Statement of Justification
CMPT -2013-0015
SPEX-2013-0040
SPMI – 2013-0010
Special Exception and Commission Permit Applications for a Water Storage Facility
Minor Special Exception for Modification to Type 4 Buffer
Part MCPI# 243-45-9310
Loudoun Water
December 12, 2013

Summary of Project Proposal

Loudoun Water proposes to locate two, elevated 1-million gallon (MG) water storage tanks on a 5.1081 acre parcel of land located south of the Red Hill Road/Stone School Lane intersection. The parcel is part of a larger 72+ acre tract that is zoned TR3-UBF and is currently used as farmland. Total acreage for the special exception area is 5.1769 acres in order to incorporate acreage associated with the proposed private road into the application. Proposed height for the tanks will be a maximum of 189 feet. Installation of the two tanks will be phased, based on demand as area build-out proceeds, with the first tank anticipated to be in operation by 2016.

Background

Water storage facilities are essential components of a water distribution system and are required by Virginia Department of Health (VDH) standards. They supply water to satisfy daily peak-hour customer water demands and accommodate additional reserves for emergency and fire flow needs. Typically, elevated water storage facilities are centrally located in the area to be served and proximate to the water supply source. They are also sited at high ground elevation so as to minimize tank height and reduce energy requirements as water is distributed throughout the system by gravity flow. Elevated water storage facilities maintain water service to customers in the event of disruptions elsewhere in the system.

Loudoun Water's Central Water Supply System (Central System) is divided into three service pressure zones as a way of providing desirable water pressure to customers located at varying elevations within the system. Loudoun Water's 2002 Water Utility Master Plan designates three service pressure zones based on hydraulic grade lines at elevations of 510, 538 and 600 feet above sea level. Elevated water storage tanks have been constructed to serve the 510 and 538 Zones. The Water Utility Master Plan recommends additional storage tanks to serve the Central System within the 510 Zone and the 600 Zone. This application will satisfy the need for tanks in the 600 Zone.

The 600 Zone comprises approximately 12,000 acres in the western-most part of the Central System, extending from Goose Creek to Bull Run. It is located primarily within the County's Transition Policy Area but also encompasses land in the Suburban Policy Area as well as the Green Mill Preserve development in the Rural Policy Area. The Application Property occupies a central location within the 600 Zone and satisfies elevation criteria for the proposed use. It is also located equidistant to two water source feeds for the 600 Zone: the Brambleton and Dulles South pumping stations.

Loudoun Water has analyzed a number of sites over the years and has worked with local property owners willing to make land available for elevated water storage tanks in areas that meet the necessary location criteria. A site within The Grant at Willowsford subdivision, southwest of the Application Property, was previously identified as a suitable site for the

proposed elevated water storage tanks. Like the Application Property, the Willowsford site was located at a sufficiently high elevation and would not require the clearing of existing trees for the proposed use. It was centrally located within the 600 Zone service area, providing the best opportunity for coordinated and efficient water distribution within Loudoun Water's Central System. When compared to the Willowsford site, elevated water storage tanks on the Application Property would be better screened by existing vegetation and area topography, and they would be surrounded on all sides by properties that are located in Loudoun Water's Central System. The Application Property is located adjacent to an existing public road, providing the potential for significant cost savings relative to access-related construction and maintenance. It is also located in an area where water lines have already been extended between existing developments in the Central System, making it easier to connect to existing infrastructure in the event that new development in the immediate vicinity of the water storage tanks lags behind other developing areas in the Transition Policy Area.

A maximum tank height of 189 feet was determined by four factors: hydraulic grade line (maximum water level in the tank) of 600 feet above sea level, the anticipated type of tank to be constructed, handrail height at the top of the storage tank, and the potential need for site grading.

A modified Type-4 buffer yard is proposed around the octagonally-shaped parcel. Consistent with fencing around other Loudoun Water facilities, a 10 foot high, black, vinyl-coated, chain link fence is proposed as a modification to the Type 4 buffer requirement.

Proposed access to the Application Property is by means of a private access road connection to Red Hill Road.

Visual Assessment

Photo simulations of the proposed elevated water storage tanks were completed in order to assess visual impact, particularly when viewed along area roadways. The simulations portray views of the water storage tanks when they would be most visible given that the baseline photographs were taken in November 2013 when most trees had already dropped their leaves. The simulations are included in the submission package and illustrate the general height and massing of two elevated tanks within the existing landscape when viewed from four locations: the intersection of Red Hill Road and Stone School Lane just north of the proposed tanks site, a vantage point within the Watson Historic District (west, along Red Hill Road) that is also located within the Transition Policy Area and Loudoun Water's Central System, Waxwing Drive near Harrier Lane, and Rt. 15 at the Creighton Farms entrance.

As shown in the photo simulation taken from the Watson Historic District location within the Transition Policy Area, the proposed elevated water storage tanks are almost shielded from view by existing vegetation. The tanks' visibility will be further reduced during spring, summer and fall months when trees are in full foliage.

Locations where the elevated water storage tanks would not be visible from area roadways include the following: The intersection of Red Hill Road and Watson Road (central to the Watson Historic District), the terminus of Greyhouse Place, Mt. Zion Church at the intersection of Watson Road and Rt. 50, the intersection of Langley Oaks Drive and Evergreen Mills Road, the Intersection of Ryan Road/Red Hill Road/Evergreen Mills Road, and the intersection of Black Branch Parkway and Evergreen Mills Road, and the western side of Wilderness Acres Circle.

Comprehensive Plan Considerations Relative to the Proposed Special Exception; Compliance with Plan Objectives

The Revised General Plan acknowledges that Loudoun Water's Central System is the preferred water service for the Suburban Policy Area, the Transition Policy Area and a portion of the Rural Policy Area that encompasses the Green Mill Preserve development. The Application Property is located in the Upper Broad Run Subarea of the Transition Policy Area. Plans for a water storage facility in the vicinity of the Application Property exist as far back as 1993 when water storage was portrayed at approximately the same location in the Dulles South Area Management Plan (Figure 4 of the document, entitled "Dulles South Planning Area Current LCSA Water Plans").

The Revised General Plan states that central utilities may be extended to all subareas of the Transition Policy Area (Chapter 8, General Policy #3).

- *Compliance with Plan Policies: The proposed use supports Loudoun Water's responsibility to ensure the adequate and efficient supply of water for the Central System that serves the Transition Policy Area. The proposed elevated water storage tanks will ensure adequate water pressure for existing and developing areas of the Transition Policy Area. They will ultimately be an integral part of a looped water system that includes the Brambleton and Dulles South storage tanks. The looped system will enhance water quality and maximize the operational efficiency and flexibility of the water distribution system.*

The Plan also recommends that water (and wastewater) treatment and conveyance facilities be planned and designed to be compatible with County development and environmental goals while functioning at a high level of efficiency (Chapter 2, General Water and Wastewater Policy #3).

- *Compliance with Plan policies: The chosen parcel is currently an open field with no vegetation or other sensitive environmental features. The parcel's location provides a central location for water storage within the 600 Zone area. Elevated water storage minimizes environmental impacts: energy is not needed to provide water service from the elevated tanks to area homes because water flows naturally by gravity, and noise is not generated because there will be no pumping facilities. The tanks will be part of a system of planned facilities which will be needed both for reliable and efficient water distribution to meet customer demands, and for additional water storage to address operational, emergency, and fire flow requirements.*

Zoning and Related Conditions Relative to the Proposed Elevated Water Storage Tanks

Water storage tanks are permitted by special exception in the TR3UBF Zoning District, but must meet the standards specified in Sec. 5-621 of the Zoning Ordinance. The proposed location satisfies these standards in that the lot is in excess of ½ acre, a modified Type 4 buffer is proposed, and the use will be accessed via a private access easement from Red Hill Road.

The following responses are provided to address considerations as outlined in Sec. 6-1310 of the Zoning Ordinance:

(A) Whether the proposed special exception is consistent with the Comprehensive Plan.

Response: Specific references to Plan compliance have been cited in the previous section entitled "Comprehensive Plan Considerations Relative to the Proposed Special Exception;

Compliance with Plan Objectives". In summary, development of the proposed water storage tanks will contribute to the overall efficiency and reliability of water service to the Transition Policy Area. The installation of water storage tanks within the 600 Zone is part of Loudoun Water's Water Utility Master Plan and addresses the Revised General Plan goal of provision of water to the Transitional Policy Area.

(B) Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.

Response: The proposed elevated water storage tanks will actually supply the water necessary to adequately provide effective fire control as build-out in the Transition Policy Area occurs. The water storage tanks will be a key safety measure to address fire flows needed during emergencies. Water service by gravity flow from the elevated tanks will be possible even during a power outage or emergency events.

(C) Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.

Response: Noise impacts from the proposed use will not be an issue. Elevated water tanks operate by gravity flow and therefore do not generate noise when operating.

(D) Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.

Response: Minimum lighting will be provided for safety and security measures only. Lighting will be directed downward so as to reduce glare and spillover unless safety and security measures dictate otherwise.

(E) Whether the proposed use is compatible with other existing or proposed uses in the Neighborhood, and adjacent parcels.

Response: Land in the vicinity of the Property is currently open farmland, but is planned for single family residential units. Existing residential development is located north of Red Hill Road and Stone School Lane. The elevated water storage tanks may be visible to existing and future development in areas where trees and landscaping do not provide sufficient screening. However, required landscape buffering will be provided at the periphery of the Application Property in an area where there is currently no landscaping. Noise and lighting impacts are not anticipated. There will be minimal vehicle trips to the Property once tank construction has been completed.

(F) Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.

Response: Existing vegetation and tree cover in the area provides screening and buffering between the elevated water storage tanks and adjacent uses. A modified Type 4 buffer to be placed along the perimeter of the Application Property as required by the Zoning Ordinance will further reduce visual impacts to the surrounding area.

(G) Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.

Response: No topographic, physical, natural, scenic, archaeological or historic features of significant importance have been identified on the Application Property. The Property is part

of an open field used for crop production.

(H) Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.

Response: No negative impacts to existing animal habitat, vegetation, water or air quality (including groundwater) are anticipated. A primary advantage of this location is that it is existing farmland and no vegetation will have to be removed for site development.

(I) Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.

Response: The proposed use promotes the general public welfare by ensuring that water from a dependable source is available to efficiently and reliably meet customer needs and provide necessary water storage for adequate fire flows in the 600 Zone of the Central System. Constructing water storage tanks at this particular location facilitates efficient water distribution throughout the water supply system and minimizes construction and maintenance costs over the operational life of the tanks, which helps to minimize rate and fee increases charged to Loudoun Water customers.

(J) Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.

Response: Traffic generated by the proposed use will be minimal. The only trips anticipated to occur are those relating to operations and maintenance with such trips to and from the Property expected approximately once per week. There will be no public access to the water storage tanks.

(K) Whether, in the case of existing structures proposed to be converted to uses requiring a special exception, the structures meet all code requirements of Loudoun County.

Response: N/A

(L) Whether the proposed special exception will be served adequately by essential public facilities and services.

Response: The proposed use will be served by public facilities either existing in the area or to be extended from future development.

(M) The effect of the proposed special exception on groundwater supply.

Response: The proposed use should not have negative impacts on the groundwater supply. The Property will be developed in accordance with the County regulations for stormwater management/BMP's.

(N) Whether the proposed use will affect the structural capacity of the soils.

Response: The structural capacity of soils on the Property will be addressed as foundations for the proposed storage tanks are designed and constructed.

(O) Whether the proposed use will negatively impact orderly and safe road development and transportation.

Response: The proposed use will not negatively impact orderly and safe road development and transportation.

(P) Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.

Response: The proposed water storage tanks are a public use which will not, in and of themselves, enlarge the tax base. However, adequate, dependable water service is needed to satisfy demands for future economic development activity as envisioned in the Comprehensive Plan, and to provide for adequate fire flows in the event of related emergencies.

(Q) Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.

Response: The proposed elevated water storage tanks will satisfy the water storage needs of planned and approved industry and business uses in the Transition Policy Area and will enhance the reliability of the water distribution system generally throughout the Central System.

(R) Whether adequate on and off-site infrastructure is available.

Response: On and off-site infrastructure will be available to serve the proposed water storage tanks at such time as they are constructed and placed in operation.

(S) Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.

Response: No odors are anticipated from the proposed use.

(T) Whether the proposed special exception uses sufficient measures to mitigate the impact of construction traffic on existing neighborhoods and school areas.

Response: It is anticipated that that construction of the first proposed water storage tank will occur in tandem with future construction of homes in the area. Impacts of construction traffic on new neighborhoods and school areas are therefore not anticipated. For existing communities, Loudoun Water will work with its contractors to designate construction traffic access to the site from Watson Road and the western portion of Red Hill Road. Once growing water demands require construction of the second tank, measures will be taken to ensure that construction traffic does not pose a danger to area residents and uses.

Minor Special Exception for Modification to Type 4 Buffer

A modification is requested to allow a ten foot high, vinyl-coated chain link fence to be located as generally shown on the conceptual development plan. The modified location is closer to the proposed elevated tanks rather than along the required Type 4 buffer at the property line. This modification would meet the standards for approval of a minor special exception for the following reasons: The modified fence location would result in a better orientation for open space between the fencing and the property line rather than inside the fence where the open space would not be as visible, thus achieving a more innovative design. Providing more open space than is required (84 % versus 50%) is also an improvement upon existing regulations. The modification would exceed the public purpose of the existing regulations by

providing a visual enhancement for surrounding properties not otherwise possible if existing regulations were implemented.

Period of Validity

Given the fact that the two tanks will be phased to coincide with demand, the Applicant respectfully requests that the period of validity for the special exception be increased from the standard 5 years to 10 years. Similar time extensions have been previously approved for other Loudoun Water facilities.

Conclusion

For the reasons cited above, the proposed elevated water storage tanks are an appropriate use for the Property. Revised General Plan recommendations recognize Loudoun Water's responsibility to provide an adequate supply of water to the Transition Policy Area of the County so as to serve the needs of existing and future customers. The proposed storage tanks are an essential element of this service responsibility. The proposed tanks are elevated and centrally located in the 600 Zone, a key factor in the efficient and reliable operation of the water distribution system.