

03-03-2017 LETTING ITEM 020

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

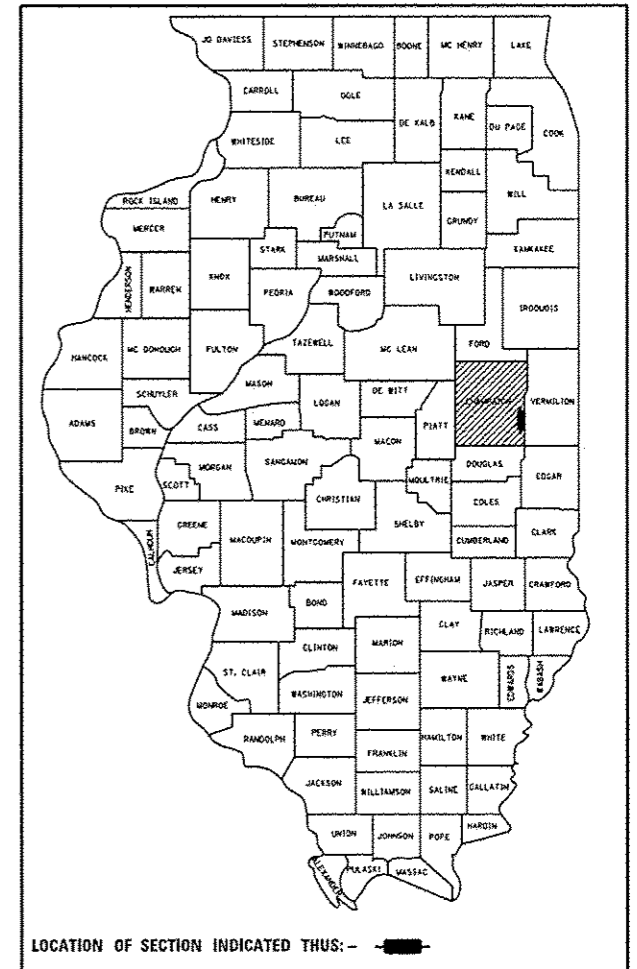
**PROPOSED
HIGHWAY PLANS**

F.A.P. ROUTE 836 (IL 49)
SECTION 119CR
PROJECT ACF-0836(034)
CULVERT REPLACEMENT
CHAMPAIGN COUNTY

4 MILES S. OF HOMER
C-95-020-16

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	1
		ILLINOIS	CONTRACT NO. 70B81	

D-95-020-16

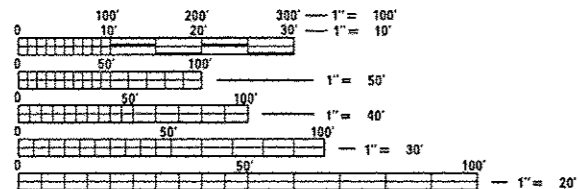


FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-7

RECEIVED
DEC 16 2016
TO USRA
DESIGN & ENVIRONMENT

EXISTING S.N. 010-8103 AT STA. 753+07.00
REPLACED WITH S.N. 010-8170 AT STA. 753+07.00
SINGLE 12' X 2' PCBC WITH PRE-CAST END SECTIONS

CURRENT ADT
OTHER PRINCIPAL ARTERIAL
FAP 836 (IL 49)
ADT = 2,450 (2016) SU=7.1% MU=4.2%

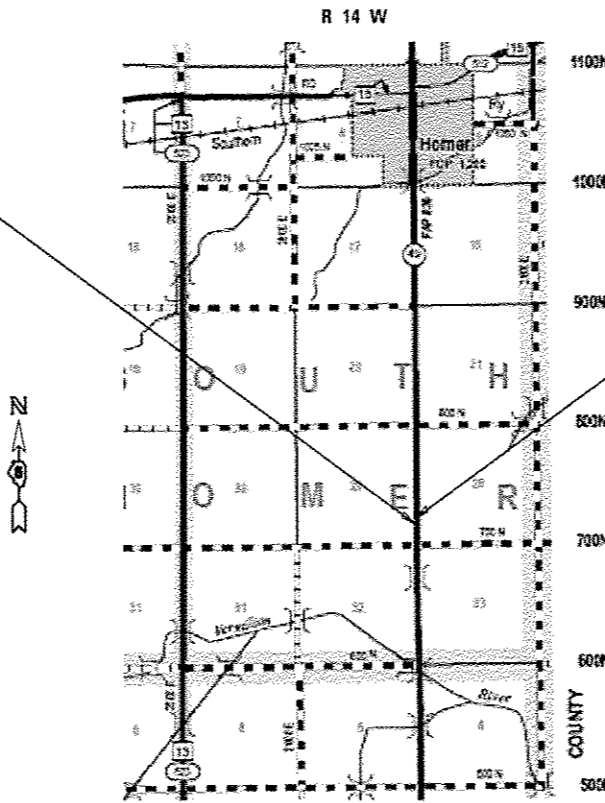


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

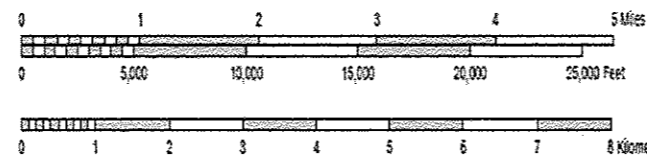
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123 TOWNSHIPS
OR 811 SOUTH HOMER

PROJECT ENGINEER: NANCY FASIG
SQUAD LEADER: STEVE COOMBES
(217) 465-4181

CONTRACT NO. 70B81



S.N. 010-8171 TO BE BUILT AT STA. 754+00.00
SINGLE 12' X 2' PCBC WITH PRE-CAST END SECTIONS



GROSS LENGTH = 115.00 FT. = 0.022 MILE
NET LENGTH = 44.00 FT. = 0.008 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED DECEMBER 5, 2016
Kensil A. Barnett
REGIONAL ENGINEER
JAN 27 2017
Mamoon M. Adis
ENGINEER OF DESIGN AND ENVIRONMENT
JAN 27 2017
David A. [Signature]
DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

REV

INDEX OF SHEETS

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HIGHWAY STANDARDS ✓

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-08	PAVEMENT JOINTS
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
442201-03	CLASS C AND D PATCHES
515001-03	NAME PLATES FOR BRIDGES
630001-11	STEEL PLATE BEAM GUARDRAIL
630106-02	LONG - SPAN GUARDRAIL OVER CULVERT
630301-07	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
667101-02	PERMANENT SURVEY MARKERS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701206-03	LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701901-06	TRAFFIC CONTROL DEVICES
780001-05	TYPICAL PAVEMENT MARKINGS
725001-01	OBJECT AND TERMINAL MARKERS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

FILE NAME :	USER NAME = coombesf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS & HIGHWAY STANDARDS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11884E010\INTEG\Illinois.gov\FWIDOT\Documents\DOT Offices\District 5\Projects\05710\Drawings\Design\0578081-ht-plot.dgn	CHECKED -	REVISED -	836			119CR	CHAMPAIGN	44	2	
PLOT SCALE = 48.0000' / in.	DATE -	REVISED -	CONTRACT NO. 70B01							
PLOT DATE = 11/18/2016	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
						SCALE: N/A	SHEET NO. 1 OF 3 SHEETS	STA. ---- TO STA. ----		

GENERAL NOTES

G.N.-100
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-100A
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

G.N.-105.09A
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-107.37
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY.

UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800) 892-0123 OR 811.

G.N.-250C
SEEDING, CLASS 7 AND MULCH, METHOD 2 IS INCLUDED IN THIS CONTRACT TO SEED NEW EARTH SHOULDERS DURING TIME PERIODS WHEN PERMANENT SEEDING IS NOT ALLOWED. SOME OR ALL OF THE CLASS 7 SEEDING AND MULCH WILL BE DELETED IF IT IS POSSIBLE TO PLACE PERMANENT SEEDING ON EARTH SHOULDERS AT THE TIME OF THEIR COMPLETION.

G.N.-280
TEMPORARY EROSION CONTROL SEEDING IS INCLUDED IN THIS CONTRACT TO SEED DISTURBED EARTH DURING TIME PERIODS WHEN PERMANENT SEEDING IS NOT ALLOWED. SOME OR ALL OF THE TEMPORARY EROSION CONTROL SEEDING WILL BE DELETED IF IT IS POSSIBLE TO PLACE PERMANENT SEEDING ON EARTH AT THE TIME OF THEIR COMPLETION.

G.N.-280A
THE VARIOUS MULCH PAY ITEMS IN THE PLANS INCLUDE QUANTITIES FOR TEMPORARY MULCH FOR EROSION CONTROL. THE TEMPORARY MULCH INCLUDES MAINTENANCE AND REMOVAL IF NECESSARY, PER THE REQUIREMENTS OF ARTICLE 280 OF THE STANDARD SPECIFICATIONS, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. SOME OR ALL OF THE MULCH USED AS TEMPORARY EROSION CONTROL WILL BE DELETED IF IT IS NOT NECESSARY DUE TO ESTABLISHMENT OF PERMANENT SEEDING.

G.N.-540
THE CONTRACTOR SHALL ASSEMBLE AND MATCH-MARK THE PRECAST BOX CULVERT SECTIONS AND END SECTIONS PRIOR TO SHIPMENT OF THESE COMPONENTS FROM THE MANUFACTURER, AND AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER FIT ON EACH JOINT. ANY SECTIONS OR END SECTIONS WHICH DO NOT PROVIDE A PROPER FIT AT THE JOINT SHALL BE REJECTED BY THE ENGINEER AND REPLACED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION BEING ALLOWED.

THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR PRECAST CONCRETE BOX CULVERTS OF THE SIZE SPECIFIED.

G.N.-550
BEFORE ORDERING STORM SEWERS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR THE EXACT LENGTHS.

G.N.-1004.01
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N.-Z0038
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

NO COMMITMENTS

FILE NAME =	USER NAME = oombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\11\084EBIDINTEC\Illinois.gov\PI001\084EBIDINTEC\District 5\Projects\0578081\Design\0578081-shr-plan.dgn		DRAWN				936	119CR	CHAMPAIGN	44	3
PLOT SCALE = 40,0000' / in.		CHECKED -	REVISED -							
PLOT DATE = 11/19/2016		DATE -	REVISED -		SCALE: N/A					
					SHEET NO. 1 OF 3 SHEETS					
										CONTRACT NO. 70B81
										ILLINOIS FED. AID PROJECT

SUMMARY OF QUANTITIES

LOCATION OF WORK: FAP 836 (IL 49)
 RURAL TWO-LANE
 OTHER PRINCIPAL ARTERIAL
 S.N. 010-8170 & S.N. 010-8171
 CHAMPAIGN COUNTY
 FUNDING BREAKOUT: 80% FEDERAL/ 20% STATE
 CONSTRUCTION TYPE CODE: 0004

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	251.0
20700220	POROUS GRANULAR EMBANKMENT	CU YD	69.0
20800150	TRENCH BACKFILL	CU YD	29.0
25000210	SEEDING, CLASS 2A	ACRE	0.50
25000350	SEEDING, CLASS 7	ACRE	1.50
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	50.0
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	50.0
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	50.0
25100115	MULCH, METHOD 2	ACRE	1.50
25100630	EROSION CONTROL BLANKET	SQ YD	2,100.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150.0
28000305	TEMPORARY DITCH CHECKS	FOOT	110.0
28000400	PERIMETER EROSION BARRIER	FOOT	450.0
28000500	INLET & PIPE PROTECTION	EACH	4.0

14

FILE NAME : p:\IL084EBID\INTEG\Illinois.gov\PWIDOT\Documents\DOT Offices\District 5\Projects\0578\DRAWING\Design\0578001-sht-plandgn	USER NAME : acombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE : 836	SECTION : 119CR	COUNTY : CHAMPAIGN	TOTAL SHEETS : 44	SHEET NO. : 4
PLOT SCALE = 48.0000' / 1" IN. PLOT DATE = 11/19/2016				SCALE: N/A SHEET NO. 1 OF 4 SHEETS STA. ---- TO STA. ----		ILLINOIS FED. AID PROJECT CONTRACT NO. 70881				

REV

SUMMARY OF QUANTITIES

LOCATION OF WORK: FAP 836 (IL 49)
 RURAL TWO-LANE
 OTHER PRINCIPAL ARTERIAL
 S.N. 010-8170 & S.N. 010-8171
 CHAMPAIGN COUNTY
 FUNDING BREAKOUT: 80% FEDERAL/ 20% STATE
 CONSTRUCTION TYPE CODE: 0004

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
28100201	STONE RIPRAP, CLASS A1	TON	105.0
44000100	PAVEMENT REMOVAL	SQ YD	62.0
44200050	WELDED WIRE REINFORCEMENT	SQ YD	134.0
44201359	CLASS C PATCHES, TYPE IV, 10 INCH	SQ YD	134.0
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	670.0
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1.0
50200100	STRUCTURE EXCAVATION	CU YD	254.0
51500100	NAME PLATES	EACH	2.0
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	2.0
54001002	BOX CULVERT END SECTIONS, CULVERT NO. 2	EACH	2.0
54011202	PRECAST CONCRETE BOX CULVERTS 12' X 2'	FOOT	66.0
60400105	FRAMES, TYPE 1	EACH	4.0
60403800	LIDS, TYPE,1, CLOSED LID	EACH	4.0
61100500	EXPLORATION TRENCH 52" DEPTH	FOOT	250.0

14

FILE NAME *	USER NAME : coombesf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\IL084E01DINTEG.illinois.gov\PWIDOT\Do	uments\DOT Offices\District 5\Projects\057	DRAWN	REVISED	SCALE: N/A	SHEET NO. 1 OF 4 SHEETS	836	119CR	CHAMPAIGN	44	5
	PLOT SCALE = 48,000' / 1" =	CHECKED -	REVISED -	STA. ---- TO STA. ----		CONTRACT NO. 70881				
	PLOT DATE = 11/19/2016	DATE -	REVISED -	ILLINOIS FED. AID PROJECT						

REV

SUMMARY OF QUANTITIES

LOCATION OF WORK: FAP 836 (IL 49)
 RURAL TWO-LANE
 OTHER PRINCIPAL ARTERIAL
 S.N. 010-8170 & S.N. 010-8171
 CHAMPAIGN COUNTY
 FUNDING BREAKOUT: 80% FEDERAL/ 20% STATE
 CONSTRUCTION TYPE CODE: 004

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
61101011	STORM SEWERS PROTECTED, CLASS A, 10"	FOOT	74.0
61133100	FIELD TILE JUNCTION VAULTS, 2' DIA.	EACH	4.0
61140100	STORM SEWERS (SPECIAL), 10"	FOOT	83.0
* 63000360	LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPAN	FOOT	525.0
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE I (SPECIAL) TANGENT	EACH	4.0
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	3.0
67100100	MOBILIZATION	L SUM	1.0
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1.0
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	1.0
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1.0
70300100	SHORT TERM PAVEMENT MARKING	FOOT	20.0
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	6.0
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4.0
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	120.0
* DENOTES SPECIALTY ITEM			

14

FILE NAME =	USER NAME = coombassf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PH:\IL094EBID\INTEG\Illinois.gov\PI007\00	uments\1007 Offices\District 5\Projects\057	DRAWN -	REVISED -		836	119CR	CHAMPAIGN	44	6			
	PLOT SCALE = 40.0000' = 1" =	CHECKED -	REVISED -		SCALE: N/A			SHEET NO. 1 OF 4 SHEETS		STA. ---- TO STA. ----		
	PLOT DATE = 12/2/2016	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

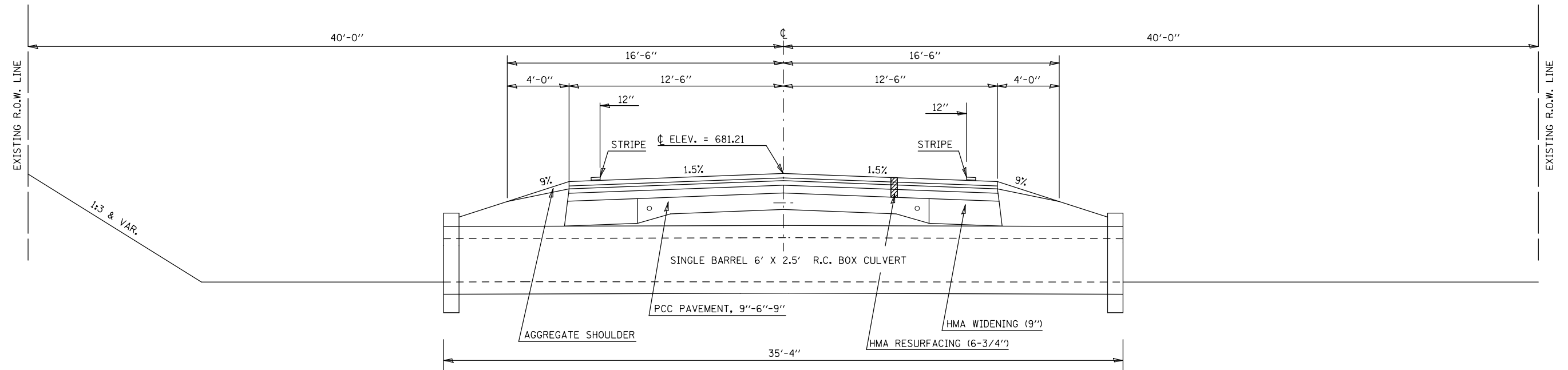
REV

CULVERT NO. 1

EXISTING TYPICAL CROSS SECTION

STATION TO STATION
752+96.00 TO 753+18.00

EXISTING S. N. 010-8103 @ STA. 753+07.00

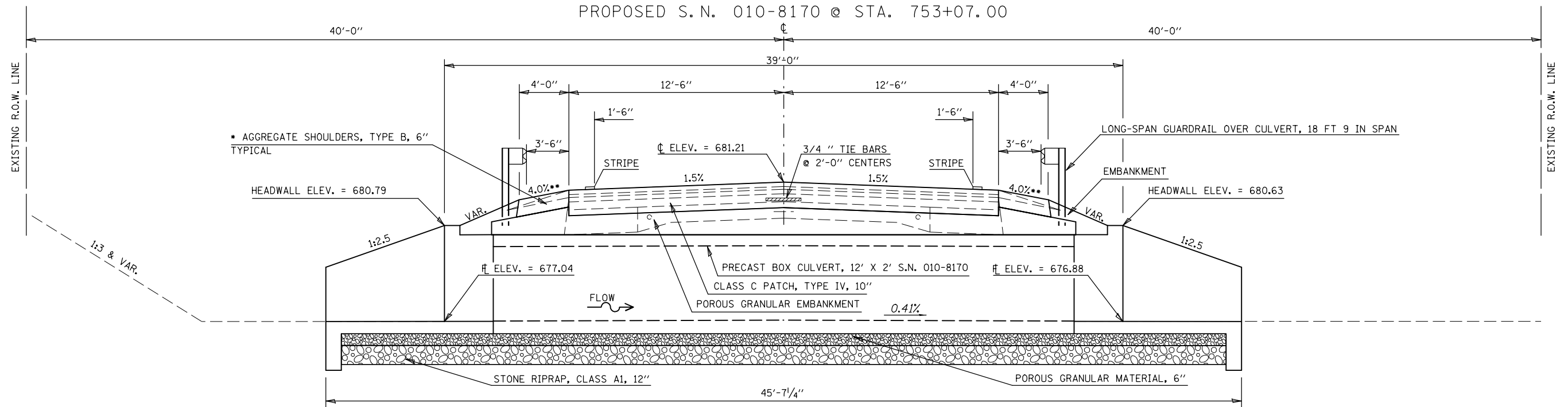


PROPOSED TYPICAL CROSS SECTION

STATION TO STATION
752+96.00 TO 753+18.00

PROPOSED S. N. 010-8170 @ STA. 753+07.00

- AGGREGATE SHOULDERS, TYPE B, 6" SHALL EXTEND FROM STA. 751+00 TO STA. 756+00. TYPICAL ON BOTH SIDES OF ROADWAY.
- **SLOPES WILL TRANSITION FROM 4% TO MATCH EXISTING FROM STA. 751+00 TO STA. 751+50 & STA. 755+25 TO STA. 756+00

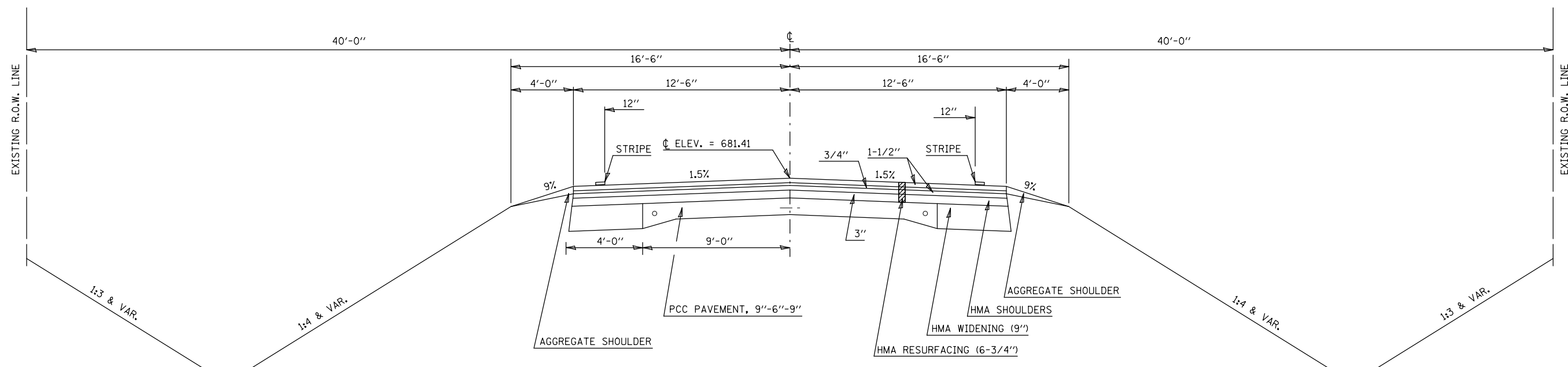


FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL CROSS SECTIONS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 5\Projects\0579\BRAND\Design\0570881-sht-plan.dgn		CHECKED -	REVISED -		SCALE: N/A	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.	836	119CR	CHAMPAIGN	44	8
PLOT SCALE = 40.0000' / in.		DATE -	REVISED -					CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT		
PLOT DATE = 11/18/2016													

CULVERT NO. 2

EXISTING TYPICAL CROSS SECTION

STATION TO STATION
753+89.00 TO 754+11.00

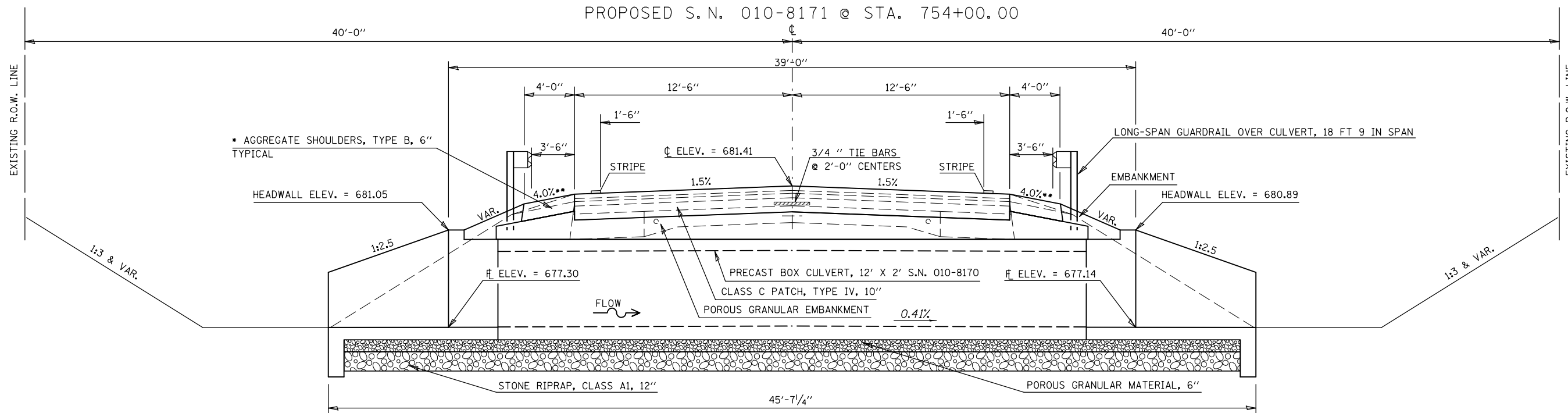


PROPOSED TYPICAL CROSS SECTION

STATION TO STATION
753+89.00 TO 754+11.00

- AGGREGATE SHOULDERS, TYPE B, 6" SHALL EXTEND FROM STA. 751+00 TO STA. 756+00. TYPICAL ON BOTH SIDES OF ROADWAY.
- **SLOPES WILL TRANSITION FROM 4% TO MATCH EXISTING FROM STA. 751+00 TO STA. 751+50 & STA. 755+25 TO STA. 756+00

PROPOSED S.N. 010-8171 @ STA. 754+00.00



FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL CROSS SECTIONS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\IL\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 5\Projects\0579\Drawings\Design\0570881-sht-plan.dgn		CHECKED -	REVISED -		SCALE: N/A	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.	836	119CR	CHAMPAIGN	44	9
		DATE -	REVISED -					CONTRACT NO. 70B81					
					ILLINOIS FED. AID PROJECT								

SCHEDULE OF QUANTITIES

SIDE	STATION	TO	STATION	20200100	EARTH	EMBANKMENT ADJUSTED	EARTHWORK BALANCE	
				EXCAVATION	FOR SHRINKAGE (25%)	EMBANKMENT	WASTE (+) OR SHORTAGE (-)	
				(CU YD)	(CU YD)	(CU YD)	(CU YD)	
LT	751+00.00		756+00.00	127.0	95.3	65.2	30.1	
RT	751+00.00		756+00.00	123.5	92.6	69.1	23.5	
			TOTAL =	250.5	187.9	134.3	53.6	
			USE =	251.0	188.0	135.0	54.0	

50200100 STRUCTURE EXCAVATION

LOCATION	STATION	TO	STATION	LENGTH (FT)	AREA* (SQ FT)	VOLUME (CU YD)
S.N. 010-8171	753+91.00		754+09.00	18.0	380.0	253.3
			TOTAL =	18.0	380.0	253.3
			USE =			254.0

EARTHWORK BALANCE = EARTH EXCAVATION X ADJUSTMENT FOR SHRINKAGE (0.75) - EMBANKMENT

AREA (SQ FT) MEASURED IN CADD FROM CROSS SECTION AT STA. 754+00

EARTH EXCAVATION = 251.0 CUBIC YARDS

STRUCTURE EXCAVATION FROM S.N. 010-8170 AND S.N. 010-8171 IS UNSUITABLE MATERIAL FOR EMBANKMENT

50100300 REMOVAL OF EXISTING STRUCTURES, CULVERT NO. 1

LOCATION	EACH
S.N. 010-8170	1.0

44000100 PAVEMENT REMOVAL

LOCATION	STATION	TO	STATION	SIDE	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)	
S.N. 010-8171	753+89.00		754+11.00	LT	22.0	12.5	30.6	
S.N. 010-8171	753+89.00		754+11.00	RT	22.0	12.5	30.6	
			SUB-TOTAL =				61.2	
			TOTAL =				61.2	
			USE =				62.0	

61100500 EXPLORATION TRENCH 52" DEPTH

LOCATION	SIDE	STATION	TO	STATION	LENGTH (FT)
S.N. 010-8170	LT	752+75.00		753+50.00	75.0
S.N. 010-8170	RT	752+50.00		753+25.00	75.0
S.N. 010-8171	LT	753+75.00		754+25.00	50.0
S.N. 010-8171	RT	753+75.00		754+25.00	50.0
			TOTAL =		250.0

20700220 POROUS GRANULAR EMBANKMENT

LOCATION	VOLUME (CU YD)
S.N. 010-8170	37.0
S.N. 010-8171	32.0
	TOTAL = 69.0
	USE = 69.0

28100201 STONE RIPRAP, CLASS A1

LOCATION	STATION	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	TOTAL VOLUME (CU YD)	TOTAL VOLUME (TON)
S.N. 010-8170	753+07.00	43.6	18.0	1.0	29.1	52.3
S.N. 010-8171	754+00.00	43.6	18.0	1.0	29.1	52.3
					TOTAL = 104.6	
					USE = 105.0	

*NOTE: CONVERSION OF 1.8 TON/CU YD WAS UTILIZED FOR ITEM 28100201.

28000400 PERIMETER EROSION BARRIER

SIDE	STATION	TO	STATION	LENGTH (FT)
RT	751+25.00		755+75.00	450.0
			TOTAL =	450.0

28000305 TEMPORARY DITCH CHECKS

STATION	SIDE	QUANTITY (FT)
752+25	LT	13.5
752+25	RT	14.0
752+75	LT	12.5
752+75	RT	14.5
754+25	LT	13.0
754+25	RT	13.0
754+75	LT	13.0
754+75	RT	13.0
	TOTAL =	106.5
	USE =	110.0

SIDE	25000210	25000350	25000400	25000500	25000600	25100630	25100115	28000250
	SEEDING CLASS 2A (ACRE)	SEEDING CLASS 7 (ACRE)	NITROGEN FERTILIZER NUTRIENT (POUND)	PHOSPHORUS FERTILIZER NUTRIENT (POUND)	POTASSIUM FERTILIZER NUTRIENT (POUND)	EROSION CONTROL BLANKET (SQ YD)	MULCH METHOD 2 (ACRE)	TEMPORARY EROSION CONTROL SEEDING (POUND)
LT	0.25	0.75	25.0	25.0	25.0	1133.2	0.75	75.0
RT	0.25	0.75	25.0	25.0	25.0	958.6	0.75	75.0
	TOTAL = 0.50	1.50	50.0	50.0	50.0	2091.8	1.50	150.0
	USE = 0.50	1.50	50.0	50.0	50.0	2100.0	1.50	150.0

SCHEDULE OF QUANTITIES

61101011 STORM SEWERS PROTECTED, CLASS A, 10 INCH

LOCATION	STATION	OFFSET	TO	STATION	OFFSET	LENGTH (FT)
S.N. 010-8170	752+96.00	38' LT		752+96.00	36' RT	74.0
TOTAL =						74.0

61140100 STORM SEWERS (SPECIAL), 10 "

LOCATION	STATION	OFFSET	TO	STATION	OFFSET	LENGTH (FT)
S.N. 010-8170	752+42.00	36' RT		752+96.00	36' RT	54.0
S.N. 010-8170	752+96.00	38' LT		753+25.00	38' LT	29.0
TOTAL =						83.0

20800150 TRENCH BACKFILL

LOCATION	STATION	VOLUME (CU YD/FT)	TRENCH LENGTH	VOLUME (CU YD)
S.N. 010-8170	752+96.00	0.776	37.0	28.7
TOTAL =				28.7
USE =				29.0

61133100 FIELD TILE JUNCTION VAULTS, 2' DIA.

LOCATION	STATION	OFFSET	EACH
S.N. 010-8170	752+42.00	36' RT	1.0
	752+96.00	36' RT	1.0
	752+96.00	38' LT	1.0
	753+25.00	38' LT	1.0
TOTAL =			4.0

60400105 FRAMES, TYPE I

LOCATION	STATION	OFFSET	EACH
S.N. 010-8170	752+42.00	36' RT	1.0
	752+96.00	36' RT	1.0
	752+96.00	38' LT	1.0
	753+25.00	38' LT	1.0
TOTAL =			4.0

51500100 NAME PLATES

LOCATION	EACH	
S.N. 010-8170	1.0	
S.N. 010-8171	1.0	
TOTAL =		2.0

Z0038700 PERMANENT BENCH MARKS

LOCATION	EACH	
S.N. 010-8170	1.0	
S.N. 010-8171	1.0	
TOTAL =		2.0

60403800 LIDS, TYPE I, CLOSED LID

LOCATION	STATION	OFFSET	EACH
S.N. 010-8170	752+42.00	36' RT	1.0
	752+96.00	36' RT	1.0
	752+96.00	38' LT	1.0
	753+25.00	38' LT	1.0
TOTAL =			4.0

28000500 INLET & PIPE PROTECTION

LOCATION	STATION	O/S	EACH
S.N. 010-8170	752+42.00	36' RT	1.0
S.N. 010-8170	752+96.00	36' RT	1.0
S.N. 010-8170	752+96.00	38' LT	1.0
S.N. 010-8170	753+25.00	38' LT	1.0
TOTAL =			4.0

54011202 PRECAST CONCRETE BOX CULVERT 12' x 2'

LOCATION	LENGTH (FT)	
S.N. 010-8170	33.0	
S.N. 010-8171	33.0	
TOTAL =		66.0

54001001 BOX CULVERT END SECTIONS, CULVERT NO. 1

LOCATION	EACH	
S.N. 010-8170	1.0	
	1.0	
TOTAL =		2.0

54001002 BOX CULVERT END SECTIONS, CULVERT NO. 2

LOCATION	EACH	
S.N. 010-8171	1.0	
	1.0	
TOTAL =		2.0

44201359 CLASS C PATCHES, TYPE IV, 10 INCH

LOCATION	STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
S.N. 010-8170	752+92.00		753+18.00	26.0	12.5	36.1
	752+92.00		753+18.00	26.0	12.5	36.1
SUB-TOTAL =						72.2
S.N. 010-8171	753+89.00		754+11.00	22.0	12.5	30.6
	753+89.00		754+11.00	22.0	12.5	30.6
SUB-TOTAL =						61.2
TOTAL =						133.4
USE =						134.0

44200050 WELDED WIRE REINFORCEMENT

LOCATION	STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
S.N. 010-8170	752+92.00		753+18.00	26.0	12.5	36.1
	752+92.00		753+18.00	26.0	12.5	36.1
SUB-TOTAL =						72.2
S.N. 010-8171	753+89.00		754+11.00	22.0	12.5	30.6
	753+89.00		754+11.00	22.0	12.5	30.6
SUB-TOTAL =						61.2
TOTAL =						133.4
USE =						134.0

SCHEDULE OF QUANTITIES

63000360 LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPAN

SIDE	NB/SB	STATION	TO	STATION	LENGTH (FT)
RT	NB	752+22.25		754+84.75	262.5
LT	SB	752+22.25		754+84.75	262.5
TOTAL=					525.0

63100167 TRAFFIC BARRIER TERMINAL TYPE 1, (SPECIAL) TANGENT

SIDE	NB/SB	STATION	TO	STATION	EACH
RT	NB	751+72.25		752+22.25	1.0
RT	NB	754+84.75		755+34.75	1.0
LT	SB	751+72.25		752+22.25	1.0
LT	SB	754+84.75		755+34.75	1.0
TOTAL=					4.0

78200005 GUARDRAIL MARKERS, TYPE A

SIDE	NB/SB	STATION	TO	STATION	LENGTH (FT)	EACH
RT	NB	751+72.25		755+34.75	362.5	6.0
LT	SB	751+72.25		755+34.75	362.5	6.0
TOTAL=						12.0

72501000 TERMINAL MARKER - DIRECT APPLIED

SIDE	NB/SB	STATION	EACH
RT	NB	751+72.25	1.0
RT	NB	755+34.75	1.0
LT	SB	751+72.25	1.0
LT	SB	755+34.75	1.0
TOTAL=			4.0

48101500 AGGREGATE SHOULDERS, TYPE B, 6"

DIRECTION	STATION	TO	STATION	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
N.B.	751+00.00		756+00.00	500.0	4.0	222.2
N.B.	751+00.00		756+00.00	500.0	4.0	222.2
SUB-TOTAL =						444.4
S.B.	751+00.00		756+00.00	500.0	4.0	222.2
SUB-TOTAL =						222.2
TOTAL =						666.6
USE =						670.0

* - AGGREGATE SHOULDERS IN THE NB LANE WILL BE PLACED AT TWO SEPARATE TIMES (ONCE PRE-STAGE 1 & ONCE DURING STAGE 2).

70300100 SHORT-TERM PAVEMENT MARKING (C/L SKIP-DASH)

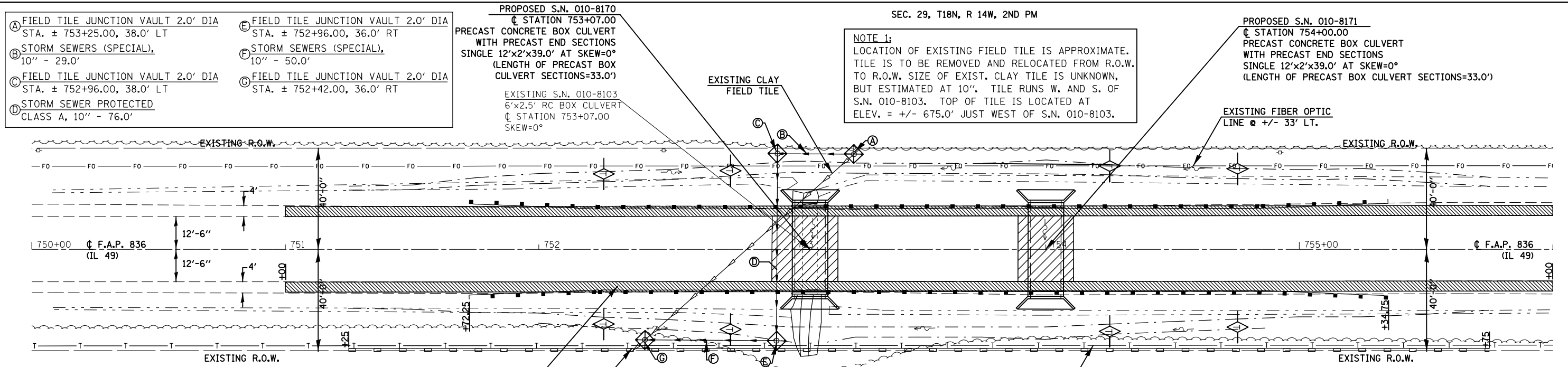
LOCATION	STATION	TO	STATION	LENGTH (FT)*	70300150 SHORT-TERM PAVEMENT MARKING REMOVAL (SQ FT)
S.N. 010-8170	752+92.00		753+18.00	8.0	2.7
S.N. 010-8171	753+89.00		754+11.00	8.0	2.7
TOTAL =				16.0	5.3
USE =				16.0	6.0

*ROUND TO 2 DASHES PER LOCATION

78001110 PAINT PAVEMENT MARKING - LINE 4"

(WHITE EDGE LINES)				
LOCATION	STATION	TO	STATION	LENGTH (FT)
S.N. 010-8170	752+92.00		753+18.00	RT 26.0
	752+92.00		753+18.00	LT 26.0
SUB-TOTAL =				52.0
S.N. 010-8171	753+89.00		754+11.00	RT 22.0
	753+89.00		754+11.00	LT 22.0
SUB-TOTAL =				44.0
WHITE TOTAL =				96.0

(YELLOW C/L SKIP-DASH)				
LOCATION	STATION	TO	STATION	LENGTH (FT)
S.N. 010-8170	752+92.00		753+18.00	10.0
SUB-TOTAL =				10.0
S.N. 010-8171	753+89.00		754+11.00	10.0
SUB-TOTAL =				10.0
YELLOW TOTAL =				20.0
TOTAL =				116.0
USE =				120.0



NOTE 1:
LOCATION OF EXISTING FIELD TILE IS APPROXIMATE. TILE IS TO BE REMOVED AND RELOCATED FROM R.O.W. TO R.O.W. SIZE OF EXIST. CLAY TILE IS UNKNOWN, BUT ESTIMATED AT 10". TILE RUNS W. AND S. OF S.N. 010-8103. TOP OF TILE IS LOCATED AT ELEV. = +/- 675.0' JUST WEST OF S.N. 010-8103.

NOTE 2:
ACTUAL STATIONS, OFFSETS, AND INVERTS OF THE FIELD TILE JUNCTION VAULTS AND STORM SEWER TO BE FIELD VERIFIED AFTER EXPLORATION TRENCH OPERATIONS LOCATE THE EXISTING TILE CROSSING IL 49.

WATERWAY INFORMATION TABLE

Flood	Freq. Yr.	Q C.F.S.	Opening Size		Natural H.W.E.	Head - Ft.		Headwater Elevation	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
Design	50	173	106	87	679.8	0	0.1	-	679.9
Base	100	198.8	112	71	679.9	0	0.2	-	680.1
Overlapping									
Max. Calc.	500								

Existing Low Grade Elev. = 680.7 @ Sta. 750+00.00
Proposed Low Grade Elev. = 680.7 @ Sta. 750+00.00

10 YEAR VELOCITY THROUGH EXISTING BRIDGE = Overlapped
10 YEAR VELOCITY THROUGH PROPOSED BRIDGE = 2.60 f/s
ALL-TIME H.W.E. & DATE: Unknown

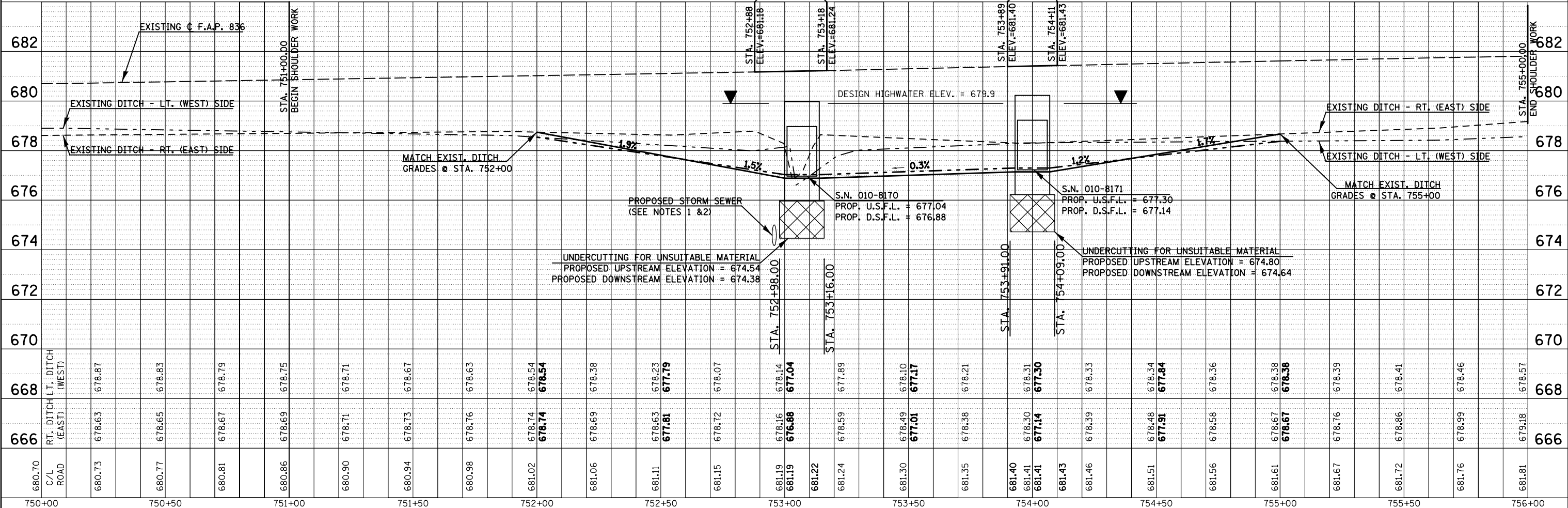
LEGEND:

- PERIMETER EROSION CONTROL BARRIER
- INLET & PIPE PROTECTION
- TEMPORARY DITCH CHECK
- CLASS C PATCHES, TYPE IV, 10"
- AGGREGATE SHOULDERS, TYPE B, 6"

DATE: _____
BY: _____
SURVEYED: _____
PLOTTED: _____
NOTE BOOK NO.: _____
CHECKED: _____
STRUCTURE NO.: _____
DRAWN: _____

DATE: _____
BY: _____
SURVEYED: _____
PLOTTED: _____
NOTE BOOK NO.: _____
CHECKED: _____
STRUCTURE NO.: _____
DRAWN: _____

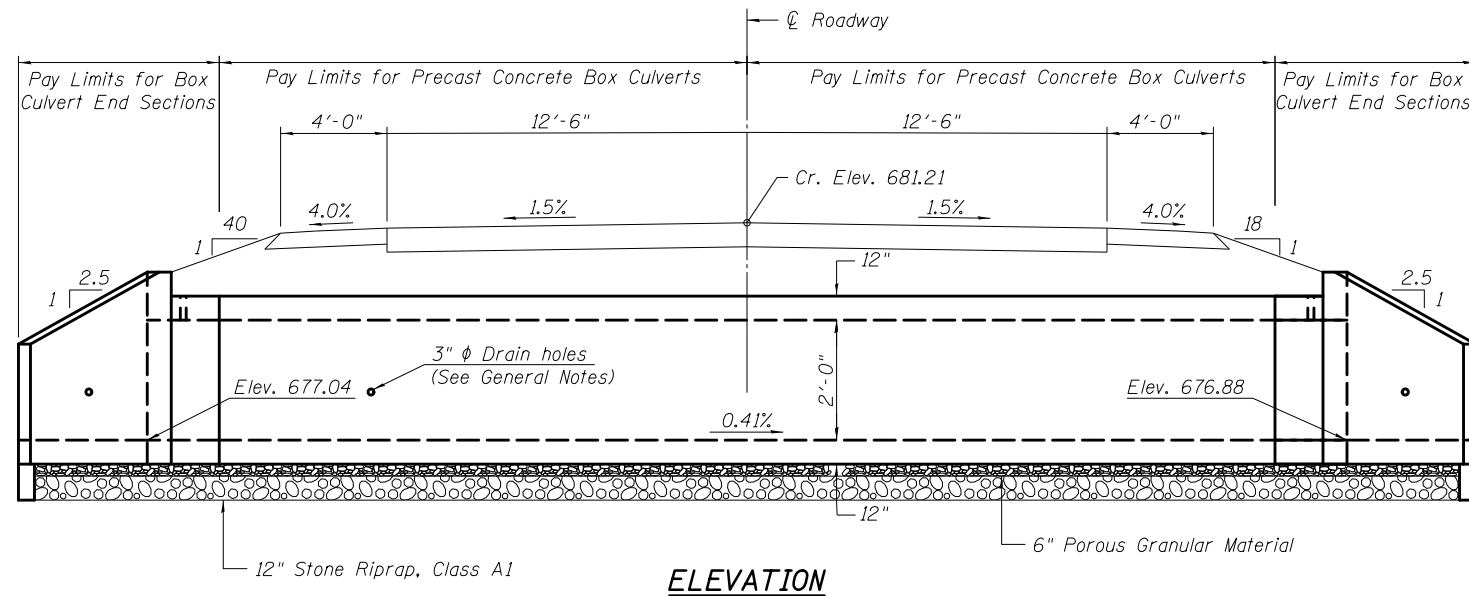
SEC. 28, T18N, R 14W, 2ND PM



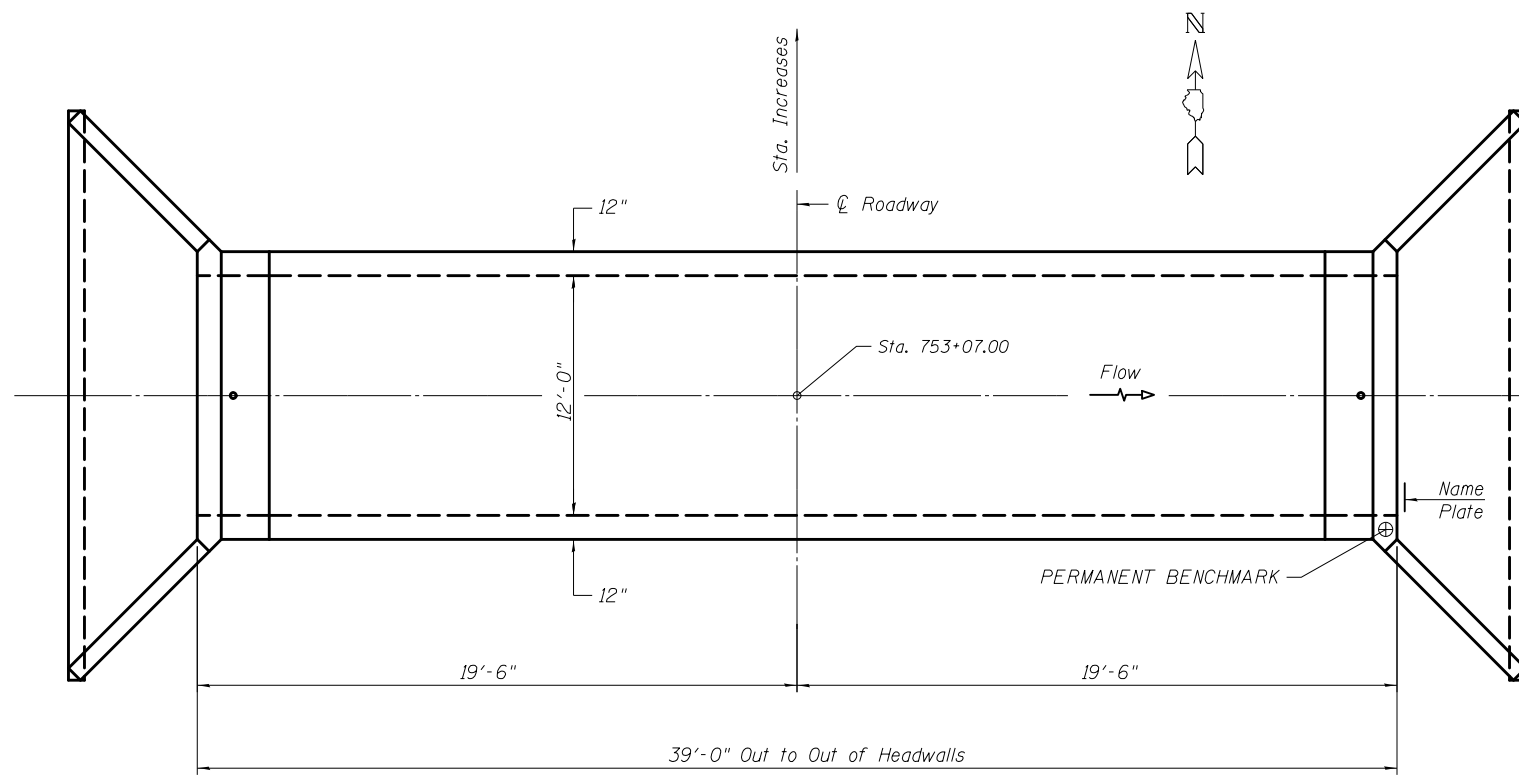
FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND PROFILE S.N. 010-8170 & S.N. 010-8171	F.A.P. R.T.E. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =	
MODELNAME =	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -			836	119CR	CHAMPAIGN	44	13	
	PLOT DATE = 11/18/2016	DATE -	REVISED -			SCALE: 1:20		SHEET 1 OF 1 SHEETS		STA. 750+00.00 TO STA. 756+00.00	
						ILLINOIS FED. AID PROJECT					

F.A.P. R.T.E. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
836	119CR	CHAMPAIGN	44	13
CONTRACT NO. 70B81				

Existing S.N. 010-8103 is a 6' x 2.5' RCBC built at Sta. 753+07 in 1928 as part of Route 49, Section 119.



ELEVATION



PLAN

WATERWAY INFORMATION TABLE

Existing Low Grade Elev. = 680.7 @ Sta. 750+00.00		Proposed Low Grade Elev. = 680.7 @ Sta. 750+00.00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater Elevation	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
Design	10	124.9	12	57	679.6	0	0	-	679.6
Base	50	173	106	67	679.8	0	0.1	-	679.9
Overtopping	100	198.8	112	71	679.9	0	0.2	-	680.1
Max. Calc.	500	-	-	-	-	-	-	-	-
10 YEAR VELOCITY THROUGH EXISTING BRIDGE = Overtopped					10 YEAR VELOCITY THROUGH PROPOSED BRIDGE = 2.60 ft/s				
ALL-TIME H.W.E. & DATE: Unknown									

STATION 753+07.00
BUILT 2017 BY
STATE OF ILLINOIS
F.A.P. RT. 836 SEC. 119CR
LOADING HL-93
STRUCTURE NO. 010-8170

NAME PLATE
See Std. 515001

DESIGN SCOUR ELEVATION TABLE

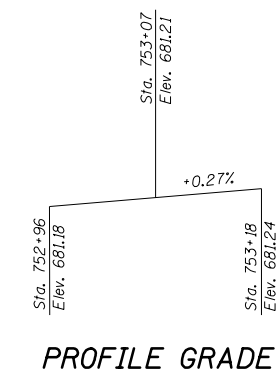
Design Scour Elevation (ft.)	Upstream	Downstream
	674.04	673.88

INDEX OF SHEETS

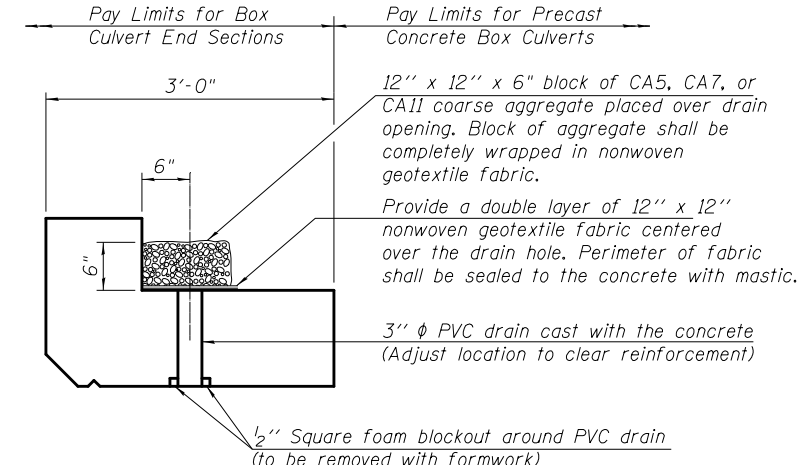
1. General Plan and Elevation
- 2-3. Precast Concrete Box Culvert Apron End Section Details
4. Porous Granular Embankment Detail
5. As-Built Plans
6. Staging Details

GENERAL NOTES

The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.
The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.
Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.



PROFILE GRADE



DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition

LOADING HL-93

DESIGN STRESSES

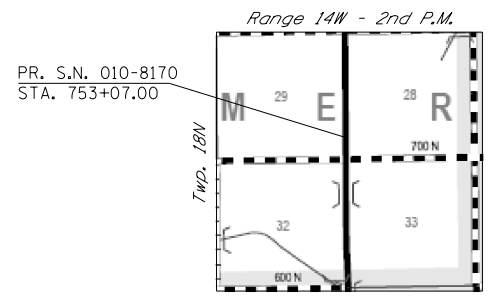
PRECAST UNITS

f'c = 5,000 psi
fy = 65,000 psi (Welded Wire Fabric)

TOTAL BILL OF MATERIAL

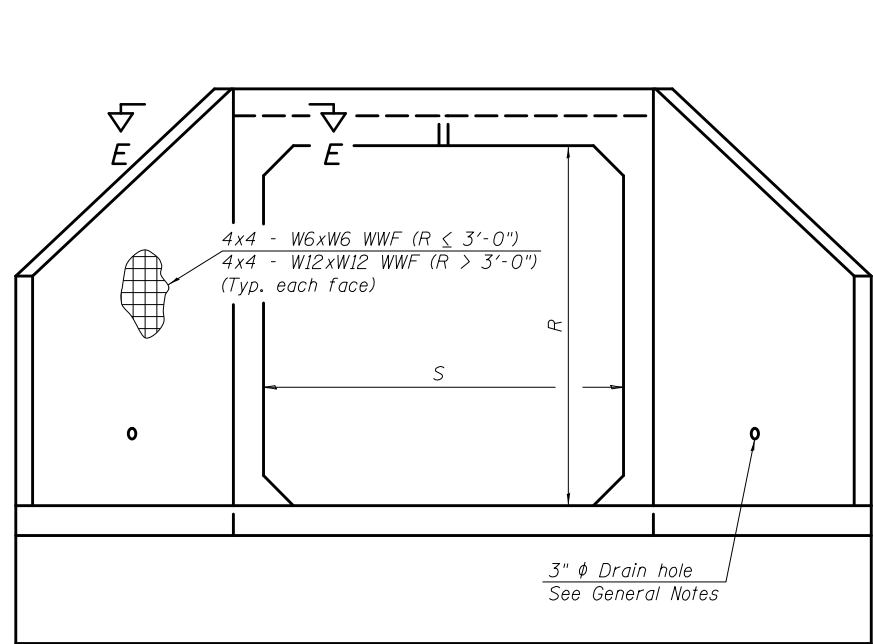
ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 1	Each	2.0
Precast Concrete Box Culverts, 12' x 2'	Foot	33.0
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Ton	52.5
Porous Granular Embankment	Cu. yd	37.0
Membrane Waterproofing For Buried Str.	Sq. yd	66.0

MEMBRANE WATERPROOFING FOR BURIED STRUCTURES SQ YD 66.0

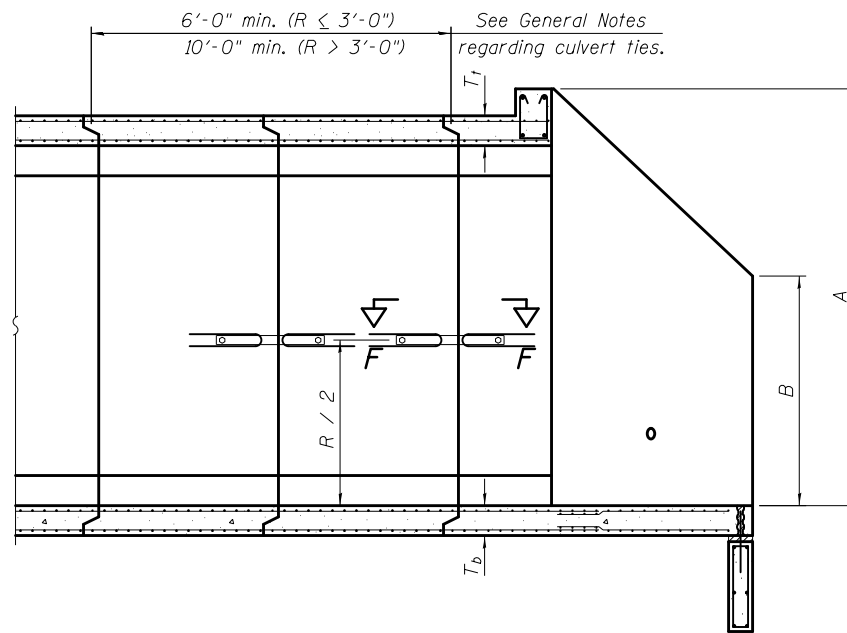


LOCATION SKETCH

GENERAL PLAN AND ELEVATION
SINGLE 12' X 2' PRECAST BOX CULVERT
IL RTE. 49
F.A.P. RTE. 836 SEC. 119CR
CHAMPAIGN COUNTY
STATION 753+07.00
S.N. 010-8170



END VIEW



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire fabric (WWF). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in area of reinforcement equal to or greater than that provided by the WWF. Minimum lap lengths detailed herein are applicable to WWF and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

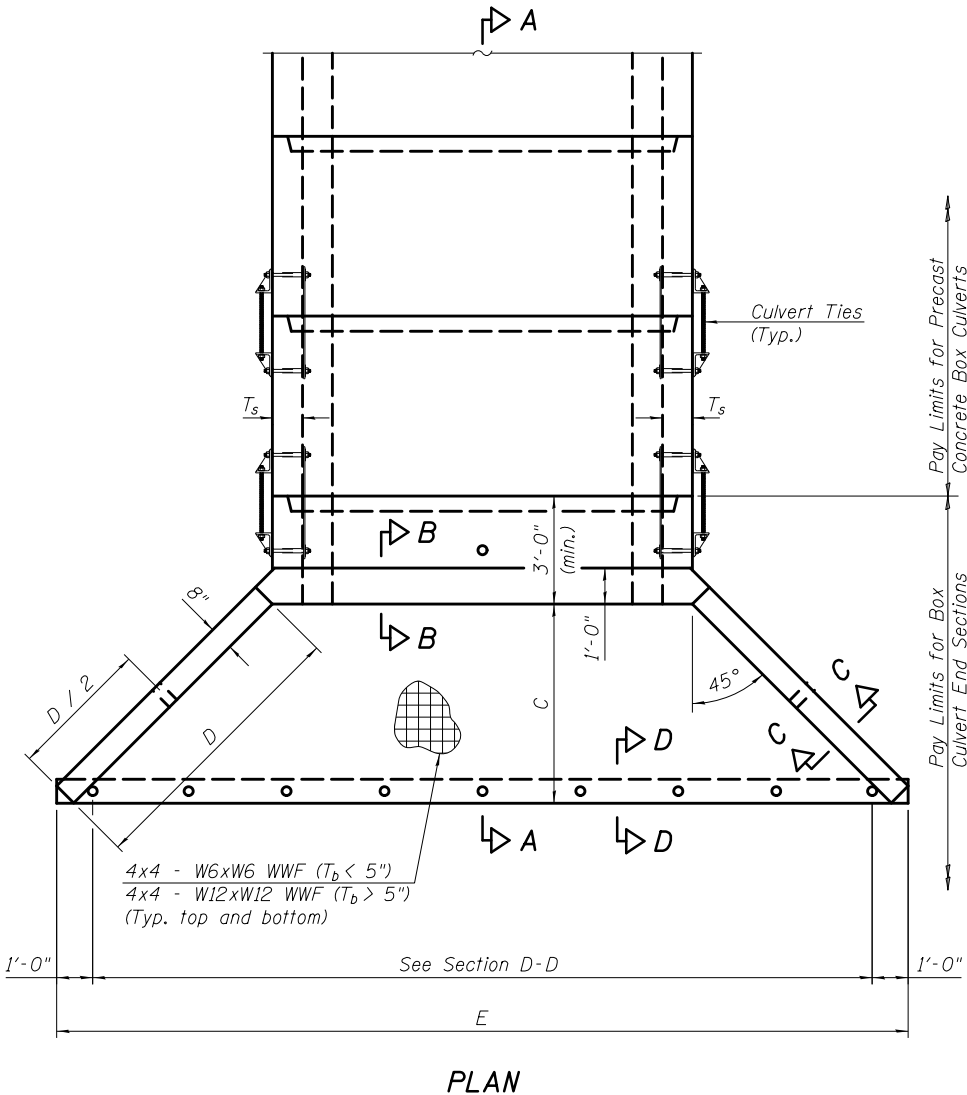
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	T _t	T _b	T _s	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ⁷ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12'-4 ⁵ / ₈ "	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7 ⁷ / ₈ "	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4 ¹ / ₂ "	2'-2 ¹ / ₂ "	2'-11 ³ / ₈ "	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8 ¹ / ₂ "	3'-10"	11'-2 ³ / ₈ "	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4 ¹ / ₂ "	2'-8 ¹ / ₂ "	3'-11 ³ / ₈ "	5'-7"	13'-8 ¹ / ₈ "	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8 ¹ / ₂ "	5'-3"	13'-2 ³ / ₈ "	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4 ¹ / ₂ "	3'-2 ¹ / ₂ "	4'-11 ³ / ₈ "	7'-0"	15'-8 ¹ / ₈ "	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8 ⁵ / ₈ "	6'-8"	15'-2 ¹ / ₂ "	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7 ¹ / ₄ "	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	14'-10 ¹ / ₈ "	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7 ¹ / ₄ "	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	16'-10 ¹ / ₈ "	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9 ¹ / ₄ "	6'-9"	16'-5 ⁷ / ₈ "	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	18'-10 ¹ / ₈ "	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9 ¹ / ₄ "	8'-2"	18'-5 ⁷ / ₈ "	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	13'-10 ⁵ / ₈ "	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	16'-0 ¹ / ₈ "	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	15'-10 ⁵ / ₈ "	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	18'-0 ¹ / ₈ "	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10 ³ / ₄ "	6'-11"	17'-10 ³ / ₄ "	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	20'-0 ¹ / ₈ "	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10 ³ / ₄ "	8'-4"	19'-10 ³ / ₄ "	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	22'-0 ¹ / ₄ "	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10 ³ / ₄ "	9'-9"	21'-10 ³ / ₄ "	9.3	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	19'-2 ¹ / ₈ "	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	21'-2 ¹ / ₈ "	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	23'-2 ¹ / ₄ "	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	18'-2 ¹ / ₈ "	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	20'-2 ¹ / ₈ "	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	22'-2 ¹ / ₈ "	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	24'-2 ¹ / ₄ "	11.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0 ⁷ / ₈ "	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0 ¹ / ₈ "	9'-11"	25'-5 ⁵ / ₈ "	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1 ¹ / ₂ "	4'-5"	18'-10 ¹ / ₄ "	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1 ¹ / ₂ "	5'-10"	20'-10 ¹ / ₄ "	8.6	No
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1 ¹ / ₂ "	8'-8"	24'-10 ³ / ₈ "	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1 ¹ / ₂ "	10'-1"	26'-10 ³ / ₈ "	13.9	Yes
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2 ¹ / ₄ "	7'-4"	24'-1 ³ / ₄ "	11.5	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2 ¹ / ₄ "	10'-2"	28'-1 ⁷ / ₈ "	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3 ⁵ / ₈ "	4'-8"	21'-6 ¹ / ₂ "	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3 ⁵ / ₈ "	6'-1"	23'-6 ¹ / ₂ "	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3 ⁵ / ₈ "	7'-6"	25'-6 ⁵ / ₈ "	13.0	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3 ⁵ / ₈ "	10'-4"	29'-6 ⁵ / ₈ "	17.4	Yes

Note:

Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.



PLAN

FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
		DRAWN -	REVISED
		CHECKED -	REVISED

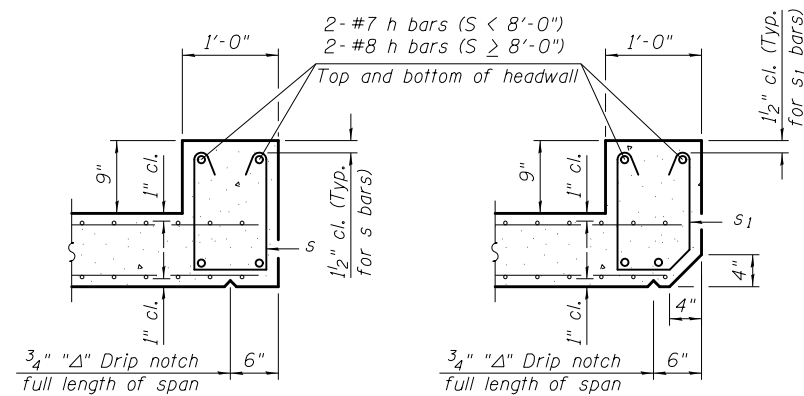
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT
APRON END SECTION DETAILS - CULVERT NO. 1 (S.N. 010-8170)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	15
CONTRACT NO. 70B81				

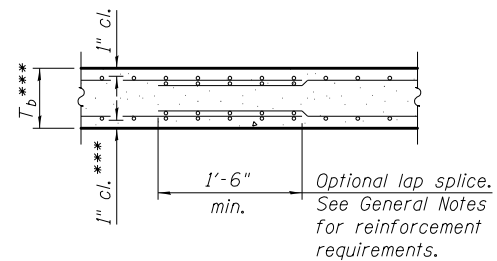
SHEET NO. 2 OF 6 SHEETS

ILLINOIS FED. AID PROJECT

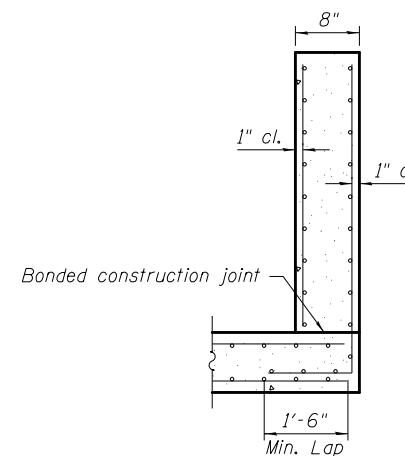


SECTION B-B
(Top slab at downstream end)

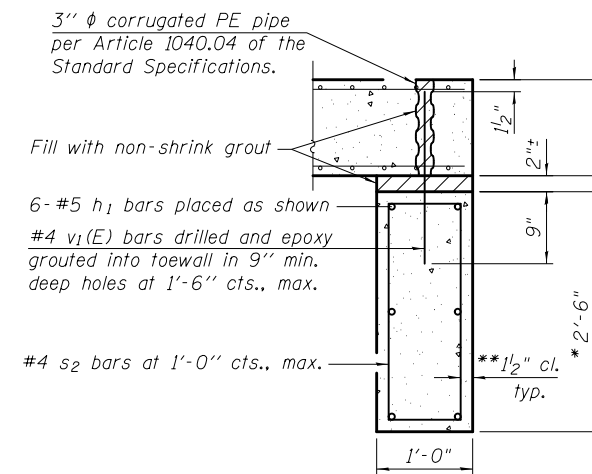
SECTION B-B
(Top slab at upstream end)



SECTION B-B
(Bottom Slab)

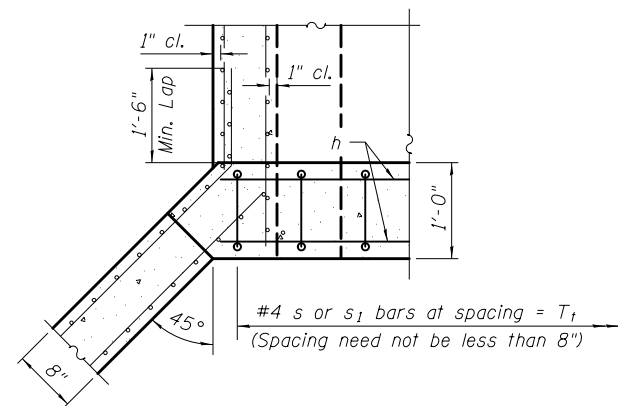


SECTION C-C

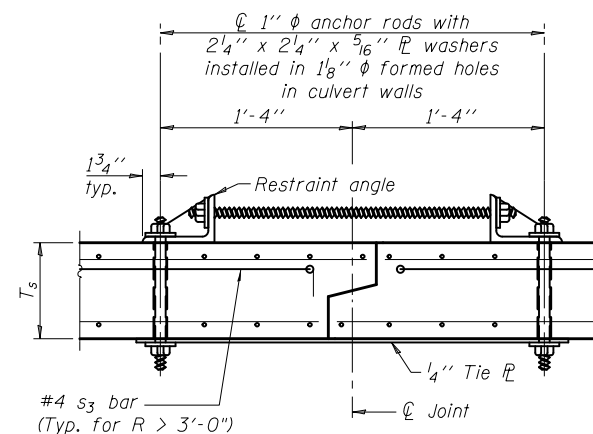


SECTION D-D

*** This dimension shall be increased by 2" for CIP construction.



SECTION E-E



SECTION F-F
(Showing culvert tie details)

TOEWALL CONSTRUCTION SEQUENCE

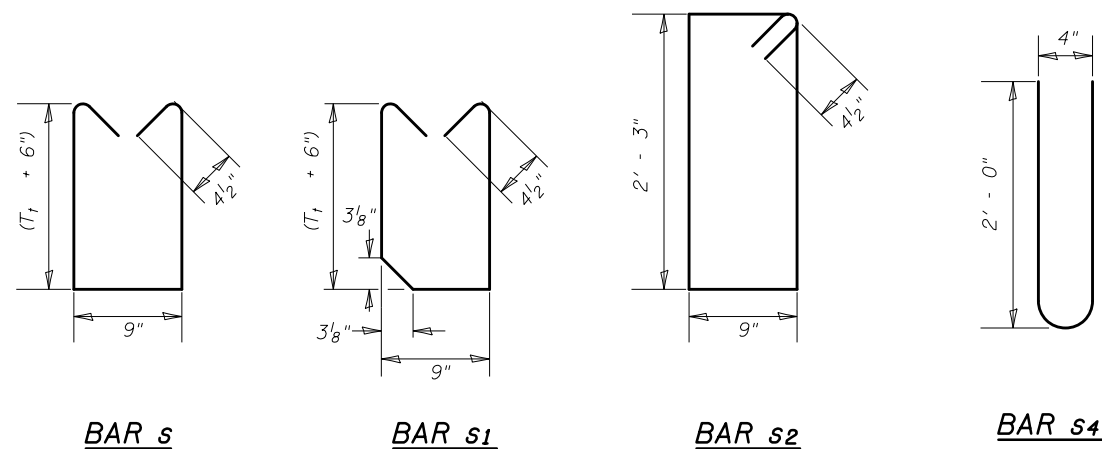
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

Notes:

1" φ anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4"x2 1/4"x5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods installed in the sidewalls of the culvert shall be tightened per Article 505.04(f)2(d) of the Standard Specifications. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes. Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to the approval of the Engineer.

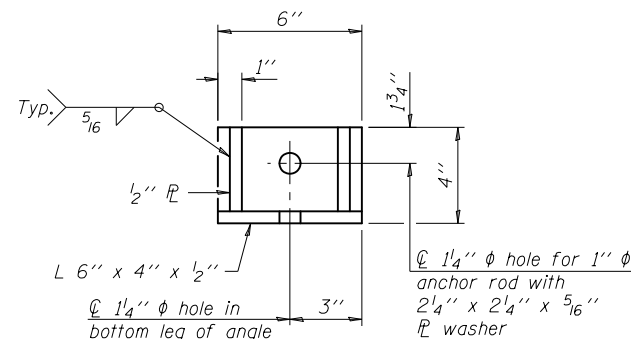


BAR s

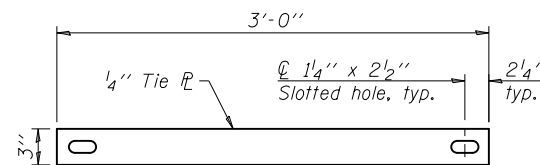
BAR s1

BAR s2

BAR s4

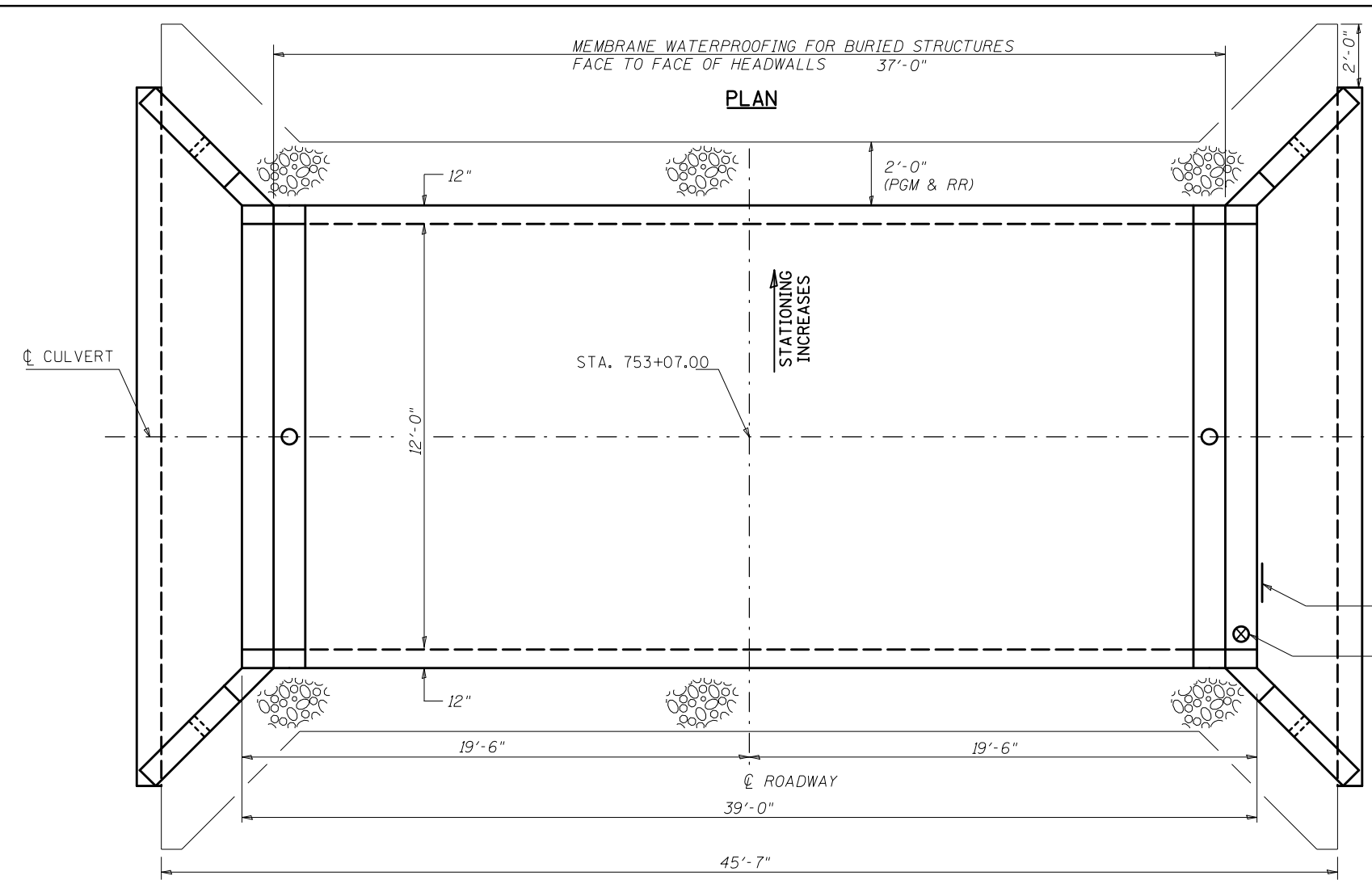


RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

FILE NAME =	USER NAME =	DESIGNED -	REVISOR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS - CULVERT NO. 1 (S.N. 010-8170)	F.A.P. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISOR			836	119CR	CHAMPAIGN	44	16	
		DRAWN -	REVISOR			CONTRACT NO. 70B81					
		CHECKED -	REVISOR			ILLINOIS FED. AID PROJECT					



STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED DUE TO UNSTABLE SOIL CONDITIONS

THE WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1.

THE EXCAVATION AND REMOVAL OF THE UNSUITABLE MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

POROUS GRANULAR EMBANKMENT

POROUS GRANULAR EMBANKMENT SHALL EXTEND 2 FT. BEYOND THE AGGREGATE SHOULDER

THE WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLE 207 AND ARTICLE 540 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR POROUS GRANULAR EMBANKMENT.

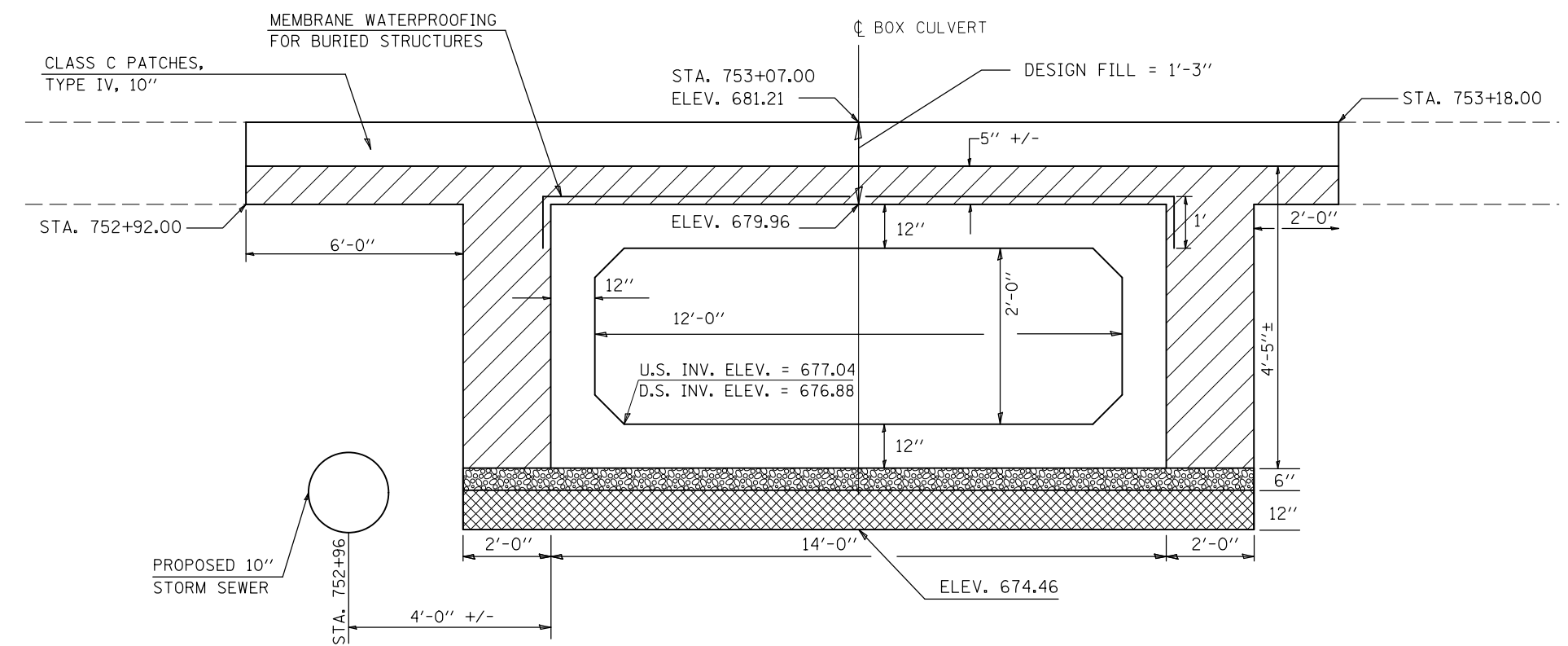
THE AREA TO BE EXCAVATED FOR THE PROPOSED BOX CULVERT SHALL NOT BE MEASURED FOR PAYMENT. THE COST OF THE EXCAVATION SHALL BE INCLUDED IN THE COST OF PRECAST CONCRETE BOX CULVERTS.

MEMBRANE WATERPROOFING FOR BURIED STRUCTURES

SEE GUIDE BRIDGE SPECIAL PROVISION NO. 81

BILL OF MATERIAL

Item	Unit	Total
POROUS GRANULAR EMBANKMENT	CU YD	37.0
STONE RIPRAP, CLASS A1	TON	52.5
MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SQ YD	66.0



LEGEND

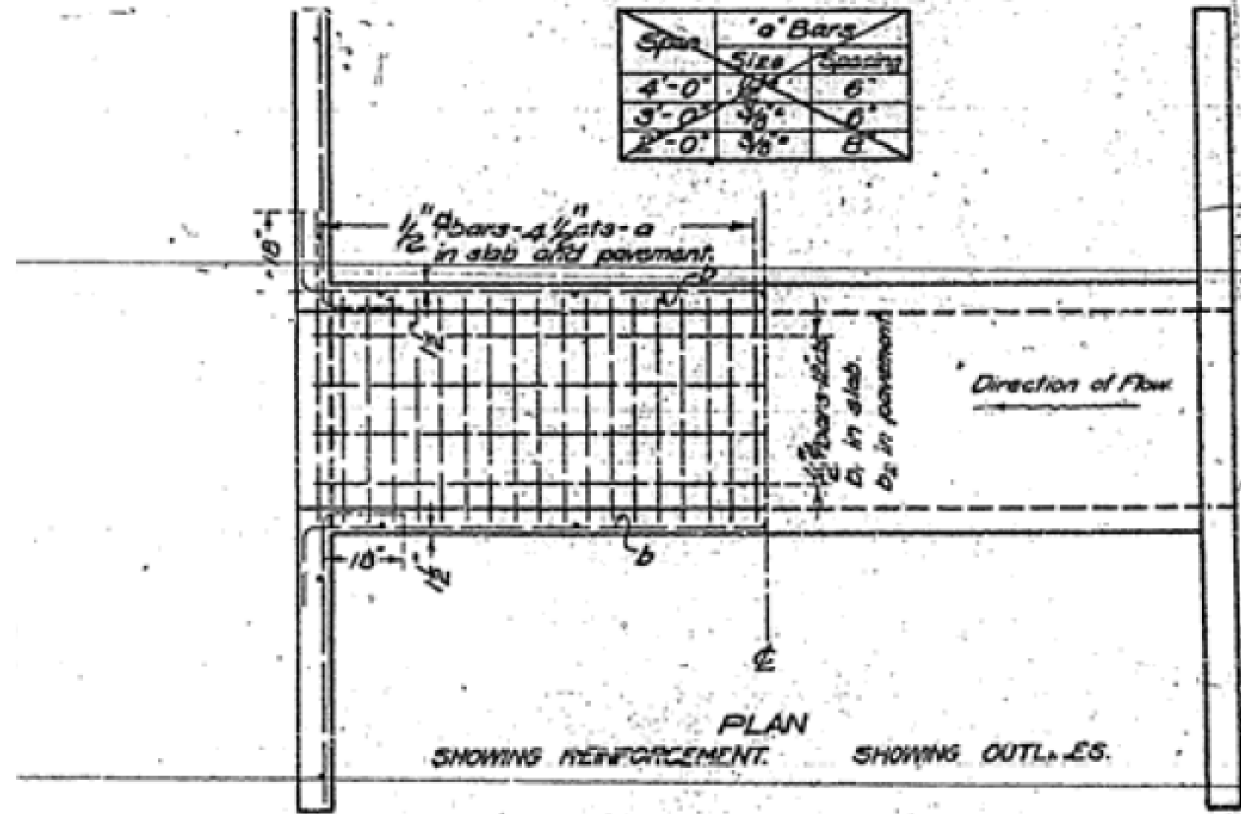
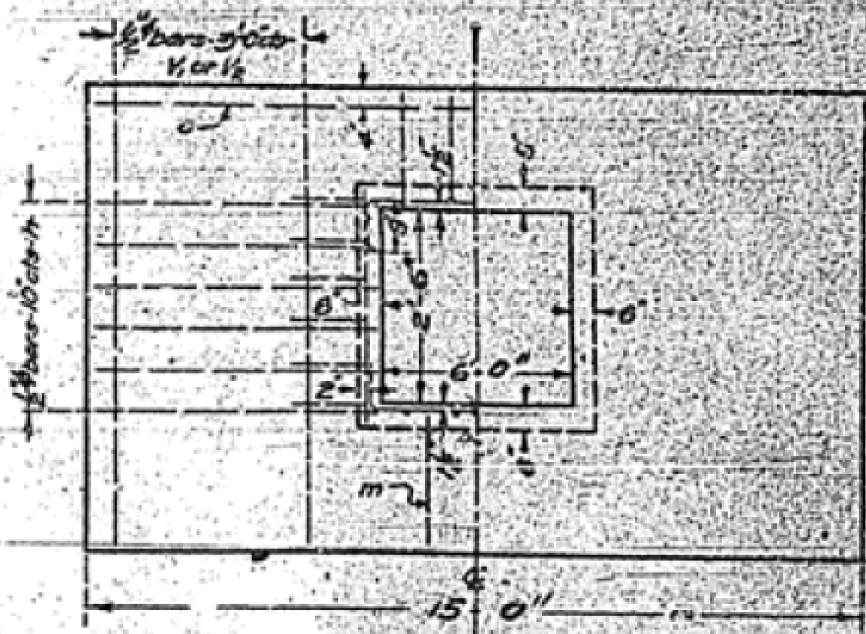
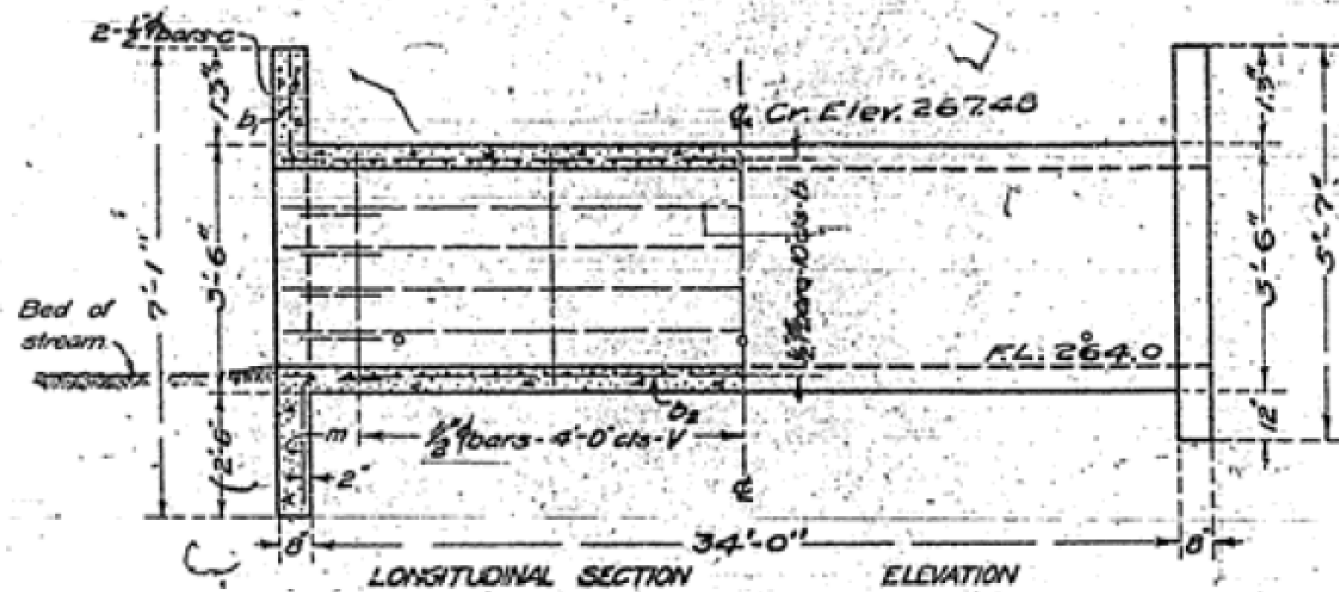
	POROUS GRANULAR EMBANKMENT (CA-6)
	POROUS GRANULAR MATERIAL (CA-7) (6") INCLUDED WITH PRECAST BOX CULVERT
	STONE RIPRAP, CLASS A1

*DRAWING NOT TO SCALE

NOTES:
 1. THIS AS-BUILT PLAN SHEET IS FROM THE ORIGINAL 1928 SECTION 119 PLANS.

FOR INFORMATION ONLY

FOR INFORMATION ONLY



Note:
 Fill over box should be limited to 4'-0"
 Maximum Clearance = 4'-0"
 Use "m" bars in downstream headwall only.

ADJUST HEIGHT OF HEAD WALLS TO BE 12 INCHES ABOVE SHOULDER ELEVATION.

BUILD TOPS OF HEAD-WALLS PARALLEL TO GRADE LINE.

BILL OF MATERIAL

Bars	No.	Size	Length
V	18	1/2"	34.3'
1/2	4	1/2"	5.9'
1/2	4	1/2"	5.3'
1/2	16	1/2"	5.9'
a	190	1/2"	8.3'
b	16	5/8"	20.0'
b ₁	12	1/2"	20.0'
b ₂	12	5/8"	18.6'
c	4	5/8"	14.6'
m	3	5/8"	5.0'
Steel - Lbs.		2040	
Concrete - Cu Yds.		15.9	

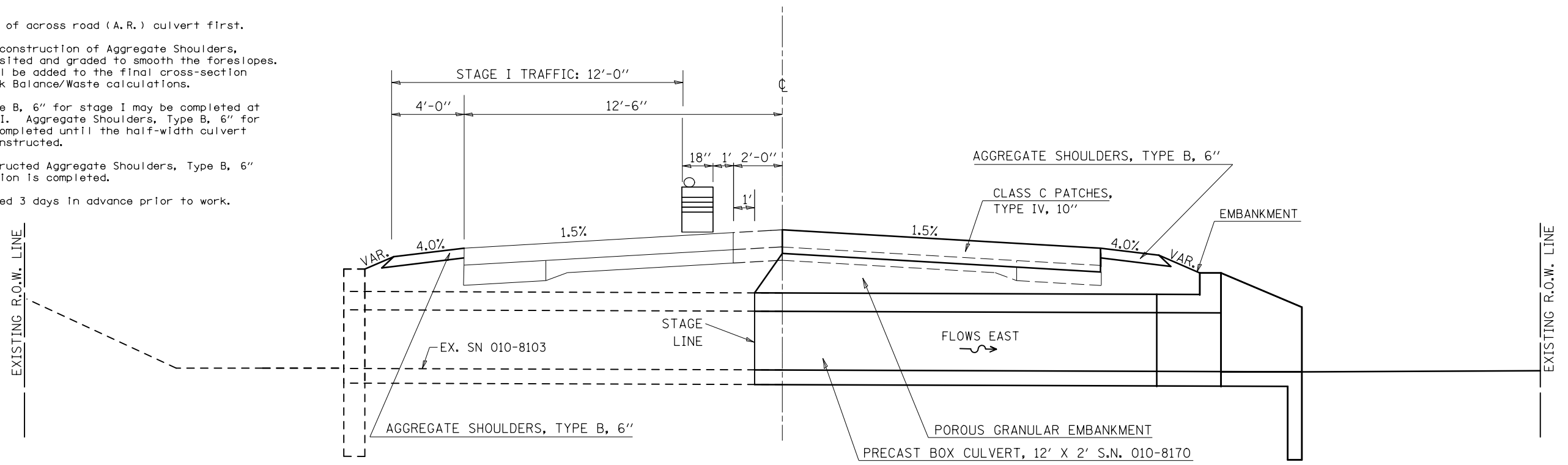
Class A concrete to be used throughout
 Proportions 1-2 1/2-4

SPECIAL CULVERT DESIGN
 S.B.I. RT. 49 CONST. SEC. 119
 CHAMPAIGN CO.
 STA. 753+07

NOTES

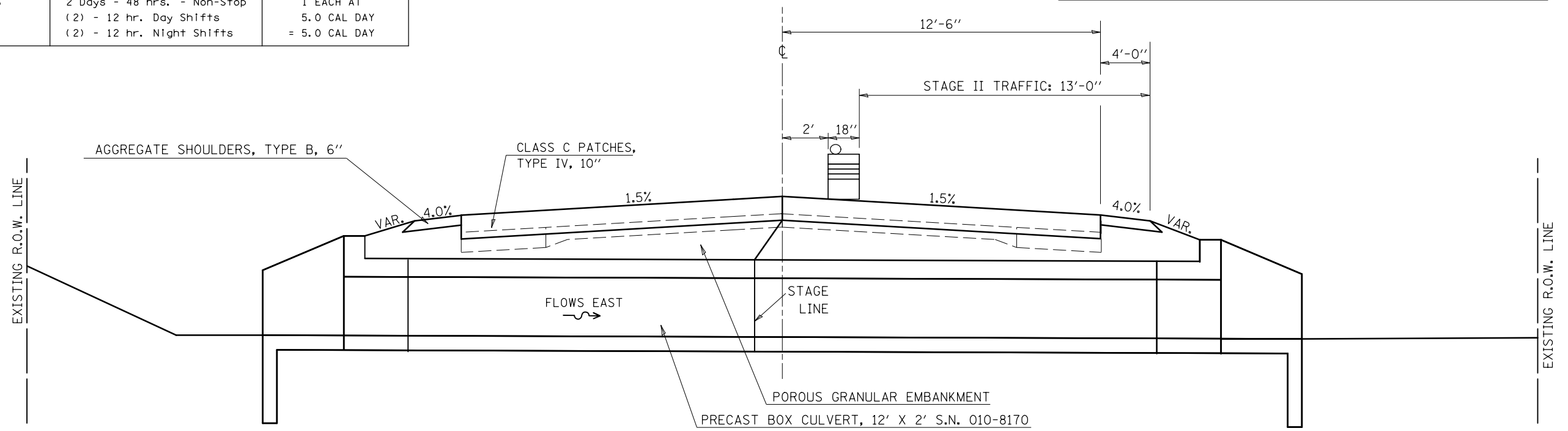
1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. The Engineer may reduce or eliminate lengths or locations of Aggregate Shoulders, Type B, 6" and Earth Excavation based on field conditions.
3. Construct downstream end of across road (A.R.) culvert first.
4. Earth excavated for the construction of Aggregate Shoulders, Type B, 6" shall be deposited and graded to smooth the foreslopes. This excavated earth will be added to the final cross-section volumes for the Earthwork Balance/Waste calculations.
5. Aggregate Shoulders, Type B, 6" for stage I may be completed at any time prior to stage I. Aggregate Shoulders, Type B, 6" for stage II should not be completed until the half-width culvert from stage I has been constructed.
6. Replace previously constructed Aggregate Shoulders, Type B, 6" as needed when construction is completed.
7. CMS boards shall be placed 3 days in advance prior to work.

STAGING DETAILS S.N. 010-8170 STAGE I



A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 753+07.00	701206	2 Days - 48 hrs. - Non-Stop (2) - 12 hr. Day Shifts (2) - 12 hr. Night Shifts	1 EACH AT 5.0 CAL DAY = 5.0 CAL DAY

STAGING DETAILS S.N. 010-8170 STAGE II



DRAWING NOT TO SCALE

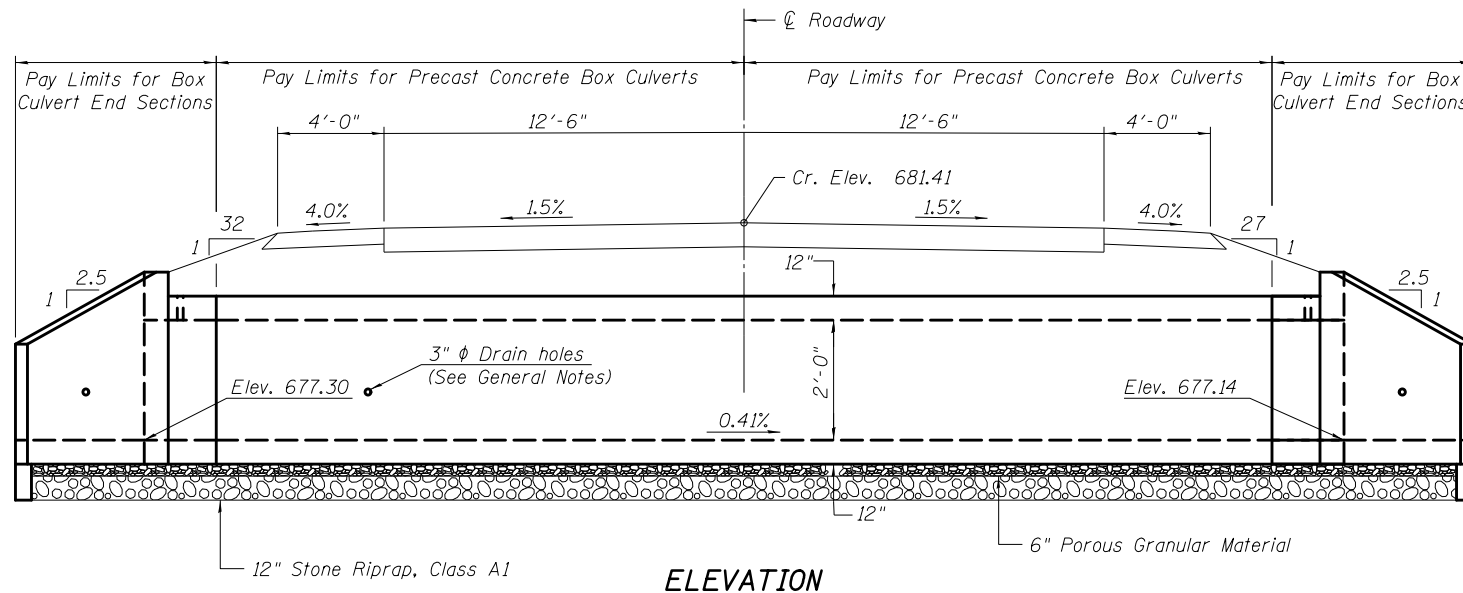
FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGING DETAIL - CULVERT NO. 1 SN 010-8070			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\11084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 5\Projects\0579\BROWND\Design\0570881-sht-plan.dgn		CHECKED -	REVISED -		836	119CR	CHAMPAIGN	44	19			
PLOT SCALE = 40.0000' / in.		DATE -	REVISED -		CONTRACT NO. 70B81							
PLOT DATE = 11/18/2016					SCALE: N/A	SHEET NO. 6 OF 6 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

INDEX OF SHEETS

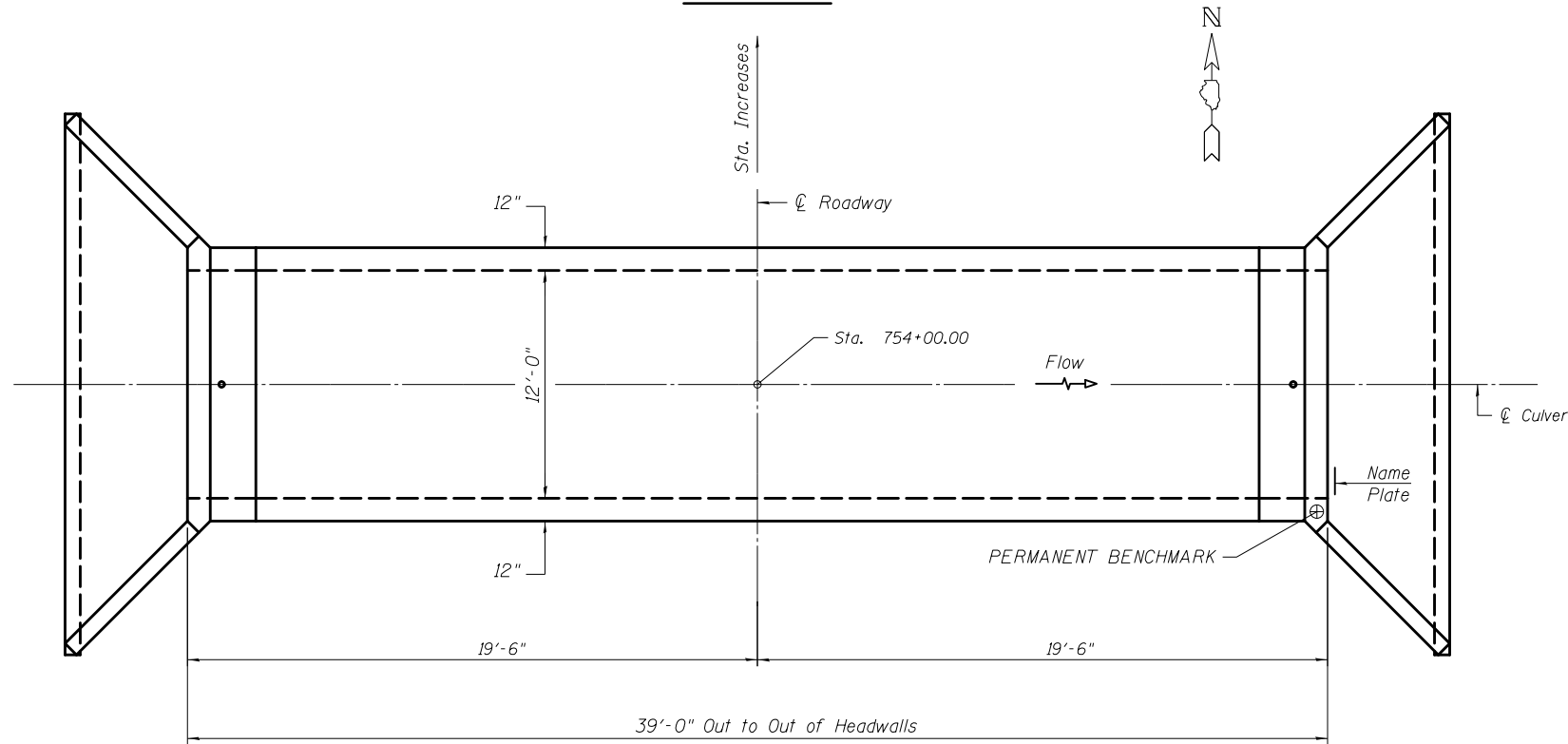
1. General Plan and Elevation
- 2-3. Precast Concrete Box Culvert Apron End Section Details
4. Porous Granular Embankment Detail
5. Staging Details

GENERAL NOTES

The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.
 Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.
 The 6 in. thick layer of porous granular material required for the precast concrete box culvert per Art. 540.06 of the Standard Specifications shall also apply to the end sections. Cost of the porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.
 Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.



ELEVATION



WATERWAY INFORMATION TABLE

Existing Low Grade Elev. = 680.7 @ Sta. 750+00.00		Proposed Low Grade Elev. = 680.7 @ Sta. 750+00.00						
Flood	Freq. Yr.	Opening Sq. Ft.		Natural H.W.E.	Head - Ft.		Headwater Elevation	
		Existing	Proposed		Existing	Proposed	Existing	Proposed
Design	10	124.9	12	57	679.6	0	0	679.6
Base	50	173	106	67	679.8	0	0.1	679.9
Overtopping	100	198.8	112	71	679.9	0	0.2	680.1
Max. Calc.	500	-	-	-	-	-	-	-
10 YEAR VELOCITY THROUGH EXISTING BRIDGE = Overtopped				10 YEAR VELOCITY THROUGH PROPOSED BRIDGE =				2.60 ft/s
ALL-TIME H.W.E. & DATE: Unknown								

STATION 754+00.00
 BUILT 2017 BY
 STATE OF ILLINOIS
 F.A.P. RT. 836 SEC. 119CR
 LOADING HL-93
 STRUCTURE NO. 010-8171

NAME PLATE
 See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	674.59	674.43

DESIGN SPECIFICATIONS

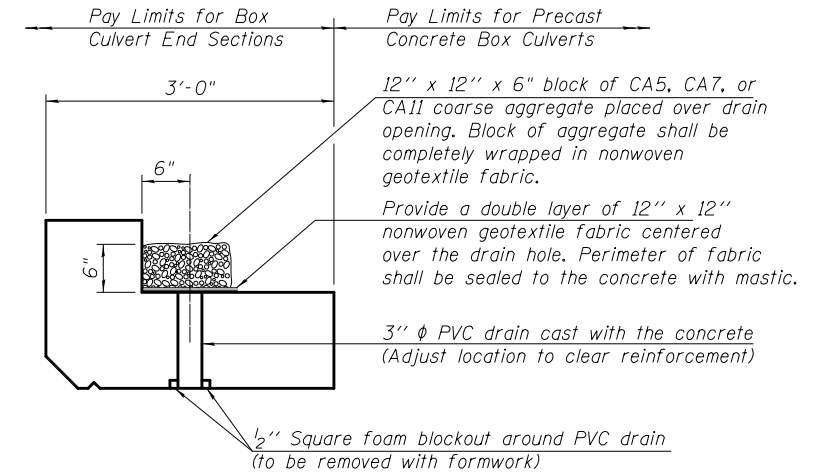
2012 AASHTO LRFD Bridge Design Specifications
 6th Edition

LOADING HL-93

DESIGN STRESSES

PRECAST UNITS

f'c = 5,000 psi
 fy = 65,000 psi (Welded Wire Fabric)



DRAIN DETAIL

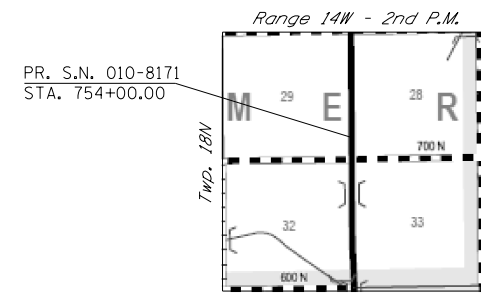
(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)

TOTAL BILL OF MATERIAL

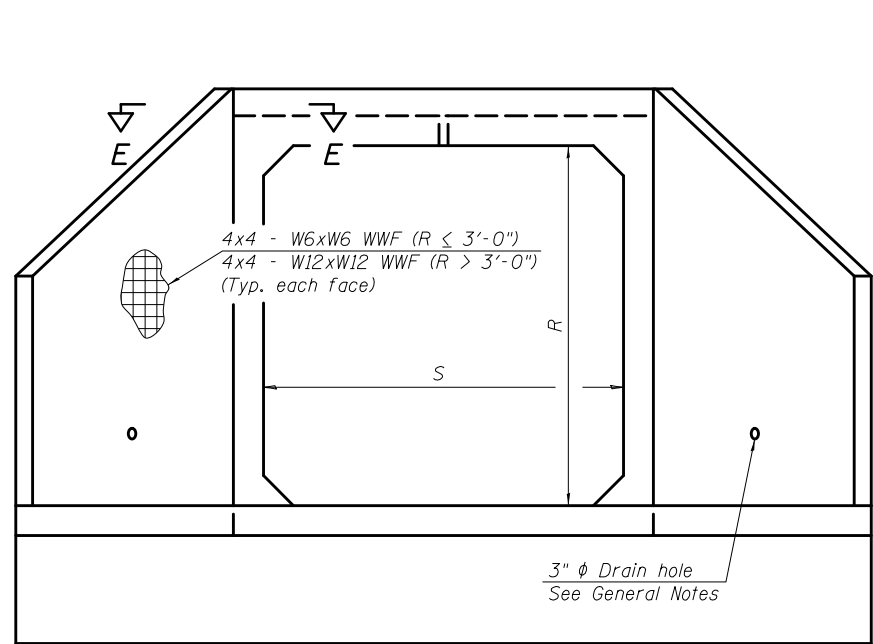
ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 2	Each	2.0
Precast Concrete Box Culverts, 12' x 2'	Foot	33.0
Stone Riprap, Class A1	Ton	52.5
Porous Granular Embankment	Cu. yd	32.0
Permanent Bench Marks	Each	1.0
Membrane Waterproofing For Buried Str.	Sq. yd	66.0
Structure Excavation	Cu. yd	254.0

**GENERAL PLAN AND ELEVATION
 SINGLE 12' X 2' PRECAST BOX CULVERT**

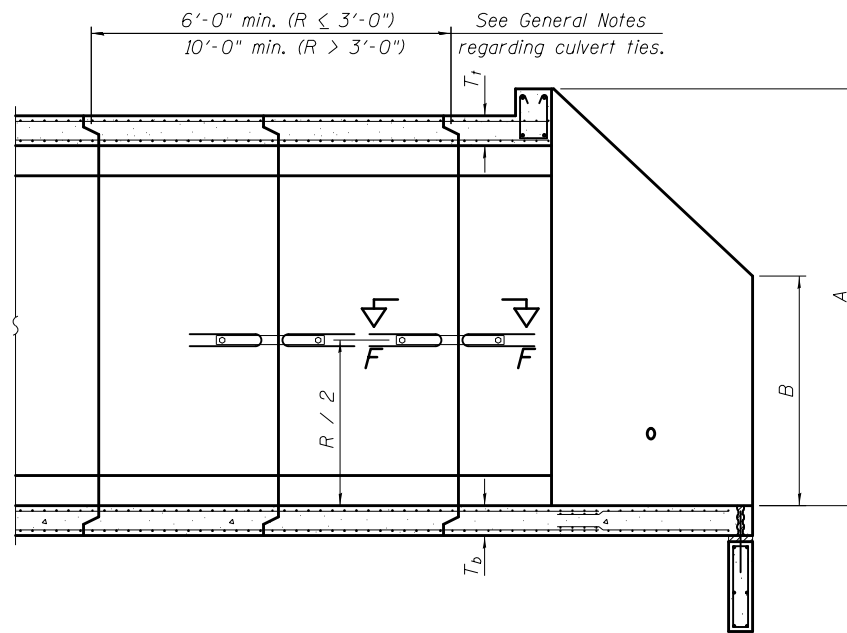
IL RTE. 49
F.A.P. RTE. 836 SEC. 119CR
CHAMPAIGN COUNTY
STATION 754+00.00
S.N. 010-8171



LOCATION SKETCH



END VIEW



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire fabric (WWF). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in area of reinforcement equal to or greater than that provided by the WWF. Minimum lap lengths detailed herein are applicable to WWF and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

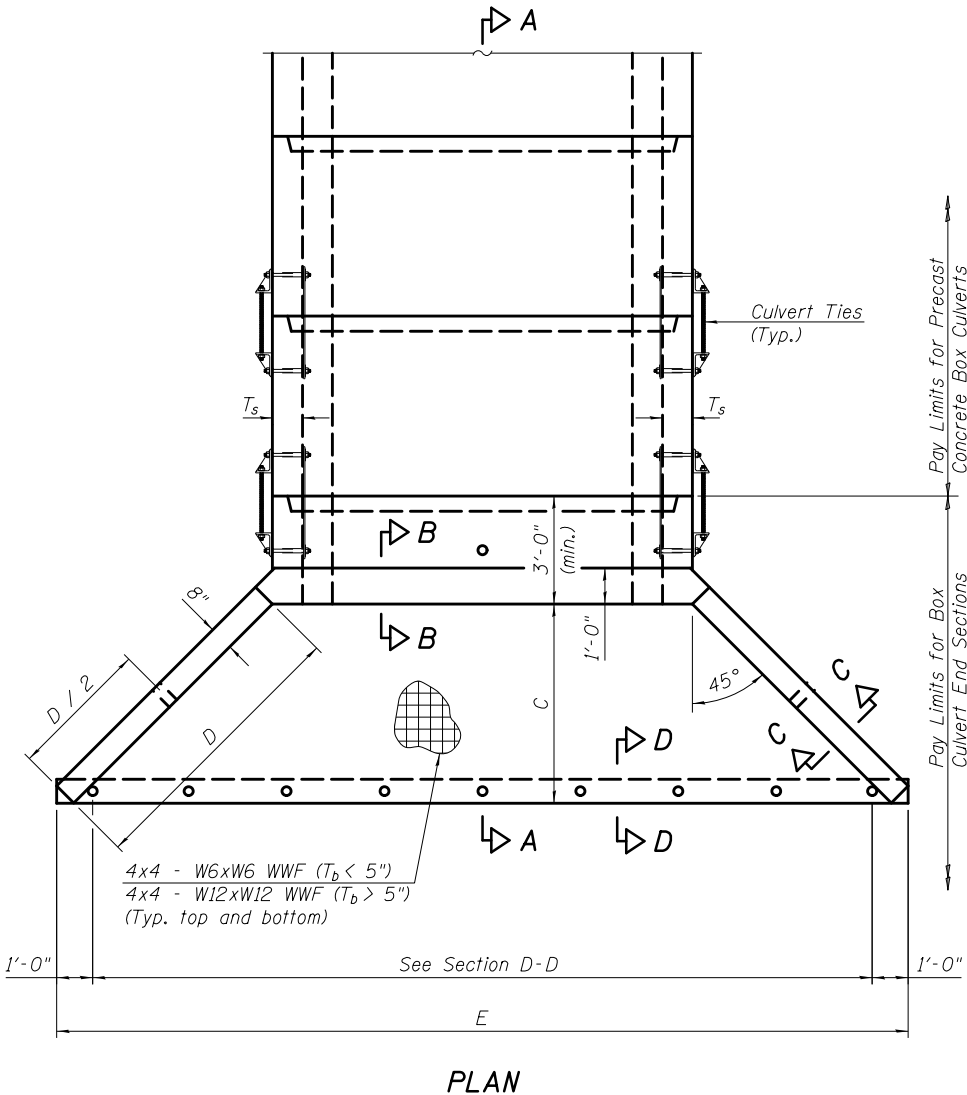
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	T _t	T _b	T _s	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ⁷ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12'-4 ⁵ / ₈ "	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7 ⁷ / ₈ "	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4 ¹ / ₂ "	2'-2 ¹ / ₂ "	2'-11 ³ / ₈ "	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8 ¹ / ₂ "	3'-10"	11'-2 ³ / ₈ "	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4 ¹ / ₂ "	2'-8 ¹ / ₂ "	3'-11 ³ / ₈ "	5'-7"	13'-8 ¹ / ₈ "	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8 ¹ / ₂ "	5'-3"	13'-2 ³ / ₈ "	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4 ¹ / ₂ "	3'-2 ¹ / ₂ "	4'-11 ³ / ₈ "	7'-0"	15'-8 ¹ / ₈ "	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8 ⁵ / ₈ "	6'-8"	15'-2 ¹ / ₂ "	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7 ¹ / ₄ "	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	14'-10 ¹ / ₈ "	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7 ¹ / ₄ "	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	16'-10 ¹ / ₈ "	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9 ¹ / ₄ "	6'-9"	16'-5 ⁷ / ₈ "	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	18'-10 ¹ / ₈ "	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9 ¹ / ₄ "	8'-2"	18'-5 ⁷ / ₈ "	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	13'-10 ⁵ / ₈ "	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	16'-0 ¹ / ₈ "	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	15'-10 ⁵ / ₈ "	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	18'-0 ¹ / ₈ "	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10 ³ / ₄ "	6'-11"	17'-10 ³ / ₄ "	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	20'-0 ¹ / ₈ "	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10 ³ / ₄ "	8'-4"	19'-10 ³ / ₄ "	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	22'-0 ¹ / ₄ "	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10 ³ / ₄ "	9'-9"	21'-10 ³ / ₄ "	9.3	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	19'-2 ¹ / ₈ "	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	21'-2 ¹ / ₈ "	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	23'-2 ¹ / ₄ "	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	18'-2 ¹ / ₈ "	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	20'-2 ¹ / ₈ "	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	22'-2 ¹ / ₈ "	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	24'-2 ¹ / ₄ "	11.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0 ⁷ / ₈ "	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0 ¹ / ₈ "	9'-11"	25'-5 ⁵ / ₈ "	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1 ¹ / ₂ "	4'-5"	18'-10 ¹ / ₄ "	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1 ¹ / ₂ "	5'-10"	20'-10 ¹ / ₄ "	8.6	No
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1 ¹ / ₂ "	8'-8"	24'-10 ³ / ₈ "	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1 ¹ / ₂ "	10'-1"	26'-10 ³ / ₈ "	13.9	Yes
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2 ¹ / ₄ "	7'-4"	24'-1 ³ / ₄ "	11.5	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2 ¹ / ₄ "	10'-2"	28'-1 ⁷ / ₈ "	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3 ⁵ / ₈ "	4'-8"	21'-6 ¹ / ₂ "	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3 ⁵ / ₈ "	6'-1"	23'-6 ¹ / ₂ "	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3 ⁵ / ₈ "	7'-6"	25'-6 ⁵ / ₈ "	13.0	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3 ⁵ / ₈ "	10'-4"	29'-6 ⁵ / ₈ "	17.4	Yes

Note:

Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.



PLAN

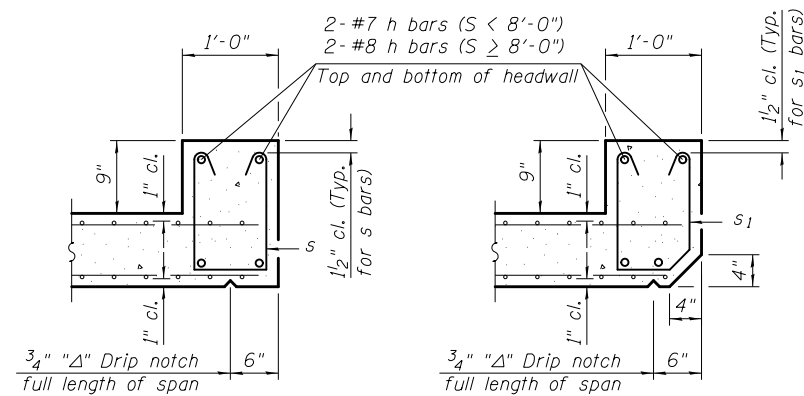
FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
		DRAWN -	REVISED
		CHECKED -	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT
APRON END SECTION DETAILS - CULVERT NO. 2 (S.N. 010-8171)

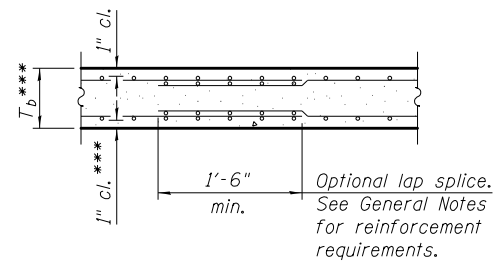
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	21
ILLINOIS FED. AID PROJECT			CONTRACT NO. 70B81	

SHEET NO. 2 OF 5 SHEETS

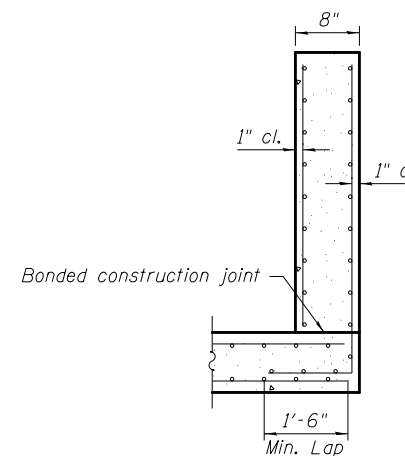


SECTION B-B
(Top slab at downstream end)

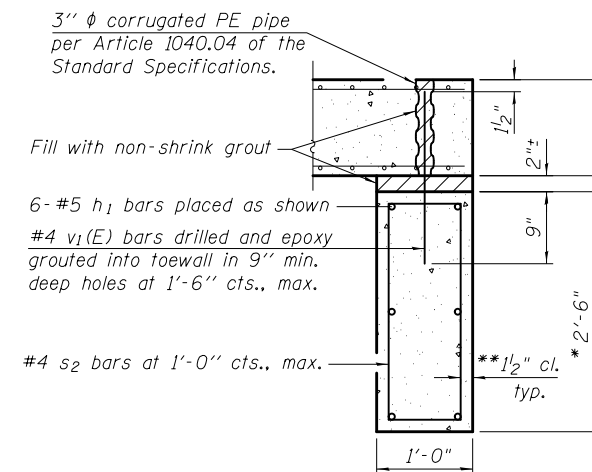
SECTION B-B
(Top slab at upstream end)



SECTION B-B
(Bottom Slab)

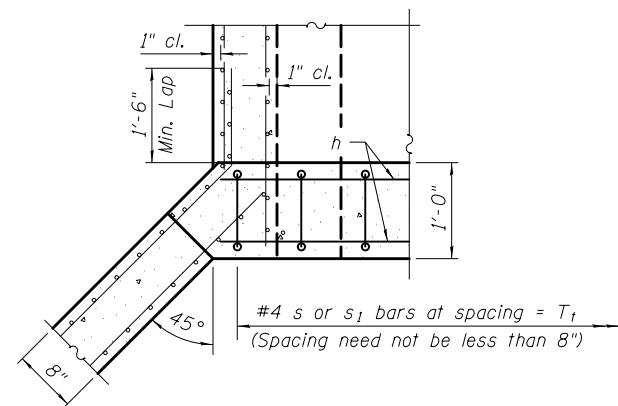


SECTION C-C

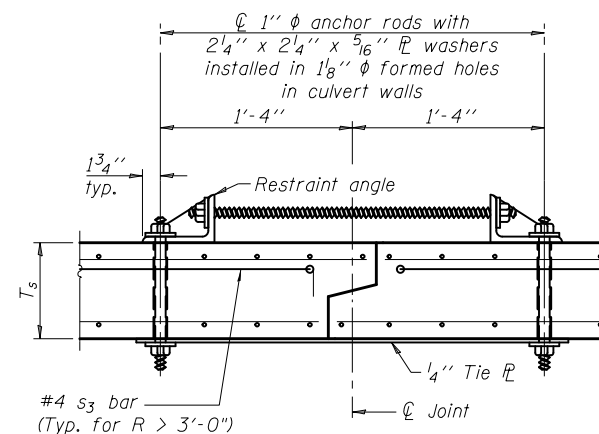


SECTION D-D

*** This dimension shall be increased by 2" for CIP construction.



SECTION E-E



SECTION F-F
(Showing culvert tie details)

TOEWALL CONSTRUCTION SEQUENCE

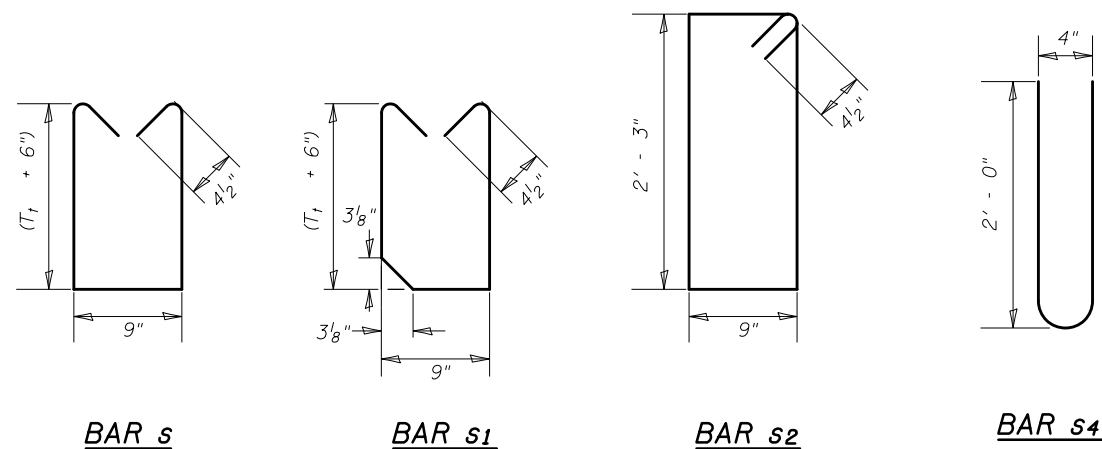
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

Notes:

1" diameter anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. Anchor rods installed in the sidewalls of the culvert shall be tightened per Article 505.04(f)2(d) of the Standard Specifications. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes. Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to the approval of the Engineer.

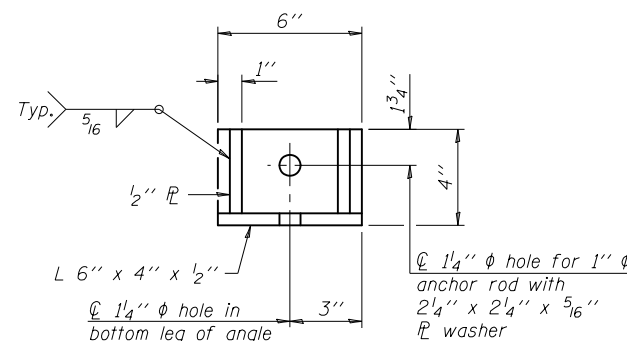


BAR s

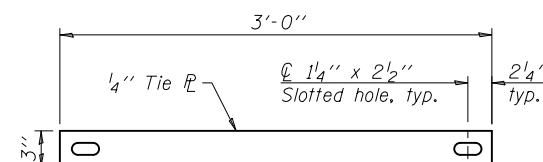
BAR s1

BAR s2

BAR s4

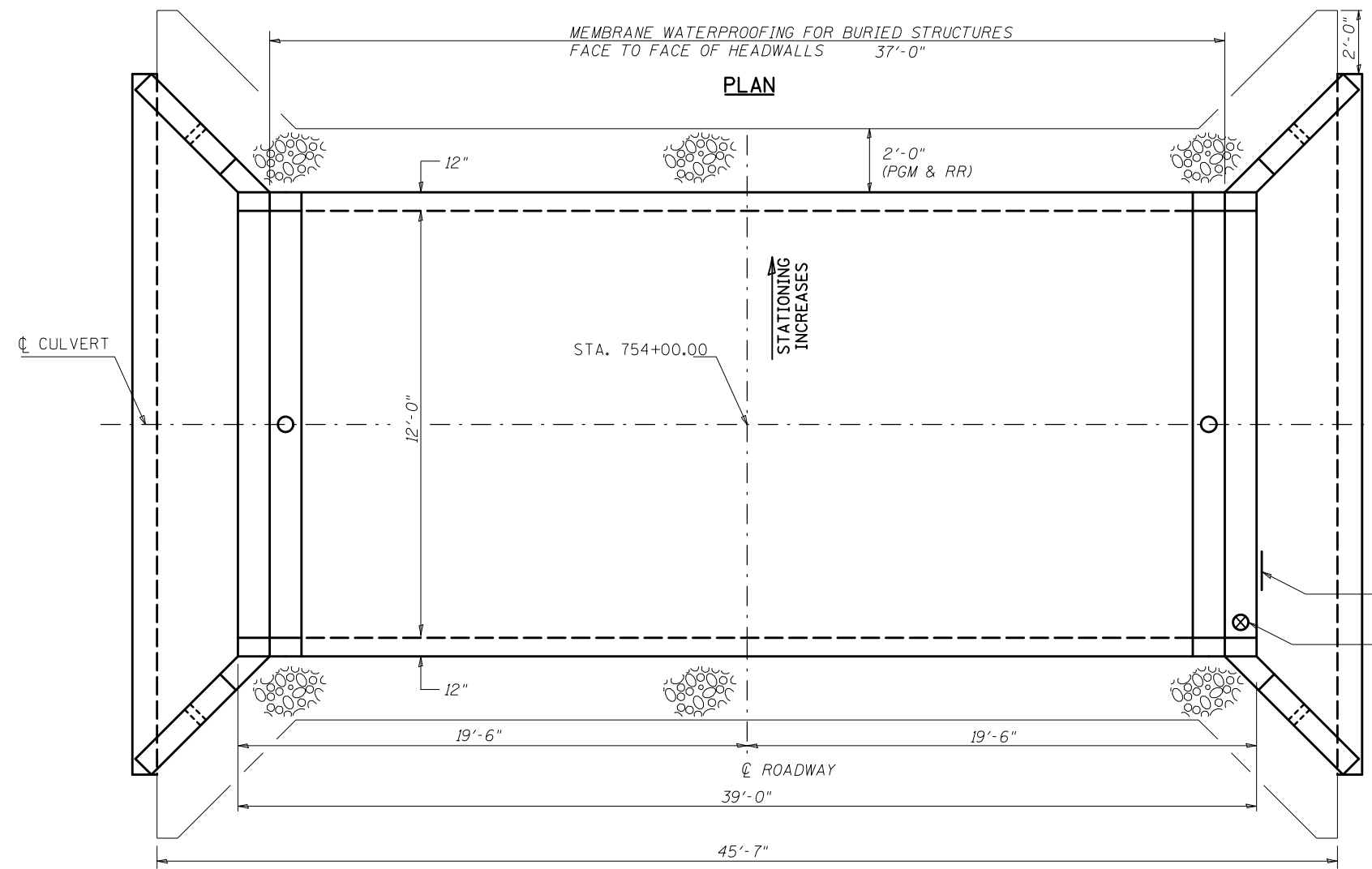


RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

FILE NAME =	USER NAME =	DESIGNED -	REVISD	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS - CULVERT NO. 2 (S.N. 010-8171)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISD			836	119CR	CHAMPAIGN	44	22	
		DRAWN -	REVISD			CONTRACT NO. 70B81					
		CHECKED -	REVISD			ILLINOIS FED. AID PROJECT					



STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED DUE TO UNSTABLE SOIL CONDITIONS

THE WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1.

THE EXCAVATION AND REMOVAL OF THE UNSUITABLE MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

POROUS GRANULAR EMBANKMENT

POROUS GRANULAR EMBANKMENT SHALL EXTEND 2 FT. BEYOND THE AGGREGATE SHOULDER

THE WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLE 207 AND ARTICLE 540 OF THE STANDARD SPECIFICATIONS.

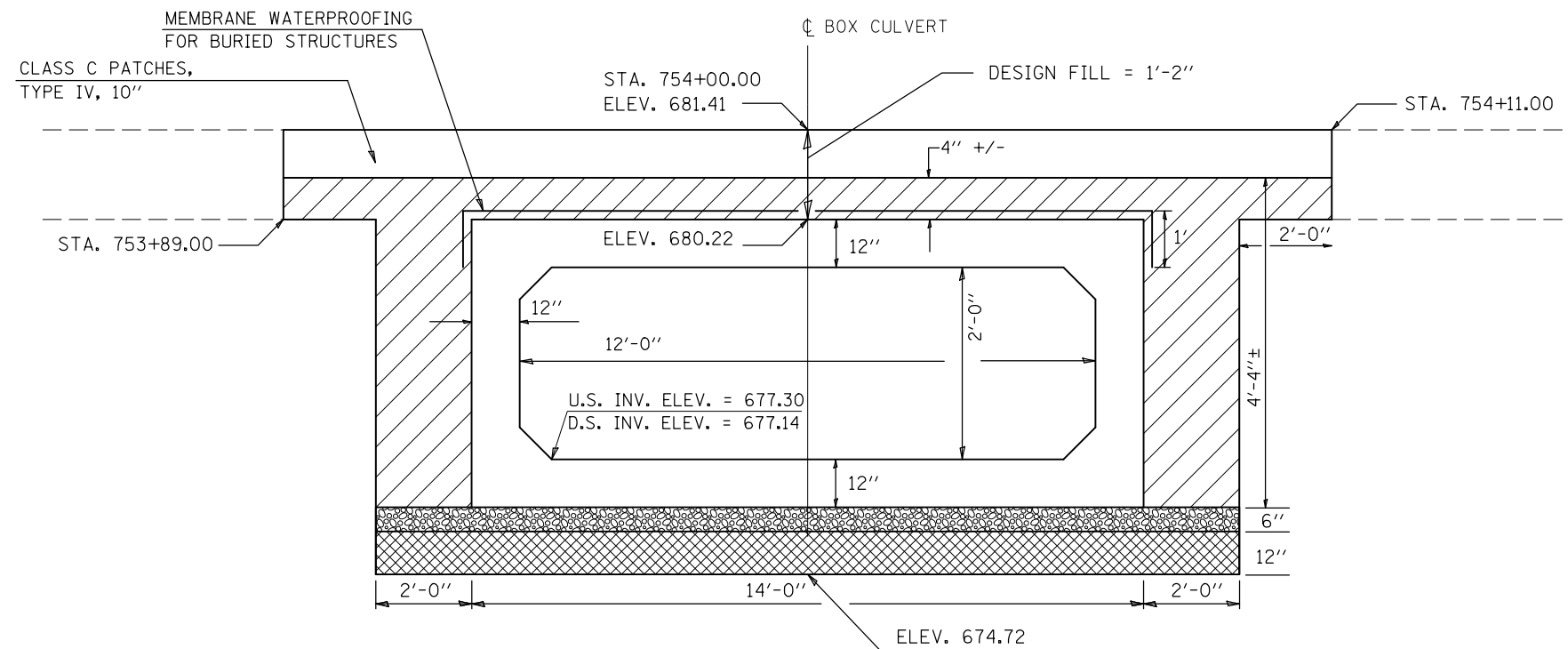
THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR POROUS GRANULAR EMBANKMENT.

MEMBRANE WATERPROOFING FOR BURIED STRUCTURES

SEE GUIDE BRIDGE SPECIAL PROVISION NO. 81

BILL OF MATERIAL

Item	Unit	Total
POROUS GRANULAR EMBANKMENT	CU YD	32.0
STONE RIPRAP, CLASS A1	TON	52.5
MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SQ YD	66.0
STRUCTURE EXCAVATION	CU YD	254.0



LEGEND	
	POROUS GRANULAR EMBANKMENT (CA-6)
	POROUS GRANULAR MATERIAL (CA-7) (6") INCLUDED WITH PRECAST BOX CULVERT
	STONE RIPRAP, CLASS A1

*DRAWING NOT TO SCALE

FILE NAME =	USER NAME = coombessf	DESIGNED - TJB	REVISED -
p:\11\084EBIDINTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 5\Projects\057\BRAWN\Design\70881-sht-plan.dgn			
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISOR -	REVISOR -
PLOT DATE = 11/18/2016	DATE - 10/17/2016	REVISOR -	REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**POROUS GRANULAR EMBANKMENT DETAIL
S.N. 010 -8171 ; CULVERT NO. 2**

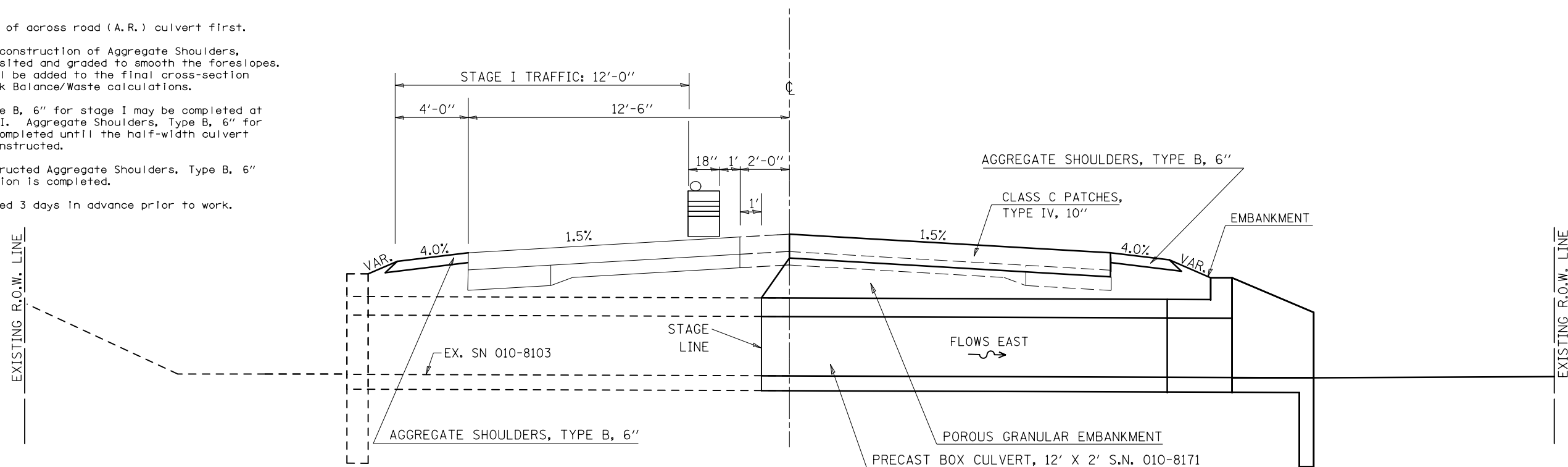
SCALE: SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	23
CONTRACT NO. 70881				
ILLINOIS FED. AID PROJECT				

NOTES

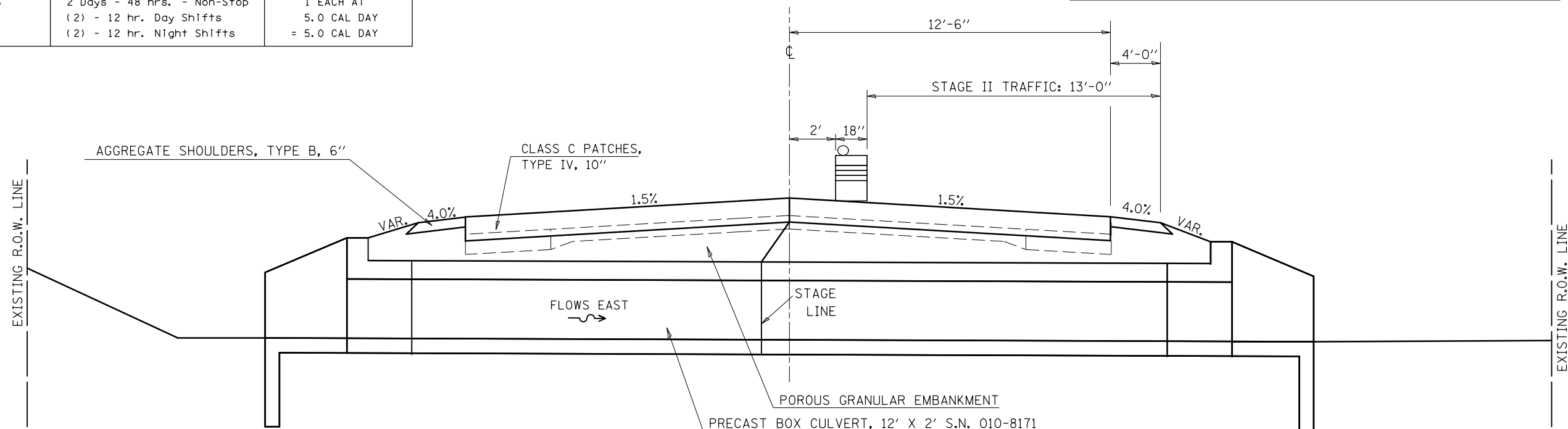
1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. The Engineer may reduce or eliminate lengths or locations of Aggregate Shoulders, Type B, 6" and Earth Excavation based on field conditions.
3. Construct downstream end of across road (A.R.) culvert first.
4. Earth excavated for the construction of Aggregate Shoulders, Type B, 6" shall be deposited and graded to smooth the foreslopes. This excavated earth will be added to the final cross-section volumes for the Earthwork Balance/Waste calculations.
5. Aggregate Shoulders, Type B, 6" for stage I may be completed at any time prior to stage I. Aggregate Shoulders, Type B, 6" for stage II should not be completed until the half-width culvert from stage I has been constructed.
6. Replace previously constructed Aggregate Shoulders, Type B, 6" as needed when construction is completed.
7. CMS boards shall be placed 3 days in advance prior to work.

STAGING DETAILS S.N. 010-8171 STAGE I

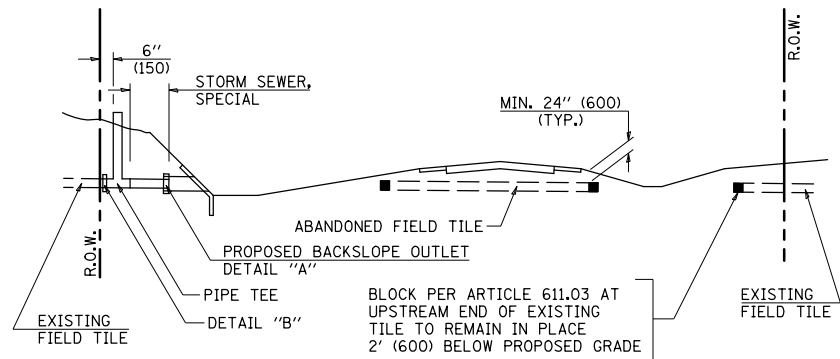


A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 754+00.00	701206	2 Days - 48 hrs. - Non-Stop (2) - 12 hr. Day Shifts (2) - 12 hr. Night Shifts	1 EACH AT 5.0 CAL DAY = 5.0 CAL DAY

STAGING DETAILS S.N. 010-8171 STAGE II

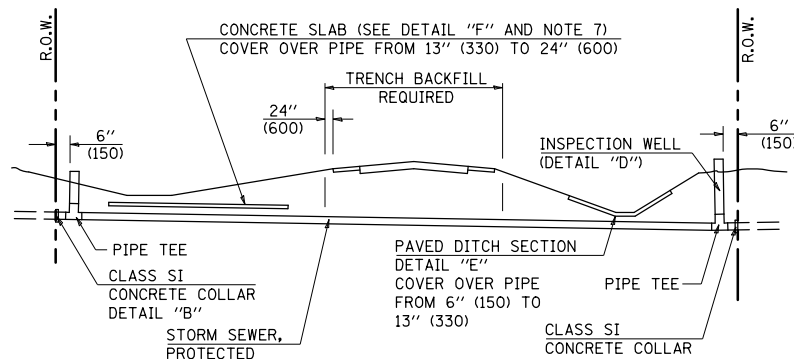


DRAWING NOT TO SCALE



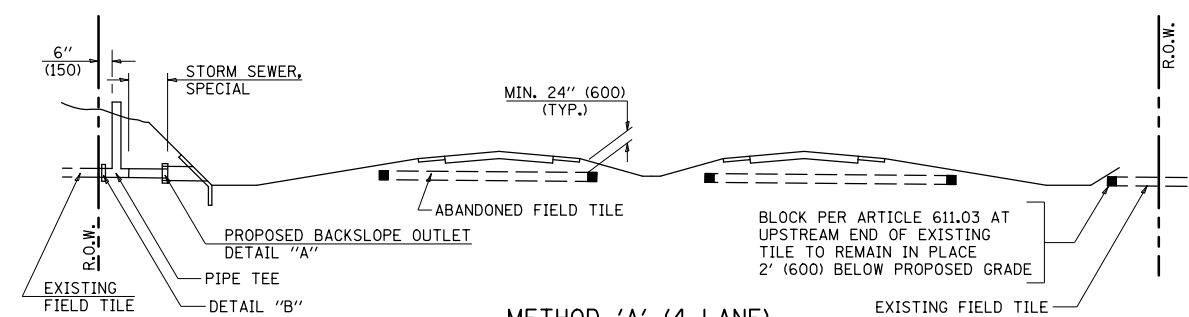
METHOD 'A' (2 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE



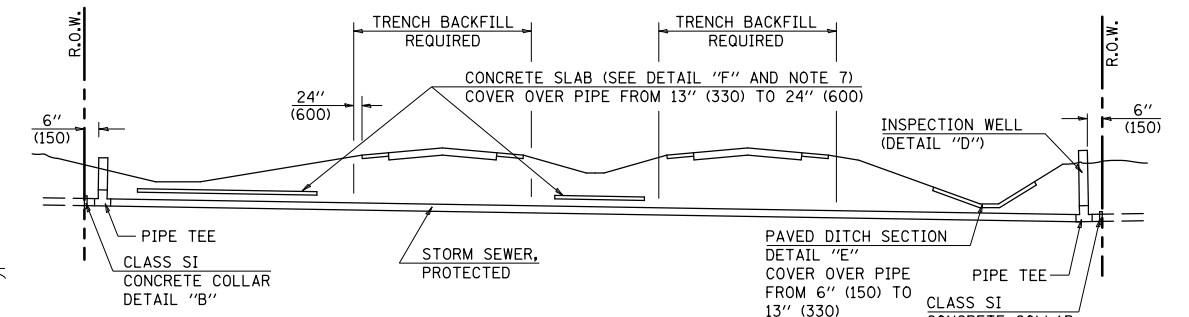
METHOD 'B' (2 LANE)

STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENT AND PAVED DITCH



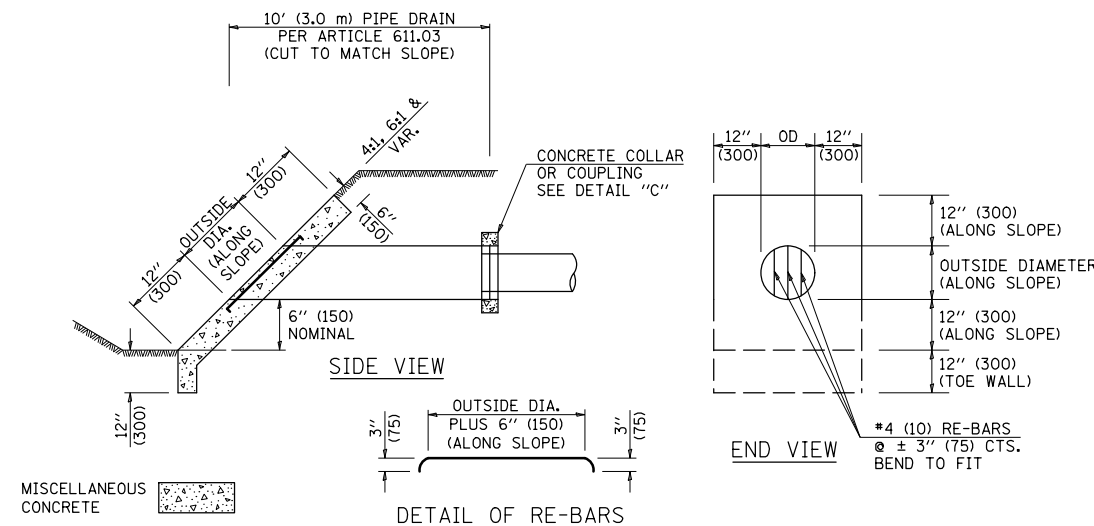
METHOD 'A' (4 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE

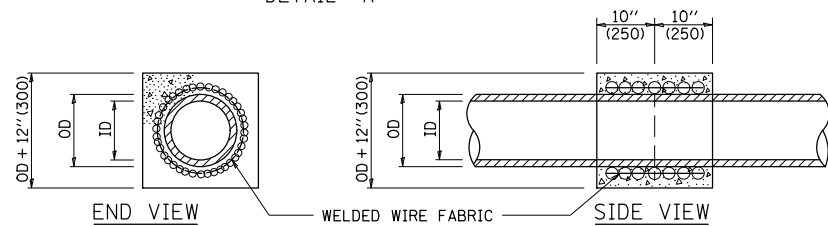


METHOD 'B' (4 LANE)

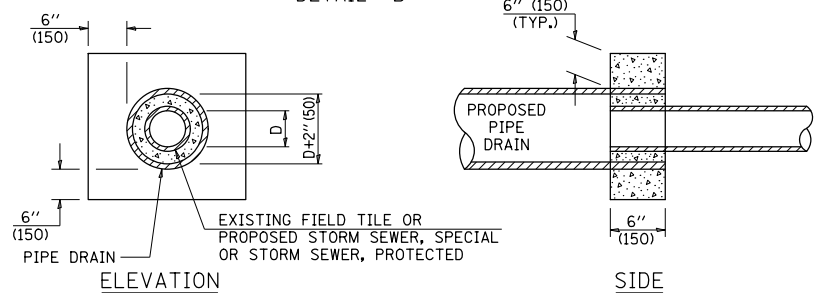
STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENTS AND PAVED DITCHES



**HEADWALL FOR BACKSLOPE OUTLET
DETAIL "A"**



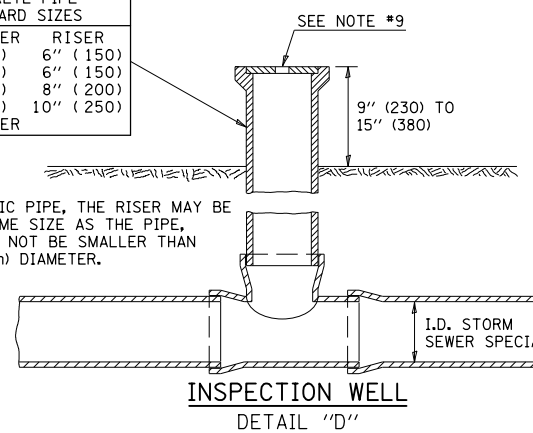
**CONCRETE COLLAR
DETAIL "B"**



**CLASS SI COLLAR
DETAIL "C"**

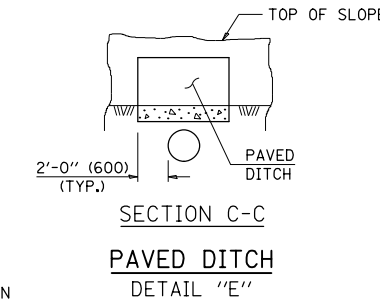
CONCRETE PIPE STANDARD SIZES	
STORM SEWER	RISER
6" (150)	6" (150)
8" (200)	6" (150)
10" (250)	8" (200)
12" (300)	10" (250)
OR GREATER	

FOR PLASTIC PIPE, THE RISER MAY BE OF THE SAME SIZE AS THE PIPE, BUT SHALL NOT BE SMALLER THAN 4" (100 mm) DIAMETER.

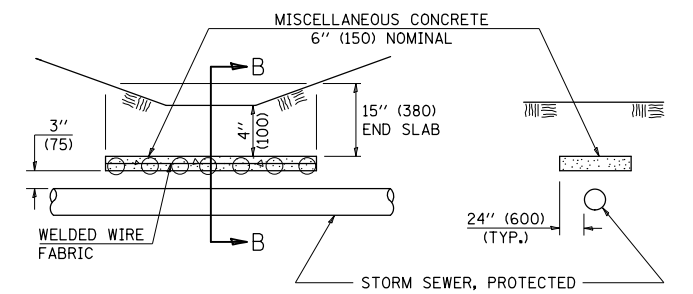


GENERAL NOTES

- EXISTING FIELD TILE ENCOUNTERED BY EXPLORATION TRENCH SHALL BE INSPECTED BY THE ENGINEER FOR UNOBSTRUCTED FLOW WITHIN THE LIMITS OF THE RIGHT-OF-WAY.
- ONLY FIELD TILE THAT DOES NOT HAVE SATISFACTORY FLOW AND OR HAS VISIBLE SIGNS OF DETERIORATION (SINK HOLES, ETC.) SHALL BE REPLACED WITHIN THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH METHOD "B".
- INSPECTION WELLS SHALL BE CONSTRUCTED APPROXIMATELY 6" (150 mm) INSIDE OF BOTH RIGHT-OF-WAY LINES AT ALL FIELD TILE LOCATIONS.
- EXISTING FIELD TILE ABANDONED UNDER EXISTING PAVEMENTS OR PAVED SHOULDERS SHALL BE FILLED WITH FLOWABLE GROUT AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.
- NON-CIRCULAR FIELD TILE SHALL BE REPLACED WITH STORM SEWER, SPECIAL OF AT LEAST THE SAME CROSS SECTIONAL AREA. ALL EXISTING FIELD TILE SHALL BE REPLACED WITH STORM SEWER OF THE TYPE REQUIRED FOR THE MINIMUM DEPTH OF COVER.
- THE 6" (150 mm) CONCRETE SLAB OR DITCH LINING SHALL BE POURED THE LENGTH OF THE TRENCH AT ALL DITCH FLOW LINE LOCATIONS WITHIN THE RIGHT-OF-WAY WITH LESS THAN 2' (600 mm) OF EARTH COVER. MISCELLANEOUS CONCRETE SHALL BE USED ACCORDING TO SECTION 611.
- ALL MISCELLANEOUS SLABS, APRONS AND DITCH LININGS SHALL BE REINFORCED WITH WELDED WIRE FABRIC AS SHOWN FOR PAVED DITCH IN STANDARD 606401.
- HEADWALL FOR BACKSLOPE OUTLET MAY BE USED FOR PIPE DRAIN DIAMETERS UP TO 10" (250 mm). SPECIAL DESIGNS WILL BE REQUIRED FOR LARGER SIZES.
- THE INSPECTION WELL LID FOR P.C.C. PIPE SHALL BE CONSTRUCTED OF 3/8" (10 mm) CAST IRON AND PROVIDED WITH A 1" (25 mm) DIAMETER HOLE IN CENTER. THE LID FOR THE OTHER PIPE MATERIALS SHALL BE A GRATE ASSEMBLY PREFABRICATED FOR AND COMPATIBLE WITH THE PIPE SYSTEM.



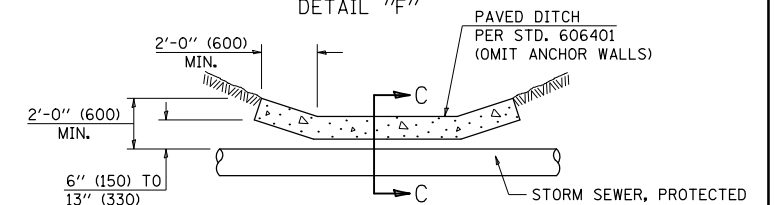
**PAVED DITCH
DETAIL "E"**



SLAB ELEVATION

**CONCRETE SLAB
DETAIL "F"**

SECTION B-B



PAVED DITCH ELEVATION

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 61101011A

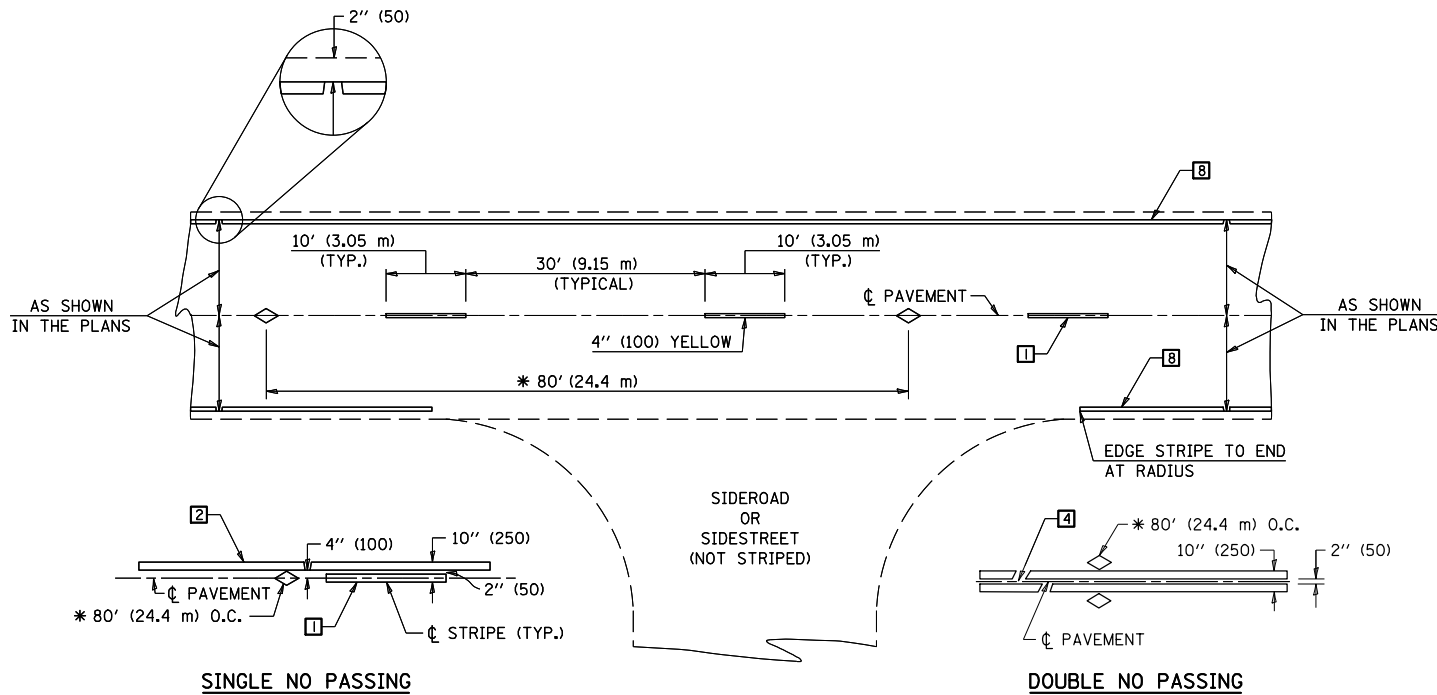
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		DATE - 11/18/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

FIELD TILE SYSTEMS (TREATMENT OF EXISTING)

SCALE: N/A	SHEET NO. 1 OF 1 SHEETS	STA. -- TO STA. --
------------	-------------------------	--------------------

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	25
CONTRACT NO. 70B81				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

TWO LANE/TWO WAY

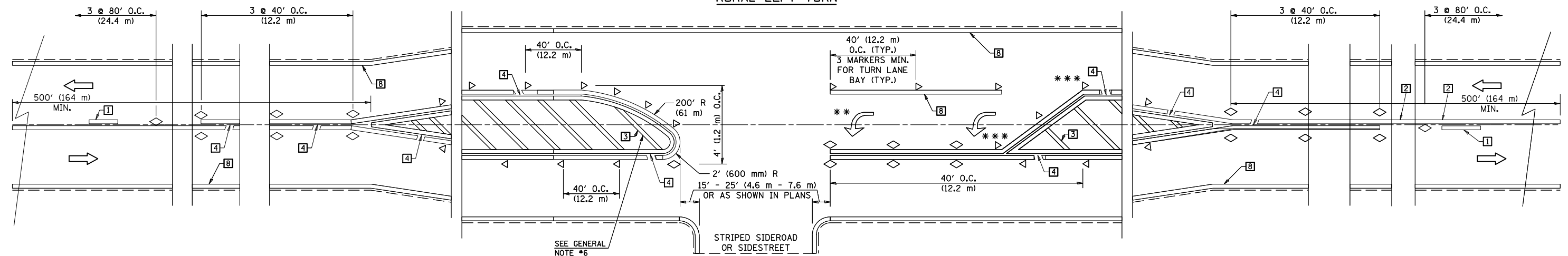
TYPICAL PAVEMENT MARKING LEGEND

- 1 4" (100) SKIP-DASH (YELLOW)
- 2 4" (100) SOLID (YELLOW)
- 3 12" (300) DIAGONAL (YELLOW)
- 4 4" (100) DOUBLE YELLOW (NARROW)
- 5 RESERVED
- 6 RESERVED
- 7 4" (100) SKIP-DASH (WHITE)
- 8 4" (100) SOLID (WHITE)
- 9 12" (300) DIAGONAL (WHITE)
- 10 6" (150) SOLID (WHITE)
- 11 24" (600) STOP BAR (WHITE)
- 12 8" (200) SOLID (WHITE)
- 13 4" (100) LANE LINE EXTENSIONS (WHITE)
- 14 4" (100) PARKING WHITE

TYPICAL PAVEMENT MARKERS LEGEND

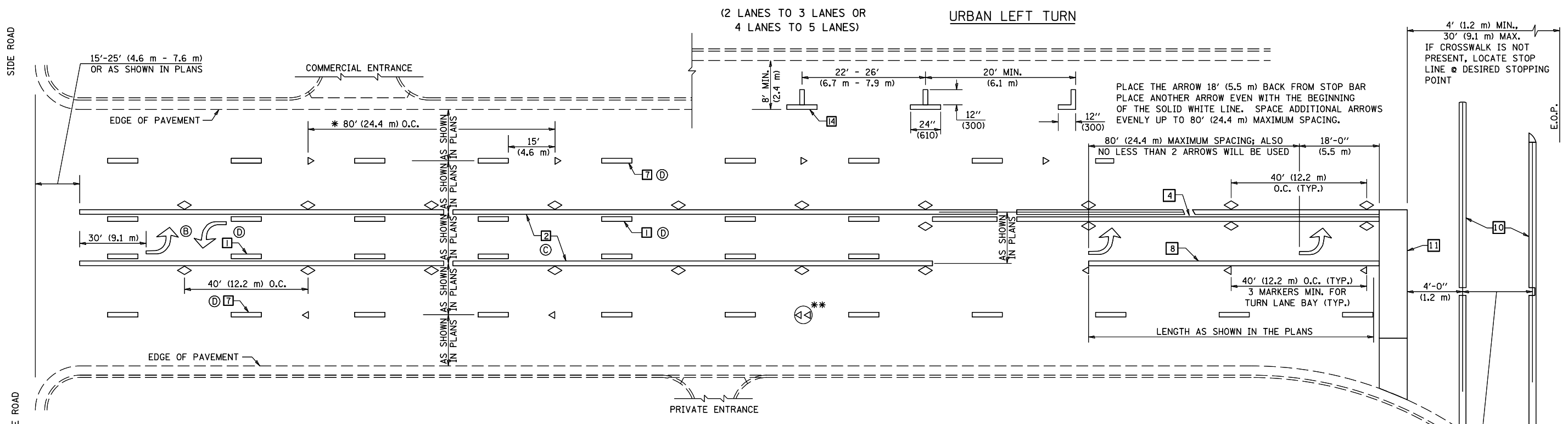
- ◇ TWO-WAY AMBER MARKER
- ▷ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

RURAL LEFT TURN



*** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.
 ** TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET #2.

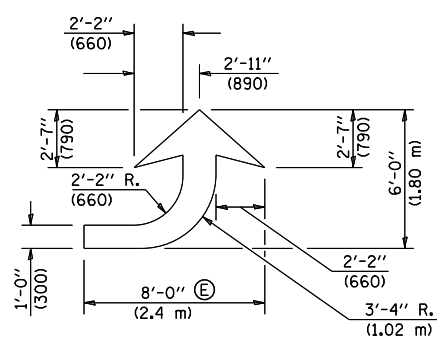
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.



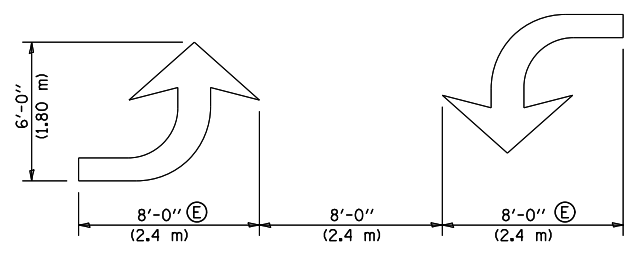
* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

- GENERAL NOTES:**
- ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.
 - ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
 - ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.
 - ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)

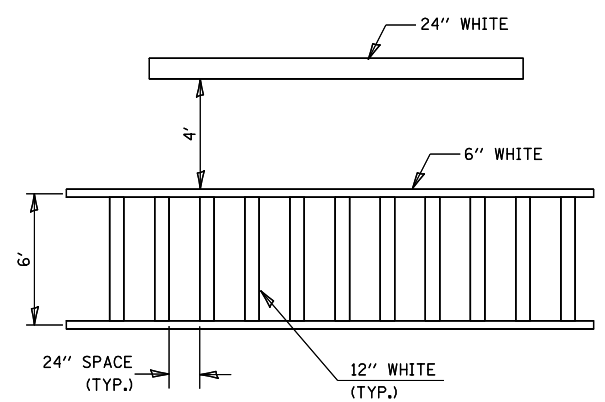


LEFT ARROW
 REVERSE FOR RIGHT ARROW
 AREA = 15.6 SQ. FT. (1.47 m²)
 (WHITE)

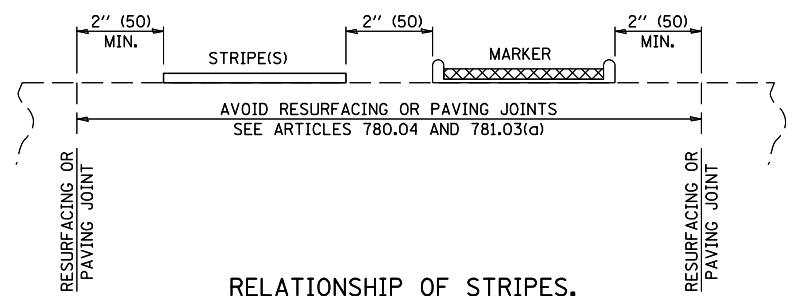


TYPICAL DOUBLE TURN ARROWS (WHITE)

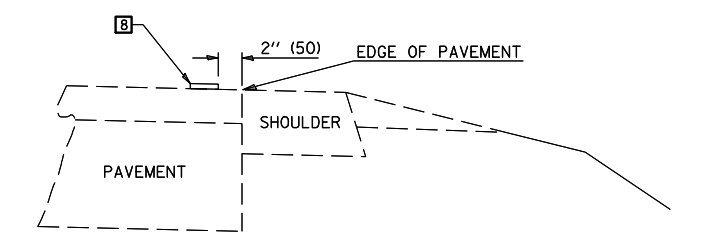
BLOOMINGTON-NORMAL CITY LIMITS ONLY



TYPICAL SPACING FOR CROSSWALKS & STOP BARS



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS

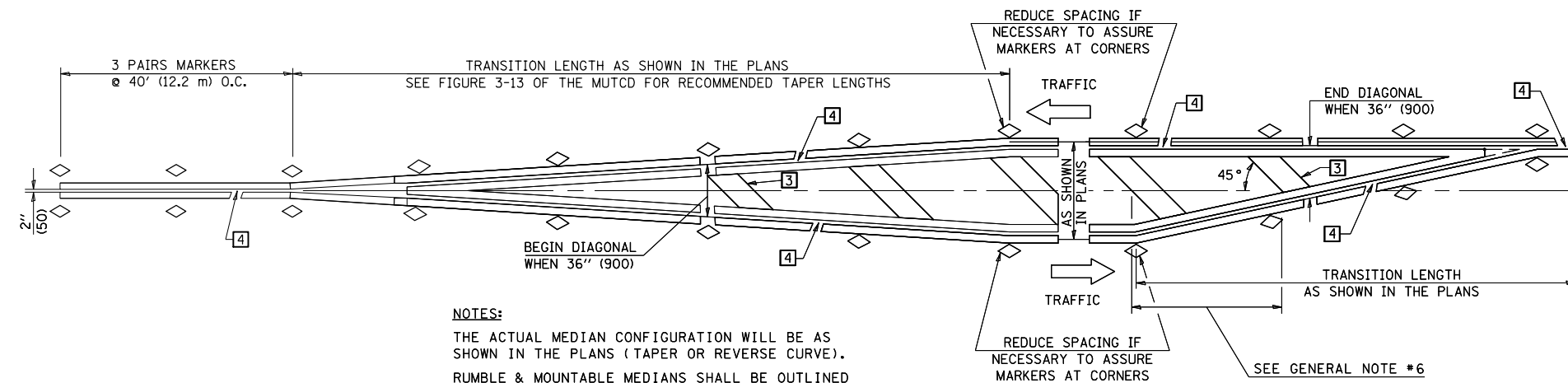


RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT
 (SAFETY SHOULDER OR PAVED SURFACE)
 SEE ARTICLE 780.04

CROSSWALK WIDTH 6'-0" (1.8 m) OR AS SHOWN IN THE PLANS

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED - 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 5\Projects\0577\BRAIN\Drawings\Design\0570881-sht-plan.dgn	DESIGNED -	REVISED - 09/2009 - KJT	836			119CR	CHAMPAIGN	44	27	
PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -	CONTRACT NO. 70B81							
PLOT DATE = 11/18/2016	DATE -	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

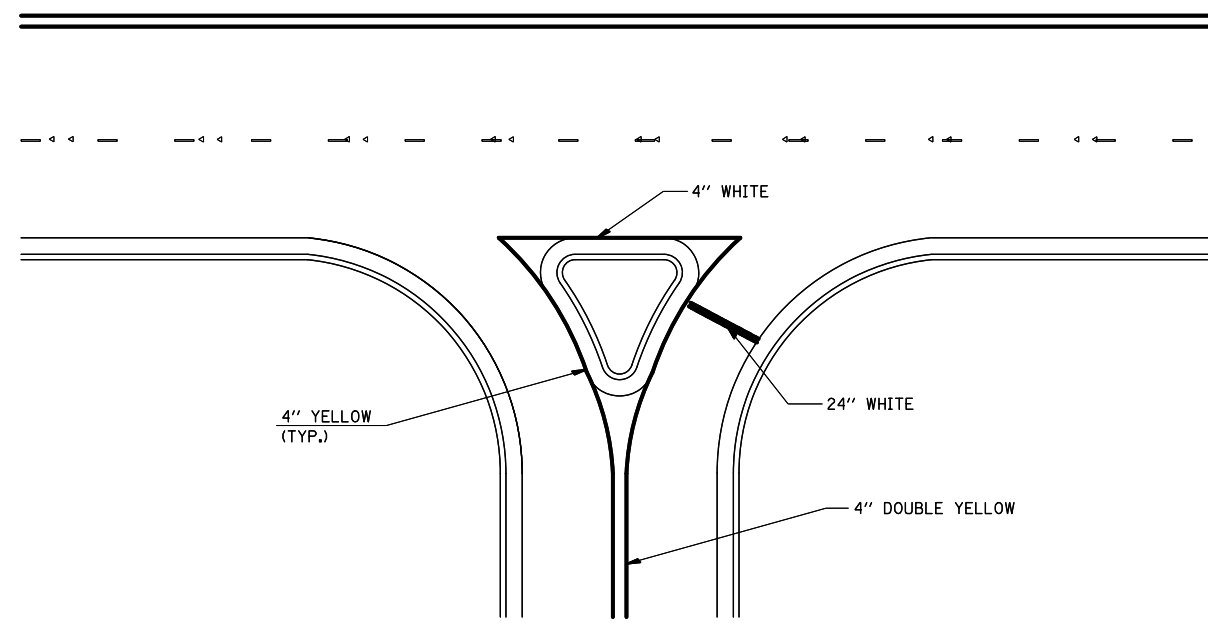


NOTES:
 THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).
 RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

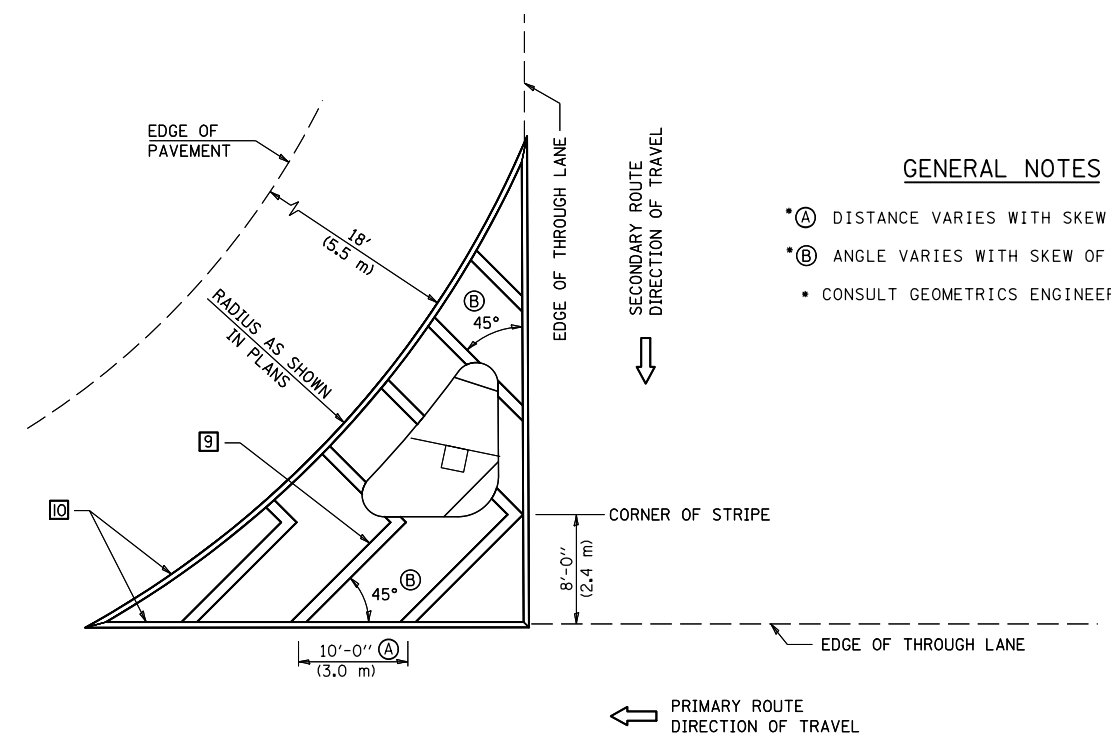
TYPICAL MEDIAN TRANSITIONS

GENERAL NOTES

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,
 < 30 MPH USE 15' (< 50 km/h USE 4.5 m)
 30-45 MPH USE 20' (50-75 km/h USE 6.0 m)
 > 45 MPH USE 30' (> 75 km/h USE 9.0 m)



RIGHT IN - RIGHT OUT ACCESS



ISLAND

GENERAL NOTES

- (A) DISTANCE VARIES WITH SKEW OF INTERSECTION.
- (B) ANGLE VARIES WITH SKEW OF INTERSECTION.
- CONSULT GEOMETRICS ENGINEER

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISED - 11/06
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	PLOT DATE = 11/18/2016	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS
 (RURAL & URBAN APPLICATIONS)**

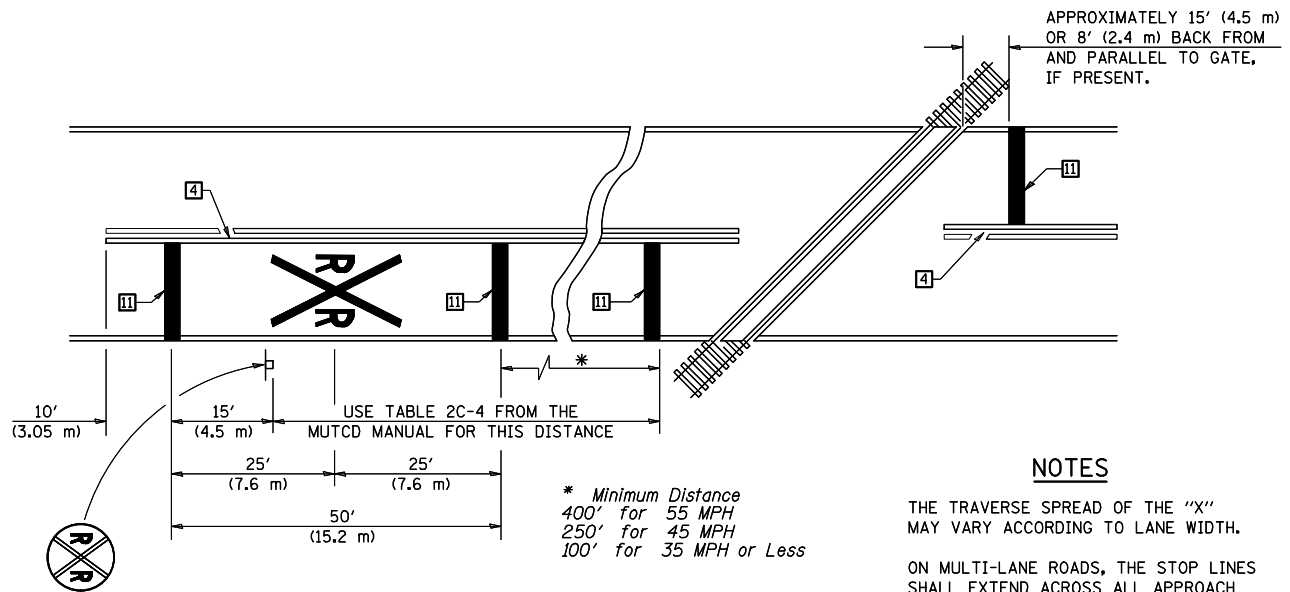
SCALE: N/A SHEET NO. 3 OF 4 SHEETS STA. -- TO STA. --

DISTRICT 5 DETAIL NO. 7800AAA

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	28
CONTRACT NO. 70B81				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

RAILROAD CROSSING WITH INTERCONNECT ONLY

RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



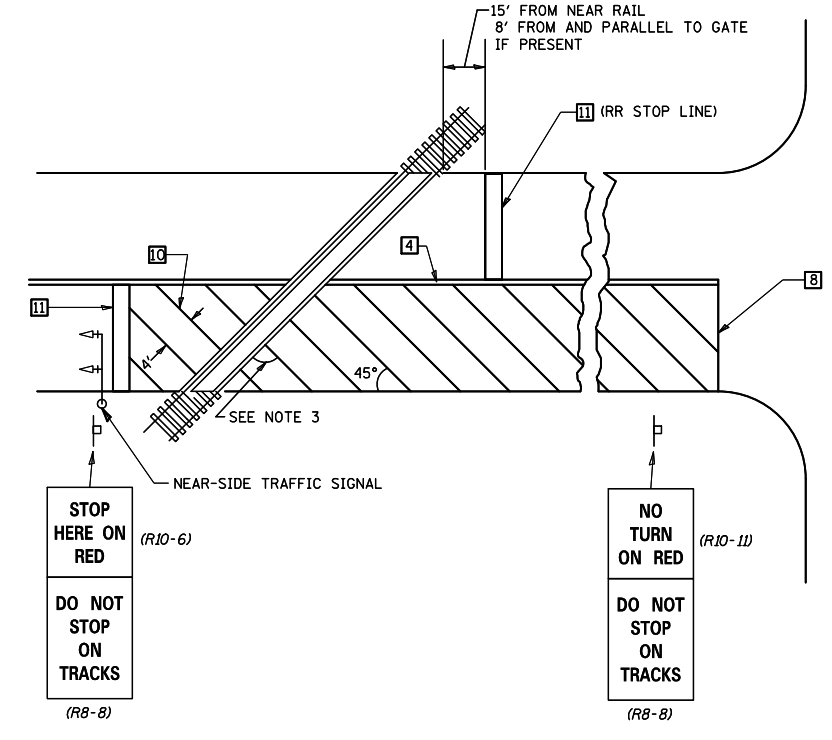
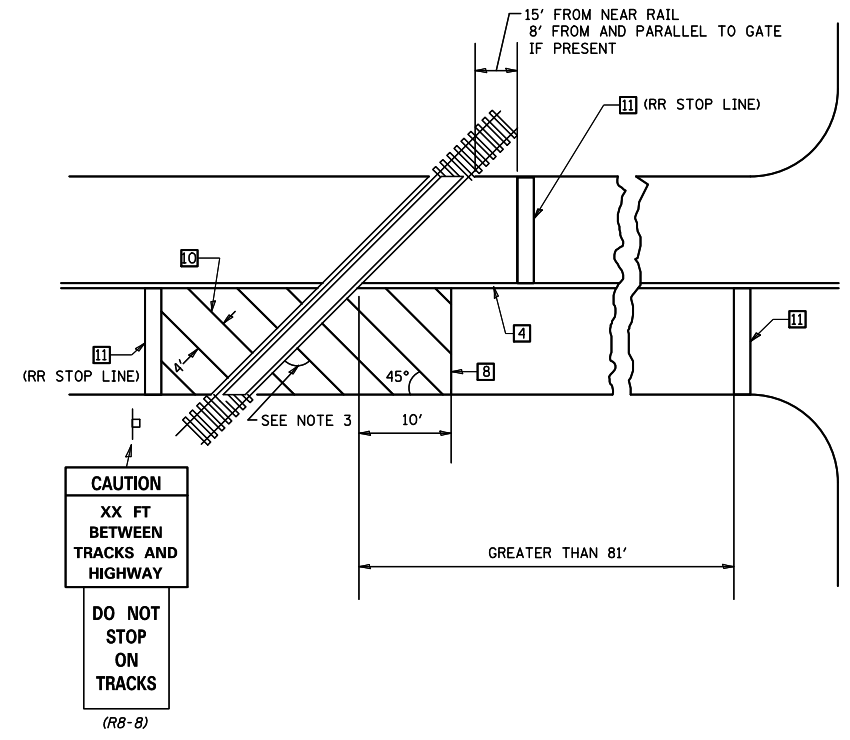
PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

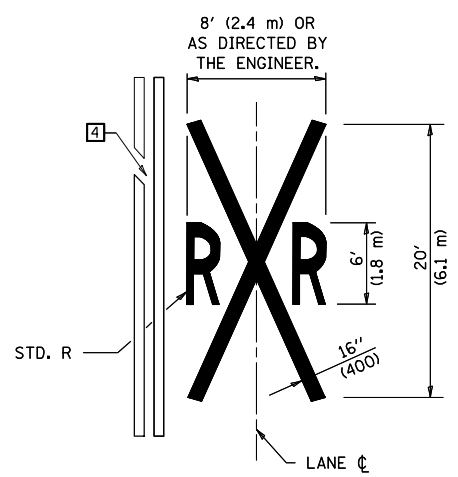
WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.



SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

GENERAL NOTES

- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
- EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
- WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

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		DATE -	REVISED -

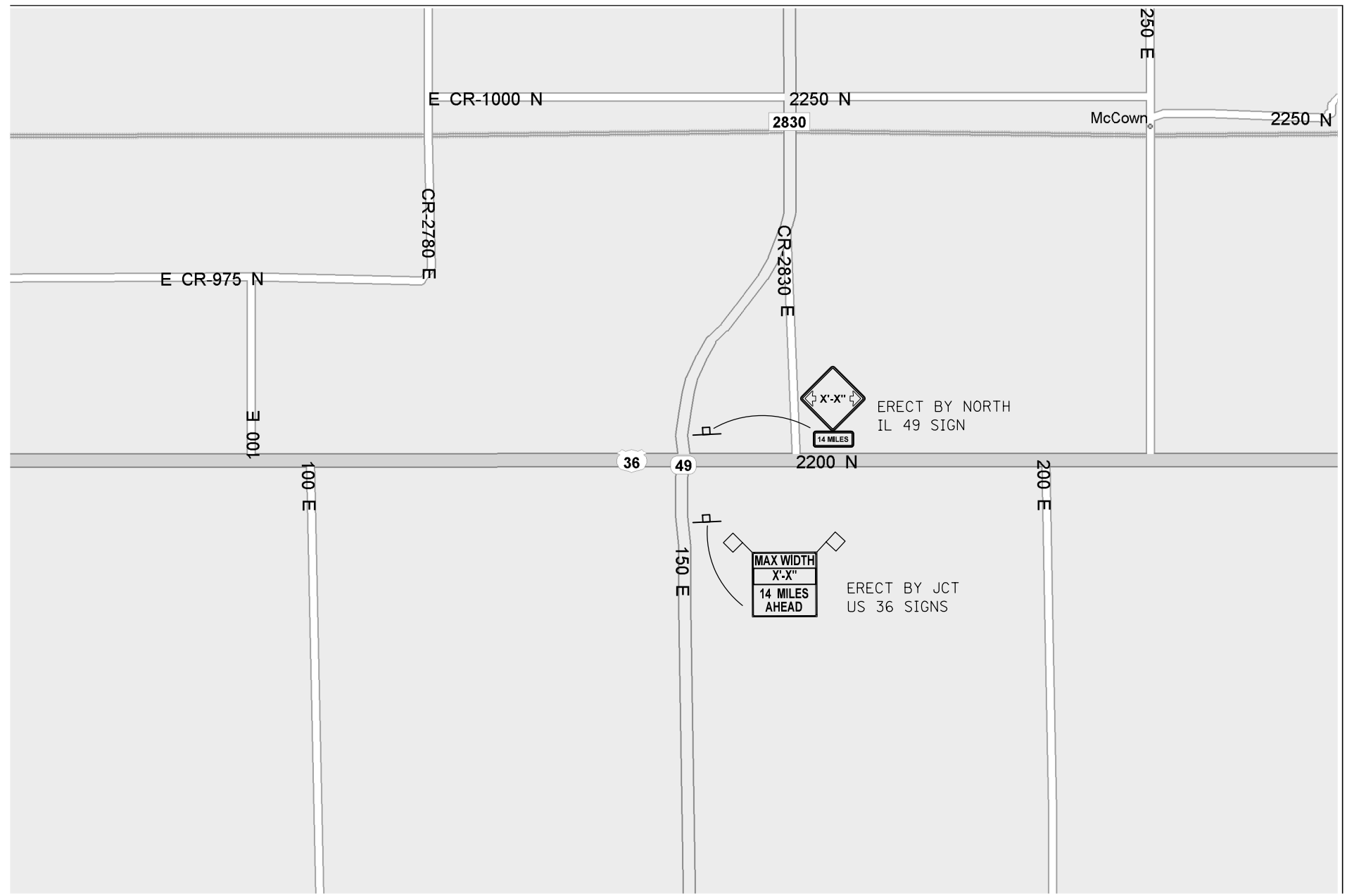
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

SCALE: N/A SHEET NO. 4 OF 4 SHEETS STA. -- TO STA. --

DISTRICT 5 DETAIL NO. 7800AAA

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	29
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70B81	



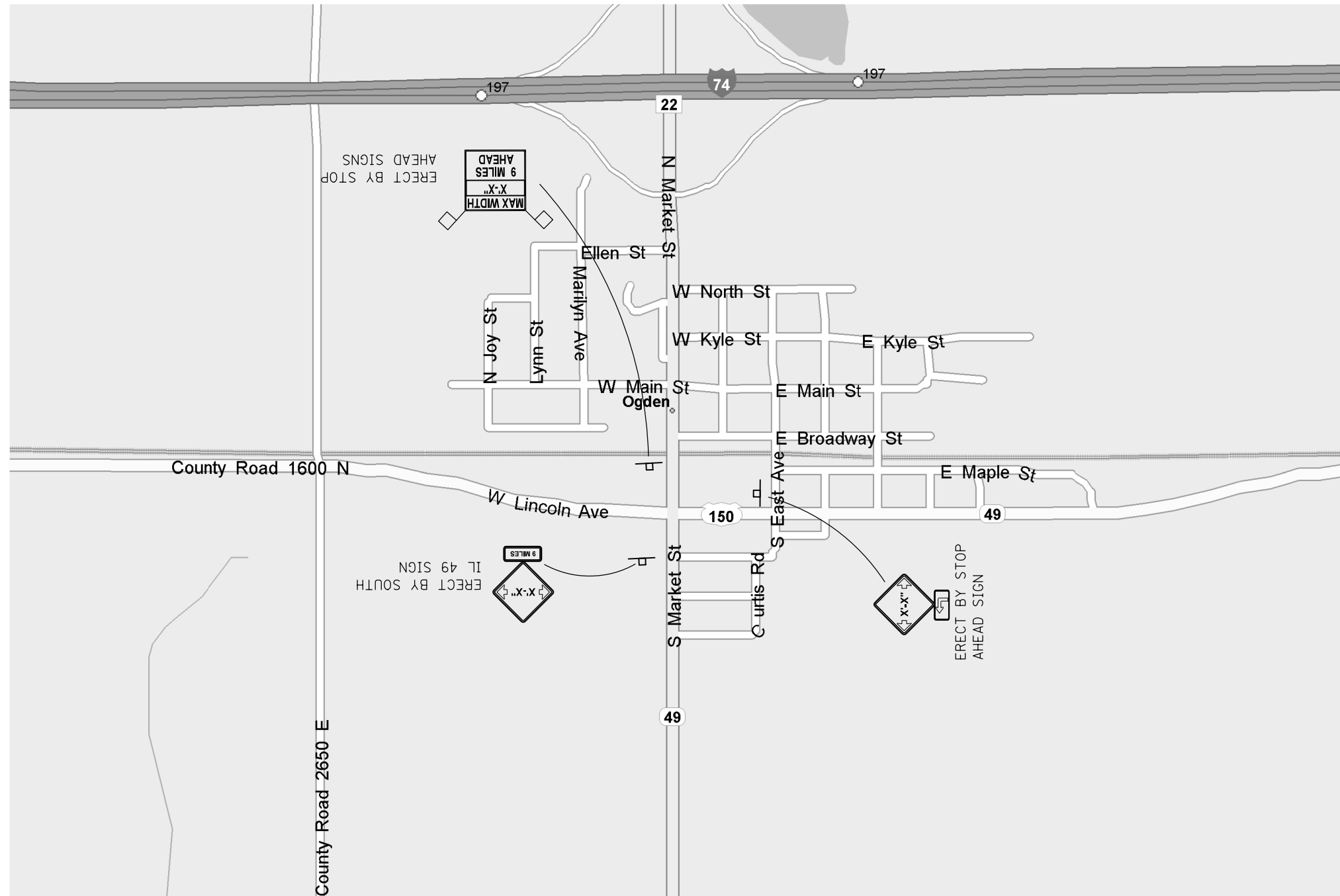
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	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
MODELNAME	PLOT DATE = 11/18/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION SIGNING

SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	30
CONTRACT NO. 70B81				
ILLINOIS FED. AID PROJECT				



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MODELNAME	PLOT DATE = 11/18/2016	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION SIGNING

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	31
CONTRACT NO. 70B81				
ILLINOIS FED. AID PROJECT				



ERECT BESIDE
 ALLEERTON, CASEY
 SIGN JUST SOUTH
 OF HOMER

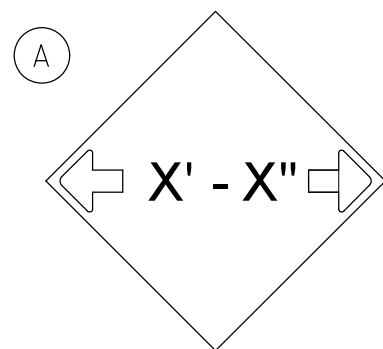
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	PLOT SCALE = 40.0000' / in.	DATE -	REVISED -
MODELNAME	PLOT DATE = 11/18/2016		

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION SIGNING

SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.

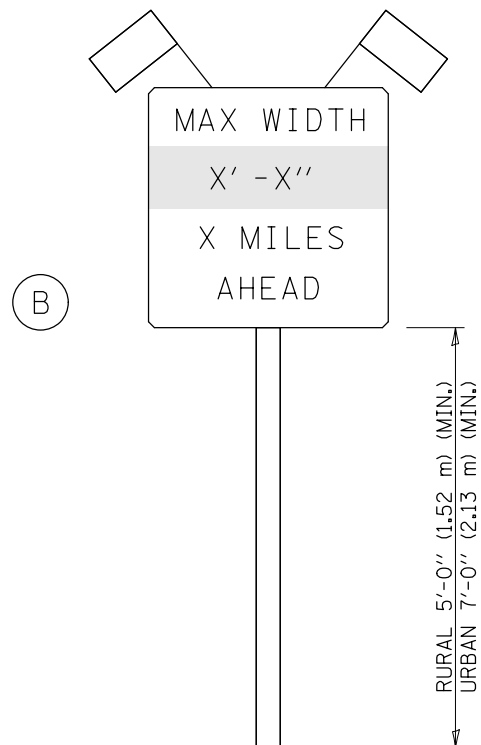
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	32
CONTRACT NO. 70B81				
ILLINOIS FED. AID PROJECT				



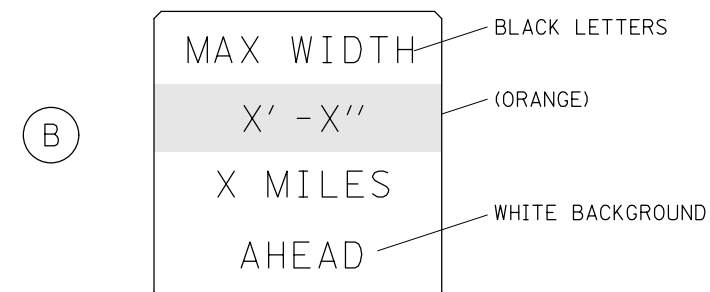
W12-2(0) - 48"x48" (1200x1200)

SIGN (A) 2 SIGNS - W12-2(0) - 48"x48" (1200x1200) ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

SIGN (B) 2 SIGNS - (SIGN PANEL, TYPE II) AS SHOWN ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.



SIGN PANEL, TYPE II



W12-I103(0) - 48"x48" (1200x1200)
"D" LETTERS/NUMBERS

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
2. ALL (B) SIGNS SHALL HAVE FLAGS INSTALLED UNLESS OTHERWISE DIRECTED.
3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
4. ALL TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR WIDTH RESTRICTION SIGNING.
5. ALL SIGNS SHALL BE POST MOUNTED UNLESS OTHERWISE DIRECTED.
6. ALL SIGNS SHOWN ORANGE (O) SHALL BE FLUORESCENT ORANGE.
7. ALL SIGNS SHOWN SHALL CONSIST OF THE CURRENT RETROREFLECTIVE SHEETING REQUIREMENTS AS OUTLINED IN SECTION 1106.01 OF THE STANDARD SPECIFICATIONS BOOK.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WIDTH RESTRICTION SIGNING

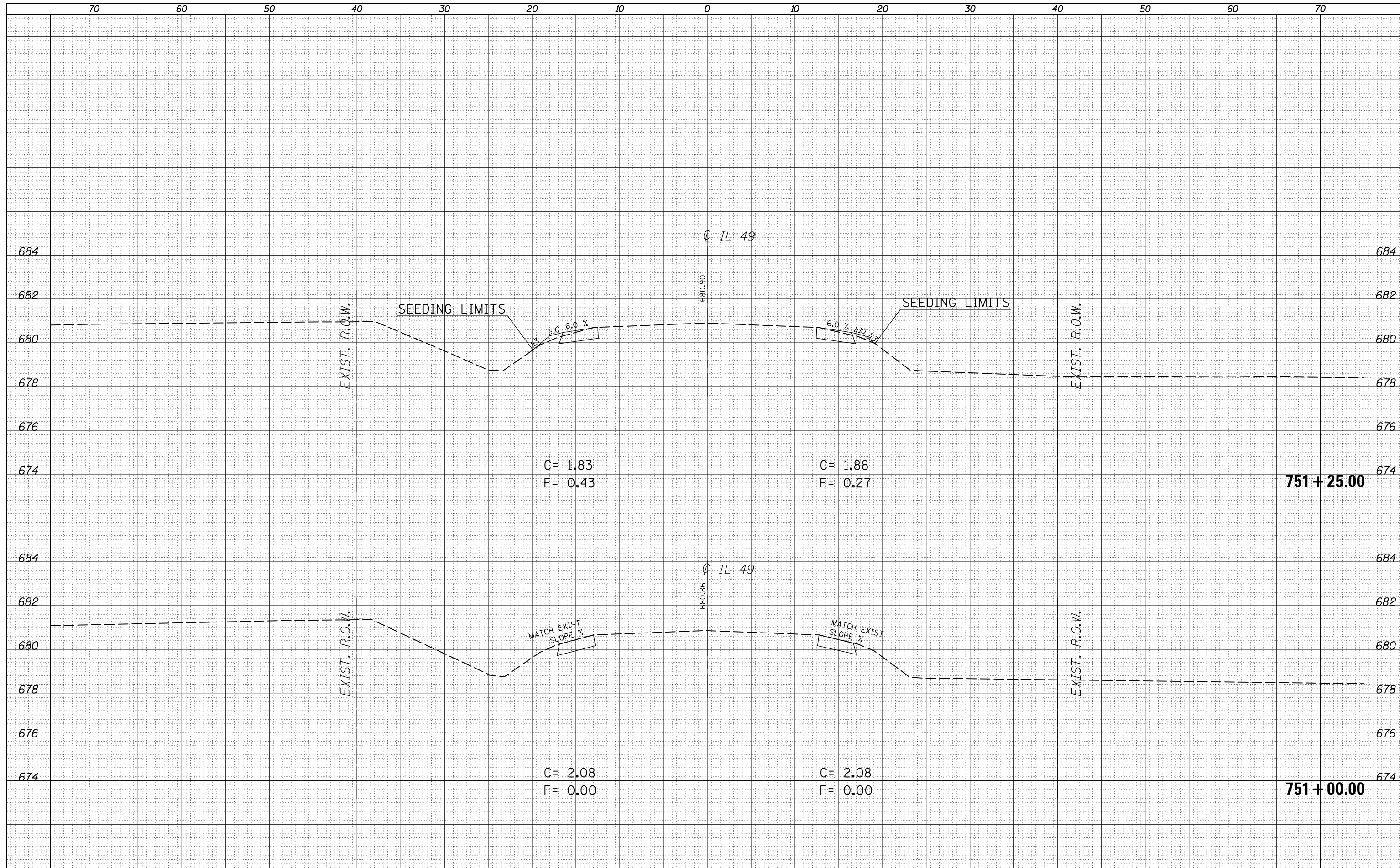
SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. X7200201

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	33
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70B81	

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

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



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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

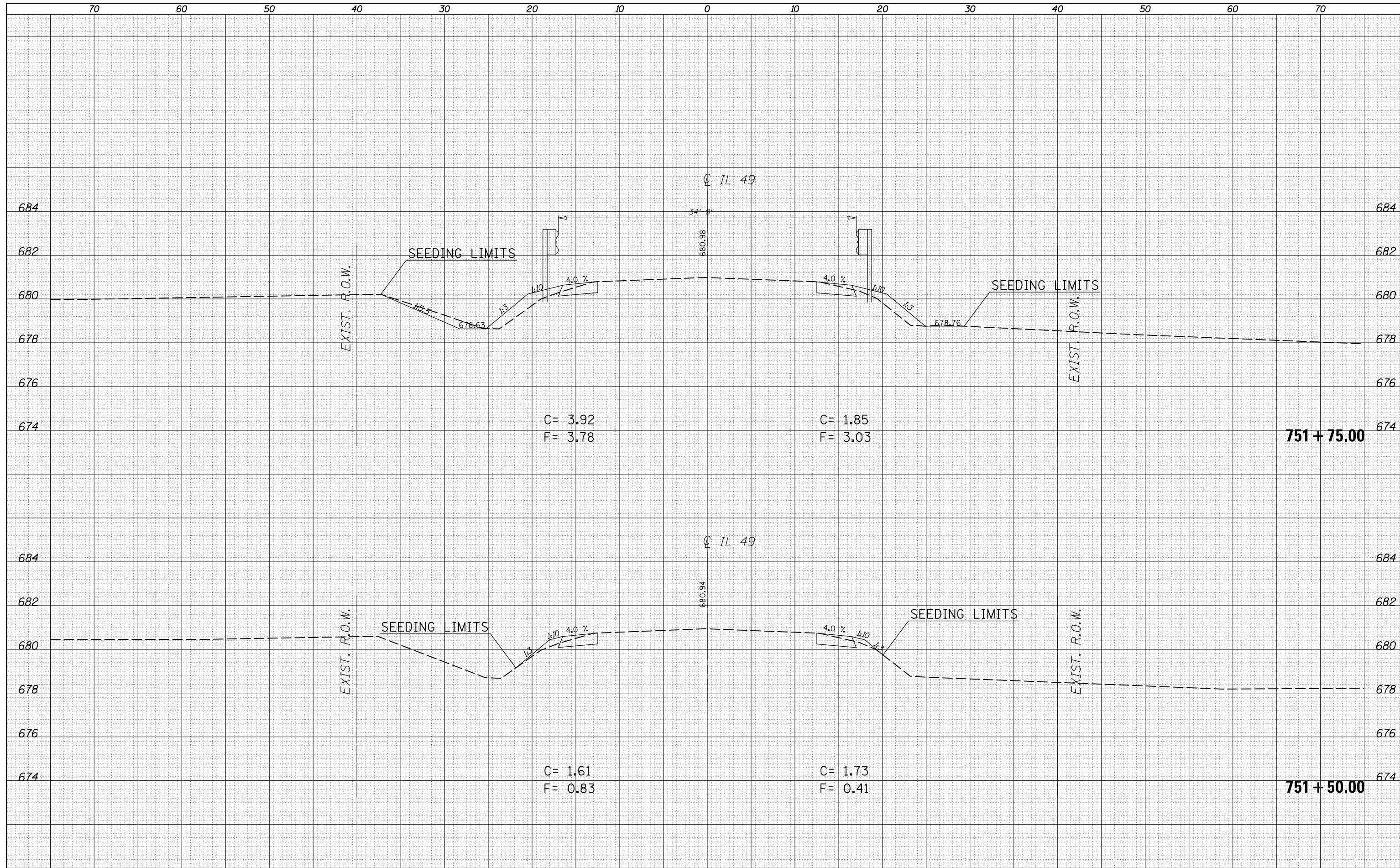
CROSS SECTIONS - F.A.P. 836 (IL 49)

SCALE: SHEET 1 OF 11 SHEETS STA. 751+00.00 TO STA. 751+25.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	34
CONTRACT NO.			70881	
ILLINOIS FED. AID PROJECT				

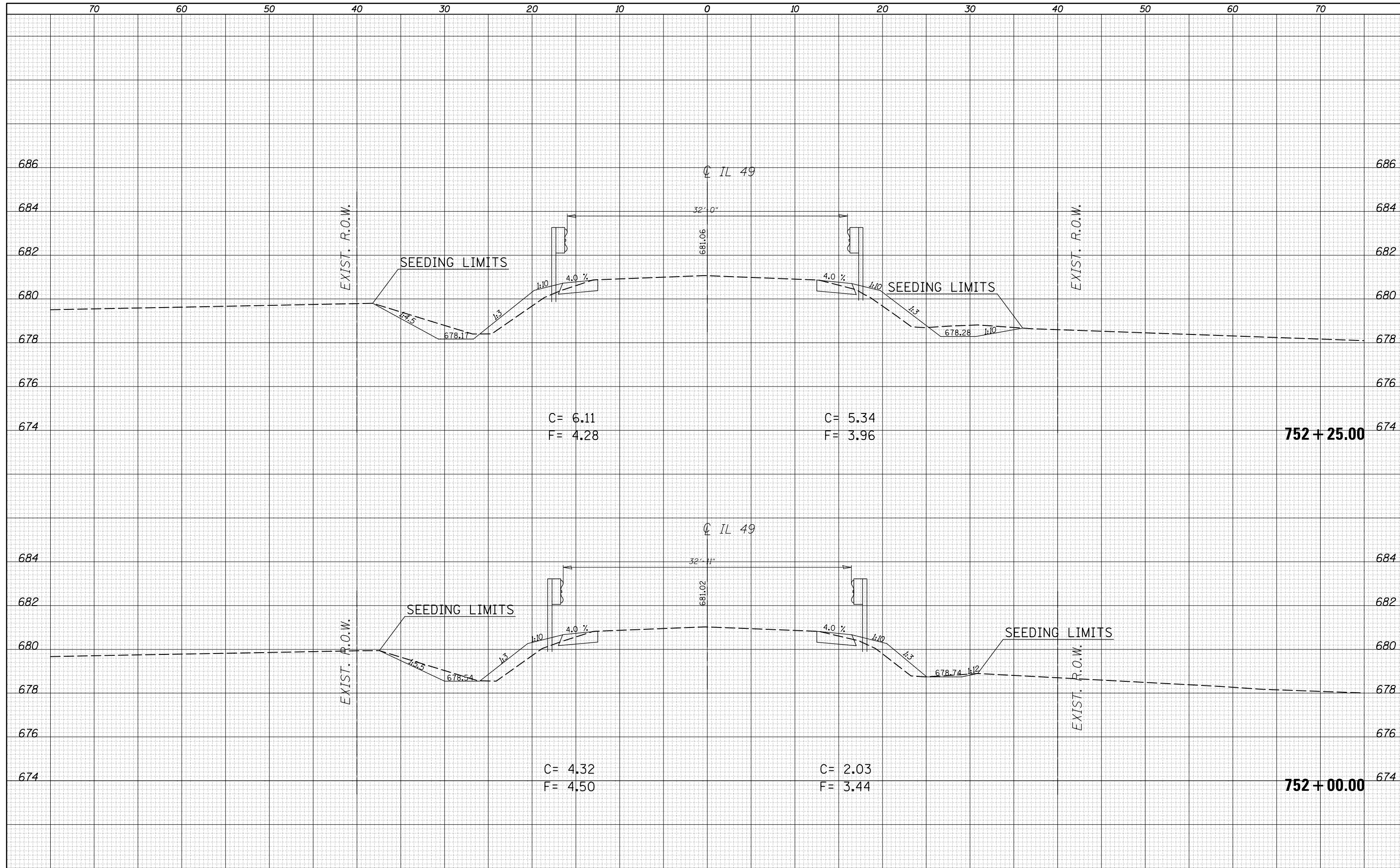
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BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
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DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED



DATE	
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FINAL SURVEY	
NOTE BOOK	
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DATE	
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NOTE BOOK	
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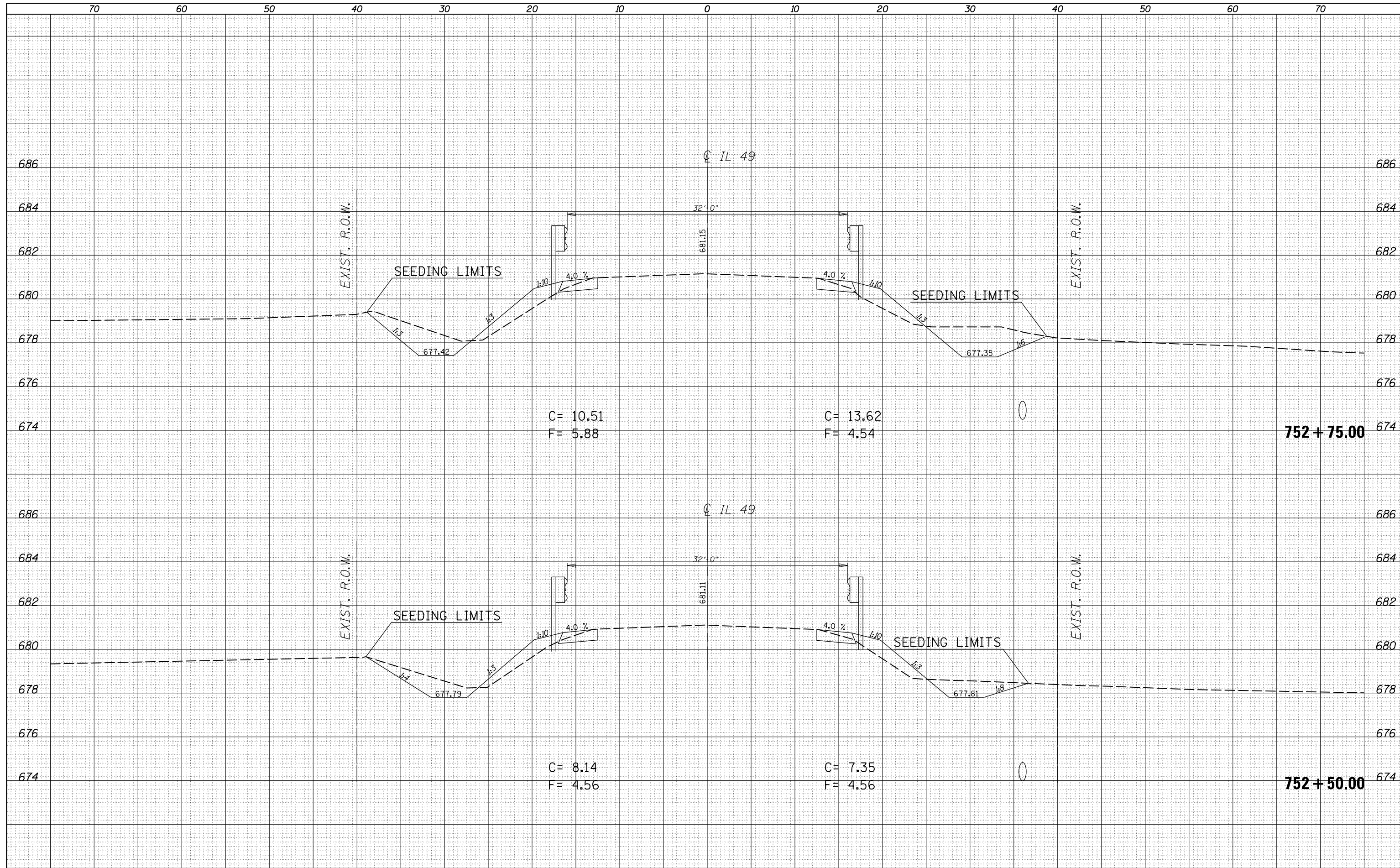
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - F.A.P. 836 (IL 49)	
SCALE:	SHEET 3 OF 11 SHEETS STA. 752+00.00 TO STA. 752+25.00

F.A.P. RTE. 836	SECTION 119CR	COUNTY CHAMPAIGN	TOTAL SHEETS 44	SHEET NO. 36
CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT	

DATE	
BY	
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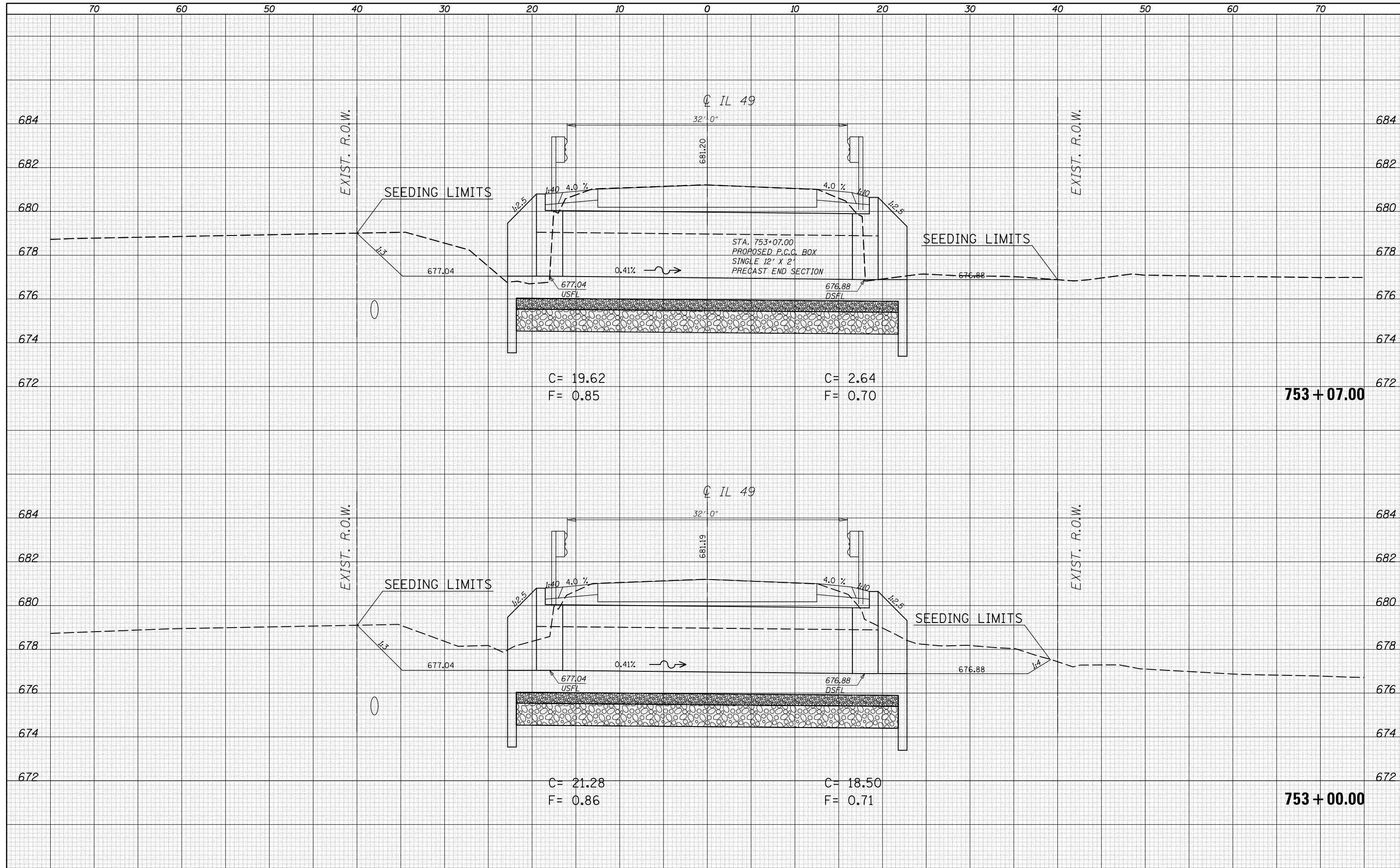
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - F.A.P. 836 (IL 49)
 SCALE: SHEET 4 OF 11 SHEETS STA. 752+50.00 TO STA. 752+75.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	37
CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
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DATE	
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SURVEYED	
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AREAS	
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USER NAME = coombessf
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 DATE - 11/21/2016

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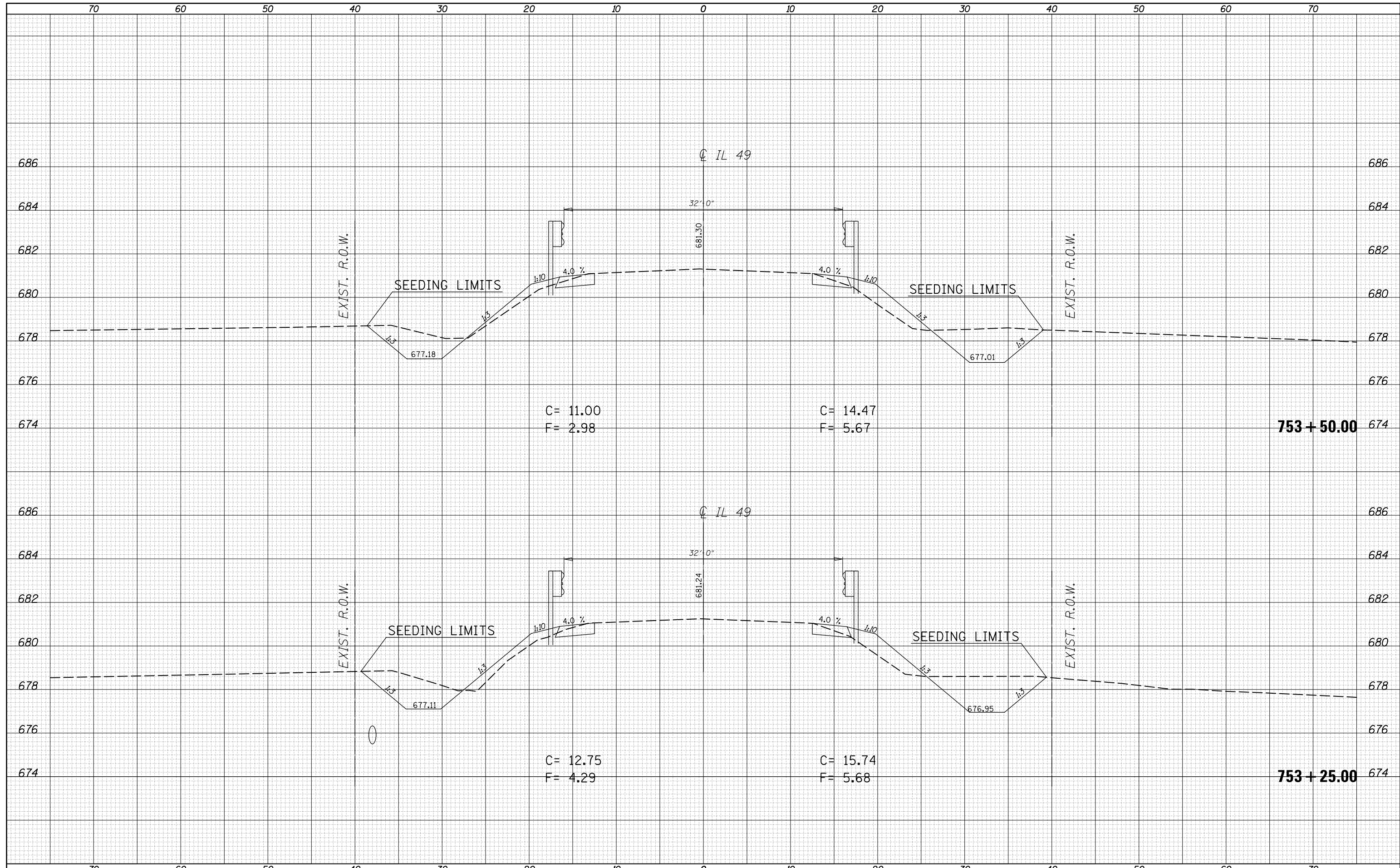
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - F.A.P. 836 (IL 49)
 SCALE: SHEET 5 OF 11 SHEETS STA. 753+00.00 TO STA. 753+07.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	38
			CONTRACT NO. 70B81	
ILLINOIS FED. AID PROJECT				

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
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USER NAME = coombessf
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 PLOT SCALE = 10.0000' / in.
 PLOT DATE = 11/21/2016

DESIGNED -
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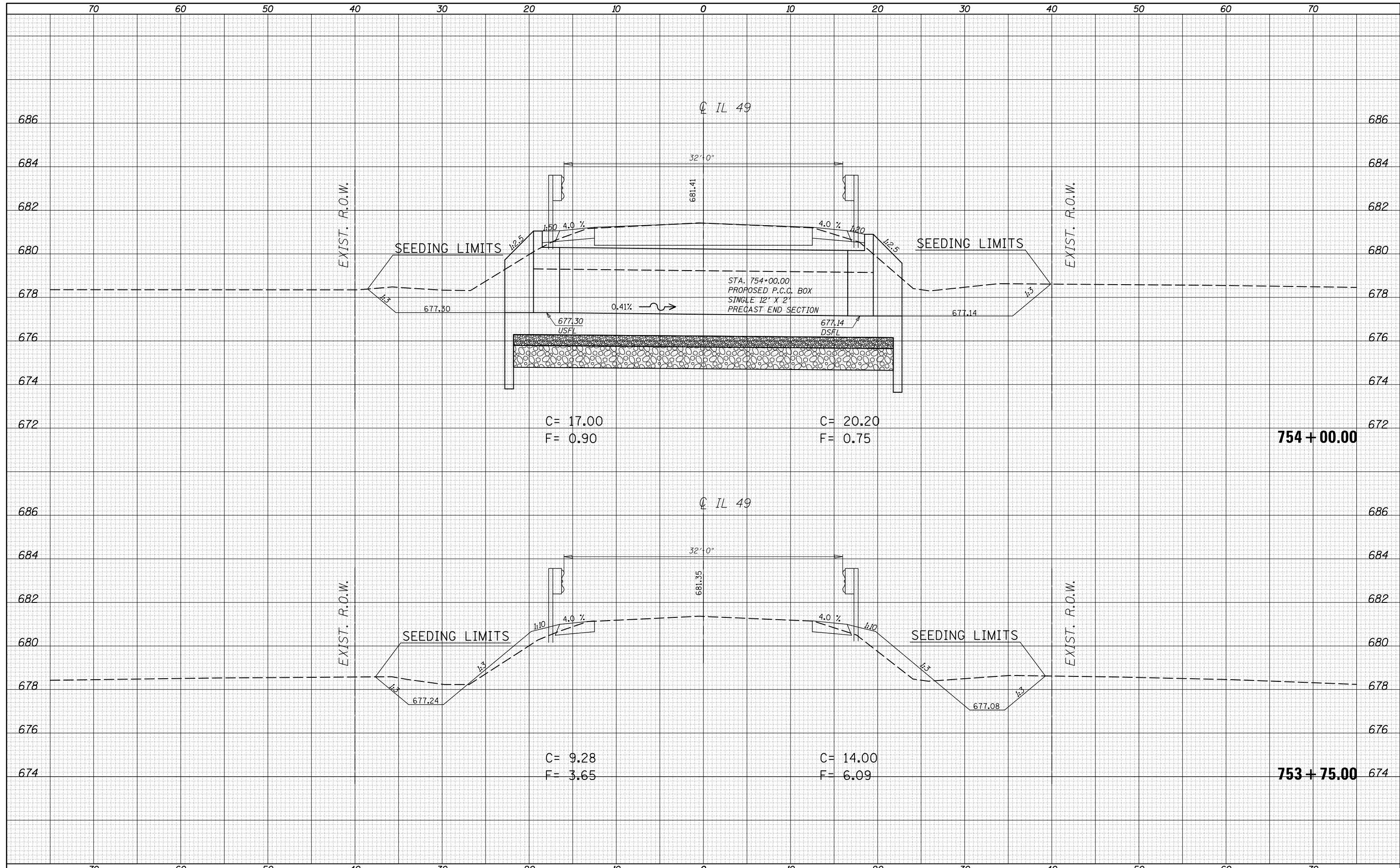
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - F.A.P. 836 (IL 49)
 SCALE: SHEET 6 OF 11 SHEETS STA. 753+25.00 TO STA. 753+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	39
CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
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DATE	
BY	
SURVEYED	
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AREAS CHECKED	
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 DATE - 11/21/2016

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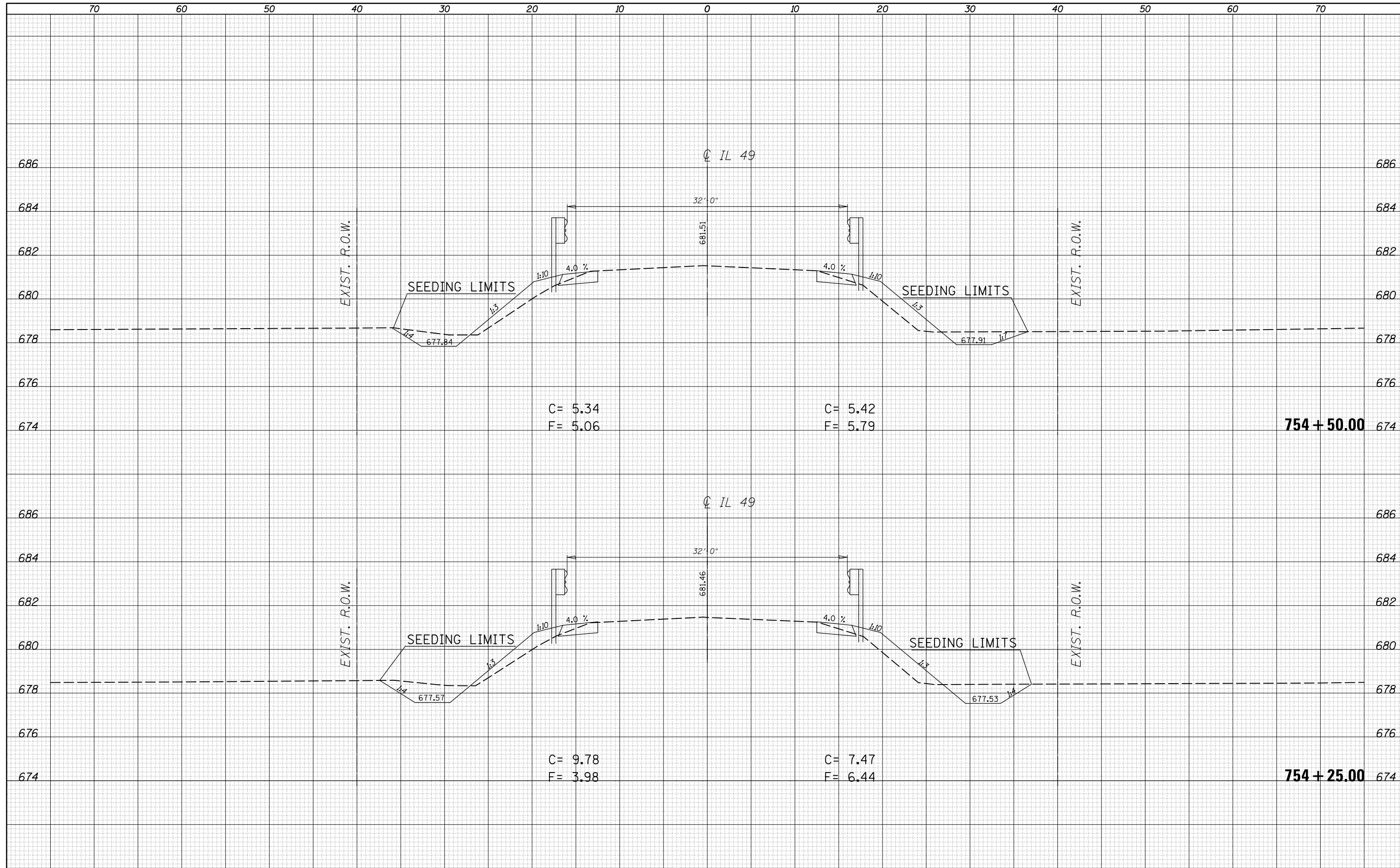
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

CROSS SECTIONS - F.A.P. 836 (IL 49)
 SCALE: SHEET 7 OF 11 SHEETS STA. 753+75.00 TO STA. 754+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	40
CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT	

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TEMPLATE	
NOTE BOOK	
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

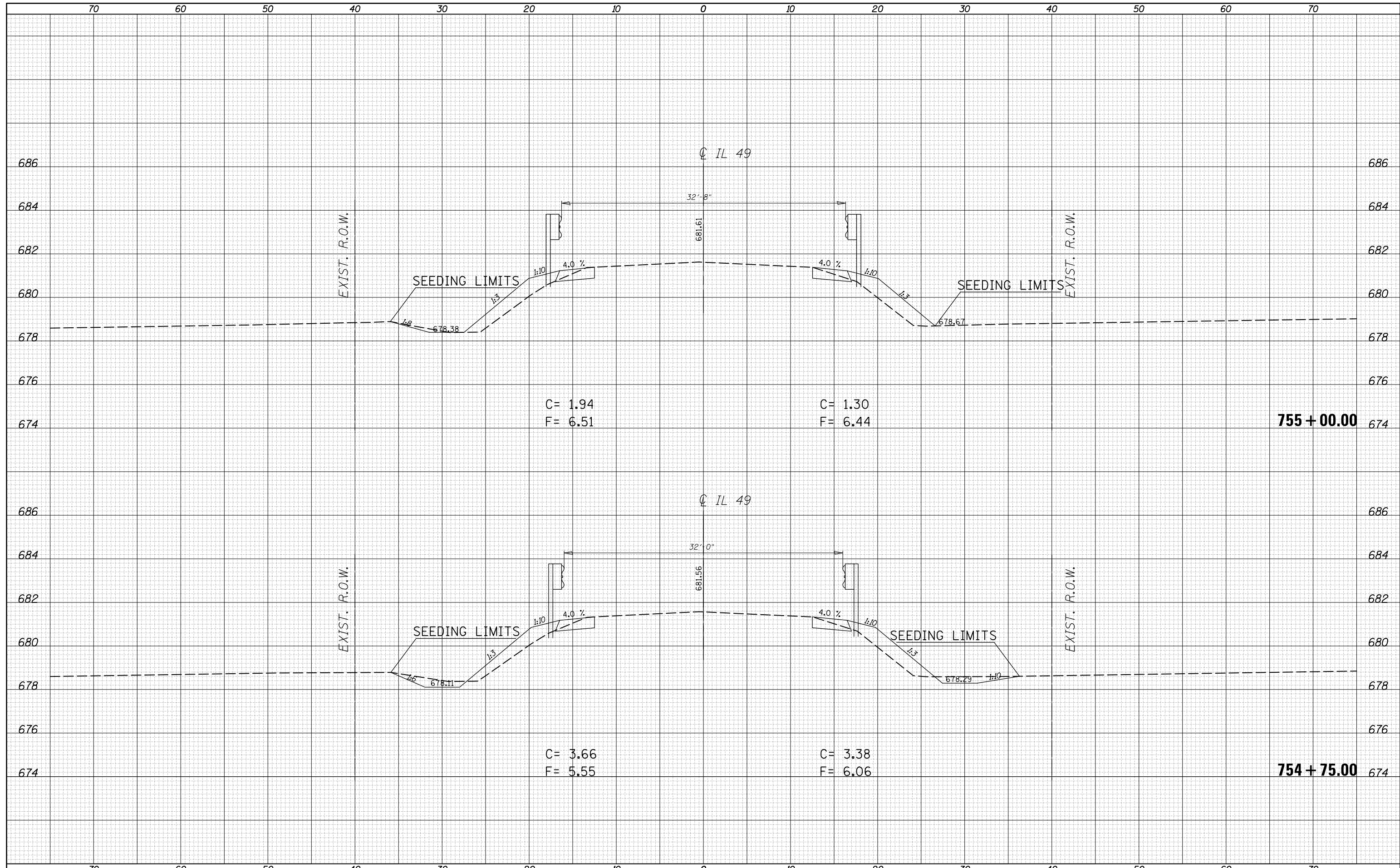
CROSS SECTIONS - F.A.P. 836 (IL 49)

SCALE: SHEET 8 OF 11 SHEETS STA. 754+25.00 TO STA. 754+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	119CR	CHAMPAIGN	44	41
CONTRACT NO. 70B81			ILLINOIS FED. AID PROJECT	

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NOTE BOOK	
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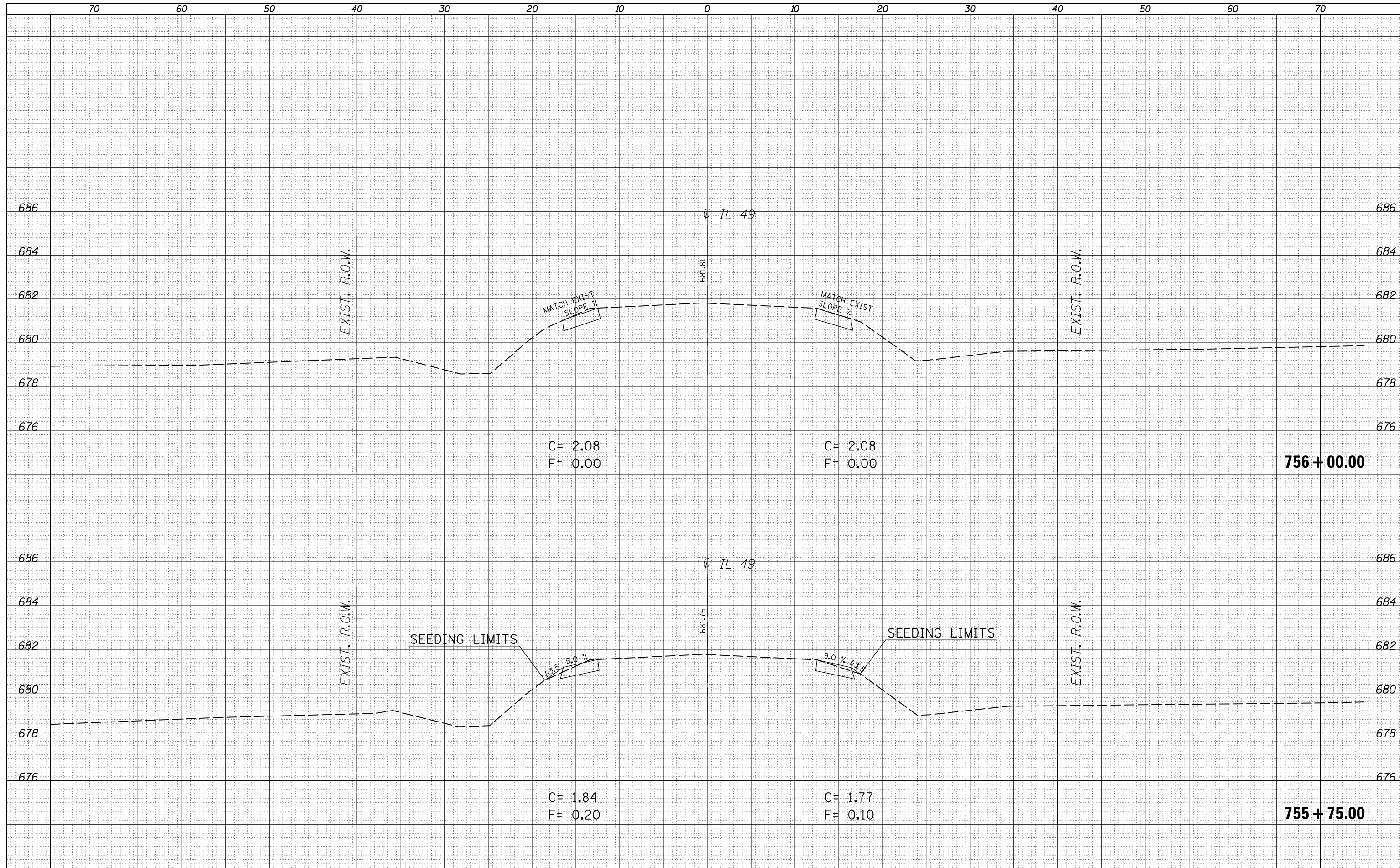
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TEMPLATE	
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ORIGINAL SURVEY	
NOTE BOOK	
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\$MODELNAME\$	DATE -	REVISIED -	REVISIED -			SCALE:	SHEET 9 OF 11 SHEETS	STA. 754+75.00 TO STA. 755+00.00	ILLINOIS FED. AID PROJECT	

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

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



FILE NAME =	USER NAME = coombessf	DESIGNED -	REVISIED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS - F.A.P. 836 (IL 49)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\IL084EBIDINTEG.illinois.gov\PIDOT\Documents\IDOT Offices\District 5\Projects\0570881\CADD\DRAWING\0570881-sht-XS-IL49.dgn	DESIGNED -	REVISIED -	836			119CR	CHAMPAIGN	44	44	
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PLOT DATE = 11/21/2016	DATE -	REVISIED -	ILLINOIS FED. AID PROJECT							
SCALE:						SHEET 11 OF 11 SHEETS STA. 755+75.00 TO STA. 756+00.00				