

600 ZONE WATER STORAGE TANKS

Alternate Site Analysis

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FINAL



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INTRODUCTION

Purpose and Scope

Based on previous studies Loudoun Water had selected a water storage tank location within the Grant at Willowsford subdivision for the purpose of serving customers in the 600 Water Pressure Zone (600 Zone) of Loudoun Water's central service area. The purpose of this study is to identify additional alternate properties, using certain screening criteria, which could potentially support an elevated water storage tank.

Water storage tanks must be located strategically for maximum benefits including capital and operating costs, system hydraulics, and water quality. Generally, the best tank locations are near the center of use and on high-ground. Since water tanks are used to store drinking water for customers, it is important to understand that water-quality must be a primary concern in siting the right tank at the right location. While some criteria considered in this analysis can positively impact water quality (e.g., central location), further analysis focused specifically on water quality should be performed to determine the water quality impacts for a given location.

Study Area

The study area consists primarily of Loudoun Water's defined 600 Zone: approximately 12,000-acres of land located in the western portion of Loudoun Water's Central Service Area that extends between Bull Run and Goose Creek. Parcels within the 600 Zone are permitted to be served by central utilities. Also included in the study area is a small group of properties which are surrounded by Loudoun Water's Central Service Area, but are not part of it due to County policy considerations. These parcels lie just west of Evergreen Mills Road, north of Fleetwood Road, and south of the Woodlands subdivision.

INITIAL SCREENING

The first step in looking at potential alternate site locations was to create a list of the properties within the study area which met certain minimum requirements. The Loudoun County Zoning Ordinance places certain setback requirements on elevated water storage tanks, with lower tanks – as measured from the grade at the base of the structure to the top of the structure – requiring smaller parcels. Based on prior experience on similar projects, applying the setback criteria to a site consisting of two (2) storage tanks of 200-feet in height results in the need for a parcel of land roughly 5 to 6-acres in size. Properties with higher elevations require less storage tank height and therefore less property may be needed in these instances. Given this list of

properties, additional screening measures were then applied during the initial screening process.

The initial screening identified nearly 60 properties for analysis. The results are presented in a table included in Appendix A and on an exhibit Identified as Figure 1.

Hydraulic Requirements

The initial site screening included two key hydraulic criteria. A hydraulically efficient site is preferred over one which is less efficient. Sites which are more efficient will likely have lower start up costs as well as lower recurring costs over the life cycle of the facility.

The first hydraulic metric was to determine those sites within the 600 Zone which had existing ground elevations greater than 400-feet above mean sea level. The 400-foot elevation level was selected as it results in a nominal tank height of roughly 200-feet in order to reach the required 600-feet of pressure head in the system. Loudoun Water's prior experience in developing similar tank sites has shown that tanks with heights greater than 200-feet have significantly greater construction and maintenance costs.

The second hydraulic screening requirement was to look for sites which were centrally located within the 600 Zone. Placing a tank centrally within the 600 Zone is efficient as it limits the distance that the water would need to be pumped. Loudoun Water already operates pump stations in Dulles South and Brambleton, which are sources of water for the proposed 600 Zone tanks. It also results in placing the tanks closer to the main population center of the 600 Zone. A potential tank site was considered centrally located if it was located north of Route 50 where it maximizes efficiencies from the existing pumping stations.

General Requirements

In addition to the hydraulic requirements, a potential alternate site must also meet a couple of key general requirements. The means of access to each property was reviewed and the primary road from which access would occur has been listed. A few of these roads, such as Route 50 and Evergreen Mills Road are paved roads. Others, such as Red Hill Road and Stone School Lane are gravel roads. A gravel, or rural, road section is typically a much harder means of access to a property as compared to a paved road due to it being narrower, having sharper curves, as well as a less reliable riding surface.

The general screening included looking at each of the properties to see if development of a roughly 5-acre tank site was viable. Sites were considered viable if they were not being presently used predominately as a single-family detached residence or if they were known to be platted community open space or conservancy lots. It was also assumed that properties were

considered “vacant” if the Loudoun County tax assessment website listed them as vacant, regardless of whether any structure exists on the property.

Most properties in the 600 Zone are located in the Transition Policy Area, but one subdivision – the Woodland Rural Village – is located in the Rural Policy Area. Generally, properties in the Rural Policy Area cannot be served by central utilities unless specific legislative action is taken by the Loudoun County Board of Supervisors to permit such service. The County’s Comprehensive Plan specifically notes that central utilities may be permitted in the Woodland Rural Village.

SECOND LEVEL SCREENING – ENVIRONMENTAL FACTORS

For the properties determined to be viable alternate site options, a set of environmental screening factors were applied. Sites which have a low potential for environmental issues are desired over sites which appear to have the potential for environmental issues. The environmental screening factors included: site access, wetlands, and steep slopes. These measures were screened via a desktop review of the Loudoun County GIS data available for property and right-of-way lines, predicted wetlands, and steep slopes. The results of the second level screening are presented in a table in Appendix B. Sites which are not expected to present problems in these categories were given with an “N”. Sites which might have the possibility of problems were given an “M”. Sites which appeared to have potential problems in these categories were given a “Y”.

DISCUSSION OF POTENTIAL SITES

The site screening results identified several properties which have the potential for a water storage tank development. These are each briefly discussed in this section. The sites have been grouped and presented based on the fee simple ownership entity of the property. The order in which they are presented does not imply a specific ranking or site preference. See Figure 1 for color coded groupings.

Brambleton Land (Properties 43-47)

The Brambleton Group owns 5 properties along the east side of Evergreen Mills Road just north of the 510/600 Zone boundary. The parcel between Properties 46 and 47 was not identified on the map as it has been developed as a landscape nursery. Properties 43-46 are zoned PDH-4 as part of the original Brambleton rezoning. Property 47 is zoned TR10/TR3UBF. These properties have areas above the 400-foot elevation which could support a tank site. Access is directly from Evergreen Mills Road. Steep slopes and wetland issues do not appear to be significant.

In our discussions with in-house teams doing work for Brambleton, we have learned that the Brambleton Group has filed a rezoning which includes these properties. The purposes of the rezoning are to unify the zoning of the properties as well as to provide a zoning concept layout for residential uses. As part of this zoning effort, Properties 46 and 47 (as well as the parcel between them) have been preliminarily identified as a possible school site. The location for the school site appears to try and leverage synergistic opportunities between the school use and the planned Loudoun County Parks and Recreation site immediately to the south of Property 47. A tank site within any of these properties would place the tanks directly across Evergreen Mills Road from the Rural Policy Area limits.

Rouse Land (Properties 29, 31, and 32)

Randolph Rouse owns 3 properties identified on the map as potential locations for a tank site. Property 29 is the largest and has access from Evergreen Mills Road, Red Hill Road, and Stone School Road. Steep slopes and wetlands are not significant issues on this property. It is large enough to support a roughly 5-acre tank site and it has plenty of ground area at elevation 400 or higher. However, this property currently lies within the Rural Policy Area and would require County legislative action to permit a central water storage facility on this property.

Properties 31 and 32 are contiguous to one another and they lie to the south of the Stone School Road/Red Hill Road intersection. Of the two, Property 31 is the better choice as it has access directly from a public road, is larger in size, and does not have significant steep slopes or wetlands concerns. A tank site could potentially be located in either the northwest or north east corners of this property. Property 32 would require an access easement through Property 31 to access the site. It is also encumbered by some steep slopes area which could limit the development potential for a tank site.

Willowsford Land (Properties 1/1A and 27)

Willowsford owns two significantly large tracks of land identified as Properties 1 and 27 on the map. These parcels are part of their Gant at Willowsford subdivision. Property 1A includes the originally identified 600 Zone water storage tank location. It meets the criteria for being north of Route 50, it has an elevation greater than 400-feet, and it is considered available given Loudoun Water's contract sales agreement with Willowsford. Access is from Route 50, initially via an existing farm access road and eventually by internal subdivision streets. There are a few wetland crossing areas along the access road, but no wetlands or steep slopes are present within the planned 5-acre site. The site is located approximately 0.12-miles from the Rural Policy Area boundary and approximately three-quarters of a mile from Mt. Zion Church.

Property 1 refers to the areas of this parcel which are outside of the original planned 5-acre tank location. With consent of the property owner, the storage tanks could be relocated to another location on this property. An alternate location within Property 1 likely would not significantly

address the proximity of the water storage tank to the Rural Policy Area boundary or to Mt. Zion Church while maintaining a minimum ground elevation at or above 400-feet.

Property 27 is generally located to the north of Property 1/1A. Willowsford has offered an alternate location for the 600 Zone water storage tanks within this property. The tanks would be located a little more than a half mile to the north and east of the original tank site and they would still be at or above elevation 400. Access is assumed to be the same as with Property 1/1A, but with additional length of road to travel the extra distance within the property. Steep slopes and wetland issues are not significantly different from the original tank location. This site would place the tanks about 0.36-miles from the Rural Policy Area boundary and approximately 1.27-miles from Mt. Zion Church.

Willowsford Land (Properties 30, 48, 49, and 50)

These properties are all part of the Grant at Willowsford subdivision. They have been separated from Properties 1 and 27, which are also part of this subdivision, as these properties are in areas where the land owner has already obtained approval for preliminary subdivision plans, construction plans, and even recorded plats for Sections 1 and 2. This area of the Grant at Willowsford subdivision has been actively marketed to the public for home sites with many sales having already taken place. Portions of this area have also already been recorded as open space. While these properties meet the screening requirements, proposing a tank site on any of these properties would likely be met with opposition from the new lot owners who purchased their property without a storage tank being identified on the plans. The developer may also take issue with this as it could affect open space amenities and future lot sales. It is recommended that Loudoun Water have a conversation with Willowsford should there be a desire to consider one of these properties for the storage tank location.

Termini and Awig Land (Properties 28 and 35, respectively)

These properties are owned separately by individual owners. They are located on the south side of Red Hill Road and north of the Willowsford Property 27. These properties meet the requirements for a central location north of Route 50 and they have elevations above 400-feet. They do not have significant access, or environmental concerns; however, they are located proximate to the Rural Policy Area boundary. While the County's tax records shows these parcels as vacant, a review of aerial images shows structures on each property up along the road frontage. If considered as a possible tank site location, the site would likely need to be located towards the rear of these properties with Property 28 being preferred over Property 25 as it is about twice the size.

Willowsford Land (Property 73)

This Willowsford-owned property lies on the west side of Evergreen Mills Road just north of Stone School Lane. It meets the requirement for being north of Route 50 and has elevations greater than 400-feet. The property is zoned A3 and contains roughly 10-acres. It does not have significant access, steep slopes, or wetland issues which would affect development of the property for a water storage tank use. However, the site lies within the Rural Policy Area, and County legislative action would be necessary to permit a central water storage facility on this property.

Woodworth Land (Properties 38 and 39)

Richard and Mary Woodworth own two properties adjacent to one another. Property 39 is about 20-acres and Property 38 is 10-acres. Both are zoned A3 and both lie within the Rural Policy Area. These parcels meet the requirement for being north of Route 50 and they have elevations greater than 400-feet. They do not have significant steep slopes, or wetland issues which would affect development of the property for a water storage tank use. The larger property, Property 38, fronts on Red Hill Road and is used as a residence. The smaller property lies behind the first and appears to be undeveloped open space. Access to the rear property would need to be via a private access easement across the larger tract. As the site lies within the Rural Policy Area, County legislative action would be necessary to permit a central water storage facility on this property.

Area 1 – Properties immediately to the north of Route 50 along Watson Lane

These properties were identified for possible consideration because they are located north of Route 50, have elevations of at least 400-feet, and a portion of each property lies within the Transition Policy Area. However, these properties do not represent an appreciable difference in separation from the Rural Policy Area and Mt. Zion Church from the originally identified 600 Zone tank site within the Grant at Willowsford subdivision. These properties were not included in the second site screening.

Area 2 – Properties south of and adjacent to Route 50

These properties were identified for possible consideration due to them having elevations of at least 400-feet. While not ideally located north of Route 50, the properties are immediately to the south of Route 50 and access is provided from Route 50. While generally meeting the two most important screening criteria, these properties are considered too close to Mt. Zion Church and were therefore not considered for second level screening.

Area 3 – Properties in the far southern limits of the 600 Zone

These properties were identified in the initial screening as properties which had elevations of at least 400-feet and which appeared large enough to support a roughly 5-acre storage tank use. However, these properties fail the test of being centrally located with the 600 Zone. These properties were not considered for second level screening.

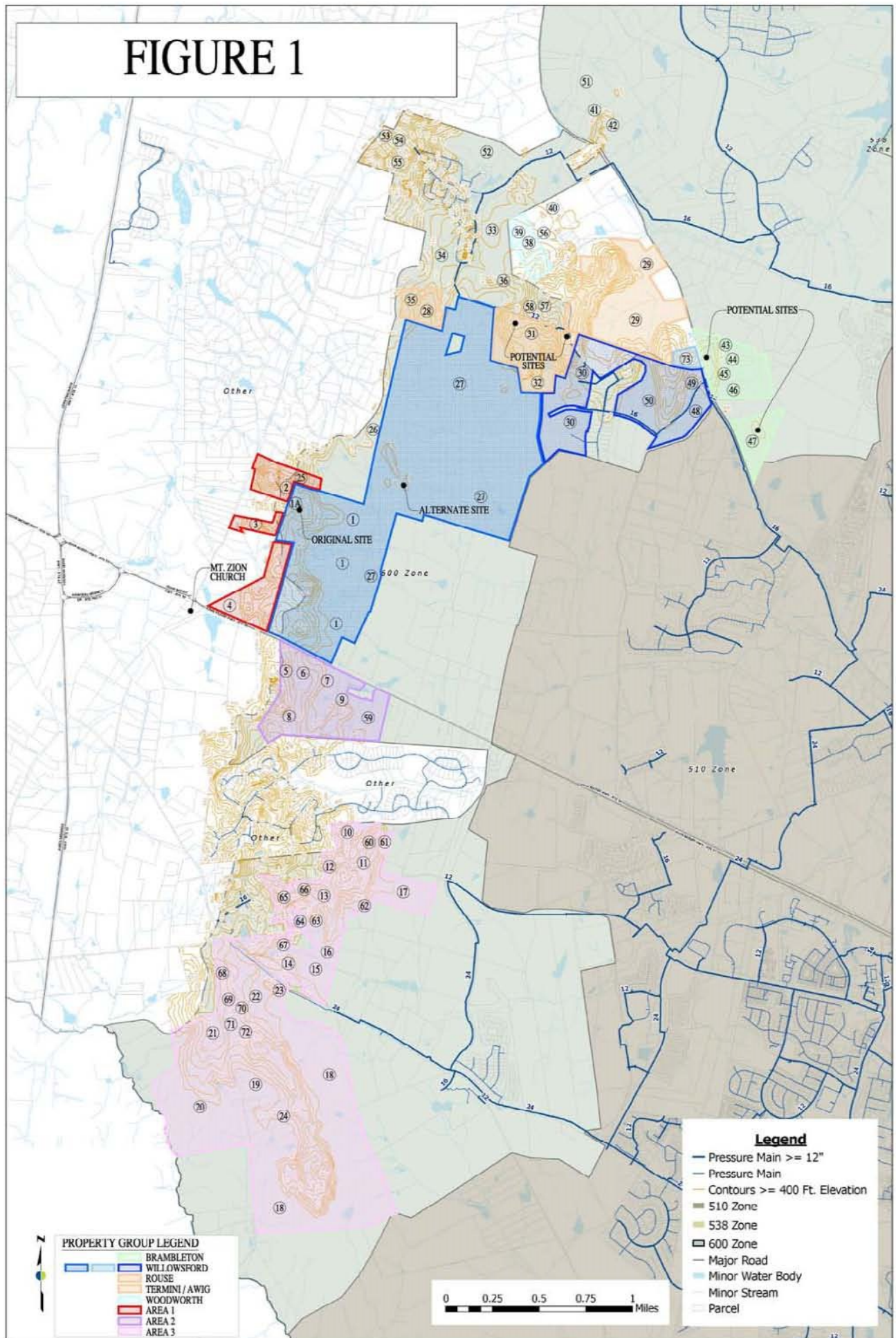
SUMMARY

This study uses various screening techniques to identify potential alternate site locations for the 600 Zone water storage tanks. Other than the original site within the Grant at Willowsford subdivision, several other sites have surfaced as potentially viable alternatives. With the exception of the alternate site offered up by Willowsford on Property 27, the sites identified are generally bounded by Evergreen Mill Road, Red Hill Road, or Stone School Lane. These sites meet the minimum hydraulic screening criteria as well as a screening for general and environmental conditions. There are also a few other sites nearby which could have been identified as potential options. However, they are located either partially or entirely within the Rural Policy Area and County legislative action would be necessary to permit a central water storage facility on them.

Figure 1 and the Appendices which follow include the data referenced within the text of this study. They are presented for both the initial and second screening levels.

Figure 1 – Property Map Exhibit

FIGURE 1



Appendix A – Initial Screening

600 ZONE WATER STORAGE TANKS - TANK LOCATION CRITERIA										
					INITIAL SCREENING TOOLS					
					HYDRAULIC		GENERAL			
LEGEND NUMBER	MCPI NUMBER	OWNER	AREA (AC)	ZONING	GROUND ELEV. 400' OR ABOVE ¹	CENTRAL LOCATION ²	ACCESSED VIA	VIABLE ³	LOCATION IS INTERNAL TO CUSTOMER BASE ⁴	Notes
1A	284-26-1171	Willowsford Grant LLC.	5.03	TR3UBF/AR1	Yes	Yes	Route 50	Yes	Yes	Original Tank Site currently under contract
1	284-26-1171	Willowsford Grant LLC.	234.53	TR3UBF/AR1	Yes	Yes	Route 50	Yes	Yes	Parent parcel of original tank site
27	244-45-3850	Willowsford Grant LLC.	573.43	TR1UBF/TR3UBF	Yes	Yes	Farm Road	Yes	Yes	Alt. Site Identified by Willowsford
47	200-15-8464	Brambleton Group	33.46	TR10/TR3UBF	Yes	Yes	Evergreen Mills	Yes	Yes	Vacant Land; Potential High School Site
31	243-45-9310	Rouse, Randolph	72.9	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	Larger of the two adjacent Rouse Properties
32	243-25-8294	Rouse, Randolph	13.12	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	Smaller of the two adjacent Rouse Properties
50	243-29-1427	Willowsford Conservancy	63.57	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	Platted Open Space per SBRD 2008-0008
30	243-20-0865	Willowsford Grant LLC.	100.32	A3/TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	Part of Grant at Willowsford
4	324-49-5048	K E G Associates II	45.7	AR1	Yes	Yes	Route 50	Yes	Yes	Ex. Farm
28	282-18-8720	Termini, Anna-Marie	16.17	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	Vacant Land
35	282-18-2536	Awig, Brian & Ginger	8.58	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	Vacant Land
43	243-40-6613	Brambleton Group LLC.	13.1	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	Vacant Land
44	200-35-4550	Brambleton Group LLC.	10.45	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	Vacant Land
45	200-35-5717	Brambleton Group LLC.	17.4	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	Vacant Land
46	200-25-7375	Brambleton Group LLC.	24	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	Vacant Land
48	243-10-0358	Willowsford Homeowners Association INC.	23.99	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	Platted Open Space per SBRD 2008-0008
49	243-20-2165	Willowsford Homeowners Association INC.	6.78	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	Platted Open Space per SBRD 2008-0008
29	242-18-1260	Rouse, Randolph	173.69	A3	Yes	Yes	Red Hill Rd	Yes	No	In Rural Policy Area
73	243-30-0527	Willowsford Grant LLC.	10	A3	Yes	Yes	Evergreen Mills	Yes	No	In Rural Policy Area
38	242-25-6753	Woodworth, Richard & Mary	20	A3	Yes	Yes	Red Hill Rd	Yes	No	Ex. SFD Use
39	242-35-3724	Woodworth, Richard & Mary	10	A3	Yes	Yes	Red Hill Rd	Yes	No	In Rural Policy Area
40	242-36-8487	Red Hill Manor HOA	17.58	A3	Yes	Yes	Red Hill Rd	Possible	No	Potential HOA Open Space
56	242-36-1205	Schultz, Paul	10.02	A3	Yes	Yes	Red Hill Rd	Possible	No	Conservancy Lot
26	283-36-3815	Juno-Loudoun LLC.	40.54	TR3UBF	Yes	Yes	Watson Rd	Possible	Yes	Possible HOA Open Space
41	241-27-4044	Baker, Theodore & Karen	10.61	TR10	Yes	Yes	Evergreen Mills	No	Yes	Ex. SFD Use
42	241-27-9420	Baker, William & Joan	11.86	TR10	Yes	Yes	Evergreen Mills	No	Yes	Ex. SFD Use/Cemetary
2	323-40-3703	Watts, Paul & Elaine	14.91	AR1	Yes	Yes	Watson Rd	No	Yes	Ex. SFD Use
3	323-29-8483	Smith, Brian	12.39	AR1	Yes	Yes	Watson Rd	No	Yes	Ex. SFD Use
25	323-40-2851	Milliken, Joan	15.95	TR3UBF/AR1	Yes	Yes	Watson Rd	No	Yes	Ex. SFD Use
33	282-30-7065	Woodlands Neighborhoods LLC.	100	PDRV	Yes	Yes	Stone School	No	Yes	Conservancy Lot
34	282-28-8844	Cook, Steven & Lynn	100.51	PDRV	Yes	Yes	Red Hill Rd	No	Yes	Conservancy Lot
36	282-10-8853	Burleson, Jerry	9.16	TR3UBF	Yes	Yes	Stone School	No	Yes	Ex. SFD Use
37	242-15-3789	Kmak, Chester, & Christine	10	A3/TR3UBF	Yes	Yes	Red Hill Rd	No	Yes	Ex. SFD Use
52	242-47-0784	Woodlands Neighborhoods LLC.	100.02	PDRV	Yes	Yes	Evergreen Mills	No	Yes	Conservancy Lot
53	281-17-1811	Woodlands Neighborhoods LLC.	10	PDRV	Yes	Yes	Watson Rd	No	Yes	Conservancy Lot
54	281-17-6010	Woodlands Neighborhoods LLC.	10	PDRV	Yes	Yes	Watson Rd	No	Yes	Conservancy Lot
55	281-17-9796	Fox, Thomas & Monica	10	PDRV	Yes	Yes	Watson Rd	No	Yes	Conservancy Lot
57	243-46-0678	Anderson, Rae & Mark Haselden	9.03	TR3UBF	Yes	Yes	Stone School	No	Yes	Ex. SFD Use
58	242-15-5709	Ziviello, Alfred & Ashley	6.4	TR3UBF	Yes	Yes	Stone School	No	Yes	Ex. SFD Use
51	241-37-9360	Rodenburg, Mark & Carolyn	14.66	TR10	Yes	Yes	Evergreen Mills	N	Yes	Ex. SFD Use
9	285-16-3395	Oxbridge Development @ Aldie LC.	28.79	TR1UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/ Rt. 50 Frontage
59	285-17-0538	Oxbridge Development @ Aldie LC.	25.15	TR1UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/ Rt. 50 Frontage
7	285-25-5814	Buck, Regina	38.02	TR1UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/ Rt. 50 Frontage
5	324-20-7896	Miscia General Partnership	10	TR3UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/ Rt. 50 Frontage
6	285-25-2784	Ambrogi, Leo	13.05	TR3UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/ Rt. 50 Frontage

600 ZONE WATER STORAGE TANKS - TANK LOCATION CRITERIA										
					INITIAL SCREENING TOOLS					
					HYDRAULIC		GENERAL			
LEGEND NUMBER	MCPI NUMBER	OWNER	AREA (AC)	ZONING	GROUND ELEV. 400' OR ABOVE ¹	CENTRAL LOCATION ²	ACCESSED VIA	VIABLE ³	LOCATION IS INTERNAL TO CUSTOMER BASE ⁴	Notes
8	324-10-5538	Ryu, Sung & Yom	26.67	TR3UBF	Yes	Proximate	Route 50	Yes	Yes	Just south of Rt. 50 w/o Rt. 50 Frontage
14	326-20-4161	Light, Bernadette	24.31	TR1UBF	Yes	No	Braddock	N/I	Yes	Not studied further due to location S. of 50
15	287-25-5709	T&M Associates LP.	21.75	TR1UBF	Yes	No	Braddock	N/I	Yes	Not studied further due to location S. of 50
16	287-25-8895	Dennis, Bill & Linda	15.5	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
17	287-48-0949	Willowsford Grove LLC.	29.24	TR1UBF	Yes	No	N/A	N/I	Yes	Not studied further due to location S. of 50
18	289-46-3009	Willowsford Greens LLC.	359.52	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
19	327-29-7094	Herndon, John & Ann	51.31	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
23	326-10-2891	LST LC.	8.26	TR1UBF	Yes	No	Braddock	N/I	Yes	Not studied further due to location S. of 50
24	288-25-8724	Gulick, Milton	28.28	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
62	287-46-9040	Dower, Nikia	8.92	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
63	287-35-5474	Drees Company	5.14	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
64	326-30-6342	Rockbridge Community Association	9.5	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
67	326-30-4905	Lodge, Thomas & Van Camp Tees	6.71	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
20	327-28-4120	Willowsford Greens LLC.	134.27	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
22	326-29-3620	Reilly, John & Bruce Deatley	24	TR1UBF/TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
65	326-40-7344	Polito, Ronald & Jacqueline	11	TR1UBF	Yes	No	Braddock	N/I	Yes	Not studied further due to location S. of 50
66	287-45-2744	Drees Company	10.27	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
70	326-19-3013	Rudd, Jimmy & Wilma	6	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
71	327-49-2477	Rudd, Jimmy & Wilma	5.42	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
72	327-49-4350	Albright, James & Diane	6.5	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
10	286-26-4811	Herzstein, Robert & Rivkin	10.17	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
11	286-17-0336	Zarou, Rashid & Maher	11.34	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
12	286-16-0437	Drees Company	10.43	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
13	287-45-8645	Drees Company	10.96	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
21	327-48-2137	Garvin, Paul & Jo Ann	27	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
60	286-27-0702	Hays, Alan & Sharon	7.46	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
61	286-17-4786	Johnson, John & Peggy	5.59	TR1UBF	Yes	No	Lenah Rd	N/I	Yes	Not studied further due to location S. of 50
68	326-19-0693	Hutcheson, Mark & Nancy	10.98	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50
69	326-19-2049	J B C Developers INC	6.39	TR3UBF	Yes	No	Peach Orchard	N/I	Yes	Not studied further due to location S. of 50

Footnotes:

- 1
- An elevation of at least 400-feet maintains a maximum tank height of 200-feet.
- 2
- Tank sites north of Rt. 50 have been determined to provide hydraulic benefits.
- 3
- Tank sites were considered viable if they were not being presently used predominately as a single family detached (SFD) residence.
Sites were excluded if they were known to be HOA Open Space or Conservation Lots.
- 4
- Tank sites are considered internal to customer base if land around the site is located in the Central System and is available for development.

Appendix B – Second Screening

600 ZONE WATER STORAGE TANKS - TANK LOCATION CRITERIA

					INITIAL SCREENING TOOLS					SECOND LEVEL SCREENING TOOLS ⁵			
					HYDRAULIC		GENERAL			ENVIRONMENTAL			
LEGEND NUMBER	MCPI NUMBER	OWNER	AREA (AC)	ZONING	GROUND ELEV. 400' OR ABOVE ¹	CENTRAL LOCATION ²	ACCESSED VIA	VIABLE ³	LOCATION IS INTERNAL TO CUSTOMER BASE ⁴	POTENTIAL ACCESS ISSUES?	POTENTIAL WETLAND ISSUES?	POTENTIAL STEEP SLOPE ISSUES?	Notes
1A	284-26-1171	Willowsford Grant LLC.	5.03	TR3UBF/AR1	Yes	Yes	Route 50	Yes	Yes	N	N	N	Original Tank Site currently under contract
1	284-26-1171	Willowsford Grant LLC.	234.53	TR3UBF/AR1	Yes	Yes	Route 50	Yes	Yes	M	N	N	Parent Parcel of original tank site currently under contract
27	244-45-3850	Willowsford Grant LLC.	573.43	TR1UBF/TR3UBF	Yes	Yes	Farm Road	Yes	Yes	M	N	N	Alt. Willowsford Site, Viable, but requires longer access road
47	200-15-8464	Brambleton Group	33.46	TR10/TR3UBF	Yes	Yes	Evergreen Mills	Yes	Yes	N	N	N	Vacant Land; Potential High School Site
31	243-45-9310	Rouse, Randolph	72.9	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	N	N	N	Ex. Farm
50	243-29-1427	Willowsford Conservancy	63.57	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	N	N	N	Platted Open Space per SBRD 2008-0008
30	243-20-0865	Willowsford Grant LLC.	100.32	A3/TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	N	N	N	Part of the Grant at Willowsford
28	282-18-8720	Termini, Anna-Marie	16.17	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	N	N	N	Close to RPA
35	282-18-2536	Awig, Brian & Ginger	8.58	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	N	N	N	Close to RPA
43	243-40-6613	Brambleton Group LLC.	13.1	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	N	N	N	Possible School Site; PDH Zoning = Higher land cost
44	200-35-4550	Brambleton Group LLC.	10.45	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	N	N	N	Possible School Site; PDH Zoning = Higher land cost
45	200-35-5717	Brambleton Group LLC.	17.4	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	N	N	N	Possible School Site; PDH Zoning = Higher land cost
46	200-25-7375	Brambleton Group LLC.	24	PDH4	Yes	Yes	Evergreen Mills	Yes	Yes	N	N	N	Possible School Site; PDH Zoning = Higher land cost
48	243-10-0358	Willowsford Homeowners Association INC.	23.99	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	N	N	N	Platted Open Space per SBRD 2008-0008
29	242-18-1260	Rouse, Randolph	173.69	A3	Yes	Yes	Red Hill Rd	Yes	No	N	N	N	In Rural Policy Area
73	243-30-0527	Willowsford Grant LLC.	10	A3	Yes	Yes	Evergreen Mills	Yes	No	N	N	N	In Rural Policy Area
38	242-25-6753	Woodworth, Richard & Mary	20	A3	Yes	Yes	Red Hill Rd	Yes	No	N	N	N	Ex. SFD Use
39	242-35-3724	Woodworth, Richard & Mary	10	A3	Yes	Yes	Red Hill Rd	Yes	No	M	N	N	In Rural Policy Area
40	242-36-8487	Red Hill Manor HOA	17.58	A3	Yes	Yes	Red Hill Rd	Possible	No	N	N	N	Potential HOA Open Space
56	242-36-1205	Schultz, Paul	10.02	A3	Yes	Yes	Red Hill Rd	Possible	No	N	M	N	Conservancy Lot
41	241-27-4044	Baker, Theodore & Karen	10.61	TR10	Yes	Yes	Evergreen Mills	No	Yes	N	N	N	Ex. SFD Use
33	282-30-7065	Woodlands Neighborhoods LLC.	100	PDRV	Yes	Yes	Stone School	No	Yes	N	N	N	Conservancy Lot
34	282-28-8844	Cook, Steven & Lynn	100.51	PDRV	Yes	Yes	Red Hill Rd	No	Yes	N	N	N	Conservancy Lot
36	282-10-8853	Burleson, Jerry	9.16	TR3UBF	Yes	Yes	Stone School	No	Yes	N	N	N	Ex. SFD Use
37	242-15-3789	Kmak, Chester, & Christine	10	A3/TR3UBF	Yes	Yes	Red Hill Rd	No	Yes	N	N	N	Ex. SFD Use
52	242-47-0784	Woodlands Neighborhoods LLC.	100.02	PDRV	Yes	Yes	Evergreen Mills	No	Yes	N	N	N	Conservancy Lot
53	281-17-1811	Woodlands Neighborhoods LLC.	10	PDRV	Yes	Yes	Watson Rd	No	Yes	N	N	N	Conservancy Lot
54	281-17-6010	Woodlands Neighborhoods LLC.	10	PDRV	Yes	Yes	Watson Rd	No	Yes	N	N	N	Conservancy Lot
55	281-17-9796	Fox, Thomas & Monica	10	PDRV	Yes	Yes	Watson Rd	No	Yes	N	N	N	Conservancy Lot
57	243-46-0678	Anderson, Rae & Mark Haselden	9.03	TR3UBF	Yes	Yes	Stone School	No	Yes	N	N	N	Ex. SFD Use
58	242-15-5709	Ziviello, Alfred & Ashley	6.4	TR3UBF	Yes	Yes	Stone School	No	Yes	N	N	N	Ex. SFD Use
51	241-37-9360	Rodenburg, Mark & Carolyn	14.66	TR10	Yes	Yes	Evergreen Mills	N	Yes	N	N	N	Ex. SFD Use
49	243-20-2165	Willowsford Homeowners Association INC.	6.78	TR3UBF	Yes	Yes	Langley Oaks	Yes	Yes	N	M	N	Platted Open Space per SBRD 2008-0008
32	243-25-8294	Rouse, Randolph	13.12	TR3UBF	Yes	Yes	Red Hill Rd	Yes	Yes	M	N	Y	Issues=Steep Slopes/Size
42	241-27-9420	Baker, William & Joan	11.86	TR10	Yes	Yes	Evergreen Mills	No	Yes	N	N	Y	Ex. SFD Use/Cemetery
26	283-36-3815	Juno-Loudoun LLC.	40.54	TR3UBF	Yes	Yes	Watson Rd	Possible	Yes				N/S - Directly Adj. to RPA and HOA Open Space
25	323-40-2851	Milliken, Joan	15.95	TR3UBF/AR1	Yes	Yes	Watson Rd	No	Yes				N/S - Straddles RPA and too close to Mt. Zion
2	323-40-3703	Watts, Paul & Elaine	14.91	AR1	Yes	Yes	Watson Rd	No	Yes				N/S - Straddles RPA and too close to Mt. Zion
3	323-29-8483	Smith, Brian	12.39	AR1	Yes	Yes	Watson Rd	No	Yes				N/S - Straddles RPA and too close to Mt. Zion
4	324-49-5048	K E G Associates II	45.7	AR1	Yes	Yes	Route 50	Yes	Yes				N/S - too close to Mt. Zion Church
9	285-16-3395	Oxbridge Development @ Aldie LC.	28.79	TR1UBF	Yes	Proximate	Route 50	Yes	Yes				
59	285-17-0538	Oxbridge Development @ Aldie LC.	25.15	TR1UBF	Yes	Proximate	Route 50	Yes	Yes				
7	285-25-5814	Buck, Regina	38.02	TR1UBF	Yes	Proximate	Route 50	Yes	Yes				
5	324-20-7896	Miscia General Partnership	10	TR3UBF	Yes	Proximate	Route 50	Yes	Yes				
6	285-25-2784	Ambrogi, Leo	13.05	TR3UBF	Yes	Proximate	Route 50	Yes	Yes				

600 ZONE WATER STORAGE TANKS - TANK LOCATION CRITERIA

					INITIAL SCREENING TOOLS					SECOND LEVEL SCREENING TOOLS ⁵			
					HYDRAULIC		GENERAL			ENVIRONMENTAL			
LEGEND NUMBER	MCPI NUMBER	OWNER	AREA (AC)	ZONING	GROUND ELEV. 400' OR ABOVE ¹	CENTRAL LOCATION ²	ACCESSED VIA	VIABLE ³	LOCATION IS INTERNAL TO CUSTOMER BASE ⁴	POTENTIAL ACCESS ISSUES?	POTENTIAL WETLAND ISSUES?	POTENTIAL STEEP SLOPE ISSUES?	Notes
8	324-10-5538	Ryu, Sung & Yom	26.67	TR3UBF	Yes	Proximate	Route 50	Yes	Yes	These properties have not been analyzed beyond the initial identification screening as they do not meet Loudoun Water's requirement to be north of Route 50, which speaks to the centrally locating the facility.			
14	326-20-4161	Light, Bernadette	24.31	TR1UBF	Yes	No	Braddock	N/I	Yes				
15	287-25-5709	T&M Associates LP.	21.75	TR1UBF	Yes	No	Braddock	N/I	Yes				
16	287-25-8895	Dennis, Bill & Linda	15.5	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
17	287-48-0949	Willowsford Grove LLC.	29.24	TR1UBF	Yes	No	N/A	N/I	Yes				
18	289-46-3009	Willowsford Greens LLC.	359.52	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
19	327-29-7094	Herndon, John & Ann	51.31	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
23	326-10-2891	LST LC.	8.26	TR1UBF	Yes	No	Braddock	N/I	Yes				
24	288-25-8724	Gulick, Milton	28.28	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
62	287-46-9040	Dower, Nikia	8.92	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
63	287-35-5474	Drees Company	5.14	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
64	326-30-6342	Rockbridge Community Association	9.5	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
67	326-30-4905	Lodge, Thomas & Van Camp Tees	6.71	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
20	327-28-4120	Willowsford Greens LLC.	134.27	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
22	326-29-3620	Reilly, John & Bruce Deatley	24	TR1UBF/TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
65	326-40-7344	Polito, Ronald & Jacqueline	11	TR1UBF	Yes	No	Braddock	N/I	Yes				
66	287-45-2744	Drees Company	10.27	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
70	326-19-3013	Rudd, Jimmy & Wilma	6	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
71	327-49-2477	Rudd, Jimmy & Wilma	5.42	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
72	327-49-4350	Albright, James & Diane	6.5	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
10	286-26-4811	Herzstein, Robert & Rivkin	10.17	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
11	286-17-0336	Zarou, Rashid & Maher	11.34	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
12	286-16-0437	Drees Company	10.43	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
13	287-45-8645	Drees Company	10.96	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
21	327-48-2137	Garvin, Paul & Jo Ann	27	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
60	286-27-0702	Hays, Alan & Sharon	7.46	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
61	286-17-4786	Johnson, John & Peggy	5.59	TR1UBF	Yes	No	Lenah Rd	N/I	Yes				
68	326-19-0693	Hutcheson, Mark & Nancy	10.98	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				
69	326-19-2049	J B C Developers INC	6.39	TR3UBF	Yes	No	Peach Orchard	N/I	Yes				

Footnotes:

- 1
- An elevation of at least 400-feet maintains a maximum tank height of 200-feet.
- 2
- Tank sites north of Rt. 50 have been determined to provide hydraulic benefits.
- 3
- Tank sites were considered viable if they were not being presently used predominately as a single family detached (SFD) residence.
Sites were excluded if they were known to be HOA Open Space or Conservation Lots.
- 4
- Tank sites are considered internal to customer base if land around the site is located in the Central System and is available for development.
- 5
- Environmental issues (access, wetlands, and steep slopes) were considered to: (N) not to be a significant problem, (M) might present a problem, or (Y) is expected to be present a problem.