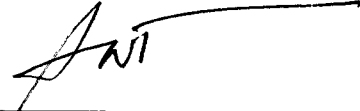


COUNTY OF ALBEMARLE

EXECUTIVE SUMMARY

AGENDA TITLE: Advance Mills Bridge, Rt. 743	AGENDA DATE: April 7, 1999	ITEM NUMBER:
SUBJECT/PROPOSAL/REQUEST: To discuss issues of long term maintenance of the bridge over the N. Fork Rivanna River in Advance Mills	ACTION:	INFORMATION: X
STAFF CONTACT(S): Messrs. Tucker, Cilimberg, Benish	CONSENT AGENDA: ACTION:	INFORMATION:
	ATTACHMENTS: Yes	
	REVIEWED BY: 	

BACKGROUND:

The Route 743 bridge over the North Fork Rivanna River in Advance Mills is in need of general maintenance. Maintenance needs include: a new deck, repainting, rail replacement, repair of a cracked abutment, and placement of rip-rap to address scouring problems around a support pier. Due to the estimated cost and life expectancy of these repairs (\$175,000 - \$200,000 and 10-15 years), and the age and design of this structure, the Board is requested to provide VDOT direction as to how to address the long term future of this structure. Attached are notes provided by the Resident Engineer which summarize the facts and major issues related to this project.

DISCUSSION:

There are three possible options to address the condition of the bridge:

1. Continue general repair and maintenance of the existing structure to maintain the existing of the bridge and setting;
2. Construction of a new bridge (full replacement), either on a new alignment or the existing alignment. Various design option are available, except for steel truss construction (like the existing structure);
3. Closure of bridge for vehicular use with no replacement structure. This would eliminate vehicular access on Route 743 through Advance Mills. This option has not been given serious consideration at this time.

The Advance Mills area is not in or near an area designated for future development. Therefore, significant traffic increases are not anticipated other than possible increases in through traffic patterns from Greene County. The bridge currently has a weight limit of 8 tons which, is insufficient for some emergency and construction vehicles. Repair of the existing bridge would not significantly increase the weight limit.

The bridge itself has been surveyed for historic register eligibility. The County's *Historic Architectural Survey of Albemarle County Villages* (October 1995) states that the bridge is "one of the best-preserved metal truss bridges in Albemarle County (p.6-21)." It, along with the dam, mill race, and old Country store make up the focal point of the Advance Mills community. Over time there has been concern expressed by residents of the community about the possible loss of the bridge and potential changes to the area from new bridge construction.

RECOMMENDATION:

VDOT recommends that a new structure be considered in this case, due to the need for continual expensive maintenance, possibly over an ever shortening time frame. However, County Planning staff recommends that maintenance be undertaken at this point in time to shore up the structure and extend its useful life. This will serve to maintain structure and the general character of the area for an additional 10 to 15 additional years. At that time, the County and VDOT can re-evaluate condition of the bridge and traffic demands to determine the best solution.

**ADVANCE MILLS BRIDGE
ROUTE 743
ALBEMARLE COUNTY**

A meeting was held on Wednesday, January 27, 1999, to discuss the short and long-term needs of the metal truss bridge (structure no. 6104) on Route 743 at Advance Mills. The following persons were in attendance:

Wayne Cilimberg
David Benish
Juan Wade
Bill Mawyer
Jack Kelsey
Bill Mills
Richard Caywood
Brent Sprinkel
Angela Tucker

The County indicated that no approved or potential growth in the area is expected, as this section of the County is too remote. It was noted, however, that "through" traffic from Greene County might continue to increase. The current traffic counts for roads in the Advance Mills area are as follows:

Route 743 (Advance Mills Road):

From Route 664 to Route 641	738 vpd (94)
From Route 641 to Greene County line	608 vpd (92)

Route 641 (Frays Mills Road):

From Route 743 to Route 606	393 vpd (92)
From Route 606 to Route 29	992 vpd (92)

A brief history of the truss bridge was reviewed.

- The bridge was constructed in 1943 and has a current posting of 8 tons.
- Last time the bridge was painted was approximately 20 years ago.
- A new deck was placed in 1987. Current deck condition is fair. Some section loss due to traffic.
- Minor repairs needed due to vehicle collisions (rail, etc.)
- Supplemented hanger bars in truss with cables in 1992.
- Scour problems around west pier. Needs rip rap now.
- Crack in old rubble abutment on the east side (by store). Approximate 2" open crack below water level. Repair may be expensive.
- General maintenance needs to include new deck, remove loose paint and apply new top coat, place rip rap, repair abutment crack, replace damaged sections of rail.

Various options for full replacement were discussed. These included the following:

- New location – New bridge could be built without disruption to traffic. Would improve general alignment of secondary road approaches.
- Existing location – Approximate 1 year road closure needed for new construction. General design would be steel girder, concrete deck (2-lane; 26'-28'), open rail structure similar to bridge on Route 660 at reservoir. An approximate total cost will be \$750,000. The bridge will have no load limit and

will have a life span of approximately 70 years. No truss design is recommended because initial construction costs and long-term maintenance costs are higher.

- A timber structure is not a viable option at any location because of the span length required.

In lieu of reconstruction, bridge will need to be fixed to be kept in service an additional 10 – 15 years. This option is viable if there is no increase in traffic, no major accidents or floods. At an approximate cost of \$175,000 - \$200,000 the following work would be required.

- Prepare and paint bridge by removing loose paint and applying new top coat.
- Place rip rap at west pier to abate scour.
- Repair crack in abutment on east side of bridge.
- Replace damaged rail on bridge
- Replace timber deck

This work would likely require that the road be closed to traffic for approximately 2 months.

Funding for reconstruction would occur through the secondary six year plan. Approximately \$100,000 for the short-term maintenance needs would be funded from the secondary six year plan.

The Department recommends that a new structure be considered. If this new structure should be placed in the existing location, a design waiver would be required for keeping to the existing substandard alignment.