COUNTY AGENDA REQUEST

Department:	SPLOST / Engineering	Presenter(s):	Phil Mallon
Meeting Date:	Thursday, July 28, 2011	Type of Request:	New Business

Wording for the Agenda:

Consideration of staff's request to approve a Change Order with Heath & Lineback Engineers, in the amount of $24,900, for the design of a 16-inch waterline relocation at the Westbridge Road bridge over Morning Creek (SPLOST Project No. B-2, Contract No. P733),

Background/History/Details:

In 2010, Heath & Lineback Engineers was awarded design services for the Westbridge Road bridge replacement at Morning Creek in the amount of $294,722. The contract for design services did not include utility relocation within the right-of-way since this work is typically done by the utility provider at no cost to the County. However, since both the Water System and the SPLOST program are part of the Fayette County government, it was ultimately determined appropriate for SPLOST to provide funding for the design and construction of the waterline relocation since the work is needed as a result of the SPLOST project.

Two options for waterline relocation were considered: 1) construction an independent structure to carry the waterline over the creek (similar to current configuration); and 2) modifying the bridge design to carry the waterline. Although Option 2 is more expensive to design ($24,900 versus $18,500) it can be constructed significantly cheaper than Option 1 (anticipated savings of approximately $100,000). The cost estimates were determined using input from the design engineer and the Water System's engineer, Mallett Consulting, Inc.

Design of the bridge is nearly complete and the project will be ready to bid upon completion of the waterline relocation. Right-of-Way acquisition work is underway in the meantime.

What action are you seeking from the Board of Commissioners?

Approval of staff's request to approve a Change Order with Heath 7 Lineback Engineers, in the amount of $24,900, for the design of a 16-inch waterline relocation at the Westbridge Road bridge over Morning Creek (SPLOST Project No. B-2, Contract No. P733).

If this item requires funding, please describe:

The project is funded by the County's transportation SPLOST account #321-40220 521211 B-2.

Has this request been considered within the past two years?	No	If so, when?	
Is Audio-Visual Equipment Required for this Request?	No	Backup Provided with Request?	Yes

STAFF USE ONLY

Approved by Finance	Yes	Reviewed by Legal	Yes
Approved by Purchasing	Not Applicable	County Clerk's Approval	Yes
Administrator's Approval	Yes		

Staff Notes:

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June 13, 2011

Mr. Carlos Christian
Transportation Engineer
Fayette County Road Department
115 McDonough Road
Fayetteville, Georgia 30215

RE: Westbridge Road Improvements at Morning Creek
Water Line Relocation/Design

Dear Mr. Christian:

We have studied the water line relocation plan provided by Mallet Engineering. This design would require the following:

1. A separate structure to support the water line across the Creek.
2. The water line structure height would be based on the water line and superstructure clearing the 100 year storm.
3. The water line structure length would need to be at least equal to the proposed bridge length so as to not cause an obstruction.
4. Due to the elevation of the existing pipe at approximately station 808+60, the proposed water line would have a grade change of approximately 13 feet over a distance of approximately 100 feet prior to crossing the Creek.

In an effort to reduce the construction cost of the water line relocation we have taken a cursory look at placing the water line on the proposed bridge. At this time we believe this is a viable solution. In order to place the water line on the proposed bridge the following changes/revisions will need to be made to the proposed bridge plans/design:

1. The proposed bridge end span would need to be deepened to accommodate the water line. The proposed bridge end span beam would need to be changed from a Type I Mod beam to a Type III beam to allow for space to pass the water line and casing through the end wall. As a result, the freeboard over the 50 and 100 year storms would be shy of the GADOT freeboard criteria, which is 2 ft. over the 50 year storm and 1 ft. over the 100 year storm. We estimate that with the deepened end span the freeboard above the 50 year and 100 year storms would be approximately 0.7 and 1.5 ft. respectively.
2. The proposed bridge beams and substructure would need to be updated to accommodate the additional water line loads.
3. Utility hanger details will need to be designed/detailed and incorporated into the bridge plans.
4. The bearings will need to be rechecked for adequacy and the beam seat elevations will need to be revised.
5. The quantities and rebar schedule will need to be updated.

In summary, the design construction cost for designing a separate structure is the same as the design cost for placing the water line on the bridge. The design costs would be $24,900.00.

Please let us know if you have any questions or comments.

Very Truly yours,
Heath & Lineback Engineers, Inc.

W. Allen Krivsky, P.E.

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