01-20-2017 LETTING ITEM 110

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	1
	ILLINOIS	CONTRACT NO. 78274		

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

PROPOSED HIGHWAY PLANS

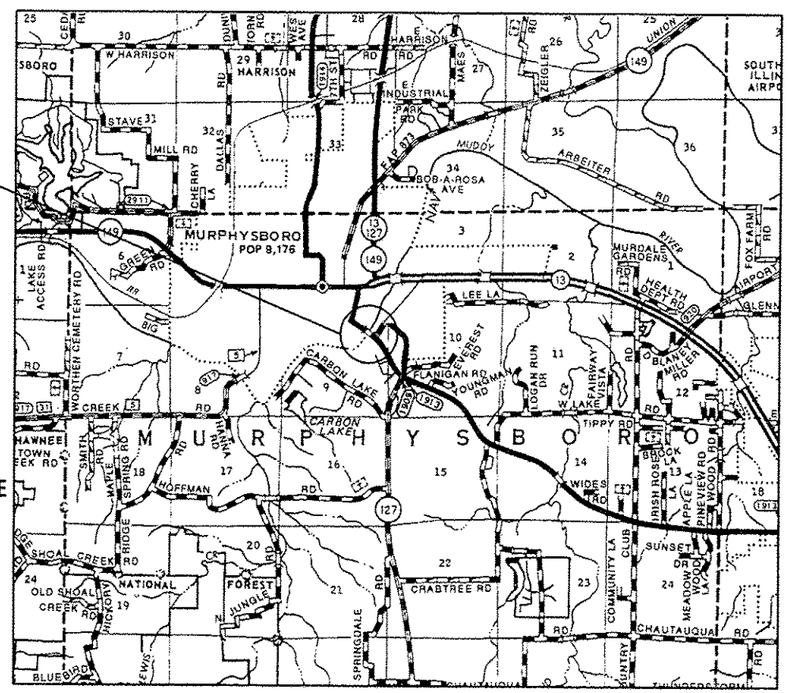
F.A.U. 9669 (RTE. 127)
SECTION (12-2)BR-1
PROJECT ACM-9669(003)
SUPERSTRUCTURE REPLACEMENT
OVER BIG MUDDY RIVER PUBLIC WATERS
JACKSON COUNTY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3–7

FOR STRUCTURAL PAVEMENT DESIGN INFORMATION, SEE SHEET NO. NA.

C–99–062–11



D–99–051–11

LOCATION OF SECTION INDICATED THUS: –

DESIGN DESIGNATION : NA.

COORDINATE SYSTEM : ILLINOIS COORDINATE SYSTEM, WEST ZONE

POSTED SPEED : 40 MPH

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

PROJECT ENGINEER: DAVID PICHE
PROJECT DESIGNER: T. WAYNE HALSTEAD & BILL PORTER

CONTRACT NO. 78274

GROSS LENGTH = 458.00 FT. = 0.867 MILES
NET LENGTH = 458.00 FT. = 0.867 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

SUBMITTED Oct 17 20 16

Jeffrey L Keirn
REGION FIVE ENGINEER

Dec 9 20 16

Maureen M. Addis, P.E. for
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 9 20 16

DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

COMMITMENTS: SEE SPECIAL PROVISION "PROTECTION AND RELOCATION OF MONITORING EQUIPMENT"

THERE IS AN AGREEMENT IN PLACE WITH THE CITY OF MURPHYSBORO COVERING MAINTENANCE OF WILLIAMS STREET DURING THE BRIDGE CLOSURE. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR ANY MAINTENANCE ON WILLIAMS STREET.

MIX REQUIREMENTS

Locations	Hot-Mix Asphalt Surface Course
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix E, N70, Fine Graded
AC/PG:	PG64-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 70 Gyration Design
Mixture Composition: (Gradation Mixture)	IL-9.5 mm Fine Graded
Friction Aggregate:	E Surface
Quality Management Program:	QCQA

Locations	Hot-Mix Asphalt Shoulders (Top Lift)
Mixture Use(s):	Hot-Mix Asphalt Shoulders, 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:	QCQA

Locations	Hot-Mix Asphalt Shoulders (Lower Lifts)
Mixture Use(s):	Hot-Mix Asphalt Shoulders, 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:	QCQA

STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420401-12	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
515001-03	NAME PLATE FOR BRIDGES
630001-11	STEEL PLATE BEAM GUARDRAIL
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-07	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-15	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5M) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5M) TO 24'' (600MM) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45MPH
701901-06	TRAFFIC CONTROL DEVICES
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
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON THE RURAL LOCAL HIGHWAYS

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.
ON HMA LIFTS	0.025 LB./SQ. FT.
(PRIME COAT)	
AGGREGATE BASES	0.25 LB./SQ. FT.
RIPRAP	1.50 TONS/CU. YD.
ALL AGGREGATE	110 LBS/CU. FT.

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.

TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.

EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.

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.

THE EXISTING INLETS IN THE WEST APPROACH ARE TO HAVE THE BOXES REMOVED AND FILLED WITH CA 7, THE PIPES ARE TO BE FILLED WITH CONCRETE. THE FILLING OF THE PIPES AND PLACEMENT OF THE CA 7 ARE TO BE INCLUDED IN THE PAY ITEM "REMOVING INLETS."

NO EQUIPMENT OR MATERIAL STORAGE WILL BE ALLOWED OUTSIDE OF THE CONSTRUCTION LIMITS. IF THE CONTRACTOR CHOOSES TO WORK OUTSIDE THE CONSTRUCTION LIMITS, IT IS THEIR RESPONSIBILITY TO OBTAIN THE PROPER CLEARANCES/PERMITS FROM THE APPLICABLE RESOURCE AGENCIES.

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 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.

THE PROPOSED TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL) LOCATED IN THE NORTH EAST QUADRANT, WILL HAVE THE SINGLE 12.5' SECTION OF W-BEAM DELETED. THE TOTAL LENGTH OF THE PROPOSED TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL) SHALL BE 31.25'.

Prepared By: _____ 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

FILE NAME = | USER NAME = | DESIGNED - | REVISED -
PLOT SCALE = | PLOT DATE = | DRAWN - | REVISED -
| | CHECKED - | REVISED -
| | DATE - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, GENERAL NOTES
STANDARDS, & MIX REQUIREMENTS

SCALE: | SHEET OF SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	2

CONTRACT NO. 78274
ILLINOIS FED. AID PROJECT

SUMMARY OF QUANTITIES

URBAN

JACKSON COUTNY
SN 039-0036 ON IL 127 (RURAL)
80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
20101400	NITROGEN FERTILIZER NUTRIENT	POUND	23
20101500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
20101600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
20200100	EARTH EXCAVATION	CU YD	87
25000200	SEEDING, CLASS 2	ACRE	0.25
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.5
25100630	EROSION CONTROL BLANKET	SQ YD	91
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
28000400	PERIMETER EROSION BARRIER	FOOT	519
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	320
40603365	HOT-MIX ASPHALT SURFACE COURSE, MIX "E", N70	TON	249
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	129

12

FILE NAME = pw:\\IL084EDIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\[redacted]\Design\78274-Design.dgn	USER NAME = helstendw	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	3
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES - CONT

URBAN

JACKSON COUTNY
SN 039-0036 ON IL 127 (RURAL)
80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	309
44000100	PAVEMENT REMOVAL	SQ YD	278
44000600	SIDEWALK REMOVAL	SQ FT	715
44004250	PAVED SHOULDER REMOVAL	SQ YD	44
48101600	AGGREGATE SHOULDERS, TYPE B 8"	SQ YD	38
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	55
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	87
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1
50102400	CONCRETE REMOVAL	CU YD	4.4
50300100	FLOOR DRAINS	EACH	18
50300225	CONCRETE STRUCTURES	CU YD	24.4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	108.5
50300260	BRIDGE DECK GROOVING	SQ YD	217

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274-Design\Design\78274-Design.dgn	USER NAME = halstesdte	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	4
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES - CONT

URBAN

JACKSON COUTNY
SN 039-0036 ON IL 127 (RURAL)
80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE 0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
50300300	PROTECTIVE COAT	SQ YD	625
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	126.3
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	6380
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	4932
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2925
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	57,890
50900105	ALUMINUM RAILING, TYPE L	FOOT	366
50901050	STEEL RAILING, TYPE SM	FOOT	426
51500100	NAME PLATES	EACH	1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	200
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	1362
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	4380

12

FILE NAME = pw:\\ILB84EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274-D2KKN\to\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	5
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES - CONT

URBAN

JACKSON COUTNY
SN 039-0036 ON IL 127 (RURAL)
80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE 0014

	CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
	60500060	REMOVING INLETS	EACH	2
*	63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	100
*	63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	1
*	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	2
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
*	63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	3
	63200310	GUARDRAIL REMOVAL	FOOT	483
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3
	67100100	MOBILIZATION	LSUM	1
	70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

* SPECIALTY ITEM

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274-ORACLE\Data\Design\78274-Design.dgn	USER NAME = halsteadw	DESIGNED -	REVISED -
			REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	6

CONTRACT NO. 78274

ILLINOIS FED. AID PROJECT

SUMMARY OF QUANTITIES - CONT

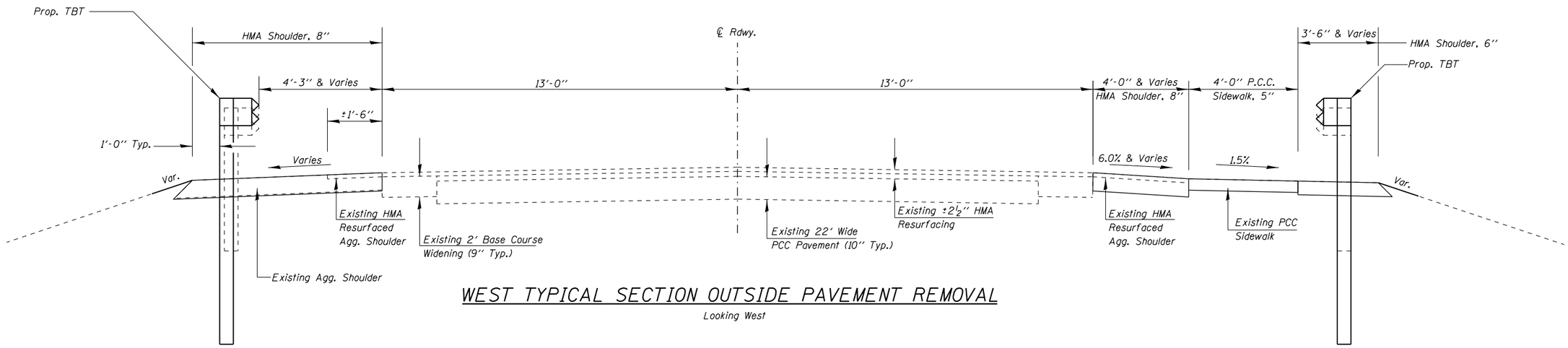
URBAN

JACKSON COUTNY
SN 039-0036 ON IL 127 (RURAL)
80% FEDERAL 20% STATE
CONSTRUCTION TYPE CODE 0014

	CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2168
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	5
*	78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	10
*	X6310214	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH	1
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1
	X7011830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	EACH	1
	Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	180
	Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	199
ϕ	Z0076600	TRAINEES	HOUR	500
ϕ	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500

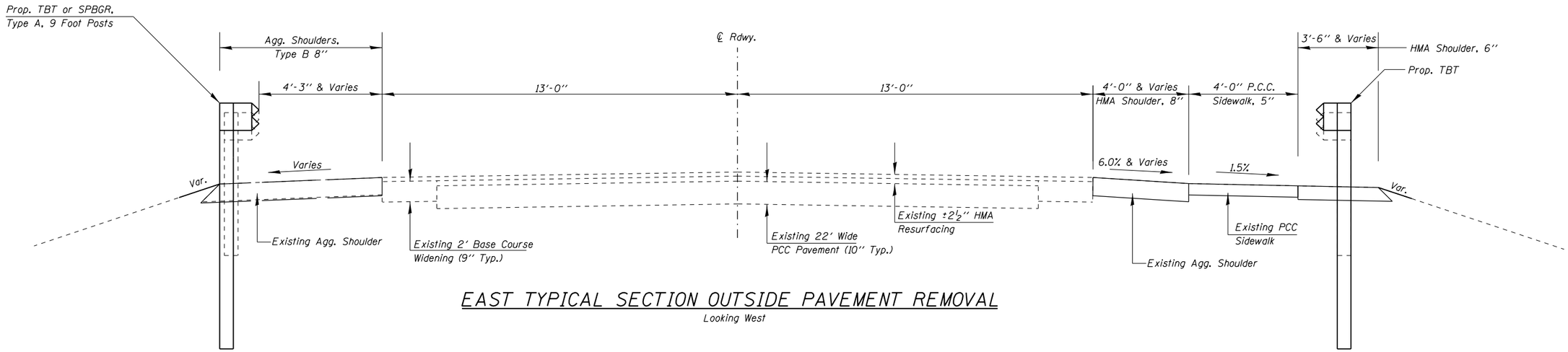
* SPECIALTY ITEM

FILE NAME = pw:\\ILB84EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274-Design\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -		SCALE:	SHEET OF SHEETS	STA.	TO STA.	9669	(12-2)BR-1	JACKSON	41	7
Default	PLOT DATE = 10/10/2016	DATE -	REVISED -								CONTRACT NO. 78274		
										ILLINOIS	FED. AID PROJECT		



WEST TYPICAL SECTION OUTSIDE PAVEMENT REMOVAL

Looking West



EAST TYPICAL SECTION OUTSIDE PAVEMENT REMOVAL

Looking West

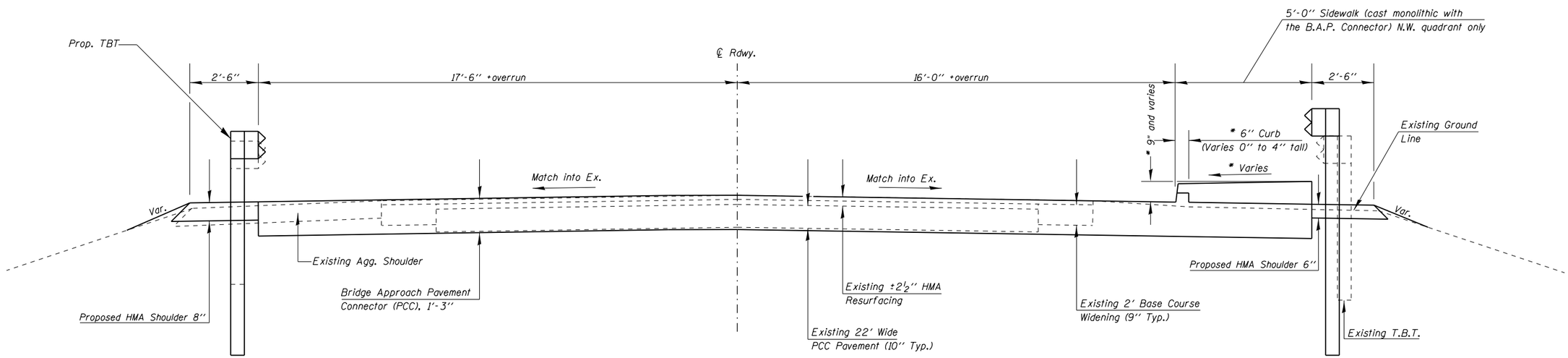
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\TWH74-Design.dgn	USER NAME = halsteadtw	DESIGNED - TWH	REVISED -
		DRAWN - TWH	REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED - WCP	REVISED -
	PLOT DATE = 10/18/2016	DATE - 9/15/16	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

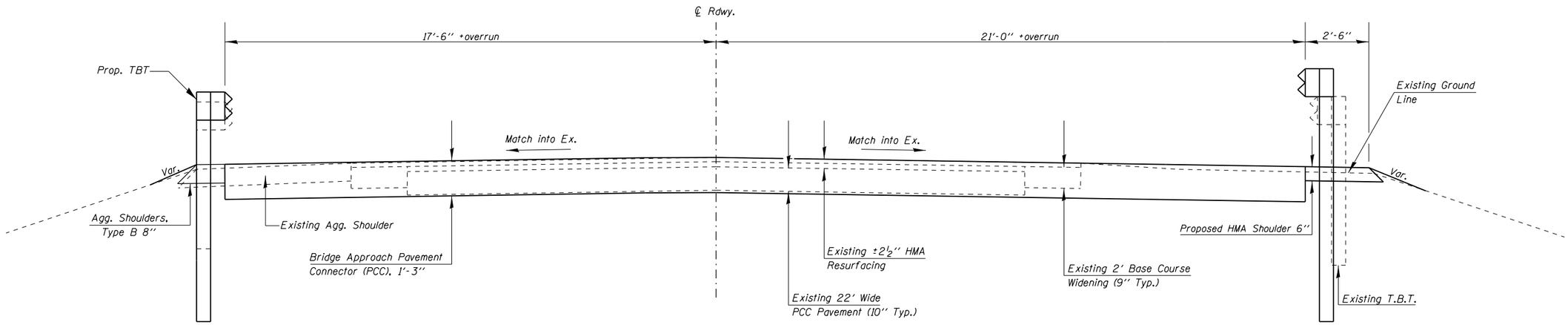
SCALE: 2 | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	8
		CONTRACT NO. 78274		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



WEST TYPICAL CONNECTOR SECTION

Looking West



EAST TYPICAL CONNECTOR SECTION

Looking West

Note:

* Transition sidewalk height and slope through a 10' section of B.A.P. Connector (N.W. quadrant only). Max. horizontal slope = 8.33%.

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED - TWH	REVISED -
		DRAWN - TWH	REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED - WCP	REVISED -
	PLOT DATE = 10/18/2016	DATE - 9/15/16	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL CONNECTOR SECTION

SCALE: 2 | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	9
		CONTRACT NO. 78274		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EROSION CONTROL

LOCATION STATION TO STATION	PERIMETER EROSION BARRIER	EROSION CONTROL BLANKET
	FOOT	SQ YD
NE QUAD	82	24
SE QUAD	219	0
NW QUAD	103	28.3
SW QUAD	115	40.7
TOTALS	519	91

SEEDING SCHEDULE

LOCATION STATION TO STATION	TEMPORARY EROSION CONTROL SEEDING	SEEDING CLASS 2	NITROGEN FERTILIZER NUTRIENT	PHOSPHOROUS FERTILIZER NUTIRENT	POTASSIUM FERTILIZER NUTIRENT	AGRICULTURAL GROUND LIMESTONE
	POUND	ACRES	POUND	POUND	POUND	TON
NE QUAD	12.5	0.063	5.625	5.625	5.625	0.125
SE QUAD	12.5	0.063	5.625	5.625	5.625	0.125
NW QUAD	12.5	0.063	5.625	5.625	5.625	0.125
SW QUAD	12.5	0.063	5.625	5.625	5.625	0.125
TOTALS	50	.25	22.5	22.5	22.5	0.5

EARTH WORK SCHEDULE

LOCATION STATION TO STATION	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
308+75 TO 309+67.89	42	25	32	2	+30
SN 039-0036					
313+35.83 TO 314+25	45	25	34	6	+28
TOTALS	87		66	8	+58

REMOVAL SCHEDULE

	LOCATION STATION TO STATION	GUARDRAIL REMOVAL	PAVEMENT REMOVAL	SIDEWALK REMOVAL	REMOVING INLETS	PAVED SHLDR REMOVAL
		FOOT	SQ YD	SQ FT	EACH	SQ YD
*	309+22.83 to 309+67.83		141			
*	313+35.83 to 313+80.83		137			
	313+45.83 to 314+21.83 (R)					29
	313+45.83 to 314+21.83 (L)					15
	NE QUAD	115		342		
	SE QUAD	213				
	NW QUAD	40		373	1	
	SW QUAD	115			1	
	TOTALS	483	278	715	2	44

* INCLUDES EXISTING APPROACH SHOULDER PAVEMENTS AND EXISTING BRIDGE APPROACH PAVEMENTS, APPROXIMATE THICKNESS ±15''

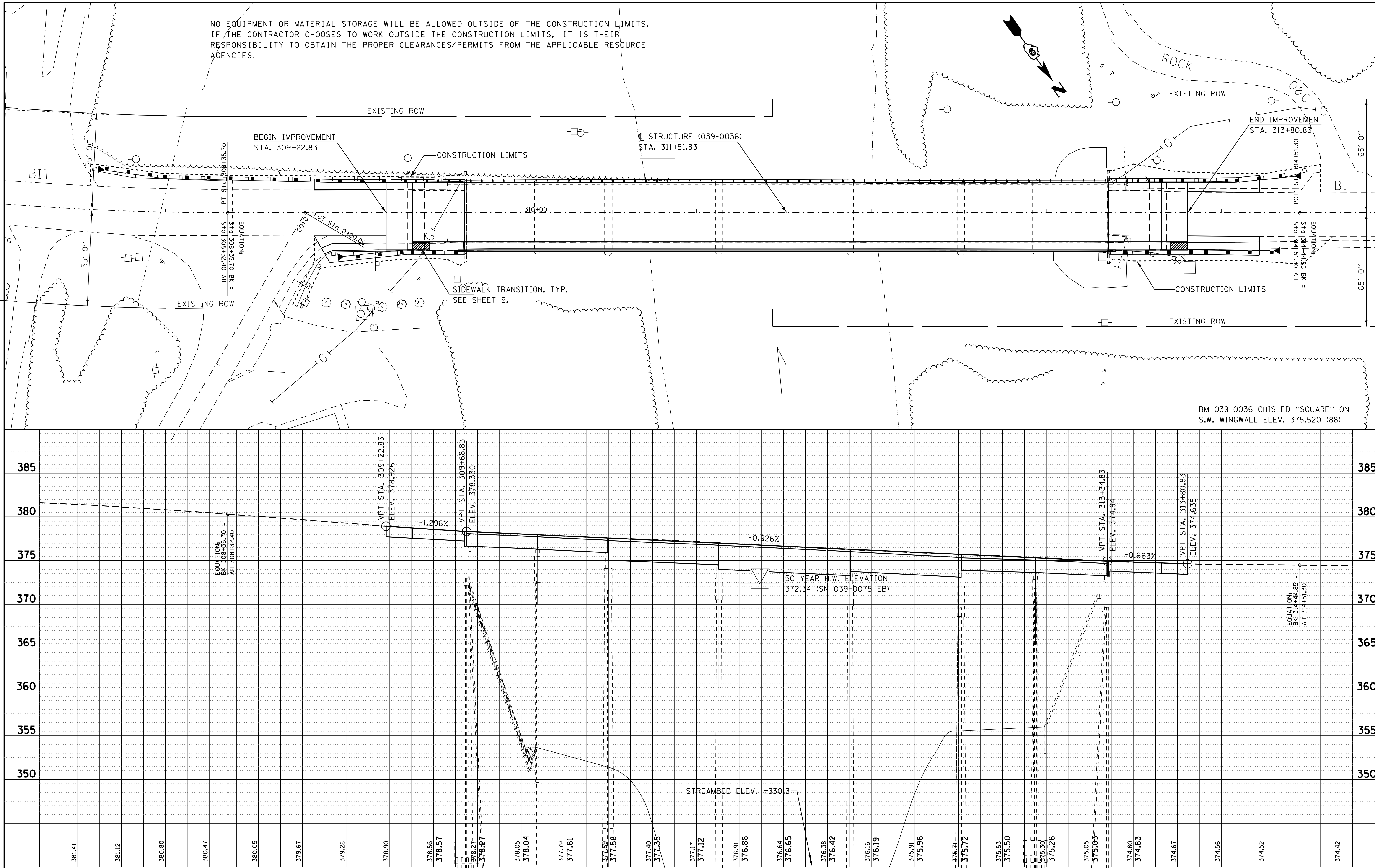
FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -
pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 '/ in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	10
		CONTRACT NO. 78274		
	ILLINOIS	FED. AID PROJECT		



PLAN	NOTE BOOK	NO.
SURVEYED	PLOTTED	ALIGNMENT CHECKED
RT. OF WAY CHECKED	CADD FILE NAME	
BY	DATE	

PROFILE	NOTE BOOK	NO.
SURVEYED	PLOTTED	GRADES CHECKED
B.M. NOTED	STRUCTURE NOTAT'NS CH'KD	
BY	DATE	

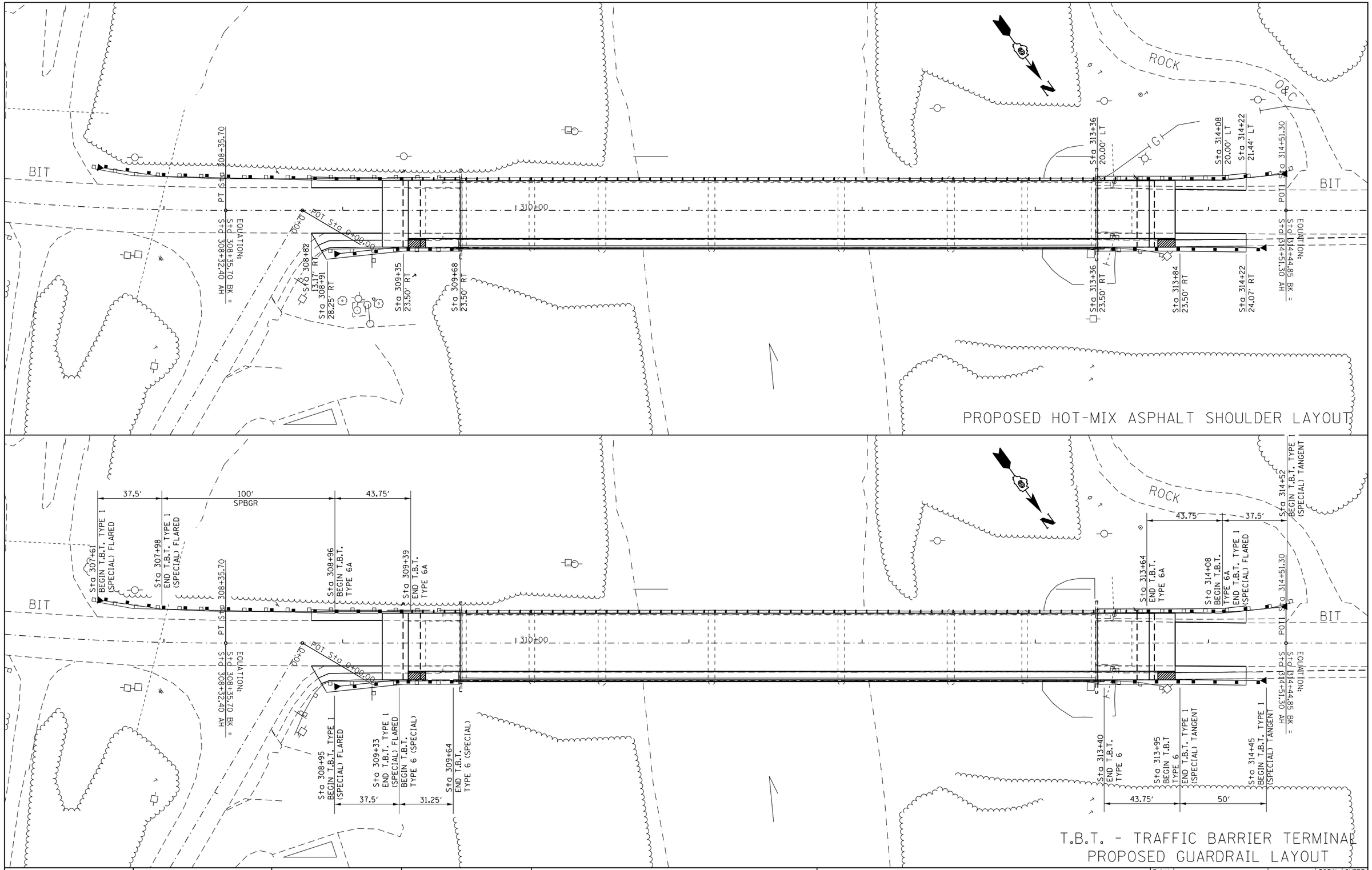
FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -
pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\CADD Data\Design\78274-Design.dgn		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
SN 039-0036

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	11
		CONTRACT NO. 78274		
	ILLINOIS	FED. AID PROJECT		



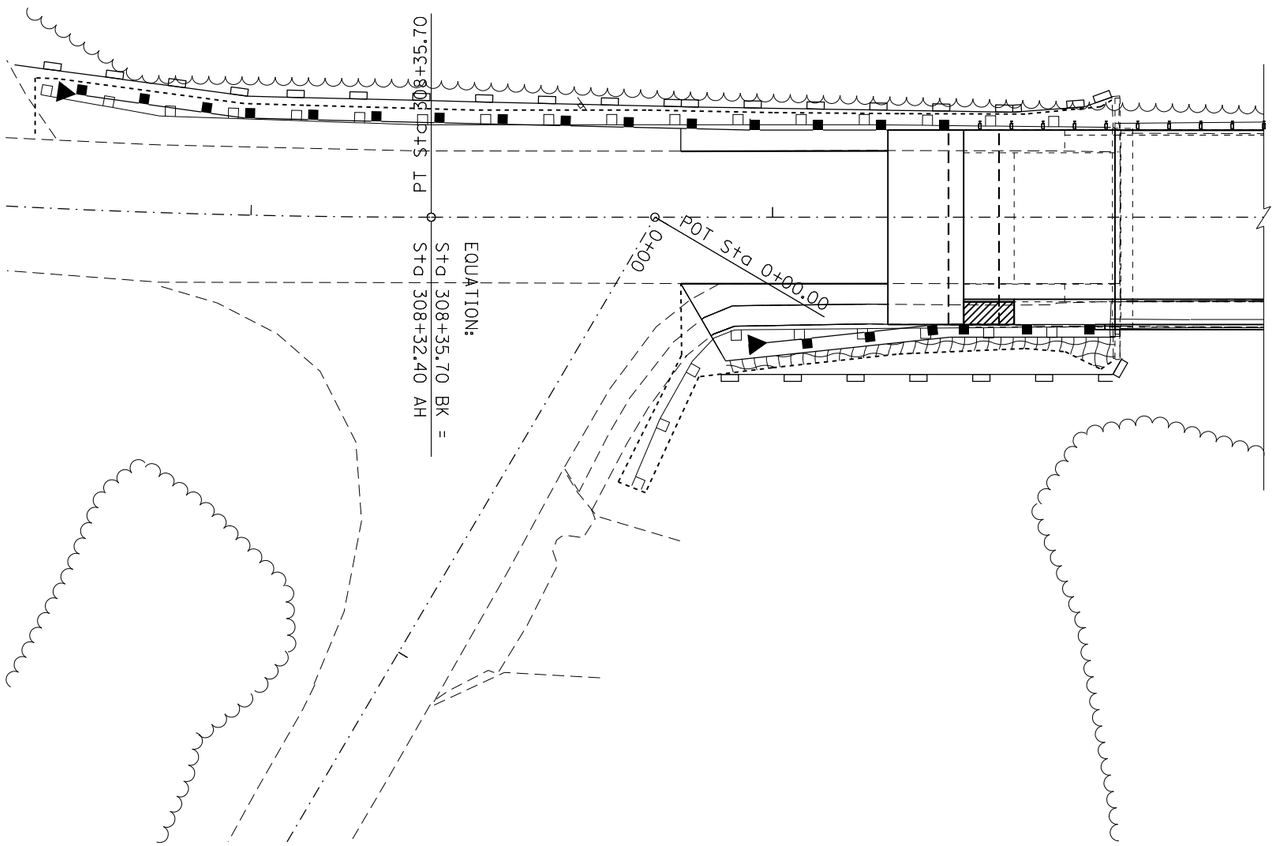
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
	PLOT SCALE = 50.0000 ' / in.	DRAWN -	REVISED -
	PLOT DATE = 10/18/2016	CHECKED -	REVISED -
Default		DATE -	REVISED -

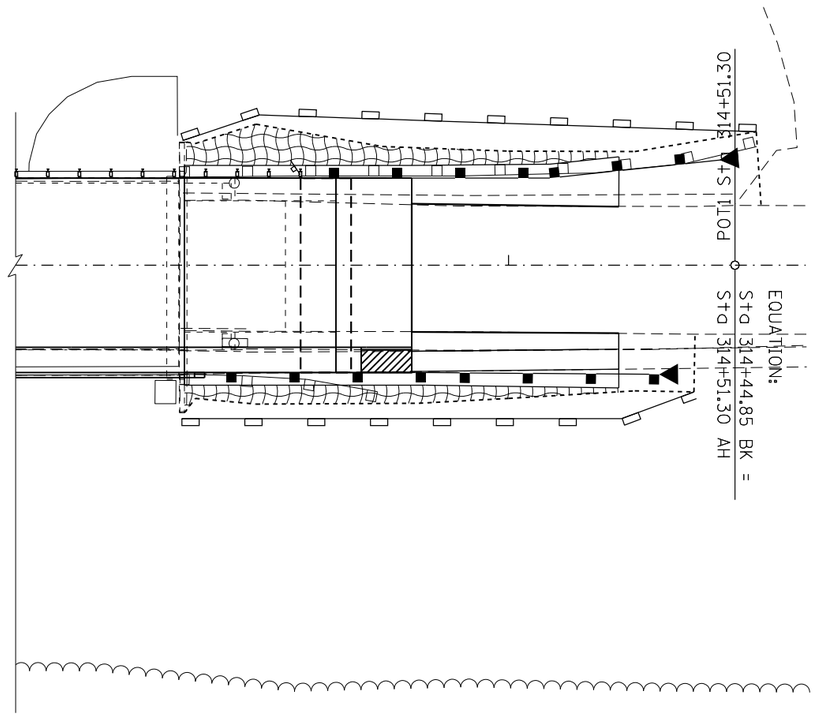
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

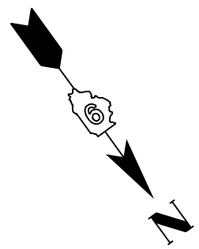
GUARDRAIL, TERMINALS, & SHOULDER LAYOUT

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	12
		CONTRACT NO. 78274		
	ILLINOIS	FED. AID PROJECT		







EROSION CONTROL BLANKET

PERIMETER EROSION BARRIER

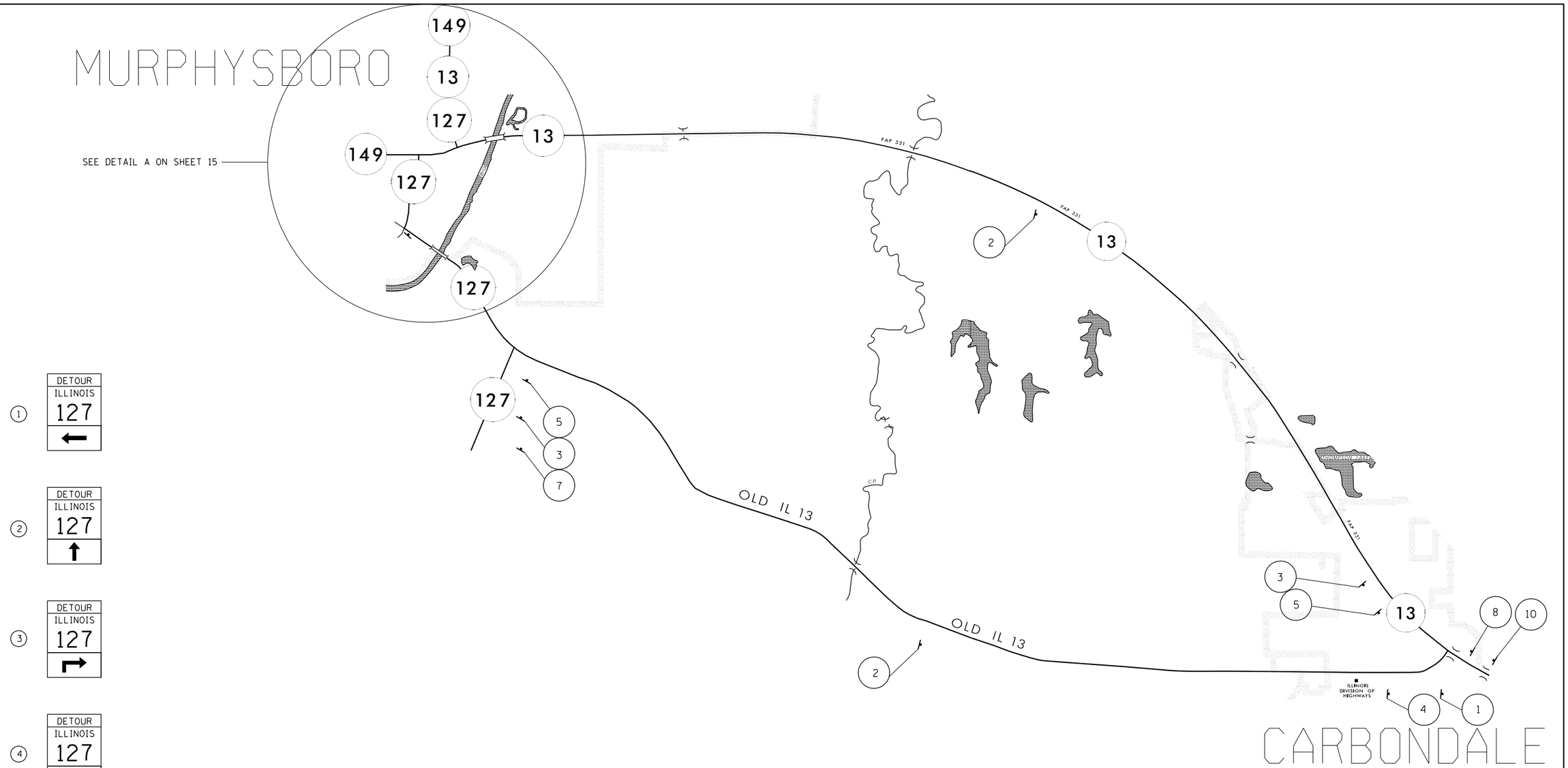
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	13
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



① DETOUR ILLINOIS 127 ←

② DETOUR ILLINOIS 127 ↑

③ DETOUR ILLINOIS 127 →

④ DETOUR ILLINOIS 127 ↰

⑤ DETOUR ILLINOIS 127 →

⑥ ROAD CLOSED 1 MILE AHEAD

⑦ DETOUR AHEAD

⑧ DETOUR SOUTH ILLINOIS 127 ←

⑨ DETOUR SOUTH ILLINOIS 127 ↑

⑩ DETOUR SOUTH ILLINOIS 127 ↰

⑪ DETOUR SOUTH ILLINOIS 127 →

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Drawings\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
			REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

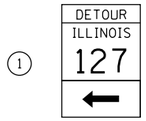
DETOUR SIGNING

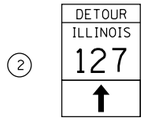
SCALE: | SHEET OF SHEETS | STA. | TO STA.

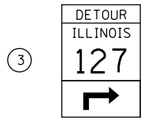
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	14
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

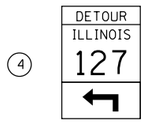
NOTES:

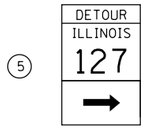
1. THE CONTRACTOR HAS THE OPTION OF USING METAL POSTS INSTEAD OF WOOD.
2. ALL SIGNS SHALL BE BLACK ON ORANGE. THE POSTS SHALL BE PLACED 12 FEET FROM THE EDGE OF PAVEMENT AS DIRECTED BY THE ENGINEER.
3. ALL SIGN HARDWARE REQUIRED TO INSTALL THE ALTERNATE ROUTE SIGNING SHALL BE INCLUDED IN COST OF TRAFFIC CONTROL SPECIAL.
4. SIGNS SHALL BE REMOVED ON COMPLETION OF THE CONTRACT AT THE DIRECTION OF THE ENGINEER. THIS WORK SHALL BE COMPLETED ACCORDING TO SECTION 724 OF THE STANDARD SPECIFICATIONS. THIS WORK WILL NOT BE PAID FOR. THE SIGNS AND POSTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
5. EXACT SIGN PLACEMENT WILL BE DETERMINED BY THE ENGINEER.
6. THE DISTRICT 9 OPERATIONS ENGINEER SHALL BE CONTACTED 10 DAYS PRIOR TO THE ERECTION OF SIGNS.

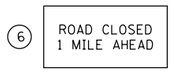


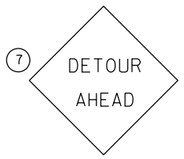


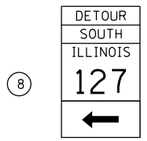


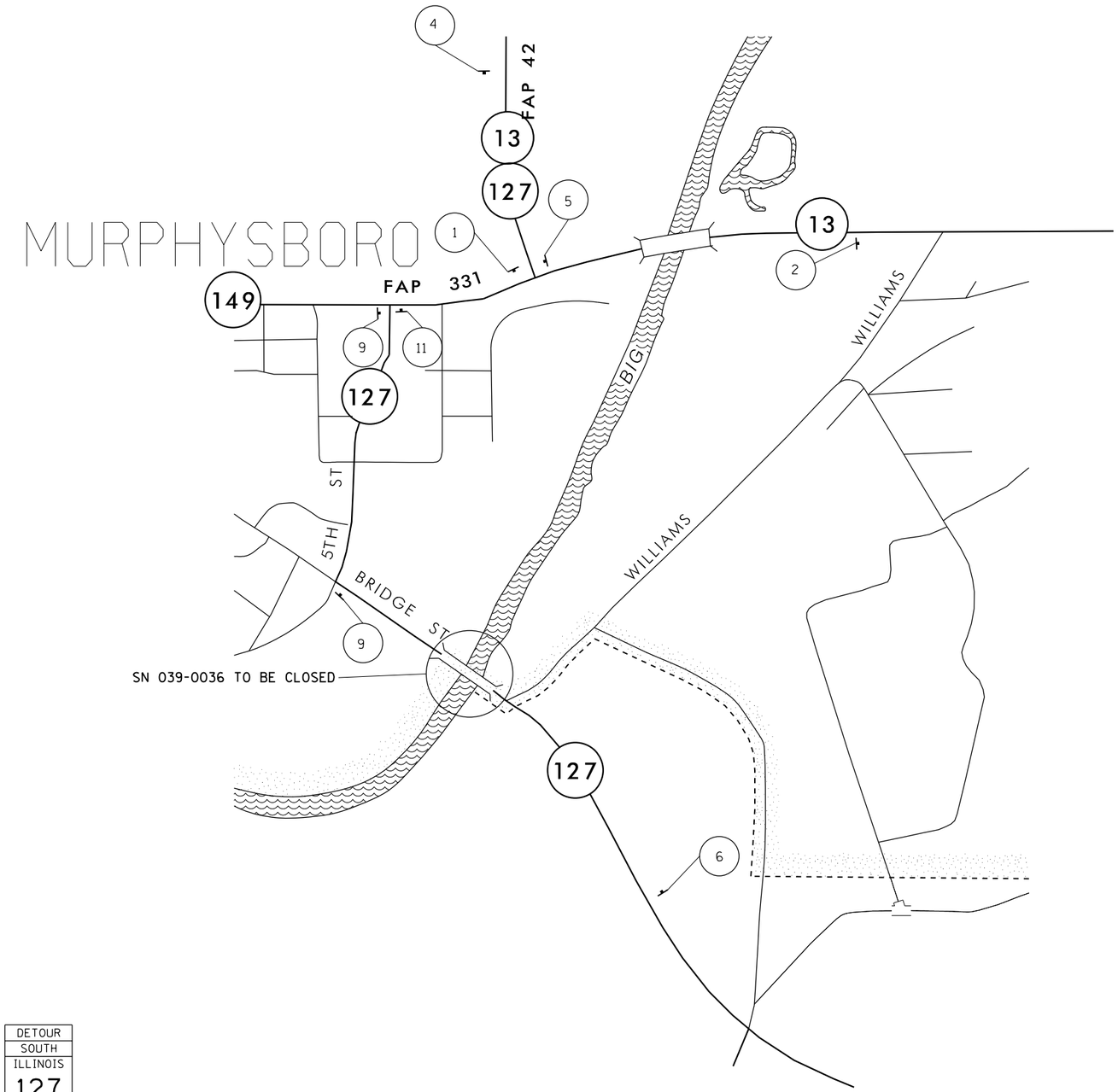












DETAIL A

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn Default	USER NAME = halsteadtw	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/18/2016	DATE -	REVISED -

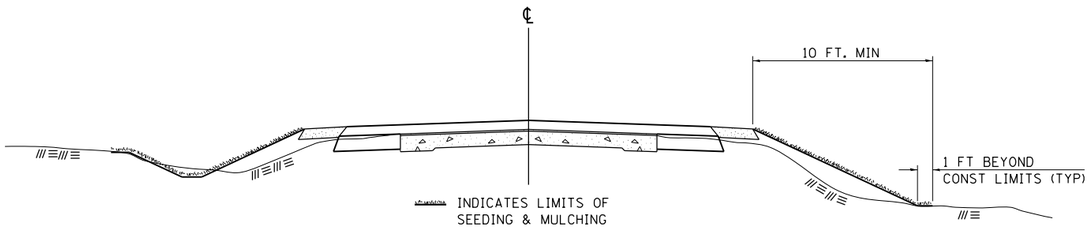
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETOUR SIGNING

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	15
		CONTRACT NO. 78274		
	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.

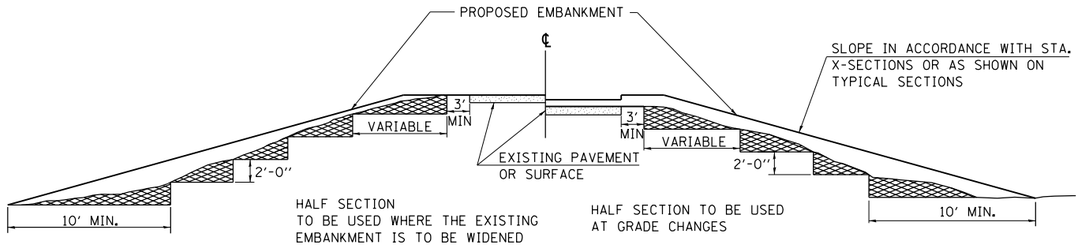
SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

STD. 9-12

REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08
REVISED	5-16-13

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
REVIEWED	5-17-13

STD. 9-16

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\Data\Design\78274-Design.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT STANDARDS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	16

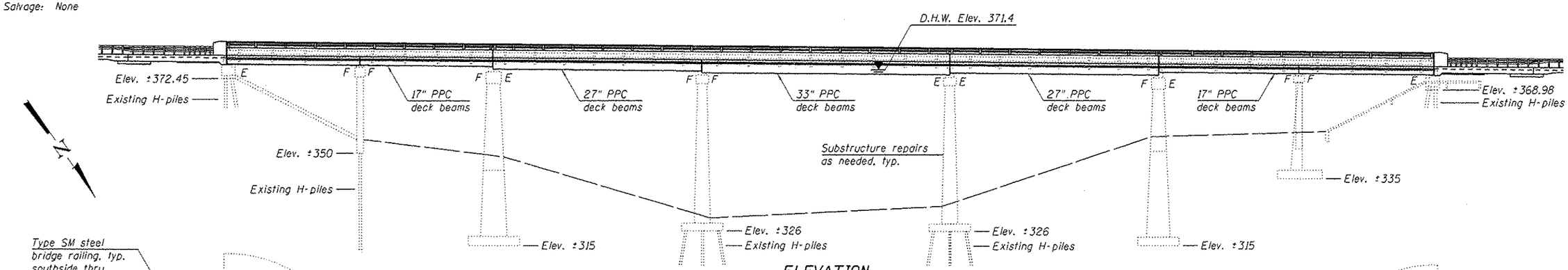
CONTRACT NO. 78274

ILLINOIS FED. AID PROJECT

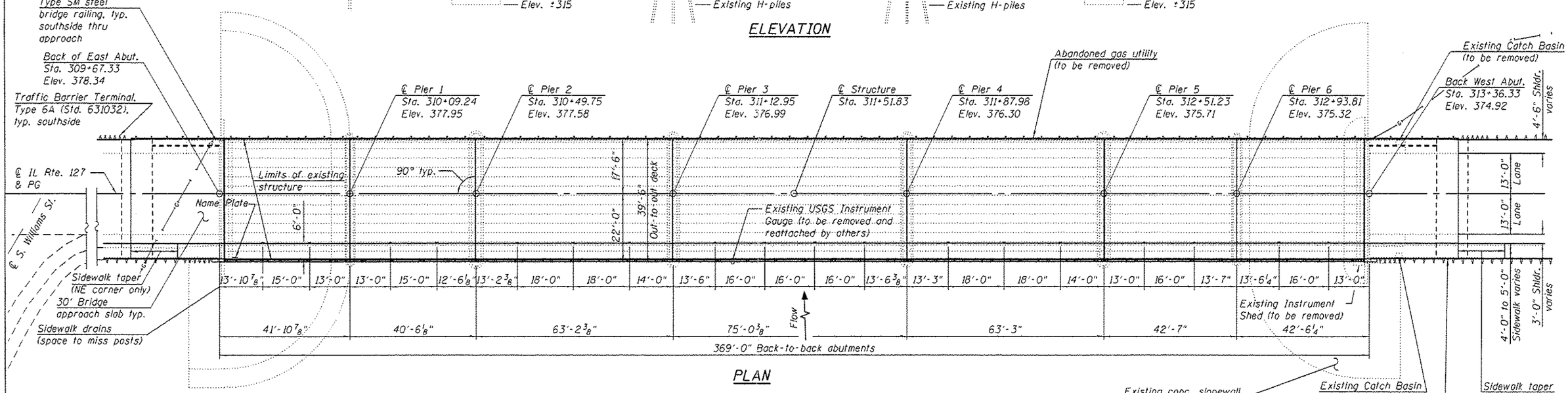
Benchmark: Chiseled "□" on top of Southwest wingwall: Elev. 375.52 (NAVD88).

Existing Structure: S.N. 039-0036 built in 1925 as S.B.I. 13, Section 12C-E at Sta. 310+55.00 as a 3 Simple Spans: 80'-0" pony truss; 200'-0" thru truss; and 42'-0" T-girder span. Rehabilitation in 1955, added new West abutment and replaced T-girder with 2-span wide flange. Rehabilitation in 1985 to a 7 span PPC deck beam bridge. Back-to-back of abutment length is 369'-0" supported on steel H-piles. Existing piers 2, 5 and 6 are supported on spread footings, and piers 1, 3, and 4 are supported on steel H-piles. The existing superstructure is to be removed and replaced. Traffic is to be detoured during construction.

Salvage: None



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 Interims
1995 FHWA Seismic Retrofitting Manual for Highway Bridges

DESIGN STRESSES

FIELD UNITS (NEW CONST.)

f'c = 4,000 psi (Sidewalk)
fy = 60,000 psi (Reinforcement)

FIELD UNITS (Existing CONST.)

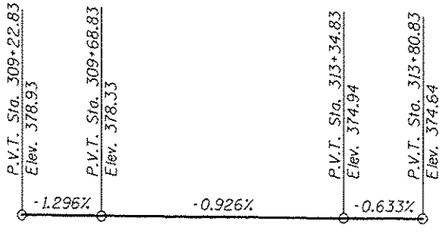
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½" ϕ low lax strands)
fpbt = 201,960 psi (½" ϕ low lax strands)

DAVID CARL PUZEY 081-005470 SPRINGFIELD ILLINOIS — LICENSED STRUCTURAL ENGINEER — STATE OF ILLINOIS

EXPIRES 11-30-2018

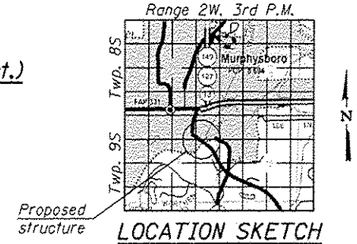


PROFILE GRADE
(Along IL Rte. 127)

LOADING HL-93
LOADING HS-20-44 (Existing Const.)
Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coeffecient (A) = 0.13g
Site Coeffecient (S) = 1.5
(Standard Bridge Importance)



LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 127 OVER
BIG MUDDY RIVER (PUBLIC WATERS)
F.A.U. RTE. 9669 - SEC. (12-2)BR-1
JACKSON COUNTY
STATION 311+51.83
STRUCTURE NO. 039-0036

$TIMES
$DATE$

DESIGNED - Gary P. Rutherford	EXAMINED		DATE - 12/9/2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION STRUCTURE NO. 039-0036
CHECKED - Rafael Alvarado Vaguez	PASSED				SHEET NO. 1 OF 21 SHEETS
DRAWN - R. Laughlin		ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - CDK/JMM/GRA		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	17
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		

WATERWAY INFORMATION

Existing Low Grade Elev. = 374.1 @ Sta. 317+65
Drainage Area = 2,160.0 sq. mi. Proposed Low Grade Elev. = 374.1 @ Sta. 317+65

Flood	Freq. Year	Discharge C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft.³ Exist.	Head - Ft.³ Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	26,344	6,375	6,375	366.2	0.1	0.1	366.3	366.3
Design	50	38,509	8,070	8,070	371.4	0.2	0.2	371.6	371.6
Base / OT	100	43,714	8,770	8,770	373.8	0.3	0.3	374.1	374.1
Scour	200	48,855	8,910	8,910	375.2	0.4	0.4	375.6	375.6
Max. Calc.	500	55,669	8,965	8,965	377.1	0.2	0.2	377.3	377.3

10 year velocity through existing bridge = 4.1 fps
10 year velocity through propsed bridge = 4.1 fps

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) E. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	W. Abut.	* Item 113
Q100	372.45	328.50	323.30	311.00	311.50	329.30	330.60	368.98	
Q200	372.45	325.50	320.30	310.60	311.10	326.30	327.60	368.98	3
Design	372.45	349.95	344.70	326.25	326.26	350.37	351.14	368.98	

* Scour to be monitored (scour countermeasure to be performed under future contract).

STATION 311+51.83
BUILT 20 BY
STATE OF ILLINOIS
F.A.U. RT. 9669 SEC. (12-2)BR-1
LOADING HL-93
STRUCTURE NO. 039-0036

NAME PLATE

See Std. 515001
Existing name plate shall be cleaned and relocated next to new name plates. Cost included with Name Plates.

GENERAL NOTES

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.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the IDNR 3704 Floodway Construction permit number allowing permanent construction as shown in the contract plans.

INDEX OF SHEETS

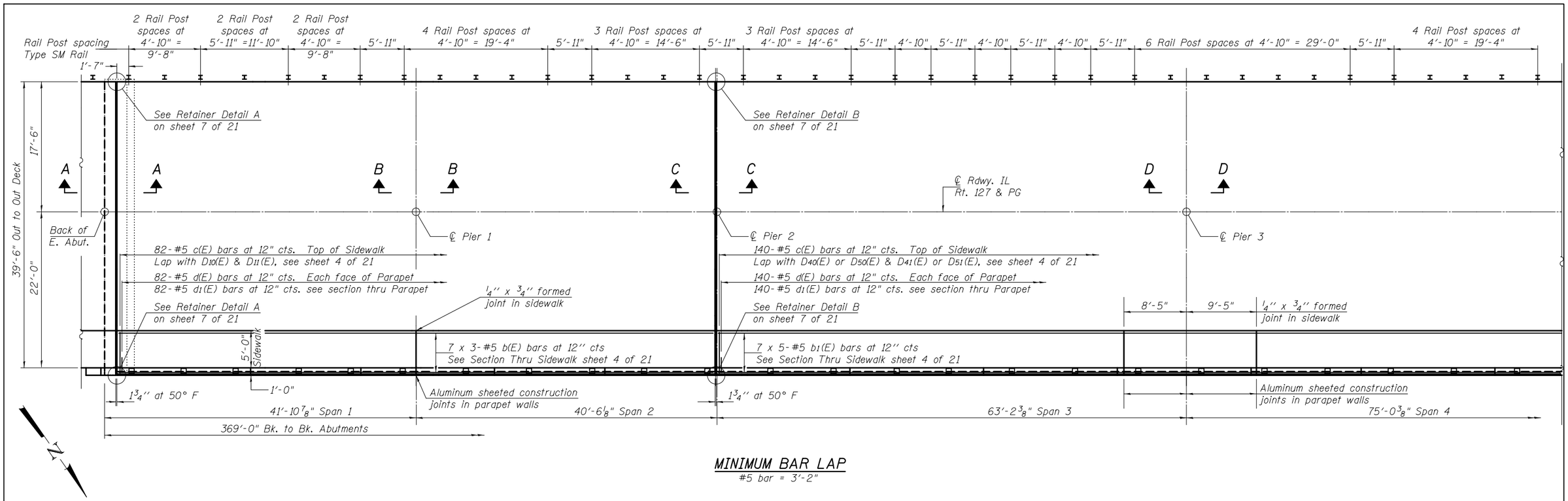
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Bridge Deck Grooving	Sq. Yd.	217		217
Protective Coat	Sq. Yd.	625		625
Concrete Removal	Cu. Yd.		4.4	4.4
Concrete Structures	Cu. Yd.		24.4	24.4
Concrete Superstructures	Cu. Yd.	108.5		108.5
Concrete Superstructure (Approach Slab)	Cu. Yd.	126.3		126.3
Reinforcement Bars, Epoxy Coated	Pound	57,890		57,890
Hot-Mix Asphalt Surface Course, Mix E, N70	Ton	249		249
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	6,380		6,380
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4,932		4,932
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,925		2,925
Asbestos Bearing Pad Removal	Each	180		180
Steel Railing, Type SM	Foot	426		426
Aluminum Railing, Type L	Foot	366		366
Preformed Joint Strip Seal	Foot	199.4		199.4
Waterproofing Membrane System	Sq. Yd.	1,362		1,362
Floor Drains	Each	18		18
Portland Cement Mortar Fairing Course	Foot	4,380		4,380
Name Plates	Each	1		1
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Yd.		198.5	198.5

$TIME$
$DATE$

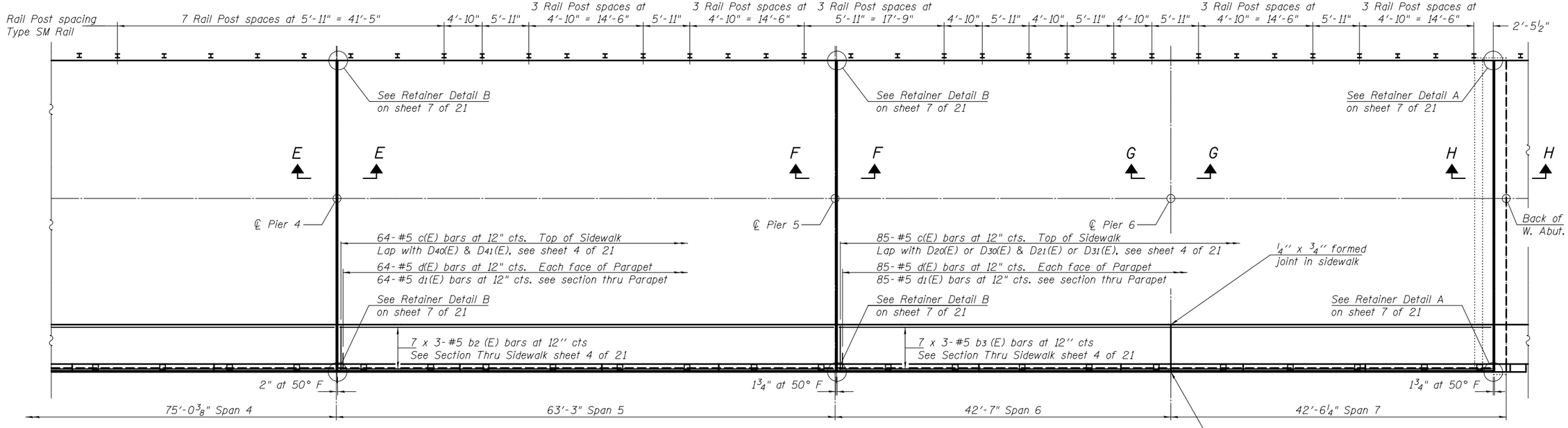
DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 2 OF 21 SHEETS
DRAWN - R. Laughlin J. Schneller		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.					

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	18
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



MINIMUM BAR LAP

#5 bar = 3'-2"

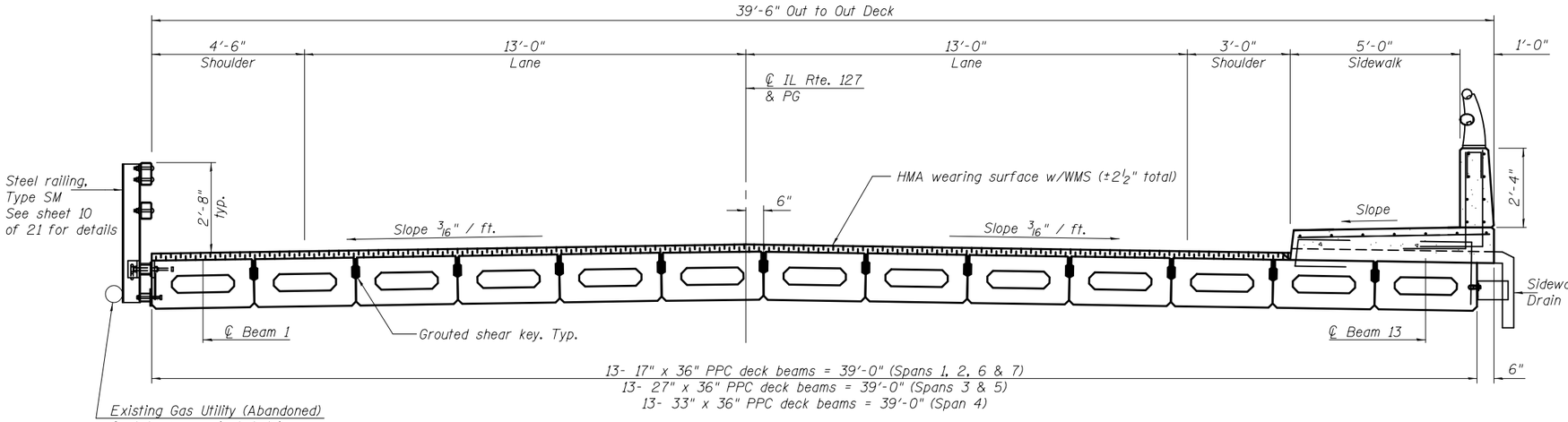


For sections A-A, B-B, C-C, D-D, E-E, F-F, G-G, and H-H see sheet 6 of 21.
See sheet 4 of 21 for superstructure Bill of Material.
Bars indicated thus 7 x 3 - #5 etc. indicates 7 lines of bars with 3 lengths per line.

PLAN

$TIME$
$DATE$

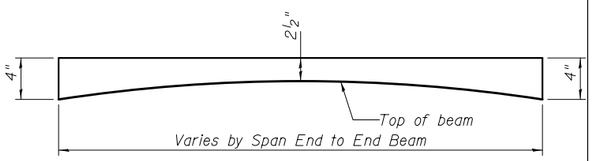
DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE STRUCTURE NO. 039-0036**	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ		ENGINEER OF BRIDGE DESIGN				9669	(12-2)BR-1	JACKSON	41	19
DRAWN - R. Laughlin	PASSED		REVISED		SHEET NO. 3 OF 21 SHEETS			CONTRACT NO. 78274		
CHECKED - C.D.K / V.M.V. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS FED. AID PROJECT		



CROSS SECTION

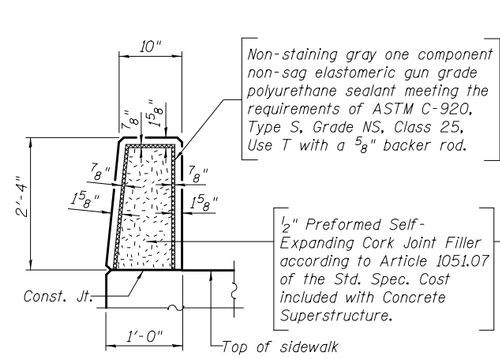
(Looking West)

Notes:
See sheet 5 of 21 for Superstructure Details.
See sheet 1 of 21 for Sidewalk Drain spacing.

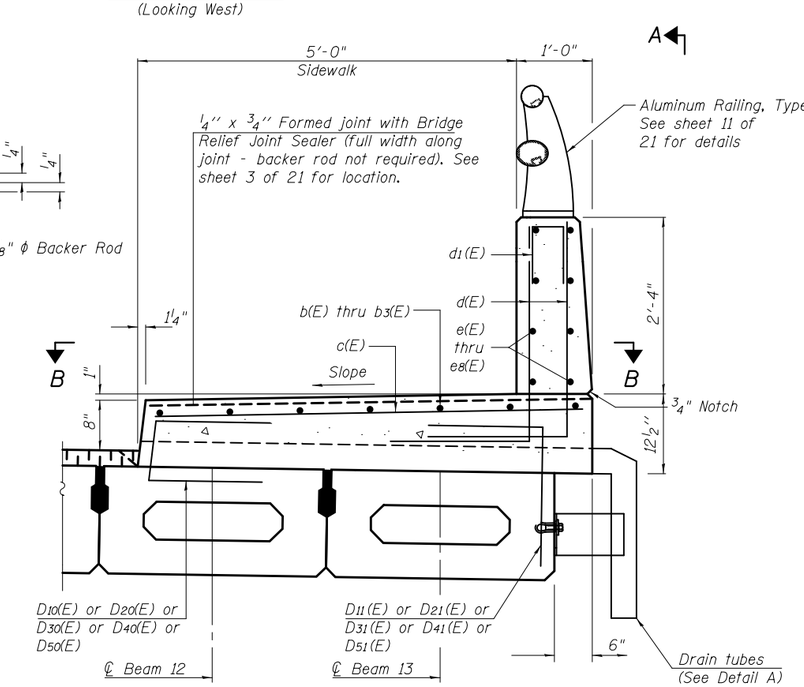


ANTICIPATED HMA WEARING SURFACE PROFILE

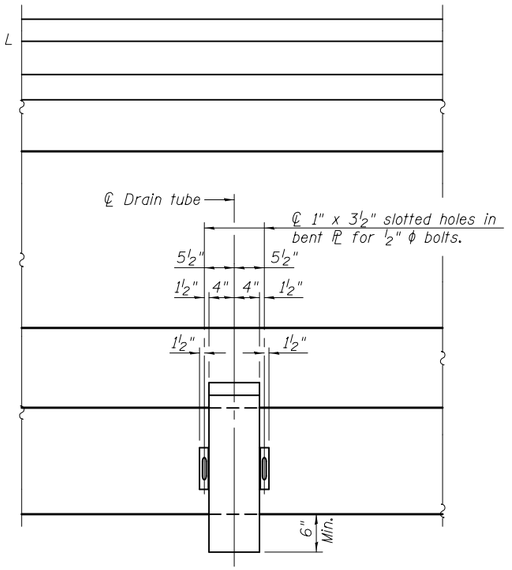
(For information only)



PARAPET JOINT DETAILS

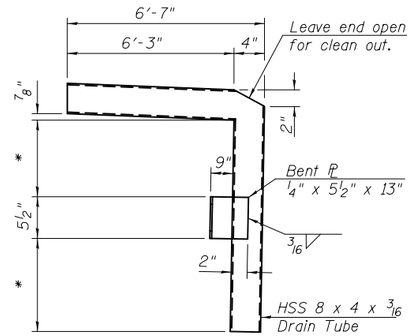


SECTION THRU PARAPET AND SIDEWALK



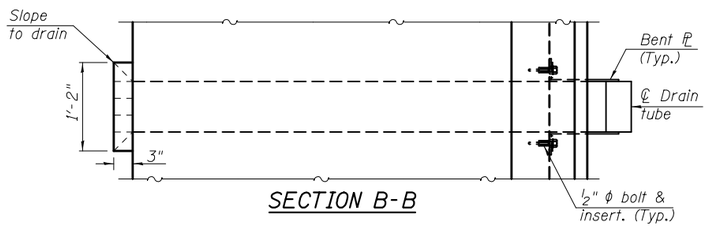
VIEW A-A

Note:
All drain tubes and accessories shall be galvanized according to AASHTO M111 or M232, (as applicable).
The cost of the drain tube assemblies and everything necessary for their installation is included with Concrete Superstructure.



DETAIL A

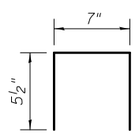
* 9" for 17" beams
14" for 27" beams
17" for 33" beams



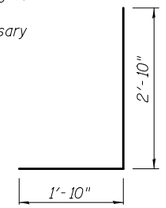
SECTION B-B

SUPERSTRUCTURE BILL OF MATERIAL

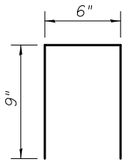
Bar	No.	Size	Length	Shape
a(E)	32	#5	38'-9"	
b(E)	21	#5	29'-1"	
b1(E)	35	#5	30'-3"	
b2 (E)	21	#5	23'-2"	
b3 (E)	21	#5	30'-0"	
c(E)	371	#5	5'-8"	
d(E)	742	#5	4'-8"	
d1(E)	371	#5	2'-0"	
e(E)	96	#4	13'-9"	
e1(E)	16	#4	11'-11"	
e2 (E)	16	#4	17'-3"	
e3 (E)	16	#4	9'-1"	
e4 (E)	8	#4	8'-2"	
e5 (E)	24	#4	15'-7"	
e6 (E)	16	#4	18'-0"	
e7 (E)	8	#4	14'-1"	
e8 (E)	8	#4	12'-7"	
u(E)	320	#4	1'-6"	
Reinforcement Bars, Epoxy Coated			Pound	13,020
Concrete Superstructure			Cu. Yd.	107.3
Hot-Mix Asphalt Surface Course, Mix E, N70			Tons	249



BAR u(E)



BAR d(E)

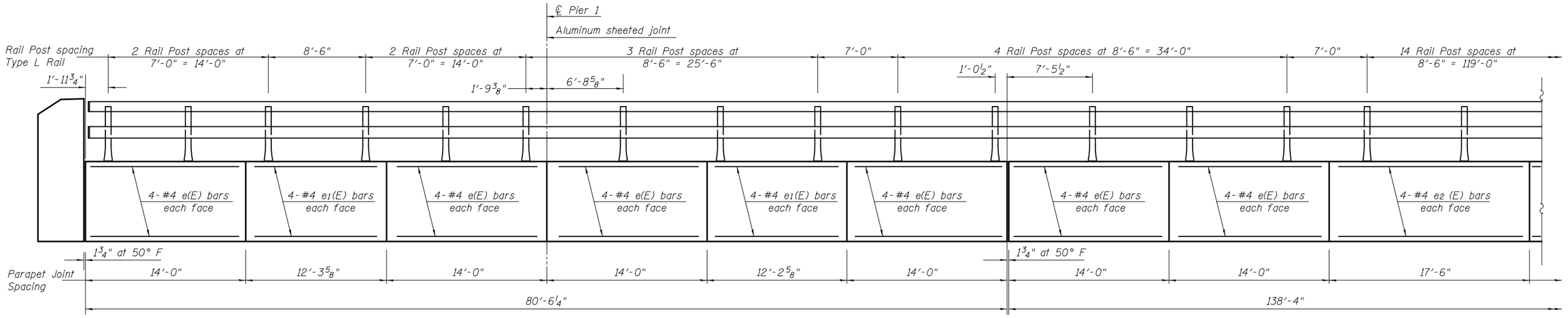


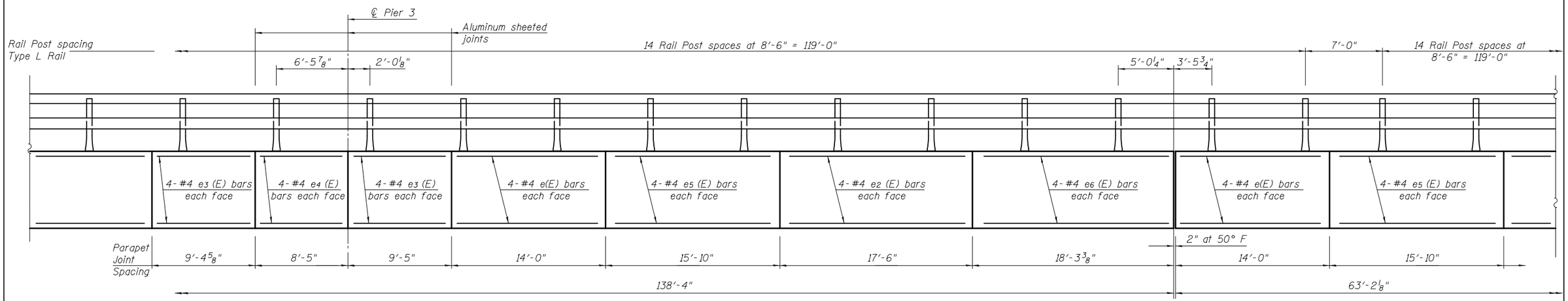
BAR d1(E)

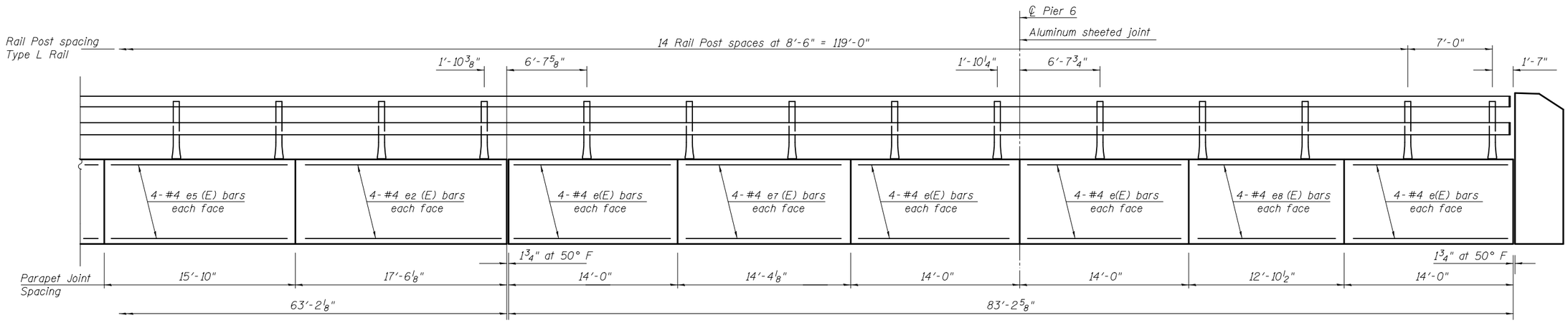
DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - VICTOR M. MERCADO-VAZQUEZ			
DRAWN - R. Laughlin	PASSED	REVISED	
CHECKED - C.D.K / V.M.V. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 039-0036
SHEET NO. 4 OF 21 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	20
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



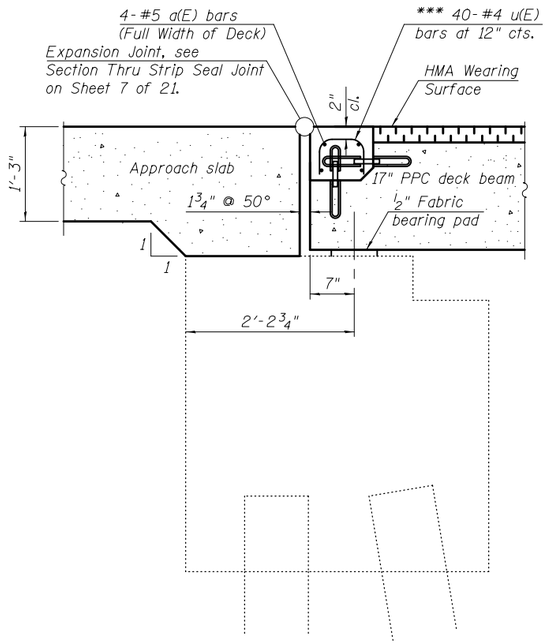




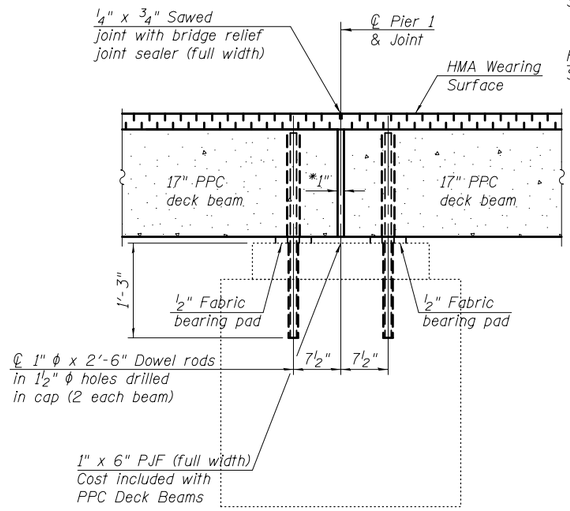
INSIDE ELEVATION OF PARAPET

DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SUPERSTRUCTURE DETAILS STRUCTURE NO. 039-0036**	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ					9669	(12-2)BR-1	JACKSON	41	21
DRAWN - R. Laughlin	PASSED	REVISED					CONTRACT NO. 78274		
CHECKED - C.D.K / V.M.V. / G.R.A.		REVISED		SHEET NO. 5 OF 21 SHEETS			ILLINOIS FED. AID PROJECT		

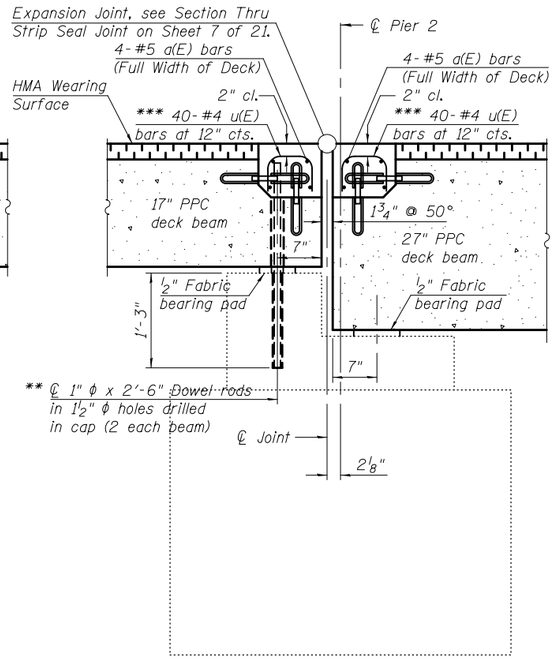
ENGINEER OF BRIDGE DESIGN
ACTING ENGINEER OF BRIDGES AND STRUCTURES



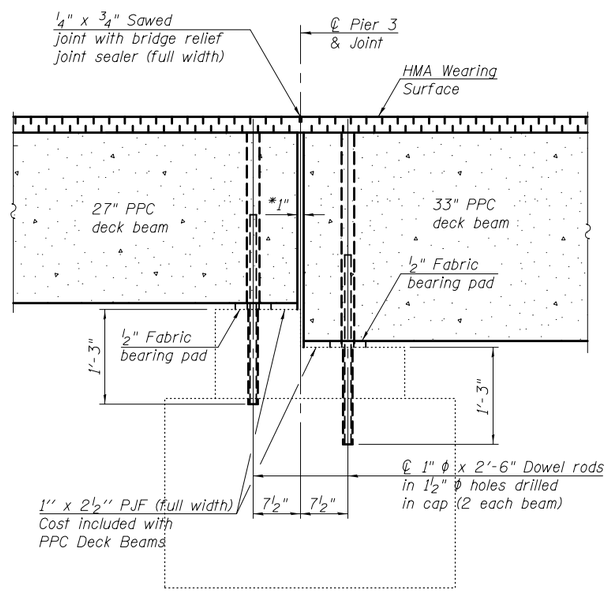
SECTION A-A



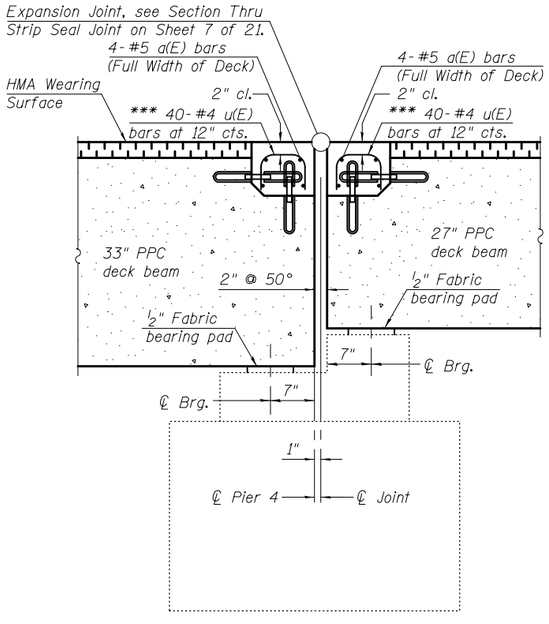
SECTION B-B



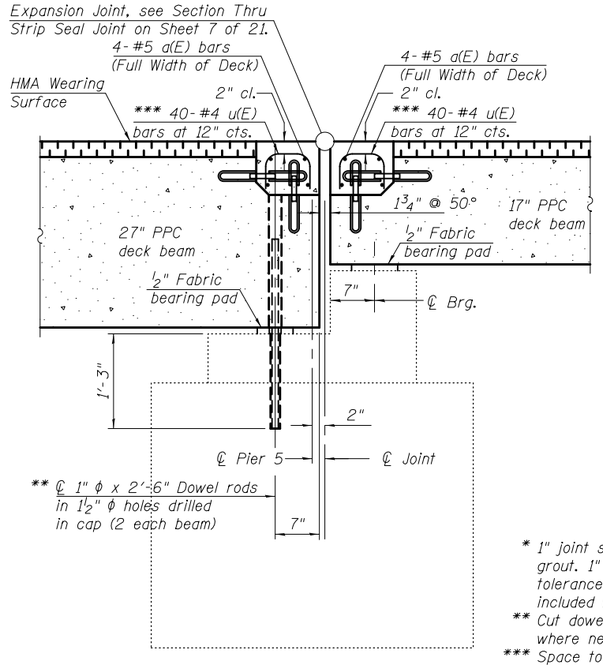
SECTION C-C



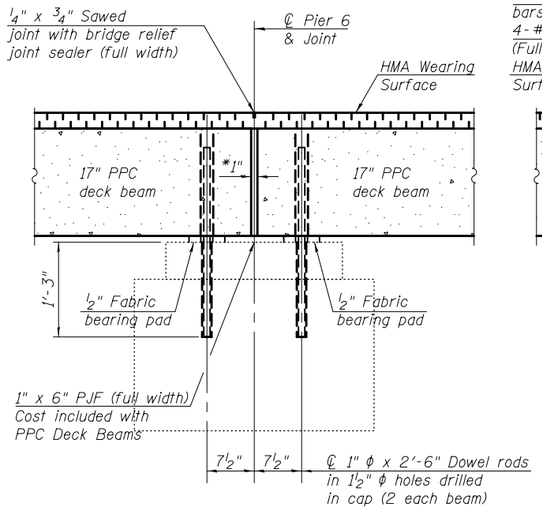
SECTION D-D



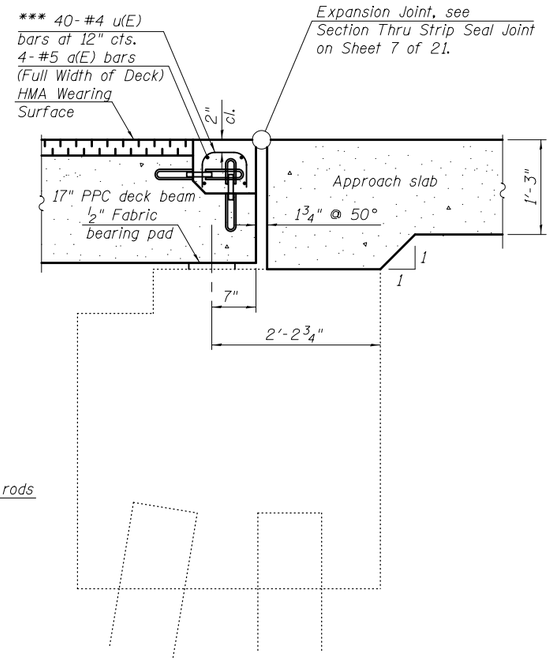
SECTION E-E



SECTION F-F



SECTION G-G



SECTION H-H

* 1" joint shall be filled with non-shrink grout. 1" dimension may vary to accomodate tolerance in beam length. Cost to be included in PPC Deck Beams

** Cut dowel rods flush with deck beam where necessary to avoid inserts.

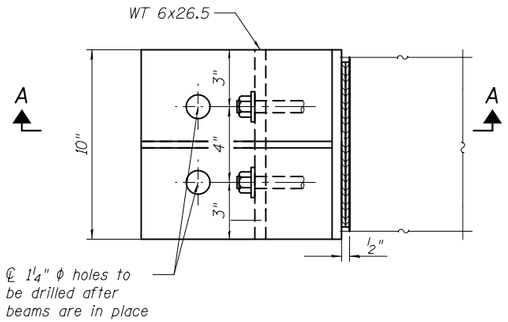
*** Space to miss straight coil loops.

$TIME$

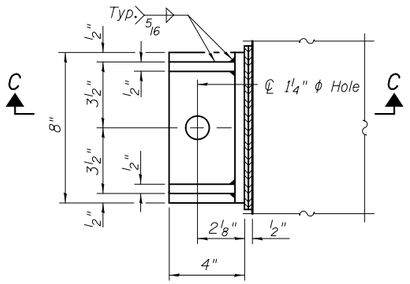
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS**	**SUPERSTRUCTURE DETAILS**	
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	REVISED	**DEPARTMENT OF TRANSPORTATION**	**STRUCTURE NO. 039-0036**	
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 6 OF 21 SHEETS	
CHECKED - C.D.K / V.M.V. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES				

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	22
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

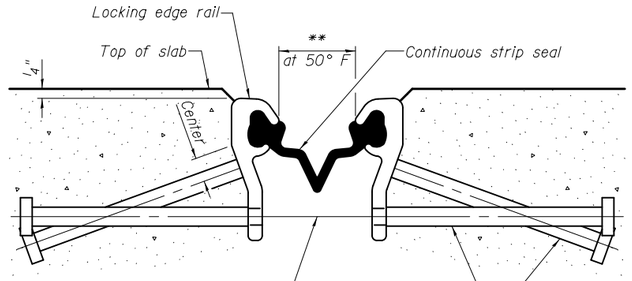


PLAN

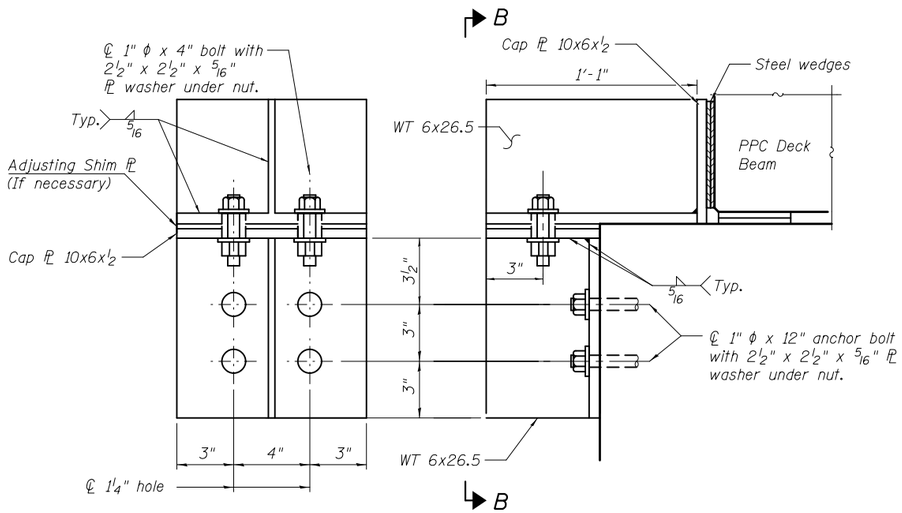


PLAN

Place retainer at each outside beam at expansion joint that does not include dowel rods

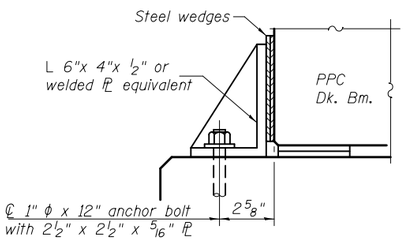


SECTION THRU STRIP SEAL JOINT FOR OVERLAY OVER DECK BEAMS



VIEW B-B

SECTION A-A



SECTION C-C

ROLLED (EXTRUDED) RAIL

LOCKING EDGE RAIL SPLICE

LOCKING EDGE RAIL

* Omit weld at seal opening.
** 7/8" at E. & W. Abut, Pier 2, Pier 4, & Pier 5; 1 1/8" at Pier 4.

RETAINER DETAIL A

Notes:
Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.
The WT and ℄ shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM 385.
Anchor bolts and plate washers shall be galvanized according to AASHTO M 232.
After the notch or concrete overlay are poured and cured, the steel wedges shall be removed.

RETAINER DETAIL B

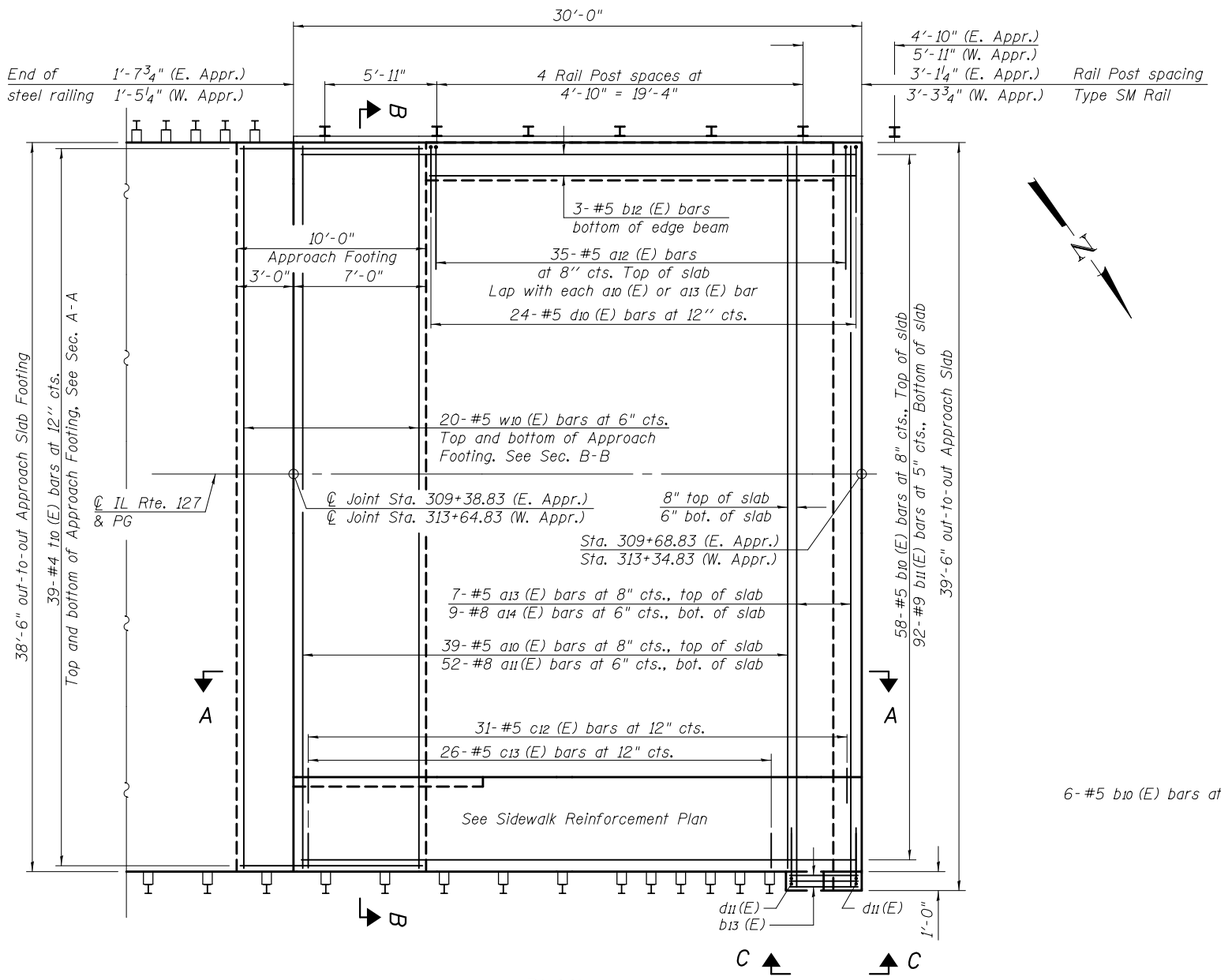
Notes:
Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.
The side retainers shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM 385.
Anchor bolts and plate washers shall be galvanized according to AASHTO M 232.
After the notch or concrete overlay are poured and cured, the steel wedges shall be removed.

Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.
The inside of the Locking Edge Rail groove shall be free of weld residue.
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.
The manufacturer's recommended installation methods shall be followed.
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.
Cast inside of rail flush with concrete.

$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 7 OF 21 SHEETS
DRAWN - R. Laughlin			REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.					

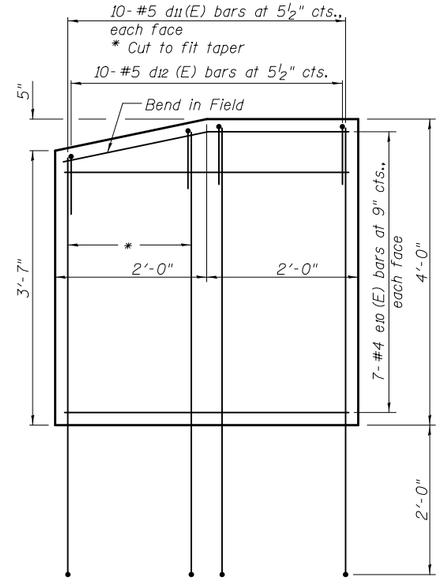
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	23
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



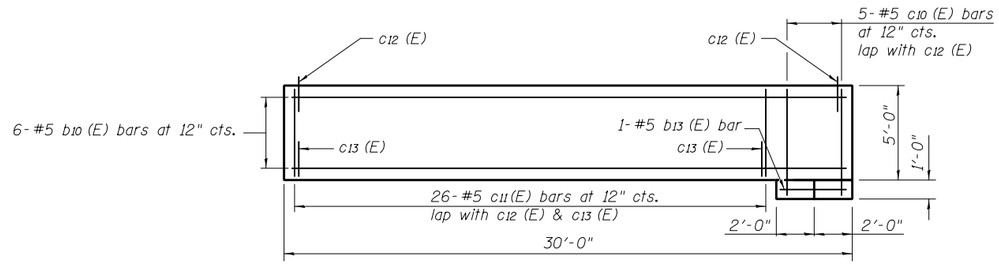
PLAN

(East approach slab shown; West approach slab similar by mirror image)

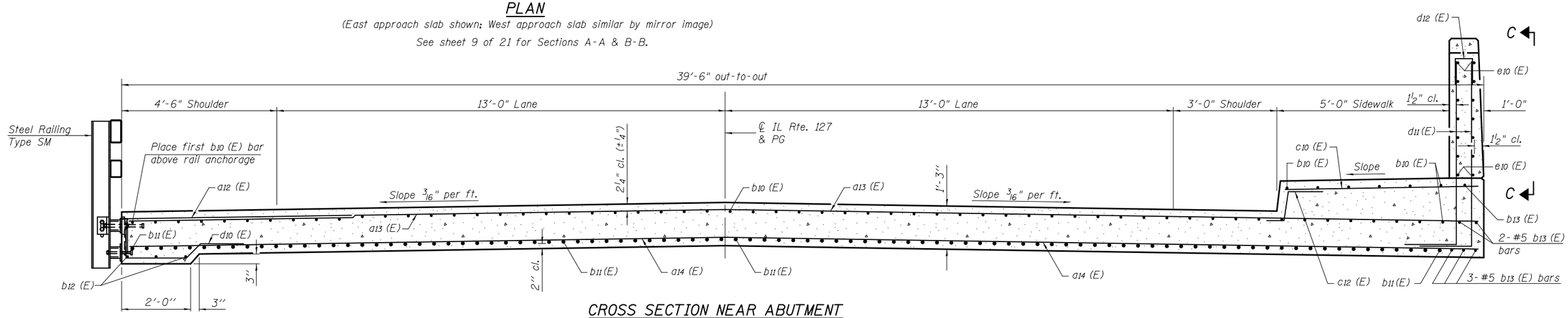
See sheet 9 of 21 for Sections A-A & B-B.



VIEW C-C



SIDEWALK REINFORCEMENT PLAN



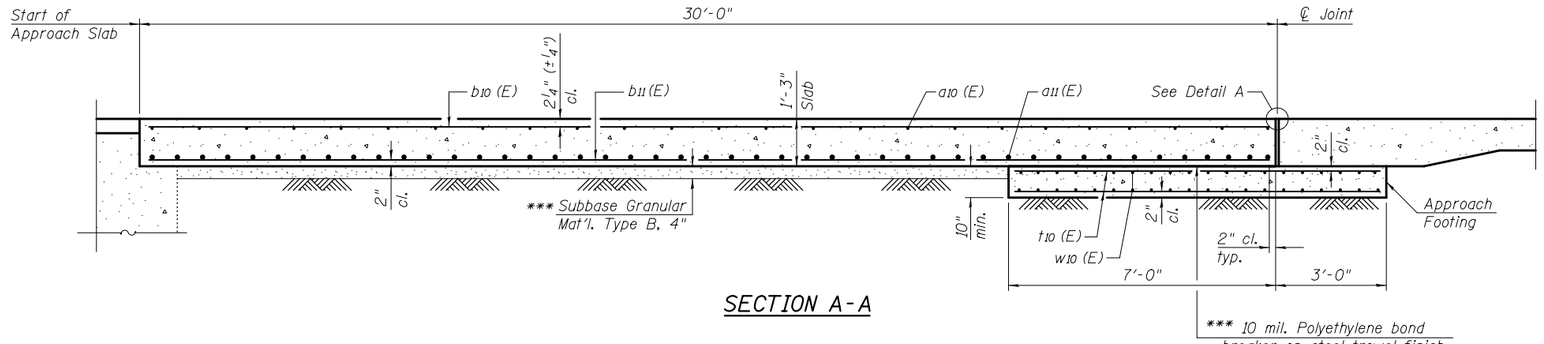
CROSS SECTION NEAR ABUTMENT

(Looking West)

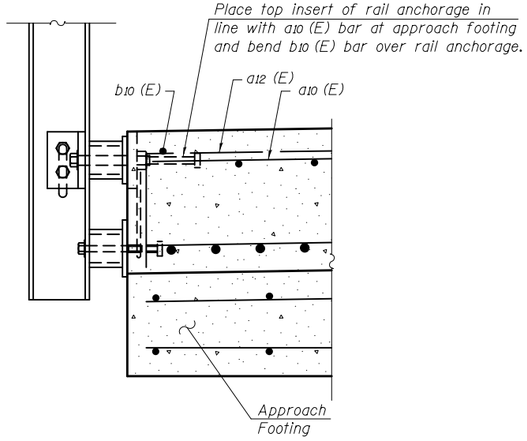
$TIME$

$DATE$

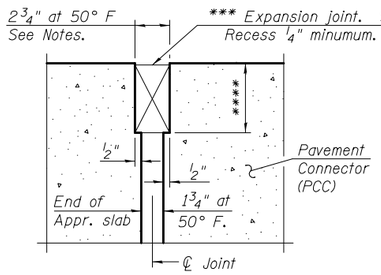
DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 039-0036**	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED			9669	(12-2)BR-1	JACKSON	41	24
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 8 OF 21 SHEETS			CONTRACT NO. 78274		
CHECKED - C.D.K / V.M.V. / G.R.A.								ILLINOIS FED. AID PROJECT		



SECTION A-A



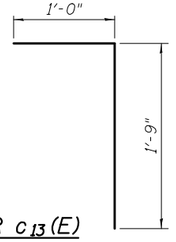
RAIL POST INSERT DETAIL



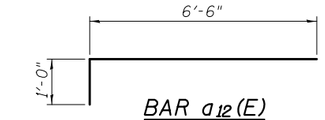
DETAIL A

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

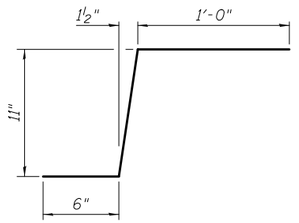
**** Per manufacturer recommendations



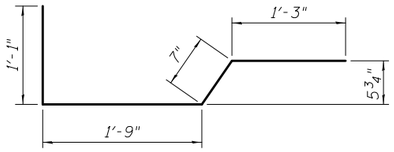
BAR c13 (E)



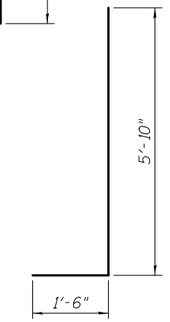
BAR a12 (E)



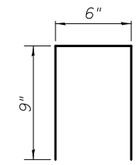
BAR c12 (E)



BAR d10 (E)



BAR d11 (E)



BAR d12 (E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10 (E)	78	#5	38'-2"	
a11 (E)	104	#8	38'-2"	
a12 (E)	70	#5	7'-6"	
a13 (E)	14	#5	39'-2"	
a14 (E)	18	#8	39'-2"	
b10 (E)	128	#5	29'-8"	
b11 (E)	184	#9	29'-8"	
b12 (E)	6	#5	22'-8"	
b13 (E)	12	#5	3'-8"	
c10 (E)	10	#5	5'-8"	
c11 (E)	52	#5	4'-8"	
c12 (E)	62	#5	2'-5"	
c13 (E)	52	#5	2'-9"	
d10 (E)	48	#5	4'-8"	
d11 (E)	40	#5	7'-4"	
d12 (E)	20	#5	2'-0"	
e10 (E)	28	#4	3'-9"	
t10 (E)	156	#4	9'-8"	
w10 (E)	80	#5	38'-2"	
Concrete Structures			Cu. Yd.	24.4
Concrete Superstructures			Cu. Yd.	1.2
Concrete Superstructure (Approach Slab)			Cu. Yd.	126.3
Reinforcement Bars, Epoxy Coated			Pound	44,870

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 pavement.

Parapet concrete shall be paid for as Concrete Superstructures.

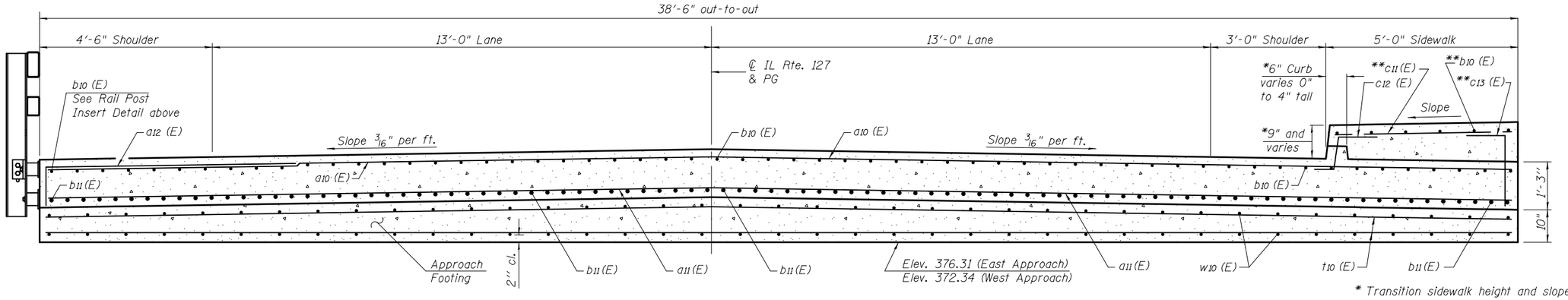
Approach slab and Sidewalk concrete shall be paid for as Concrete Superstructure (Approach Slab).

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 railing details, see sheet 10 of 21.



SECTION B-B

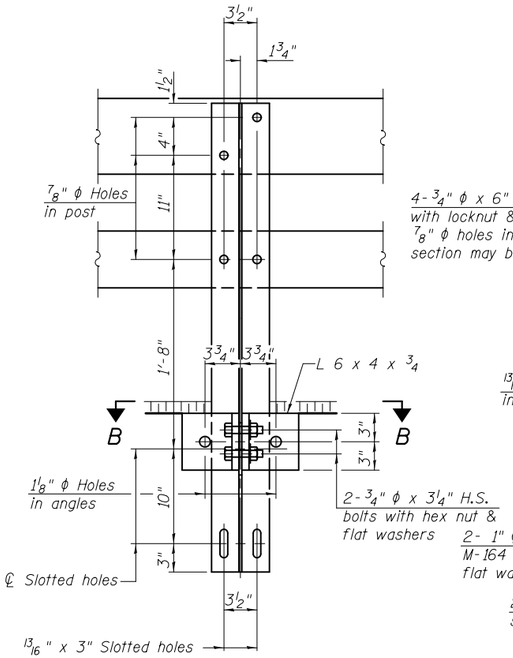
* Transition sidewalk height and slope through a 10' section of Bridge approach (NE quadrant only).

** Cut and bend as required to fit sidewalk taper.

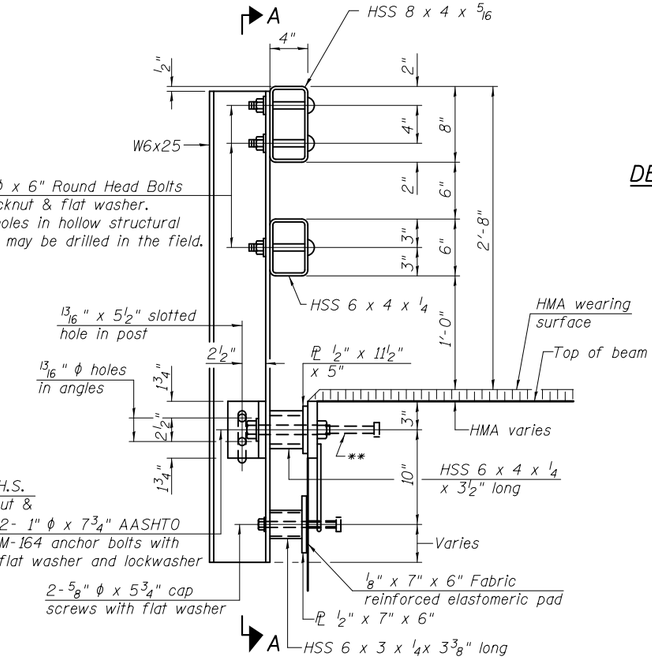
$TIME$

$DATE$

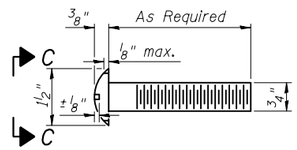
DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 039-0036**	F.A.U. RTE. 9669 / SECTION (12-2)BR-1 / COUNTY JACKSON / TOTAL SHEETS 41 / SHEET NO. 25
CHECKED - VICTOR M. MERCADO-VAZQUEZ					CONTRACT NO. 78274
DRAWN - R. Laughlin	PASSED	REVISED		SHEET NO. 9 OF 21 SHEETS	ILLINOIS FED. AID PROJECT
CHECKED - C.D.K / V.M.V. / G.R.A.	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			



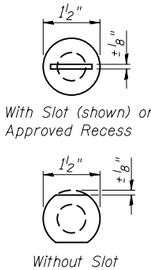
SECTION A-A



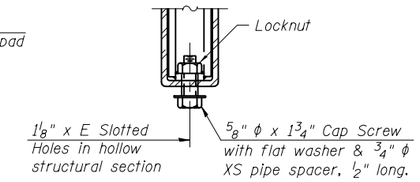
SECTION AT RAIL POST



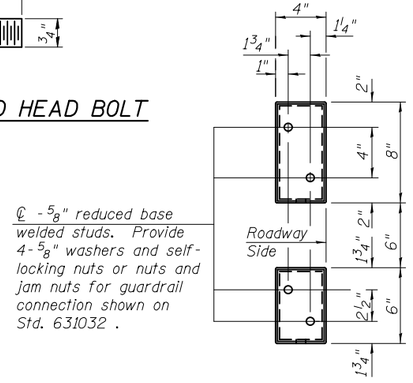
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



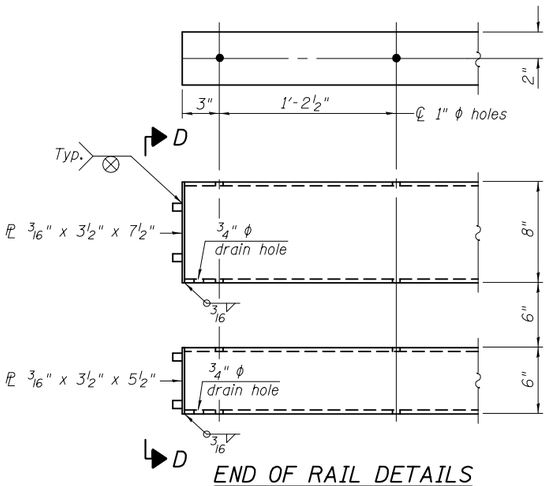
VIEW C-C



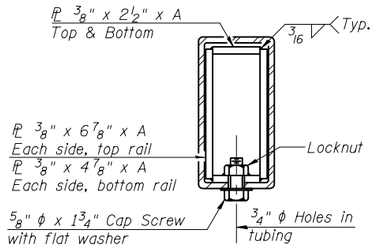
RAIL SPLICE CONNECTION AT EXPANSION JT.



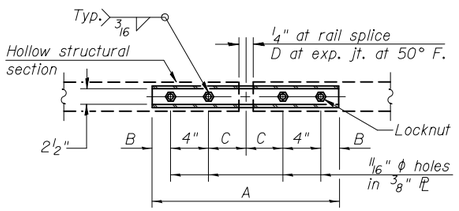
VIEW D-D



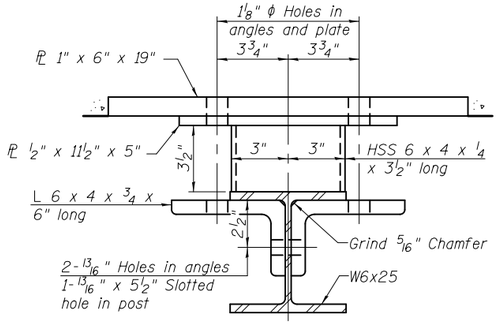
END OF RAIL DETAILS



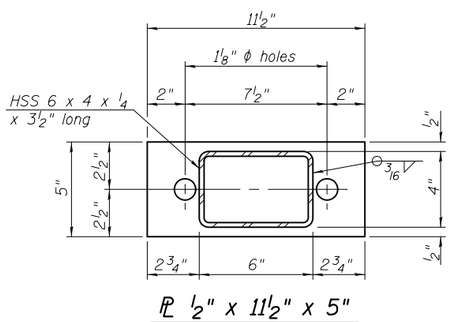
SECTION AT RAIL SPLICE



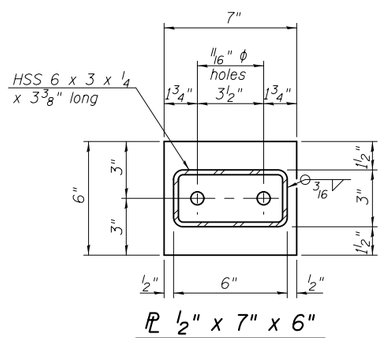
PLAN-BOTT. SPLICE PL TYPICAL



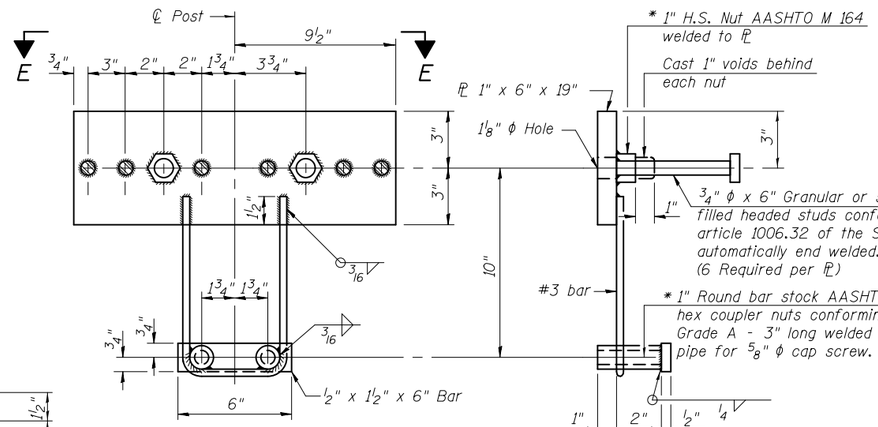
SECTION B-B



PL 1/2" x 11 1/2" x 5"



PL 1/2" x 7" x 6"



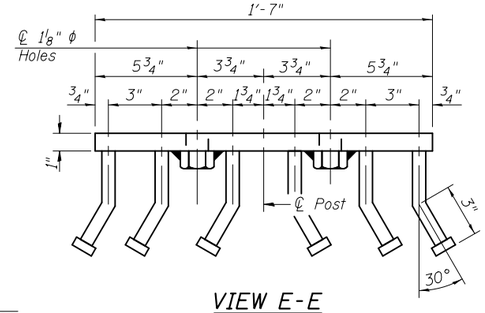
ANCHOR DEVICE

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.



VIEW E-E

Notes:

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.

All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.

** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

For rail spacing see sheet 3 of 21.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	426

$TIME$

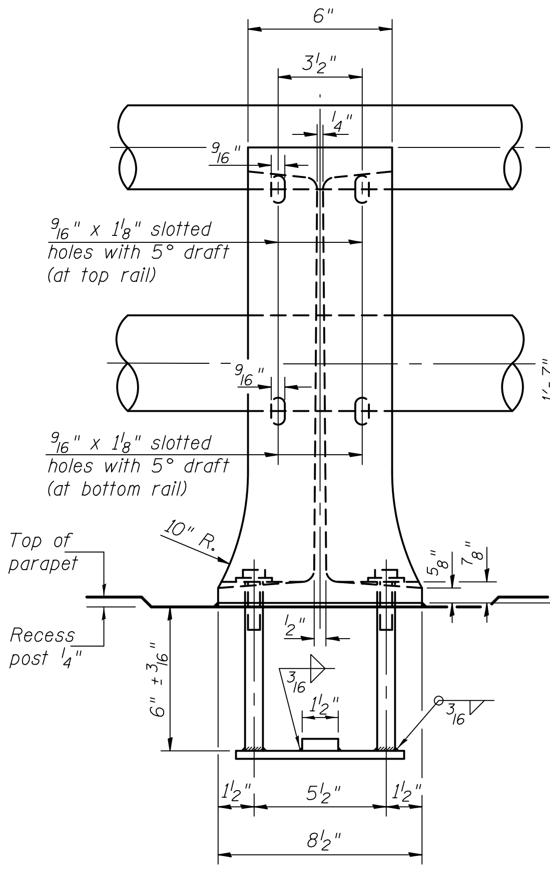
$DATE$

R-34HMAWS 1-12-15 (6'-3" Maximum Post Spacing) (1'-4" minimum to 3'-8" maximum HMA thickness)

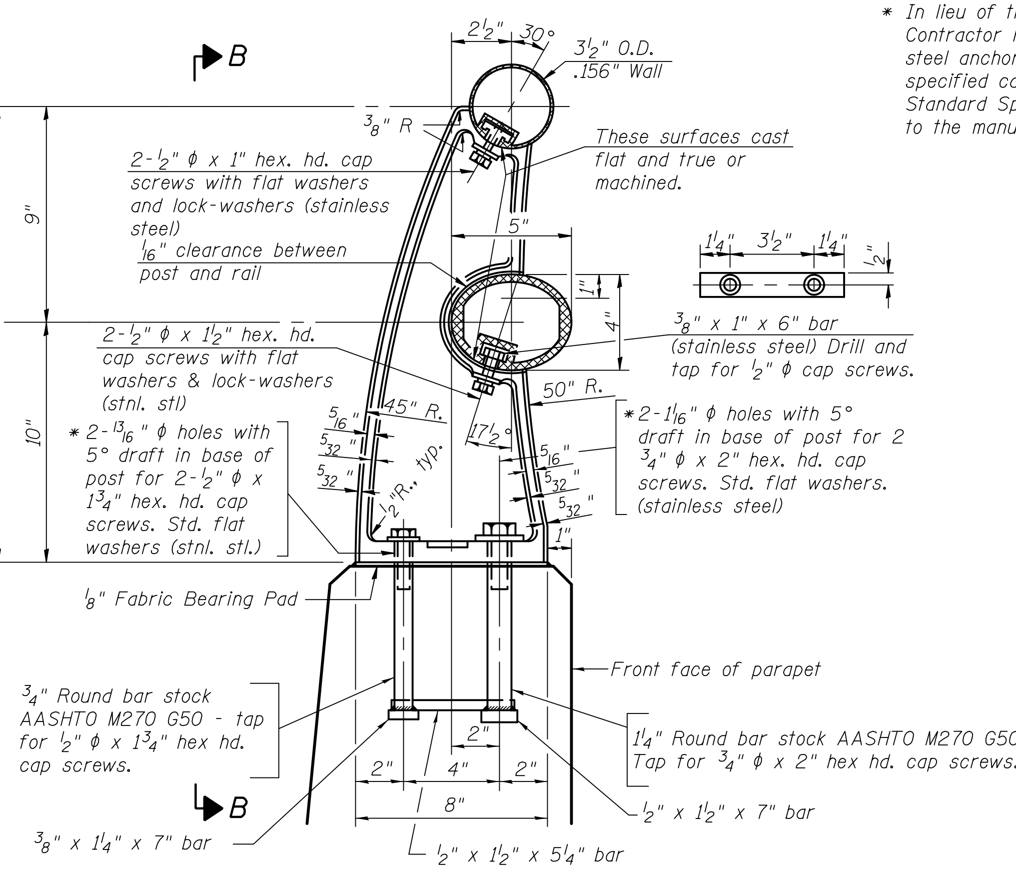
DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL RAILING, TYPE SM WITH HOT-MIX ASPHALT WEARING SURFACE STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN / ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 10 OF 21 SHEETS
DRAWN - R. Laughlin			REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.					

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	26
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

* In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting stainless steel anchor rods of the same diameter and grade as the specified cap screws according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

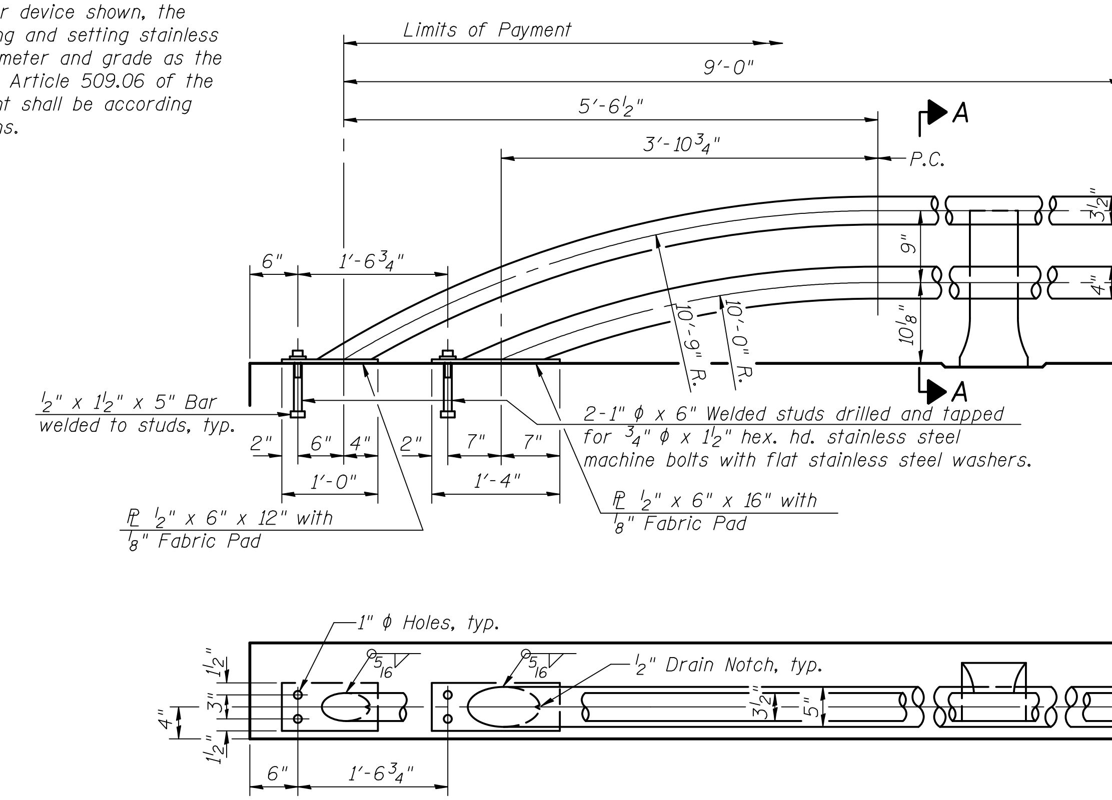


VIEW B-B



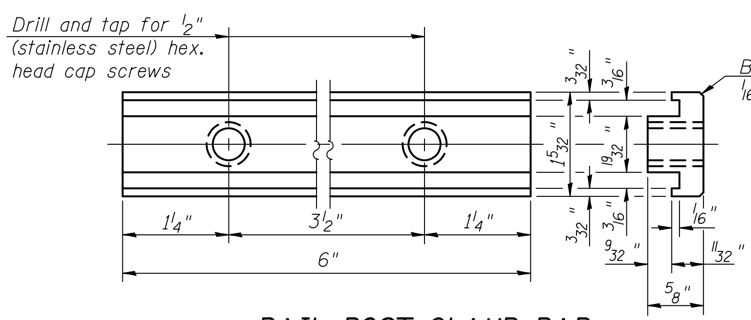
SECTION A-A

RAIL POST DETAILS



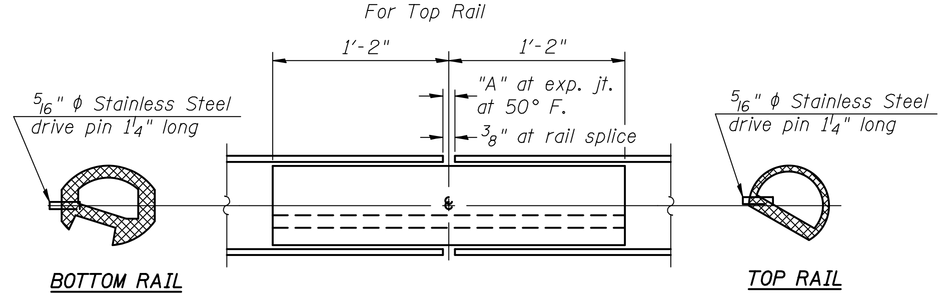
RAIL TERMINAL SECTION

Note: The end rail post shall be set back as required for the terminal rail section.



RAIL POST CLAMP BAR

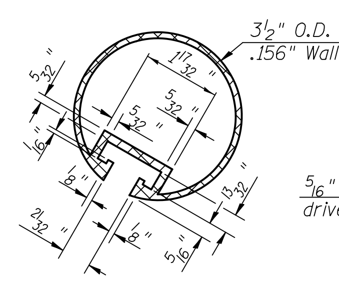
For Top Rail



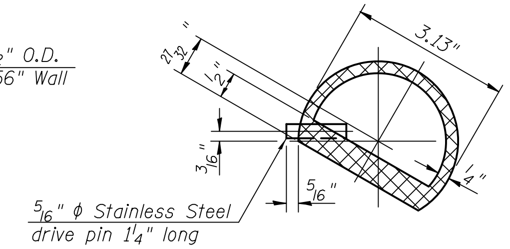
RAIL SPLICE

T	"A"
≤4"	2½"
>4" ≤6½"	3¾"
>6½" ≤9"	5"
>9" ≤13"	7"

T = Total movement at expansion joint as shown on the design plans.

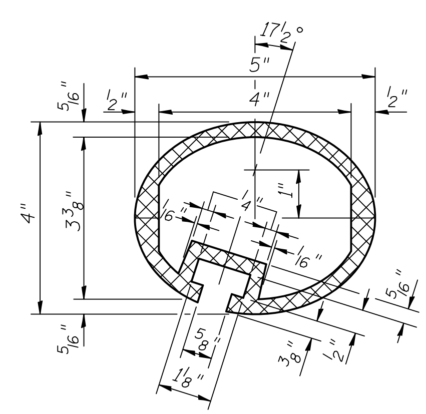


SECTION THRU TOP RAIL

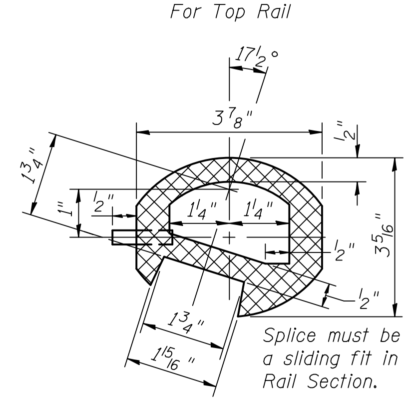


SECTION THRU SPLICE

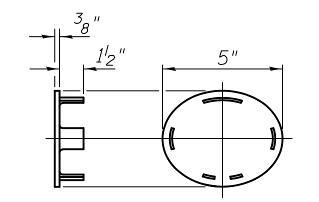
For Top Rail



SEC. THRU ELLIPTICAL RAIL SECTION



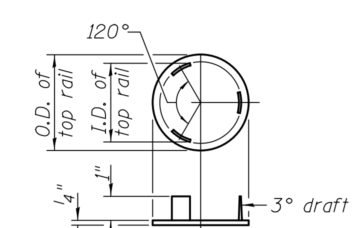
SEC. THRU SPLICE



CAST END CAP

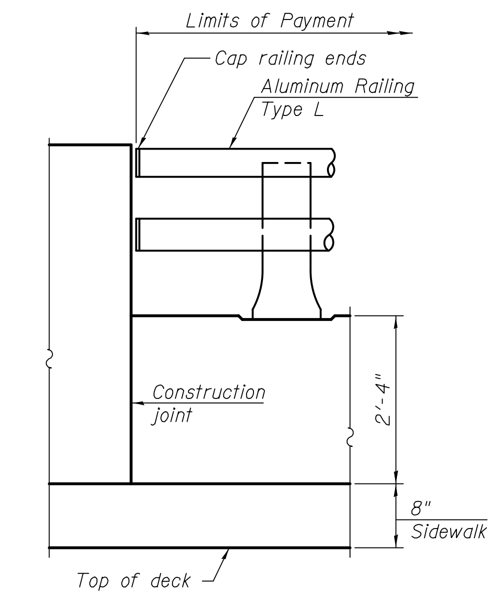
For bottom rail

DRIVE FIT TYPE



CAST END CAP

For top rail



RAIL END TREATMENT FOR TYPE 5 AND 6 TERMINAL

Notes:

All Posts shall be normal to parapet.

All joints in rail shall be spliced per detail.

All exposed rail ends shall be capped per detail.

Provide 1-1/8" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail elements shall be parallel to Grade-high spots will be ground and low spots shimmed.

See sheet 5 of 21 for rail post spacing.

BILL OF MATERIAL

Item	Unit	Quantity
Aluminum Railing, Type L	Foot	366

R-20 1-12-15 (7'-0" to 10'-0" Post spacing)

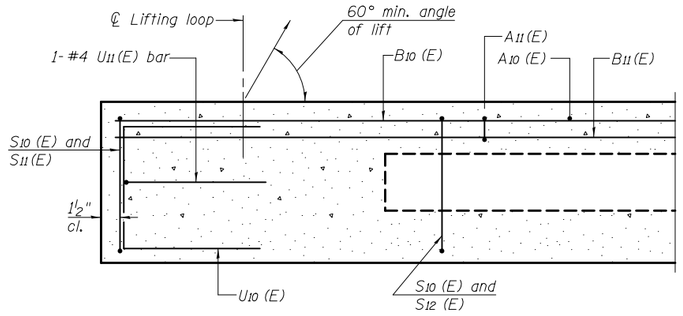
$TIME$ $DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - DECEMBER 9, 2016
CHECKED - VICTOR M. MERCADO-VAZQUEZ			
DRAWN - R. Laughlin	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - C.D.K / V.M.V. / G.R.A.			REVISED

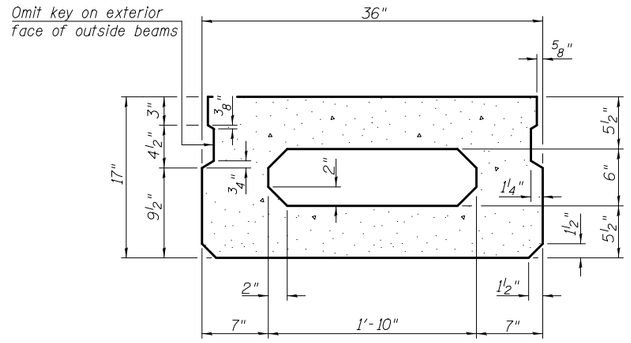
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALUMINUM RAILING, TYPE L
STRUCTURE NO. 039-0036
SHEET NO. 11 OF 21 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	27
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			

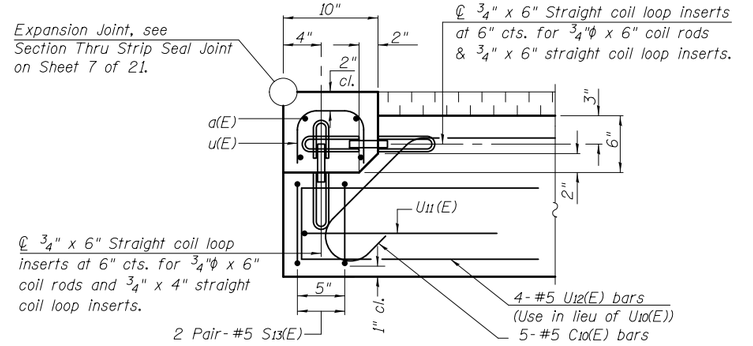


SECTION A-A



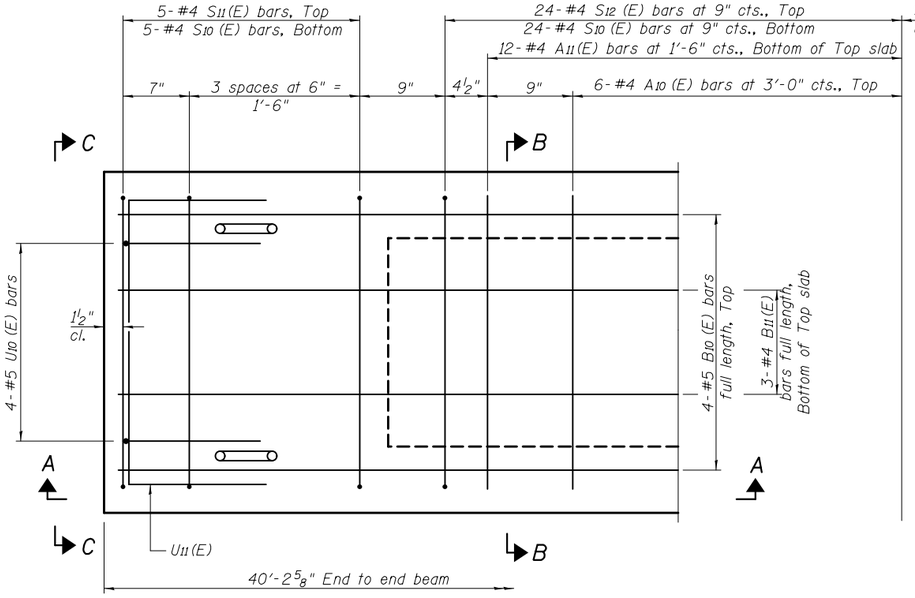
SECTION B-B

(Showing dimensions)



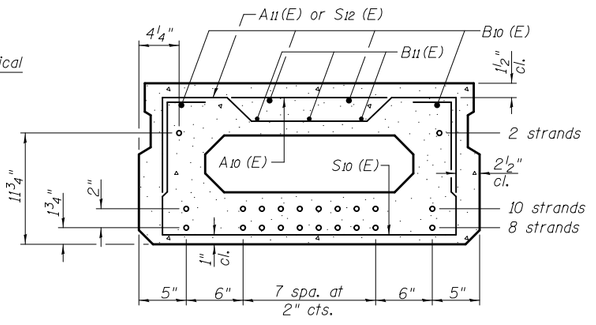
END OF BEAM (EXP. END)

(At East Abutment)
(Dimensions are at Rt. L's)



PLAN VIEW

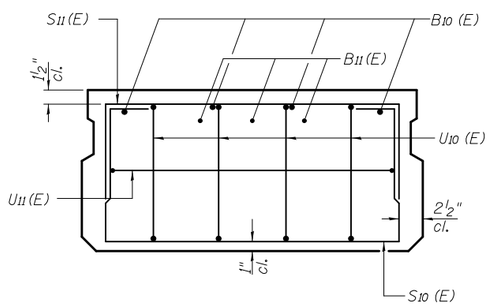
Note: Spacing of S10 (E) and S12 (E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



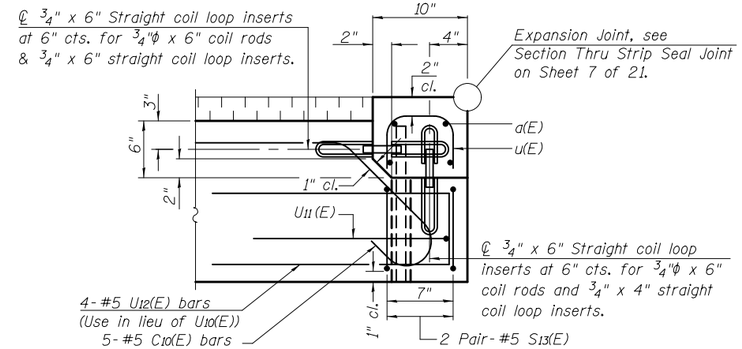
SECTION B-B

(Showing reinforcement and permissible strand locations)

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



VIEW C-C



END OF BEAM (EXP. END)

(At Pier 2)
(Dimensions are at Rt. L's)

Notes:
1½" cl. for reinforcement bars unless otherwise noted.
Typical reinforcement not shown for clarity.
Cost of Inserts & Coil Rods included with Precast Prestressed Concrete Deck Beams.

MINIMUM BAR LAP

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

SPANS 1 & 2 BAR LIST
ONE BEAM ONLY

(For information only)

	Bar	No.	Size	Length	Shape
	A10 (E)	12	#4	2'-7"	—
	A11(E)	24	#4	2'-10"	⌣
	B10 (E)	4	#5	39'-11"	—
	B11(E)	3	#4	39'-11"	—
	C10 (E)	5	#5	3'-8"	◝
*	D10 (E)	41	#5	3'-11"	⊏
**	D11(E)	41	#5	3'-4"	⊓
	S10 (E)	58	#4	5'-9"	⊔
	S11(E)	10	#4	4'-3"	⊓
	S12 (E)	48	#4	4'-6"	⊓
	S13 (E)	4	#5	4'-11"	⊏
	U10 (E)	4	#5	3'-8"	⊏
	U11(E)	2	#4	5'-0"	⊓
	U12 (E)	4	#5	4'-10"	⊏

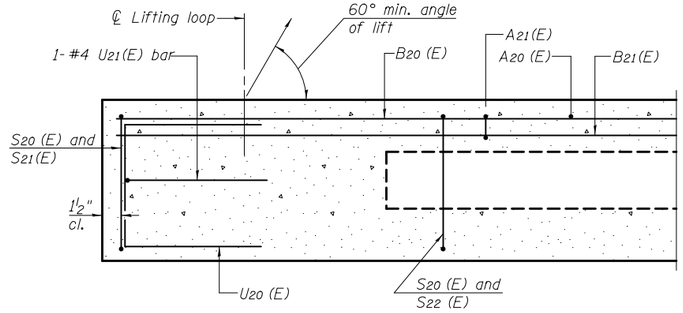
* Beam 12 only
** Beam 13 only

Note: See sheet 4 of 21 for additional details and Bill of Material.

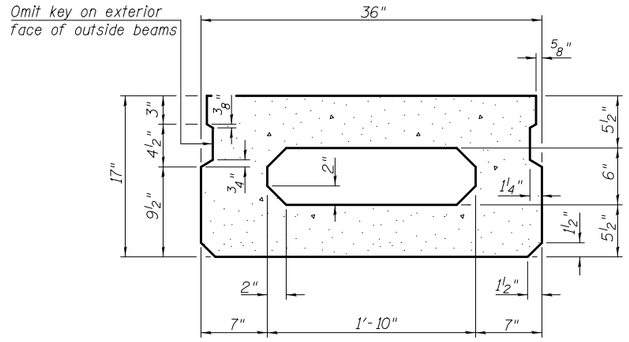
$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	17" x 36" PPC DECK BEAM SPANS 1 & 2 STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ		ENGINEER OF BRIDGE DESIGN			SHEET NO. 12 OF 21 SHEETS
DRAWN - R. Laughlin	PASSED		REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	28
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		

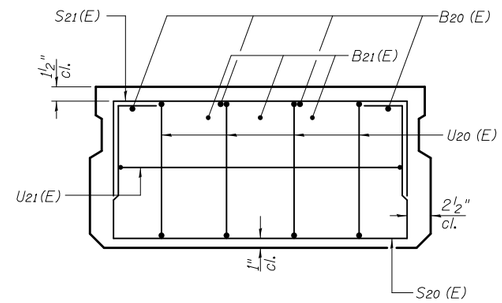


SECTION A-A

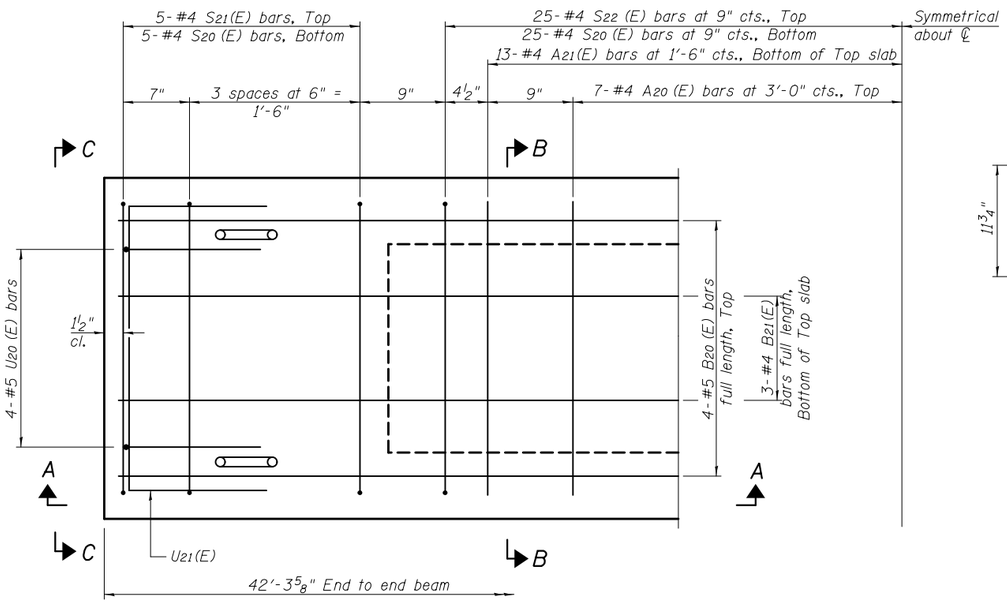


SECTION B-B

(Showing dimensions)

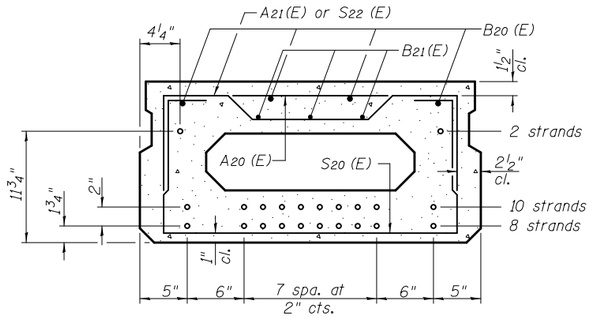


VIEW C-C



PLAN VIEW

Note: Spacing of S20 (E) and S22 (E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



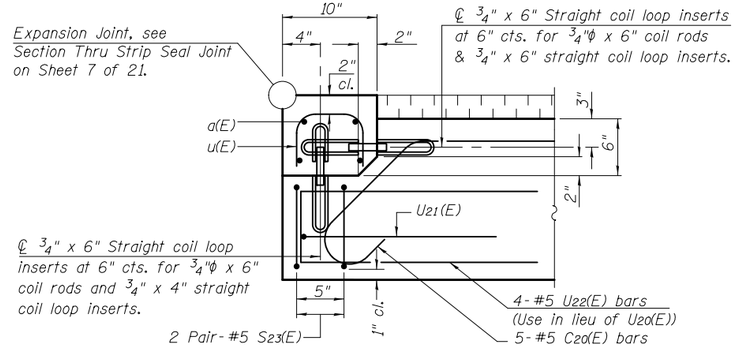
SECTION B-B

(Showing reinforcement and permissible strand locations)

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

MINIMUM BAR LAP

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



END OF BEAM (EXP. END)

(At Pier 5)
(Dimensions are at Rt. L's)

Notes:
1½" cl. for reinforcement bars unless otherwise noted.
Typical reinforcement not shown for clarity.
Cost of Inserts & Coil Rods included with Precast Prestressed Concrete Deck Beams.

SPAN 6 BAR LIST
ONE BEAM ONLY

(For information only)

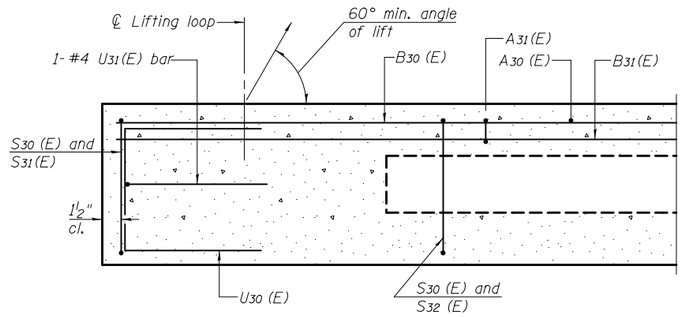
Bar	No.	Size	Length	Shape
A20 (E)	14	#4	2'-7"	—
A21(E)	26	#4	2'-10"	~
B20 (E)	4	#5	42'-0"	—
B21(E)	3	#4	42'-0"	—
C20 (E)	5	#5	3'-8"	⌐
* D20 (E)	43	#5	3'-11"	⊏
** D21(E)	43	#5	3'-4"	⊐
S20 (E)	60	#4	5'-9"	⊔
S21(E)	10	#4	4'-3"	⊏⊐
S22 (E)	50	#4	4'-6"	⊐⊐
S23 (E)	4	#5	4'-11"	⊏
U20 (E)	4	#5	3'-8"	⊏
U21(E)	2	#4	5'-0"	⊏⊐
U22 (E)	4	#5	4'-10"	⊏

* Beam 12 only
** Beam 13 only

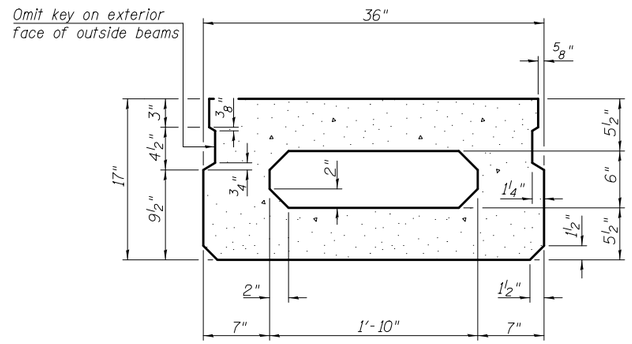
Note: See sheet 4 of 21 for additional details and Bill of Material.

$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED	Joyce F. Schiff, ENGINEER OF BRIDGE DESIGN	DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	17" x 36" PPC DECK BEAM SPAN 6 STRUCTURE NO. 039-0036	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED		REVISED			9669	(12-2)BR-1	JACKSON	41	29
DRAWN - R. Laughlin			REVISED					CONTRACT NO. 78274		
CHECKED - C.D.K / V.M.V. / G.R.A.		A. Carl Preuss, ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 13 OF 21 SHEETS			ILLINOIS FED. AID PROJECT		

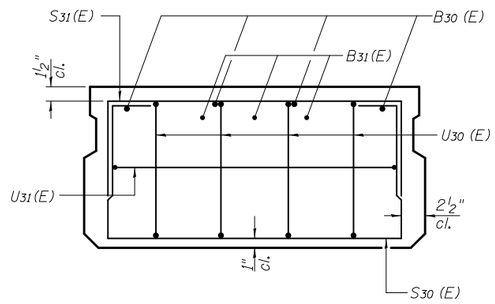


SECTION A-A

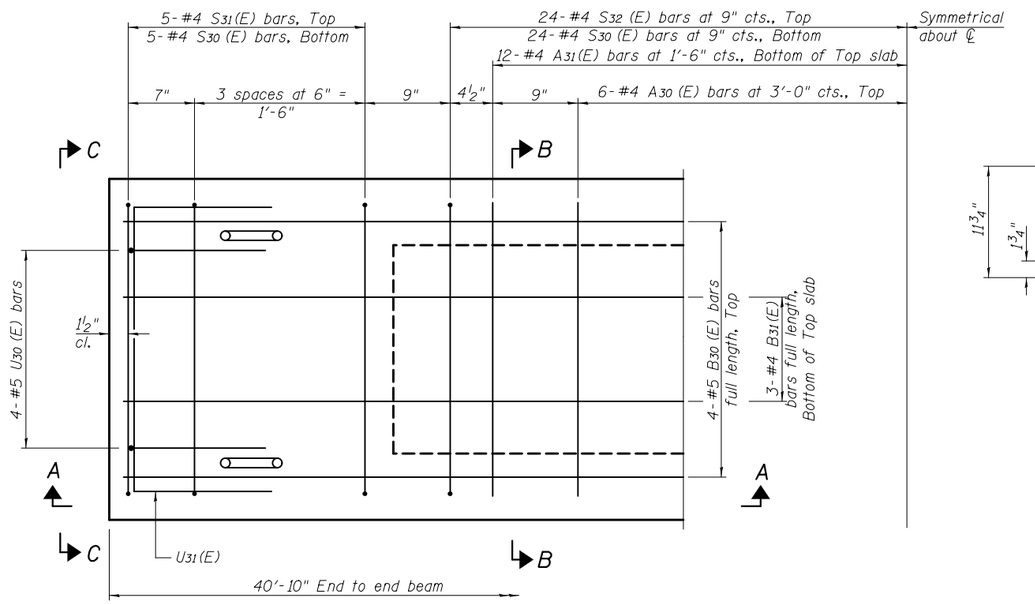


SECTION B-B

(Showing dimensions)

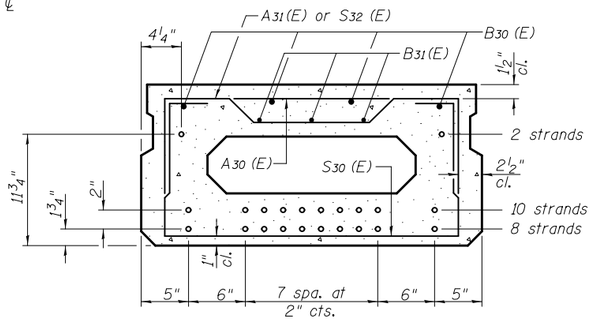


VIEW C-C



PLAN VIEW

Note: Spacing of S30 (E) and S32 (E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



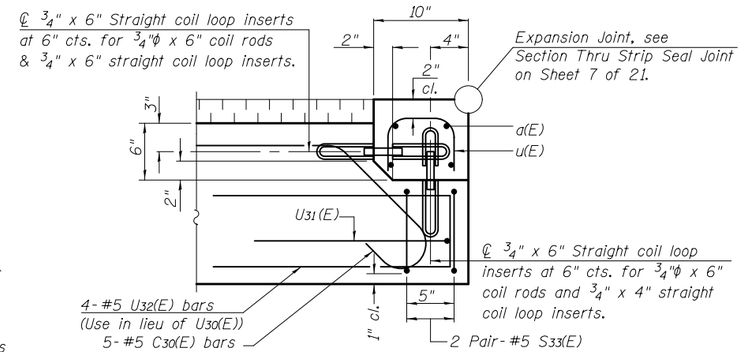
SECTION B-B

(Showing reinforcement and permissible strand locations)

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

MINIMUM BAR LAP

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



END OF BEAM (EXP. END)

(At West Abutment)
(Dimensions are at Rt. L's)

Notes:
1½" cl. for reinforcement bars unless otherwise noted.
Typical reinforcement not shown for clarity.
Cost of Inserts & Coil Rods included with Precast Prestressed Concrete Deck Beams.

SPAN 7 BAR LIST
ONE BEAM ONLY

(For information only)

	Bar	No.	Size	Length	Shape
	A30 (E)	12	#4	2'-7"	—
	A31(E)	24	#4	2'-10"	~
	B30 (E)	4	#5	40'-7"	—
	B31(E)	3	#4	40'-7"	—
	C30 (E)	5	#5	3'-8"	⌐
*	D30 (E)	42	#5	3'-11"	⊏
**	D31(E)	42	#5	3'-4"	⌐
	S30 (E)	58	#4	5'-9"	⊔
	S31(E)	10	#4	4'-3"	⊓
	S32 (E)	48	#4	4'-6"	⊓
	S33 (E)	4	#5	4'-11"	⊏
	U30 (E)	4	#5	3'-8"	⊏
	U31(E)	2	#4	5'-0"	⌐
	U32 (E)	4	#5	4'-10"	⊏

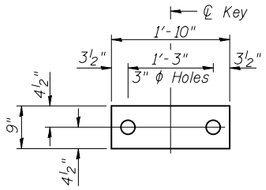
* Beam 12 only
** Beam 13 only

Note: See sheet 4 of 21 for additional details and Bill of Material.

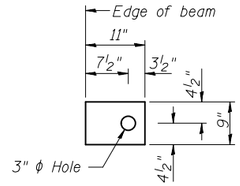
$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	17" x 36" PPC DECK BEAM SPAN 7 STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ					
DRAWN - R. Laughlin	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 14 OF 21 SHEETS
CHECKED - C.D.K / V.M.V. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	30
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



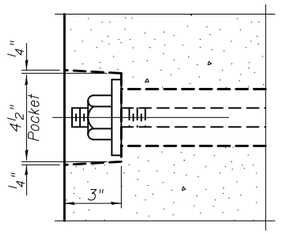
FABRIC BEARING PAD
(Interior)



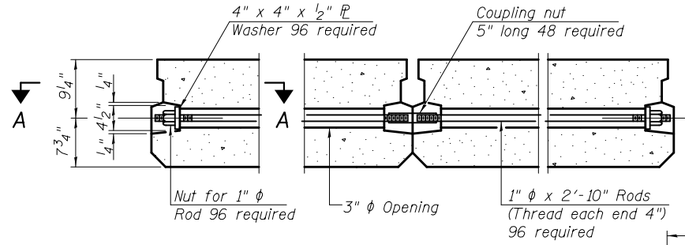
FABRIC BEARING PAD
(Exterior)

FIXED

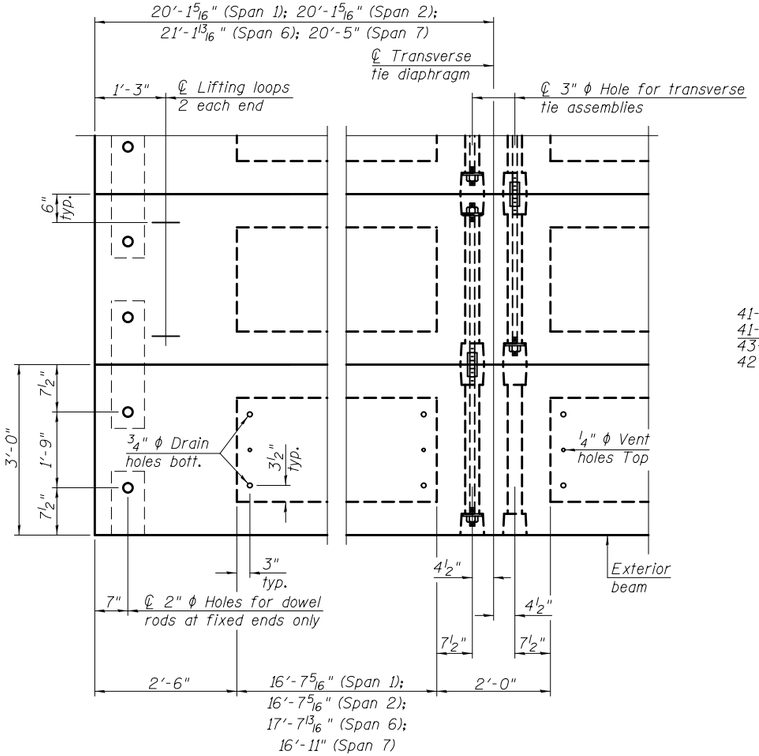
Notes:
All bearing pads shall be ½" thick.
Omit holes where dowel rods are not used.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

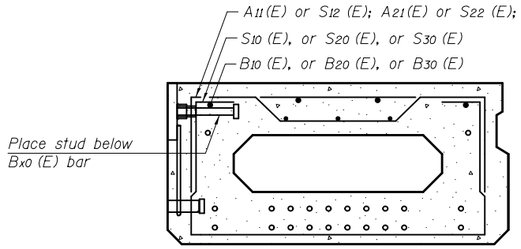


TYPICAL TRANSVERSE TIE ASSEMBLY



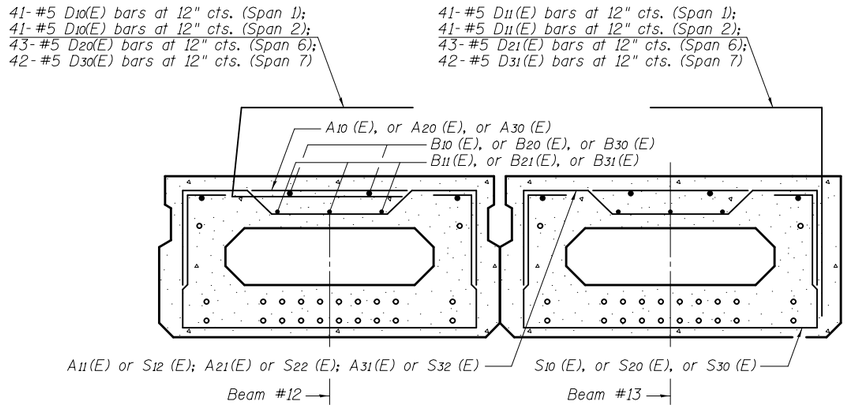
PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown. Omit dowel rod holes at the end of the beams per sheet 6 of 21.



SECTION THRU BEAM #1 WITH TYPE SM RAIL INSERT

See Sheet 10 of 21 for Steel Railing Type SM details.
See Sheet 3 of 21 for Rail Post Spacing for Type SM Rail.



SECTION THRU BEAMS #12 & #13
WITH SIDEWALK REINFORCEMENT

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

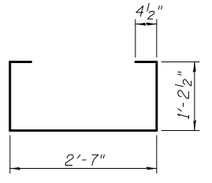
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

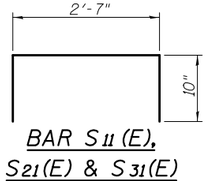
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

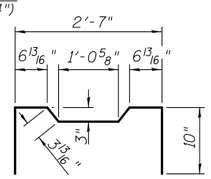
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



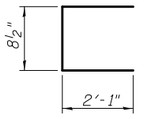
BAR S10(E),
S20(E) & S30(E)



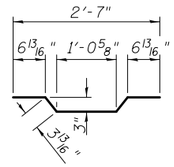
BAR S11 (E),
S21(E) & S31(E)



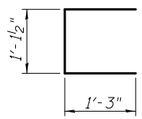
BAR S12(E),
S22(E) & S32(E)



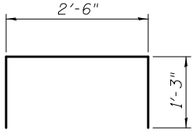
BAR S13(E),
S23(E) & S33(E)



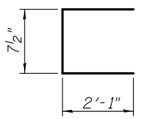
BAR A11 (E),
A21 (E) & A31 (E)



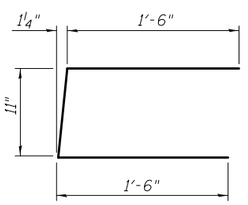
BAR U10(E),
U20(E) & U30(E)



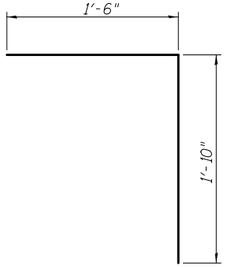
BAR U11 (E),
U21 (E) & U31 (E)



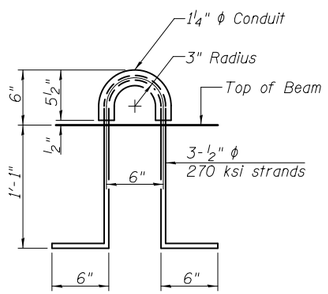
BAR U12(E),
U22(E) & U32(E)



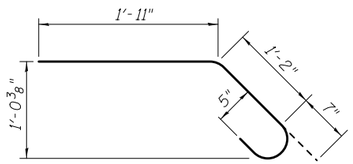
BAR D10(E),
D20(E) & D30(E)



BAR D11 (E),
D21(E) & D31 (E)



LIFTING LOOP DETAIL



BAR C10(E),
C20(E) & C30(E)

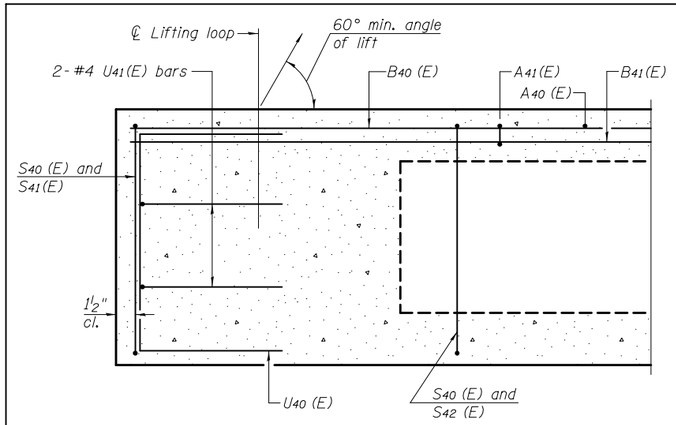
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	6,380

$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	17" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 15 OF 21 SHEETS
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.					

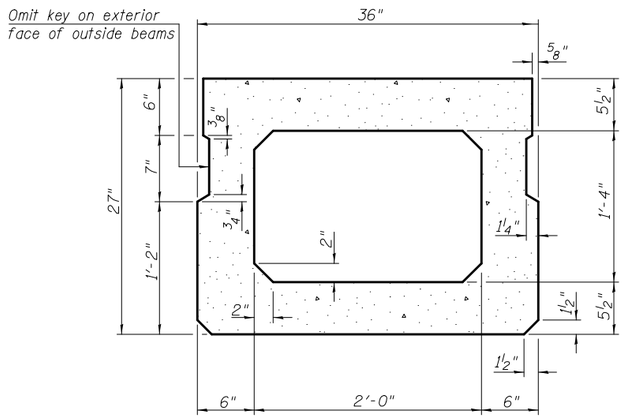
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	31
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



SECTION A-A

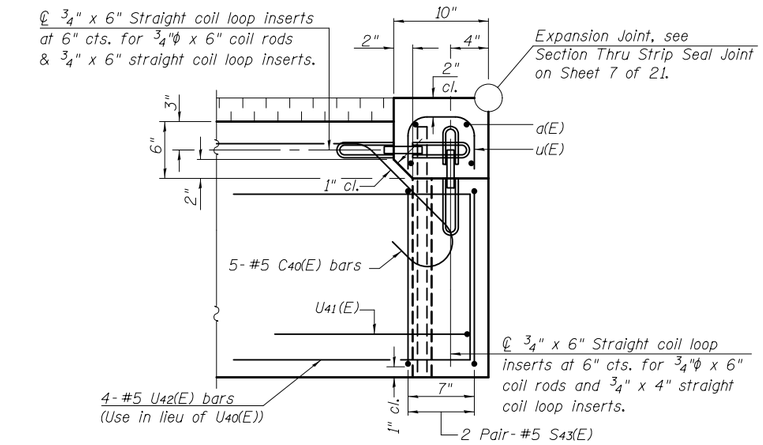
MINIMUM BAR LAP

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



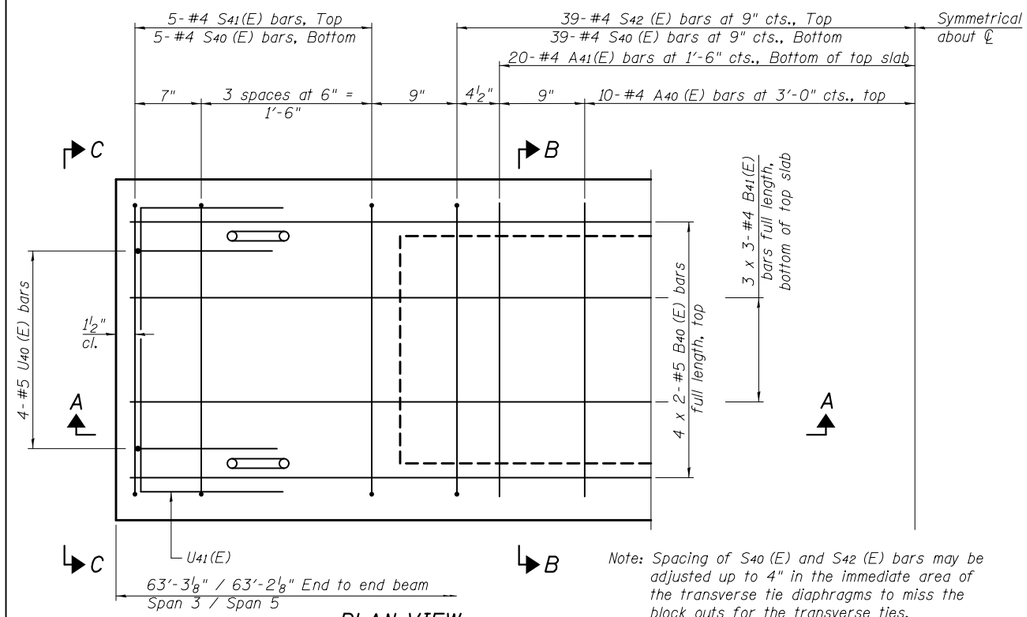
SECTION B-B

(Showing dimensions)



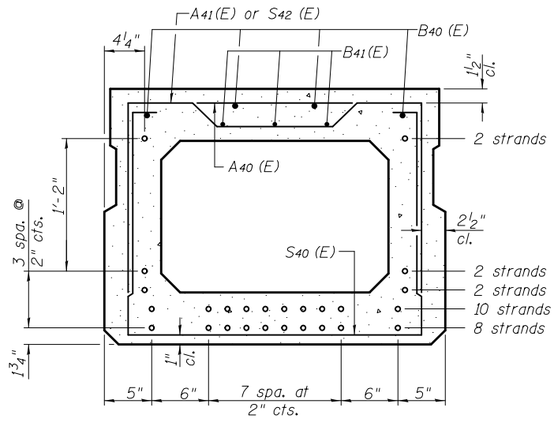
END OF BEAM (EXP. END)

(At Pier 5)
(Dimensions are at Rt. L's)



PLAN VIEW

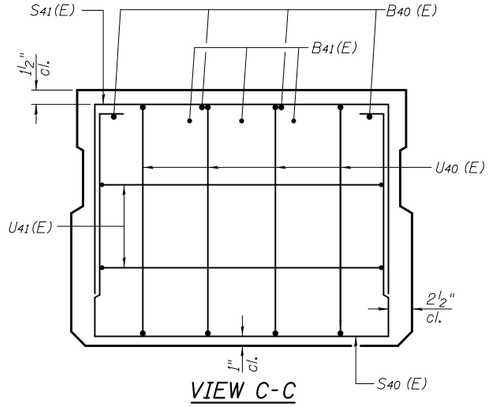
Note: Spacing of S40 (E) and S42 (E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



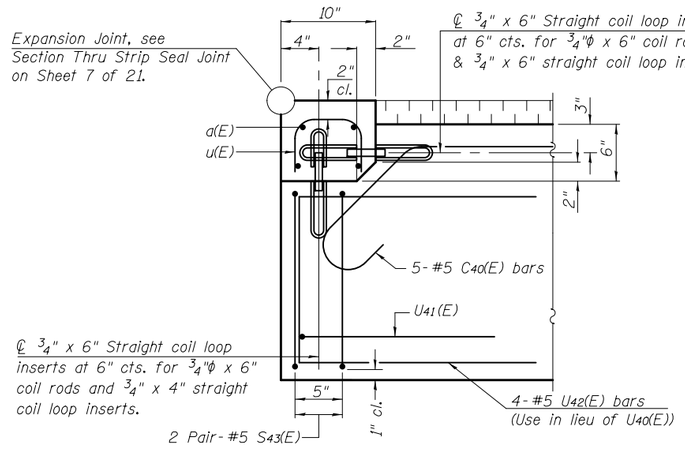
SECTION B-B

(Showing reinforcement and permissible strand locations)

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



VIEW C-C



END OF BEAM (EXP. END)

(At Piers 2 & 4)
(Dimensions are at Rt. L's)

Notes:
1½" cl. for reinforcement bars unless otherwise noted.
Typical reinforcement not shown for clarity.
Cost of Inserts & Coil Rods included with Precast Prestressed Concrete Deck Beams.

SPAN 3 BAR LIST
ONE BEAM ONLY

(For information only)

	Bar	No.	Size	Length	Shape
	A40 (E)	20	#4	2'-7"	—
	A41(E)	40	#4	2'-10"	~
	B40 (E)	8	#5	32'-9"	—
	B41(E)	9	#4	22'-4"	—
	C40 (E)	5	#5	3'-8"	◝
*	D40 (E)	64	#5	3'-11"	⊏
**	D41(E)	64	#5	3'-4"	⊓
	S40 (E)	88	#4	7'-5"	⊔
	S41(E)	10	#4	5'-11"	⊓
	S42 (E)	78	#4	6'-2"	⊓
	S43 (E)	4	#5	4'-11"	⊏
	U40 (E)	4	#5	4'-6"	⊏
	U41(E)	3	#4	5'-0"	⊓
	U42 (E)	4	#5	5'-8"	⊏

* Beam 12 only
** Beam 13 only

Note:
Bars indicated thus 4 x 2-#5, etc. indicates 4 lines of bars with 2 lengths per line.
See sheet 4 of 21 for additional details and Bill of Material.

SPAN 5 BAR LIST
ONE BEAM ONLY

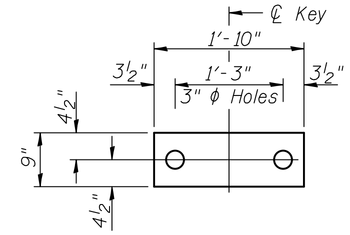
(For information only)

	Bar	No.	Size	Length	Shape
	A40 (E)	20	#4	2'-7"	—
	A41(E)	40	#4	2'-10"	~
	B40 (E)	8	#5	32'-9"	—
	B41(E)	9	#4	22'-4"	—
	C40 (E)	10	#5	3'-8"	◝
*	D40 (E)	64	#5	3'-11"	⊏
**	D41(E)	64	#5	3'-4"	⊓
	S40 (E)	88	#4	7'-5"	⊔
	S41(E)	10	#4	5'-11"	⊓
	S42 (E)	78	#4	6'-2"	⊓
	S43 (E)	8	#5	4'-11"	⊏
	U41(E)	2	#4	5'-0"	⊓
	U42 (E)	8	#5	5'-8"	⊏

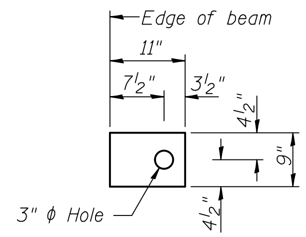
$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	27" x 36" PPC DECK BEAM SPANS 3 & 5 STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	ENGINEER OF BRIDGE DESIGN	REVISED		SHEET NO. 16 OF 21 SHEETS
DRAWN - R. Laughlin		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.					

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	32
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		



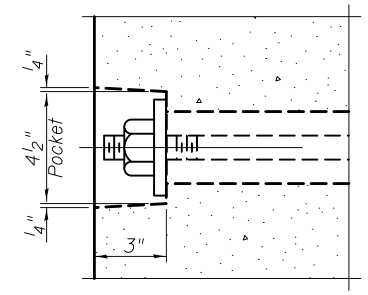
FABRIC BEARING PAD
(Interior)



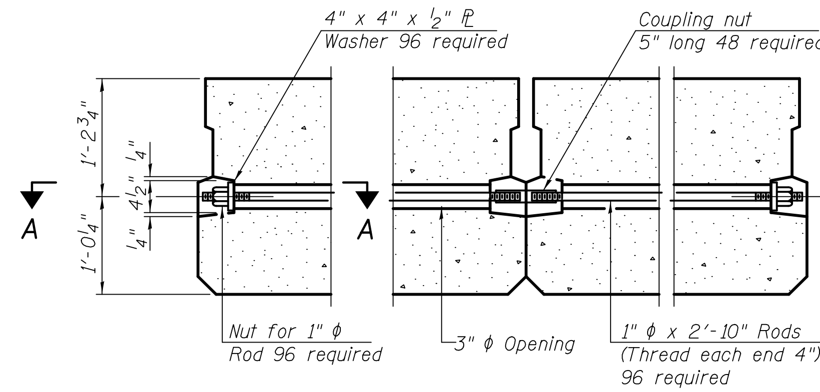
FABRIC BEARING PAD
(Exterior)

FIXED

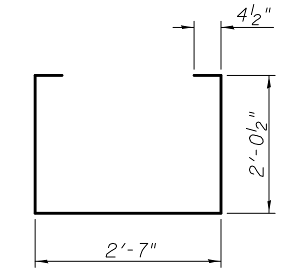
Notes:
All bearing pads shall be ½" thick.
Omit holes where dowel rods are not used.
Expansion bearing pad shall be bonded to the substructure.



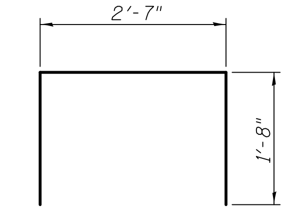
SECTION A-A



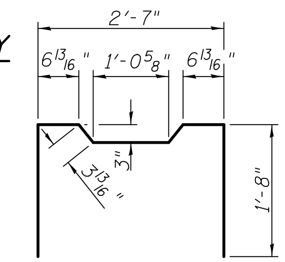
TYPICAL TRANSVERSE TIE ASSEMBLY



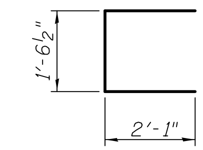
BAR S_{40}(E)



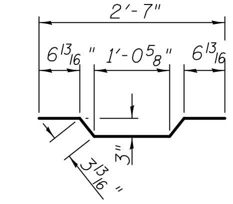
BAR S_{41}(E)



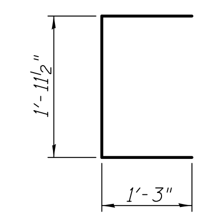
BAR S_{42}(E)



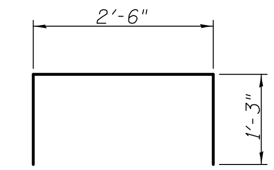
BAR S_{43}(E)



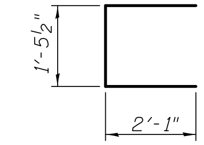
BAR A_{41}(E)



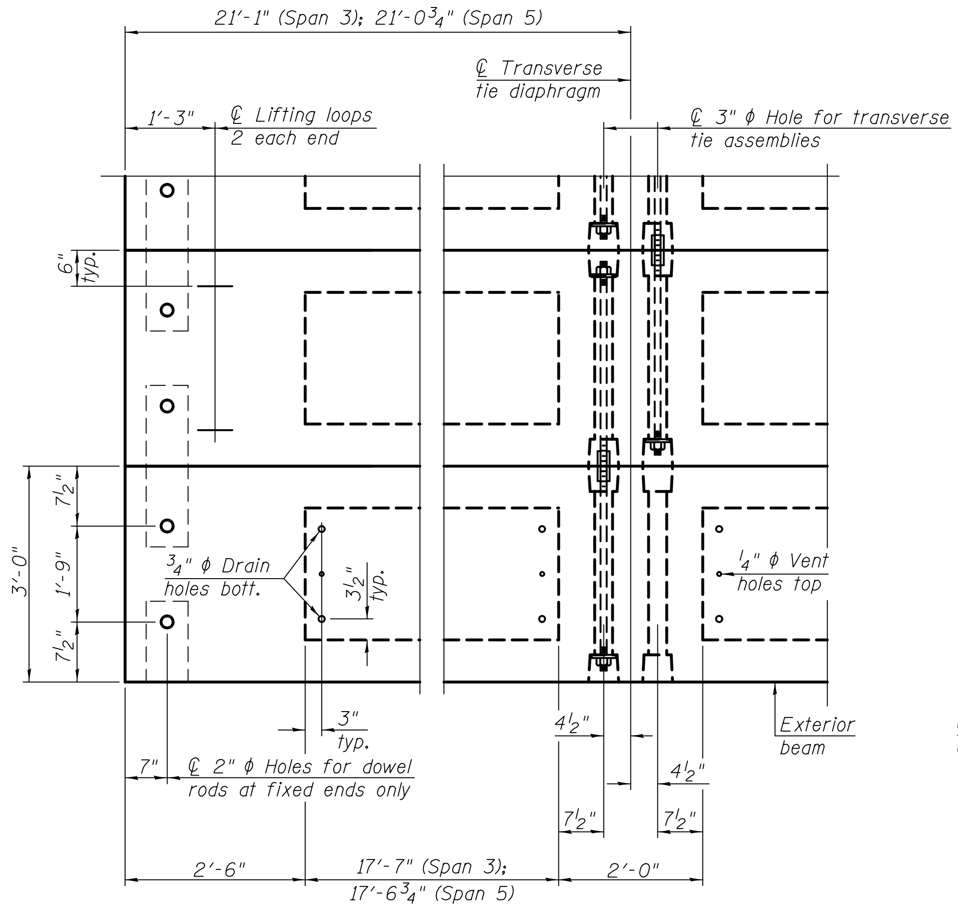
BAR U_{40}(E)



BAR U_{41}(E)

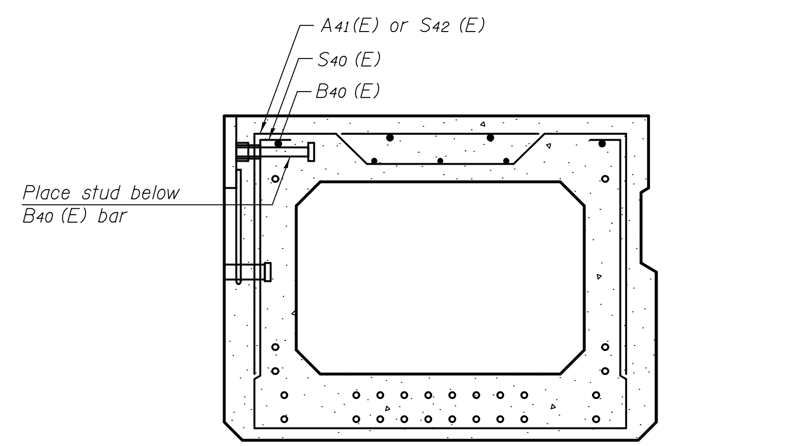


BAR U_{42}(E)



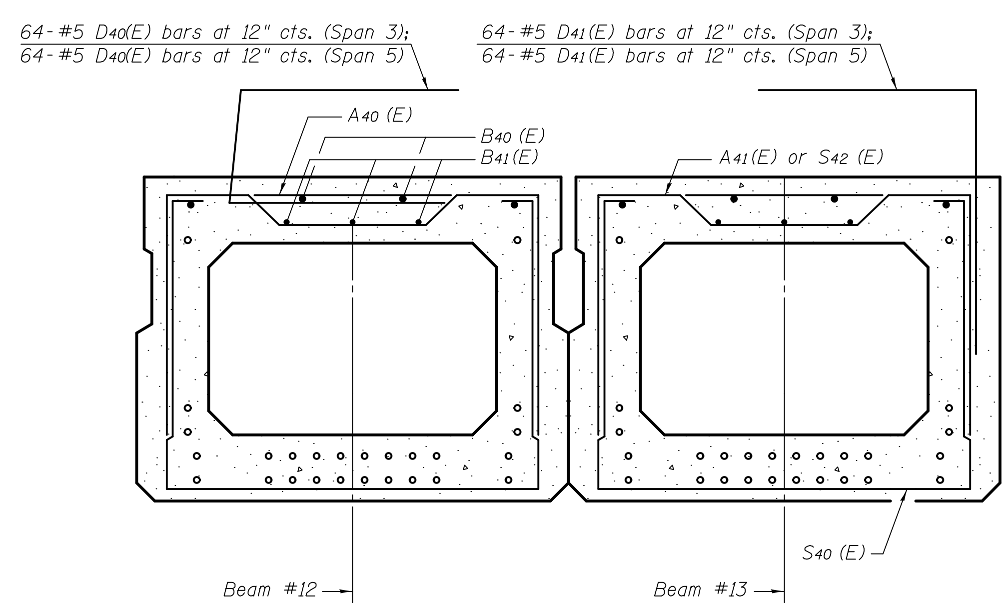
Note: Connect beams in pairs with the transverse tie configuration shown.
Omit dowel rod holes at the end of the beams per sheet 6 of 21.

PLAN VIEW

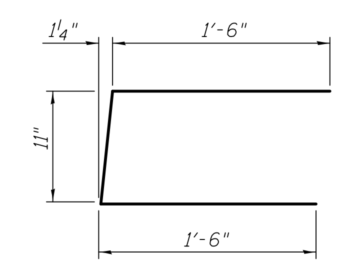


SECTION THRU BEAM #1 WITH TYPE SM RAIL INSERT

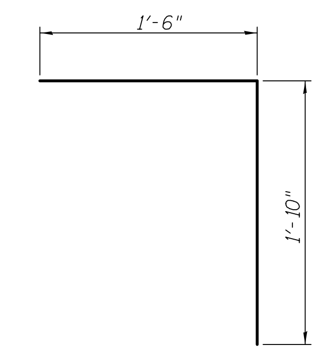
See Sheet 10 of 21 for Steel Railing Type SM details.
See Sheet 3 of 21 for Rail Post Spacing for Type SM Rail.



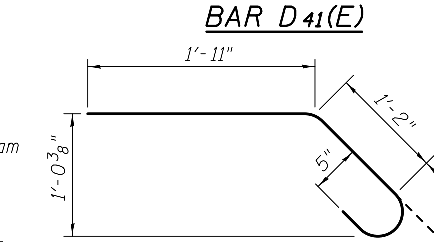
SECTION THRU BEAMS #12 & #13 WITH SIDEWALK REINFORCEMENT



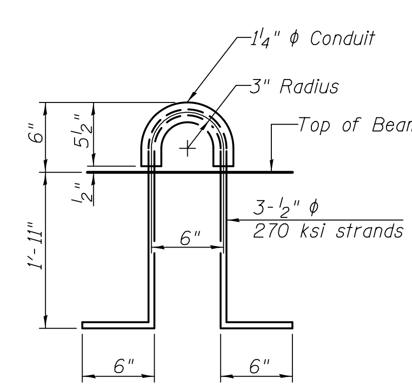
BAR D_{40}(E)



BAR D_{41}(E)



BAR C_{40}(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	4,932

$TIME$
$DATE$

DESIGNED -	CORY D. KOLTVEIT
CHECKED -	VICTOR M. MERCADO-VAZQUEZ
DRAWN -	R. Laughlin
CHECKED -	C.D.K / V.M.V. / G.R.A.

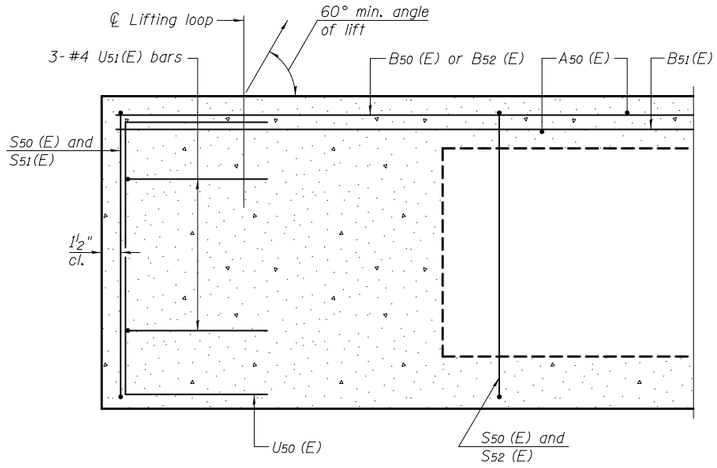
EXAMINED Jayne F. Schiff
ENGINEER OF BRIDGE DESIGN
PASSED [illegible]
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - DECEMBER 9, 2016
REVISED
REVISED

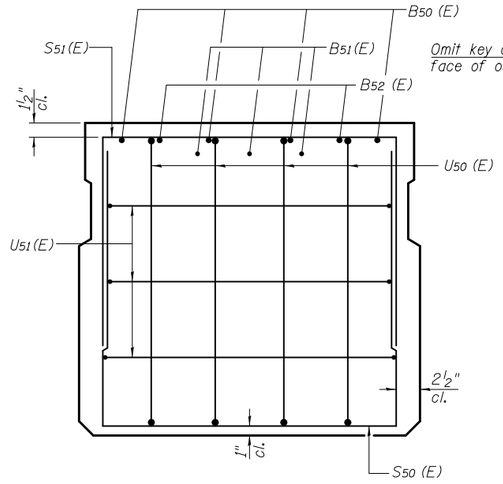
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 039-0036
SHEET NO. 17 OF 21 SHEETS

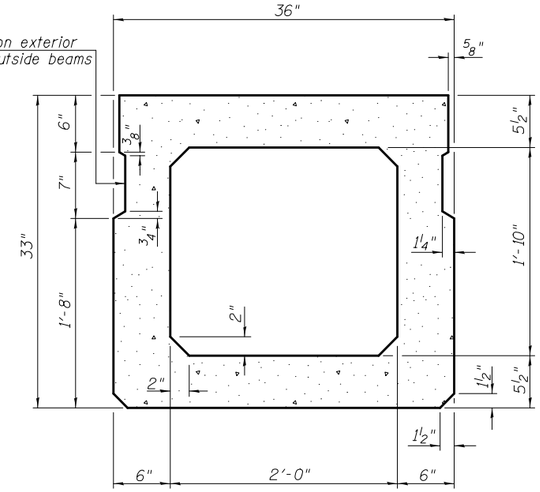
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	33
		CONTRACT NO. 78274		
	ILLINOIS	FED. AID PROJECT		



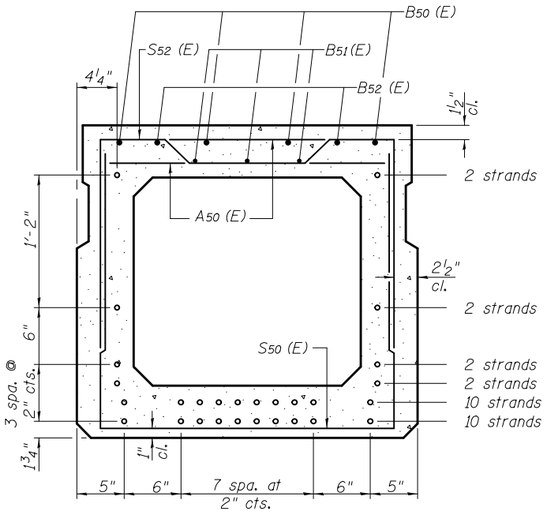
SECTION A-A



VIEW C-C

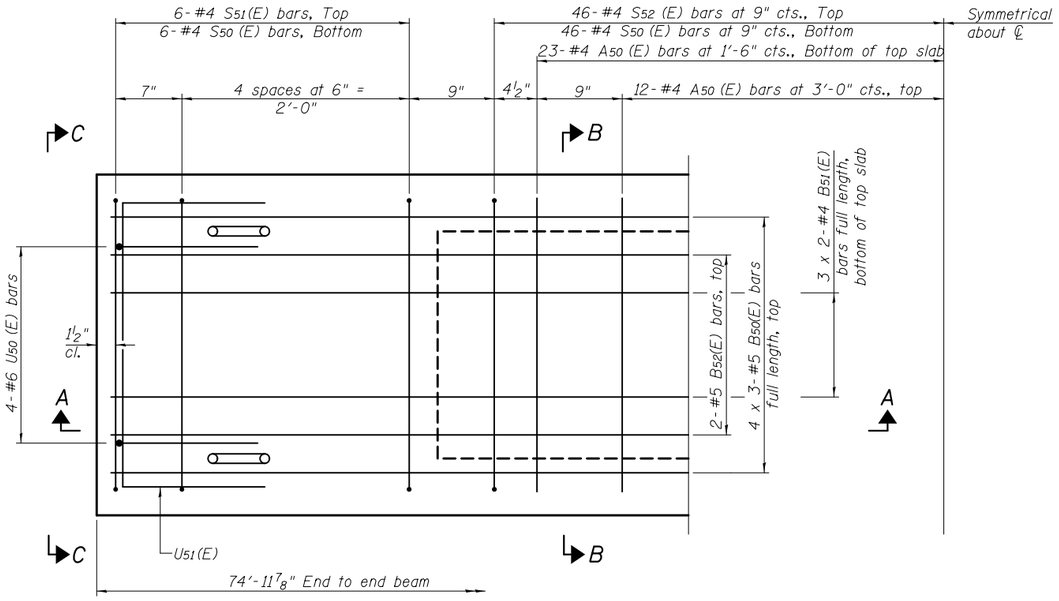


SECTION B-B
(Showing dimensions)

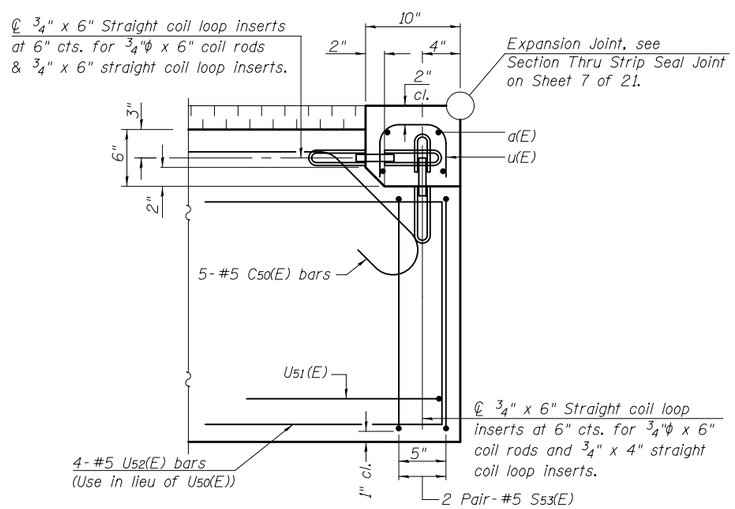


SECTION B-B
(Showing reinforcement and permissible strand locations)

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



PLAN VIEW



END OF BEAM (EXP. END)
(At Pier 4)
(Dimensions are at Rt. L's)

Notes:
1½" cl. for reinforcement bars unless otherwise noted.
Typical reinforcement not shown for clarity.
Cost of Inserts & Coil Rods included with Precast Prestressed Concrete Deck Beams.

SPAN 4 BAR LIST ONE BEAM ONLY

(For information only)

	Bar	No.	Size	Length	Shape
	A50 (E)	70	#4	2'-7"	—
	B50 (E)	12	#5	26'-7"	—
	B51(E)	6	#4	38'-4"	—
	B52 (E)	4	#5	10'-0"	—
	C50 (E)	5	#5	3'-8"	⌐
*	D50 (E)	76	#5	3'-11"	⊏
**	D51(E)	76	#5	3'-4"	⊐
	S50 (E)	104	#4	7'-8"	⊏⊐
	S51(E)	12	#4	6'-5"	⊐⊏
	S52 (E)	92	#4	6'-8"	⊐⊐
	S53 (E)	4	#4	6'-3"	⊏
	U50 (E)	4	#6	5'-0"	⊏
	U51(E)	3	#4	5'-0"	⊐
	U52 (E)	4	#6	6'-2"	⊏

* Beam 12 only
** Beam 13 only

Note:
Bars indicated thus 4 x 3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
See sheet 4 of 21 for additional details and Bill of Material.

MINIMUM BAR LAP

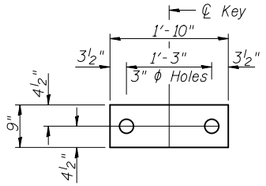
#4 bar = 1'-11"
#5 bar = 2'-6"

Note: Spacing of S50 (E) and S52 (E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

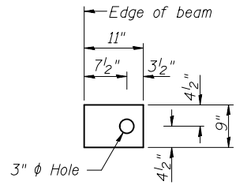
$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	33" x 36" PPC DECK BEAM SPAN 4 STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ	PASSED	REVISED		SHEET NO. 18 OF 21 SHEETS
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED		
CHECKED - C.D.K / V.M.V. / G.R.A.	ACTING ENGINEER OF BRIDGES AND STRUCTURES			

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	34
		CONTRACT NO. 78274		
	ILLINOIS	FED. AID PROJECT		



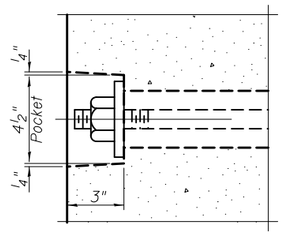
FABRIC BEARING PAD
(Interior)



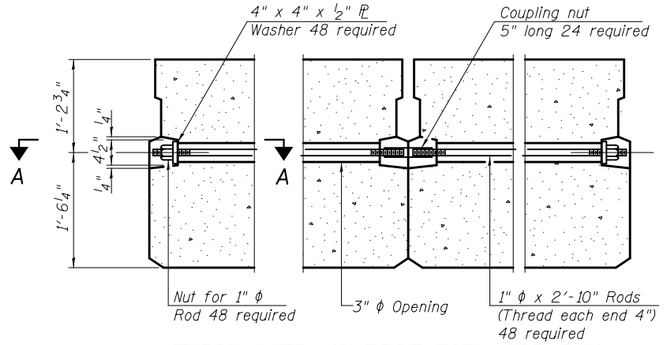
FABRIC BEARING PAD
(Exterior)

FIXED

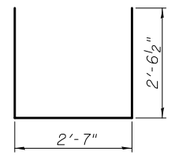
Notes:
All bearing pads shall be ½" thick.
Omit holes where dowel rods are not used.
Expansion bearing pad shall be bonded to the substructure.



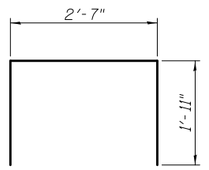
SECTION A-A



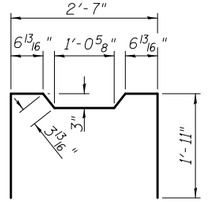
TYPICAL TRANSVERSE TIE ASSEMBLY



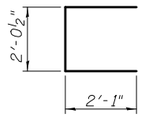
BAR S50(E)



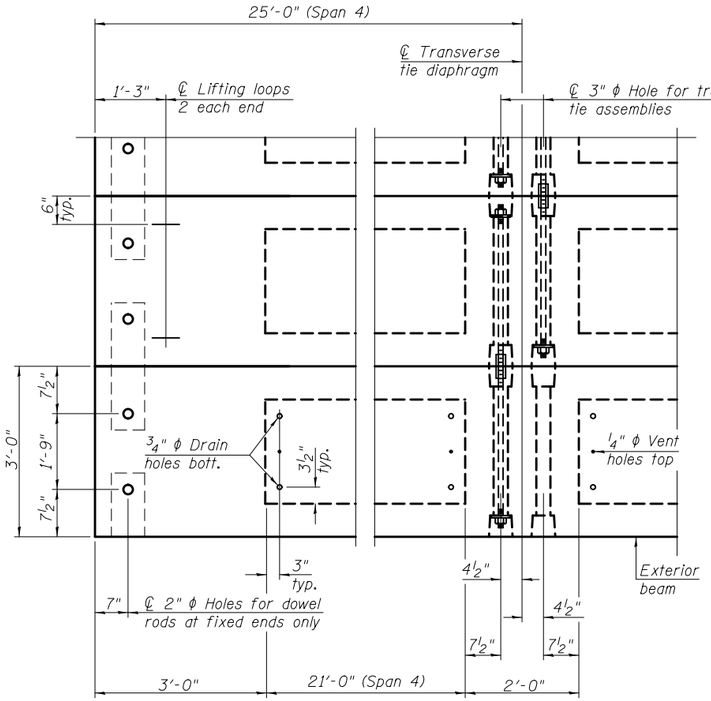
BAR S51(E)



BAR S52(E)



BAR S 53 (E)



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown. Omit dowel rod holes at the end of the beams per sheet 6 of 21.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

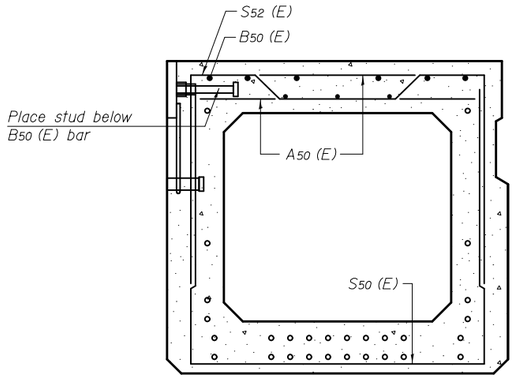
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

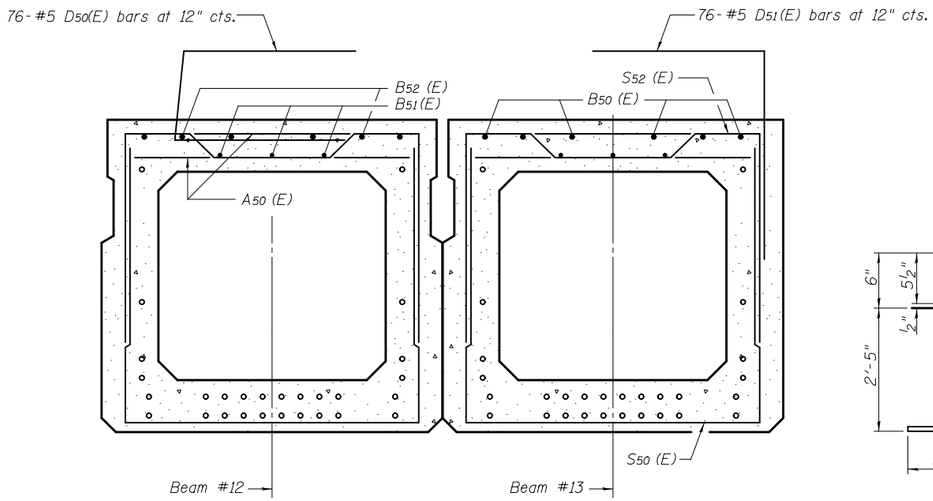
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

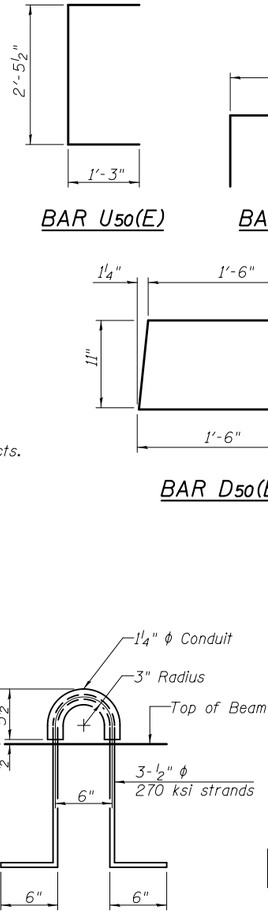


SECTION THRU BEAM #1 WITH TYPE SM RAIL INSERT

See Sheet 10 of 21 for Steel Railing Type SM details.
See Sheet 3 of 21 for Rail Post Spacing for Type SM Rail.



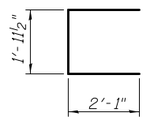
SECTION THRU BEAMS #12 & #13
WITH SIDEWALK REINFORCEMENT



LIFTING LOOP DETAIL

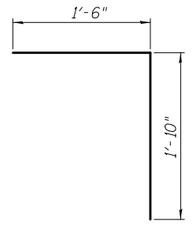
BAR U50(E)

BAR U51(E)

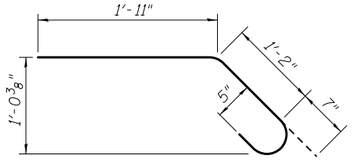


BAR U52(E)

BAR D50(E)



BAR D51(E)



BAR C50(E)

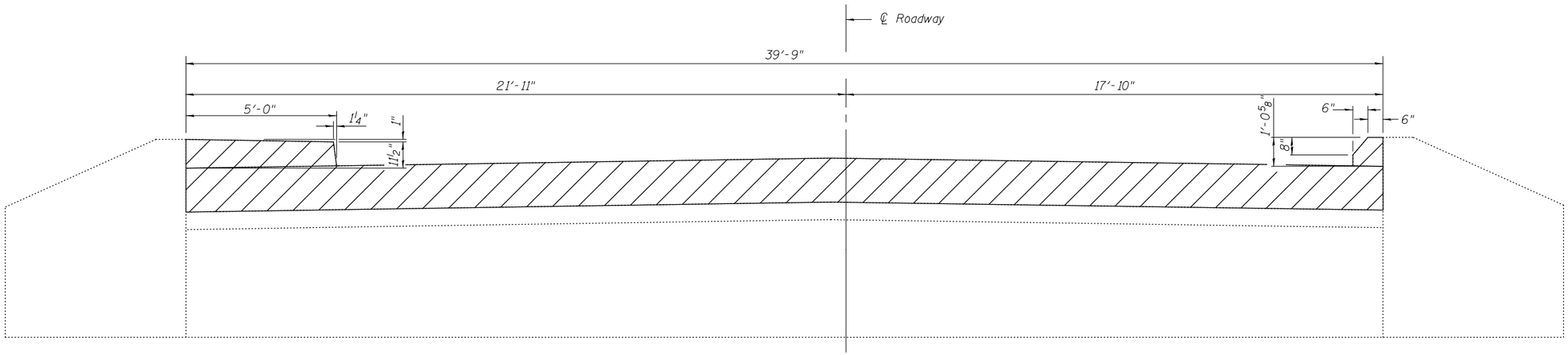
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2,925

$TIME$
$DATE$

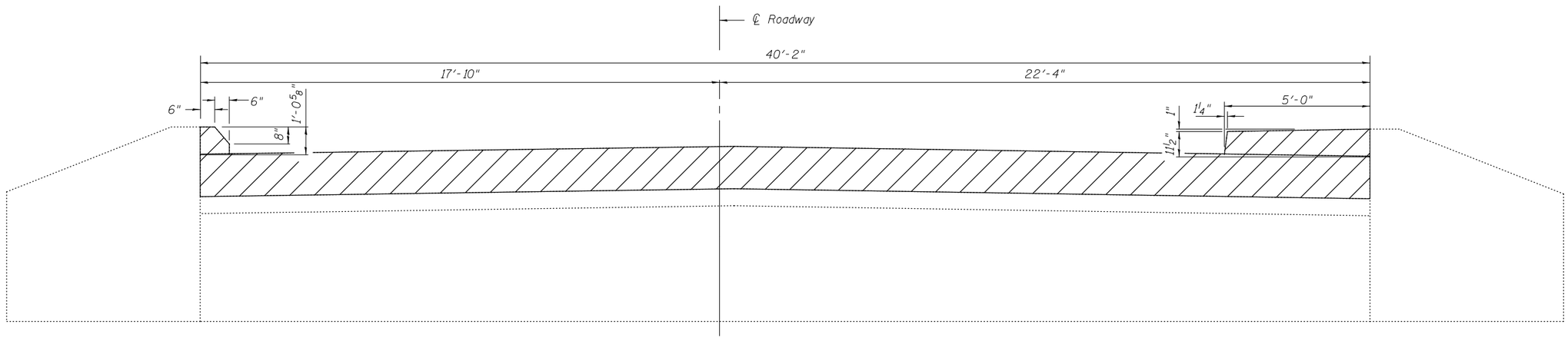
DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	33" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 039-0036	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ					9669	(12-2)BR-1	JACKSON	41	35
DRAWN - R. Laughlin	PASSED	REVISED		SHEET NO. 19 OF 21 SHEETS			CONTRACT NO. 78274		
CHECKED - C.D.K / V.M.V. / G.R.A.		REVISED					ILLINOIS FED. AID PROJECT		

Jayne F. Schlipf
ENGINEER OF BRIDGE DESIGN
Carl Trumpp
ACTING ENGINEER OF BRIDGES AND STRUCTURES



EAST ABUTMENT

(Looking East)



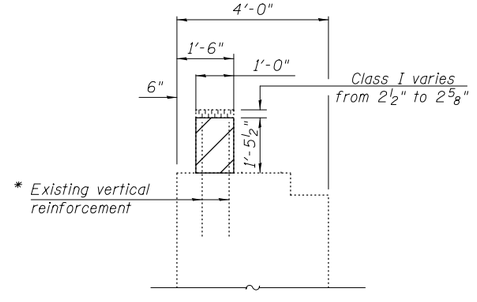
WEST ABUTMENT

(Looking West)

* Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced with an approved bar splicer or anchorage system. Cost shall be included in Concrete Removal.

Concrete Removal

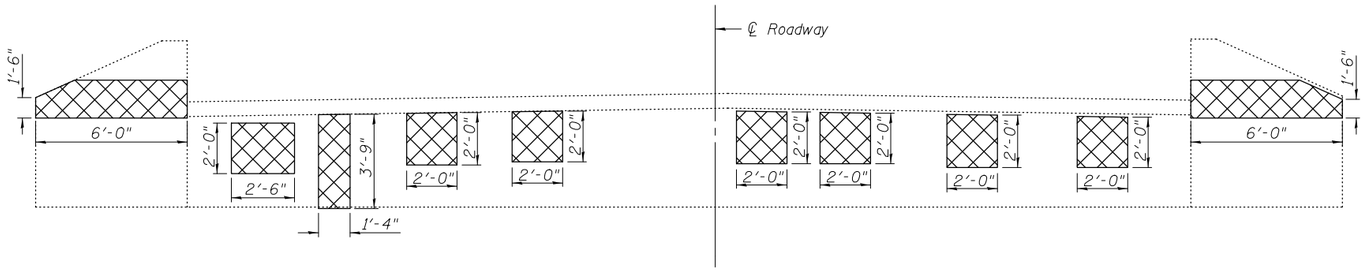
See sheet 21 of 21 for Substructure Bill of Material.



SECTION THRU ABUTMENT

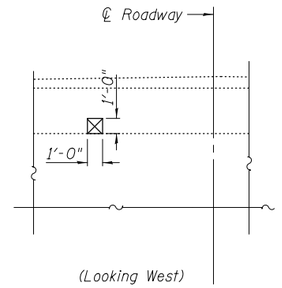
$TIME$
$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED	DATE - DECEMBER 9, 2016	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**ABUTMENT REMOVAL DETAILS STRUCTURE NO. 039-0036**	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - VICTOR M. MERCADO-VAZQUEZ					9669	(12-2)BR-1	JACKSON	41	36
DRAWN - R. Laughlin	PASSED	REVISED						CONTRACT NO. 78274	
CHECKED - C.D.K / V.M.V. / G.R.A.	ENGINEER OF BRIDGE DESIGN ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 20 OF 21 SHEETS			ILLINOIS	FED. AID PROJECT	

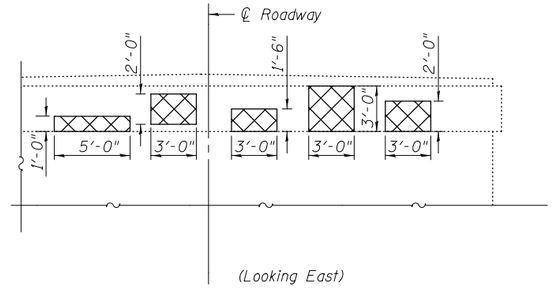


EAST ABUTMENT ELEVATION

(Looking East)

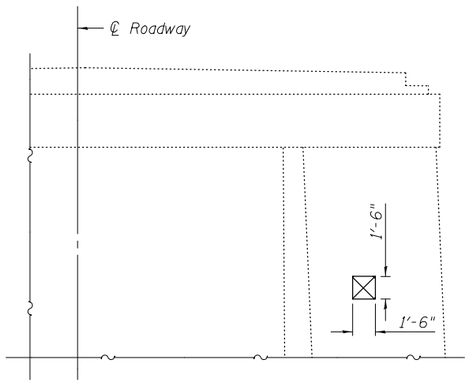


(Looking West)

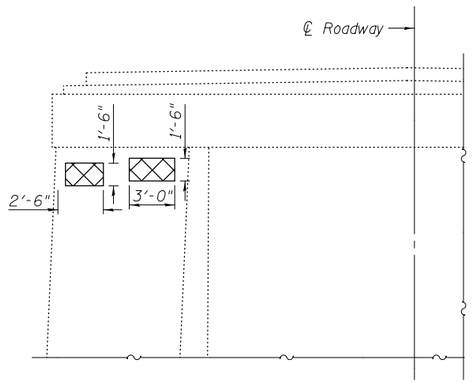


(Looking East)

PIER 1 ELEVATION

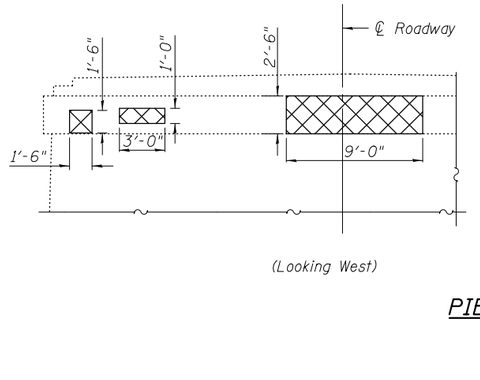


(Looking West)

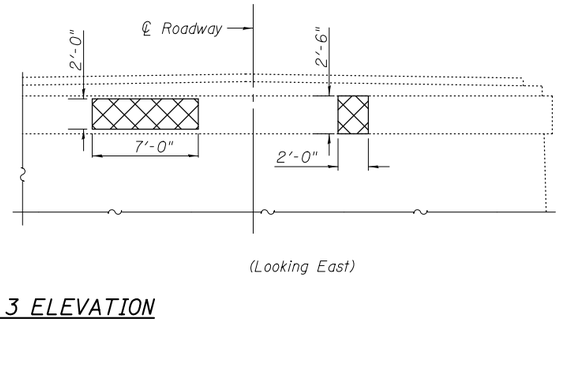


(Looking East)

PIER 2 ELEVATION

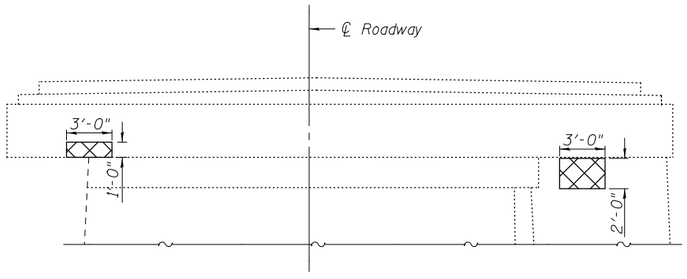


(Looking West)



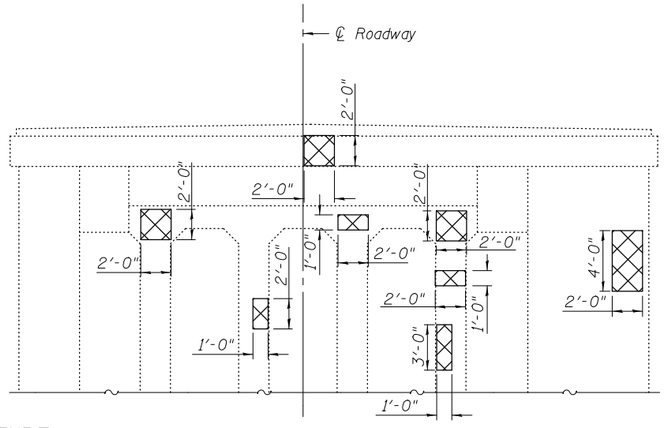
(Looking East)

PIER 3 ELEVATION

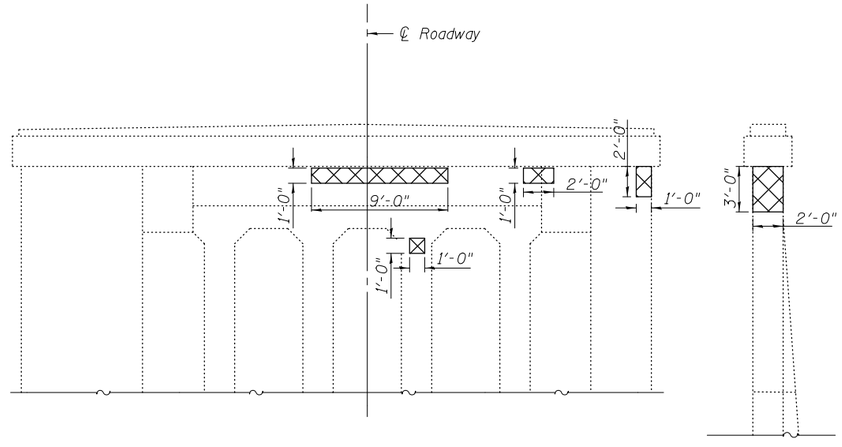


PIER 5 ELEVATION

(Looking West)



(Looking West)



(Looking East)

(Looking North)

PIER 6 ELEVATION

SUBSTRUCTURE BILL OF MATERIAL

Concrete Removal	Cu. Yd.	4.4
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	198.5

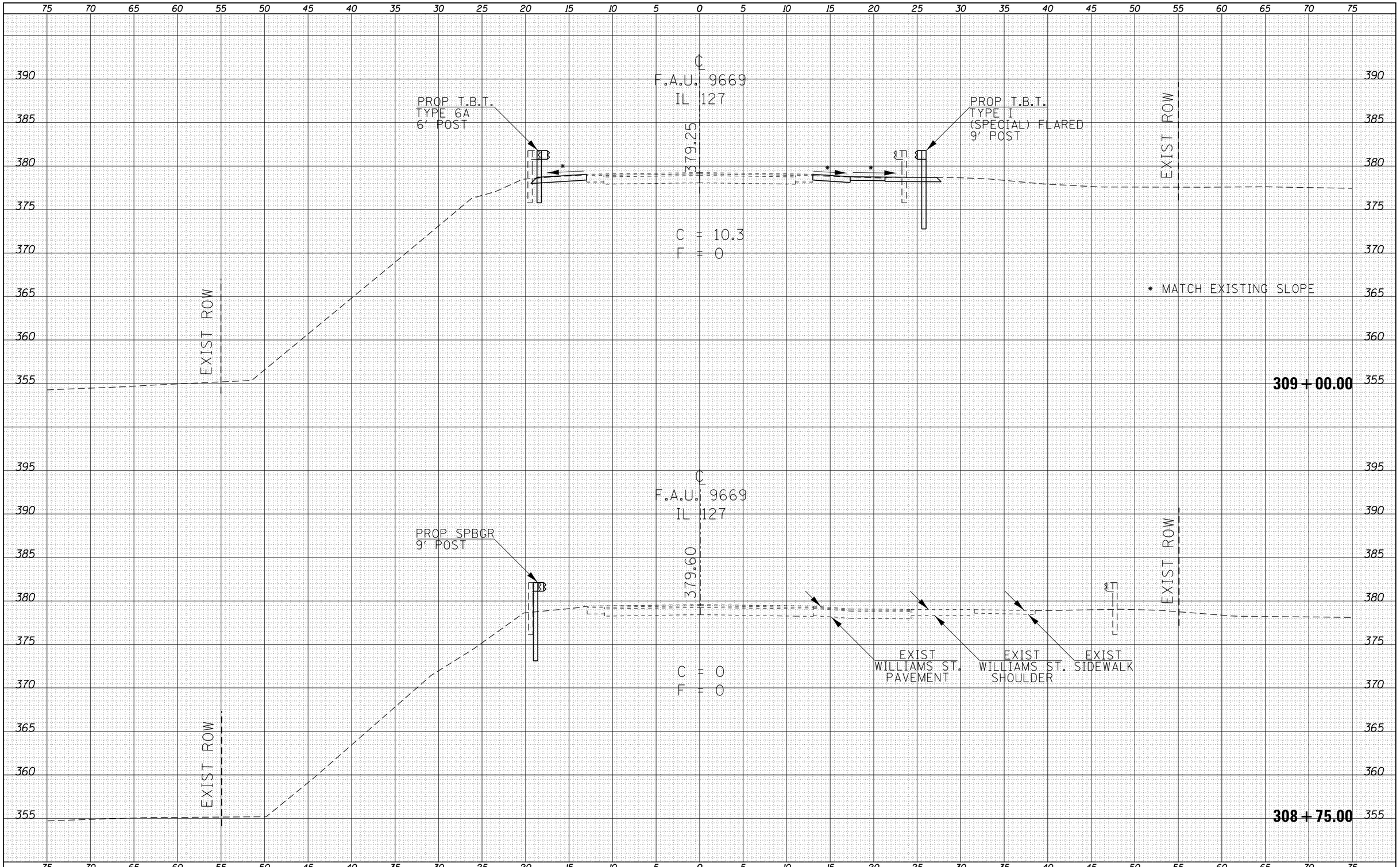
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)

$TIME$

$DATE$

DESIGNED - CORY D. KOLTVEIT	EXAMINED		DATE - DECEMBER 9, 2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUBSTRUCTURE REPAIR DETAILS STRUCTURE NO. 039-0036
CHECKED - VICTOR M. MERCADO-VAZQUEZ		ENGINEER OF BRIDGE DESIGN			
DRAWN - R. Laughlin	PASSED		REVISED		SHEET NO. 21 OF 21 SHEETS
CHECKED - C.D.K / V.M.V. / G.R.A.		ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	37
		CONTRACT NO. 78274		
		ILLINOIS	FED. AID PROJECT	



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

BY	DATE

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

BY	DATE

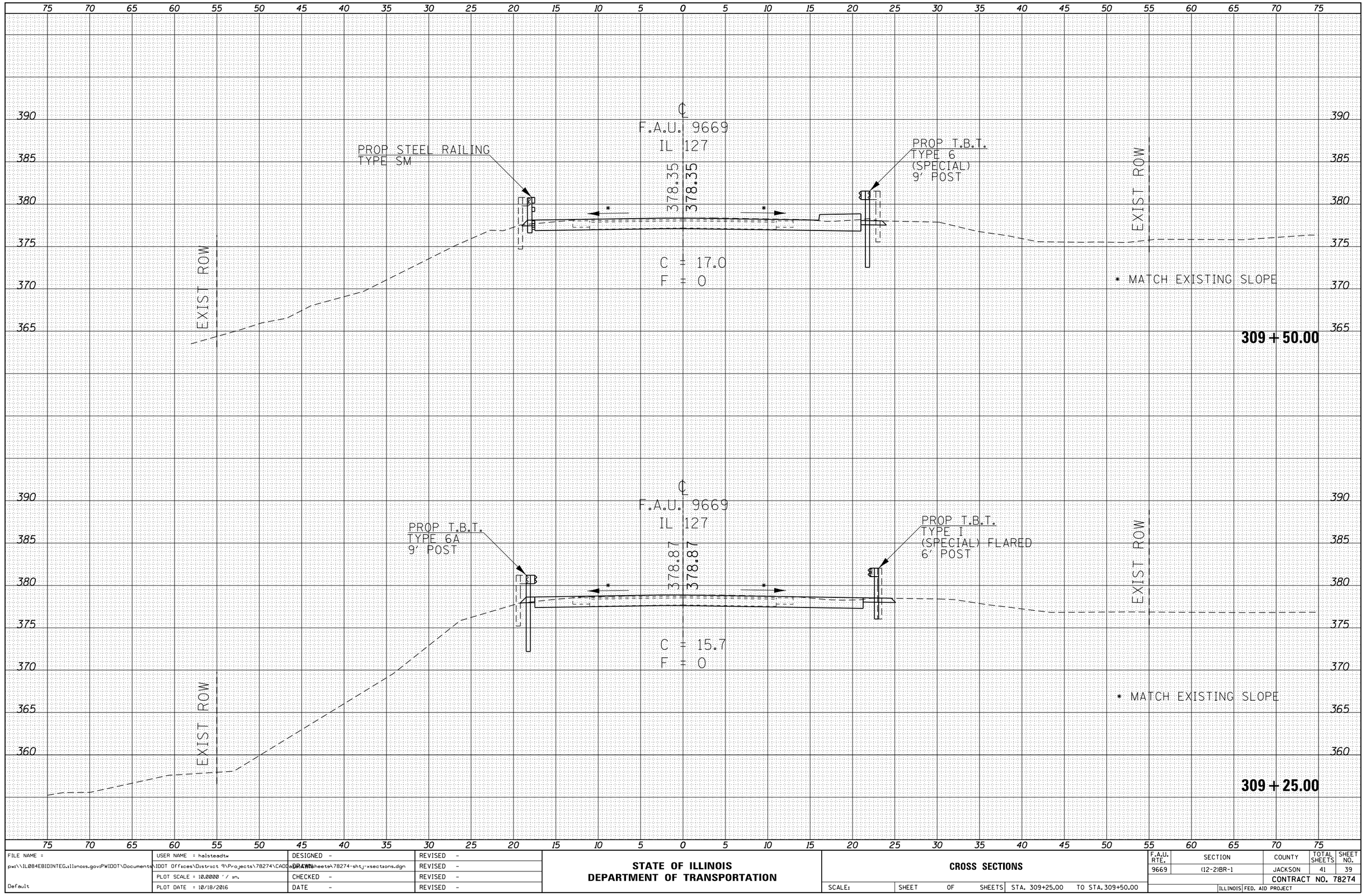
FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -
pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\CADD\Sheets\78274-shtj-xsections.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET OF SHEETS | STA. 308+75.00 | TO STA. 309+00.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	38
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK — NO.

BY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

ORIGINAL SURVEY — NOTE BOOK — NO.

BY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\CADD\Sheets\78274-shtj-xsections.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
	PLOT SCALE = 10.0000 ' / in.	DRAWN -	REVISED -
Default	PLOT DATE = 10/18/2016	CHECKED -	REVISED -
		DATE -	REVISED -

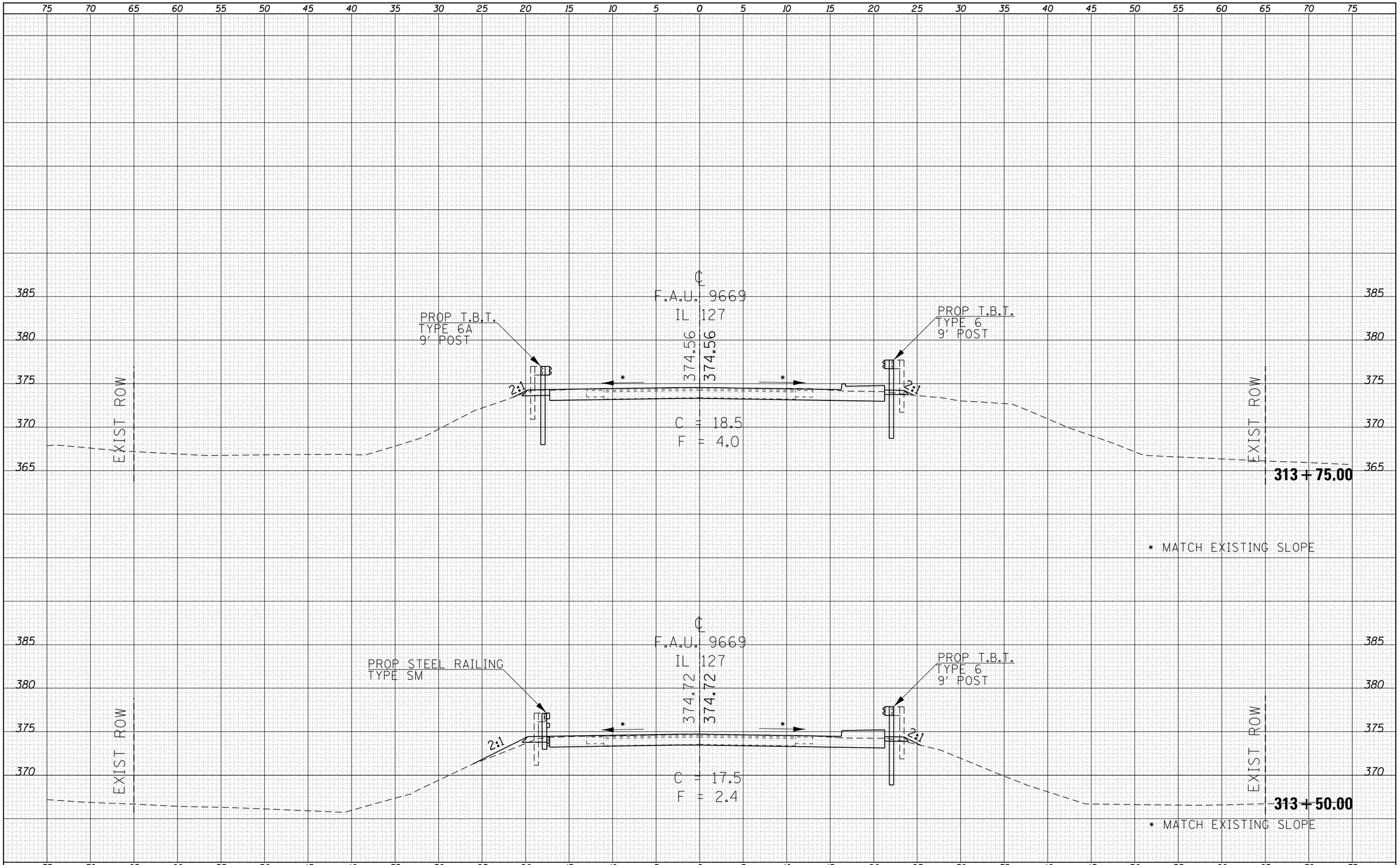
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET OF SHEETS | STA. 309+25.00 TO STA. 309+50.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	39
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		

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



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

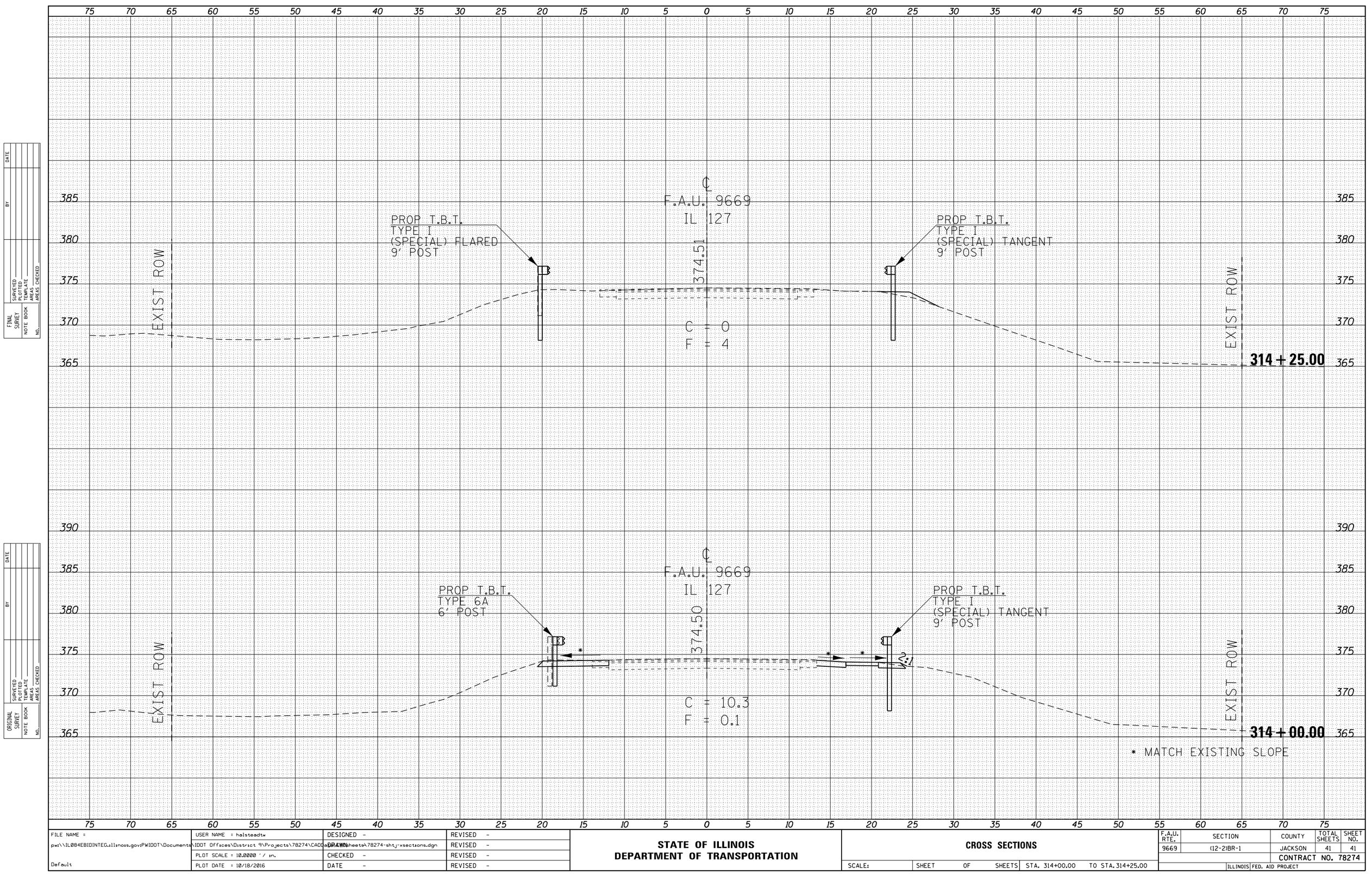
FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -
pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\CADD\Drawing sheets\78274-shtj-xsections.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET OF SHEETS | STA. 313+50.00 | TO STA. 313+75.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	40
		CONTRACT NO. 78274		
	ILLINOIS FED. AID PROJECT			



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

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

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\78274\CADD\Drawings\sheets\78274-shtj-xsections.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 10/18/2016	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET OF SHEETS | STA. 314+00.00 TO STA. 314+25.00

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9669	(12-2)BR-1	JACKSON	41	41
		CONTRACT NO. 78274		
		ILLINOIS FED. AID PROJECT		