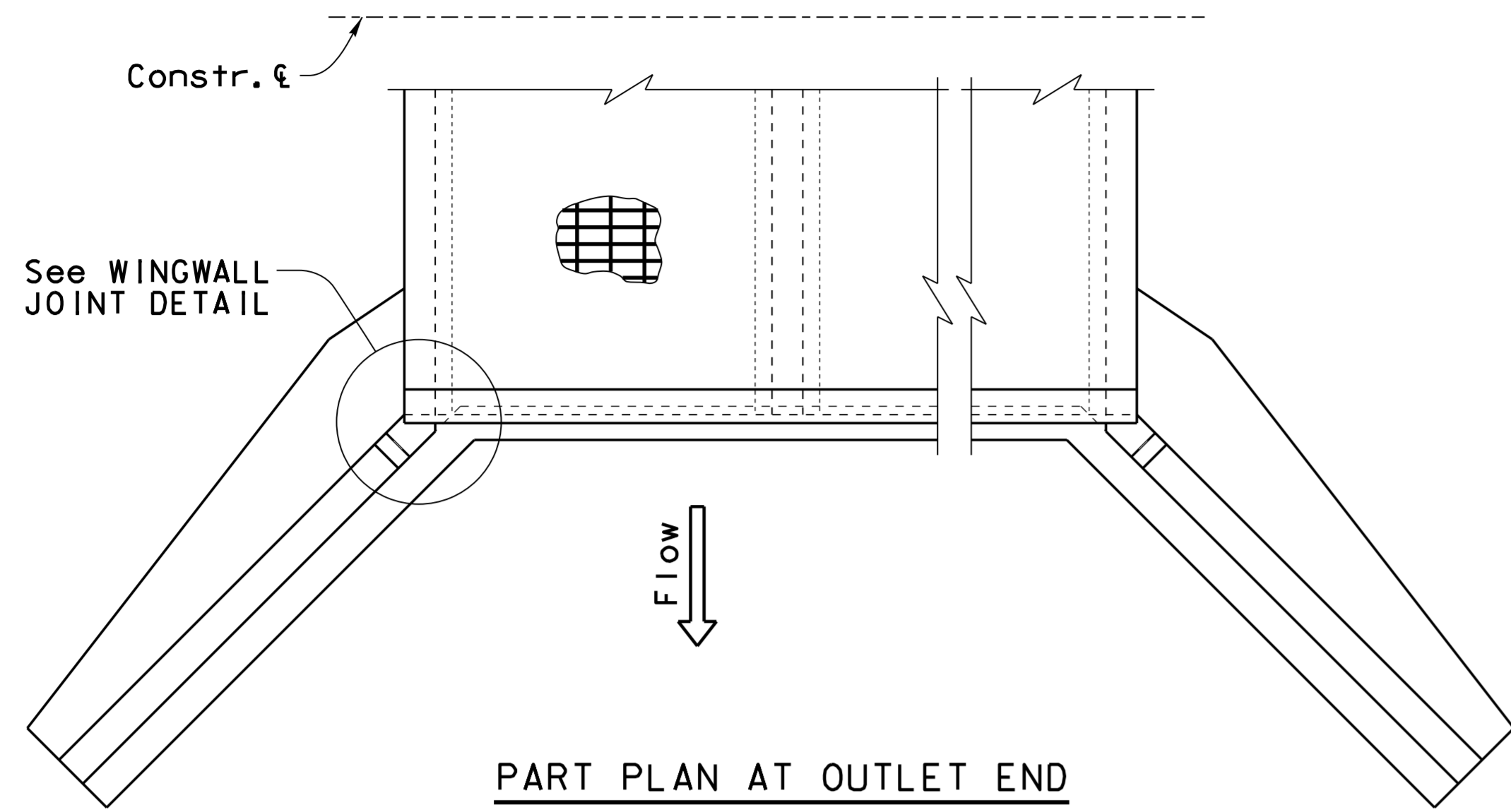


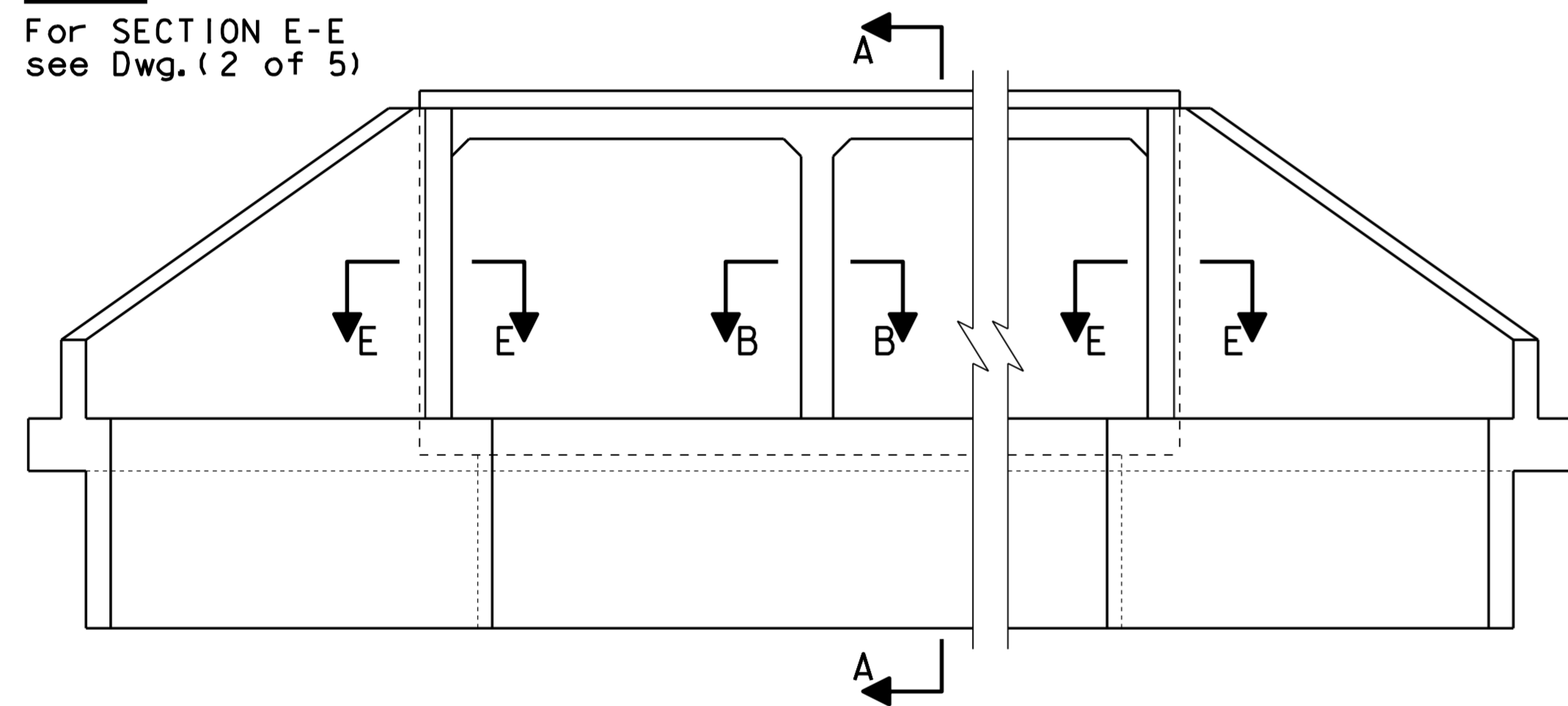
Note to Designer:
 The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.J.H.	2-12
2	General updates	D.B.B.	5-15
3			
4			

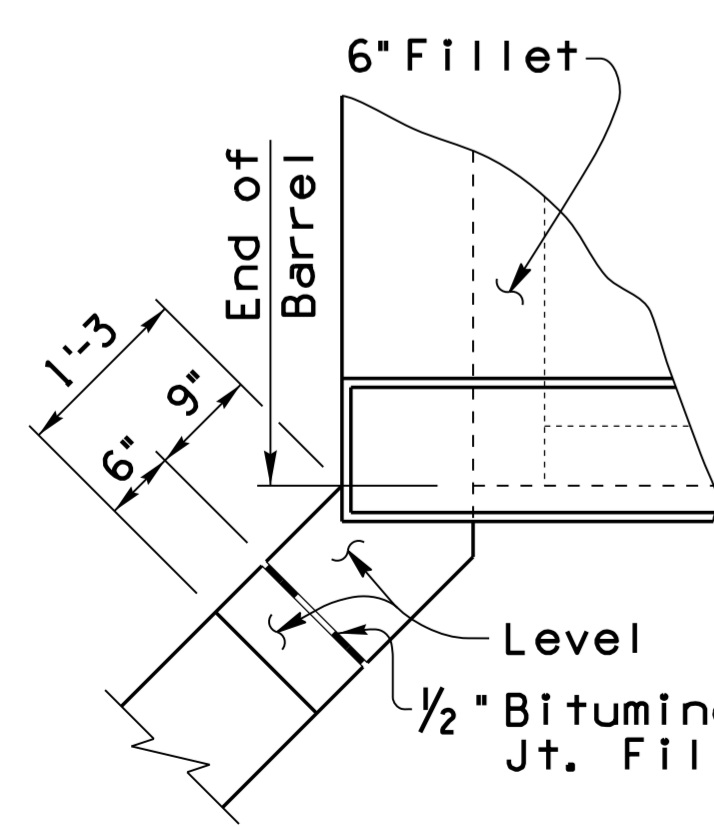


PART PLAN AT OUTLET END

NOTE:
For SECTION E-E see Dwg. (2 of 5)

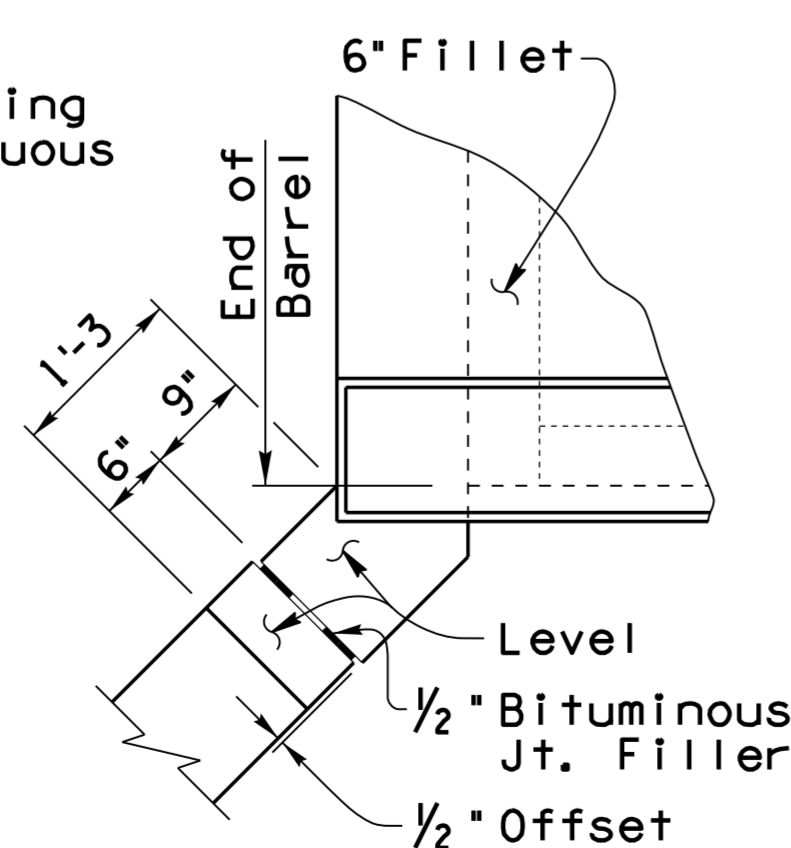


ELEVATION AT OUTLET END



WINGWALL JOINT DETAIL
(For Barrel Height < 8 Ft.)

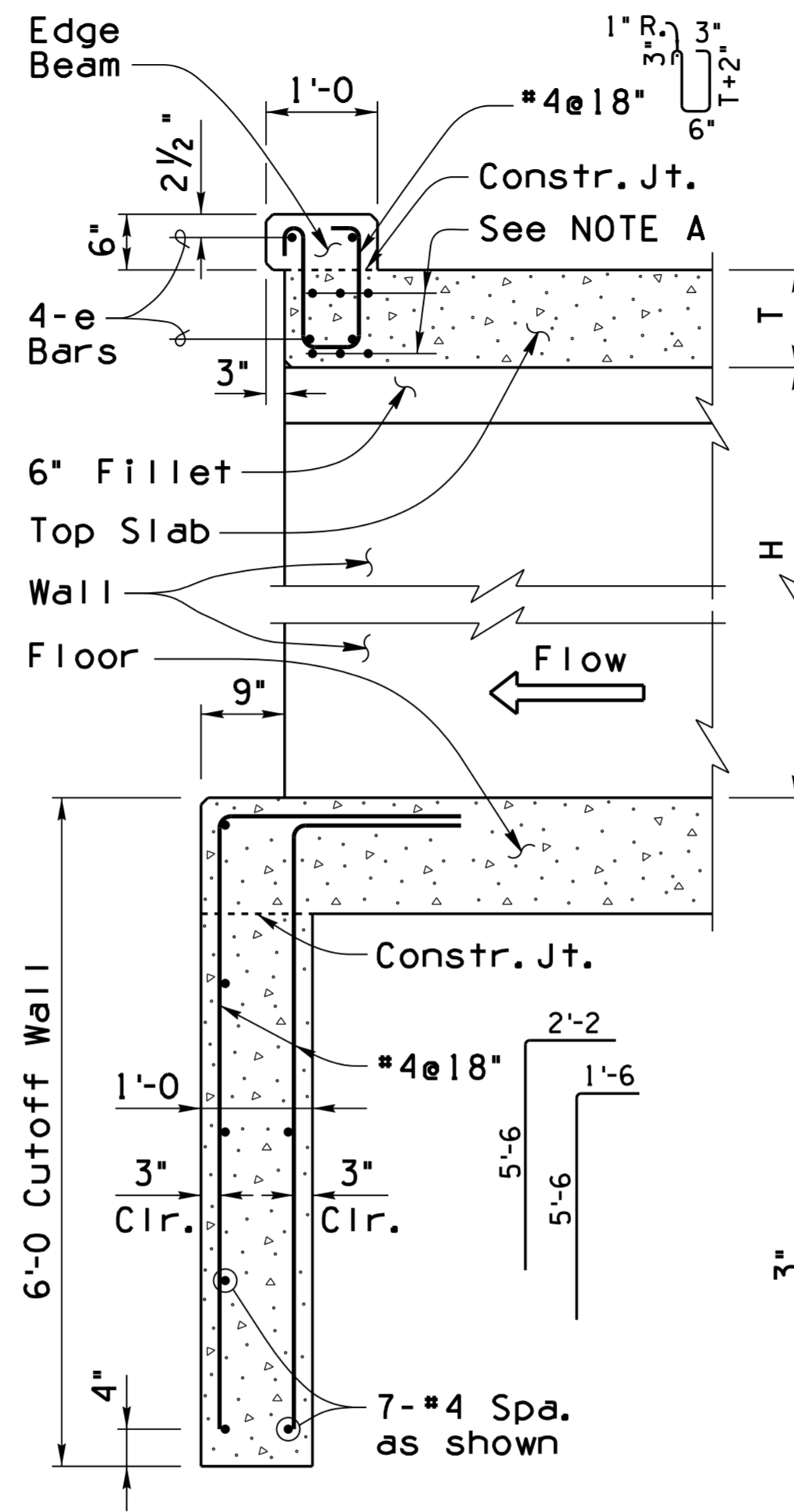
NOTE:
Wing wall footing shall be continuous with no joint.



WINGWALL JOINT DETAIL
(For Barrel Height ≥ 8 Ft.)

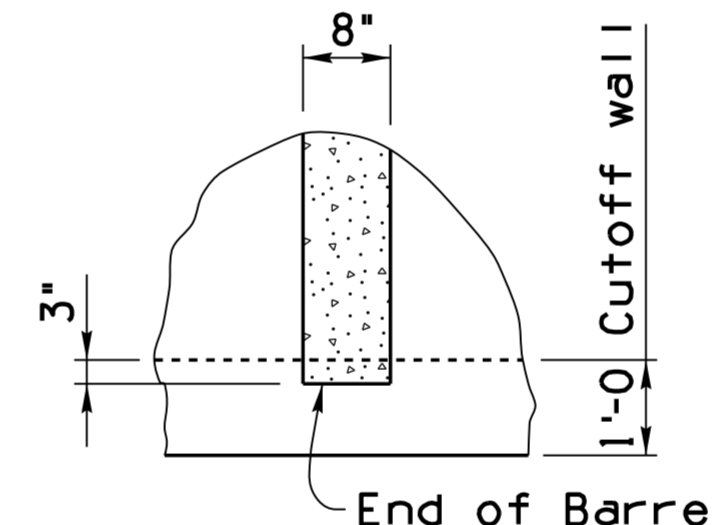
NOTE A:

Use 3-#7 @3" spa. top and bott bars for culverts skewed 6° to 30°. Use 3-#8 @3" spa. top and bott bars for culverts skewed 31° to 45°. Culverts skewed over 45° require a special edge beam design. Edge beam reinforcing quantity shall be added to table quantities.



SECTION A-A

Skew Δ	e Bars		
	6' & 8'	10'	12'
0° to 20°	#6	#6	#6
25° & 30°	#6	#6	#7
35°	#6	#7	#8
40° & 45°	#6	#7	#9



SECTION B-B

NOTE:

Special design sections shall be adjoined with standard barrels when necessary. Culvert barrels always begin and end with Table No. 1.

Thickness of top and bottom slabs vary with depths of fill as shown.

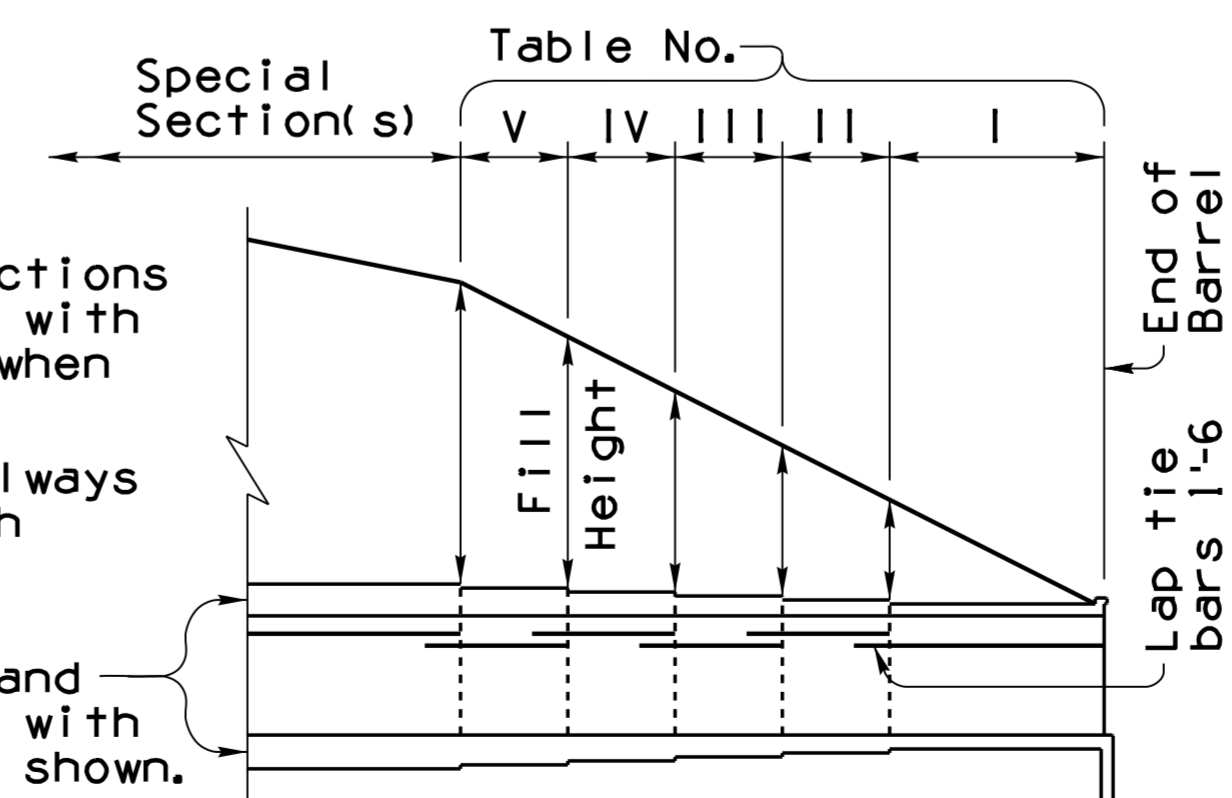


DIAGRAM SHOWING TABLE NO. TO BE USED FOR VARIOUS FILL HEIGHTS

GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 7th Edition 2014.

Loading Class - HL-93.

Design:
Soil weight = 120 p.c.f.

All Concrete shall be Class "S" (f'c = 3000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60.

All bends and hooks shall meet the requirements of AASHTO LRFD Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2" clear cover unless noted otherwise.

Chamfer all exposed corners 3/4" unless noted otherwise.

Compact backfill for footing and wing base minimum 100 percent of ASTM D698 maximum dry density.

All structures shall have formed Construction joints in the top slab and walls (optional in floor slab) and spaced not more than 38'-6" apart or as shown in Project Plans. Joints shall be perpendicular to the centerline of the box. Reinforcing steel shall project 1'-6" thru the joint. The joint shall be left in place or the alternate joint detail shown on Dwg. (2 of 5) may be used.

See Project Plans for culvert layout, invert elevations, finished grade elevations, headwall, apron, and other site specific details.

Dimensions shall not be scaled from drawings.

Pay item quantities of concrete and reinforcing steel include all labor and materials for box culvert, footing, headwalls, and aprons. Total Quantities include Barrel and Headwall Quantities shown in Tables (plus added quantity for apron when used). Barrel Quantities Table is per linear foot of box (multiply by length of box to obtain barrel total). Headwall Quantities Table includes wings, edge beam, and cutoff wall.

Culverts measuring 20 ft and greater to the inside faces of exterior walls, along the roadway centerline, shall be assigned a structure number. The structure number shall be referenced in the culvert summary sheet and drainage details.

NOTE:

For Dimensions, Quantities and additional Details, see SD 6.01 (2 to 5).

DESIGN APPROVED <i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>		REINFORCED CONCRETE BOX CULVERTS MISCELLANEOUS DETAILS	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO. SD 6.01 (1 of 5)
LOCATION			SHEET NO. OF