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CLIENT:	Steve Giordano Builders, Inc. 130 Baptist Church Road Yorktown Heights, NY 10598	PROJECT:	3222 Albany Post Road Buchanan, N.Y.
		PROJ. No.:	26304
		DATE:	July 21, 2026

SITework EXCAVATION PROCEDURES

The proposed site development will include excavations into a steep bedrock-controlled slope. The excavations are expected to encounter zero to four feet of soil, then a negligible thickness of weathered rock, over hard igneous rock. It may be possible to rip and mechanically excavate some of the bedrock where the joints have been loosened, down to about frost depth, but any excavations in rock that are more than three to four feet below the existing surface are expected to require either blasting or mechanical splitting using hydraulic breakers (hoe-rams) mounted on large excavators, to remove the bedrock.

The proposed cuts have a maximum nominal depth of approximately thirteen feet, from existing grade to proposed finished grade, and the deepest temporary construction excavations are expected to extend about sixteen to seventeen feet below existing grade. A permanently-exposed rock cut could be created in lieu of a proposed eight-foot high retaining wall running between the corners of the two proposed buildings, and/or instead of a proposed thirteen-foot high wall across the rear of the project area. The local bedrock is favorable for making stable, durable cuts.

The site geometry is favorable for the use of blasting, if that method is selected for use in excavation. Very little blasting work would be needed to fracture and loosen the bedrock to the relatively shallow depths that will be required, and vibrations at nearby structures can be limited to barely detectable levels through the use of presplitting and delayed charges. A Blasting Plan prepared by a licensed blaster would be required, along with permits, notifications of adjacent property owners and inspections of potentially-affected properties.

Hydraulic hoe-rams can also be used to excavate the bedrock; the largest available excavators and hammers should be used, to minimize the duration of the work. Vibrations from hammering attenuate rapidly, and there are no existing structures that are close enough to be affected. Most of the excavation would be performed by advancing into the slope, which is a favorable condition for this work, as well as for blasting.

The excavations are expected to be less than twenty feet deep, and may be sloped and benched conventionally to conform with the OSHA regulations (29 CFR 11926 Subpart P.) Additionally, temporary and permanent rock cuts shall comply with the requirements that are included in the excavation procedures that are described below.

Excavation Procedures

1. Excavate soil and loose rock, using conventional methods. Create ramps and benches as needed.

2. Rock excavations that will leave a permanently-exposed face less than five feet high, or that will create a temporary face adjacent to a work zone which is less than five feet high, may be excavated by hammering, ripping or by blasting, without pre-splitting or line-drilling. The face of the cut shall slope back at an angle no steeper than 1-in-4 (76 degrees) and all loose rock shall be removed.
3. Where a permanently-exposed rock cut more than five feet high will be created, or where a temporary excavation which is more than five feet high will be closer than half its height to the occupied work zone, the perimeter of the excavation shall be line-drilled prior to excavation, to control the location of the fracture and to maximize the stability of the rock slope. If blasting is being performed, the line-drilled holes will be used for employment of the presplit blasting method. If mechanical excavation is used, the holes will minimize the amount of over-break. The line-drilled holes should be drilled to produce a face batter of 1-in-6 (80.5 degrees) or shallower. A spacing of six inches is recommended, to be adjusted based on production results.
4. The bottom of the excavation should be thoroughly fractured, to allow fine-grading to be performed.
5. Rock cuts that will be permanently exposed shall be inspected by a qualified geotechnical professional to verify that the rock has been finished to a durable and stable profile. The rock is expected to be very stable, with a negligible risk of rocks falling from it in a dangerous manner.
6. Frequently, the most difficult part of creating an acceptable rock slope is encountered when attempting to grade the existing soil layer at the top of the cut into the final contours. If practical, this work should be performed before the rock cut is made, before access is reduced. If an unusually deep area of soil is encountered, the geometry or the design of that section of the cut may need to be revised. Adding geosynthetic reinforcement layers to the soil slope or pinning a small retaining wall to the rock are potential means of addressing this issue.
7. The same fence protection that is required for retaining walls will be required along the tops of rock cuts. Stormwater runoff from above the rock cuts should be diverted away from the proposed buildings. Along the bottoms of the cuts, the routine occupancy of a two- to three-foot wide zone a should be discouraged through the use of landscape plantings or the installation of a small fence.

Notes and Limitations

These recommendations have been prepared solely for the use of the Client, the Client's Project Designers and Agents and the Authorities Having Jurisdiction; this report should not be used by others, nor for any use other than its stated purpose, without contacting the Engineer. Any such use is solely at the user's risk.

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