



Memorandum

TO: Jennifer Steingasser
DC Office of Planning

FROM: Roger L. Gans
Manager, Planning and Design

SUBJECT: Facts Regarding St. Elizabeths Water Tower

DATE: October 13, 2009

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The following facts are intended to be responsive to questions raised by the Zoning Commission at their September 24, 2009 hearing. I plan to be present at the October 19 meeting to expand on this information as needed.

Need:

1. The need for the tower was identified in WASA's 2000 Water System Facilities Plan.
 - a. The area of the District east of the Anacostia and south of W Street suffers from pressures that are too low to provide satisfactory service for customers.
 - b. WASA operates an "open" water system characterized by pump stations that pump water from the source into an elevated tower or reservoir that then provides storage for emergency situations and also provides the needed "gradient" (pressure) to serve customers. Currently the elevated storage for the area in question comes from the existing Fort Stanton Reservoirs. However, the elevation of the water in these reservoirs is too low to provide adequate pressure to the higher elevation regions of the service area. A new elevated tower is needed to raise the pressure in these areas by 22.5 PSI (pounds per square inch) which will provide pressure in an acceptable range; i.e. 50 PSI to 80 PSI in lieu of some areas that are currently below WASA's minimum criteria of 35 PSI.
 - c. Throughout the District WASA currently operates seven distinct pressure zones. The new tank would create an eighth zone. Each zone has elevated storage at either ground level, if the topography permits, or elevated towers if the ground is too low. WASA currently operates three other elevated towers and, in addition to the St. Elizabeths Tower. WASA is planning two new towers, in Northwest.
2. Engineering Alternatives Considered to Meet the Need:
 - a. Do nothing is not considered a viable option since the substandard pressure system would remain.
 - b. Water Tower
 - i. Industry Standard – Open System with Gravity to Maintain Pressures

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EXHIBIT NO. 5

- ii. Minimal mechanical working parts involved and is less vulnerable to mechanical breakdowns
- iii. Less vulnerable to power failure
- iv. Emergency reserve for system outages
- v. Does not make noise or emit fumes
- vi. More reliable fire protection
- vii. Less costly to operate and maintain
- viii. Lifespan is 50+ years
- c. Pumping system. There are at least seven major disadvantages:
 - i. System relies on pumps to maintain pressure and provide fire flows, increased potential for failure and higher energy costs.
 - ii. Requires complex multiple pump operations –more wear and tear
 - iii. Requires a more comprehensive back-up source of power (generator)
 - iv. Complicated controls
 - v. Potential for “water-hammer” that break pipes, especially considering Washington’s older water main system.
 - vi. Additional noise
 - vii. Significantly higher maintenance attention requiring additional resources and costs

Because of the significant advantages of an open system featuring elevated tanks, WASA, similar to the many other water utilities with whom we are familiar, has selected the open, gravity system in lieu of a pumped system for this area.

3. Public Interaction and Schedule

- a. From December 2002 through March 2007
 - i. Presented at Eight ANC Meetings in Wards 7 and 8
 - ii. Also 3 Additional Meetings with other Community Groups
 - iii. Briefed DC Historic Preservation, CFA, NCPC, NPS, DMPED and OP Staffs
- b. Began the 106 Process with Consulting Party invitations to various stakeholders in June 2009
 - i. Meeting 1- 7/21/09
 - ii. Meeting 2- 9/14/09
 - iii. Meetings 3- 10/5/09 and 10/9/09
 - iv. Invited consulting parties included effected ANCS as well as historic/aesthetic interests and governmental stakeholders
 - v. Plan is to conclude the 106 process and the Historic Review Board Process by the end of 2009 by signing of an MOA.
 - vi. Engineering, design and construction 2010-2013
 - vii. Tower in service 2013