Item #13
6/5/08

Staff Report: Mandatory Referral #MR08003-WSSC-1 Bi-County Water Tunnel and Forest Conservation Plan

Send Date: May 21, 2008

Via: Mary G. Dolan, Master Planner/Supervisor
Countywide Planning Division

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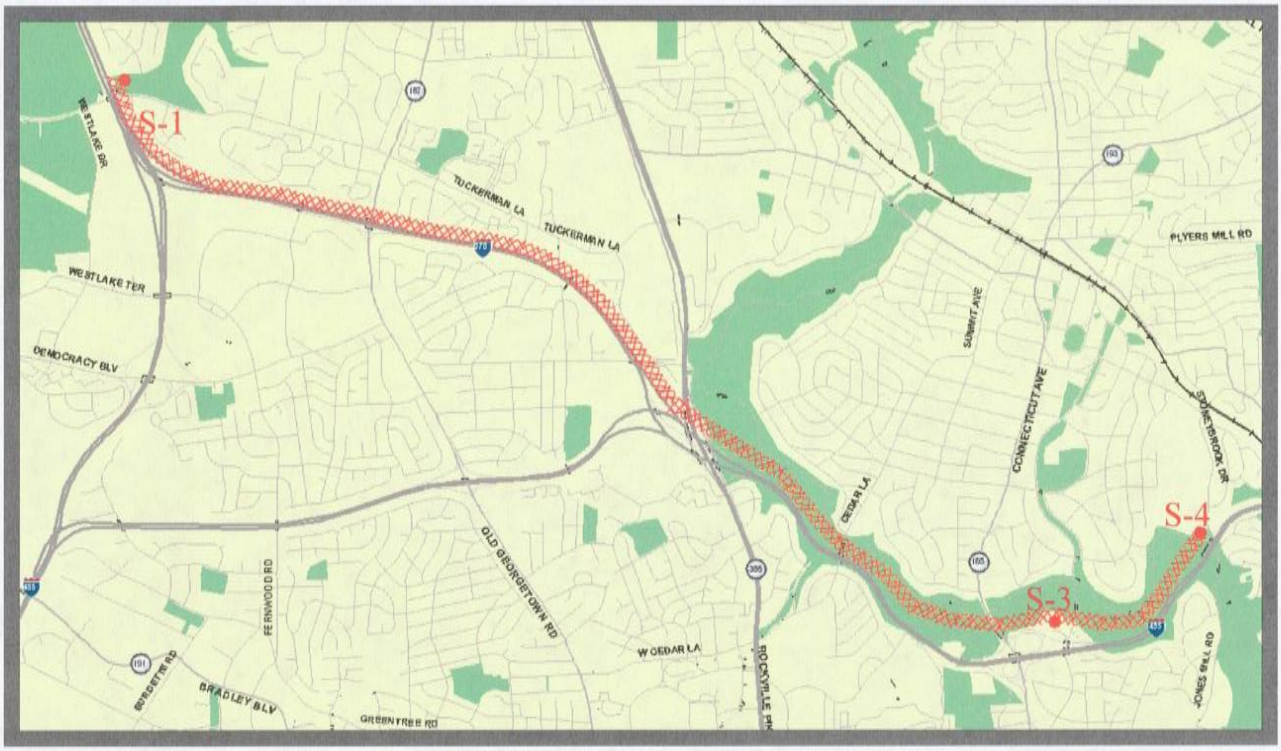
Description: Washington Suburban Sanitary Commission (WSSC)
Bi-County Water Tunnel entrance shafts, park impacts and Forest Conservation Plan (MR-08003-WSSC-1)

Recommendation: Approval of the forest conservation plan with conditions.
Transmit recommendations to WSSC

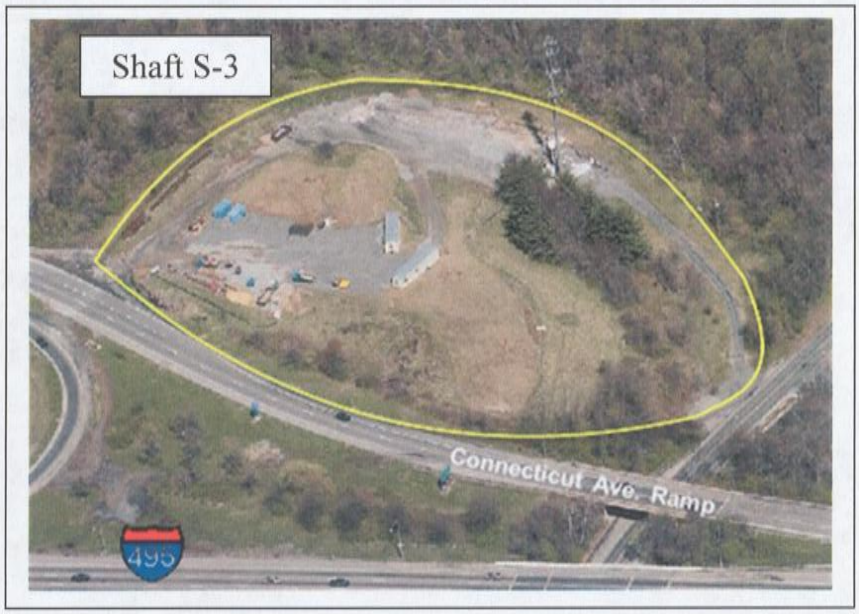
The Bi-County Water Supply Main is an 84" diameter water main that will connect two 96" mains and be located between the intersection of Tuckerman Lane and I-270, and the intersection of Stoneybrook Drive and the Capital Beltway (I-495). This main is needed to provide adequate water pressure to existing and new development in Prince George's County and to address projected low pressure problems in parts of Montgomery County. The project will take four years to complete. Because the water main will be tunneled (90-200-feet deep), this review focuses on the three entrance shafts needed for construction and access.

Background

The Bi-County Water Tunnel first came to the Planning Board on February 4, 2005 as an alignment study. A number of different options were being contemplated to facilitate this important connection. These included both tunneling and cut and cover methods, with alignments that followed road right-of-ways and passed through existing parks and neighborhoods. The Planning Board recommended the deep tunnel option. WSSC also concluded that a deep tunnel was the most viable and cost effective option. On September 8, 2005 the Planning Board endorsed the deep tunnel method, the alignment that followed I-270/I-495 and the location of the entrance shafts (shown in red below).



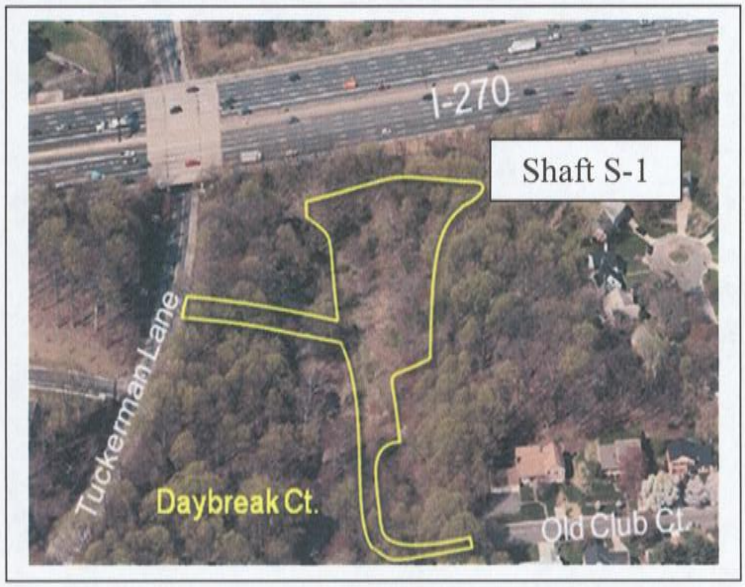
The tunnel project required at least three entrance shafts - one at each end of the tunnel, with a third ideally located midway between the terminal ends. This midway shaft location (S-3) became available in the form of State Highway Administration (SHA) property just north of I-495 and north of its exit ramp to Connecticut Avenue. Although not exactly located at the midpoint, this area was attractive due to the fact that it has served as a staging area for SHA road projects in the past and is completely cleared. This site also provides fairly direct access to major roads. The S-3 location will be the main working shaft during the construction process. Almost all tunneled materials will be removed from here and the vast majority of pipe materials will be inserted at this location.



The two existing water line segments to be connected to the proposed main both terminate within M-NCPPC stream valley parks. The eastern **existing** entrance shaft cap can be seen in the following graphic at the intersection of Stoneybrook and Beach Drives as a large concrete circle.

This grassed area is within Rock Creek Stream Valley Park and at the base of the hill where the Mormon Temple property is located. This grassed area is the proposed location of the eastern entrance shaft (S-4) for the proposed water tunnel. Construction access to this site will be via Stoneybrook Drive. Beach Drive will only be utilized in the near vicinity of the construction site.

The western **existing** entrance shaft is located at the NW quadrant of Tuckerman Lane and I-270 within Tilden Woods Stream Valley Park. This is the location for the third proposed access shaft (S-1) on the western terminus of the water tunnel. The proposed construction area for the shaft is largely forested, although close inspection indicates fairly recent disturbance. This is the most problematic of the shaft sites due to limited road access and impact to sensitive areas. Access to this site will be via Old Club Road for lighter vehicles, and via a temporary bridge from Tuckerman Lane and across Old Farm Branch stream for more heavy vehicles and equipment.



An addition shaft site (also located on parkland) was contemplated in 2005, but has since been deemed unnecessary and removed from further consideration.

Currently before the Board are:

- Park impacts and permits associated with the construction of S-1 and S-4.
- The forest conservation plan for all three shaft sites.
- Community Impacts.

Analysis of Park Impacts

Park Development Division staff has reviewed design plans provided by WSSC for the shaft locations within parkland. They have met on numerous occasions with WSSC staff and their design team both in the office and in the field to examine ways to minimize impacts of construction and restore the sites afterwards. Impacted park areas include approximately 1.2 acres within Tilden Woods Stream Valley Park and 0.5 acres within Rock Creek Stream Valley

Unit #2. All work within M-NCPPC property is subject to Technical Review of the detailed design and issuance of a Park Permit for construction.

The Stoneybrook Drive Shaft (S-4) is within a grassed area at the corner of Beach Drive and Stoneybrook Drive. Primary access to the work site will be from Stoneybrook with only limited access to Beach Drive. Appropriate traffic warning signage will be required. There are a few existing trees that will be impacted by the construction. This loss will be mitigated as part of the site restoration following construction. In general, the Department of Parks does not have any objections to the proposed use of this site.

The Tuckerman Lane Shaft (S-1) is located within the predominantly forested floodplain and Stream Valley Buffer for Old Farm Creek along Tuckerman Lane just east of I-270. The primary access for heavy equipment will be from Tuckerman Lane via a temporary bridge across the creek. The secondary access for light equipment will be via the existing gravel road from Old Club Road. This arrangement was proposed primarily to minimize impacts on the adjacent residents north of the site. The bridge location was determined in the field based on discussion with WSSC, Parks personnel and Environmental Planning Staff.

Department of Parks staff has been working with WSSC on ways to minimize the impacts of construction and ensure appropriate restoration of the Tuckerman shaft site. WSSC staff has been receptive to our efforts to limit impacts on the natural resources surrounding the site. Staff will continue to work with WSSC on issues related to the limits of disturbance, tree protection measures, site restoration, and reforestation through the Technical Review and Park Permit process.

The Department of Parks has also requested additional information from WSSC related to any potential blasting that might be required to construct the tunnel shafts due to the depth and geology of each area. The Department of Parks will include conditions in the Park Permit requiring WSSC to comply with all federal, state, and local requirements for blasting and provide appropriate notifications and safeguards for adjacent infrastructure and properties.

WSSC has also agreed to undertake a stream restoration project along Old Farm Creek that will improve conditions within this degraded stream reach. It will be designed and constructed under a separate Technical Review and Park Permit process. Parks staff recently conducted a field walk with WSSC staff and their design team to identify appropriate limits for the stream restoration based on access and stream conditions. There was general agreement at the meeting to conduct this restoration along approximately 1,800 linear feet of Old Farm Creek upstream of the I-270 culvert, including the confluence with the unmanned tributary from Tuckerman Lane. Parks staff will continue to work with WSSC to define this project and develop a concept design.

Finally a 10-inch monitoring shaft will need to be located on Park property as part of this project. Although an exact location has not yet been determined, it will most likely fall in a cleared area between Beach Drive and the trail. Park staff will assist in the final shaft location and will include this item in the conditions of the construction permit.

Overall, the Department of Parks recognizes the need for WSSC to access these particular park sites to complete this important public project. WSSC has made efforts to limit impacts to

parkland, and has been cooperative in addressing concerns over impacts and restoration following construction. Park staff expects to address all outstanding design issues with WSSC shortly following this Mandatory Referral process.

Forest Conservation Plan

A forest conservation plan for all three entrance shafts has been reviewed by staff and recommended for approval. Most of the forest impact occurs at Shaft 1 where 0.46 acres of forest are to be removed. This includes a staging/parking area and disturbance for a temporary bridge over Old Farm Branch from Tuckerman Lane. There are no forest conservation mitigation requirements for the Shaft S-1 work. As part of the restoration plan agreement with the Department of Parks, 0.93 acres will be planted. Due to the need to maintain a permanent entrance road to the site, not all of the floodplain area will be restored to a forested condition.

Community Outreach

WSSC has undertaken an extensive community outreach program. This started in 2004 with formation of a Citizen's Advisory Committee to evaluate the proposed alignment study. Further outreach has taken place more recently that has focused on the individual shaft sites. Meetings organized by both WSSC and citizens groups have been on-going. WSSC plans to continue outreach as needed throughout the life of the project.

The concerns expressed by citizens are largely associated with the S-1 shaft site. First, citizens were concerned about the level of truck traffic passing through neighborhood roads to reach the site. This concern was addressed by proposing that all heavy truck traffic use a temporary bridge over Old Farm Branch from Tuckerman Lane. Only light traffic will utilize the access point off Old Club Road. See circle page 9 for detailed traffic control plan for each shaft site.

Staff Recommendation and Conditions

Forest Conservation Plan: Approval subject to the following conditions:

- Obtain approval of Final Forest Conservation Plan consistent with the approved Preliminary Forest Conservation Plan and associated conditions, prior to any clearing, grading or demolition on the site. Final Forest Conservation Plan must include the following:
  a. A combined Forest Conservation Worksheet which reflects the total net tract area, existing forest and forest cleared from each of the shaft sites.
  b. Revised LOD and /or supplemental protection measures to appropriately preserve trees #1, 2, 4 & 7 (sheet FC-02).c. Detail for tree armoring.
- Obtain parks permit from M-NCPPC Department of Parks.
- Obtain wetland disturbance permits from MDE
- Obtain blasting permit from DPS

Mandatory Referral Comments: Approval subject to issuance of a Park Permit for construction. This permit shall include:

- limits of disturbance and tree protection measures
- site restoration, long-term site access, and reforestation
- requirements for future stream restoration
- conditions related to WSSC obtaining appropriate permits from other agencies

KN:ss

Attachments:

WSSC Bi-County Water Tunnel Map
Comments and Recommendations from Parks Staff
Forest Conservation Plan Approval Letter
WSSC's Mandatory Referral Submittal Summary
Letter from M-NCPPC Chairman
About the WSSC Bi-County Water Tunnel Brochure

WSSC Bi-County Water Tunnel
Satellite Map

Legend

- Existing Tunnel/Pipeline
- Tunnel Alignment
- Corrosion Monitoring Point
- Shaft Site

Montrose Rd
Old Georgetown Rd
Rockville Pike
Tilden La
Tuckerman Shaft (S1)
Tuckerman La
CM1
270
Rock Creek Park
Grosvenor La
CM2
Cedar La
Connecticut Ave
Stoneybrook Dr
CM3
Stoneybrook Shaft (S4)
495
Connecticut Avenue Shaft (S3)