

May 3, 2010

Project BL-07-01046N

Mr. Rick Brown, PE  
SRF Consulting Group, Inc.  
One Carlson Parkway North, Suite 150  
Minneapolis, MN 55447-4443

Re: Addendum 1 to Geotechnical Evaluation  
Lowry Avenue Bridge Replacement Project – West Embankment  
Lowry Avenue between 2nd Street North and the West Railroad Bridge Abutment  
Minneapolis, Minnesota

Dear Mr. Brown:

This letter serves as Addendum 1 to our Geotechnical Evaluation Report for this project, dated January 13, 2010. This Addendum addresses recommended driven pile lengths for the proposed retaining walls.

## Background

Our Geotechnical Evaluation Report dated January 13, 2010 provided geotechnical design and construction recommendations for bridge structure elements included in Phase II of the planned replacement of the Lowry Avenue Bridge over the Mississippi River in Minneapolis, Minnesota. The proposed bridge will consist of a seven-span, tied arch structure. Currently, the Phase I construction includes the bridge spans from the west to east sides of the Mississippi River (including the East Abutment, Interim West Abutment, and Piers 4, 5 and 6). In the future, as part of Phase II construction, the Interim West Abutment and existing west embankment will be removed and the bridge will extend to the west side of the existing railroad (Final West Abutment). As part of Phase II, Bridge Piers 1, 2 and 3 and the Final West Abutment will be constructed.

We provided recommendations for nominal resistance with depth for driven piles and drilled shafts supporting the proposed retaining walls in our January 13, 2010 report for this project. Our Geotechnical Evaluation Report dated December 29, 2008, and Addendums 1, 2, 3 and 4 to that report, provided recommendations for foundation design and construction at the other Phase II substructures.

## New Information

Phase I construction has begun, and the test pile program and foundation pile driving provide additional information to use in estimating foundation pile lengths for the driven piles supporting the retaining walls.

## Recommendations

Based on the results of pile driving for Pier 4, we reviewed our driven pile evaluations for the remaining substructures and adjusted the soil models to more accurately reflect the observations and test results from Pier 4. As a result, we are providing a revised Nominal Compression (Axial) Capacity versus Pile

Length graph. According to the current design documents, 16-inch CIP piles will support most of the retaining walls and the required factored resistances for Wall A ranges from 78.9 to 111.1 tons (157.8 to 222.2 kips). The required factored resistance for Wall B is 90.9 tons (181.8 kips). Based on the PDA method of field control, we anticipate the piles will obtain the required factored resistance between depths of about 45 to 60 feet below the bottom of pile cap elevation for Wall A and about 45 to 55 feet below the bottom of pile cap elevation for Wall B.

## Remarks

This addendum should be attached to and considered a part of our original Geotechnical Evaluation Report. With the exception of any results or recommendations changed by this Addendum, the information contained in our Geotechnical Evaluation Report remains unchanged.


If you have any questions about this Addendum, please contact Matt Glisson at 612.490.7687 or Ray Huber at 952.995.2260.

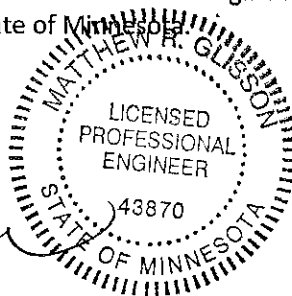
Sincerely,

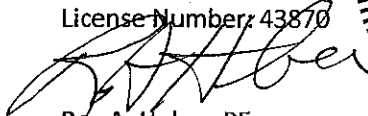
BRAUN INTERTEC CORPORATION

### Professional Certification:

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

  
Matthew R. Glisson, PE  
Project Engineer  
License Number: 43870



  
Ray A. Huber, PE  
Vice President - Principal Engineer

### Attachments:

Axial Pile Results (Compression)

c: Nathan Will; SRF Consulting Group  
Phil Berg, PE; SRF Consulting Group  
Jacob Bonder, PE; Hennepin County Transportation Department  
Paul Backer; Hennepin County Transportation Department  
Pat Rivard; T.Y. Lin International

Addendum 01

# Retaining Walls - Axial Compression - 16" Diam CIP, CE - Revised

