

August 6, 2012

Mr. Todd Hileman
Village Manager
Village of Glenview
1225 Waukegan Rd.
Glenview IL 60025

Mr. Richard A. Nahrstadt
Village Manager
Village of Northbrook
1225 Cedar Lane
Northbrook, IL 60062

Subject: Union Pacific Railroad
UPRR Restoration at Shermer Road

Dear Messrs. Hileman and Nahrstadt:

Union Pacific Railroad has retained Alfred Benesch & Company (Benesch) to provide the following information regarding the derailment restoration at Shermer Road:

- Task 1: Monitor the top of rail profile and alignment daily to determine if the track is moving more than would typically be expected.
- Task 2 Prepare calculations to determine if utilities in the corridor are subject to additional load stresses due to the placement of temporary fill and railroad live load.
- Task 3 Prepare slope stability analysis to estimate the factor of safety of the temporary embankment.

Summary of Benesch Activities and Findings - July 27 through August 3

Task 1

Benesch initiated work for this assignment on July 6, and collected topographic field survey that included locating existing Shermer Road, the temporary stone embankment, and the top of rail for both main tracks. This information was used to develop our "Situation Plan", and the engineering model of the site.

The tops of rail of both main tracks were surveyed on July 27, 28, 31 and August 3. After our review of the survey data and plots that were prepared from that data, we have concluded that the tracks have not experienced movement beyond what would typically be expected for new track construction. Benesch has been directed by UPRR to collect survey data two days a week (Tuesday and Friday) going forward unless there is some indication that we should collect more extensive data. We will continue to report to the Village on a weekly basis, although the submittal date will be revised (suggesting Wednesday) to allow us to process the data prior to submitting the report.

Task 2

There has not been any change to the utility stress calculation issue since the report of July 20.

Task 3

Slope Stability & Settlement Calculations

Union Pacific installed additional material on the north slope of the embankment this week. The purpose of this work was to flatten the slope and provide additional factor of safety in the case of any weather related erosion of the embankment. Benesch has surveyed the new slope and will evaluate the revised factor of safety in the coming week. Previous analysis provided safety factors against failure of 1.3 for both the short-term (undrained) and long-term (drained) conditions based on the existing 1.5(H):1.0(V) north side slope and assumption of loaded coal cars on both tracks. A factor of safety of 1.3 is considered adequate to assume the slope will remain stable over the short and long terms. The slope on the south side varies between 2.7(H):1.0(V) and 3.0(H):1.0(V) and was not evaluated further.

There has not been any change to the consolidation issue since the report of 7/20/2012.

We are preparing documentation in response to memo from Glenview dated July 27, 2012. We anticipate submittal of at least a portion of that response on August 7, 2012. Please let me know if you have any questions or if we can be of further assistance.



Richard D. Conrath, P.E.
Vice President

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