be burned off after slab has been erected.

Holes shall be drilled and anchor dowels grouted in place.

Cost of reinforcement and accessories cast into the slab unit, bearing pads, furnishing, drilling for, placing and grouting anchor dowels and 3/4"φ hooked bolts is included in Unit bid price for "Precast Concrete Bridge Slab."

The Precast Concrete Bridge Slab shall be erected and aligned with the exterior face of the exterior Deck Beam after Deck Beams are in final position.

BILL OF MATERIAL

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	229
Portland Cement Concrete Pavement (10")	Sq. Yds.	37
Pavement Fabric	Sq. Yds.	37
[illegible] 3/4"φ	Each	52
Class X Concrete	Cu. Yds.	1.6

STRESSES
f'c = 4,500 psi
fc = 1,800 psi
fs = 20,000 psi
n = 8
LOADING HS-20

APPROACH DETAILS
S.B.I. RT. 15 SEC. 12 BR
JEFFERSON COUNTY
STA. 963+30

DESIGNED
CHECKED James Pence
DRAWN J. L. Armstrong
CHECKED JP
EXAMINED Nov. 10 1959
PASSED
APPROVED

AP-1 20 Precast Appr Unit (Rt L)

F.A. RTE.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 15	12 BR	JEFFERSON	8	2

SHEET NO. 2 OF 8 SHEETS

ESCA CONSULTANTS, INC.

USER NAME = sma	DESIGNED - SMA	REVISED -
ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -
PLOT SCALE = 0.2 ' / in.	CHECKED - ELH	REVISED -
PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

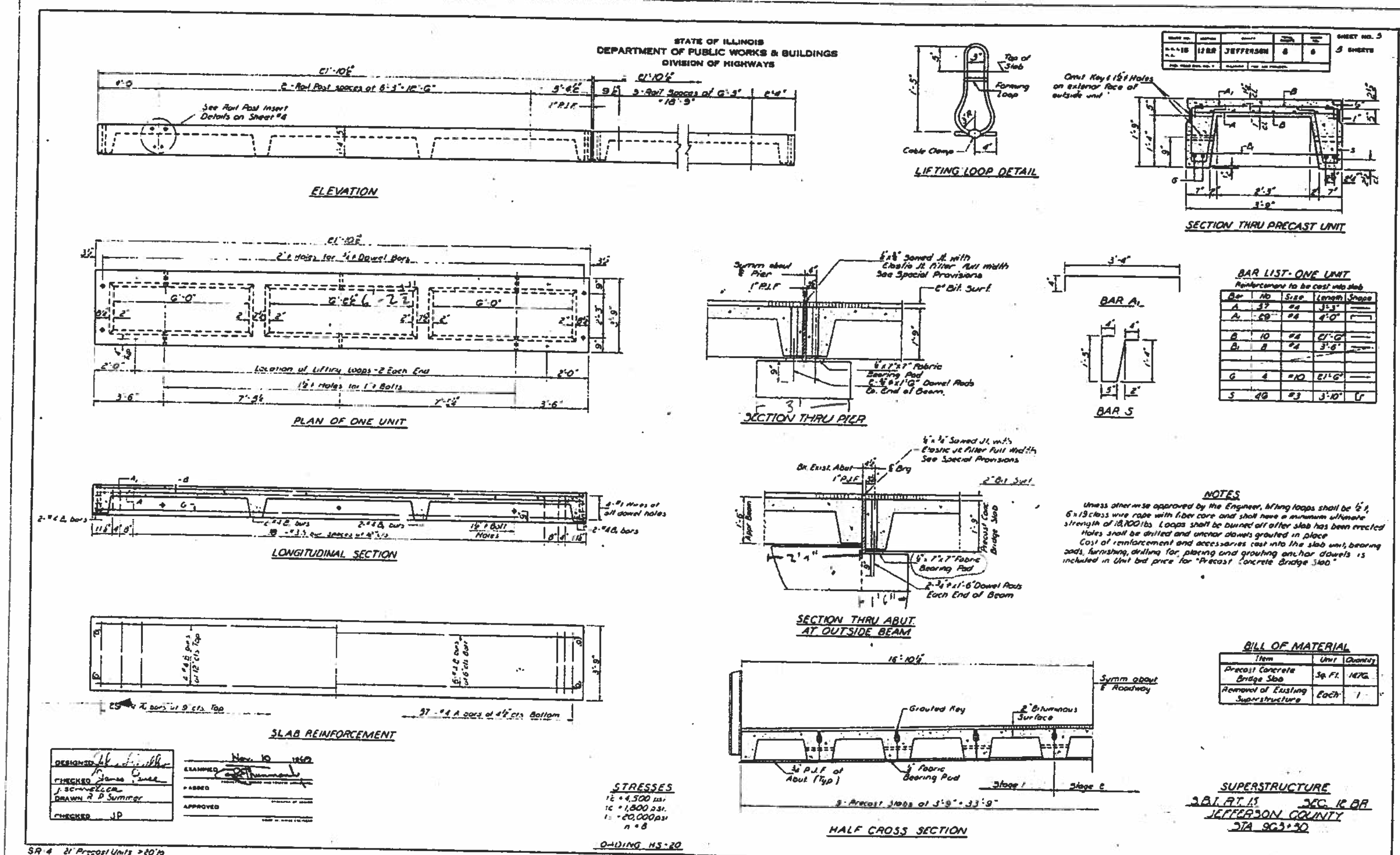
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: NONE | SHEET NO. 2 OF 8 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128 2	JEFFERSON	74	59

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



ESCA CONSULTANTS, INC.	USER NAME = smv	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -	
	PLOT SCALE = 0.2 ' / in.	CHECKED - ELH	REVISED -	
	PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -	

EXISTING BRIDGE PLANS FOR INFORMATION ONLY

SCALE: NONE | SHEET NO. 3 OF 8 SHEETS | STA. | TO STA.

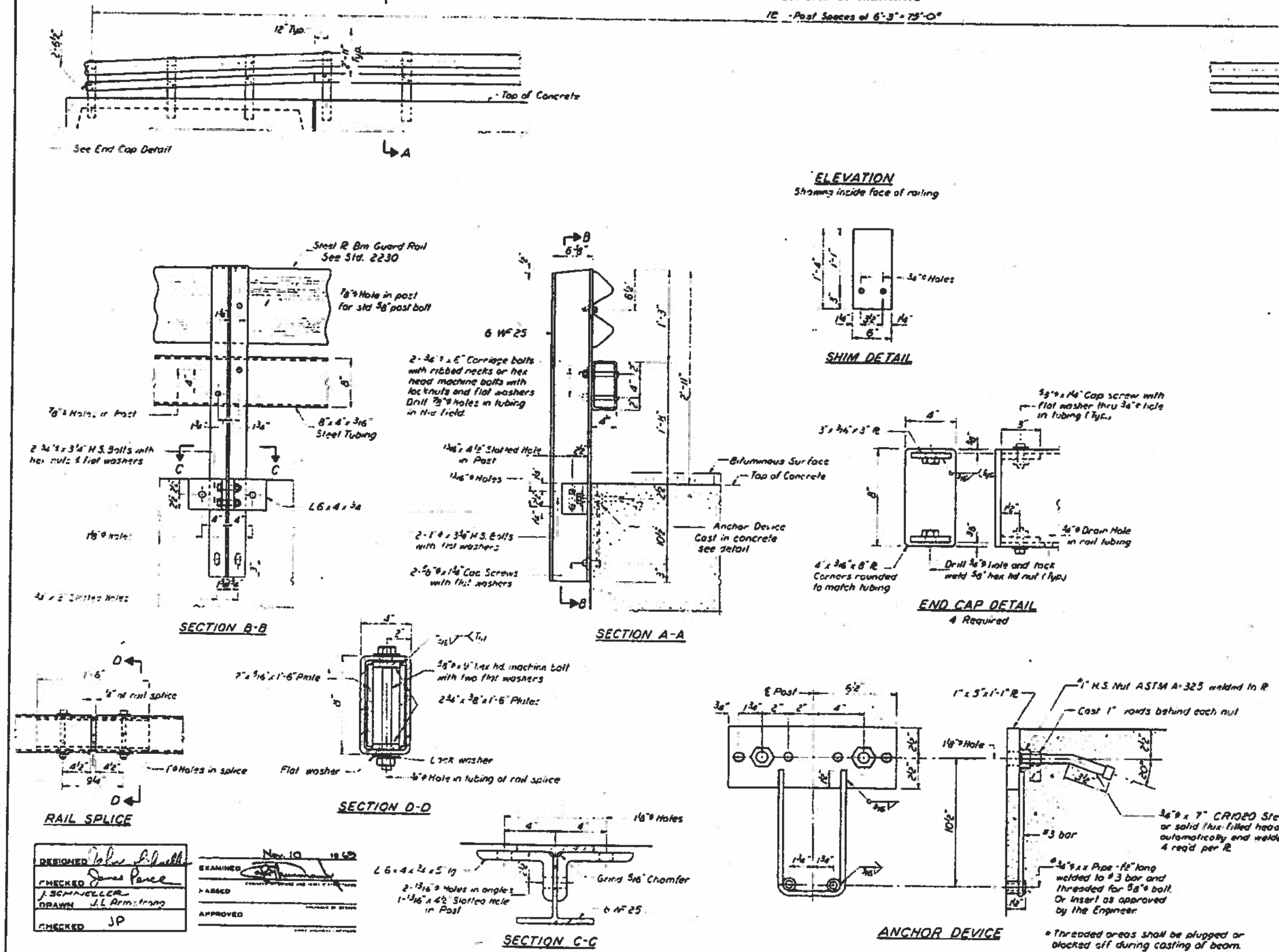
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	60

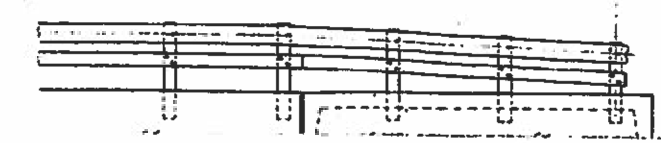
CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

15	12BR	JEFFERSON	8	7	SHEET NO. 4
					5 SHEETS





NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-501 "Hot Formed Welded and Seamless Carbon Steel Structural Tubing."

All other steel shapes and plates shall conform to the requirements of ASTM designation A-441 or A-36.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to ASTM designation A-325.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with ASTM designation A-153.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with ASTM designation A-123 and A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE W.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place ⅛" fabric bearing pad between the post and concrete.

The ¾"ϕ high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened in accordance with Article 710.11 of the Standard Specifications. The 1"ϕ high strength bolts connecting the angles to the concrete beam shall be tightened to a snug fit and given an additional ⅛ turn.

For multi-span bridges, sufficient ¼" x 6" x 1'-4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing.

BILL OF MATERIAL

Item	Unit	Quantity
STEEL RAILING, TYPE W	Lin. Ft.	150

TYPE W
STEEL RAILING
S.B.I. RT. 15 SEC. 12 BR
JEFFERSON COUNTY
STA. 963+50

DESIGNED: [signature]
CHECKED: James Pence
J. SCHNELLER
DRAWN: J.L. Armstrong
CHECKED: JP
EXAMINED: Nov. 10 1969
PASSED
APPROVED

R-1

USER NAME = sma	DESIGNED - SMA	REVISED -	
ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -	
PLOT SCALE = 0.2 ' / in.	CHECKED - ELH	REVISED -	
PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -	

ESCA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

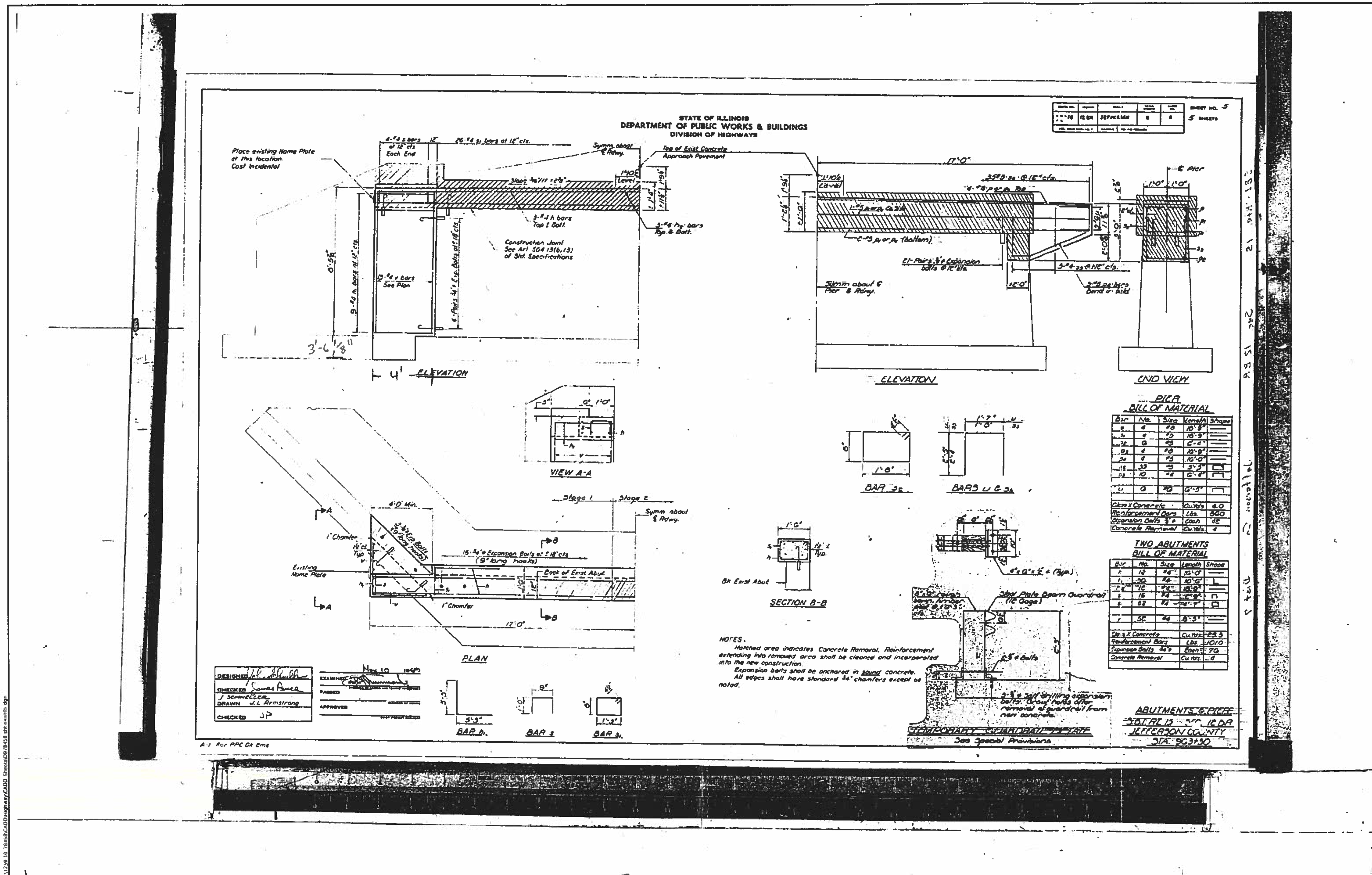
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: NONE | SHEET NO. 4 OF 8 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	61

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



PIER BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p	4	#8	10'-9"	
p_1	4	#5	10'-9"	
p_2	6	#5	6'-4"	
p_3	4	#8	10'-9"	
p_4	4	#5	16'-0"	
s_2	33	#5	5'-5"	
s_3	10	#4	6'-8"	
u	6	#8	6'-5"	
Class X Concrete			Cu.Yds.	4.0
Reinforcement Bars			Lbs.	860
Expansion Bolts ¾" ⌀			Each	42
Concrete Removal			Cu.Yds.	4

TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	12	#4	10'-0"	
h_1	30	#4	10'-0"	
h_2	12	#4	18'-9"	
s	16	#4	4'-9"	
s_1	52	#4	4'-7"	
v	52	#4	8'-3"	
Class X Concrete			Cu.Yds.	23.5
Reinforcement Bars			Lbs.	1010
Expansion Bolts ¾" ⌀			Each	76
Concrete Removal			Cu.Yds.	4

NOTES.
Hatched area indicates Concrete Removal. Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have standard ¾" chamfers except as noted.

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -	
	PLOT SCALE = 0:2 " / in.	CHECKED - ELH	REVISED -	
	PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -	

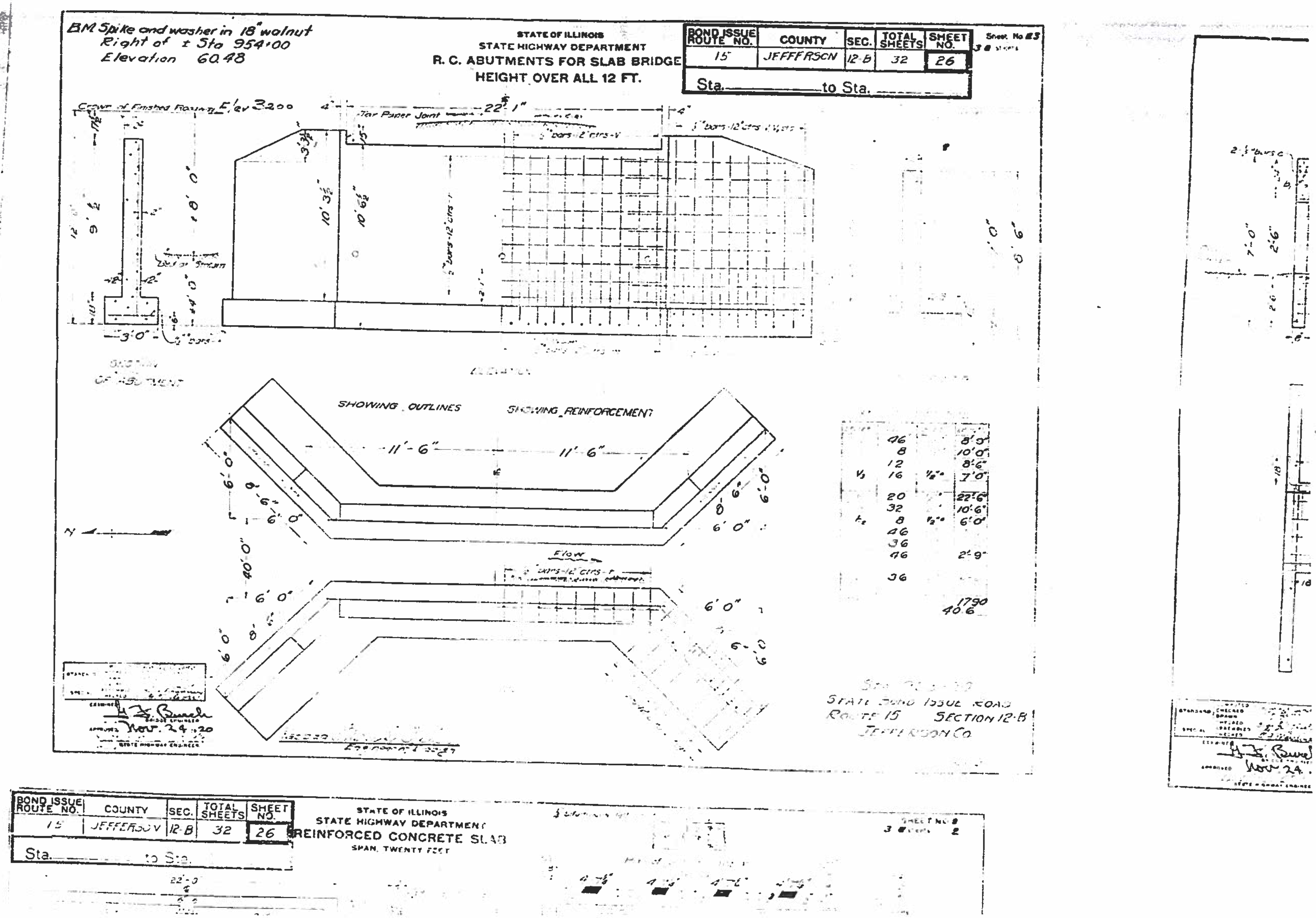
EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: NONE | SHEET NO. 5 OF 8 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	62

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -
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	PLOT SCALE = 0:2 '' / in.	CHECKED - ELH	REVISED -
	PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

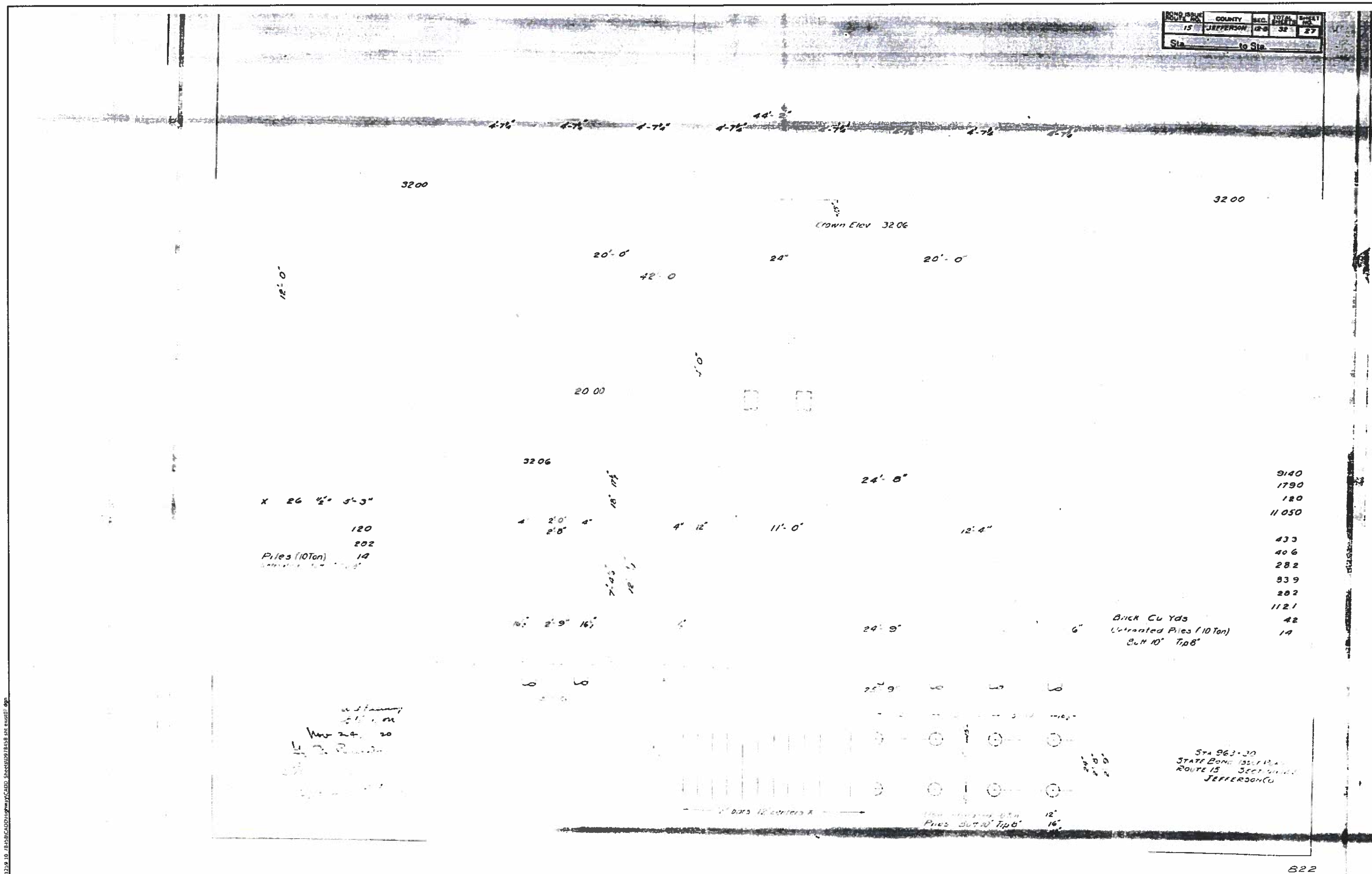
EXISTING BRIDGE PLANS FOR INFORMATION ONLY

SCALE NONE | SHEET NO. 6 OF 8 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	63

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



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	PLOT SCALE = 0.2 '' / in.	CHECKED - ELH	REVISED -	
	PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -	

EXISTING BRIDGE PLANS
FOR INFORMATION ONLY

SCALE: NONE | SHEET NO. 7 OF 8 SHEETS | STA. | TO STA.

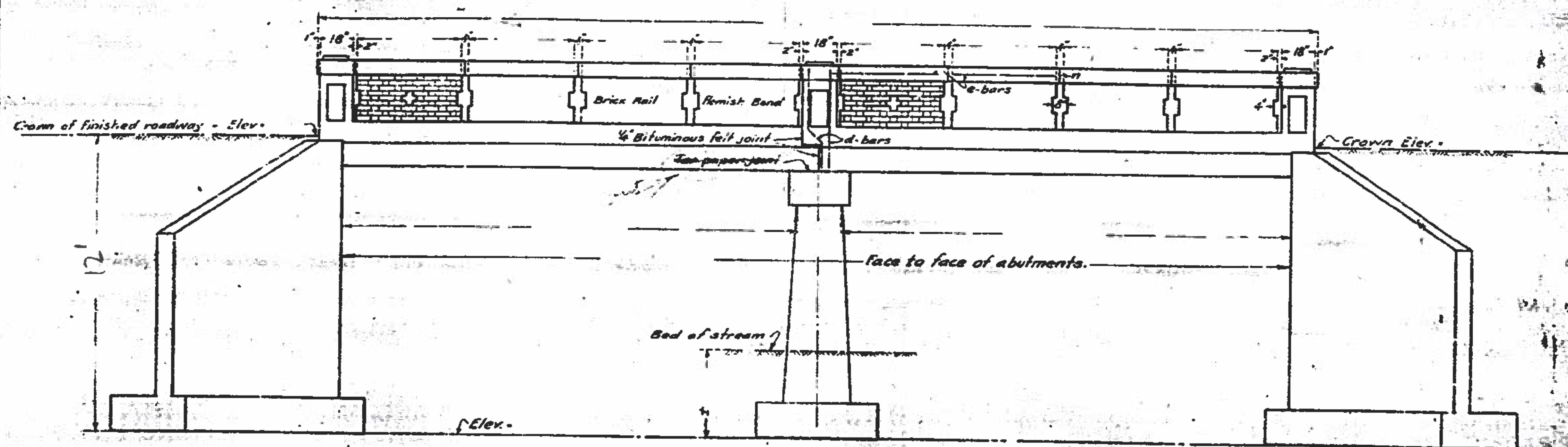
F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
821	12B-2	JEFFERSON	74	64

CONTRACT NO. 78458

ILLINOIS | FED AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

Sheet No.
3 Sheets.

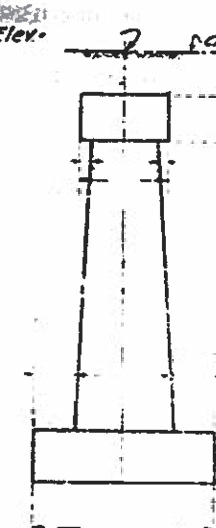


GENERAL ELEVATION.

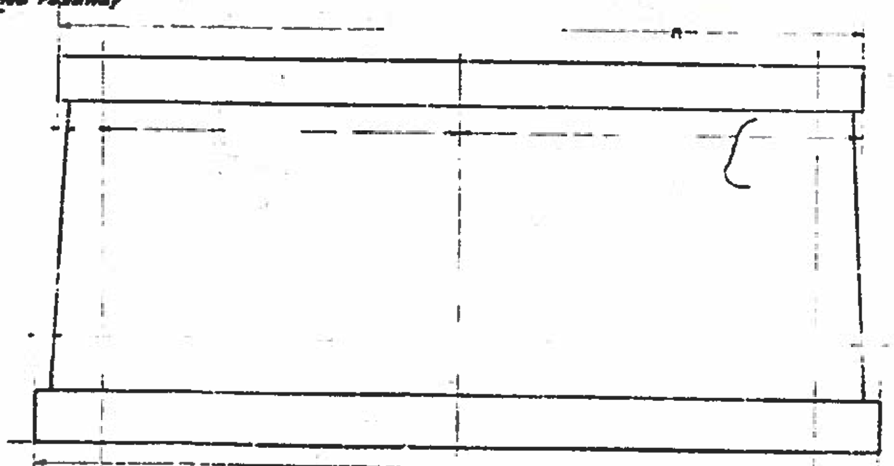
BILL OF MATERIAL FOR PIER

Bars	No	Size	Length
Reinforcing Steel Lbs.			
Class B Concrete Cu.Yds.			

Class B concrete to be used in pier
Proportions 1:3:5



END OF PIER.



ELEVATION OF PIER

TOTAL BILL OF MATERIAL

Superstructure Reinf. Steel Lbs.	
Abutment " " "	
Pier " " "	
Total " " "	
Superstructure Concrete Cl.A Cu.yds.	
Abutment " " "	
Pier " Cl.B "	
Total Class A Concrete Cu.yds.	
Total " B " "	
Total Concr... in Bridge "	

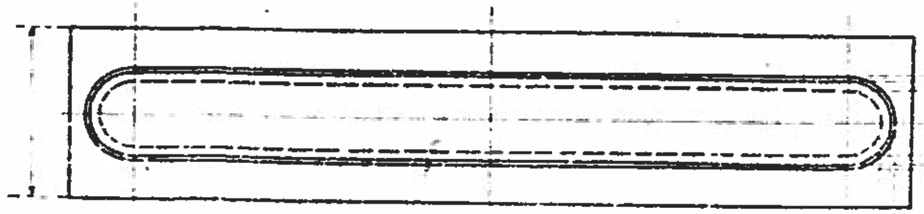
STANDARD	COMPUTED -	W.M. Richards
	CHECKED -	R.R. Ahmand
	DRAWN -	W.M.S.
	CHECKED -	L.R.W.
SPECIAL	ASSIGNED -	
	CHECKED -	

EXAMINED ____ 19__

____ BR. & I. ENGINEER
PASSED

____ ENGINEER OF DESIGN
APPROVED

____ CHIEF HIGHWAY ENGINEER.



PLAN OF PIER

322

ESCA CONSULTANTS, INC.	USER NAME = sma	DESIGNED - SMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS FOR INFORMATION ONLY
	ESCA PROJECT NO. 1259.10	DRAWN - SMA	REVISED -		
	PLOT SCALE = 0.2 ' / in.	CHECKED - ELH	REVISED -		
	PLOT DATE = 7/15/2019	DATE - 10/18	REVISED -		SCALE NONE · SHEET NO. 8 OF 8 SHEETS · STA. · TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	65
		CONTRACT NO. 78458		
	ILLINOIS	FED. AID PROJECT		

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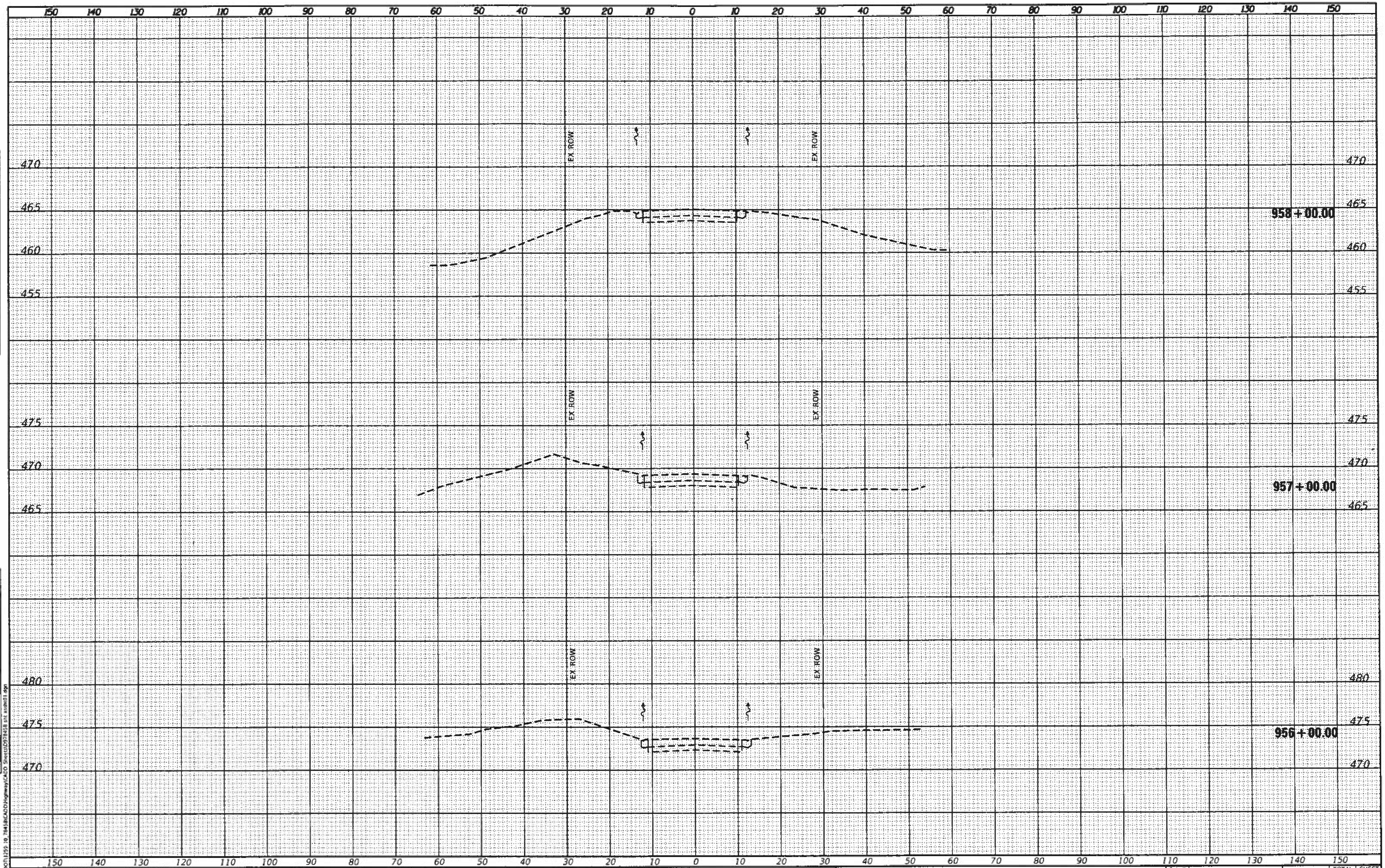

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	PLOT SCALE = 20.000 ' / in.	CHECKED - SKM	REVISED -
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

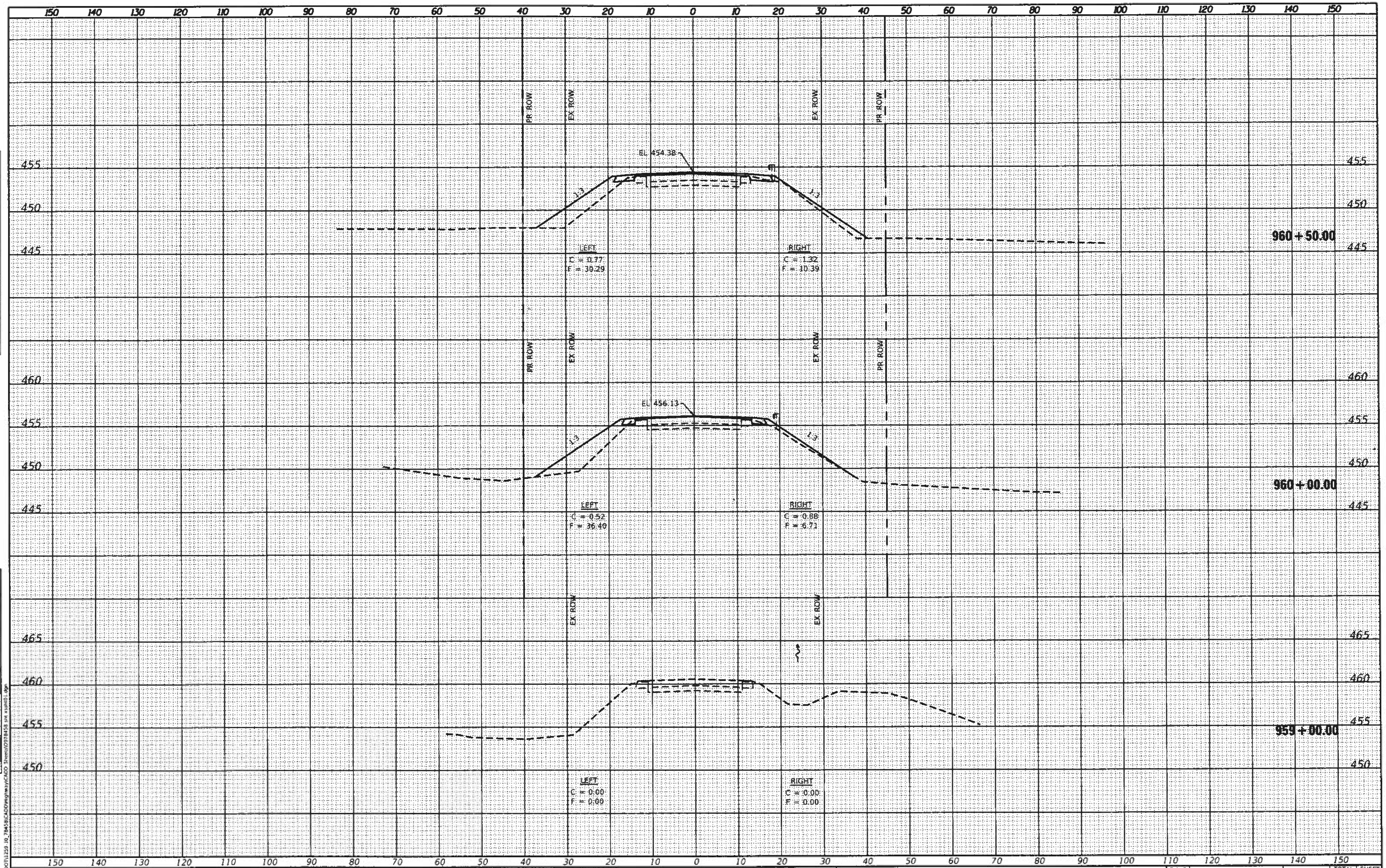
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 1 OF 9 SHEETS | STA. 956+00.00 TO STA. 958+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	66

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



ESCA

USER NAME = sma	DESIGNED - JPC/SHL	REVISED -
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PLOT SCALE = 20.000 ' / in.	CHECKED - SKM	REVISED -
PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

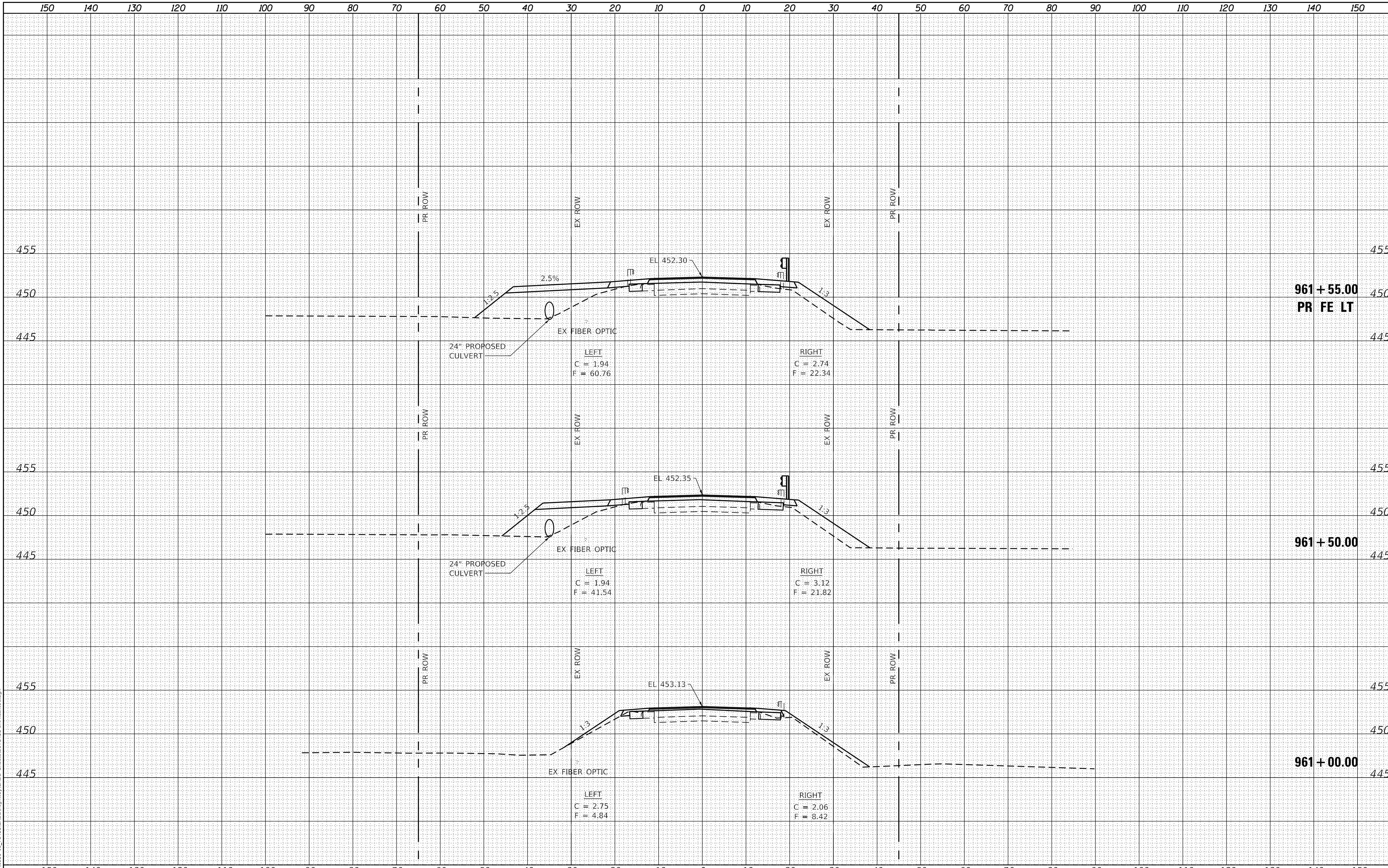
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 2 OF 9 SHEETS | STA. 959+00.00 TO STA. 960+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	67

CONTRACT NO. 78458

ILLINOIS FED. AID PROJECT



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

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ESCA CONSULTANTS, INC.

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PLOT DATE = 9/23/2019	DATE - 09/19	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

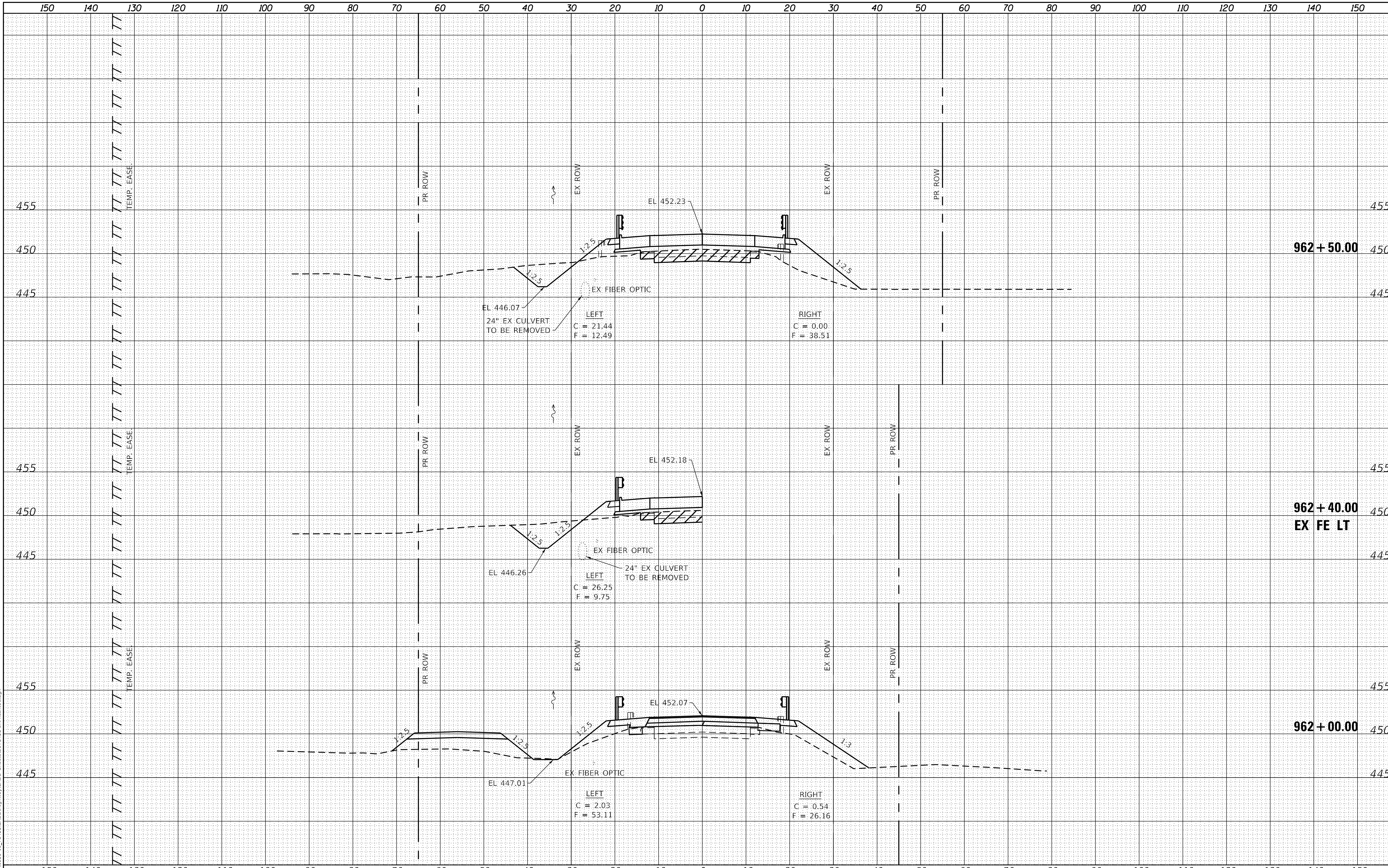
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 3 OF 9 SHEETS | STA. 961+00.00 TO STA. 961+55.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	68

CONTRACT NO. 78458

ILLINOIS FED. AID PROJECT



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ESCA CONSULTANTS, INC.

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PLOT SCALE = 20.000 ' / in.	CHECKED - SKM/ELH	REVISED -	
PLOT DATE = 9/23/2019	DATE - 09/19	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

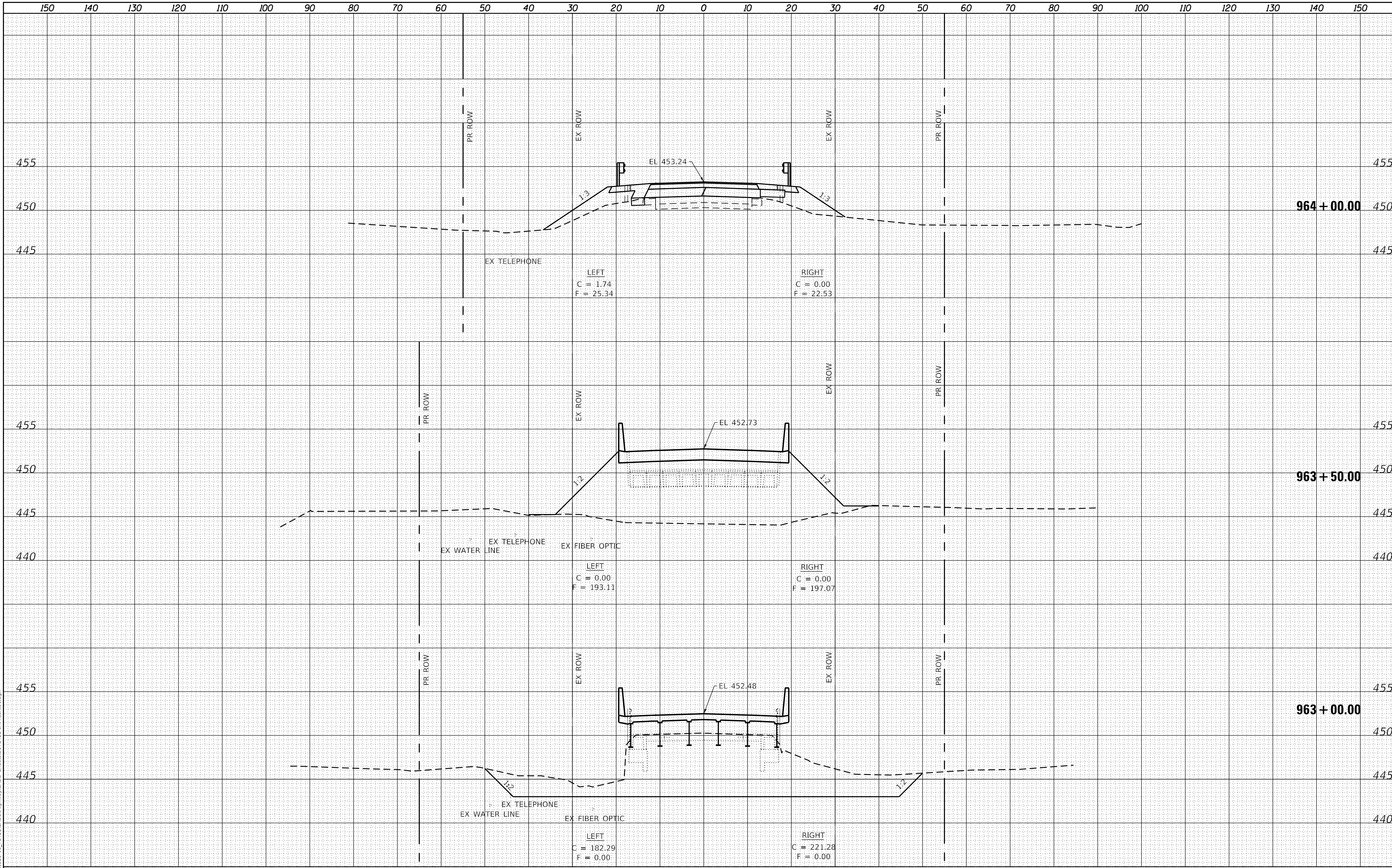
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 4 OF 9 SHEETS | STA. 962+00.00 TO STA. 962+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	69

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT



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

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

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ESCA CONSULTANTS, INC. CIVIL & STRUCTURAL ENGINEERS

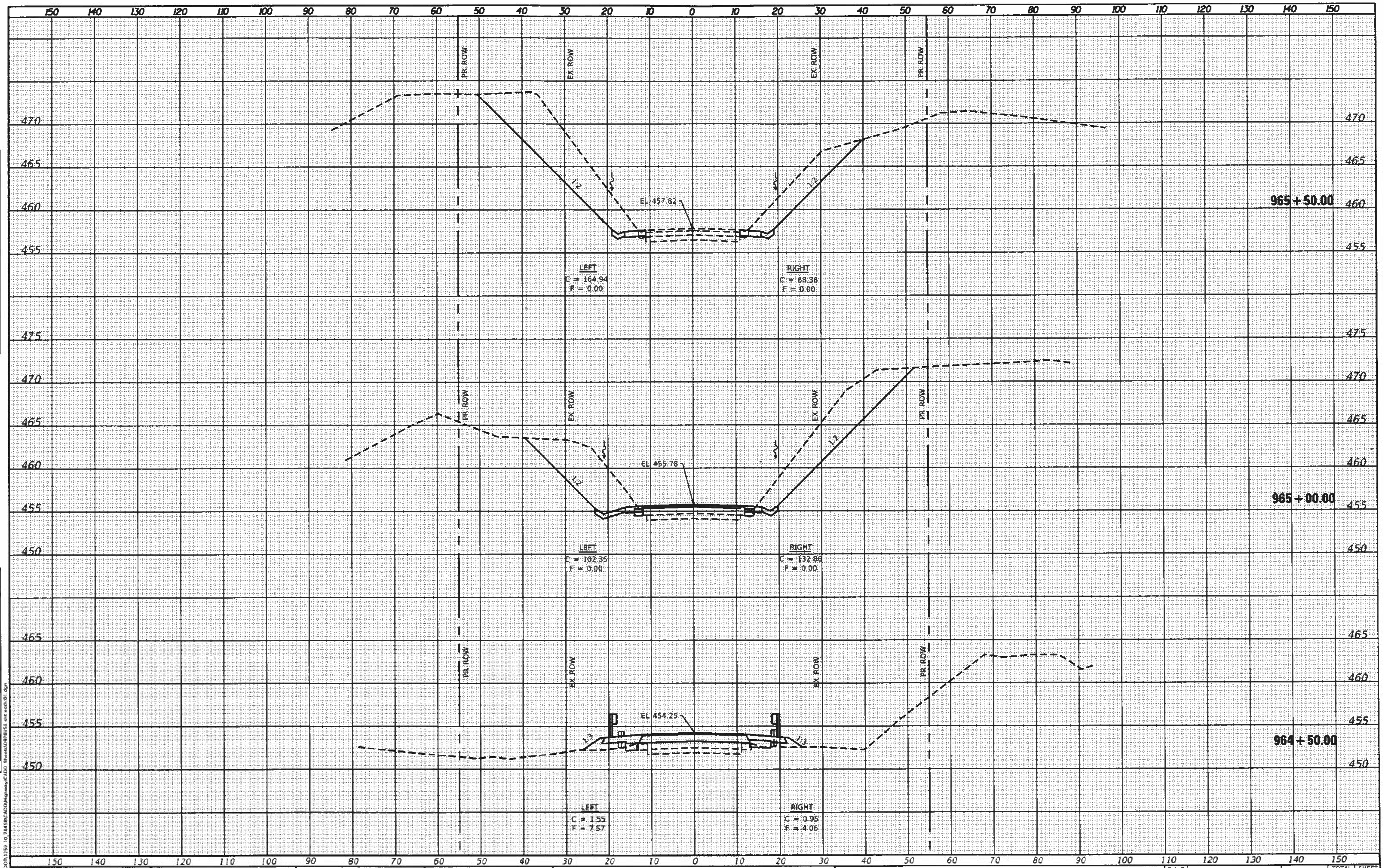
USER NAME = sma	DESIGNED - JPC/SHL	REVISED -	
ESCA JOB NO. 1259.10	DRAWN - JPC/SHL	REVISED -	
PLOT SCALE = 20.000 ' / in.	CHECKED - SKM/ELH	REVISED -	
PLOT DATE = 9/23/2019	DATE - 09/19	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 5 OF 9 SHEETS | STA. 963+00.00 TO STA. 964+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	70
		CONTRACT NO. 78458		
	ILLINOIS	FED. AID PROJECT		



ESCA	USER NAME = sma	DESIGNED - JPC/SHL	REVISED -
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	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

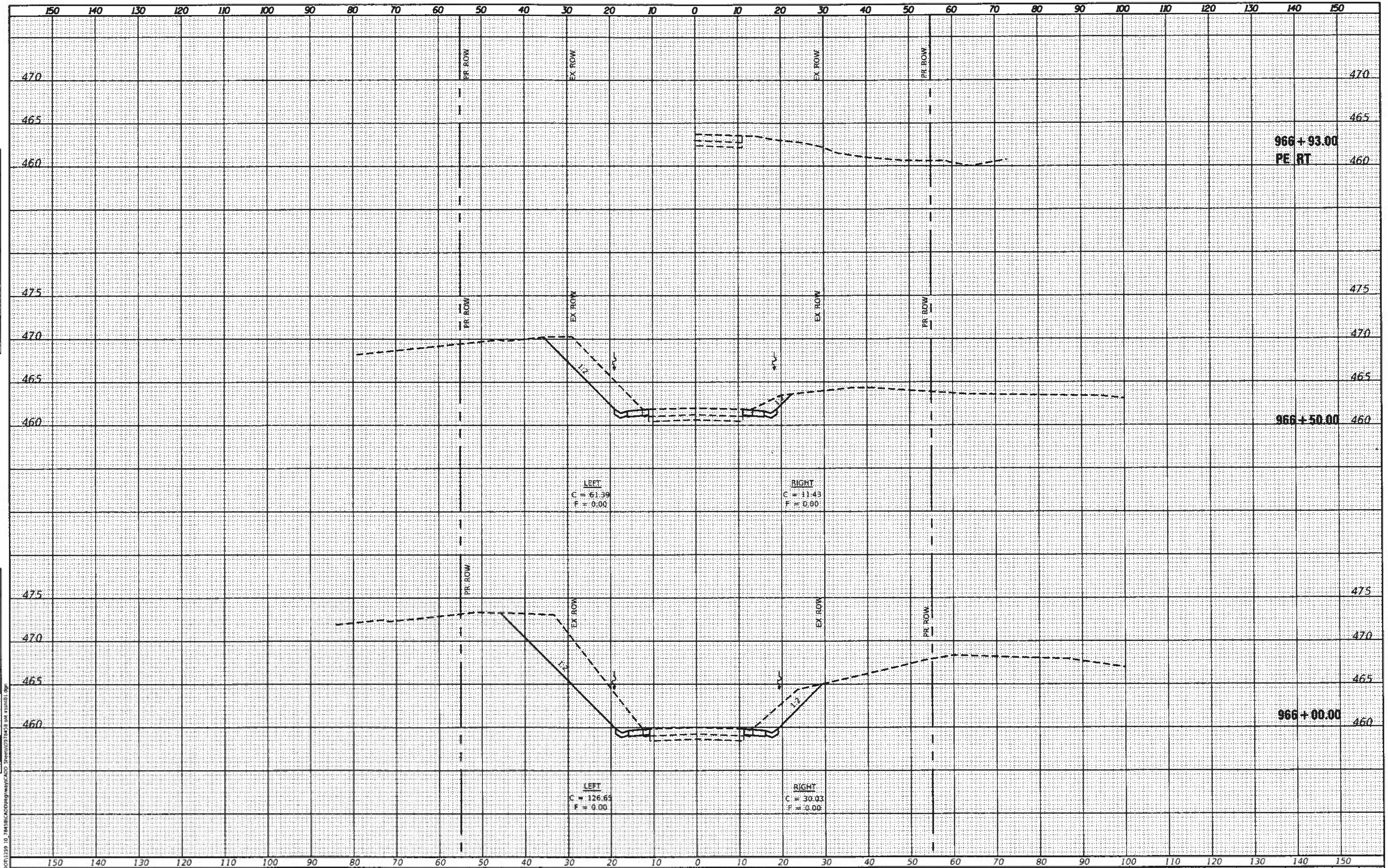
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 6 OF 9 SHEETS | STA. 964+50.00 TO STA. 965+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12B-2	JEFFERSON	74	71

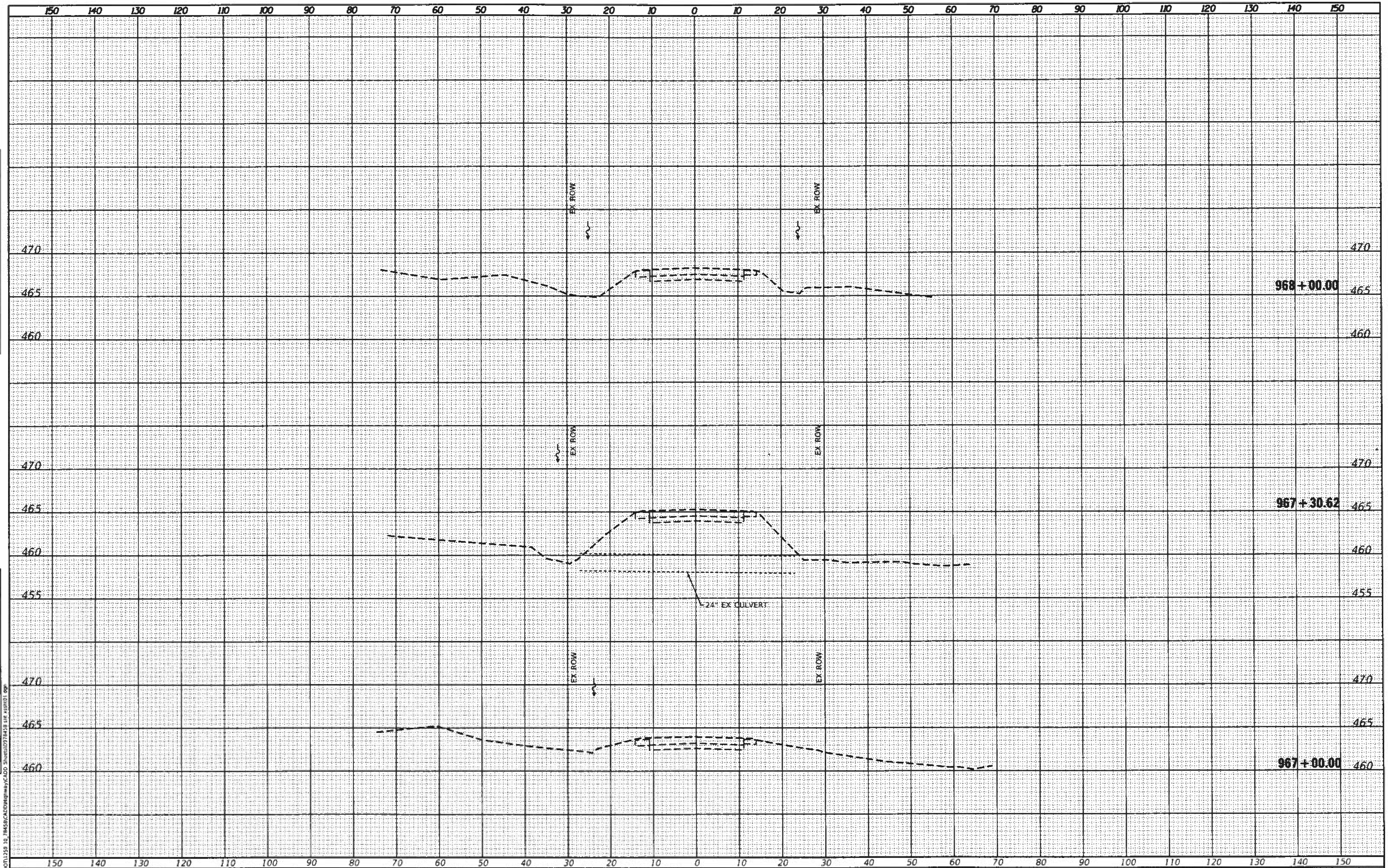
CONTRACT NO. 78458

ILLINOIS FED. AID PROJECT



ESCA	USER NAME = sma	DESIGNED - JPC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FAP 821 (IL 15) CROSS SECTIONS
	ESCA JOB NO. 1259.10	DRAWN - JPC	REVISED -		
	PLOT SCALE = 20.000 ' / in.	CHECKED - SKM	REVISED -		
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -		SCALE: AS SHOWN · SHEET NO. 7 OF 9 SHEETS · STA. 966+00.00 TO STA. 966+93.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	72
CONTRACT NO. 78458				
ILLINOIS FED. AID PROJECT				



ESCA	USER NAME = sma	DESIGNED - JPC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	ESCA JOB NO. 1259.10	DRAWN - JPC	REVISED -	
	PLOT SCALE = 20.000 ' / in.	CHECKED - SKM	REVISED -	
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -	

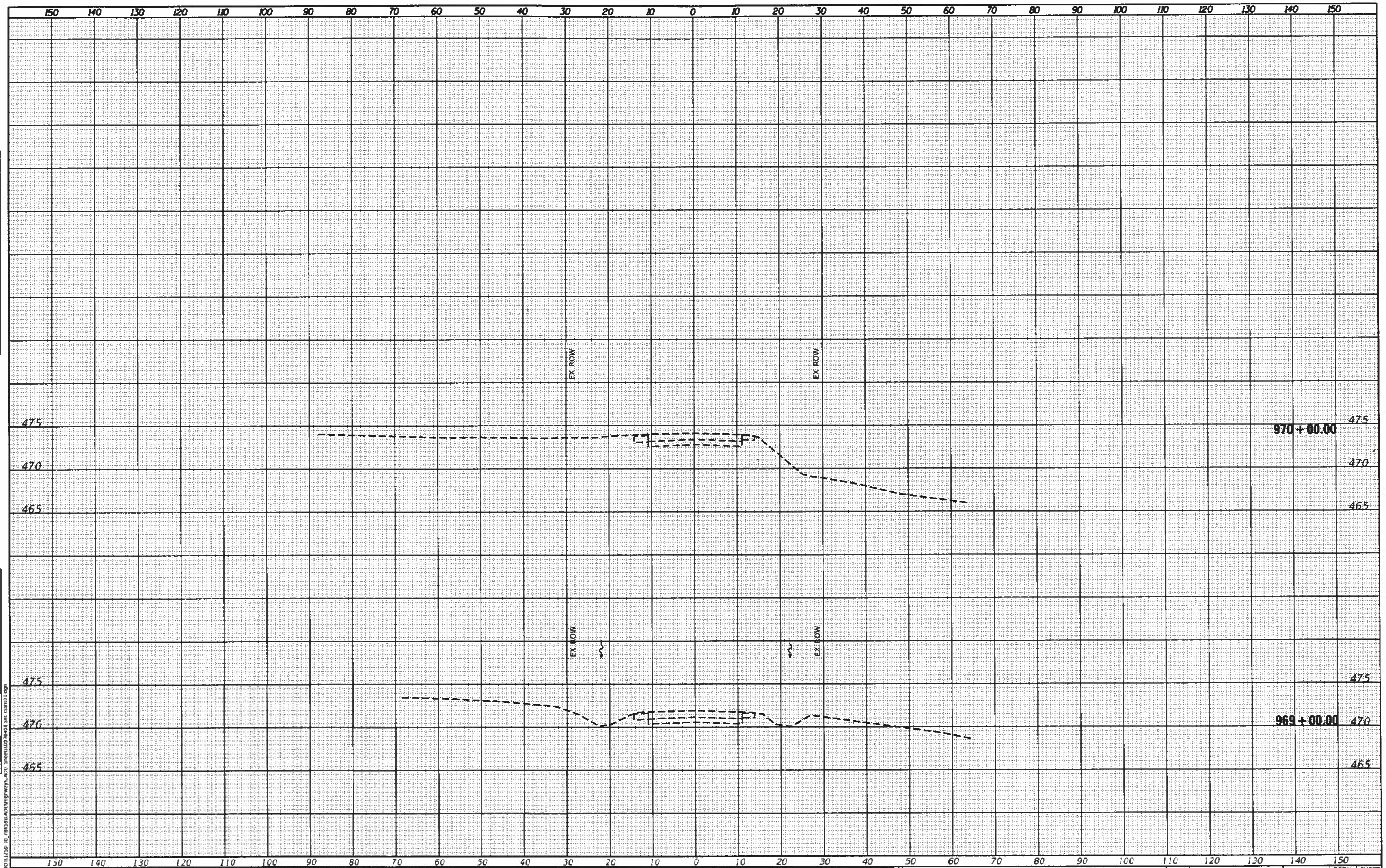
FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 8 OF 9 SHEETS | STA. 967+00.00 TO STA. 968+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	128-2	JEFFERSON	74	73

CONTRACT NO. 78458

ILLINOIS FED. AID PROJECT



ESCA	USER NAME = sma	DESIGNED - JPC	REVISED -
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	PLOT SCALE = 20.000 ' / in.	CHECKED - SKM	REVISED -
	PLOT DATE = 7/15/2019	DATE - 12/18	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 821 (IL 15) CROSS SECTIONS

SCALE: AS SHOWN | SHEET NO. 9 OF 9 SHEETS | STA. 969+00.00 TO STA. 970+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
821	12-B	JEFFERSON	74	74

CONTRACT NO. 78458

ILLINOIS | FED. AID PROJECT