



TYPICAL SECTION
(NO SCALE)

Geosynthetic reinforced soil (GRS) is a retaining wall methodology that utilizes closely-spaced reinforcement in high-quality backfill to create inherently internally-stable composite structures. This detail demonstrates the concept for use with Rosetta Grand Ledge blocks, and is based on the guidance provided by the FHWA's *Design and Construction Guidelines for Geosynthetic Reinforced Soil Abutments and Integrated Bridge Systems* (FHWA-HRT-17-080, June 2018).

Notes:

- 1) Use well-graded backfill containing 100% crushed, hard, durable particles of natural stone or gravel with a maximum aggregate size of 0.5 to 2 inches and less than 12 percent passing the No. 200 sieve. Coefficient of uniformity should be between 1 and 3, and coefficient of curvature less than or equal to 6. Friction angle should be at least 38 degrees. Dense-graded road base material of many transportation agencies will meet these requirements.
- 2) Open-graded backfill should be clean, hard, durable, crushed, angular particles of natural stone or gravel with a maximum particle size of 2 inches and a minimum particle size of 0.5 inches. No more than 5% should pass the No. 50 sieve. The friction angle should be at least 38 degrees. AASHTO No. 89 to No. 5 aggregates meet these requirements.
- 3) Open-graded backfill is recommended when the wall is located in a flood zone, or for other situations in which water is a concern.
- 4) Geosynthetic reinforcement for GRS walls has traditionally been woven polypropylene with a minimum average roll value (MARV) strength of at least 4,800 lbs/ft. Confirm strength following FHWA-HRT-17-080, Chapter 4.
- 5) Reinforced soil foundation can consist of well-graded or open-graded backfill (defined above), wrapped with woven geotextile. Place geosynthetic reinforcing layers within foundation at vertical intervals of no more than 9 inches.

- Block sizes and placement shown are for reference only. Individual Rosetta blocks will vary with installation pattern.
- This drawing is for reference only.
- Many jurisdictions require permits, and designs prepared by a licensed professional engineer, for construction of walls over 4 feet tall. Check with your local building official for requirements at your project location.
- Final designs for construction must be prepared by a registered Professional Engineer using the actual conditions of the proposed site.
- Final wall design must address both internal and external drainage and global stability and shall be evaluated by the Professional Engineer who is responsible for the wall design.

DRAWN BY: L. HELBLING	TITLE:
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