

County of Schenectady

Department of Engineering & Public Works

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April 21, 2016

Mr. Michael Franchini, Executive Director
 Capital District Transportation Committee
 1 Park Place, Main Floor
 Albany, NY 12205-2676

**RE: S235 PIN 1760.16: Duanesburg Churches Road (CR127) Bridge over the South Chuctanunda Creek: Element Specific Bridge Repair (BIN 3304880)
 Town of Duanesburg, Schenectady County**

Dear Mr. Franchini:

Schenectady County is submitting the proposed amendment for consideration by the Planning Committee at its next scheduled meeting.

TIP number S235 is currently funded at \$300,000.00, which was based on the recommendation from CDTC's Local Bridge Preservation Study as well as a County review of the NYSDOT bridge inspection reports. After a more detailed site inspection of the culvert, it was found that the deterioration of the steel plates was more extensive than first anticipated. After closer review of the project data as well as inquiries to structural plate culvert manufacturers, only three viable options are being considered.

- Option 1 – Originally Funded Project - As originally approved, the project scope included installation of a concrete invert, spot repairs to corroded sections of the corrugated steel box culvert as well as replacement of the existing cable guide railing with new box beam guide rail. Upon closer inspection by our design consultant and the County Engineering Department, the amount of deterioration is more extensive than we anticipated with expanded areas of rusting steel plates including some section loss and pitting. Spot repairs inside the bridge will not be enough to stem the deterioration that is occurring along the walls and ceiling. The deterioration appears to be advancing quickly as the corrugated steel pipe is approaching nearly 30 years old. It is highly likely that any repairs we could make inside the culvert would not provide the 10 year life span as required under the guidelines for federally funded projects. **This option is not recommended.**
- Option 2 – Full Replacement. This would include the installation of a new concrete arch bridge founded on concrete footings and piles. The work would require a road closure of nearly four months. Estimated project cost, \$1,250,000.00. **This option is not recommended as it does not fall within the preservation guidelines.**

- Option 3 – Lining the Culvert with a Custom Fabricated Structural Steel Plate Pipe. Due to its box shape there are currently no standard pipe shapes that could be used as a liner without significantly reducing the hydraulic capacity of the culvert. A custom fabricated steel plate constructed to the shape of the culvert and grouted in place is the only liner option that maintains the existing hydraulic capacity and structural integrity of the culvert. The existing concrete headwalls are in excellent condition and will remain in place. No road closures would be required. The manufacturer anticipates a service life of 50+ years. The proposed liner is NYSDOT approved. Estimated project cost, \$600,000.00. **This is Schenectady County's recommended option.**

We are requesting an increase to the TIP of \$0.300 million. With this amendment, obligation of construction funding would need to be moved from 2015-16 FFY to 2016-17 FFY.

<u>TIP PROJECT</u>	<u>CURRENT TIP DATA</u>				<u>PROPOSED TIP DATA</u>			
	<u>Amount</u>	<u>Fund Source</u>	<u>Phase</u>	<u>FFY</u>	<u>Amount</u>	<u>Fund Source</u>	<u>Phase</u>	<u>FFY</u>
S235: Duanesburg-Churches Road:	0.015	STP-Flex	P	15-16	0.078	STP-Flex	P	15-16
PIN 1760.16	0.015	STP-Flex	D	15-16	0.039	STP-Flex	D	15-16
	0.270	STP-Flex	C	15-16	0.483	STP-Flex	C	16-17

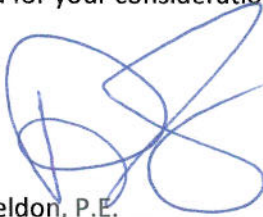
Construction funding for this project includes inspection (supervision):
 yes no NA (please check one).

An offset is being provided: yes no NA (please check one)

If you have questions or need further information please feel free to call me.

Thank you for your consideration.

Sincerely,



Paul J. Sheldon, P.E.
 Director of Engineering

PJS/ps

Cc: Joseph Ryan, Schenectady County Director of Public Works
 Steve Feeney, Schenectady County Planning Department
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