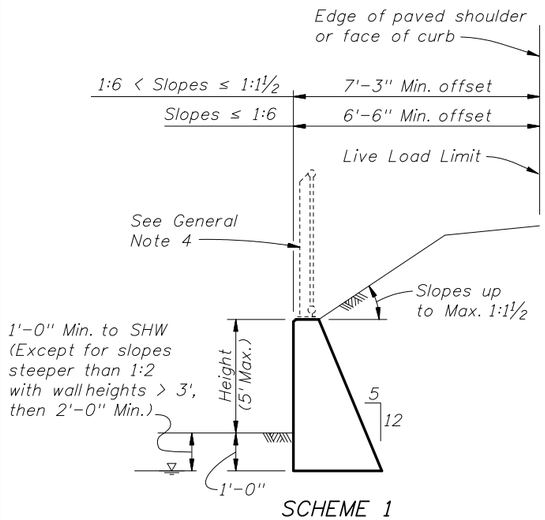
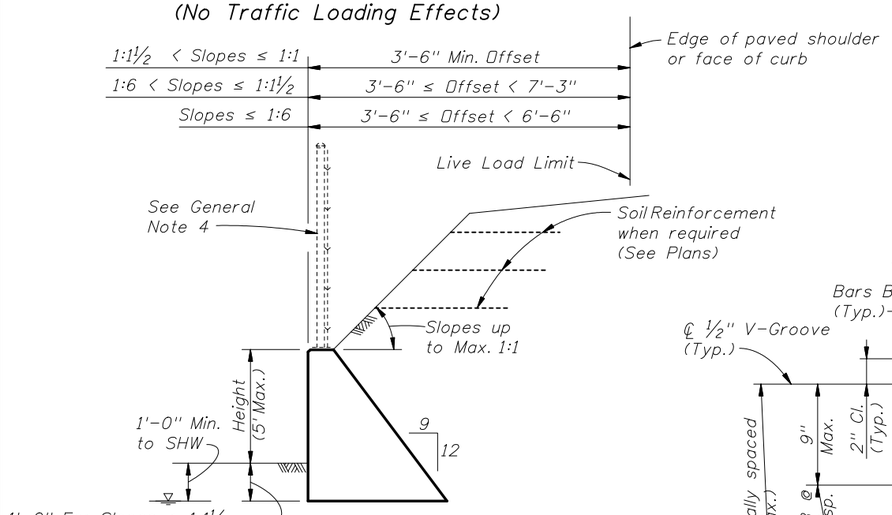
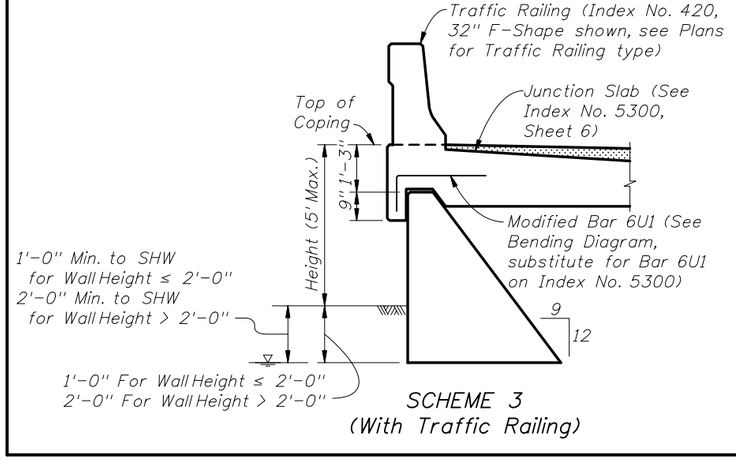


SCHEME 1
(No Traffic Loading Effects)



SCHEME 2
(With Traffic Loading or Slopes > 1:1½)



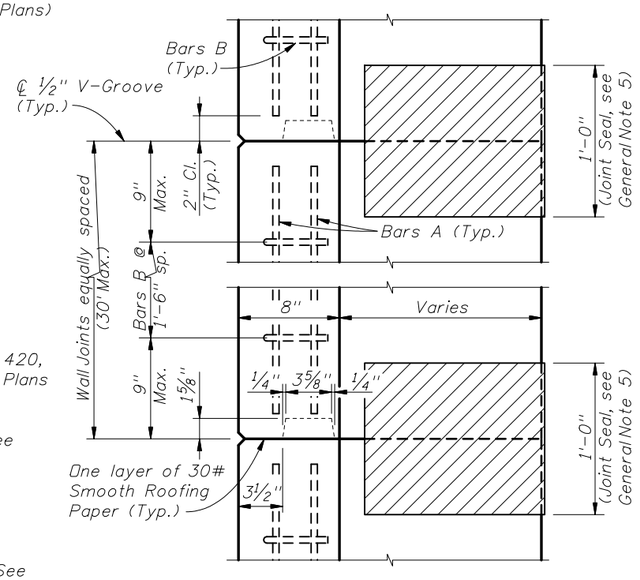
SCHEME 3
(With Traffic Railing)

ESTIMATED QUANTITIES FOR WALL					
HEIGHT (FT.)	PER LINEAR FOOT OF WALL				WEEP HOLES & DRAIN REQD.
	CLASS I CONCRETE (CY)			REINF. STEEL (LB.)	
	SCHEME 1	SCHEME 2	SCHEME 3		
1'	0.08	0.11 (0.20*)	0.03	3 (4*)	No
2'	0.14	0.20 (0.32*)	0.09	4 (5*)	No
3'	0.22	0.32 (0.47*)	0.29	5 (6*)	Yes
4'	0.32	0.47 (0.65*)	0.43	6 (7*)	Yes
5'	0.43	0.65 (0.85*)	0.60	7 (8*)	Yes

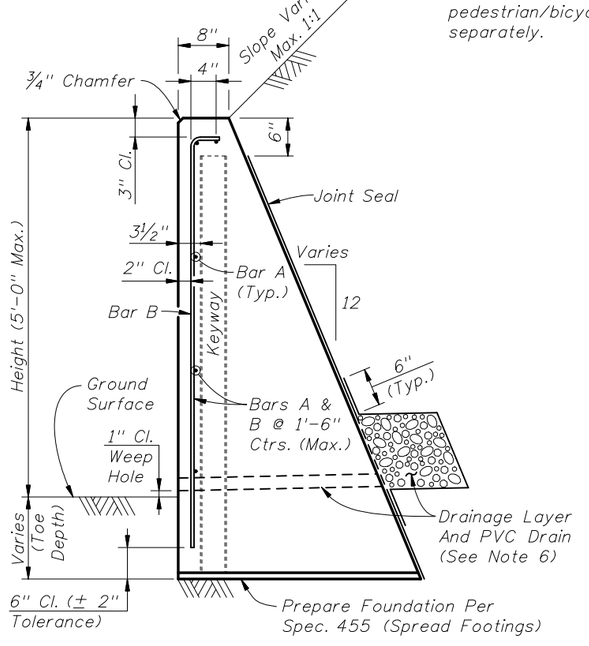
ESTIMATED QUANTITIES NOTES:

For Scheme 3 Junction Slab and Traffic Railing see the referenced Design Standards for estimated quantities.

* For 2'-0" Toe Depth in Scheme 2.



KEYWAY & WALL JOINT DETAIL
(TOP VIEW)



TYPICAL SECTION

DESIGN NOTES

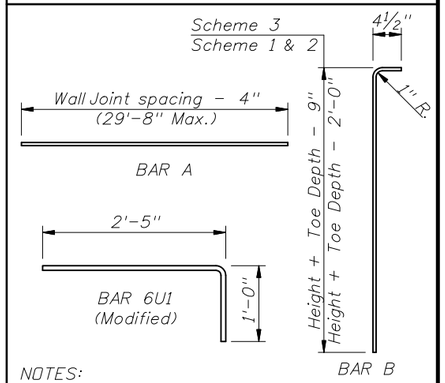
1. Gravity wall design is based on the following soil criteria which covers the majority of soil types found in Florida:
   Classification = Cohesionless (Fine Sand)
   Friction Angle = 30 Degrees
   Moist Unit Weight of Backfill = 120 lbs./cu. ft.
   Presumptive Allowable Bearing Pressure:
   = 2,500 psf for slopes equal to or flatter than 1:1½
   = 3,300 psf for slopes steeper than 1:1½.
   Corrected SPT Blow Count for foundation = 35 blows/ft. (average value within the range of depth from the base of wall to 2.0 x base width below wall).
   Max. Seasonal High Water Table (SHWT) is one (1) foot below the horizontal ground surface at the toe of the wall, except as noted.
2. In cases where the Designer considers the soil at the specific site location to be of lesser strength, an analysis is required to verify that sliding, bearing, overturning and stability requirements are satisfied.
3. Overall stability of the wall shall be analyzed when the backfill slope exceeds 1:2 (vert. : horiz.) or the seasonal high water (SHW) is less than 2 ft. below the ground surface.
4. Stability of the slope above the top of the gravity wall shall be analyzed for slopes steeper than 1:2 (vert. : horiz.) with a minimum Factor of Safety = 1.3.
5. For Scheme 1 or Scheme 2, when a roadside barrier is required above the wall (guardrail, barrier wall, etc.) the deflection space required for the barrier must be considered. Locate the barrier so that there is no conflict between guardrail posts or barrier footing and the gravity wall or soil reinforcement. This may result in an offset greater than the minimum offset for the live load limit.

GENERAL NOTES

1. Gravity walls constructed as extensions of reinforced concrete retaining walls, except walls of proprietary designs, shall have the same face texture and finish as the reinforced concrete retaining wall.
2. Concrete for Gravity Wall shall be Class I (Nonstructural) per Section 347. Concrete for Scheme 3 Junction Slab and Traffic Railing shall be Class II per Section 346, unless otherwise specified in the plans.
3. Reinforcing steel shall be ASTM A615, Grade 40 or 60 provided at the max. spacings shown. ASTM A185 Smooth or ASTM A497 Deformed Welded Wire Fabric (WWF) may be substituted on an equal area basis. Do not increase bar/wire spacing for Grade 60 reinforcing steel or WWF.
4. When required, for adjunct guiderail or pedestrian/bicycle railings see the plans, Index No. 850, 860 or 870 as appropriate. For adjunct Type B fence see Index No. 802.
5. Joint seal to be two layers of 30# smooth roofing paper or Type D-5 geotextile fabric in accordance with Index No. 199. Mop all contact surfaces of concrete and roofing paper or geotextile fabric with cut-back asphalt. Stop roofing paper or geotextile fabric 6" below top of wall).
6. Provide a continuous 1'x1' clean gravel or crushed rock drain for wall heights 3 ft. and higher. Wrap drainage layer as shown, with Type D-3 geotextile fabric in accordance with Index No. 199. Provide 8"x8" galvanized mesh with ¼" openings, at the inside end of the PVC Drain Pipe. Provide 2" Ø PVC Drain Pipe (Sch. 40) at 10 ft. max. spacing (When Drainage Layer required). Locate minimum 2'-0" clear of wall joints.
7. Cost of reinforcing steel, face texture, finish, joint seal, drain pipes, drainage layer, galvanized mesh and geotextile fabric to be included in the Contract Unit Price for Class I Concrete (Retaining Walls) CY. Cost of concrete for Junction Slab in Scheme 3, to be included in Contract Unit Price for Class II Concrete (Retaining Walls), CY. Adjunct traffic railings, pedestrian/bicycle railings or fences to be paid for separately.

BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
A	4	As Reqd.
B	4	As Reqd.
U1 (Mod.)	6	3'-5"

BAR BENDING DIAGRAM



NOTES:
1. All bar dimensions are out to out.
2. Lap splices for Bars A must be a minimum of 1'-6".

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

2008 FDOT Design Standards

GRAVITY WALL

Last Revision 01/01/07

Sheet No. 1 of 1

Index No. 520