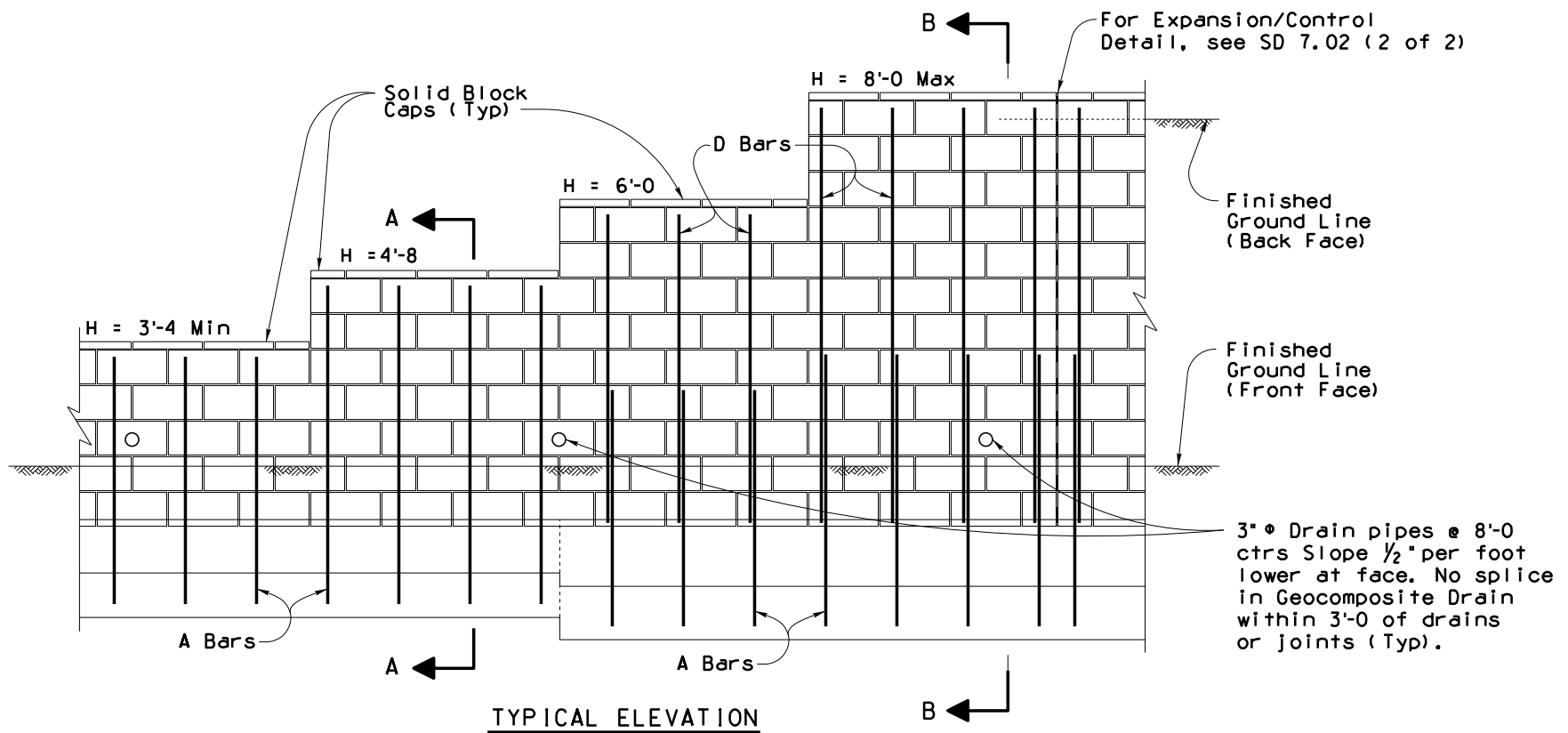


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GENERAL NOTES:
 Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition, and ACI 530.1, Specifications for Masonry Structures.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 8th Edition 2017.

Design:
 Soil weight = 120 pcf
 Backfill angle of internal friction = 33°
 Existing ground angle of internal friction = 30°

Masonry shall meet the Materials Notes requirements.

All block cells shall be filled with grout.

For wall surface treatment and type of block, see Project Plans.

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

Reinforcing steel shall conform to ASTM 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.

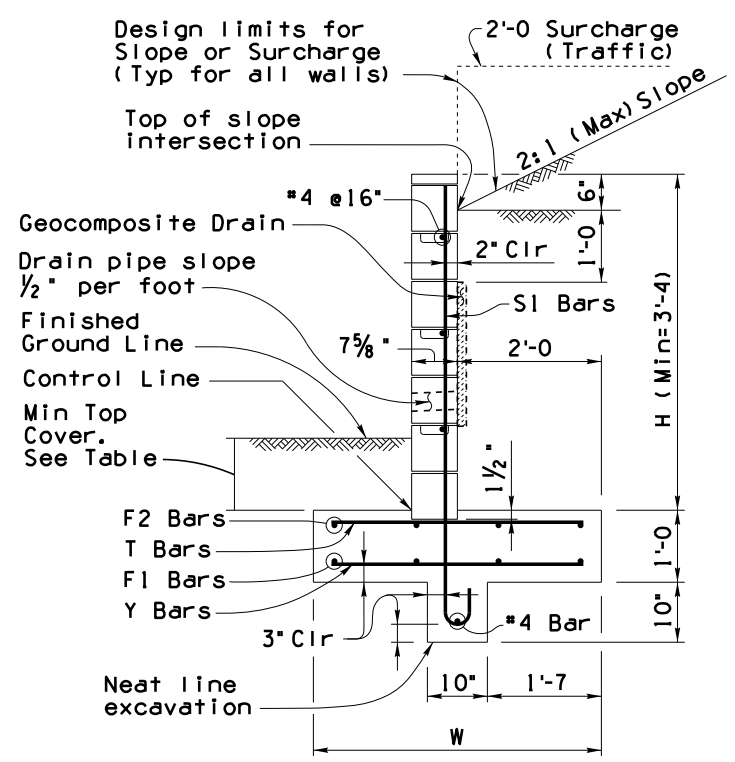
All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

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

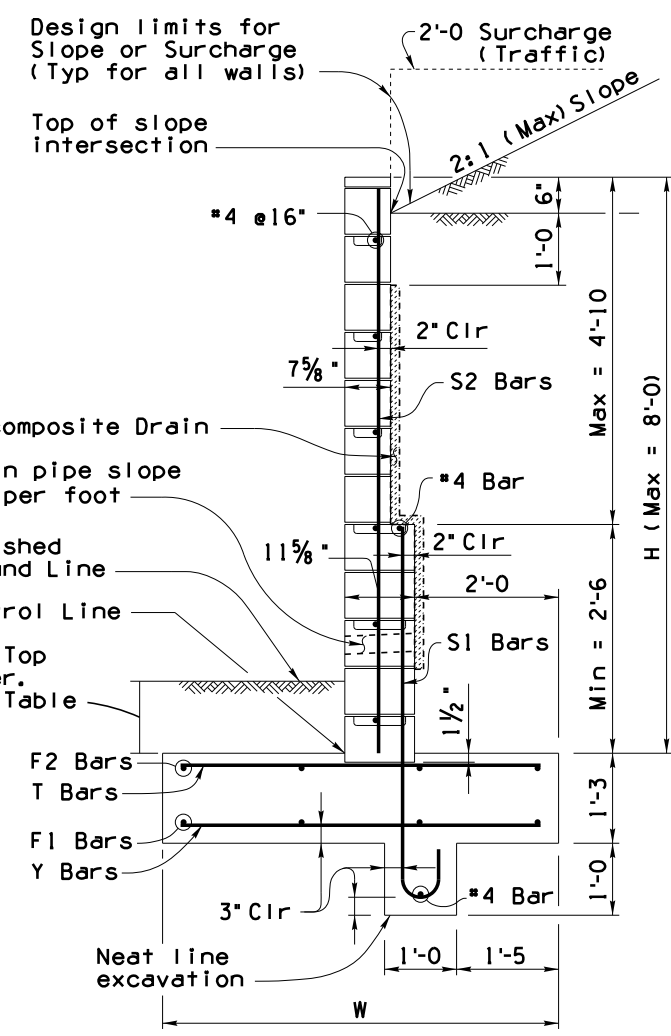
Dimensions shall not be scaled from drawings.

Pay item measure of square foot of wall constructed will be measured along the front face of the wall from top of footing to top of wall cap.

NOTES:
 For Structural Excavation and Structure Backfill Limits, See SD 7.02 (2 of 2).
 For reinforcing bar sizes and spacing, See Wall Schedule.



ELEV (FEET)	Min Top Cover (FEET)
5000 and Below	1'-6
Above 5000	2'-6



General Notes continued on SD 7.02 (2 of 2)

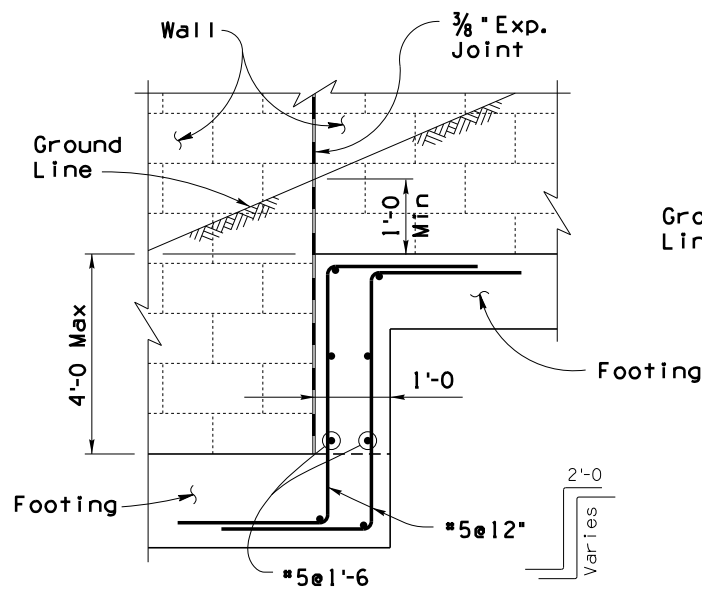
Item	RETAINING WALL (MASONRY CANTILEVER)
Item No.	9140179
Measure	Square Foot

Wall Height H	Wall Type	Footing Width W	* Reinforcing Steel					Factored Average Soil Bearing Pressure (psf)	
			Wall, Vertical		Footing				
			S1	S2	F2	T	F1		Y
3'-4 to 4'-0	A	3'-6	*4e16"	-	4-*4	*4e16"	-	-	1700
4'-4 to 5'-0	A	4'-0	*5e16"	-	4-*4	*4e16"	4-*4	*4e16"	1800
5'-4 to 6'-0	B	4'-6	*5e16"	*4e16"	4-*5	*4e16"	4-*5	*4e16"	1900
6'-4 to 7'-0	B	5'-0	*6e16"	*4e16"	4-*5	*5e16"	4-*5	*5e16"	2100
7'-4 to 8'-0	B	5'-6	*7e16"	*5e16"	4-*5	*6e16"	4-*5	*6e16"	2300

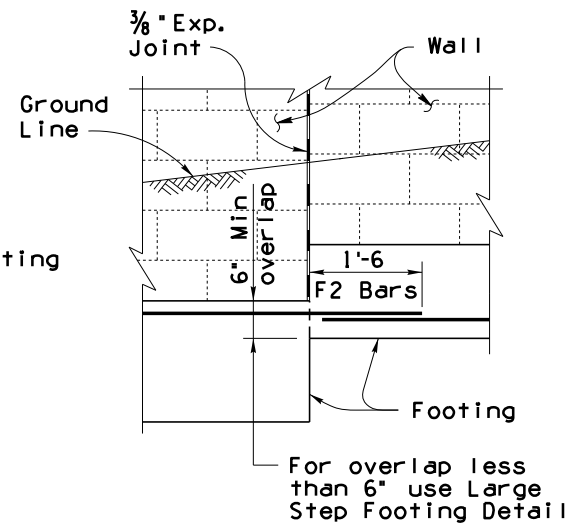
* Additional Reinforcement required at Control Joints.

STANDARDS ENGINEER
A. ALZUBI
 RECOMMENDED FOR APPROVAL
 GROUP MANAGER
D. EBERHART
 APPROVED
 STANDARDS COMMITTEE APPROVED FOR DISTRIBUTION 12/21 DATE

ARIZONA DEPARTMENT OF TRANSPORTATION
 INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
 BRIDGE GROUP STANDARD DRAWING
**RETAINING WALL
 MASONRY CANTILEVER**
 DRAWING NO.
**SD 7.02
 (1 of 2)**

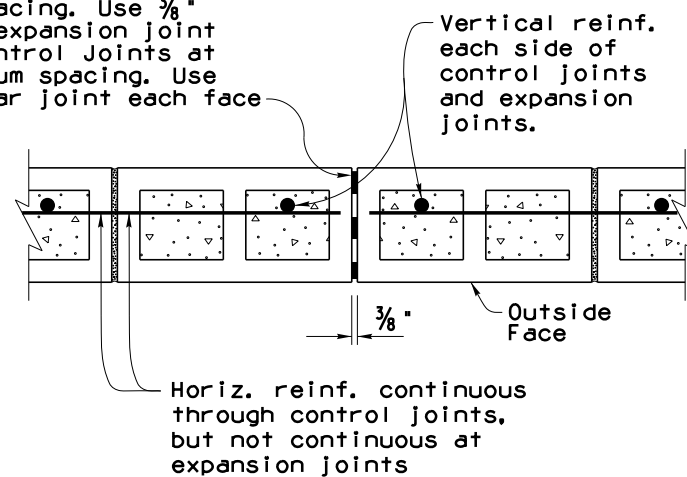


LARGE STEP FOOTING DETAIL

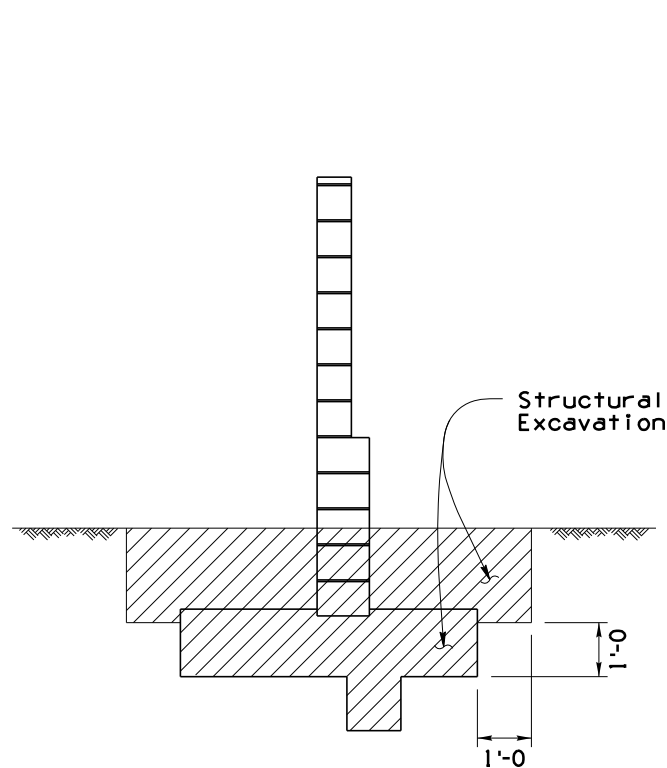


SMALL STEP FOOTING DETAIL

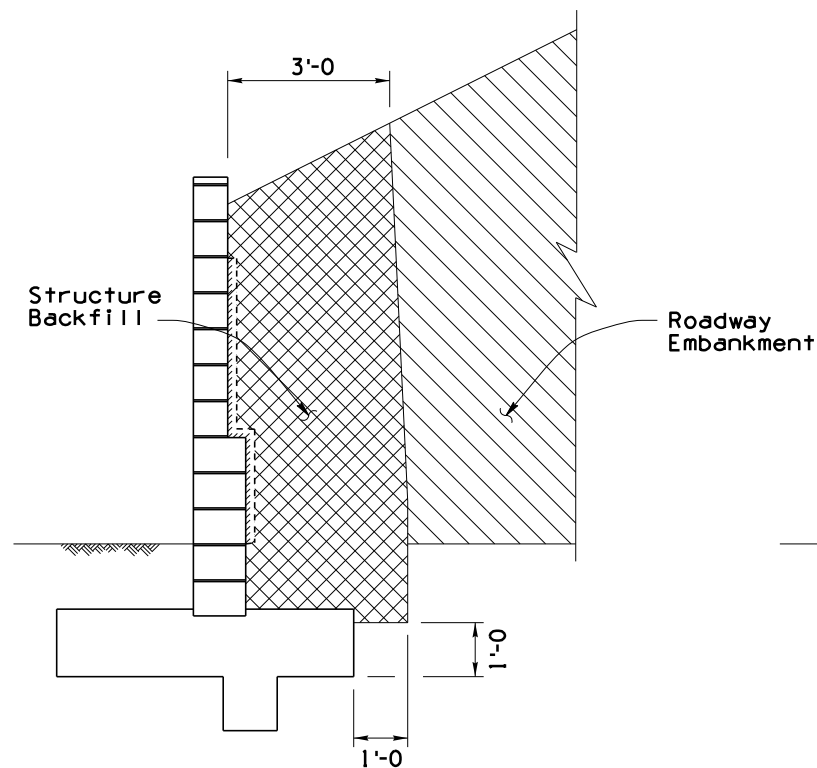
Expansion Joints at 96'-0" maximum spacing. Use 3/8" premolded expansion joint filler. Control Joints at 24'-0" maximum spacing. Use raked mortar joint each face



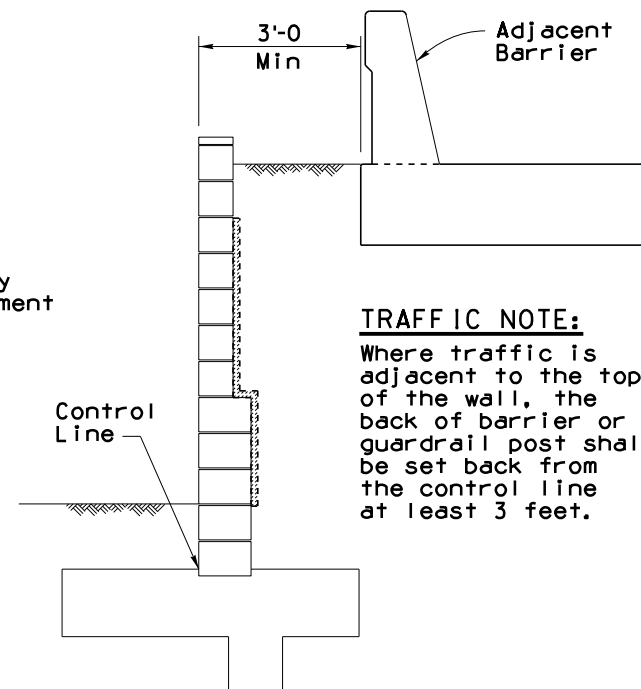
EXPANSION/CONTROL JOINT DETAIL



STRUCTURAL EXCAVATION LIMITS



STRUCTURE BACKFILL LIMITS



TYPICAL SECTION

TRAFFIC NOTE:

Where traffic is adjacent to the top of the wall, the back of barrier or guardrail post shall be set back from the control line at least 3 feet.

GENERAL NOTES (Continued):

Materials Notes:

Masonry: f'm = 1500 psi, ASTM C90, Medium or Normal weight, Running Bond, SLUMP BLOCK unless noted otherwise.

Mortar: ASTM C270, Type S, Cube Strength 1800 psi, ASTM C91 cement.

Grout: ASTM C476, Type Coarse, Cube strength 2000 psi.

Reinforcing Steel: ASTM A615, Grade 60.

Joint Reinforcing: 9 Gauge Ladder or Truss type, Standard weight, fy=33,000 psi, ASTM A82 Wire.

Special Inspection Notes:

Special inspection and testing, provided by the Department, are required for the masonry retaining wall stem to assure quality materials and construction.

(A) Pre-construction:

- 1) Verify correct block type to be used.
- 2) Verify correct mortar and grout to be used.
- 3) Verify the location, spacing, size and lap length of vertical reinforcing dowel bars and wall reinforcement that is within plus or minus 1/2" of the plan dimension as measured normal to the wall and plus or minus 2" in the longitudinal direction.
- 4) Verify that masonry units are clean and free from dirt when placed in the wall. Masonry units shall be dry before placement.

(B) Construction:

- 1) Observe, periodically, the placement of the masonry units and the making of the mortar. Verify that the initial bed joint thickness is not less than 1/4" or more than 1"; subsequent bed joints shall not be less than 1/4" or more than 5/8" in thickness.
- 2) Observe all grout placements.
- 3) Verify horizontal joint reinforcing size, location, and spacing.
- 4) Verify that all concrete masonry units are placed in uniform and true course, level and plumb with a tolerance of 1/4" in 8 feet, non-cumulative.
- 5) Verify that concrete masonry units are placed to the desired height with joints of uniform thickness. Level, plumb and straighten before the mortar stiffens. Bond shall be plumb throughout.
- 6) Verify that all concrete masonry units are cured by sprinkling twice a day for minimum of 2 days.

NOTE:

For General Notes, Typical Elevation, Sections and Details see SD 7.02 (1 of 2).

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STANDARD ENGINEER A. ALZUBI RECOMMENDED FOR APPROVAL GROUP MANAGER	APPROVED D. EBERHART STANDARDS COMMITTEE APPROVED FOR DISTRIBUTION
	12/21 DATE

ARIZONA DEPARTMENT OF TRANSPORTATION
INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION
BRIDGE GROUP STANDARD DRAWING

**RETAINING WALL
MASONRY CANTILEVER**

DRAWING NO.
**SD 7.02
(2 of 2)**