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April 9, 2014

W.M. Schultz Construction, Inc.  
831 State Route 67  
Curtis Industrial Park  
Ballston Spa, NY 12020

Subject: **Rochester ER BRF 0162(18)** – Temporary Shoring

Dear Kevin Ture:

I have received the submittal for the Temporary Shoring at Abutment #2 of Bridge 19 as received on 3/21/2014. After reviewing the submittal, please submit a revised plan with the following comments addressed.

- 1) Discrepancy: Sheet 16 in submittal states “Excavation will be conducted in a series of five (5) foot vertical lifts.” Sheet 28 under “Construction Sequence/Work Schedule” note 2 states “Excavation will be conducted in a series of six (6) foot vertical lifts.”
- 2) On Sheet 29, the temporary abutment configuration shown is not consistent with the configuration shown in the Temporary Bridge Abutment Submittal dated 3/31/2014. Details should be updated to show the proposed temporary abutment location and configuration. Verify that there is not a conflict between the shotcrete wall and the proposed temporary bridge abutment and wingwall.
- 3) The calculations need to address the reaction load that will be caused by the temporary bridge. This will be a significant load in close proximity to the wall.
- 4) There is no mention of accounting for both traffic and/or construction equipment surcharge over the area immediately behind the top of the wall. Typically an equivalent of 2 feet of soil is assumed, however, if assumed surcharge load will be exceeded during construction activities, the design needs to account for it.
- 5) The slope of the face to be excavated as well as the maximum exposed height of wall prior to installing nails allowed should be specified on the plans.
- 6) The submittal notes the soil nail lengths up to 19 feet, and the plans show the lengths up to 14 feet. Is the final length determined based on field soil conditions or testing in the field by a GSI engineer on site? Preliminary lengths can typically be provided based on a global stability analysis.
- 7) The design load of the soil nails should be specified on the plans per the design.
- 8) Post Tensioning Institute (PTI) recommends proof testing for temporary soil nails. The design test load (% of design load), how many and locations for such testes should be specified on the plan. Proof tests are usually required on one nail per row or on 5% of production nails.
- 9) The written submittal lists a welded wire mesh size of 4x4 W4xW4, whereas the plans and facing calculations list a W2.9xW2.9.

- 10) The plans should specify who is to perform the grout testing and how often the tests are required (per volume of grout or number of nails).
- 11) How will WMSCI determine that the design compressive strength of the shotcrete has been achieved?

**Additional General Comments:**

1. How will the temporary Shoring be removed?
2. It was not noted in the submittal, but is dewatering anticipated?
3. Procedurally, it is not clear who performed the calculation. The entire submittal should be developed and Stamped by the Engineer of Record. As presented, the stamp only covers the last 6 pages. If the stamp was on the cover sheet with a Table of Contents that covered the entire submittal it would demonstrate that the Engineer concurs with the content of the entire submittal.

We look forward to your re-submittal. Please feel free to contact Resident Engineer, Chris D. Williams or me if you have any questions.

Sincerely,



Mark Mackintosh, P.E.  
SW Regional Construction Engineer

cc: Project Manager, Jennifer Fitch  
Construction Structures Engineer, Jeremy Reed  
Materials & Research Geotechnical Engineers, Chris Benda, Callie Ewald  
Montpelier Project Files  
Regional Project File via Tracy Harrington  
Resident Engineer, Chris D. Williams