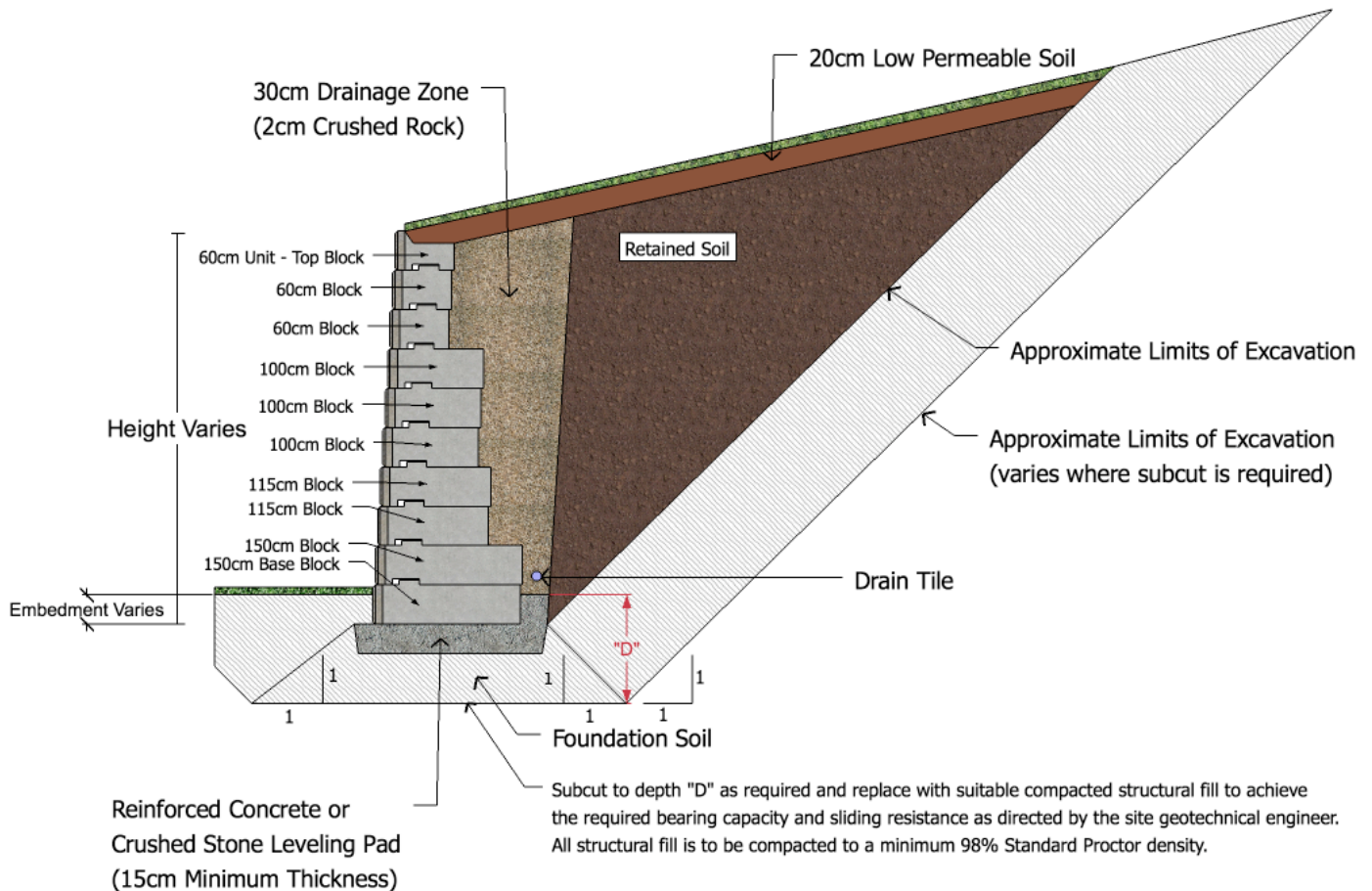


# Typical Gravity Wall Section



- Wall height is total height from top of wall to top of leveling pad.
- Minimum wall embedment is 15 cm or 10% of the total wall height, whichever is greater to achieve a level toe slope.
- Leveling pad is crushed stone material.
- Subsurface material must be capable of supporting the wall system.
- Finished grade must provide positive drainage.
- Drainage zone is 2 cm crushed stone.
- All backfill materials are compacted to 95% maximum density.

## Notes:

1. The gravity wall design charts on the following page are calculated using both the horizontal and vertical components of Coulomb earth pressure.
2. NCMA minimum factors of safety for overturning, sliding and bearing are 1.5, 1.5, and 2.0 respectively. AASHTO minimum factors of safety for overturning, sliding and bearing translate to 2.0, 1.5, and 3.0 respectively. The selection of the appropriate factors of safety should be based on the certainty with which design parameters and the consequences of failure are known. These design charts reflect minimum factors of safety for overturning, sliding and bearing of 1.5, 1.5, and 2.0 respectively.
3. Sliding has been calculated between the base block and the leveling pad. Additional calculations of sliding between the leveling pad and foundation soils should be considered. Global stability has not been addressed in the ReCon Standard Design Chart.
4. The information in the design chart assumes that the soil phi angle is the same for both the foundation and the retained soils.
5. The information in the design chart assumes the soil has a weight of 18.9 kN/m<sup>2</sup>.
6. Installation shall follow ReCon installation instructions and any additional instruction or guidance provided as a part of the final engineered stamped and site specific plans.

# ReCon Series 50 Standard Design Charts

## Gravity Walls

3.6° Batter - 2.5 cm Setback per Block Course  
 7.2° Batter - 5.0 cm Setback per Block Course  
 7.2° Batter requires use of 2.5 cm Spacer Bar

Batter	LEVEL BACKSLOPE			12 kN/m2 SURCHARGE†			3H:1V BACKSLOPE††		
	Soil Phi Angle	3.6°	7.2°	3.6°	7.2°	3.6°	7.2°	3.6°	7.2°
Silt/ Lean Clay  <b>26°</b>	Wall Height (m)	Block Depth (cm)	Block Depth (cm)	Wall Height (m)	Block Depth (cm)	Block Depth (cm)	Wall Height (m)	Block Depth (cm)	Block Depth (cm)
	<b>0.40</b>	60	60	<b>0.40</b>	60	60	<b>0.40</b>	60	60
	<b>0.80</b>	60	60	<b>0.80</b>	60	60	<b>0.80</b>	60	60
	<b>1.20</b>	60	60	<b>1.20</b>	60	60	<b>1.20</b>	60	60
	<b>1.60</b>	60	60	<b>1.60</b>	100	100	<b>1.60</b>	100	100
	<b>2.00</b>	100	100	<b>2.00</b>	100	100	<b>2.00</b>	100	100
	<b>2.40</b>	100	100	<b>2.40</b>	115	115	<b>2.40</b>	100	100
	<b>2.80</b>	100	100	<b>2.80</b>	150	150	<b>2.80</b>	150	150
	<b>3.20</b>	115	115	<b>3.20</b>	150	150	<b>3.20</b>	170	170
	<b>3.60</b>	150	150	<b>3.60</b>	170	170	<b>3.60</b>	185	185
	<b>4.00</b>	150	150	<b>4.00</b>	185	185	<b>4.00</b>	215	215
	<b>4.40</b>	170	170	<b>4.40</b>	200	200			
<b>4.80</b>	200	185	<b>4.80</b>	215	215				
<b>5.30</b>	215	200							
<b>5.70</b>		215							

Batter	LEVEL BACKSLOPE			12 kN/m2 SURCHARGE†			3H:1V BACKSLOPE††		
	Soil Phi Angle	3.6°	7.2°	3.6°	7.2°	3.6°	7.2°	3.6°	7.2°
Sand/ Gravel  <b>34°</b>	Wall Height (m)	Block Depth (cm)	Block Depth (cm)	Wall Height (m)	Block Depth (cm)	Block Depth (cm)	Wall Height (m)	Block Depth (cm)	Block Depth (cm)
	<b>0.40</b>	60	60	<b>0.40</b>	60	60	<b>0.40</b>	60	60
	<b>0.80</b>	60	60	<b>0.80</b>	60	60	<b>0.80</b>	60	60
	<b>1.20</b>	60	60	<b>1.20</b>	60	60	<b>1.20</b>	60	60
	<b>1.60</b>	60	60	<b>1.60</b>	100	60	<b>1.60</b>	60	60
	<b>2.00</b>	60	60	<b>2.00</b>	100	100	<b>2.00</b>	100	60
	<b>2.40</b>	100	60	<b>2.40</b>	100	100	<b>2.40</b>	100	100
	<b>2.80</b>	100	100	<b>2.80</b>	115	100	<b>2.80</b>	100	100
	<b>3.20</b>	100	100	<b>3.20</b>	150	150	<b>3.20</b>	115	115
	<b>3.60</b>	115	115	<b>3.60</b>	150	150	<b>3.60</b>	150	150
	<b>4.00</b>	150	150	<b>4.00</b>	170	150	<b>4.00</b>	150	150
	<b>4.40</b>	150	150	<b>4.40</b>	185	185	<b>4.40</b>	185	170
<b>4.80</b>	170	150	<b>4.80</b>	200	200	<b>4.80</b>	200	185	
<b>5.30</b>	185	170	<b>5.30</b>	215	215	<b>5.30</b>	215	200	
<b>5.70</b>	215	200	<b>5.70</b>		215	<b>5.70</b>		215	
<b>6.00</b>		215							

-Foundation soil is assumed to be the same as the retained soil. In some cases, the foundation soil may need to be improved in order to increase sliding resistance between the leveling pad and the foundation soil.

† 12 kN/m2 surcharge is offset 3' from the face of the top block

†† 3h:1v backslope is measured from the back of the top block

**Disclaimer:** These charts were prepared by ReCon Wall Systems, Inc. and to the best of ReCon's knowledge accurately represents the product use in the application illustrated. This chart is for conceptual, instructional, and estimating purposes only. Anyone making use of this chart does so at their risk and assumes all liability for such use. Final design for construction purposes must be done by a registered professional engineer who is familiar with the product and who has taken into account the specific site conditions. This chart should be read in conjunction with the Notes on page 1.