

MONOKO, LLC

1037 Peninsula Avenue

Tarpon Springs, FL 34689-2125

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Submittal No.: 03b: Containment Drawings & Calculations

Date: June 3, 2015

Vermont Department of Transportation

Northeast Regional Construction Office

Attn: Mr. Ron Gray

347 Emerson Falls Road, Suite 5

St. Johnsbury, VT 05819

(Phone) (802) 751-3295; (Cell) (802) 793-3161

(Fax) (802) 751-3297; Ron.Gray@state.vt.us

Description: Proposal/Contract Number: Bradford-Newbury IM BPNT (14)

Letting Date: 10/10/14; Award Date: 11/03/14

Project Description: Bridge Painting of Five Bridges

In the Towns of Bradford & Newbury, VT

Contract Amount: \$4,327,785.00; Completion Date: 08/26/16

Contractor: **MONOKO, LLC**

Reviewed & Approved By: **Keri Monokandilos**

Keri Monokandilos, Manager

Date: **06/3/2015**

Engineer: Peter Hodgson, Resident Engineer

347 Emerson Falls Road, Suite 5

St. Johnsbury, VT 05819

802-748-2447; 802-793-1878 cell

pete.hodgson@state.vt.us

Mark.Sargent@state.vt.us

Revision:

Calculations for cables attached to beam ends.



June 3, 2015

Monoko, LLC
1037 Peninsula Avenue
Tarpon Springs, FL 34689

Attention: Mr. Stanley Monokandilos

Subject: Abrasive Blasting Containment Plans, Cable Attachment at End of Girders
Ten Bridges on or over I-91 Improvements Plans, Orange County, Vermont
Project No. IM BPNT (14)

Dear Mr. Monokandilos,

A supplemental detail was added to the containment plans showing longitudinal cable wrapped around the ends of the existing beams in lieu of wrapping them around the bearings. Supplemental calculations were requested by the reviewer to address the localized bearing stresses at the end of the beams.

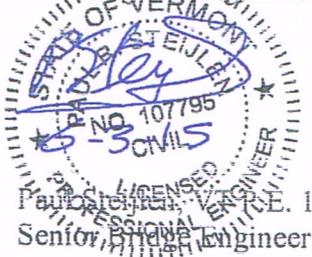
Below is the result of our analysis. The ultimate strength of a 9/16" cable is 16.8 Tons or 33.6 kips. Based on a factor of safety of 6 used for the platform cable design, this results in a design service load of 5.6 kips which is applied over a cable width of about 0.5 inches when distributed through the compressible material as shown in the detail. Assuming a worst case condition using Grade 36 steel, and a minimum web thickness of 0.5 inch, this results in a service load bearing pressure of 22.4 ksi or about 60% of the yield strength, F_y of the web if the platform is loaded to the maximum capacity.

It is rare for platforms to be loaded to the maximum capacity, but if the webs are thinner than 0.5 inches or if additional concerns exist, the contractor may add shims to further distribute the load over the end of the web.

Please let us know if you require any additional information.

Sincerely,

A2B ENGINEERING, LLC



Paul Steinler, V.P.E. 107795
Senior Bridge Engineer