

SPECIFICATIONS FOR RETAINING WALL - Comfort Inn

MATERIALS

Retaining wall units shall be Alpenstein block units. The units are 16.5" wide x 6.75" tall x 12" deep with a smooth face finish as manufactured by Kirchner Block and Brick. The color shall be chosen by the owner. Concrete wall units shall meet the requirements of ASTM C1372 with a minimum compressive strength of 3000 psi and the maximum water absorption shall be limited to 8.0 percent. The concrete shall have adequate freeze thaw resistance when tested in accordance with ASTM C1262.

The reinforced wall backfill material shall be compacted soil. The soil shall be free of organics, free of rocks and clumps larger than 4", and have a PI<20 and a LL<40.

The drainage rock shall be free draining crushed limestone similar to 3/4" or 1" clean.

The geogrids shall be Miragrid 3XT geosynthetic as indicated on the plans and as manufactured by TC Mirafi. The geotextile filter fabric shall be Mirafi 140NL.

The leveling pad shall be constructed of well graded crushed limestone similar to 1" or 2" minus gradation.

WALL FOUNDATION

Foundation soil shall be excavated as required for the leveling pad and the reinforced fill zone to the depths and locations shown on the plan sheet or as directed by the site engineer. The exposed foundation soil shall be observed by the on-site soils engineer prior to construction to verify that the exposed material is suitable for a net allowable bearing pressure of 2000 psf (with a factor of safety of 2.0), and that the base of the excavation is free of loose soil, uncompacted fill, water, or frozen material. Undercut areas shall be filled with crushed limestone and compacted to at least 95% of the material's standard Proctor maximum dry density.

Construct the crushed rock leveling pad to lines and grades shown on the plans. The leveling pad shall be installed in a maximum 6" lift thickness and compacted with 3 passes of a vibratory compactor.

WALL CONSTRUCTION

Install the first course of units on the leveling pad with a 9" (+/-1") gap between the blocks. Fill the cavity of the blocks with compacted soil. Install the next course in a running bond stack. Pull unit forward so the front of the top unit touches the back face of the lower unit. Backfill the reinforced zone and continue construction.

Place the geotextile filter fabric directly behind the units.

Cap units shall be glued in place at the top of the wall.

GEOGRID REINFORCING

The geogrids shall be cut to design lengths and placed between the blocks at the elevations shown on the plans. The geogrid's primary strength direction will be directed perpendicular to the wall face (into the fill.) The geogrids placed outside a plus or minus 4" zone of the geogrid design elevation will not be accepted. The geogrid shall be placed horizontally and lay flat on the reinforced fill soil. The geogrid shall be placed so that a minimum of 8" of grid is between the block layers. Slack in the geogrid shall be removed prior to placing additional backfill.

WALL BACKFILL

The base of the wall shall be backfilled with drainage rock extending to the ends of the geogrids to elevation 483.4. Separate the drainage rock from the soil with the filter fabric.

Wall backfill material shall be placed in maximum 8" loose lifts and compacted to at least 95% of the material's maximum dry density as determined by the standard Proctor method. Backfill shall be placed, spread, and compacted in such a manner that minimizes wrinkles and movement of the geogrid. Field density testing shall be conducted by a qualified soils technician to verify that at least the minimum degree of compaction is being obtained.

Before the wall is constructed to a point where it is 5' high, the front of the wall shall be backfilled and compacted to the finished grade. The soil shall be sloped in such a manner to drain all water away from the wall.

During backfill placement the 3 foot zone directly behind the wall shall be limited to the use of hand operated compaction equipment only.

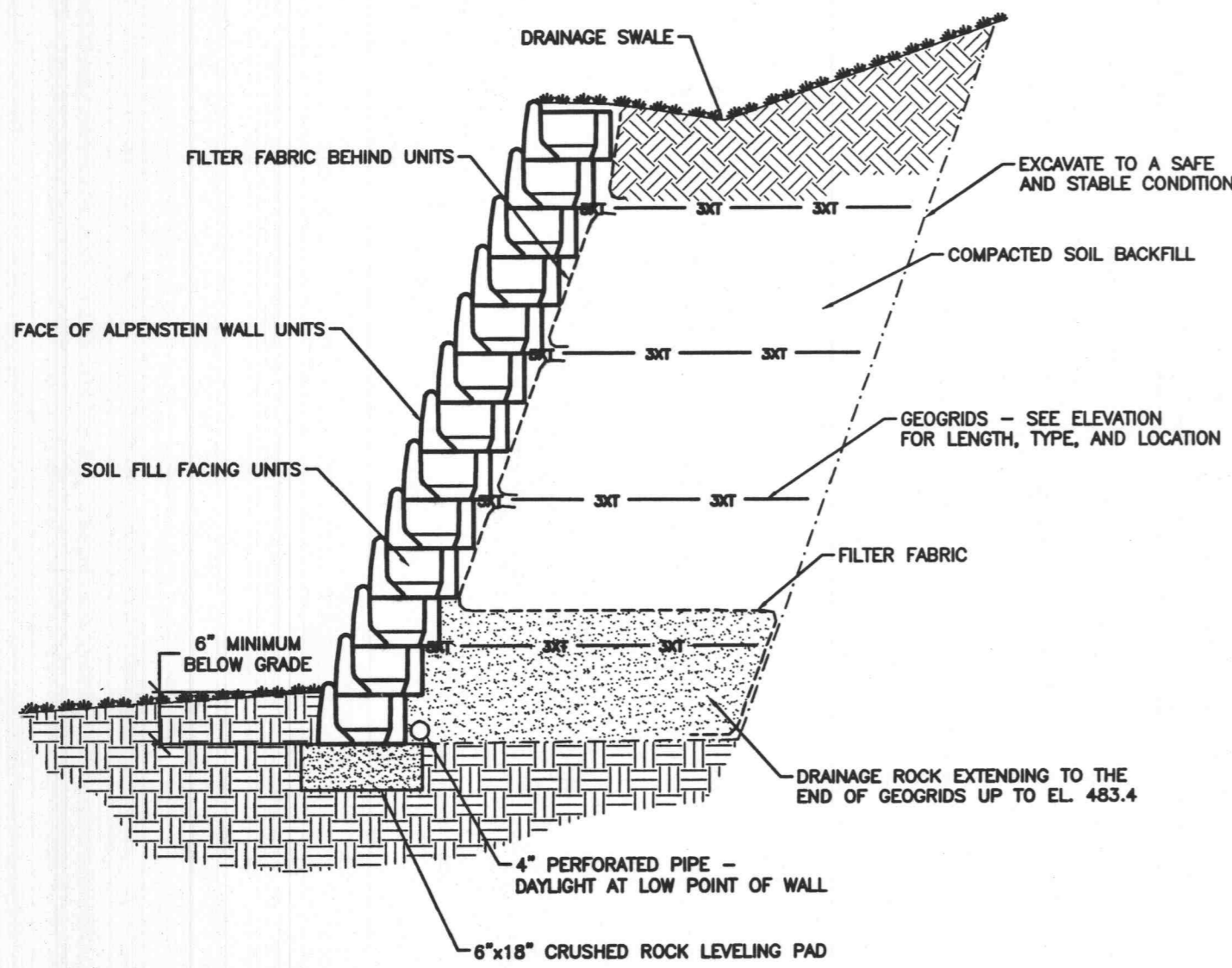
Construction equipment shall not be operated directly on the geogrid.

PROTECTION OF WORK

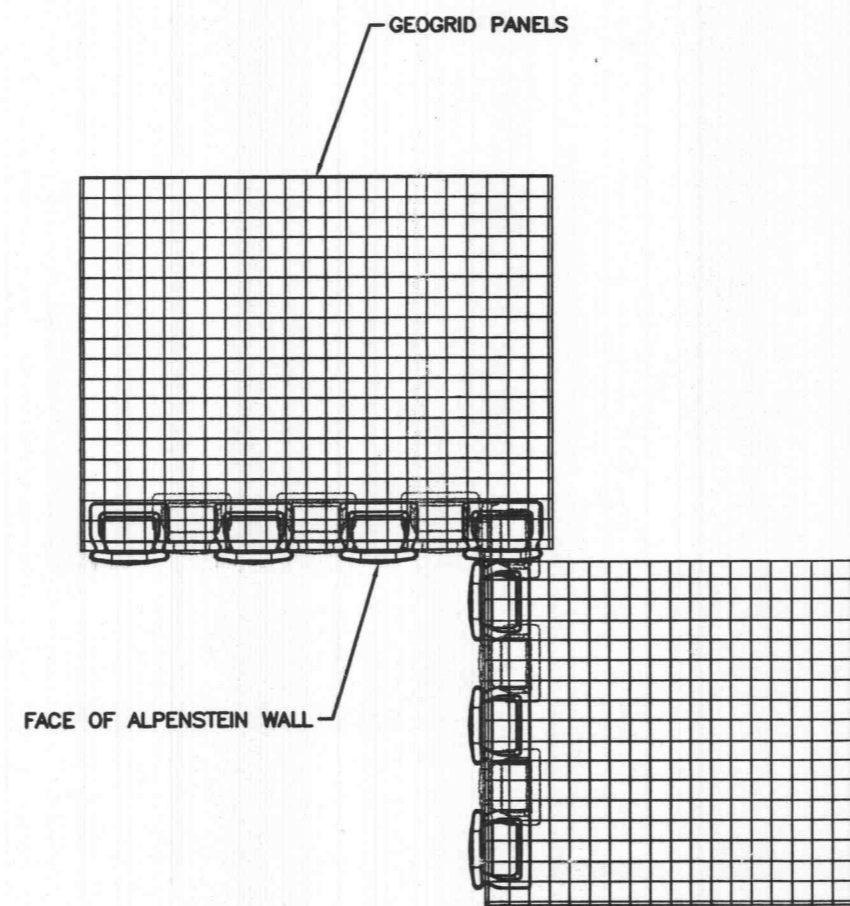
The surface of the wall backfill shall be graded at the end of each day of work to provide positive surface drainage away from the wall. Grading shall include proper contouring of fills in adjacent areas to prevent the flow of surface water into the reinforced earth zone.

The designs of the walls are based on conditions and loads imposed on the wall at completion of the project. Prior to project completion, the wall is vulnerable to damages caused by construction activity adjacent to the wall. Of particular concern is the of grading and pavement construction equipment on the retained backfill at the top of the wall. Only equipment with a weight not exceeding one ton can be used in the 3 foot zone directly behind the back of the wall face.

No changes shall be made to these plans without the written approval of Aspen Consultants.

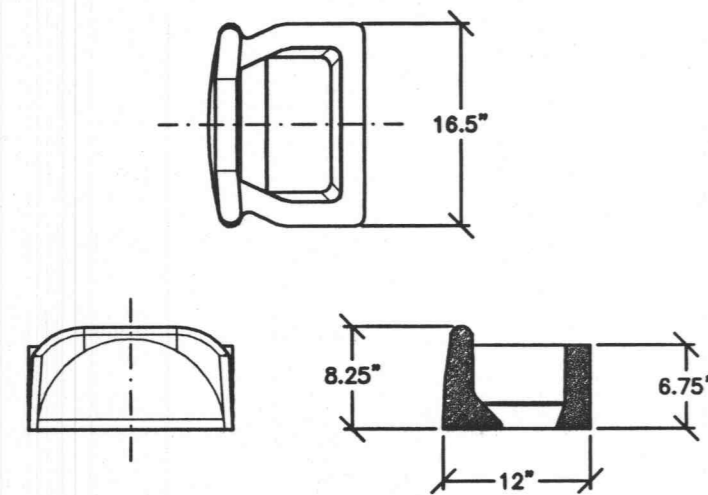


TYPICAL SECTION
NOT TO SCALE

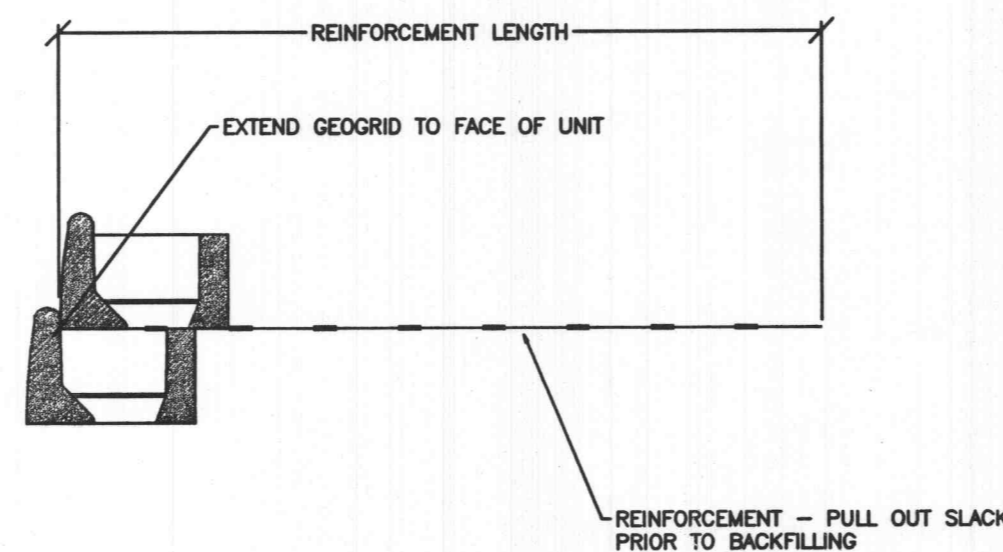


NOTE:
1. CUT TOP FACE OF UNIT OFF AT CORNER TO OVERLAP UPPER UNITS.
2. VARY UNIT SPACING AT CORNER AS NEEDED.

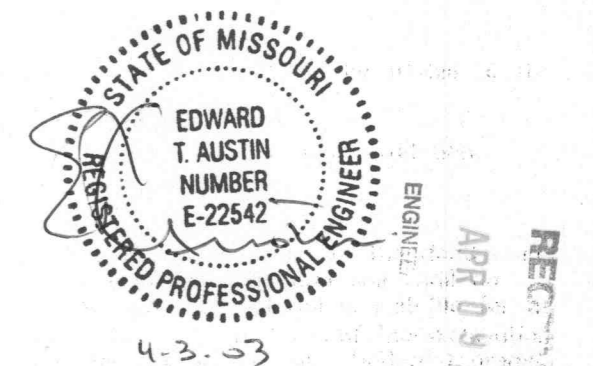
90° CORNER DETAIL
NOT TO SCALE



BLOCK DETAIL
NOT TO SCALE



CONNECTION DETAIL
NOT TO SCALE



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COMFORT INN
O'Fallon, MO

ALPENSTEIN WALL DETAILS AND SPECS

Revision:	Date: 4-3-2003
Revision:	Sheet: 2 of 2