MEETING MINUTES
ELM STREET ROCK SLIDE, PROGRESS MEETING NO. 7
conducted at the site trailer on Elm Street, Montpelier, VT
Thursday, March 2, 2006
10:00 a.m. - 11:00 a.m.

Attendance:

Tom McArdle, City of Montpelier	Todd Law – City of Montpelier
Steven Millard, Golder Associates Inc.	Pete Ingraham – Golder Associates Inc.
David Marcoux, Janod Contractors	Daniel Journeaux, Janod Contractors
Chad Allen – VTrans	Jay Smerekanicz – Golder Associates Inc.

Topics of Discussion:

1. *VTrans Comments on Draft Design Drawings:*
   - Golder is incorporating the comments for the final design drawings. Once the calculations supporting the design are finalized, they will be forwarded to VTrans for review. Golder anticipates final design drawings will be issued next week.
2. *City Council Meeting:*
   - The City Council has been impressed by the activity at the site, and by last week's presentation. City Council members have toured the site, but keep their presence to a minimum. The Council is also impressed by the cooperation by all in conducting the remediation work.
3. *Design Issues:*
   - Tecco mesh anchors have been marked out for Area 3A. Due to concerns about funding for Tecco at Area 3B, Golder is evaluating placing Tecco in the soil areas at the top of Area 4B. Golder will determine if the quantities of Tecco for Area 4B are similar to Area 3B.
   - Golder will include a typical detail for dental shotcrete in the final design drawings.
   - The City is preparing an easement document to protect the Tecco anchors in Area 3A, which may pass through the property line with the Bartrams (11 Cliff Street).
4. *Construction Status:*
   - Golder is working with Janod in determining the fair slusher day rate, as the slusher is typically only used for a few hours each day.
   - Janod has drilled two test holes at the bottom of Area 2. The test anchors will likely be installed late this week or early next week during the next cycle of anchor grouting. Janod will obtain a calibrated hydraulic jack and gauge, and two incremental dial gauges for the test. Golder will provide the anticipated test loads and bond length for the anchors. The maximum load will likely be 16,000 lbs. Janod will install one anchor with a grout sock, and one without.
   - Janod is continuing to prepare the footing for the remaining Cliff Street shotcrete wall.

- The slusher has been moved to the southwest side of the site to work on Area 4A/4B. Janod has also conducted hand scaling and vegetation removal in these areas. The large oak tree that was used as a slusher pulley anchor point will likely need to be removed in Tecco is to be installed in Area 4B.
- Area 2: The spoils of the slushing operation have been graded to a slope of about 1.5H:1V, and have been filled to the height of the rock wall. Golder is concerned that if falling rock blocks develop enough forward momentum (e.g., by rolling), the blocks could clear the wall and reach Elm Street. Golder recommends that the slope be excavated to about a 5-10 degree backslope dipping toward the rock face from the wall.
- The rock block about 15 ft long at the base of Area 4A will need to be removed. This block was exposed during the slushing, and has dilated joints behind it indicating the block cannot be reasonably bolted in place. The Dubois Cat 325 excavator should be able to remove this block. Rock dowels may be needed in the beds above the block to restrict further dilation of beds behind the block.
- Remaining shotcrete volume for the Cliff Street shotcrete wall will likely be about ½ of the originally estimated volume (i.e., about 70 to 75 cubic yards). This is based on the detailed cross-sections Golder and Janod measured this week. Janod indicated that with the change in volume, wet shotcrete will probably not economically advantageous.
- Construction was halted on Monday and Tuesday this week due to the extremely cold weather. Janod had difficulty in getting machinery started and working, and wind chills made working on the slope with ropes dangerous.
- Golder recommended that the City may want to permanently close the sidewalk on the northwest side of Elm Street. An inclined rock block at the base of Area 4A at the sidewalk level may require a concrete buttress for support. This slab is currently buried by rock slide and slusher debris, and will need to be evaluated once it is fully exposed.
- Janod offered the possibility of adding a color (i.e., a pigment) to the final layer of shotcrete for the Cliff Street shotcrete wall. The pigment can be matched from a rock sample from the slope, and the pigment is added to the shotcrete hopper during shotcrete application. The City may want to consider coloring the shotcrete for aesthetic reasons. The coloring is a relatively insignificant cost to the shotcrete operation.

Action Items:

1. After the progress meeting, Golder and Janod personnel rappelled the rock slope to inspect Areas 1 and 4 A/B. During the rappel, Golder located additional rock dowels below the shotcrete wall, Golder and Janod finalized the footing excavation procedures and rock dowel locations, and Golder and Janod examined the area above the rock block. Janod determined that they will concentrate on drilling rock dowels for the remaining Cliff Street shotcrete wall and for rock blocks below the wall next week.
2. VTrans will forward to Golder formal laboratory results so far for the grout and shotcrete testing.

3. Golder will evaluate the need for Tecco mesh in Area 3B and see if there is more of a need for Tecco mesh at the top of Area 4B. Golder will also determine if a boundary wire rope is needed for the Tecco mesh.
4. The City, Janod and Golder visited the rock slope on Route 302 to determine potential remedial options there.