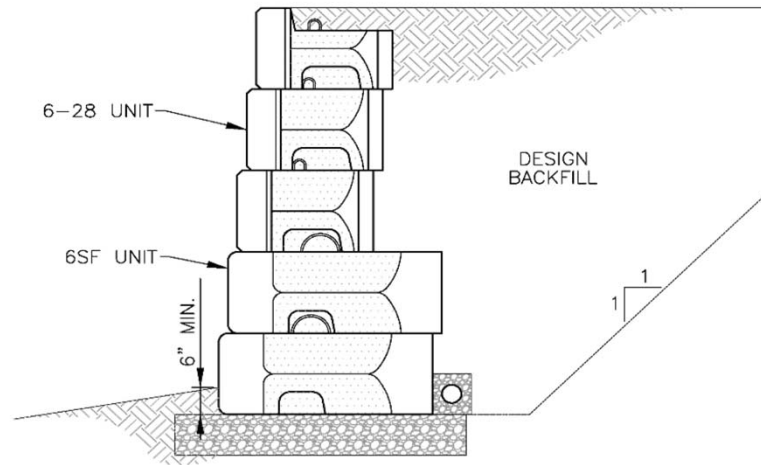


**Load Case 1 - Level Backfill
(Battered Face)**

Backslope: nearly level (or sloping away from wall)

Surcharge: 25 psf (nominal surcharge/snow load)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6SF	--	--
2nd Course	6-28	6-28	6SF	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						6-28
6th Course					6-28	6-28
5th Course				6-28	6-28	6-28
4th Course			6-28	6-28	6-28	6SF
3rd Course		6-28	6-28	6-28	6SF	6SF
2nd Course	6-28	6-28	6-28	6SF	6SF	6SF
Bottom Course	6-28	6-28	6-28	6SF	6SF	6SF

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6-28	6SF	6SF	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						6-28
6th Course					6-28	6-28
5th Course				6-28	6-28	6-28
4th Course			6-28	6-28	6-28	6-28
3rd Course		6-28	6-28	6-28	6-28	6SF
2nd Course	6-28	6-28	6-28	6-28	6SF	6SF
Bottom Course	6-28	6-28	6-28	6SF	6SF	6SF

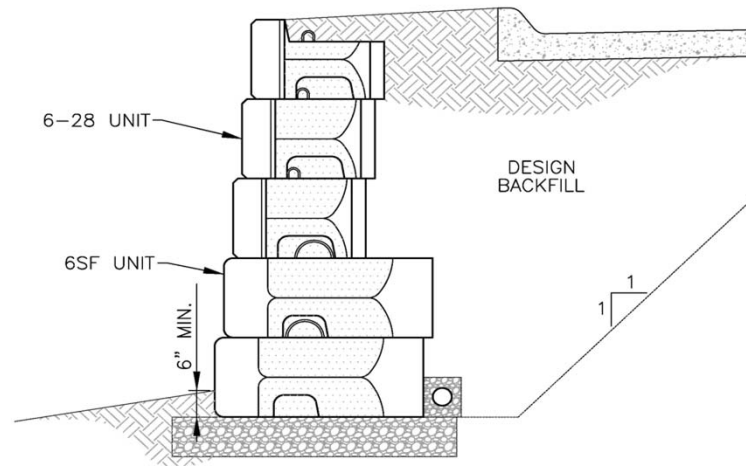
*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Load Case 2 - Parking Lot Surcharge (Battered Face)

Backslope: nearly level (or sloping away from wall)

Surcharge: 150 psf (parking lot, set back min 2 feet behinds)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6SF	--	--	--
Bottom Course	6-28	6-28	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6-28	--	--
2nd Course	6-28	6-28	6-28	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6-28	--	--
2nd Course	6-28	6-28	6-28	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6-28	6SF	6SF	--

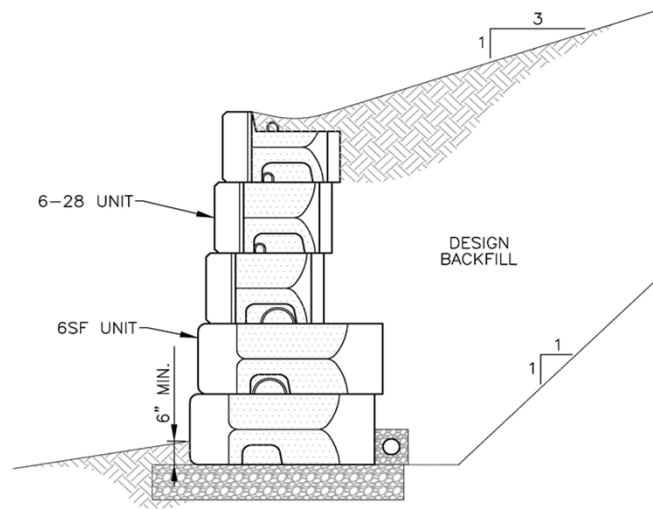
*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

**Load Case 3 - Sloping Backfill
(Battered Face)**

Backslope: 3H:1V Backslope (toward wall)

Surcharge: 25 psf (nominal surcharge/snow load)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6SF	--	--	--
Bottom Course	6-28	6-28	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6-28	--	--
2nd Course	6-28	6-28	6-28	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6-28	--	--	--
Bottom Course	6-28	6-28	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6-28	6SF	6SF	--

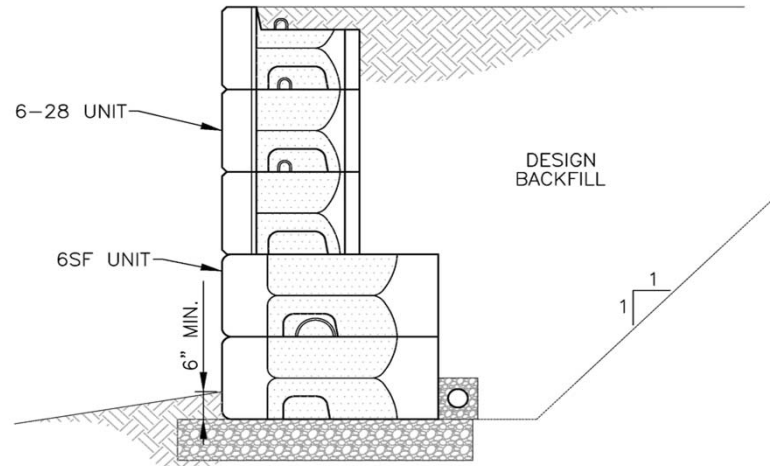
*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

**Load Case 1 - Level Backfill
(Vertical Face)**

Backslope: nearly level (or sloping away from wall)

Surcharge: 25 psf (nominal surcharge/snow load)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6SF	--	--
2nd Course	6-28	6-28	6SF	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6SF	6SF	6SF	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6SF	6SF	6SF	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6SF	6SF	6SF	--

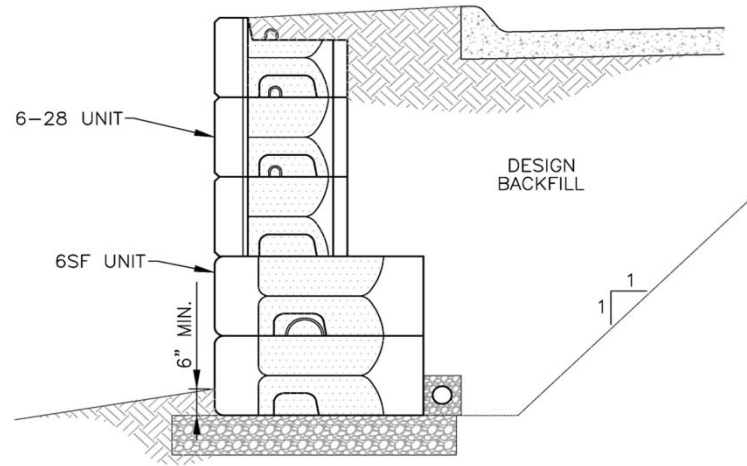
*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Load Case 2 - Parking Lot Surcharge (Vertical Face)

Backslope: nearly level (or sloping away from wall)

Surcharge: 150 psf (parking lot, set back min 2.5 feet behinds)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6SF	--	--	--
Bottom Course	6-28	6SF	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6-28	--	--
2nd Course	6-28	6-28	6-28	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6SF	--	--
2nd Course	6-28	6-28	6SF	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6SF	6SF	6SF	--

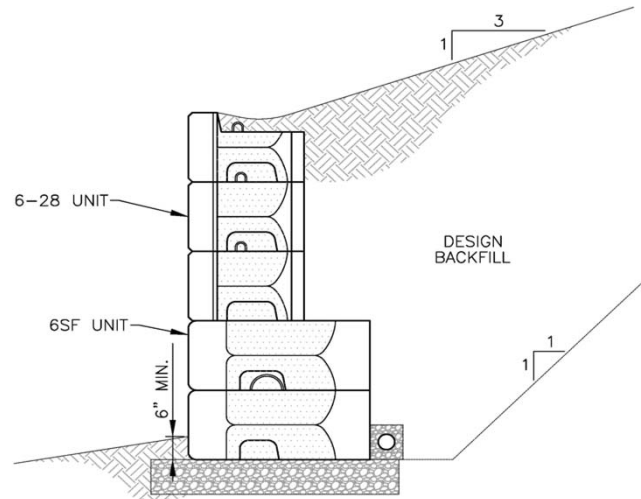
*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

**Load Case 3 - Sloping Backfill
(Vertical Face)**

Backslope: 3H:1V Backslope (toward wall)

Surcharge: 25 psf (nominal surcharge/snow load)

Based on IBC safety factors, 1.5 for sliding/overturning



Cohesive Backfill*
 $\phi=26^\circ$, $c=100\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6SF	--	--	--
Bottom Course	6-28	6SF	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes clay foundation soil

Coarse Sand Backfill*
 $\phi=32^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				6-28	--	--
4th Course			6-28	6-28	--	--
3rd Course		6-28	6-28	6-28	--	--
2nd Course	6-28	6-28	6-28	6SF	--	--
Bottom Course	6-28	6-28	6SF	6SF	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Sand Backfill*
 $\phi=30^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					--	--
5th Course				--	--	--
4th Course			6-28	--	--	--
3rd Course		6-28	6-28	--	--	--
2nd Course	6-28	6-28	6SF	--	--	--
Bottom Course	6-28	6SF	6SF	--	--	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil

Gravel Backfill*
 $\phi=34^\circ$, $c=0\text{psf}$, $\gamma=125\text{pcf}$

	Total Wall Height (feet)					
	3.0	4.5	6.0	7.5	9.0	10.5
7th Course						--
6th Course					6-28	--
5th Course				6-28	6-28	--
4th Course			6-28	6-28	6-28	--
3rd Course		6-28	6-28	6-28	6SF	--
2nd Course	6-28	6-28	6-28	6SF	6SF	--
Bottom Course	6-28	6-28	6SF	6SF	6SF	--

*design for soil within 1 foot of heel, extending up at 1H:1V slope, assumes sand foundation soil