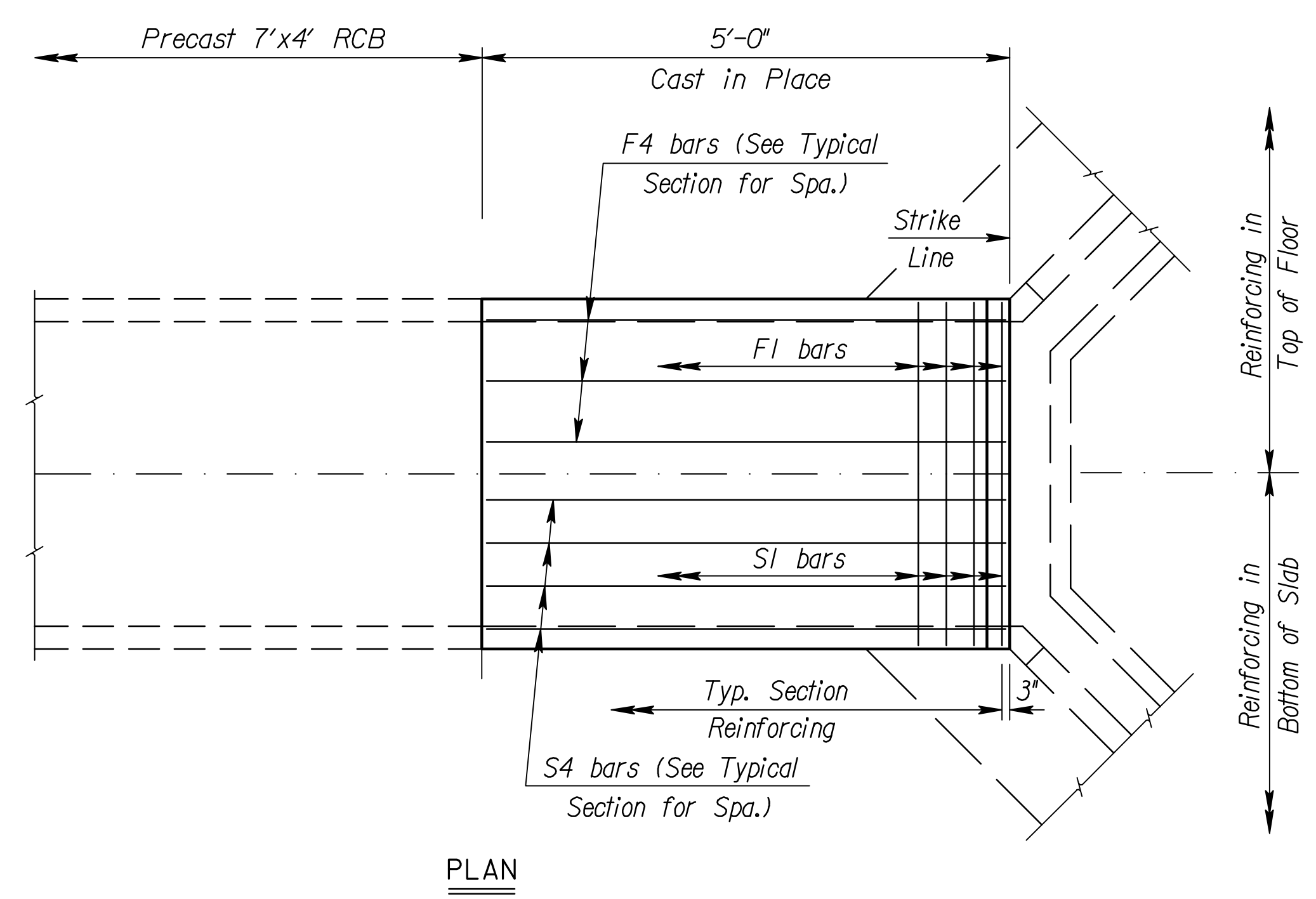
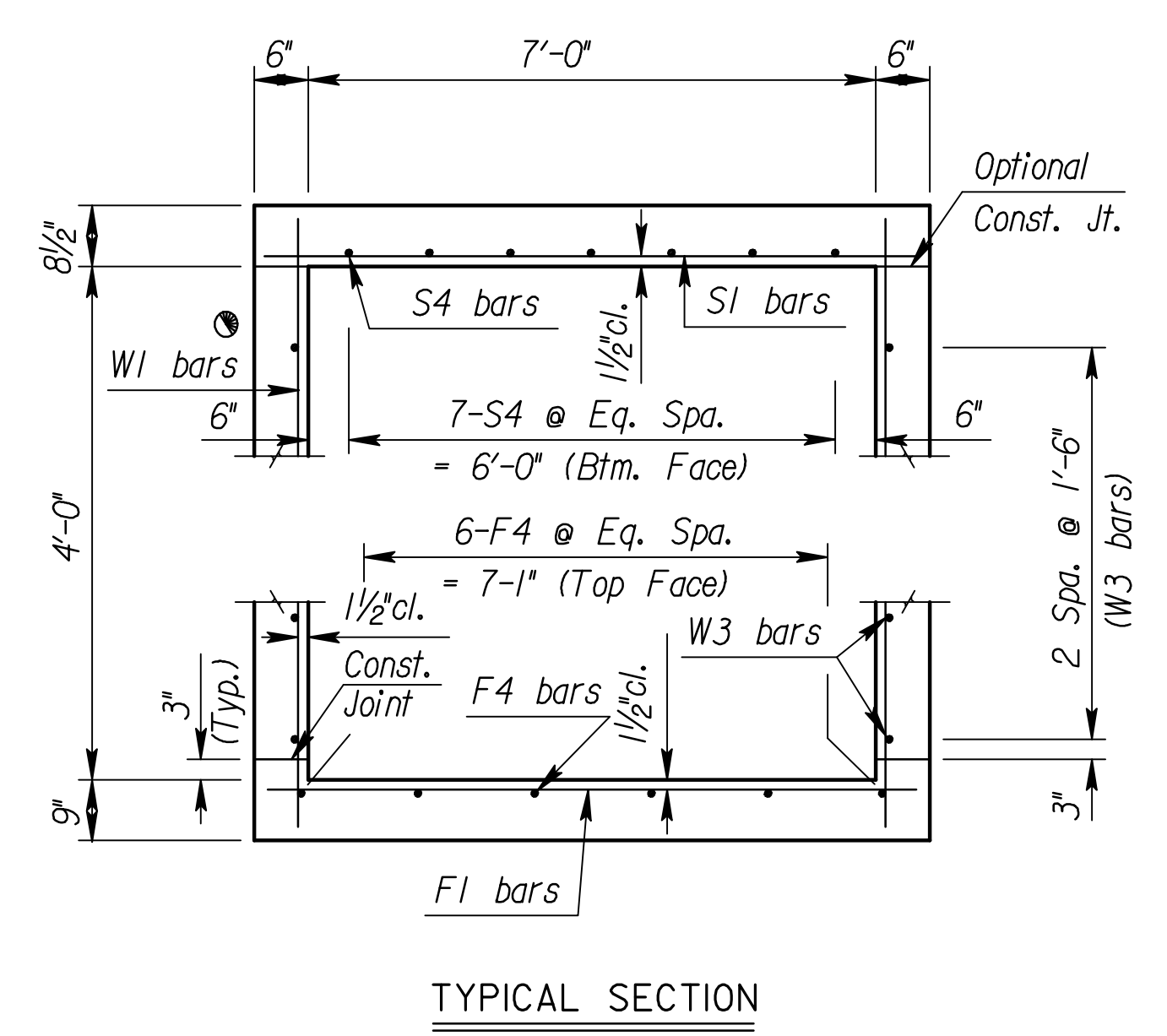
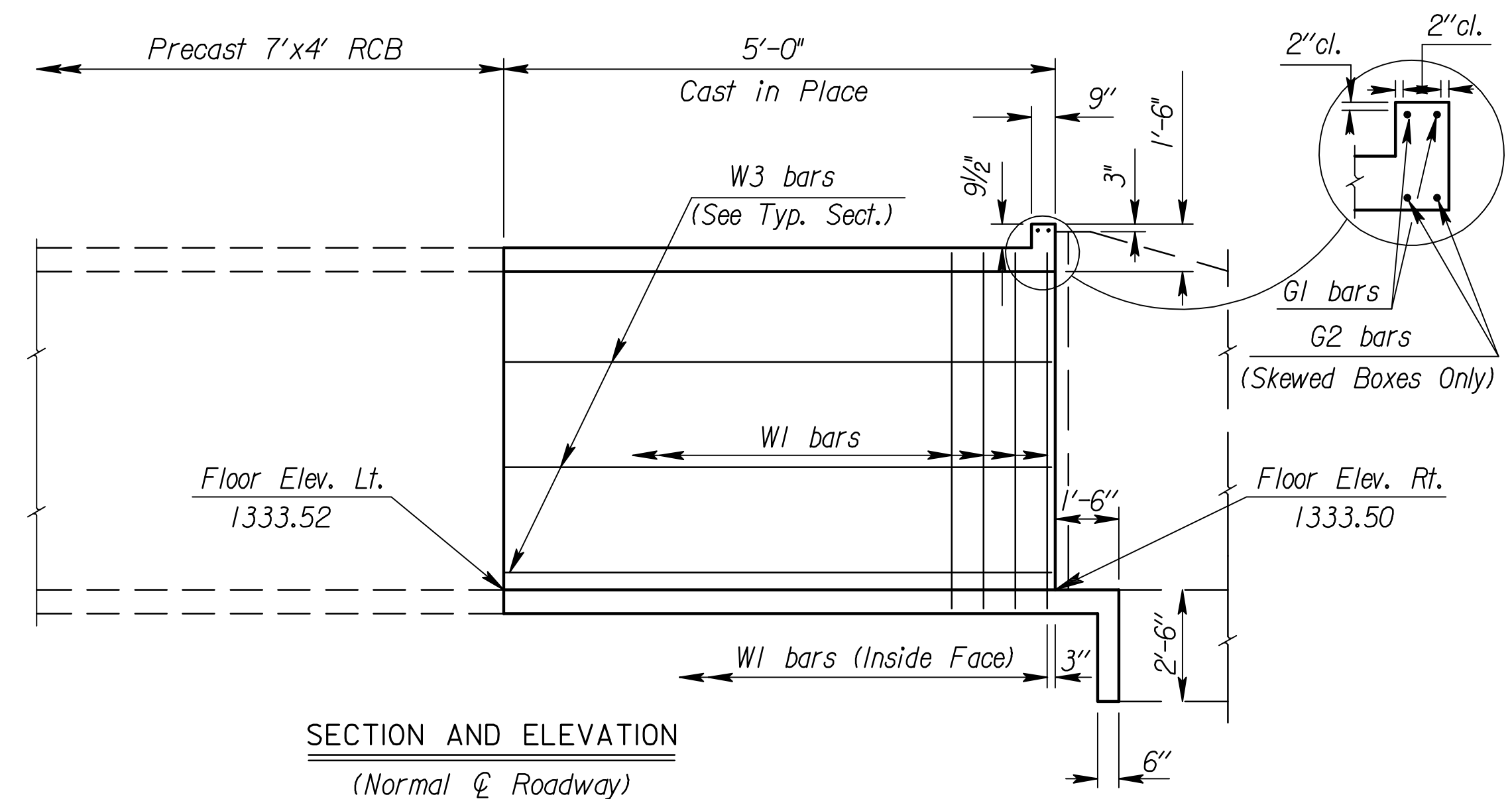


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0615-01	2017	67	183



**GENERAL NOTES**

**DESIGN SPECIFICATION:** AASHTO LRFD Spec., 2007 Ed., 2009 Int.

**DESIGN LOADING:** HL93

**UNIT STRESSES:** Grade 4.0 Concrete  $f'_c = 4,000$  p.s.i.  
Reinforcing Steel  $f_y = 60,000$  p.s.i.

**FILL HEIGHT:** Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and includes the surfacing.

**CONCRETE:** Use concrete conforming to Grade 4.0 Concrete. Bevel all exposed edges with a  $\frac{3}{4}$ " triangular molding.

**REINFORCING:** Use reinforcing steel conforming to ASTM A615, Grade 60. All dimensions relative to reinforcing steel are to the centerline of the bar unless otherwise noted.

**SEAL COURSE:** The Engineer may require a seal course. The seal course shall be unreinforced Concrete (Commercial Grade) with a minimum depth of 3 inches or as determined by the Engineer. Concrete for the seal course shall be *subsidiary* to the bid item "Pipe, SWS, RCBC (7'x4)".

**FOUNDATION STABILIZATION:** The Foundation Stabilization quantity has been calculated to the limits shown on the "RCB Auxiliary Details" sheet. The depth may be increased by the Engineer. The Contractor may underrun Foundation Stabilization under the barrel if founded on firm material and with the Engineer's approval. Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.

**QUANTITIES:** The quantities shown in the Culvert Summary include apron quantities.

**GRANULAR BACKFILL (WINGWALLS):** See the "Auxiliary Details" sheet.

**STRIKE LINE:** Construct the wingwalls and that portion of the RCB outside the Strike Line level. Construct the wingwall footings with the culvert floor. See the wingwall detail sheets.

STREET IMPROVEMENTS FOR  
**127TH STREET EAST**  
FROM 13TH STREET NORTH TO 21ST STREET NORTH

⚠ For design purposes ONLY. Do NOT use for Construction

CULVERT SUMMARY										includes any welded wire fabric			LRFR RATING FACTORS			
Floor Elev. Lt.	Floor Elev. Rt.	Crown Gr. Elev.	Design Fill Ht.	Skew	Left Wings	Right Wings	Scour Apron	Sail Saver	Concrete			Reinf. Steel (Gr. 60)			HL-93 Loading	
									Barrel (Cu.Yds.)	Wings (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)	Inventory	Operating
1333.75	1333.50	1341.96	3	0	N/A	Flared	Yes	No	3.08	6.61	9.69	395	707	1102	1.35	1.75

Minimum Splice Lengths	
#4	1'-5"
#5	1'-9"

SUMMARY OF QUANTITIES	
Concrete (Grade 4.0)	9.7 C.Y.
Reinforcing Steel (Gr. 60)	1100 Lbs.
Foundation Stabilization	5 C.Y.
Concrete for Seal Course (Set)	1 C.Y.
Granular Backfill (Wingwalls)	12 C.Y.

BAR SCHEDULE																							
F1		F4			SI			S4			W1			W3			G1						
Size	Spa.	No.	Length	Size	No.	Length	Size	Spa.	No.	Length	Size	No.	Length	Size	No.	Length	Size	No.	Length				
6	6 1/2"	12	7'-8"	4	6	6'-2"	6	6 1/2"	10	7'-8"	5	7	4'-8"	4	9"	14	5'-1"	4	6	4'-8"	5	2	7'-8"

**NOTE:** The Summary of Quantities is provided for information only. All materials, labor, and equipment required for the construction of the Cast in Place RCB (as shown) shall be considered *subsidiary* to the bid item "Pipe, SWS, RCBC (7'x4)".

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**STORM SEWER LINE 1 - 7' x 4' RCB DETAILS**

PROJECT NO.	472-85158	
DATE	11/29/17	
SCALE	NTS	
DESIGNED	DRAWN	CHECKED
JRA	DMU	KJS

NO.	REVISION	DATE

SHEET NO.  
67 OF 183

PLOTTED: Wednesday, November 29, 2017 @ 02:55PM  
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