SUPPLEMENT TO THE ENGINEERING REPORTS FOR THE DREDGING FEASIBILITY STUDY PREPARED BY RIVANNA WATER AND SEWER AUTHORITY STAFF JUNE 15, 2010

HDR Engineering, Inc. recently completed all tasks for the Dredging Feasibility Study with the exception of their participation at the second public meeting (scheduled for Wednesday, June 30, 2010) and the completion of their final report (to come after the meeting). This recent work includes the release of the following three reports: (1) Dredging Alternatives Report, covering their review of the means for removing sediment from the reservoir and selection of hydraulic dredging as the appropriate method for the South Fork Reservoir, as well as summarizing all costs for a complete two-phase dredging project; (2) Potential Beneficial Reuse of Dredged Material, covering an analysis of the revenue potential for removed sediment as well as further processing costs to achieve market grades of material; and (3) Dewatering/Processing Alternatives Report, covering the methods and costs of removing water from the sediment after dredging. Persons interested in only the summary of all costs and benefits are invited to go directly to pages 1 and 2 of the Dredging Alternatives Report. Persons interested in the details should take the time to review all three reports, as dredging requires a sequence of multiple activities and picking cost or revenue estimates from any single report will not include all required activities.

The scope of HDR's engineering services was limited to the feasibility of dredging the South Fork Reservoir, and did not include review of the Community Water Supply Plan. However, several citizens in the community are advocating that dredging is the least cost method to provide for our future water supply. Recognizing that the dredging reports prepared by HDR will lead to comparisons between dredging costs and the cost of the proposed new Ragged Mountain Reservoir, the Rivanna Water and Sewer Authority has prepared this supplement.

Page 2 of this supplement provides the tables comparing costs. Both HDR Engineering and Schnabel Engineering used a range of potential costs (or revenue as appropriate). These ranges are provided in the table. For quick comparison, the mid-point of the range for each project was computed for quick comparison. By comparing mid-points on a cost per cubic yard of water storage added, the new Ragged Mountain Reservoir is $4 per cubic yard, Part I Dredging with sand recovery is $8 per cubic yard, and Part II Dredging is $32 per cubic yard.

The Page 2 tables also provide the quantity of water storage provided by each project. Part I Dredging provides only 59 million gallons of added storage, Part II Dredging provides 169 million gallons, and the new ragged Mountain Reservoir adds 1,726 million gallons of stored useable water. The combined storage of dredging (228 million gallons) is only 13% of the storage provided by the new reservoir.

Page 3 displays some of the tabular data in graphical form.

Part I – Dredging Segments 1-3 with Mechanical Dewatering and Material Recovery

Dredging Volume = 290,324 cubic yards = 59 million gallons
59 million gallons = Reduction in height of approximately 1 foot to proposed Ragged Mountain Reservoir

Potential Revenue for Material Recovery:

Sand = $4,774,699 to $9,469,978
Other Materials= ($177,147) to $2,133,865
Total= $4,597,552 to $11,603,843

Cost:

A. Without Sale of Material for Reuse

$7,766,518 to $12,973,515
$27 - $45 per cubic yard= $132,000 to $221,000 per million gallons
Mid-Point of Range=$10,370,017 or Cost of $36 per cubic yard

B. With Sale of Material for Reuse

($3,837,325) to $8,375,963
($13) - $29 per cubic yard= ($65,000) to $144,000 per million gallons
Mid-Point of Range=$2,269,319 or Cost of $8 per cubic yard

Part II – Dredging Segments 4-9 with Confined Dike Facilities; No Material Recovery

Dredging Volume = 835,686 cubic yards = 169 million gallons
169 million gallons = Further reduction in height of additional 2-1/2 feet (3-1/2 feet total for Parts I and II combined) to proposed Ragged Mountain Reservoir

Potential Revenue for Material Recovery

None

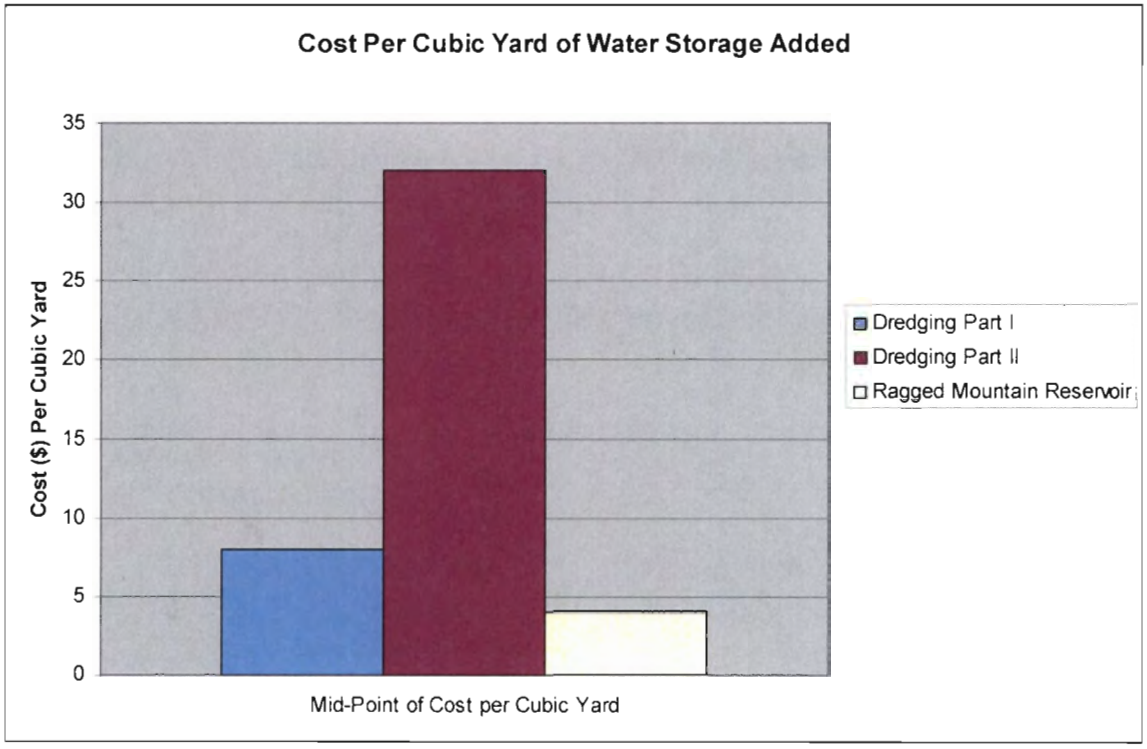
Cost:

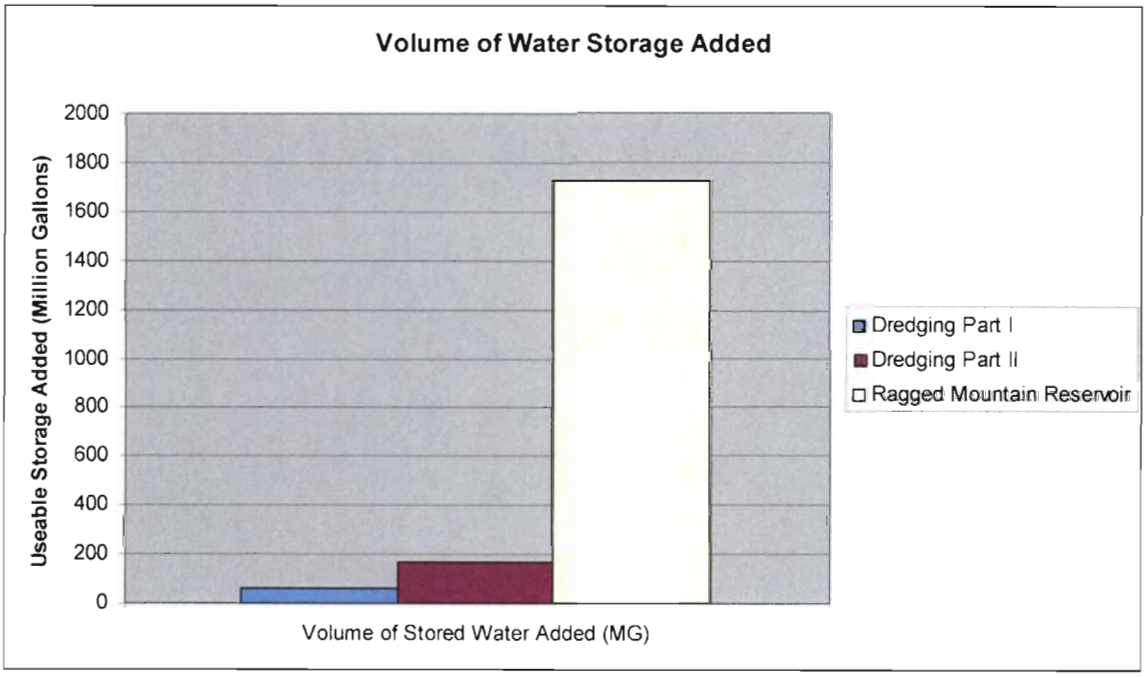
$26,271,273 to $27,219,996
$31 - $33 per cubic yard = $156,000 to $161,000 per million gallons
Mid-Point of Range= $26,745,635 or Cost of $32 per cubic yard

Proposed Ragged Mountain Reservoir Expansion

Current Total Reservoir Volume = 514 million gallons (Useable=463 million gallons)
Proposed Total Reservoir Volume[1] = 2,575 million gallons (Useable = 2,189 million gallons)
Increase in Useable Volume = 1,726 million gallons = 8,544,600 cubic yards
Estimated Project Cost = $28.5 - $36.6 million = $3 - $4 per cubic yard = $16,500 - $21,200 per million gallons
Mid-Point of Range= $32,550,000 or Cost of $4 per cubic yard

[1]Based on Bathymetric Survey Performed in 2008


Cost Per Cubic Yard of Water Storage Added
Cost ($) Per Cubic Yard
35
30
25
20
15
10
5
0
Mid-Point of Cost per Cubic Yard
Dredging Part I
Dredging Part II
Ragged Mountain Reservoir


Volume of Water Storage Added
Useable Storage Added (Million Gallons)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Volume of Stored Water Added (MG)
Dredging Part I
Dredging Part II
Ragged Mountain Reservoir

During the development of the Community Water Supply Plan in 2004 through 2006, this community chose not to make "mandatory" dredging a centerpiece of its pledge to provide for the long-term water supply needs of this community, in part because of the uncertainty and variability of the required logistics for dredging. However, this community also chose to remain open-minded of the possibility of "opportunity" dredging when there were available "windows" for favorable market conditions and logistics. Based on the information provided by recent advances in the preliminary design of a new Ragged Mountain Dam and the Dredging Feasibility Study, RWSA staff believes the Plan developed in 2006 remains the best path forward for our long-term water supply. Accordingly RWSA staff continues to recommend the Community Water Supply Plan be centered around the Ragged Mountain Reservoir, because of its lower cost, and also because: (1) it provides the water storage to secure the long-term future needs of both our population and the stream ecology in our watersheds; and (2) it is the only alternative that has secured Clean Water Act environmental permits.

Part II Dredging is not recommended at this time by RWSA staff. Current logistics indicate, based on the mid-point of estimated cost ranges, that it could cost $32 per cubic yard of storage compared to $4 per cubic yard for the new reservoir.

Part I Dredging only provides 59 million gallons of added storage, which is approximately the top one foot of storage in the proposed new Ragged Mountain Reservoir, and is less than one week of water supply during a drought even under today's water supply demands. Therefore, it is not the backbone of a long-term water supply plan. However, strictly from the standpoint of enhancing the resources and amenities of the South Fork Rivanna Reservoir, it has the potential to be the "opportunity" dredging that this community has remained open to. The range of beneficial reuse associated with sand recovery, based on HDR's study, offers enough potential that it should be explored as a separate project. RWSA recommends that a request for proposals be developed to explore if pricing may be favorable enough to warrant a "turnkey" contract for a company to dredge the upper end of the reservoir for material recovery. If successful, 59 million gallons of storage may not add significantly to the water supply, but it may be the "forebay" that was a topic of recent interest by the South Fork Dredging Task Force.