

# COUNTY OF YORK

## MEMORANDUM

**DATE:** May 17, 2017

**TO:** York County Board of Supervisors

**FROM:** Neil A. Morgan, County Administrator

**SUBJECT:** Dredging



As a follow-up to comments received at the April 18, 2017, Board of Supervisors meeting, staff has compiled information on: previous discussions concerning dredging of waterways to improve navigability; the permitting requirements for dredging operations; the mechanics of dredging operations; probable time lines and costs; and potential funding scenarios, including special taxing districts.

### **History**

The Board's and staff's most recent discussions concerning dredging were focused on Lamb's Creek and were the result of inquiries from residents of the Olde Port Cove subdivision, which abuts the upper reaches of the creek, approximately 1,500 feet of which was dredged in the early 1970s to convert a meandering stream into a man-made canal. Olde Port Cove, Inc., (the developer of the subdivision) and, subsequently, two residents of the subdivision submitted Joint Permit Applications (JPA) in 1988 and 1995, respectively, proposing maintenance and channel-widening (to 30 feet) dredging. The 1988 application was protested by numerous citizens and was denied by VMRC and the Corps of Engineers. The 1995 application was approved by the Corps but was never pursued by the applicants.

At its January 2015 Retreat, the Board discussed in general terms the concept of dredging and the York County waterways that might be potential candidates for a project (those being: Queens Creek, Wormley Creek, Back Creek, Chisman and Goose Creeks, Patricks Creek, Quarter March Creek, Lambs Creek, and the Poquoson River). A more detailed conceptual assessment was presented for Lambs Creek since Mr. Shepperd was continuing to receive inquiries from residents on both the York and Poquoson sides of the creek who were interested in improved navigability. One concept discussed at that time was the Special Service District (SSD) system enabled by the Code of Virginia and in use in several other localities (e.g., Virginia Beach) wherein a supplementary tax rate is assessed to provide funding for the dredging project. As a result of the Retreat discussion, Mr. Shepperd (Board Chairman at that time) corresponded and met with Poquoson's Mayor, Mr. Hunt, on several occasions; but, ultimately, there was determined to be no interest in pursuing the joint effort or establishment of a SSD, at least at that time.

### **Permitting**

Multiple agencies may be involved in reviewing and approving permit applications for proposed dredging projects. They are:

Wetlands Boards: Typically, waterfront property owners own the intertidal land all the way to the Mean Low Water (MLW) line. Therefore, if dredging is needed across intertidal areas such as privately owned mudflats, then permits from the appropriate Wetlands Boards would be needed. Alternatively, since governmental activities in wetlands are exempt, if a project were to be

undertaken by the County, and if the County secured easements across privately-owned bottomlands, then a local wetlands permit would not be required.

Army Corps of Engineers (ACOE): The ACOE indicates that projects such as dredging will require an individual permit (rather than **Regional Permit 2**). Although there are no processing fees associated with permits from the ACOE, mitigation is required for any wetlands impacts. The mitigation ratio would depend upon the value of the wetlands that are impacted. The cost of mitigating wetlands impacts through payments to a wetlands “bank” are approximately \$10 to \$12 per square foot of impacted area (source: ACOE contact – Nancy Hankins).

Virginia Marine Resources Commission (VMRC): VMRC requires a permit for any dredging activity in state waters (state bottomlands). The permit application fee is \$100 plus the cost of advertising in a local newspaper. Royalties must also be paid which were, as of 2014, \$0.45 per cubic yard of dredge material removed (source: VMRC contact - Randy Owen). Another factor that VMRC must consider, based on advice from the Attorney General, is to avoid permitting dredge projects that would run through leased shellfish beds unless the leaseholder’s permission has been secured. That could be a factor in the feasibility of dredging in various waterways in the County since there are numerous leasehold areas.

Department of Environmental Quality (DEQ): DEQ has the authority to require a permit for water bodies on the current Effective Total Maximum Daily Load (TMDL) priority list or water body segments with an approved TMDL. For projects on those water bodies, the proposed dredging must not exacerbate the pollution impairment and the dredging must be consistent with the waste load allocation, limit, or condition imposed by an approved TMDL. For example, the pollutant of concern during previous discussions of Lambs Creek, a tributary to the Poquoson River, was fecal coliform, as it could be in other County waterways. More typically of concern for dredging projects would be the current or former presence of boat yards or large scale marinas that could cause DEQ to require an analysis of the sediment for priority pollutant’s such as TBT, hydrocarbons, PCB’s and heavy metals. DEQ would only require a permit in situations where the VMRC and the local Wetlands Boards waived authority and the ACOE issued an individual permit (source: DEQ contact – Bert Parolari).

### **Dredging Operations**

Typically, to mechanically dredge a channel, the contractor will excavate a box cut (i.e., vertical sides and flat bottom) that is larger than the final design width of the channel. The sides of the cut will then slump to a tenable slope (two horizontal to one vertical slope, 2H:1V). For example: if dredging two-feet of material for a twenty-foot channel, the bottom width of the cut will actually be twenty-four feet to allow for slumping on both sides of the cut. This method is accepted practice since it would be impossible for a contractor to cut a slope underwater through uncompacted organic and silt material.

The depth of a proposed dredge cut must be determined based on the proposed use (e.g., recreational vessels vs. commercial vessels) and the channel depth beyond the area to be dredged. Reviewing agencies will evaluate dredging plans to ensure that the proposed channel is only as wide as necessary for the prevalent types of vessels to safely navigate and generally not more than one foot deeper than adjacent natural water bodies in order to avoid creating water circulation and flushing problems that could lead to stagnant conditions, decreased oxygen levels, unpleasant odors, and degradation of marine resources.

Depending on the location and orientation of the waterway, the regulatory agencies may consider proposals for over-dredging – aka “advance maintenance dredge” – in order to extend the benefi-

cial life of the project. For example, a waterway with a northeast orientation could be more susceptible to accretion and, therefore, an additional 6-inches (the maximum likely to be permitted) of material dredged in the initial effort could be very cost-effective.

To ensure the success and utility of a dredging project serving waterfront residential areas, it would also be necessary to address the “ancillary” channels that might extend from a main channel into small coves as well as the “driveway” channels extending between a main or ancillary channel and individual residential piers/docks. Typically, in a government managed dredging project, the cost of the driveway channels would be the responsibility of the benefitting private property owner.

Dredging of the recreational boating waterways in York County would most likely be accomplished by a clam-shell type excavating machine mounted on a barge (as opposed to hydraulic dredging equipment). Once excavated, the dredge spoil must be transferred to a properly permitted dredge spoils site, ideally within proximity to the subject waterway so as to minimize hauling/transportation costs. Spoils must be dewatered and cannot be deposited in wetlands or in Chesapeake Bay Preservation Areas.

### **Timeline**

For information on potential time requirements for implementing a project, staff consulted with stakeholders in the industry and with their counterparts in the City of Virginia Beach, which has an established and on-going program and process for dredging “neighborhood” channels. The general consensus was that a typical dredging project would follow a timeline such as the one listed below.

Request for Proposals/Interviews/BOS approval/Contract for Engineering: 3 months

Preliminary Engineering/Public meetings: 18 months

Final Engineering and Design: 4 months

Permitting: 6 months

Invitation for Bids/BOS approval/Contract for Construction: 3 months

Dredging/ Dewatering/ Stabilization: 12 months

**Total: 46 months**

### **Costs**

Based on our most recent investigation (2015), the cost of dredging varies widely, mostly due to the cost of dewatering and disposal. Contractors and consultants have provided cost estimates ranging from \$20.00/cubic yard to dredge and bring the material to the bank of the waterway being dredged, to a high of \$75.00 per cubic yard to dredge and transport the material in water-tight trucks to an off-site disposal area. Also, and varying significantly among different waterways, would be the cost of dredging the ancillary channels and driveway channels. Looking back to the previously researched dredging concept for Lamb’s Creek (5,700 linear feet of channel, 24 feet wide, and 18 inches deep at its upper end), the total estimated cost, including an initial dredge and two subsequent maintenance dredges at years 8 and year 16, was \$2,000,000.

### **Funding Options**

During previous discussions, two basic funding options were identified:

- general tax dollars; or
- revenue generated through establishment of a Special Service District (i.e., a specifically-defined geographical area in which a supplement on the normal real estate tax rate would be established for a specific purpose and a specific term).

Navigable water certainly contributes to the valuation of waterfront property and increased property values enhance the fiscal condition of the County in general, so some have suggested that dredging of a particular waterway has countywide benefits and should be funded through general county revenues. Conversely, others suggest that the primary benefit of a dredging project accrues to the waterfront property owners who abut the channel that would be made more navigable and that it is those property owners (collectively) who should bear the entire cost, or at least a substantial portion, of the effort.

If dredging projects were to be viewed as a “countywide” responsibility, then it would be appropriate for them to be evaluated and programmed for funding through the annual Capital Improvements Program review process.

If dredging projects were to be viewed as the responsibility of the waterfront property owners, then the authority provided by Section 15.2, Chapter 24, of the Code of Virginia that allows localities to create Special Service Districts (SSD) would be the appropriate funding mechanism. Such a district would have to be established by Ordinance, after notice and public hearing, and the Ordinance would identify the specific boundary of the district, the amount of the supplementary tax rate, and the duration of the obligation.

During its previous consideration of dredging and the SSD concept, the Board discussed the need to have some sort of “threshold of agreement” among the owners whose properties would be included within the boundaries of the district and thus be subject to the supplementary tax rate (a concept similar to the policies in effect for going forward with water and sewer extension projects). The preliminary consensus was that an 80% in-agreement “threshold” would be desirable; however, no formal action was ever taken.

Again, looking back to the Lambs Creek conceptual discussions, it was determined that a supplementary tax rate of \$0.19 would be necessary to recover the \$2,000,000 cost of the dredging project within a 16-year term. Assuming an average \$500,000 assessed value for a waterfront property, that supplement would equate to an additional \$950 per year in real estate tax. Of course, these figures are applicable only to a specific scenario and should be viewed only as an example of how such a system might be structured.

### **Summary**

In summary, the prospects of dredging neighborhood channels to improve navigability for recreational boating would require extensive research, coordination, public outreach, and funding. The Virginia Beach approach, which was the basis for the proposals developed during discussion of Lambs Creek, provides one, but not the only, example of how a program might be structured.

York County Board of Supervisors

May 17, 2017

Page 5

Staff stands ready to support and provide input for any future discussions the Board may wish to have on this subject.

NAM:MLB