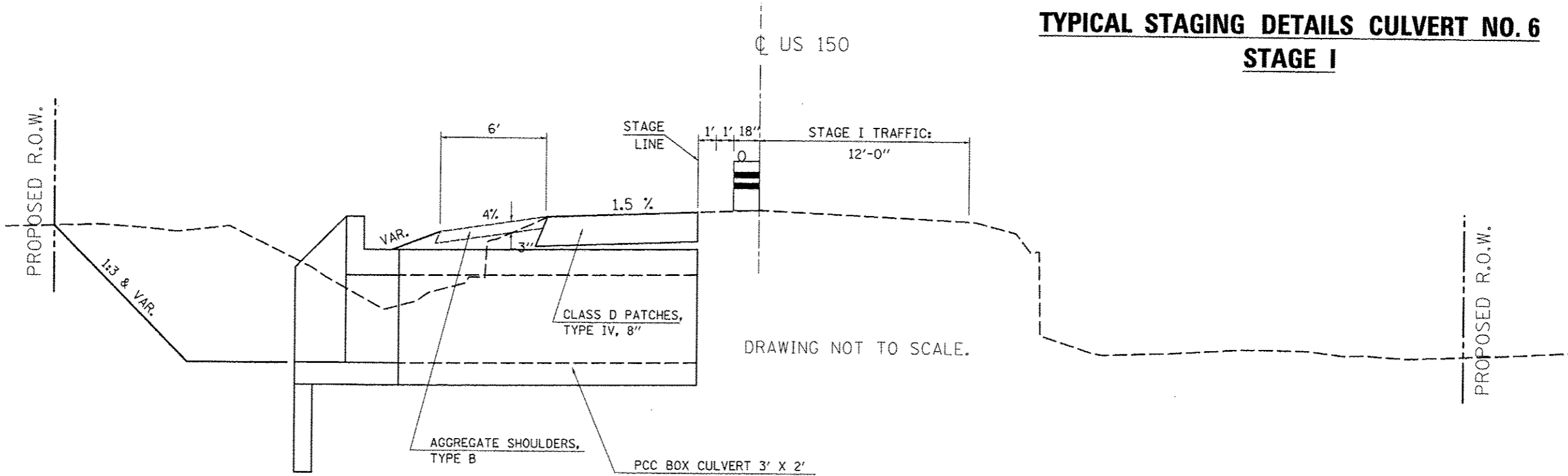
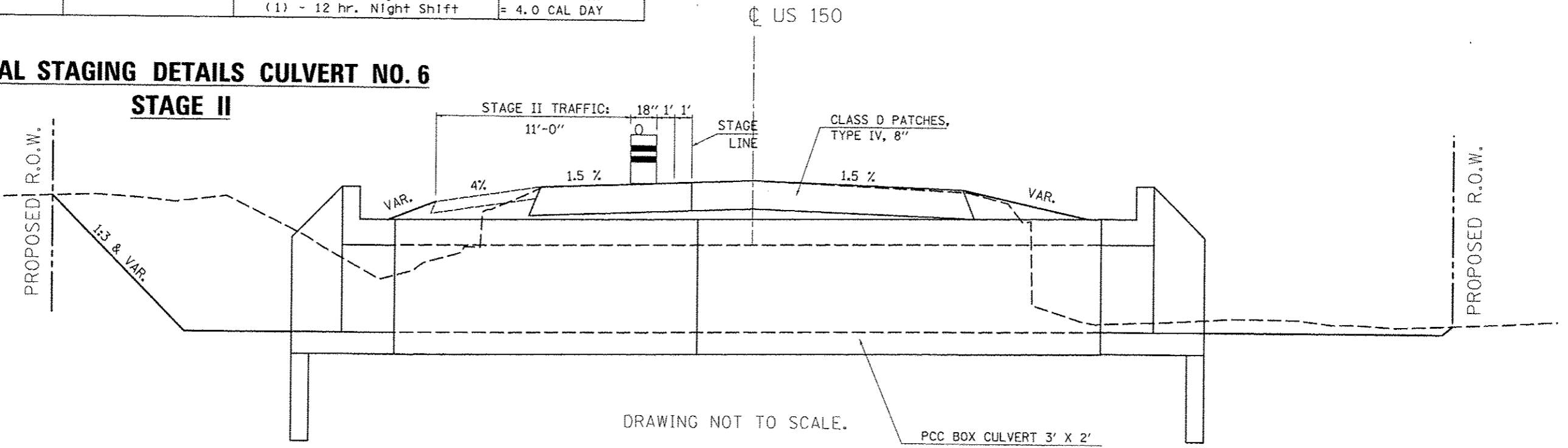


**TYPICAL STAGING DETAILS CULVERT NO. 6
STAGE I**

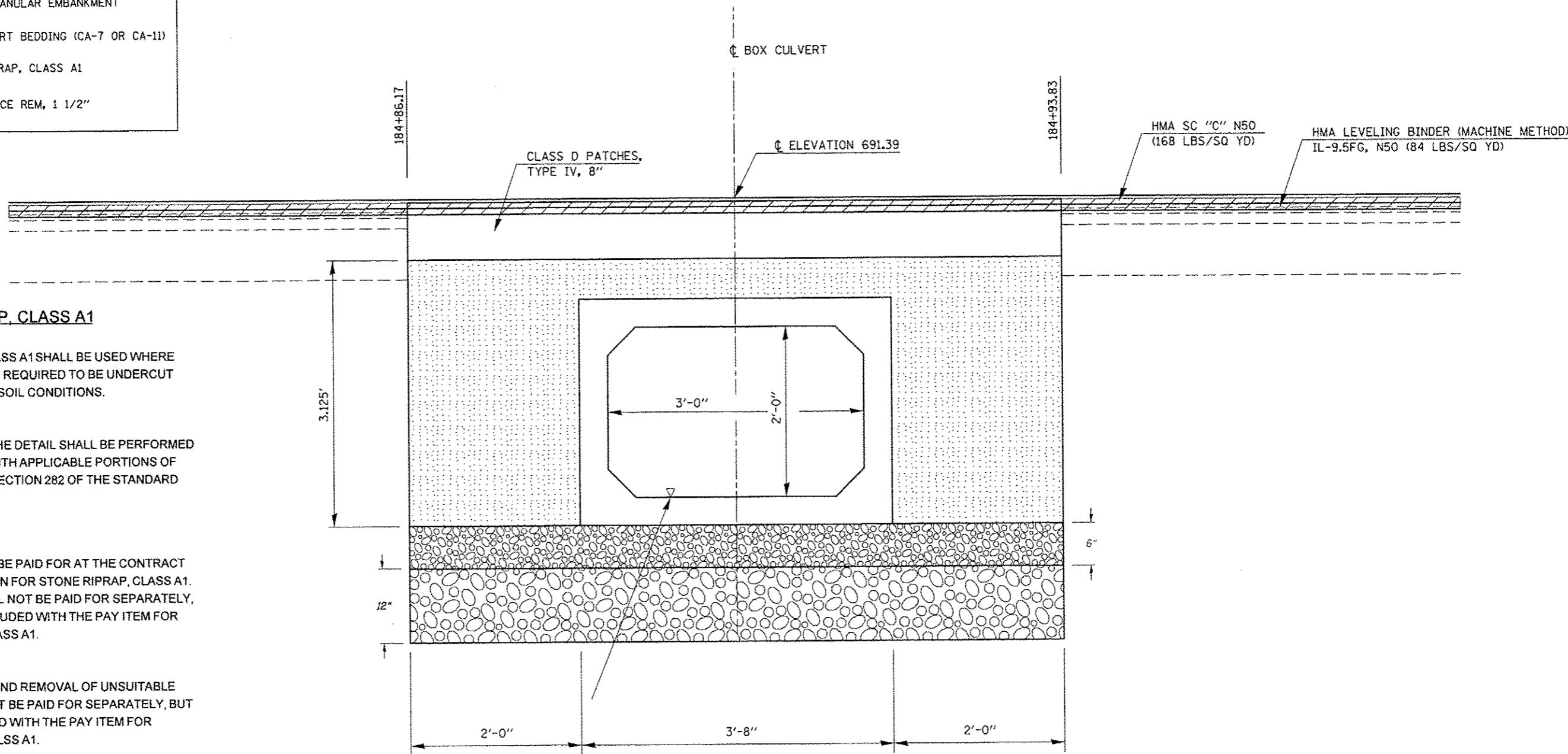


A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 184+90.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

**TYPICAL STAGING DETAILS CULVERT NO. 6
STAGE II**



LEGEND	
	POROUS GRANULAR EMBANKMENT
	BOX CULVERT BEDDING (CA-7 OR CA-11)
	STONE RIPRAP, CLASS A1
	HMA SURFACE REM, 1 1/2"



STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED WHERE A.R. CULVERTS ARE REQUIRED TO BE UNDERCUT DUE TO UNSTABLE SOIL CONDITIONS.

WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 AND SECTION 282 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1. FILTER FABRIC WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

THE EXCAVATION AND REMOVAL OF 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

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

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

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

PROPOSED U.S.F.L. = 687.93
 PROPOSED D.S.F.L. = 687.78

BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	18.5
Stone Riprap, Class A1	Sq.Yd.	54.9

DRAWING NOT TO SCALE.

FILE NAME : c:\p\work\p\idat\ceorlock_jd\0120316\0270663-sht-structures.dgn	USER NAME : ceorlockjd	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF POROUS GRANULAR EMBANKMENT			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - RLA	REVISED -		SCALE: NONE	SHEET NO. 5 OF 5 SHEETS	STA.	TO STA.	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	202	
		CHECKED -	REVISED -						F.A.U. 7152 & F.A.S. 1512				
		DATE - 080211	REVISED -						ILLINOIS FED. AID PROJECT				

SEC. 7, T. 19 N, R. 10 E.

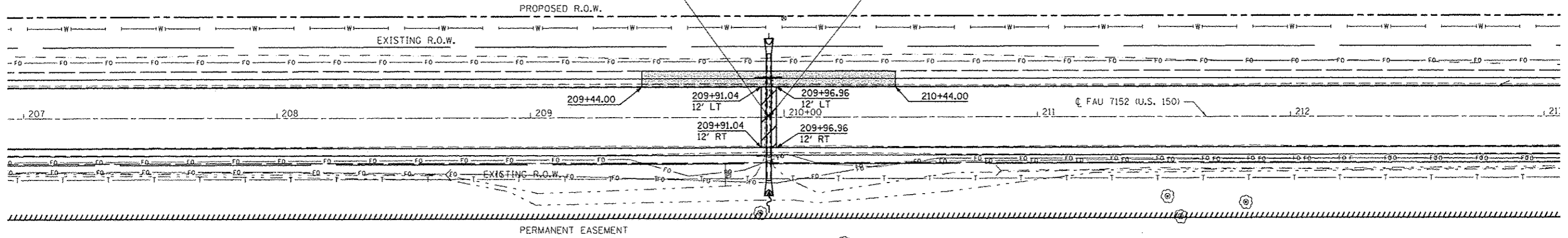
28-22-07-300-002
HERSHBARGER, MAX L.
AS TRUSTEE
5730010

209+94.00
PIPE CULVERT, CLASS A, TYPE 1 18" = 50.0'
U.S.F.L. 25' RT 209+94.00, ELEV. = 689.78
D.S.F.L. 25' LT 209+94.00, ELEV. = 689.63
PCC REINFORCED CONC. FLRD. ES, 18" = 2.0 EA.

A.R. STATION 209+94.00
EXISTING CIP BOX 3' X 2'
REMOVAL OF EXISTING STRUCTURES NO. 6



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



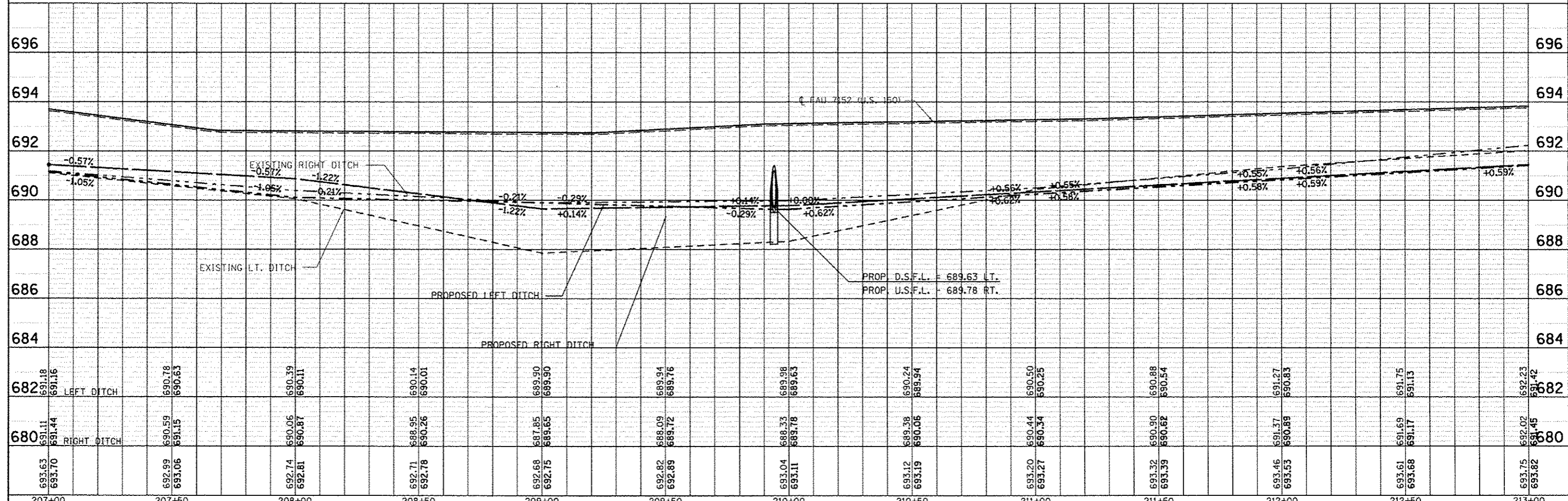
CLASS D PATCH, TYPE IV, 8"

AGG WEDGE SHOULDERS, TYPE B

CSX TRANSPORTATION, INC.
5730001

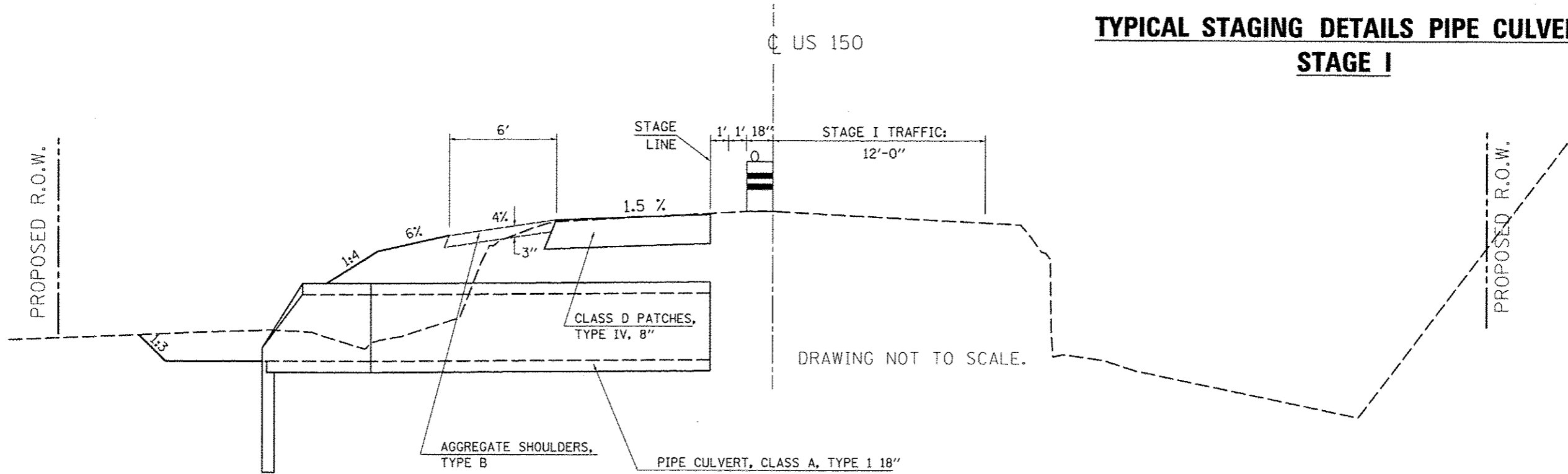
SEC. 18, T. 19 N, R. 10 E.

DATE	
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REVISIONS	
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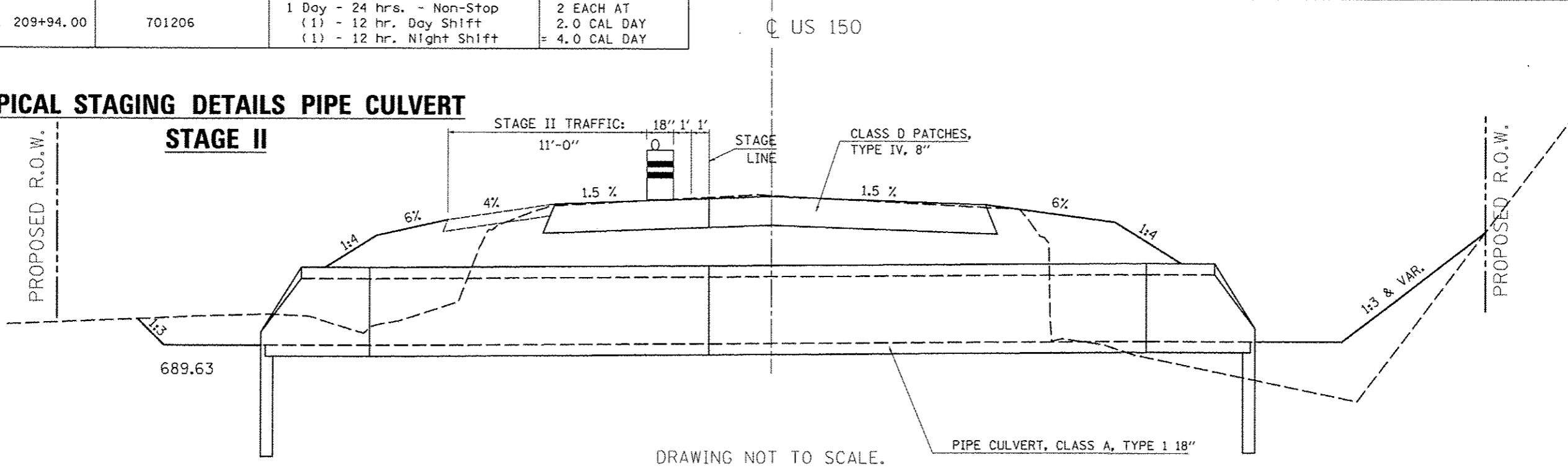
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683-3ht-dra.dgn	cmr-lockjd	JMS	-			
PLOT SCALE = 48.0000' / in.	CHECKED	-	REVISED			
PLOT DATE = 10/18/2013	DATE	08/16/10	REVISED			
SCALE: 1" = 20'		SHEET NO. 1 OF 3 SHEETS		STA. 207+00.00 TO STA. 213+00.00		




**TYPICAL STAGING DETAILS PIPE CULVERT
STAGE I**

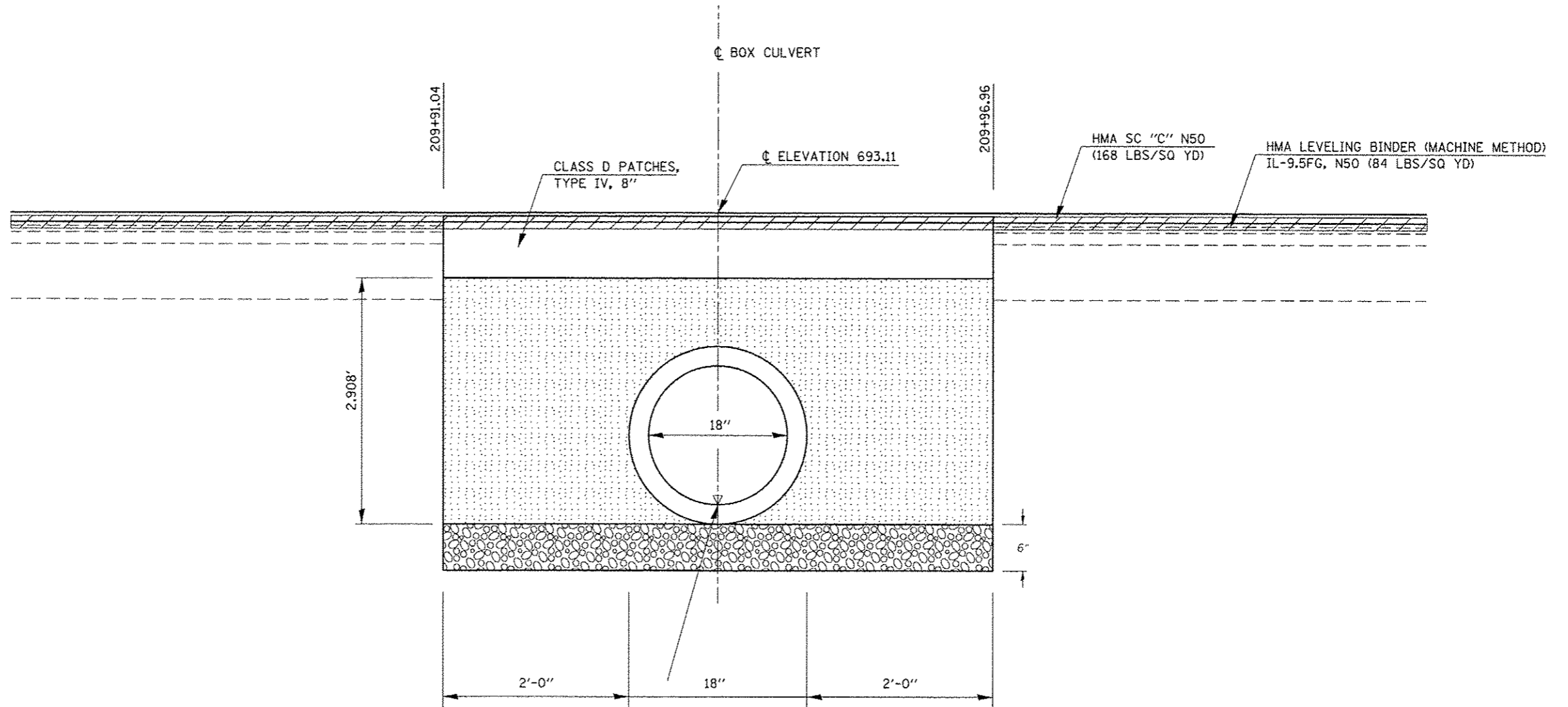


A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 209+94.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

**TYPICAL STAGING DETAILS PIPE CULVERT
STAGE II**



LEGEND	
	POROUS GRANULAR EMBANKMENT
	BOX CULVERT BEDDING (CA-7 OR CA-11)
	HMA SURFACE REM, 1 1/2"



PROPOSED U.S.F.L. = 689.63
 PROPOSED D.S.F.L. = 689.78

POROUS GRANULAR EMBANKMENT

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

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

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

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

BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	18.9

DRAWING NOT TO SCALE.

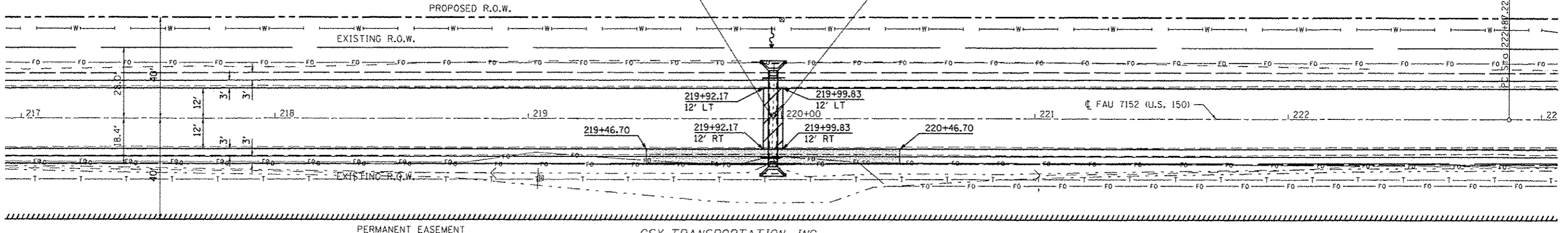
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		DRAWN: RLA	REVISED:		SCALE: NONE	SHEET NO. 3 OF 3 SHEETS	STA.:	TO STA.:	(2X,3RS-3 & 2RS-4)	CHAMPAIGN	551	205	
		CHECKED:	REVISED:						* F.A.U. 7152 & F.A.S. 1512				
		DATE: 080211	REVISED:						CONTRACT NO. 70663 ILLINOIS FED. AID PROJECT				

SEC. 7, T. 19 N, R. 10 E.

28-22-07-300-002
HERSHBARGER, MAX L.
AS TRUSTEE
5730010

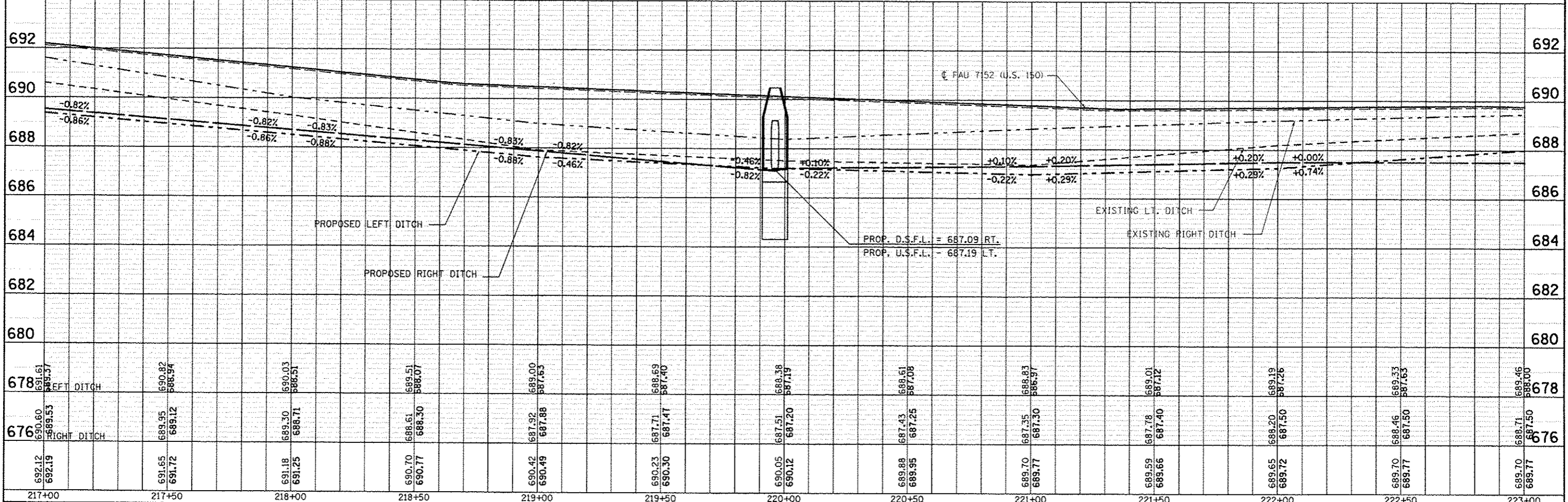
219+96.00 PROP. CULVERT REPLACEMENT
P.C.C. BOX CULVERT
1 @ 3' X 2' X 44'
U.S.F.L. 22.5' LT, 219+96.00, ELEV. = 687.19
D.S.F.L. 22.5' RT, 219+96.00, ELEV. = 687.09
BOX CULVERT END SECTION, CULVERT NO. 7 = 2 EA.

A.R. STATION 219+96.64
EXISTING CIP BOX 2' X 2'
REMOVAL OF EXISTING STRUCTURES NO. 7



CLASS D PATCH, TYPE IV, 8"
 AGG WEDGE SHOULDERS, TYPE B

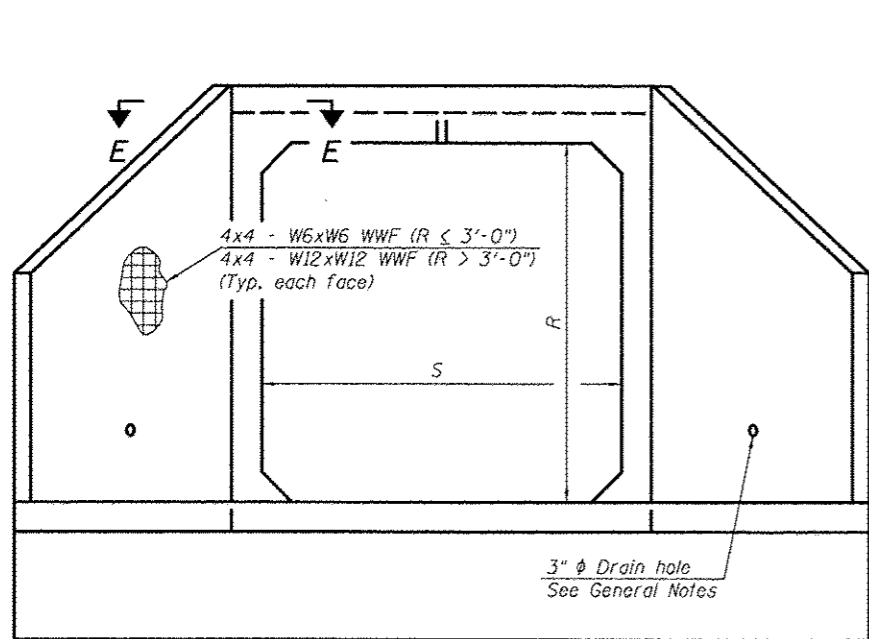
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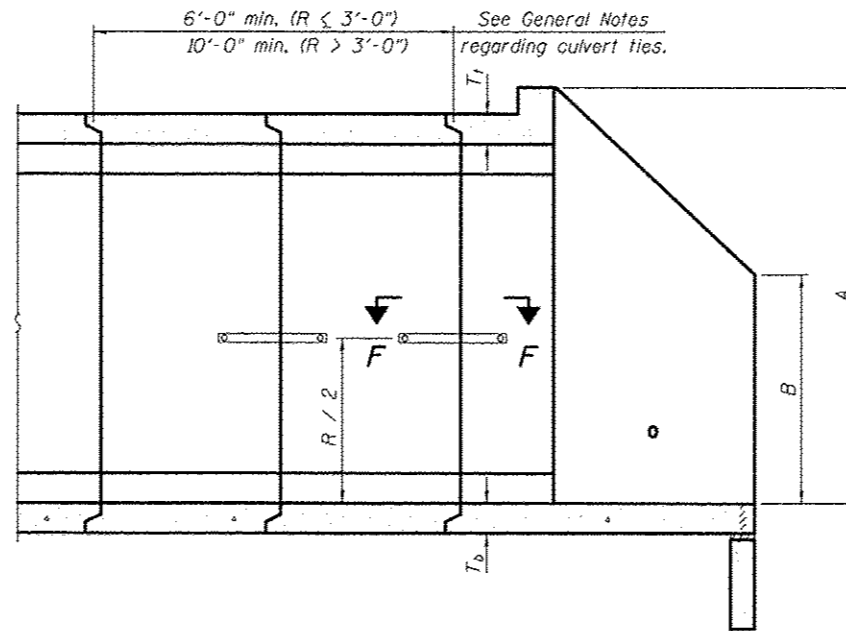
DATE	
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REVIEWED	
DESIGNED	
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DATE	
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REVIEWED	
DESIGNED	
DRAWN	
CHECKED	
DATE	
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FILE NAME	USER NAME	DESIGNED	REVIS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		DETAIL OF A.R. BOX CULVERT NO. 7 STA. 219 + 96.00		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\p\dot\ceer\lock\j\0120316\0574663-shi-drain.dgn	ceerlockjd	JMS	-					12X,31RS-3 & 2RS-4	CHAMPAIGN	551	206	
PLOT SCALE	CHECKED	DATE	REVIS					F.A.U. 7152 & F.A.S. 1512		CONTRACT NO. 70663		
1" = 40.0000'	-	08/16/10	-					ILLINOIS FED. AID PROJECT				
PLOT DATE	DATE	DATE	DATE					SCALE: 1" = 20'		SHEET NO. 1 OF 5 SHEETS		STA. 217+00.00 TO STA. 223+00.00



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.

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

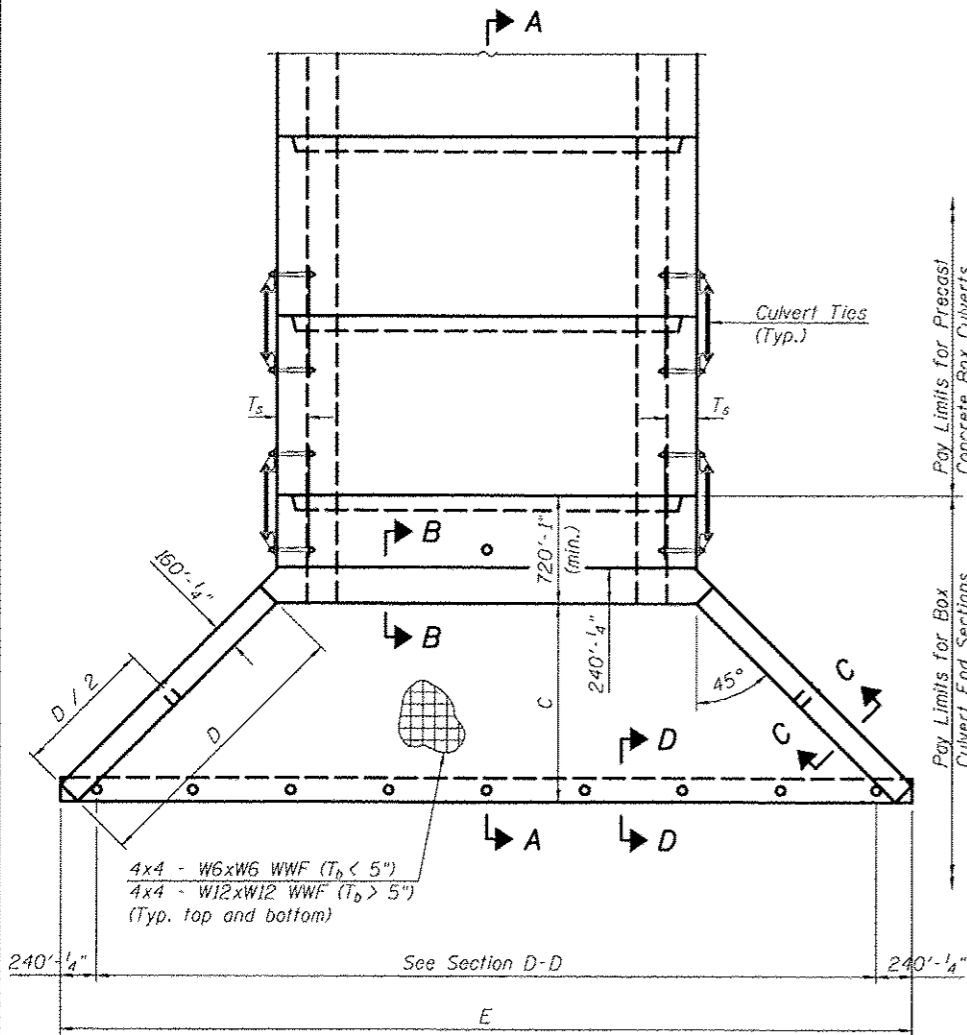
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

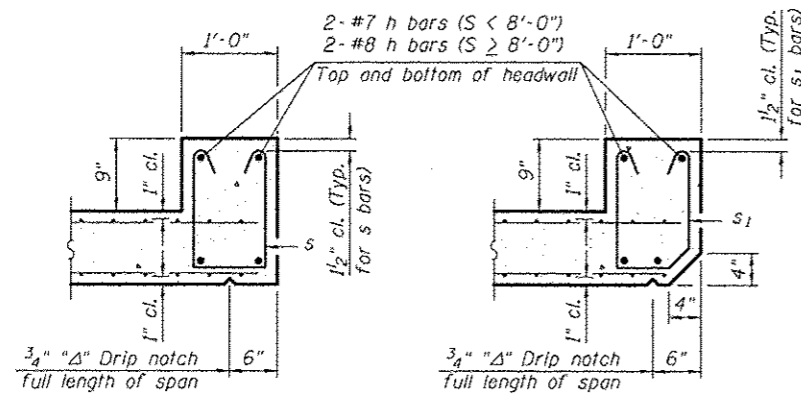
Span (S)	Rise (R)	T ₁	T ₂	T _s	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ⁷ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12'-4 ⁵ / ₈ "	3.7	Yes
3'-0"	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 ⁷ / 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.

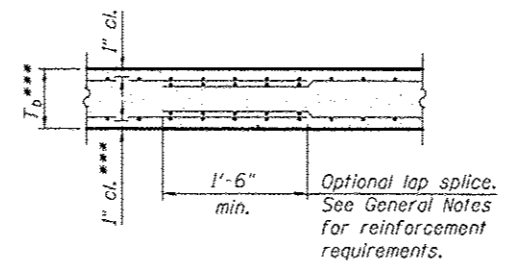


PLAN



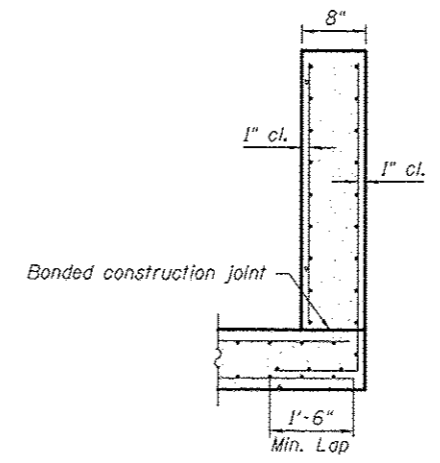
SECTION B-B
(Top slab at downstream end)

SECTION B-B
(Top slab at upstream end)

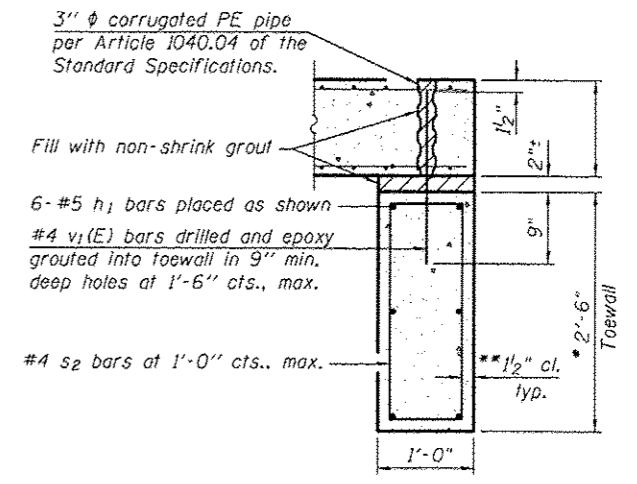


SECTION B-B
(Bottom Slab)

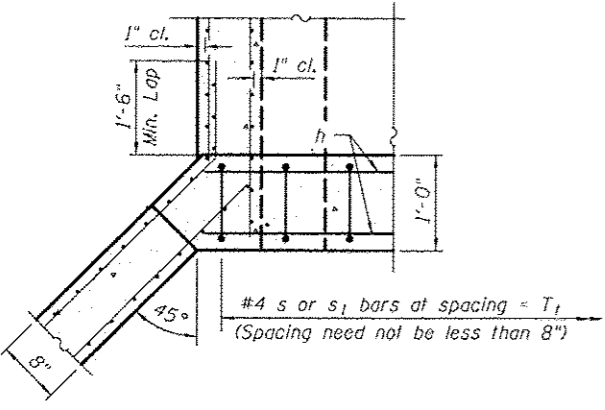
*** This dimension shall be increased by 2" for CIP construction.



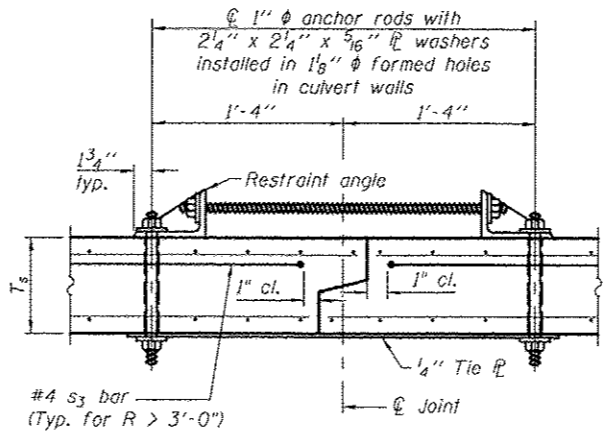
SECTION C-C



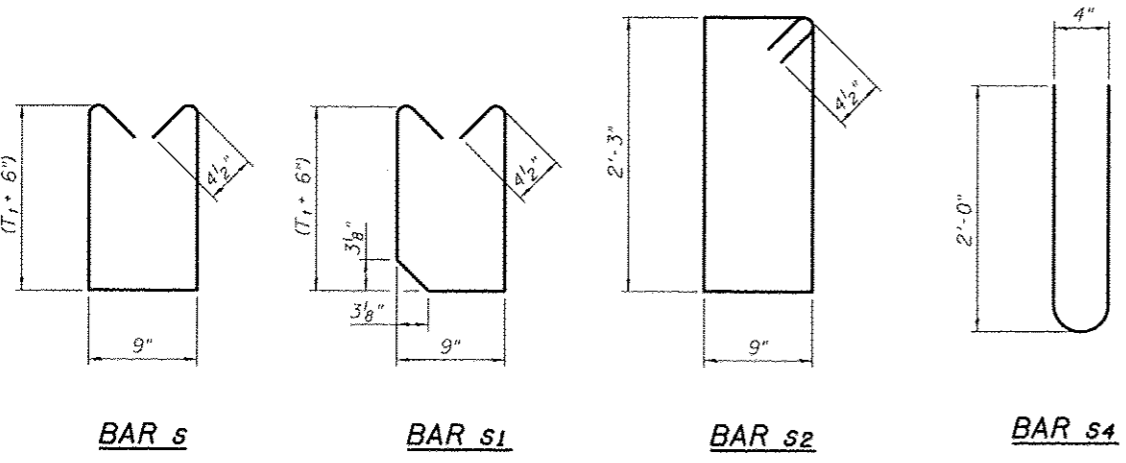
SECTION D-D



SECTION E-E



SECTION F-F
(Showing culvert tie details)

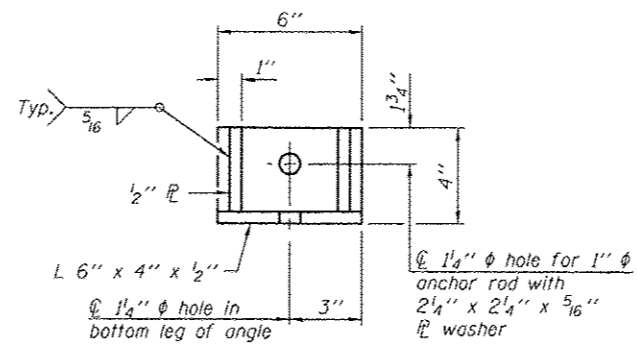


BAR s

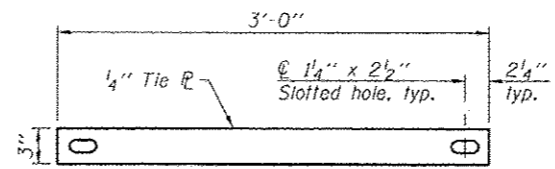
BAR s1

BAR s2

BAR s4



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

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.

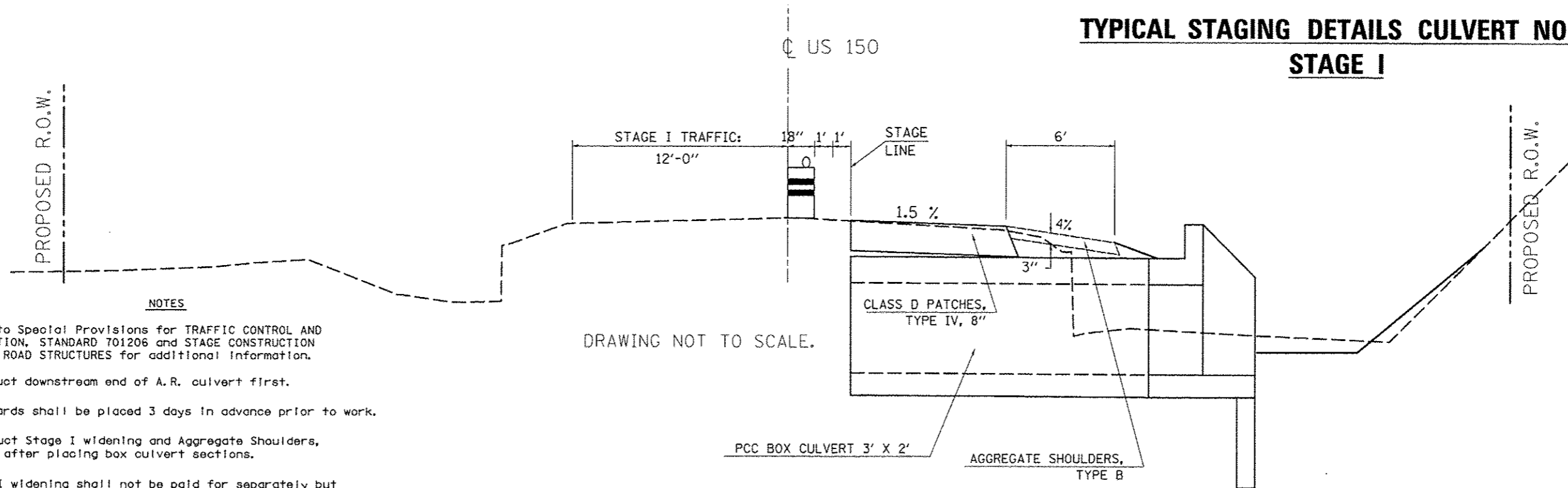
Notes:

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" 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.

FILE NAME : c:\pwwork\p\dot\cconlock_jd\0120316\05	USER NAME : cconlock_jd	DESIGNED - 78663-sh1-structura.dgn	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE : 48.0050 / 1 in.	DRAWN -	REVISED -			• (2X,3)RS-3 & 2RS-4	Champaign	551	208	
	PLOT DATE : 10/18/2013	CHECKED -	REVISED -			• F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663			
						SHEET NO. 3 OF 5 SHEETS			ILLINOIS FED. AID PROJECT	

TYPICAL STAGING DETAILS CULVERT NO. 7

STAGE I



DRAWING NOT TO SCALE.

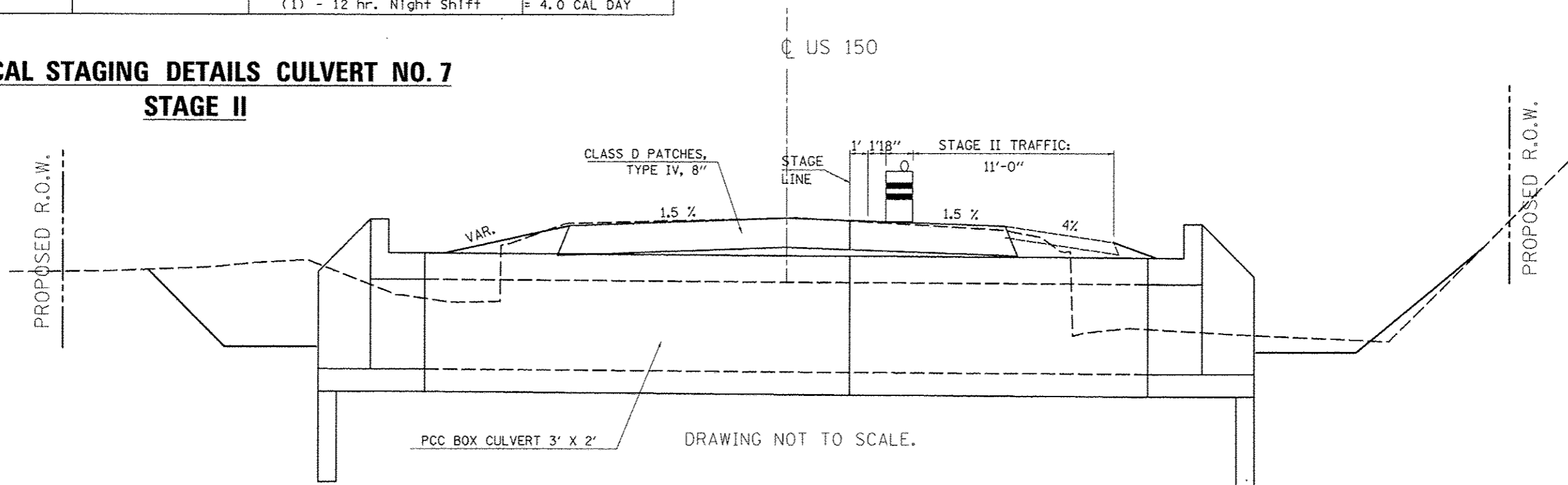
NOTES

1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. Construct downstream end of A.R. culvert first.
3. CMS boards shall be placed 3 days in advance prior to work.
4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 219+96.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 7




STAGE II

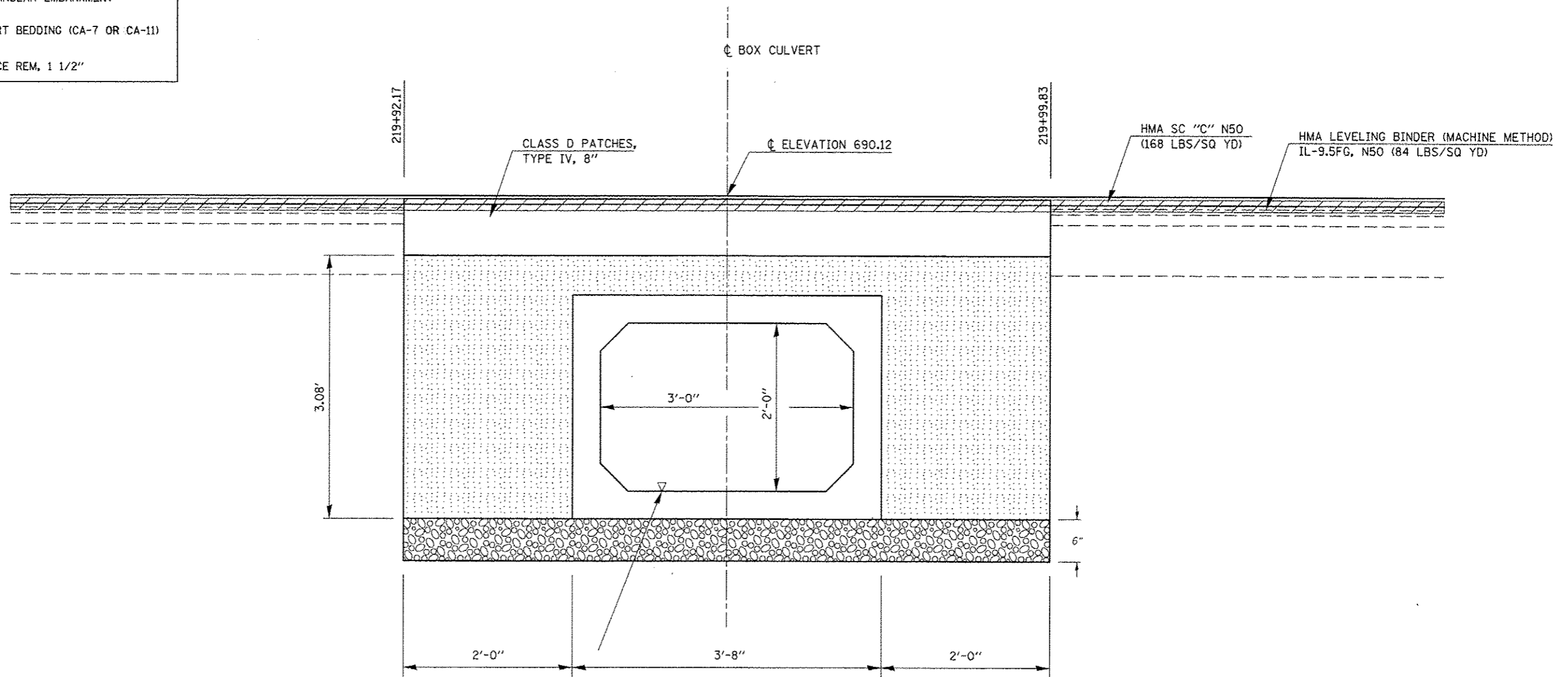


DRAWING NOT TO SCALE.

FILE NAME : g:\work\p12dot\cearlock\jtd\0120316\05	USER NAME : cearlock_jd	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL STAGING DETAIL BOX CULVERT NO. 7		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	78603-shr-structures.dgn	DRAWN - JMS	REVISED -		•	(2X)RS-3 & 2RS-4	CHAMPAIGN	551	209		
	PLOT SCALE = 40.0000' / 1"	CHECKED -	REVISED -		•	F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663		
	PLOT DATE = 10/18/2013	DATE - 063011	REVISED -		SCALE: NONE	SHEET NO. 4 OF 5 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

LEGEND

-  POROUS GRANULAR EMBANKMENT
-  BOX CULVERT BEDDING (CA-7 OR CA-11)
-  HMA SURFACE REM, 1 1/2"



PROPOSED U.S.F.L. = 687.19
 PROPOSED D.S.F.L. = 687.09

POROUS GRANULAR EMBANKMENT

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

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

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

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

BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	18.2

DRAWING NOT TO SCALE.

FILE NAME : c:\pwwork\pwwork\cearlock\48128316\0578663-shr-structures.dgn	USER NAME : cearlock_jd	DESIGNED - JMS	REVISED - -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF POROUS GRANULAR EMBANKMENT		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLDT SCALE : 48.0000' / 1" =	CHECKED - -	REVISED - -	REVISED - -				• F.A.U. 7152 & F.A.S. 1512	(2X,3RS-3 & 2RS-4)	CHAMPAIGN	551	210
PLDT DATE : 10/16/2013	DATE - 080211	REVISED - -	REVISED - -		SCALE: NONE	SHEET NO. 5 OF 5 SHEETS	STA.	TO STA.	CONTRACT NO. 70663		
							ILLINOIS FED. AID PROJECT				

SEC. 8, T. 19 N, R. 10 E.

286+30.00 PROP. S.N. 010-8160
P.C.C. BOX CULVERT (SPECIAL)
1 @ 8' X 2' X 45'
U.S.F.L. 22.5', 286+30.00 RT, ELEV. = 671.55
D.S.F.L. 22.5', 286+30.00 LT, ELEV. = 671.40
BOX CULVERT END SECTION, CULVERT NO. 8

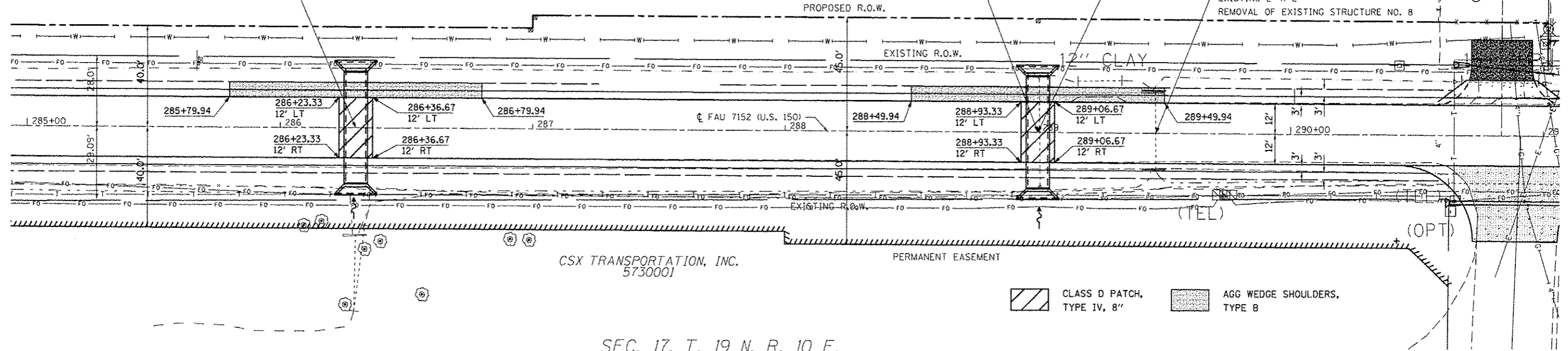
28-22-08-400-003
HERSHBERGER, JAMES
HERSHBERGER, MAX L.
AS TRUSTEE
5730017

289+00.00 PROP. S.N. 010-8161
P.C.C. BOX CULVERT (SPECIAL)
1 @ 8' X 2' X 46.5'
U.S.F.L. 23.3' RT 289+00.00, ELEV. = 671.55
D.S.F.L. 23.3' LT 289+00.00, ELEV. = 671.40
BOX CULVERT END SECTION, CULVERT NO. 9 = 2 EA.

A.R. STATION 289+00.00
EXISTING 24" CMP
PIPE CULVERT REMOVAL = 42.0'

A.R. STATION 289+46.56
EXISTING 2' X 2'
REMOVAL OF EXISTING STRUCTURE NO. 8

PLAN	DATE
REVISED	
NOTE BOOK	
NO.	



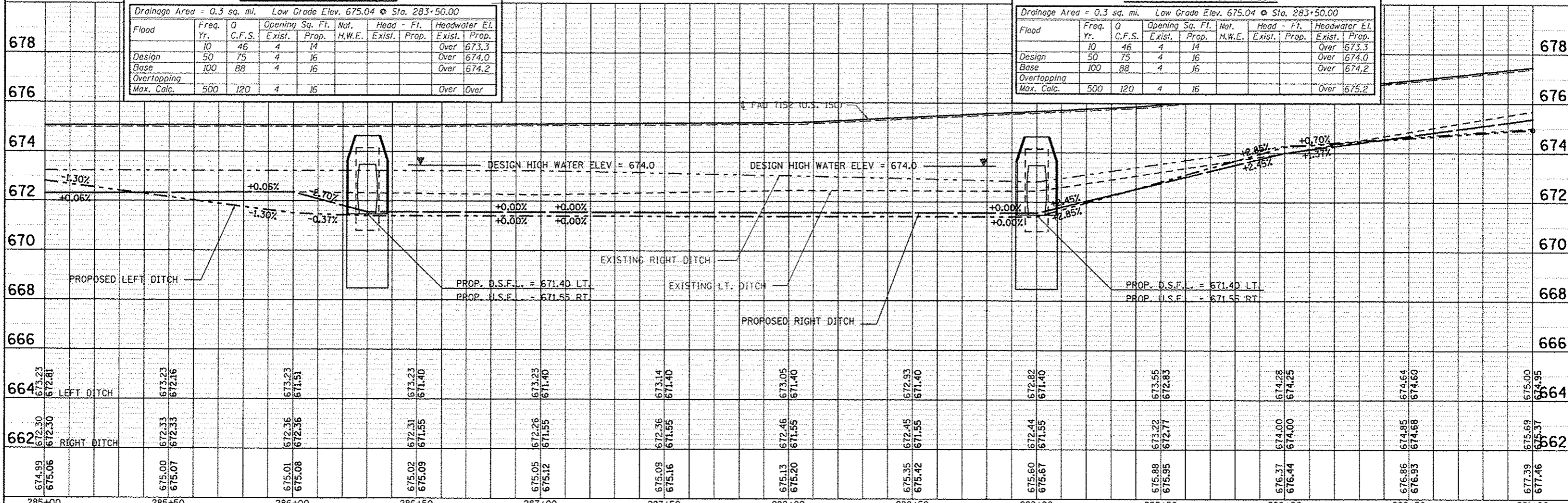
CSX TRANSPORTATION, INC.
5730001

CLASS D PATCH, TYPE IV, 8"
 AGG WEDGE SHOULDERS, TYPE B

SEC. 17, T. 19 N, R. 10 E.

WATERWAY INFORMATION									
Drainage Area = 0.3 sq. mi. Low Grade Elev. 675.04 @ Sta. 283+50.00									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	46	4	14					Over 673.3
Base	50	75	4	16					Over 674.0
Base	100	88	4	16					Over 674.2
Overtopping									
Max. Calc.	500	120	4	16					Over Over

WATERWAY INFORMATION									
Drainage Area = 0.3 sq. mi. Low Grade Elev. 675.04 @ Sta. 283+50.00									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	46	4	14					Over 673.3
Base	50	75	4	16					Over 674.0
Base	100	88	4	16					Over 674.2
Overtopping									
Max. Calc.	500	120	4	16					Over 675.2



PROFILE	DATE
REVISED	
NOTE BOOK	
NO.	

Benchmark: 675.112, Chiseled square on East end of south headwall of exist. A.R. box culvert, Sta. 289+49.7, 14.6' LT

Existing Structure: None.

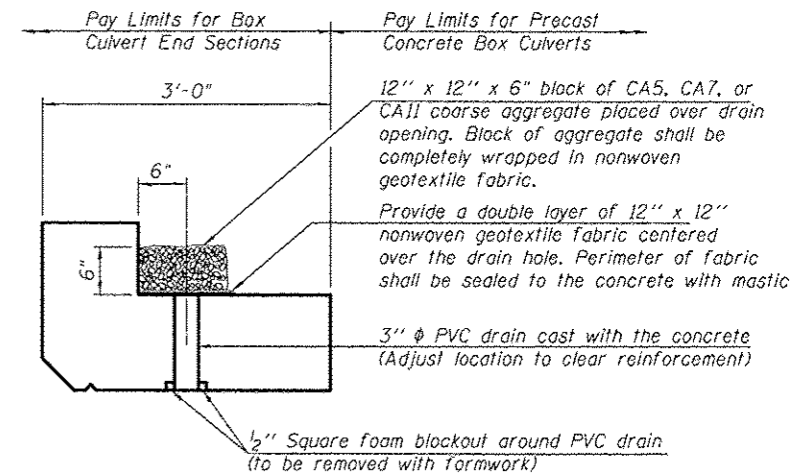
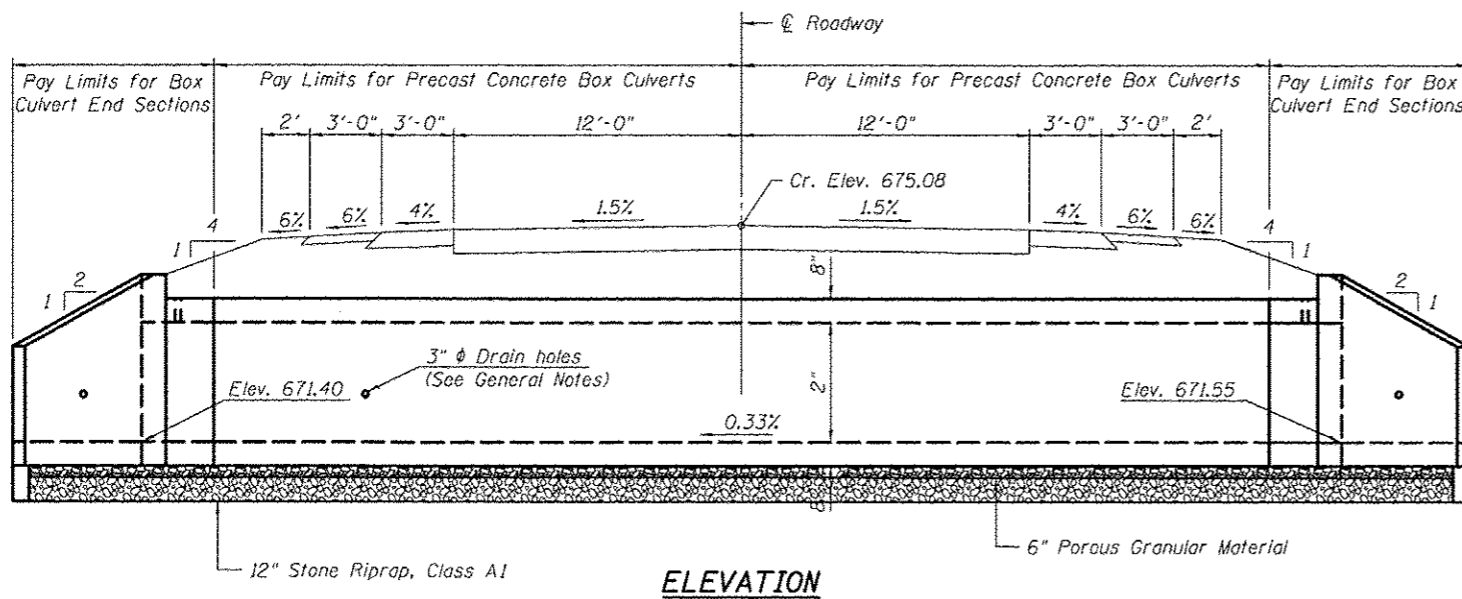
INDEX OF SHEETS

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

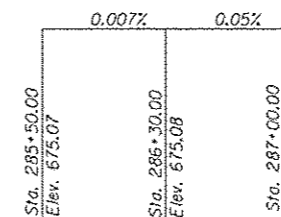
GENERAL NOTES

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.

All exposed edges shall be chamfered 3/4" per article 503.06 of the Standard Specifications.



(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.)



PROFILE GRADE

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
 6th Edition

LOADING HL-93

DESIGN STRESSES

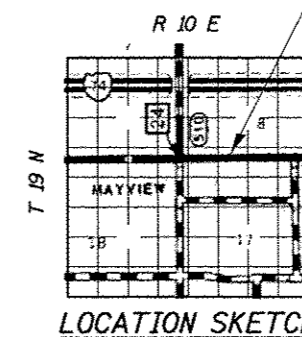
PRECAST UNITS

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

PROP. S.N. 010-8160
 STA. 286+30.00

STATION 286+30.00
 BUILT 2014 BY
 STATE OF ILLINOIS
 F.A.S. RT. 1512 US 150
 SEC. (2X,3)RS-3 & 2RS-4
 LOADING HL-93
 STR. NO. 010-8160

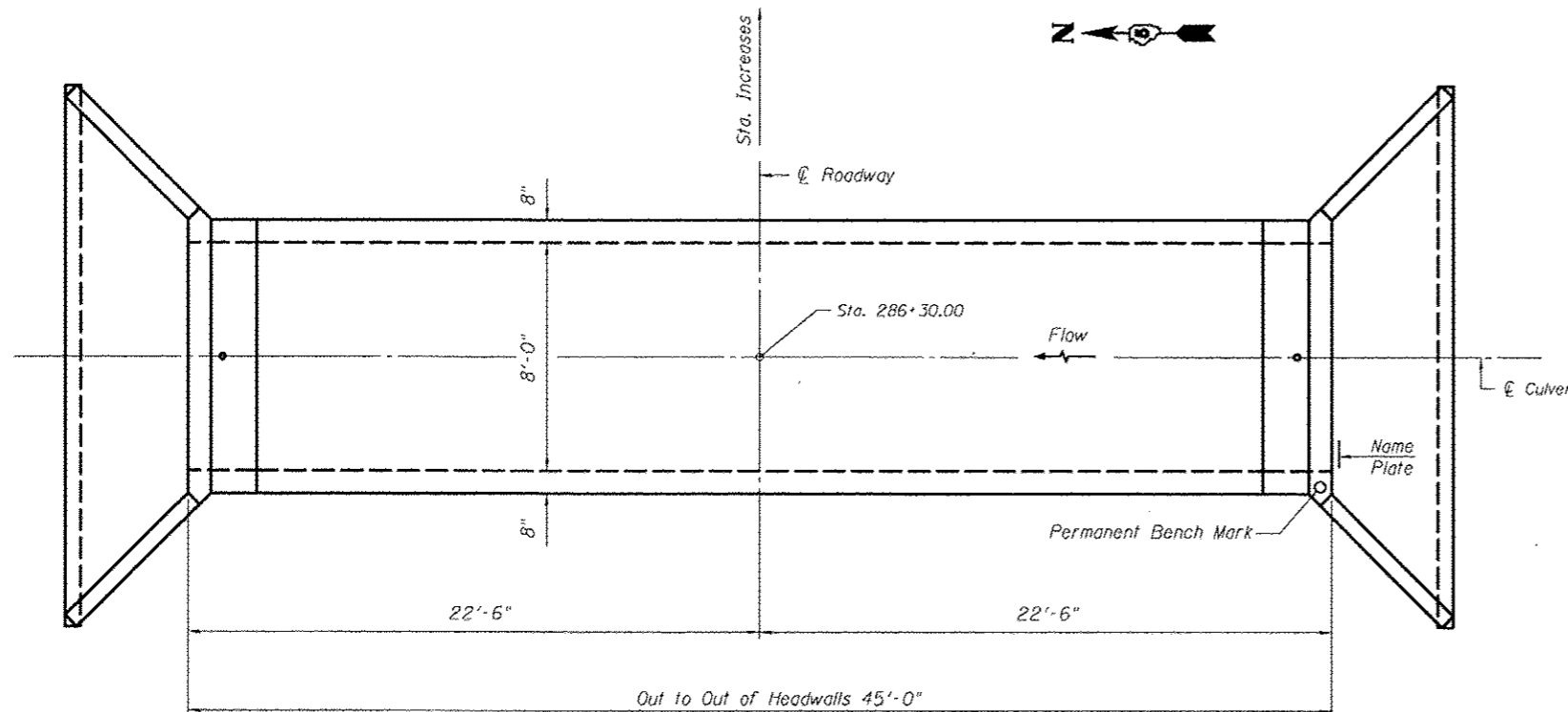
NAME PLATE
 See Std. 515001



GENERAL PLAN AND ELEVATION
SINGLE 8' X 2' PRECAST BOX CULVERT
F.A.S. ROUTE 1512 (US 150)
SECTION (2X,3)RS-3 & 2RS-4
CHAMPAIGN COUNTY
STATION 286+30.00, S.N. 010-8160
CULVERT NO. 8

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 8	Each	2.0
Precast Concrete Box Culverts, 8' x 2'	Foot	39.0
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	96.1
Porous Granular Embankment	Cu. Yd.	20.6



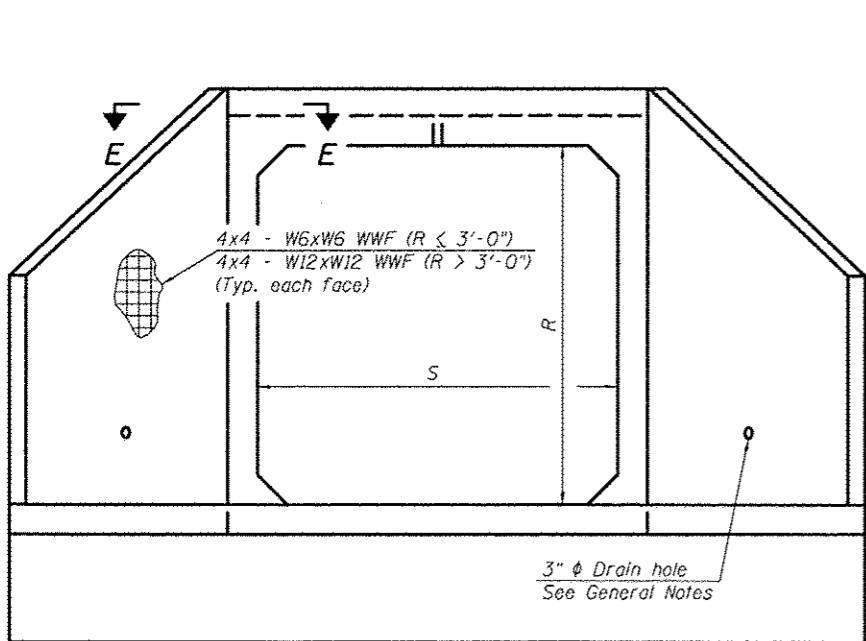
WATERWAY INFORMATION

Drainage Area = 0.3 sq. mi. Low Grade Elev. 675.04 @ Sta. 283+50.00

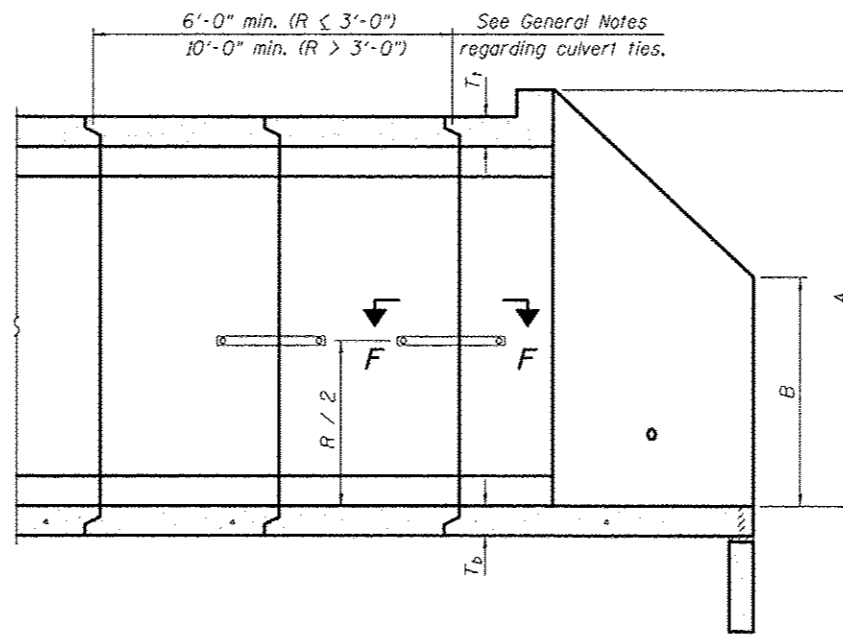
Flood Yr.	Freq.	C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Over
0	46	4	14			673.3
10	75	4	16			674.0
50	88	4	16			674.2
100						
Overtopping						
Max. Calc.	500	120	4	16		Over

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	668.55	668.40



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 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.

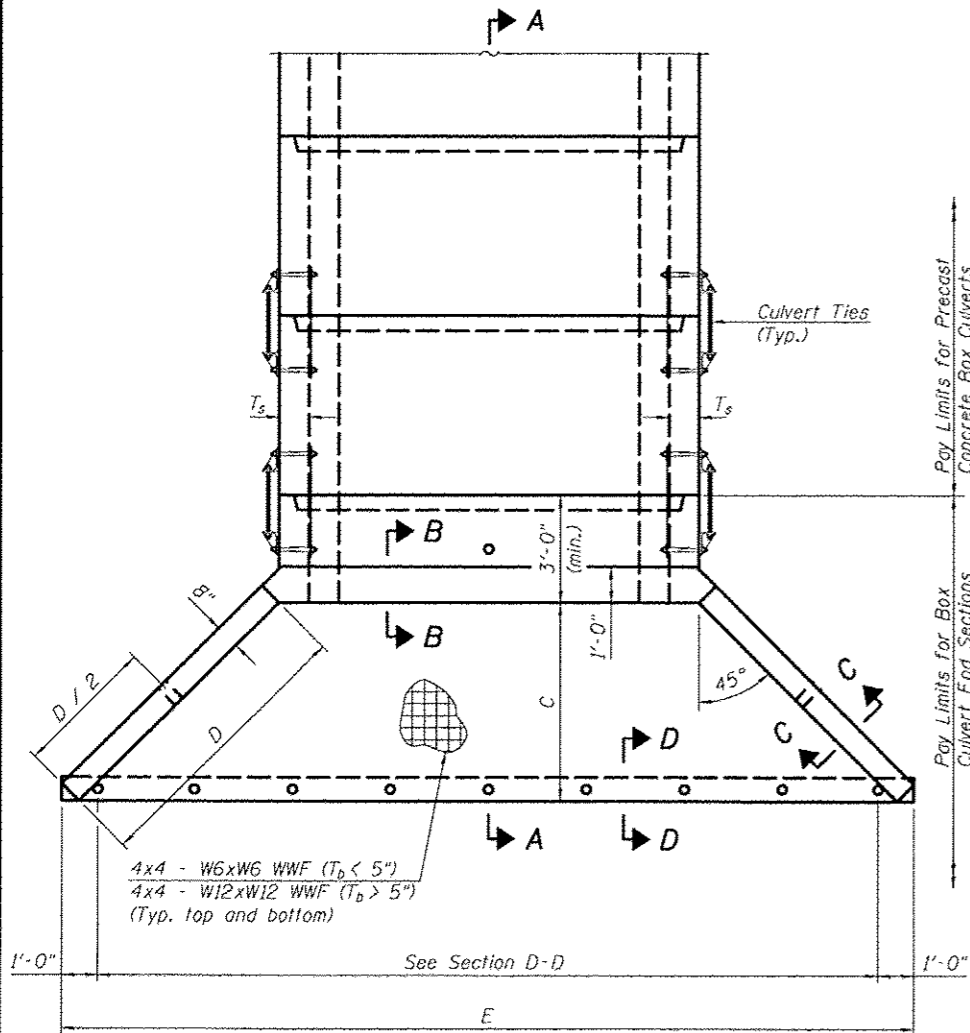
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

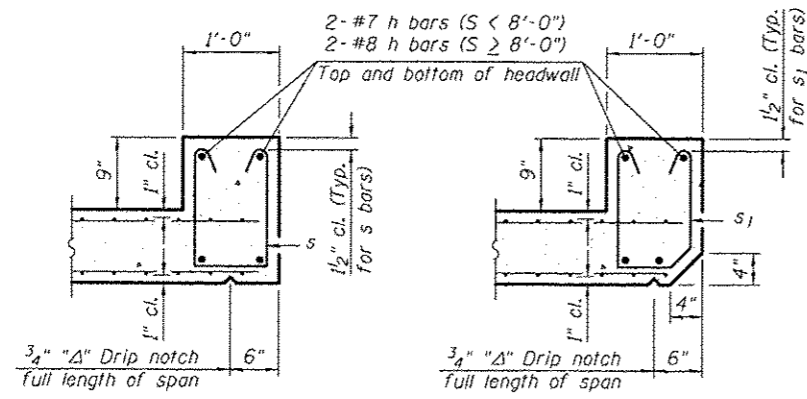
Span (S)	Rise (R)	T ₁	T ₂	T ₃	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ⁷ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12'-4 ⁵ / ₈ "	3.7	Yes
3'-0"	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 ³ / ₈ "	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 ³ / ₈ "	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 ³ / ₈ "	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 ⁷ / 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.

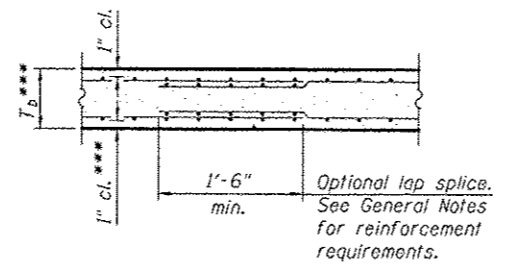


PLAN



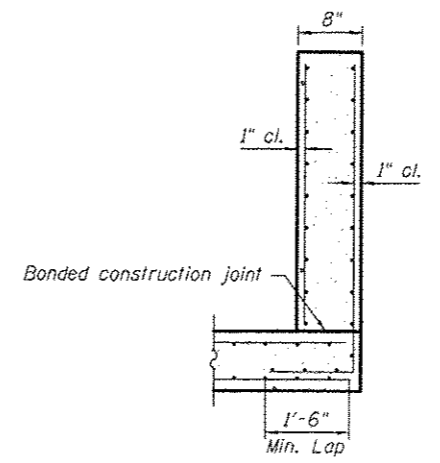
SECTION B-B
(Top slab at downstream end)

SECTION B-B
(Top slab at upstream end)

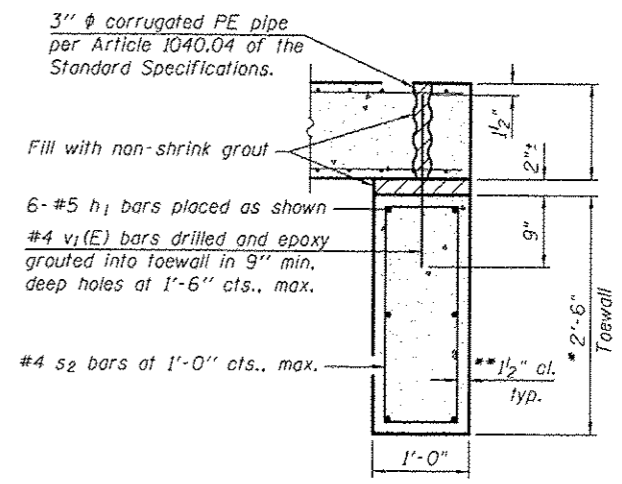


SECTION B-B
(Bottom Slab)

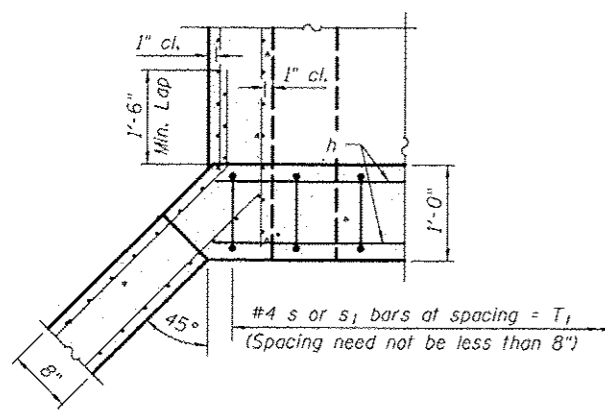
*** This dimension shall be increased by 2" for CIP construction.



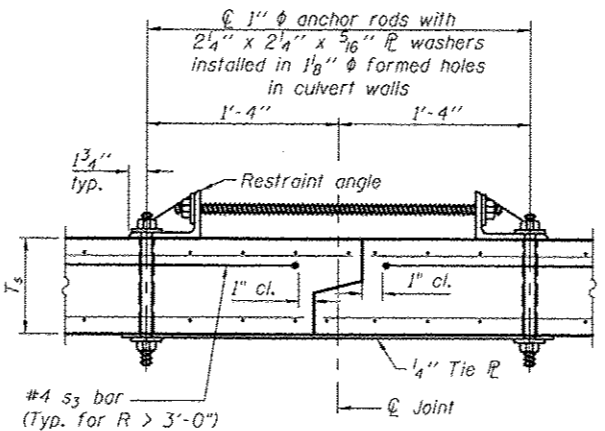
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F
(Showing culvert tie details)

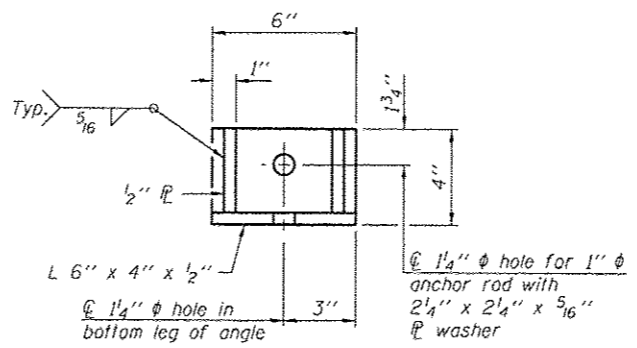
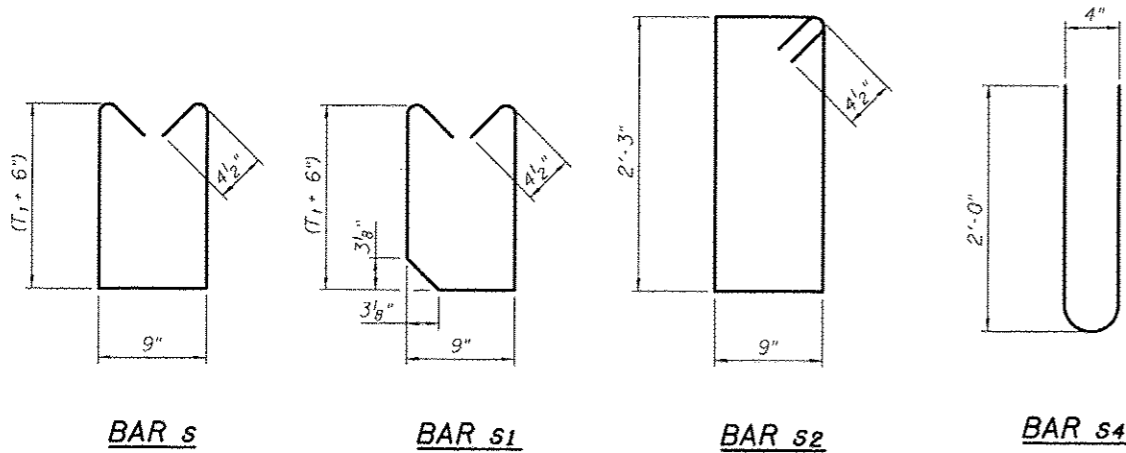
TOEWALL CONSTRUCTION SEQUENCE

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.

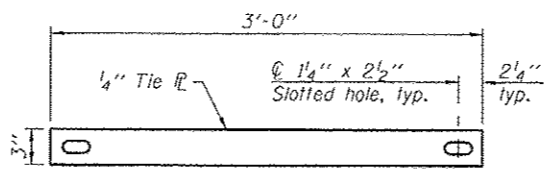
* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design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



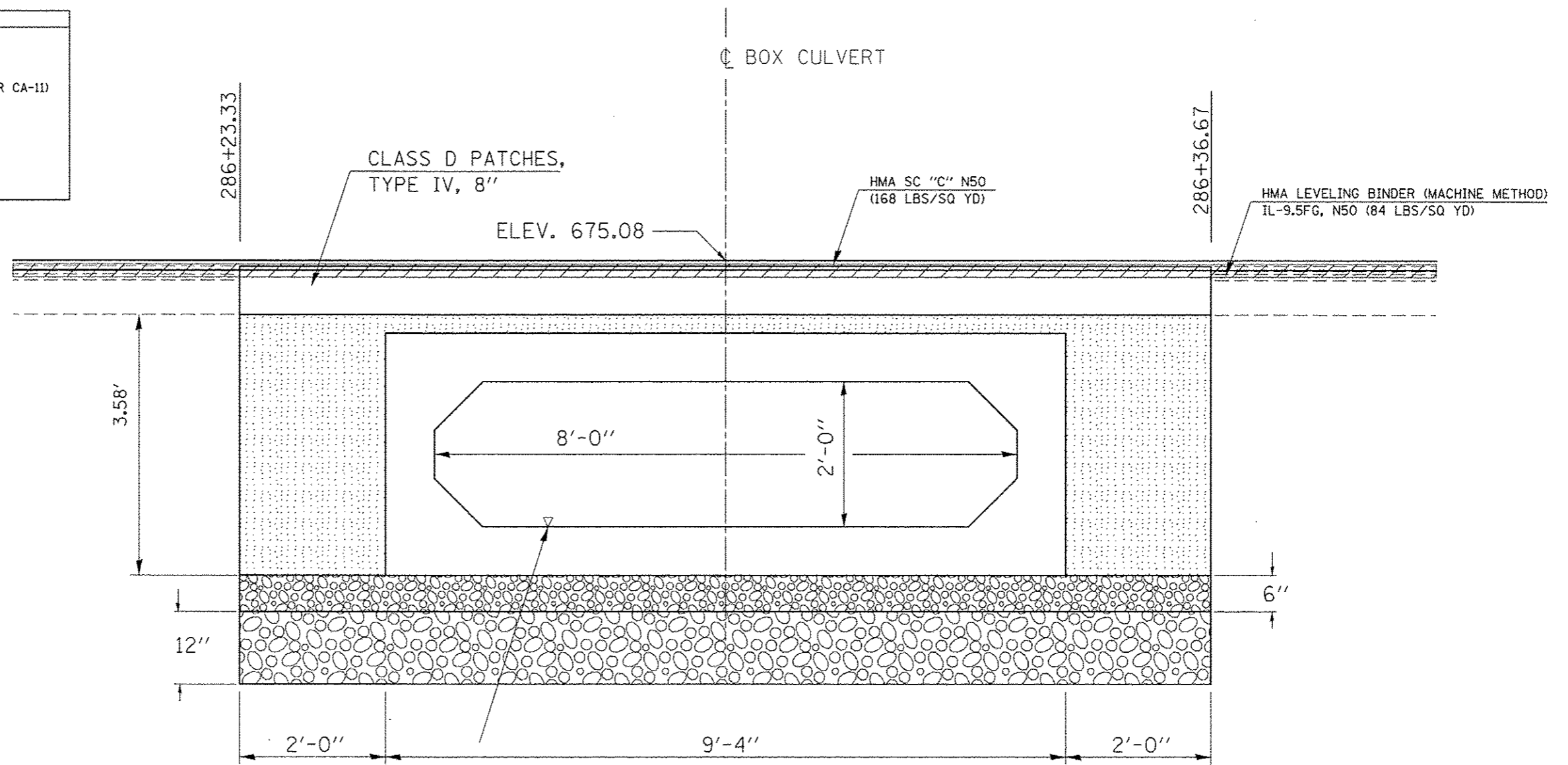
RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

FILE NAME : d:\pwork\pvidot\ceorlock\20120316\0578663\sh-structures.dgn	USER NAME : ceorlock_jd	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 48.0000' / 1"	PLOT DATE = 10/18/2013	CHECKED -	REVISD -			• (2X,3RS-3 & 2RS-4	Champaign	551	214	
		DRAWN -	REVISD -			• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663	
		CHECKED -	REVISD -						ILLINOIS FED. AID PROJECT	

LEGEND	
	POROUS GRANULAR EMBANKMENT
	BOX CULVERT BEDDING (CA-7 OR CA-11)
	STONE RIPRAP, CLASS A1
	HMA SURFACE REM, 1 1/2"



STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED WHERE A.R. CULVERTS ARE REQUIRED TO BE UNDERCUT DUE TO UNSTABLE SOIL CONDITIONS.

WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 AND SECTION 282 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1. FILTER FABRIC WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

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

PROPOSED U.S.F.L. = 671.55
 PROPOSED D.S.F.L. = 671.40

POROUS GRANULAR EMBANKMENT

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

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

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

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

BILL OF MATERIAL

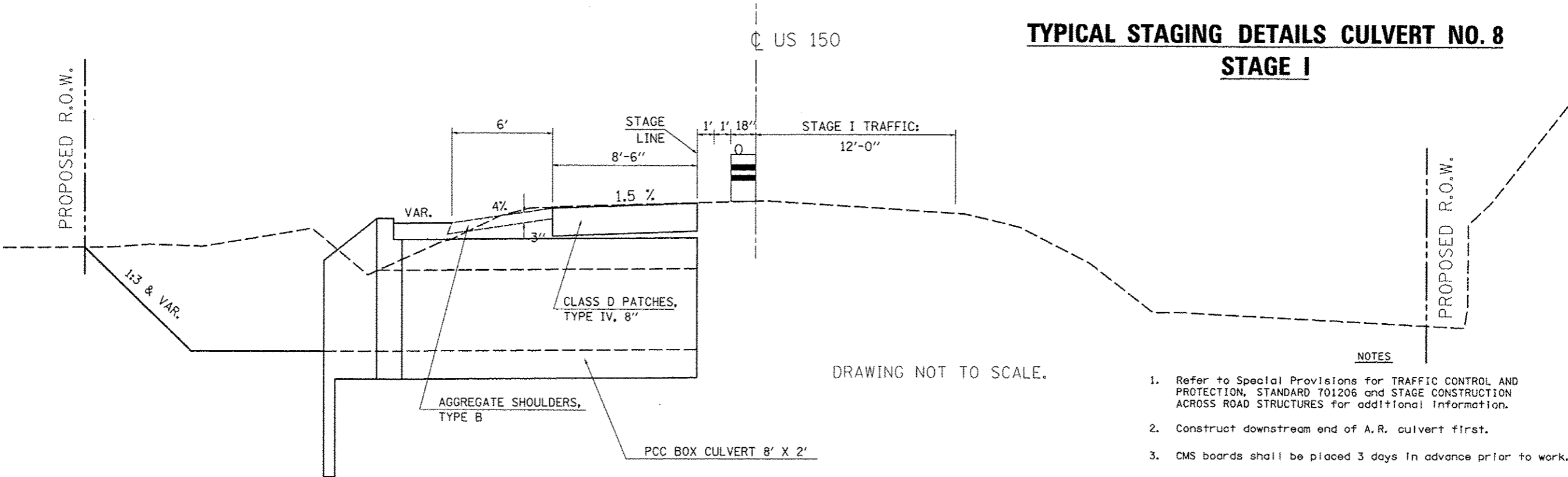
Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	20.6
Stone Riprap, Class A1	Sq.Yd.	96.1

DRAWING NOT TO SCALE.

FILE NAME : c:\pwwork\pwwork\cconlookj\d01283161.dwg	USER NAME : cconlookj 78663-sh1-a-truc-tuna.dgn	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF POROUS GRANULAR EMBANKMENT			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 48.0000' / in.	DRAWN - RLA	REVISED -		SCALE: NONE	SHEET NO. 5 OF 11 SHEETS	STA.	TO STA.	(2X JRS-3 & 2RS-4)	CHAMPAIGN	551	215	
	PLOT DATE = 10/10/2013	CHECKED -	REVISED -						F.A.U. 7152 & F.A.S. 1512				
		DATE - 080211	REVISED -						ILLINOIS FED. AID PROJECT				
CONTRACT NO. 70663													

TYPICAL STAGING DETAILS CULVERT NO. 8

STAGE I



DRAWING NOT TO SCALE.

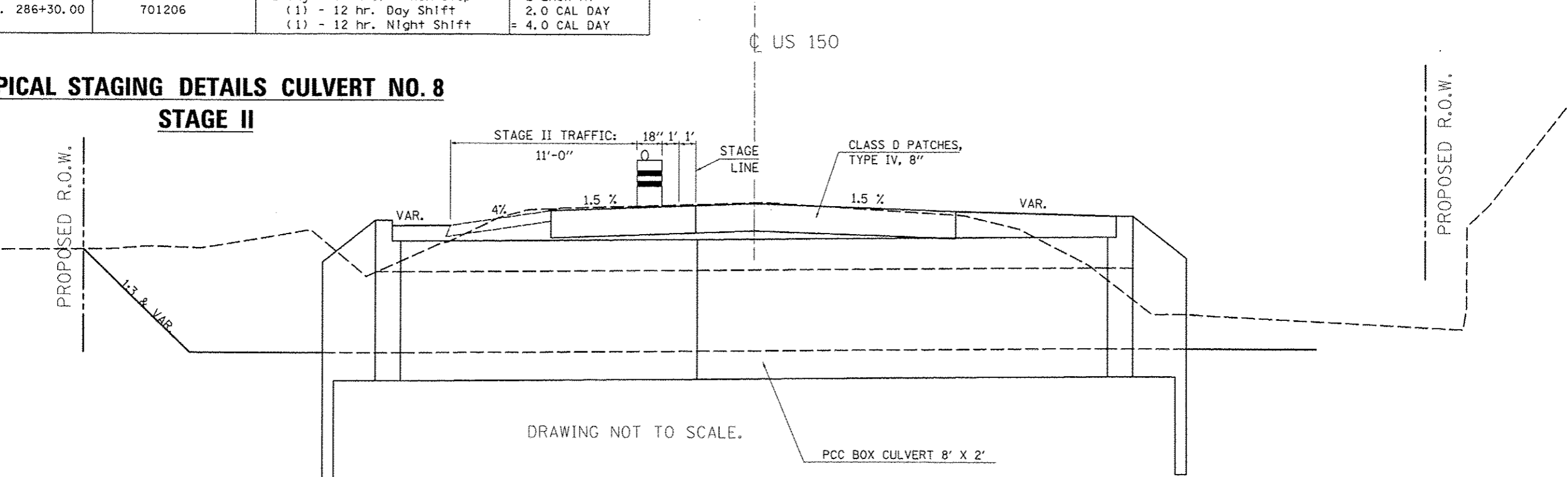
NOTES

1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. Construct downstream end of A.R. culvert first.
3. CMS boards shall be placed 3 days in advance prior to work.
4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 286+30.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 8

STAGE II



DRAWING NOT TO SCALE.

Benchmark: 675.112, Chiseled square on East end of south headwall of exist. A.R. box culvert, Sta. 289+49.7, 14.6' LT

Existing Structure: Sta. 289+46.00, 2'x2' cast-in-place box culvert with concrete headwalls to be removed.

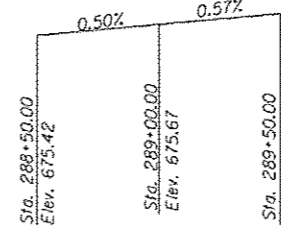
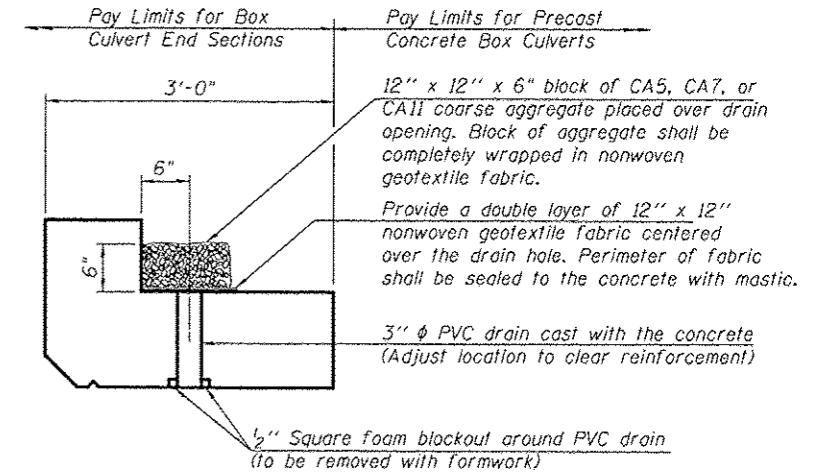
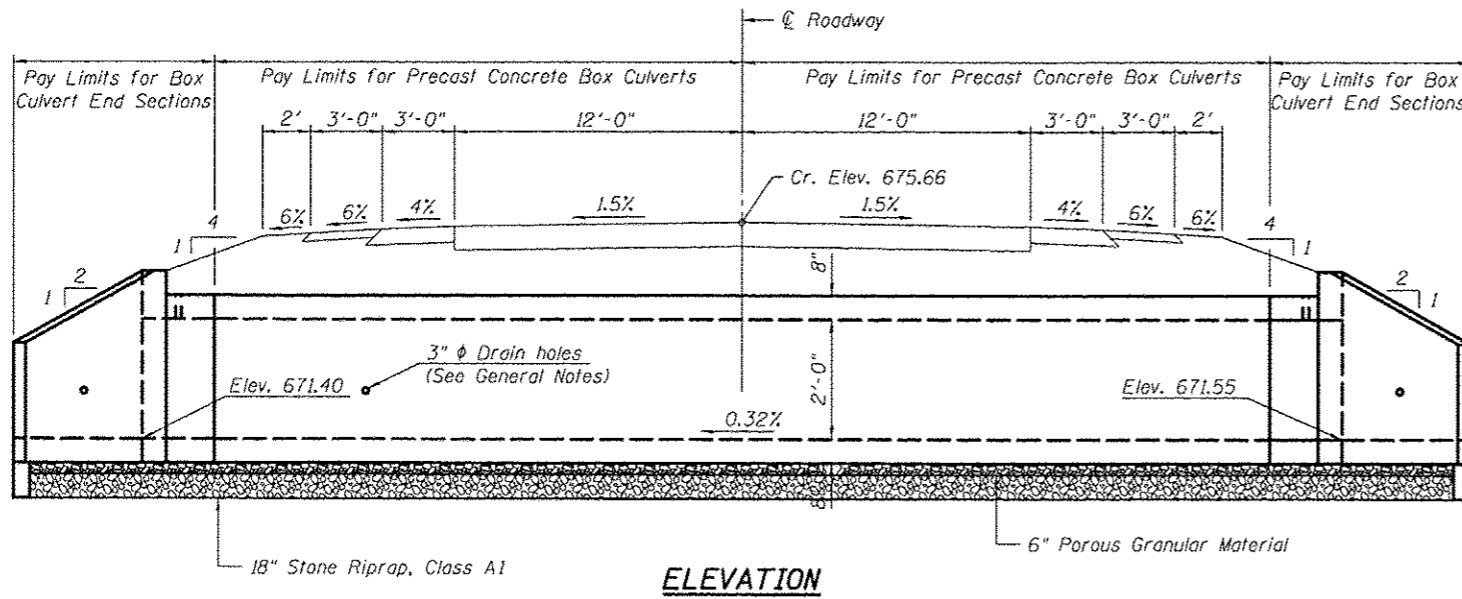
INDEX OF SHEETS

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

All exposed edges shall be chamfered 3/4" per article 503.06 of the Standard Specifications.



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

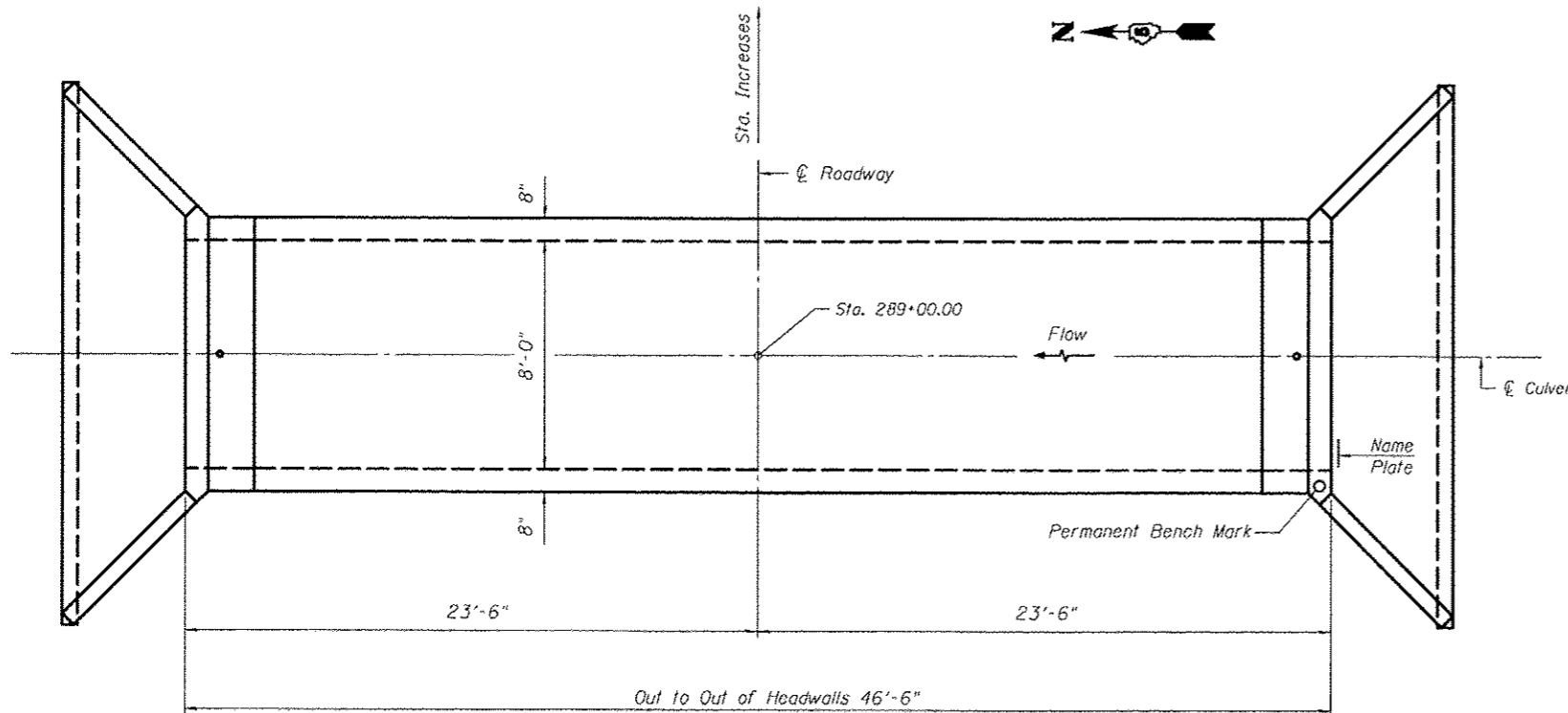
DESIGN STRESSES

PRECAST UNITS

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 4	Each	1.0
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 9	Each	2.0
Precast Concrete Box Culverts, 8x2	Foot	40.5
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	96.1
Porous Granular Embankment	Cu. Yd.	37.3



WATERWAY INFORMATION

Drainage Area = 0.3 sq. mi. Low Grade Elev. 675.04 @ Sta. 283+50.00

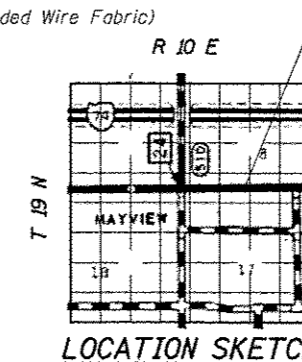
Flood	Freq. Yr.	0 C.F.S.	Opening Sq. Ft. Exisl. Prop.	Nat. H.W.E. Exisl. Prop.	Head - Ft. Exisl. Prop.	Headwater El. Over
Design	10	46	4	14		673.3
Base	50	75	4	16		674.0
Overtopping	100	88	4	16		674.2
Max. Calc.	500	120	4	16		675.2

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	668.55	668.40

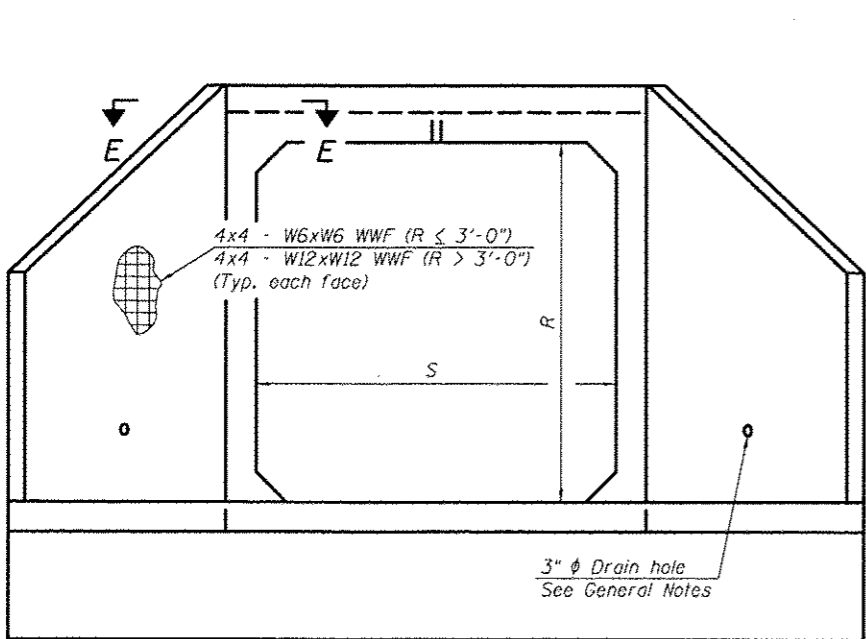
STATION 289+00.00
 BUILT 2014 BY
 STATE OF ILLINOIS
 F.A.S. RT. 1512 US 150
 SEC. (2X,3)RS-3 & 2RS-4
 LOADING HL-93
 STR. NO. 010-8161

NAME PLATE
 See Std. 515001

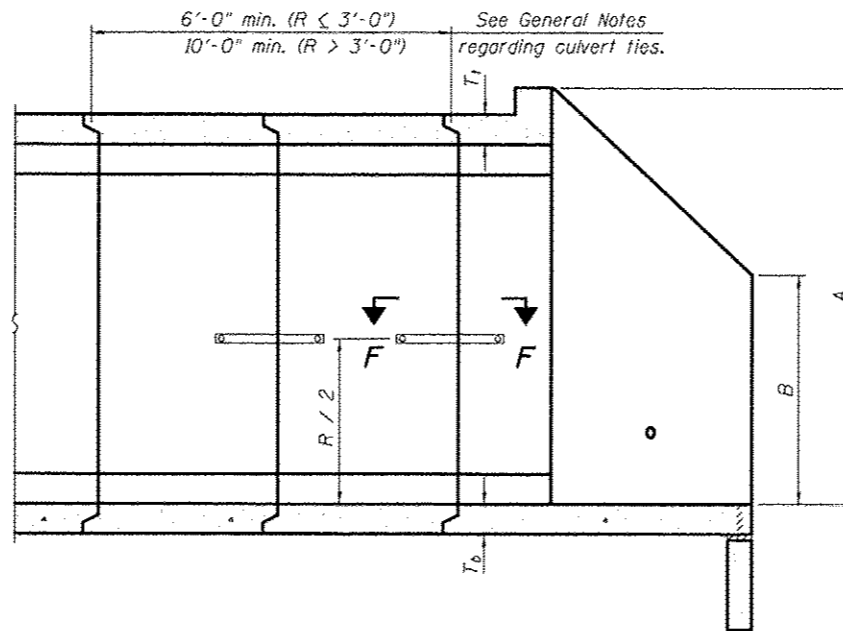


PROP. S.N. 010-8161
 STA. 289+00.00

**GENERAL PLAN AND ELEVATION
 SINGLE 8'x2' PRECAST BOX CULVERT
 F.A.S. ROUTE 1512 (US 150)
 SECTION (2X,3)RS-3 & 2RS-4
 CHAMPAIGN COUNTY
 STATION 289+00.00, S.N. 010-8161
 CULVERT NO. 9**



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.

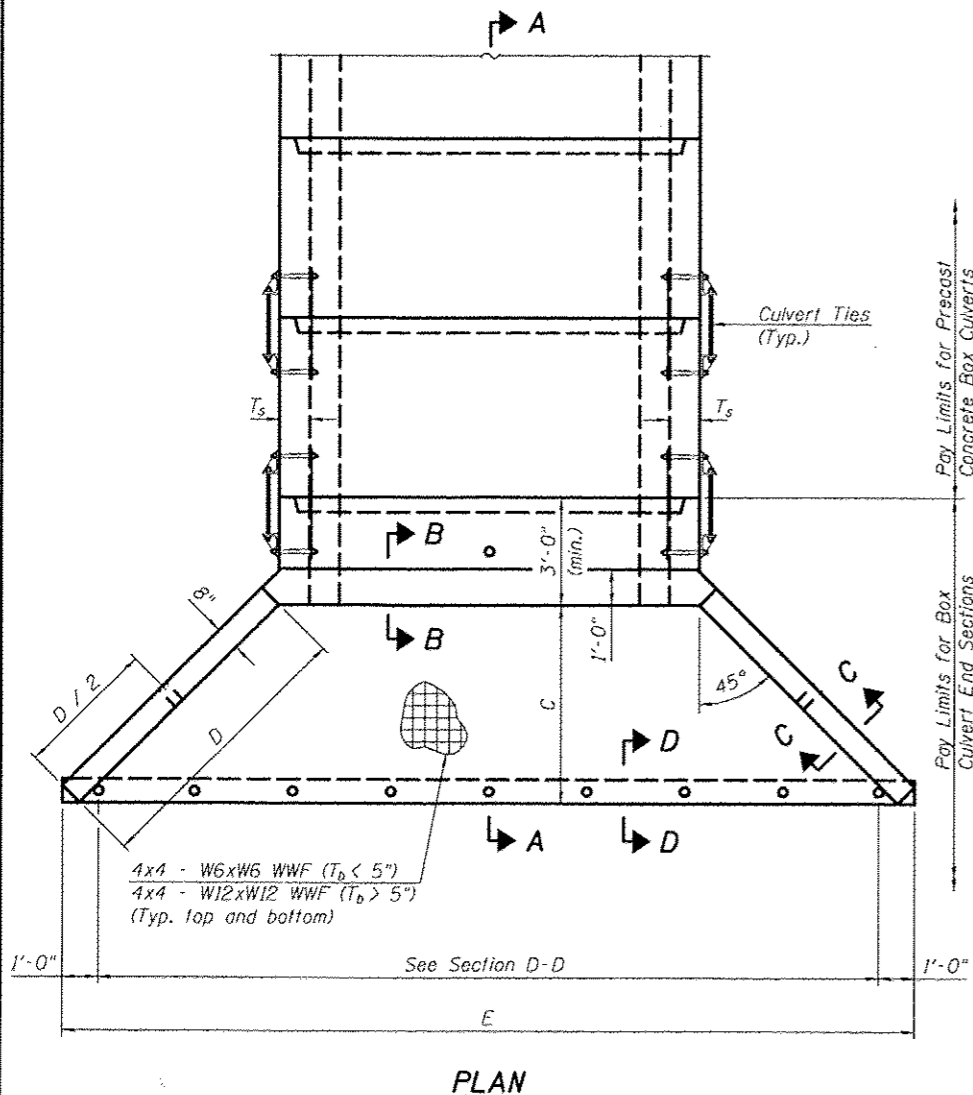
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	T ₁	T ₂	T ₃	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 ⁷ / 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

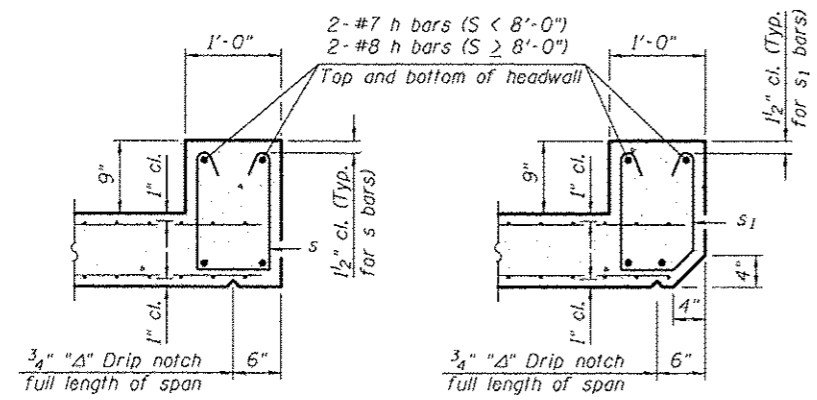
Note:

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.



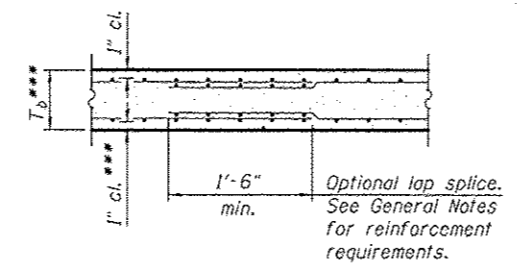
PLAN

FILE NAME: c:\pwork\pwork\c\c\lock\jd\0128316\0128316.dgn	USER NAME: c\c\lock\jd	DESIGNED: -	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLT SCALE: 48.8058 / 100	PLT DATE: 10/18/2013	CHECKED: -	REVISED: -			• F.A.U. 7152 & F.A.S. 1512	(2X,3IRS-3 & 2RS-4	Champaign	551	218	
		DRAWN: -	REVISED: -			CONTRACT NO. 70663					
		CHECKED: -	REVISED: -			SHEET NO. 8 OF 11 SHEETS					

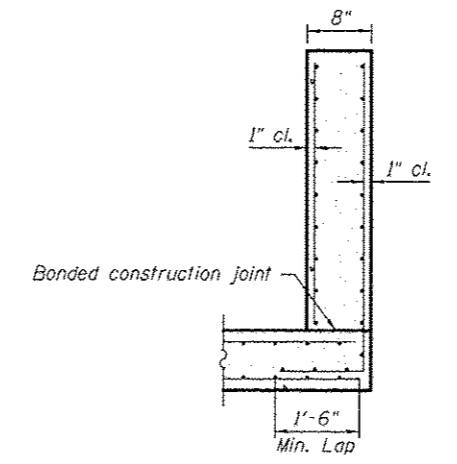


SECTION B-B
(Top slab at downstream end)

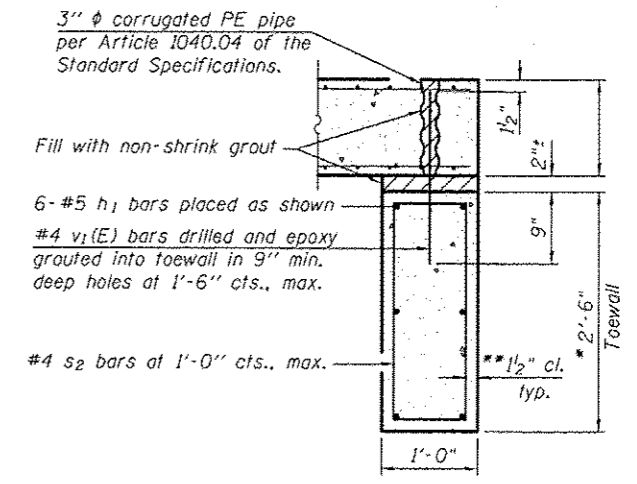
SECTION B-B
(Top slab at upstream end)



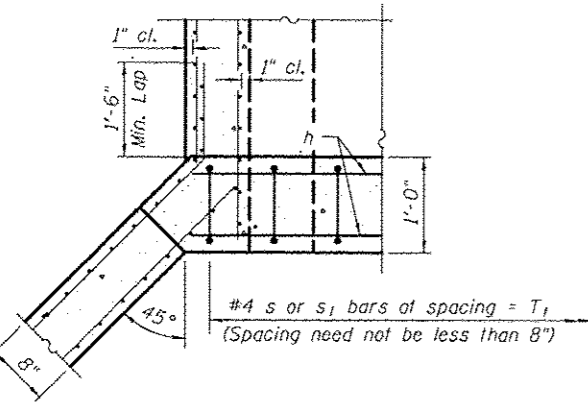
SECTION B-B
(Bottom Slab)



SECTION C-C

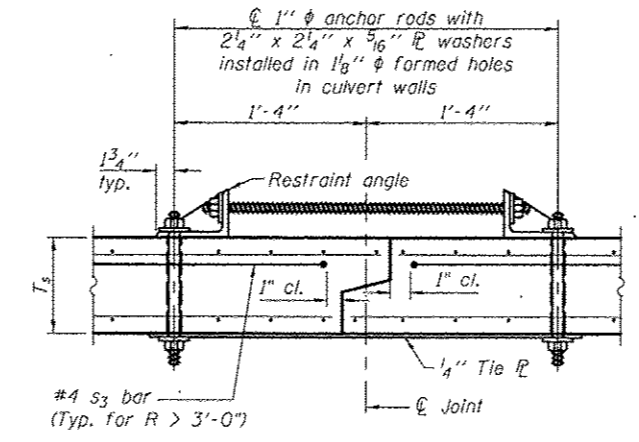


SECTION D-D



SECTION E-E

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



SECTION F-F
(Showing culvert tie details)

TOEWALL CONSTRUCTION SEQUENCE

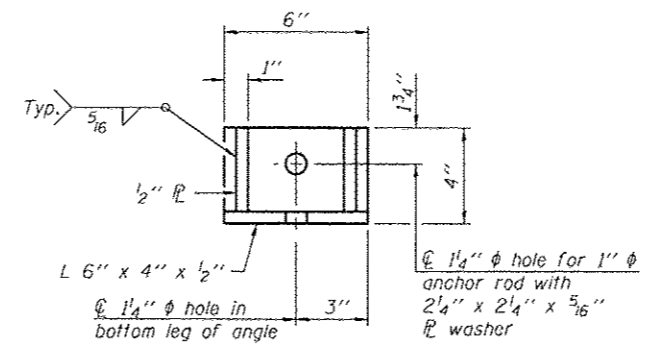
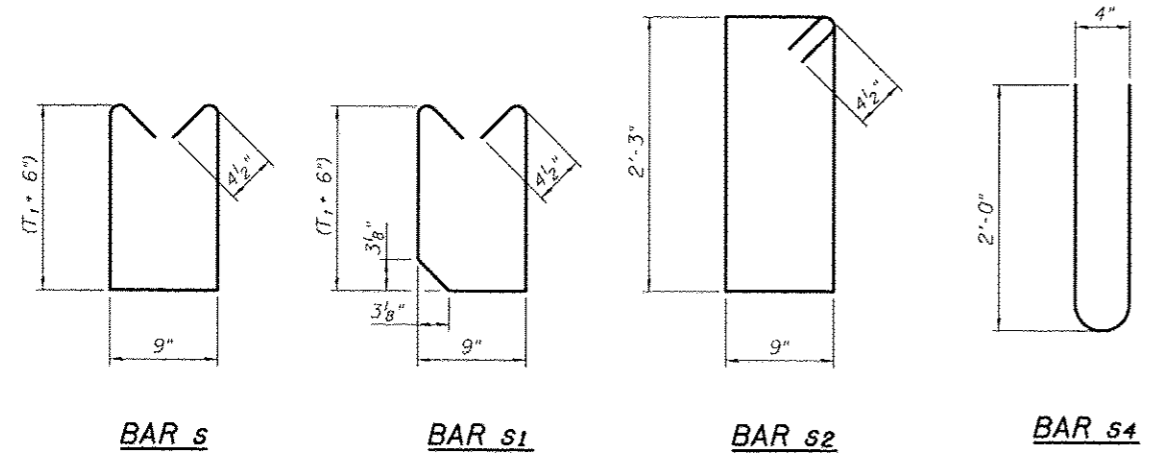
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids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

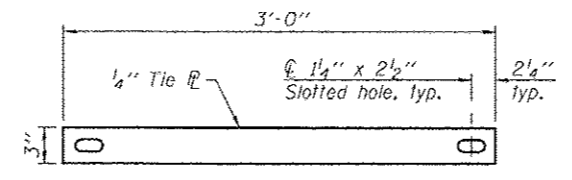
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

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" 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.






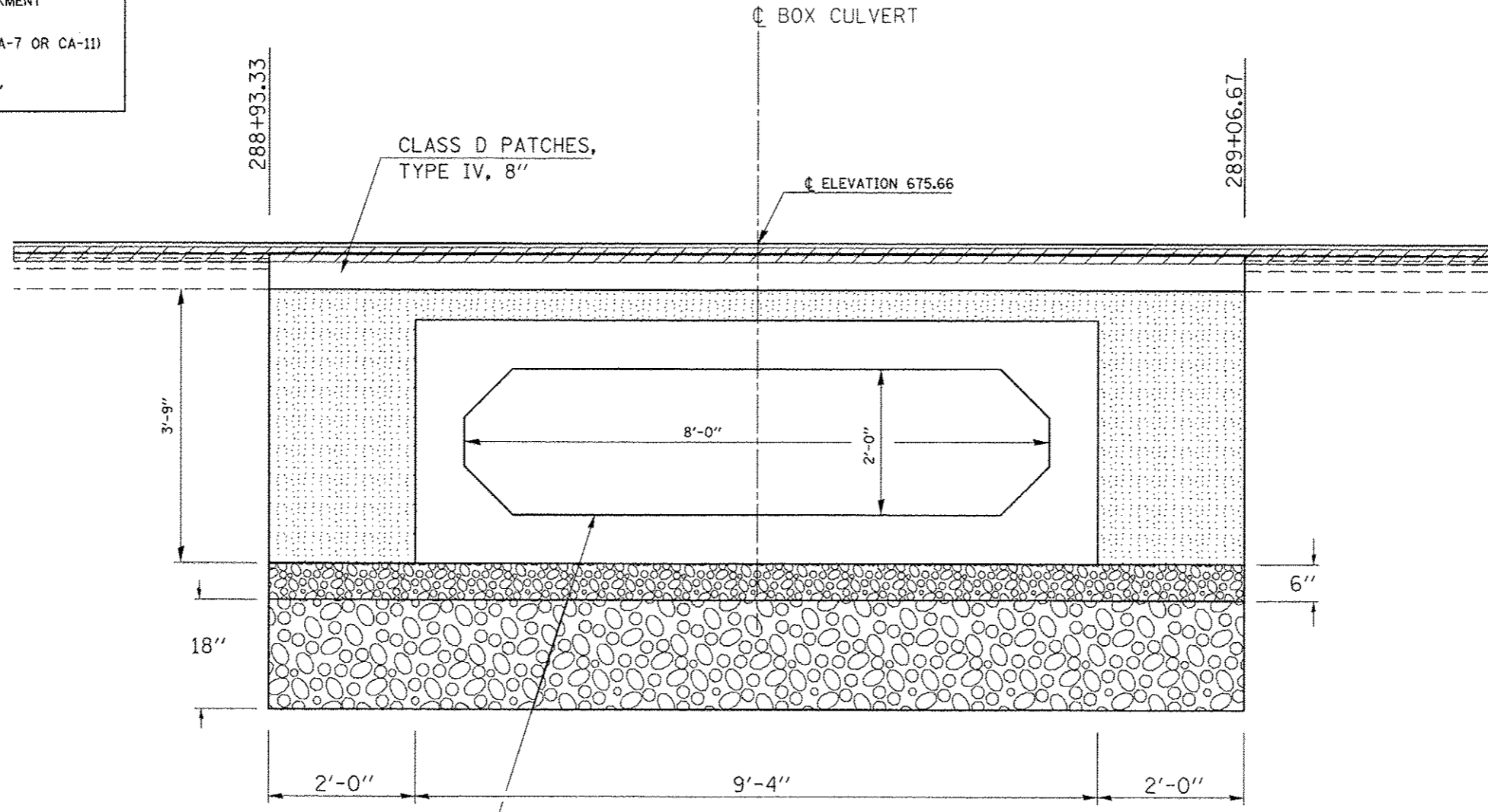
RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

FILE NAME: o:\p\work\p\idost\cearlock\jd\8120316\0370663-shr-structures.dgn	USER NAME: cearlock.jd	DESIGNED: -	REVISED: -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.:	SECTION:	COUNTY:	TOTAL SHEETS:	SHEET NO.:	
PLDT SCALE: 48,0000 / 1/8"	PLDT DATE: 10/10/2013	CHECKED: -	REVISED: -			• F.A.U. 7152 & F.A.S. 1512	(2X)3RS-3 & 2RS-4	Champaign	651	219	
		DRAWN: -	REVISED: -			CONTRACT NO. 70663					
		CHECKED: -	REVISED: -			SHEET NO. 9 OF 11 SHEETS					

LEGEND	
	POROUS GRANULAR EMBANKMENT
	BOX CULVERT BEDDING (CA-7 OR CA-11)
	HMA SURFACE REM, 1 1/2"



PROPOSED U.S.F.L. = 671.55
 PROPOSED D.S.F.L. = 671.40

DRAWING NOT TO SCALE.

STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED WHERE A.R. CULVERTS ARE REQUIRED TO BE UNDERCUT DUE TO UNSTABLE SOIL CONDITIONS.

WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 AND SECTION 282 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1. FILTER FABRIC WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

THE EXCAVATION AND REMOVAL OF 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

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

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

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

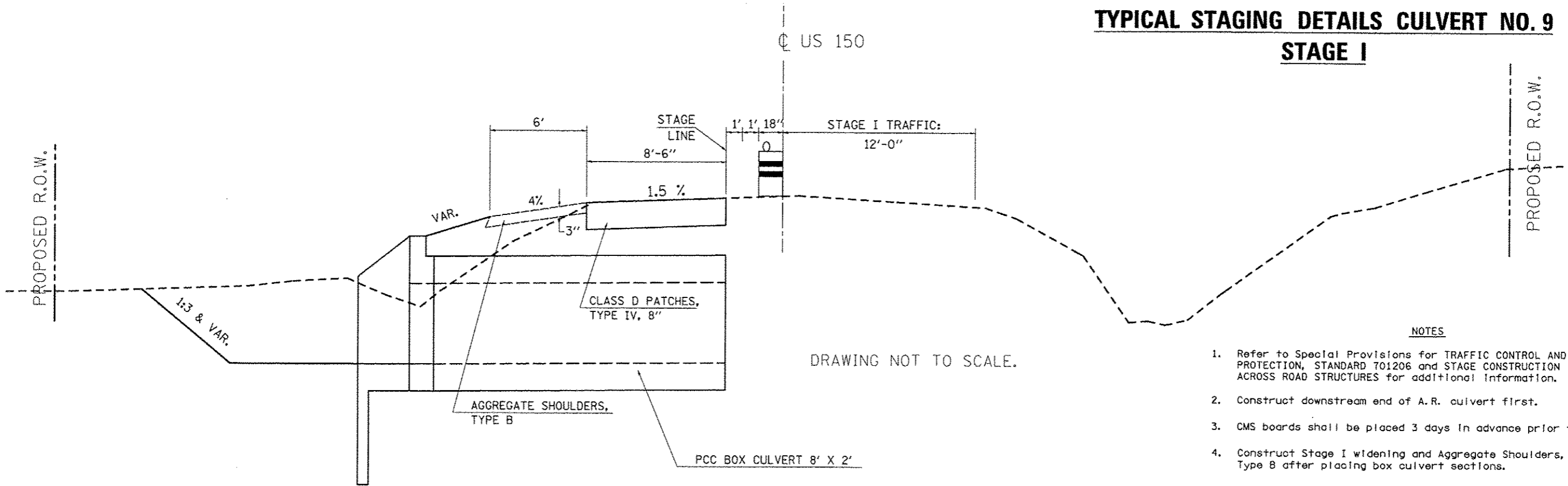
BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	37.3
Stone Riprap, Class A1	Sq.Yd.	96.1

DRAWING NOT TO SCALE.

FILE NAME: e:\pwwork\pwwork\cadd\lock\gd\2120316\070663-shr-structure.dgn	USER NAME: caddlock_gd	DESIGNED: JMS	REVISED:	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF POROUS GRANULAR EMBANKMENT	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE: 48.0000 / 1"	CHECKED:	DATE: 080211	REVISED:			• 2X, 3RS-3 & 2RS-4	CHAMPAIGN	951	220	
PLOT DATE: 10/18/2013	DATE:	REVISED:	REVISED:			• F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663	[ILLINOIS] FED. AID PROJECT		
						SCALE: NONE	SHEET NO. 10 OF 11 SHEETS	STA.	TO STA.	

TYPICAL STAGING DETAILS CULVERT NO. 9
STAGE I



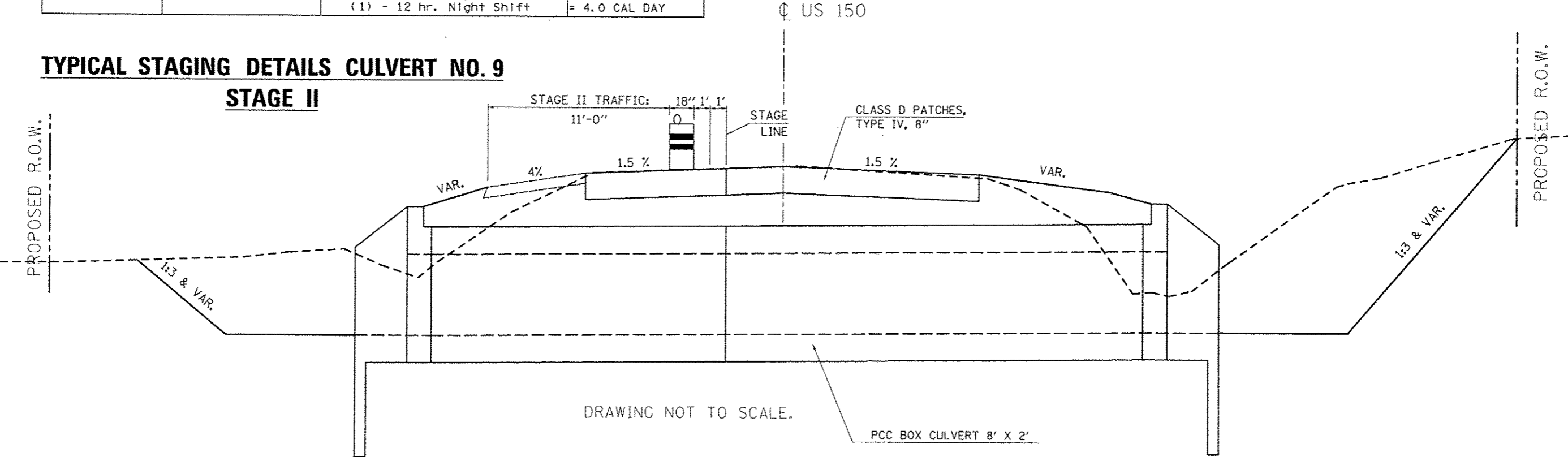
DRAWING NOT TO SCALE.

NOTES

1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. Construct downstream end of A.R. culvert first.
3. CMS boards shall be placed 3 days in advance prior to work.
4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 286+30.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 9
STAGE II



DRAWING NOT TO SCALE.

SEC. 9, T. 19 N, R. 10 E.

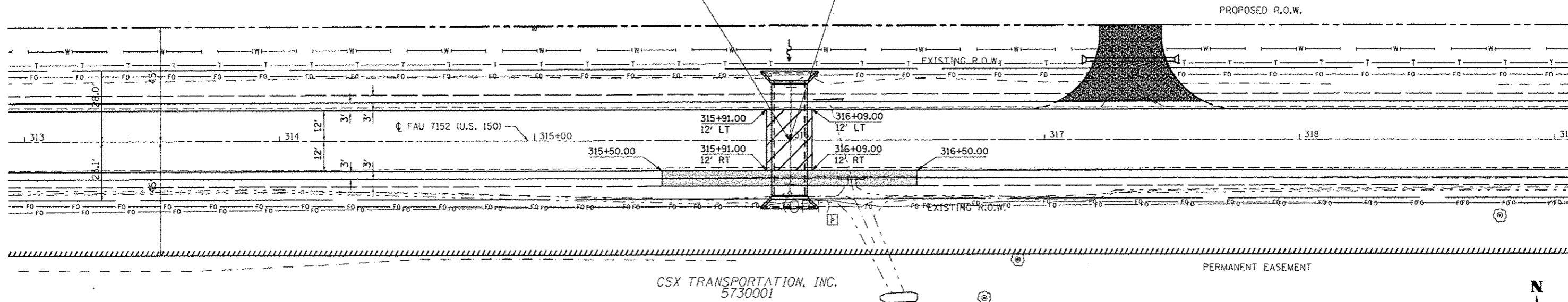
28-22-09-300-01
 RUSSELL, RAY JR.
 AS TRUSTEE
 5730019

316+00.00 PROP. S.N. 010-8162
 P.C.C. BOX CULVERT (SPECIAL)
 1 @ 12' X 2' X 46.5'
 U.S.F.L. 23.5' LT, 316+00.00, ELEV. = 667.98
 D.S.F.L. 23.5' RT, 316+00.00, ELEV. = 667.88
 BOX CULVERT END SECTION, CULVERT NO. 10 = 2 EA.

A.R. STATION 316+00.00
 EXISTING 36" X 24" ELLIPTICAL CMP
 PIPE CULVERT REMOVAL = 42.0'

CLASS D PATCH, TYPE IV, 8"
 AGG WEDGE SHOULDERS, TYPE B

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

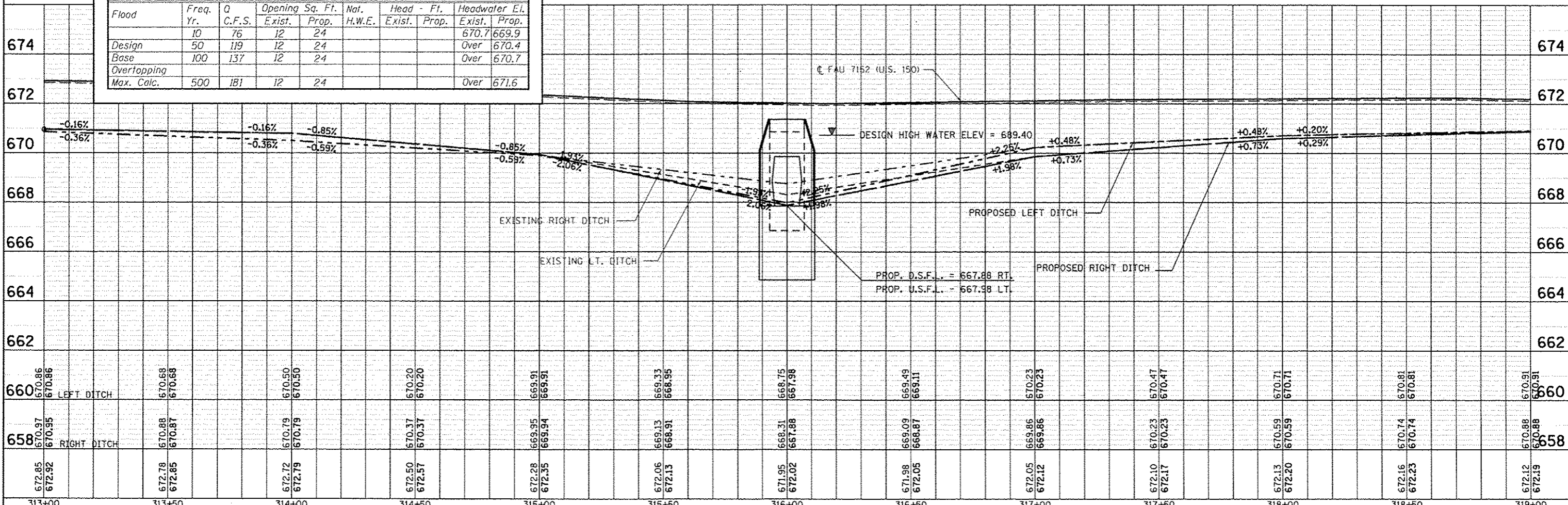


WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 672.05 @ Sta. 316+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.		
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
Design	10	76	12	24			670.7	669.9		
Base	50	119	12	24			Over	670.4		
Overtopping	100	137	12	24			Over	670.7		
Max. Calc.	500	181	12	24			Over	671.6		

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



FILE NAME : \\sp-work\p10\10\con-look\j\8120316\057863-shd-drain.dgn	USER NAME : con-look\j	DESIGNED : JMS	REVISIONS :	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF A.R. BOX CULVERT NO. 10 STA. 316+00.00, S.N. 010-8162	F.A.U. RTE. :	SECTION :	COUNTY :	TOTAL SHEETS :	SHEET NO. :
PLOT SCALE : 48.0000 / in.	PLOT DATE : 10/10/2013	DRAWN : JMS	CHECKED :	SCALE: 1" = 20'	SHEET NO. 1 OF 6 SHEETS	(2X,3RS-3 & 2RS-4)	CHAMPAIGN	551	222	
		DATE : 08/16/10	REVISIONS :		STA. 313+00.00 TO STA. 319+00.00	* F.A.U. 7152 & F.A.S. 1512				CONTRACT NO. 70663
										ILLINOIS FED. AID PROJECT

Benchmark: 672.311, aluminum disk in the center of US 150, Sta. 324+38.40, 0.04'LT

Existing Structure: Sta. 36"x24" elliptical CMP to be removed.

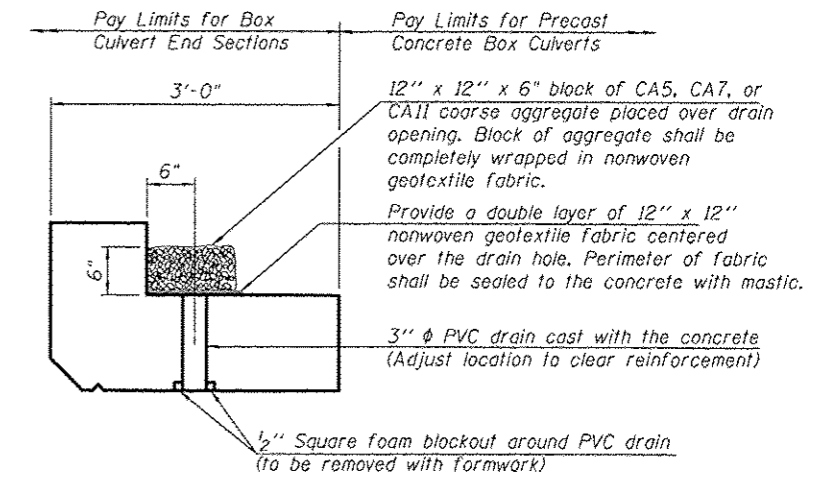
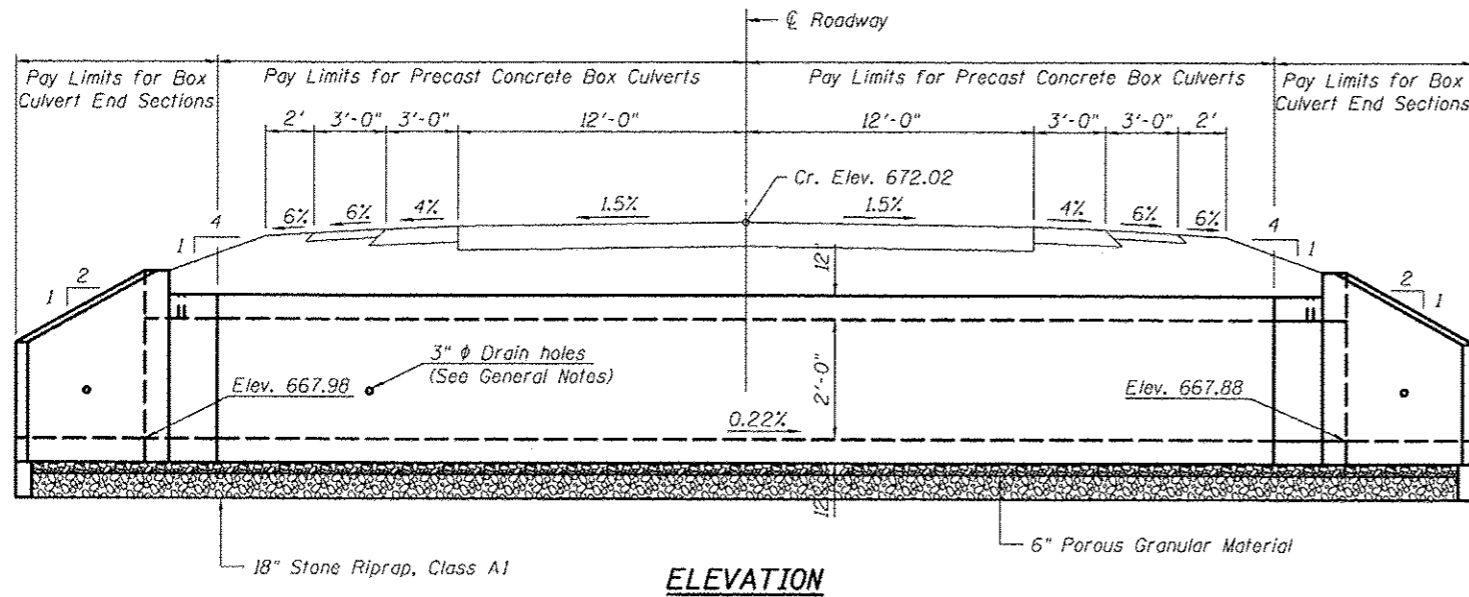
INDEX OF SHEETS

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

GENERAL NOTES

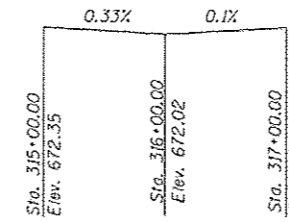
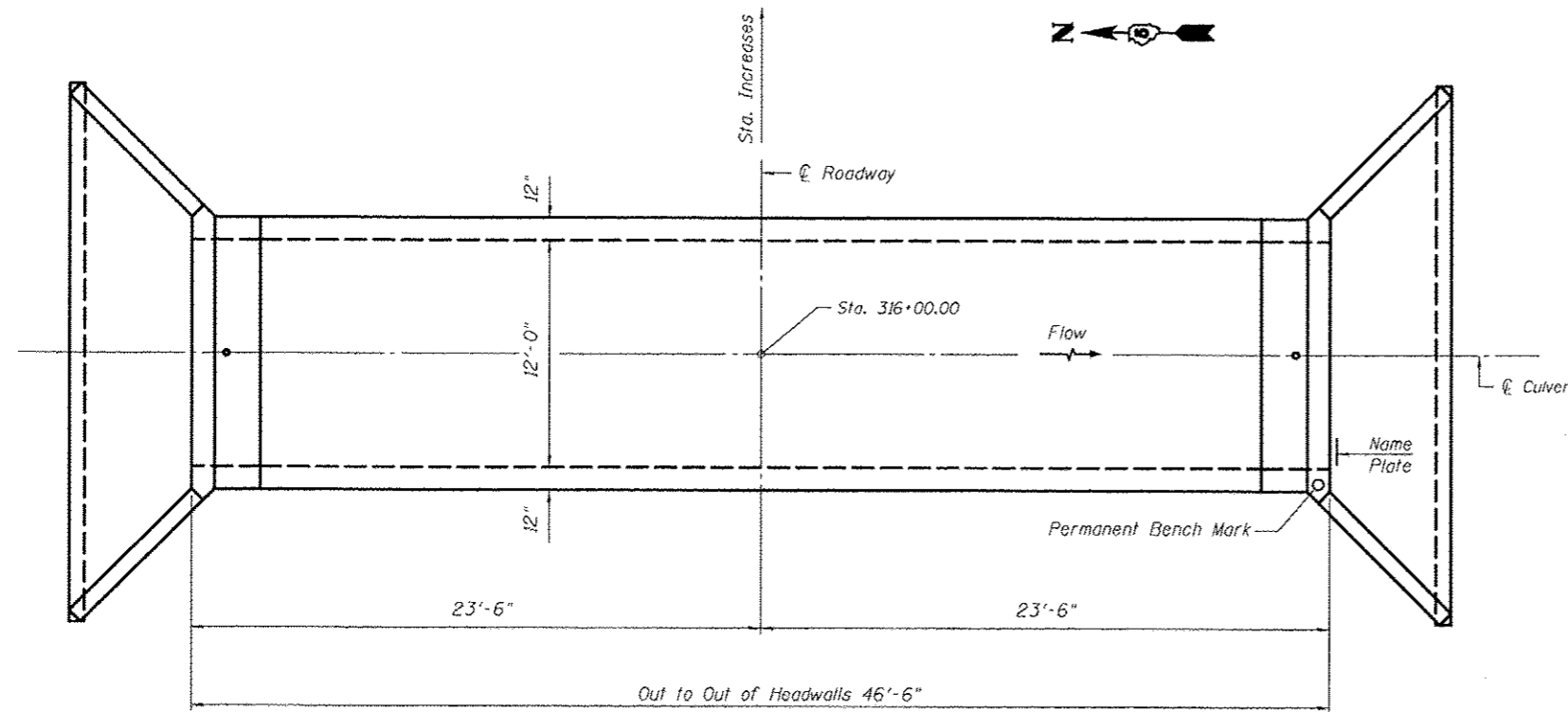
The design fill height for this box is < 2 feet. The precast box culvert sections shall conform to the requirements of AASHTO C 1577.
 Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of 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.

All exposed edges shall be chamfered 3/4" per article 503.06 of the Standard Specifications.



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.)



PROFILE GRADE

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
 6th Edition

LOADING HL-93

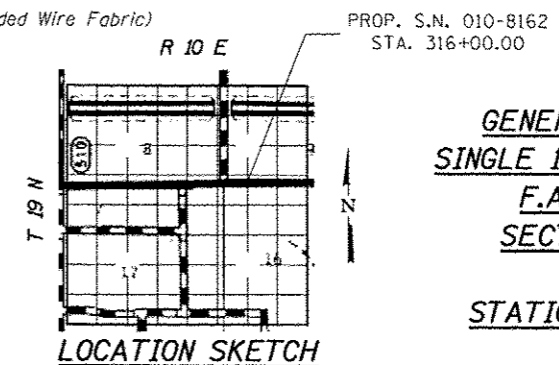
DESIGN STRESSES

PRECAST UNITS

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

STATION 316+00.00
 BUILT 2014 BY
 STATE OF ILLINOIS
 F.A.S. RT. 1512 US 150
 SEC. (2X,3)RS-3 & 2RS-4
 LOADING HL-93
 STR. NO. 010-8162

NAME PLATE
 See Std. 515001



TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 10	Each	2.0
Precast Concrete Box Culverts, 12x2	Foot	40.5
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	129.1
Porous Granular Embankment	Cu. Yd.	17.9

WATERWAY INFORMATION

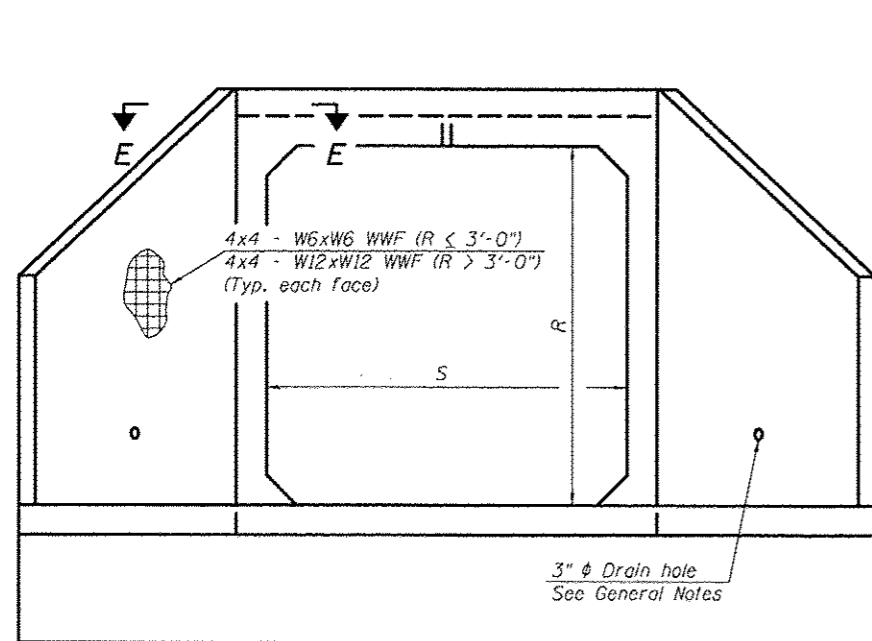
Drainage Area = 2.11 sq. mi. Low Grade Elev. 672.05 @ Sta. 316+00

Flood	Freq. Yr.	0 C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Headwater Elevation Over
Design	10	76	12	24				670.7
Base	50	119	12	24				670.4
Overtopping	100	137	12	24				670.7
Max. Calc.	500	181	12	24				671.6

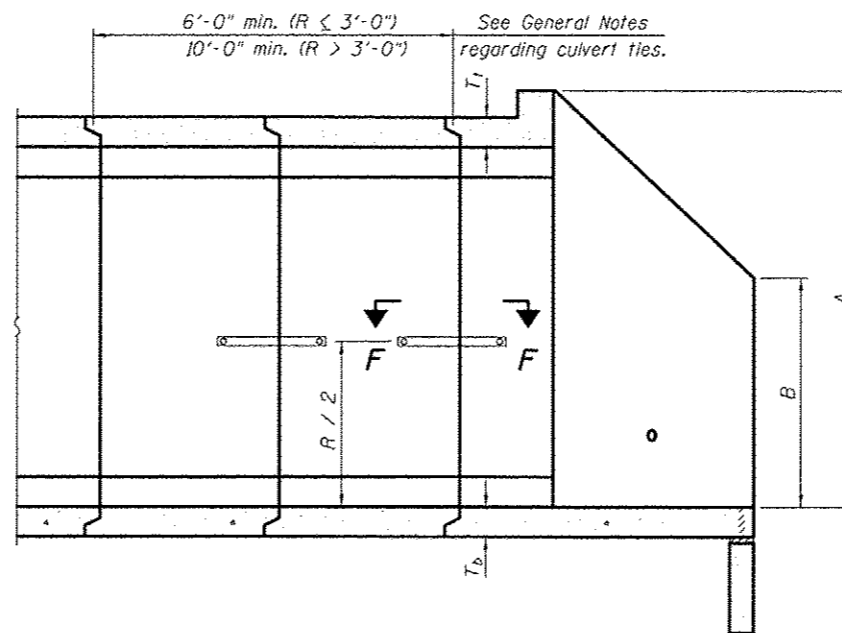
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	664.98	664.88

GENERAL PLAN AND ELEVATION
SINGLE 12'x2' PRECAST BOX CULVERT
F.A.S. ROUTE 1512 (US 150)
SECTION (2X,3)RS-3 & 2RS-4
CHAMPAIGN COUNTY
STATION 316+00.00, S.N. 010-8162
CULVERT NO. 10



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.

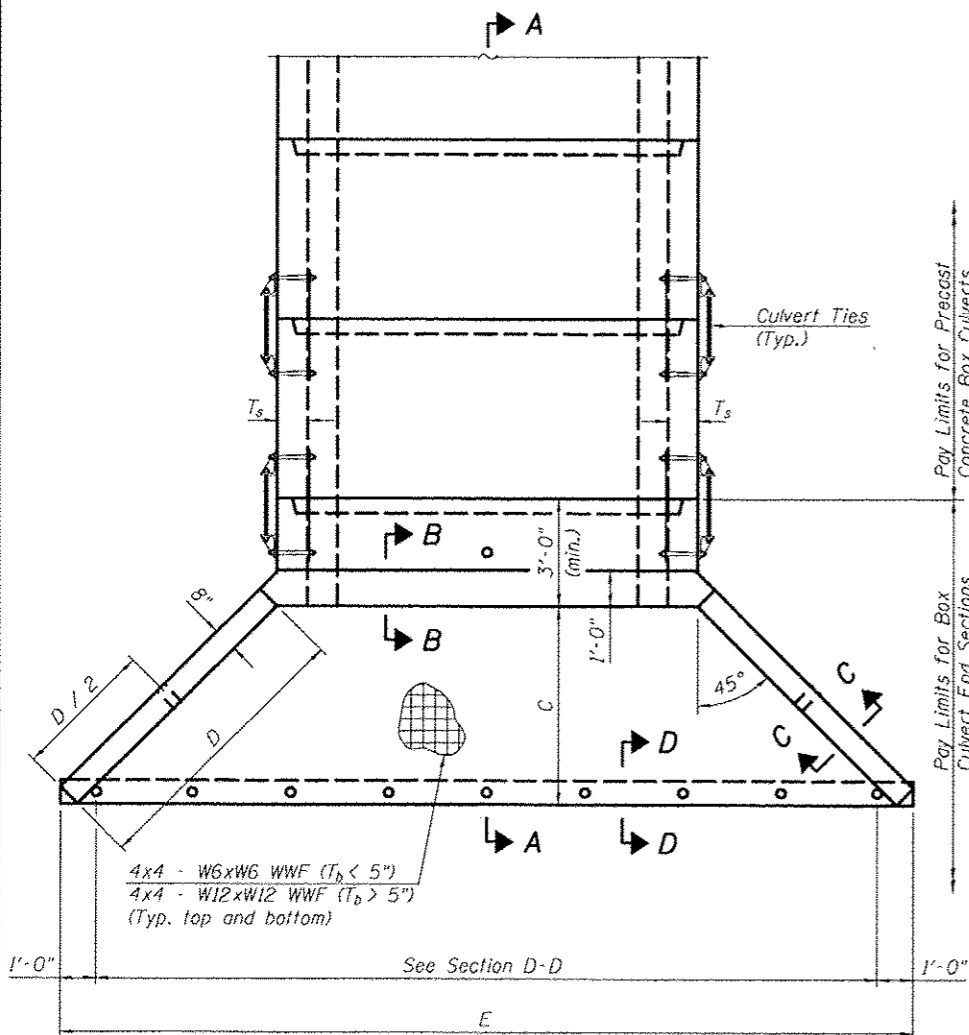
Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 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.



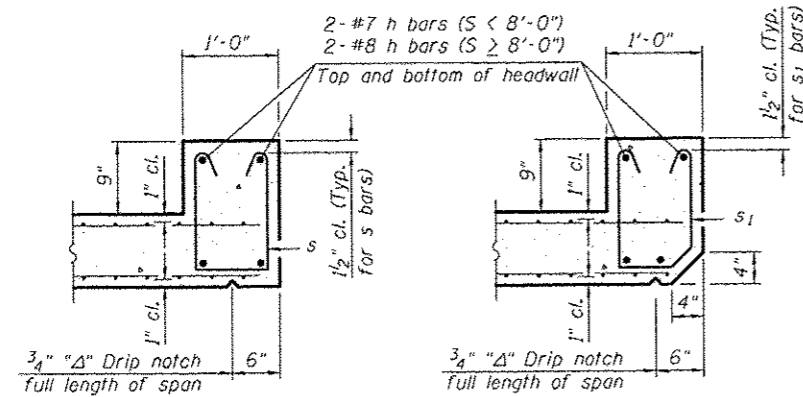
PLAN

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 ¹ / 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 ¹ / 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 ⁷ / 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 ⁵ / ₈ "	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3 ⁵ / ₈ "	6'-1"	23'-6 ⁵ / ₈ "	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

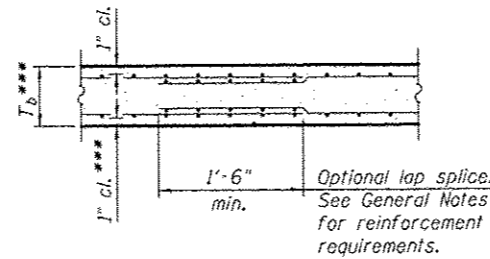
Note:

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.

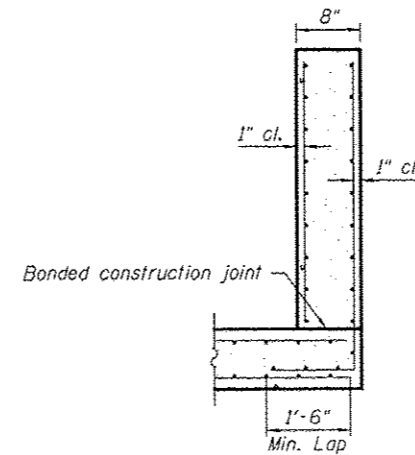


SECTION B-B
(Top slab at downstream end)

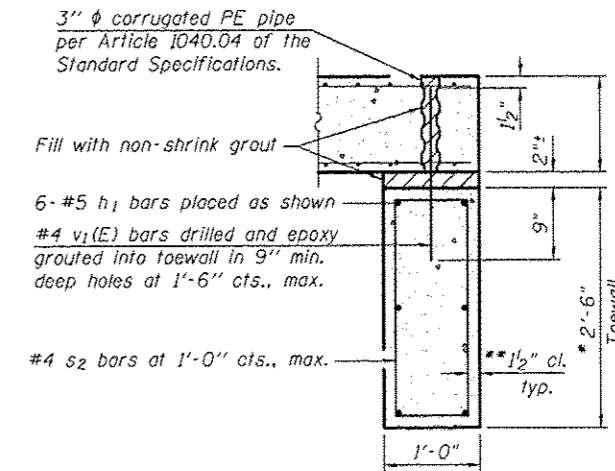
SECTION B-B
(Top slab at upstream end)



SECTION B-B
(Bottom Slab)

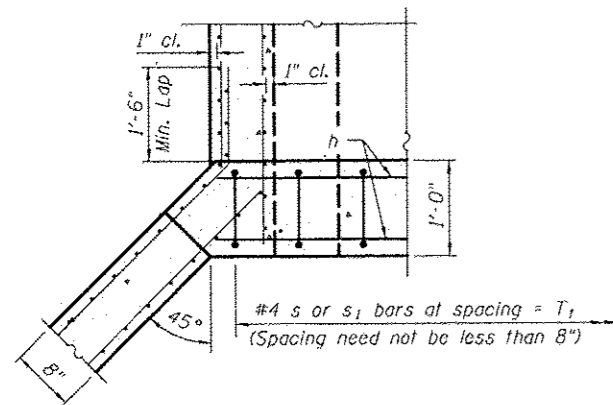


SECTION C-C

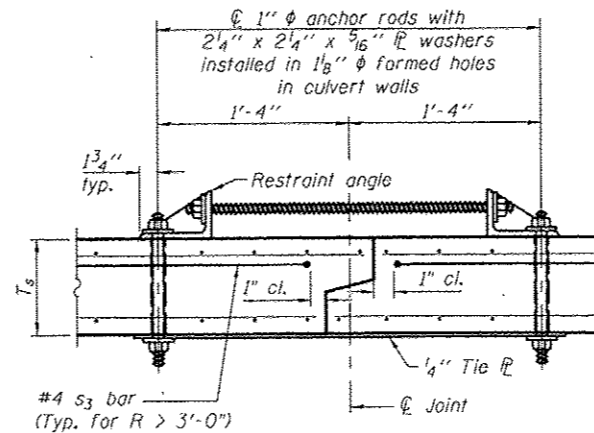


SECTION D-D

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



SECTION E-E



SECTION F-F
(Showing culvert tie details)

TOEWALL CONSTRUCTION SEQUENCE

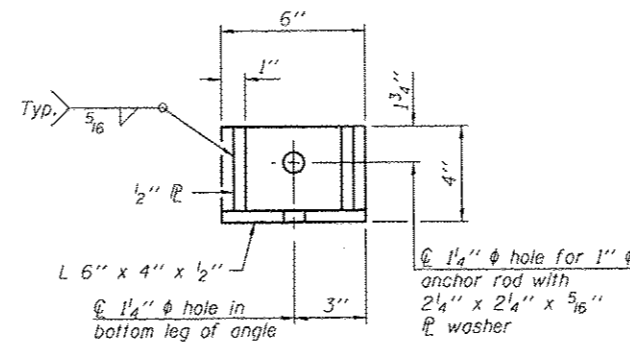
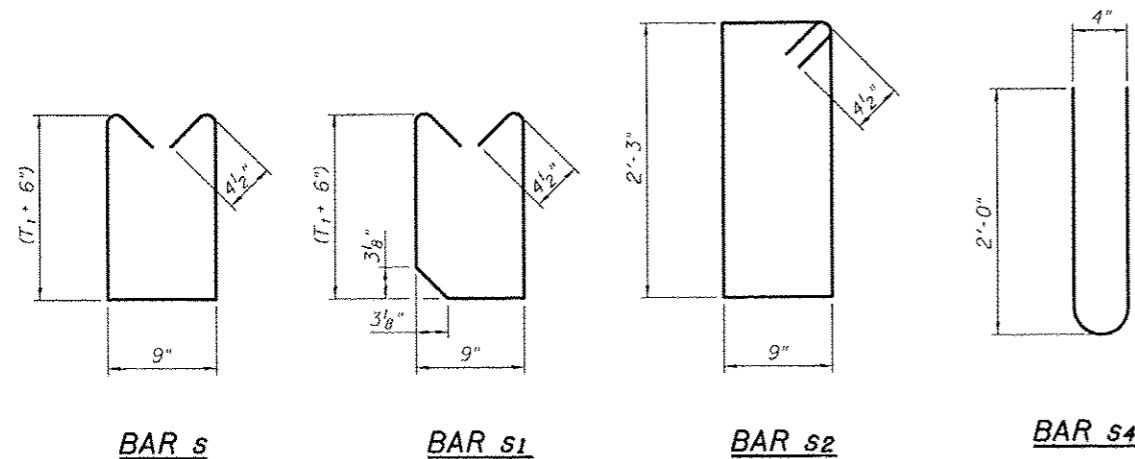
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids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

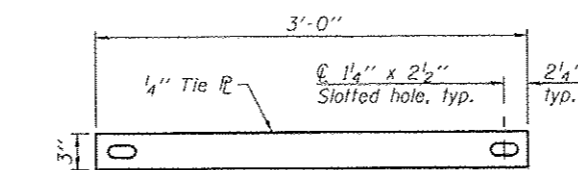
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

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" 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.







RESTRAINT ANGLE DETAIL

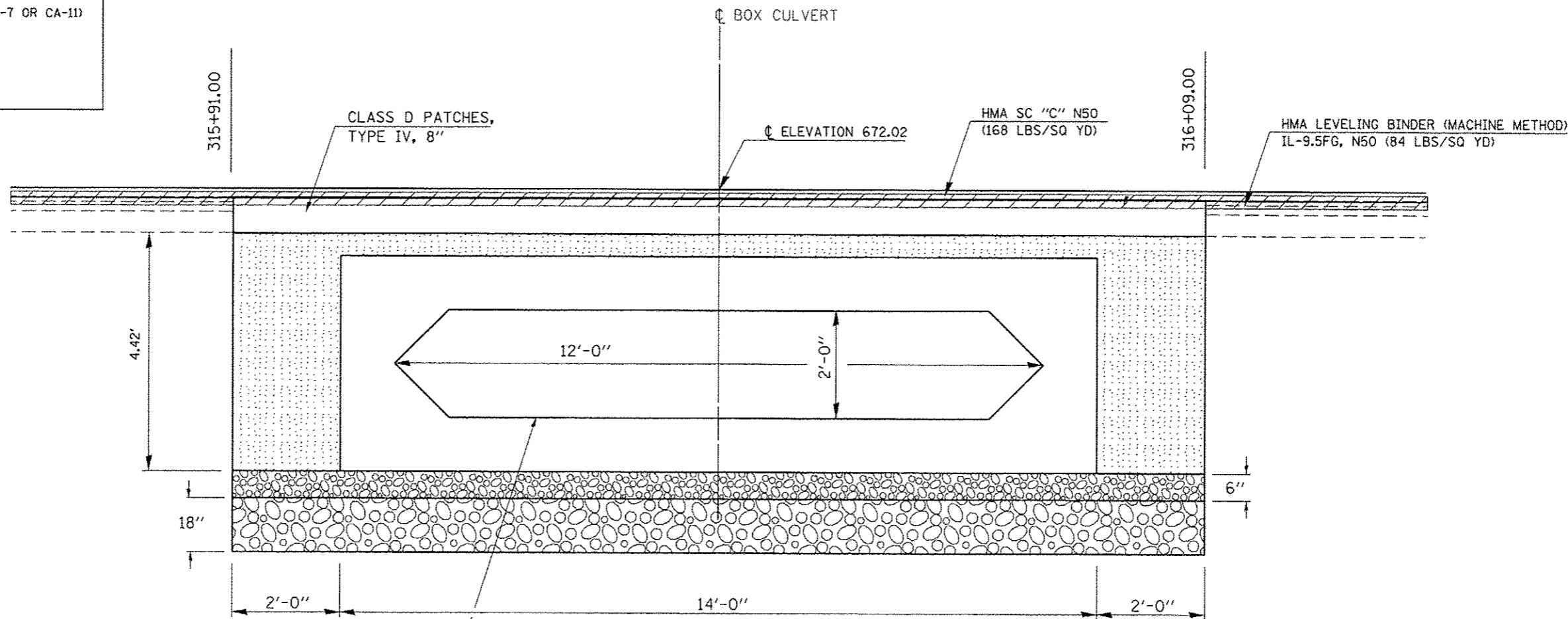


TIE PLATE DETAIL

FILE NAME : c:\pwwork\pwwork\dorlock\0120316\0370663-sht-structure.dgn	USER NAME : corlock_jd	DESIGNED - CHECKED - DRAWN - CHECKED -	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.	SECTION (2X.3)RS-3 & 2RS-4	COUNTY Champaign	TOTAL SHEETS 551	SHEET NO. 225
PLOT SCALE = 48,8250' / in.		PLOT DATE = 10/18/2013				SHEET NO. 4 OF 6 SHEETS		F.A.U. 7152 & F.A.S. 1512		CONTRACT NO. 70663
						ILLINOIS FED. AID PROJECT				

LEGEND

-  POROUS GRANULAR EMBANKMENT
-  BOX CULVERT BEDDING (CA-7 OR CA-11)
-  STONE RIPRAP, CLASS A1
-  HMA SURFACE REM, 1 1/2"



STONE RIPRAP, CLASS A1

STONE RIPRAP, CLASS A1 SHALL BE USED WHERE A.R. CULVERTS ARE REQUIRED TO BE UNDERCUT DUE TO UNSTABLE SOIL CONDITIONS.

WORK SHOWN IN THE DETAIL SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PORTIONS OF SECTION 281 AND SECTION 282 OF THE STANDARD SPECIFICATIONS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR STONE RIPRAP, CLASS A1. FILTER FABRIC WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED WITH THE PAY ITEM FOR STONE RIPRAP, CLASS A1.

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

PROPOSED U.S.F.L. = 667.98
 PROPOSED D.S.F.L. = 667.88

POROUS GRANULAR EMBANKMENT

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

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

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

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

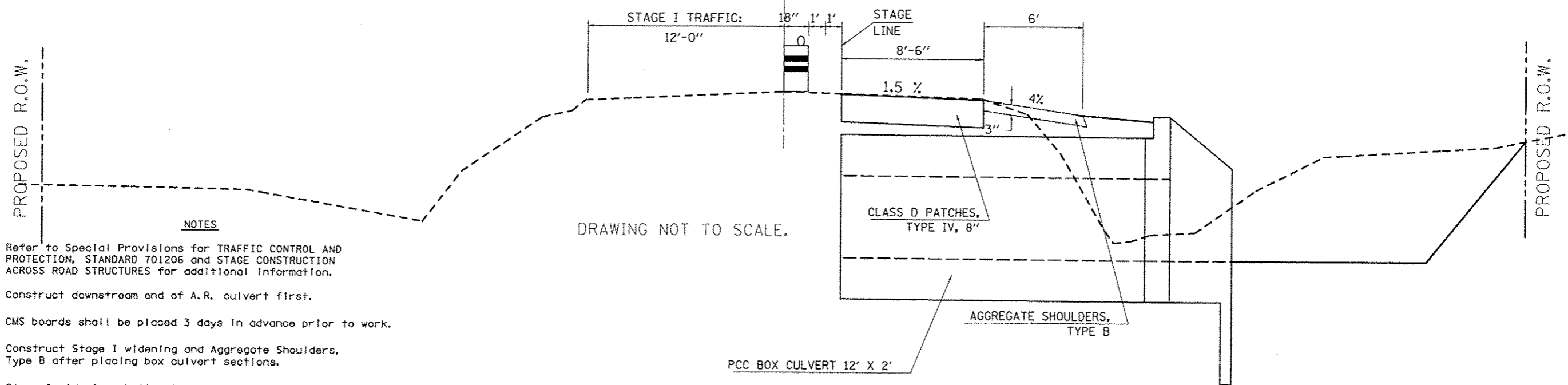
BILL OF MATERIAL

Item	Unit	Total
Porous Granular Embankment	Cu.Yd.	17.9
Stone Riprap, Class A1	Sq.Yd.	129.1

DRAWING NOT TO SCALE.

FILE NAME : c:\pwwork\pwwork\cearlock\2012\316\1078663-shl-structures.dgn	USER NAME : cearlock_jf	DESIGNED : JMS	REVISED : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF POROUS GRANULAR EMBANKMENT	F.A.U. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLDT SCALE : 48.0000 / 1/4"	CHECKED : -	REVISED : -	• (2X,3RS-3 & 2RS-4			CHAMPAIGN	551	226		
PLDT DATE : 10/18/2013	DATE : 080311	REVISED : -	• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663				
SCALE: NONE SHEET NO. 5 OF 6 SHEETS STA. TO STA.						ILLINOIS FED. AID PROJECT				

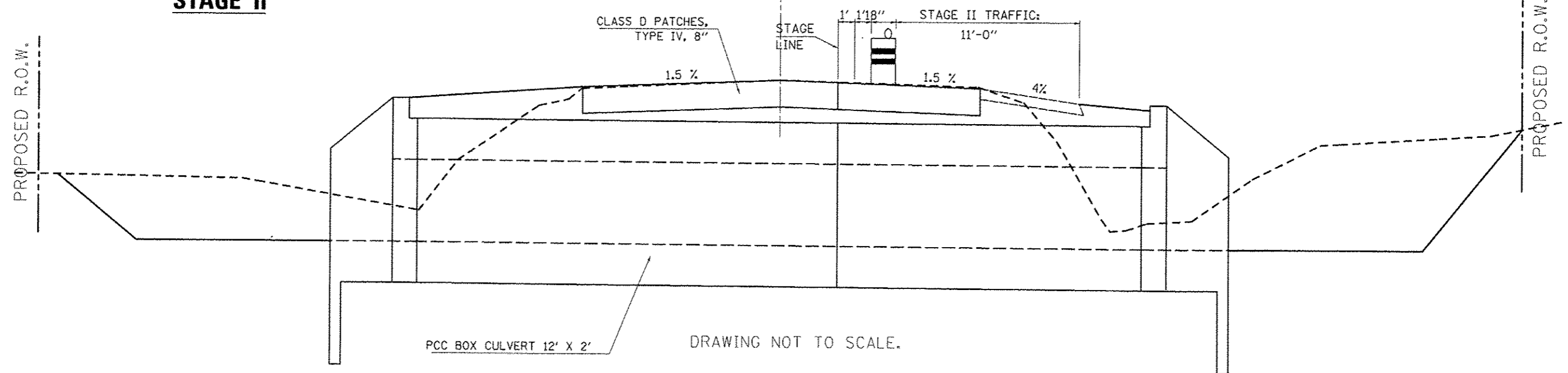
TYPICAL STAGING DETAILS CULVERT NO. 10
STAGE I



- NOTES**
1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
 2. Construct downstream end of A.R. culvert first.
 3. CMS boards shall be placed 3 days in advance prior to work.
 4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
 5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

A.R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 316+00.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 10
STAGE II



SEC. 9, T. 19 N, R. 10 E.



CLASS D PATCH, TYPE IV, 8"

AGG WEDGE SHOULDERS, TYPE B

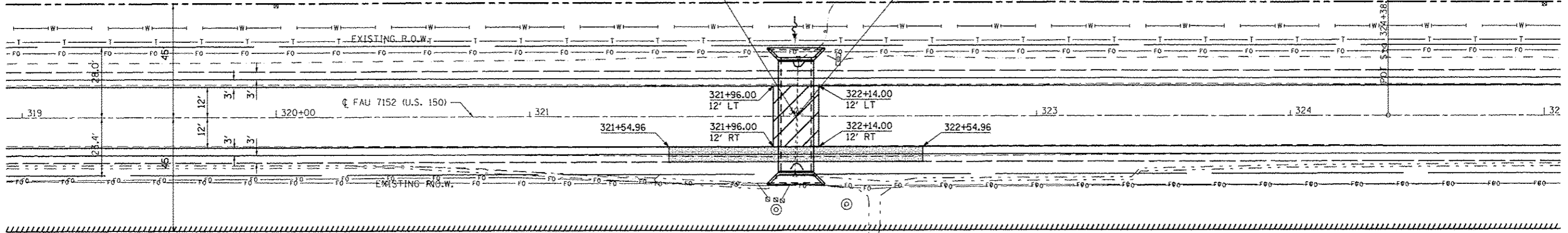
322+05.00 PROP. S.N. 010-8163
P.C.C. BOX CULVERT (SPECIAL)
1 @ 12' X 2' X 4'
U.S.F.L. 23.5' LT, 322+05.00, ELEV. = 667.83
D.S.F.L. 23.5' RT, 322+05.00, ELEV. = 667.73
BOX CULVERT END SECTION, CULVERT NO. 11

28-22-09-300-01
RUSSELL, RAY JR.
AS TRUSTEE
5730019

A.R. STATION 322+05.53
EXISTING 36" X 24" ELLIPTICAL CMP
PIPE CULVERT REMOVAL = 45.0'

PROPOSED R.O.W.

PLAN	DATE
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	



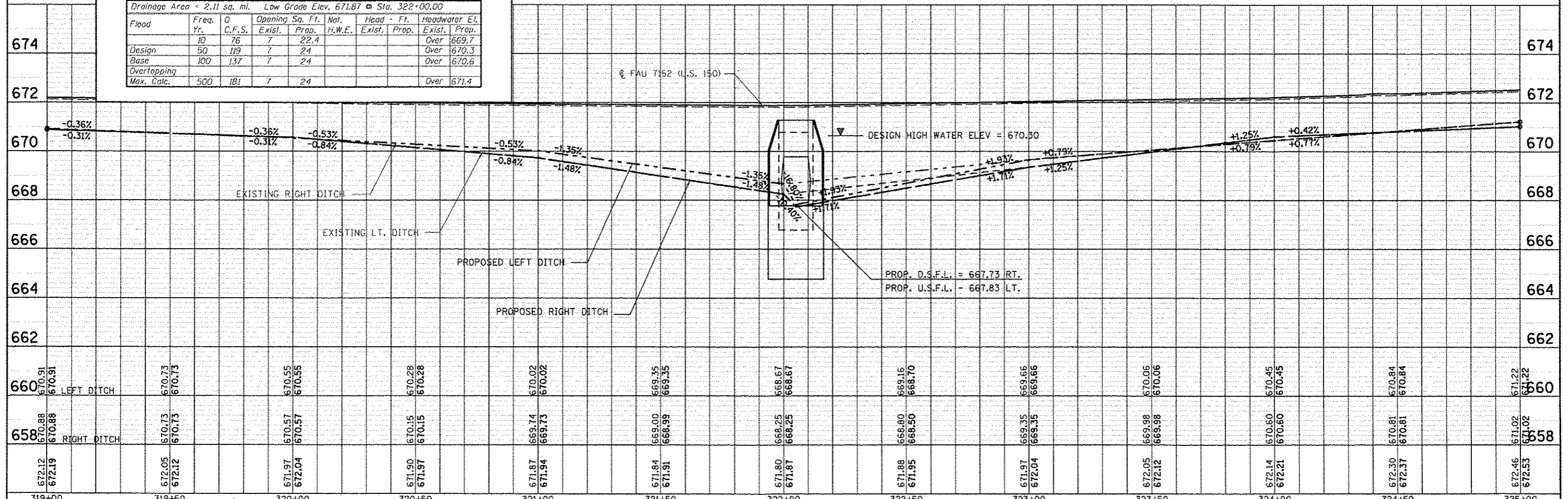
WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 671.87 @ Sta. 322+00.00

Flood Yr.	Freq.	Opening Sq. Ft.		Not. H.W.E.	Head - Ft.		Headwater El.	
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	76	7	22.4				Over 669.7
Base	50	119	7	24				Over 670.3
Overlapping	100	137	7	24				Over 670.6
Max. Calc.	500	181	7	24				Over 671.4

SEC. 16, T. 19 N, R. 10 E.

PROFILE	DATE
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	
BY	
REVISIONS	
NO.	
DATE	

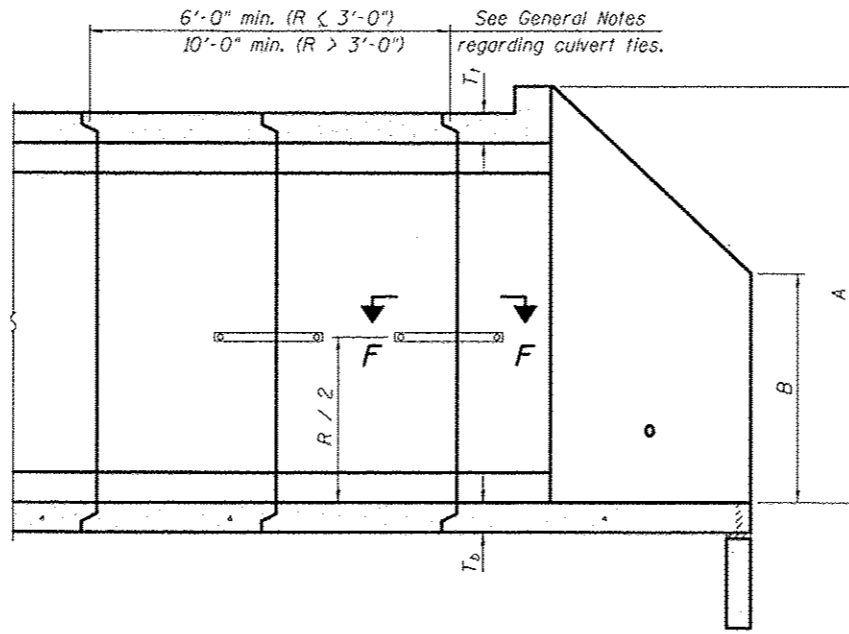


FILE NAME	USER NAME	DESIGNED	REVISED	<p align="center">STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</p> <p align="center">DETAIL OF A.R. BOX CULVERT NO. 11 STA. 322 + 05.00, S.N. 010-8163</p> <p>SCALE: 1" = 20' SHEET NO. 1 OF 6 SHEETS STA. 319+00.00 TO STA. 325+00.00</p>	<table border="1"> <tr><td>F.A.U. RTE.</td><td>SECTION</td><td>COUNTY</td><td>TOTAL SHEETS</td></tr> <tr><td></td><td>(2X,3RS-3 & 2RS-4</td><td>CHAMPAIGN</td><td>551</td></tr> <tr><td></td><td>F.A.U. 7152 & F.A.S. 1512</td><td>CONTRACT NO. 70663</td><td>228</td></tr> <tr><td></td><td></td><td>ILLINOIS FED. AID PROJECT</td><td></td></tr> </table>	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS		(2X,3RS-3 & 2RS-4	CHAMPAIGN	551		F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663	228			ILLINOIS FED. AID PROJECT	
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS																		
	(2X,3RS-3 & 2RS-4	CHAMPAIGN	551																		
	F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663	228																		
		ILLINOIS FED. AID PROJECT																			
DRAWN	CHECKED	REVISED	REVISED																		
PLOT SCALE	DATE	REVISED	REVISED																		
PLOT DATE	DATE	REVISED	REVISED																		

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	T ₁	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 ⁷ / 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.



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.

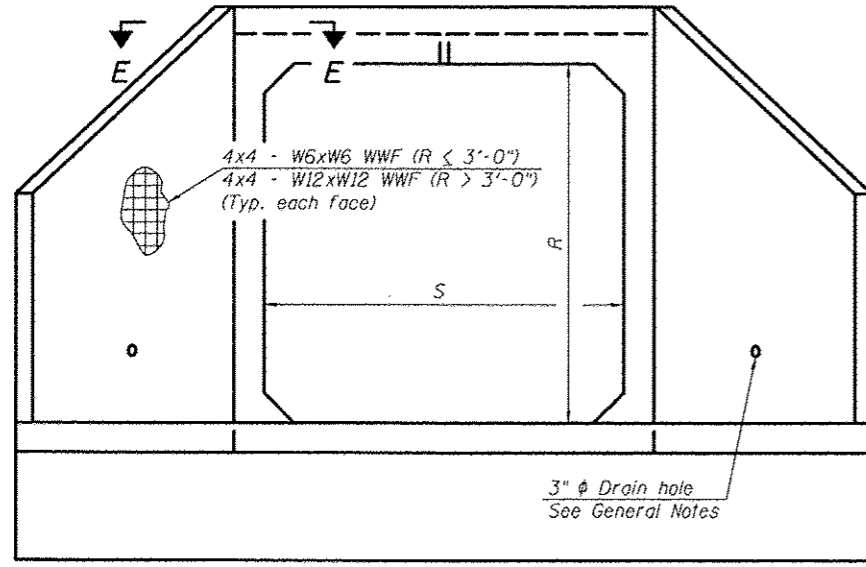
The Contractor may use reinforcement bars in lieu of welded wire fabric (WWF). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in area of reinforcement equal to or greater than that provided by the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

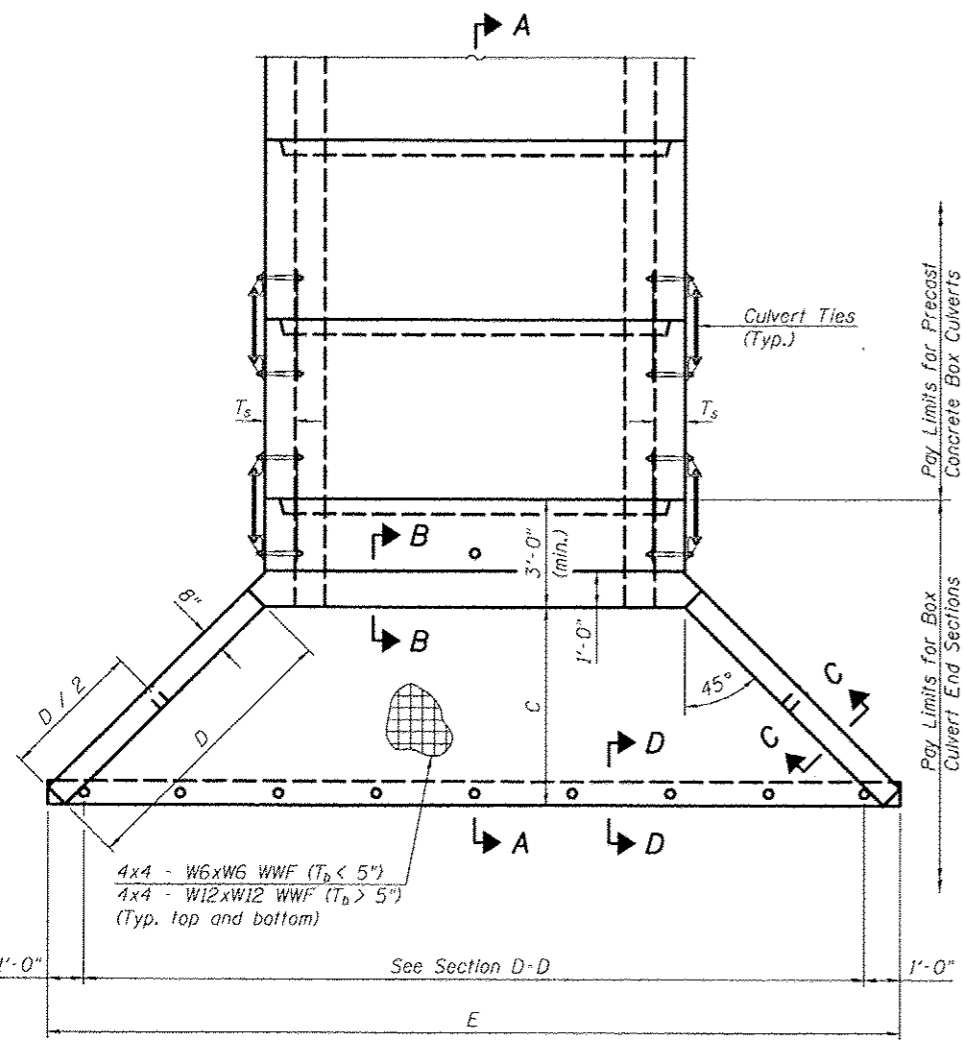
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. Reinforcement bars designated (E) shall be epoxy coated.

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

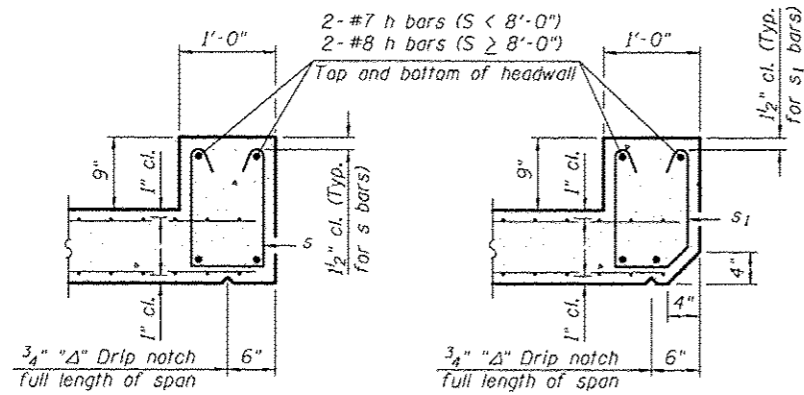
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.



END VIEW

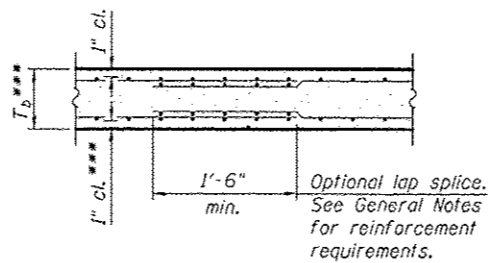


PLAN



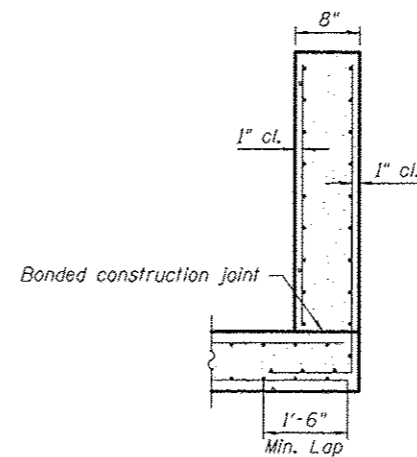
SECTION B-B
(Top slab at downstream end)

SECTION B-B
(Top slab at upstream end)

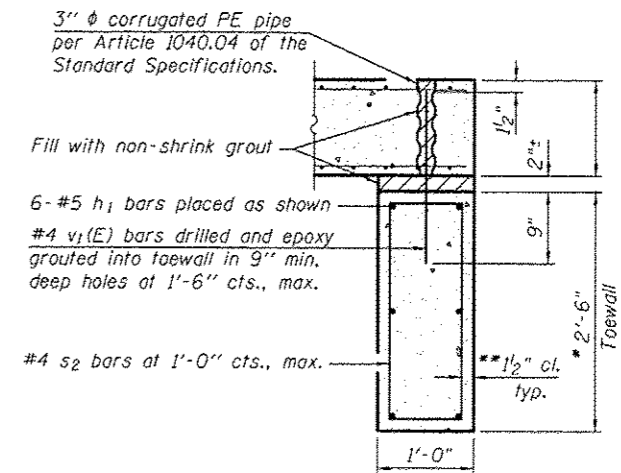


SECTION B-B
(Bottom Slab)

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



SECTION C-C



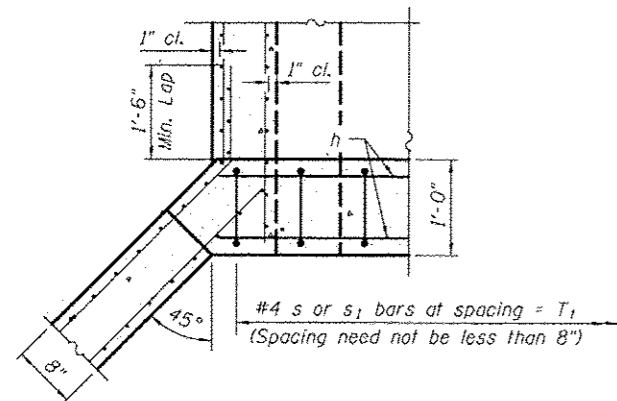
SECTION D-D

TOEWALL CONSTRUCTION SEQUENCE

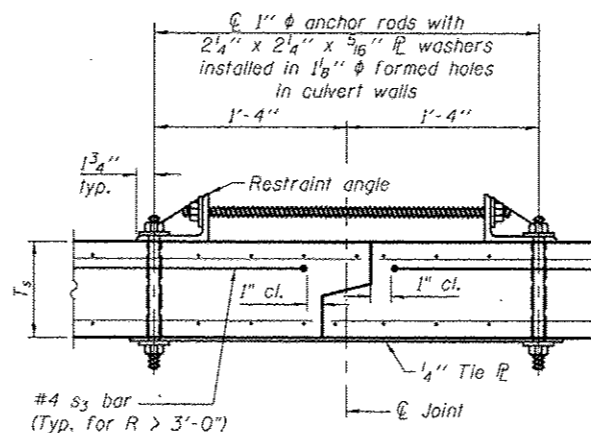
1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids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

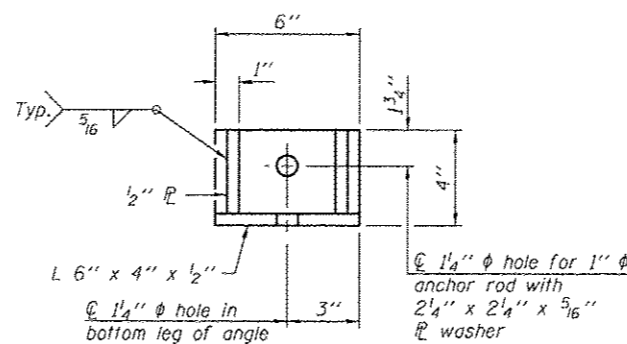
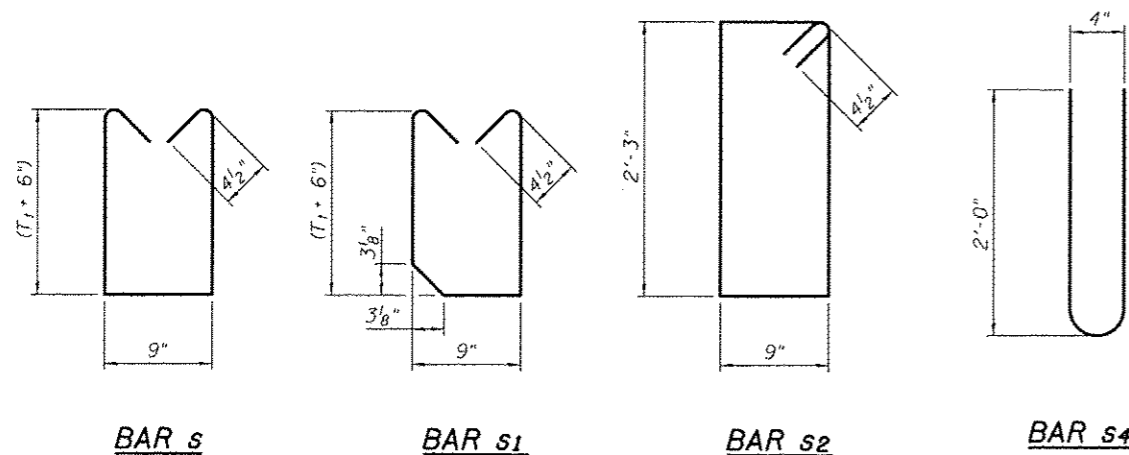
** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.



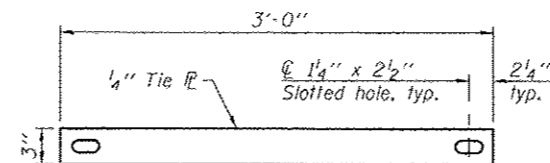
SECTION E-E



SECTION F-F
(Showing culvert tie details)



RESTRAINT ANGLE DETAIL



TIE PLATE DETAIL

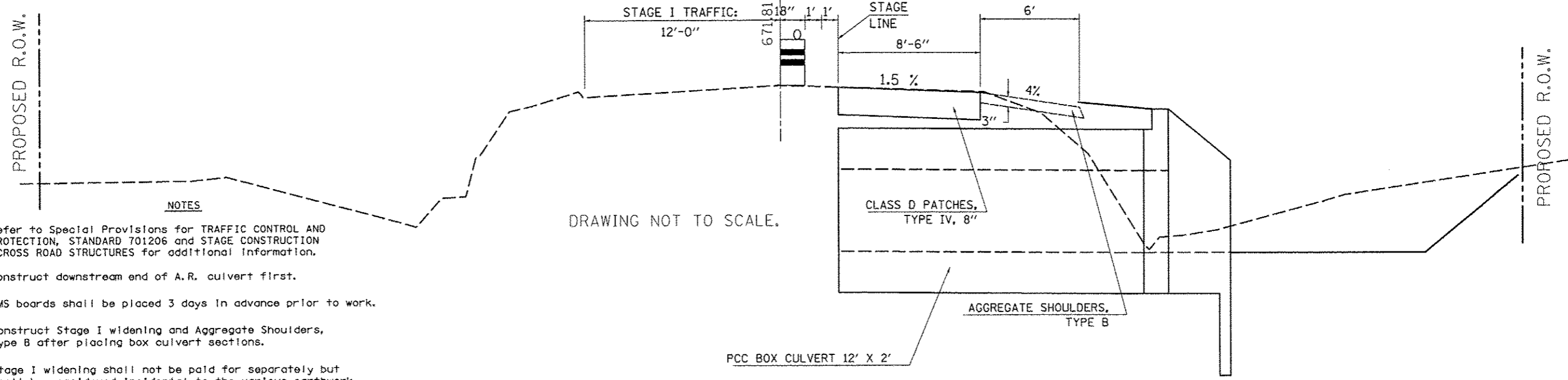
Notes:

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.

FILE NAME : c:\pwork\pwork\cearlock\0120316\02	USER NAME : cearlock_jd	DESIGNED : -	REVISED : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST CONCRETE BOX CULVERT APRON END SECTION DETAILS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE : 48.8998' / 1"	PLOT DATE : 10/16/2013	CHECKED : -	REVISED : -			• (2X,3IRS-3 & 2RS-4	Champaign	551	231	
		DRAWN : -	REVISED : -			• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663	
		CHECKED : -	REVISED : -						ILLINOIS FED. AID PROJECT	

TYPICAL STAGING DETAILS CULVERT NO. 11

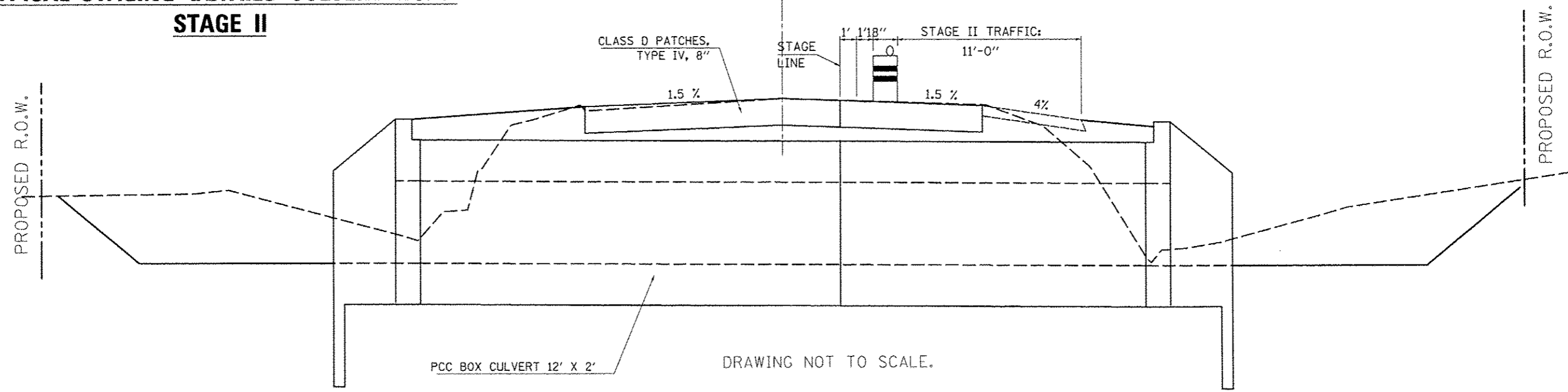
STAGE I



- NOTES**
1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
 2. Construct downstream end of A.R. culvert first.
 3. CMS boards shall be placed 3 days in advance prior to work.
 4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
 5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

A.R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 322+05.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 11
STAGE II

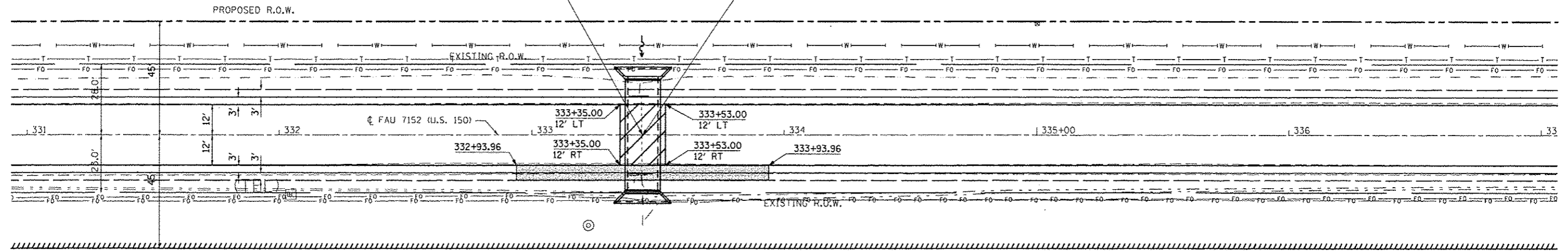


SEC. 9, T. 19 N, R. 10 E.

333+44.00 PROP. S.N. 010-8164
 P.C.C. BOX CULVERT (SPECIAL)
 1 @ 12' X 2' X 47'
 U.S.F.L. 23.5' LT, 333+44.00, ELEV. = 667.93
 D.S.F.L. 23.5' RT, 333+44.00, ELEV. = 667.82
 BOX CULVERT END SECTION, CULVERT NO. 12 = 2 EA.

A.R. STATION 333+43.57
 EXISTING CIP BOX CULVERT 2' X 2'
 REMOVAL OF EXISTING STRUCTURES NO. 9

28-22-09-400-05
 BARCUSS, ROBERT CHARLES
 AS TRUSTEE
 5730020



CLASS D PATCH, TYPE IV, 8"
 AGG WEDGE SHOULDERS, TYPE B

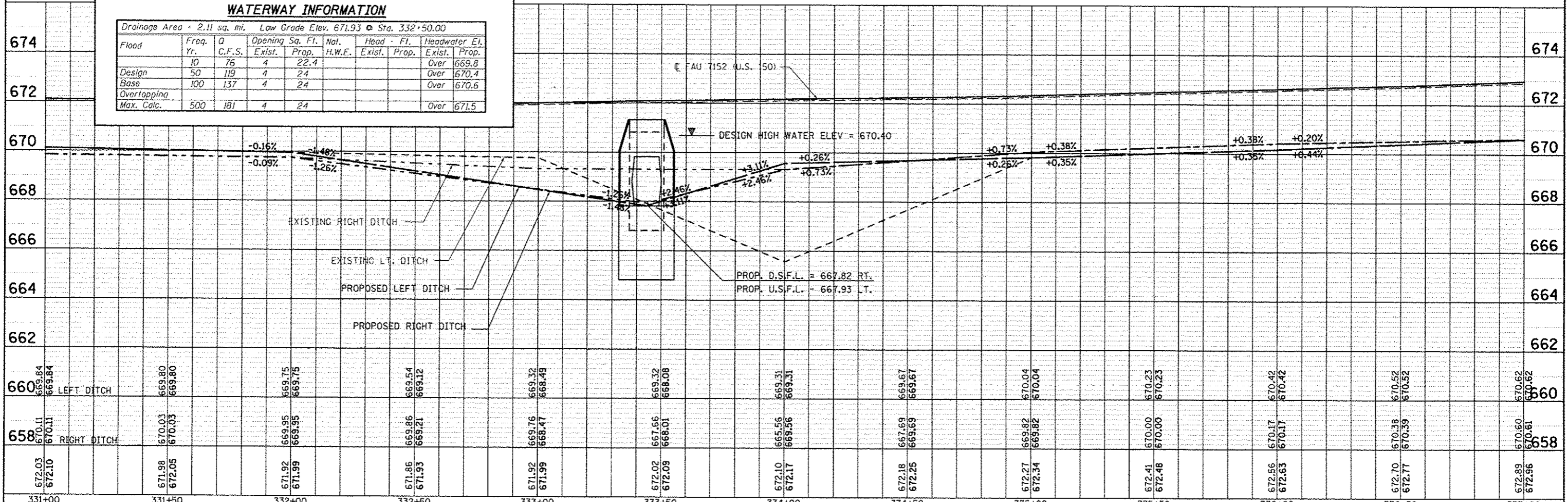
CSX TRANSPORTATION, INC.
 5730001

SEC. 16, T. 19 N, R. 10 E.

WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 671.93 @ Sta. 332+50.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.F.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	119	4	24				Over	669.8
Base	100	137	4	24				Over	670.4
Overtopping Max. Calc.	500	181	4	24				Over	671.5



331+00	331+50	332+00	332+50	333+00	333+50	334+00	334+50	335+00	335+50	336+00	336+50	337+00
672.03 672.10	671.98 672.05	671.92 671.99	671.86 671.93	671.92 671.99	672.02 672.09	672.10 672.17	672.18 672.25	672.27 672.34	672.41 672.48	672.56 672.63	672.70 672.77	672.89 672.96

PLAN	DATE
BY	
CHECKED	
DATE	
NO.	

PROFILE	DATE
BY	
CHECKED	
DATE	
NO.	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DETAIL OF A.R. BOX CULVERT NO. 12
 STA. 333 + 44.00, S.N. 010-8164

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	234
F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663	
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 20' SHEET NO. 1 OF 6 SHEETS STA. 331+00.00 TO STA. 337+00.00

Benchmark: 687.296. Chiseled square on east end of concrete pipe in south-east QUAD of the intersection of US 150 and C.R. 2075 E, Sta. 344+11.00, 28.0' RT.

Existing Structure: Sta. 333+43.57, 2'x2' cast-in-place box culvert with concrete headwalls to be removed.

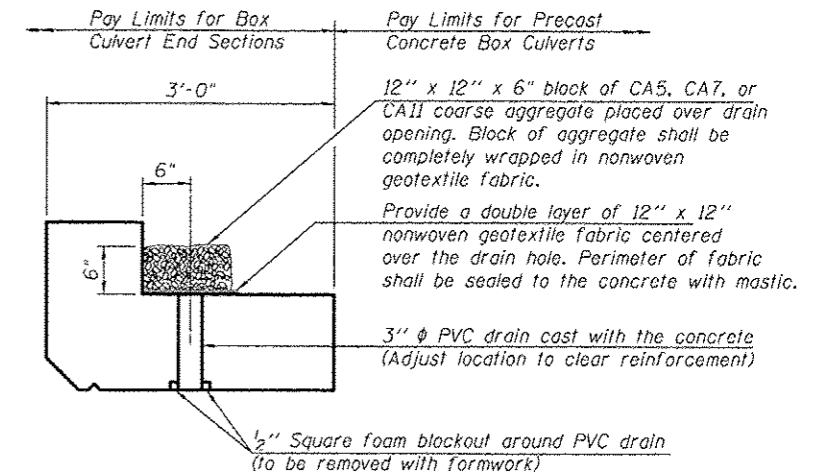
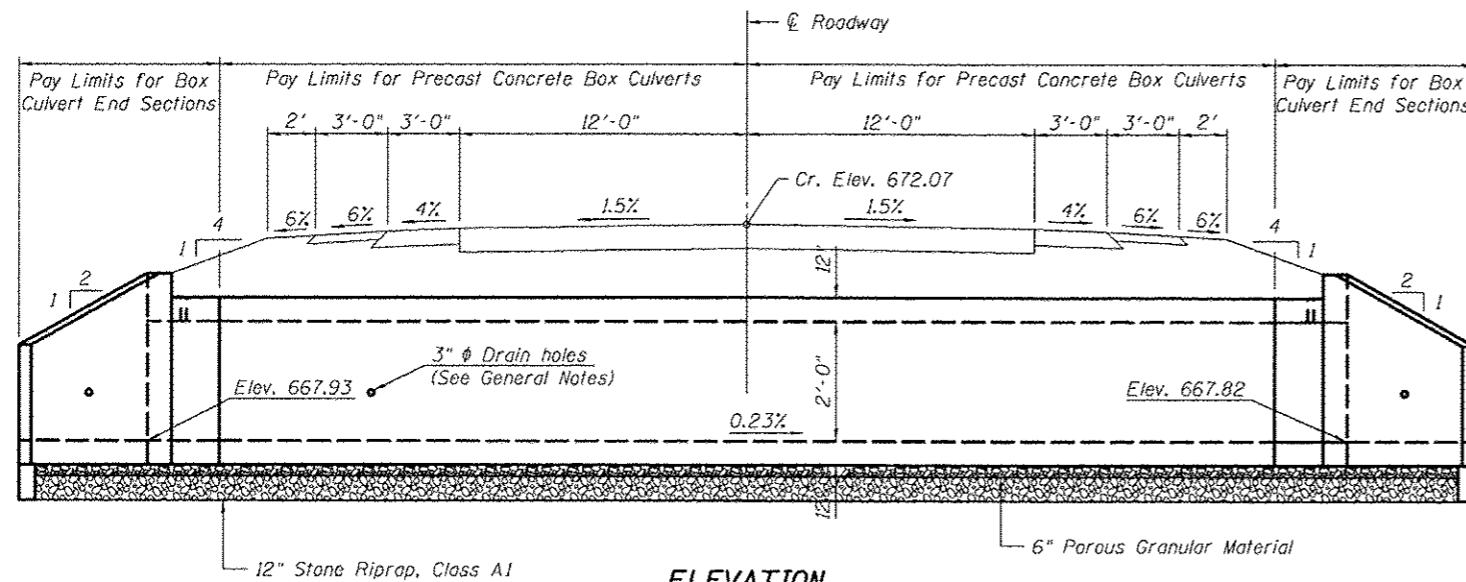
INDEX OF SHEETS

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

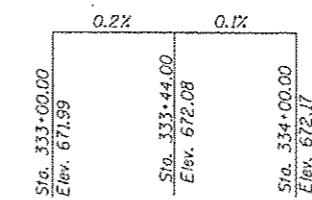
GENERAL NOTES

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.

All exposed edges shall be chamfered 3/4" per article 503.06 of the Standard Specifications.



(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

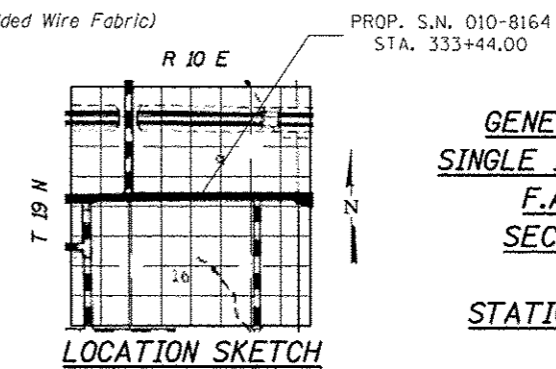
DESIGN STRESSES

PRECAST UNITS

$f'_c = 5,000 \text{ psi}$
 $f_y = 65,000 \text{ psi}$ (Welded Wire Fabric)

STATION 333+44.00
 BUILT 2014 BY
 STATE OF ILLINOIS
 F.A.S. RT. 1512 US 150
 SEC. (2X,3)RS-3 & 2RS-4
 LOADING HL-93
 STR. NO. 010-8164

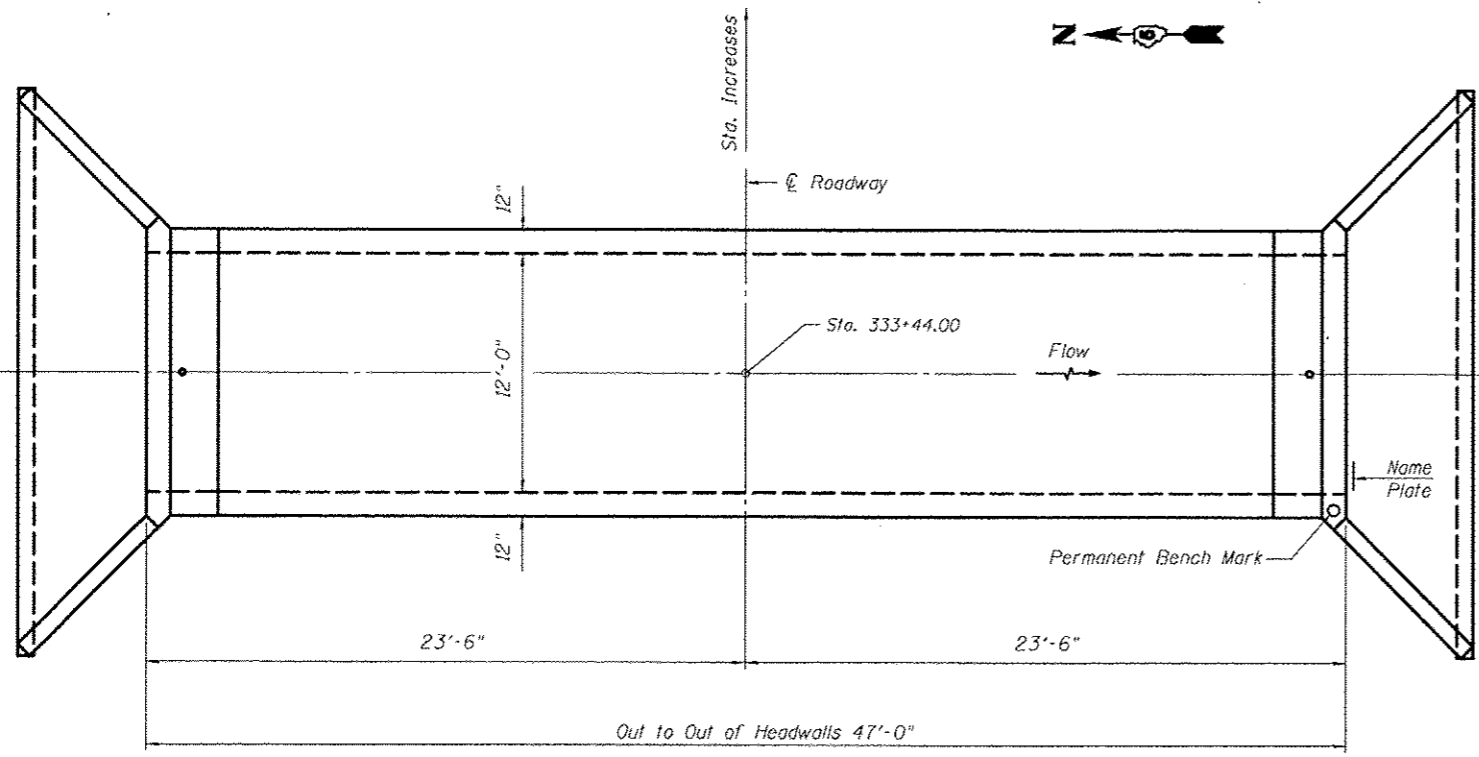
NAME PLATE
 See Std. 515001



TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Name Plates	Each	1.0
Box Culvert End Sections, Culvert No. 12	Each	2.0
Precast Concrete Box Culverts, 12x2	Foot	39.0
Permanent Bench Marks	Each	1.0
Stone Riprap, Class A1	Sq. Yd.	129.1
Porous Granular Embankment	Cu. Yd.	32.1

GENERAL PLAN AND ELEVATION
SINGLE 12'x2' PRECAST BOX CULVERT
F.A.S. ROUTE 1512 (US 150)
SECTION (2X,3)RS-3 & 2RS-4
CHAMPAIGN COUNTY
STATION 333+44.00, S.N. 010-8164
CULVERT NO. 12



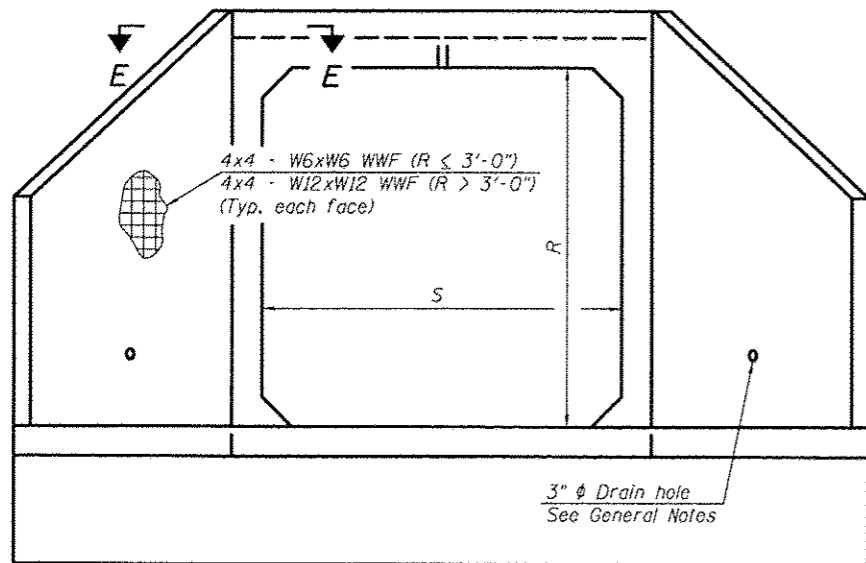
WATERWAY INFORMATION

Drainage Area = 2.11 sq. mi. Low Grade Elev. 671.93 @ Sta. 332+50.00

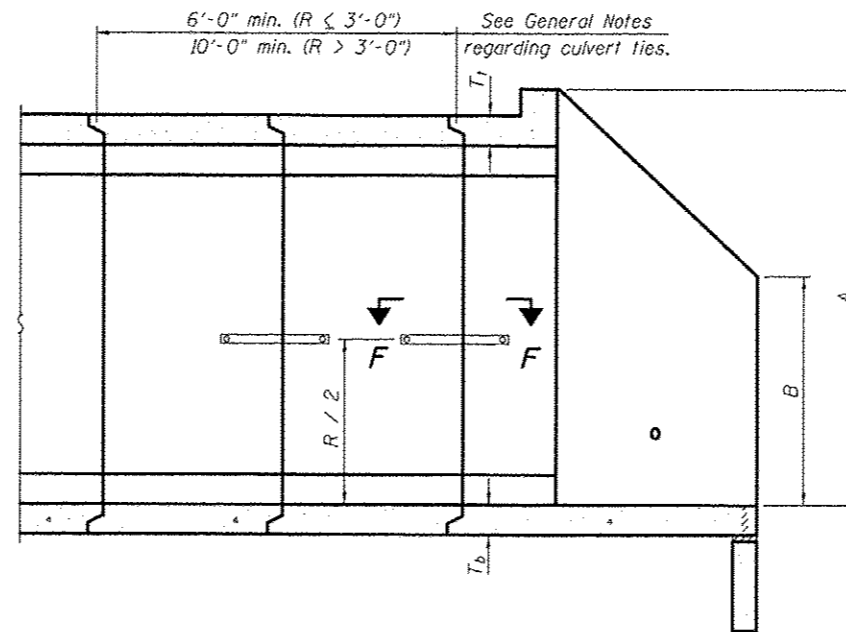
Flood	Freq. Yr.	0	C.F.S.	Opening	Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
				Exist.	Prop.	Exist.	Prop.	Exist.
Design	10	76	4	22.4				Over 669.8
Base	50	119	4	24				Over 670.4
Overtopping	100	137	4	24				Over 670.6
Max. Calc.	500	181	4	24				Over 671.5

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	664.93	664.82



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 B" 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.

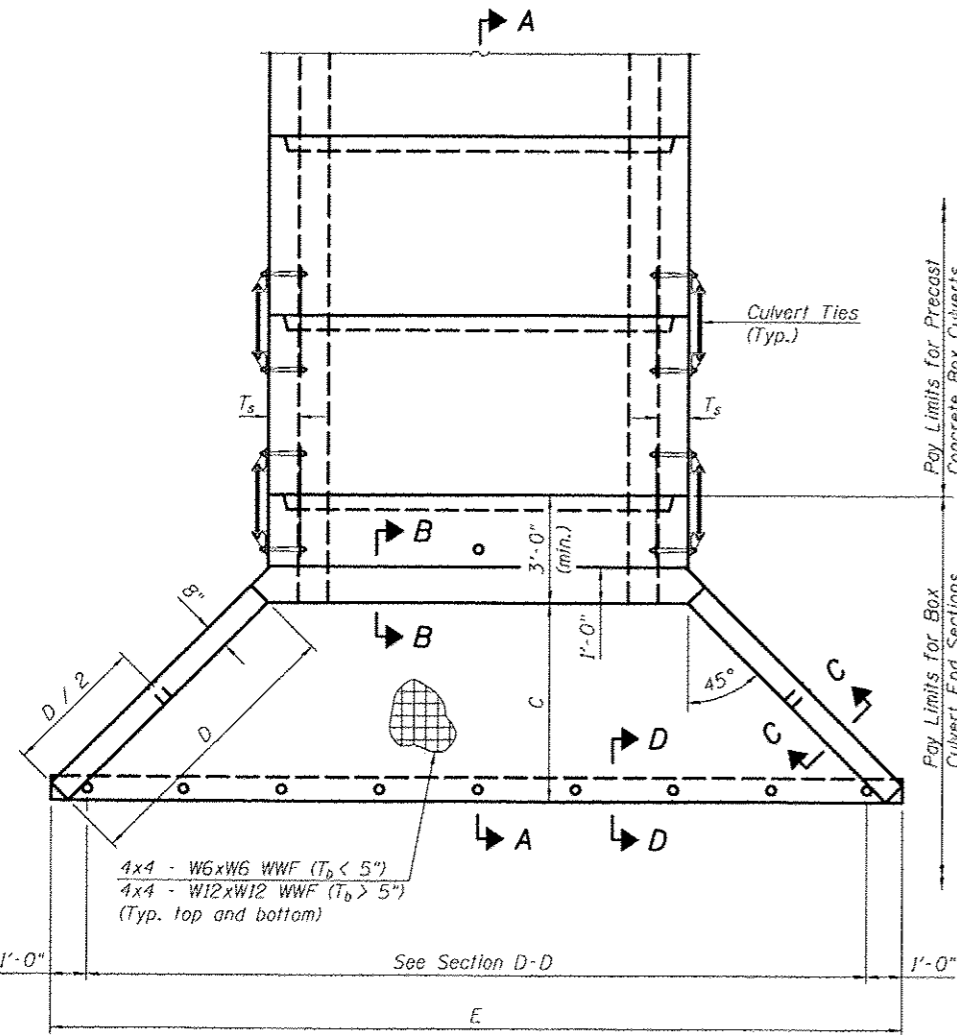
Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

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.



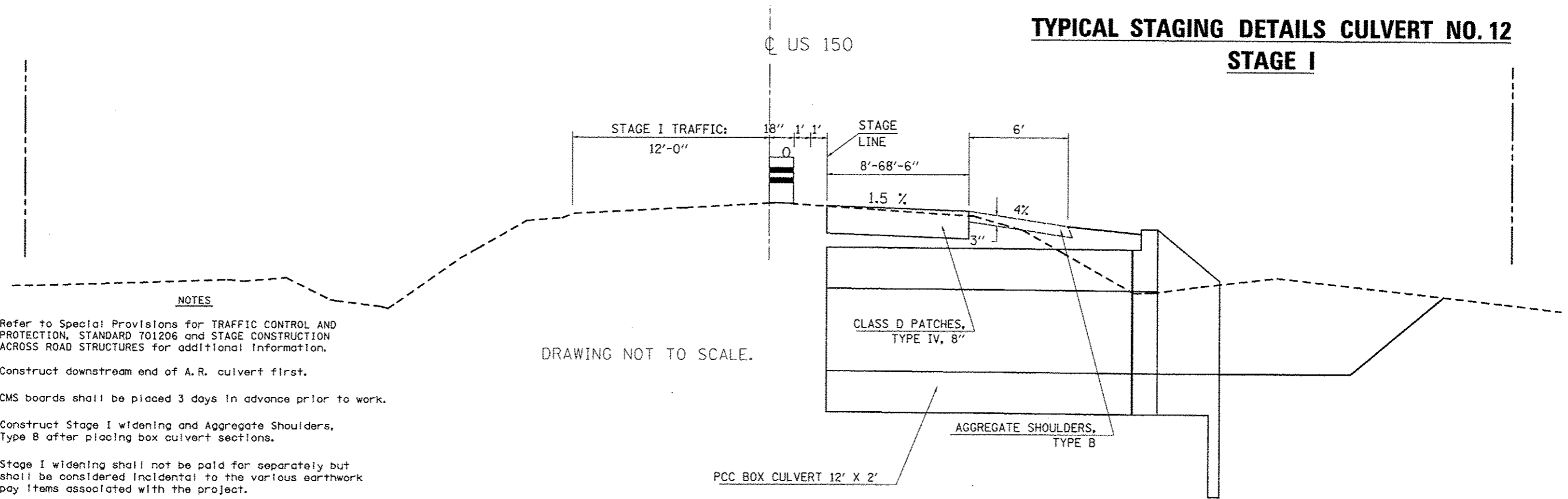
PLAN

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 ⁷ / 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 ³ / ₈ "	13.0	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3 ⁵ / ₈ "	10'-4"	29'-6 ³ / 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.

TYPICAL STAGING DETAILS CULVERT NO. 12
STAGE I

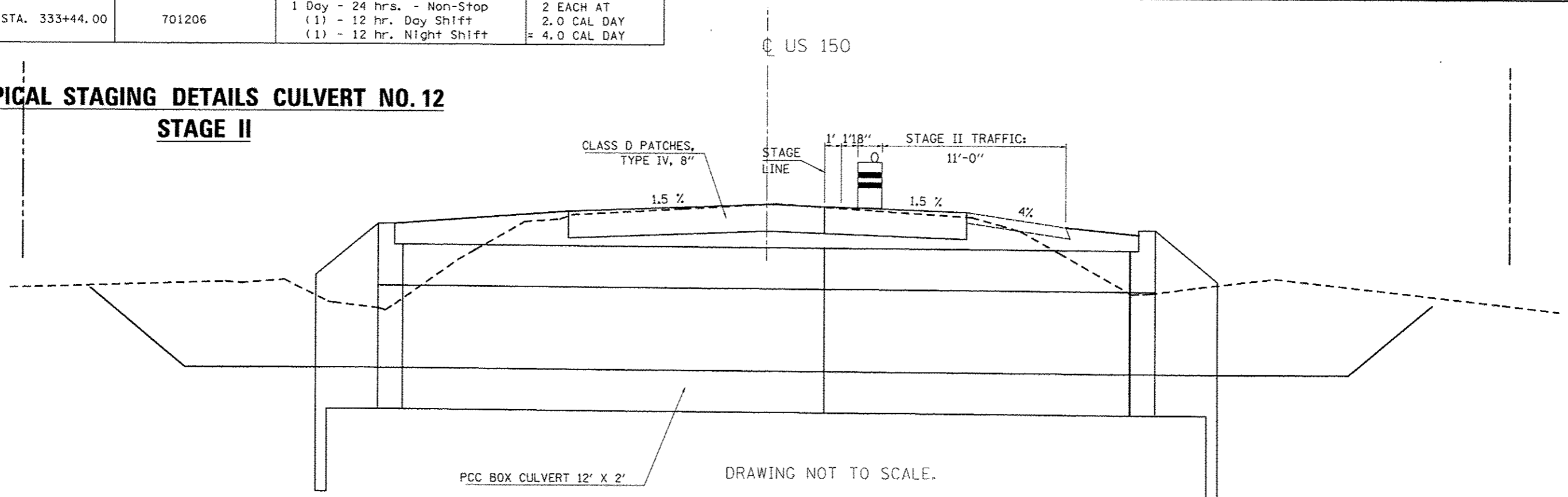


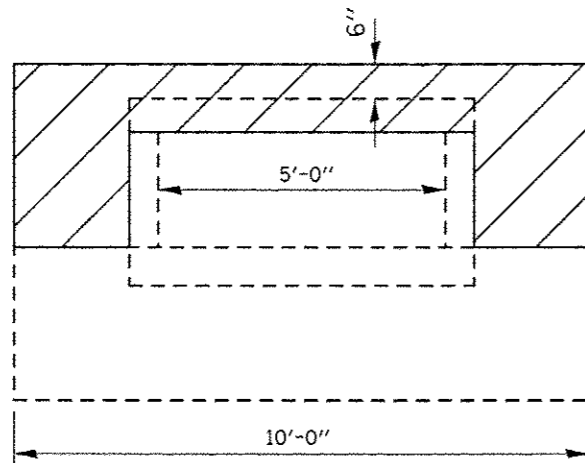
NOTES

1. Refer to Special Provisions for TRAFFIC CONTROL AND PROTECTION, STANDARD 701206 and STAGE CONSTRUCTION ACROSS ROAD STRUCTURES for additional information.
2. Construct downstream end of A.R. culvert first.
3. CMS boards shall be placed 3 days in advance prior to work.
4. Construct Stage I widening and Aggregate Shoulders, Type B after placing box culvert sections.
5. Stage I widening shall not be paid for separately but shall be considered incidental to the various earthwork pay items associated with the project.

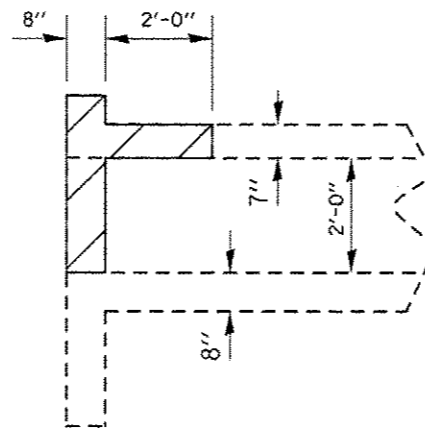
A. R. CULVERT LOCATION	TRAFFIC CONTROL STANDARD	ESTIMATED TIME	CHANGEABLE MESSAGE SIGNS
STA. 333+44.00	701206	1 Day - 24 hrs. - Non-Stop (1) - 12 hr. Day Shift (1) - 12 hr. Night Shift	2 EACH AT 2.0 CAL DAY = 4.0 CAL DAY

TYPICAL STAGING DETAILS CULVERT NO. 12
STAGE II





RT END ELEVATION



LONGITUDINAL SECTION

CONCRETE REMOVAL

- CONCRETE REMOVAL
- CLSM AREA (SEE PLAN VIEW)

DETAIL NOTES:

BOX CULVERTS SHALL BE CLEANED BY THE CONTRACTOR PRIOR TO FILLING. THE CONTRACTOR SHALL ESTABLISH A SUITABLE PLAN FOR CLEANING THE EXISTING BOX CULVERTS TO THE SATISFACTION OF THE ENGINEER.

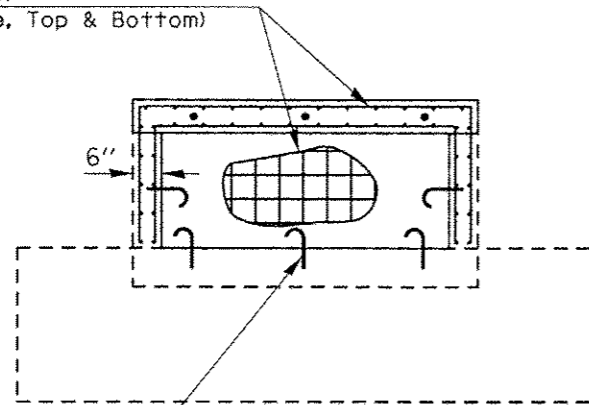
REMOVAL OF EXISTING HEADWALLS AND PORTIONS OF THE EXISTING BOX CULVERT SHALL BE REMOVED PRIOR TO FILLING.

ALL MEASUREMENTS AND DIMENSIONS ARE BASED ON AS-BUILT PLAN INFORMATION. ALL DIMENSIONS AND MEASUREMENTS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL. THE ENGINEER MAY MODIFY THE REMOVAL AREAS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS & 3/4" DIA. HOOKED BOLTS. BOLTS SHALL EXTEND A MINIMUM OF 9" INTO EXISTING CONCRETE.

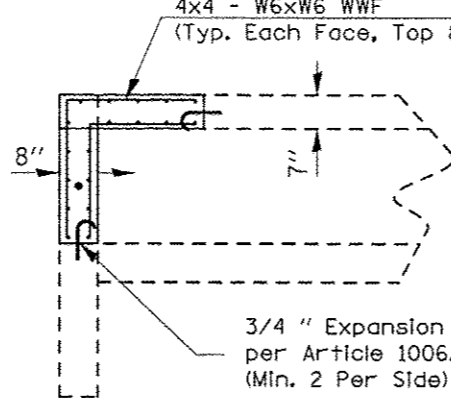
ALL COSTS ASSOCIATED WITH CLEANING THE EXISTING BOX CULVERTS, CONCRETE REMOVAL, EXPANSION BOLTS, WELDED WIRE FABRIC, CONCRETE BOX CULVERTS, CONTROLLED LOW STRENGTH MATERIAL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF CU YDS FOR CONTROLLED LOW STRENGTH MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

4x4 - W6xW6 WWF
(Typ. Each Face, Top & Bottom)



END ELEVATION

4x4 - W6xW6 WWF
(Typ. Each Face, Top & Bottom)

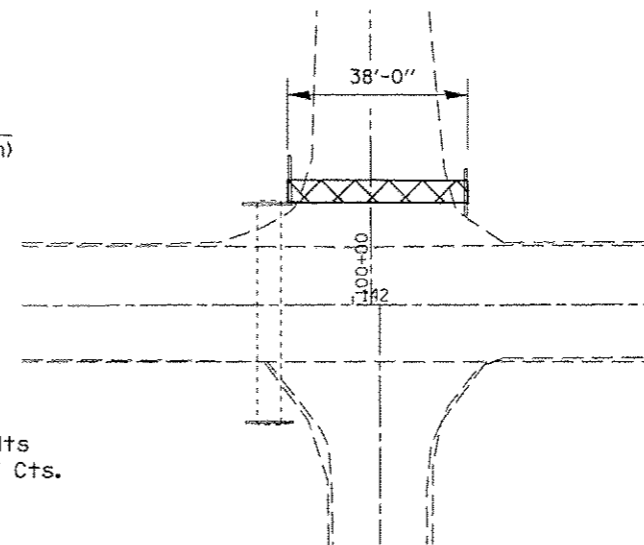


LONGITUDINAL SECTION

3/4" Expansion Hook Bolts
per Article 1006.09 @ 12" Cts.
(Min. 2 Per Side)

3/4" Expansion Hook Bolts
per Article 1006.09 @ 12" Cts.
(Min. 2 Per Side)

CONCRETE BOX CULVERTS



PLAN VIEW

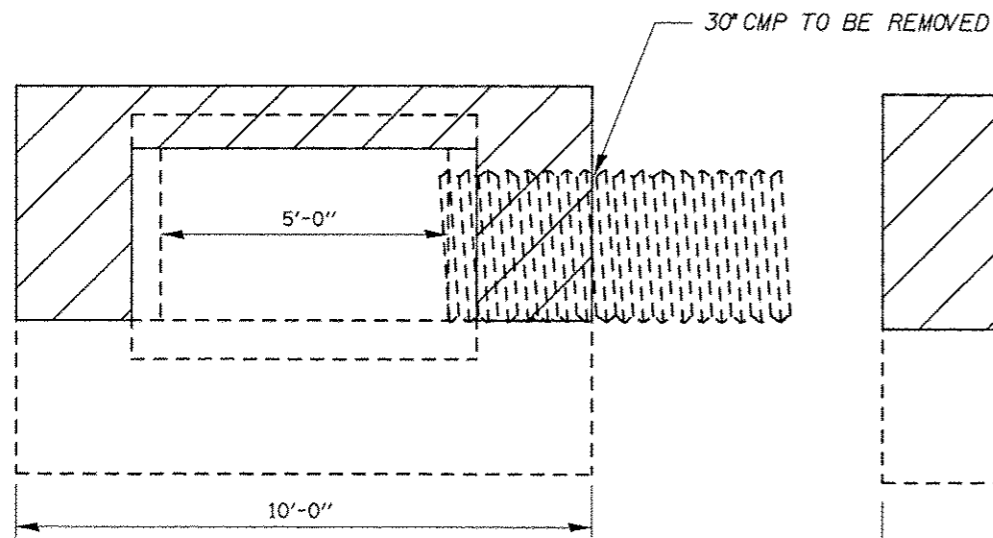
**(FOR INFORMATION ONLY)
TOTAL BILL OF MATERIAL**

Item	Unit	Total
BOX CULVERTS TO BE CLEANED	FOOT	38.0
CONCRETE REMOVAL	CU YD	1.4
3/4" EXP. BOLTS	EACH	16.0
WELDED WIRE FABRIC	SQ FT	50.0
CONCRETE BOX CULVERTS	Each	1.2

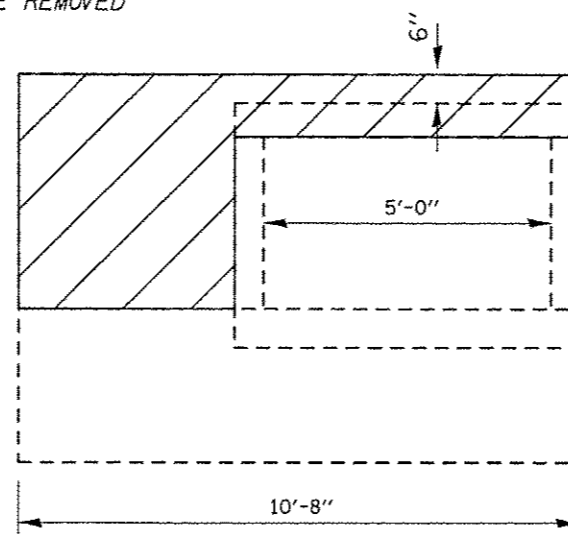
METHOD OF PAYMENT

Item	Unit	Total
CONTROLLED LOW STRENGTH MATERIAL	CU YD	22.0

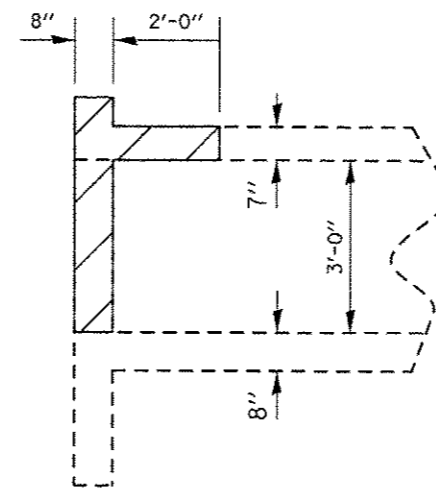
DRAWING NOT TO SCALE



UPSTREAM END ELEVATION



DOWNSTREAM END ELEVATION

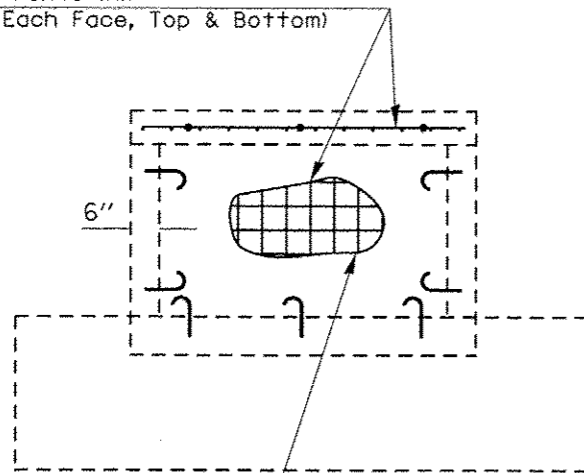


LONGITUDINAL SECTION

CONCRETE REMOVAL

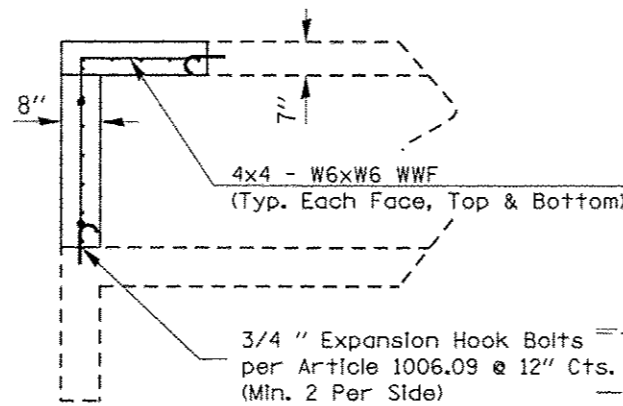
- CONCRETE REMOVAL
- CLSM AREA (SEE PLAN VIEW)

4x4 - W6xW6 WWF
(Typ. Each Face, Top & Bottom)



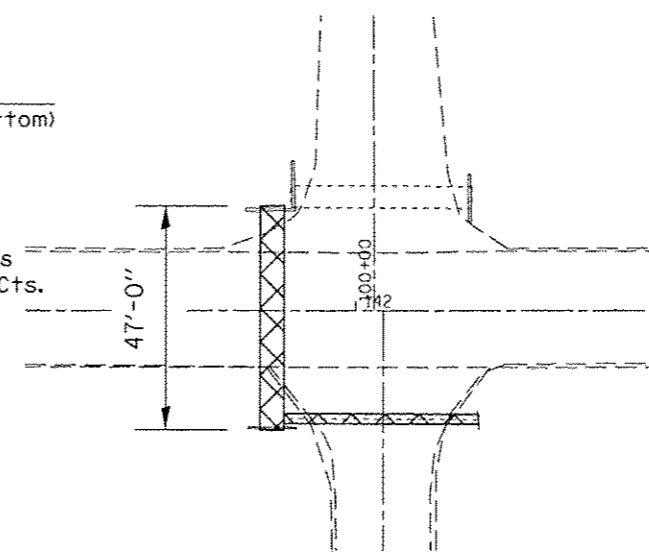
END ELEVATION (CAPPING)

3/4" Expansion Hook Bolts
per Article 1006.09 @ 12" Cts.
(Min. 2 Per Side)



LONGITUDINAL SECTION

CONCRETE BOX CULVERTS



PLAN VIEW

DETAIL NOTES:

BOX CULVERTS SHALL BE CLEANED BY THE CONTRACTOR PRIOR TO FILLING. THE CONTRACTOR SHALL ESTABLISH A SUITABLE PLAN FOR CLEANING THE EXISTING BOX CULVERTS TO THE SATISFACTION OF THE ENGINEER.

REMOVAL OF EXISTING HEADWALLS AND PORTIONS OF THE EXISTING BOX CULVERT SHALL BE REMOVED PRIOR TO FILLING.

ALL MEASUREMENTS AND DIMENSIONS ARE BASED ON AS-BUILT PLAN INFORMATION. ALL DIMENSIONS AND MEASUREMENTS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL. THE ENGINEER MAY MODIFY THE REMOVAL AREAS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS & 3/4" DIA. HOOKED BOLTS. BOLTS SHALL EXTEND A MINIMUM OF 9" INTO EXISTING CONCRETE.

ALL COSTS ASSOCIATED WITH CLEANING THE EXISTING BOX CULVERTS, CONCRETE REMOVAL, EXPANSION BOLTS, WELDED WIRE FABRIC, CONCRETE BOX CULVERTS, CONTROLLED LOW STRENGTH MATERIAL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF CU YDS FOR CONTROLLED LOW STRENGTH MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EXISTING 30" CMP SHALL BE REMOVED FROM SIDE OF EXISTING BOX AND HOLE SHALL BE CAPPED TO SATISFACTION OF ENGINEER PRIOR TO FILLING WITH CLSM. COST SHALL BE INCLUDED IN UNIT PRICE FOR CONTROLLED LOW STRENGTH MATERIAL.

(FOR INFORMATION ONLY)

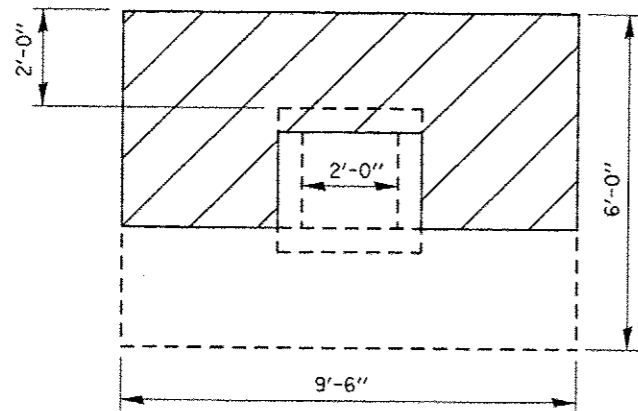
TOTAL BILL OF MATERIAL

Item	Unit	Total
BOX CULVERTS TO BE CLEANED	FOOT	47.0
CONCRETE REMOVAL	CU YD	2.1
3/4" EXP. BOLTS	EACH	20.0
WELDED WIRE FABRIC	SQ FT	54.0
CONCRETE BOX CULVERTS	Each	1.3

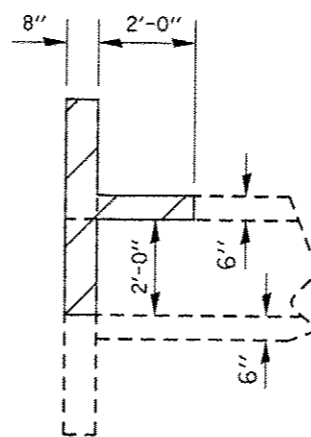
METHOD OF PAYMENT

Item	Unit	Total
CONTROLLED LOW STRENGTH MATERIAL	CU YD	15.0

DRAWING NOT TO SCALE



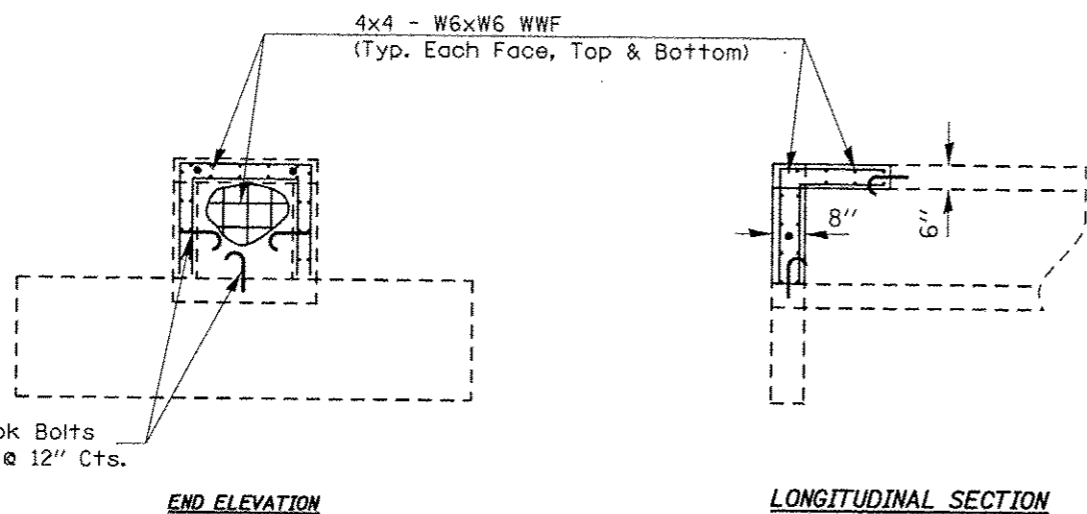
END ELEVATION



LONGITUDINAL SECTION

- CONCRETE REMOVAL
- CLSM AREA (SEE PLAN VIEW)

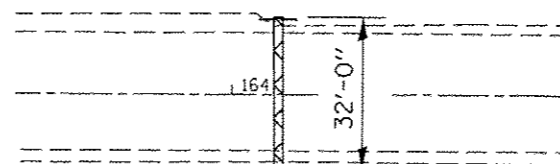
CONCRETE REMOVAL



END ELEVATION

LONGITUDINAL SECTION

CONCRETE BOX CULVERTS



PLAN VIEW

DETAIL NOTES:

BOX CULVERTS SHALL BE CLEANED BY THE CONTRACTOR PRIOR TO FILLING. THE CONTRACTOR SHALL ESTABLISH A SUITABLE PLAN FOR CLEANING THE EXISTING BOX CULVERTS TO THE SATISFACTION OF THE ENGINEER.

REMOVAL OF EXISTING HEADWALLS AND PORTIONS OF THE EXISTING BOX CULVERT SHALL BE REMOVED PRIOR TO FILLING.

ALL MEASUREMENTS AND DIMENSIONS ARE BASED ON AS-BUILT PLAN INFORMATION. ALL DIMENSIONS AND MEASUREMENTS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL. THE ENGINEER MAY MODIFY THE REMOVAL AREAS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS & 3/4" DIA. HOOKED BOLTS. BOLTS SHALL EXTEND A MINIMUM OF 9" INTO EXISTING CONCRETE.

ALL COSTS ASSOCIATED WITH CLEANING THE EXISTING BOX CULVERTS, CONCRETE REMOVAL, EXPANSION BOLTS, WELDED WIRE FABRIC, CONCRETE BOX CULVERTS, CONTROLLED LOW STRENGTH MATERIAL WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF CU YDS FOR CONTROLLED LOW STRENGTH MATERIAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

**(FOR INFORMATION ONLY)
TOTAL BILL OF MATERIAL**

Item	Unit	Total
BOX CULVERTS TO BE CLEANED	FOOT	32.0
CONCRETE REMOVAL	CU YD	2.0
3/4" EXP. BOLTS	EACH	10.0
WELDED WIRE FABRIC	SQ FT	20.0
CONCRETE BOX CULVERTS	Each	0.3

METHOD OF PAYMENT

Item	Unit	Total
CONTROLLED LOW STRENGTH MATERIAL	CU YD	5.0

DRAWING NOT TO SCALE

DETAIL NOTES:

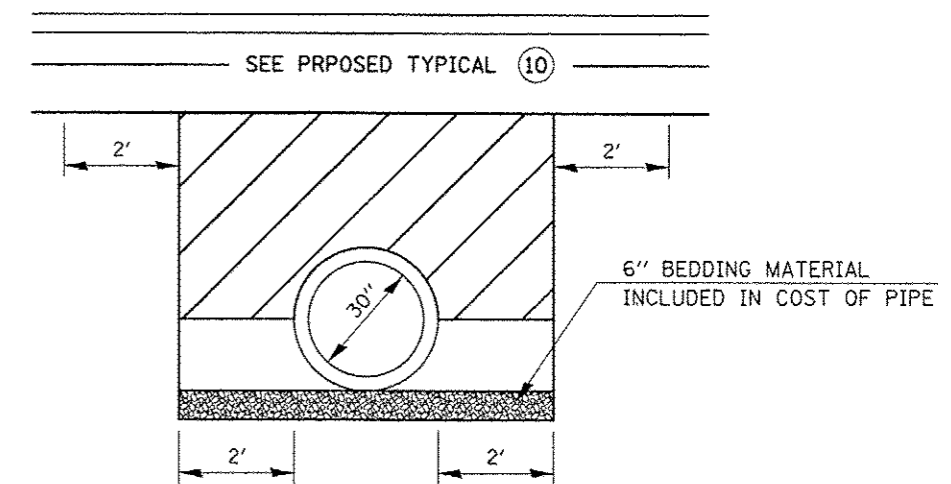
ACTUAL STATIONS, OFFSETS AND ELEVATIONS OF THE FIELD TILE RECONSTRUCTION SHALL BE VERIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION OF THE NEW FIELD TILE.

TRASH RACK AND PRECAST CONCRETE FLAT SLAB WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF EACH FOR MANHOLE, TYPE A, 5' DIA. TYPE 1 FRAME, OPEN LID. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL WORK ASSOCIATED WITH LOCATING, VERIFYING AND EXCAVATION FOR THE WORK SHOWN HEREIN THIS DETAIL SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAYITEMS ASSOCIATED WITH THE RECONSTRUCTION OF THE THE EXISTING 30" FIELD TILE.

ALL OTHER PAYITEMS ASSOCIATED WITH THE RECONSTRUCTION OF THE EXISTING 30" FIELD TILE WILL BE MEASURED FOR PAYMENT ACCORDING TO THE BILL OF MATERIAL.

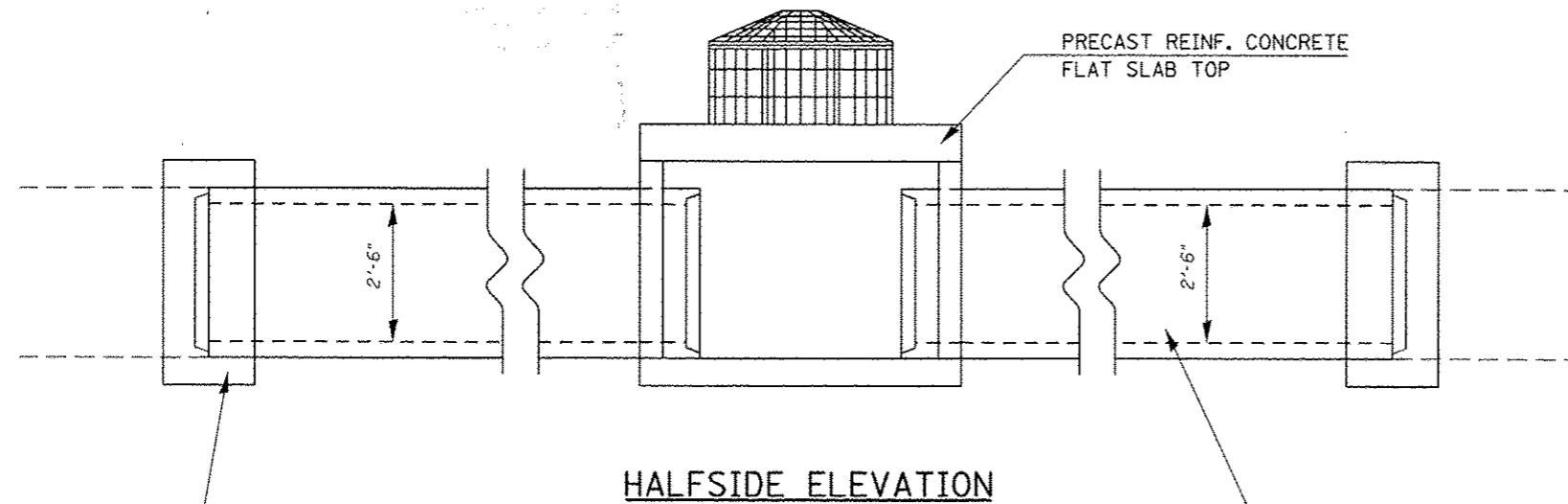
 TRENCH BACKFILL



BACKFILLING STORM SEWER (SPECIAL)

TOTAL BILL OF MATERIAL

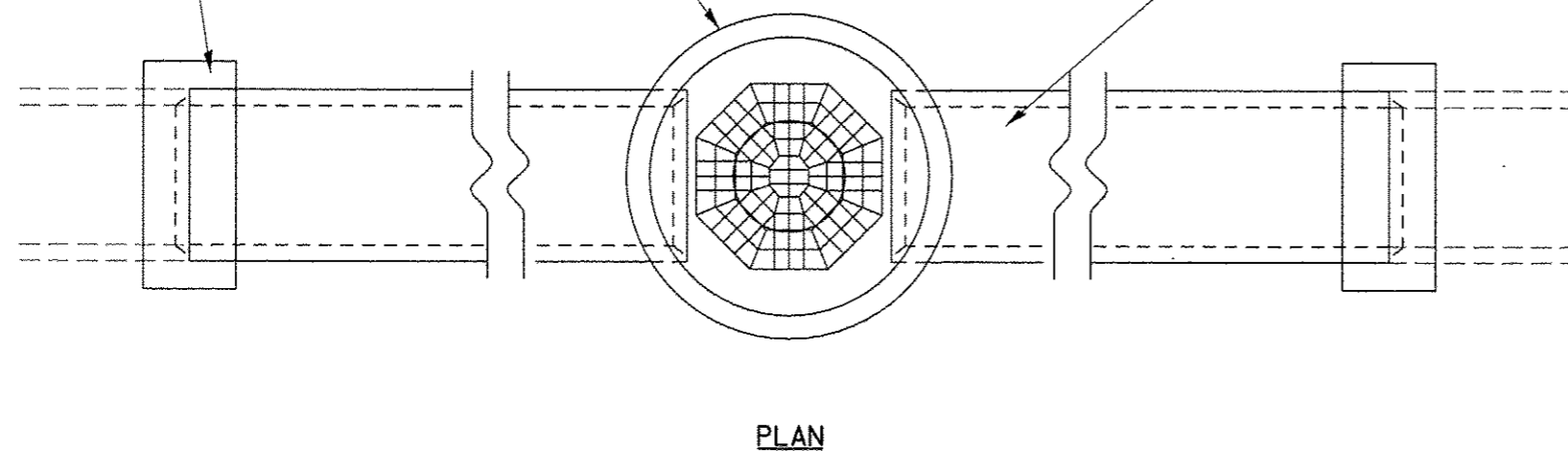
Item	Unit	Total
CB TA 5' DIA W/SPL F&G	Each	1.0
Storm Sewer Protected - 30"	Foot	177.0
Trench Backfill	Cu Yd	7.0
Concrete Collar	Each	1.0



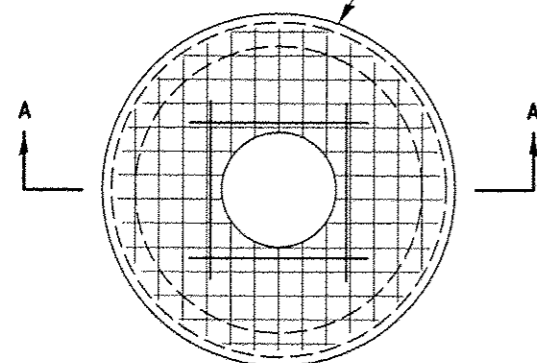
CONCRETE COLLAR
SEE DETAIL NO. 54248510

CATCH BASINS, TYPE A, 5' DIA.
WITH SPECIAL FRAME AND GRATE

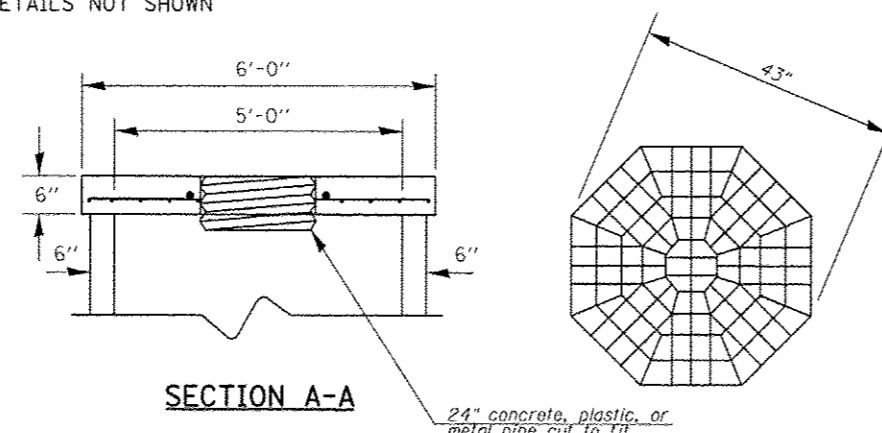
STORM SEWER PROTECTED - 30" (SEE PLANS)



SEE STAND 602601-02 FOR
ADDITIONAL DETAILS NOT SHOWN
HEREIN.

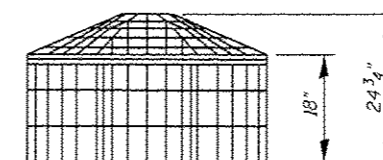


PRECAST FLAT SLAB TOP

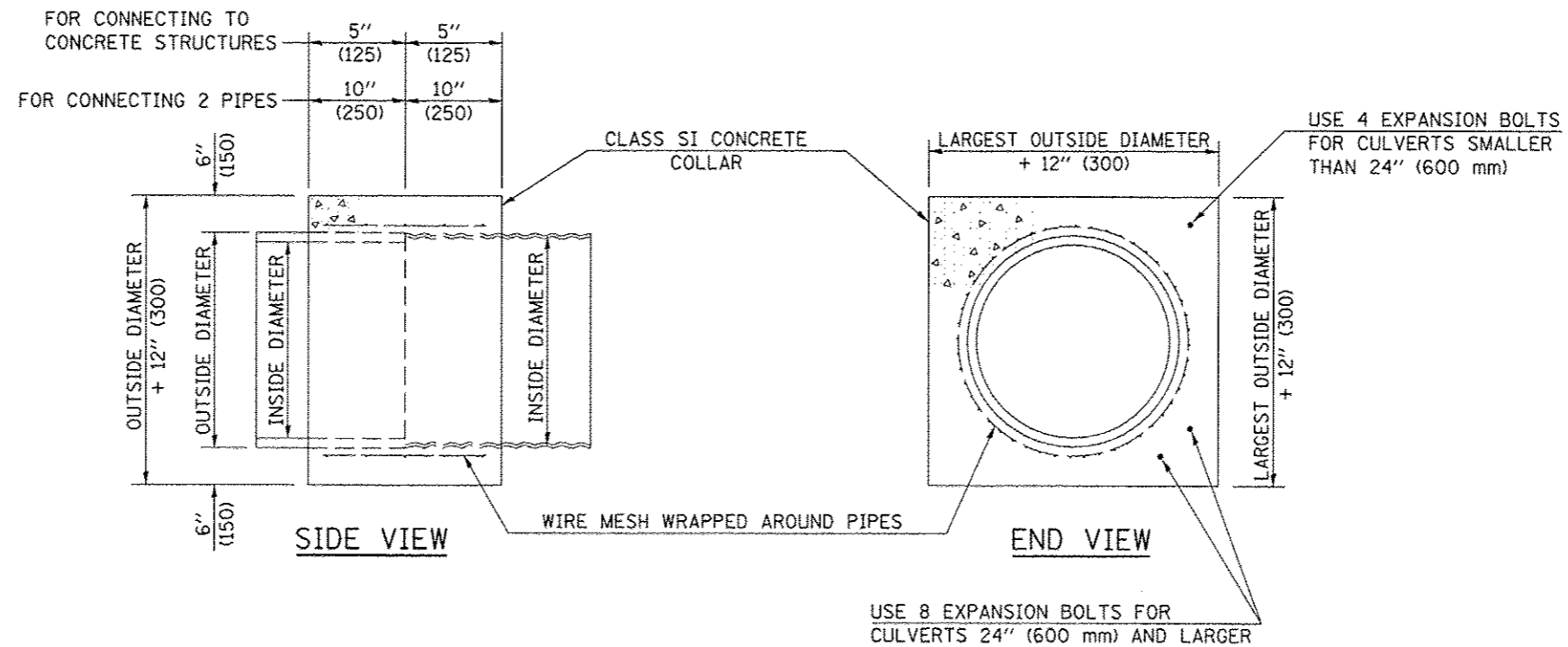


SECTION A-A

24" concrete, plastic, or
metal pipe cut to fit



PYRAMID STRUCTURE



GENERAL NOTES

1. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
2. WHEN CONCRETE COLLARS ARE USED TO CONNECT PIPES OF DIFFERENT OUTSIDE DIAMETERS, THE CONCRETE COLLAR SHALL BE FORMED USING THE LARGEST OUTSIDE DIAMETER (SEE END VIEW).
3. THE WIRE MESH SHALL WEIGH NOT LESS THAN 54#/100 SQ. FT. (2.63 kg/m²).
4. WHEN CONCRETE COLLARS ARE CONSTRUCTED ADJACENT TO AN EXISTING CONCRETE STRUCTURE (HEADWALLS, ETC.) EXPANSION BOLTS, SHALL BE USED AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE, EACH, FOR EXPANSION BOLTS OF THE SIZE SPECIFIED IN THE PLANS.
5. CONCRETE COLLARS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE, PER CUBIC YARD (CUBIC METER), FOR CONCRETE COLLARS INCLUDING ALL MATERIAL AND LABOR SPECIFIED TO COMPLETE THE WORK IN PLACE.

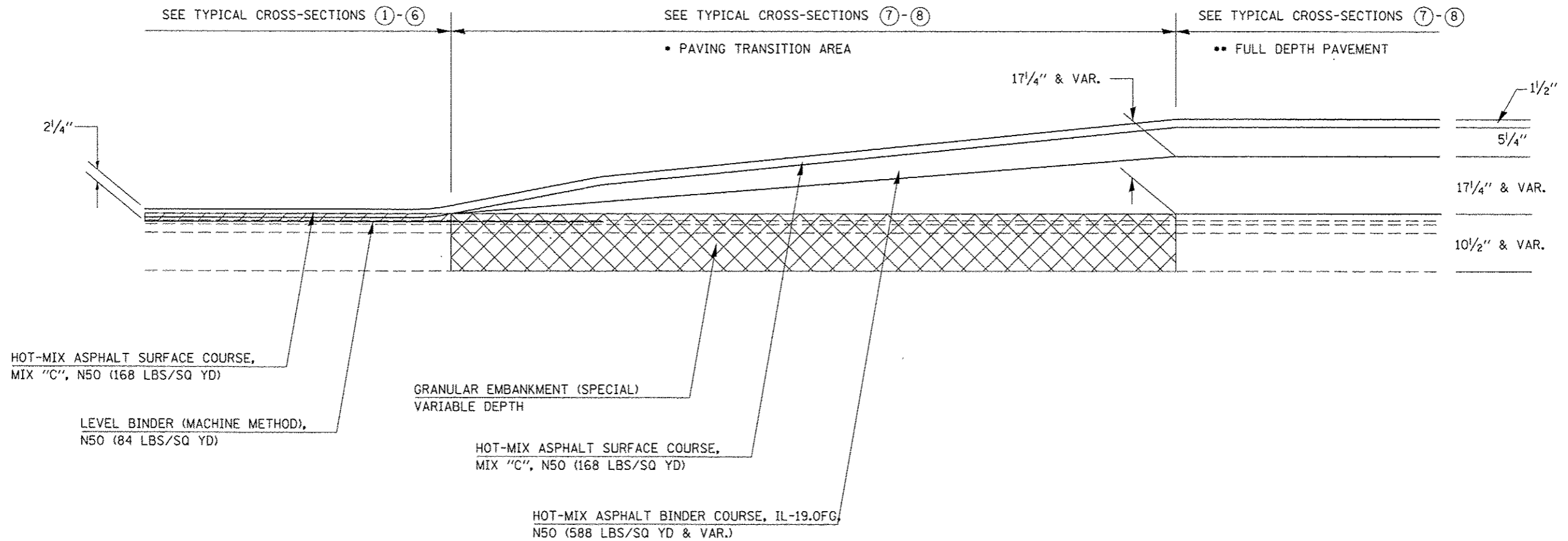
QUANTITIES FOR CONCRETE PIPES	
INSIDE DIAMETER OF PIPE	ESTIMATED CLASS SI CONCRETE REQUIRED
INCH (mm)	20" (500 mm) WIDTH CU. YD. (m ³)
4" (100)	0.14 (0.11)
6" (150)	0.16 (0.12)
8" (200)	0.19 (0.14)
10" (250)	0.22 (0.17)
12" (300)	0.25 (0.19)
15" (375)	0.30 (0.23)
18" (450)	0.35 (0.27)
24" (600)	0.45 (0.35)
30" (750)	0.57 (0.43)
36" (900)	0.69 (0.53)
42" (1050)	0.83 (0.63)
48" (1200)	0.97 (0.74)
54" (1350)	1.12 (0.86)
60" (1500)	1.28 (0.98)

QUANTITIES FOR METAL PIPES	
INSIDE DIAMETER OF PIPE	ESTIMATED CLASS SI CONCRETE REQUIRED
INCH (mm)	20" (500 mm) WIDTH CU. YD. (m ³)
4" (100)	0.12 (0.09)
6" (150)	0.14 (0.11)
8" (200)	0.16 (0.12)
10" (250)	0.19 (0.14)
12" (300)	0.21 (0.16)
15" (375)	0.25 (0.19)
18" (450)	0.29 (0.22)
24" (600)	0.38 (0.29)
30" (750)	0.47 (0.36)
36" (900)	0.59 (0.45)
42" (1050)	0.69 (0.53)
48" (1200)	0.81 (0.62)
54" (1350)	0.93 (0.71)
60" (1500)	1.05 (0.81)

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

DETAIL OF MAINLINE PAVING TRANSITION

- STATION 117+00.00 TO STATION 119+75.00
- STATION 167+00.00 TO STATION 168+50.00
- STATION 119+75.00 TO STATION 167+00.00



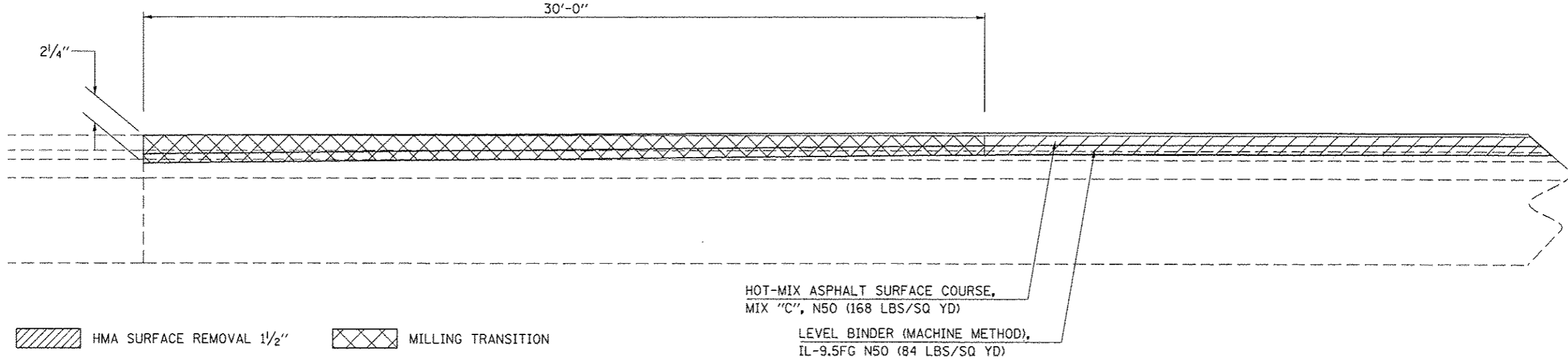
HMA SURFACE REMOVAL 1 1/2"
 PAVEMENT REMOVAL

FILE NAME c:\pwwork\pwwork\ceerlock_jd\0120316\0570663-sh1-detail.dgn	USER NAME ceerlock_jd	DESIGNED JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF PAVNG TRANSITION RAISING OF ROADWAY			F.A.U. RTE. (2X,3)RS-3 & 2RS-4	COUNTY CHAMPAIGN	TOTAL SHEETS 551	SHEET NO. 246
	PLOT SCALE = 48.0000 / in.	CHECKED -	REVISED -		F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663	ILLINOIS FED. AID PROJECT				
	PLOT DATE = 10/10/2013	DATE = 062911	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.			

DETAIL OF MAINLINE MILLING TRANSITION

STATION 97+55.22 TO STATION 97+85.22
 STATION 416+89.03 TO STATION 417+19.03

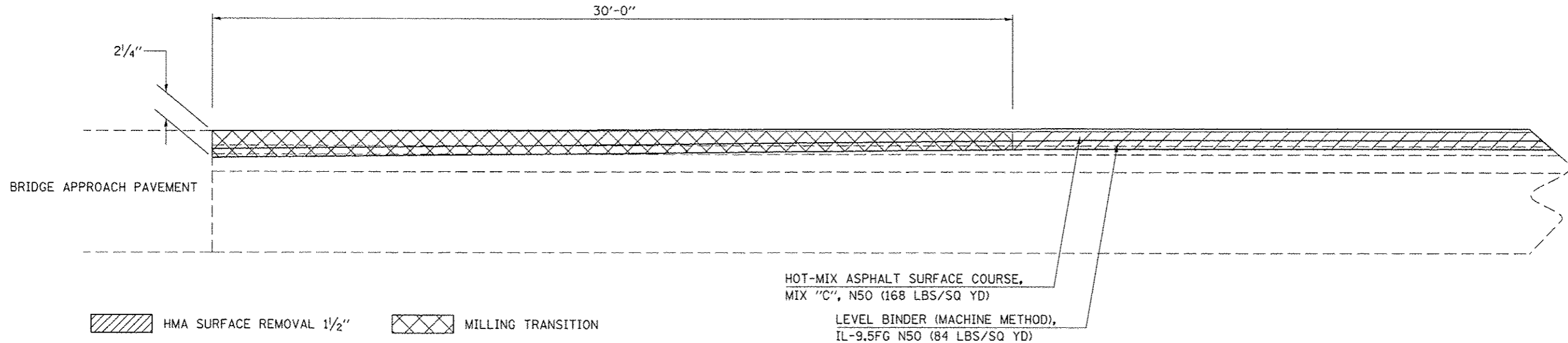
NOTE:
 AREA OF MILLING TRANSITION SHALL
 BE INCLUDED IN CONTRACT UNIT PRICE
 FOR THE HOT-MIX ASPHALT SURFACE
 REMOVAL - 1 1/2". NO ADDITIONAL
 COMPENSATION SHALL BE ALLOWED.



DETAIL OF MILLING TRANSITION AT S.N. 010-0039

STATION 397+91.52 TO STATION 398+21.52
 STATION 401+15.67 TO STATION 401+45.68

NOTE:
 AREA OF MILLING TRANSITION SHALL
 BE INCLUDED IN CONTRACT UNIT PRICE
 FOR THE HOT-MIX ASPHALT SURFACE
 REMOVAL - 1 1/2". NO ADDITIONAL
 COMPENSATION SHALL BE ALLOWED.

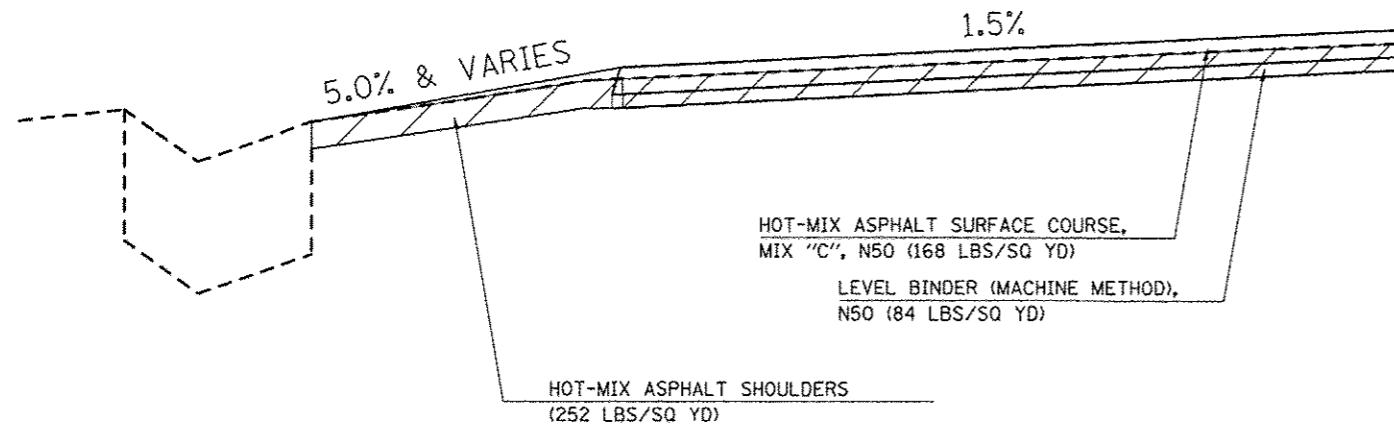


FILE NAME : c:\pwwork\pwwork\c:\pwwork\c:\pwwork\0120310\0120310.dgn	USER NAME : c:\pwwork\c:\pwwork\0120310\0120310.dgn	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MILLING AND PAVING DETAILS		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - JMS	REVISED -		SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	247
		CHECKED -	REVISED -						F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663		
		DATE - 050611	REVISED -						ILLINOIS FED. AID PROJECT			

DETAIL OF HMA SURFACE REMOVAL 1-1/2" AT SHOULDERS

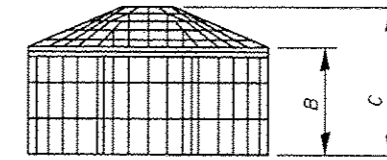
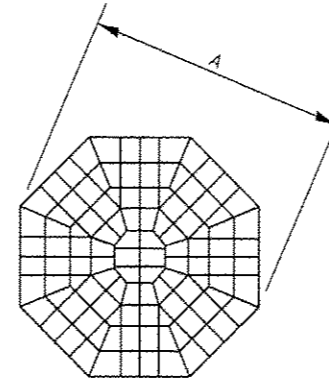
LT. STATION 99+36.86 TO STATION 115+39.66

LT. STATION 231+44.36 TO STATION 250+04.74



HMA SURFACE REMOVAL 1 1/2"

DETAIL OF PYRAMID STRUCTURE



PYRAMID RACKS FOR PLASTIC OR METAL PIPE

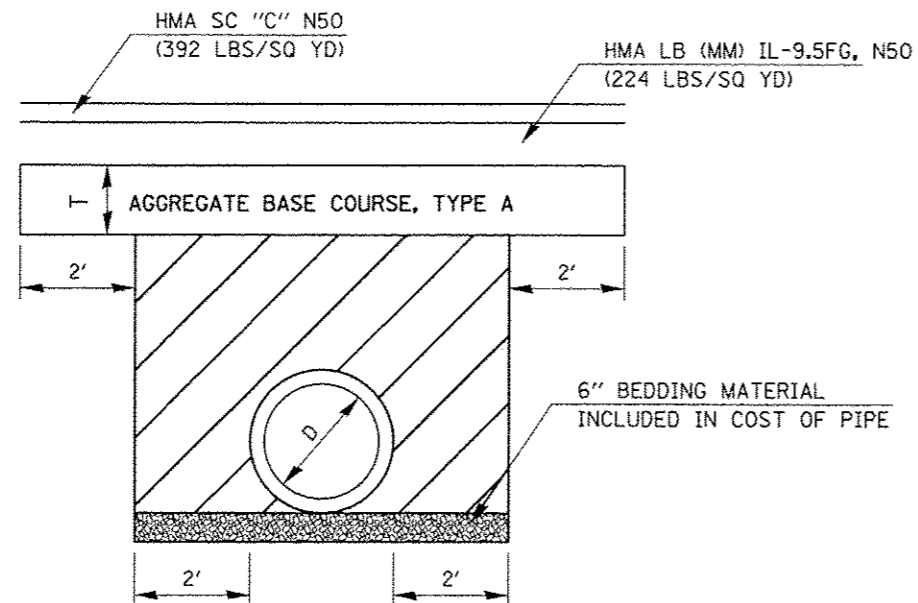
PART NO	CORRUGATED	HDPE	A"	B"	C"
PYDP-24	12, 15, 18	12, 15, 18	33.5	18	21.25
PYDP-36	21, 24, 27, 30	24, 30	43	18	24.75
PYDP-48	33, 36, 42	36, 42	57	18	25.75
PYDP-60	48, 54	48	68.5	18	26
PYDP-72	60, 66	60	84	23.5	33
PYDP-84	72, 78	N/A	94.5	23.5	38
PYDP-96	84, 90, 96	N/A	113	28.5	45

PYRAMID RACKS FOR CONCRETE PIPE

PART NO	PIPE I. D. "	PIPE O. D. "	A"	B"	C"
PYD-24	24	30	33.5	12.5	15.75
PYD-36	36	44	43	12.5	19.25
PYD-48	48	58	57	12.5	20.25
PYD-60	60	72	68.5	12.5	20.5
PYD-72	72	86	84	18	27.5
PYD-84	84	100	94.5	18	32.5
PYD-96	96	114	113	23	39.5

DETAIL OF BACKFILLING FOR AR PIPE CULVERTS A

TR 1900 E STA. 299+03.56, 15" PCC PIPE = 5 CU YDS PGB, T = 8"

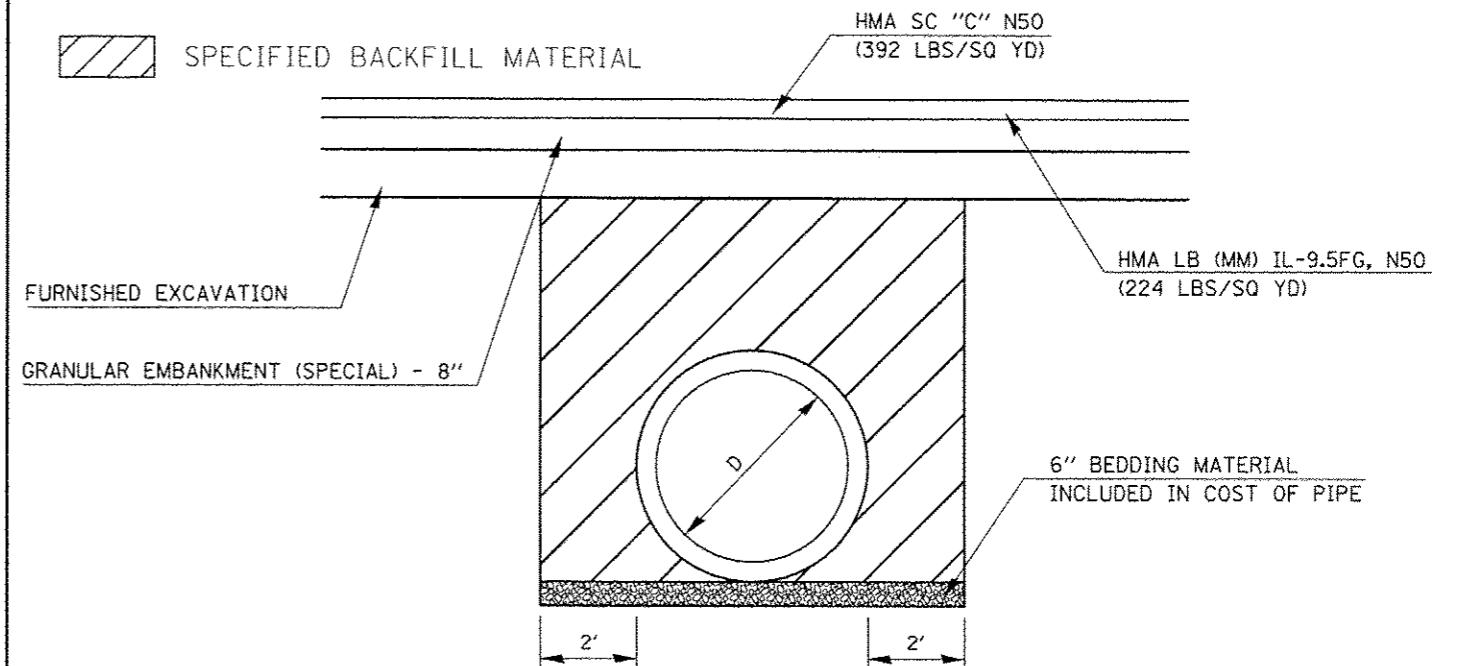


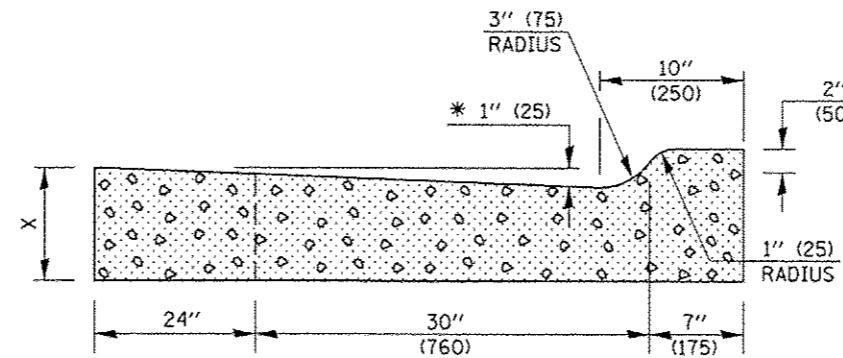
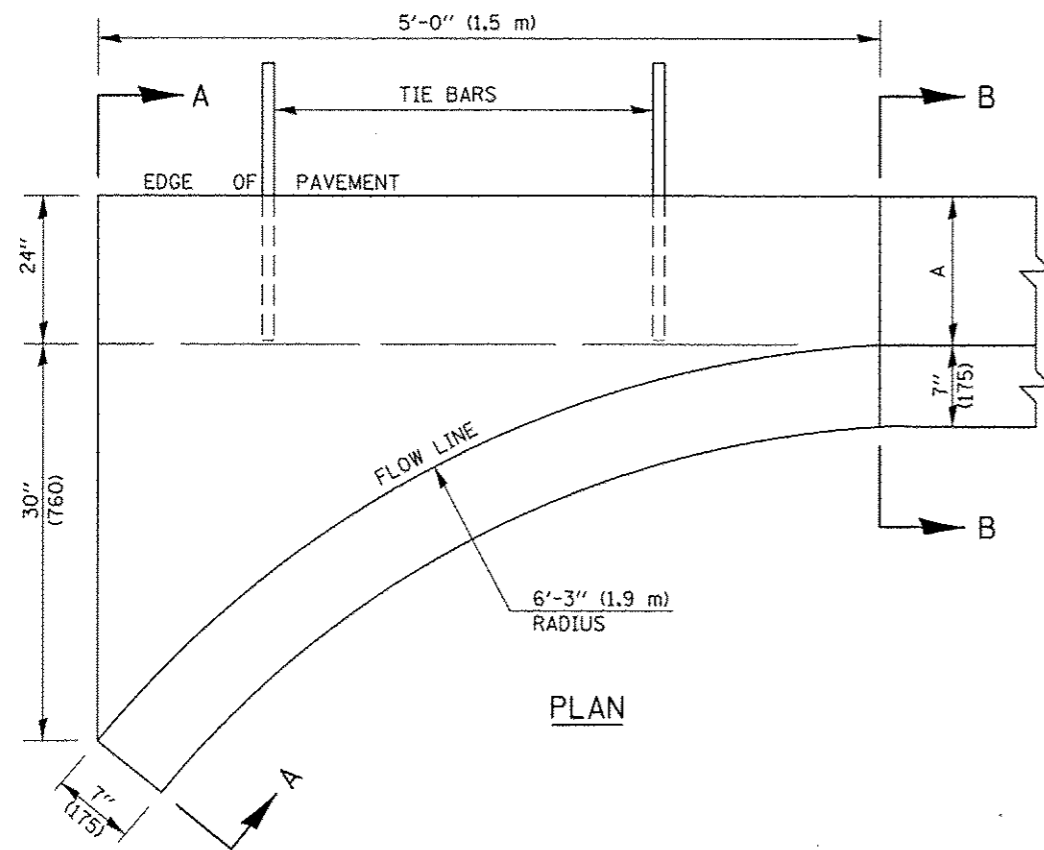
SPECIFIED BACKFILL MATERIAL

DETAIL OF BACKFILLING FOR AR PIPE CULVERTS B

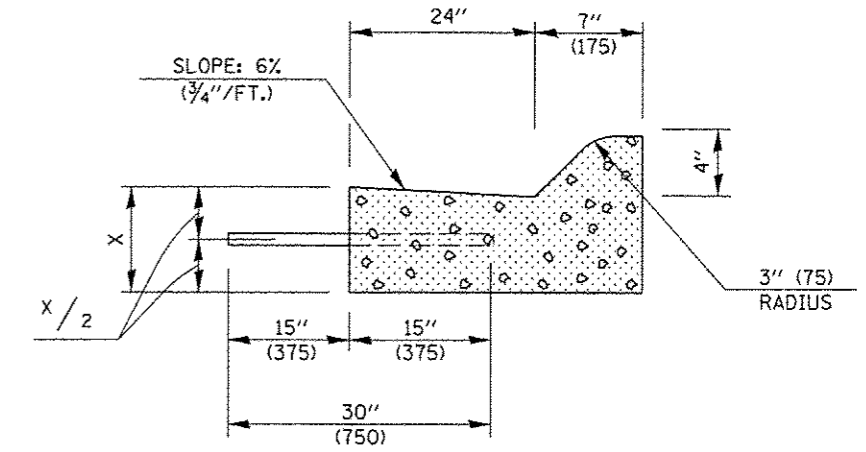
COTTONWOOD DR. STA. 99+50.00, D = 48" PCC PIPE = 62 CU YDS PGB

COTTONWOOD DR. STA. 92+50.00, D = 24" PCC PIPE = 19.5 CU YDS PGB





SECTION A-A



SECTION B-B

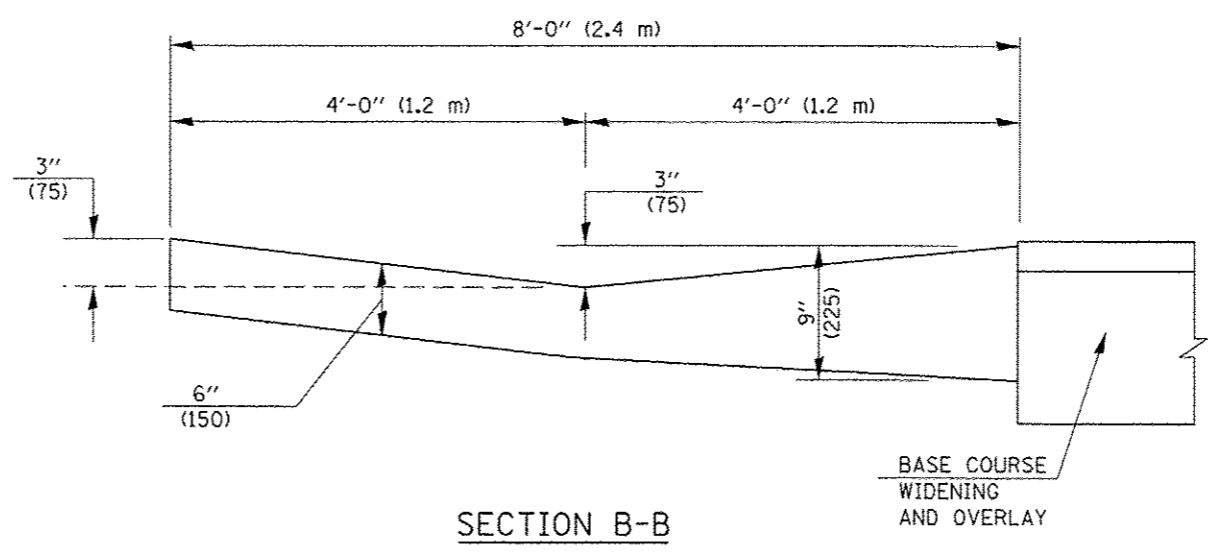
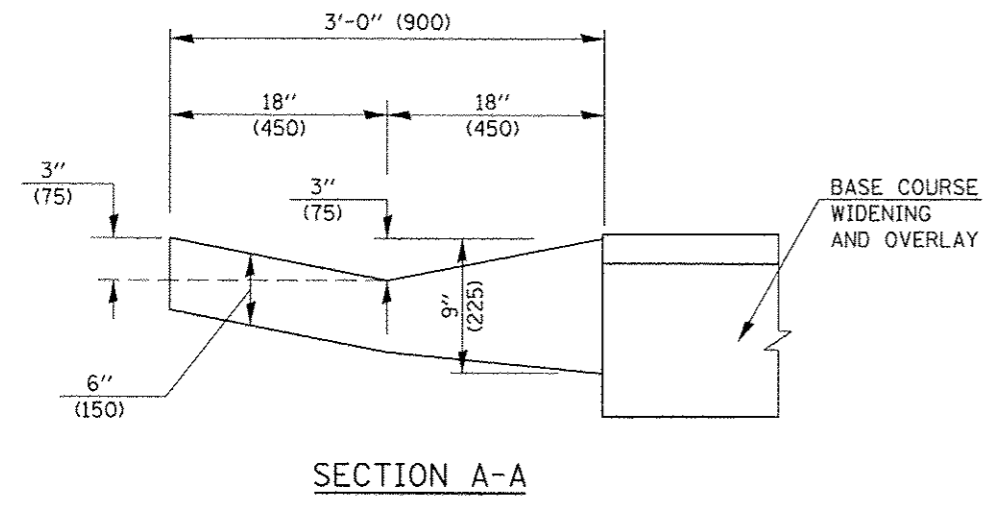
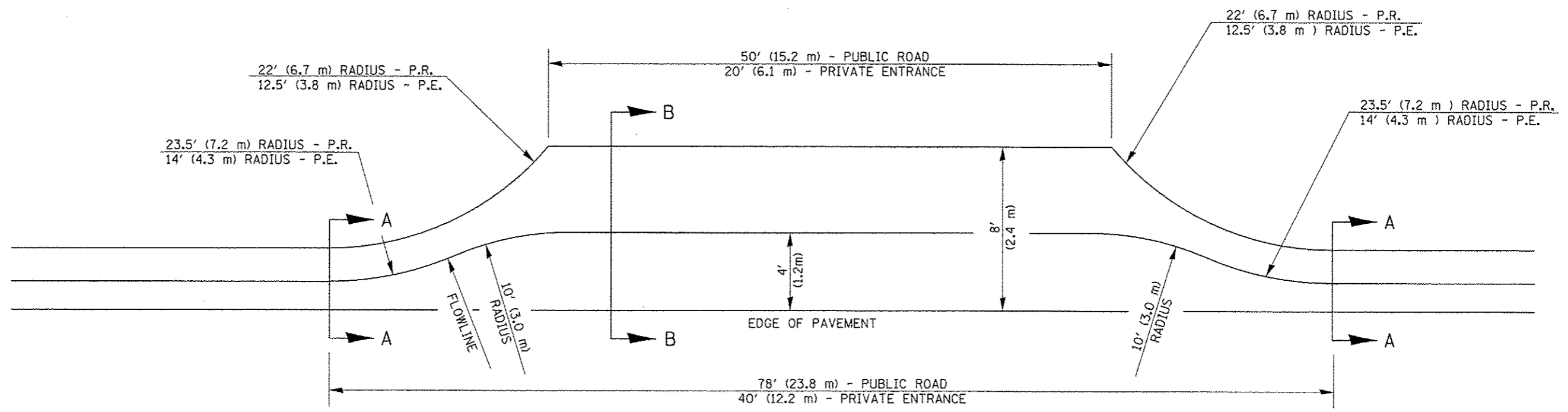
* INCREASE TO 2" (50 mm) WHERE IN THE PLANS IT IS SPECIFIED THAT THESE SPECIAL INLETS ARE TO BE CONSTRUCTED AS OUTLETS. ALL OUTLET LOCATIONS WILL BE CONFIRMED BY THE ENGINEER.

GENERAL NOTES

1. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
2. TIE BARS SHALL BE NO. 6 (NO. 20) AT 24" (600 mm) CENTERS UNLESS OTHERWISE SHOWN. SPECIAL INLETS AND OUTLETS SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001.
3. TIE BARS SHOWN ABOVE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCIDENTAL TO CLASS SI CONCRETE (OUTLET).
4. WHEN SPECIAL INLET IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, THE TIE BARS SHALL BE OMITTED AND ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH A DOWEL BAR CONFORMING TO ARTICLE 1006.11(b).
5. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU. YD. (m³) FOR CLASS SI CONCRETE (OUTLET) WHICH PRICE SHALL INCLUDE ALL LABOR AND MATERIAL AS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

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

FILE NAME =	USER NAME = ceer-lock_jd	DESIGNED =	REVISED = 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INLET - COMBINATION CONCRETE CURB & GUTTER (MOUNTABLE CURB)	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
or\p\work\p\dot\ceer-lock_jd\0120316\DOT	78663-sht\dot\ceer-lock_jd	DRAWN =	REVISED =			•	(2X,3RS-3 & 2RS-4	CHAMPAIGN	551	249	
	PLOT SCALE = 48,8000 1/16"	CHECKED =	REVISED =			•	F.A.U. 7152 & F.A.S. 1512				CONTRACT NO. 70663
	PLOT DATE = 10/18/2013	DATE =	REVISED =			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT				



ESTIMATED QUANTITIES

CLASS SI CONCRETE (OUTLET)	CU. YD. (m ³)
PUBLIC ROAD (P.R.)	12.3 (9.4)
PRIVATE ENTRANCE (P.E.)	5.8 (4.4)

NOTES

PRIVATE ENTRANCE BASED ON 12' (3.6 m) SURFACE AND 20' (6.1 m) RADII. PUBLIC ROADS BASED ON 24' (7.2 m) SURFACE AND 35' (10.7 m) RADII.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. SPECIAL ENTRANCE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD (CUBIC METER) FOR CLASS SI CONCRETE (OUTLET).

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

FILE NAME: \\pswork\p1dot\ccarlock_jd\0120316\0270563-sht-detail.dgn	USER NAME: ccarlock_jd	DESIGNED: -	REVISED: 11/06
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PLOT DATE: 10/16/2013	DATE: -	REVISOR: -	REVISOR: -

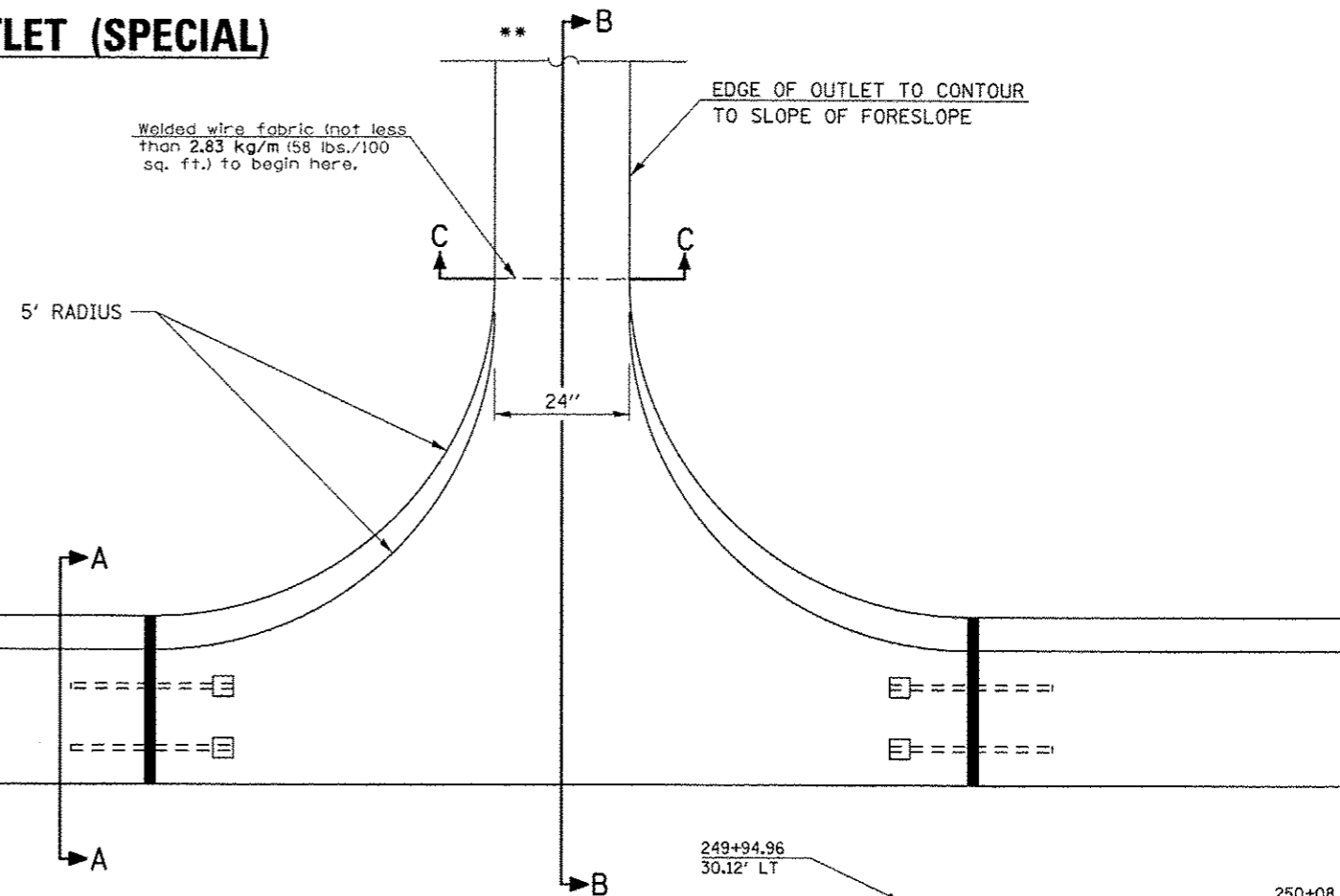
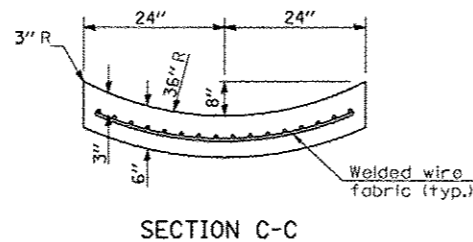
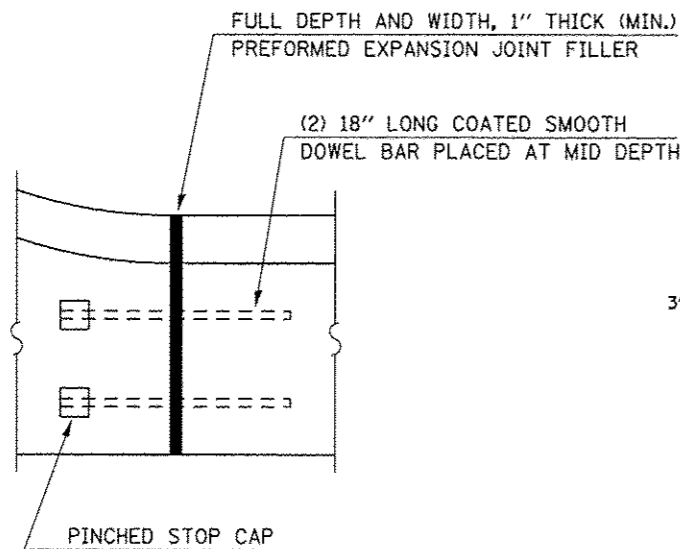
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

ENTRANCE FOR TYPE A GUTTER (MODIFIED)

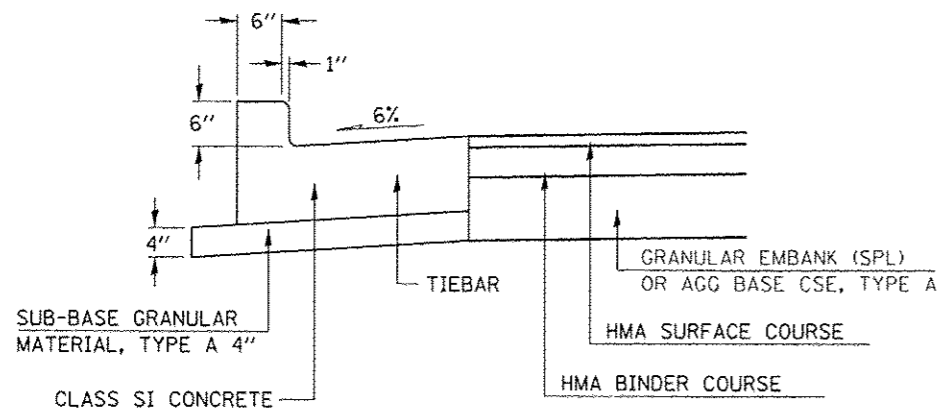
SCALE: SHEET NO. OF SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 606095B			
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS
	(2X,3IRS-3 & 2RS-4)	CHAMPAIGN	551
F.A.U. 7152 & F.A.S. 1512			250
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		CONTRACT NO. 70663

DETAIL OF OUTLET (SPECIAL)

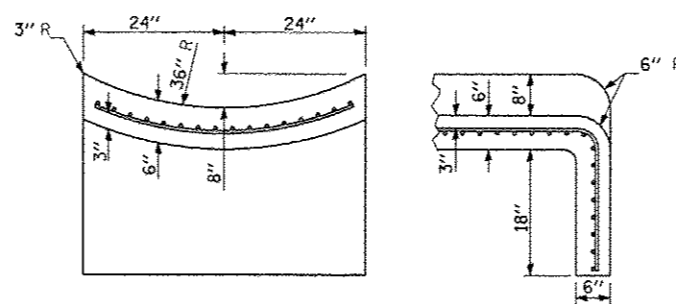


DETAIL OF EXPANSION JOINT

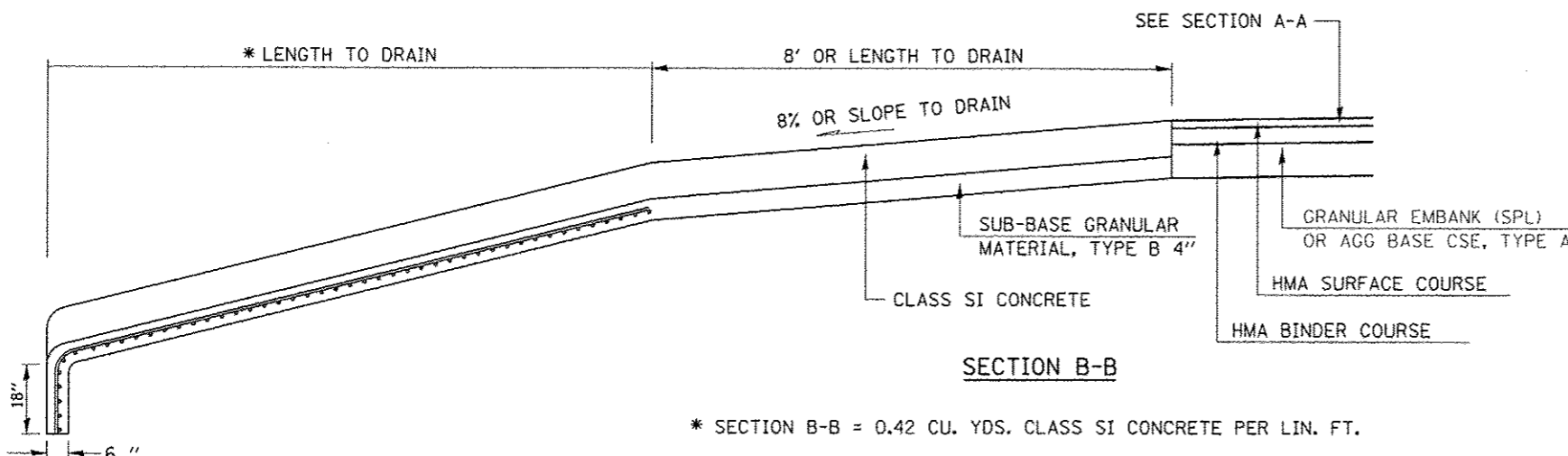
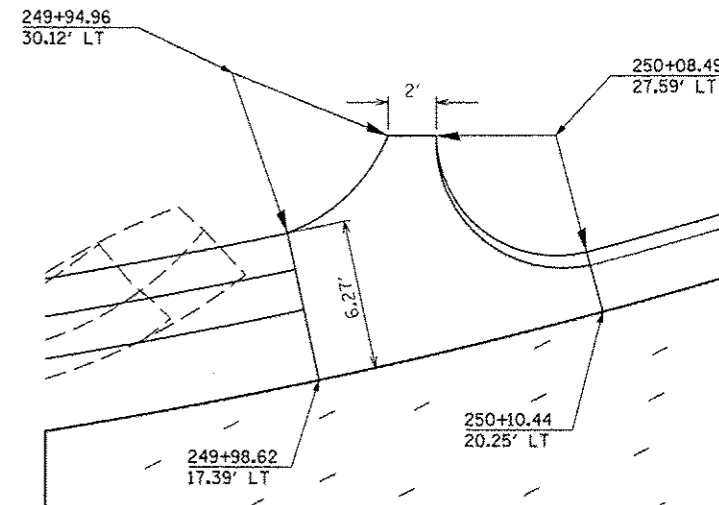


SECTION A-A

WHEN t=8" V=1.21 CU. YDS. CLASS SI CONCRETE + B-B
WHEN t=9" V=1.27 CU. YDS. CLASS SI CONCRETE + B-B
WHEN t=10" V=1.33 CU. YDS. CLASS SI CONCRETE + B-B
WHEN t=11" V=1.38 CU. YDS. CLASS SI CONCRETE + B-B



** SECTIONS AT END OF OUTLET



GENERAL NOTES

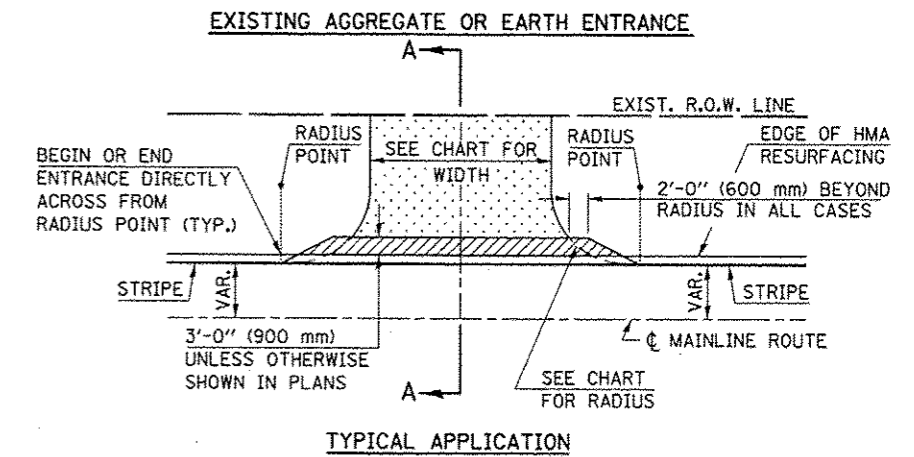
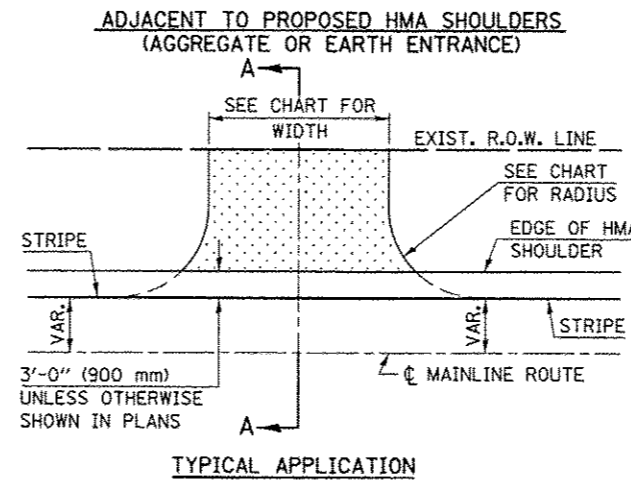
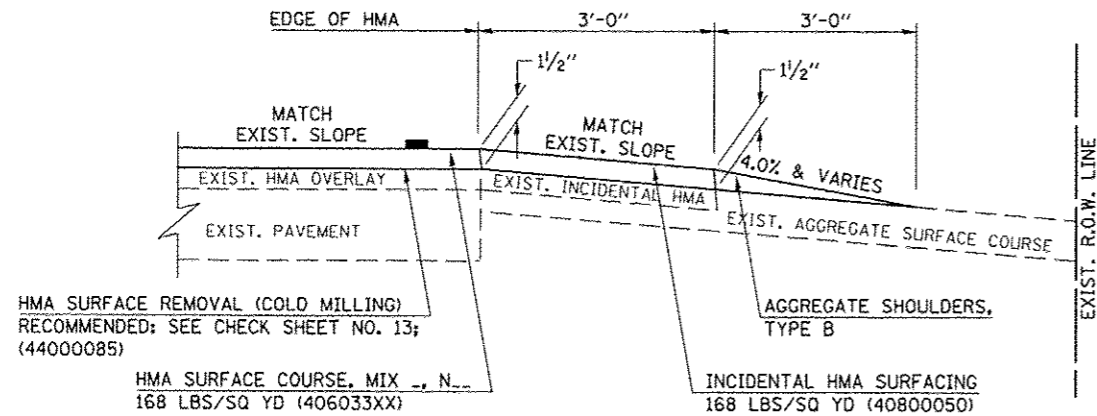
- CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
- TIE BARS SHALL BE NO. 6 (NO. 20) AT 24" (600 mm) CENTERS UNLESS OTHERWISE SHOWN. SPECIAL INLETS AND OUTLETS SHALL BE TIED TO THE PAVEMENT IN ACCORDANCE WITH DETAILS FOR LONGITUDINAL CONSTRUCTION JOINT SHOWN ON STANDARD 420001. TIE BARS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCIDENTAL TO OUTLET (SPECIAL).
- WHEN OUTLET (SPECIAL) IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, THE TIE BARS SHALL BE OMITTED AND ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH A DOWEL BAR CONFORMING TO ARTICLE 1006.11(b).
- THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CU. YD. (m³) FOR OUTLET (SPECIAL) WHICH PRICE SHALL INCLUDE ALL LABOR AND MATERIAL AS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

FILE NAME : c:\p\work\p\dtd\cearlock_jd\0120310\70663-shd-detail.dgn	USER NAME : cearlock_jd	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF OUTLET (SPECIAL)		F.A.U. RITE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 4/8" = 1' / 1"	PLOT DATE = 10/10/2013	DRAWN - JMS	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	• (2X,3RS-3 & 2RS-4	CHAMPAIGN	551	251	
		CHECKED -	REVISED -					• F.A.U. 7152 & F.A.S. 1512				
		DATE - 062911	REVISED -									

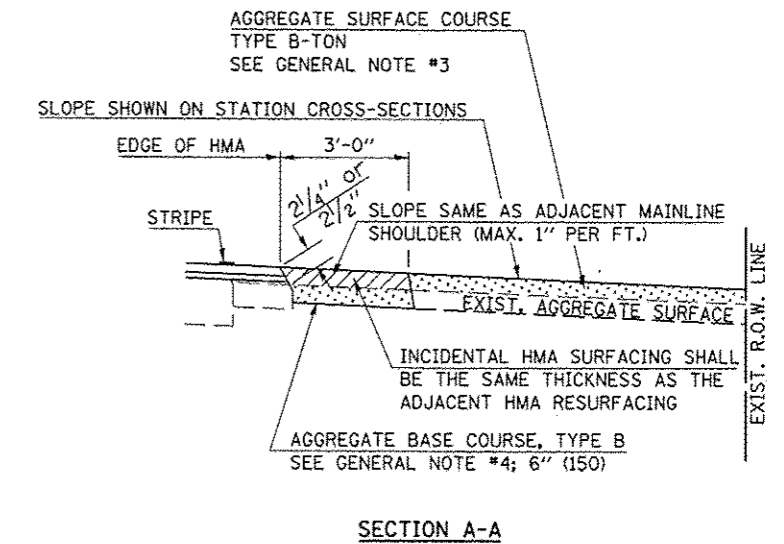
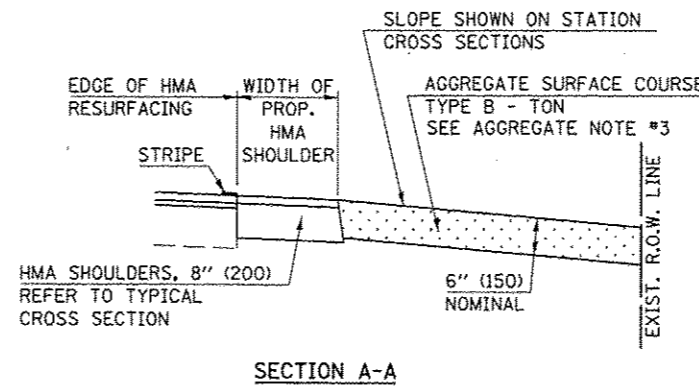
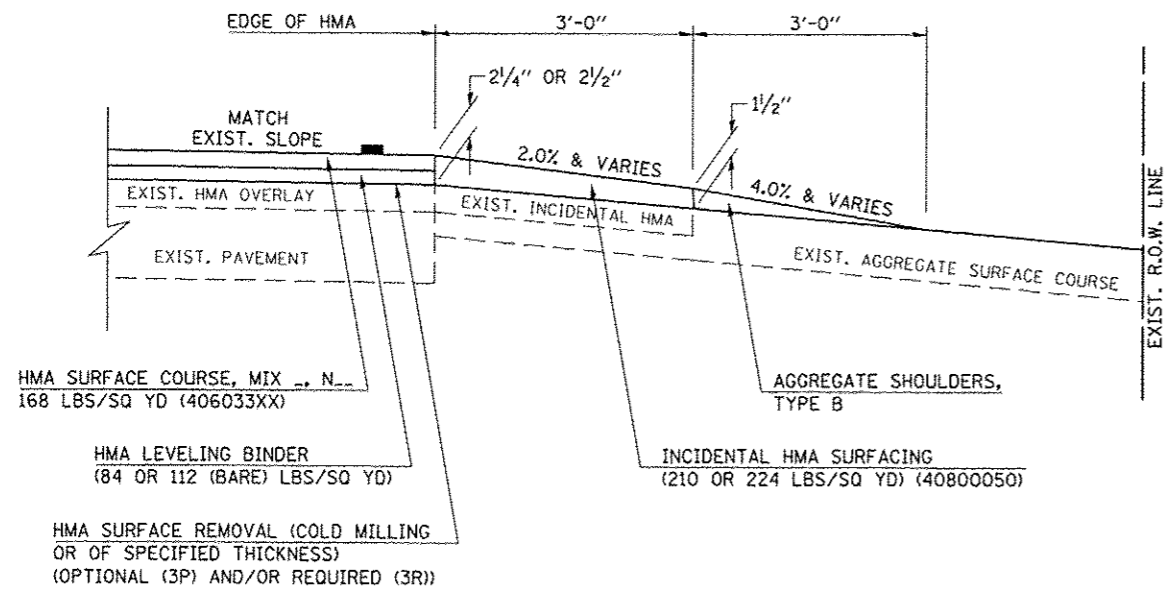
PROJECTS WITHOUT RECONSTRUCTION
 ("3R" WITHOUT RECONSTRUCTION, 3P, SMART AND CM)

PROJECTS WITH RECONSTRUCTION
 ("3R" IMPROVEMENTS AND SMART/3P "SPOT" LOCATIONS)

S.M.A.R.T. IMPROVEMENTS
 (POLICY RESURFACING; BDE 53-4.03; 1 1/2")



"3P" OR "3R" IMPROVEMENTS
 (POLICY RESURFACING; BDE 53-4.02; 2 1/4" OR 2 1/2" ON BARE CONCRETE)



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

DISTRICT 5 DETAIL NO. 40800050A

FILE NAME : c:\pwork\spidat\aarlock\jd0120716\70663-sht-detail.dgn	USER NAME : aarlockjd	DESIGNED -	REVISED - 12/01/06 TJB
PLOT SCALE = 40.0000' / in.		DRAWN -	REVISED - 09/21/07 KAG
PLOT DATE = 10/10/2013		CHECKED -	REVISED - 04/30/08 KJT
		DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

FIELD ENTRANCES (NONCOMMERCIAL RURAL)

SCALE: NA SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
• F.A.U. 7152 & F.A.S. 1512	12X, 31RS-3 & 2RS-4	CHAMPAIGN	561	253
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			CONTRACT NO. 70663

GENERAL NOTES

1. THE EXISTING SURFACE SHALL BE PREPARED IN ACCORDANCE WITH SECTION 408 OF THE STANDARD SPECIFICATIONS.
2. ANY NECESSARY WORK BEHIND THE HMA SHOULDER OR THE INCIDENTAL HMA SURFACING SHALL BE AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
3. EARTH EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE AGGREGATE SURFACE COURSE SHALL BE INCLUDED IN THE COST OF AGGREGATE SURFACE COURSE.
4. AGGREGATE BASE COURSE, TYPE B, 6" (150 mm) MIN. SHALL BE USED WHERE IN THE OPINION OF THE ENGINEER THERE IS NOT SUFFICIENT BASE MATERIAL FOR THE PROPOSED ENTRANCES. THIS MATERIAL SHALL GENERALLY BE USED TO WIDEN ANY EXISTING RETURN OR TO CONSTRUCT NEW ENTRANCES WHERE NONE NOW EXISTS.
5. THE AGGREGATE BASE COURSE SHALL BE CONSTRUCTED 12" (300 mm) WIDER THAN THE SURFACE DIMENSIONS AS SHOWN ABOVE.
6. EXISTING FIELD ENTRANCES OF AGGREGATE OR EARTH WITH NO HMA APRON SHALL NOT RECEIVE A NEW HMA APRON WITHOUT PROPER APPROVAL THROUGH THE BUREAU OF OPERATIONS "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS".
7. TO ASSURE APPROPRIATE ACCESS POLICIES ARE FOLLOWED ALL NEW ACCESS SHALL BE APPLIED FOR THROUGH THE BUREAU OF OPERATIONS PERMIT APPLICATION PROCESS. PLAN PREPARATION MEMORANDUMS 40-09 AND 40-11 ALONG WITH DISTRICT CONSTRUCTION MEMORANDUM 03/14 DISCUSS THIS PROCEDURE.

RURAL ENTRANCE DESIGN STANDARDS (PPM 40-09)																
DESIGN ELEMENT	NEW CONSTRUCTION & 3R with RECONSTRUCTION						3R w/out RECONSTRUCTION, 3P, SMART & CM									
	NONCOMMERCIAL			FIELD W/ FARM IMPLEMENTS			COMMERCIAL			NONCOMMERCIAL			COMMERCIAL			
	PRIVATE & FIELD			FIELD W/ FARM IMPLEMENTS			COMMERCIAL			PRIVATE & FIELD			COMMERCIAL			
	min.	des.	max.	min.	max.	min.	des.	max.	min.	des.	max.	min.	des.	max.		
SURFACE WIDTH (FT)							1 LANE, 1 WAY						1 LANE, 1 WAY			
	12	16	24	24	30	14	16	24								
							2 LANE, 2 WAY						2 LANE, 2 WAY			
RADIUS (FT)	15	25	40	30		20	30	50	resurface existing configuration; existing aggregate or earth entrances shall have the continuation of aggregate shoulders placed behind them							
SHOULDER WIDTH (FT)	2	2		2		1	3									
SHOULDER SLOPE (%)	2	4	6	4		2	4	6								
ENTRANCE GRADE (%)	0	2 to 5	10 or 12	2 to 5	10 or 12	0	2 to 5	8 or 10								
SIDE SLOPE (FT)	1:4	1:6	1:10	1:4	1:6	1:4	1:6	1:10								
SURFACE TYPE																
INCIDENTAL HMA SURFACING (INCH)		2		2		3 or 4			taper from hma resurfacing thickness (2 1/2", 2 1/4" or 1 1/2") to 1 1/2" to minimize aggregate shoulder							
AGGREGATE SURFACE COURSE, TYPE B (INCH)		6		6		8			if applicable use items: Preparation of Base & Aggregate Base Repair; see PPM 30-02							
PCC DRIVEWAY PAVEMENT (INCH)		6						6 or 8								

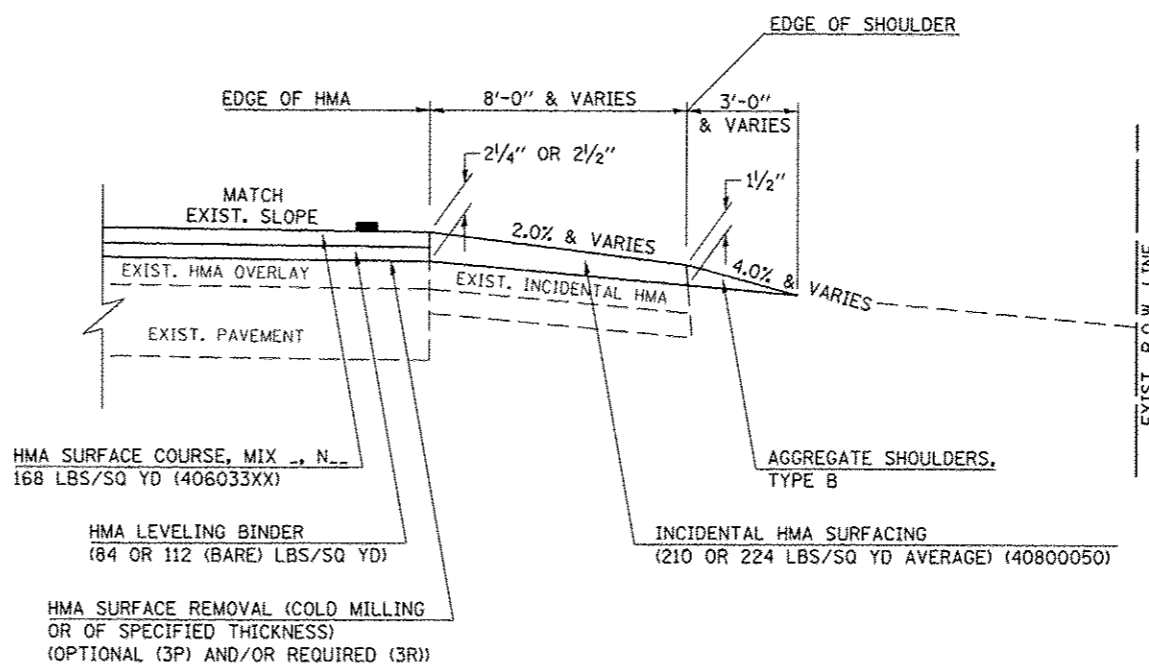
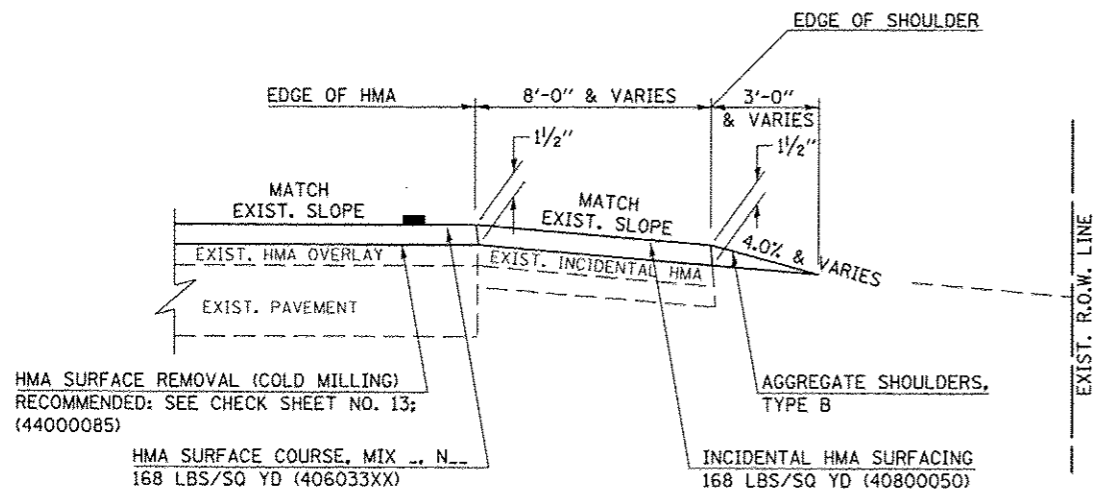
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME : c:\pwwork\pwwid01\ccon-look\j\8128316\0270663-shr-de-tail.dgn	USER NAME : con-look.j	DESIGNED : -	REVISOR : -	12/01/06 TJB	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIELD ENTRANCES (NONCOMMERCIAL RURAL)	F.A.U. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLT SCALE : 40.0000' = 1" =	CHECKED : -	REVISOR : -	09/21/07 KAG	• (2X,3)RS-3 & 2RS-4			CHAMPAIGN	551	254		
PLT DATE : 10/18/2013	DATE : -	REVISOR : -	04/30/08 KJT	• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663				
				FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT			

PROJECTS WITHOUT RECONSTRUCTION

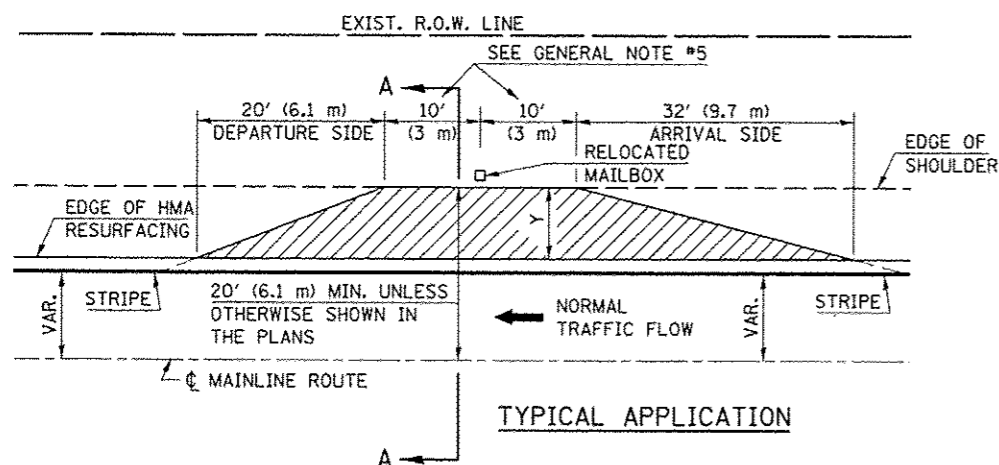
S.M.A.R.T. IMPROVEMENTS
(POLICY RESURFACING; BDE 53-4.03; 1/2")

"3P" OR "3R" IMPROVEMENTS
(POLICY RESURFACING; BDE 53-4.02; 2/4" OR 2/2" ON BARE CONCRETE)



GENERAL NOTES

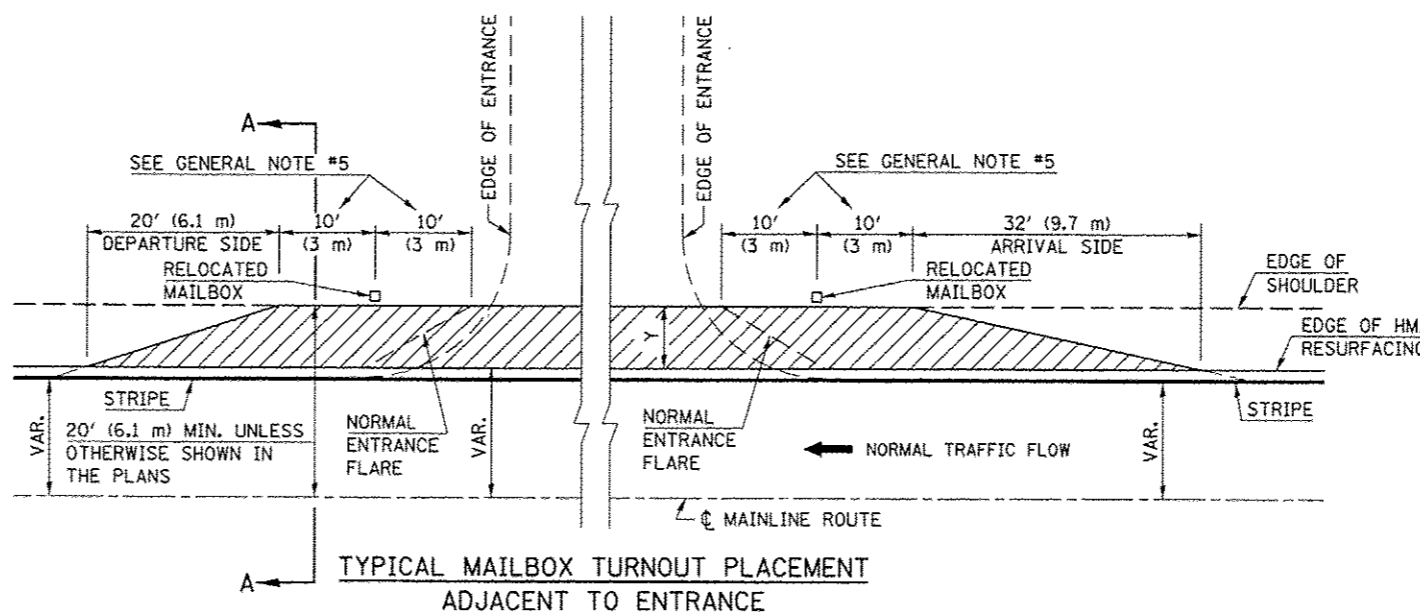
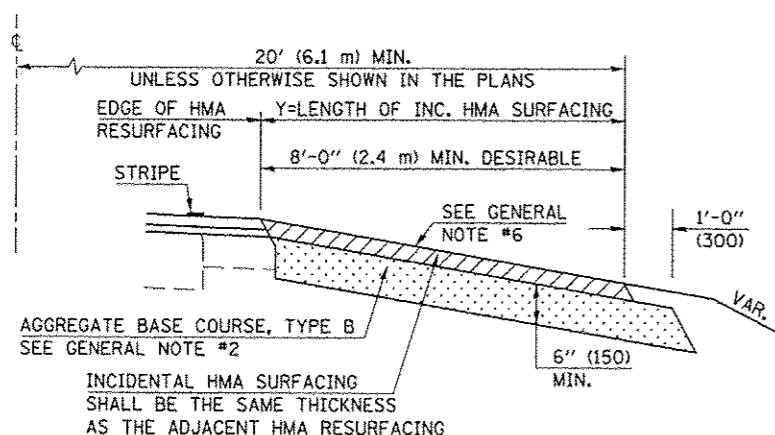
1. THE EXISTING SURFACE SHALL BE PREPARED IN ACCORDANCE WITH SECTION 408 OF THE STANDARD SPECIFICATIONS.
2. AGGREGATE BASE COURSE, TYPE B, 6" (150) MIN. SHALL BE USED WHERE IN THE OPINION OF THE ENGINEER THERE IS NOT SUFFICIENT BASE MATERIAL FOR THE PROPOSED MAILBOX TURNOUTS. THIS MATERIAL SHALL GENERALLY BE USED TO WIDEN ALL EXISTING MAILBOX TURNOUTS OR TO CONSTRUCT NEW MAILBOX TURNOUTS WHERE NONE NOW EXISTS.
3. ANY NECESSARY WORK BEHIND THE INCIDENTAL HMA SURFACING SHALL BE AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
4. THE TEMPORARY RELOCATION OF EXISTING MAILBOXES SHALL BE IN ACCORDANCE WITH ARTICLE 107.20 OF THE STANDARD SPECIFICATIONS.
5. WHEN MORE THAN ONE RELOCATED MAILBOX IS INCLUDED IN A PARTICULAR LOCATION THE TWO 10' (3 m) DIMENSIONS AS SHOWN ABOVE SHALL BE FROM THE END MAILBOX.
6. CROSS SLOPE SHALL BE AS SHOWN ON THE STATION CROSS SECTIONS AND/OR AS DIRECTED BY THE ENGINEER. MINIMUM 4% (1/2") DESIRABLE; MAXIMUM 8% (1")
7. WHEN MAILBOX TURNOUTS ARE CONSTRUCTED ADJACENT TO FIELD ENTRANCES, THE WIDTH OF THE INCIDENTAL HMA SURFACING CONSTRUCTED FOR THE FIELD ENTRANCE SHALL MATCH THE WIDTH OF THE PROPOSED MAILBOX TURNOUT SURFACING.
8. THE TOTAL SHOULDER WIDTH, 2.4 m (8') MINIMUM, SHALL BE PAVED BETWEEN SIDEROADS ENTRANCES AND/OR MAILBOX TURNOUTS AT LOCATIONS WHERE THE DISTANCE BETWEEN RADIUS OR TAPER CONTROL POINTS IS LESS THAN 15.0 m (50').
9. MAILBOXES SHALL BE MOUNTED SUCH THAT THE FACE OF THE MAILBOX IS 6" (150 mm) TO 12" (300 mm) AND THE POST A MINIMUM OF 24" (600 mm) FROM THE EDGE OF THE TURNOUT SURFACING.



PROJECTS WITH RECONSTRUCTION

("3R" IMPROVEMENTS)

WIDTH OF SHOULDER	4'-0" - 8'-0" (1.2 m - 2.4 m)	10'-0" (3.0 m)
WIDTH OF TURNOUT "Y"	8'-0" (2.4 m)	8'-0" - 10'-0" (2.4 m - 3.0 m)



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

FILE NAME: c:\pwork\pwork\cconlock\j\0120316\0270663\shd\detail.dgn	USER NAME: cconlockjd	DESIGNED: -	REVISED: - 12/11/06 TJB
PLDT SCALE: 40,0000 / 1	PLDT DATE: 10/18/2013	DRAWN: -	REVISED: - 09/21/07 KAG
		CHECKED: -	REVISED: -
		DATE: -	REVISED: -

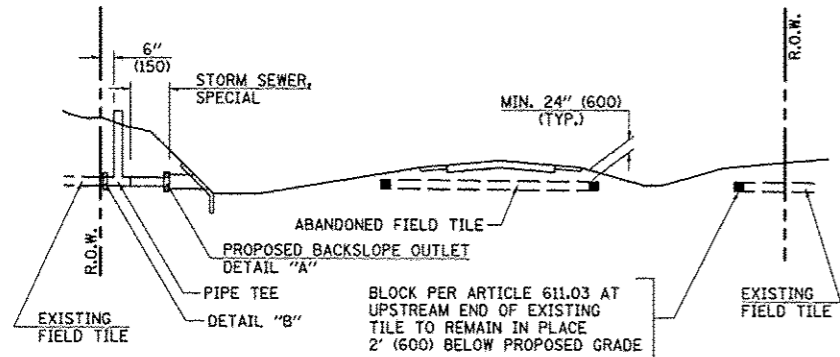
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAILBOX TURNOUT (RURAL)

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

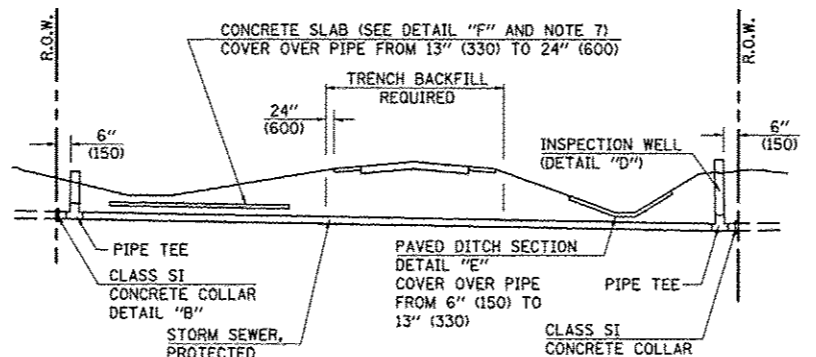
DISTRICT 5 DETAIL NO. 40800050B

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	255
* F.A.U. 7152 & F.A.S. 1512 CONTRACT NO. 70663				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



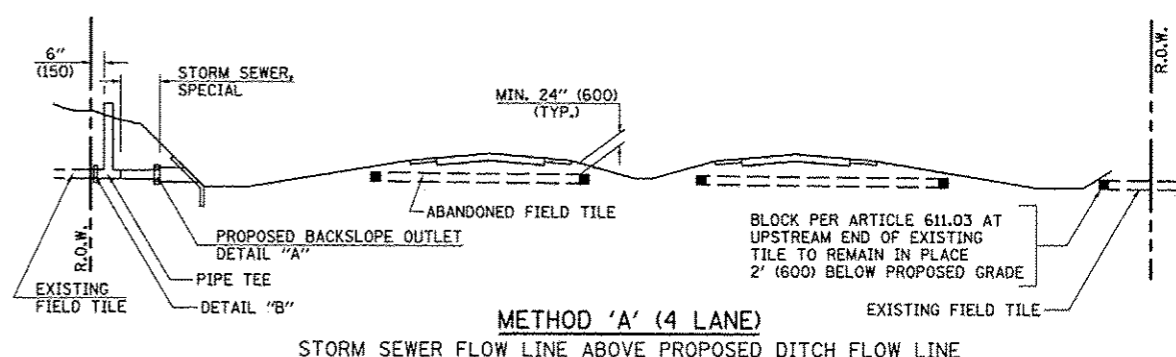
METHOD 'A' (2 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE



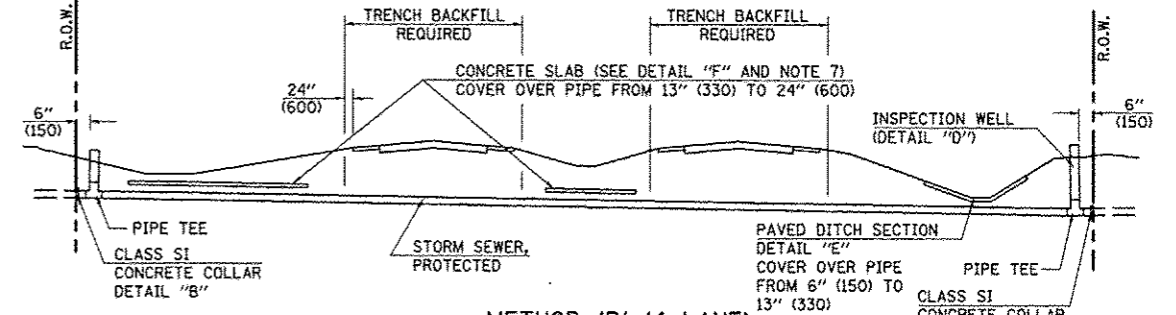
METHOD 'B' (2 LANE)

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



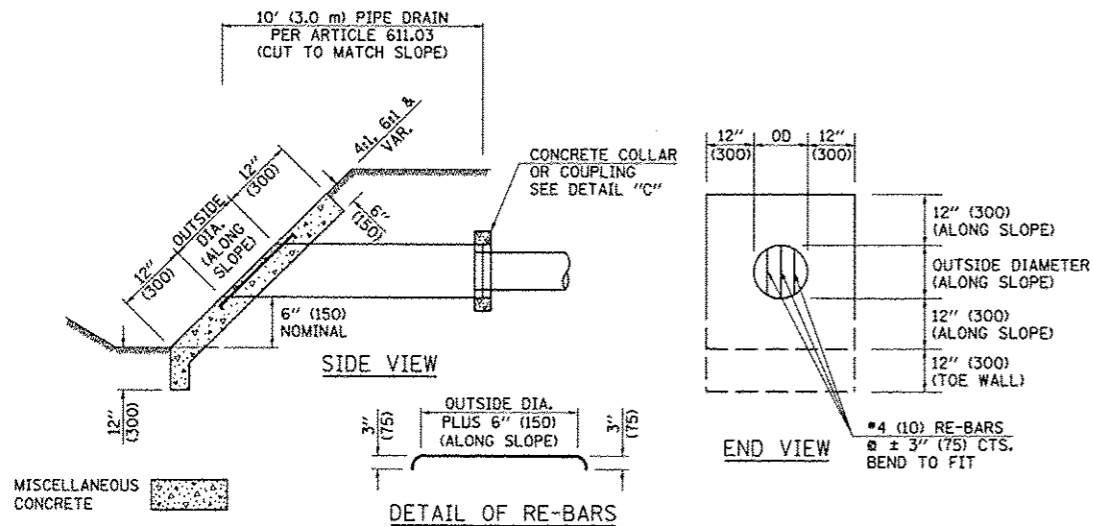
METHOD 'A' (4 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE



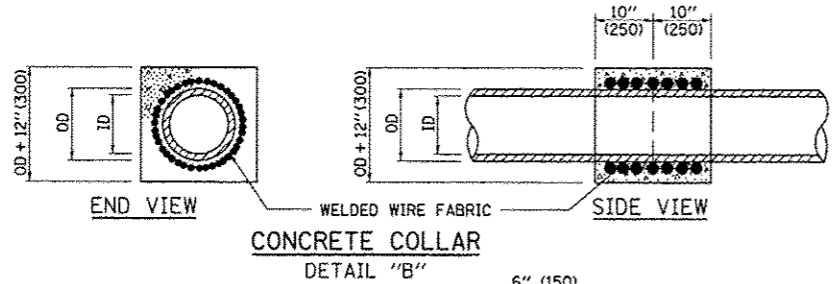
METHOD 'B' (4 LANE)

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



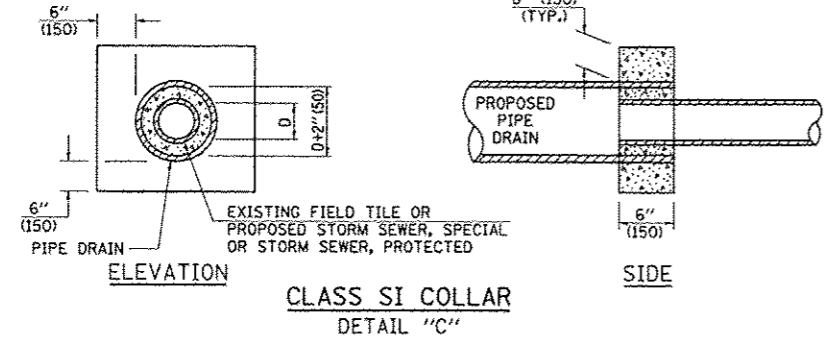
HEADWALL FOR BACKSLOPE OUTLET

DETAIL "A"



CONCRETE COLLAR

DETAIL "B"

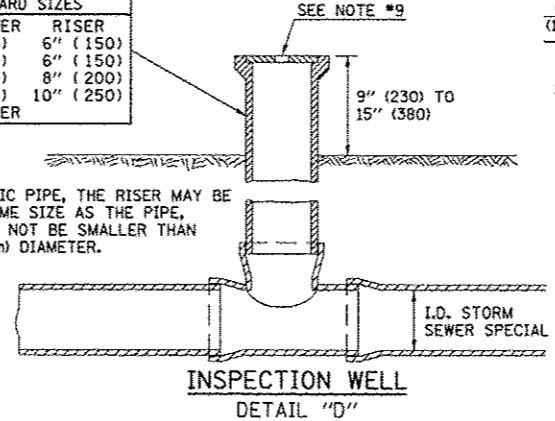


CLASS SI COLLAR

DETAIL "C"

CONCRETE PIPE STANDARD SIZES	
STORM SEWER	RISER
6" (150)	6" (150)
8" (200)	8" (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.

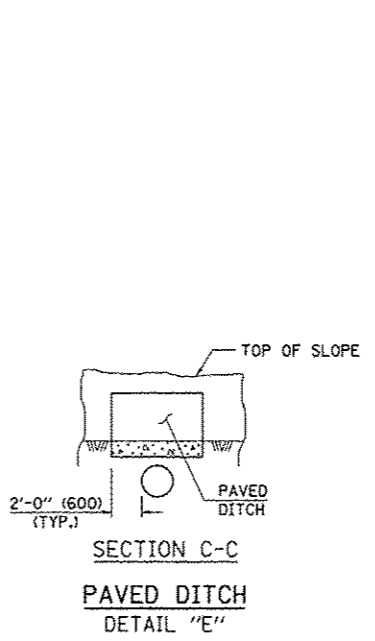


INSPECTION WELL

DETAIL "D"

GENERAL NOTES

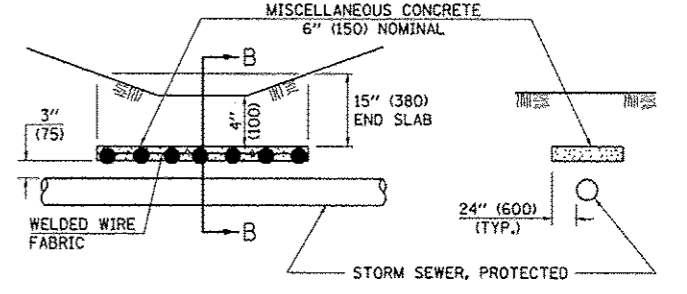
- EXISTING FIELD TILE ENCOUNTERED BY EXPLORATION TRENCH SHALL BE INSPECTED BY THE ENGINEER FOR UNOBSTRUCTED FLOW WITHIN THE LIMITS OF THE RIGHT-OF-WAY.
- ONLY FIELD TILE THAT DOES NOT HAVE SATISFACTORY FLOW AND OR HAS VISIBLE SIGNS OF DETERIORATION (SINK HOLES, ETC.) SHALL BE REPLACED WITHIN THE LIMITS 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.



SECTION C-C

PAVED DITCH

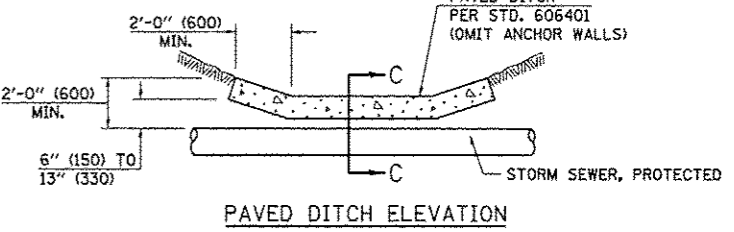
DETAIL "E"



SLAB ELEVATION

CONCRETE SLAB

DETAIL "F"



PAVED DITCH ELEVATION

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

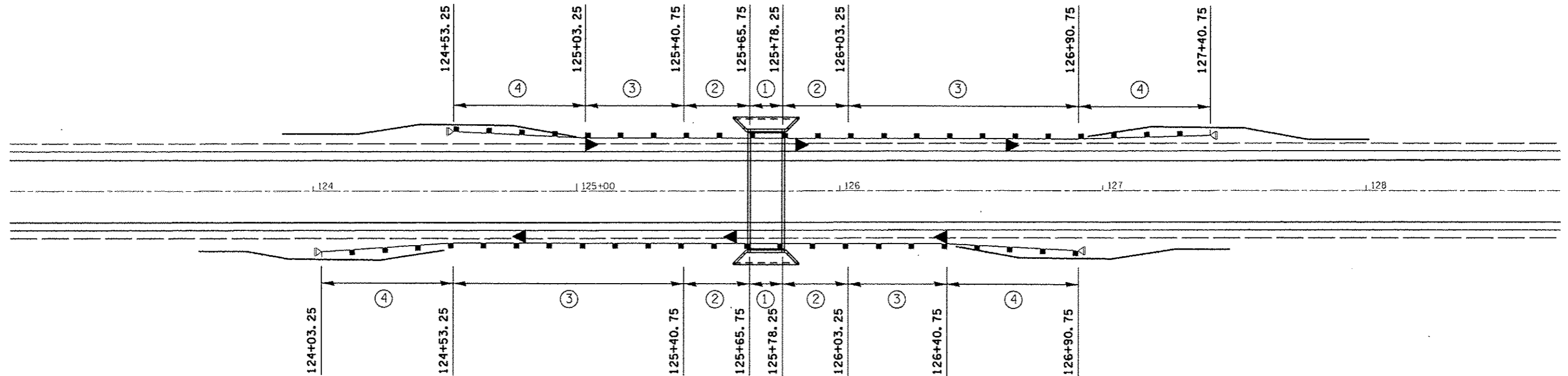
FILE NAME: c:\p\work\pwidth\ccon-lock\10120310\10120310.dwg	USER NAME: ccon-lock.jf	DESIGNED: 7/8/03	REVISED: 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIELD TILE SYSTEMS (TREATMENT OF EXISTING)			F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
	PLOT SCALE: 48.8888' / 1" =	CHECKED:	REVISED:		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	F.A.U. 7152 & F.A.S. 1512	CHAMPAIGN	551	258
	PLOT DATE: 10/18/2013	DATE:	REVISED:								FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
DISTRICT 5 DETAIL NO. 61101011A														

DETAIL NOTES

SHOULDER WIDENING FOR TYPE 1 (SPECIAL) TERMINALS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF NEW GUARDRAIL.

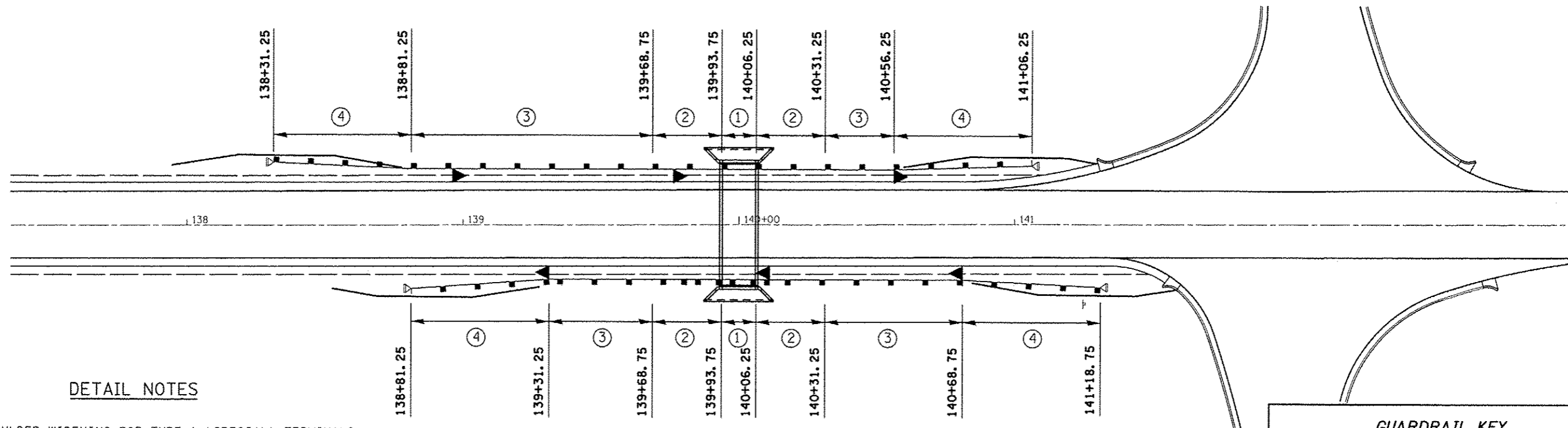
NO ROCK, STONES, MILLINGS, OR BROKEN CONCRETE SHALL BE PERMITTED WITHIN A VERTICLE DISTANCE OF 12" FROM THE SURFACE OF THE FINISHED GRADE OF THE SHOULDER WIDENING.

SHOULDER WIDENING FOR THE TYPE 1 (SPECIAL) TERMINALS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR THE VARIOUS EARTHWORK PAYITEMS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.



GUARDRAIL KEY	
①	STEEL PLATE BEAM GUARDRAIL ATTACHED TO STRUCTURE
②	STEEL PLATE BEAM GUARDRAIL, TYPE B
③	STEEL PLATE BEAM GUARDRAIL, TYPE A 6' POST SPACING
④	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL), TANGENT
◀	REFLECTOR MARKERS, TYPE A

FILE NAME : c:\pwwork\puidata\cconlook\jd\0120316\070663-sht-detail.dgn	USER NAME : cconlook.jd	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL DETAILS	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE : 48.0000 / in.	CHECKED -	REVISED -	• F.A.U. 7152 & F.A.S. 1512			(2X)RS-3 & 2RS-4	CHAMPAIGN	551	260	
PLOT DATE : 10/10/2013	DATE - 062911	REVISED -	ILLINOIS FED. AID PROJECT			CONTRACT NO. 70663				
						SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	



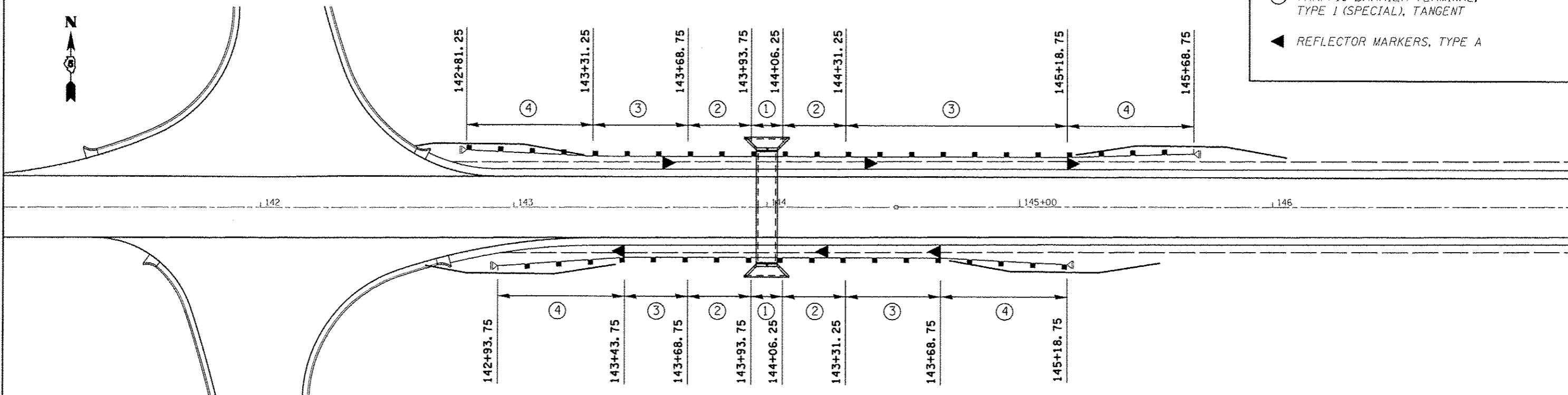
DETAIL NOTES

SHOULDER WIDENING FOR TYPE 1 (SPECIAL) TERMINALS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF NEW GUARDRAIL.

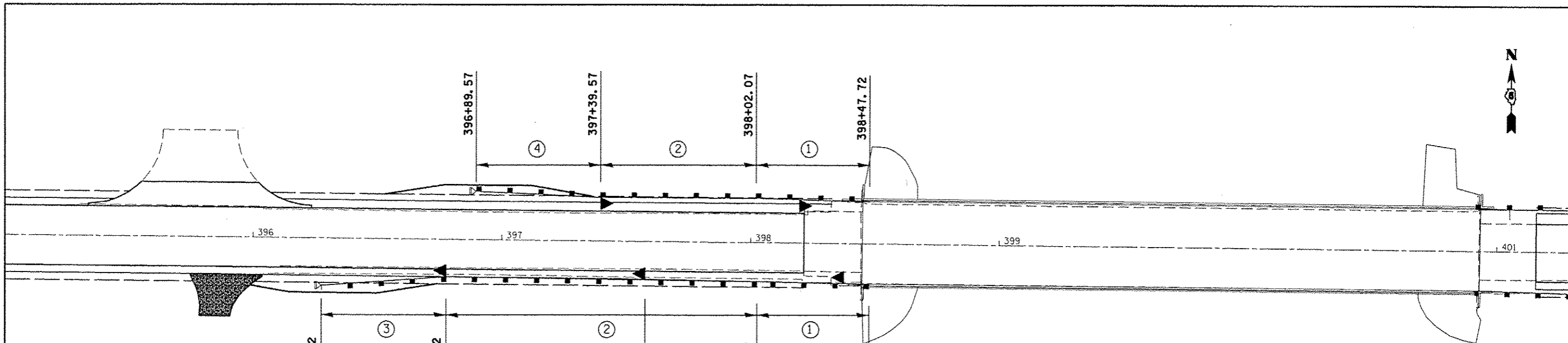
NO ROCK, STONES, MILLINGS, OR BROKEN CONCRETE SHALL BE PERMITTED WITHIN A VERTICAL DISTANCE OF 12" FROM THE SURFACE OF THE FINISHED GRADE OF THE SHOULDER WIDENING.

SHOULDER WIDENING FOR THE TYPE 1 (SPECIAL) TERMINALS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR THE VARIOUS EARTHWORK PAYITEMS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

GUARDRAIL KEY	
①	STEEL PLATE BEAM GUARDRAIL ATTACHED TO STRUCTURE
②	STEEL PLATE BEAM GUARDRAIL, TYPE B
③	STEEL PLATE BEAM GUARDRAIL, TYPE A 6' POST SPACING
④	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL), TANGENT
◀	REFLECTOR MARKERS, TYPE A



FILE NAME : c:\pwwork\pwwork\cbarlock\jld\20316\0570663-sht-details.dgn	USER NAME : cbarlockjld	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL DETAILS		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLLOT SCALE : 40.0000' / in.	CHECKED - JMS	REVISED -	REVISED -		SCALE: NONE	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	261
PLLOT DATE : 10/10/2010	DATE - 062911	REVISED -	REVISED -						F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663
									ILLINOIS FED. AID PROJECT			



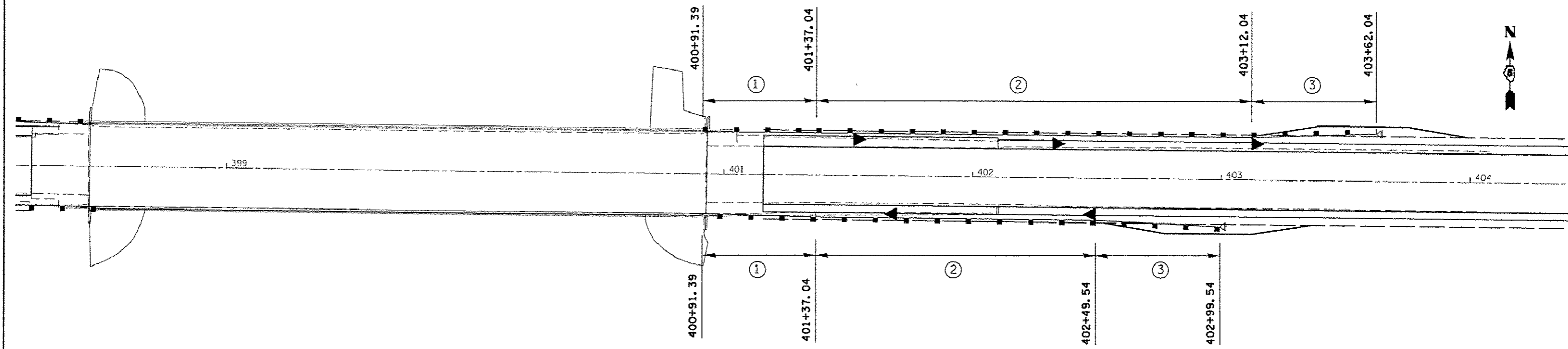
DETAIL NOTES

SHOULDER WIDENING FOR TYPE 1 (SPECIAL) TERMINALS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF NEW GUARDRAIL.

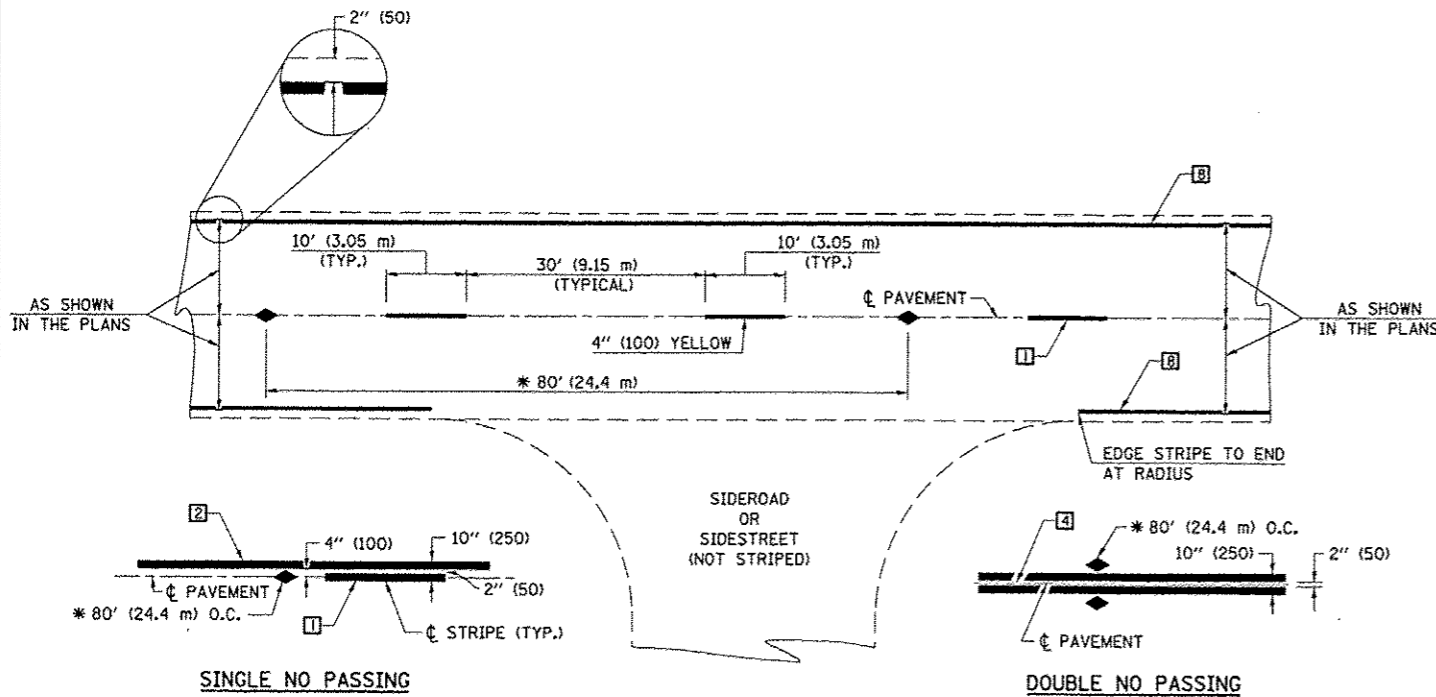
NO ROCK, STONES, MILLINGS, OR BROKEN CONCRETE SHALL BE PERMITTED WITHIN A VERTICAL DISTANCE OF 12" FROM THE SURFACE OF THE FINISHED GRADE OF THE SHOULDER WIDENING.

SHOULDER WIDENING FOR THE TYPE 1 (SPECIAL) TERMINALS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR THE VARIOUS EARTHWORK PAYITEMS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

GUARDRAIL KEY	
①	STEEL PLATE BEAM GUARDRAIL ATTACHED TO STRUCTURE
②	STEEL PLATE BEAM GUARDRAIL, TYPE A 6' POST SPACING
③	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL), TANGENT
◀	REFLECTOR MARKERS, TYPE A



FILE NAME : c:\pwork\pwork\c00rlockj\d0120310\070663-ahd-detail.dgn	USER NAME : c00rlockj	DESIGNED : JMS	REVISED : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL DETAILS	F.A.U. RTE. :	SECTION :	COUNTY :	TOTAL SHEETS :	SHEET NO. :
		DRAWN : JMS	REVISED : -			• (2X,3RS-3 & 2RS-4	CHAMPAIGN	551	262	
		CHECKED : -	REVISED : -			• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663	
		DATE : 062911	REVISED : -			ILLINOIS FED. AID PROJECT				
		PLOT SCALE : 48.0000' / in.		SCALE: NONE	SHEET NO. 3 OF 3 SHEETS	STA.	TO STA.			
		PLOT DATE : 10/10/2013								



* 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

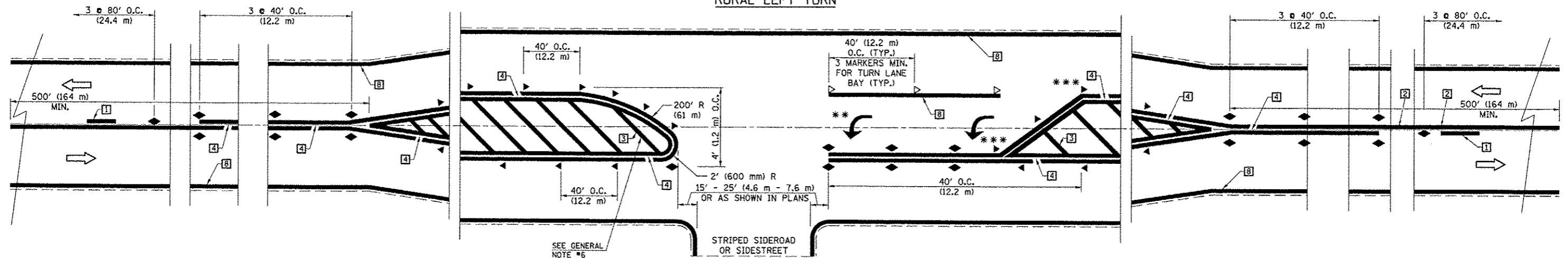
TYPICAL PAVEMENT MARKING LEGEND

- 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.

FILE NAME =	USER NAME = ceerlook.jd	DESIGNED =	REVISED = 11/06
c:\pwork\pwork\ceerlook\09120016\0570663-shr-de-tail.dgn	0663-shr-de-tail.dgn	DRAWN =	REVISED = 09/2009 - KJT
	PLOT SCALE = 48.0000 / in.	CHECKED =	REVISED =
	PLOT DATE = 10/10/2013	DATE =	REVISED =

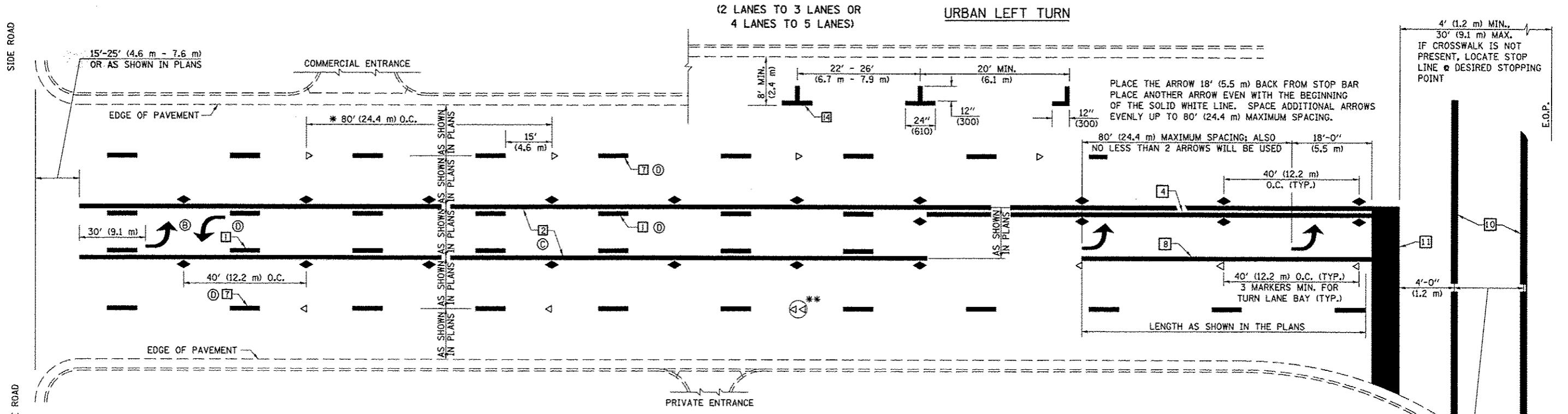
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

SCALE: SHEET NO. 1 OF 4 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 7800AAAA

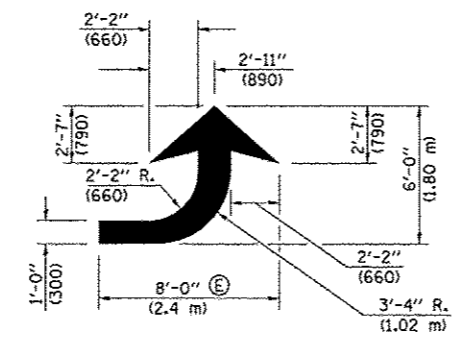
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	263
• F.A.U. 7152 & F.A.S. 1512 CONTRACT NO. 70663				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



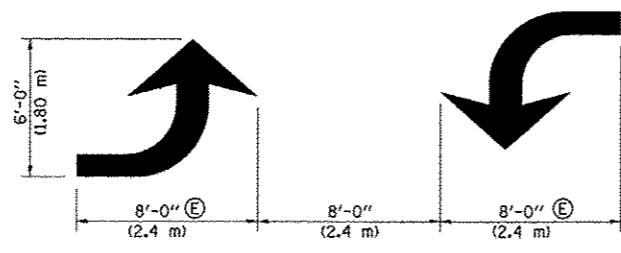
* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

** 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)

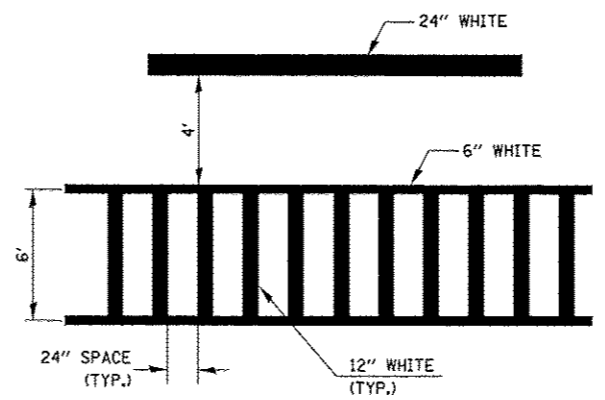


LEFT ARROW
 REVERSE FOR RIGHT ARROW
 AREA = 15.6 SQ. FT. (1.47 m²)
 (WHITE)

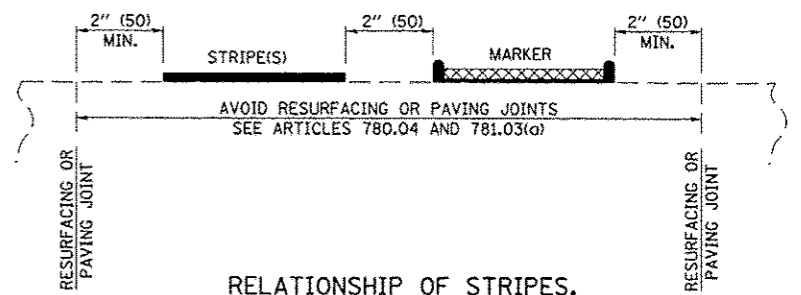


TYPICAL DOUBLE TURN ARROWS (WHITE)

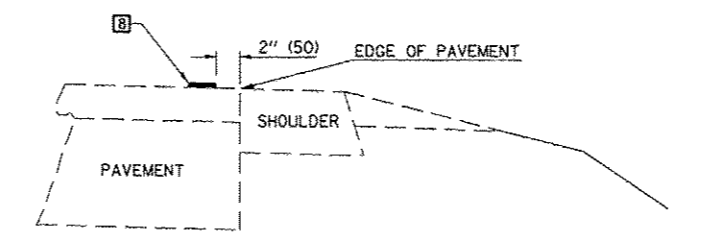
BLOOMINGTON-NORMAL CITY LIMITS ONLY



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

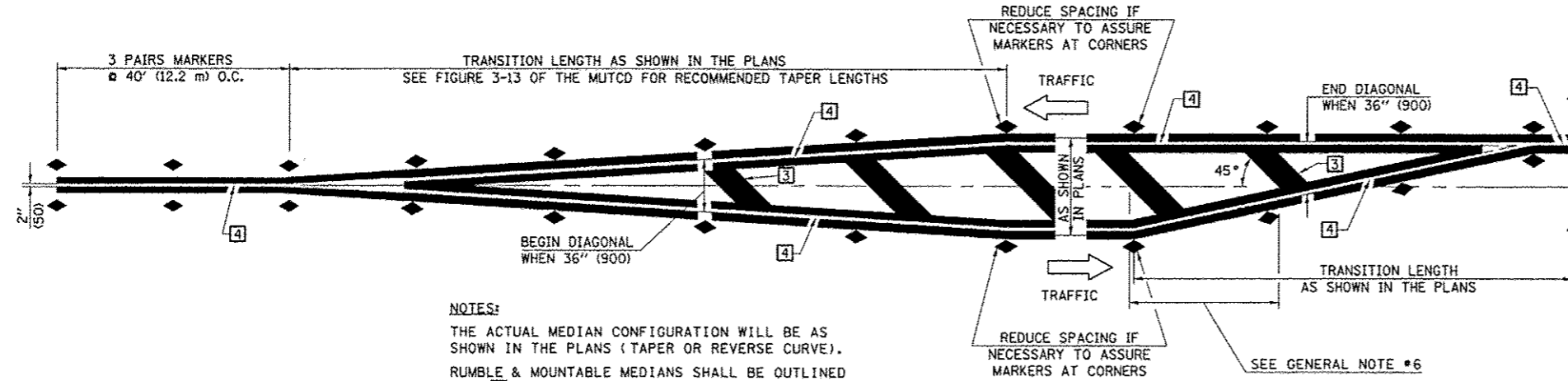
CROSSWALK WIDTH 6'-0" (1.8 m) OR AS SHOWN IN THE PLANS

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

FILE NAME:	USER NAME: ceerlockjd	DESIGNED: -	REVISED: - 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pwork\pwork\ceerlockjd\8120316\05	78063-sh1-deta1.dgn	DRAWN: -	REVISED: - 09/2009 - KJT			•	(2X,3RS-3 & 2RS-4	CHAMPAIGN	551	264
	PLOT SCALE = 48.0000 1/16"	CHECKED: -	REVISED: -			• F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663			
	PLOT DATE = 10/10/2013	DATE: -	REVISED: -			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

DISTRICT 5 DETAIL NO. 7800AAA

SCALE: SHEET NO. 2 OF 4 SHEETS STA. TO STA.

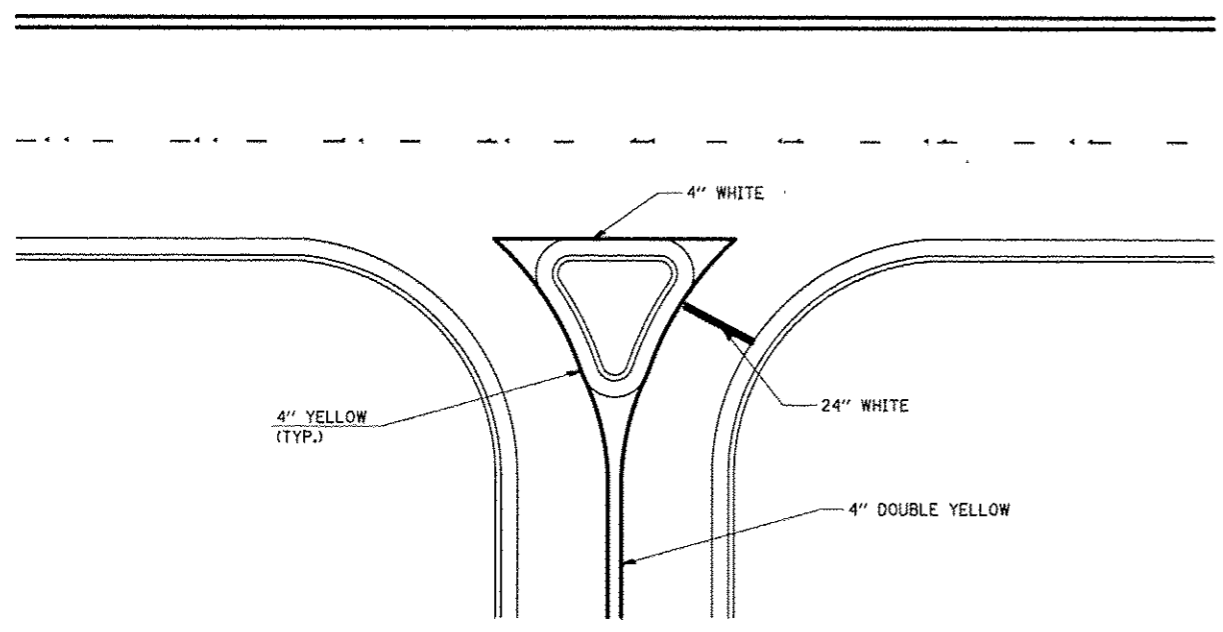


NOTES:
 THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).
 RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

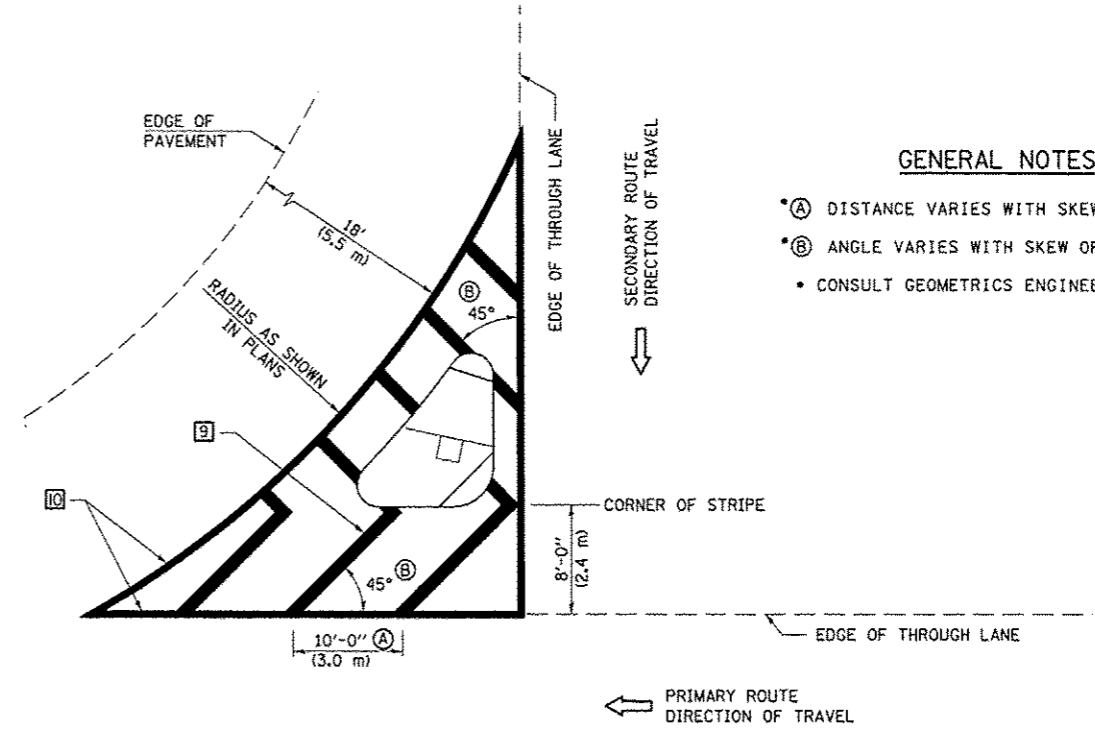
TYPICAL MEDIAN TRANSITIONS

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



GENERAL NOTES

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

ISLAND

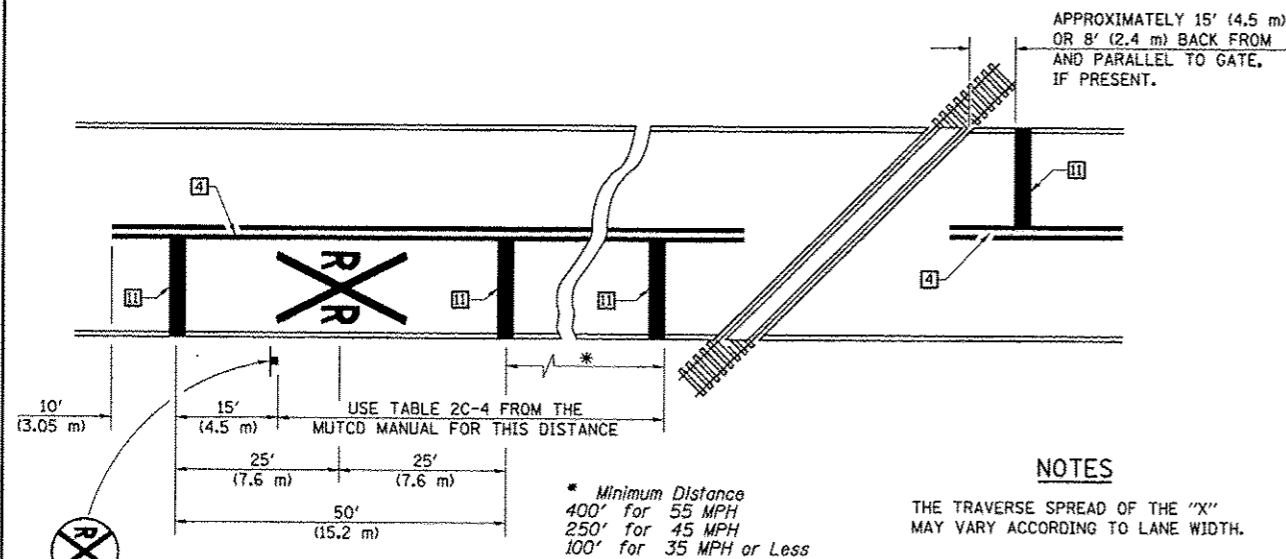
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME :	USER NAME : ceerlook_jd	DESIGNED	REVISED - 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cd:\pw_work\pvidot\ceerlook_jd\09120316\0578663-shc-date13.dgn	DRAWN -	REVISED - 09/2009 - KJT	• (2X,3RS-3 & 2RS-4			CHAMPAIGN	551	265		
PLOT SCALE = 48,0000 1/16"	CHECKED -	REVISED -	• F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663				
PLOT DATE = 10/18/2013	DATE -	REVISED -	FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 3 OF 4 SHEETS STA. TO STA.

RAILROAD CROSSING WITH INTERCONNECT ONLY

RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



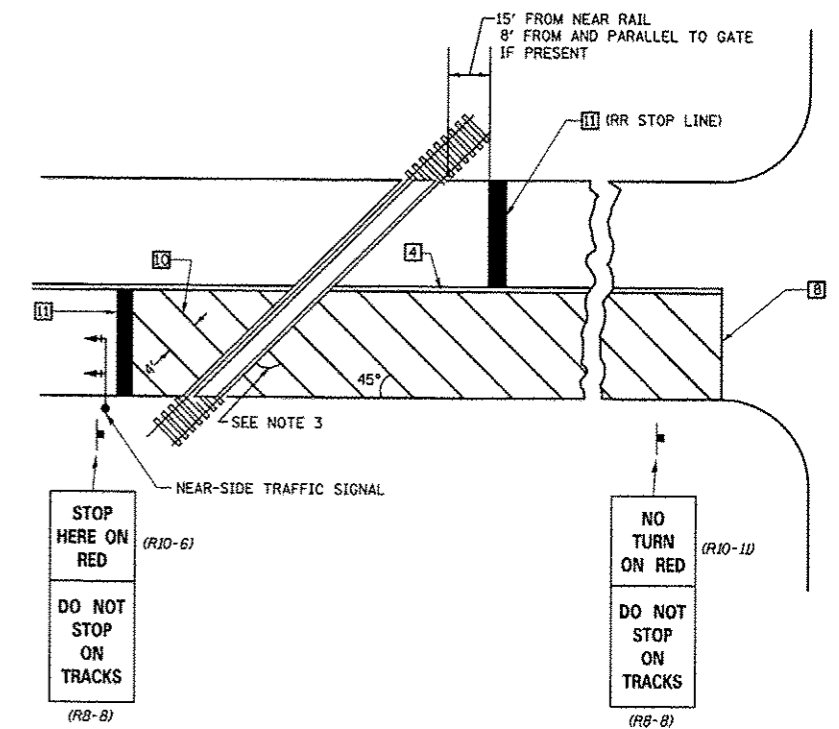
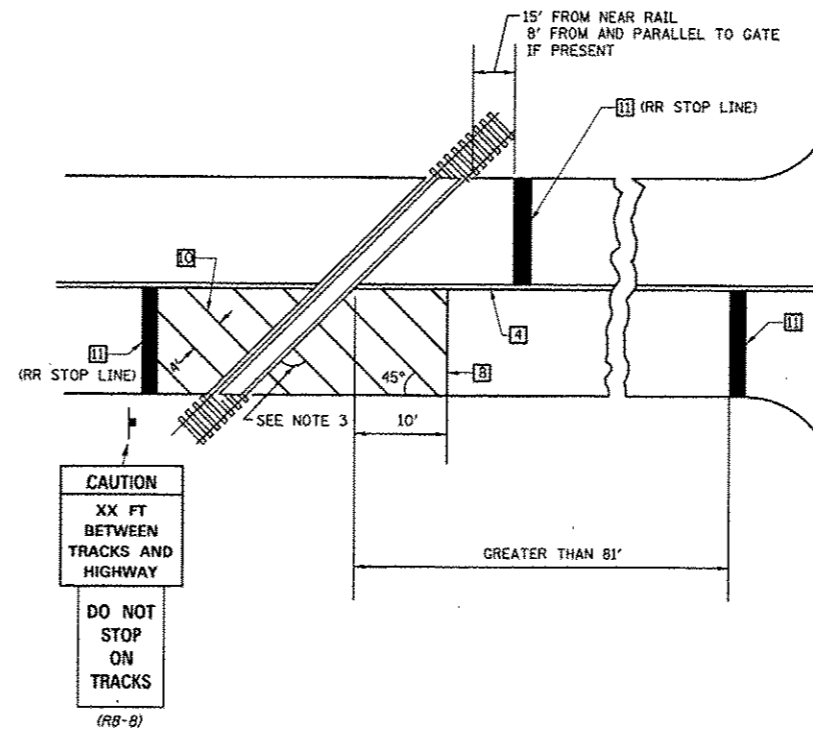
PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

NOTES

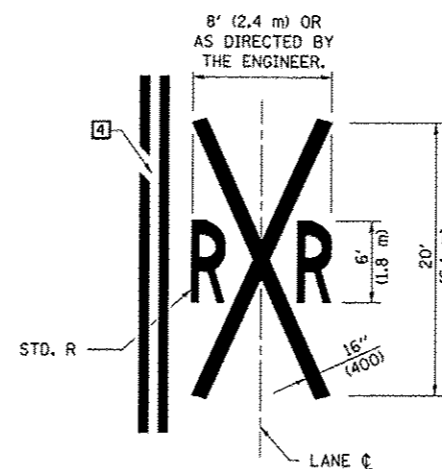
THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE R XR 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.

FILE NAME : c:\pwwork\pwwork\cearlock\j\0120316\0270663-shr-detail.dgn	USER NAME : cearlockjd	DESIGNED -	REVISED - 11/06
PLOT SCALE : 48.0000" = 1'	PLOT DATE : 10/10/2013	DRAWN -	REVISED - 09/2009 - KJT
		CHECKED -	REVISED -
		DATE -	REVISED -

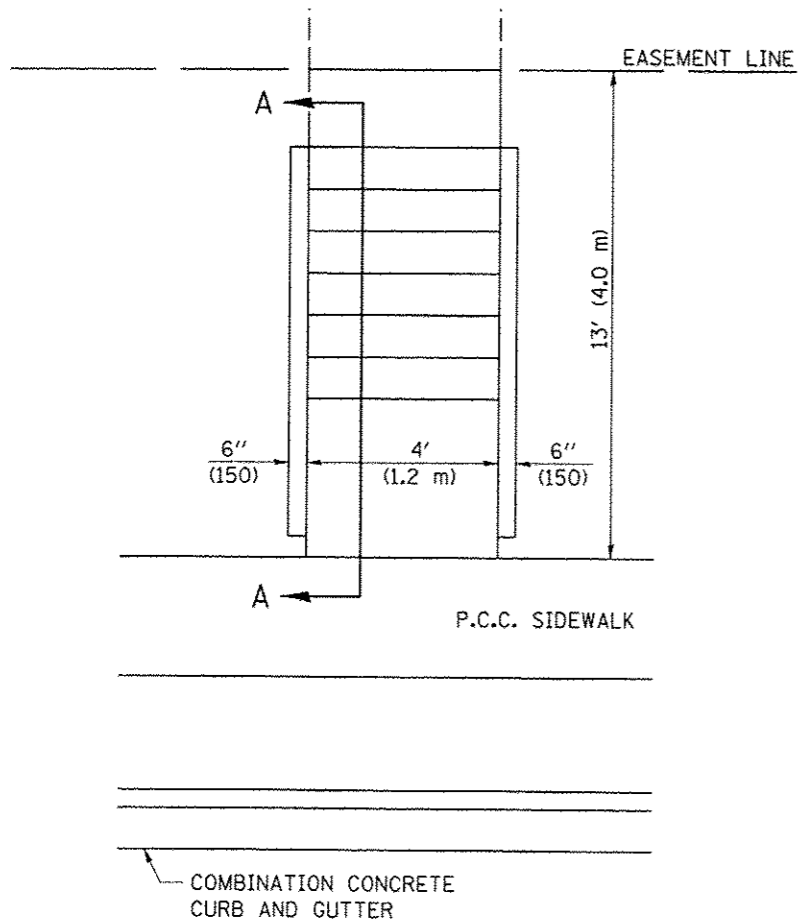
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

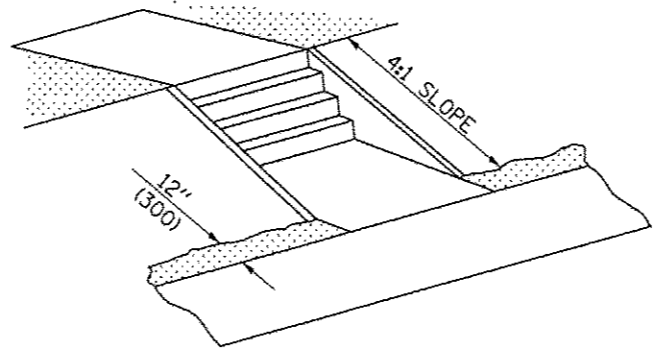
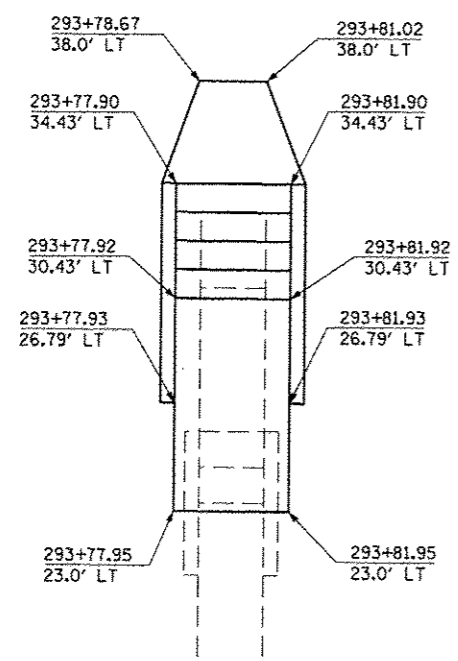
SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 7800AAAA

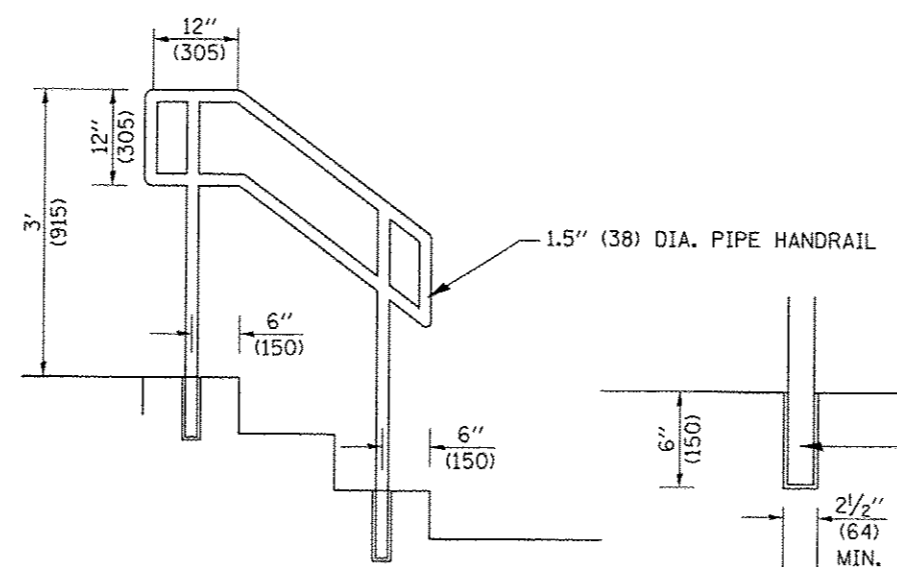
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	266
F.A.U. 7152 & F.A.S. 1512			CONTRACT NO. 70663	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



PLAN

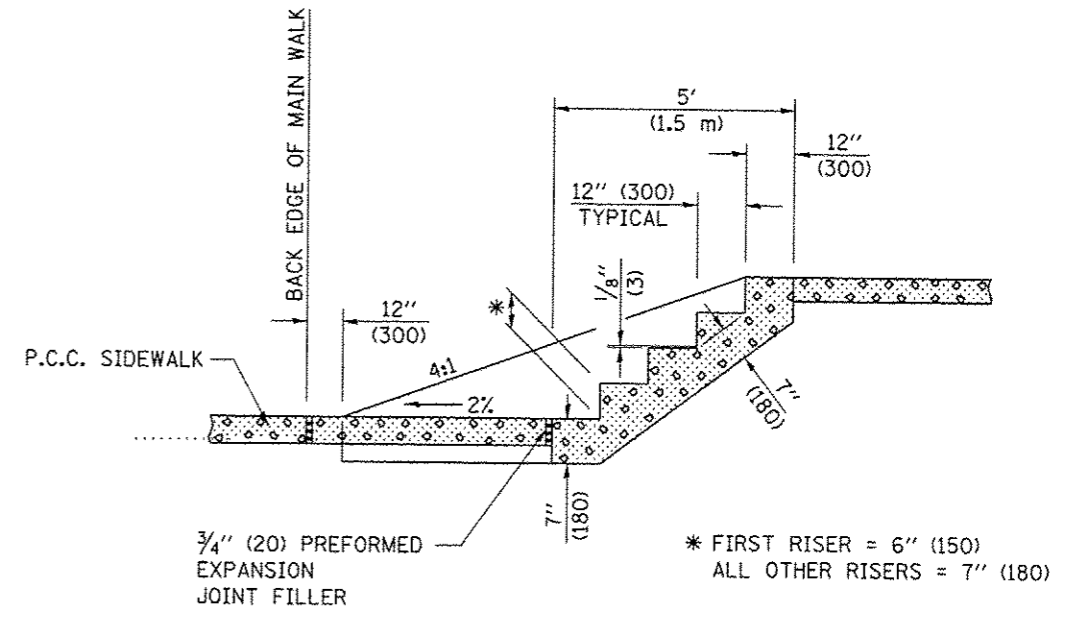


ISOMETRIC

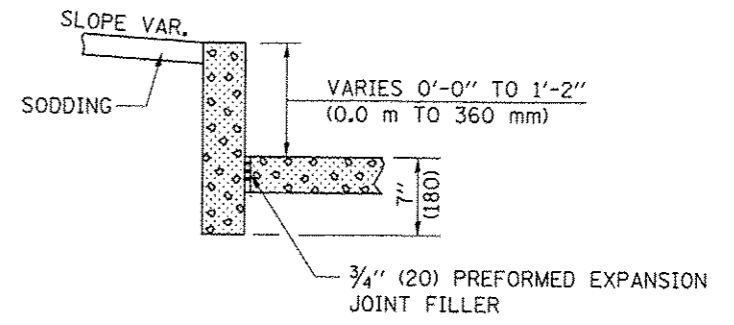


PIPE HANDRAIL - 3 STEP

ANCHOR DETAIL



SECTION A-A



SECTION THROUGH WALL

GENERAL NOTES

1. CLASS SI CONCRETE SHALL BE USED THROUGHOUT.
2. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD (CUBIC METER) FOR CLASS SI CONCRETE (MISCELLANEOUS) WHICH PRICE SHALL BE PAYMENT IN FULL FOR ALL MATERIAL AND LABOR, INCLUDING EXCAVATION AND PREFORMED EXPANSION JOINT FILLER TO COMPLETE THE WORK. NO WELDED WIRE FABRIC IS REQUIRED.

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

ESTIMATED QUANTITY

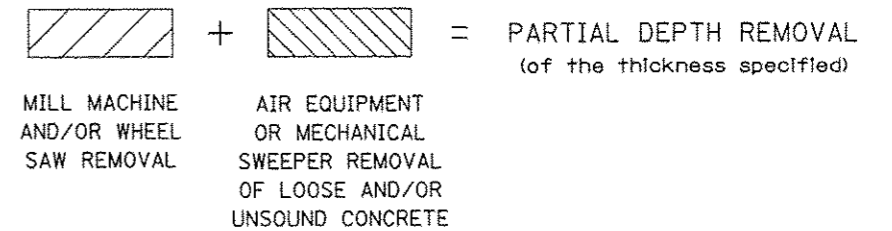
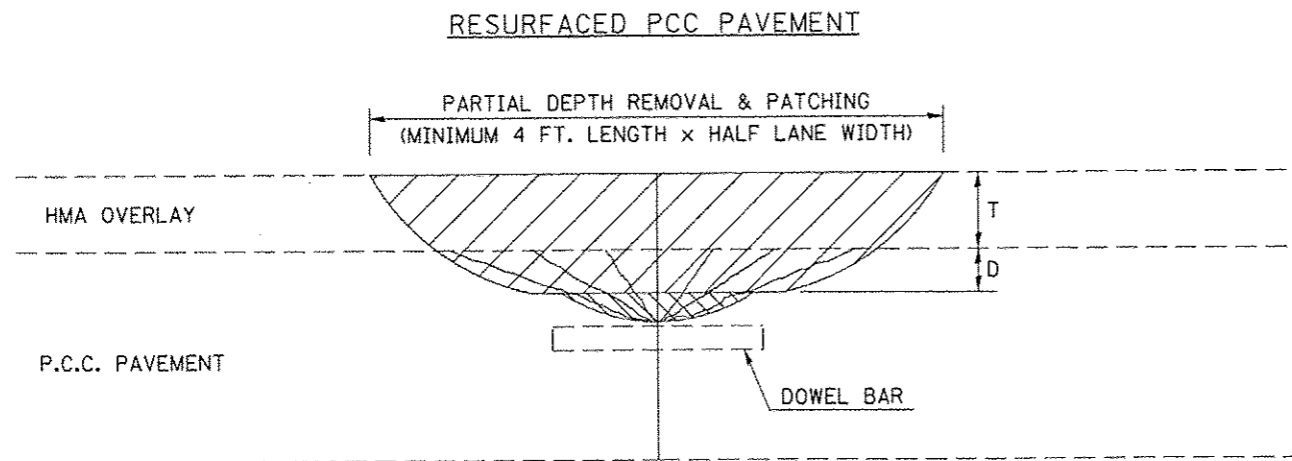
2.1 CU. YD. (1.6 m³) CLASS SI CONCRETE (MISCELLANEOUS)
 12.0 FT. (4.0 m) PIPE HANDRAIL (QTY FOR 2 HANDRAILS)

FILE NAME	USER NAME	DESIGNED	REVISED
cs:\pwork\pwork\pwork\cearlock\2010\07\78663-sht-detail.dgn	cearlock_jd	-	11/06
PLOT SCALE	CHECKED	DATE	REVISED
10/16/2013	-	-	-

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PORTLAND CEMENT CONCRETE SIDEWALK, STEPS

DISTRICT 5 DETAIL NO. X0325279				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(2X,3RS-3 & 2RS-4)	CHAMPAIGN	551	267
F.A.U. 7152 & F.A.S. 1512		CONTRACT NO. 70663		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DESIGN NOTES

PARTIAL DEPTH HMA PATCHING SHALL NOT BE USED WHEN HMA OVERLAY THICKNESS (T) ON PCC PAVEMENT EXCEEDS 4 3/4 INCHES (121 mm) OR ON CRC PAVEMENT.

GENERAL NOTES

ALL VOLUME OF PARTIAL DEPTH REMOVAL SHALL BE REPLACED WITH HOT-MIX ASPHALT (HMA) AND PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR PARTIAL DEPTH PATCHING.

T = THICKNESS OF HMA OVERLAY(S). SEE EXISTING TYPICAL CROSS SECTION.

GENERAL NOTE 406H SHALL INCLUDE MIXTURE REQUIREMENTS FOR PARTIAL DEPTH PATCHING.

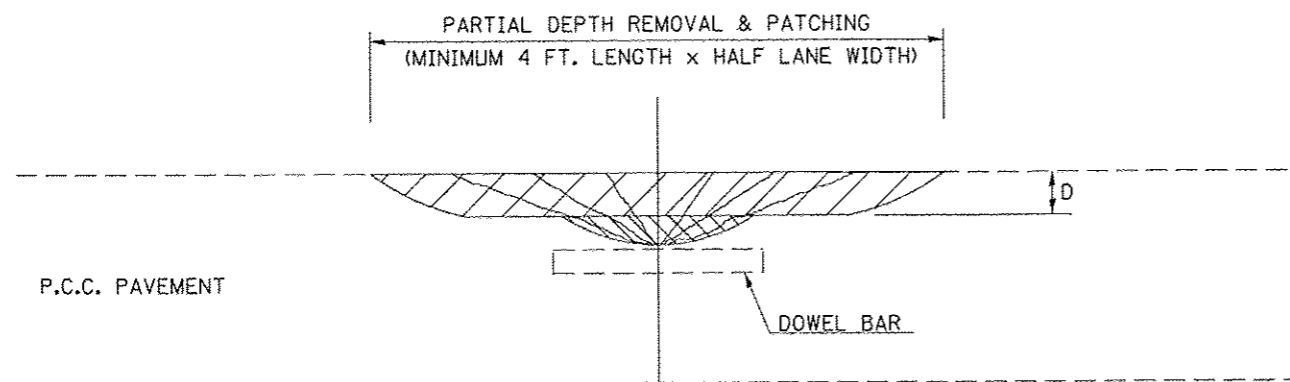
HMA REPLACEMENT IN RESURFACED PCC PAVEMENT LOCATIONS SHALL BE ACCORDING TO SECTION 406 OF THE STANDARD SPECIFICATIONS.

D = DEPTH OF PARTIAL DEPTH REMOVAL INTO EXISTING PCC PAVEMENT. (3" (75 mm) ± OR TO SOUND CONCRETE)

TRANSVERSE CONTRACTION JOINT SHOWN - OTHER LOCATIONS SIMILAR.

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

BARE PCC PAVEMENT



DISTRICT 5 DETAIL NO. XX442100

FILE NAME : c:\pwworksp\p1d0\c\c00r\l00k\j\0120316\0270663\hst-d0101.dgn	USER NAME : c00r\l00k\j	DESIGNED -	REVISED - 11/06
		DRAWN -	REVISED - 10/10
	PLOT SCALE : 48.0000' / 1"	CHECKED -	REVISED -
	PLOT DATE : 10/10/2013	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

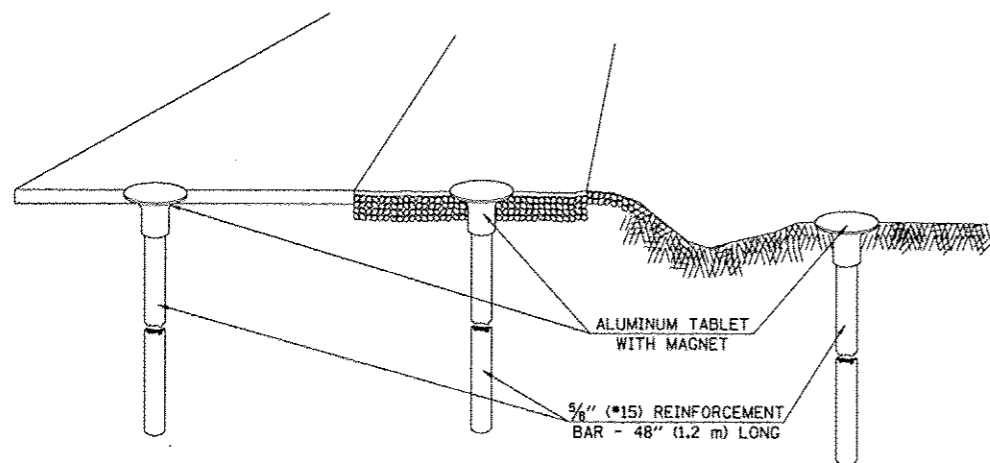
PCC PARTIAL DEPTH HOT-MIX ASPHALT PATCHING

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	(2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	268
• F.A.U. 7152 & F.A.S. 1512		CONTRACT NO. 70663		
FED. ROAD DIST. NO.		[ILLINOIS] FED. AID PROJECT		

XZ193300 – SURVEY MARKER, TYPE 1 (SPECIAL)

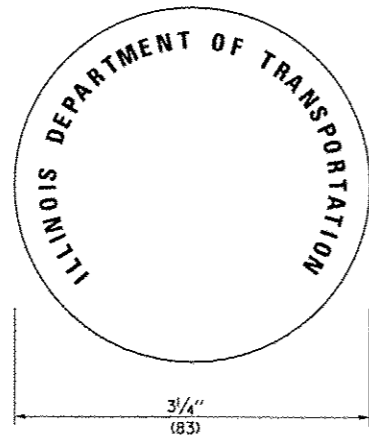
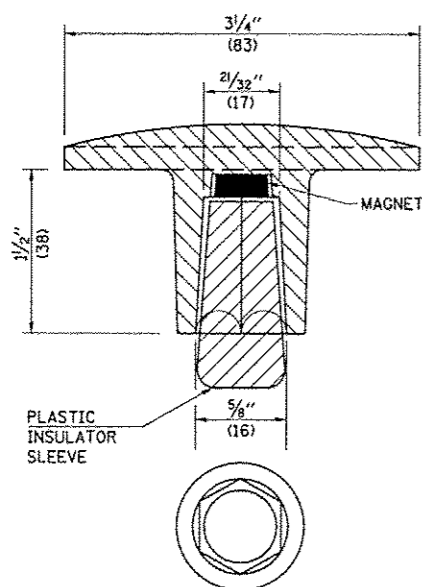
TO BE INSTALLED IN FLEXIBLE PAVEMENT OR SHOULDER, BITUMINOUS TREATED SURFACE AND TURF AREAS WITHIN THE RIGHT-OF-WAY FOR PRESERVING PERMANENT SURVEY MARKERS (PI'S, PT'S, PC'S, POC'S, & POT'S)



IN FLEXIBLE PAVEMENT OR SHOULDER

IN BITUMINOUS TREATED SURFACE

IN TURF AREAS WITHIN R.O.W.



THE DIMENSIONS SHOWN SHALL BE EXACT, OTHERS MAY VARY, BUT SHALL BE SHOWN ON SHOP DRAWINGS.

GENERAL NOTES

1. THE CONTRACT UNIT PRICE, EACH, FOR SURVEY MARKER, TYPE 1 (SPECIAL) SHALL BE PAYMENT IN FULL FOR FURNISHING THE REINFORCEMENT BAR AND ALUMINUM TABLET AND FOR ALL LABOR AND MATERIAL REQUIRED TO SET THE MARKER IN PLACE.
2. ALL SURVEY MARKERS, TYPE 1 (SPECIAL) SHALL BE PLACED $\pm 1/4"$ (6 mm) BELOW THE FINAL SURFACE.
3. WHEN THE TABLET AND REBAR ARE PLACED AS PART OF A SURVEY MARKER VAULT, THEY SHALL BE CONSIDERED AS INCLUDED IN THAT PAY ITEM AND THERE WILL BE NO PAYMENT FOR THE SURVEY MARKER, TYPE 1 (SPECIAL).

SPECIFICATIONS FOR ALUMINUM TABLET

SURVEY CAP FOR REBAR. $3/4"$ (83 mm) CONVEX SURVEY CAP FOR $3/8"$ (15 mm) REBAR WITH ILLINOIS DEPARTMENT OF TRANSPORTATION LOGO. THIS LOGO SHALL PROVIDE LETTERS RECESSED INTO THE SURFACE A MINIMUM OF $1/32"$ (0.8 mm) FOR EASY AND LONG-TERM LEGIBILITY. THE ALUMINUM CAP FOR REBAR SHALL BE PRODUCED BY THE PROCESS OF ORBITAL FORGING TO PRODUCE A HIGH-STRENGTH AND DURABLE MARKER CAP WHICH WILL NOT CHIP OR BREAK AND PROVIDE A SMOOTH FINISH FOR STAMPING OF DATA IN THE FIELD. THE ALUMINUM CAP FOR REBAR SHALL BE TAPERED FOR A PERFECT COMPRESSION FIT. A SPECIAL PLASTIC INSULATOR SHALL BE INSTALLED TO PREVENT DISSIMILAR METAL CONTACT AND CORROSION. THE PLASTIC INSULATOR SHALL FORM READILY TO THE OUTER SHAPE OF THE REBAR AND TO THE INNER SHAPE OF THE ALUMINUM CAP SOCKET. THE PLASTIC INSULATOR SHALL BE LOW DENSITY POLYETHYLENE, A MINIMUM $1/2"$ (38 mm) LONG AND CONFORM TO FEDERAL SPECIFICATION L-P 390.

COMPOSITION: ALUMINUM 98.3-98.7%; OTHER 1.3-1.7%; STRENGTH: YIELD 28 KSI (193 MPa), ULTIMATE 32 KSI (221 MPa), ELONGATION 15% [IN 2" (50 mm)]. SPECIFICATIONS: ALUMINUM ALLOY 6101-0; ASTM B317-83 (EXCEPT TEMPER) AS FORGED. NO EXCEPTIONS.

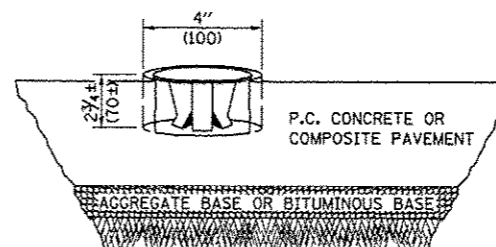
SPECIFICATIONS FOR REBAR

REBAR FOR ALUMINUM TABLET. REINFORCEMENT BAR SHALL BE $3/8"$ (#15) X 48" (1.2 m) (DEFORMED).

INSPECTION OF REINFORCEMENT BAR $3/8"$ (#15) SHALL BE DONE BY DISTRICT PERSONNEL OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS.

XZ193400 – SURVEY MARKER, TYPE 2 (SPECIAL)

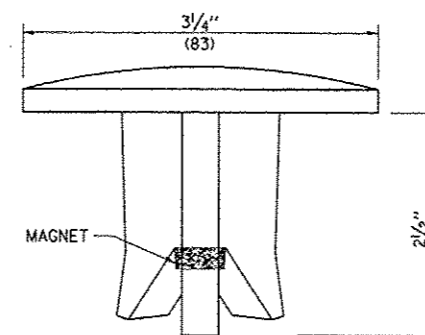
TO BE INSTALLED IN RIGID OR COMPOSITE PAVEMENT FOR PRESERVING PERMANENT SURVEY MARKERS (PI'S, PT'S, PC'S, POC'S, & POT'S)



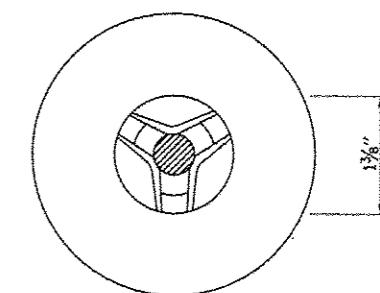
SPECIFICATIONS FOR ALUMINUM TABLET (FORKED)

ALUMINUM TABLET (FORKED) FOR USE WITH "SURVEY MARKER, TYPE 2, (SPECIAL)" SHALL BE AS SHOWN ON THE DETAIL FOR THE $3/4"$ (83 mm) CONVEX SURVEY TABLET WITH ILLINOIS DEPARTMENT OF TRANSPORTATION LOGO. THIS LOGO SHALL PROVIDE FOR LETTERS RECESSED INTO THE SURFACE A MINIMUM OF $1/32"$ (0.8 mm) FOR EASY AND LONG-TERM LEGIBILITY. THE ALUMINUM TABLET SHALL BE PRODUCED BY THE PROCESS OF ORBITAL FORGING TO PRODUCE A HIGH-STRENGTH AND DURABLE MARKER CAP WHICH WILL NOT CHIP OR BREAK AND PROVIDE A SMOOTH FINISH FOR STAMPING OF DATA IN THE FIELD. THE ALUMINUM TABLET SHALL BE DESIGNED NOT TO TURN OR ROTATE. THREE PRONGS ON A $2/2"$ (63 mm) STEM SHALL BE SUCH THAT THE ALUMINUM TABLET CANNOT BE EASILY REMOVED.

COMPOSITION: ALUMINUM 92-93%; MAGNESIUM 6.5-7.5%. STRENGTH: YIELD 19,000-21,000 PSI (131-145 MPa); TENSILE 38,000-44,000 PSI (262-303 MPa); ELONGATION 10-15% [IN 2" (50 mm)]. SPECIFICATIONS: ALLOY 535.0; QQ-A-601ES. NO EXCEPTIONS.



SIDE VIEW



BOTTOM VIEW

THE DIMENSIONS SHOWN SHALL BE EXACT, OTHERS MAY VARY, BUT SHALL BE SHOWN ON SHOP DRAWINGS.

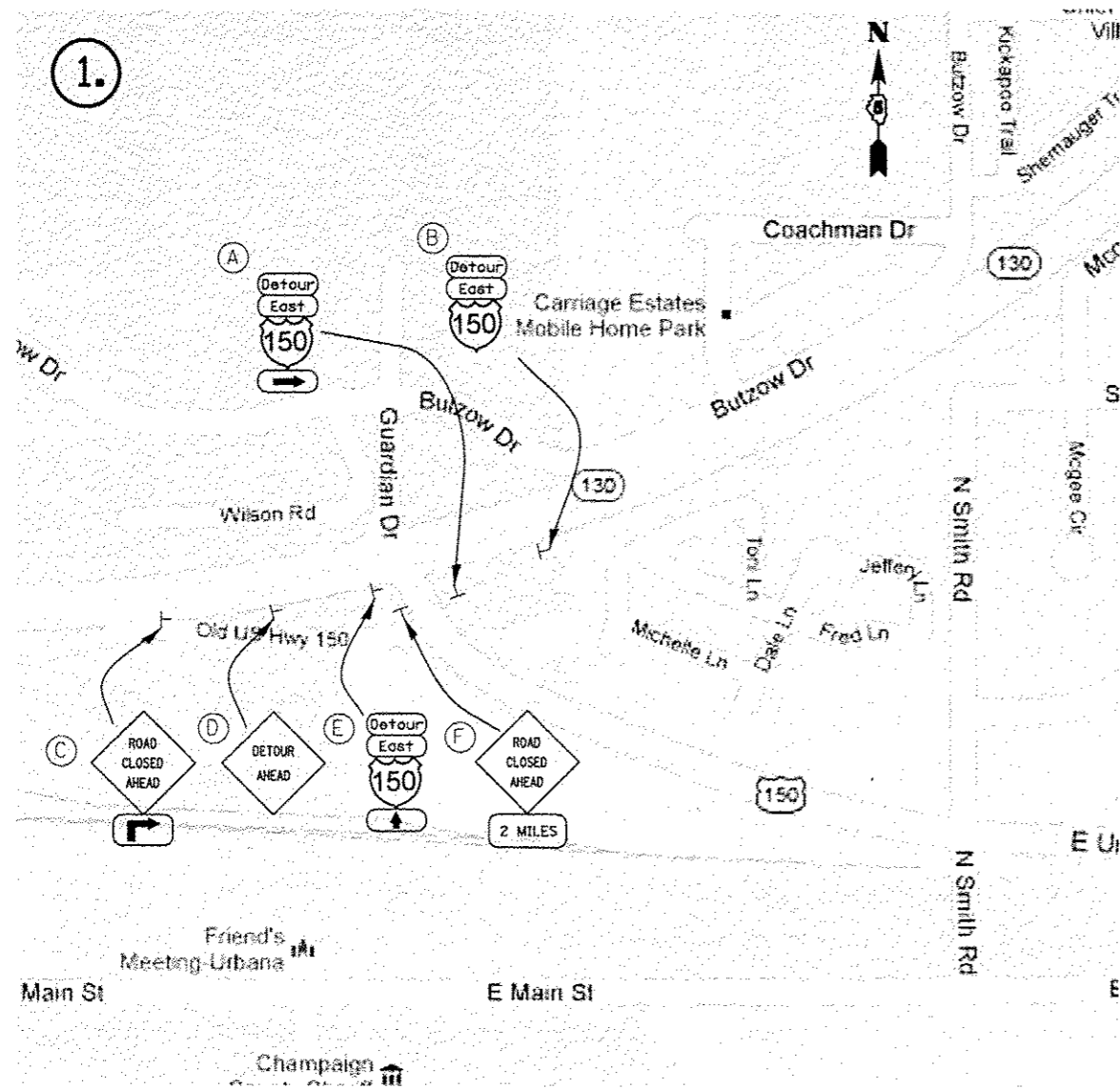
GENERAL NOTES

1. WORK ON THIS ITEM SHALL NOT START UNTIL THE FINAL SURFACE IS COMPLETED.
2. THE ALUMINUM TABLET (FORKED) SHALL REST UPON THE BOTTOM OF THE 4" (100 mm) CORE HOLE. IF THE HOLE IS TOO DEEP, EPOXY GROUT MUST BE USED TO DECREASE THE DEPTH AND ALLOWED TO HARDEN BEFORE PROCEEDING.
3. THE ALUMINUM TABLET SHALL BE ANCHORED IN THE 4" (100 mm) DIAMETER HOLE IN THE NEW PAVEMENT WITH TWO-COMPONENT EPOXY CONFORMING TO APPLICABLE PORTIONS OF ARTICLE 1025.01 OF THE STANDARD SPECIFICATIONS.
4. THE 4" (100 mm) CORE HOLE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
5. THE CONTRACT PRICE, EACH, FOR SURVEY MARKER, TYPE 2 (SPECIAL) SHALL BE PAYMENT IN FULL FOR FURNISHING THE ALUMINUM TABLET AND FOR ALL LABOR AND MATERIAL REQUIRED TO SET THE MARKER IN PLACE, AS SPECIFIED, INCLUDING CORING THE NEW PAVEMENT.
6. ALL SURVEY MARKERS, TYPE 2 (SPECIAL) SHALL BE PLACED $\pm 1/4"$ (6 mm) BELOW THE FINAL SURFACE.

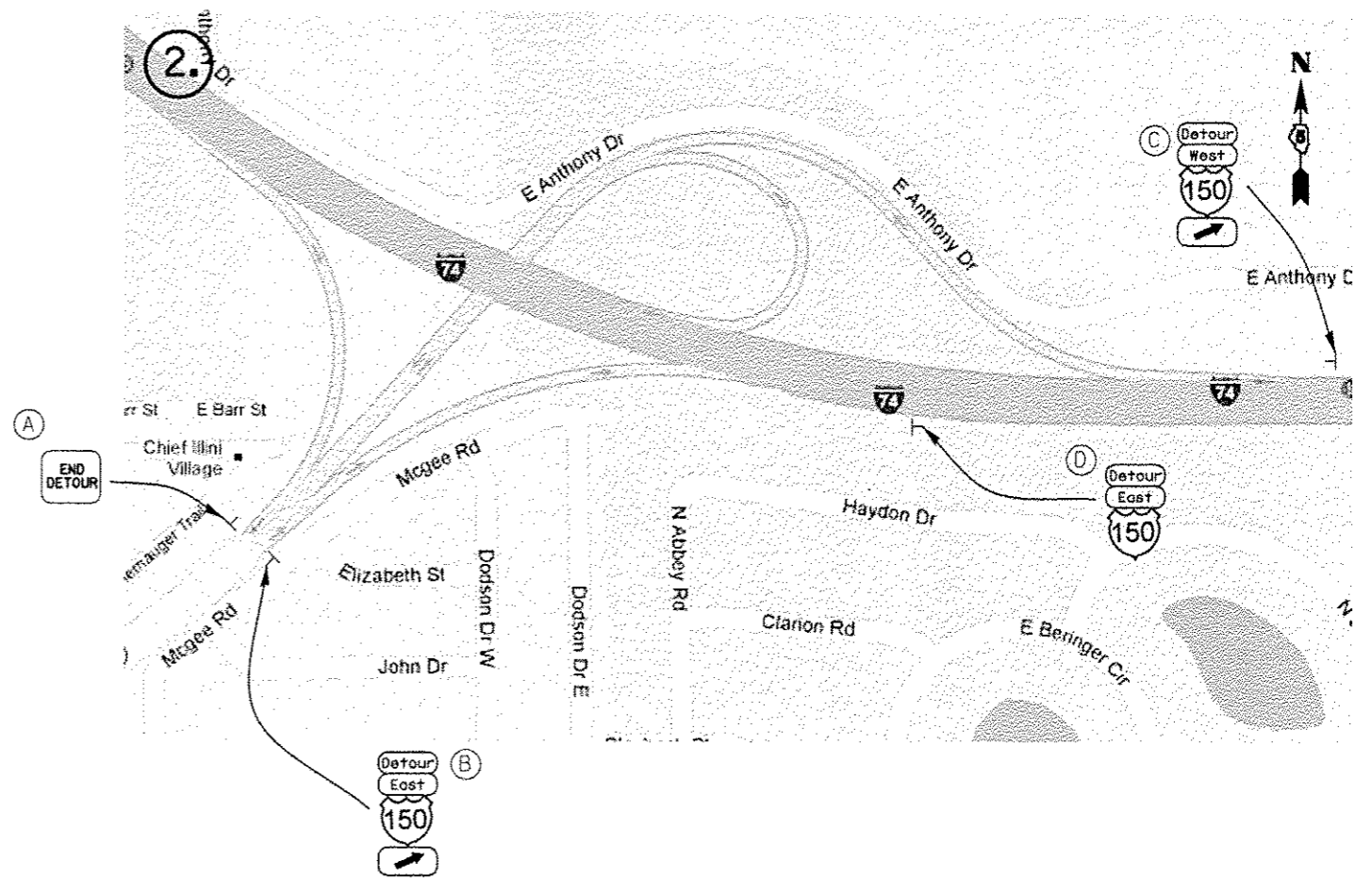
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		SURVEY MARKERS TYPE 1 & 2 (SPECIAL)		DISTRICT 5 DETAIL NO. XZ193AAA	
0:\pwork\spidat\conlook\j\012016\02	conlookj	11/06	11/10	SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	F.A.U. RTE.	TOTAL SHEETS
	20663-shr-details.dgn							SECTION	SHEET NO.
	PLOT SCALE = 40,0000 1 / in.							(2X,3IRS-3 & 2RS-4	551 269
	PLOT DATE = 10/10/2013							CHAMPAIGN	
								F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663
								FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT	

FIGURE A.



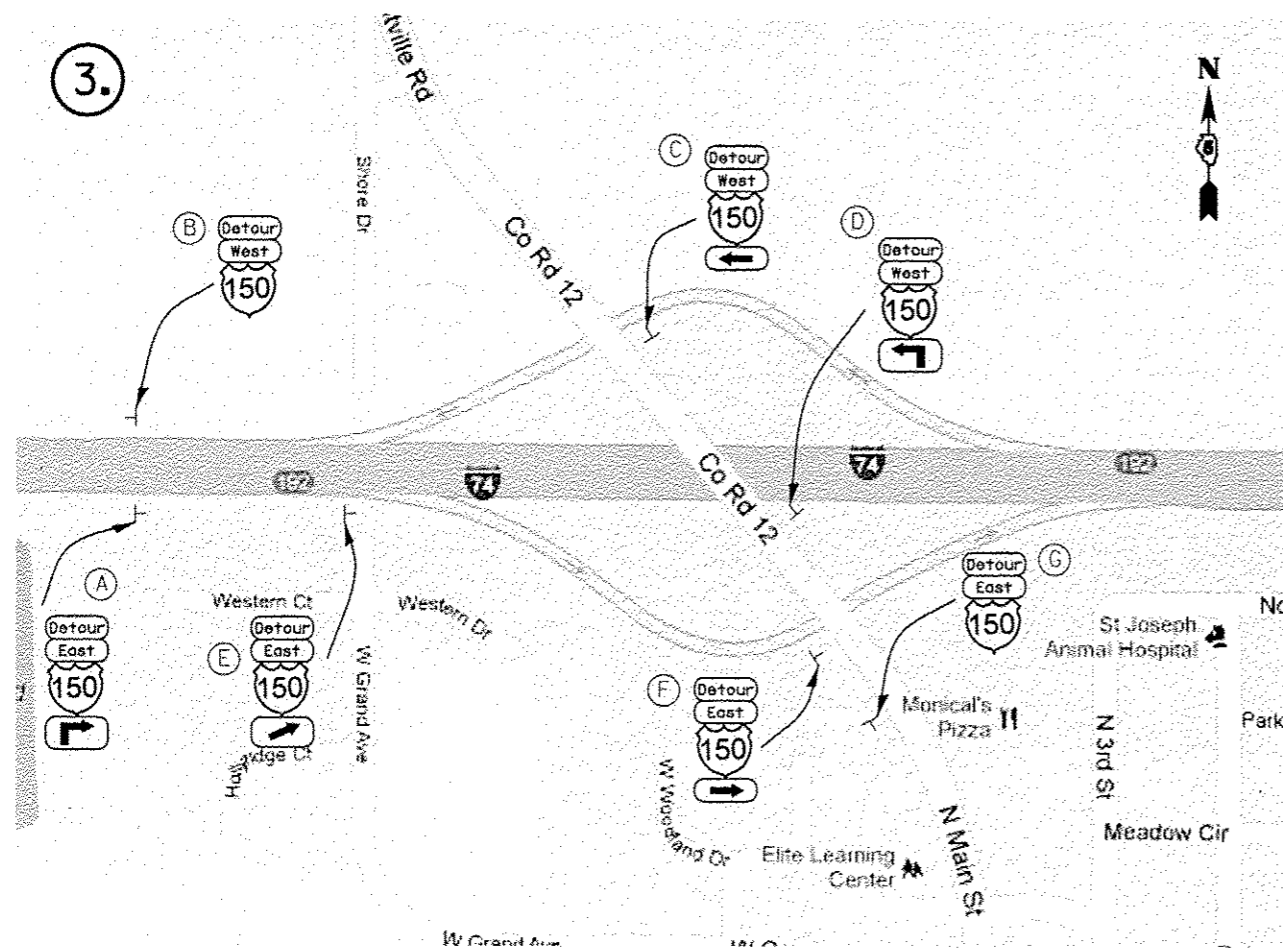
- (A) Erect by sign tree
- (B) Erect by "To I-74 Only" signs
- (C) Erect beside JCT IL 130 sign
- (D) Erect by I-74, St Joseph, Charleston sign
- (E) Erect by large sign tree
- (F) Erect by East US 150, S IL 130 signs



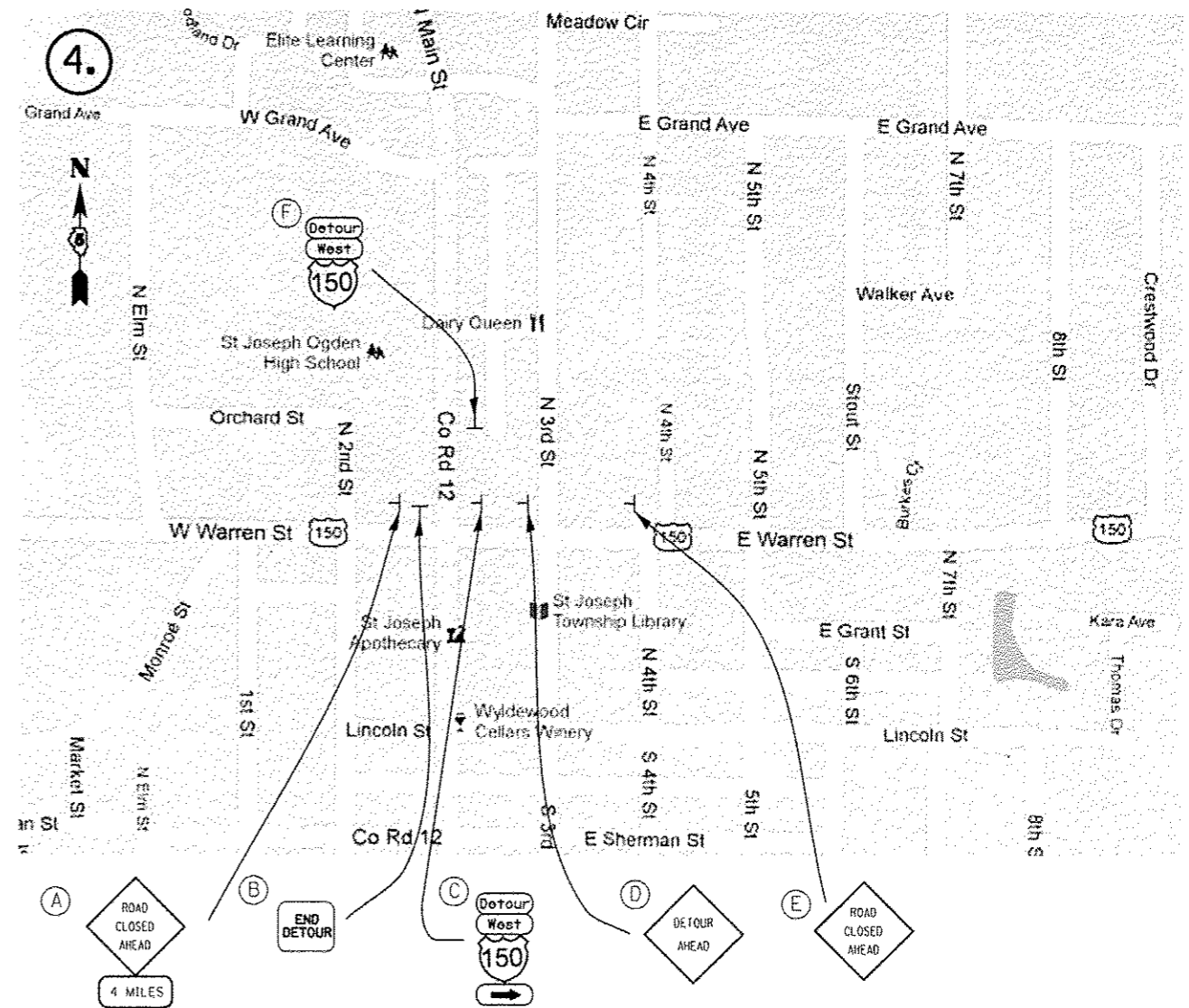
- (A) Erect under JCT US 150 sign
- (B) Erect 100' +/- West of power pole 56/147
- (C) Erect 300' +/- prior to beginning of ramp
- (D) Erect beside East I-74 sign

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF ROAD CLOSURE DETOUR		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cr:\pwork\psidot\coner-look\j\0120316\0278663-sht-details.dgn	coner-look_jd	JMS	-				• (2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	271	
PLT SCALE	CHECKED	REVIS	REVIS		• F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663		ILLINOIS FED. AID PROJECT			
PLT DATE	DATE	REVIS	REVIS		SCALE: NONE	SHEET NO. 2 OF 4 SHEETS	STA. TO STA.				

FIGURE A.



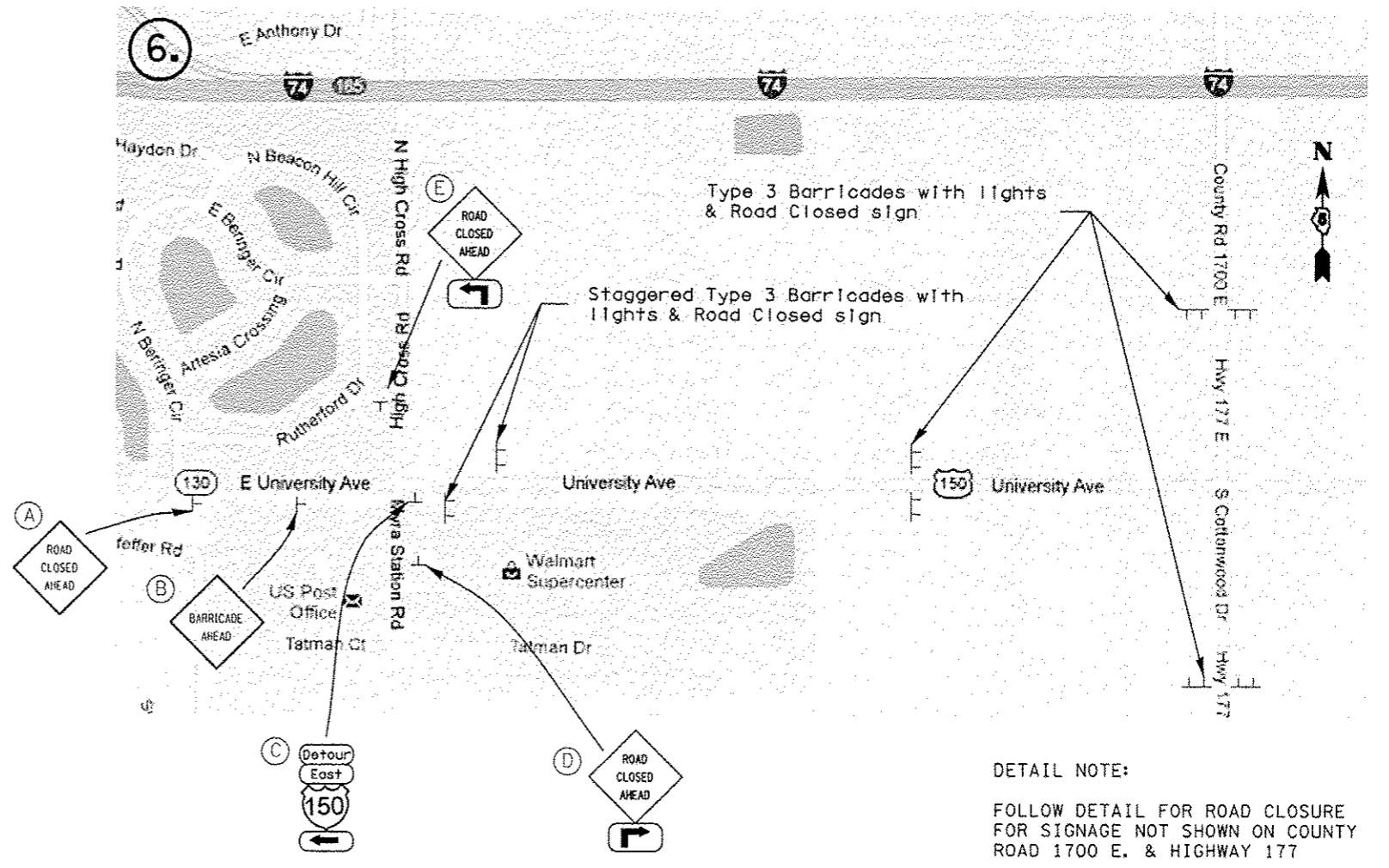
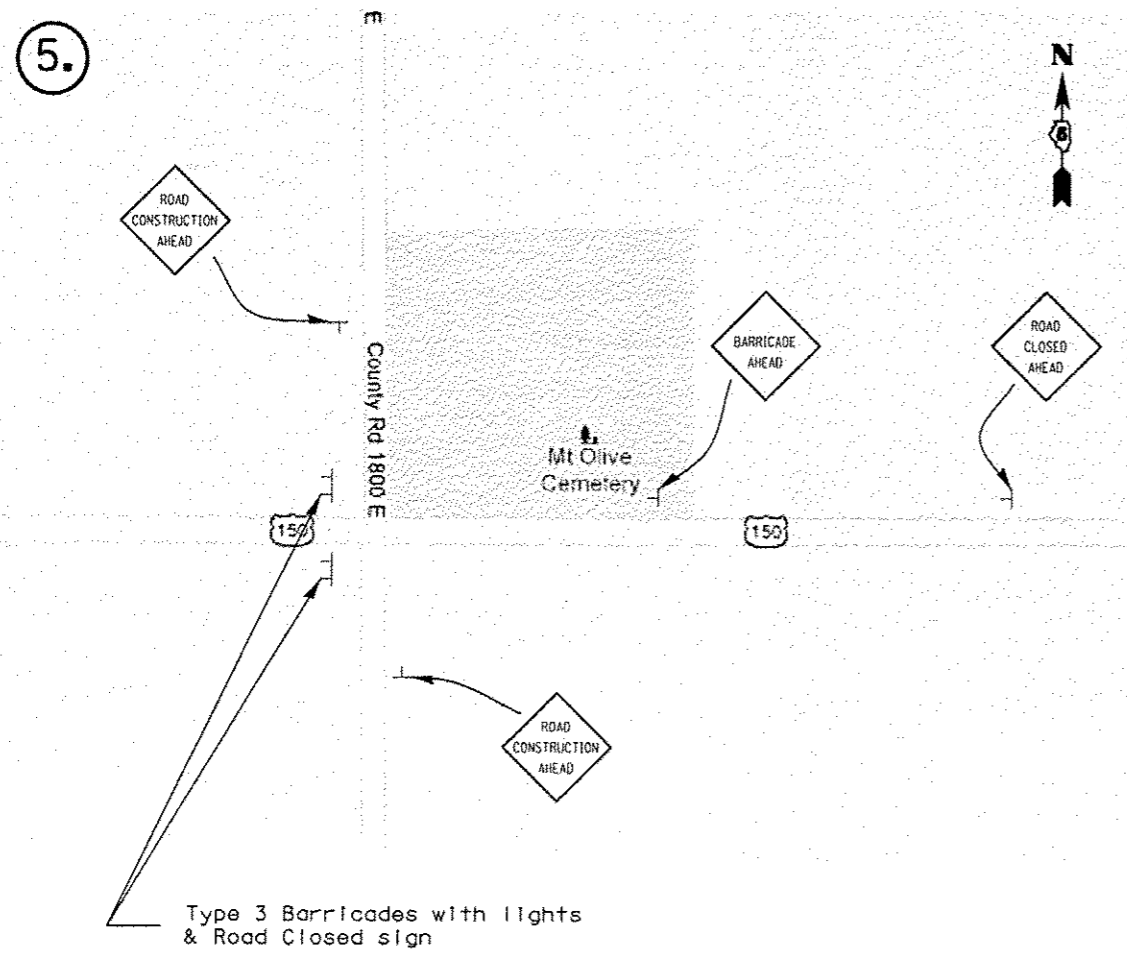
- (A) Erect 500' +/- prior to ramp
- (B) Erect beside West I-74 sign
- (C) Erect beside West I-74 Champaign Greenboard
- (D) Erect beside West I-74 preturn sign
- (E) Erect by Mile Post 192 sign
- (F) Erect behind right side Do Not Enter sign
- (G) Erect 15' +/- South of ramp



- (A) Erect beside US west US 150 sign
- (B) Erect under JCT US 150 sign
- (C) Erect beside stop sign
- (D) Erect just West of 3rd Street
- (E) Erect by large Speed Limit 35 mph sign West of 4th Street
- (F) Erect North of Speed Limit 25 mph sign

FILE NAME : e:\p\work\p\dot\ccar-lock\j\0120316\0378663-sht-detail.dgn	USER NAME : ccar-lock_jd	DESIGNED - JMS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF ROAD CLOSURE DETOUR		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE : 48.0000' / 1"	CHECKED -	REVISED -				• F.A.U. 7152 & F.A.S. 1512	(2X,3RS-3 & 2RS-4)	CHAMPAIGN	551	272
PLOT DATE : 10/18/2013	DATE : 062911	REVISED -	REVISED -	SCALE: NONE	SHEET NO. 3 OF 4 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				

FIGURE A.



DETAIL NOTE:
 FOLLOW DETAIL FOR ROAD CLOSURE
 FOR SIGNAGE NOT SHOWN ON COUNTY
 ROAD 1700 E. & HIGHWAY 177

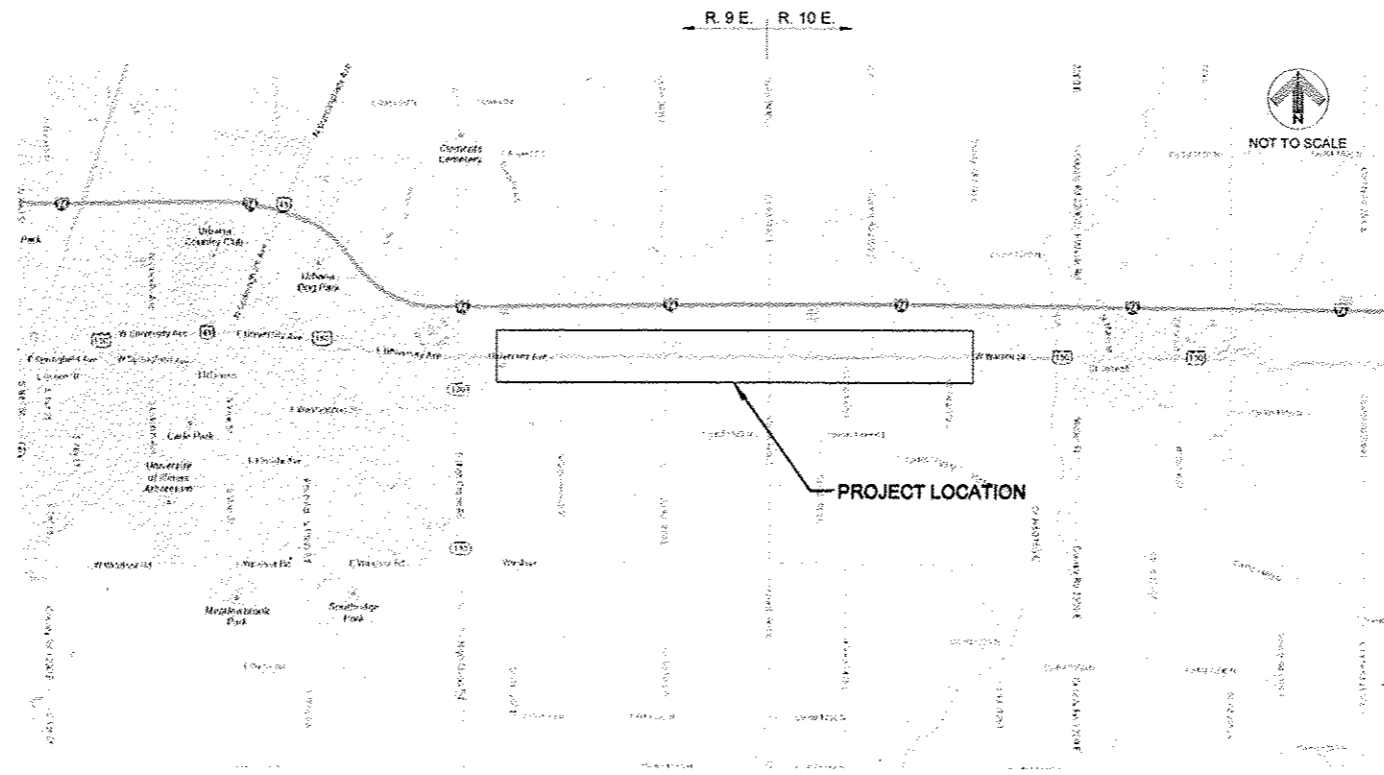
- (A) Erect between Speed Limit 45 mph & Signal Ahead signs
- (B) Erect by South IL 130 Preturn sign
- (C) Erect beside US 150/IL 130 to I-74 sign tree
- (D) Erect just South of Urbana St Joseph sign
- (E) Erect just prior to start of Left Turn lane

FILE NAME =	USER NAME = ceer-lock.jr	DESIGNED = JMS	REVISED =	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETAIL OF ROAD CLOSURE DETOUR	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
03:\pe_work\puidot\ceer-lock.jr\09120315\07	0663-shit-data1.dgn	DRAWN = JMS	REVISED =			• (2X,3)RS-3 & 2RS-4	CHAMPAIGN	551	273	
	PLOT SCALE = 40.0000 / in.	CHECKED =	REVISED =			• F.A.U. 7152 & F.A.S. 1512	CONTRACT NO. 70663			
	PLOT DATE = 12/18/2013	DATE = 062911	REVISED =			ILLINOIS FED. AID PROJECT				
					SCALE: NONE	SHEET NO. 4 OF 4 SHEETS	STA.	TO STA.		

ROUTE 150 WATERMAIN RELOCATION BETWEEN URBANA AND ST. JOSEPH ILLINOIS AMERICAN WATER COMPANY CHAMPAIGN COUNTY, ILLINOIS IDOT CONTRACT NO. 70663

HORIZONTAL AND VERTICAL CONTROL POINTS

PLANS PREPARED BASED ON IDOT STATIONING AND EXISTING GROUND ELEVATIONS. SEE IDOT HORIZONTAL AND VERTICAL CONTROL SHEETS FOR FURTHER DETAILS.



LOCATION MAP

INDEX OF SHEETS

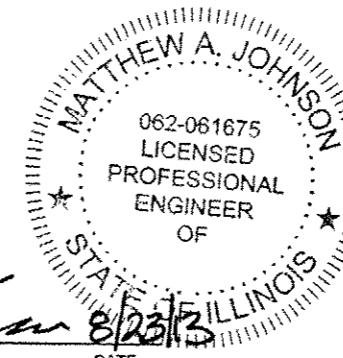
G0.01	COVER SHEET
G0.02	STANDARD SYMBOLS
G0.03	GENERAL NOTES & SUMMARY OF QUANTITIES
C1.01	PLAN AND PROFILE - STA. 115+00 TO STA. 120+40
C1.02	PLAN AND PROFILE - STA. 120+40 TO STA. 125+80
C1.03	PLAN AND PROFILE - STA. 125+80 TO STA. 131+20
C1.04	PLAN AND PROFILE - STA. 131+20 TO STA. 136+60
C1.05	PLAN AND PROFILE - STA. 136+60 TO STA. 140+80
C1.06	PLAN AND PROFILE - STA. 140+80 TO STA. 145+00
C1.07	PLAN AND PROFILE - STA. 157+00 TO STA. 161+50
C1.08	PLAN AND PROFILE - STA. 164+75 TO STA. 169+50
C1.09	PLAN AND PROFILE - STA. 182+00 TO STA. 186+60
C1.10	PLAN AND PROFILE - STA. 186+60 TO STA. 190+00
C1.11	PLAN AND PROFILE - STA. 199+50 TO STA. 201+60
C1.12	PLAN AND PROFILE - STA. 201+60 TO STA. 205+50
C1.13	PLAN AND PROFILE - STA. 213+50 TO STA. 218+40
C1.14	PLAN AND PROFILE - STA. 218+40 TO STA. 223+00
C1.15	PLAN AND PROFILE - STA. 275+50 TO STA. 276+50
C1.16	PLAN AND PROFILE - STA. 284+00 TO STA. 286+80
C1.17	PLAN AND PROFILE - STA. 286+80 TO STA. 290+00
C1.18	PLAN AND PROFILE - STA. 315+00 TO STA. 317+50
C1.19	PLAN AND PROFILE - STA. 321+50 TO STA. 322+50
C1.20	PLAN AND PROFILE - STA. 326+80 TO STA. 329+00
C1.21	PLAN AND PROFILE - STA. 332+50 TO STA. 334+00
C1.22	PLAN AND PROFILE - STA. 338+00 TO STA. 341+20
C1.23	PLAN AND PROFILE - STA. 341+20 TO STA. 343+70
C5.01	WATERMAIN DETAILS
C5.02	BACKFILL DETAILS
C5.03	DETAILS



CALL J.U.L.I.E. BEFORE YOU DIG
1-800-892-0123
COUNTY/CITY Champaign/lowship
SECTION VARIOUS, T10N, R9E AND R10E

Steven Wegman 8/23/13
STEVEN WEGMAN, P.E.
SENIOR ENGINEER
ILLINOIS AMERICAN WATER
DATE

Matthew A. Johnson 8/23/13
MATTHEW A. JOHNSON
PROJECT DESIGN ENGINEER
IL PROFESSIONAL ENGINEER NO. 61675
EXPIRES NOVEMBER 30, 2013
DATE



IDPR DESIGN FIRM #184-004913	
Date of Preparation: July 17, 2013	PROJECT ID 11013
<p>Foth Infrastructure & Environment, LLC 1610 Broadway Drive Champaign, IL 61821 Phone: 217-252-4100 Fax: 217-252-0055</p>	SHEET NO. G0.01
	OF 29 SHEETS
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MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
SANITARY SEWER (PLAN) - LENGTH-DIA. MATERIAL @ GRADE	(SIZE & MAT'L)	LENGTH - SIZE MAT'L
SANITARY FORCE MAIN (PLAN) - LENGTH-DIA. MATERIAL	(SIZE & MAT'L)	LENGTH - SIZE MAT'L
SANITARY LOW PRESSURE SEWER (PLAN) - LENGTH-DIA. MATERIAL	(SIZE & MAT'L)	LENGTH - SIZE MAT'L
STORM SEWER (PLAN) - LENGTH-DIA. MATERIAL @ GRADE	(SIZE & MAT'L)	LENGTH - SIZE MAT'L
WATER MAIN (PLAN) - LENGTH-DIA. MATERIAL	(SIZE & MAT'L)	LENGTH - SIZE MAT'L
GAS MAIN	G	G
ELECTRIC - BURIED	E	E
ELECTRIC - OVERHEAD	OHE	OHE
TELEPHONE - BURIED	T	T
TELEPHONE - BURIED (FIBER OPTIC)	FO	FO
TELEPHONE - OVERHEAD	OHT	OHT
CABLE TELEVISION - BURIED	CTV	CTV
CABLE TELEVISION - OVERHEAD	OHC	OHC
CULVERT		
CENTERLINE		
RIGHT-OF-WAY LINE		
PROPERTY LINE		
EASEMENT LINE		
TEMPORARY CONSTRUCTION EASEMENT LINE		
SECTION/SUB-SECTION LINE		
PAVEMENT (STREET, DRIVE, SIDEWALK, ETC.)		
GRAVEL		
CURB & GUTTER		
RAILROAD		
FENCE - AS LABELED		
GUARDRAIL		
EDGE OF RIVER OR LAKE		
MARSH OR WETLAND		

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
BENCH MARK	B.M.	B.M.
CLEAN OUT	C.O.	C.O.
CONTROLLER BOX		
CULVERT	(DIA. & TYPE)	(LENGTH-DIA. & TYPE)
CURB STOP - WATER		
DRAINAGE ARROW		
ELECTRIC TRANSFORMER		
GUY ANCHOR		
UTILITY POLE		
UTILITY POLE WITH LIGHT		
IRON PIPE = IP IRON ROD = IR	IP OR IR	IP OR IR
LIFT STATION	LS	LS
LIGHT - ORNAMENTAL		
LIGHT - STREET		
SIGN		
FLAG POLE		
RAILROAD SIGNAL	RR	RR
SOIL BORING	B	B
CENTER SECTION		
SECTION CORNER		

MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
MANHOLE ELECTRIC	E	E
MANHOLE STORM	ST	ST
MANHOLE SANITARY	SA	SA
CATCH BASIN/INLET		
SANITARY CLEANOUT		
MANHOLE TELEPHONE		
METER - GAS		
VALVE - GAS		
METER - WATER		
VALVE - WATER		
REDUCER - WATER		
FIRE HYDRANT		
MAILBOX		
PARKING METER		
PEDESTAL ELECTRIC		
PEDESTAL CABLE TV		
PEDESTAL TELEPHONE	T OR V	T OR V
TRAFFIC SIGNAL LIGHT		
TRAFFIC SIGNAL JUNCTION BOX		
HAND HOLE OR JUNCTION BOX		
TREE DECIDUOUS/INCH DIA	4R	4R
TREE CONIFEROUS/INCH DIA	5*	5*
TREE LINE		
STUMP	STUMP, 3/13	STUMP, 3/13
BUSH/SHRUB DECIDUOUS		
PRESERVE / PROTECT TREE		
REMOVE EXISTING TREE		

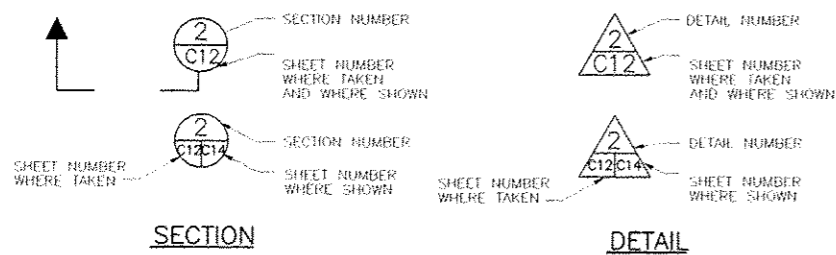
MAPPING & TOPOGRAPHY SYMBOLOGY

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
BENCHMARK		
REBAR SURVEY MONUMENT FOUND		
RIGHT-OF-WAY MARKER		
CHISELED "X" SURVEY MONUMENT FOUND		
IRON PIPE SURVEY MONUMENT FOUND		
EROSION BALES		
SILT FENCE		
GROUND CONTOUR	7.55	7.55
SPOT ELEVATIONS	1.55	1.55
FEDERAL HIGHWAY	141	141
INTERSTATE HIGHWAY	43	43
STATE TRUNK HIGHWAY	28	28
SODDED AREA		

LIST OF STANDARD ABBREVIATIONS

△	CENTRAL ANGLE OR DELTA	EXIST	EXISTING	NE	NORTHEAST	SAN	SANITARY
AGGR	AGGREGATE	F	FILL	NO	NUMBER	SL	SANITARY LATERAL
ASPH	ASPHALT	F/F	FACE TO FACE	NTS	NOT TO SCALE	SB	SOUTHBOUND
B/B	BACK TO BACK	FDN	FOUNDATION	NW	NORTHWEST	SDWK	SIDEWALK
BARR	BARRICADE	FE	FIELD ENTRANCE	O	OIL	SE	SOUTHEAST
B/C	BACK OF CURB	FH	FIRE HYDRANT	O&C	OIL & CHIP	SF	SILT FENCE
BLDG	BUILDING	FIN GR	FINISHED GRADE	OD	OUTSIDE DIAMETER	SIG	SIGNAL
BM	BENCH MARK	FL	FLOW LINE	PC	POINT OF CURVATURE	SQ FT	SQUARE FEET
BSMT	BASEMENT	FO	FIBER OPTIC	PCC	POINT OF INTERSECTION	SHLDR	SHOULDER
C&G	CURB AND GUTTER	FT	FOOT	PE	PEDESTAL	SQ YD	SQUARE YARD
C-C	CENTER TO CENTER	FTG	FOOTING	PVMT	PAVEMENT	STA	STATION
CB	CATCH BASIN	G	GAS	PCC	PORTLAND CEMENT CONCRETE	STD	STANDARD
CIP	CAST IRON PIPE	GV	GAS VALVE	PE	PRIVATE ENTRANCE	STM	STORM OR STORM SEWER
CL	CENTERLINE	GW	GUY WIRE	PI	POINT OF INTERSECTION	STP	SEWAGE TREATMENT PLANT
CMP	CORRUGATED METAL PIPE	HORIZ	HORIZONTAL	PJF	PRE-FORMED JOINT FILLER	STRUCT	STRUCTURE OR STRUCTURAL
CO	CLEAN OUT	HSE	HOUSE	PL	PROPERTY LINE	SW	SOUTHWEST
CONC	CONCRETE	HT	HEIGHT	POC	POINT OF CURVE	TAN	TANGENT
CONSTR	CONSTRUCTION	I	INTERSECTION ANGLE	POT	POINT ON TANGENT	T	TELEPHONE LINE
CONSTR JT	CONSTRUCTION JOINT	ID	INSIDE DIAMETER	PP	POWER POLE	TEL	TELEPHONE
CP	CONTROL POINT	IN	INCH	PRC	POINT OF REVERSE CURVATURE	TEMP	TEMPORARY
CTRL JT	CONTROL JOINT	INL	INLET	PROJ	PROJECT	T/C	TOP OF CURB
CTV	CABLE TV	INTERS	INTERSECTION	PROP	PROPOSED	TYP	TYPICAL
CU YD	CUBIC YARD	INV	INVERT	PSI	POUND PER SQUARE INCH	UG	UNDERGROUND
CS	CURB STOP	IP	IRON PIPE OR PIN	PT	POINT OF TANGENCY	VC	VERTICAL CURVE
D	DEGREE OF CURVE	JCT	JUNCTION	PVC	POLYVINYL CHLORIDE	VERT	VERTICAL
DEG	DEGREE	L	LENGTH (OF CURVE)	PVC	POINT OF VERTICAL CURVATURE	VOL	VOLUME
DIA	DIAMETER	LC	LONG CHORD OF CURVE	PVI	POINT OF VERTICAL INTERSECTION	W	WEST
DIP	DUCTILE IRON PIPE	LP	LIGHT POLE	PVRC	POINT OF VERTICAL REVERSE CURVE	WB	WESTBOUND
E	EAST	LS	LIFT STATION OR LUMP SUM	PVT	POINT OF VERTICAL TANGENCY	WM	WATER MAIN
EA	EACH	LT	LEFT	R	RANGE OR RADIUS	WS	WATER SERVICE
EB	EAST BOUND	MAINT	MAINTENANCE	RCP	REINFORCED CONCRETE PIPE	WTP	WATER TREATMENT PLANT
EL	ELEVATION	MATL	MATERIAL	REBAR	REINFORCEMENT BAR	WV	WATER VALVE
ELEC	ELECTRIC	MB	MAILBOX	REQD	REQUIRED	WWTP	WASTE WATER TREATMENT PLANT
EMB	EMBANKMENT	MG	METER-GAS	ROW	RIGHT-OF-WAY	YD	YARD
ENR	ENTRANCE	MH	MANHOLE	RR	RAILROAD		
E/P	EDGE OF PAVEMENT	MW	METER-WATER OR MONITORING WELL	RT	RIGHT		
ET	ELECTRIC TRANSFORMER	N	NORTH	S	SOUTH		
EXC	EXCAVATION	NB	NORTHBOUND	SALV	SALVAGE		

DETAIL DESIGNATION



Foth
 Foth Infrastructure & Environment, LLC
 1510 Broadmoor Drive
 Champaign, IL 61821
 Phone: 217-352-4169 Fax: 217-352-0065
 Illinois Professional Design Firm No. 184-004913
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**ROUTE 150 WATERMAIN RELOCATION
 BETWEEN URBANA AND ST. JOSEPH
 ILLINOIS AMERICAN WATER COMPANY
 IDOT CONTRACT NO. 70663**

URBANA, ILLINOIS
 CHAMPAIGN COUNTY

REVISIONS

NO.	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
 RECORD DRAWINGS OF COMPLETED CONSTRUCTION
 CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS
 BY DATE

Date of Preparation: July 17, 2013

BY	DATE
FOTH	07-13-2013
WHH	07-17-2013
MAJ	07-17-2013
MAJ	07-17-2013

STANDARD SYMBOLS & ABBREVIATIONS

GENERAL NOTES - WATER MAIN

1. THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS", 5TH EDITION, DATED MAY 1996, SHALL GOVERN THE CONSTRUCTION OF THE PROPOSED WORK EXCEPT AS NOTED ON THE PLAN SHEETS.
2. THE WATER MAIN SHALL BE CONSTRUCTED WITH A MINIMUM OF THREE FEET SIX INCHES (3'-6") OF COVER TO TOP OF MAIN.
3. ANY FIELD TILE ENCOUNTERED AND DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AND THE EXCAVATION BACKFILLED WITH SELECTED GRANULAR BACKFILL MATERIAL AS SHOWN ON SHEET C5.02 "BACKFILL DETAILS".
4. ALL WATER MAINS SHALL BE SEPARATED FROM DRAINS, SANITARY AND STORM SEWERS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS SHOWN ON THE PLANS PRIOR TO BEGINNING CONSTRUCTION.
6. THE CONTRACTOR SHALL USE RESTRAINED JOINTS, INSTALL FITTINGS AND VALVES IN ACCORDANCE WITH SHEET C5.01 "WATERMAIN DETAILS" AS AN ALTERNATIVE TO CONCRETE THRUST BLOCKING. USE OF THRUST BLOCKING MUST BE APPROVED IN ADVANCE BY THE ENGINEER.
7. ALL TESTING AND DISINFECTION OF WATERMAINS SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER AND ILAW PROJECT REPRESENTATIVES AND IN ACCORDANCE WITH THE ILLINOIS AMERICAN WATER COMPANY STANDARD PROCEDURE.
8. THE CONTRACTOR SHALL NOTIFY THE ENGINEER (217-352-4169) AND ILLINOIS AMERICAN WATER COMPANY 24 HOURS PRIOR TO THE START OR RE-START OF CONSTRUCTION OF WATERMAIN.
9. MISCELLANEOUS REQUIRED WATERMAIN APPURTENANCES ARE NOT SHOWN ON THE PLAN DRAWINGS. ALL MISCELLANEOUS WATERMAIN APPURTENANCES ARE TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
10. ALL NEW WATERMAIN CROSSINGS UNDERNEATH AN EXISTING STORM OR SANITARY SEWER MUST HAVE A CLEAR DISTANCE OF AT LEAST 18-INCHES AND IF THE STORM OR SANITARY SEWER IS NOT CONSTRUCTED OF WATERMAIN QUALITY PIPE, EITHER THE SEWER OR WATERMAIN MUST BE CASED IN A WATERMAIN QUALITY CASING FOR A CLEAR DISTANCE OF 10 L.F. EITHER SIDE OF THE CROSSING, IN ACCORDANCE WITH 35 IAC 651-654.
11. ALL LIVE TAPS WILL BE MADE BY ILAW. THE TAPPING SLEEVE, TAPPING VALVE AND VALVE BOX WILL BE PROVIDED BY ILAW. THE CONTRACTOR WILL EXCAVATE, PROVIDE SHORING IF NEEDED AND HAVE THE HOLE READY FOR ILAW TO MAKE THE TAP. THE CONTRACTOR WILL GIVE ILAW 24 HOURS NOTICE BEFORE TAP IS NEEDED SO ILAW CAN CHECK THE SPACE LIMITATIONS OF THE HOLE AND PLAN THE TAP. ILAW NEEDS TO HAVE A MINIMUM OF 6' OF CLEARANCE BETWEEN THE EDGE OF THE PIPE AND THE BANK OF THE HOLE FOR THE TAPPING MACHINE.

EXISTING WATERMAIN SHUT-OFF

1. WATERMAIN TO BE INSTALLED AS PART OF THIS CONTRACT WILL REPLACE A TRANSMISSION MAIN CURRENTLY SERVING THE VILLAGE OF ST. JOSEPH. THERE ARE NO OTHER PIPELINES SERVING THE VILLAGE OF ST. JOSEPH. SERVICE INTERRUPTION THROUGHOUT THE COURSE OF THIS PROJECT THEREFORE CANNOT BE TOLERATED.
2. FOLLOWING INSTALLATION, THE NEW WATERMAIN SHALL BE FLUSHED, DISINFECTED, TESTED, AND PLACED INTO SERVICE FOLLOWING THE NORMAL PROCEDURES AS DESCRIBED IN THE SPECIFICATIONS.
3. AFTER THE NEW WATERMAIN HAS BEEN PLACED INTO SERVICE, THE EXISTING MAIN MUST BE CUT AND CAPPED TO ALLOW FOR ITS DEMOLITION DURING EARTHWORK.
4. IN ORDER TO CUT AND CAP THE EXISTING MAIN WITHOUT CAUSING SERVICE INTERRUPTION, CONCRETE DEAD MEN AND TEMPORARY LINE STOPS MUST BE INSTALLED IN BETWEEN THE INSTALLED TAPPING SLEEVES AND THE EXISTING PIPE THAT WILL BE REMOVED. SEE SHEET C5.03 FOR DETAILS.

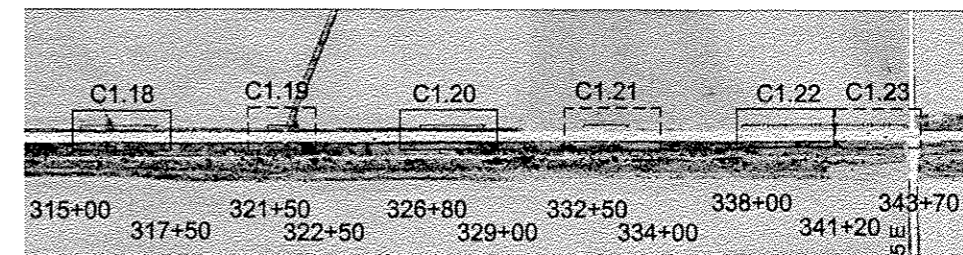
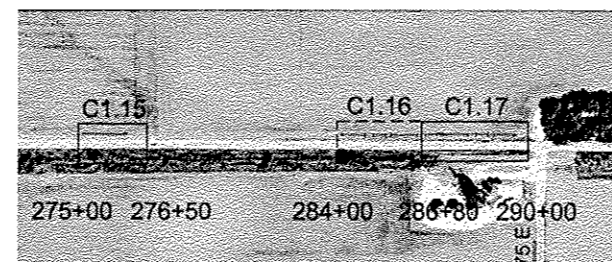
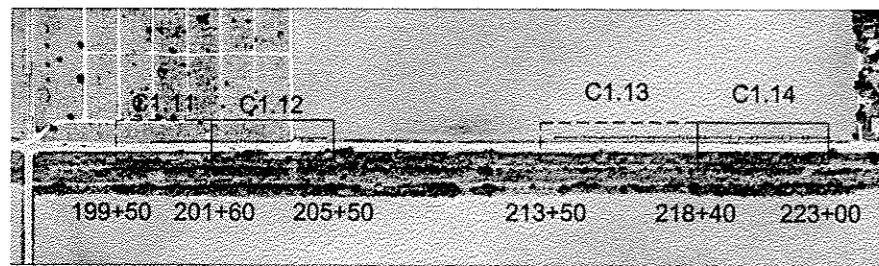
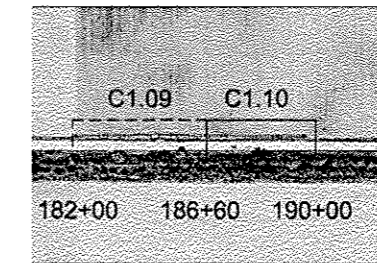
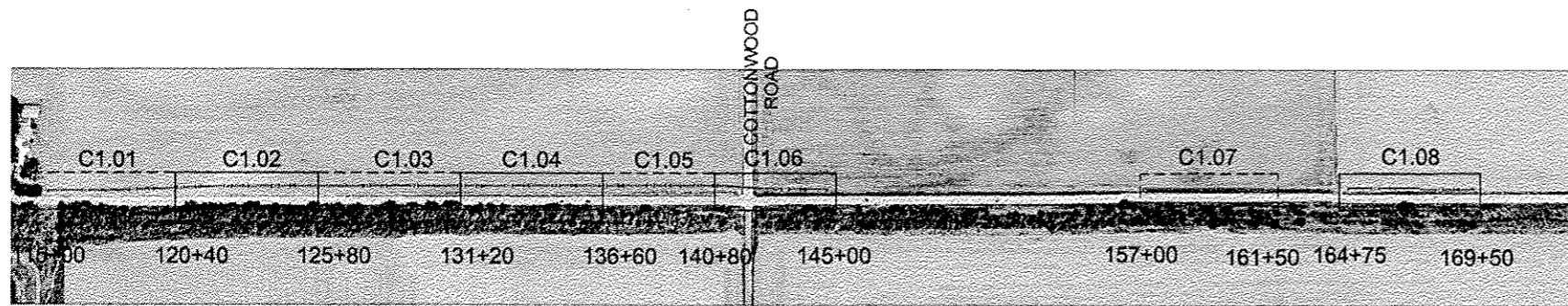
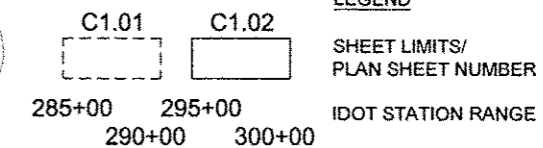
COORDINATION OF CONTRACT DOCUMENTS

1. WATERMAIN SHALL BE INSTALLED AS PART OF IDOT CONTRACT NO. 70663. SEE IDOT CONTRACT FOR REQUIREMENTS REGARDING TRAFFIC CONTROL, EROSION CONTROL, ENGINEER'S RESPONSIBILITY AND AUTHORITY, STORMWATER POLLUTION AND PREVENTION, AND MEASUREMENT AND PAYMENT.

GENERAL NOTES - ESTIMATED SCHEDULE OF QUANTITIES

1. A SCHEDULE OF QUANTITIES HAS BEEN PROVIDED TO ASSIST THE CONTRACTOR IN PREPARING HIS BIDS, AND DOES NOT PURPORT TO BE INDICATIVE OF ALL NECESSARY MATERIALS AND/OR QUANTITIES TO COMPLETE THE PROJECT.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING HIS OWN OPINION OF PROJECT MATERIALS, QUANTITIES, AND COST.

ESTIMATED SCHEDULE OF QUANTITIES - ROUTE 150		
ITEM	UNIT	QTY
12" DIP WATERMAIN		
OPEN CUT - METHOD 1	LF	8,258
OPEN CUT - BACKFILL METHOD 5	LF	135
OPEN CUT - 12" DIP TR FLEX	LF	162
OPEN CUT - 18" STEEL CASING PIPE	LF	162
OPEN CUT - 18" PVC CASING PIPE	LF	23
12" TAPPING SLEEVE WITH VALVE	EA	26
12" TEE, MJ	EA	13
12" 90° BEND, MJ	EA	29
12" 45° BEND, MJ	EA	14
12" GATE VALVE, MJ	EA	4
12" CAP, MJ	EA	26
12" DI SPLIT ADAPTOR FLANGE	EA	26
12" X 6" TEE, MJ	EA	2
6" GATE VALVE, MJ	EA	2
6" DIP RESTRAINED	EA	2
HYDRANT ASSEMBLY	EA	2
VALVE BOX	EA	32
CONCRETE DEAD MAN	EA	26
LINE STOP	EA	26
2" CORP	EA	13
2" COPPER PIPE	LF	65



SHEET LAYOUT - ROUTE 150 WATERMAIN RELOCATION BETWEEN URBANA AND ST. JOSEPH

Foth
Foth Infrastructure & Environment, LLC
 1610 Broadmead Drive
 Champaign, IL 61821
 Phone: 217-352-4169 Fax: 217-352-0085
 Illinois Professional Design Firm No. 194.004913

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**ROUTE 150 WATERMAIN RELOCATION
 BETWEEN URBANA AND ST. JOSEPH
 ILLINOIS AMERICAN WATER COMPANY
 IDOT CONTRACT NO. 70663**

URBANA, ILLINOIS
 CHAMPAIGN COUNTY

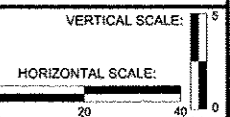
NO.	BY	DATE	DESCRIPTION
1	MAJ	2013-10-17	IDOT REQUESTED REVISIONS
2	MAJ		
3	MAJ		
4	MAJ		

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
 RECORD DRAWINGS OF COMPLETED CONSTRUCTION
 CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS
 BY DATE

Date of Preparation: July 17, 2013

BY	DATE
SURVEYED	FOTH 07-13-2013
DRAWN	WJH 07-17-2013
DESIGNED	MAJ 07-17-2013
CHECKED	MAJ 07-17-2013

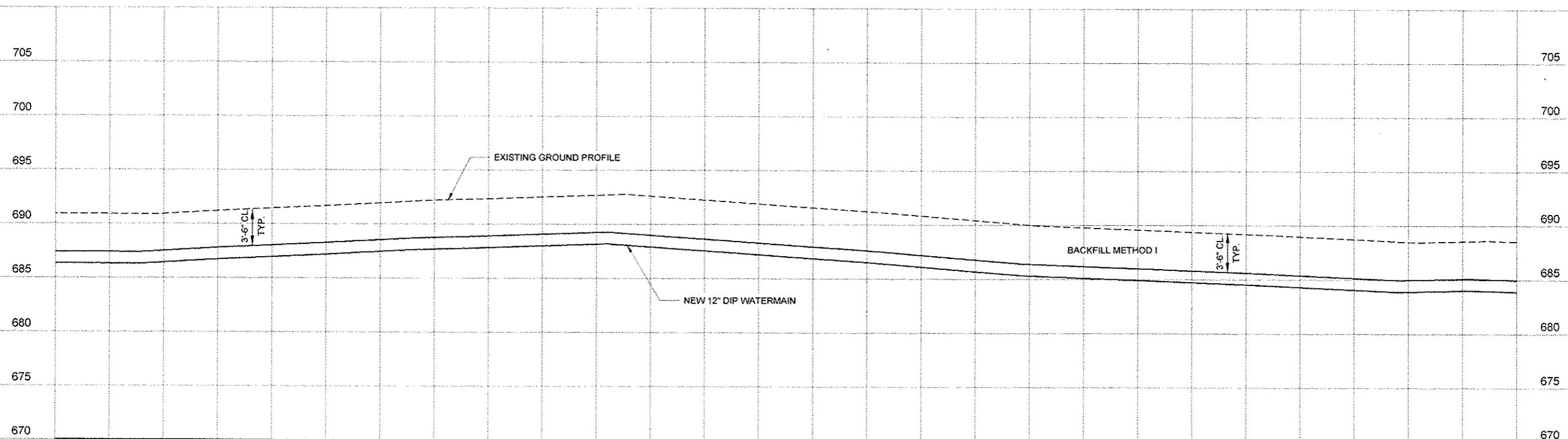
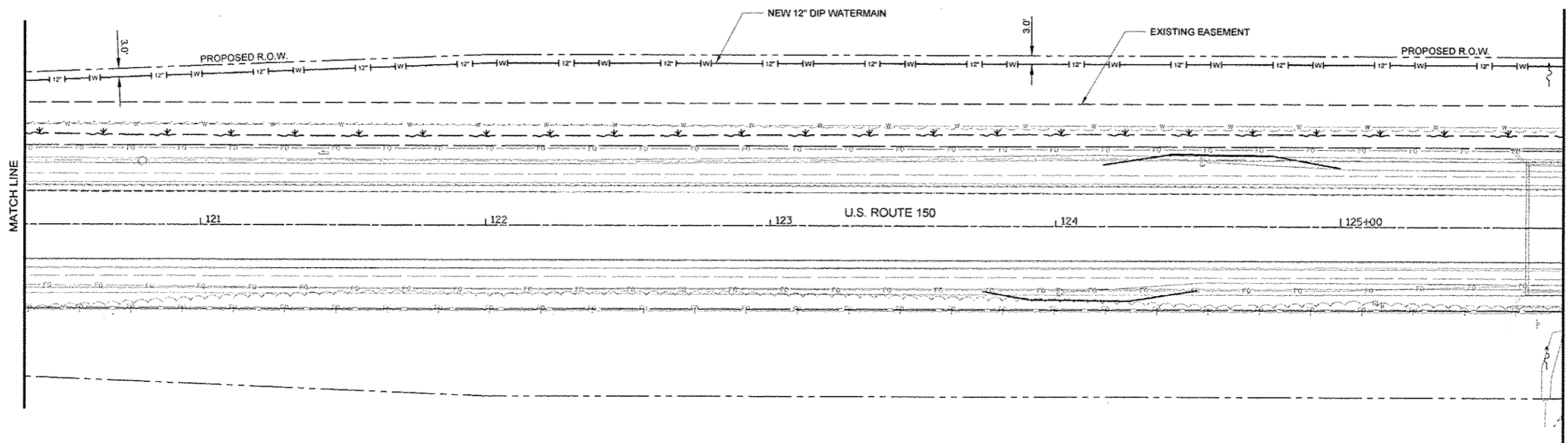
GENERAL NOTES AND SUMMARY OF QUANTITIES



PROJECT ID 11013
G0.03
 SHEET 3 OF 29

THE LOCATION OF THE UTILITIES SHOWN ARE DETERMINED FROM THE BEST AVAILABLE DATA. THEY ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO PURPORT THE ACTUAL LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE UTILITIES IN THE FIELD AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND SHALL BE LIABLE FOR ANY DAMAGES TO THEM RESULTING FROM HIS OPERATIONS.

NEW WATERMAIN SHALL BE 12-INCH D.I.P. TYTON JOINT, PRESSURE CLASS 350 WITH 8 MIL POLYETHYLENE PIPE WRAP



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

CUSTOMER NOTIFICATION OF SERVICE INTERRUPTION, IF NECESSARY, WILL BE THE RESPONSIBILITY OF ILLINOIS-AMERICAN. CONTRACTOR SHALL ADHERE TO THE SUBMITTED CONSTRUCTION SCHEDULE OR NOTIFY ILLINOIS-AMERICAN OF ANY DELAYS ONE WEEK PRIOR TO SCHEDULED WORK.

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH IDOT STD 701101 UNLESS NOTED OTHERWISE.

WATERMAIN BACKFILL, FINAL GRADING, TOPSOIL STORAGE AND REPLACEMENT, SEEDING AND MULCHING SHALL BE AS REQUIRED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

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**ROUTE 150 WATERMAIN RELOCATION
 BETWEEN URBANA AND ST. JOSEPH
 ILLINOIS AMERICAN WATER COMPANY
 IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY
 URBANA, ILLINOIS

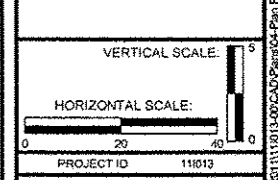
NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
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 BY _____ DATE _____

Date of Preparation: July 17, 2013

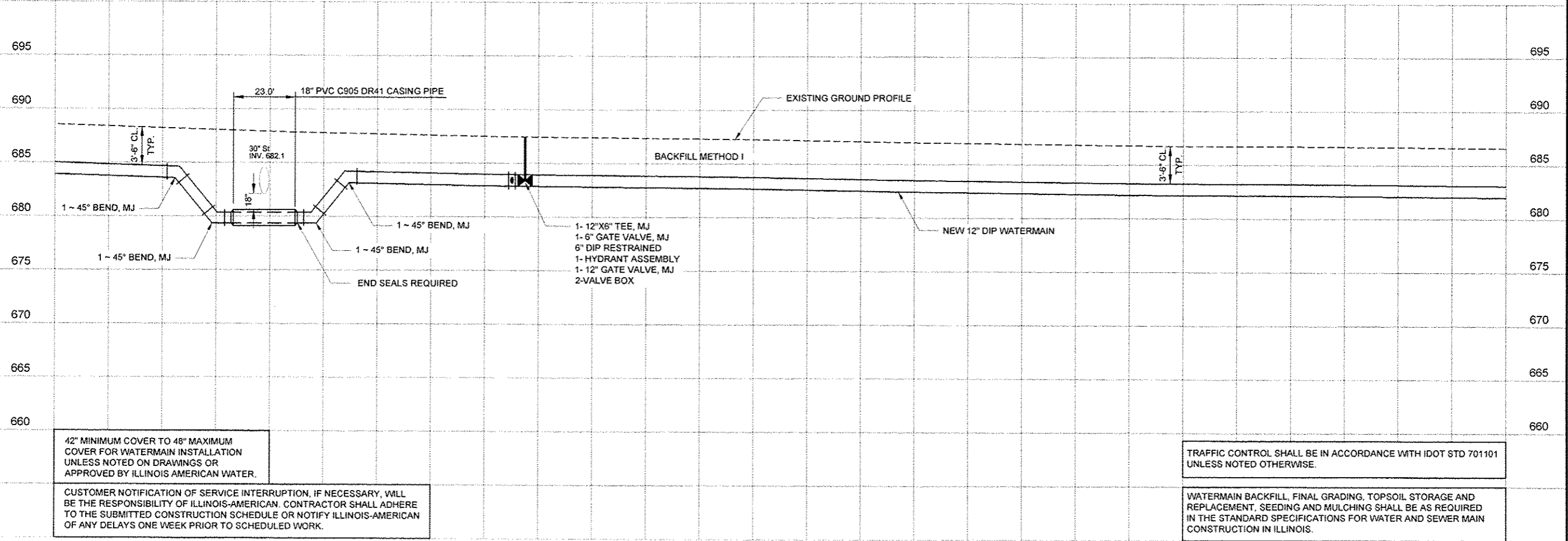
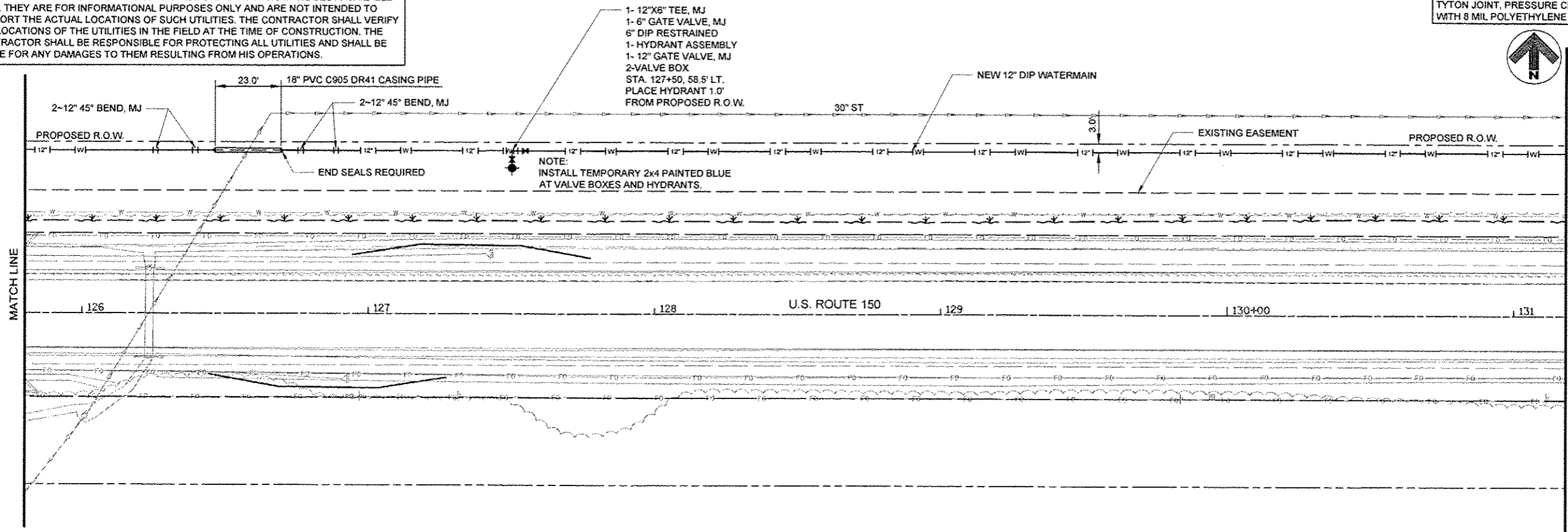
	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WRH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

**SHEET NAME
 STA. 120+40 TO
 STA. 125+80**



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**ROUTE 150 WATERMAIN RELOCATION
 BETWEEN URBANA AND ST. JOSEPH
 ILLINOIS AMERICAN WATER COMPANY
 IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY
 URBANA, ILLINOIS

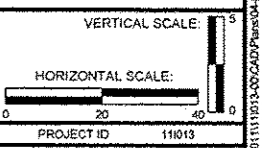
NO.	DATE	DESCRIPTION

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 BY: DATE

Date of Preparation: July 17, 2013

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DRAWN	WGH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

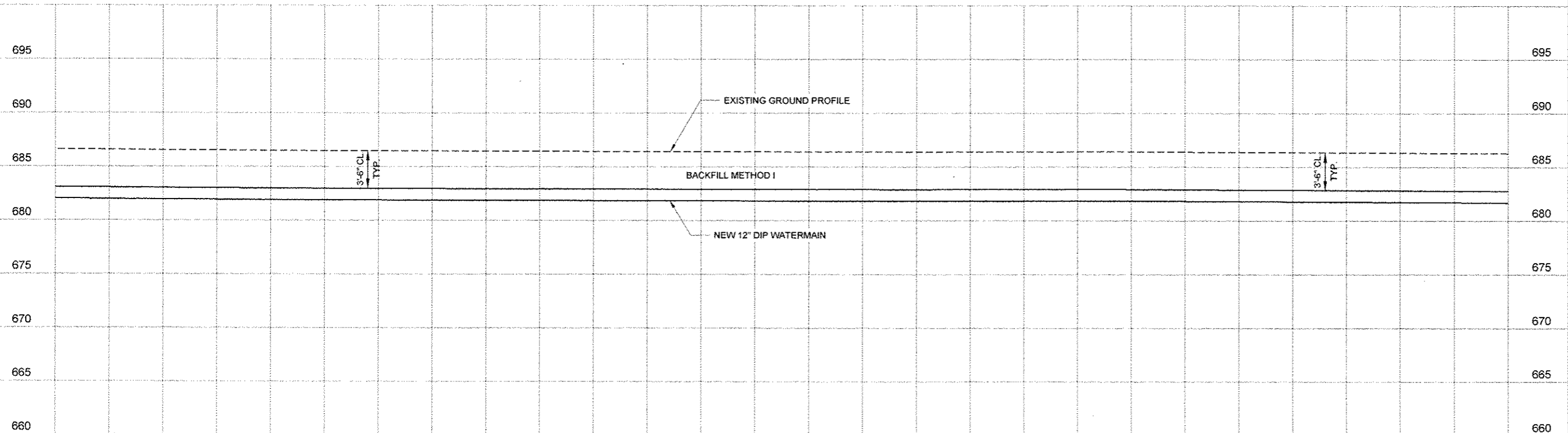
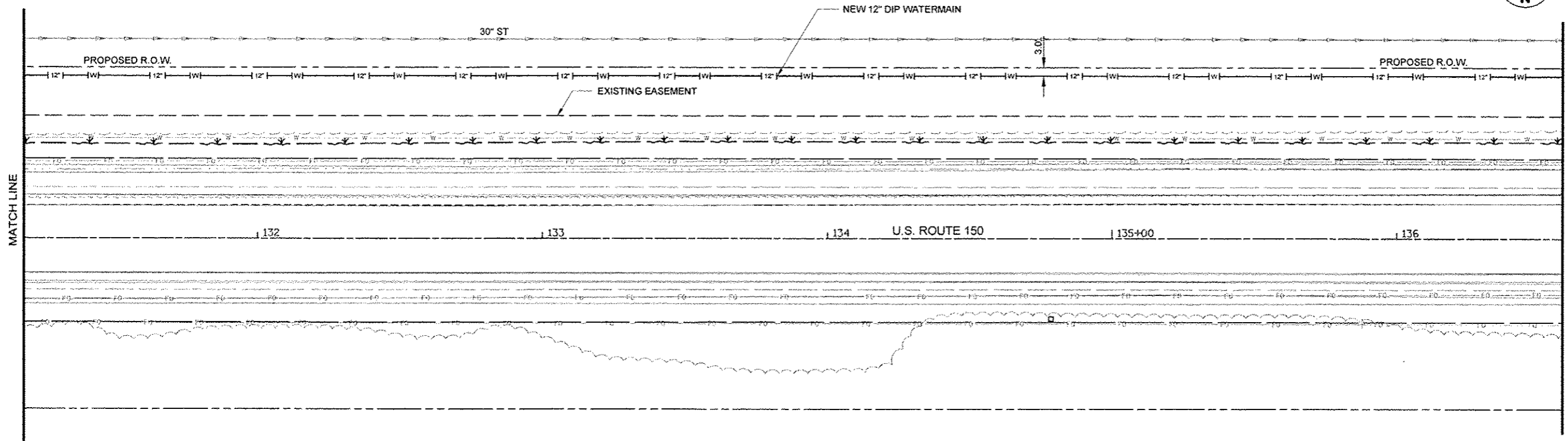
SHEET NAME
 STA. 125+80 TO
 STA. 131+20



C1.03
 SHEET 6 OF 29

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WITH 8 MIL POLYETHYLENE PIPE WRAP



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Phone: 217-352-4189 Fax: 217-352-0085
Illinois Professional Design Firm No. 184-004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70863**

CHAMPAIGN COUNTY
URBANA, ILLINOIS

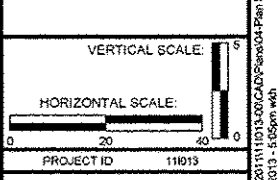
REVISIONS		RECORD DRAWING OF COMPLETED CONSTRUCTION BY	
NO.	DATE	DESCRIPTION	DATE

RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS BY

Date of Preparation: July 17, 2013

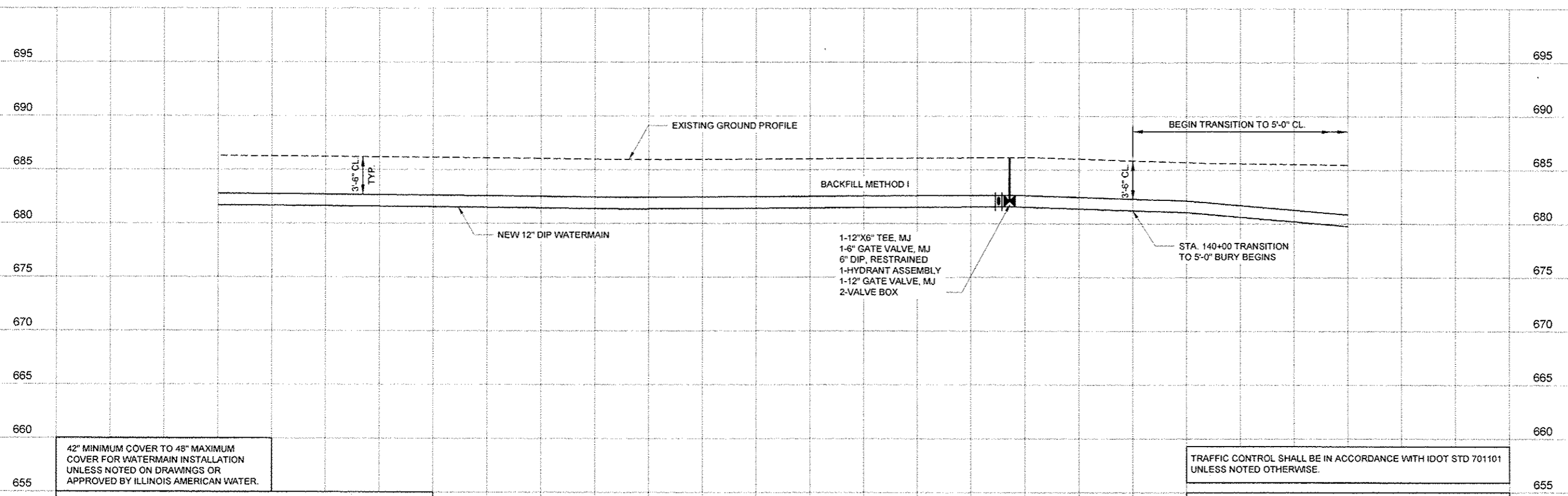
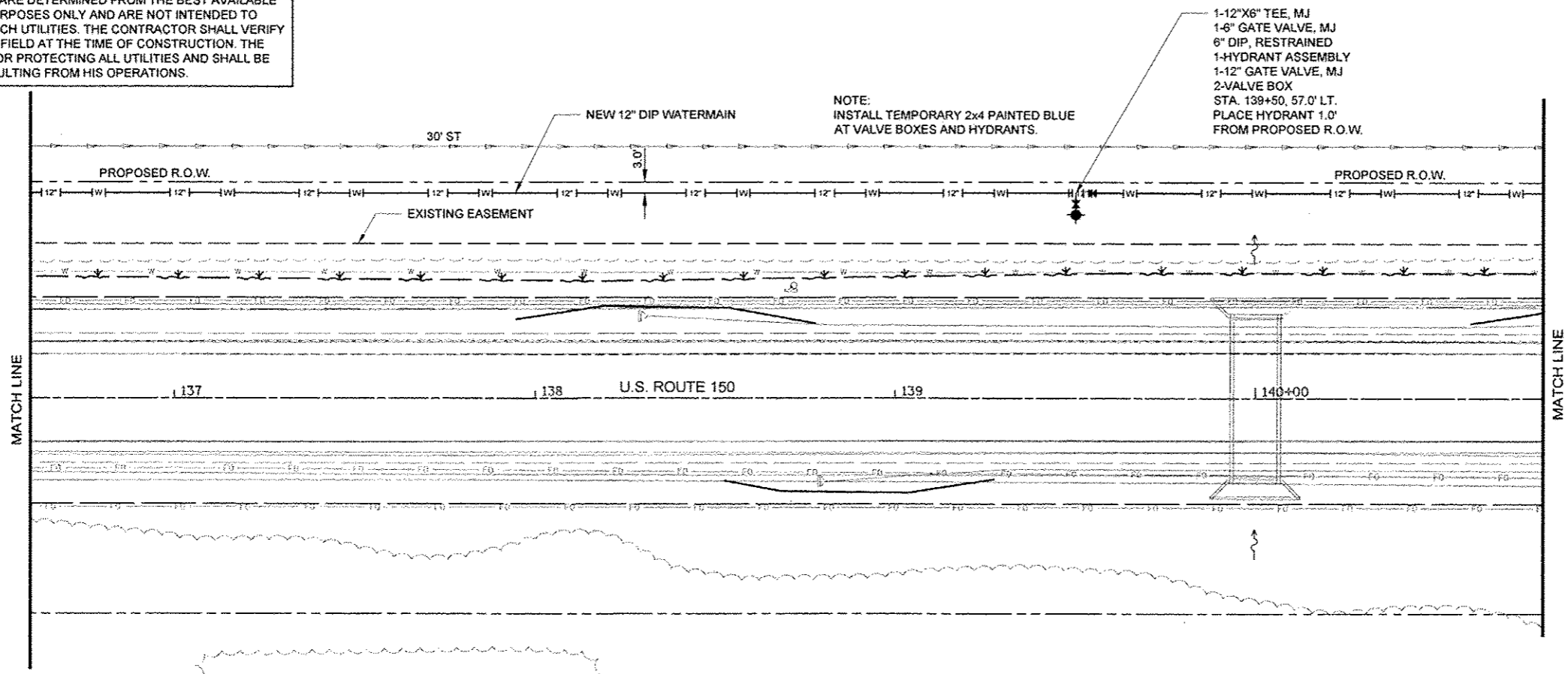
	BY	DATE
SURVEYED	POTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 131+20 TO
STA. 136+60



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Phone: 217-352-4199 Fax: 217-352-0685
Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY URBANA, ILLINOIS

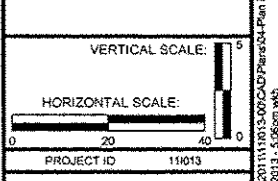
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RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.
DATE

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DRAWN	WJH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

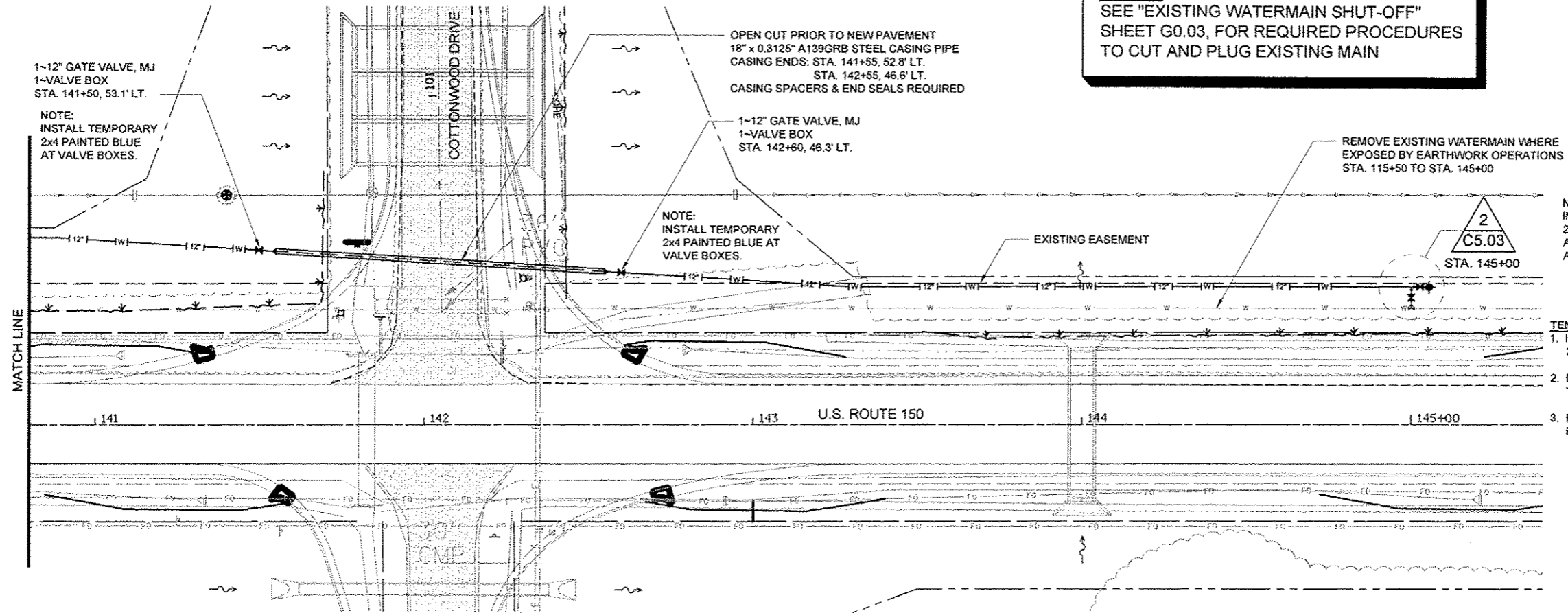
SHEET NAME
STA. 136+60 TO
STA. 140+80



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NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF" SHEET G0.03, FOR REQUIRED PROCEDURES TO CUT AND PLUG EXISTING MAIN



1-12" GATE VALVE, MJ
1-VALVE BOX
STA. 141+50, 53.1' LT.
NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE
AT VALVE BOXES.

OPEN CUT PRIOR TO NEW PAVEMENT
18" x 0.3125" A139GRB STEEL CASING PIPE
CASING ENDS: STA. 141+55, 52.8' LT.
STA. 142+65, 46.6' LT.
CASING SPACERS & END SEALS REQUIRED

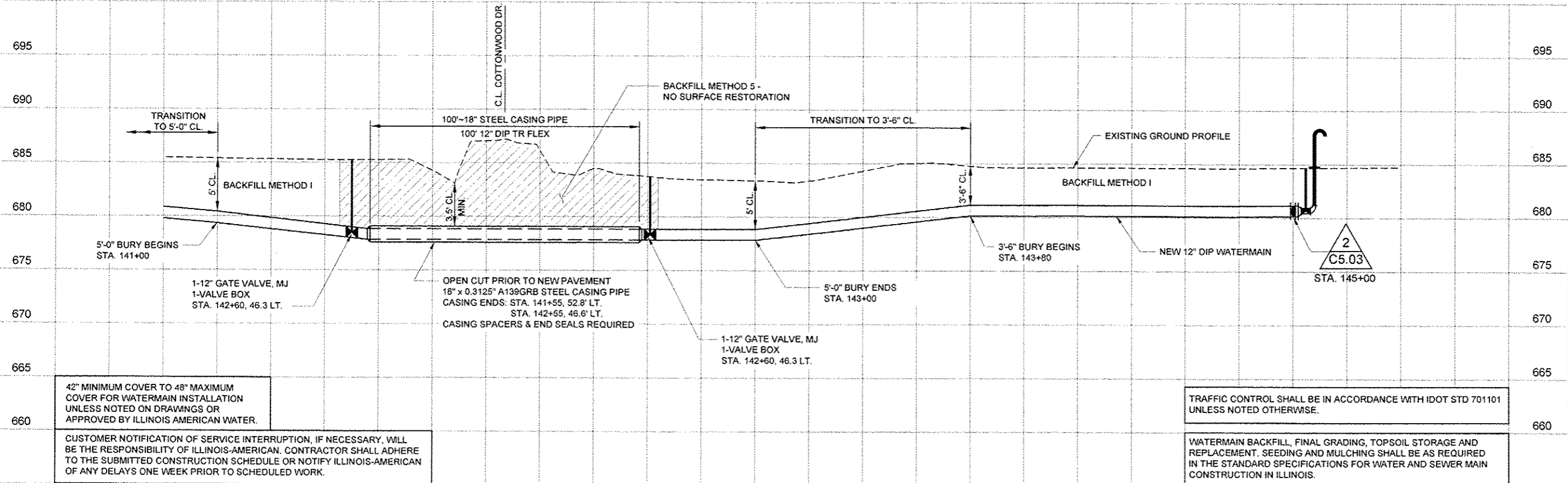
1-12" GATE VALVE, MJ
1-VALVE BOX
STA. 142+60, 46.3' LT.

NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE
AT VALVE BOXES.

REMOVE EXISTING WATERMAIN WHERE
EXPOSED BY EARTHWORK OPERATIONS
STA. 115+50 TO STA. 145+00

NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE
AT VALVE BOXES
AND BLOW-OFFS.

- TEMPORARY BLOW-OFF
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



TRANSITION TO 5'-0" CL.

100'-18" STEEL CASING PIPE

100' 12" DIP TR FLEX

BACKFILL METHOD 5 - NO SURFACE RESTORATION

TRANSITION TO 3'-6" CL.

EXISTING GROUND PROFILE

BACKFILL METHOD 1

5'-0" BURY BEGINS STA. 141+00

1-12" GATE VALVE, MJ
1-VALVE BOX
STA. 142+60, 46.3 LT.

OPEN CUT PRIOR TO NEW PAVEMENT
18" x 0.3125" A139GRB STEEL CASING PIPE
CASING ENDS: STA. 141+55, 52.8' LT.
STA. 142+65, 46.6' LT.
CASING SPACERS & END SEALS REQUIRED

5'-0" BURY ENDS STA. 143+00

1-12" GATE VALVE, MJ
1-VALVE BOX
STA. 142+60, 46.3 LT.

3'-6" BURY BEGINS STA. 143+80

NEW 12" DIP WATERMAIN

2
C5.03
STA. 145+00

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Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

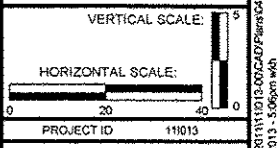
NO.	DATE	DESCRIPTION

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CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS
DATE

Date of Preparation: July 17, 2013

BY	DATE
SURVEYED	FOTH 07-13-2013
DRAWN	WKH 07-17-2013
DESIGNED	MAJ 07-17-2013
CHECKED	MAJ 07-17-2013

SHEET NAME
STA. 140+80 TO
STA. 145+00



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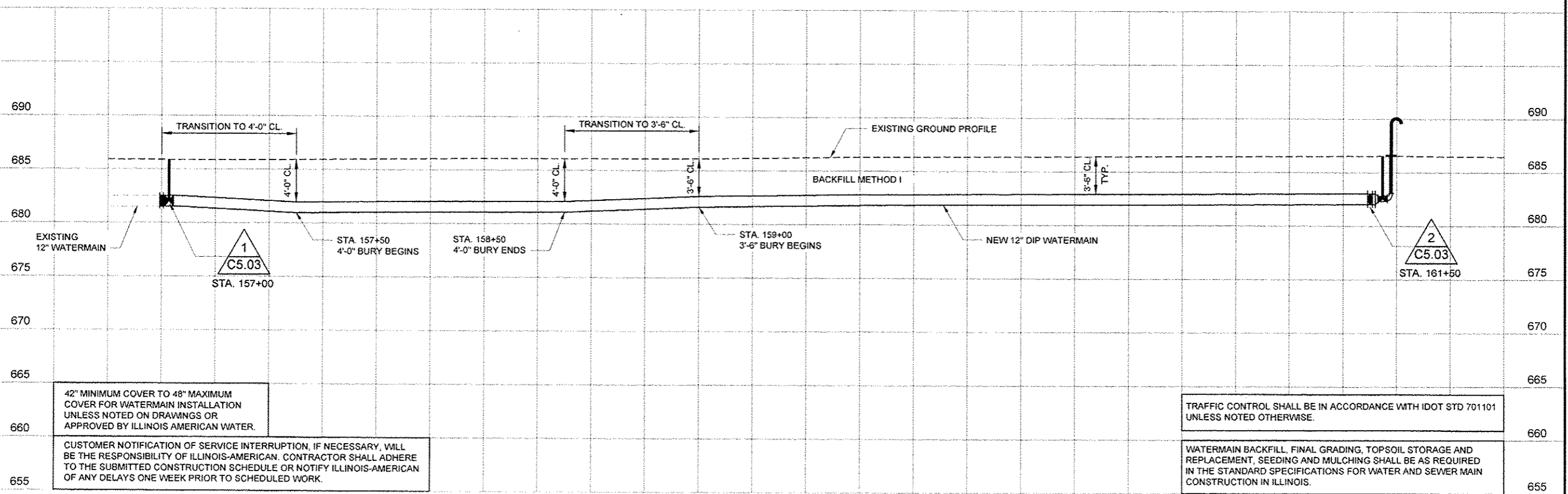
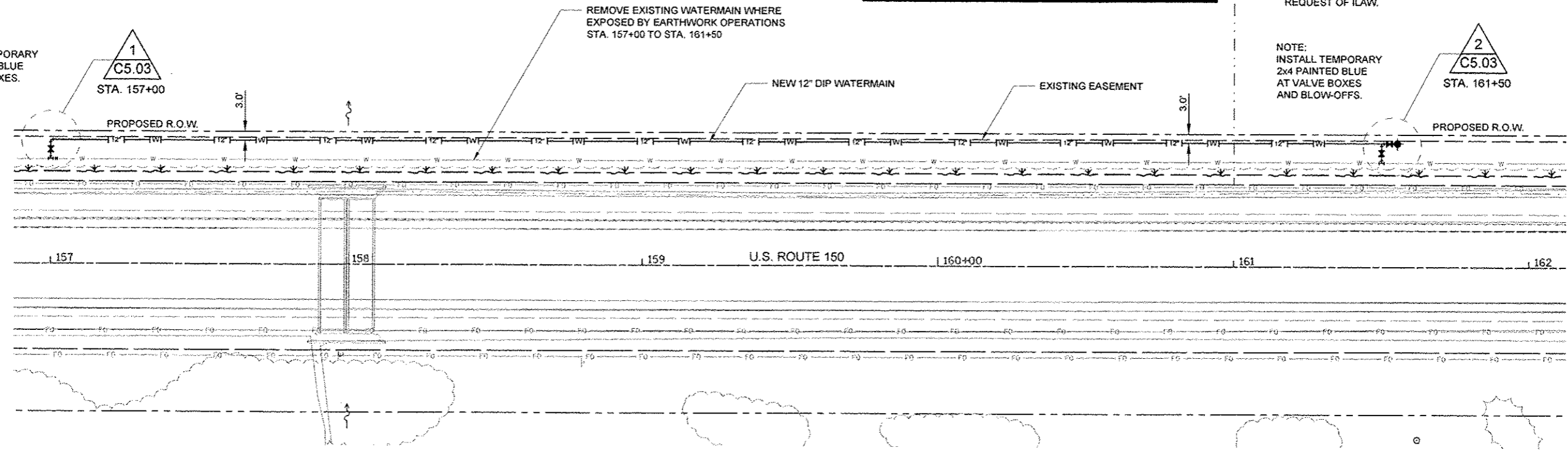
NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF" SHEET G0.03, FOR REQUIRED PROCEDURES TO CUT AND PLUG EXISTING MAIN

- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



NOTE:
INSTALL TEMPORARY 2x4 PAINTED BLUE AT VALVE BOXES.

NOTE:
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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663**

URBANA, ILLINOIS
CHAMPAIGN COUNTY

NO.	BY	DATE	DESCRIPTION

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SURVEYED	FOTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 157+00 TO
STA. 161+50

VERTICAL SCALE: 1" = 5'

HORIZONTAL SCALE: 1" = 20'

PROJECT ID: 11013

C1.07
SHEET 10 OF 29

Aug 21, 2013 - 5:06pm

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NOTICE
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SHEET G0.03, FOR REQUIRED PROCEDURES
TO CUT AND PLUG EXISTING MAIN

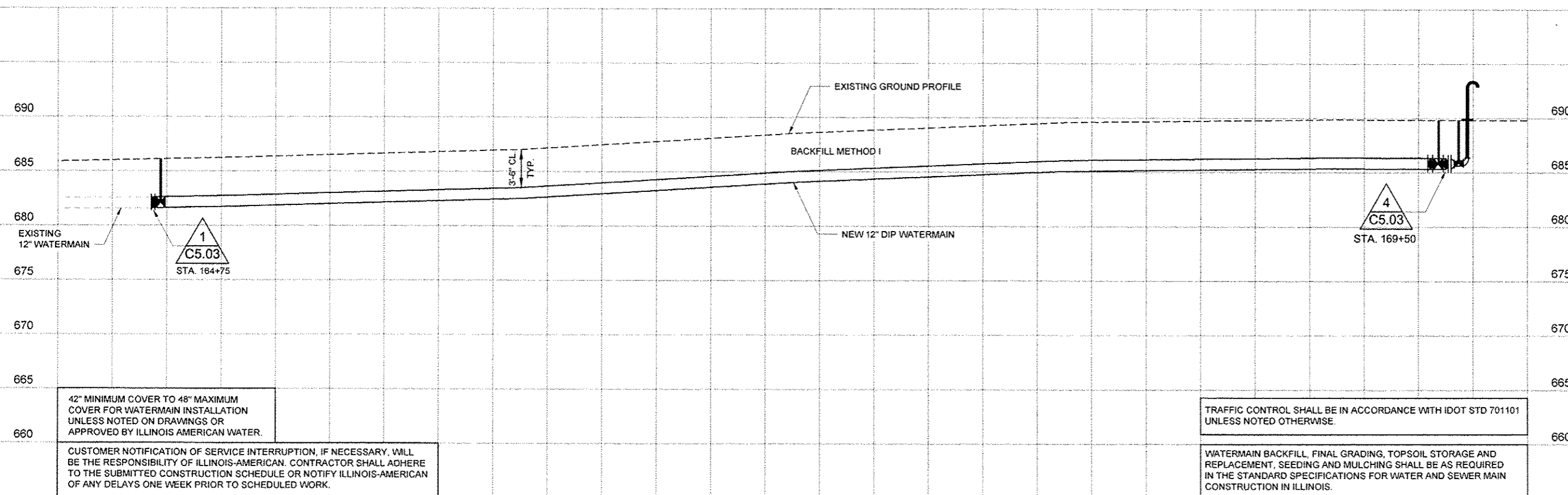
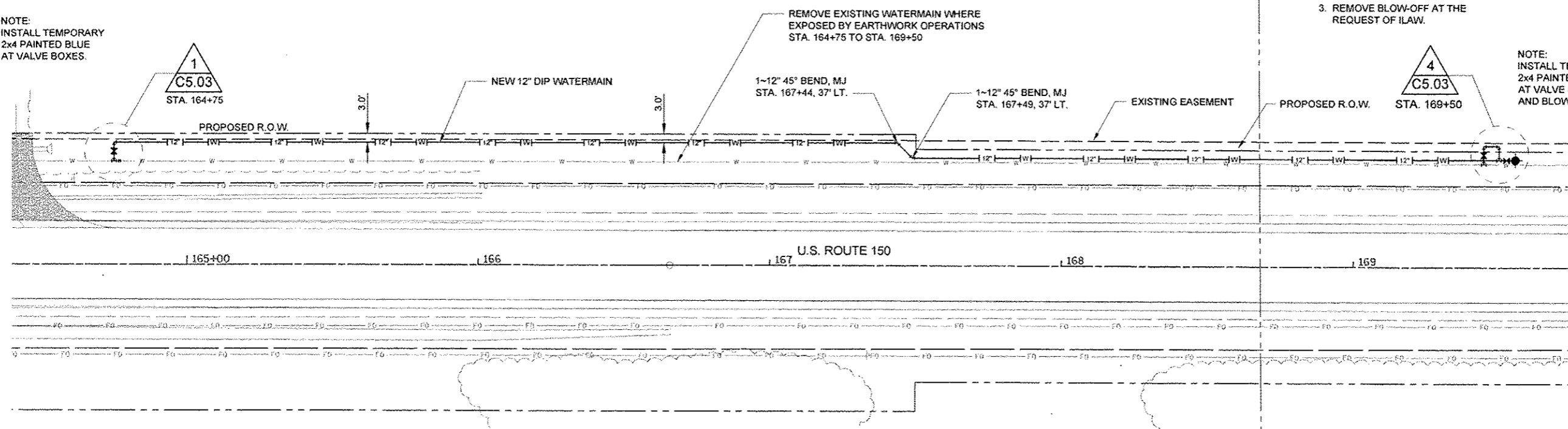
NEW WATERMAIN SHALL BE 12-INCH D.I.P.
TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.

NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE
AT VALVE BOXES.

NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE
AT VALVE BOXES
AND BLOW-OFFS.



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

CUSTOMER NOTIFICATION OF SERVICE INTERRUPTION, IF NECESSARY, WILL BE THE RESPONSIBILITY OF ILLINOIS-AMERICAN. CONTRACTOR SHALL ADHERE TO THE SUBMITTED CONSTRUCTION SCHEDULE OR NOTIFY ILLINOIS-AMERICAN OF ANY DELAYS ONE WEEK PRIOR TO SCHEDULED WORK.

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH IDOT STD 701101 UNLESS NOTED OTHERWISE.

WATERMAIN BACKFILL, FINAL GRADING, TOPSOIL STORAGE AND REPLACEMENT, SEEDING AND MULCHING SHALL BE AS REQUIRED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

Foth
Foth Infrastructure & Environment, LLC
1810 Broadmoor Drive
Champaign, IL 61821
Phone: 217-352-4189 Fax: 217-352-0085
Illinois Professional Design Firm No. 194-004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70863

URBANA, ILLINOIS
CHAMPAIGN COUNTY

NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS
DATE

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WGH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 164+75 TO
STA. 169+50

VERTICAL SCALE: 1" = 5'

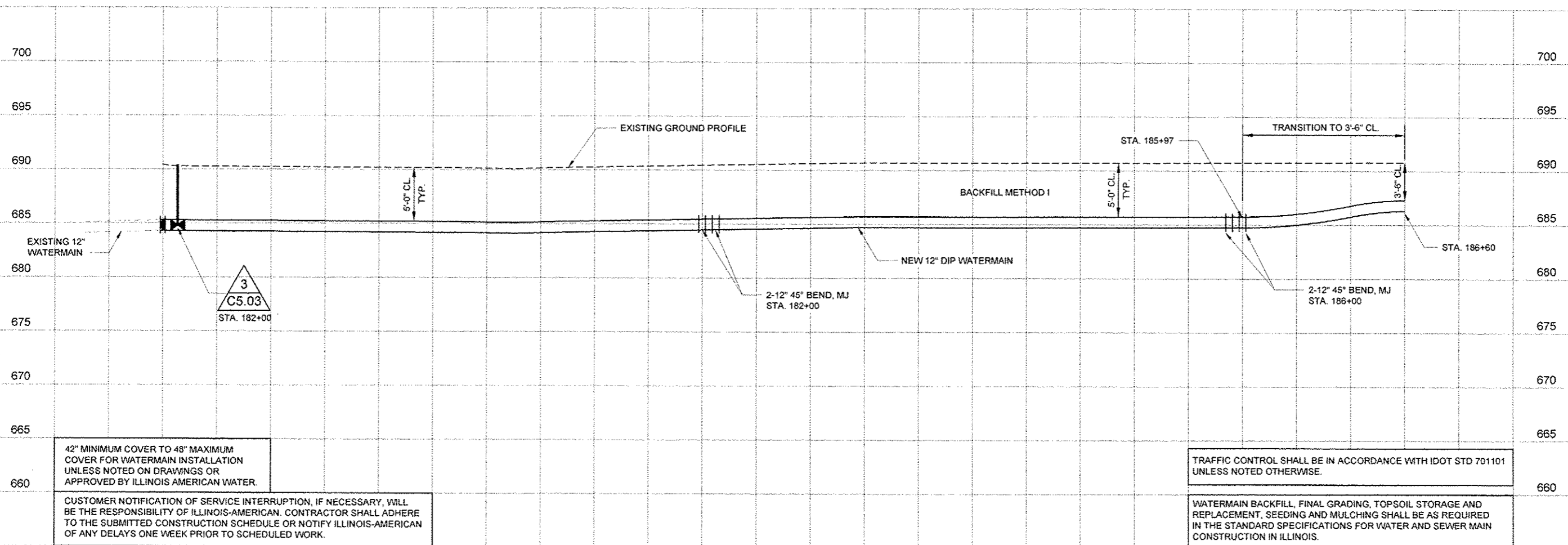
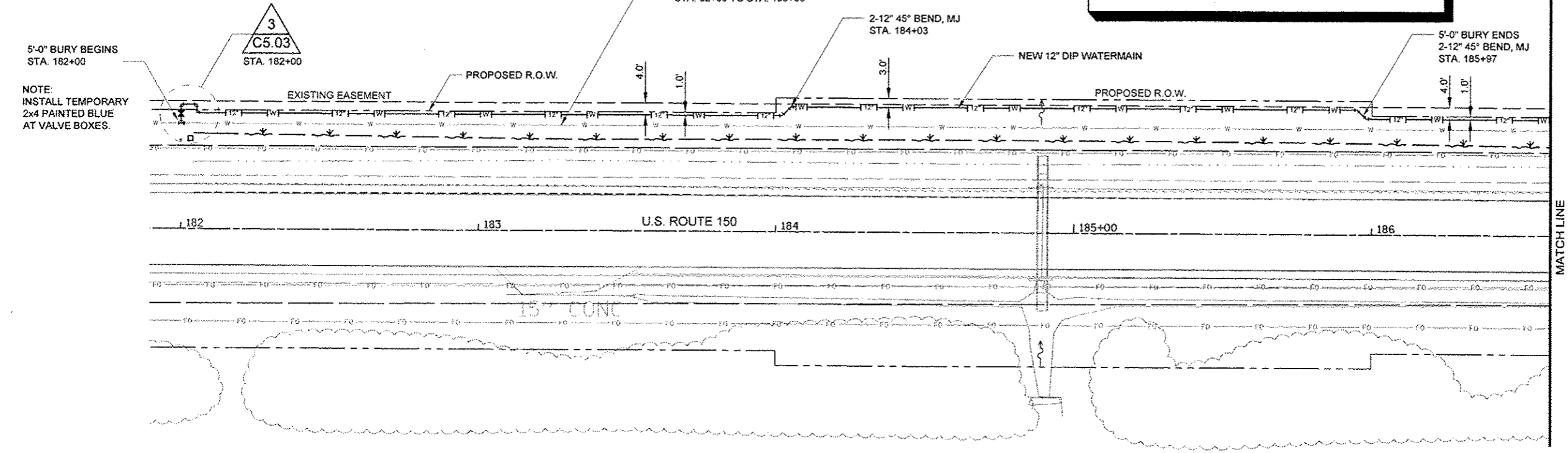
HORIZONTAL SCALE: 1" = 40'

PROJECT ID 11013

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NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF"
SHEET G0.03, FOR REQUIRED PROCEDURES
TO CUT AND PLUG EXISTING MAIN

NEW WATERMAIN SHALL BE 12-INCH D.I.P.
TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH IDOT STD 701101 UNLESS NOTED OTHERWISE.

WATERMAIN BACKFILL, FINAL GRADING, TOPSOIL STORAGE AND REPLACEMENT, SEEDING AND MULCHING SHALL BE AS REQUIRED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

Foth
Foth Infrastructure & Environment, LLC
10 Broadmoor Drive
Champaign, IL 61820
Phone: 217-252-4159 Fax: 217-352-0095
Illinois Professional Design Firm No. BA 0004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

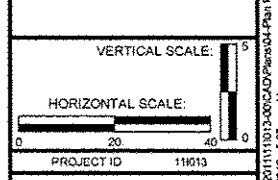
NO.	BY	DATE	DESCRIPTION

RECORD DRAWINGS OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
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BY DATE

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SURVEYED	FOTH	07-13-2013
DRAWN	WGH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

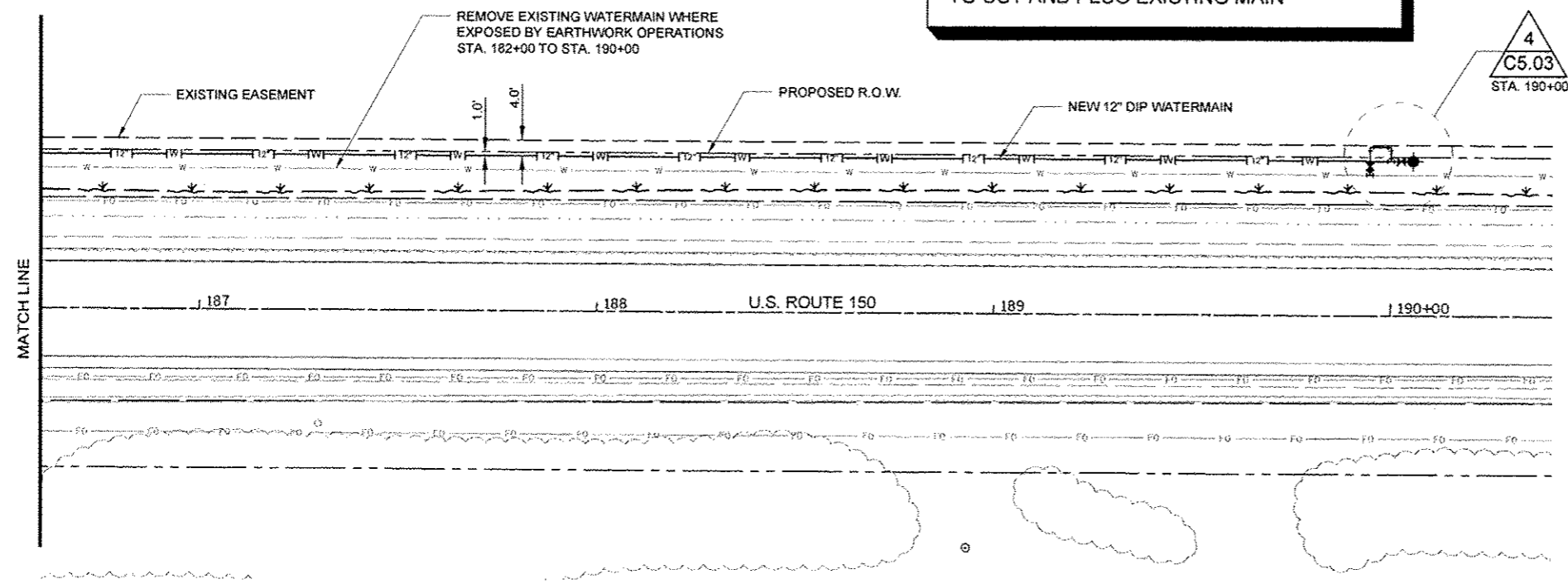
SHEET NAME
STA. 182+00 TO
STA. 186+60



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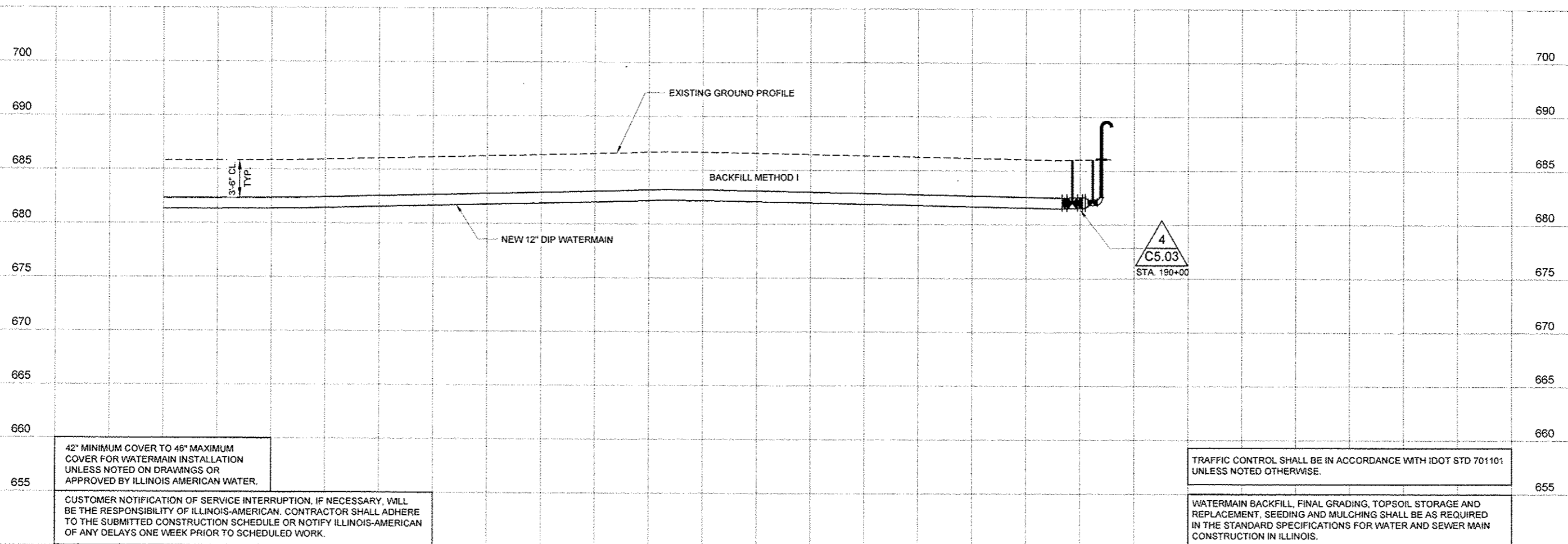
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TO CUT AND PLUG EXISTING MAIN

NEW WATERMAIN SHALL BE 12-INCH D.I.P.
TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
INSTALL TEMPORARY 2x4 PAINTED BLUE
AT VALVE BOXES AND BLOW-OFFS.

- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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Foth
Foth Infrastructure & Environment, LLC
1000 North Lincoln Street
Chicago, IL 60610
Phone: 217-352-4169 Fax: 217-352-0885
Illinois Professional Design Firm No. 184-004813

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

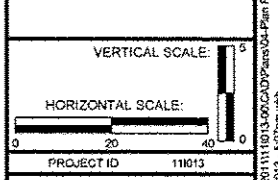
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RECORD DRAWING OF COMPLETED CONSTRUCTION BY
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BY DATE

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DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

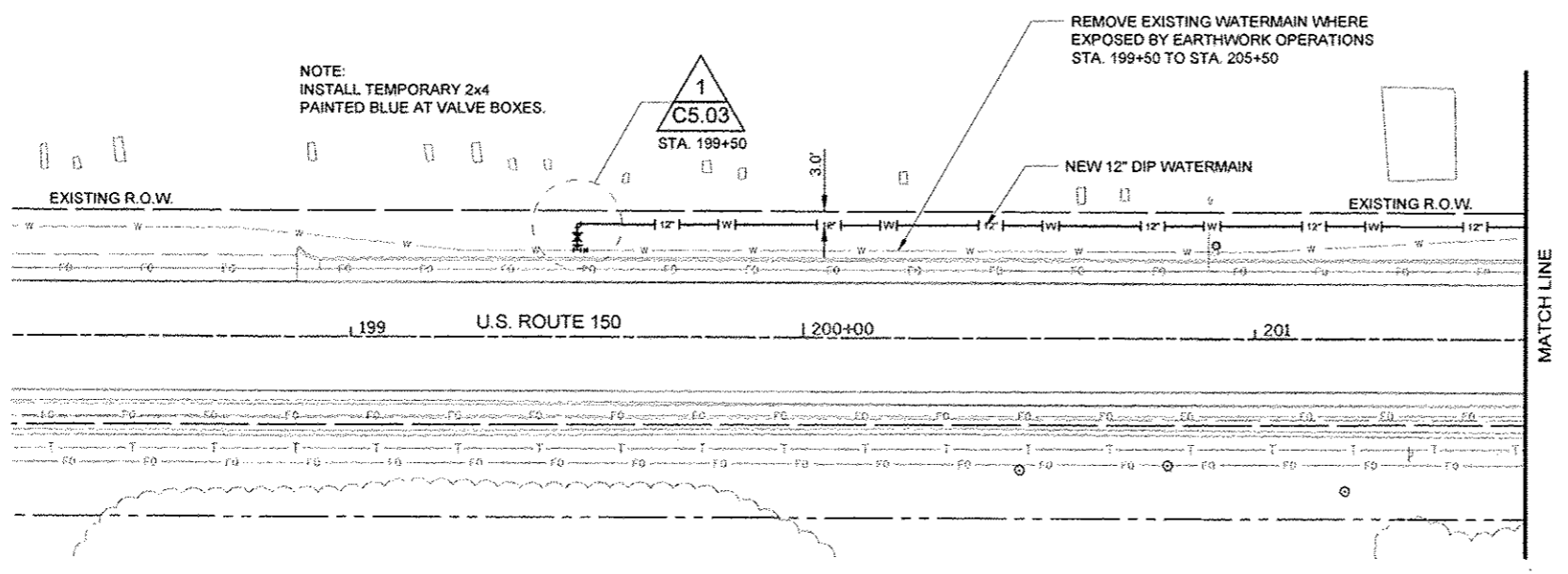
SHEET NAME
STA. 186+60 TO
STA. 190+00



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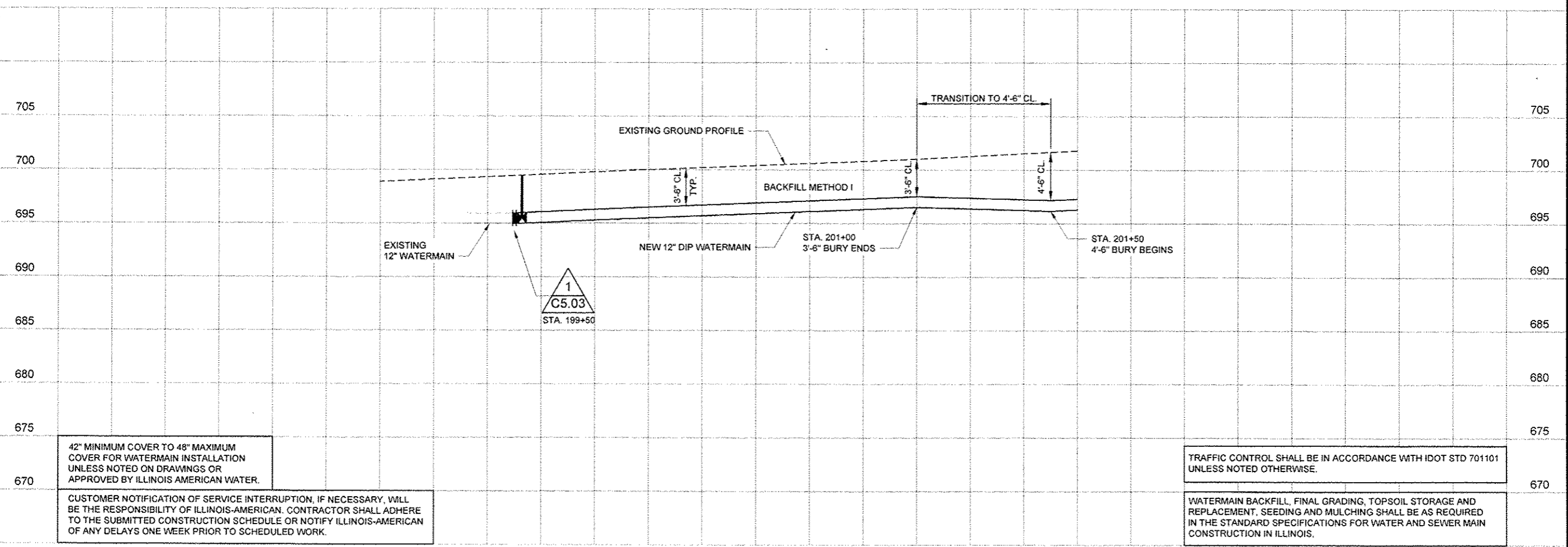
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TO CUT AND PLUG EXISTING MAIN

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TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
INSTALL TEMPORARY 2x4
PAINTED BLUE AT VALVE BOXES.

REMOVE EXISTING WATERMAIN WHERE
EXPOSED BY EARTHWORK OPERATIONS
STA. 199+50 TO STA. 205+50



42" MINIMUM COVER TO 48" MAXIMUM
COVER FOR WATERMAIN INSTALLATION
UNLESS NOTED ON DRAWINGS OR
APPROVED BY ILLINOIS AMERICAN WATER.

TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH IDOT STD 701101
UNLESS NOTED OTHERWISE.

WATERMAIN BACKFILL, FINAL GRADING, TOPSOIL STORAGE AND
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CONSTRUCTION IN ILLINOIS.

Foth
Foth Infrastructure & Environment, LLC
1610 Broadmoor Drive
Champaign, IL 61821
Phone: 217-352-4199 Fax: 217-352-0085
Illinois Professional Design Firm No. 184-009493

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PERMISSIONS FROM FOTH INFRASTRUCTURE AND ENVIRONMENT, LLC. UNAUTHORIZED USE IS THE SOLE
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ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNER'S RECORDS.
BY DATE

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 199+50 TO
STA. 201+60

VERTICAL SCALE: 1" = 5'

HORIZONTAL SCALE: 1" = 40'

PROJECT ID 11013

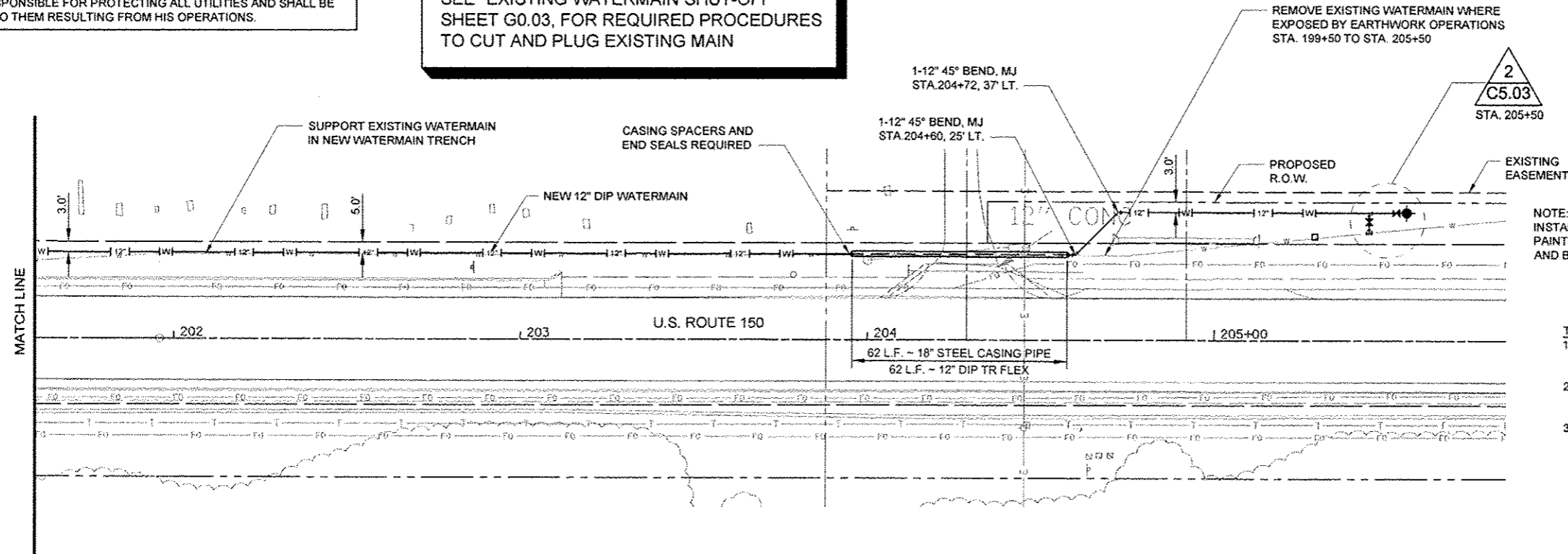
C1.11
SHEET 14 OF 29

Aug 21, 2013 - 5:07pm wsh

THE LOCATION OF THE UTILITIES SHOWN ARE DETERMINED FROM THE BEST AVAILABLE DATA. THEY ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO PURPORT THE ACTUAL LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE UTILITIES IN THE FIELD AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND SHALL BE LIABLE FOR ANY DAMAGES TO THEM RESULTING FROM HIS OPERATIONS.

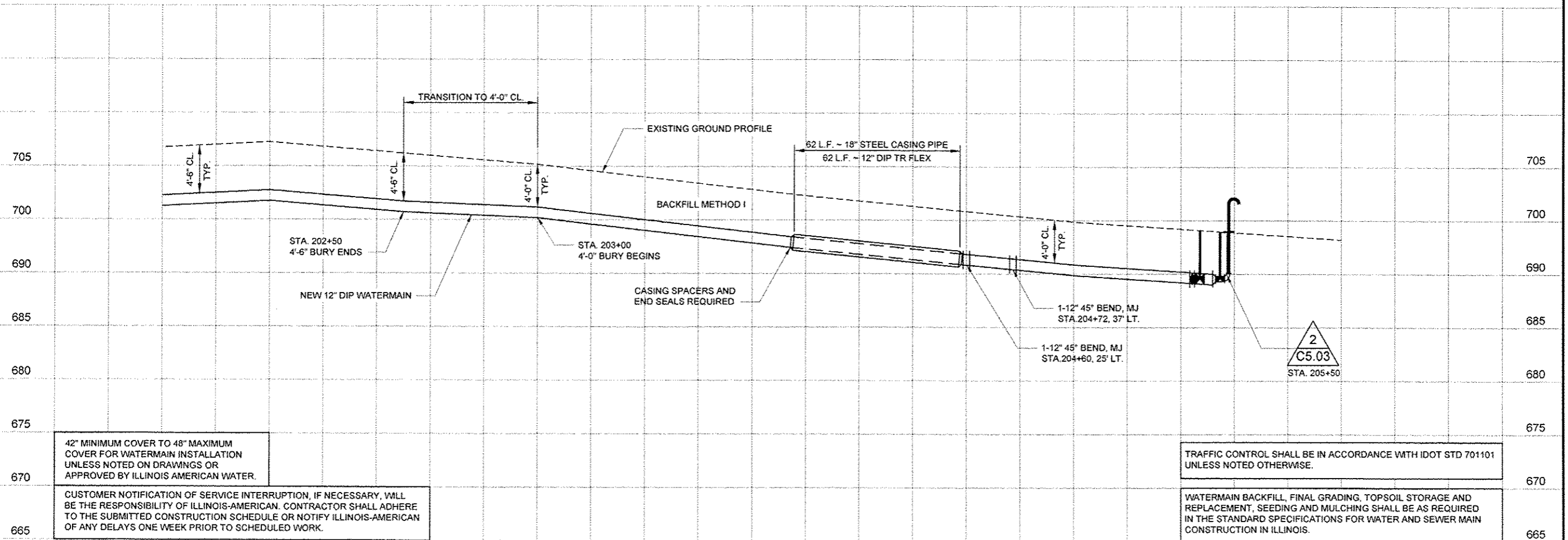
NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF"
SHEET G0.03, FOR REQUIRED PROCEDURES
TO CUT AND PLUG EXISTING MAIN

NEW WATERMAIN SHALL BE 12-INCH D.I.P.
TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
INSTALL TEMPORARY 2x4
PAINTED BLUE AT VALVE BOXES
AND BLOW-OFFS.

- TEMPORARY BLOW-OFF
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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Foth
Foth Infrastructure & Environment, LLC
1610 Broadview Drive
Champaign, IL 61819 Fax: 217-242-0085
217-242-1159 Email: foth@foth.com
Illinois Professional Design Firm No. 184-004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663
CHAMPAIGN COUNTY URBANA, ILLINOIS

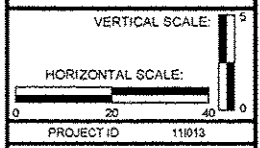
NO.	BY	DATE	DESCRIPTION

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RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.
DATE

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 201+60 TO
STA. 205+50



C1.12
SHEET 15 OF 29

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NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF" SHEET G0.03, FOR REQUIRED PROCEDURES TO CUT AND PLUG EXISTING MAIN

NEW WATERMAIN SHALL BE 12-INCH D.I.P. TYTON JOINT, PRESSURE CLASS 350 WITH 8 MIL POLYETHYLENE PIPE WRAP



4'-0" BURY BEGINS STA. 213+50
NOTE: INSTALL TEMPORARY 2x4 PAINTED BLUE AT VALVE BOXES.

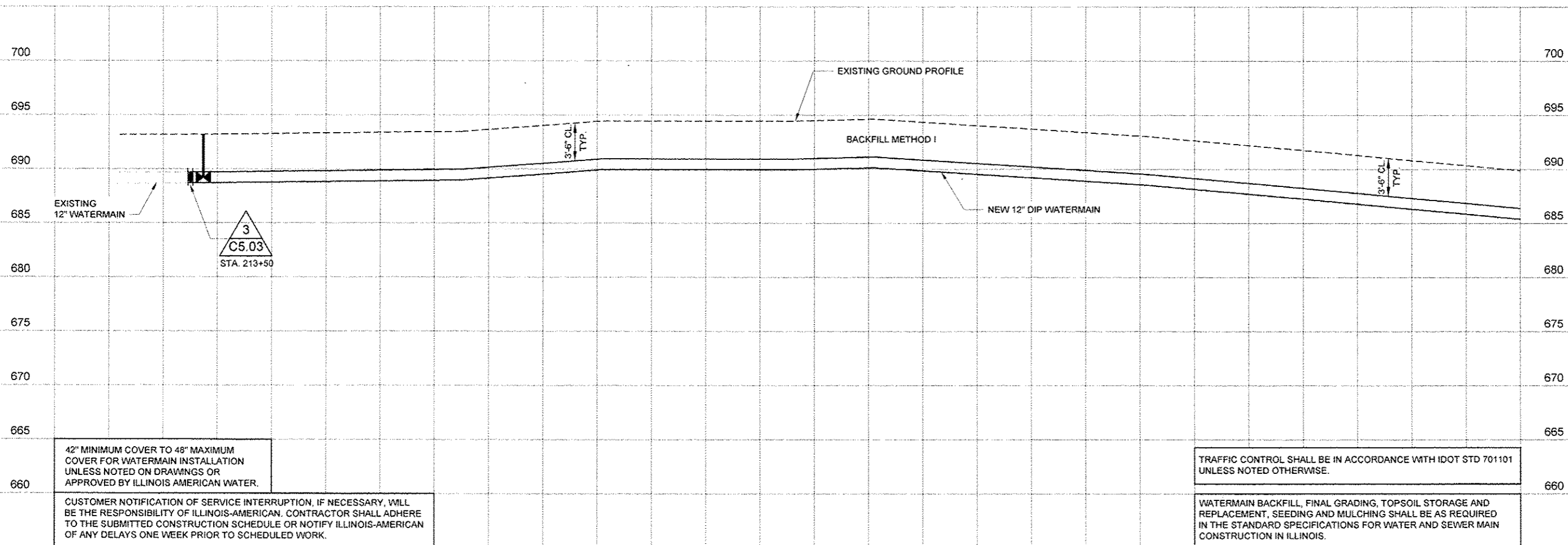
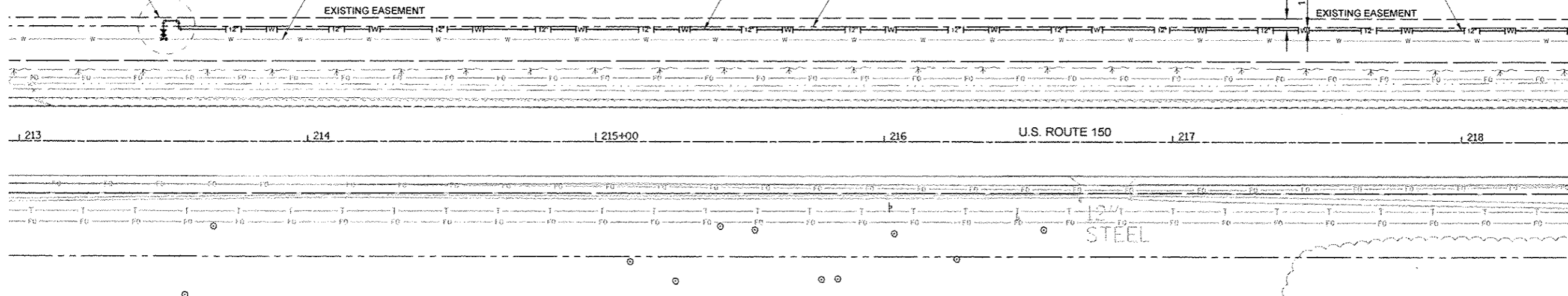


REMOVE EXISTING WATERMAIN WHERE EXPOSED BY EARTHWORK OPERATIONS STA. 213+50 TO STA. 223+00

NEW 12" DIP WATERMAIN

PROPOSED R.O.W.

4'-0" BURY ENDS STA. 218+00



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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Foth
Foth Infrastructure & Environment, LLC
1610 Broadview
Champaign, IL 61821
Phone: 217-352-4189 Fax: 217-352-0085
Illinois Professional Design Firm No. 084.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70863**

CHAMPAIGN COUNTY URBANA, ILLINOIS

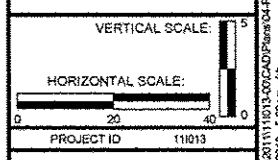
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DRAWN	WMH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

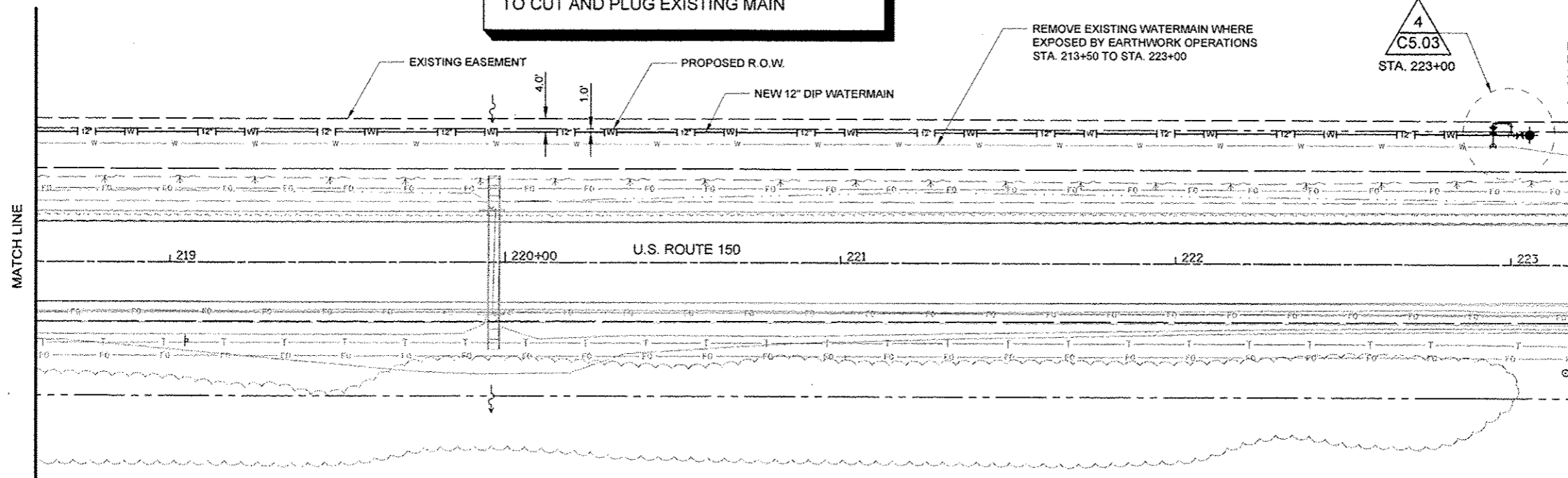
SHEET NAME
STA. 213+50 TO
STA. 218+40



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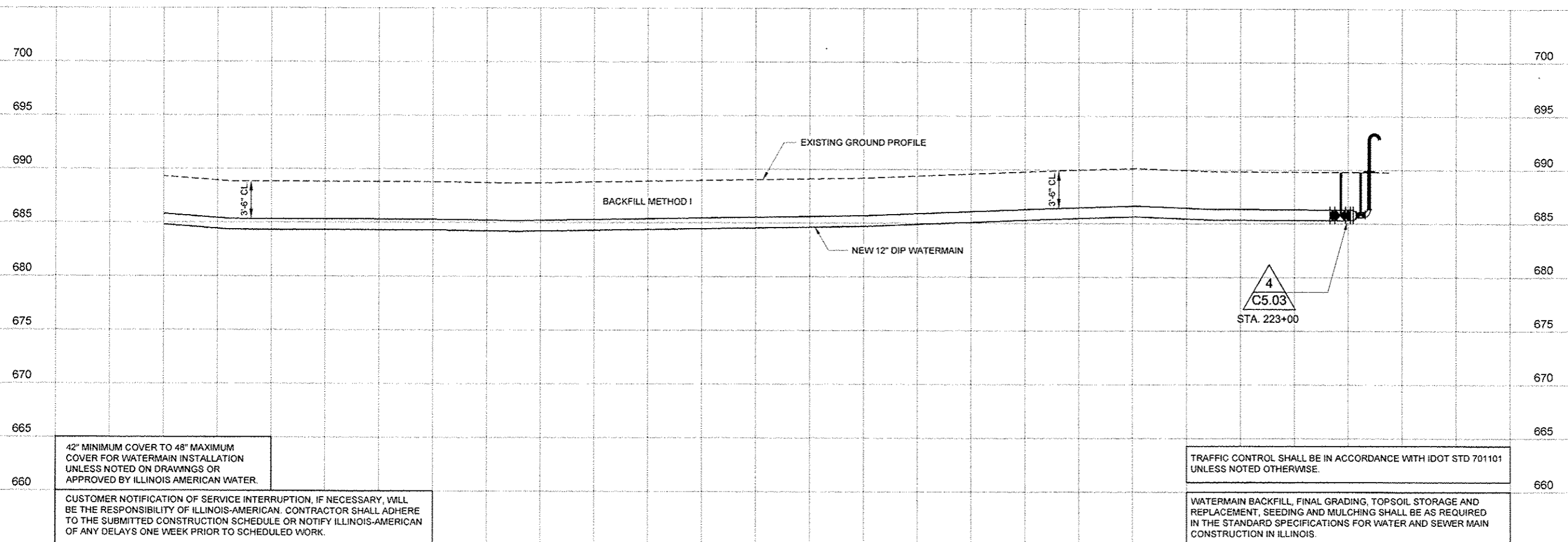
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TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
INSTALL TEMPORARY
2x4 PAINTED BLUE AT
VALVE BOXES
AND BLOW-OFFS.

- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
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Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY URBANA, ILLINOIS

NO.	BY	DATE	DESCRIPTION

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DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 218+40 TO
STA. 223+00

VERTICAL SCALE: 1" = 5'
HORIZONTAL SCALE: 1" = 40'

PROJECT ID 11013

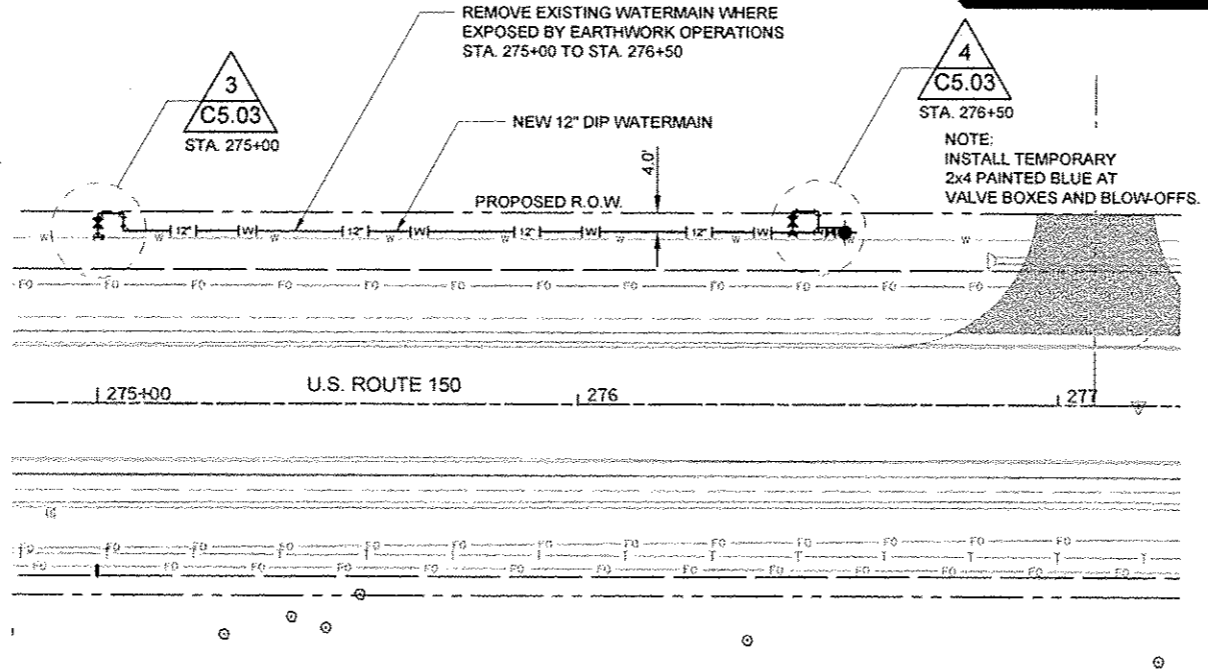
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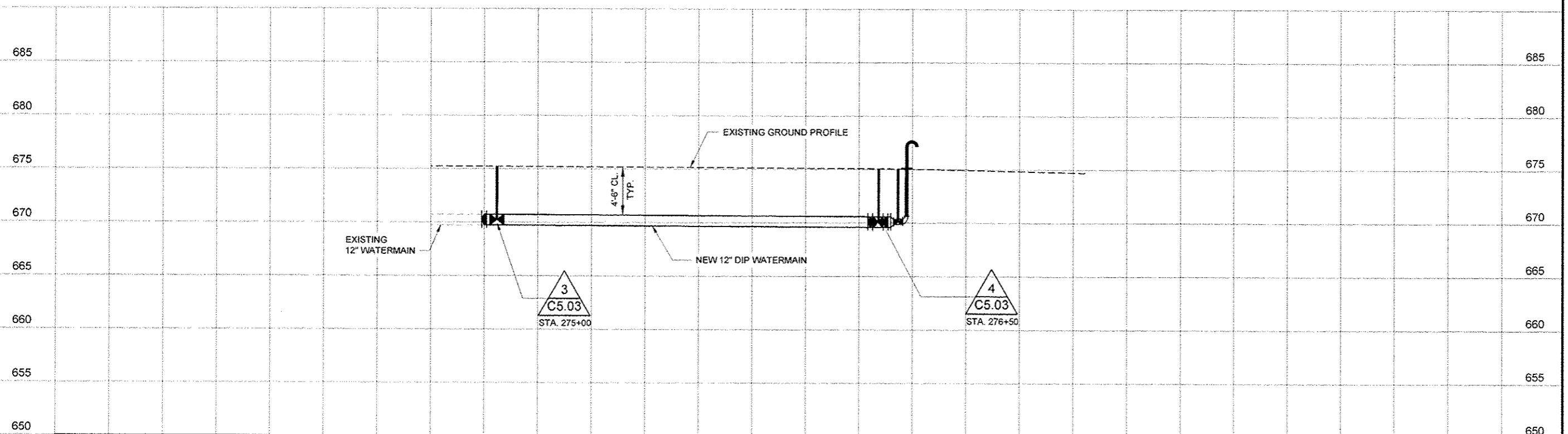
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TYTON JOINT, PRESSURE CLASS 350
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NOTE:
INSTALL TEMPORARY 2x4
PAINTED BLUE AT VALVE BOXES.



- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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Foth
Foth Infrastructure & Environment, LLC
1610 B. Madison
Champaign, IL 61824
Phone: 217-352-4168 Fax: 217-352-0085
Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663
CHAMPAIGN COUNTY URBANA, ILLINOIS

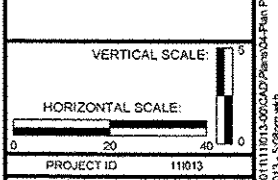
NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY _____ DATE _____
RECORD DRAWINGS OF COMPLETED CONSTRUCTION CONFORMING TO CONTRACTOR AND/OR OWNER'S RECORDS BY _____ DATE _____

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 275+50 TO
STA. 276+50



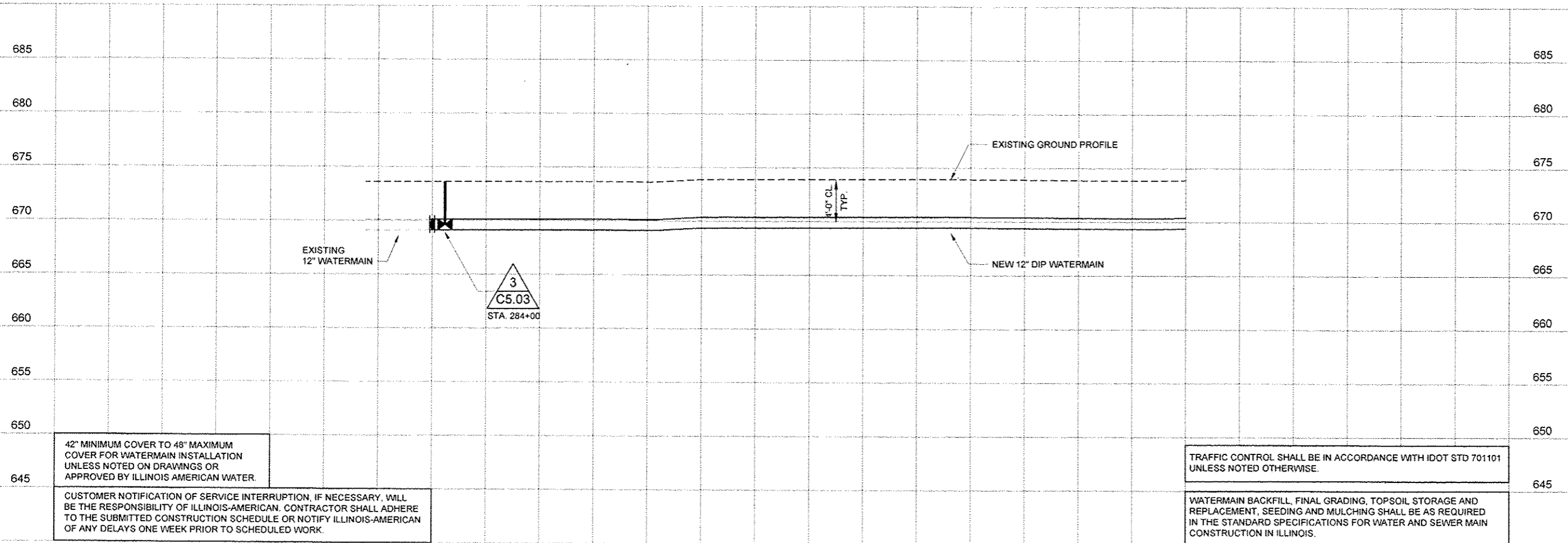
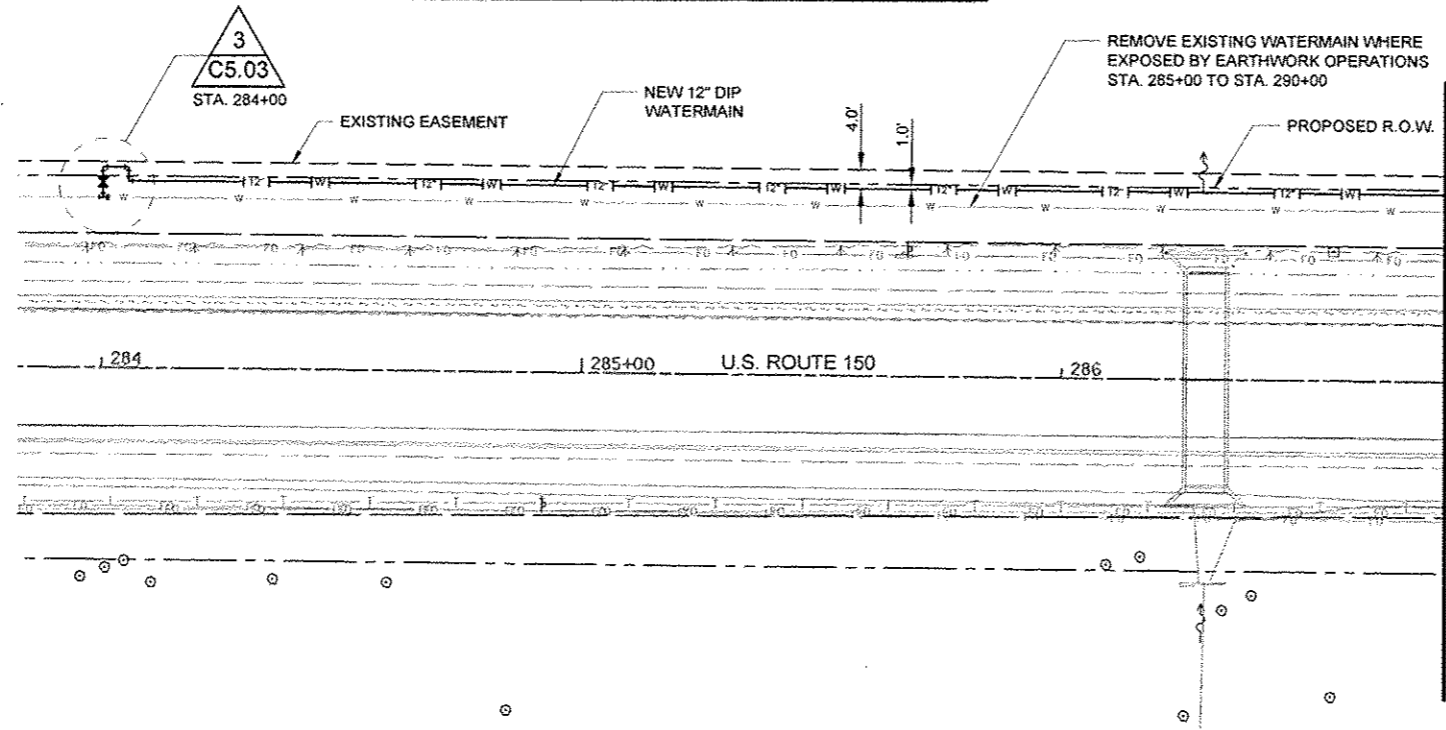
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NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF"
SHEET G0.03, FOR REQUIRED PROCEDURES
TO CUT AND PLUG EXISTING MAIN

NEW WATERMAIN SHALL BE 12-INCH D.I.P.
TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
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42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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Foth
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1610 Broadmoor Drive
Champaign, IL 61821
Phone: 217-352-4189 Fax: 217-352-2085
Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

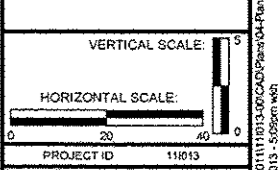
NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.
BY DATE

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTI	07-13-2013
DRAWN	WHH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

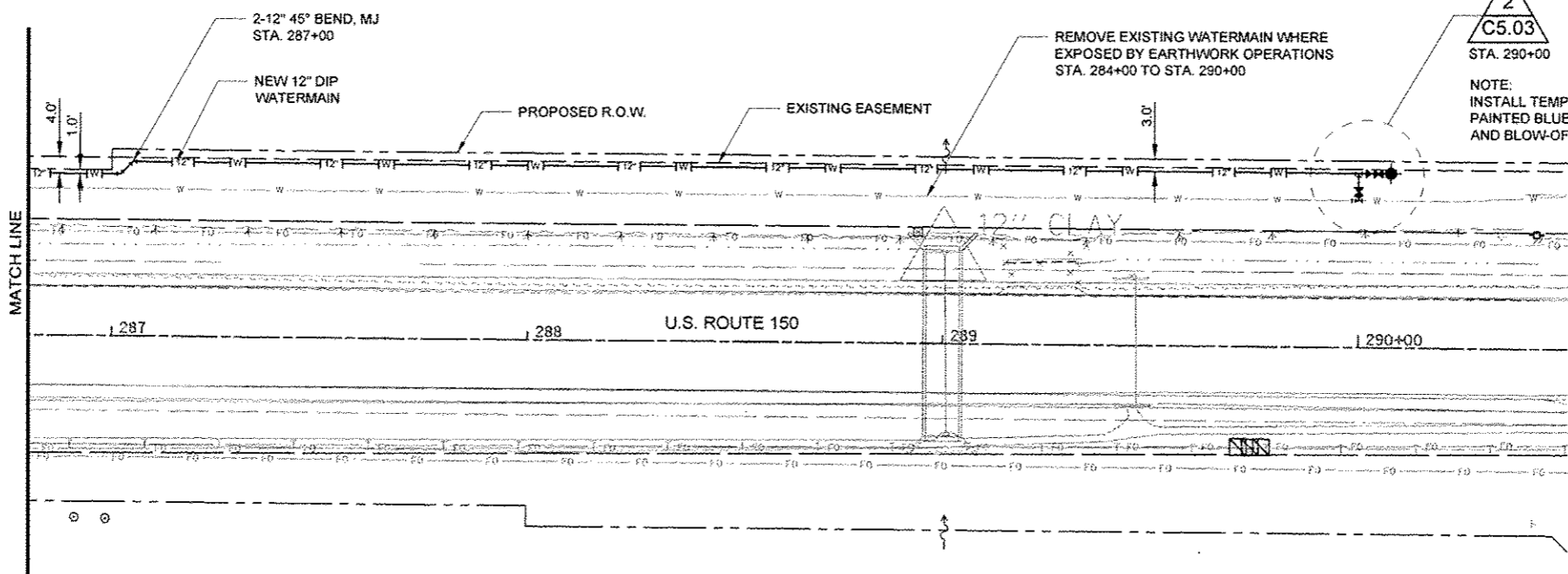
SHEET NAME
STA. 284+00 TO
STA. 286+80



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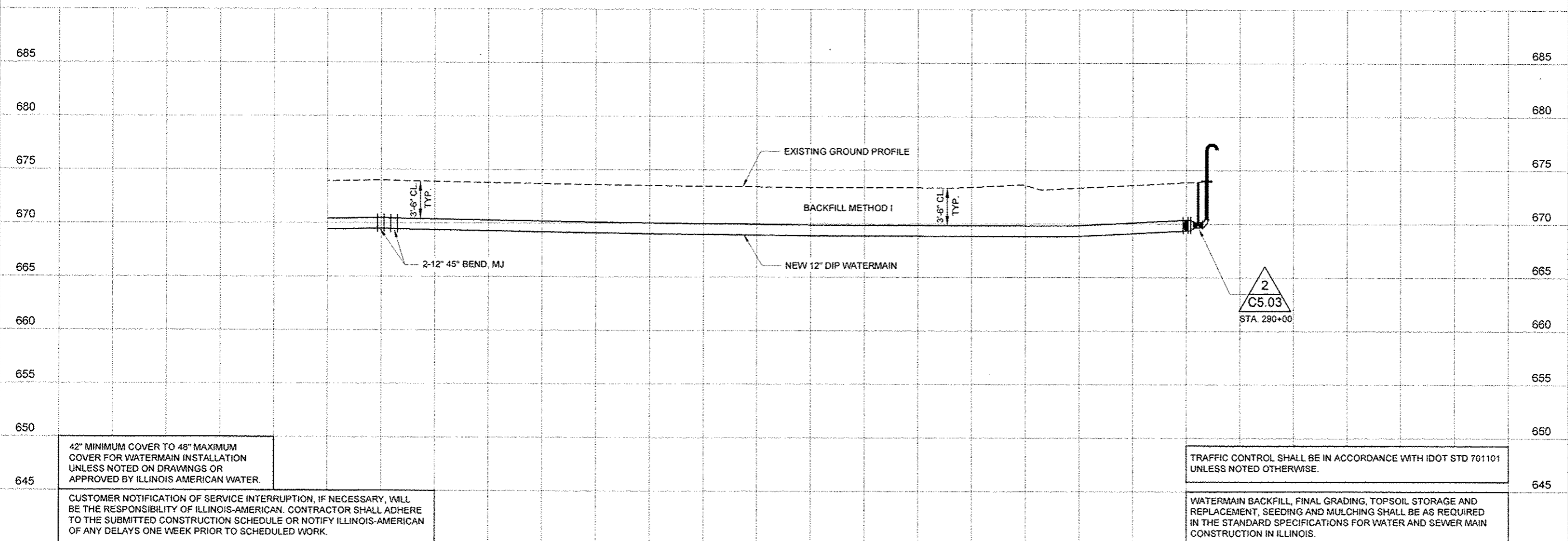
NOTICE
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TO CUT AND PLUG EXISTING MAIN

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TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTE:
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Illinois Professional Design Firm No. 184-004813

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BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY
URBANA, ILLINOIS

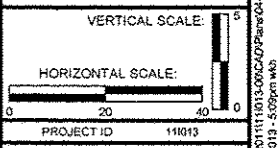
REVISIONS	
NO.	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
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DATE

Date of Preparation: July 17, 2013

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DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

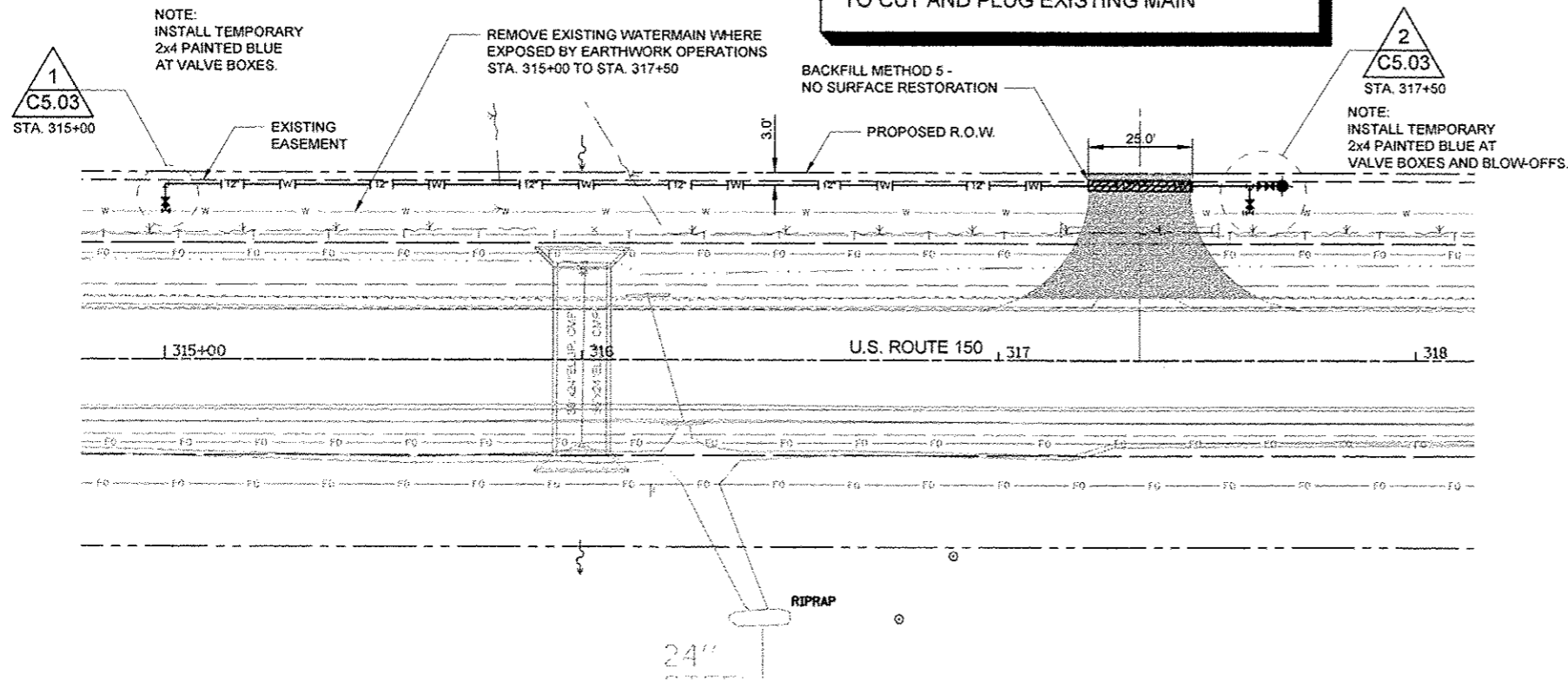
SHEET NAME
STA. 286+80 TO
STA. 290+00



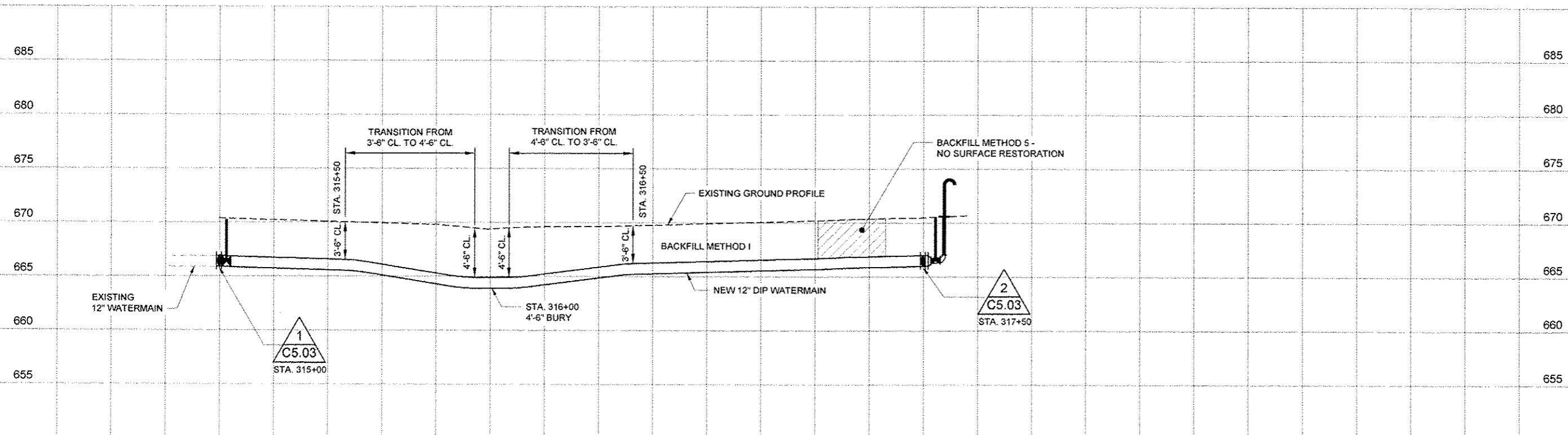
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160 Illinois
Champaign, IL 61824
Phone: 217-352-4168 Fax: 217-352-0885
Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS
BY DATE

Date of Preparation: July 17, 2013

BY	DATE
SURVEYED FOTH	07-13-2013
DRAWN WKH	07-17-2013
DESIGNED MAJ	07-17-2013
CHECKED MAJ	07-17-2013

SHEET NAME
STA. 315+00 TO
STA. 317+50

VERTICAL SCALE: 1" = 5'

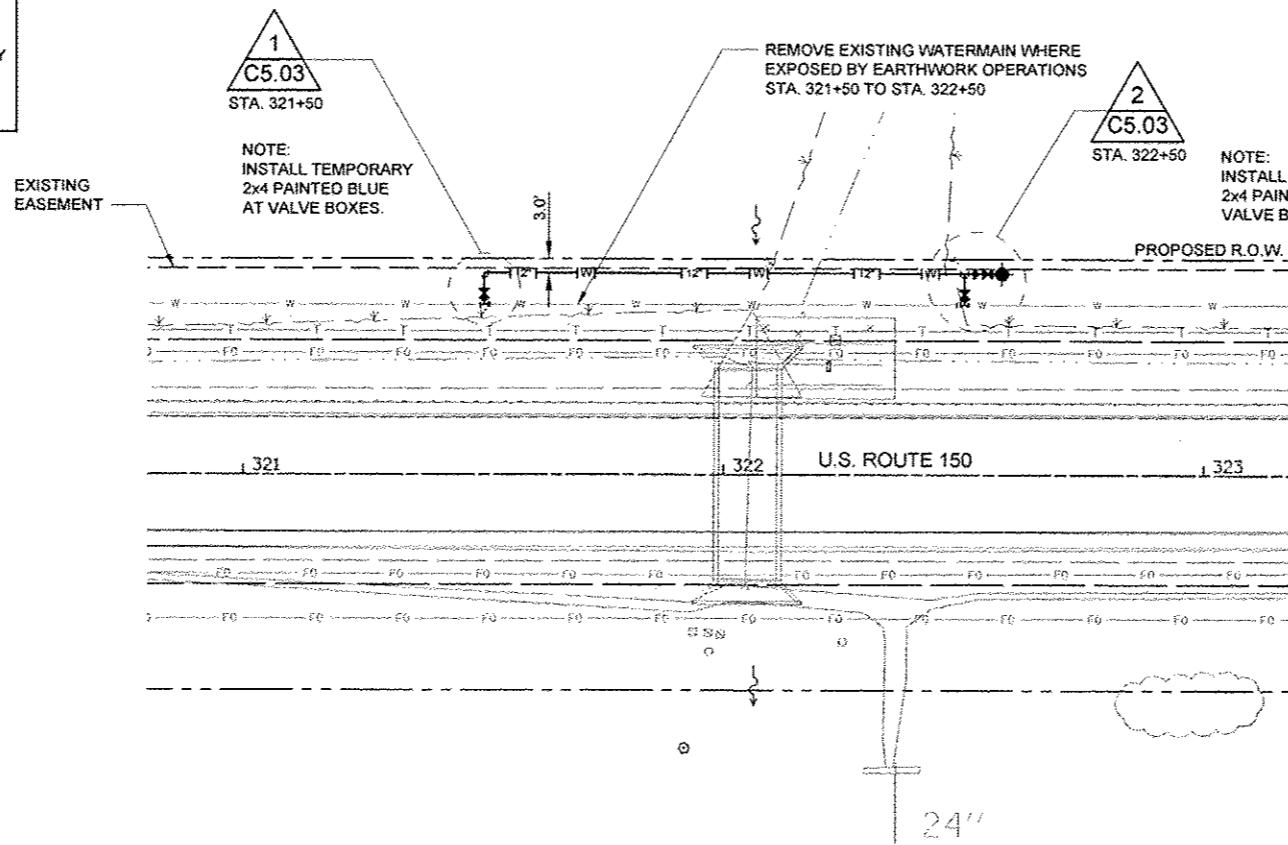
HORIZONTAL SCALE: 1" = 20'

PROJECT ID 111013

C1.18
SHEET 21 OF 29

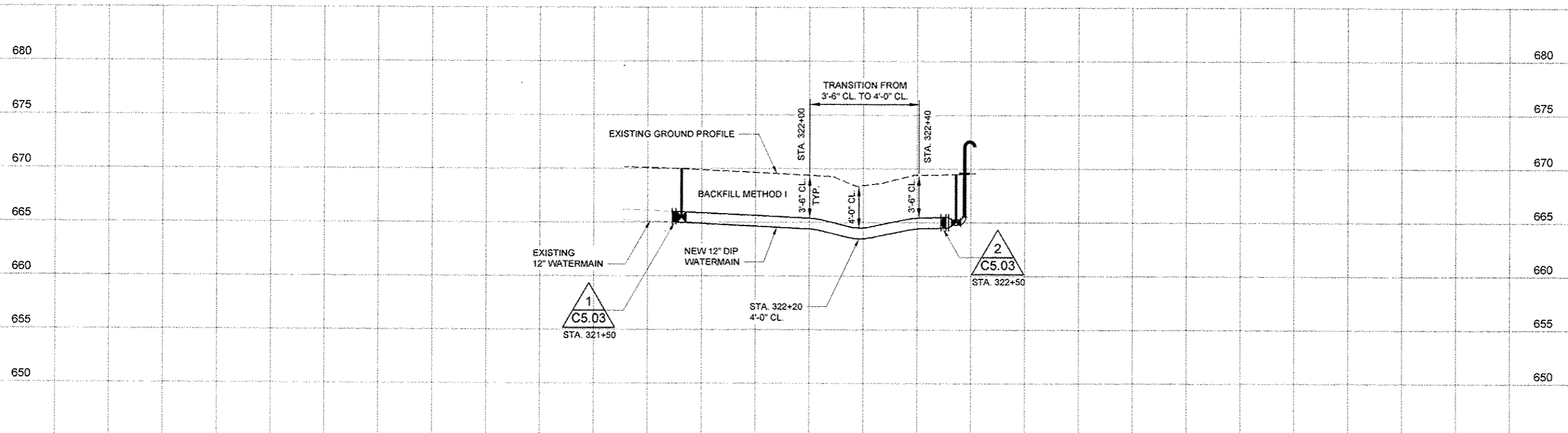
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Foth
Foth Infrastructure & Environment, LLC
1000 North
Champaign, IL 61820
Phone: 217-352-4199 Fax: 217-352-0985
Illinois Professional Design Firm No. 184.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

NO.	BY	DATE	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.
BY: _____ DATE: _____

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 321+50 TO
STA. 322+50

VERTICAL SCALE: 1" = 5'

HORIZONTAL SCALE: 1" = 20'

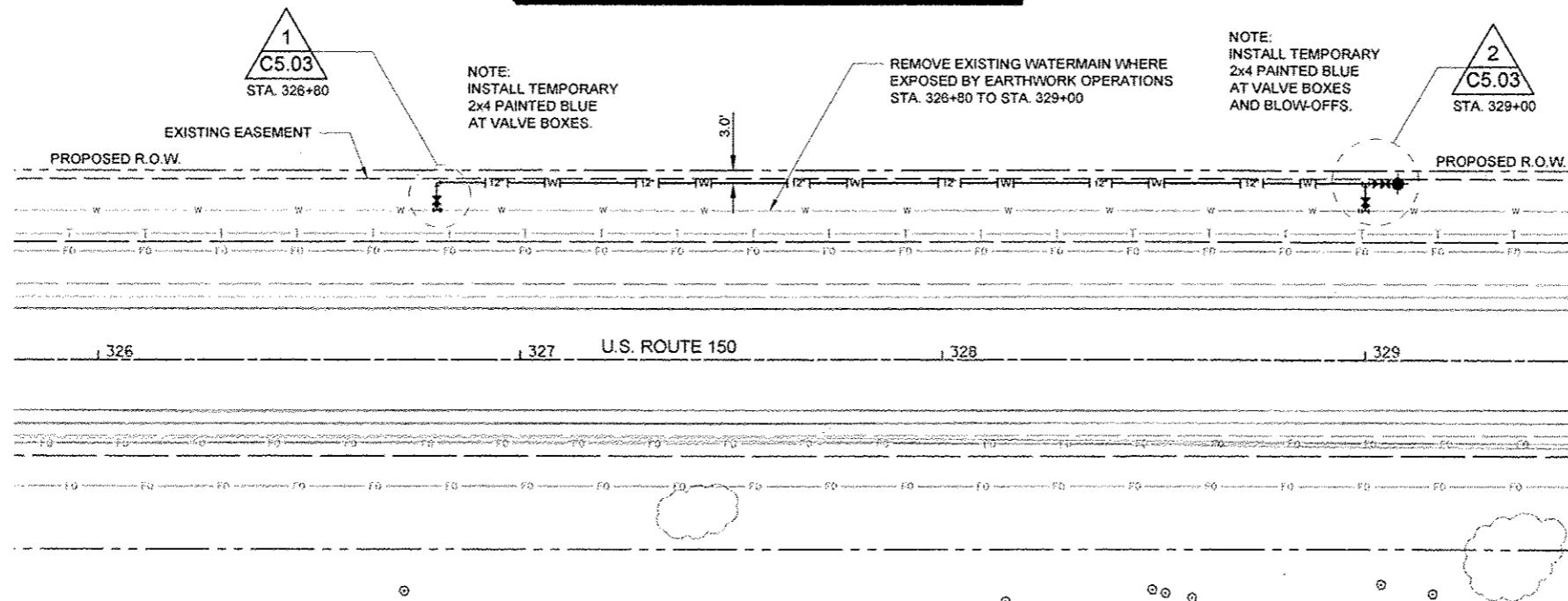
PROJECT ID: 111013

C1.19
SHEET 22 OF 29

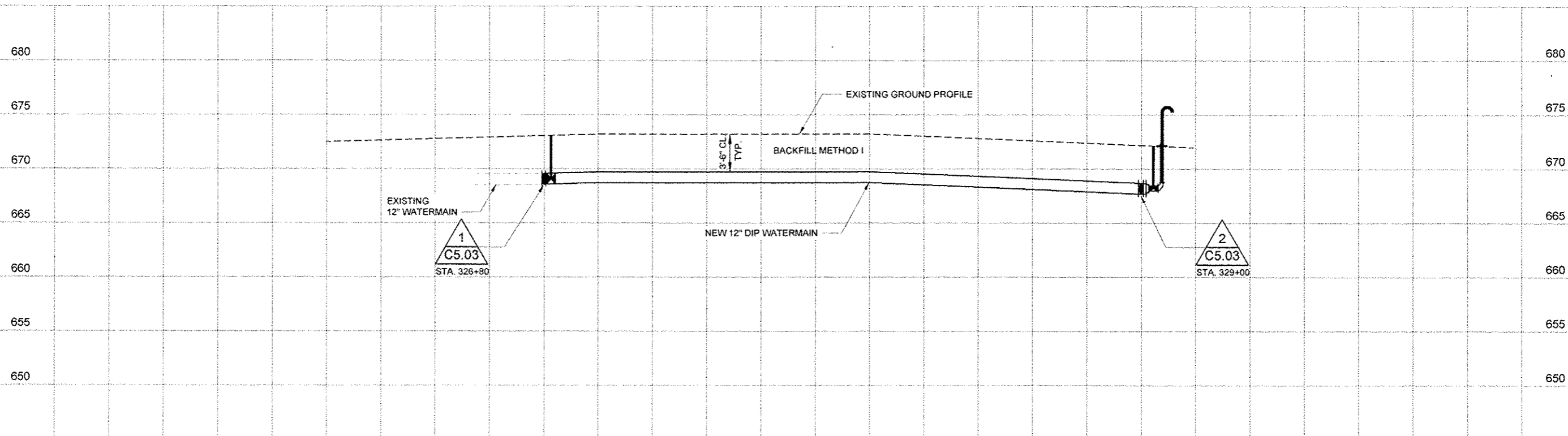
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TYTON JOINT, PRESSURE CLASS 350
WITH 8 MIL POLYETHYLENE PIPE WRAP



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ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

URBANA, ILLINOIS
CHAMPAIGN COUNTY

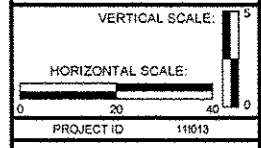
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DRAWN	WKH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

SHEET NAME
STA. 326+80 TO
STA. 329+00



C1.20
SHEET 23 OF 29

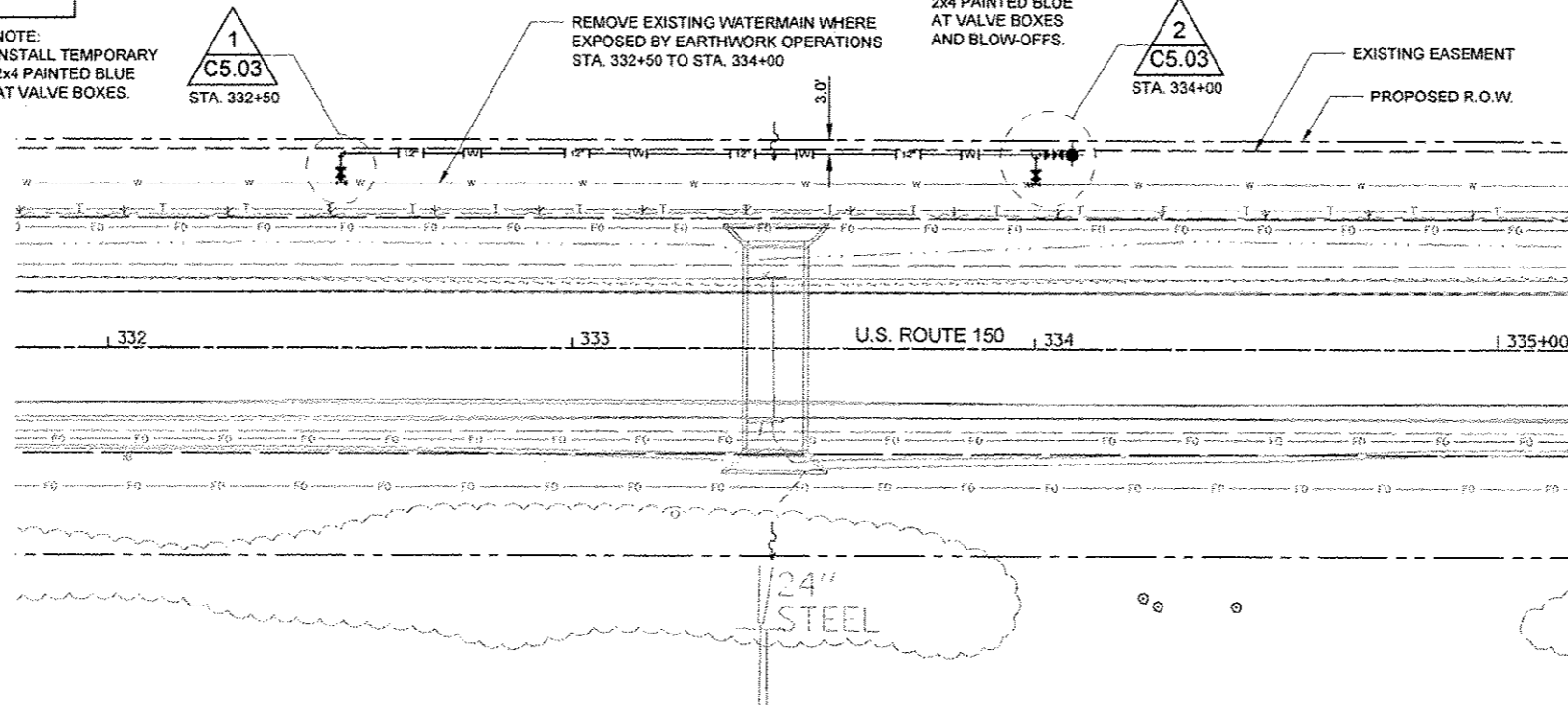
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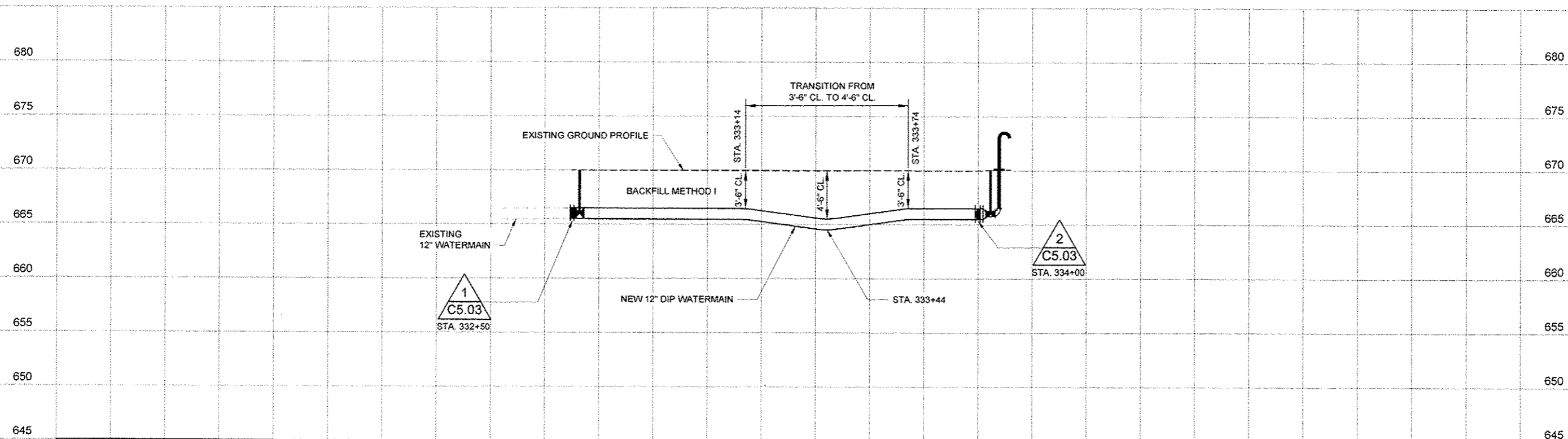
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NOTE:
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INSTALL TEMPORARY 2x4 PAINTED BLUE AT VALVE BOXES AND BLOW-OFFS.



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Foth
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510 Broadway
Chicago, IL 60601
Phone: 217-352-4189 Fax: 217-352-0065
Illinois Professional Design Firm No. DA 004913

RELEASE OF DOCUMENT
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IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY URBANA, ILLINOIS

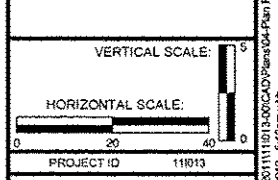
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Date of Preparation: July 17, 2013

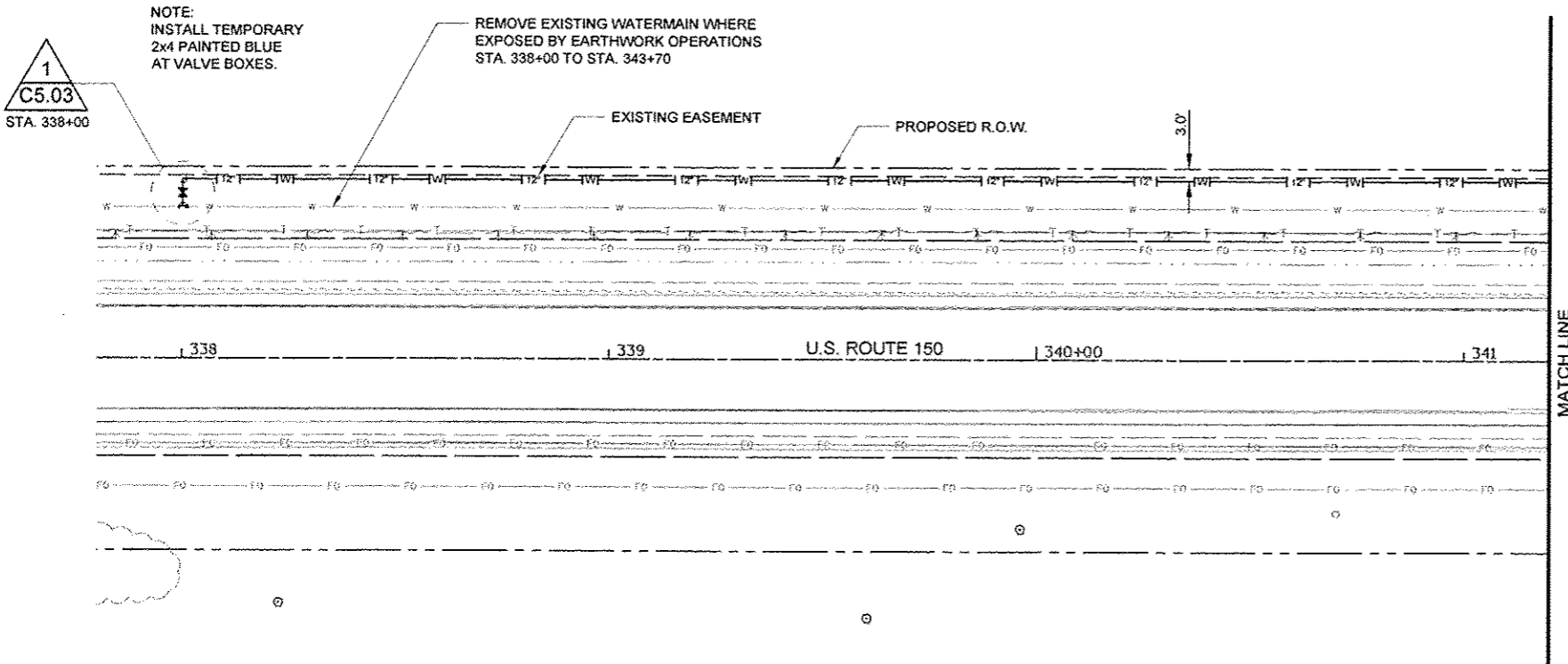
BY	DATE
SURVEYED FOTH	07-13-2013
DRAWN WKH	07-17-2013
DESIGNED MAJ	07-17-2013
CHECKED MAJ	07-17-2013

SHEET NAME
STA. 332+50 TO
STA. 334+00

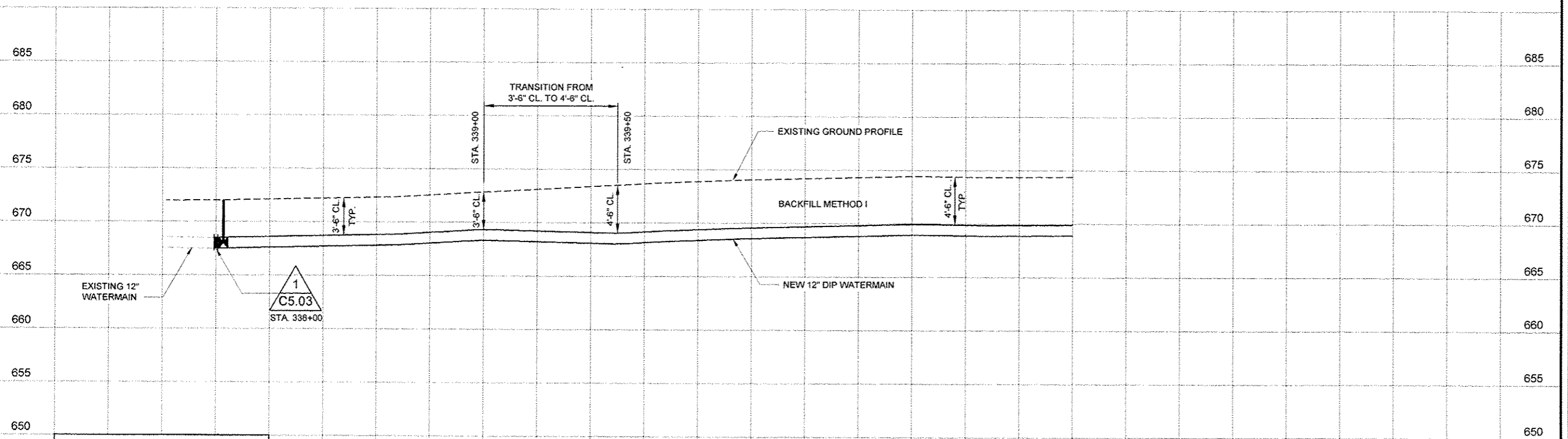


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WATERMAIN BACKFILL, FINAL GRADING, TOPSOIL STORAGE AND REPLACEMENT, SEEDING AND MULCHING SHALL BE AS REQUIRED IN THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS.

Foth
Foth Infrastructure & Environment, LLC
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Phone: 217-352-4168 Fax: 217-352-2085
Illinois Professional Design Firm No. 194.004913

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**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH**
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663

CHAMPAIGN COUNTY URBANA, ILLINOIS

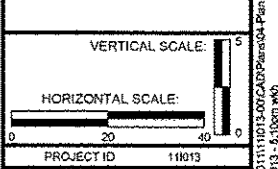
REVISIONS	
NO.	DESCRIPTION

RECORD DRAWING OF COMPLETED CONSTRUCTION BY
RECORD DRAWINGS OF COMPLETED CONSTRUCTION
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.
BY: DATE:

Date of Preparation: July 17, 2013

	BY	DATE
SURVEYED	FOTH	07-13-2013
DRAWN	WGH	07-17-2013
DESIGNED	MAJ	07-17-2013
CHECKED	MAJ	07-17-2013

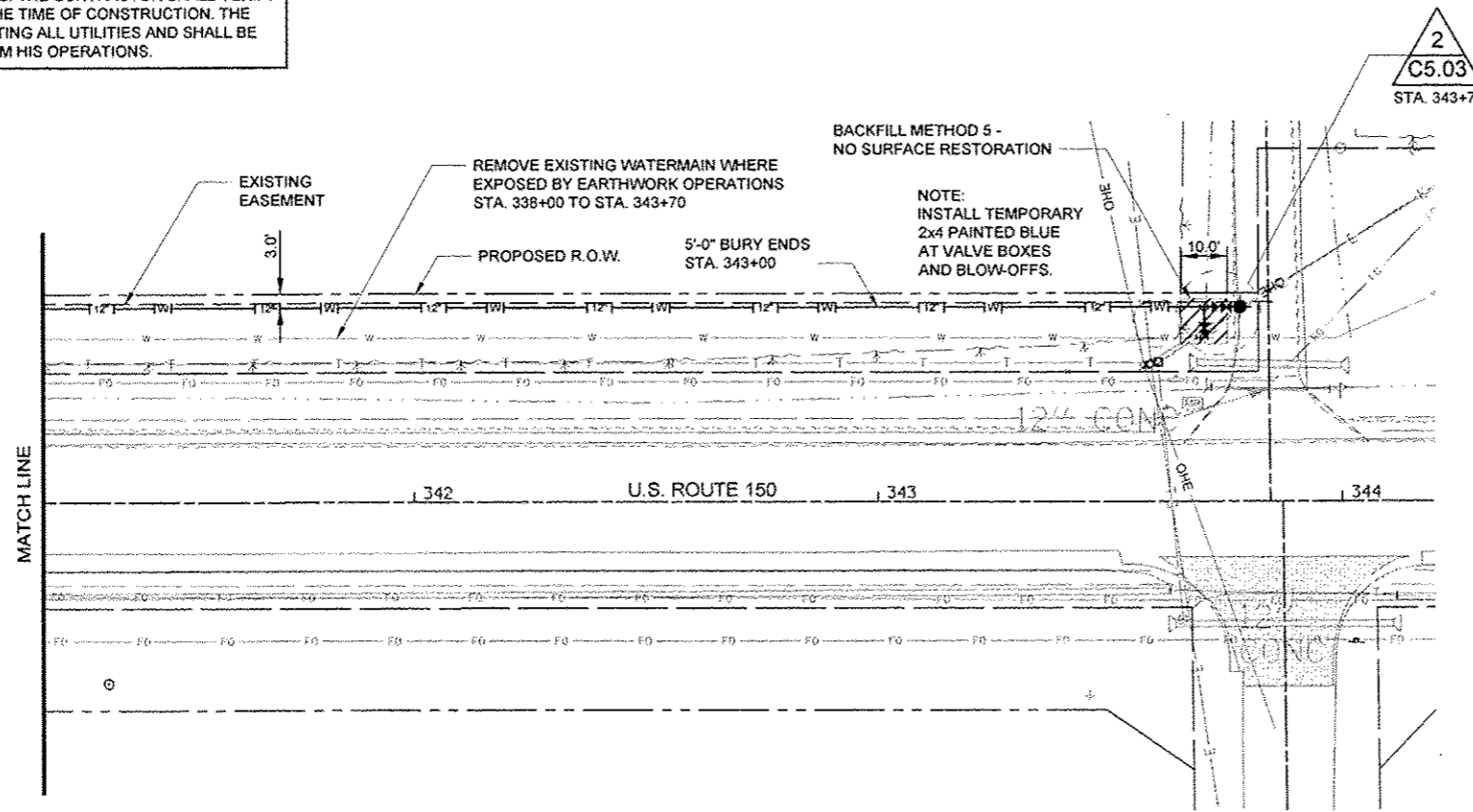
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SHEET 25 OF 29

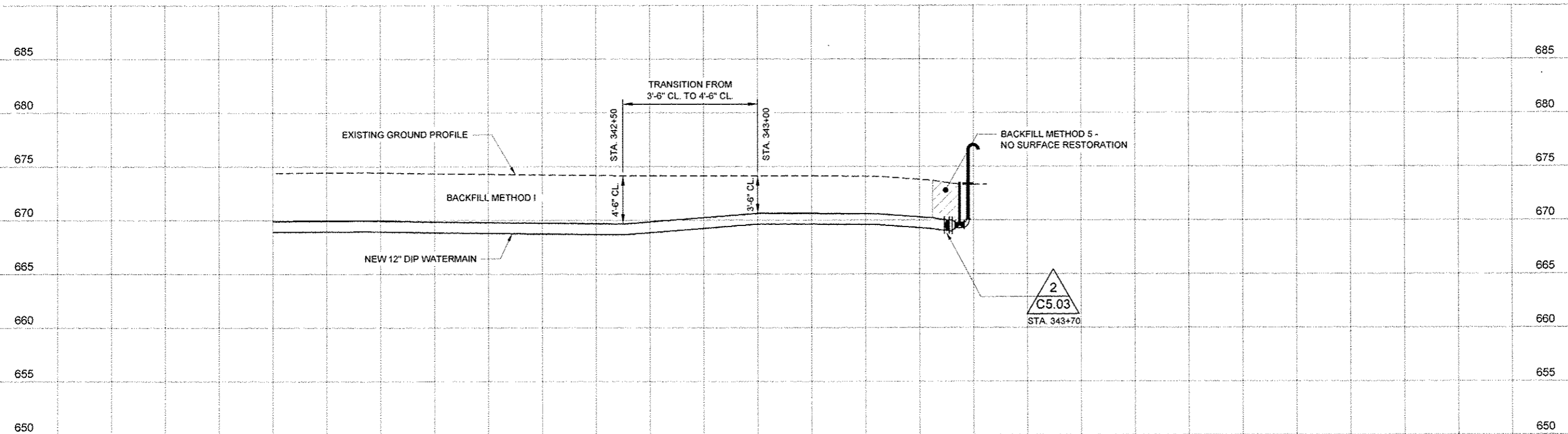
THE LOCATION OF THE UTILITIES SHOWN ARE DETERMINED FROM THE BEST AVAILABLE DATA. THEY ARE FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT INTENDED TO PURPORT THE ACTUAL LOCATIONS OF SUCH UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF THE UTILITIES IN THE FIELD AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES AND SHALL BE LIABLE FOR ANY DAMAGES TO THEM RESULTING FROM HIS OPERATIONS.

NEW WATERMAIN SHALL BE 12-INCH D.I.P. TYTON JOINT, PRESSURE CLASS 350 WITH 8 MIL POLYETHYLENE PIPE WRAP



NOTICE
SEE "EXISTING WATERMAIN SHUT-OFF" SHEET G0.03, FOR REQUIRED PROCEDURES TO CUT AND PLUG EXISTING MAIN

- TEMPORARY BLOW-OFF**
1. INSTALL BLOW-OFF DISCHARGE 3 FEET ABOVE GRADE.
 2. DIRECT BLOW-OFF FLOW TOWARD LOCAL DRAINAGE.
 3. REMOVE BLOW-OFF AT THE REQUEST OF ILAW.



42" MINIMUM COVER TO 48" MAXIMUM COVER FOR WATERMAIN INSTALLATION UNLESS NOTED ON DRAWINGS OR APPROVED BY ILLINOIS AMERICAN WATER.

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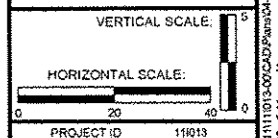
**ROUTE 150 WATERMAIN RELOCATION
BETWEEN URBANA AND ST. JOSEPH
ILLINOIS AMERICAN WATER COMPANY
IDOT CONTRACT NO. 70663**

CHAMPAIGN COUNTY URBANA, ILLINOIS

REVISIONS		RECORD DRAWING OF COMPLETED CONSTRUCTION BY	DATE
NO.	BY	DESCRIPTION	DATE
1	MAJ	RECORD DRAWING OF COMPLETED CONSTRUCTION	
2	MAJ	RECORD DRAWING OF COMPLETED CONSTRUCTION	
3	MAJ	RECORD DRAWING OF COMPLETED CONSTRUCTION	

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BY	DATE
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DESIGNED: MAJ	07-17-2013
CHECKED: MAJ	07-17-2013

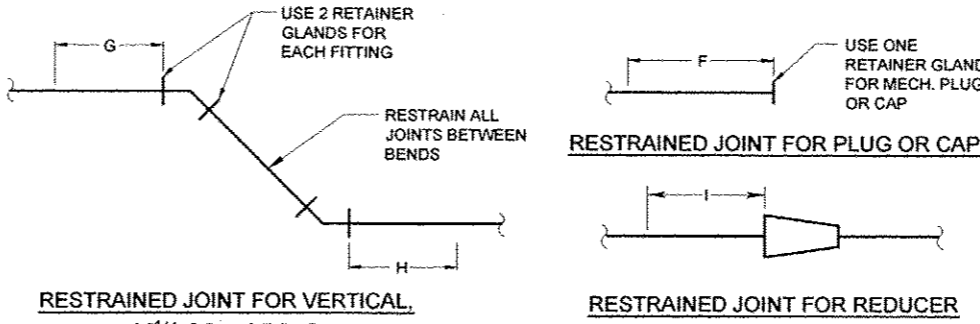
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STA. 341+20 TO
STA. 343+70



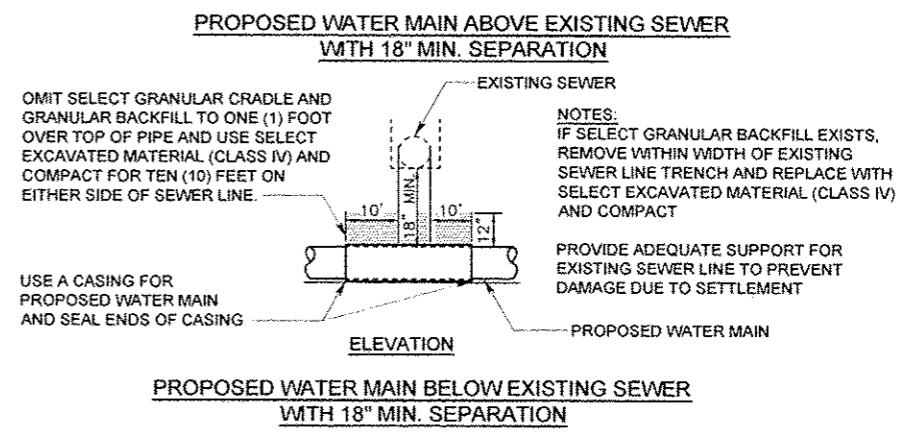
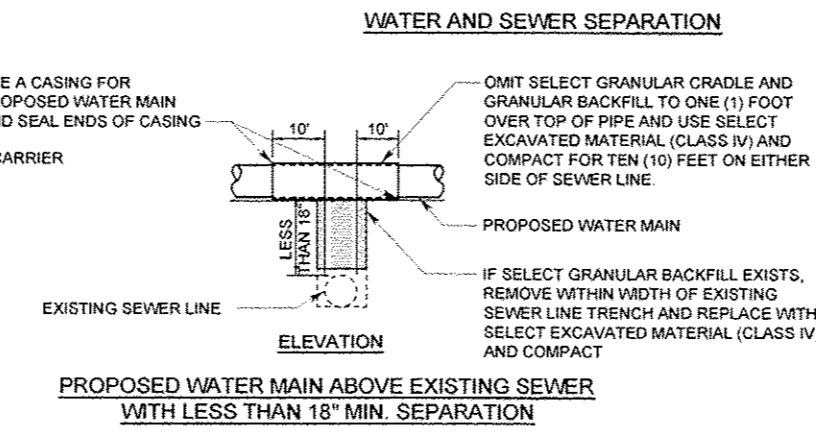
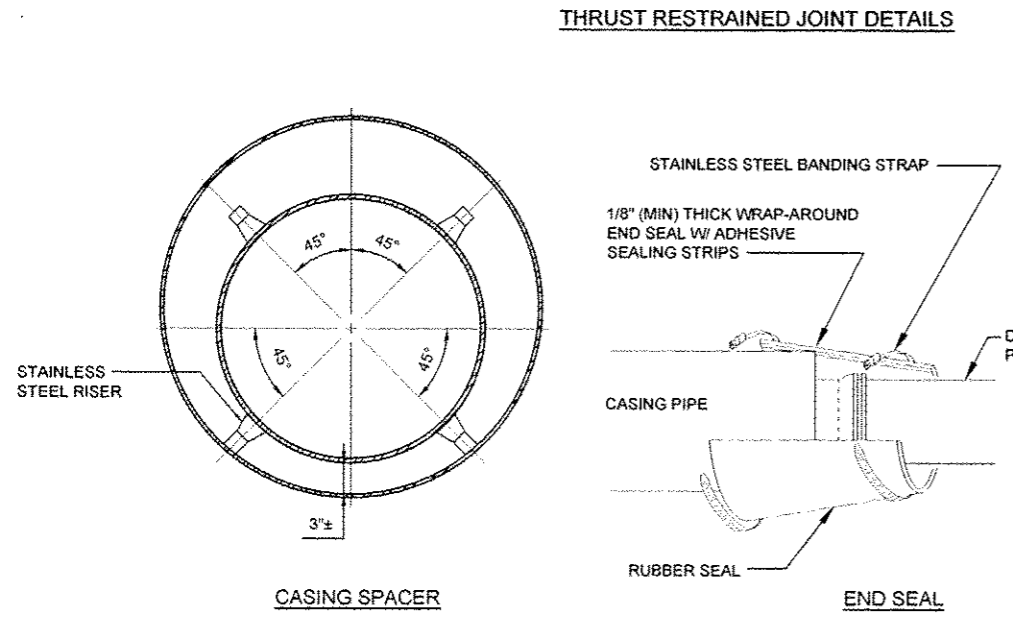
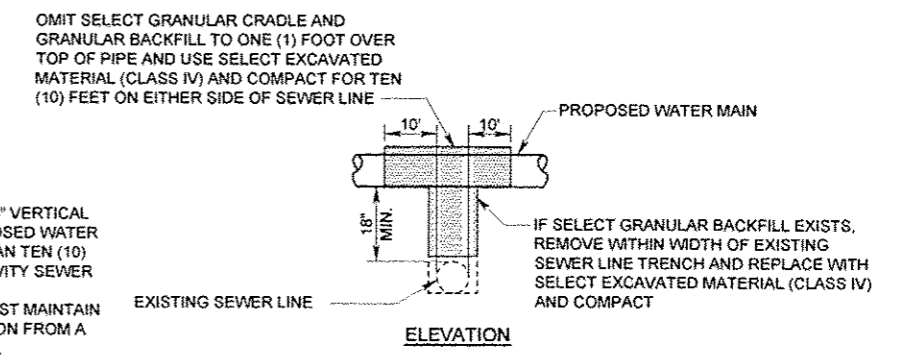
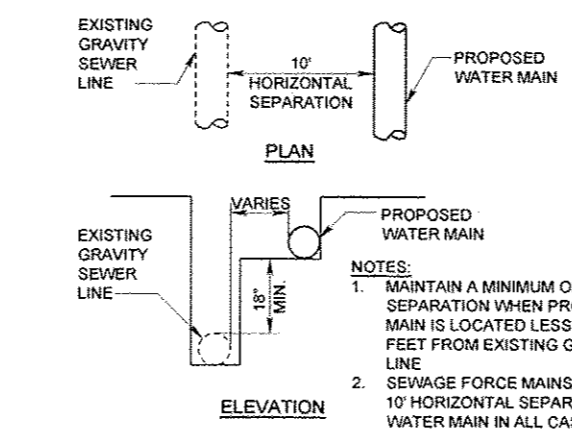
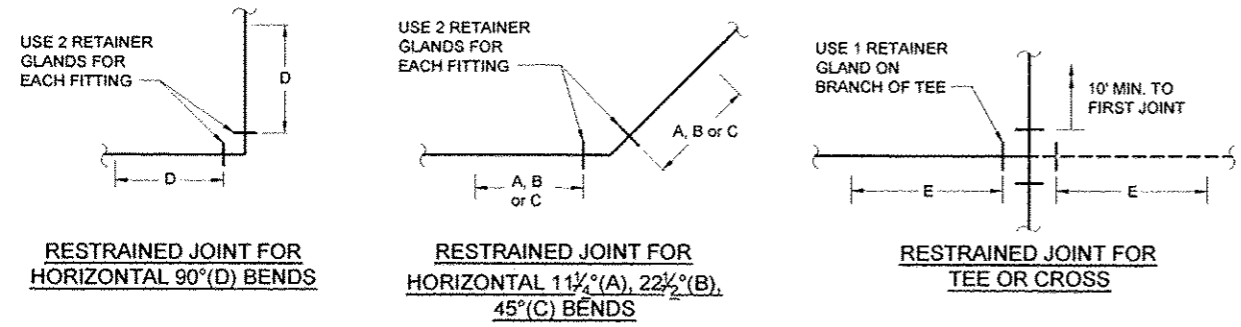
PROJECT ID 11013
C1.23
SHEET 26 OF 29

MINIMUM NUMBER OF RESTRAINED JOINT FULL LENGTH PIPE SECTIONS FROM FITTING, FEET (UNLESS NOTED OTHERWISE)										
PIPE SIZE (INCHES)	PIPE MATERIAL	A	B	C	D	E	F	G	H	I
4"	DIP	3	7	15	35	25	27	40	24	9
6"	DIP	5	10	21	50	37	39	60	37	26
8"	DIP	6	13	27	66	49	52	81	49	42
10"	DIP	8	16	33	80	61	63	100	62	55
12"	DIP	9	19	39	95	73	75	120	74	69

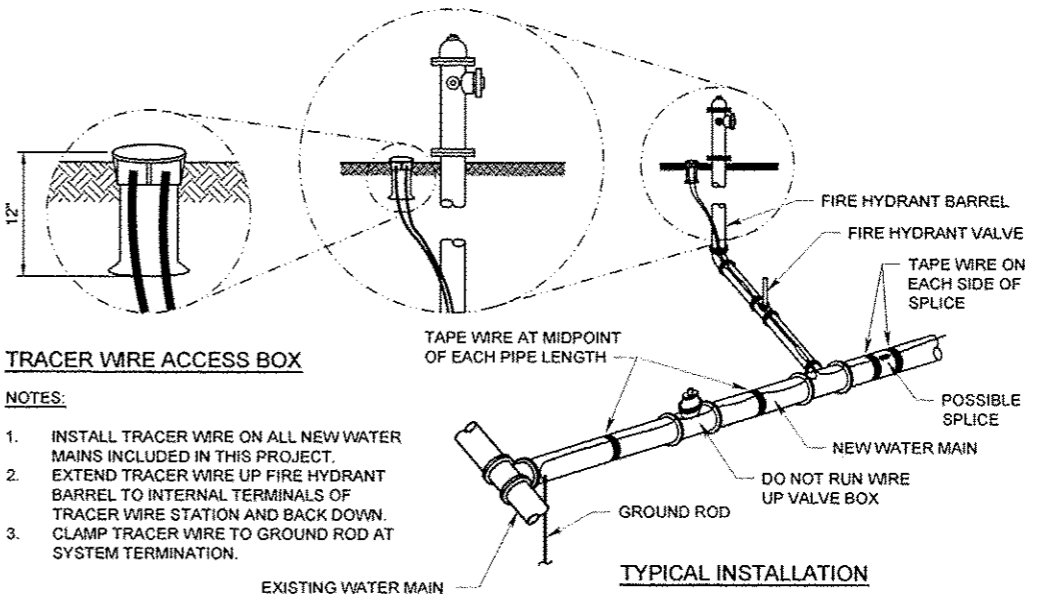
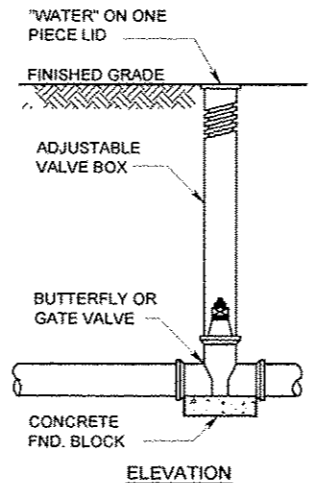
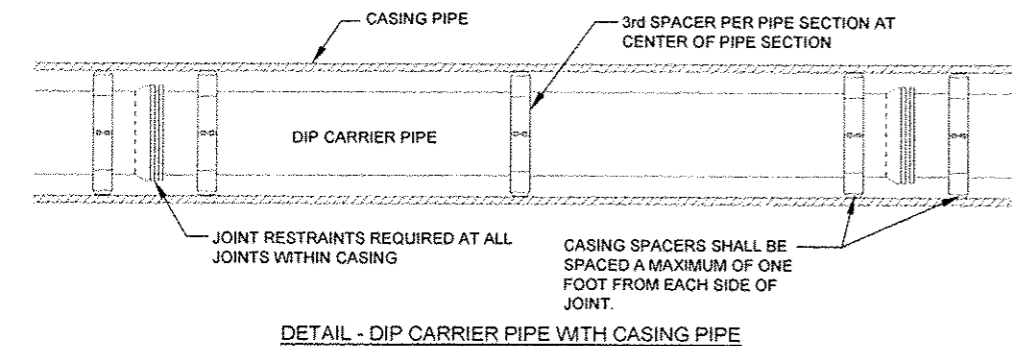
(a) USE PIPE JOINT RESTRAINT IN PIPING LAID WITHIN THESE DISTANCES FROM THE FITTING.
 (b) BASED ON 100 PSI TEST PRESSURE, 2.0 FACTOR OF SAFETY, POLYETHYLENE ENCASEMENT, AND 3'-6" MIN. DEPTH OF BURY.



- GENERAL NOTES:**
- PIPE MATERIAL AND JOINT TYPES WILL BE AS INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS. TYPICAL DETAILS SHOWN ON THIS SHEET ILLUSTRATE THE ENGINEER'S INTENT FOR INSTALLING WATER MAINS. THEY ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS WHICH MAY BE ENCOUNTERED IN THE FIELD.
 - THE CONTRACTOR MAY ALTER HIS METHOD OF CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED HE SUBMITS HIS PROPOSED ALTERNATE TO THE ENGINEER FOR REVIEW PRIOR TO PERFORMING THE WORK.
 - ALL THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH, WHERE APPROVED FOR USE BY ILAW. COVER ALL FITTINGS WITH PLASTIC SHEET PRIOR TO POURING CONCRETE.



- NOTE:**
- PROVIDE JOINT RESTRAINTS THROUGH CASING PIPE TO 10' MIN. BEYOND EACH END OF CASING OR AS SHOWN ON THE DRAWINGS
 - CASING SPACERS SHALL BE ADVANCE PRODUCTS AND SYSTEMS, INC. MODEL SSI, OR EQUAL
 - CASING PIPE MATERIAL SHALL BE AS SHOWN ON THE PLANS. IF CASING PIPE MATERIAL IS NOT SPECIFIED, THE CASING PIPE SHALL BE STEEL.
 - CASING SPACERS MAY BE OMITTED WITH PRIOR WRITTEN APPROVAL FROM ENGINEER AND ILAW.
 - CONTRACTOR SHALL OBTAIN AND VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE AND BE FULLY RESPONSIBLE FOR SAME.



- TRACER WIRE ACCESS BOX**
- NOTES:**
- INSTALL TRACER WIRE ON ALL NEW WATER MAINS INCLUDED IN THIS PROJECT.
 - EXTEND TRACER WIRE UP FIRE HYDRANT BARREL TO INTERNAL TERMINALS OF TRACER WIRE STATION AND BACK DOWN. CLAMP TRACER WIRE TO GROUND ROD AT SYSTEM TERMINATION.

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 Illinois Professional Design Firm No. 124-004913

ROUTE 150 WATERMAIN RELOCATION BETWEEN URBANA AND ST. JOSEPH
 ILLINOIS AMERICAN WATER COMPANY
 IDOT CONTRACT NO. 70663

URBANA, ILLINOIS
 CHAMPAIGN COUNTY

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Date of Preparation: July 17, 2013

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PROJECT ID: 11013
C5.01
 SHEET 27 OF 29

Aug 21, 2013 - 5:03pm