MEETING MINUTES
ELM STREET ROCK SLIDE, PROGRESS MEETING NO. 11
conducted at the site trailer on Elm Street, Montpelier, VT
Wednesday, March 28, 2006
10:00 a.m. - 11:00 a.m.

Attendance:

Tom McArdle, City of Montpelier	David Marcoux – Janod Contractors
Steven Millard, Golder Associates Inc.	Jay Smerekanicz – Golder Associates Inc.
Tom Eliassen - VTrans	

Topics of Discussion:

1. *Cliff Street shotcrete wall:*
   - Brody Cater (Janod) will be arriving on site March 29, 2006 as the new shotcrete nozzleman. A new shotcrete test panel (without steel reinforcement) will be shot this week to test the new nozzleman's application techniques. The testing will be performed by VTrans, and Janod can deliver the test panel to the VTrans geotechnical laboratory via pickup truck. Core testing of the shotcrete will follow the project specifications (i.e., testing at 7- and 28-days). Shotcrete operations will resume this week.
   - Golder will look for any irregularities of defects in the new shotcrete, and check the shotcrete soundness as it is installed.
   - The first layer of steel reinforcement (i.e., welded wire fabric and rebar) has been installed. Some of the welded wire fabric is touching the shotcrete facing; this is due to the irregularities of the rock surface following the rock slide event. Janod is planning to use shims or some other method to reduce the contact between the shotcrete and the steel reinforcement. In addition, the steel bearing plates on the rock dowels are also touching the steel (on the upper part of the plate). The design plans call for a minimum ½-inch gap between the plates and the reinforcing steel. The plates are currently being used to help hold the reinforcing steel in place as a temporary condition. Once shotcreting is started, Janod plans to back off the plates and nuts one rock dowel at a time, so that the ½-inch gap can be maintained.
   - Control points, consisting of flexible, thin steel cable will be used to monitor shotcrete thickness as the shotcrete layers are applied. These will be installed prior to shotcrete placement. The rock dowels will also be used to monitor the increase in shotcrete thickness.
   - Janod has 20 1,000-kg bags of shotcrete on site, and another 20 bags are on order.
   - The hoarding used for the first shotcrete layer will be used for the remainder of the shotcrete work. Janod has or is installing additional support for the blue tarp covering, consisting of PVC pipe and lumber frames. The 80,000 BTU propane heater will be used to keep the shotcrete warm at night. Janod will employ a

security guard to be on site during nights when the heater will be used. The hoarding is expected to keep the humidity high again, which will help in the shotcrete curing process. Golder will monitor the shotcrete temperatures daily.
    - The weather is forecast to be sunny and warm for the rest of the week. The asphalt curb in front of the jersey barriers has been flattened by construction traffic. In the advent of prolonged rain events, the City can supply additional asphalt for the berm, and the sandbags can be redeployed to prevent surface drainage from entering the shotcrete work area.
    - At the request of the City, Golder will contact Vermont Survey to place control points for the shotcrete curb elevation and location. Vermont Survey will also be requested to obtain the as-built locations of the anchors used for the rock catchment fence posts and tie-backs on Elm Street.
    - Janod will ask the resident at the top of Cliff Street if Janod can use their municipal water supply for wetting the shotcrete during the curing process. If this is not possible, Janod will use their water tanker.
    - This week Janod will have two 2-man crews for drilling, and one 3-man crew for shotcreting, plus one foreman, for a total of 8 personnel.
2. *Permanent traffic barrier on Cliff Street:*
    - VTrans hand delivered a copy of the AASHTO 2002 standards for bridge railing design guidance to help Golder finalize the permanent traffic barrier on Cliff Street.
3. *Area 4B rock drape:*
    - The City requested Golder to start the design calculations and drawings for the proposed rock drape for Area 4B. Golder is prepared to start this week on the design. This slope treatment is Option 3 of Golder's March 23, 2006 letter to the City.
    - Some hand scaling via blowpipe and scaling bar remains to be completed in Area 4B.
4. *Rock dowel testing:*
    - Janod plans on testing the two test rock dowels this week. VTrans requested that Golder notify them as to when the testing will be performed so that they can observe the testing apparatus, procedures and results.
5. *Area Northeast of Area 2:*
    - Janod and Golder rappelled the northeast corner of Area 2 to observe the loose rock condition, and propose mitigation methods in this area. There is a concern that additional scaling may compromise the soil/rock topographic condition at the property line with the residence at 11 Cliff Street.
6. *Drain holes:*
    - Rock dowel drilling results thus far indicate open voids exist in the upper parts of the slope, and no voids exist in the lower portions of the slope. Janod and Golder will evaluate the proposed quantity of drain holes to be drilled near the base of the rock slope in Areas 2, 4A and 4B. Thus far, only one drill hole has encountered wet conditions. Because of this, the designed drain holes placed laterally every 15 ft may be expanded to every 30 ft.
7. *Schedule:*

- Janod will try to complete the work by the end of April 2006, but due to weather or other delays, the work may extend into mid-May 2006. The addition of another work crew should help in completing the work by the end of April.

8. *Quantities:*
    - The City needs the revised estimated quantities for the remainder of the project this week so the contract with Janod can be finalized. This is needed so that the City's loan application can be finalized. The City may need to seek a performance bond from Janod for the remainder of work.

Action Items:

1. Golder will contact Vermont Survey for the remaining survey needs.
2. Golder will work with Janod in finalizing the remaining quantities for the project.