



# Quality Assurance Provisions

## Design Provisions

1. The following effective strength design parameters were assumed in the preparation of structural calculations for the Keystone retaining wall system:

	$\phi$	c	$\gamma$	Soil Type
Reinforced Soil	30°	0	120	SM - Silty Sand
Retained Soil	30°	0	120	SM - Silty Sand
Foundation Soil	30°	0	120	SM - Silty Sand

Soil types and design properties shall be confirmed by the site geotechnical engineer prior to wall construction.

2. The walls are designed to support the following maximum surcharge loadings:

Live Load -	250 psf	Wall 1, 2
Backslope -	3H:1V max	Wall 3
Seismic -	A = 0.20g	All Walls
Hydrostatic -	3' drawdown	Not applicable

The wall design maintains a minimum factor of safety of 1.5 on all elements of the static wall design unless otherwise noted in the calculations. Global stability, when evaluated, maintains a minimum factor of safety of 1.3 unless otherwise noted.

3. The wall foundation soils at each wall location shall be capable of safely supporting 3000 psf without failure or excessive settlement. Local bearing capacity shall be confirmed by the site engineer.

## Construction Provisions

1. Wall construction shall be monitored by a qualified Engineer to verify field conditions. If this work is not performed by the site geotechnical engineer, the geotechnical engineer shall be consulted in those matters pertaining to soil conditions and wall performance.
2. The foundation soils at each wall location shall be inspected by the Engineer and any unsuitable soils or improperly compacted embankment material removed and replaced as directed by the Engineer prior to wall construction to provide adequate bearing capacity and minimize settlement.
3. All wall excavation and retained soils shall be inspected for groundwater conditions and any additional drainage provisions required in the field shall be incorporated into the wall construction as directed by the Engineer.
4. Wall backfill material shall be tested and approved by the Engineer for use in the reinforced soil zone meeting the minimum requirements of the approved design plans.
5. All soil backfill shall be tested by the Engineer for moisture, density, and compaction periodically (every 2' vertically, 100'-200' c/c) and shall meet the minimum requirements of the approved design plans or project specifications.
6. Wall construction shall be periodically inspected by the Engineer to insure the geogrid reinforcement elevations and lengths are installed in accordance with the approved design plans.
7. All wall elevations, grades, and backslope conditions shall be verified by the Engineer in the field for conformance with the approved design plans. Any revisions to the structure geometry or design criteria shall require design modification prior to proceeding with construction.