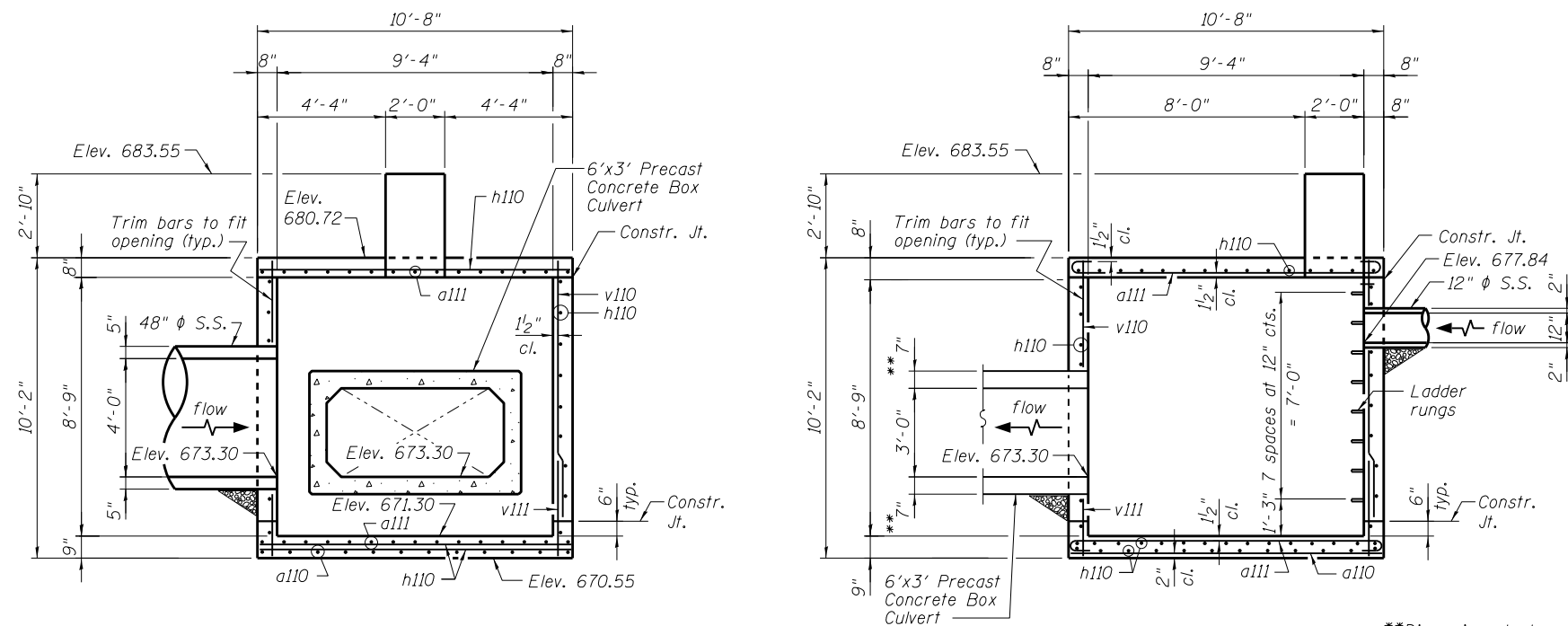


Notes:
 Bars indicated thus 12x4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.



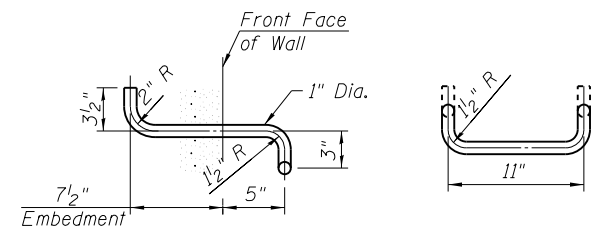
SECTION A-A

SECTION B-B

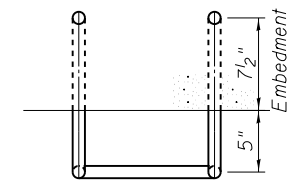
**Dimensions to be verified with precast concrete box culvert manufacturer.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a110	12	#5	10'-4"	—
a111	32	#5	11'-9"	U
h110	89	#5	10'-5"	—
h111	8	#5	2'-9"	—
h112	8	#5	3'-0"	—
h113	8	#5	6'-4"	—
v110	66	#5	8'-8"	—
v111	66	#5	2'-4"	—
Structure Excavation			Cu. Yd.	116
Concrete Structures			Cu. Yd.	13.3
Reinforcement Bars			Pound	2,350



SIDE VIEW FRONT VIEW
 TYPE Z LADDER RUNG ELEVATIONS



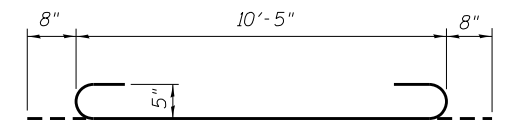
TYPE Z LADDER RUNG PLAN

- The ladder rungs shall be aluminum, conforming to ASTM B361-Alloy 6061-T6 or shall be ductile iron. Aluminum ladder rungs shall receive a heavy coat of bituminous paint or cold applied asphaltic mastic for the portion embedded in concrete. The coating must extend beyond the embedment at least two inches.
- The contractor may submit an alternative ladder rung detail for Engineer's approval.

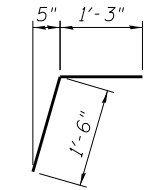
DESIGN STRESSES

$f_y = 60,000 \text{ psi}$
 $f'_c = 3,500 \text{ psi}$

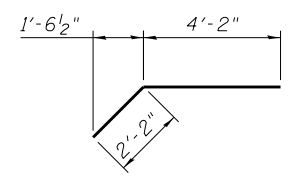
Note: All costs for compacted subbase or CLSM, ladder rungs, and all other appurtenances required to complete this work shall be included in the item "Concrete Structures."



BAR a111



BAR h111



BAR h113

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