

- Option 2: Excavate the fill within the building to El. 45 (approximately 0 ft. cut to 15 ft. cut) and segregate the material as in Option 1. Excavation within the building limits should proceed to El. 45 or until naturally-deposited soils are encountered. Then perform intensive surface compaction on the fill subgrade using a large self-propelled vibratory pad-footed roller. The purpose of the intensive surface compaction effort is to densify fill material that is left in place. Additional suitable fill may then be placed and compacted in accordance with Option 1.

Based on the conditions encountered in the field explorations and the fact that additional fill has been placed without engineering controls, we believe that Option 2 is a reasonable and practicable option. The intensive surface compaction effort and the subsequent earthwork operations needed to raise the grade to the finish floor subgrade level should adequately consolidate/densify fill materials that are left in place.

It is noted that most of the fill at the site consists primarily of silt and clay soils. It has been our experience that these fine-grained soils are difficult to properly place and compact if they are wet or saturated. If this material is used beneath the food store, it will be very important that it is placed and compacted in accordance with the recommendations that follow, and that there is full-time field monitoring and testing services provided during construction to document that the work was conducted properly.

Obviously there is some risk involved if all the fill material is not removed within the building limits. The risk is that unsuitable material (organic matter, trash, debris with large voids, tree stumps, etc.) could be present in the fill that was not encountered in the field explorations. We believe that Option 2 reduces the risks substantially because a portion of the fill will be removed and the intensive surface compaction would likely disclose the presence of significant unsuitable materials.

Recommended Subgrade Preparation and Foundation System

The proposed developed areas should be prepared prior to construction. Topsoil, organic materials, and other unsuitable materials should be removed where present within the limits of the proposed buildings, the access road and parking areas. Compacted fill should be placed to design subgrade levels.

We recommend that the proposed buildings be supported on spread and continuous wall footing foundations which bear on a minimum of 2 ft. of compacted structural fill.

Footings bearing on compacted structural fill should be designed for a maximum allowable bearing pressure expressed in kips per sq. ft. equal to 1.3 multiplied by the least lateral