

01-20-2017 LETTING ITEM 077

STATE OF ILLINOIS

* 26+19 = 45 TOTAL SHEETS

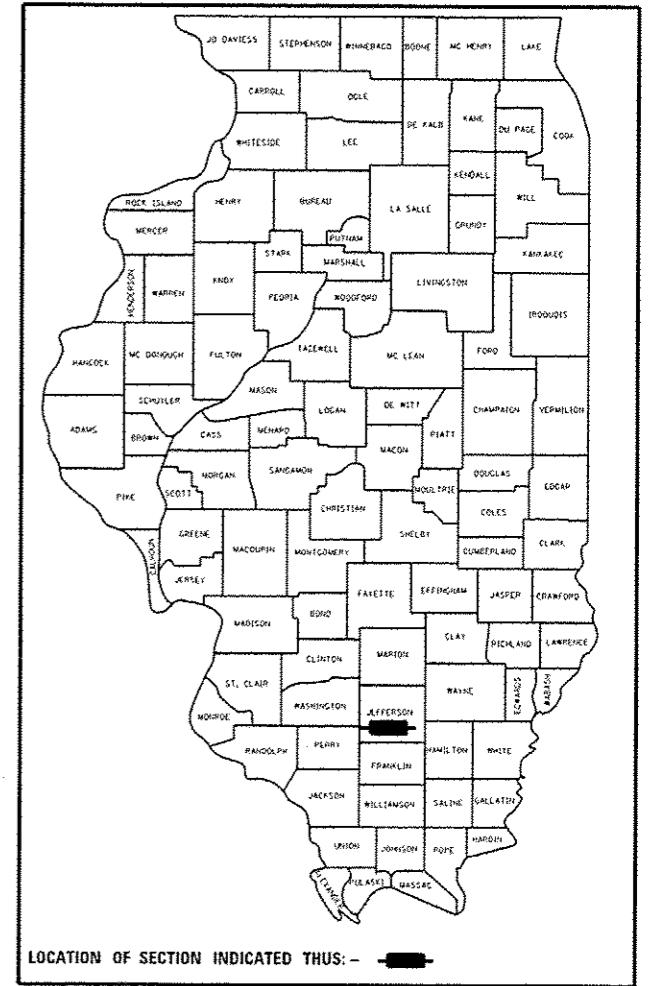
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41, 1HB2)BR-1	JEFFERSON	26	1
		ILLINOIS	CONTRACT NO. 78365	

DEPARTMENT OF TRANSPORTATION
OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

PROPOSED HIGHWAY PLANS

ROUTE I-57 (F.A.I. 57)
SECTION (41, 1HB2)BR-1
ACNHPP-0057(404)
SUPERSTRUCTURE REPLACEMENT
JEFFERSON COUNTY

D-99-033-13



FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-7
FOR STRUCTURAL PAVEMENT DESIGN
INFORMATION, SEE SHEET NO. N/A

TRAFFIC DATA

CH 13
2013 ADT = 700
1.6% TRUCKS

I-57
2015 TWO WAY ADT = 33,700
3.4% TRUCKS

TOWNSHIP:
SPRING GARDEN

**SUPERSTRUCTURE REPLACEMENT SN 041-0054
CARRYING CH 13 (F.A.S. 2830) OVER I-57 (F.A.I. 57)**

STRUCTURE FAS 2830 STA. 50+00 = FAI 57 STA. 310+00
224'-6" BK TO BK ABUTS, 0° SKEW, 26'-10" CLEAR WIDTH, 30'-0" OUT TO OUT

DESIGN DESIGNATION : N/A

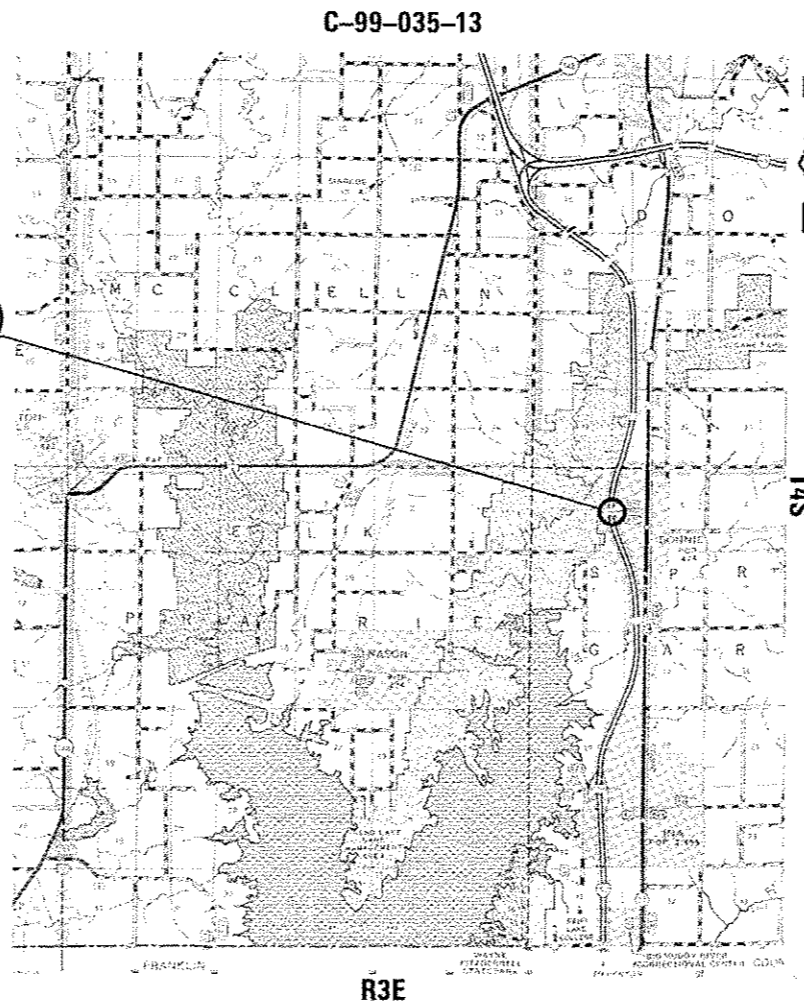
COORDINATE SYSTEM : ILLINOIS COORDINATE SYSTEM, EAST ZONE

POSTED SPEED : 30 MPH

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

PROJECT ENGINEER: DAVID PICHE (618)-351-5227
PROJECT DESIGNER: BILL PORTER (618)-351-5224

CONTRACT NO. 78365



GROSS LENGTH = 284.5 FT. = 0.054 MILES
NET LENGTH = 284.5 FT. = 0.054 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

SUBMITTED August 11 2018

Jeffrey A. Keen
REGION FIVE ENGINEER

Sept 30 2018
Maureen M. Addis PE
ENGINEER OF DESIGN AND ENVIRONMENT

Sept 20 2018
David Allen
DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, MIXTURE REQUIREMENTS, STANDARDS, AND SIGNATURES
- 3 GENERAL NOTES
- 4-7 SUMMARY OF QUANTITIES
- 8-9 TYPICAL SECTIONS
- 10 SCHEDULES OF QUANTITIES
- 11 PLAN AND PROFILE SHEET
- 12 PROPOSED GUARDRAIL AND HMA SHOULDER LAYOUT
- 13 EROSION CONTROL
- 14 SEEDING & MULCHING, BUTT JOINT
- 15-26 CROSS-SECTIONS
- 26A-26S STRUCTURE PLANS

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 482001-02 HMA SHOULDERS ADJACENT TO FLEXIBLE PAVEMENT
- 515001-03 NAME PLATE FOR BRIDGES
- 630001-11 STEEL PLATE BEAM GUARDRAIL
- 631031-15 TRAFFIC BARRIER TERMINAL, TYPE 6
- 701101-05 OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
- 701106-02 OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701400-04 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
- 701401-10 LANE CLOSURE, FREEWAY/EXPRESSWAY
- 701428-01 TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
- 701901-06 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 782006 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- B.L.R. 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

MIX REQUIREMENTS

Locations	Hot-Mix Asphalt Surface Course, Shoulders (Top Lift), and Leveling Binder
Mixture Use(s):	Hot-Mix Asphalt Surface Course, N30, Mix C, IL-9.5L
AC/PG:	PG64-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 30 Gyration Design
Mixture Composition: (Gradation Mixture)	IL-9.5L
Friction Aggregate:	None
Quality Management Program:	QC/OA

Locations	Hot-Mix Asphalt Shoulders
Mixture Use(s):	Hot-Mix Asphalt Binder Course, N30, IL-19.0L
AC/PG:	PG64-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 30 Gyration Design
Mixture Composition: (Gradation Mixture)	IL-19.0L
Friction Aggregate:	None
Quality Management Program:	QC/OA

Prepared By:	<i>[Signature]</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROJECT IMPLEMENTATION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT MATERIALS ENGINEER

REV.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STANDARDS, MIX REQUIREMENTS & SIGNATURES

USER NAME + portaruc	DESIGNED -	REVISED -
PLOT SCALE + 1/8" = 1'-0"	DRAWN -	REVISED -
PLOT DATE + 8/2/2016	CHECKED -	REVISED -
	DATE -	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(4L 1HB2)BR-1	JEFFERSON	26	2
CONTRACT NO. 78365				
ILLINOIS FED. AID PROJECT				

SHEET NO. OF SHEETS

FILE NAME: P:\N\11044810\NTEC\Illinois.gov\PM\DOT\Documents\DOT - Office\District n\Pe_g_mts\78365\Cad\hmts\78365_shtz\p10p1f.dgn

GENERAL NOTES

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.
BITUMINOUS MATERIALS:	
(TACK COAT)	
ON PAVEMENT	0.05 LB./SQ. FT.
HMA LIFTS	0.025 LB./SQ. FT.
(PRIME COAT)	
AGGREGATE BASES	0.25 LB./SQ. FT.

THE ALGEBRAIC DIFFERENCE BETWEEN THE PAVEMENT AND SHOULDER SLOPES SHALL NOT EXCEED 10%. THE SHOULDER ON THE OUTSIDE OF SUPERELEVATED CURVES SHALL BE FLATTENED ACCORDINGLY.

THE THICKNESS OF HOT MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT MIX ASPHALT MIXTURE IS PLACED.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING CONDITIONS HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK. THE CONTRACTOR, HOWEVER, WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE FOR THE WORK. CONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT 9 OFFICE.

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

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.17 REGARDLESS IF TRACK MOUNTED OR WHEELED.

THE COST OF REMOVING THE BRIDGE RAIL IS INCLUDED IN "REMOVAL OF EXISTING SUPERSTRUCTURES - EACH."

ALL EROSION CONTROL MEASURES SHALL BE LEFT IN PLACE UNTIL REMOVAL IS REQUIRED TO CONSTRUCT FINAL GRADE LINES.

THE QUANTITY OF EROSION BARRIER IS ESTIMATED. THE FINAL PLACEMENT AND QUANTITY ARE TO BE DETERMINED BY THE RESIDENT ENGINEER.

EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.

ATTAINMENT OF PROPER CROWN OR SUPERELEVATION SHALL BE FULLY ACCOMPLISHED WITH THE HOT MIX ASPHALT BINDER COURSE OR LEVELING BINDER, WHEN SPECIFIED.

COMMITMENTS

NONE AS OF AUGUST 12, 2016.

FILE NAME : p:\11084ERID\INTEG\Illinois.gov\FWIDOT\Documents\DOT Office\District 9\Projects\78365\BIDDING\CD\Sheets\78365_shta-plan.pdf	USER NAME : portarnc	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE : 100,0000 / 1 in.	CHECKED -	REVISED -			57	(4), 1H82BR-1	JEFFERSON	26	3
Defaults	PLOT DATE : 8/12/2016	DATE -	REVISED -	SCALE:	SHEET OF SHEETS	STA. TO STA.	[ILLINOIS] FED. AID PROJECT CONTRACT NO. 78365			

SUMMARY OF QUANTITIES

RURAL, JEFFERSON COUNTY
SN 041-0054
90% FEDERAL / 10% STATE
CONSTRUCTION CODE: 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	28
25000200	SEEDING, CLASS 2	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.5
25100630	EROSION CONTROL BLANKET	SQ YD	110
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	25
28000400	PERIMETER EROSION BARRIER	FOOT	406
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	284
40600615	LEVELING BINDER (MACHINE METHOD), N30	TON	20
40600982	HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT	SQ YD	183
40603305	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N30	TON	104

12

SUMMARY OF QUANTITIES - CONT

RURAL, SALINE COUNTY	
ROUTE: FAS 2830	SN 041-0054
90% FEDERAL / 10% STATE	
CONSTRUCTION CODE: 0014	

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
52100505	ANCHOR BOLTS, 5/8"	EACH	20
52100510	ANCHOR BOLTS, 3/4"	EACH	10
52100520	ANCHOR BOLTS, 1"	EACH	20
58100200	WATERPROOFING MEMBRANE SYSTEM	SO YD	665
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	510
60600605	CONCRETE CURB, TYPE B	FOOT	60
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	225
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	428
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4
67100100	MOBILIZATION	L SUM	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1

13

*SPECIALTY ITEM

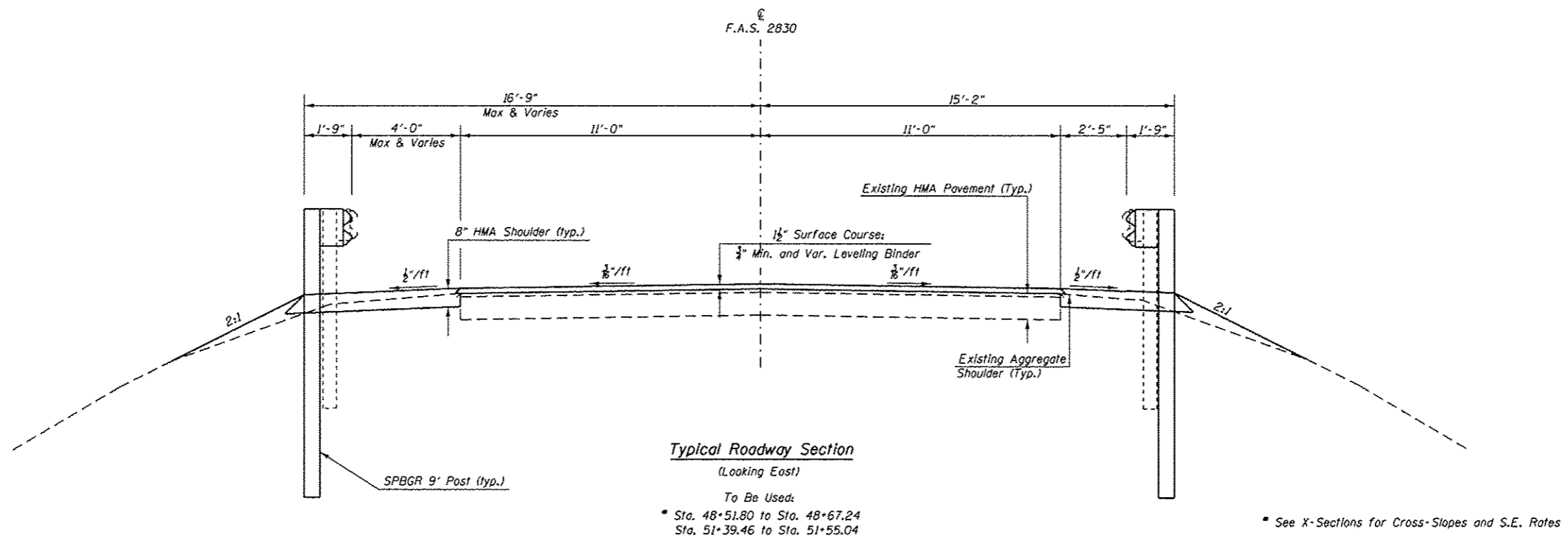
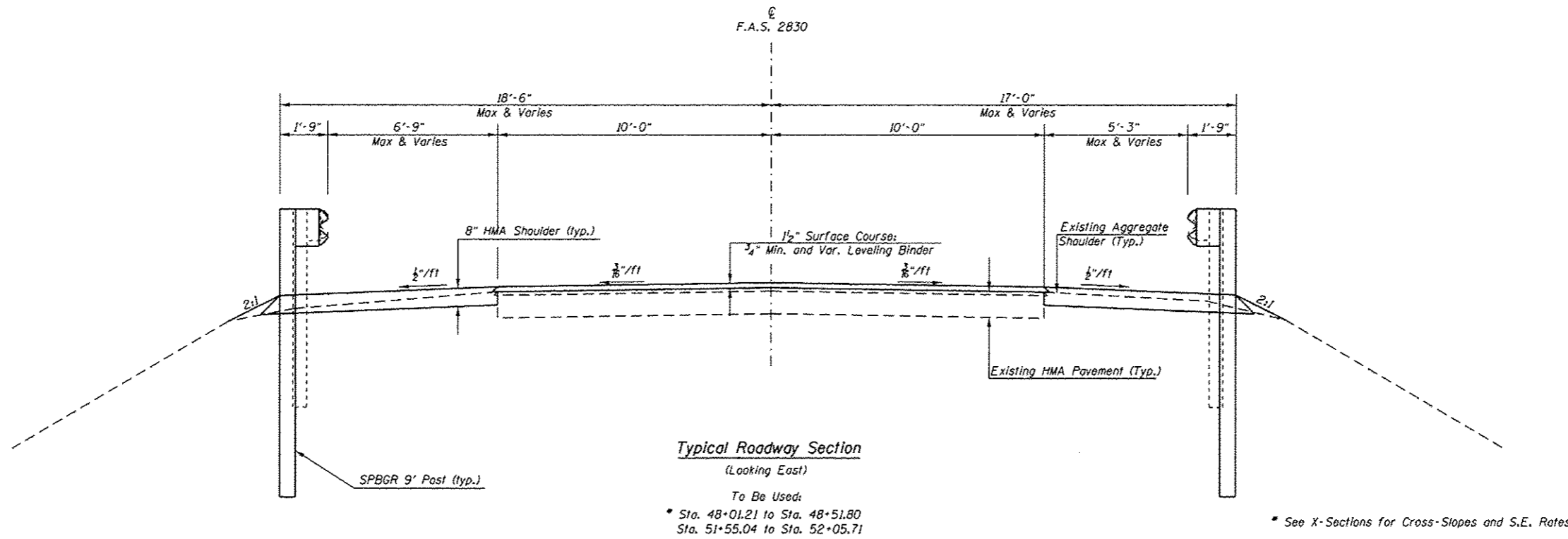
SUMMARY OF QUANTITIES - CONT

RURAL, JEFFERSON COUNTY
 ROUTE: FAS 2830 SN 041-0054
 90% FEDERAL / 10% STATE
 CONSTRUCTION CODE: 0014

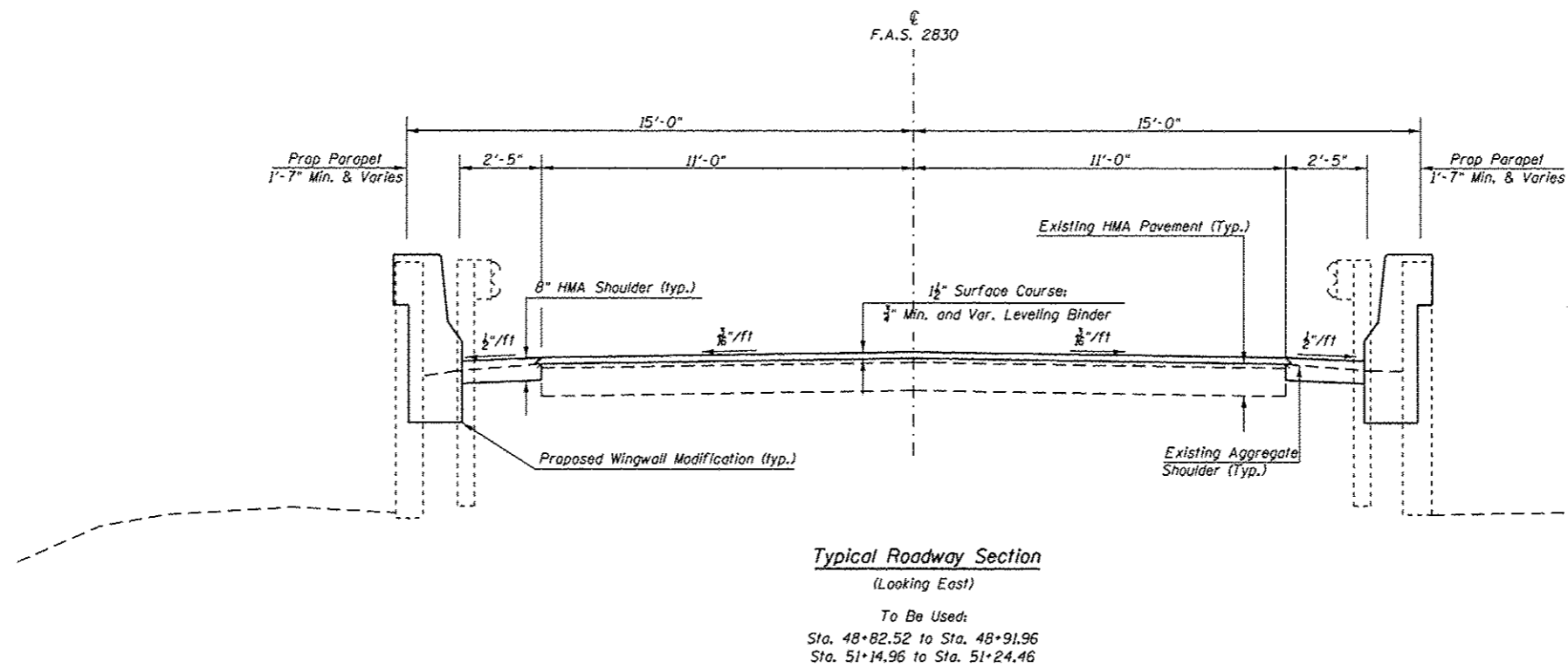
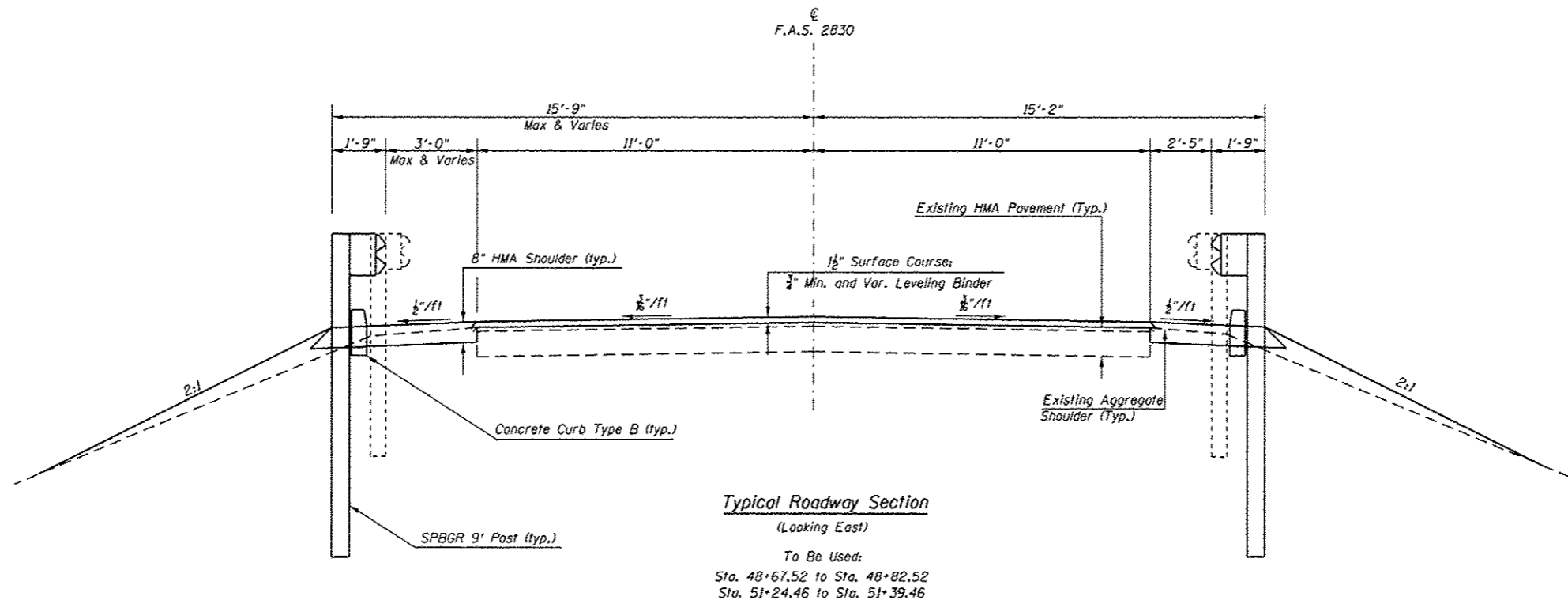
CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	18
70300220	TEMPORARY PAVEMENT MARKING-LINE 4"	FOOT	1618
* 78001110	PAINT PAVEMENT MARKING-LINE 4"	FOOT	1618
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	7
* 78200010	BARRIER WALL REFLECTORS, TYPE B	EACH	10
X0325748	ACRYLIC COATING	SQ YD	94
X0325749	FIBER WRAP	SQ FT	171
X0327980	PAVEMENT MARKING REMOVAL-WATER BLASTING	SQ FT	539
X5040500	PRECAST CONCRETE DECK PANELS	SQ FT	6381
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	23.5
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
X7010410	SPEED DISPLAY TRAILER	CAL MO	8
Z0018002	DRAINAGE SCUPPER, DS-11	EACH	2

* SPECIALTY ITEM

FILE NAME :	USER NAME : pwrterno	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default					SCALE: SHEET OF SHEETS STA. TO STA.	57	141, 1HB21R-1	JEFFERSON	26	7
									CONTRACT NO. 78365	
									ILLINOIS FED. AID PROJECT	



FILE NAME =	USER NAME = portarwo	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
						57	(41, 1HB2)BR-1	JEFFERSON	26	8	
						CONTRACT NO. 78365					
						ILLINOIS FED. AID PROJECT					
				SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	



FILE NAME *	USER NAME = porters	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default					SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	JEFFERSON	26	9
											CONTRACT NO. 78365		
											ILLINOIS FED. AID PROJECT		

EARTH WORK SCHEDULE

LOCATION STATION TO STATION	STRUCTURE EXCAVATION	EARTH EXCAVATION	SHRINKAGE FACTOR FOR EARTH EXCAVATION	SUITABLE EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	%	CU YD	CU YD	CU YD
STA. 48+00 TO STA. 49+00		13	25	9.8	4.8	5
WEST & EAST ABUTMENTS	40.6					
STA. 51+00 TO STA. 52+25		15	25	11.2	5.2	6
TOTALS	40.6	28		21	10	11

GUARDRAIL SCHEDULE

LOCATION STATION TO STATION	TRAFFIC BARRIER TERMINAL TYPE 6	SPBGR TYPE A 9 FOOT POSTS	GUARDRAIL REMOVAL	GUARDRAIL MARKER TYPE A	BARRIER WALL MARKER TYPE B
	EACH	FOOT	FOOT	EACH	EACH
NW QUAD					
STA. 47+57.5 TO STA. 48+41		87.5		2	
STA. 48+41 TO STA. 48+82.5	1				
STA. 47+57 TO STA. 48+91			133.5		
SW QUAD					
STA. 47+88 TO STA. 48+38		50		2	
STA. 48+38 TO STA. 48+82.5	1				
STA. 47+88 TO STA. 48+91			103		
NE QUAD					
STA. 51+24.5 TO STA. 51+67.5	1				
STA. 51+67.5 TO STA. 52+30.1		62.5		2	
STA. 51+15.5 TO STA. 52+30.1			114.5		
SE QUAD					
STA. 51+24.5 TO STA. 51+67.6	1				
STA. 51+67.6 TO STA. 51+92.6		25		1	
STA. 51+15.5 TO STA. 51+92.6			77		
NORTH PARAPET					5
SOUTH PARAPET					5
TOTALS	4	225	428	7	10

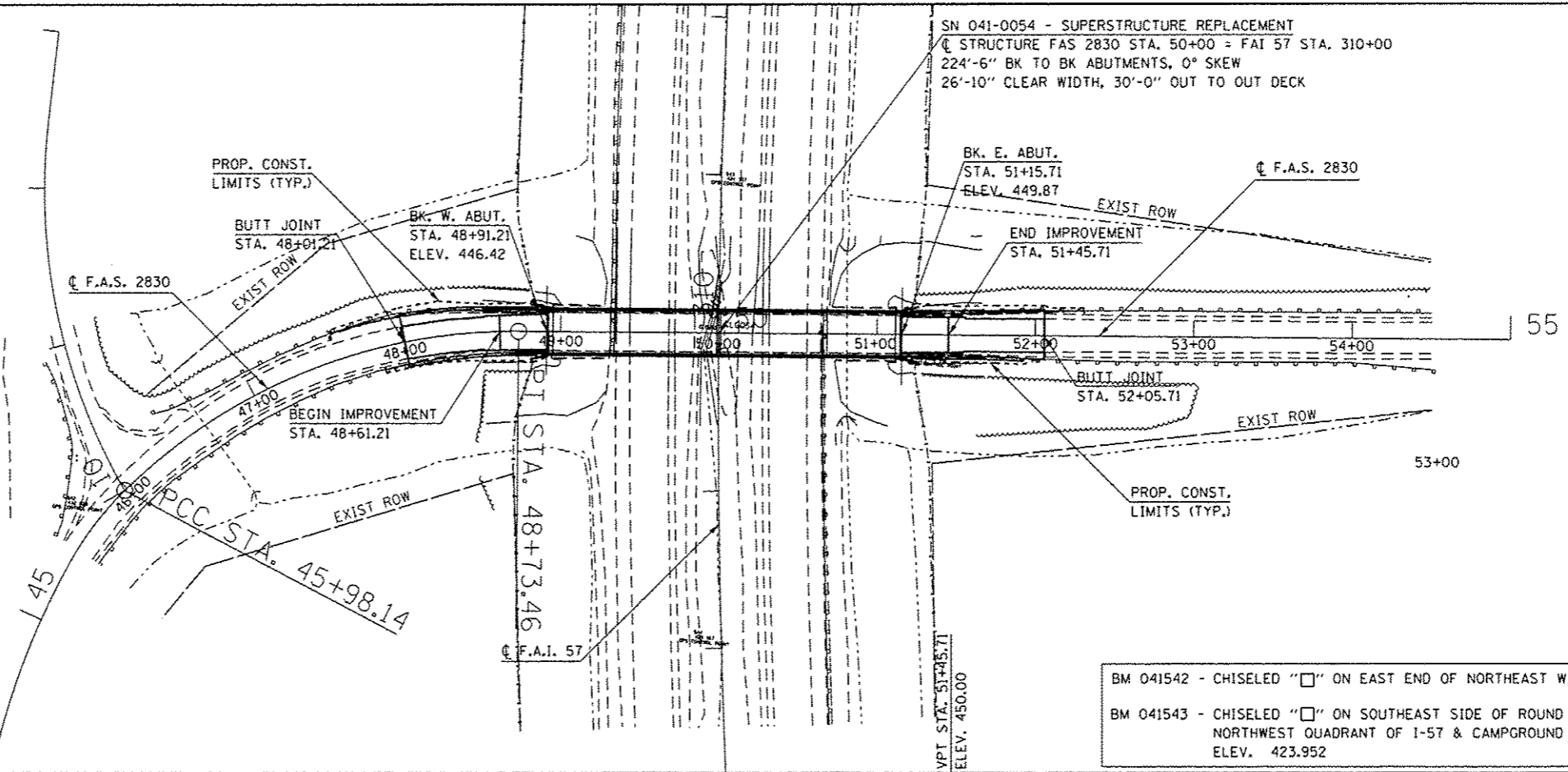
PAVING SCHEDULE

LOCATION STATION TO STATION	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N30	LEVELING BINDER (MACHINE METHOD), N30	HOT-MIX ASPHALT SURFACE REMOVAL- BUTT JOINT	HOT-MIX ASPHALT SHOULDERS, 8"
	POUND	TON	TON	SQ YD	SQ YD
WEST END					
STA. 48+01.21 TO STA. 48+43.21				98	
STA. 48+01.21 TO STA. 48+91.96	145	19	9		104
BRIDGE DECK					
STA. 48+91.96 TO STA. 51+14.96		66			
EAST END					
STA. 51+14.96 TO STA. 52+05.71	139	19	11		90
STA. 51+69.71 TO STA. 52+05.71				85	
TOTALS	284	104	20	183	194

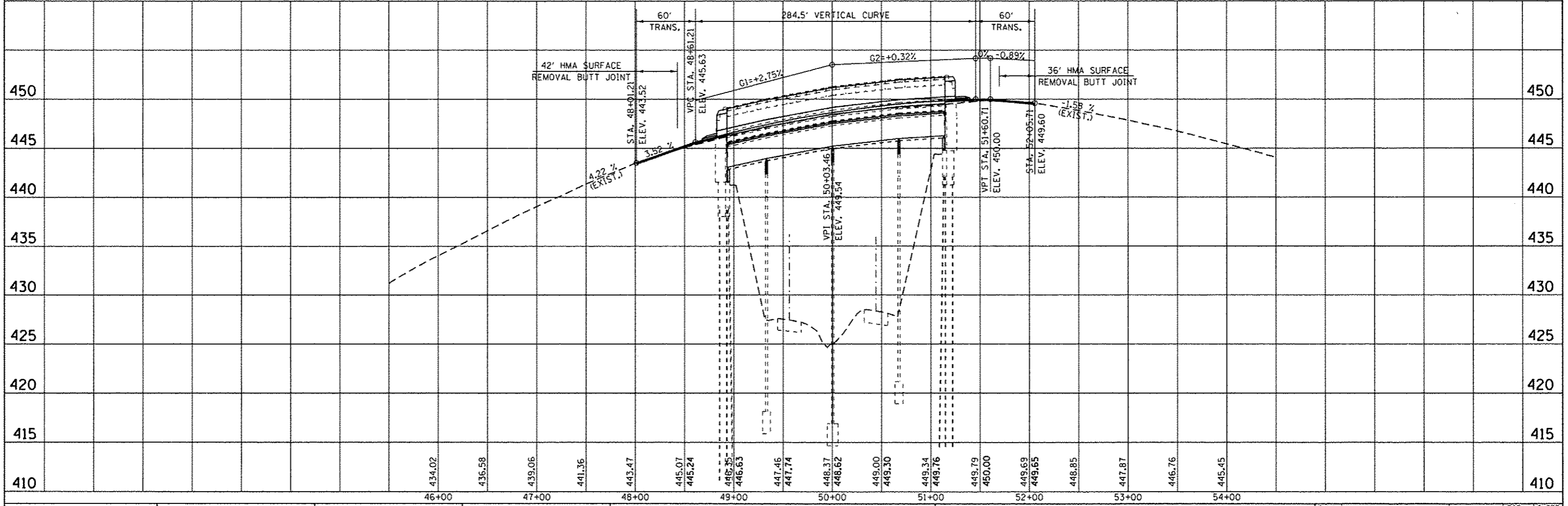
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	

DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	

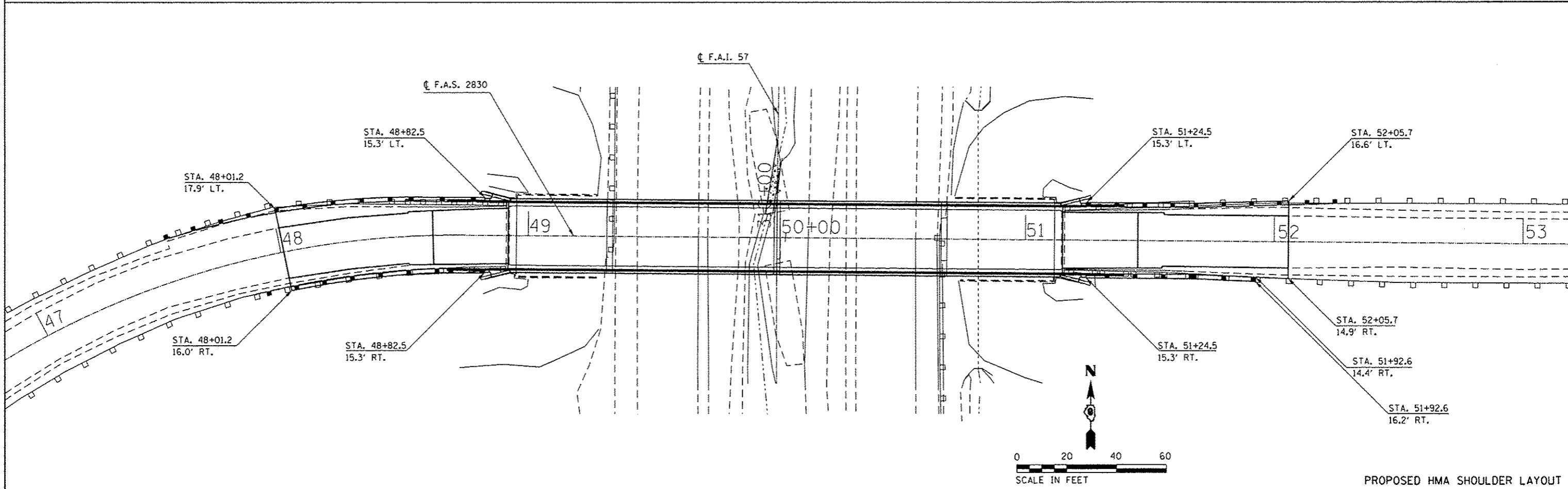
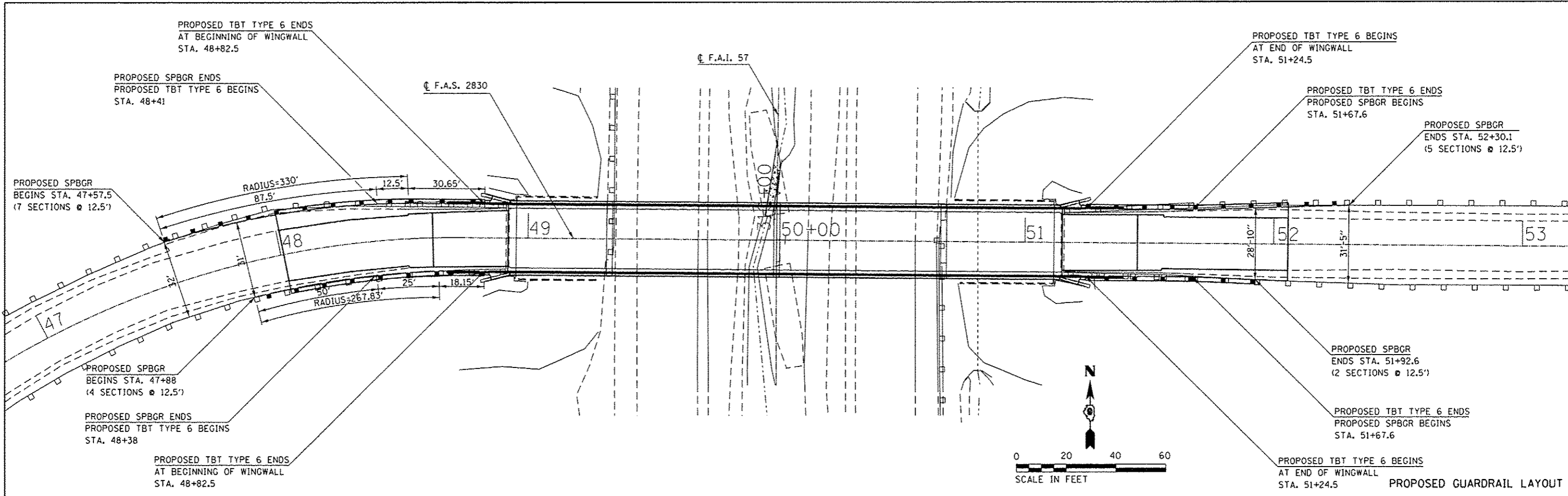
EXIST. CURVE CR3
 PI STA. = 47+43.37
 $\Delta = 45^\circ 04' 13''$ (RT)
 $D = 16^\circ 22' 13''$
 $R = 350.00'$
 $T = 145.23'$
 $L = 275.32'$
 $E = 28.93'$
 $e = \text{---}$
 $T.R. = \text{---}$
 $S.E. RUN = \text{---}$
 $P.C. STA. = 45+98.14$
 $P.T. STA. = 48+73.46$



BM 041542 - CHISELED "□" ON EAST END OF NORTHEAST WINGWALL OF SN 041-0054, ELEV. 451.012
 BM 041543 - CHISELED "□" ON SOUTHEAST SIDE OF ROUND CONCRETE SIGN FOUNDATION IN THE NORTHWEST QUADRANT OF I-57 & CAMPGROUND RD, IL SIGN PERMIT NO. 7-1074, ELEV. 423.952

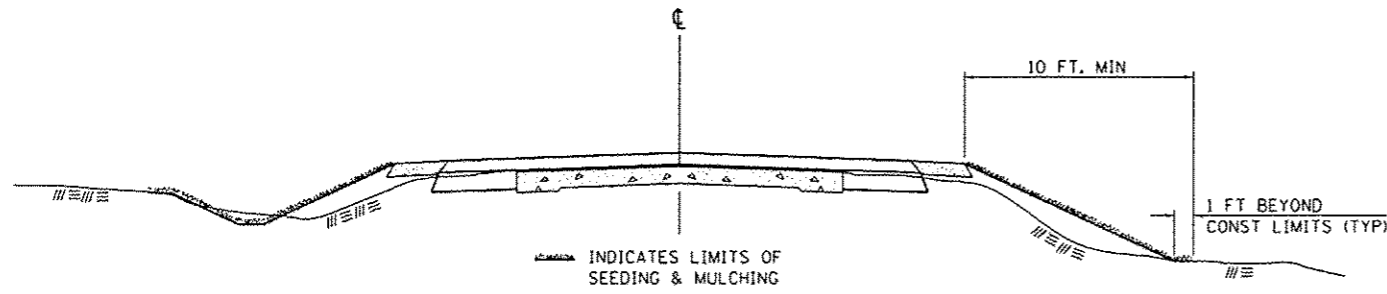


FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		PLAN & PROFILE		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\ill\0846\BID\INTEG\Illinois.gov\PIWIDOT\Documents\IDOT Offices\District 9\Projects\78365\DRAWING\CAD\Sheets\78365_sht-planpr.fdg	porter-w							57	(41, 1HB2)BR-1	JEFFERSON	26	11
Default	PLOT SCALE = 100.0000 / in.	CHECKED	REVISED			SCALE: SHEET OF SHEETS STA. TO STA.						
	PLOT DATE = 8/12/2016	DATE	REVISED									



FILE NAME *	USER NAME * portarwa	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED GUARDRAIL & HMA SHOULDER LAYOUT			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\11084EBI0INTEG\Illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\78365\0000\CA0\sheet\78365.sht\plan\p1.dwg		CHECKED -	REVISED -		57	41, 1HB21BR-1	JEFFERSON	26	12			
PLOT SCALE * 40.0000" = 1'		DATE -	REVISED -		CONTRACT NO. 78365							
Default	PLOT DATE * 8/12/2016				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.

ON DETOUR ROADS, SLOPES SHALL BE SEEDED IMMEDIATELY UPON COMPLETION OF ANY GIVEN STAGE GRADING. TEMPORARY SEEDING SHALL BE CLASS 7.

FERTILIZER NUTRIENTS SHALL BE APPLIED TO ALL SEEDED AREAS. LIMESTONE SHALL BE APPLIED TO ALL AREAS OF FINAL SEEDING.

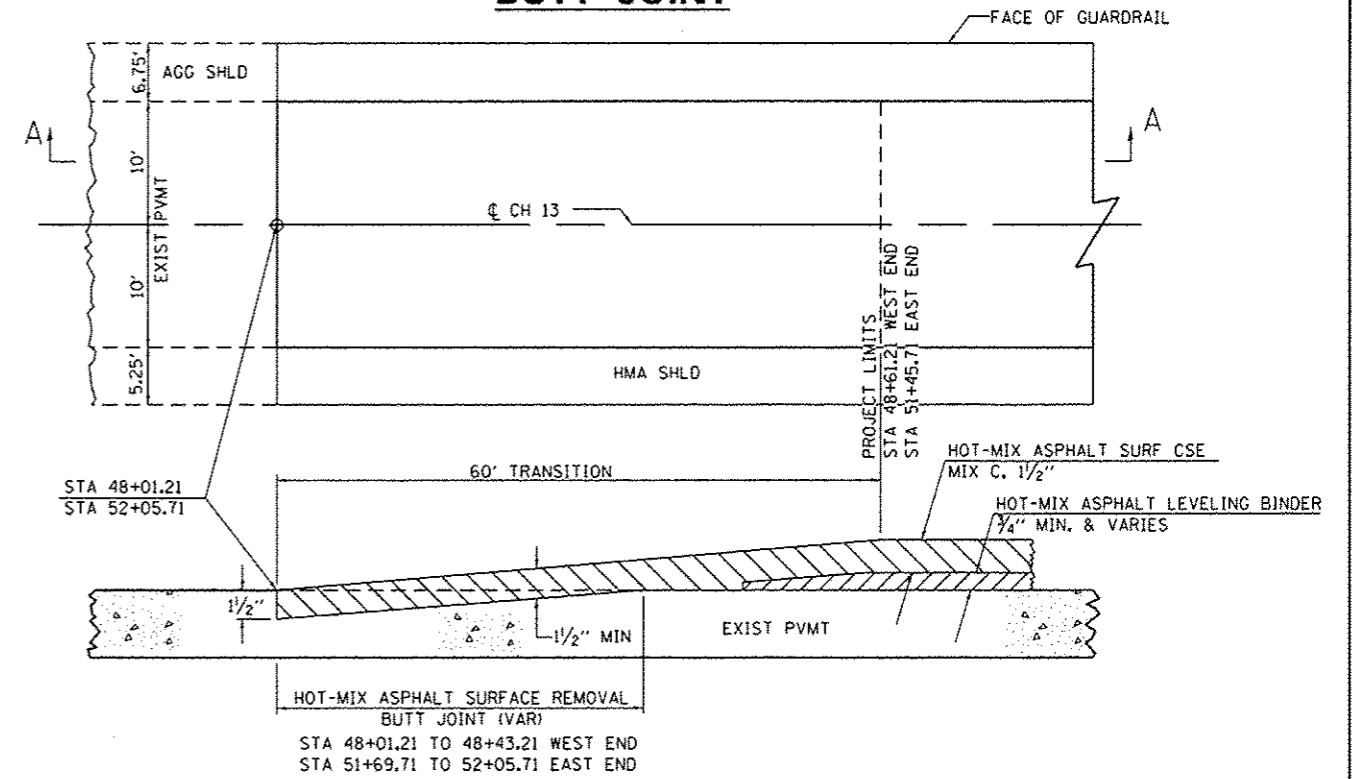
THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR ROAD AND BRIDGE CONSTRUCTION.

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
REVISED	5-16-13

STD. 9-12

BUTT JOINT



SECTION A-A

REVISIONS	
DRAWN	10-17-90
REVISED	01-11-07
REVISED	3-25-08
REVISED	5-17-13

STD. 9-86

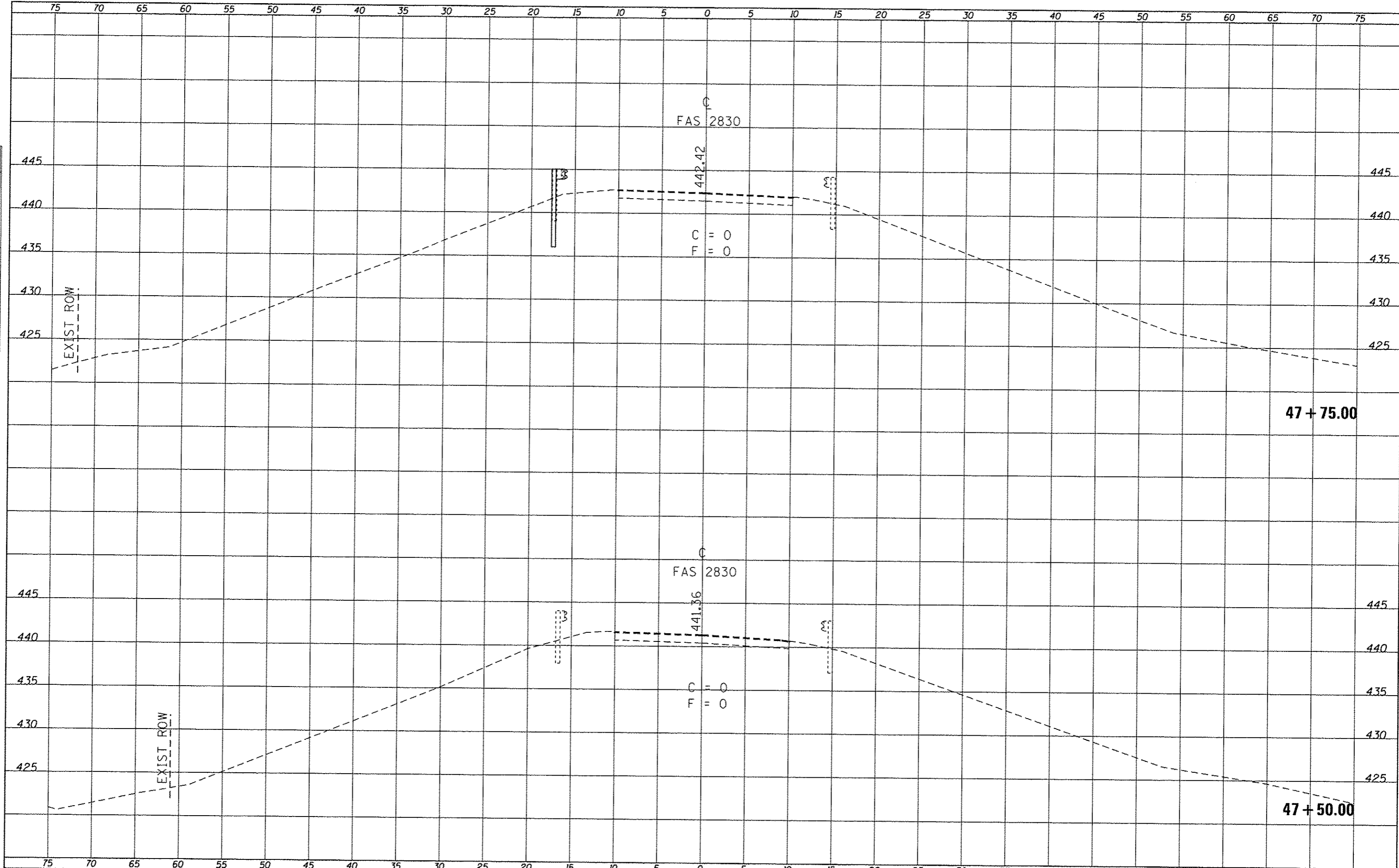
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SEEDING & MULCHING, BUTT JOINT

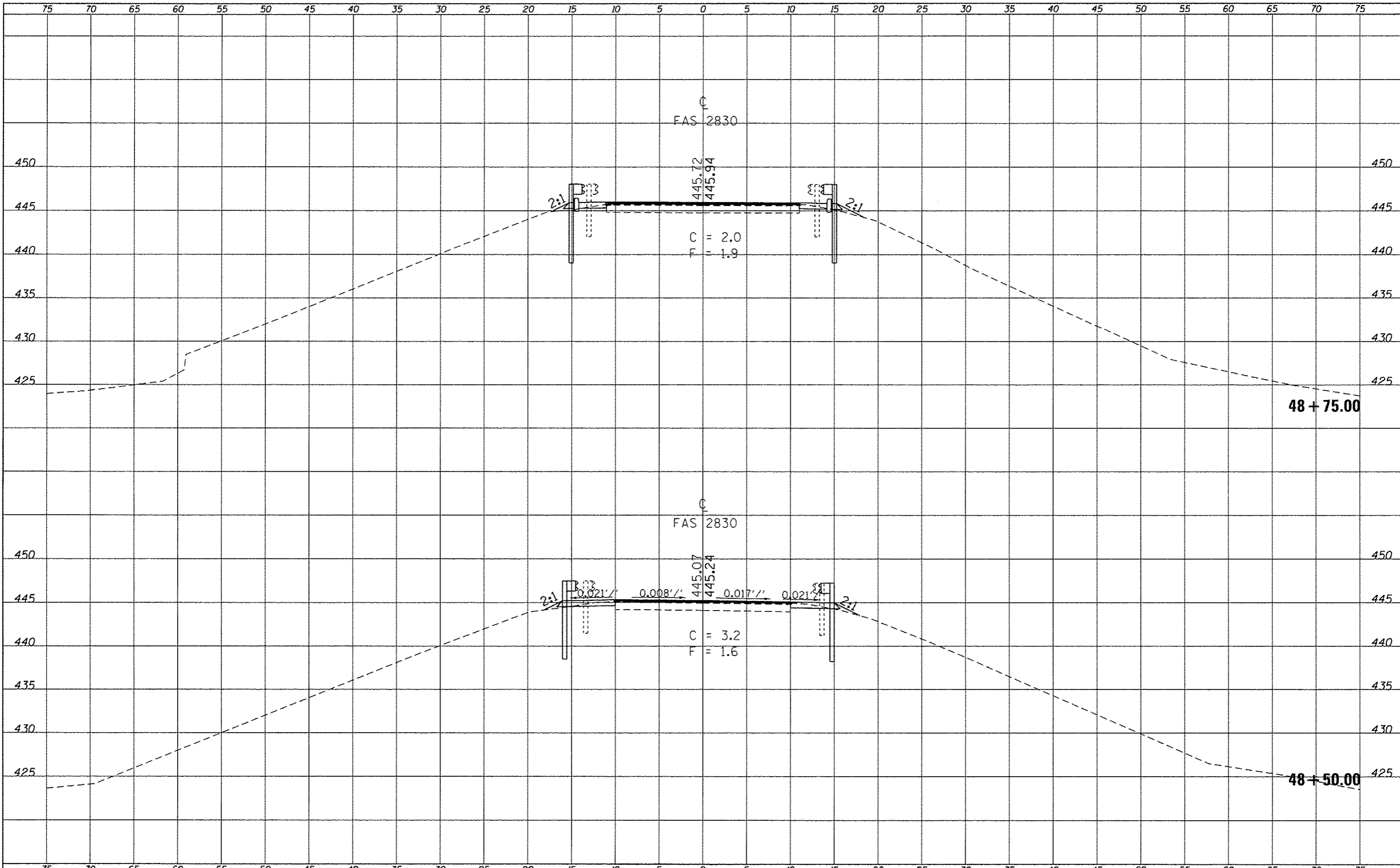
FILE NAME	USER NAME	DESIGNED	REVISED	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11884810\INTEG\Illinois.gov\PM\DOT\Documents\DOT Offices\Districts 9\Projects\78365\Drawings\CA\Sheets\78365.shc-plan-pr.f.dwg	porterw	-	-	57	141, 1HB2\BR-1	JEFFERSON	26	14
		CHECKED	REVISED	CONTRACT NO. 78365				
		DATE	REVISED	ILLINOIS FED. AID PROJECT				
				SCALE:	SHEET	OF	SHEETS	STA. TO STA.

DATE	
BY	
DESIGNED	
CHECKED	
DATE	
REVISIONS	
NO.	
DATE	
BY	
DESIGNED	
CHECKED	
DATE	
REVISIONS	
NO.	
DATE	
BY	
DESIGNED	
CHECKED	
DATE	
REVISIONS	
NO.	

DATE	
BY	
DESIGNED	
CHECKED	
DATE	
REVISIONS	
NO.	
DATE	
BY	
DESIGNED	
CHECKED	
DATE	
REVISIONS	
NO.	



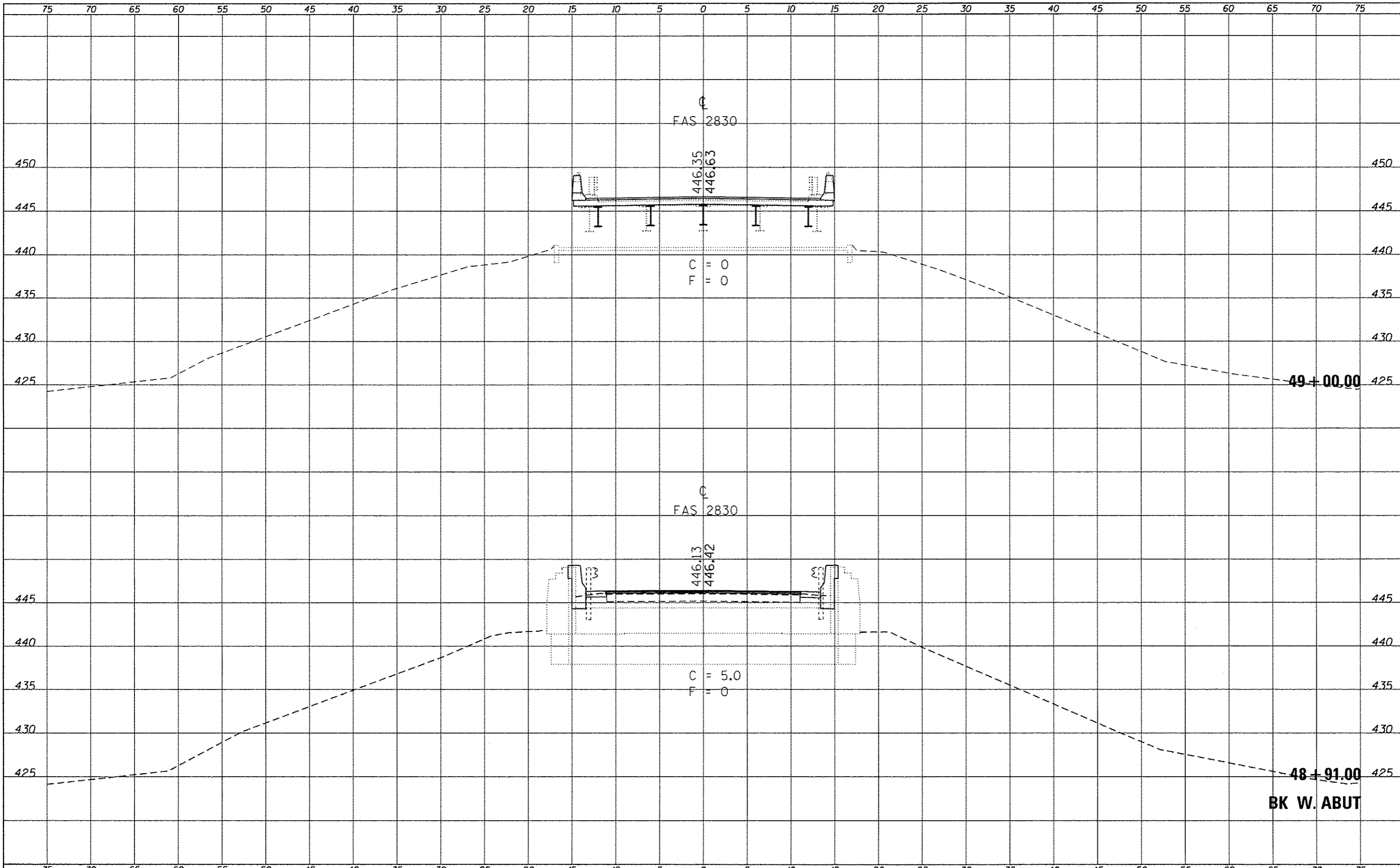
FILE NAME =	USER NAME = portarwo	DESIGNED -	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS		F.A.I. R.T.E. 57	SECTION (41, 1HB2)BR-1	COUNTY JEFFERSON	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 1/8" = 100'	CHECKED -	REVISIONS -							26	15	
	Plot Date = 8/12/2016	DATE -	REVISIONS -		SCALE:	SHEET	OF	SHEETS	STA. 47+50.00	TO STA. 47+75.00	CONTRACT NO. 78365 ILLINOIS FED. AID PROJECT	



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

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

FILE NAME =	USER NAME = porterc	DESIGNED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS SCALE: SHEET OF SHEETS STA. 48+50.00 TO STA. 48+75.00				F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\1\1084EBIDINTEG\11\inora.gov\PWIDOT\Documents\IDOT Offices\District 9\Projects\78365\CADD\DRAWINGS\78365_sht_xsections.dgn		CHECKED -	REVISOR -						S?	141, IHB2BR-1	JEFFERSON	26	17
Default	PLOT SCALE = 10.0000' / 1" /	DATE -	REVISOR -						CONTRACT NO. 78365				ILLINOIS FED. AID PROJECT



DATE	
BY	
FINAL SURVEYED	
ORIGINAL SURVEY	
NOTED BOOK	
AREAS CHECKED	
NO.	

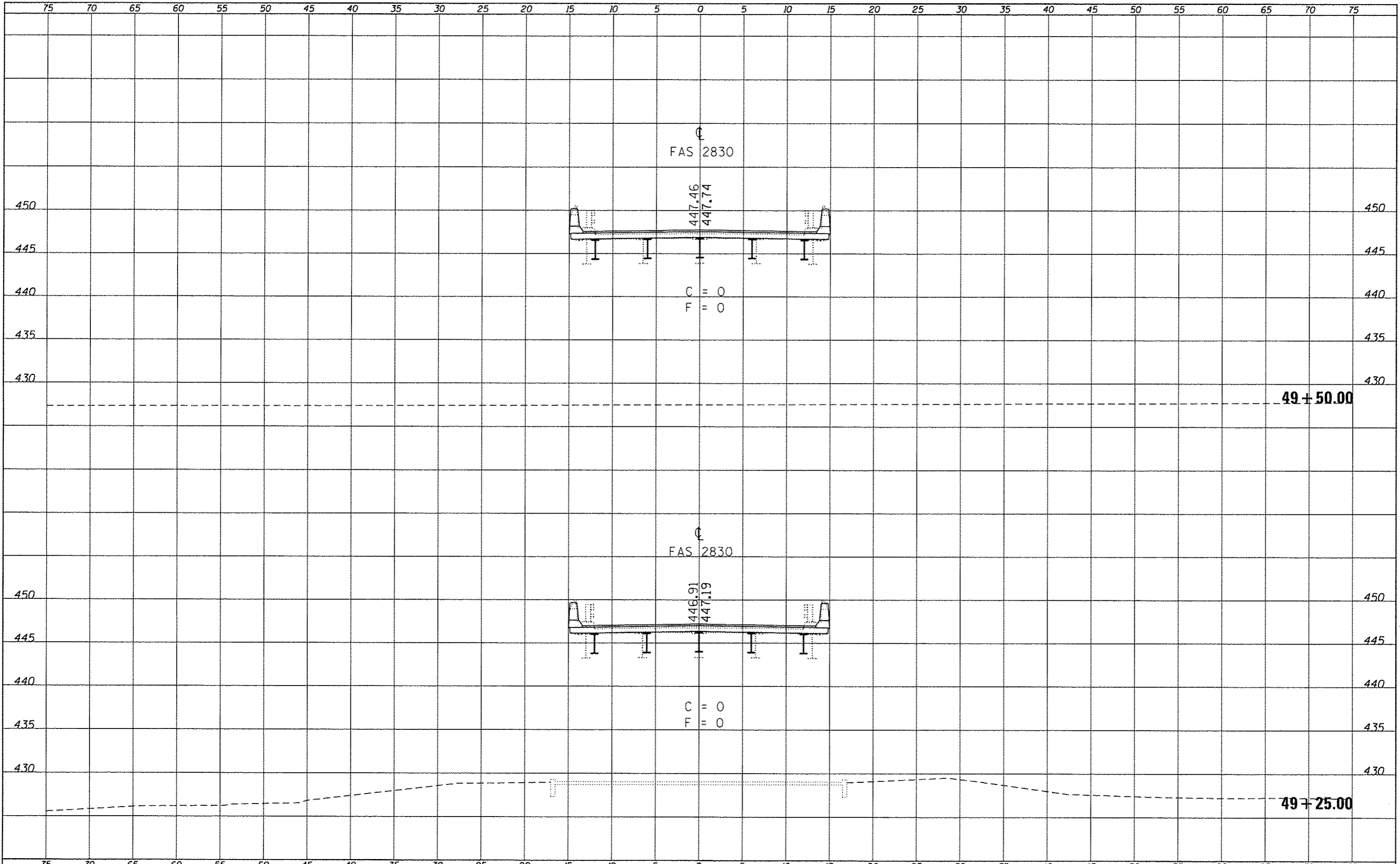
DATE	
BY	
ORIGINAL SURVEYED	
FINAL SURVEY	
NOTED BOOK	
AREAS CHECKED	
NO.	

FILE NAME =	USER NAME = porterc	DESIGNED -	REVISED -
p:\11004EB10\INTEG\Illinois.gov\PI001\Documents\DOT Offices\District 9\Projects\78365\CADD\Drawings\78365_shtj\sections.dgn		CHECKED -	REVISED -
		DATE -	REVISED -
Default	PLOT DATE = 8/12/2016		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS			
SCALE:	SHEET	OF SHEETS	STA. TO STA. 49+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	141, 1HB21BR-1	JEFFERSON	26	18
			CONTRACT NO. 78365	
ILLINOIS FED. AID PROJECT				

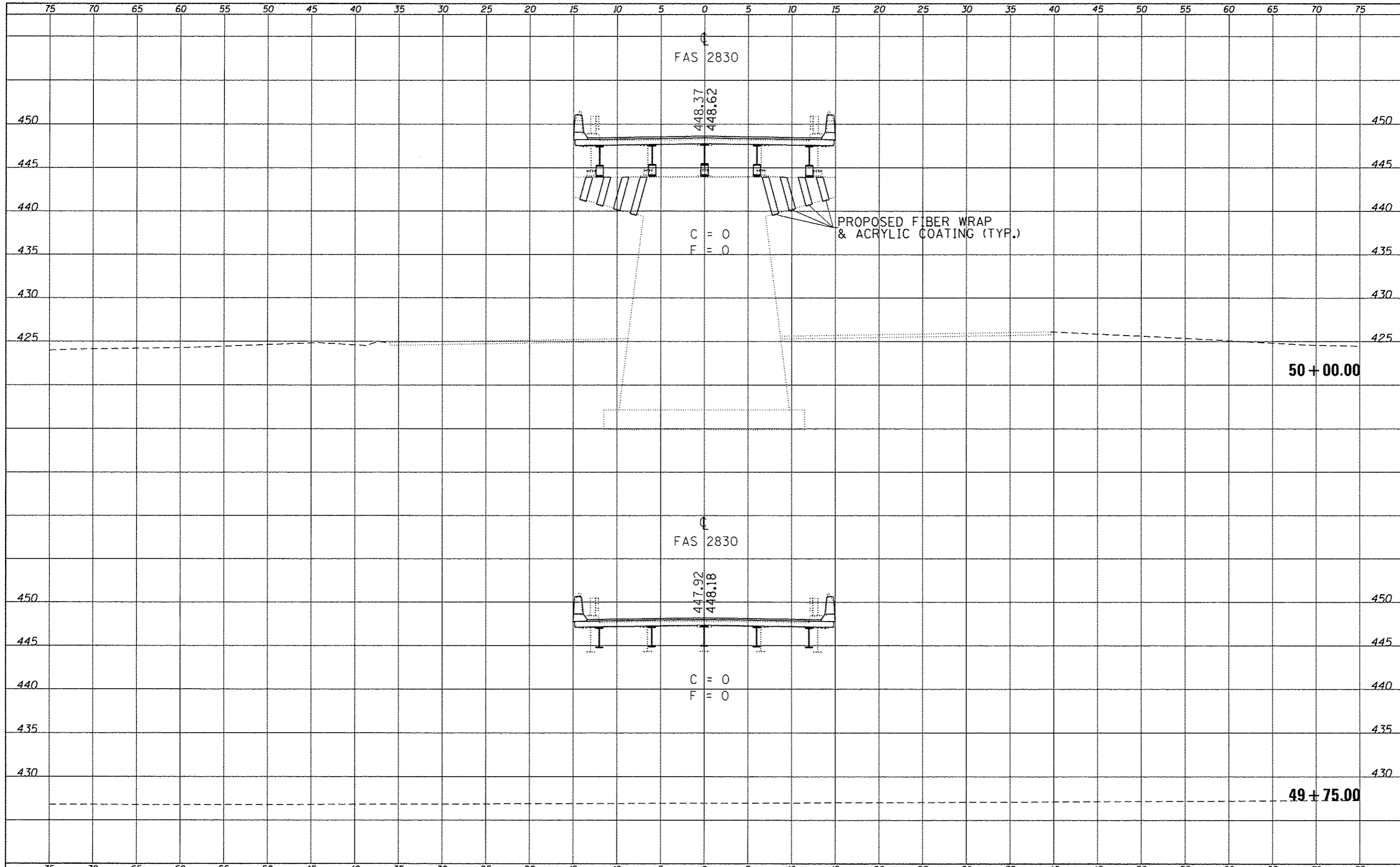


DATE	
BY	
FINAL SURVEY	
SURVEYED	
PLOTTED	
SCALE	
AREA	
AREAS CHECKED	
NOTE BOOK	
NO.	

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

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

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

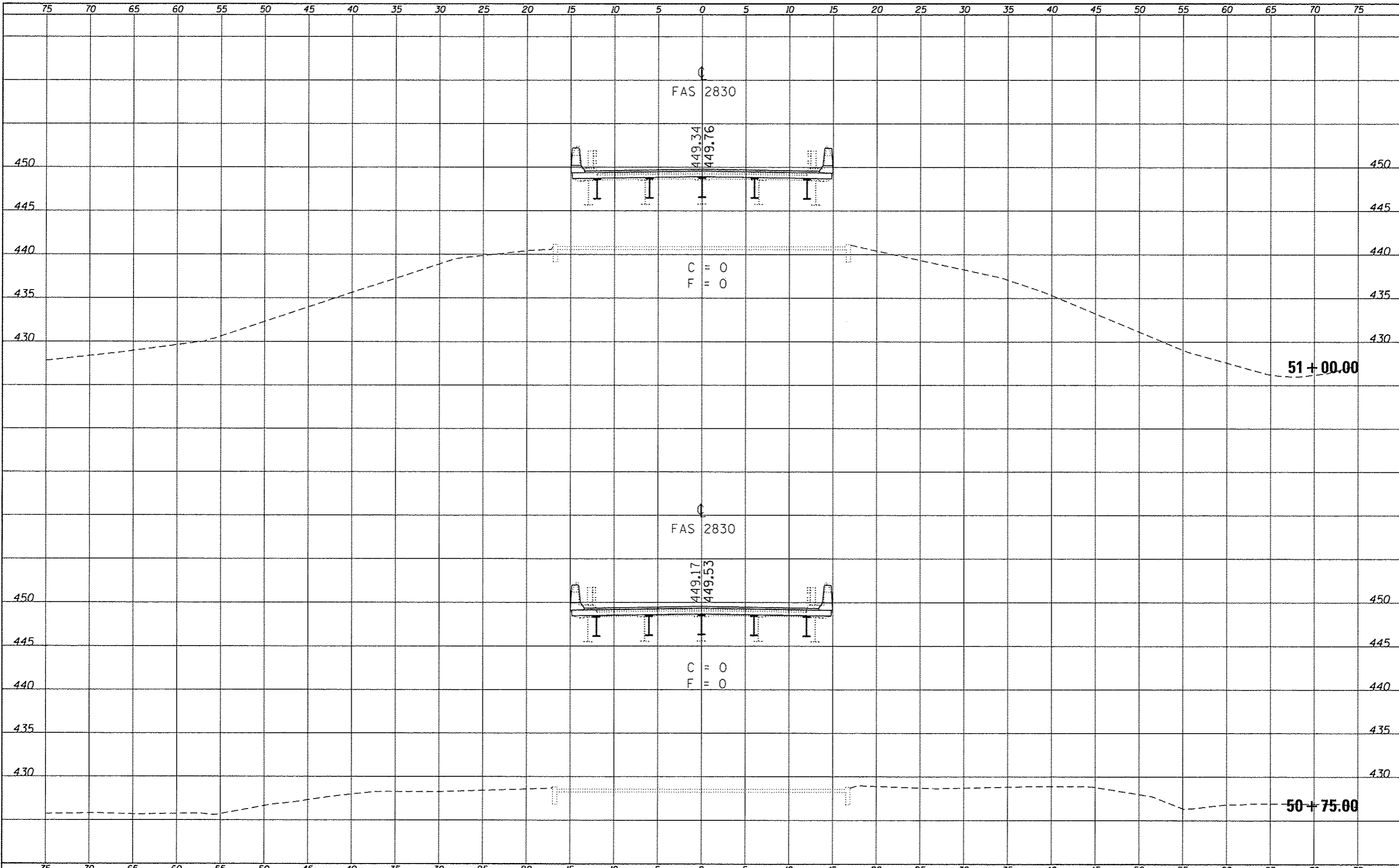


FILE NAME =	USER NAME = porterc	DESIGNED -	REVISED -
p:\11084\EBI\INTEG\11\inois.gov\PI\DOT\Documents\1007\Office\District 9\Projects\78365\CADD\DRAW\sheet\78365_sht\crosssections.dgn		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS	
SCALE:	SHEET OF SHEETS STA. 49+75.00 TO STA. 50+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41, 1HB2)BR-1	JEFFERSON	26	20
CONTRACT NO. 78365			ILLINOIS FED. AID PROJECT	



FAS 2830

449.34
449.76

C = 0
F = 0

51+00.00

FAS 2830

449.17
449.53

C = 0
F = 0

50+75.00

DATE	
BY	
SURVEYED	
NOTED	
TRIP	
AREAS	
NO. BOOK	
AREAS CHECKED	

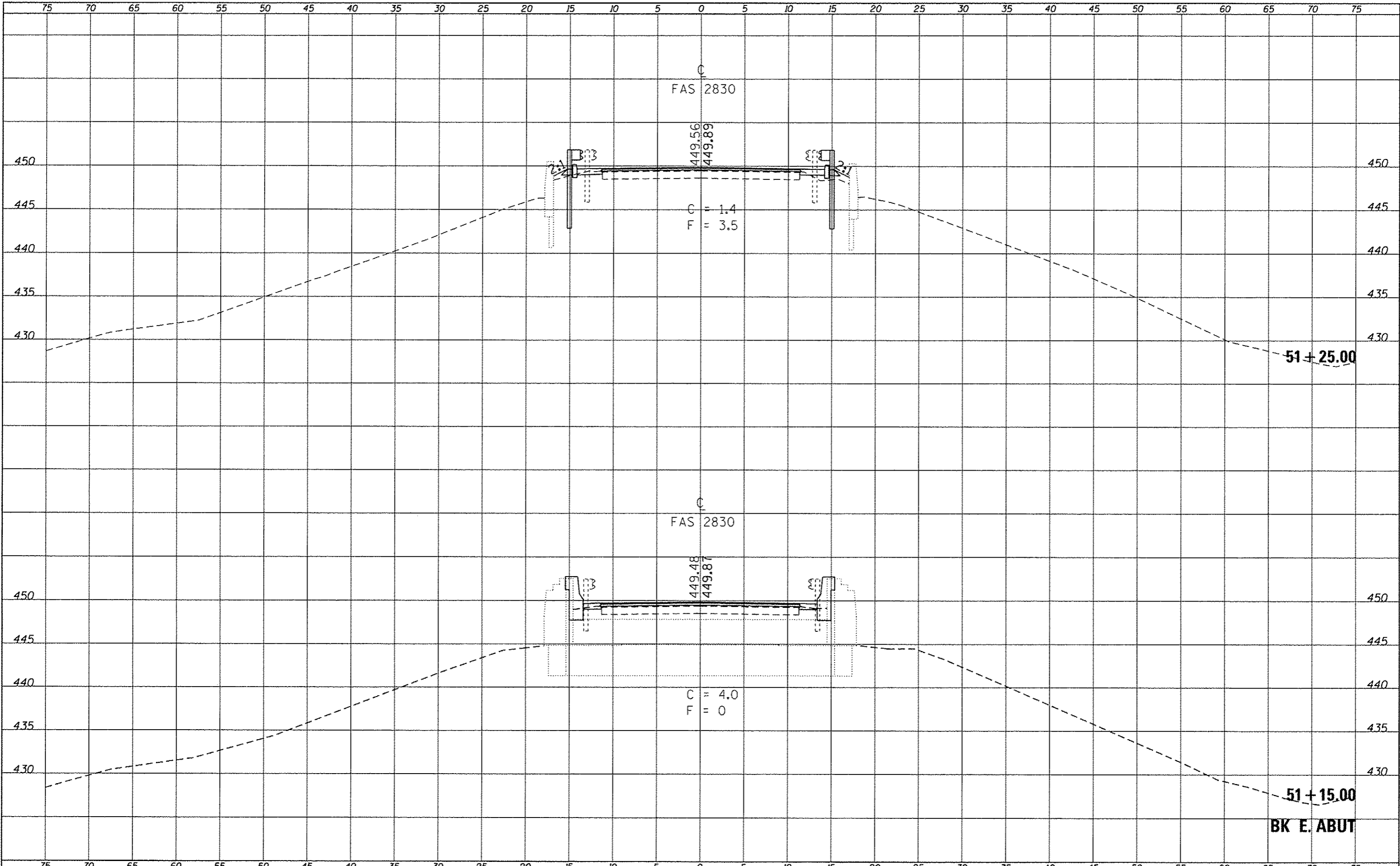
DATE	
BY	
SURVEYED	
NOTED	
TRIP	
AREAS	
NO. BOOK	
AREAS CHECKED	

FILE NAME	USER NAME = porterc	DESIGNED -	REVISED -
pu\11084EBIDINTEG\Illinois.gov\PI\DOT\Documents\DOT Offices\District 9\Projects\78365\CAD\DRAWINGS\sheet\78365_xsections.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 8/12/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE:		SHEET	OF	SHEETS	STA. 50+75.00	TO STA. 51+00.00
--------	--	-------	----	--------	---------------	------------------

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(4), 1HB21BR-1	JEFFERSON	26	22
			CONTRACT NO. 78365	
ILLINOIS FED. AID PROJECT				



DATE	
BY	
SURVEYED	
NOTED	
TEMPERATURE	
AREAS CHECKED	
NO.	

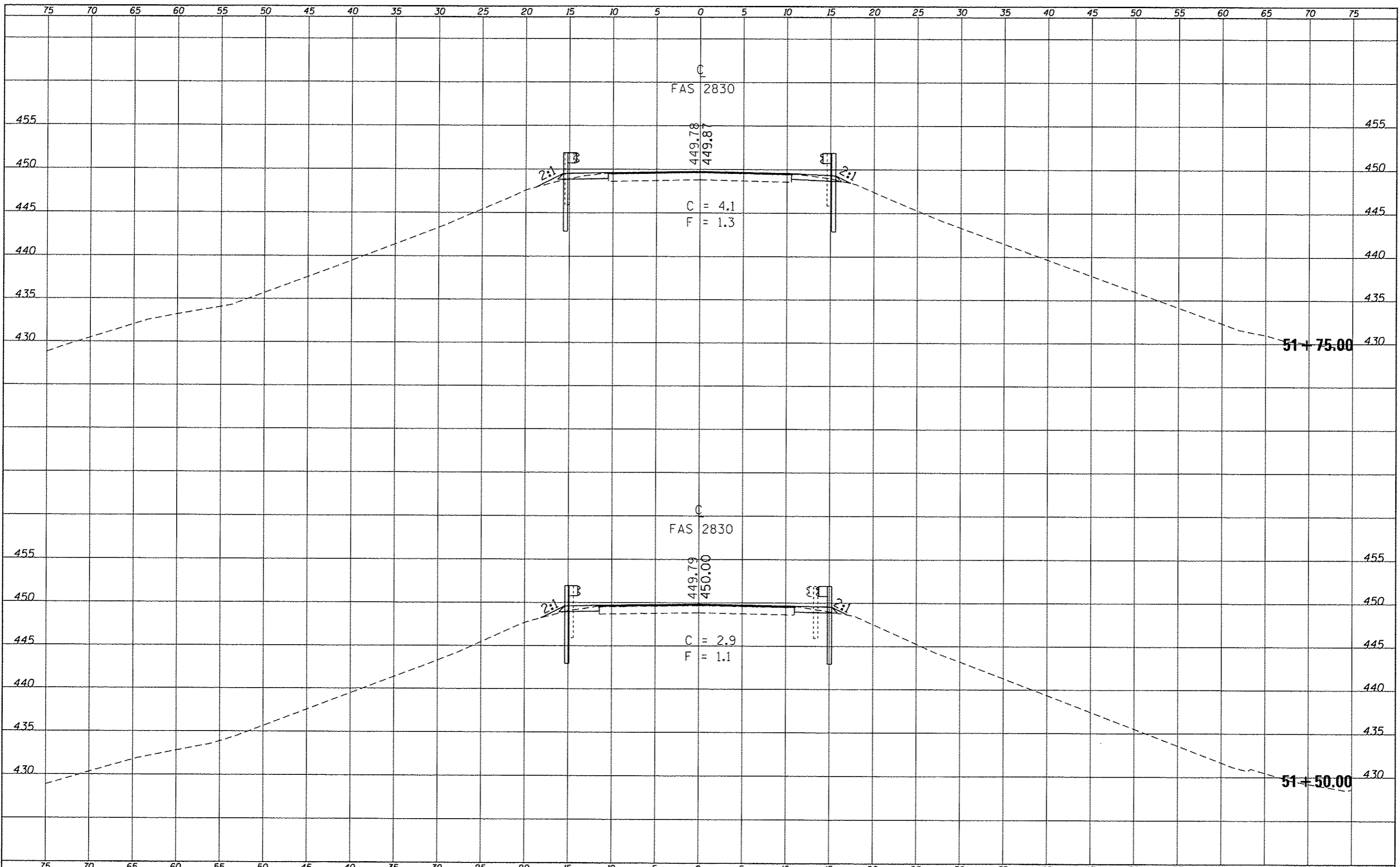
DATE	
BY	
SURVEYED	
NOTED	
TEMPERATURE	
AREAS CHECKED	
NO.	

FILE NAME =	USER NAME = portarvo	DESIGNED -	REVISED -
p:\1\LB4EBIDINTEG.illinois.gov\PI\DOT\Documents\DOT Offices\District 9\Projects\78365\CAD\DRAW\sheet\78365.sh\j\sections.dgn			
PLOT SCALE = 10.0000' / 1"	CHECKED -	REVISED -	REVISED -
PLOT DATE = 8/12/2016	DATE -	REVISED -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS	
SCALE:	SHEET OF SHEETS STA. TO STA. 51+25.00

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41, 1HB2)BR-1	JEFFERSON	26	23
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78365	



BY	DATE
SURVEYED	
PLOTTED	
INSTRUMENT	
NOTE BOOK	
AREAS CHECKED	
NO.	

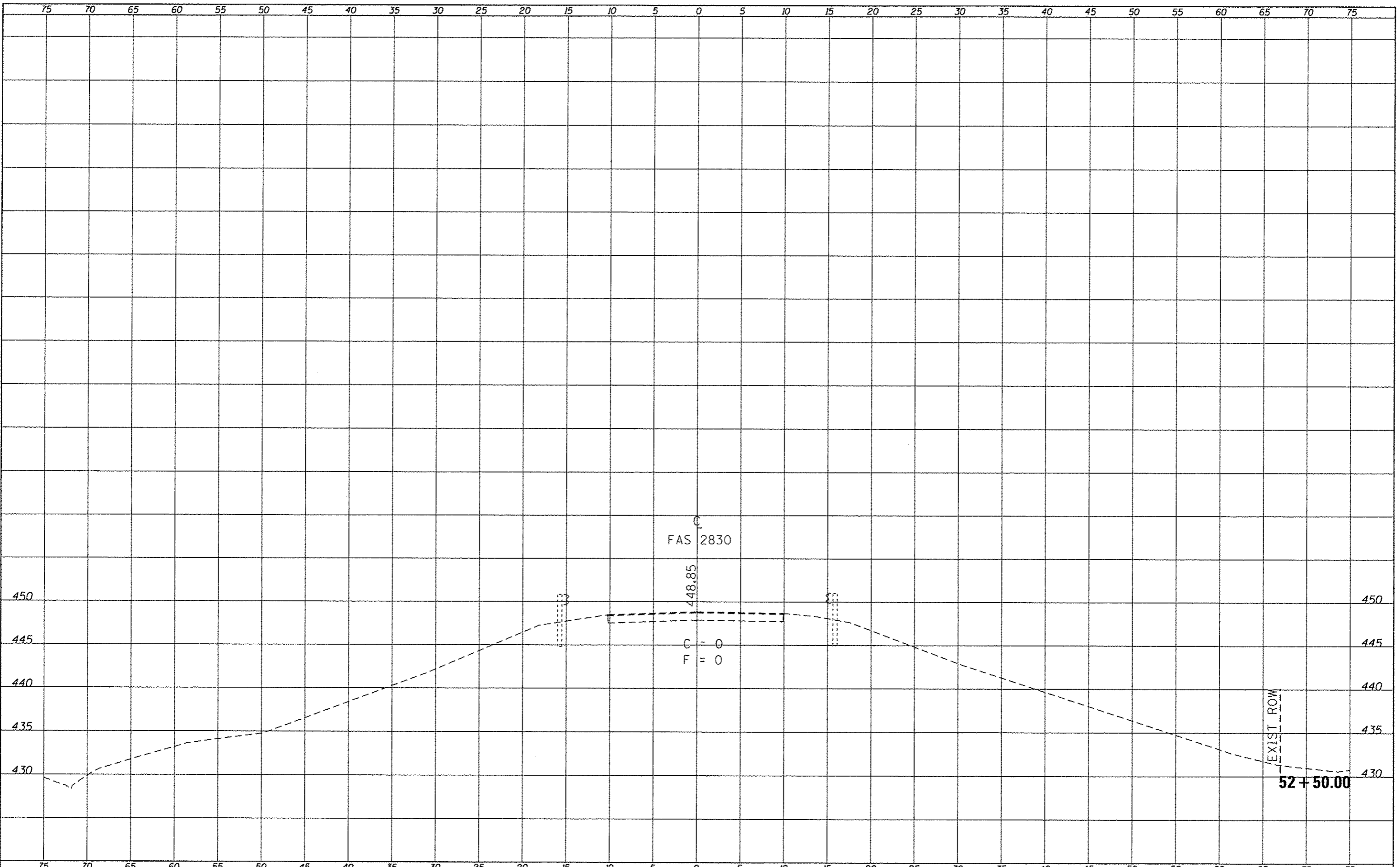
BY	DATE
SURVEYED	
PLOTTED	
INSTRUMENT	
NOTE BOOK	
AREAS CHECKED	
NO.	

FILE NAME =	USER NAME = portarvo	DESIGNED -	REVISED -
\\IL084EBID\INTEG\illinois.gov\PHIDOT\Documents\DOT Offices\District 9\Projects\78365\CADD\DRAWINGS\sheet\78365_shtj_xsections.dgn		REVISED -	REVISED -
Default	PLOT SCALE = 10.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE = 8/12/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE:		CROSS SECTIONS	
		SHEET	OF SHEETS
STA. 51+50.00		TO STA. 51+75.00	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41, 14B218R-1)	JEFFERSON	26	24
CONTRACT NO. 78365			ILLINOIS FED. AID PROJECT	



DATE	
BT	
DESIGNED	
REVISIONS	
DATE	
BY	
NO.	

DATE	
BT	
DESIGNED	
REVISIONS	
DATE	
BY	
NO.	

FILE NAME =	USER NAME = portero	DESIGNED -	REVISIONS -
p:\11084EBIDINTEG\Illinois.gov\IDOT\Documents\IDOT Offices\District 9\Projects\78365\CADD\DRAW\sheet\78365_sht\crosssections.dgn		CHECKED -	REVISIONS -
Default		DATE -	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS

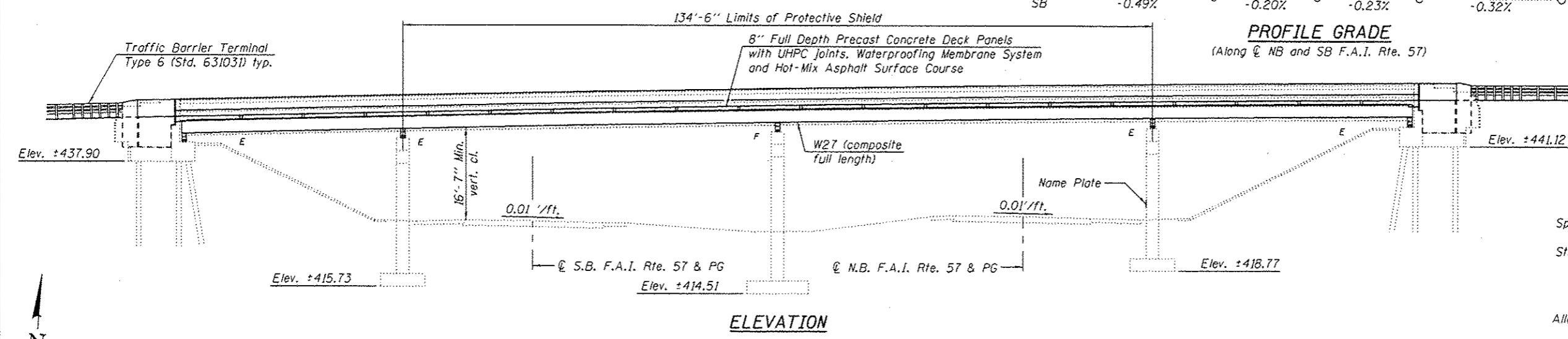
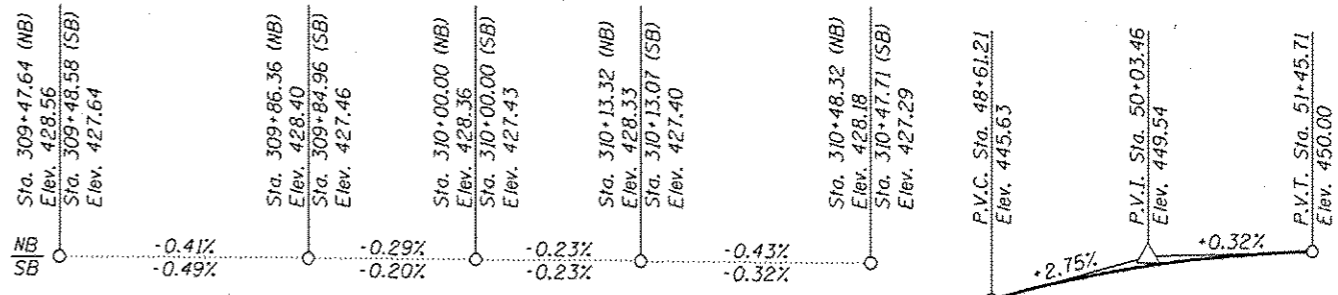
SCALE: SHEET OF SHEETS STA. 52+50.00 TO STA. 52+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41, 1HB2)BR-1	JEFFERSON	26	26
CONTRACT NO. 78365				
ILLINOIS FED. AID PROJECT				

Benchmark: Chiseled square on East end of NE wingwall of I-57 overhead S.N. 041-0054; Elev. 451.01

Existing Structure: S.N. 041-0054 built in 1964 as F.A.I. 57, Section 41-IHB-2 at Sta. 310+00.00. The existing structure consists of a four-span steel 33WF118 superstructure with a 6 1/2 inch concrete deck, bituminous wearing surface and waterproofing membrane supported by single hammerhead piers and pile bent abutments founded on steel H-piles. The back-to-back abutment length is 224'-6" and the out-to-out deck width is 30'-0". Traffic is to be detoured during construction.

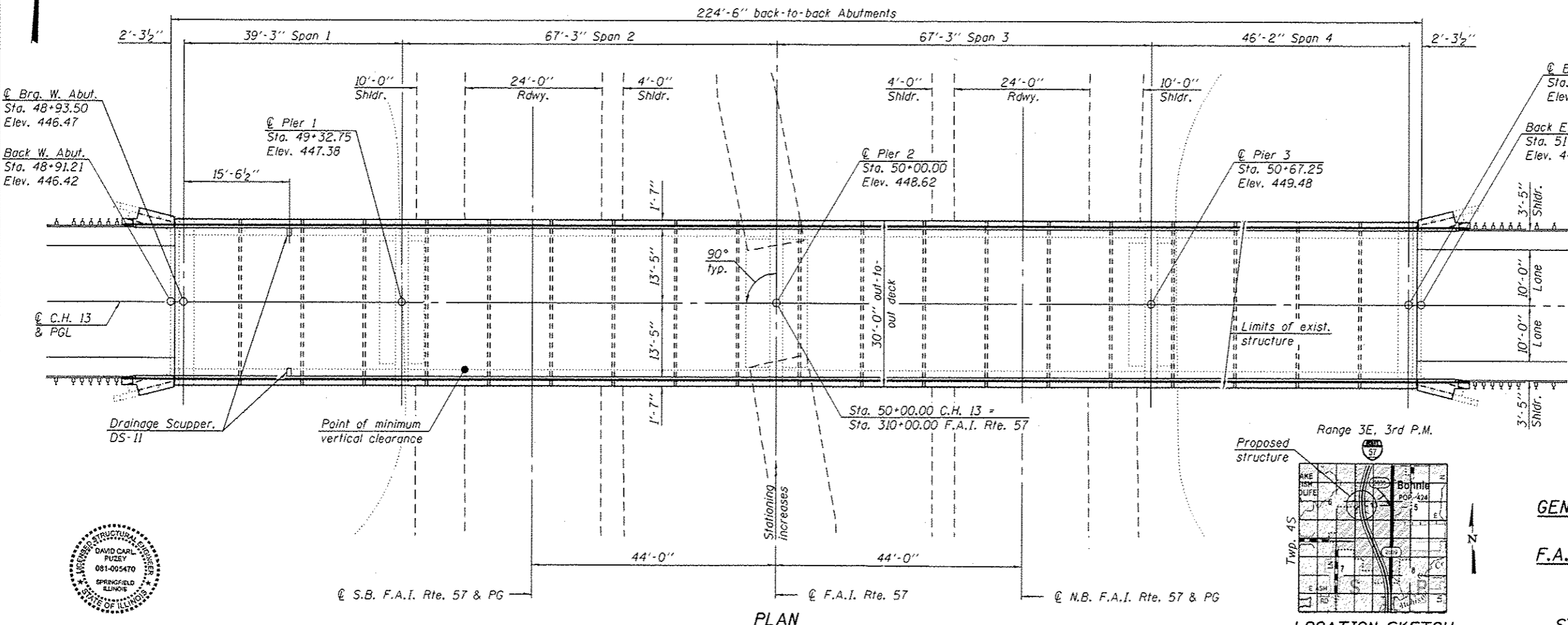
No salvage.



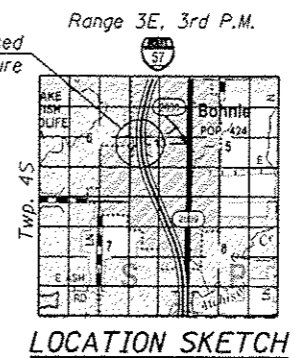
DESIGN SPECIFICATIONS
 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 Interims
 2006 Seismic Retrofitting Manual for Highway Structures: FHWA-HRT-06-032

LOADING HL-93
 Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA
 Seismic Retrofit Category (SRC) = B



DESIGN STRESSES
NEW CONSTRUCTION
 f'c = 3,500 psi (Concrete Structures)
 f'c = 4,000 psi (Parapet)
 f'c = 5,000 psi (Precast Concrete Deck Panels)
 f'c = 21,000 psi (Ultra-High Performance Concrete (UHPC))
 fy = 50,000 psi (AASHTO M270 Grade 50)
 fy = 36,000 psi (AASHTO M270 Grade 36)
 fy = 60,000 psi (Reinforcement)
EXISTING CONSTRUCTION
 f'c = 3,500 psi
 fy = 40,000 psi



GENERAL PLAN & ELEVATION
C.H. 13 OVER I-57
F.A.I. RTE. 57 - SEC. 41BR-1
JEFFERSON COUNTY
STATION 310+00.00
STRUCTURE NO. 041-0054



EXPIRES 11-30-2018

DESIGNED - <i>David Carl Fuzley</i>	EXAMINED - <i>James F. Schell</i>	DATE - October 3, 2016
CHECKED - <i>J. Schneller</i>	PASSED - <i>David Carl Fuzley</i>	REVISED -
DRAWN - <i>J. Schneller</i>	ALTERNATE ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - <i>ZTB RST</i>		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
 SN 041-0054
 SHEET NO. 1 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26
			CONTRACT NO.	78365
ILLINOIS FED. AID PROJECT				

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 General Data
- 3-5 Top of Slab Elevations
- 6 Precast Panel Plan & Cross Section
- 7-10 Precast Deck Panel Details
- 11 Superstructure Details
- 12 Drainage Scupper, DS-11
- 13 Structural Steel
- 14 Structural Steel Details
- 15 Abutment Bearing Details
- 16 Pler Bearing Details
- 17 Abutment Concrete Removal
- 18 Abutment Details
- 19 Pler Details

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$ " ϕ , holes $\frac{15}{16}$ " ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 175,910 Lbs. (AASHTO M270 Grade 50).
 = 8,080 Lbs. (AASHTO M270 Grade 36).

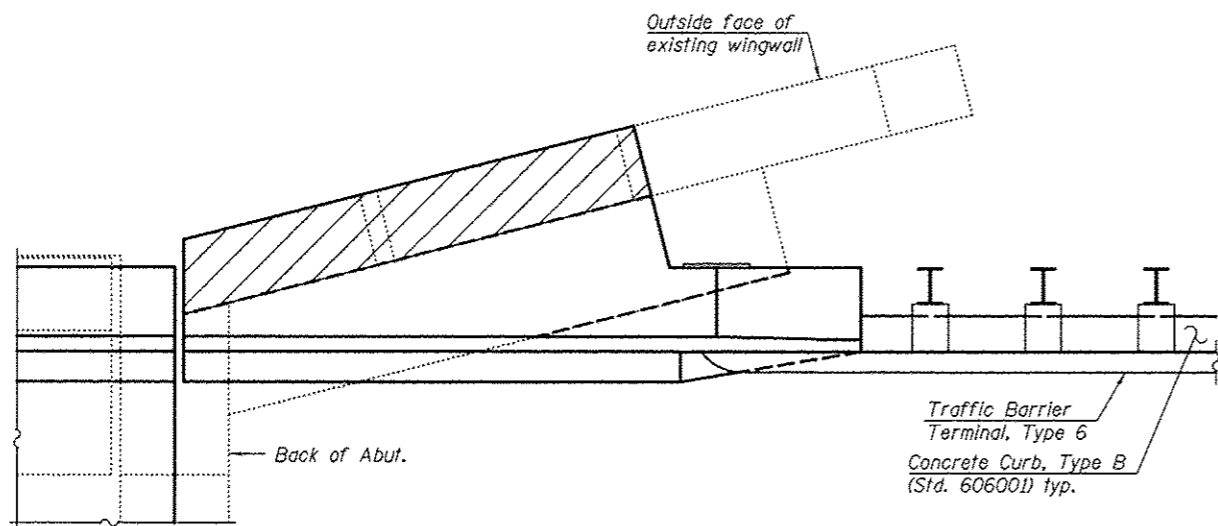
No field welding is permitted except as specified in the contract documents.
 Reinforcement bars designated (E) shall be epoxy coated.
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
 Bearing seat surfaces shall be adjusted, as necessary, to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
 The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners, and damaged areas shall be touched up in the field. 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 Reddish Brown, Munsell No. 2.5YR 3/4.
 Slipforming of parapets is not allowed.
 Cast-in-place deck is not allowed.
 Post-tensioning for precast deck panel is not allowed.

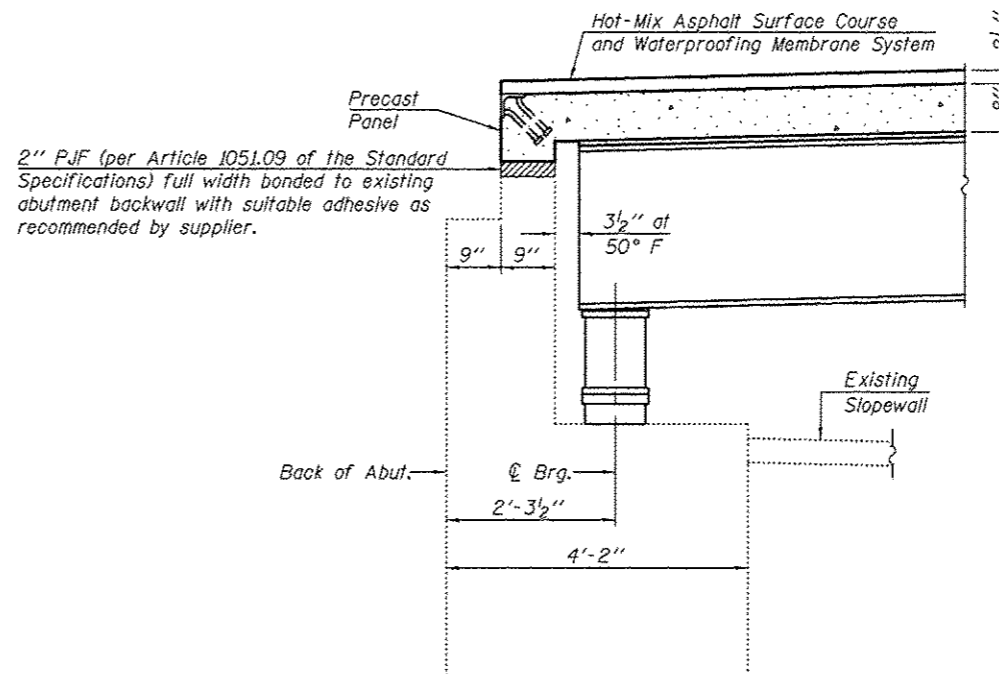
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Hot-Mix Asphalt Surface Course, Mix "C", N30	Ton	66		66
Protective Coat	Sq. Yd.	207		207
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		4.5	4.5
Protective Shield	Sq. Yd.	449		449
Structure Excavation	Cu. Yd.		38	38
Concrete Structures	Cu. Yd.		14.3	14.3
Concrete Superstructure	Cu. Yd.	57.2		57.2
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4,140		4,140
Reinforcement Bars, Epoxy Coated	Pound	6,690	1,660	8,350
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	665		665
Portland Cement Mortar Fairing Course	Foot	510		510
Elastomeric Bearing Assembly, Type I	Each	20		20
Anchor Bolts, $\frac{5}{8}$ "	Each	20		20
Anchor Bolts, $\frac{3}{4}$ "	Each	10		10
Anchor Bolts, 1"	Each	20		20
Fiber Wrap	Sq. Ft.		171	171
Acrylic Coating	Sq. Yd.		94	94
Precast Concrete Deck Panels	Sq. Ft.	6,381		6,381
Granular Backfill for Structures	Cu. Yd.		23.5	23.5
Drainage Scuppers, DS-11	Each	2		2

Note:
 Granular Backfill for Structures will be placed behind the existing wingwall and abutment where Structure Excavation was needed for wingwall modifications.



TRAFFIC TERMINAL PLAN
 (Typical all corners)



SECTION THRU ABUTMENT

STATION 310+00.00
 REBUILT 20 BY
 STATE OF ILLINOIS
 F.A.I. RT. 57 SEC. 41BR-1
 LOADING HL-93
 STRUCTURE NO. 041-0054

NAME PLATE
 See Std. 515001
 Locate new name plate adjacent to existing name plate on west face of Pler 3.

SDATES

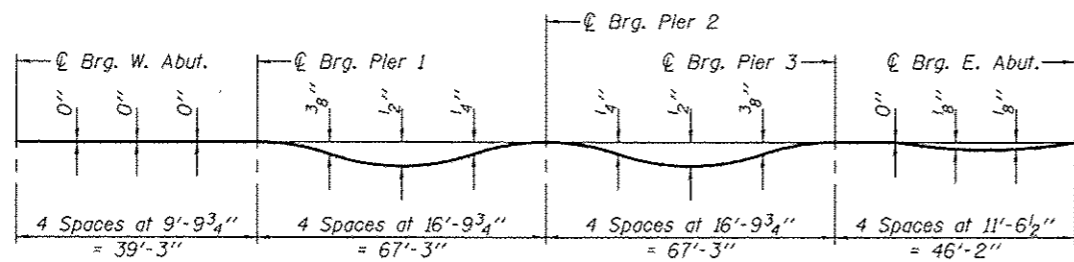
DESIGNED - ZACHARY BULVA	EXAMINED - <i>James F. J. [Signature]</i>	DATE - October 3, 2016
CHECKED - PAUL JOHNSON	PASSED - <i>[Signature]</i>	REVISED -
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - Z.T.B. / P.S.J.		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL DATA
 SN 041-0054

SHEET NO. 2 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26B
			CONTRACT NO. 78365	
[ILLINOIS] FED. AID PROJECT				



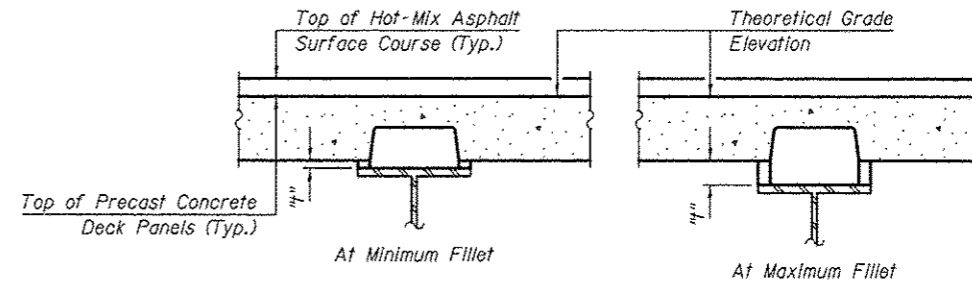
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete and Hot-Mix Asphalt Surface Course and Waterproofing Membrane System.)

Note:

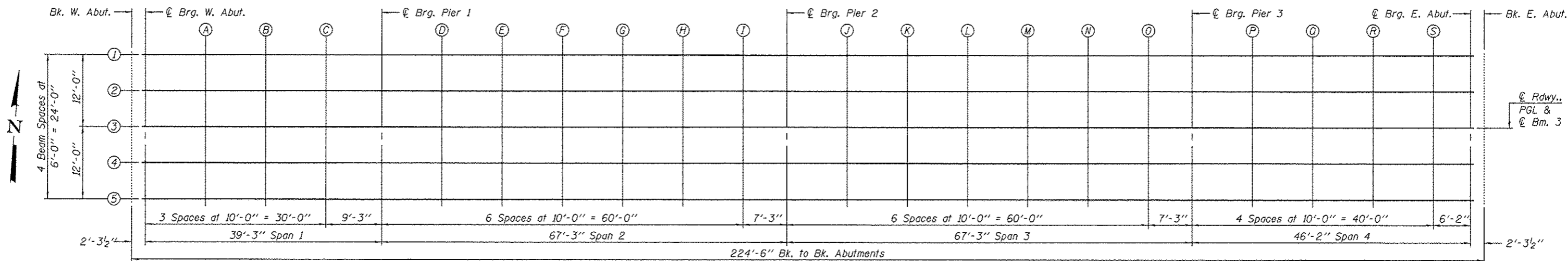
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4 and 5 of 19.

Elevations shown on sheets 4 and 5 of 19 are at top of the Precast Concrete Deck Panel.



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 sheets 4 and 5 of 19. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 and 5 of 19, minus Precast Concrete Deck Panel thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

STATES STINES

DESIGNED - ZACHARY BULVA	EXAMINED - <i>Joanne F. Jaffe</i>	DATE - October 3, 2016
CHECKED - PAUL JOHNSON	PASSED - <i>J. Schneller</i>	REVISED -
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - Z.T.B. / P.S.J.		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS
SN 041-0054**

SHEET NO. 3 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26C
CONTRACT NO. 78365			ILLINOIS FED. AID PROJECT	

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	48+91.21	-12.00	446.04	446.04
⊕ Brg. W. Abut.	48+93.50	-12.00	446.10	446.10
A	49+03.50	-12.00	446.34	446.34
B	49+13.50	-12.00	446.57	446.58
C	49+23.50	-12.00	446.80	446.80
⊕ Brg. Pier 1	49+32.75	-12.00	447.00	447.00
D	49+42.75	-12.00	447.21	447.23
E	49+52.75	-12.00	447.41	447.45
F	49+62.75	-12.00	447.61	447.65
G	49+72.75	-12.00	447.79	447.83
H	49+82.75	-12.00	447.96	447.99
I	49+92.75	-12.00	448.13	448.14
⊕ Brg. Pier 2	50+00.00	-12.00	448.25	448.25
J	50+10.00	-12.00	448.40	448.41
K	50+20.00	-12.00	448.54	448.57
L	50+30.00	-12.00	448.68	448.72
M	50+40.00	-12.00	448.80	448.84
N	50+50.00	-12.00	448.92	448.95
O	50+60.00	-12.00	449.03	449.04
⊕ Brg. Pier 3	50+67.25	-12.00	449.11	449.11
P	50+77.25	-12.00	449.20	449.20
Q	50+87.25	-12.00	449.29	449.30
R	50+97.25	-12.00	449.36	449.38
S	51+07.25	-12.00	449.43	449.44
⊕ Brg. E. Abut.	51+13.42	-12.00	449.47	449.47
Bk. E. Abut.	51+15.71	-12.00	449.49	449.49

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	48+91.21	-6.00	446.13	446.13
⊕ Brg. W. Abut.	48+93.50	-6.00	446.19	446.19
A	49+03.50	-6.00	446.43	446.44
B	49+13.50	-6.00	446.67	446.67
C	49+23.50	-6.00	446.89	446.89
⊕ Brg. Pier 1	49+32.75	-6.00	447.10	447.10
D	49+42.75	-6.00	447.31	447.32
E	49+52.75	-6.00	447.51	447.54
F	49+62.75	-6.00	447.70	447.74
G	49+72.75	-6.00	447.88	447.92
H	49+82.75	-6.00	448.06	448.08
I	49+92.75	-6.00	448.23	448.23
⊕ Brg. Pier 2	50+00.00	-6.00	448.34	448.34
J	50+10.00	-6.00	448.49	448.50
K	50+20.00	-6.00	448.64	448.66
L	50+30.00	-6.00	448.77	448.81
M	50+40.00	-6.00	448.90	448.94
N	50+50.00	-6.00	449.02	449.04
O	50+60.00	-6.00	449.13	449.13
⊕ Brg. Pier 3	50+67.25	-6.00	449.20	449.20
P	50+77.25	-6.00	449.29	449.30
Q	50+87.25	-6.00	449.38	449.39
R	50+97.25	-6.00	449.46	449.47
S	51+07.25	-6.00	449.53	449.53
⊕ Brg. E. Abut.	51+13.42	-6.00	449.57	449.57
Bk. E. Abut.	51+15.71	-6.00	449.58	449.58

⊕ RDWY, PGL & BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	48+91.21	0.00	446.23	446.23
⊕ Brg. W. Abut.	48+93.50	0.00	446.28	446.28
A	49+03.50	0.00	446.53	446.53
B	49+13.50	0.00	446.76	446.76
C	49+23.50	0.00	446.99	446.99
⊕ Brg. Pier 1	49+32.75	0.00	447.19	447.19
D	49+42.75	0.00	447.40	447.42
E	49+52.75	0.00	447.60	447.64
F	49+62.75	0.00	447.79	447.84
G	49+72.75	0.00	447.98	448.02
H	49+82.75	0.00	448.15	448.18
I	49+92.75	0.00	448.32	448.33
⊕ Brg. Pier 2	50+00.00	0.00	448.43	448.43
J	50+10.00	0.00	448.59	448.60
K	50+20.00	0.00	448.73	448.76
L	50+30.00	0.00	448.87	448.91
M	50+40.00	0.00	448.99	449.03
N	50+50.00	0.00	449.11	449.14
O	50+60.00	0.00	449.22	449.23
⊕ Brg. Pier 3	50+67.25	0.00	449.29	449.29
P	50+77.25	0.00	449.39	449.39
Q	50+87.25	0.00	449.47	449.48
R	50+97.25	0.00	449.55	449.56
S	51+07.25	0.00	449.62	449.63
⊕ Brg. E. Abut.	51+13.42	0.00	449.66	449.66
Bk. E. Abut.	51+15.71	0.00	449.67	449.67

Note:
Elevations are taken at the top of the Precast Concrete Deck Panels.

SDATES

DESIGNED - ZACHARY BULVA	EXAMINED	DATE - October 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS SN 041-0054		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - PAUL JOHNSON	<i>Jaime F. J. [Signature]</i> ENGINEER OF BRIDGE DESIGN	REVISED		57	41BR-1	JEFFERSON	26	260		
DRAWN - J. Schneller		REVISED		SHEET NO. 4 OF 19 SHEETS		CONTRACT NO. 78365				
CHECKED - Z.T.B. / P.S.J.		REVISED		ILLINOIS FED. AID PROJECT						

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	48+91.21	6.00	446.13	446.13
⊙ Brg. W. Abut.	48+93.50	6.00	446.19	446.19
A	49+03.50	6.00	446.43	446.44
B	49+13.50	6.00	446.67	446.67
C	49+23.50	6.00	446.89	446.89
⊙ Brg. Pier 1	49+32.75	6.00	447.10	447.10
D	49+42.75	6.00	447.31	447.32
E	49+52.75	6.00	447.51	447.54
F	49+62.75	6.00	447.70	447.74
G	49+72.75	6.00	447.88	447.92
H	49+82.75	6.00	448.06	448.08
I	49+92.75	6.00	448.23	448.23
⊙ Brg. Pier 2	50+00.00	6.00	448.34	448.34
J	50+10.00	6.00	448.49	448.50
K	50+20.00	6.00	448.64	448.66
L	50+30.00	6.00	448.77	448.81
M	50+40.00	6.00	448.90	448.94
N	50+50.00	6.00	449.02	449.04
O	50+60.00	6.00	449.13	449.13
⊙ Brg. Pier 3	50+67.25	6.00	449.20	449.20
P	50+77.25	6.00	449.29	449.30
Q	50+87.25	6.00	449.38	449.39
R	50+97.25	6.00	449.46	449.47
S	51+07.25	6.00	449.53	449.53
⊙ Brg. E. Abut.	51+13.42	6.00	449.57	449.57
Bk. E. Abut.	51+15.71	6.00	449.58	449.58

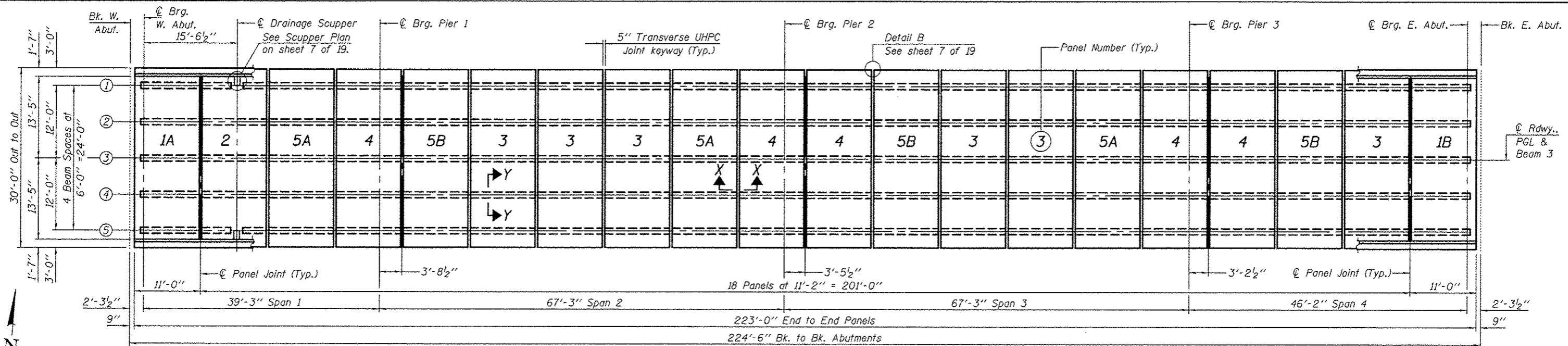
BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	48+91.21	12.00	446.04	446.04
⊙ Brg. W. Abut.	48+93.50	12.00	446.10	446.10
A	49+03.50	12.00	446.34	446.34
B	49+13.50	12.00	446.57	446.58
C	49+23.50	12.00	446.80	446.80
⊙ Brg. Pier 1	49+32.75	12.00	447.00	447.00
D	49+42.75	12.00	447.21	447.23
E	49+52.75	12.00	447.41	447.45
F	49+62.75	12.00	447.61	447.65
G	49+72.75	12.00	447.79	447.83
H	49+82.75	12.00	447.96	447.99
I	49+92.75	12.00	448.13	448.14
⊙ Brg. Pier 2	50+00.00	12.00	448.25	448.25
J	50+10.00	12.00	448.40	448.41
K	50+20.00	12.00	448.54	448.57
L	50+30.00	12.00	448.68	448.72
M	50+40.00	12.00	448.80	448.84
N	50+50.00	12.00	448.92	448.95
O	50+60.00	12.00	449.03	449.04
⊙ Brg. Pier 3	50+67.25	12.00	449.11	449.11
P	50+77.25	12.00	449.20	449.20
Q	50+87.25	12.00	449.29	449.30
R	50+97.25	12.00	449.36	449.38
S	51+07.25	12.00	449.43	449.44
⊙ Brg. E. Abut.	51+13.42	12.00	449.47	449.47
Bk. E. Abut.	51+15.71	12.00	449.49	449.49

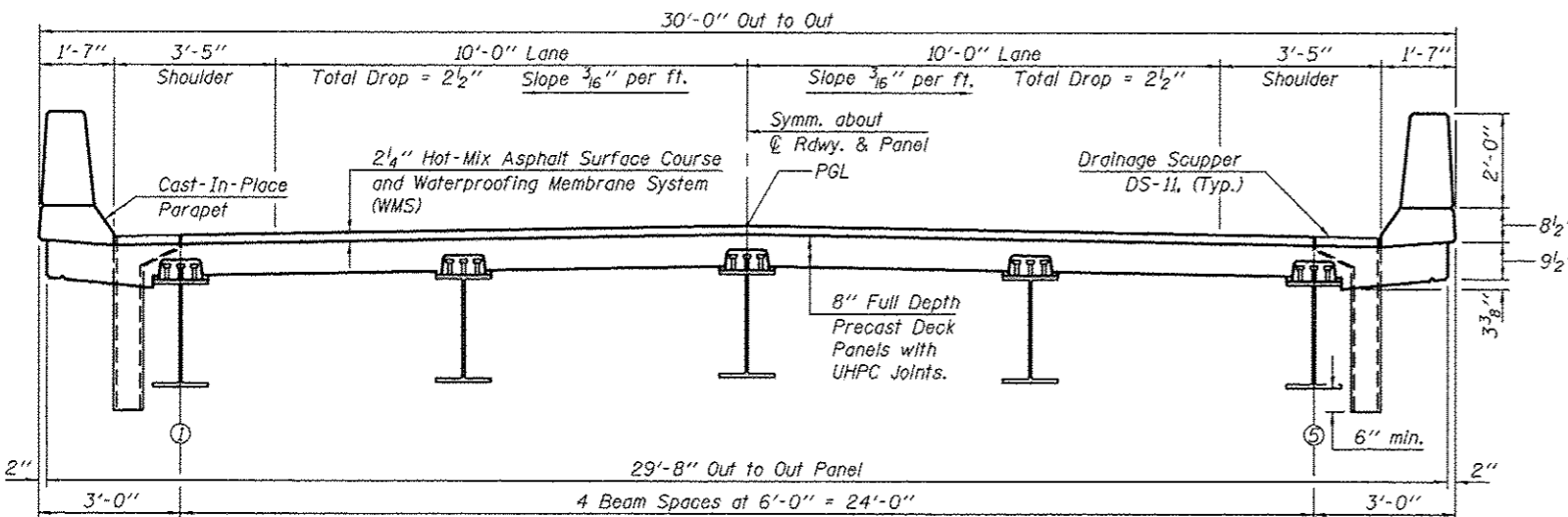
Note:
Elevations are taken at the top of the Precast Concrete Deck Panels.

DATES

DESIGNED - ZACHARY BULVA	EXAMINED	DATE - October 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS		F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - PAUL JOHNSON	<i>James F. J. [Signature]</i> ENGINEER OF BRIDGE DESIGN	REVISED		SN 041-0054		57	41BR-1	JEFFERSON	26	26E
DRAWN - J. Schneller		REVISED		SHEET NO. 5 OF 19 SHEETS		CONTRACT NO. 78365				
CHECKED - Z.T.B. / P.S.J.		ACTING ENGINEER OF BRIDGES AND STRUCTURES		REVISED	ILLINOIS FED. AID PROJECT					



PRECAST DECK PANEL PLAN
(29'-8" Out to Out Panels.)



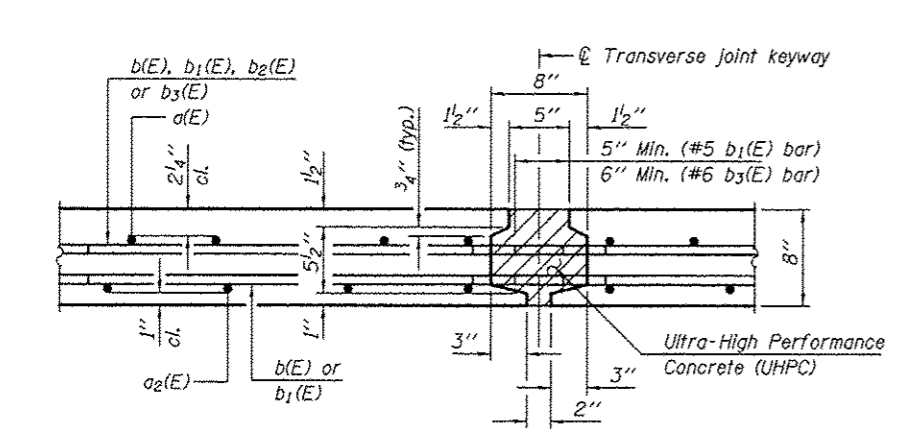
CROSS SECTION
(Looking East)

SUGGESTED CONSTRUCTION SEQUENCE

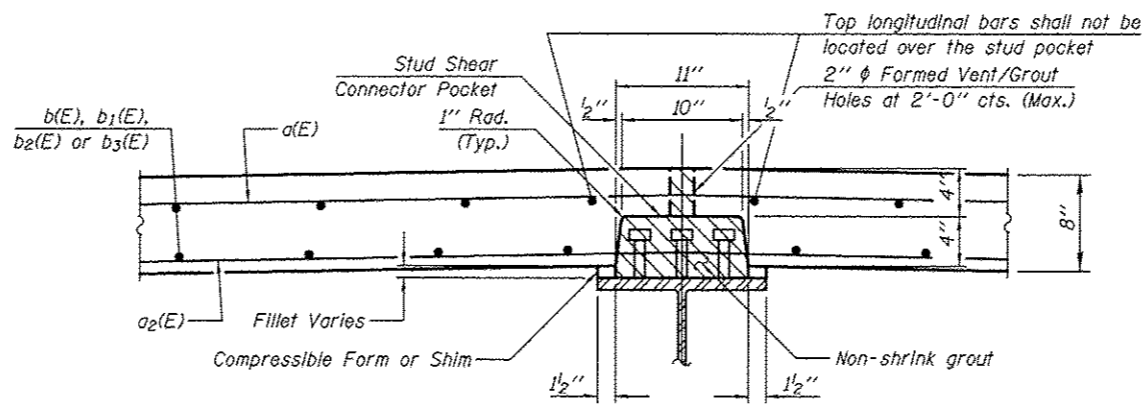
1. Erect bearings, steel beams, and West Abutment Permanent Hold-Down Device. Install shear studs.
2. Clean surfaces of deck panel keyways and stud shear connector pockets.
3. Install drainage scuppers in Panel 2.
4. Preset leveling bolts to anticipated height.
5. Form fillets between the top of the beams and the bottom of the deck panels.
6. Erect precast concrete deck panels on beams (East to West).
7. Adjust leveling devices on deck panels to bring panels to grade on beams.
8. All leveling bolts in a panel shall be torqued to approximately the same value (20 percent maximum deviation).
9. Grout all fillets and stud shear connector pockets with a flowable, non-shrink grout.
10. Form and cast transverse UHPC joints.
11. Tie parapet rebar, form, and cast parapets.
12. Grind high spots on UHPC transverse joints and place Portland Cement Mortar Fairing Course at low points, as necessary.
13. Place WMS and Hot-Mix Asphalt Surface Course.

Precast Concrete Deck Panel Notes:
Contractor shall field verify all dimensions and horizontal locations prior to ordering materials to verify fit-up on new deck panels. The panel layout and dimensions provided are suggested. Final panel layout and dimensions shall be shown on the panel shop drawings. All panel dimensions provided on the superstructure plans are plan dimensions. The fabrication dimensions on the panel shop drawings shall account for the profile and slope of the proposed bridge deck. Contractor shall be responsible for exercising care in lifting, handling, storing, and transportation of the precast slab panels to prevent cracking or damage. Panels shall be lifted by devices as designed by the Contractor and approved by the Engineer. UHPC shall reach a strength of 14 ksi before live loads or WMS and HMA can be applied to the bridge. Contractor shall apply set retarder to inside of side bulkheads and to stud pockets blockouts on the day prior to a pour to avoid interference with form setup. After form stripping, set retarder shall be thoroughly cleaned off keyways (and stud pockets) using a water blast to create the desired exposed aggregate finish.

Notes:
For Plan of Panels 1A, 1B, 2 and 3, see sheet 8 of 19.
For Plan of Panel 4, see sheet 9 of 19.
For Plan of Panels 5A and 5B, see sheet 10 of 19.
For Drainage Scuppers, DS-II details, see sheet 12 of 19.
Cost of reinforcement in panels included with Precast Concrete Deck Panels. For bar details and reinforcement Bill of Material for panels, see sheet 10 of 19.
Cost of Ultra-High Performance Concrete included with Precast Concrete Deck Panels.
Placement of Portland Cement Mortar Fairing Course shall be in accordance with Section 583 of the Standard Specifications.
For parapet details, see sheet 11 of 19.



SECTION X-X

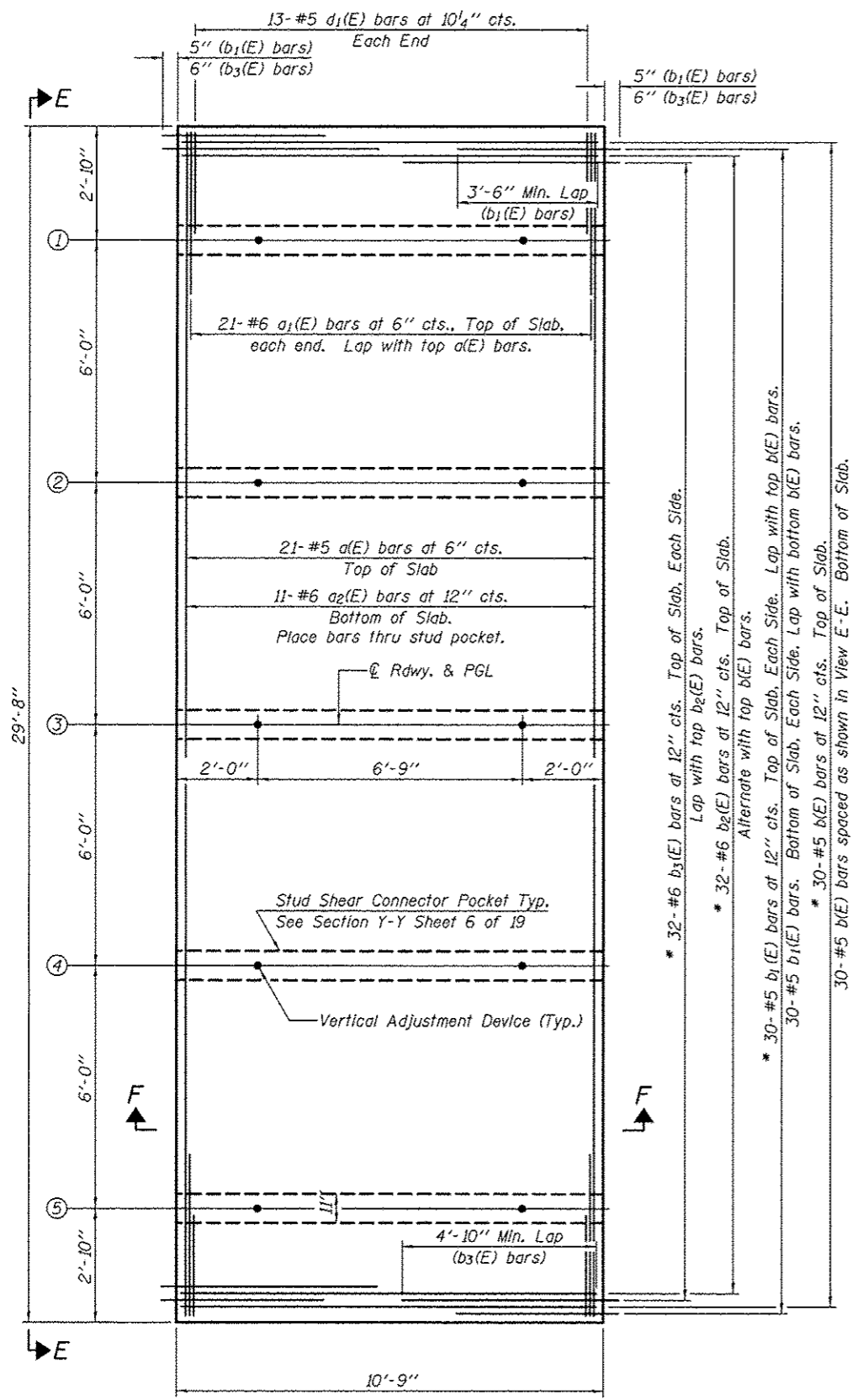


SECTION Y-Y

For Stud Shear Connector spacing see Section C-C sheet 14 of 19.

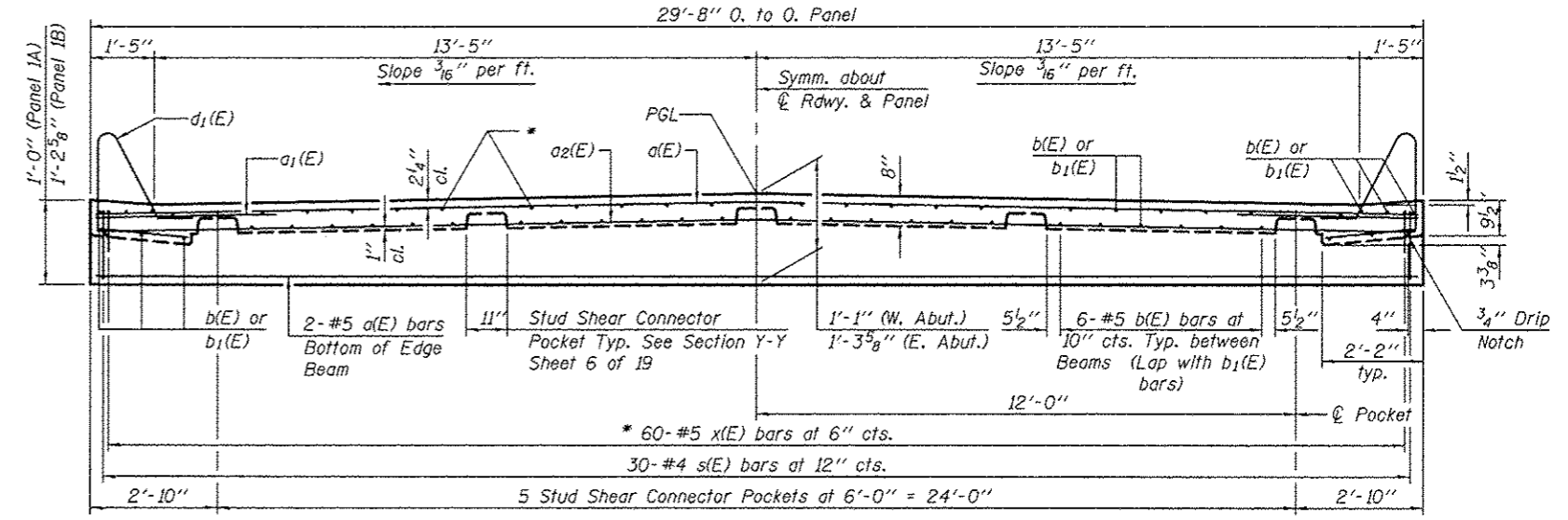
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Precast Concrete Deck Panels	Sq. Ft.	6,381
Hot-Mix Asphalt Surface Course, Mix "C", N30	Ton	66
Waterproofing Membrane System	Sq. Yd.	665
Portland Cement Mortar Fairing Course	Foot	510



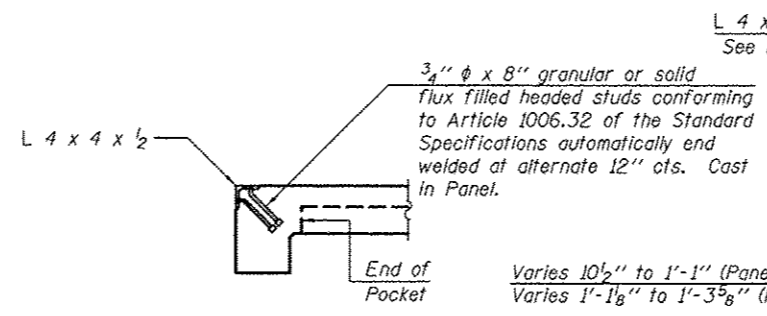
PLAN - DECK PANEL 4
(5 Required)

* These bars shall not be located over stud pockets.



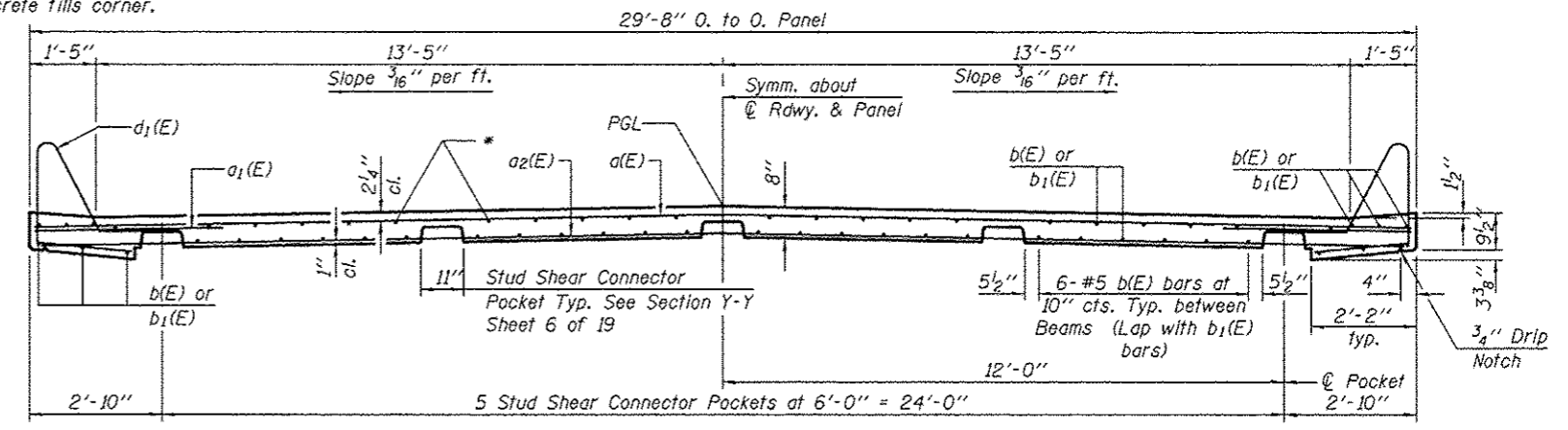
VIEW A-A

SECTION B-B



DETAIL C

Cost of angles and studs included with Precast Concrete Deck Panels. Vent holes may be utilized in angles to ensure concrete fills corner.



VIEW C-C

SECTION D-D

Notes:
For Precast Deck Panel Plan, see sheet 6 of 19.
Provide a 3/4" min. gap between adjacent b1(E) or b3(E) bars within UHPC joints. See Detail B on sheet 7 of 19.
Precast Concrete Deck Panel shop drawings shall show all reinforcement bar locations.
For View E-E and Section F-F, see sheet 10 of 19.
Cost of reinforcement in panels included with Precast Concrete Deck Panels. For bar details and reinforcement Bill of Material for panels, see sheet 10 of 19.

SDATES

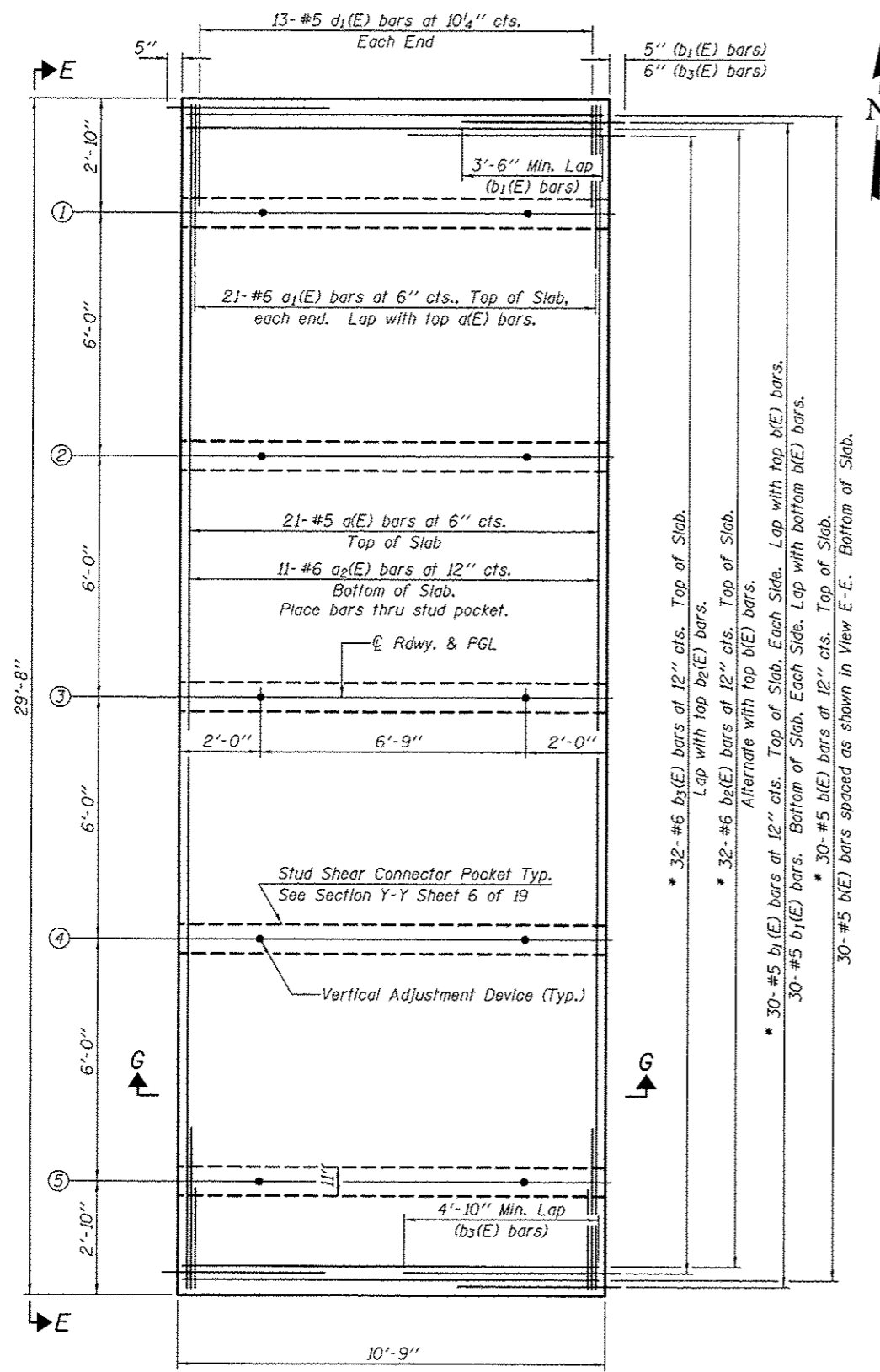
DESIGNED - ZACHARY BULVA	EXAMINED - <i>James F. Joffe</i>	DATE - October 3, 2016
CHECKED - PAUL JOHNSON	PASSED - <i>Paul Johnson</i>	REVISED -
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - Z.T.B. / P.S.J.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST DECK PANEL DETAILS 3
SN 041-0054

SHEET NO. 9 OF 19 SHEETS

F.A.I. RTE. 57	SECTION 41BR-1	COUNTY JEFFERSON	TOTAL SHEETS 26	SHEET NO. 261
			CONTRACT NO. 78365	
ILLINOIS FED. AID PROJECT				

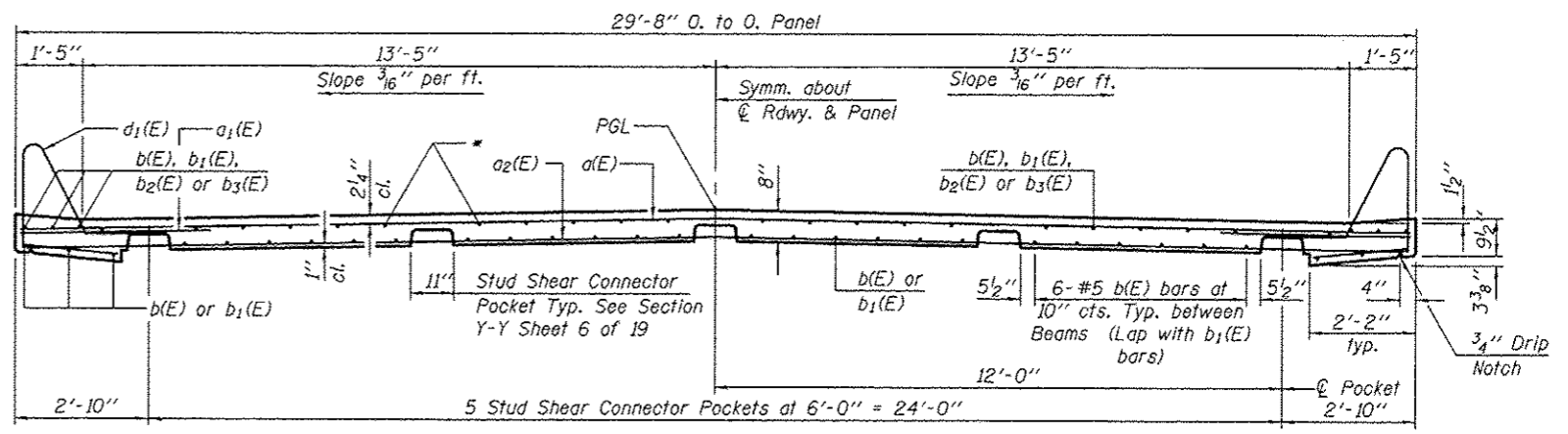


PLAN - DECK PANEL 5A

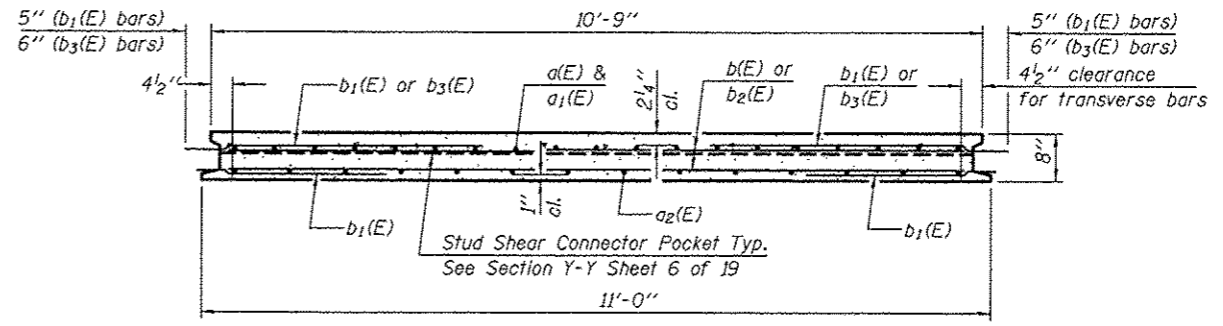
Panel 5A shown, Panel 5B similar by rotation.
(3 Panels 5A Required
3 Panels 5B Required)

* These bars shall not be located over stud pockets.

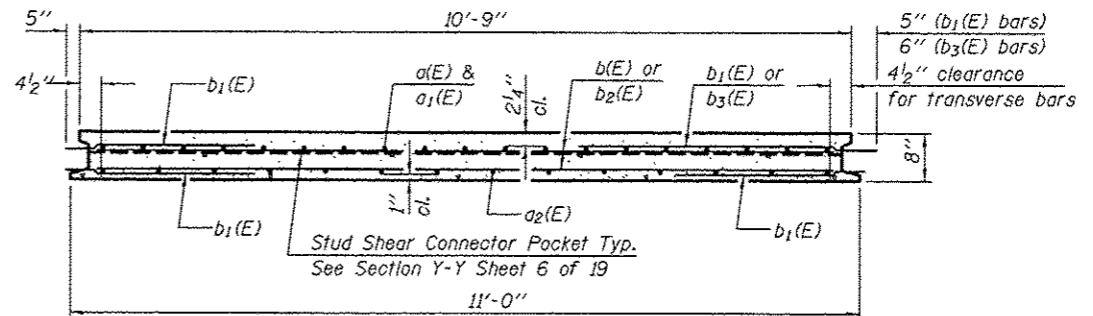
Notes:
For Precast Deck Panel Plan, see sheet 6 of 19.
Provide a $\frac{3}{4}''$ min. gap between adjacent $b_1(E)$ or $b_3(E)$ bars within UHPC joints. See Detail B on sheet 7 of 19.
Precast Concrete Deck Panel shop drawings shall show all reinforcement bar locations.
Cost of reinforcement in panels included with Precast Concrete Deck Panels.



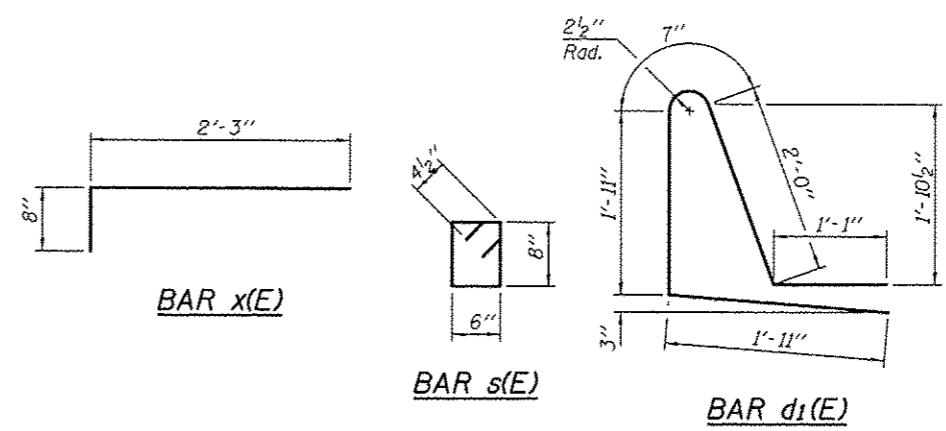
VIEW E-E



SECTION F-F



SECTION G-G



*** PANEL BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$a(E)$	424	#5	29'-5"	—
$a_1(E)$	840	#6	6'-6"	—
$a_2(E)$	220	#6	29'-5"	—
$a_3(E)$	16	#5	1'-6"	—
$b(E)$	1200	#5	10'-3"	—
$b_1(E)$	2280	#5	4'-2"	—
$b_2(E)$	352	#6	10'-3"	—
$b_3(E)$	512	#6	5'-7"	—
$d_1(E)$	520	#5	7'-6"	L
$s(E)$	60	#4	3'-1"	□
$x(E)$	120	#5	2'-11"	—
* Reinforcement Bars, Epoxy Coated				Pound 67,960
* Ultra High Performance Concrete				Cu. Yd. 7.3

* For information only. Cost included in Precast Concrete Deck Panels, See Special Provision.

DESIGNED - ZACHARY BULVA
CHECKED - PAUL JOHNSON
DRAWN - J. Schneller
CHECKED - Z.T.B. / P.S.J.

EXAMINED
PASSED
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - October 3, 2016
REVISED
REVISED

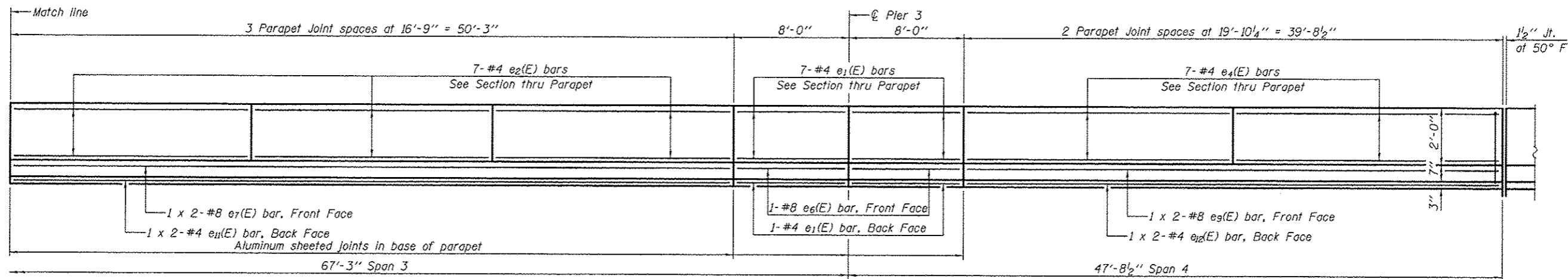
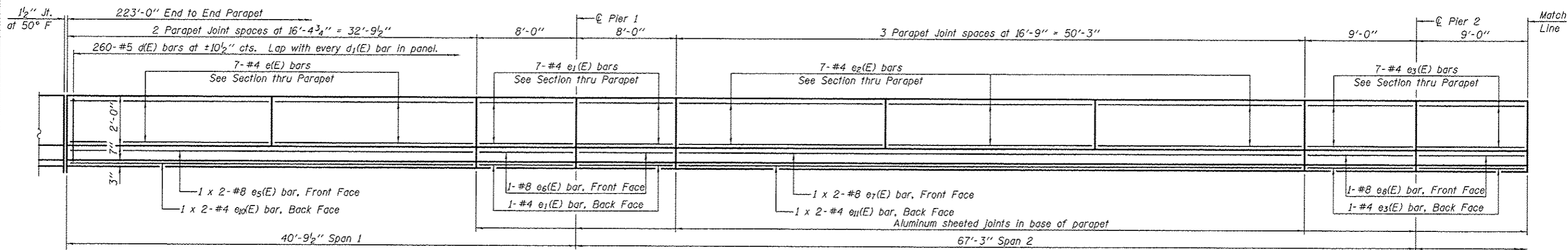
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST DECK PANEL DETAILS 4
SN 041-0054

SHEET NO. 10 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26J
CONTRACT NO. 78365				

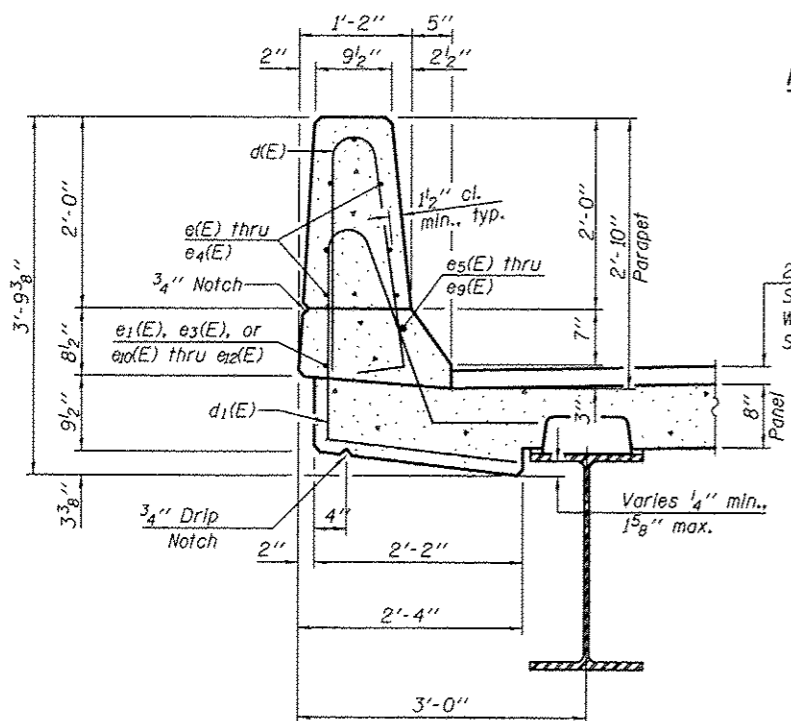
ILLINOIS FED. AID PROJECT



INSIDE ELEVATION OF PARAPET
North Parapet shown, South Parapet similar.

MINIMUM BAR LAP

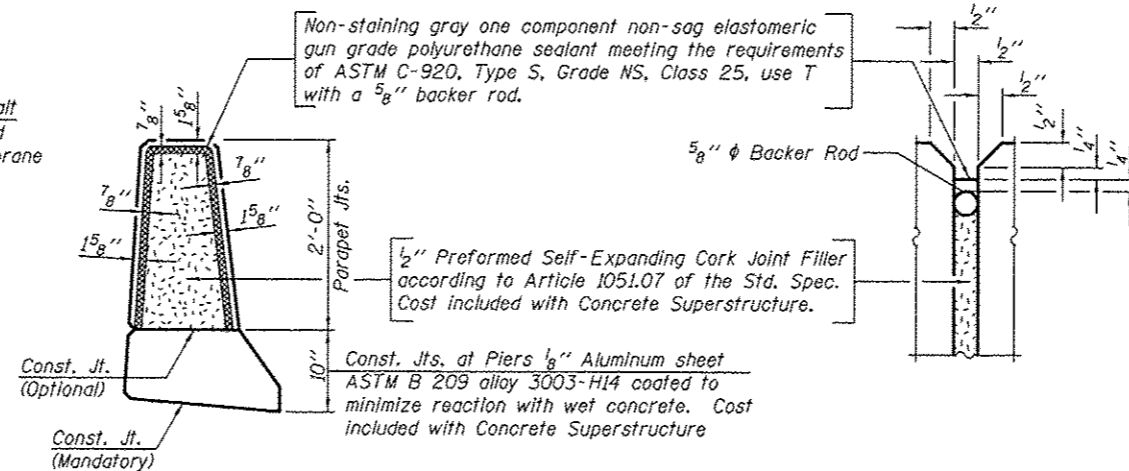
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"



SECTION THRU PARAPET

(d1(E) bar is only panel reinf. bar shown.)

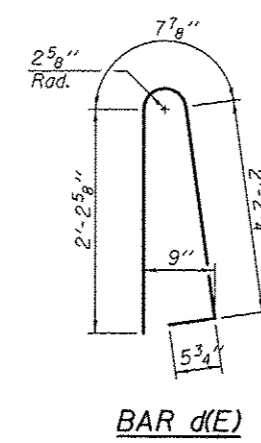
Non-staining gray one component non-sag elastomeric gun grade polyurethane sealant meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25, use T with a 5/8" backer rod.



PARAPET JOINT DETAILS

TWO PARAPETS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e(E)	28	#4	16'-1"	—
e1(E)	64	#4	7'-9"	—
e2(E)	84	#4	16'-6"	—
e3(E)	32	#4	8'-9"	—
e4(E)	28	#4	19'-7"	—
e5(E)	4	#8	19'-3"	—
e6(E)	8	#8	7'-9"	—
e7(E)	8	#8	28'-0"	—
e8(E)	4	#8	8'-9"	—
e9(E)	4	#8	22'-9"	—
e10(E)	4	#4	17'-8"	—
e11(E)	8	#4	26'-5"	—
e12(E)	4	#4	21'-1"	—
d(E)	520	#5	5'-7"	⊥
Reinforcement Bars, Epoxy Coated		Pound	6,690	
Concrete Superstructure		Cu. Yd.	49.6	



BAR d(E)

SDATES STIMES

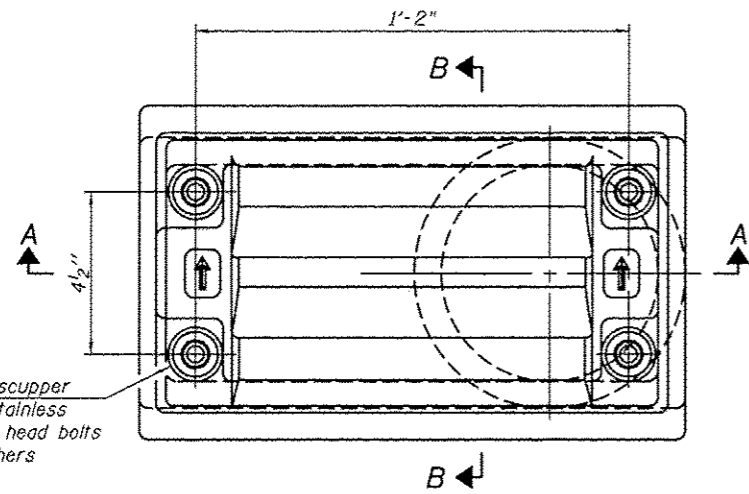
DESIGNED - ZACHARY BULVA	EXAMINED - <i>Joseph F. Jullif</i>	DATE - October 3, 2016
CHECKED - PAUL JOHNSON	PASSED - <i>Paul Johnson</i>	REVISED -
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - Z.T.B. / P.S.J.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
SN 041-0054

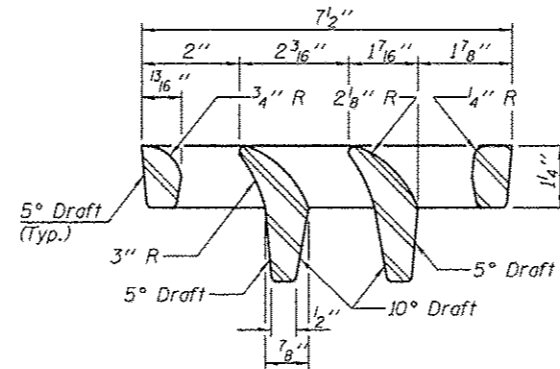
SHEET NO. 11 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26K
CONTRACT NO. 78365			ILLINOIS FED. AID PROJECT	

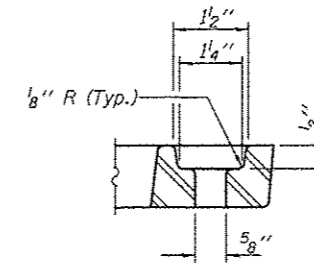


Drill and tap scupper for 4 1/2" ϕ stainless steel hexagon head bolts with lock washers

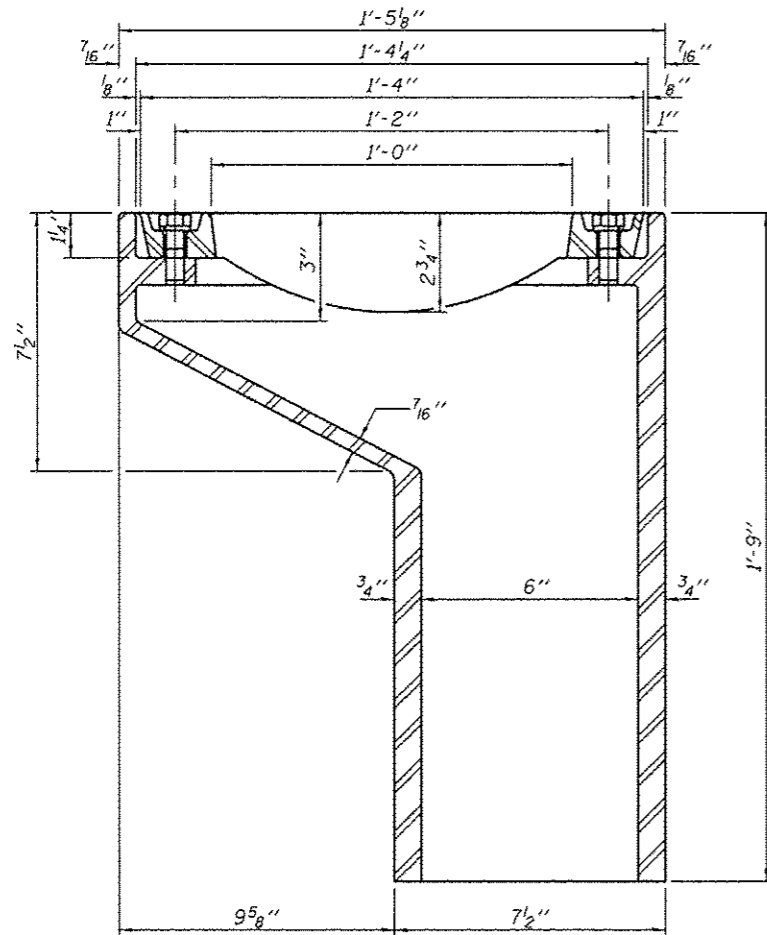
PLAN



VANE GRATE DETAIL

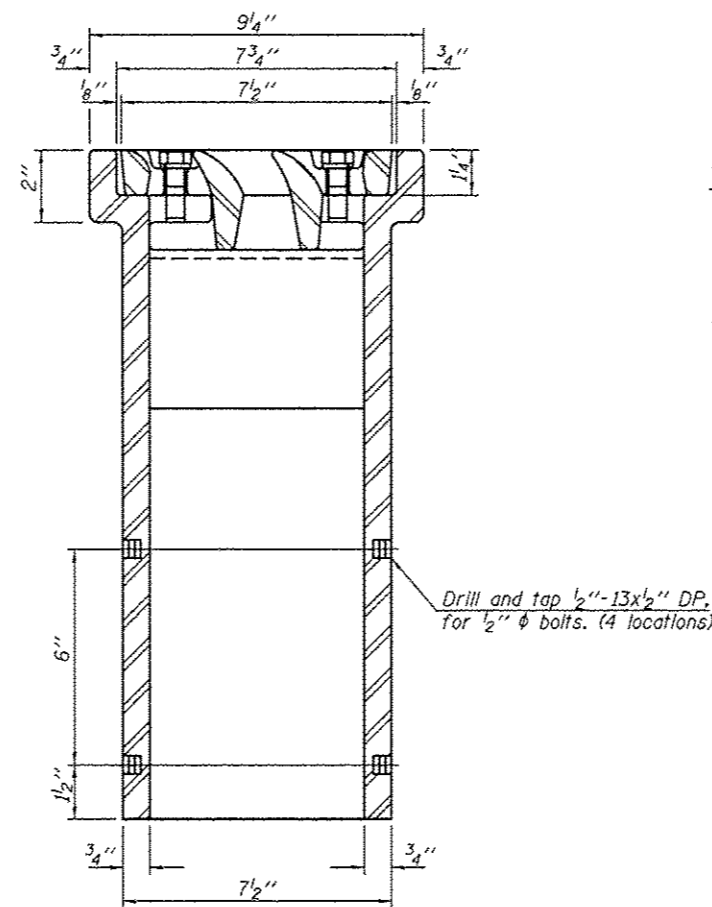


BOLT HOLE DETAIL

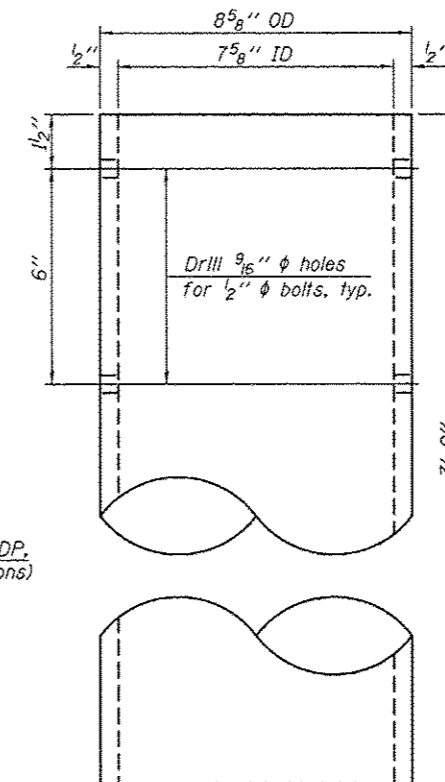


SECTION A-A

See sheets 6 & 7 of 19 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B. Bolts, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

As an alternate, bolts, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Field Welding, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

See Sheets 7 & 8 of 19 for additional scupper details.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scuppers, DS-11	Each	2

SDATES

DESIGNED - ZACHARY BILVA
 CHECKED - PAUL JOHNSON
 DRAWN - J. Schneller
 CHECKED - Z.T.B. / P.S.J.

EXAMINED
 PASSED
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - October 3, 2016
 REVISED
 REVISED

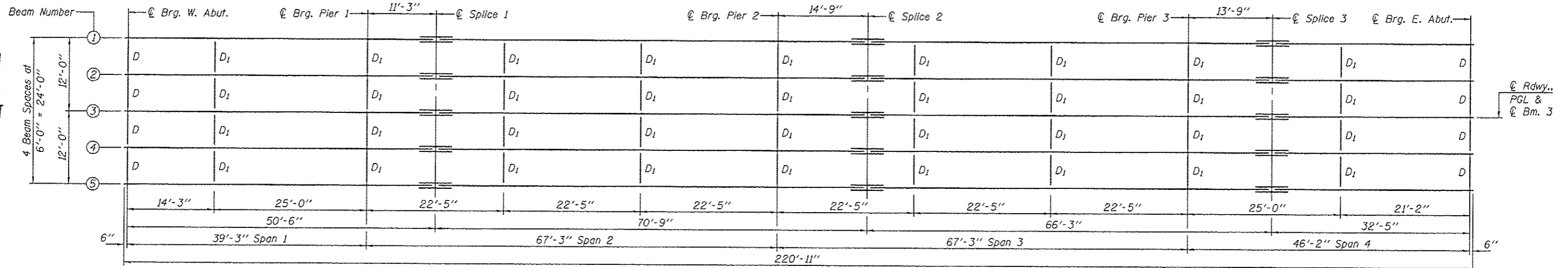
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
 SN 041-0054

SHEET NO. 12 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26L

CONTRACT NO. 78365
 ILLINOIS FED. AID PROJECT



FRAMING PLAN

All Beams shall be W27x146, AASHTO M270, Grade 50 (NTR).

*** TOP OF BEAM ELEVATIONS**

Location	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Brg. Pier 2	℄ Splice 2	℄ Brg. Pier 3	℄ Splice 3	℄ Brg. E. Abut.
Beam 1	445.35	446.22	446.46	447.44	447.70	448.29	448.45	448.72
Beam 2	445.44	446.31	446.56	447.53	447.79	448.39	448.54	448.82
Beam 3	445.53	446.40	446.65	447.63	447.88	448.48	448.64	448.91
Beam 4	445.44	446.31	446.56	447.53	447.79	448.39	448.54	448.82
Beam 5	445.35	446.22	446.46	447.44	447.70	448.29	448.45	448.72

* For fabrication use only.

INTERIOR BEAM REACTION TABLE

	W. Abutment	Pier 1	Pier 2	Pier 3	E. Abutment
LLDF	0.671	0.671	0.671	0.671	0.671
OCF					
R _{DC1} (k)	10.1	45.9	54.5	48.4	13.3
R _{DC2} (k)	4.2	20.7	24.5	21.8	5.6
R _{DW} (k)	1.8	8.9	10.5	9.4	2.4
R _℄ (k)	43.5	75.2	78.5	75.8	46.2
R _{IM} (k)	11.6	15.6	15.3	15.3	12.2
R _{Total} (k)	71.2	166.3	183.3	170.7	79.7

INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
I _s	5,660	5,660	5,660	5,660	5,660	5,660	5,660
I _c (n)	14,975	14,975	14,975	14,975	14,975	14,975	14,975
I _c (3n)	10,894	10,894	10,894	10,894	10,894	10,894	10,894
I _c (cr)	7,449	7,449	7,449	7,449	7,449	7,449	7,449
S _s	414	414	414	414	414	414	414
S _c (n)	597	597	597	597	597	597	597
S _c (3n)	539	539	539	539	539	539	539
S _c (cr)							
DC1 (k/')	0.776	0.776	0.776	0.776	0.776	0.776	0.776
M _{DC1} (k)	52	229	166	315	157	247	99
DC2 (k/')	0.349	0.349	0.349	0.349	0.349	0.349	0.349
M _{DC2} (k)	23	104	74	143	70	112	44
DW (k/')	0.150	0.150	0.150	0.150	0.150	0.150	0.150
M _{DW} (k)	10	45	32	62	30	48	19
LLDF	0.575	0.532	0.501	0.501	0.501	0.523	0.551
M _{℄ + IM} (k)	354	446	476	500	483	421	419
M _u (Strength I) (k)	728	1264	1181	1541	1174	1258	941
φ _r M _n (k)	2859	2367	2859	2367	2859	2367	2859
f _s DC1 (ksi)	1.5	6.6	4.8	9.1	4.6	7.2	2.9
f _s DC2 (ksi)	0.5	2.3	1.6	3.2	1.6	2.5	1.0
f _s DW (ksi)	0.2	1.0	0.7	1.4	0.7	1.1	0.4
f _s (℄ + IM) (ksi)	7.1	9.0	9.6	10.1	9.7	8.5	8.4
f _s (Service II) (ksi)	11.4	21.6	19.6	26.8	19.5	21.9	15.2
0.95R _h F _{yf} (ksi)	47.5	47.5	47.5	47.5	47.5	47.5	47.5
f _s (Total)(Strength I) (ksi)							
φ _r F _n (ksi)							
V _r (k)	19.6	19.6	22.4	23.2	22.1	25.0	20.6

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

I_c(n), S_c(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short term composite live loads (in.⁴ and in.³).

I_c(3n), S_c(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

I_c(cr), S_c(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: 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.).

M_{DC2}: 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.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{℄ + IM}: Un-factored live load moment plus dynamic load allowance (Impact)(kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).

1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{℄ + IM}

Notes:

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

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

For Stud Shear Connector spacing see sheet 14 of 19.

For Diaphragm D and D₁ details, see sheet 14 of 19.

For splice details, see sheet 14 of 19.

φ_rM_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

M_{DC1} / S_n

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

M_{DC2} / S_c(3n) or M_{DC2} / S_c(cr) as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

M_{DW} / S_c(3n) or M_{DW} / S_c(cr) as applicable.

f_s (℄ + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).

M_{℄ + IM} / S_c(n) or M_{℄ + IM} / S_c(cr) as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).

f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (℄ + IM)

0.95R_hF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (℄ + IM)

φ_rF_n: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_r: Maximum factored shear range in span computed according to Article 6.10.10.

LLDF: Live load distribution factor for moment or shear.

OCF: Obtuse correction factor.

DESIGNED - ZACHARY BULVA
 CHECKED - PAUL JOHNSON
 DRAWN - J. Schneller
 CHECKED - Z.T.B. / P.S.J.

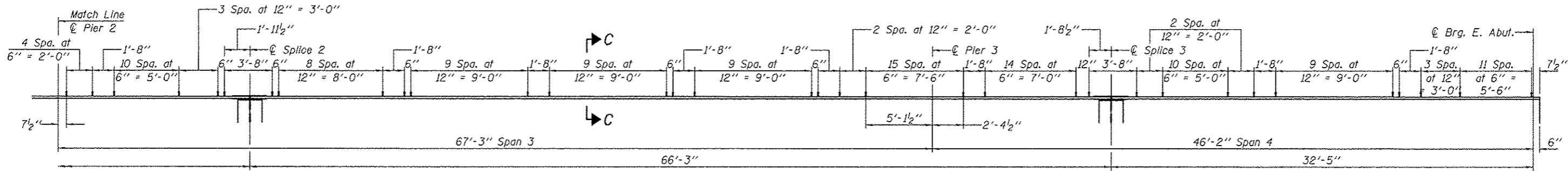
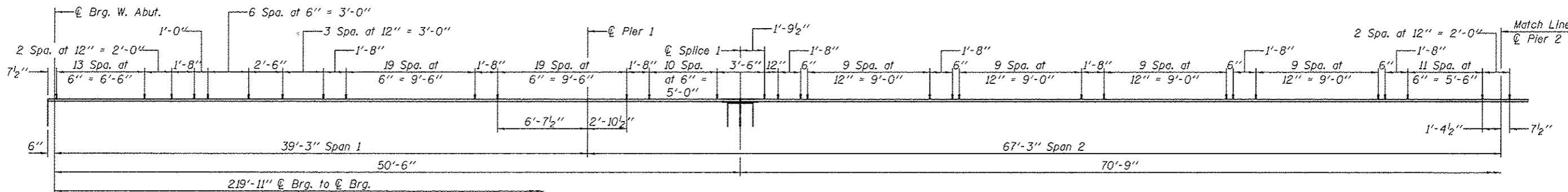
EXAMINED
 PASSED
 DATE - October 3, 2016
 REVISIONS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
 SN 041-0054
 SHEET NO. 13 OF 19 SHEETS

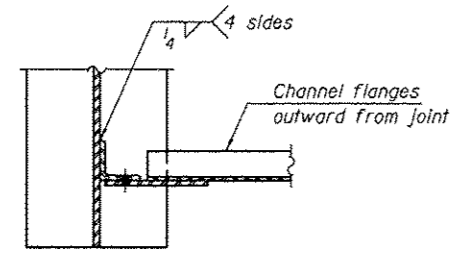
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	26M

CONTRACT NO. 78365
 ILLINOIS FED. AID PROJECT

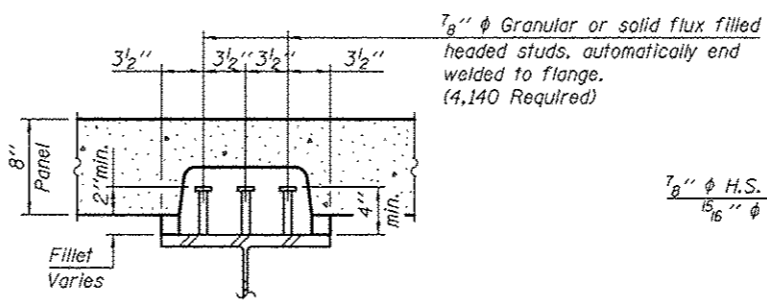


ELEVATION - STUD SHEAR CONNECTOR SPACING

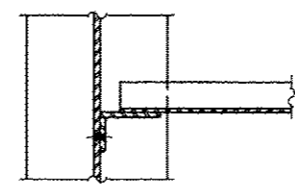
Note:
 Stud layout shown intended to avoid interference with bottom transverse bars in precast deck panels. Contractor shall verify spacing with approved panel shop drawings. Any revision to stud layout shall be coordinated with panel supplier and approved by the Engineer. Likewise, any revision to panels and their bottom transverse bars shall be coordinated with the Contractor and approved by the Engineer.



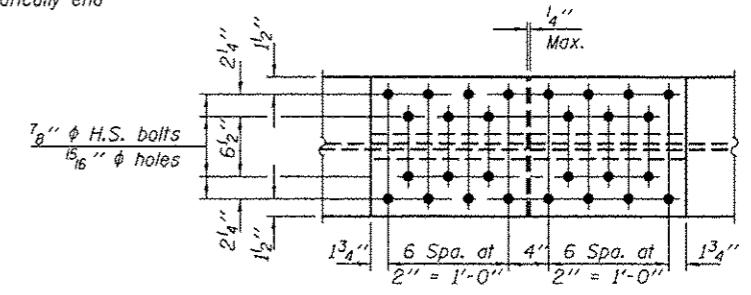
SECTION A-A



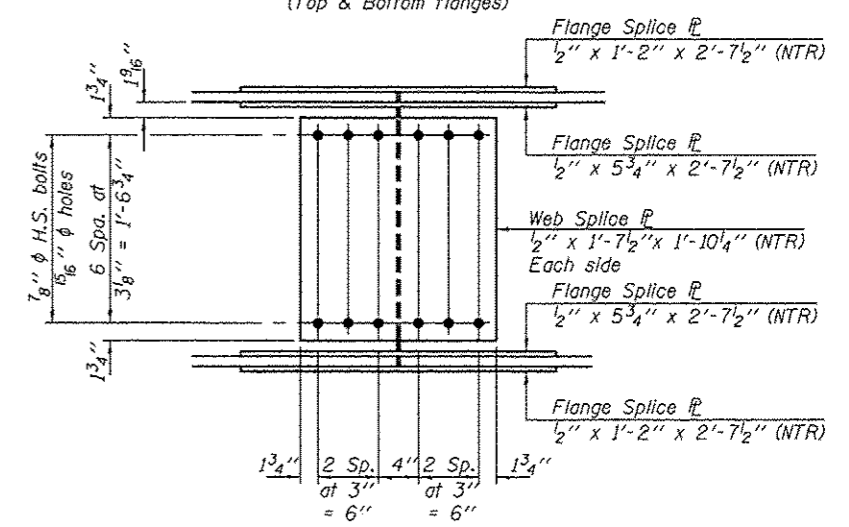
SECTION C-C



SECTION B-B



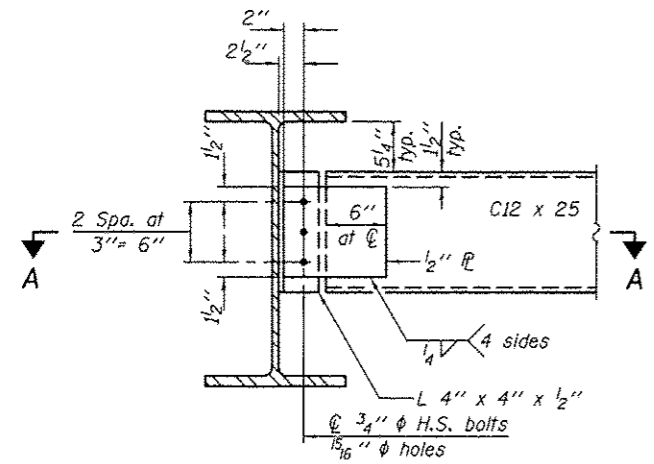
PLAN - SPLICES 1, 2 & 3
 (Top & Bottom Flanges)



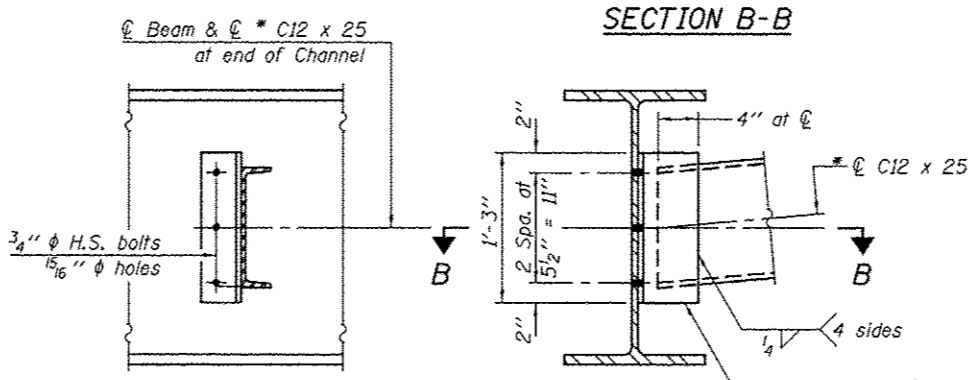
ELEVATION - SPLICES 1, 2 & 3
 (15 Required)

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
 All splice plates shall be AASHTO M270, Grade 50.

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



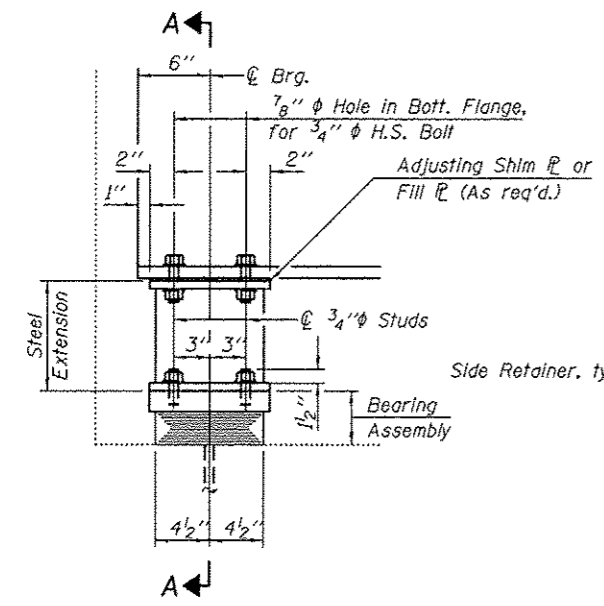
DIAPHRAGM D
 (8 Required)



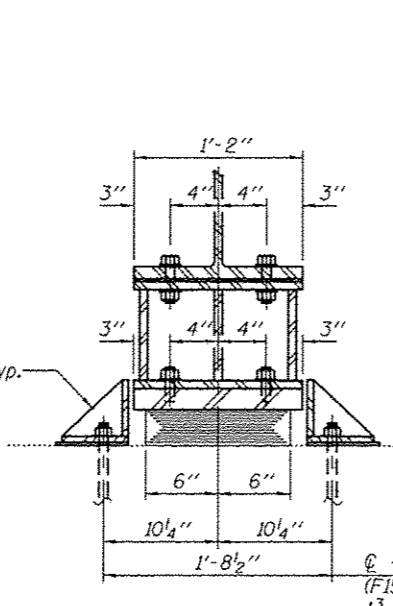
DIAPHRAGM D1
 (36 Required)

* Alternate channels C12 x 30 may be used to facilitate material acquisition. The calculated weight of structural steel is based on the lighter section, C12 x 25. The alternate, if utilized, will be provided at no extra cost to the Department.

DESIGNED - ZACHARY BULVA	EXAMINED - <i>James F. J...</i>	DATE - October 3, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS SN 041-0054	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - PAUL JOHNSON	PASSED - <i>J. Schneller</i>	REVISED -			57	41BR-1	JEFFERSON	26	26N
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -	SHEET NO. 14 OF 19 SHEETS		CONTRACT NO. 78365				
CHECKED - Z.T.B. / P.S.J.		REVISED -			ILLINOIS FED. AID PROJECT				

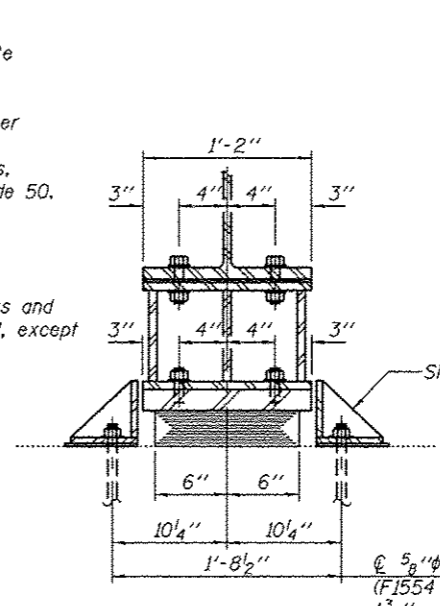


ELEVATION AT WEST ABUT.

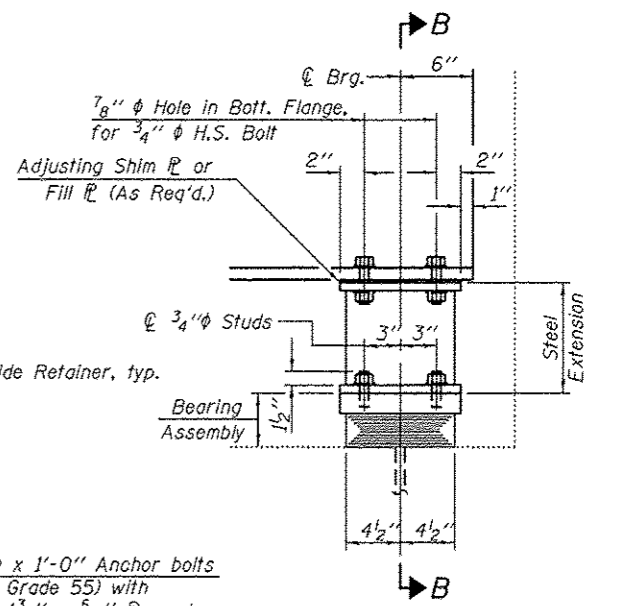


SECTION A-A

Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
 The structural steel plates of the Bearing Assembly, Steel Extension, Fill Plates, and Hold-Down Device, shall conform to the requirements of AASHTO M 270 Grade 50. Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 Steel Extensions, Fill Plates, 1/8" adjusting shims, and all hardware except the nuts and washers for anchor bolts are included in Furnishing and Erecting Structural Steel, except as otherwise noted.
 Hold-Down Device shall be installed before placement of the panels.



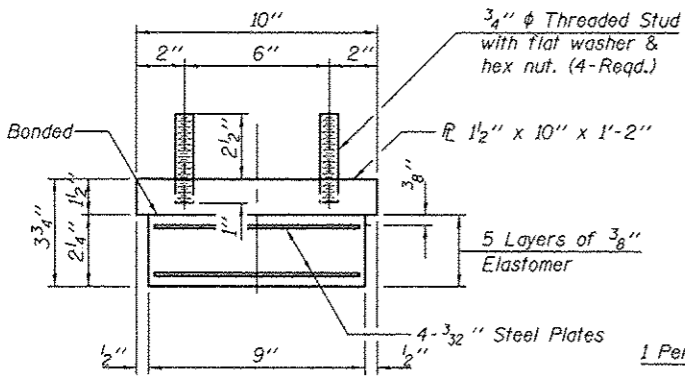
SECTION B-B



ELEVATION AT EAST ABUT.

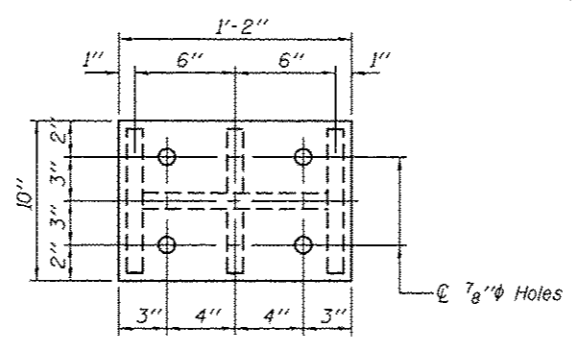
TYPE I ELASTOMERIC EXP. BRG.

TYPE I ELASTOMERIC EXP. BRG.

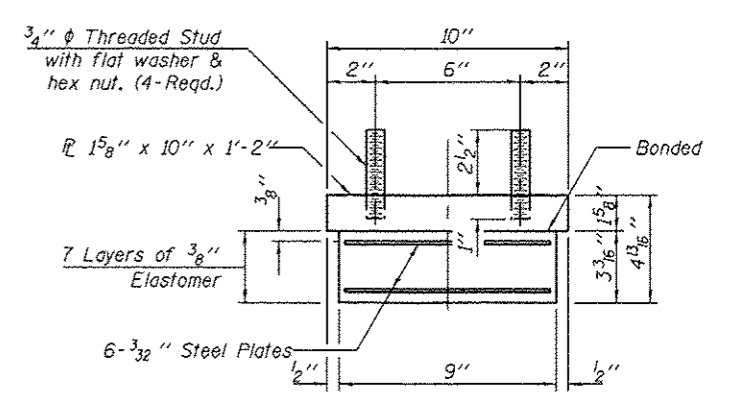


BEARING ASSEMBLY

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

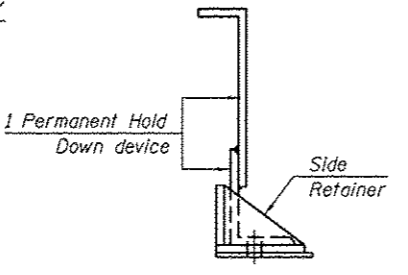


PLAN TOP AND BOTTOM PLATE

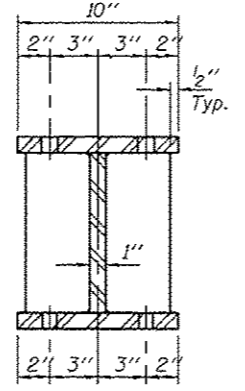


BEARING ASSEMBLY

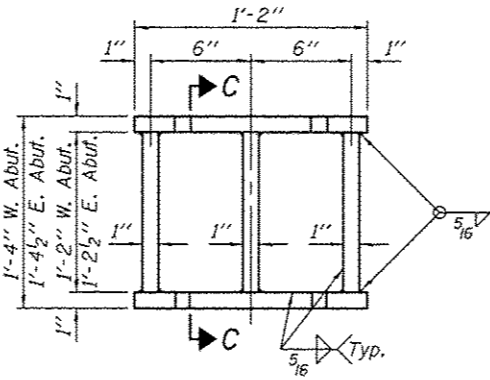
Note:
 Shim plates shall not be placed under Bearing Assembly.



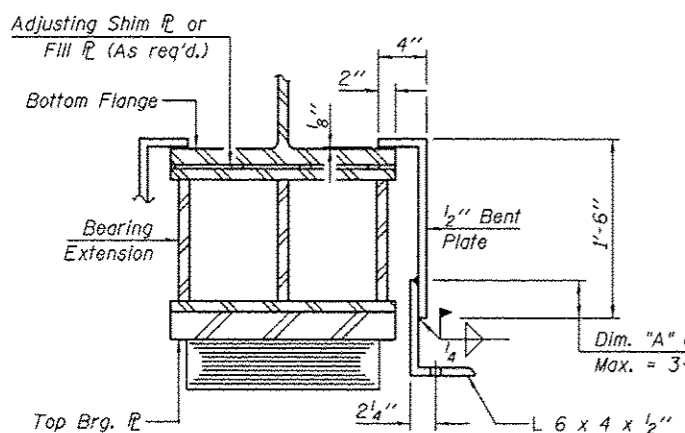
HOLD-DOWN DEVICE LOCATION



SECTION C-C



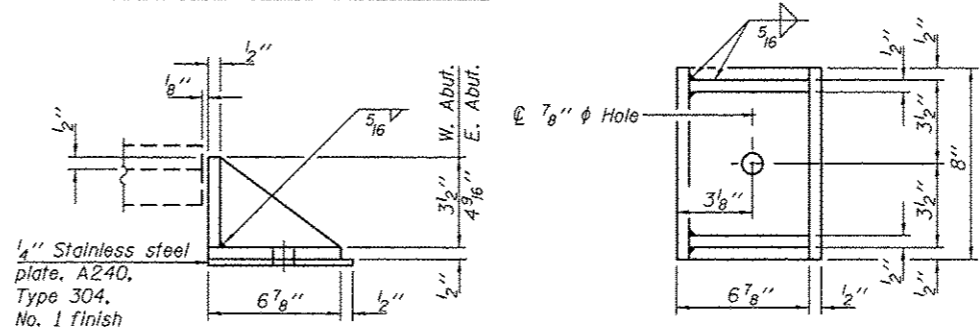
STEEL EXTENSION DETAIL



HOLD-DOWN DEVICE WEST ABUTMENT

(No. Required = 5 Pairs (One each side of bearing = 1 pair.))
 Side retainer not shown.

Note:
 After beams are erected, measure Dim. "A" for each device. Weld 1/2" bent plate and 1/2" angle prior to installing. Cost of hold-down device and field welding is included with Elastomeric Bearing Assembly, Type I.



SIDE RETAINER ABUTMENTS

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

TABLE OF FILL PLATES

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5
West Abutment	3/8"	0"	1/8"	0"	3/8"
East Abutment	3/8"	0"	1/4"	0"	3/8"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 5/8"	Each	20

DESIGNED - ZACHARY BULVA
 CHECKED - PAUL JOHNSON
 DRAWN - J. Schneller
 CHECKED - Z.T.B. / P.S.J.

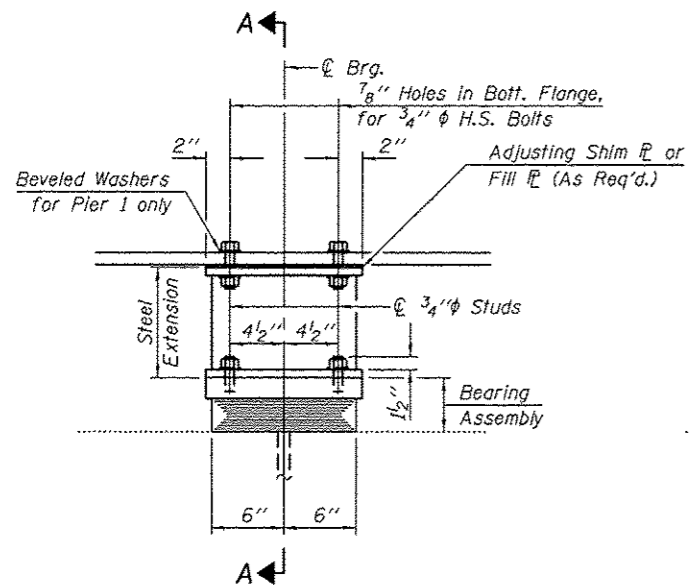
EXAMINED
 PASSED
 DATE - October 3, 2016
 REVISIONS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

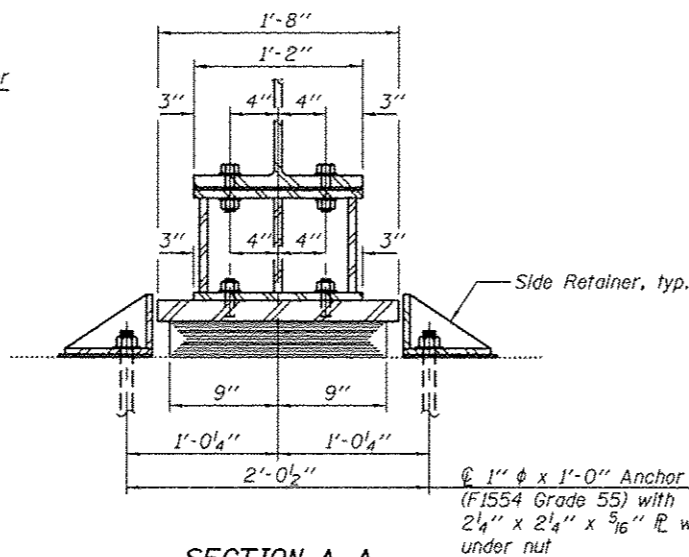
ABUTMENT BEARING DETAILS
 SN 041-0054

SHEET NO. 15 OF 19 SHEETS

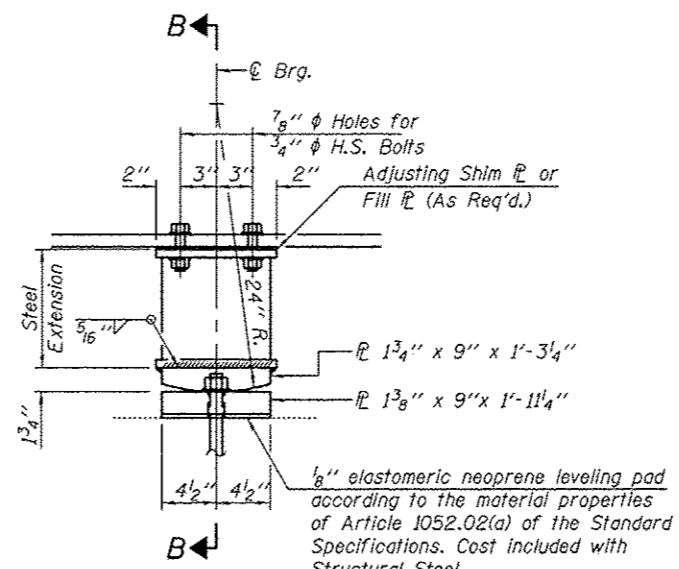
F.A.I. RTE. 57
 SECTION 41BR-1
 COUNTY JEFFERSON
 TOTAL SHEETS 26
 SHEET NO. 26
 CONTRACT NO. 78365
 ILLINOIS FED. AID PROJECT



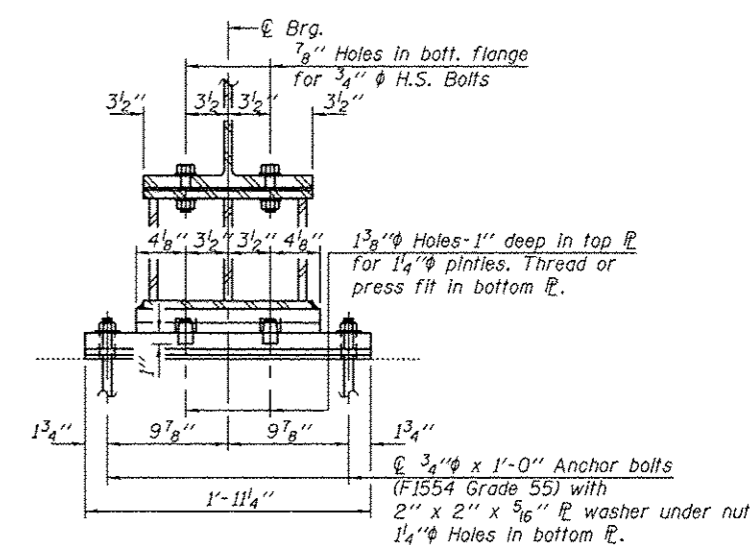
ELEVATION AT PIERS 1 & 3



SECTION A-A

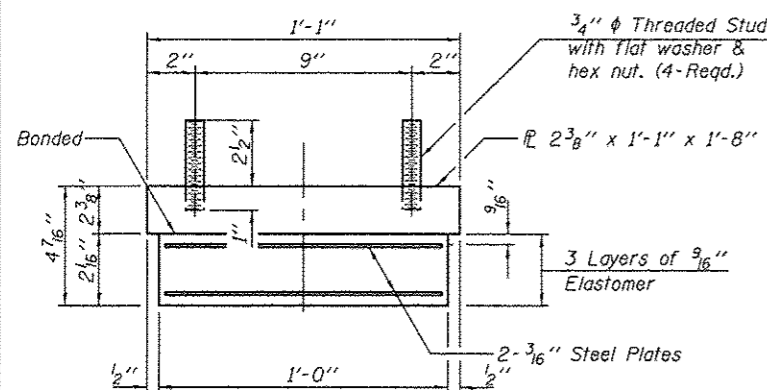


ELEVATION AT PIER 2



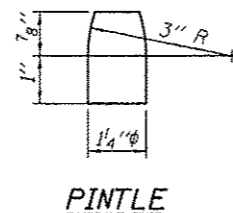
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.



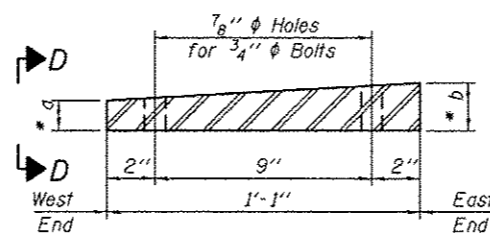
BEARING ASSEMBLY

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

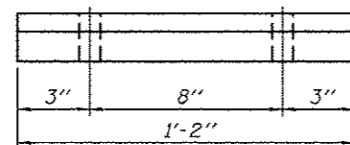


PINTLE

FIXED BEARING



FILL PLATE



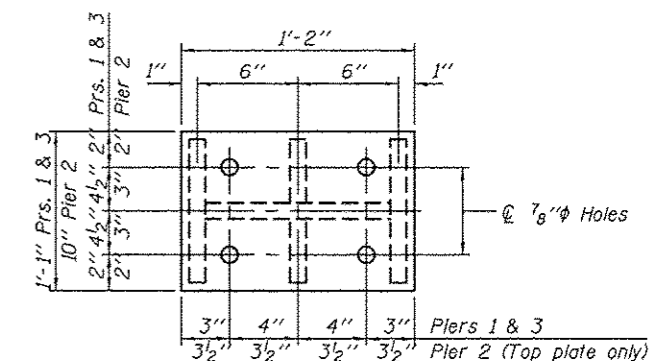
VIEW D-D

PIER 1 TAPERED FILL PLATE

* See Table of Fill Plates for a and b dimensions.

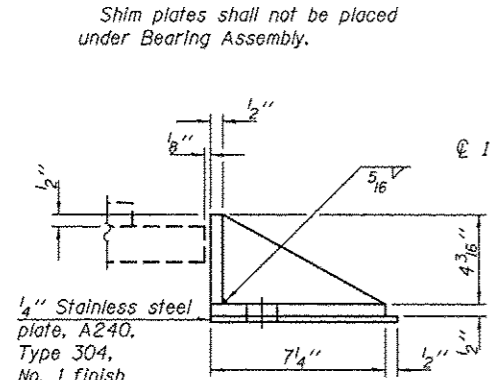
TABLE OF FILL PLATES

	Bm. 1		Bm. 2		Bm. 3		Bm. 4		Bm. 5	
	a	b	a	b	a	b	a	b	a	b
Pier 1	1 1/8"	1 3/8"	3/4"	1"	1 1/8"	2 1/8"	3/4"	1"	1 1/8"	1 3/8"
Pier 2	3/8"	0"	1 1/8"	0"	3/8"	0"	3/8"	0"	3/8"	0"
Pier 3	1/2"	0"	1 1/8"	0"	1/2"	0"	1/2"	0"	1/2"	0"



PLAN TOP PLATE

Bottom plate identical to top plate, except no holes in Pier 2 bottom plate.



SIDE RETAINER PIERS 1 & 3

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

Notes:

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

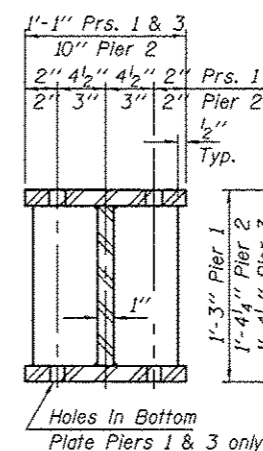
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

The structural steel plates of the Bearing Assembly, Steel Extension, Fill Plates, plates of fixed bearings, and pintles, shall conform to the requirements of AASHTO M 270 Grade 50.

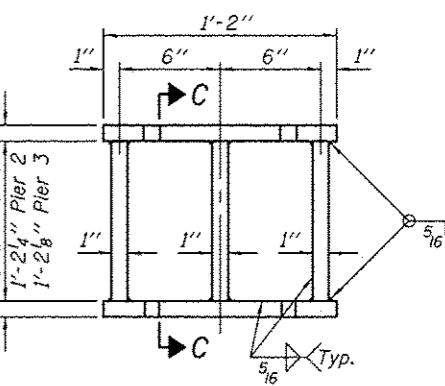
Two 1/2 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Steel Extensions, Fill Plates, 1/8 inch adjusting shims, and all hardware except the nuts and washers for anchor bolts are included in Furnishing and Erecting Structural Steel, except as otherwise noted.



SECTION C-C



STEEL EXTENSION DETAIL

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 3/4"	Each	10
Anchor Bolts, 1"	Each	20

SDATES

DESIGNED - ZACHARY BULVA
CHECKED - PAUL JOHNSON
DRAWN - J. Schneller
CHECKED - Z.T.B. / P.S.J.

EXAMINED
PASSED

Joanna F. J. Hoff
ENGINEER OF BRIDGE DESIGN
Carl Hoff
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - October 3, 2016

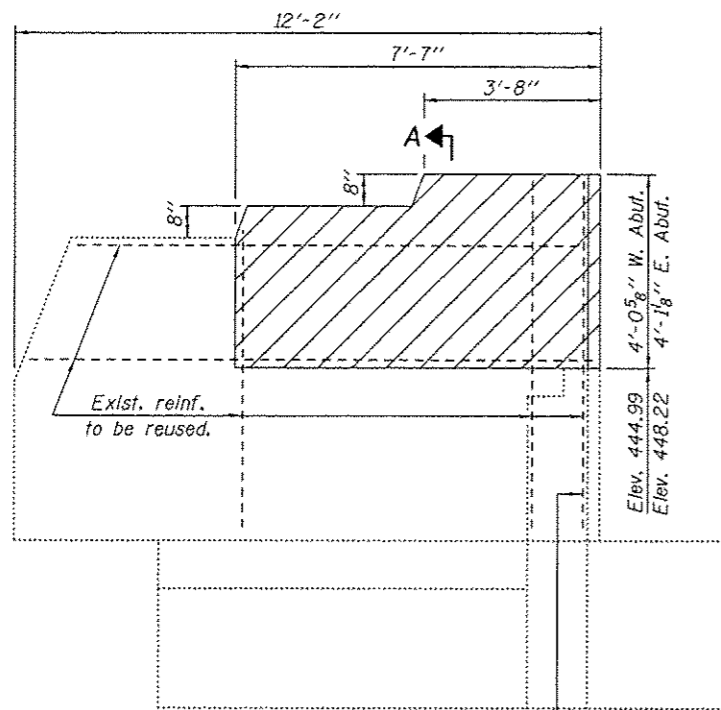
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER BEARING DETAILS
SN 041-0054

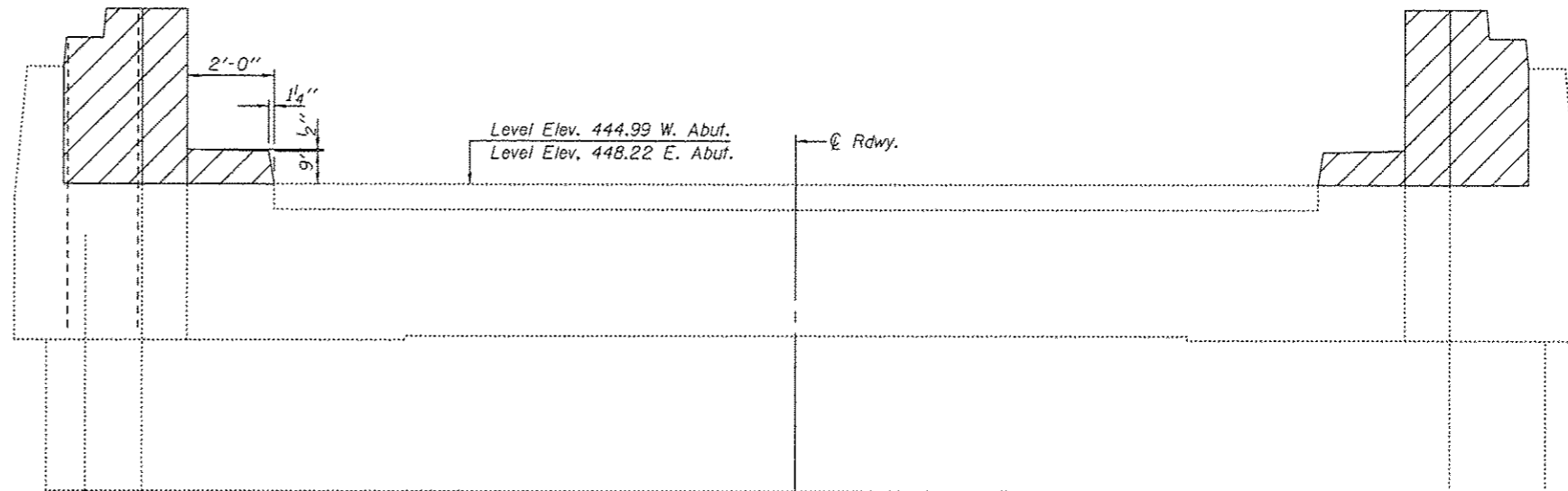
SHEET NO. 16 OF 19 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ST	41BR-1	JEFFERSON	26	26P
CONTRACT NO. 78365				
ILLINOIS FED. AID PROJECT				

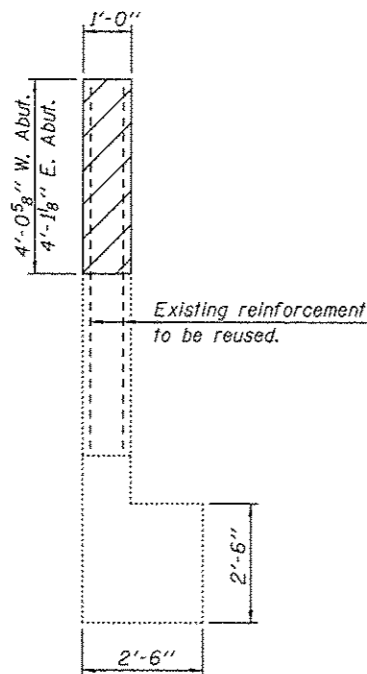


WING WALL ELEVATION

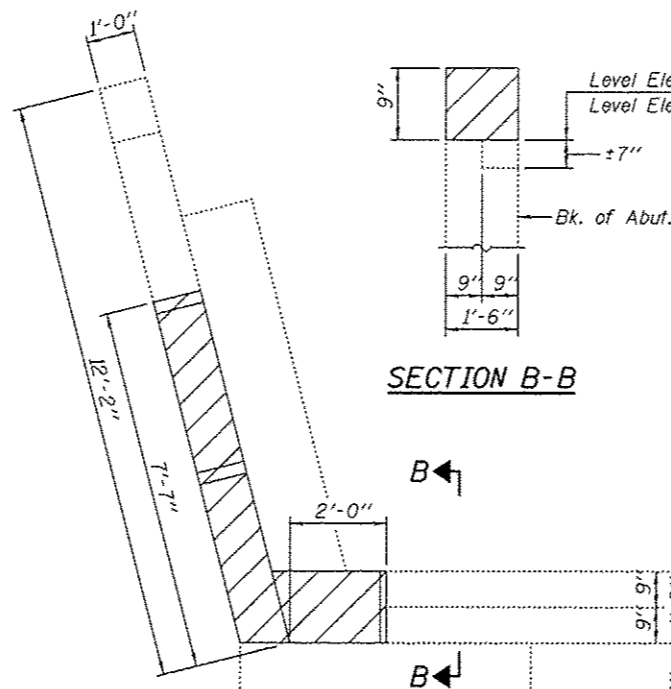
Reuse the existing reinforcement bars if clearance to edge of new concrete is 1/2" or greater.



ELEVATION

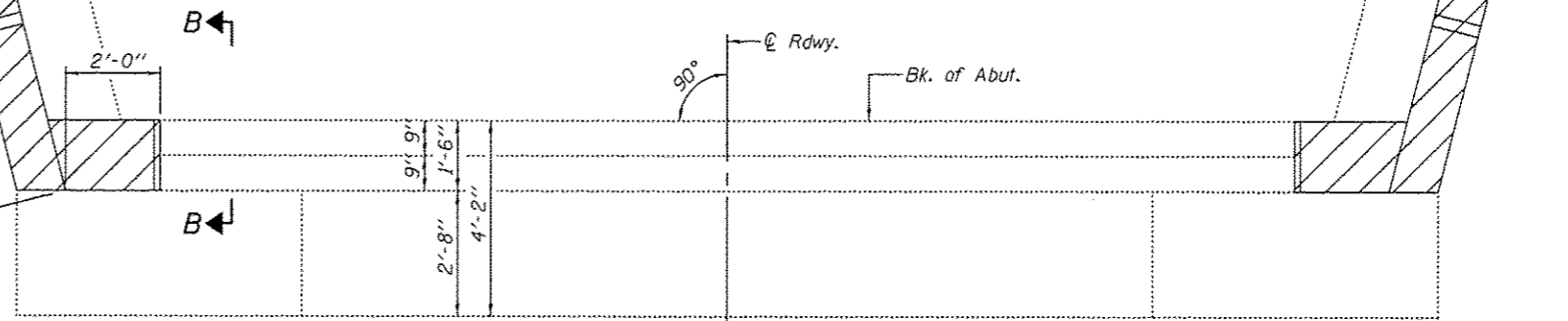


SECTION A-A



SECTION B-B

Notes:
 Hatched area indicates Concrete Removal.
 Existing reinforcement bars extending into areas of new construction shall be cleaned, straightened and incorporated into the new construction. Cost included in Concrete Removal.
 The existing reinforcement not extending into new construction shall be cut off, ground flush and sealed with epoxy. Cost included with Concrete Removal.
 The existing anchor bolts shall be cut off, ground flush and sealed with epoxy. Cost included with Removal of Existing Superstructures.



TOP VIEW

**TWO ABUTMENTS
BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	4.5

EDATES STIMES

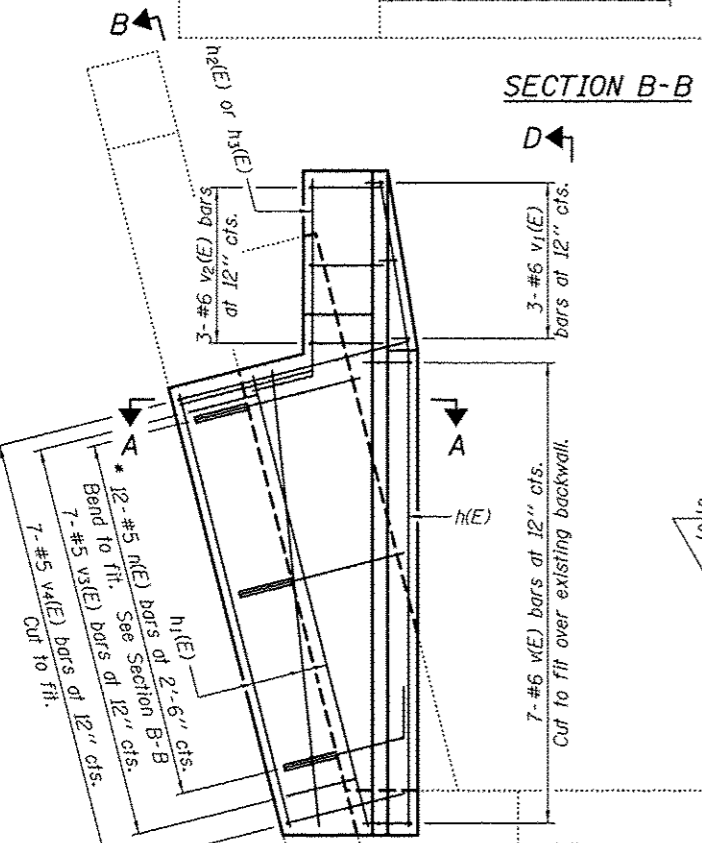
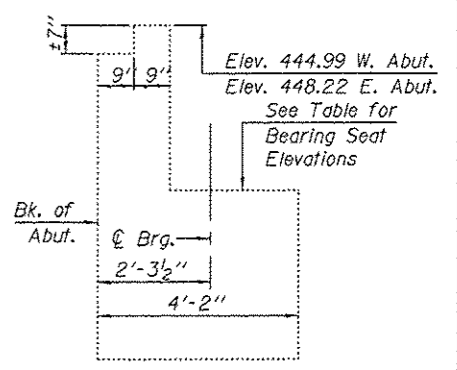
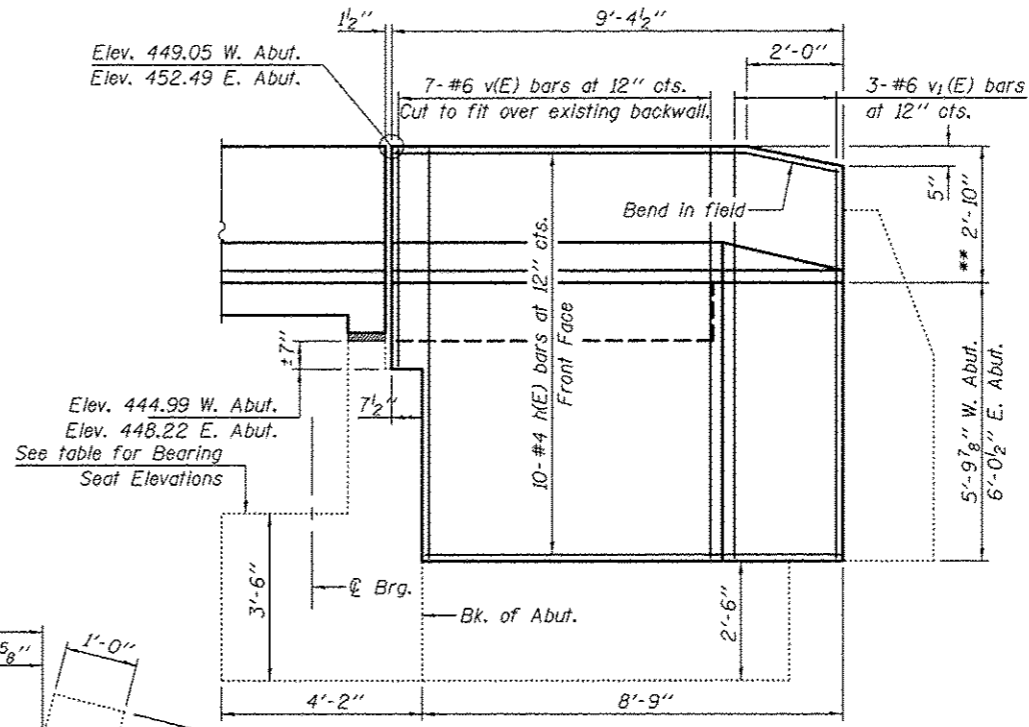
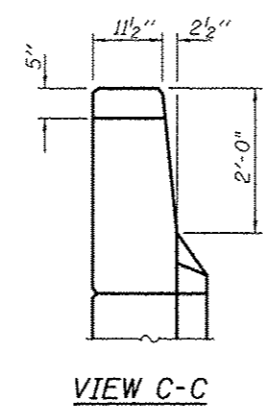
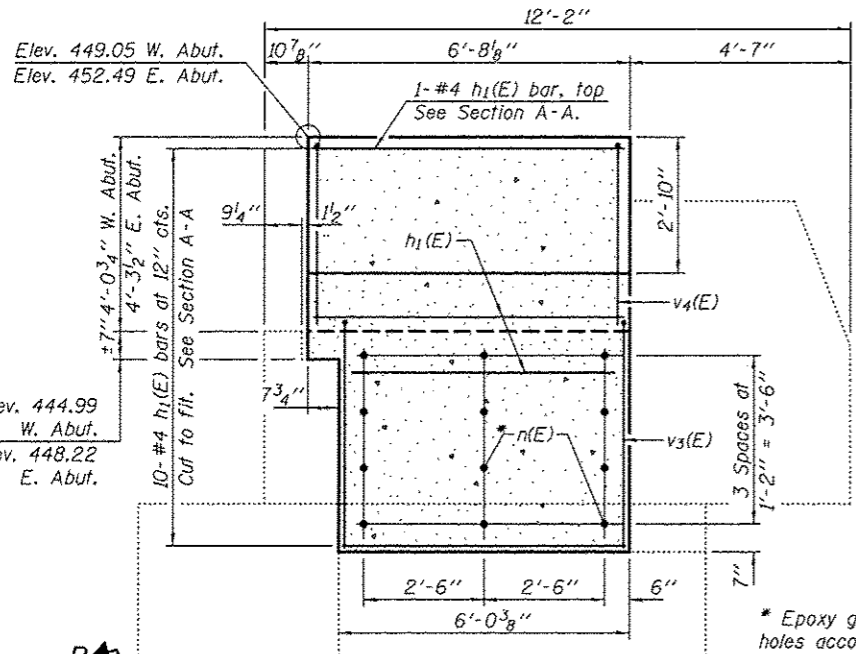
DESIGNED - ZACHARY BULVA	EXAMINED - <i>James F. Jaffe</i>	DATE - October 3, 2016
CHECKED - PAUL JOHNSON	PASSED - <i>Paul Johnson</i>	REVISED -
DRAWN - J. Schneller	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - Z.T.B. / P.S.J.		

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

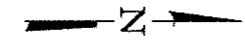
**ABUTMENT CONCRETE REMOVAL
SN 041-0054**

SHEET NO. 17 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	41BR-1	JEFFERSON	26	260
			CONTRACT NO. 78365	
ILLINOIS FED. AID PROJECT				

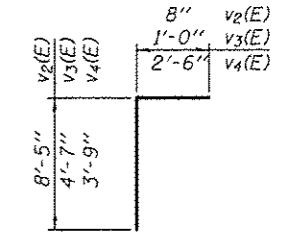
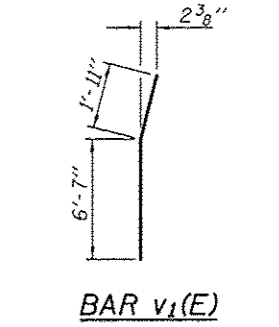
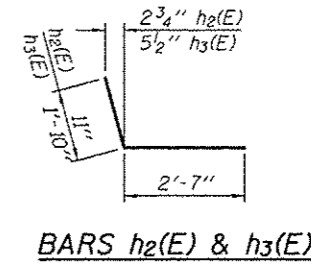


* Epoxy grout n(E) bars in 9" min. holes according to Article 584 of the Standard Specifications.



BEARING SEAT ELEVATIONS

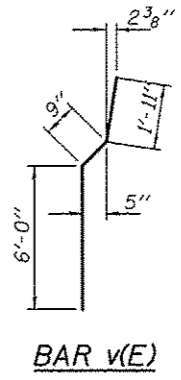
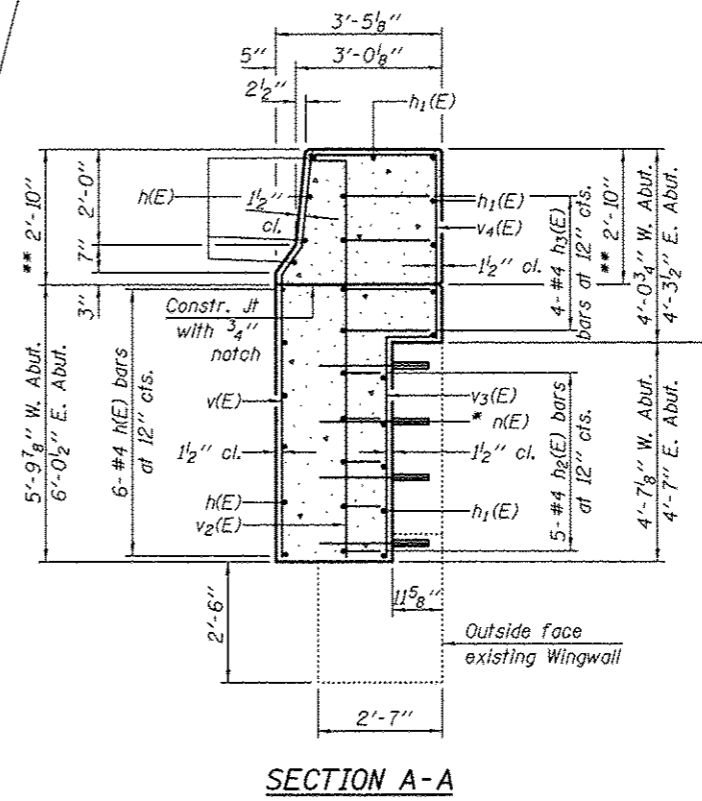
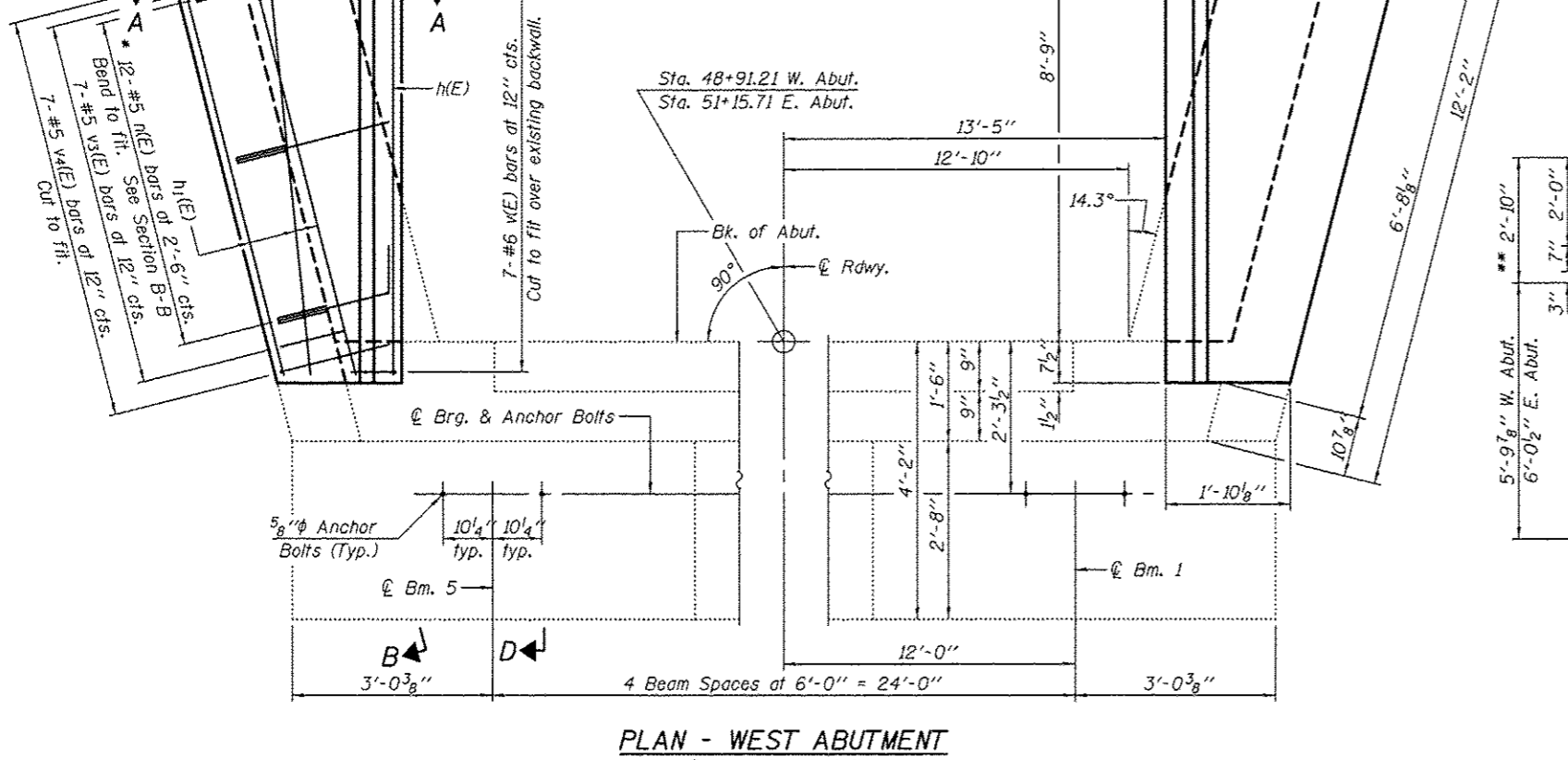
	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5
West Abutment	441.39	441.50	441.50	441.50	441.39
East Abutment	444.63	444.75	444.75	444.75	444.63



TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	40	#4	9'-1"	—
h1(E)	44	#4	6'-5"	—
h2(E)	20	#4	3'-6"	┘
h3(E)	16	#4	4'-5"	┘
n(E)	48	#5	2'-2"	—
v(E)	28	#6	8'-8"	┘
v1(E)	12	#6	8'-6"	┘
v2(E)	12	#6	9'-1"	┘
v3(E)	28	#5	5'-7"	┘
v4(E)	28	#5	6'-3"	┘
Structure Excavation			Cu. Yd.	38
Concrete Structures			Cu. Yd.	14.3
Concrete Superstructure			Cu. Yd.	7.6
Reinforcement Bars, Epoxy Coated			Pound	1,660
Granular Backfill for Structures			Cu. Yd.	23.5

** Quantity of concrete in the 2'-10" end post included with Concrete Superstructure.



DESIGNED - ZACHARY BULVA
 CHECKED - PAUL JOHNSON
 DRAWN - J. Schneller
 CHECKED - Z.T.B. / P.S.J.

EXAMINED
 PASSED
 DATE - October 3, 2016
 REVISIONS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
 SN 041-0054

SHEET NO. 18 OF 19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	418R-1	JEFFERSON	26	26R
CONTRACT NO. 78365			ILLINOIS FED. AID PROJECT	

