

**Fairfax Water  
Poplar Heights Water Tank Replacement  
2232 Public Facility Review  
and Special Exception**

**APPLICANT'S STATEMENT**

Pursuant to Virginia Code § 15.2-2232 and Sect. 8101.3 of the Fairfax County Zoning Ordinance (the "**Zoning Ordinance**"), the Fairfax County Water Authority ("**Fairfax Water**") requests approval of a 2232 Public Facility Review ("**2232**") and a Special Exception ("**SE**") for property identified as Fairfax County Tax Map Parcels 50-1 ((12)) 0006, 50-1 ((02)) 0089, 50-1 ((02)) 0094A, 50-1 ((12)) 0001 (portion of) and 50-1 ((12)) 0005 (portion of) (collectively, the "**Property**"). The purpose of the 2232 and SE (together, the "**Applications**") is to replace a 71-year-old 700,000 gallon standpipe water tank with a new approximately 1.25-million gallon single-pedestal composite elevated tank ("**Elevated Tank**") on the Property to improve the quality, pressure (including, the low pressure experienced by homes in the immediate vicinity of the existing standpipe water tank), fire flow, and storage volumes of Fairfax Water's public water distribution system in the Poplar Heights Pressure Zone.

The Property is located on the east side of Tower Street, approximately 500 feet north of its intersection with Midway Street (see **EXHIBIT 1**). The Property consists of approximately 0.918 acres and is zoned to the R-4 (Residential – Four Dwelling Units/Acre) District. Vehicular access is provided from Tower Street. The Property is primarily surrounded by single-family residential uses in the Poplar Heights subdivision that are zoned to the R-4 District.

The Property is currently developed with the existing 71-year-old 700,000-gallon standpipe water tank and four (4) single family residential dwelling units. Upon approval of these Applications, the Applicant will remove two of the existing single-family residential homes and the existing 71-year-old water tank to allow the new Elevated Tank to be constructed on the Property. The Applicant intends to pursue a resubdivision that would consolidate the Property into a single parcel to be maintained by Fairfax Water. The portions of parcels 50-1 ((12)) 0001 and 50-1((02)) 0005 not included within the Property will remain as separate parcels, albeit slightly smaller than they are today, and will be maintained for single family residential use upon completion of the new Elevated Tank.

In January 2014, Fairfax Water acquired the City of Falls Church ("**Falls Church**") water system. The Poplar Heights Pressure Zone was previously served by the Falls Church water system. After the acquisition, Fairfax Water identified multiple system deficiencies in areas formerly served by Falls Church, including low water service pressures, fire flow below current Fairfax Water and Fairfax County guidelines, insufficient storage volume per Virginia Department of Health ("**VDH**") and American Water Works Association ("**AWWA**") standards, and water quality concerns associated with the existing standpipe water tank. Fairfax Water also developed an integrated system master plan to identify projects necessary to meet current and future water needs for this part of the County. To address existing system deficiencies and meet future public health and safety needs of the residents and businesses in the Poplar Heights Pressure Zone, Fairfax Water purchased the lots that comprise the Property over the last five (5) years to accommodate a water storage tank that would meet those needs and replace the existing standpipe. The Elevated Tank is required to provide a more consistent level of water service within the existing distribution system and will improve system reliability, water quality and water flow and pressure for many customers in Fairfax County and Falls Church who are served by the Poplar Heights Pressure Zone, which is shown in **EXHIBIT 2**.

## **2232 SUBMISSION REQUIREMENTS**

The following information addresses Items A through E for the 2232 Application.

### **A. DESCRIPTION OF THE PROPOSED USE**

#### **1. Project Description.**

The Elevated Tank will immediately improve water service to customers in the Poplar Heights Pressure Zone. The facility, as identified on the Special Exception Plat (the “**SE Plat**”), consists of an approximately 1.25-million gallon Elevated Tank, that will contain piping, electrical instrumentation, and water quality monitoring equipment inside of the concrete pedestal below the steel bowl of the tank. The structure for the Elevated Tank will be approximately 100 feet in height, nearly the same height as the existing standpipe tank that will be removed. Access to the Property will be from Tower Street with parking for two Fairfax Water vehicles located within the security fence on the Tower Street side of the Elevated Tank.

The Elevated Tank will not be accessed by members of the general public and no staff will be permanently located at the facility. The facility will be routinely accessed for maintenance and as needed for non-routine repairs or emergencies.

#### **2. Hours and Days of Operation.**

The facility will operate unmanned 24 hours a day, seven days a week. Fairfax Water staff will typically access the site weekly to perform routine and preventative maintenance, such as grounds maintenance and equipment repairs, between 7:00 am and 4:00 pm Monday through Friday. Weekends and after hour operations will be required to handle non-routine events, such as emergency repairs, primarily inside of the tank pedestal.

#### **3. Area to be Served by the Proposed Use.**

The Elevated Tank will be located immediately to the southeast of Tower Street and approximately 500 feet northeast of its intersection with Midway Street. The Elevated Tank will serve customers generally located in the Poplar Heights Pressure Zone including portions of Fairfax County and the City of Falls Church as shown on **EXHIBIT 2**.

#### **4. Maintenance Requirements and Frequency.**

Facility repairs and routine grounds maintenance will be provided on the Property as needed. The facility will be remotely operated, and the maintenance cycle typically includes weekly checkups of the facility for an estimated 30 minutes, as well as lawn mowing and landscaping. Maintenance work will typically occur during normal business hours. As with the existing tank, the Elevated Tank would need to be repainted approximately every 20 years.

### **B. REQUIREMENT FOR PROPOSED USE**

#### **1. Why the New or Expanded Facility is Needed.**

The Poplar Heights Pressure Zone was previously served by the Falls Church water system. Since acquiring the Falls Church water system in 2014, Fairfax Water has been implementing measures to improve pressure, fire flow, water quality, and system resiliency to those customers, consistent with Fairfax Water's legacy service area. The existing Poplar Heights standpipe is 71 years old and has



reached the end of its useful life. It does not hold enough water volume for fire flows and emergency reserves and has inherent water quality challenges due to the type of tank.

## **2. Why the Proposed Location is the Best Location for the Proposed Use.**

The existing Poplar Heights standpipe tank (shown on Sheet 3 of the SE Plat) is located on Fairfax County Tax Map Parcel 50-1 ((02)) 0094A. Fairfax Water has identified this Property as the best location for the proposed use, because the current site 1) is the highest ground elevation in the area served by the tank, allowing for the shortest possible tank that will be approximately the same height as the existing tank (100 feet); 2) is in a location where a 100-foot water storage tank has been in place since 1952; 3) is centrally located within the Poplar Heights Pressure Zone; 4) provides hydraulic equivalency with existing water system operations; 5) makes the best use of existing infrastructure and pipe network which has developed around the existing tank location; 6) maximizes water system reliability in the Poplar Heights Pressure Zone in the event of an emergency as compared with a site farther away from the area; 7) is immediately adjacent to an existing 323-foot radio tower; and 8) Fairfax Water was able to negotiate the purchase of four (4) properties over the past five (5) years that together provide adequate space for construction of the new Elevated Tank as well as new heavily planted landscape buffers. Building the proposed Elevated Tank on this Property will provide critical water system infrastructure improvements to Poplar Heights and surrounding communities.

## **3. Why the Proposed Location and Type of Facility is the Least Disruptive Alternative.**

The Property is in a location that has included a water storage facility since the inception of this community in 1951, and for the last 71 years. It also is immediately adjacent to an existing radio tower. The replacement tank will be approximately the same height as the existing standpipe tank and will have no outside visitors. Constructing the new water tank as close as possible to the existing standpipe results in less disruption to the community as compared with the alternative sites considered.

The Property allows for the construction of the Elevated Tank in a manner that is sensitive to the adjacent residential properties. Several of the existing mature trees on the Property will continue to be preserved in order to provide screening of the Elevated Tank from adjacent residential properties.

The Elevated Tank will be new, well-designed, and well-buffered to blend in with the surrounding neighborhood. Fairfax Water intends to substantially enhance the vegetation in the existing buffer area between the new Elevated Tank and the existing residential homes as shown on Sheet 11 of the SE Plat.

## **C. ANTICIPATED IMPACTS/MITIGATION**

### **1. Visual Impacts.**

The Elevated Tank will be designed and buffered to minimize potential visual impacts on the surrounding area as shown on the SE Plat. Specifically, the Elevated Tank will be approximately the same height – 100 feet – as the existing standpipe tank. A mixture of deciduous and evergreen trees and shrubs will surround the Elevated Tank as depicted on Sheet 11 of the SE Plat, to provide year-round screening of the tank. Existing mature trees on the Property that do not interfere with the construction of the tank will be preserved to enhance the screening. An unbroken strip of planted open space consisting of deciduous and evergreen trees and shrubs is proposed around the full perimeter of the tank. A seven (7) foot high solid board-on-board fence is proposed to secure the tank site. The Applicant also will consolidate two existing driveways from Tower Street with a new driveway access to the Property, which will be restricted to only employees and/or contractors of Fairfax Water via a

secured entrance. In response to community feedback, the future driveway access will be offset as shown on Sheet 5 of the SE Plat to avoid a direct line of sight to the Elevated Tank.

## **2. Noise and Light Impacts.**

All proposed outdoor noise and lighting will comply with Chapter 108.1 of the County Code (Noise Ordinance) and Sect. 5109 (Outdoor Lighting Standards) of the Zoning Ordinance, and Federal Aviation Administration requirements. All exterior lighting fixtures will be full cut-off fixtures to prevent light trespass. There is no noise generated by the tank operation.

## **3. Air Quality.**

The Elevated Tank will not discharge any exhaust or pollutants. Therefore, no change in or impact on air quality is anticipated. The proposed Elevated Tank will comply with all applicable Environmental Protection Agency and Fairfax County standards with respect to exhaust, pollutants, air filtration and indoor/outdoor air quality.

## **4. Water Quality.**

In accordance with the County's Public Facilities Manual requirements, erosion and sediment control measures will be installed prior to the start of construction to manage storm water runoff during construction activities. The Property currently contains a 71-year-old standpipe tank and two (2) single-family residential dwelling units and six storage sheds consisting of approximately 0.18 acres of impervious surface area, all of which will be removed. With construction of the proposed Elevated Tank, the amount of impervious area over the entire Property will be decreased to 0.152 acres, a 15% reduction in impervious area. The purchase of offsite nutrient credits is proposed to meet pollutant removal requirements as permitted under the applicable stormwater regulations.

The Elevated Tank will be designed to include some measures associated with a green building such as, but not limited to:

- Low VOC containing coatings, sealants and adhesives within the Elevated Tank.
- Native plant materials in accordance with the County's natural landscaping policy which minimize the need for irrigation.
- This location allows for the smallest tank height, minimizing construction material requirements and environmental footprint, including but not limited to, a smaller concrete base than would be required at the alternative sites that were considered.

This 2232 Application is in general conformance with the applicable Fairfax County Code provisions and County regulations, except for the following requested modifications:

- Transitional Screening and Barriers (Zoning Ordinance Sect. 5108.6.B.(c) and 5108.6.C.): Transitional screening consisting of a 50-foot-wide landscape buffer and a six-foot-high minimum barrier is required along the peripheral Property lines adjacent to the existing single family detached uses. Along the southern Property boundary, adjacent to the Fairfax Water owned parcels and radio tower, the proposed screen yard width is reduced to 16.67 feet (2/3 of the 50-foot requirement). This siting permits the full buffer to be provided on the other Property boundaries that abut existing residential uses. To compensate for the reduced screen yard on the south side, the barrier (fence) around the full perimeter of the tank is proposed to be a seven-foot-

tall solid wood fence. Transitional screening planting will consist of a mixture of deciduous and evergreen trees and shrubs, including preservation of a number of existing mature trees, as shown on the SE Plat. In comparison with the proposed transitional screening, the existing standpipe tank parcel has no landscape buffer and screening of the existing tank is provided by trees located on adjacent properties.

## **5. Transportation.**

Access to and from the Property is provided from a proposed driveway that will consolidate the two existing driveways on Tower Street, a public street. The proposed Elevated Tank will not be accessed by members of the general public and no staff will be permanently located at the facility. The facility will be accessed for maintenance on both a regular and intermittent basis as needed to complete both preventative maintenance and non-routine repairs.

## **D. CONFORMANCE WITH THE COMPREHENSIVE PLAN AND OTHER STANDARDS**

The Property is located in the Area I, Jefferson Planning District, J8 Shreve-West Community Planning Sector (“**Shreve-West Sector**”) of the Comprehensive Plan. The Shreve-West Sector is bounded by Shreve Road and the Washington and Old Dominion Railroad (W&OD) Regional Park on the north, the Capital Beltway/Interstate 495 (I-495) on the west, Lee Highway (Route 29) on the north and the City of Falls Church on the east and is largely developed as residential neighborhoods. The Comprehensive Plan recommends the areas of the Shreve-West Sector develop as suburban neighborhoods.

The Elevated Tank will provide utility infrastructure that is essential for those residential neighborhoods recommended in the Comprehensive Plan. The proposed location for the Elevated Tank accommodates that critical infrastructure in conformance with and in support of those objectives and policies for public facilities identified in the Comprehensive Plan, such as, but not limited to, maintaining the per person per day guidelines for public water service and maintaining the Countywide standards for fire protection. These objectives cannot be achieved with the existing, antiquated standpipe tank that inadequately serves the Poplar Heights Pressure Zone today.

The Comprehensive Plan's Policy Plan provides objectives and policies as guidelines to determine if a proposed public facility is substantially in accordance with the Comprehensive Plan. The Policy Plan's Public Facilities sections contain specific objectives that relate to the Elevated Tank.

### **1. Countywide Objectives and Policies that Directly Support the Proposed Elevated Tank.**

#### **Objective 1: Locate new facilities to provide convenient service to the greatest number of people or service consumer users.**

- Policy a. Site facilities appropriately to the area they are intended to serve.
- Policy b. Reduce service area overlap between like facilities, unless overlap is necessary to correct service deficiencies.
- Policy c. Site facilities in accordance with locational standards that maintain accepted levels of service while reducing duplication or underutilization.
- Policy d. Ensure that minimum populations or service thresholds are projected to be met before facility construction is undertaken.

**Objective 2: Construct and maintain facilities in accord with expected levels of service objectives and fiscal limitations.**

- Policy a. Program the establishment of facilities through the county's Capital Improvement Program. Projects programmed for construction in the CIP should either be 1) identified in the plan text or on the Plan map in accordance with adopted service levels; 2) be demonstrated as particularly urgent to meet public health or safety needs or required service levels; or 3) be supported by a needs analysis reviewed both by the Offices of Comprehensive Planning and Management and Budget and supported by the County Executive's recommendation as evidenced by CIP inclusion.
- Policy b. Follow adopted public facility standards to identify facility requirements associated with level of need, appropriate quantity and size, and relationship to population.
- Policy c. Ensure adequate maintenance of existing facilities.

**Objective 3: Balance the provision of public facilities with growth and development.**

- Policy a. Construct new facilities in size and quantity which is consistent with projected population needs.
- Policy b. Ensure that adequate facility space and services are available, programmed in the CIP, or provided by new development, before increasing planned intensities through revision of the Comprehensive Plan.
- Policy c. Assess the adequacy and need for public facilities in the rezoning process.
- Policy d. Phase increases in development intensity with the establishment of necessary facilities, when rezoning to higher intensities is to occur prior to the establishment or programming of adequate facilities.
- Policy e. Designate and reserve future public facility sites that will be required by future growth and development.
- Policy g. Acquire, as fiscally possible, sites for public facilities in advance of demand either through purchase or dedication.

**Objective 4: Mitigate the impact of public facilities on adjacent planned and existing land uses.**

- Policy a. Locate public facilities in areas of compatible land use, if service efficiency and cost effectiveness can be achieved. Siting facilities in areas of different land uses is acceptable and at times required, to provide centrally located public facilities which are critical to the public interest as long as the integrity of the Comprehensive Plan is not impinged.
- Policy b. Co-locate public facilities whenever appropriate to achieve convenience and economies of scale, as long as the integrity of the Comprehensive Plan is not impinged.
- Policy c. Design facilities to promote and enhance the community identity of existing character.

- Policy d. Ensure that public facilities are properly screened and buffered in order to mitigate visual impact on adjacent planned development of a different use or nature.
- Policy e. Ensure that site size and development conforms to all requirements of the Fairfax County Zoning Ordinance and exceeds site acreage requirements, as possible, to achieve maximum compatibility with surrounding land uses.

**Objective 5: Acquire sites which are appropriate for the facility's specific purpose. Apply acceptable criteria when evaluating public facility sites.**

- Policy a. Consider accessibility in siting facilities. In general, public facilities should have access to primary arterial roadways. Exceptions to this locational principle include facilities with a community pedestrian orientation, such as a neighborhood park or an elementary school.
- Policy b. Locate facilities on sites which have adequate acreage for short-term needs, but can also accommodate expansion.
- Policy c. Avoid areas of environmental sensitivity except where site acquisition is in support of open space.
- Policy d. Evaluate engineering considerations, such as slopes and soils and other factors pertinent to knowing the extent of the site's development cost.
- Policy e. Locate, as possible, facilities on sites with public water and sewer.
- Policy f. Locate facilities on sites preferably having mature vegetation, capable of providing a natural buffer and enhancing building design.
- Policy g. Use the 2232 review process to determine the siting suitability and appropriateness of facilities in relation with the Comprehensive Plan.

**Objective 6: Design, retrofit and maintain public facilities and sites in an environmentally sensitive manner.**

- Policy a. Apply low impact development (LID) practices and natural landscaping methods with the goal of minimizing resource consumption, reducing stormwater runoff, decreasing life-cycle maintenance requirements, increasing the habitat value of each site, and increasing soil and plant health.
- Policy c. Ensure that natural landscaping and LID practices are monitored and maintained such that they will remain viable over time.

**WATER SUPPLY**

**Objective 30: Locate sites, for adequate and appropriate facilities to treat, transmit and distribute a safe and adequate potable water supply, which conform to the land use goals of the Comprehensive Plan.**

- Policy a. Elevated water storage tanks and standpipes should be grouped together, designed to harmonize with surrounding development and be screened as much as possible.



- Policy c. Encourage the early acquisition of sites for distribution and storage facilities where development activities are imminent. This must be done before the area develops, so that neighborhood disruption and costs are minimized.
- Policy d. Locate water lines to minimize impacts on environmental features such as stream valleys, wetlands, and forested areas.

**Objective 31: Plan and provide facilities to treat, transmit and distribute a safe and adequate potable water supply.**

- Policy a. Maintain the 110 gallons per person per day guideline for the provision of water with a peak factor of 1.6 times the estimated average day demand to determine maximum daily demand. The 110 gallons is derived from total water sales (including commercial, industrial and institutional uses) and the estimated population served.<sup>1</sup>
- Policy b. Maintain the standards established for fire protection flows as follows:
  - One and two family dwellings, 1,000-2,000 gallons per minute depending on separation.
  - Townhouses and multiplex units, 2,500 gallons per minute.
  - Commercial, office, industrial, 2,500 gallons per minute.

This location for the proposed Elevated Tank will allow Fairfax Water and the County to achieve numerous Policy Plan objectives and policies.

**E. ALTERNATIVE SITES CONSIDERED FOR THIS USE**

**1. Other Properties.**

Fairfax Water identified a requirement for additional storage within its Poplar Heights Pressure Zone to meet system needs after acquiring the Falls Church water system. Three sites (located on or near property currently owned by Fairfax Water in Falls Church) were evaluated as potential sites for a new water storage tank to serve this pressure zone. In 2016, Fairfax Water hired a consulting engineer to conduct a study for alternatives for additional Second High storage in this part of the County. After completing this study, Fairfax Water performed a preliminary review of two additional sites not originally considered in the alternatives evaluation. As described in Par. B.2 above, replacing the existing standpipe water tank at or near its current location was determined to be the best alternative. Additional information on each of the alternatives considered for this use is summarized below:

- **Powhatan Site.** This site is located on Fairfax County Tax Map Parcel 041-1 (01) 0059 and is owned by Fairfax Water. The location of the Powhatan site near the Arlington County border serves as a primary restriction in its effectiveness as a water storage location in Fairfax Water's system. More specifically, the Powhatan site does not provide an equivalent hydraulic gradeline as the Poplar Heights location, and

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<sup>1</sup> Fairfax County is currently in the process of reducing the per capita demand rates included in the Comprehensive Plan policy to 59 gallons to be more in line with today's actual per capita demand. Actual per capita water use is much less than it was in the 1990s when the current per capita rate was incorporated into the Comprehensive Plan.

therefore, would result in reduced fire flow and water pressure to certain areas of the community, particularly those areas located on higher topography in the western part of the Poplar Heights Pressure Zone, including the Poplar Heights community. The Powhatan site was purchased by the City of Falls Church in 1973 but was not part of the City's identified water system improvements in various master plans completed since the 1980s, due to challenges posed by the site location. The Powhatan site requires a tank of significantly greater mass (as compared with Poplar Heights) due to the increased tank height, approximately 45 feet, that would be required to provide the necessary hydraulic grade line. Further, because a tank at this site would be located on the far edge of the Poplar Heights Pressure Zone, miles of additional water transmission main would be required to convey water to and from the tank, introducing a single point of failure in the transmission system that could result in a significant water service disruption within the Poplar Heights Pressure Zone in the event of a failure of the water transmission main. No water storage is currently located at the Powhatan site.

- **Falls Hill Site.** This site is located just north of the Hill Place cul-de-sac on Fairfax County Tax Map Parcel 040-3 (05) 0017B and is owned by Fairfax Water. An existing Fairfax Water standpipe, located at an elevation serving Fairfax Water's Hospital Pressure Zone, is located at this site. The height of a new tank at Falls Hill for Second High storage would be significantly taller, approximately 40 feet, than the existing standpipe and would be the only tall structure in the neighborhood. The Falls Hill site requires a tank of significantly greater mass (as compared with Poplar Heights) due to the increased tank height that would be required to change function from the current tank's support for the Hospital Pressure Zone to providing storage for the Poplar Heights Pressure Zone.
- **Mount Daniel Elementary School.** This site is located on Fairfax County Tax Parcel 040-4 (01) 0022. Fairfax Water performed an initial review of the required tank height and layout at the Mount Daniel Elementary School. The site is already constrained serving its primary function as an elementary school. The ground elevation at the site would have required a significantly taller tank, approximately 50 feet, than at Poplar Heights. Impacts to the school community and surrounding neighborhood from the changed condition would occur with a new water tank. No tank is currently located at the Mount Daniel Elementary School site. Fairfax Water owns no land at this location. Property acquisition would be required for the entire site.
- **Shreve Road/Remington Street Site.** This site is located on former Fairfax County Tax Parcel 040-3-(1)-0038. Following completion of the Second High Alternatives Study, Fairfax Water received a site plan for proposed new development of former Fairfax County Tax Parcel 040-3-(1)-0038. Fairfax Water performed a high-level review of the required height and layout for a possible tank at this location. Development plans for by-right subdivision of the property in accordance with current zoning for the parcel had already been completed. Subdivision and development of the parcel has subsequently occurred. Fairfax Water owns no land at this location. Property acquisition would be required for the entire site and was not practical given the advanced stages of single-family home development that occurred at this site. The height of a new tank at this location would be 20 feet taller than at the proposed Poplar Heights location. No tank is currently located at the Shreve/Remington site.
- **Poplar Heights Site (the selected alternative).** Fairfax Water owned the existing tank site and negotiated the purchase of four (4) adjacent parcels to support the construction of the new tank at Poplar Heights. A strong advantage of the proposed site at Poplar

Heights is that the new tank will have nearly the same height as the existing standpipe water tank. The proposed water tank site at Poplar Heights was selected because it fulfilled all of the project requirements and is on property adjoining the existing water tank site. Building the replacement tank on the same assemblage maintains a central location for water storage in the Poplar Heights Pressure Zone while minimizing changes to water pressure and flow for the community served within the Poplar Heights Pressure Zone.

The proposed tank site at Poplar Heights fulfills all the project requirements on property adjoining an existing tank. The alternative locations were eliminated from consideration for one or more of the following reasons:

- the ground elevation would have required a significantly taller tank;
- there is no existing tank on or adjoining the site;
- the site is not centrally located within the zone;
- the site creates hydraulic challenges due to water system supporting infrastructure not being in place;
- the site would reduce water system resiliency; and
- no existing structures nearby that are as tall as the elevated tank would be.

## **2. Other Locations on the Subject Property.**

In order to have enough space for tank construction and to meet transitional screen yard requirements from properties not owned by Fairfax Water, Fairfax Water purchased four (4) parcels adjacent to the tank site Fairfax Water already owned.

The Elevated Tank is comprised of one structure which reflects Fairfax Water's needs for the facility based upon the project requirements. The 2232/SE Plat reflects the location of the Elevated Tank on the Property, meeting the following constraints:

- transitional screen yard requirements from private property not owned by Fairfax Water;
- allowance of a required 30-foot construction clearance around the Elevated Tank bowl; and
- prioritization of setback of the Elevated Tank from Tower Street.

## **3. Reasons for Rejecting Each Alternative Location.**

The reasons for rejecting the alternative locations are provided in Par. E. 1 above.

### **SPECIAL EXCEPTION SUBMISSION REQUIREMENTS**

The following information addresses the submission requirements for a special exception application set forth in Sect. 8101.3 of the Zoning Ordinance:

#### **A. Type of Operation.**

The Elevated Tank will serve as water storage to provide water service to customers in the Poplar Heights Pressure Zone including portions of Fairfax County and Falls Church. The water storage operations are internal to the facility with both internal and external security measures in place. The facility will be monitored remotely at the Fairfax Water Operations Center 24 hours a day, seven days a week for any unauthorized activity. Dispatch staff will alert field staff of any activity requiring attention and any issues will be addressed promptly.

**B. Hours of Operation.**

The Elevated Tank will operate unmanned 24 hours a day, seven days a week. Fairfax Water staff will access the site weekly to perform preventative maintenance, generally between 7:00 am and 4:00 pm Monday through Friday. Weekend and after-hours operations will be required to handle non-routine events that require immediate attention, such as faults on instrumentation or electrical equipment, primarily in the interior of the base of the tank.

**C. Estimated Number of Patrons.**

Normally, there will be no outside visitors to the Elevated Tank.

**D. Proposed Number of Employees.**

No staff members will be located at this facility.

**E. Estimate of Traffic Impact of the Proposed Use.**

Typically, the Elevated Tank will generate a few trips per week.

**F. Vicinity or General Area to be Served by the Use.**

The Elevated Tank will primarily serve customers in the Poplar Heights Pressure Zone including portions of Fairfax County and the City of Falls Church.

**G. Description of Building Facade and Architecture of Proposed New Building or Additions.**

The Elevated Tank will be constructed of steel and reinforced concrete. An approximately 80-foot diameter steel tank bowl which stores the water will be supported by an approximately 40-foot diameter concrete pedestal. The concrete pedestal will be finished with architectural treatment and will be constructed from ground level to approximately 50 feet in height. The steel bowl will sit atop the concrete pedestal to a height of approximately 100 feet above ground elevation.

**H. Listing, if Known, of All Hazardous or Toxic Substances.**

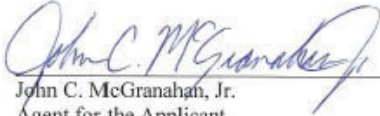
To the best of the Applicant's knowledge, no hazardous or toxic substances as set forth in Title 40, Code of Federal Regulations Parts 116.4, 302.4 and 355; no hazardous waste as set forth in the Virginia Department of Environment Quality Hazardous Waste Management Regulations; and no petroleum products as defined in Title 40, Code of Federal Regulations Part 280; will be generated, utilized, stored, treated or disposed of with the Elevated Tank, and the existing propane tank will be removed and disposed of in accordance with applicable law.

**I. Statement of Conformance with Applicable Ordinances, Regulations and Standards.**

This SE Application complies with all applicable ordinances, regulations and standards, except that Fairfax Water requests the following modifications/waivers:

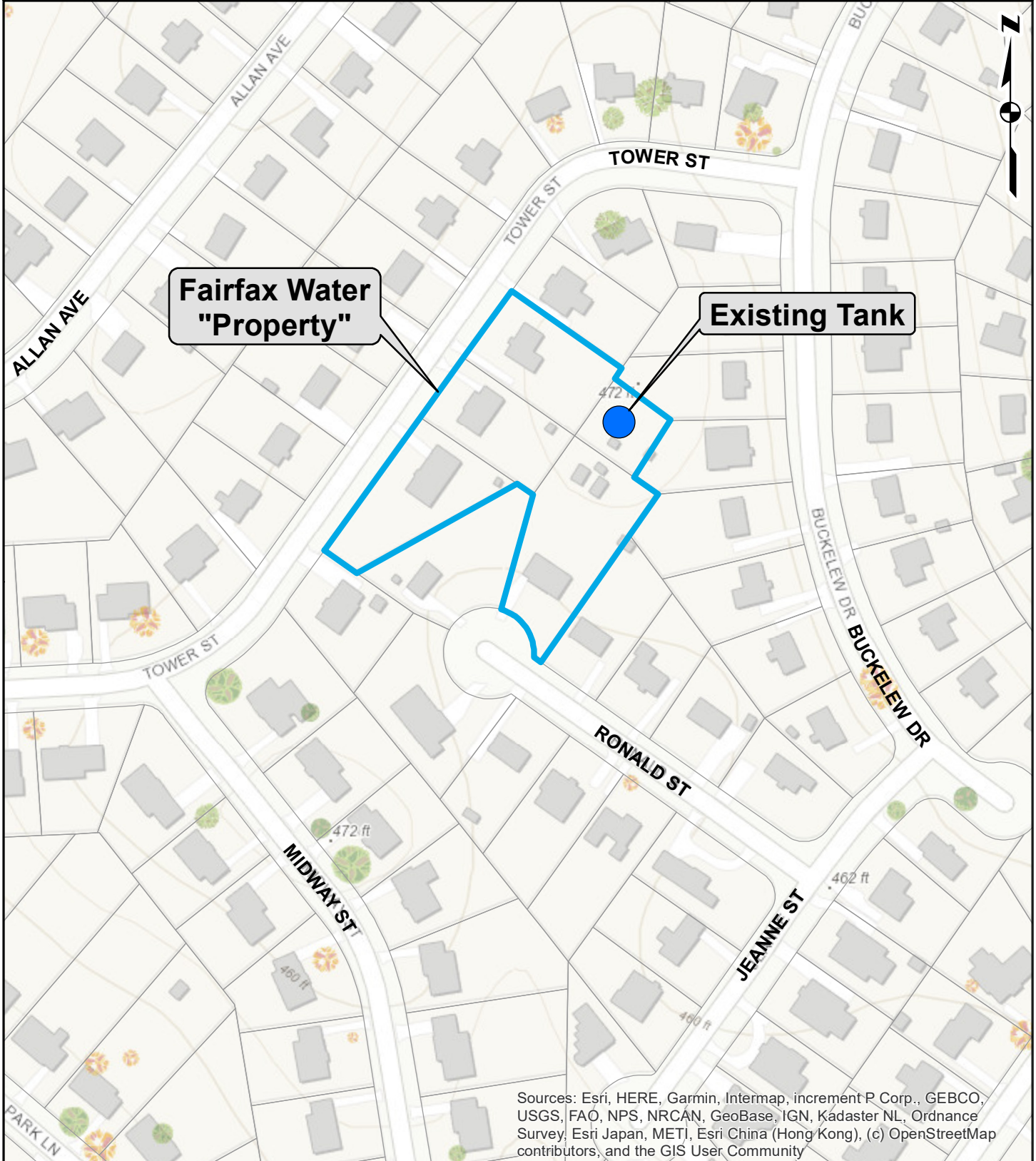
- As described herein, a modification of the transitional screening width and the barrier requirements along the southern Property line to allow a 2/3 reduction in the yard width with a seven (7) foot high solid wood fence with planting as reflected on the SE Plat pursuant to Section 5108.7.D. of the Zoning Ordinance. Landscaping consisting of a mixture of deciduous and evergreen trees and shrubs will be provided as shown on the SE Plat.

Pursuant to Sect. 8101.3 of the Zoning Ordinance, a map showing the service area for Fairfax County as well as for retail and wholesale water service to surrounding jurisdictions along with a statement, prepared by a certified engineer, giving the exact technical reasons for selecting the particular site as the location for the proposed facility and certifying that the proposed use will meet the performance standards of the district in which it is located is provided in **EXHIBIT 3**.

  
John C. McGranahan, Jr.  
Agent for the Applicant



Subject	<b>Exhibit 1</b>	Magisterial District	<b>Providence</b>
	<b>Fairfax Water "Property"</b>	Tax Map No.	<b>50-1</b>
Project No.	<b>2729</b>	Drawn By	<b>PPH</b>
Division No.	<b>001</b>	Checked By	<b>DB</b>
		Approved By	<b>RCC</b>
		Date	<b>12/13/2023</b>



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



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**FAIRFAX WATER  
SPECIAL EXCEPTION  
ZONING ORDINANCE SECTION 8101.3.D.(13)  
ADDITIONAL SUBMISSION REQUIREMENTS FOR  
LIGHT UTILITY FACILITY SPECIAL EXCEPTION USE**

Pursuant to Sect. 8101.3.D.(13) of the Zoning Ordinance, the following supplemental information is submitted for the proposed Poplar Heights Water Tank Replacement which is a "Category 1" Special Exception (SE) use being requested with this Application:

***Paragraph 1 of Sect. 8101.3.D.(13)(a): Four (4) copies of a map showing the utility system of which the proposed use will be an integral part, together with a written statement outlining the functional relationship of the proposed use to the utility system.***

Fairfax Water provides retail water service to 1.1 million residents and 11,000 businesses in Fairfax County and the Cities of Falls Church and Fairfax. Fairfax Water also provides wholesale service to the City of Alexandria, Prince William and Loudoun Counties, the Towns of Herndon and Vienna, Fort Belvoir and Dulles Airport. Fairfax Water is chartered by the Virginia State Corporation Commission as a public, non-profit water utility and is the largest water utility in the Commonwealth of Virginia, serving one of every five Virginians who obtain their water from a public utility.

The Special Exception application is to permit the replacement of an existing water tank on the Property in order to provide a consistent level of water service within the existing distribution system and to improve system reliability, water flow and pressure to customers in Fairfax County,

***Section 8101.3.D.(13)(b): Four (4) copies of a statement, prepared by a certified engineer, giving the exact technical reasons for selecting the particular site as the location for the proposed facility and certifying that the proposed use will meet the performance standards of the district in which located.***

Four copies of the certified statement and utility system map showing the service area for Fairfax County as well as for retail and wholesale water service to surrounding jurisdictions are enclosed.

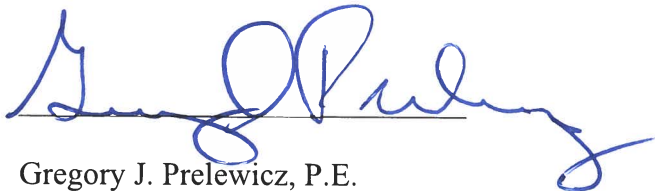


**FAIRFAX WATER**  
**PROPOSED POPLAR HEIGHTS WATER TANK REPLACEMENT**  
**CERTIFICATION**  
**ZONING ORDINANCE SECTION 8101.3.D.(13)(b)**

The undersigned states the following technical reasons for selecting this Property as the location for the proposed Elevate tank replacement project within the Poplar Heights pressure zone.

The Property is currently developed with an existing 71-year-old water tank that is undersized, functionally deficient and has reached end of its useful life. The Property has the required elevation to meet system hydraulic requirements, is centrally located within the Poplar Heights Pressure Zone, and utilizes existing infrastructure which has developed around the existing tank location. The proposed Elevated Tank will provide improved system reliability, water flow and pressure to many customers in the Poplar Heights Pressure Zone. The proposed Elevated Tank will address existing system deficiencies and help meet future public health and safety needs of the residents and businesses in the Poplar Heights area and other portions of Fairfax County and the City of Falls Church.

The undersigned certifies that the proposed use will comply with the applicable standards in Article 14 of the Zoning Ordinance. These standards can be achieved through the regulatory review and approval process. The Applicant will obtain the required permits and regulatory agency approvals during the site plan process.



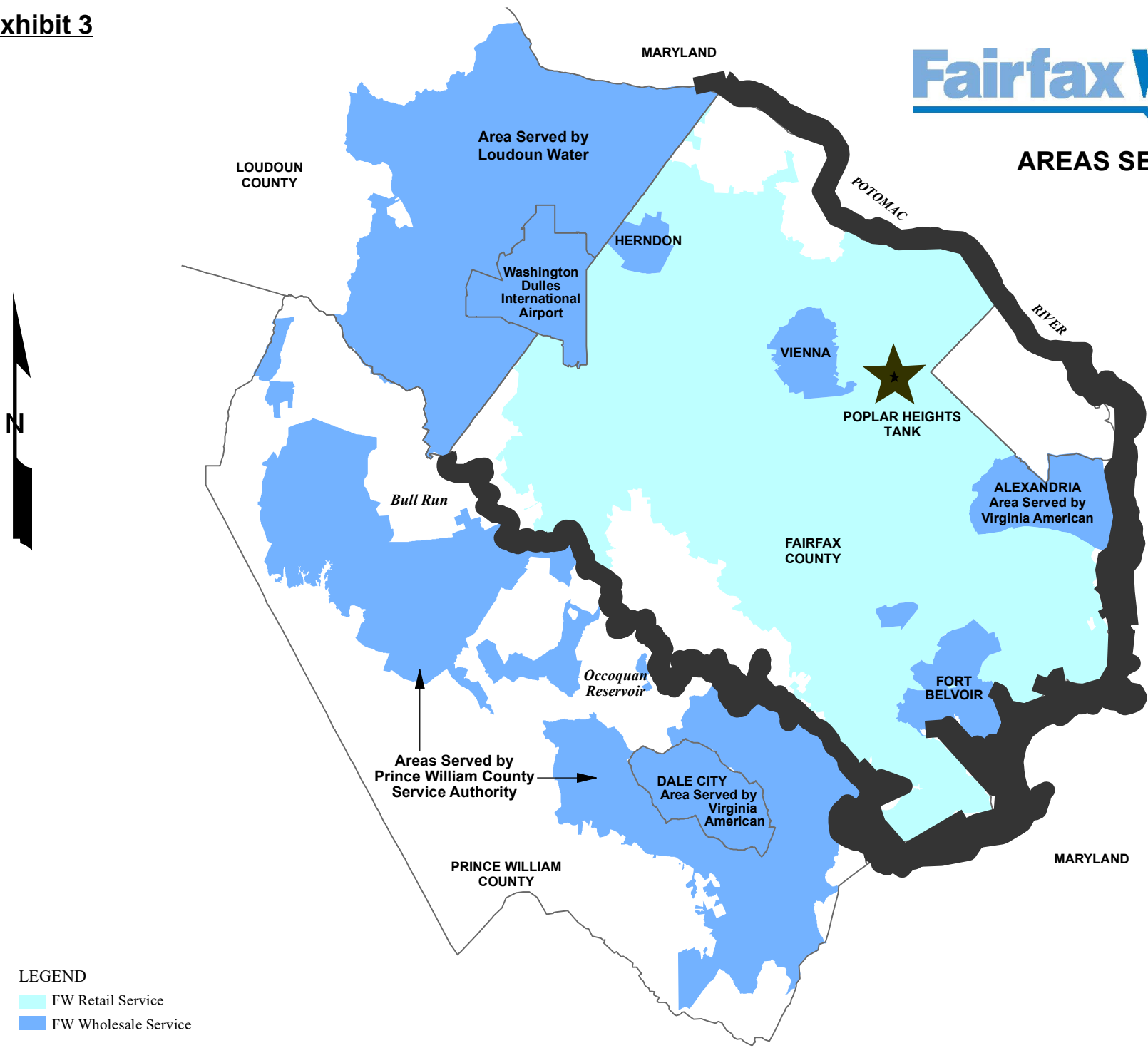
Gregory J. Prelewicz, P.E.  
Acting Director, Planning and Engineering  
Fairfax Water



**Exhibit 3**



**AREAS SERVED**



**LEGEND**

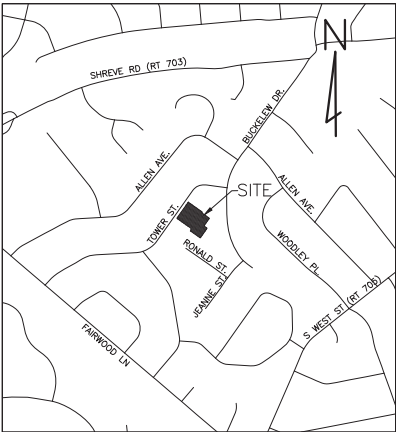
- FW Retail Service
- FW Wholesale Service



# POPLAR HEIGHTS WATER TANK

Providence District      Fairfax County, Virginia

## Special Exception Plat SE-2023-PR-00046



VICINITY MAP  
SCALE : 1"= 500'

**Applicant/Owner:**  
Fairfax County Water Authority  
8570 Executive Park Ave.  
Fairfax, VA 22031

### Sheet Index

- |                                       |                    |
|---------------------------------------|--------------------|
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| 2. NOTES AND TABULATION               | 16. SITE DETAILS   |
| 3. EXISTING CONDITIONS PLAN           |                    |
| 4. DEMOLITION PLAN                    |                    |
| 5. SPECIAL EXCEPTION PLAN             |                    |
| 6. EXTERIOR SITE PHOTOGRAPH LOCATIONS |                    |
| 7. EXTERIOR SITE PHOTOGRAPHS          |                    |
| 8. INTERIOR SITE PHOTOGRAPH LOCATIONS |                    |
| 9. INTERIOR SITE PHOTOGRAPHS          |                    |
| 10. INTERIOR SITE PHOTOGRAPHS         |                    |
| 11. EXISTING VEGETATION MAP           |                    |
| 12. STORMWATER MANAGEMENT PLAN        |                    |
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| 14. LANDSCAPE PLAN                    |                    |



Dewberry Engineers Inc.  
8001 ANNAPOLIS BLVD.  
FAIRFAX, VA 22031  
703.948.0700 (PH) 703.948.0710 (FAX)

POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT  
FAIRFAX COUNTY, VA



KEY PLAN

SCALE NORTH

No.	DATE	BY	Description

REVISIONS

DRAWN BY BWS

APPROVED BY TCC

CHECKED BY TCC

DATE 02/01/2024

TITLE

COVER SHEET

PROJECT NO. P2729-001

1

SHEET NO. 1 OF 16

1. THE PROPERTY THAT IS THE SUBJECT OF THIS SPECIAL EXCEPTION PLAN IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS S-01 (2) (0089 & S-01 (2) (0094A, S-01 (1) (2) (0006, S-01 (1) (2) (0001) (PART), AND S-01 (1) (2) (0005 (PART).
2. THE TOTAL LAND AREA OF THIS SPECIAL EXCEPTION APPLICATION IS APPROXIMATELY 0.934 ± ACRES.
3. THE BOUNDARY INFORMATION SHOWN HEREON IS FROM A FIELD RUN SURVEY BY DEWBERRY ENGINEERS INC.
4. THE TOPOGRAPHY SHOWN HEREON IS AT A CONTOUR INTERVAL OF ONE (1) FOOT FROM A FIELD RUN SURVEY PERFORMED BY DEWBERRY ENGINEERS INC.
5. THE PURPOSE OF THIS SPECIAL EXCEPTION IS TO REPLACE AN EXISTING WATER STORAGE TANK OF CATEGORY I LIGHT PUBLIC USE. THE LIGHT PUBLIC USE WILL BE LOCATED ON LAND ZONED R-4, WHICH IS ALLOWED BY SPECIAL EXCEPTION. THE EXISTING USE OF THE PROPERTY INCLUDED WITHIN THE AREA OF THE SPECIAL EXCEPTION IS WATER STORAGE AND SINGLE-FAMILY RESIDENTIAL.
6. THE SPECIAL EXCEPTION PROPOSES THE DEMOLITION OF TWO (2) SINGLE-FAMILY RESIDENTIAL HOMES AND AN EXISTING WATER STORAGE TANK. THE RESIDENTIAL STRUCTURE LOCATED ON PARCEL S-01 (2) (0089 WAS CONSTRUCTED IN 1951; THE OTHER STRUCTURE ON PARCEL S-01 (1) (2) (0094 WAS CONSTRUCTED IN 1959. THE WATER STORAGE TANK WAS CONSTRUCTED IN 1952.
7. THE PROPERTY IS CURRENTLY OWNED BY FAIRFAX COUNTY WATER AUTHORITY.
8. PUBLIC WATER AND SEWER ARE CURRENTLY AVAILABLE IN PROXIMITY TO THE SITE AND WILL BE EXTENDED ON SITE TO SERVE THE PROPOSED DEVELOPMENT PROGRAM.
9. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.
10. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE LOCATED ON THE SUBJECT PROPERTY.
11. THERE IS NO FLOODPLAIN, ENVIRONMENTAL QUALITY CORRIDOR (EQC), OR RESOURCE PROTECTION AREA (RPA) ON THE SUBJECT PROPERTY.
12. STORMWATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMPs) FOR THE PROPOSED DEVELOPMENT PROGRAM WILL BE PROVIDED IN ACCORDANCE WITH THE FAIRFAX COUNTY DEPARTMENT OF FAIRFAX COUNTY STORMWATER MANAGEMENT ORDINANCE AND PUBLIC FACILITIES MANUAL.
13. THE PROPANE TANKS SERVING THE EXISTING WATER STORAGE TANK WILL BE REMOVED FROM THE SITE. THE PROPOSED WATER STORAGE TANK WILL NOT GENERATE, UTILIZE, STORE, TREAT, OR DISPOSE OF HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH BY TITLE 40, CODE OF FEDERAL REGULATIONS, PART 116.4, 302.4 AND 355. ALL HAZARDOUS WASTE AS SET FORTH IN VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS AND WASTE MANAGEMENT REGULATIONS, AND PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS, PART 280.
14. PROPOSED NUMBER OF EMPLOYEES ONSITE FULL TIME, TIME ZERO (0), IT IS EXPECTED THAT A FAIRFAX WATER EMPLOYEE WILL VISIT THE WATER STORAGE TANK WEEKLY, TYPICALLY DURING DAYLIGHT HOURS.
15. THE AREA OF THE SPECIAL EXCEPTION IS ZONED R-4, IN ACCORDANCE WITH 2102.7 OF THE ORDINANCE. THE APPLICABLE BUILDING SETBACKS ARE AS FOLLOWS: FRONT = 30 FEET, REAR = 25 FEET, SIDE = 10 FEET. THE MINIMUM REQUIRED LOT AREA IS 8,400 SF.
16. UPON COMPLETION OF CONSTRUCTION OF THE PROPOSED WATER STORAGE TANK, THE USE OF THE PUBLICLY (FAIRFAX WATER) OWNED PARCELS S-01 (1) (2) (0005 AND S-01 (1) (2) (0001 WILL BE MAINTAINED AS SINGLE-FAMILY DETACHED RESIDENTIAL.
17. THE LIGHT PUBLIC USE PROPOSED WITH THIS SPECIAL EXCEPTION REQUIRES A TYPE II TRANSITIONAL SCREENERYARD AND BARRIER TYPE D, E, OR F PER 5108.6 OF THE ORDINANCE, BETWEEN THE PROPOSED USE AND THE ADJACENT SINGLE-FAMILY DETACHED DWELLINGS. A TYPE III SCREENERYARD IS PROPOSED, CONSISTING OF AN UNBROKEN STRIP OF PLANTED TREES AT A MINIMUM OF 50 FEET WIDE TO SCREEN ALL PRIVATELY OWNED ADJACENT PARCELS. A BARRIER CONSISTING OF A SEVEN (7) FOOT TALL SOLID WOOD FENCE IS ALSO PROPOSED.
18. A MODIFICATION OF THE TRANSITIONAL SCREENERYARD IS REQUIRED ALONG THE SOUTHERN BOUNDARY OF THE SPECIAL EXCEPTION TO THE PUBLICLY (FAIRFAX WATER) OWNED PARCELS (PARCELS S-01 (1) (2) (0005 AND S-01 (1) (2) (0001), THE PROPOSED SCREENERYARD WIDTH IS PROPOSED TO BE REDUCED TO 16.67 FEET (2/3 OF THE 50-FEET REQUIREMENT) WITH A SEVEN (7) FOOT SOLID WOOD FENCE PROPOSED AS THE BARRIER.
19. AT THIS TIME, IT IS ANTICIPATED THAT DEVELOPMENT OF THIS PROJECT WILL COMMENCE AS SOON AS ALL NECESSARY APPROVALS AND PERMITS ARE OBTAINED.
20. PARKING SPACES FOR THE PROPOSED DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 6 OF THE ZONING ORDINANCE.
21. THE LIMITS OF CLEARING AND GRADING SHOWN HEREON ARE SUBJECT TO MINOR MODIFICATIONS WITH FINAL ENGINEERING AND DESIGN.
22. ALL OUTDOOR LIGHTING WILL BE IN CONFORMANCE WITH THE PERFORMANCE STANDARDS FOR OUTDOOR LIGHTING AS SET FORTH IN SECTION 5109 OF THE ZONING ORDINANCE.
23. THERE ARE NO TRAILS REQUIRED BY THE COMPREHENSIVE PLAN WITHIN THE LIMITS OF THIS APPLICATION.
24. OTHER THAN THE MODIFICATIONS NOTED ABOVE, TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS.
25. IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE ZONING ORDINANCE, APPLICABLE APPROVALS BY THE HEALTH DEPARTMENT, VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, AND OTHER APPROPRIATE AGENCIES OF THE COUNTY AND STATE WILL BE OBTAINED.
26. THE SUBJECT PROPERTY IS NOT WHOLLY OR PARTIALLY WITHIN OR CONTIGUOUS TO A HISTORIC OVERLAY DISTRICT.
27. LOCATION AND WIDTH OF ALL EXISTING UTILITY EASEMENTS AND THE PRELIMINARY LOCATION(S) OF NEW AND RELOCATED UTILITIES ARE SHOWN.

AREA OF SPECIAL EXCEPTION.....	0.934 ± AC (± 40,692 SF)
EXISTING ZONING.....	R-4
FLOOR AREA RATIO (MAXIMUM).....	0.35 PUBLIC USE REQUIREMENT
FLOOR AREA RATIO PROPOSED.....	0.00
OPEN SPACE REQUIRED.....	NO REQUIREMENT
OPEN SPACE PROPOSED.....	0.779 ± AC (± 33,961 SF)
EXISTING STORAGE TANK HEIGHT.....	± 100 FT
PROPOSED STORAGE TANK HEIGHT.....	± 100 FT
PARKING SPACES REQUIRED.....	2
PARKING SPACES PROPOSED.....	2

ADDITIONAL LEGEND INFORMATION PROVIDED ON APPLICABLE SHEETS

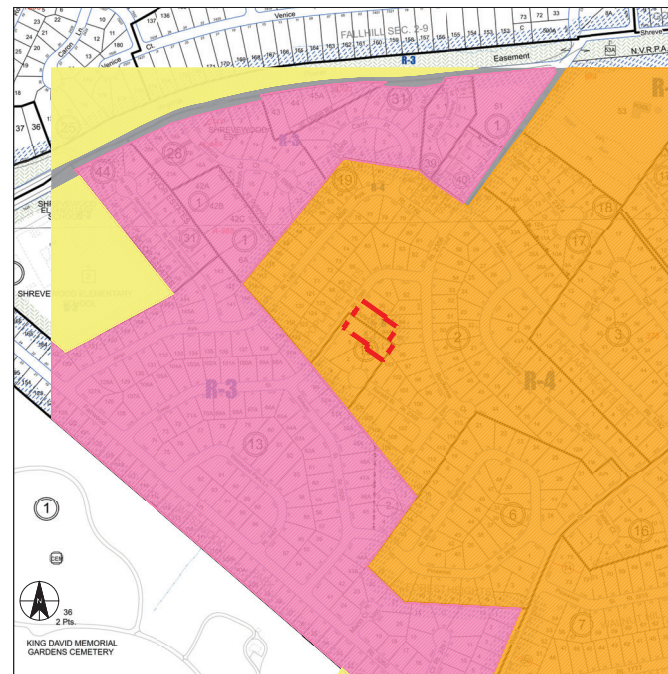
#### PROPOSED IMPROVEMENTS BY OTHERS

EXISTING CONTOUR INDEX  
PROPOSED CONTOUR  
EXISTING EDGE OF PAVEMENT  
PROPOSED EDGE OF PAVEMENT  
PROPOSED HEADER CURB  
EXISTING CURB  
EXISTING WATERLINE W/TIE  
PROPOSED WATERLINE W/TIE  
EXISTING TELEPHONE LINE  
EXISTING STORM SEWER  
PROPOSED STORM SEWER  
EXISTING SANITARY SEWER  
PROPOSED SANITARY SEWER  
EXISTING ELECTRIC SERVICE  
EXISTING GAS LINE  
PROPERTY LINE  
EASEMENT LINE  
CENTER LINE

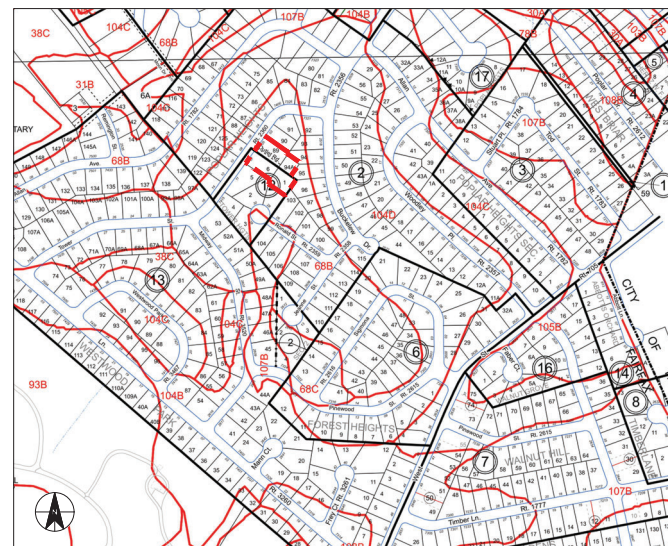
200  
86  
EX. E.P.  
PROP. E.P.  
W  
T  
EX. 15" RCP  
24  
SS  
A  
E  
G  
10+00  
11+00

### LIMITS OF CLEARING & GRADING

EXISTING SPOT ELEVATIONS  
PROPOSED SPOT ELEVATION  
EXISTING TREE LINE  
EXISTING TREE W/TRUNK DIAMETER  
EXISTING TREE W/DRAPLINE  
PROPOSED TREE  
BOARD-ON-BOARD WOOD FENCE  
BRICK SCREEN WALL  
EXISTING UTILITY POLE  
EXISTING FIRE HYDRANT  
EXISTING WATER VALVE  
PROPOSED WATER VALVE  
PARKING INDICATOR  
INDICATES THE NUMBER OF PARKING SPACES  
TEST PIT  
EXISTING STREET LIGHT



ZONING/LAND USE MAP



## SOILS MAP



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8401 ARLINGTON BLVD.  
FAIRFAX, VA 22031  
703.849.0100 (PHONE)  
703.849.0518 (FAX)

POPLAR HEIGHTS  
WATER TANK

FAIRFAX COUNTY, VA

SEAL



### KEY PLAN

SCALE	NORTH
AS NOTED	AS NOTED

[illegible]

No.	DATE	BY	Description
REVISIONS			
DRAWN BY		BWB	
APPROVED BY		TCC	
CHECKED BY		TCC	
DATE	02/01/2024		

TITLE

NOTES AND  
TABULATION

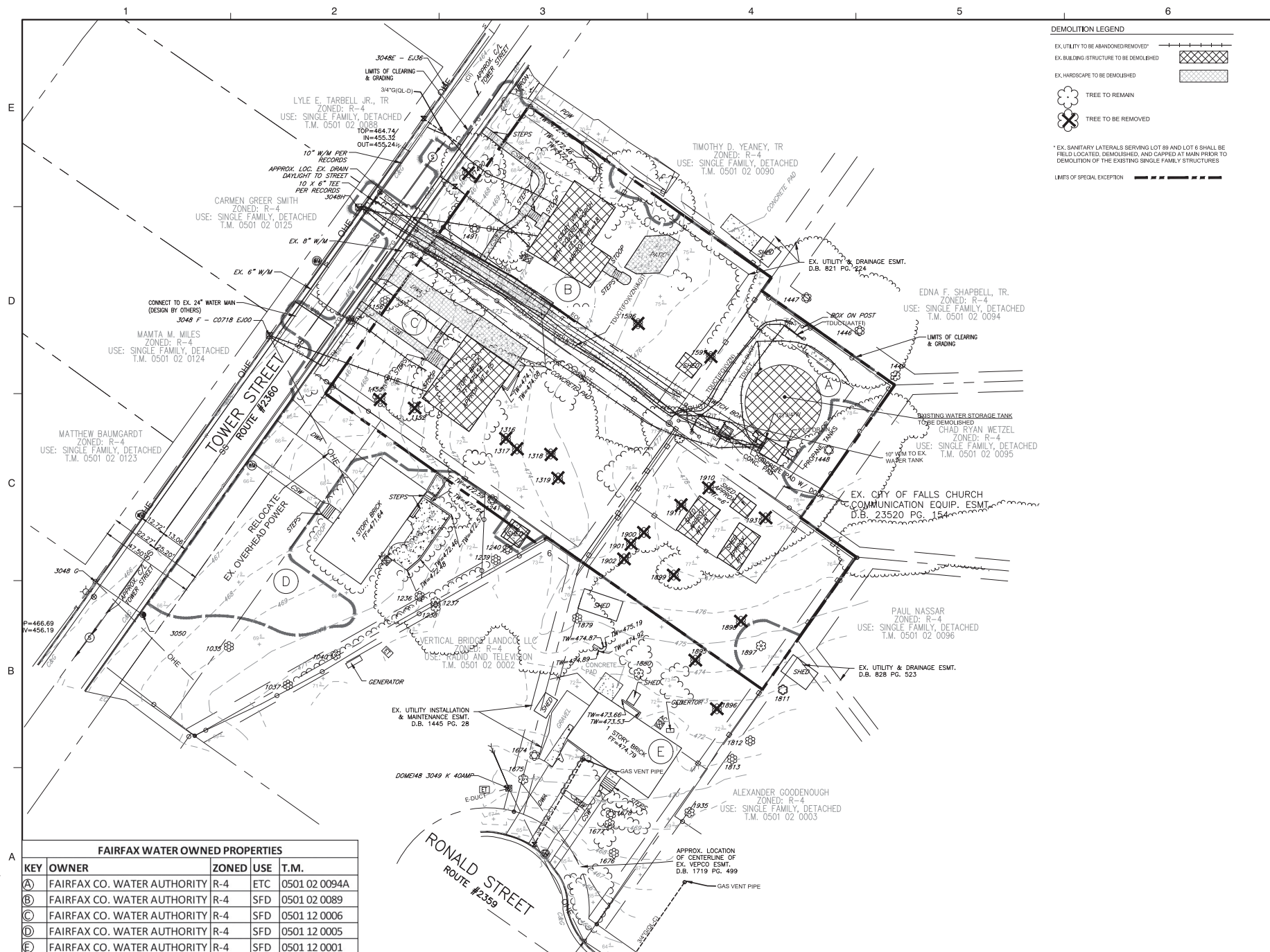
PROJECT NO. P2729-00

2

SHEET NO. 2 OF 16







POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT

FAIRFAX COUNTY, VA



### KEY PLAN

SCALE IN FEET  
1" = 20'

1 INCH

NORTH

VCS-6

No.	DATE	BY	Description
REVISIONS			

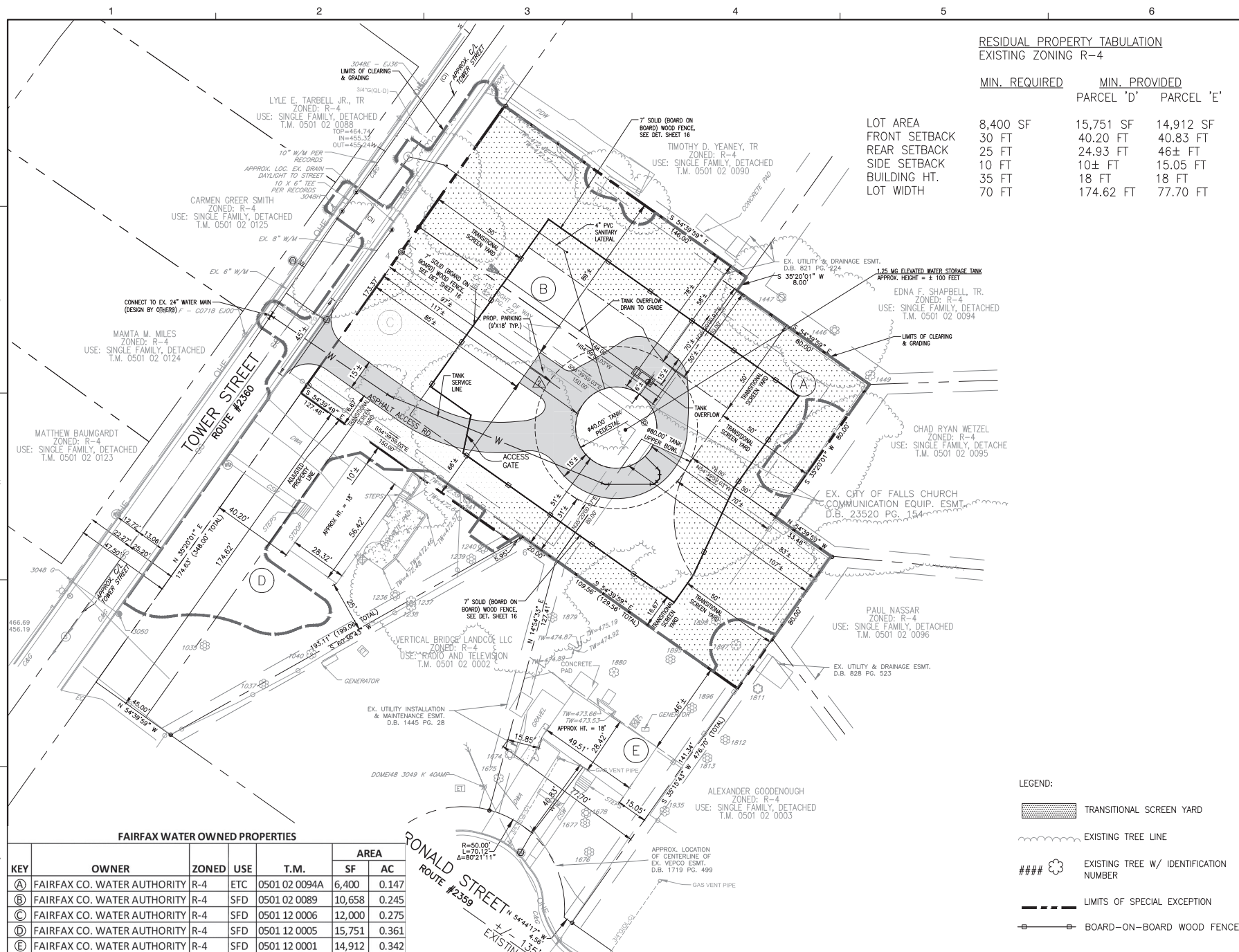
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APPROVED BY	TCC
CHECKED BY	TCC
DATE	02/01/2024

TITLE  
DEMOLITION  
PLAN

PROJECT NO. P2729-001

4

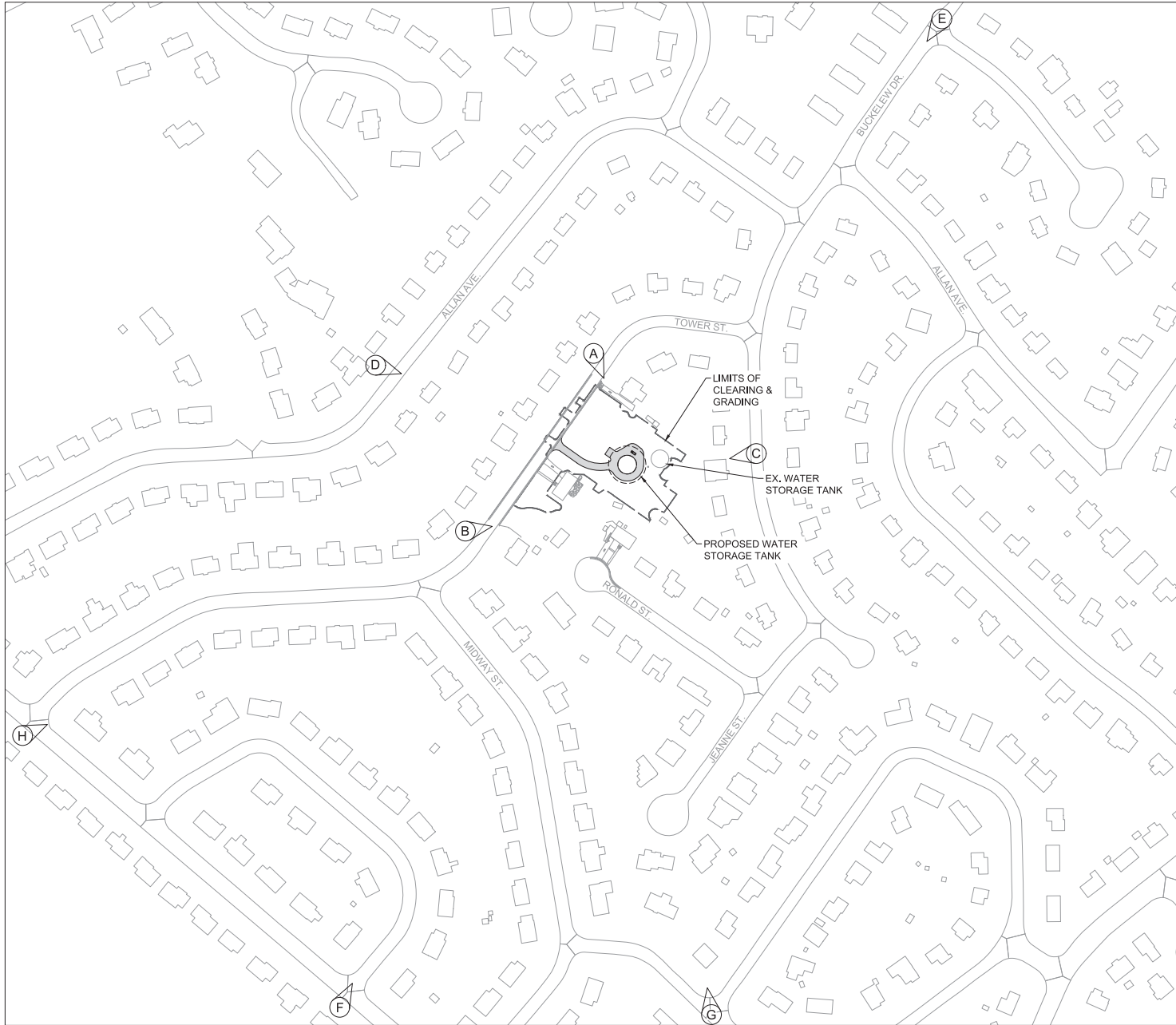
SHEET NO. 4 OF 16





1 2 3 4 5 6

PHOTO LOCATION MAP



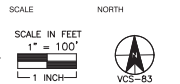
Dewberry Engineers Inc.  
5001 ANNUNCIATION BLVD.  
FAIRFAX, VA 22033  
703.848.0700 (PH) FAX  
703.848.0710 (FAX)

POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT

FAIRFAX COUNTY, VA



KEY PLAN



No.	DATE	BY	Description

DRAWN BY	BWS
APPROVED BY	TCC
CHECKED BY	TCC
DATE	02/01/2024

TITLE  
EXTERIOR SITE  
PHOTOGRAPH  
LOCATIONS

PROJECT NO. P2729-001

P:\PROJECTS\20140264 - Fairfax Water - General - DWG - SWCS - BWA\WORK - 080205\20140264 - Poplar Heights Tank Design\CA\CA\25A\Sheet6A\SITE PHOTO LOCATION6.dwg  
Date: Feb 05 2024 11:01:09m

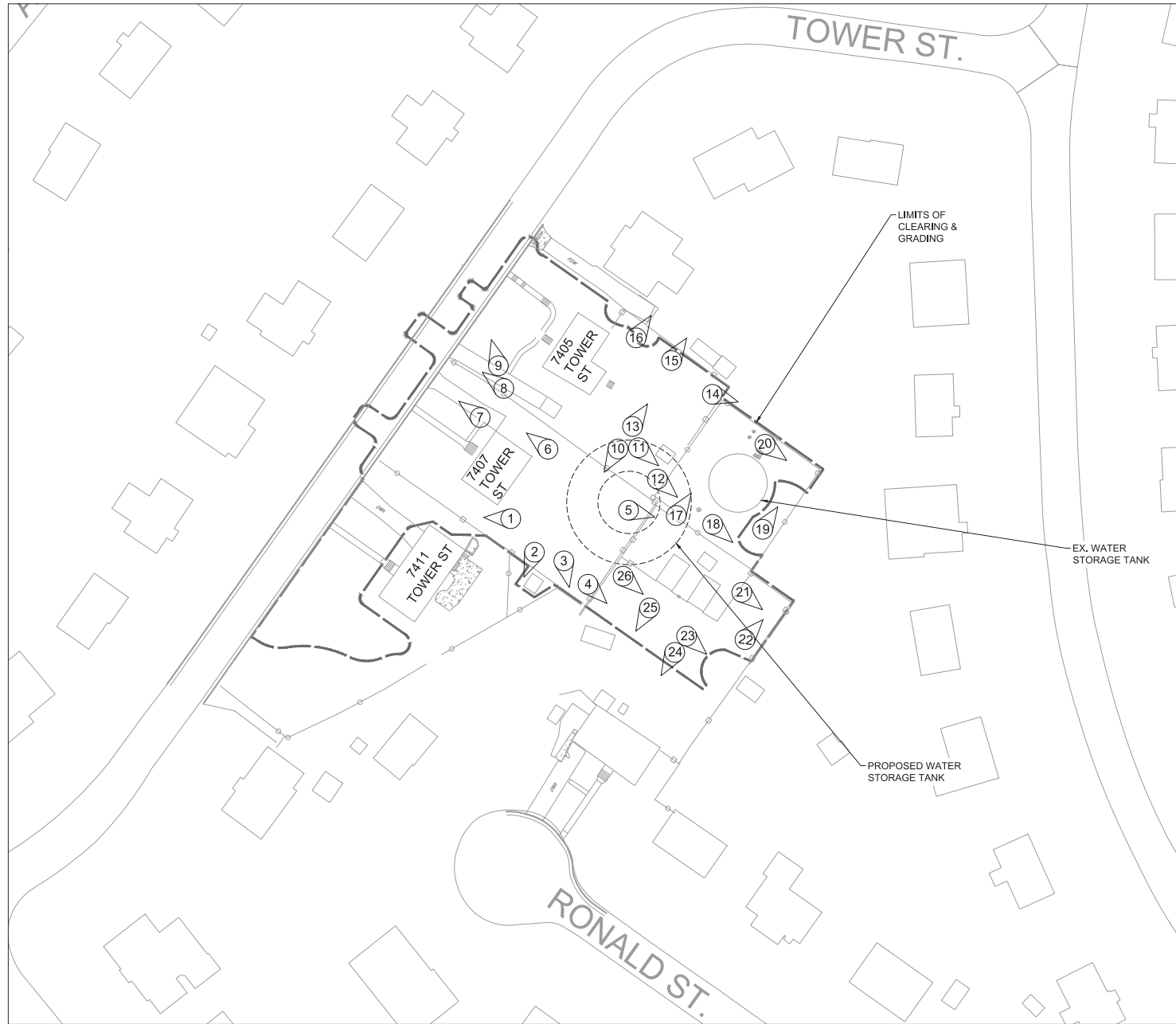






1 2 3 4 5 6

PHOTO LOCATION MAP



Dewberry Engineers Inc.  
801 ANNAPOLIS BLVD.  
FAIRFAX, VA 22033  
703.948.0700 (PH) FAX  
703.948.0718 (FAX)

POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT  
FAIRFAX COUNTY, VA



KEY PLAN

SCALE NORTH  
SCALE IN FEET  
1" = 30'  
1 INCH  
VCS-83

No.	DATE	BY	Description

REVISIONS  
DRAWN BY BWS  
APPROVED BY TCC  
CHECKED BY TCC  
DATE 02/01/2024

TITLE  
INTERIOR SITE  
PHOTOGRAPH  
LOCATIONS

PROJECT NO. P2729-001

8

SHEET NO. 8 OF 16

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Date: Feb 05 2024 11:10:50am







1 2 3 4 5 6

LOCATION 17



LOCATION 18



LOCATION 19



LOCATION 20



LOCATION 21



LOCATION 22



LOCATION 23



LOCATION 24



LOCATION 25



LOCATION 26



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8001 ANNAPOLIS BLVD.  
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703.948.0710 (FAX)

POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT  
FAIRFAX COUNTY, VA



KEY PLAN

SCALE NORTH


No.	DATE	BY	Description
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REVISIONS

DRAWN BY	BWS
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APPROVED BY	TCC
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CHECKED BY	TCC
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DATE	02/01/2024
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TITLE  
INTERIOR SITE  
PHOTOGRAPHS

PROJECT NO.	P2729-001
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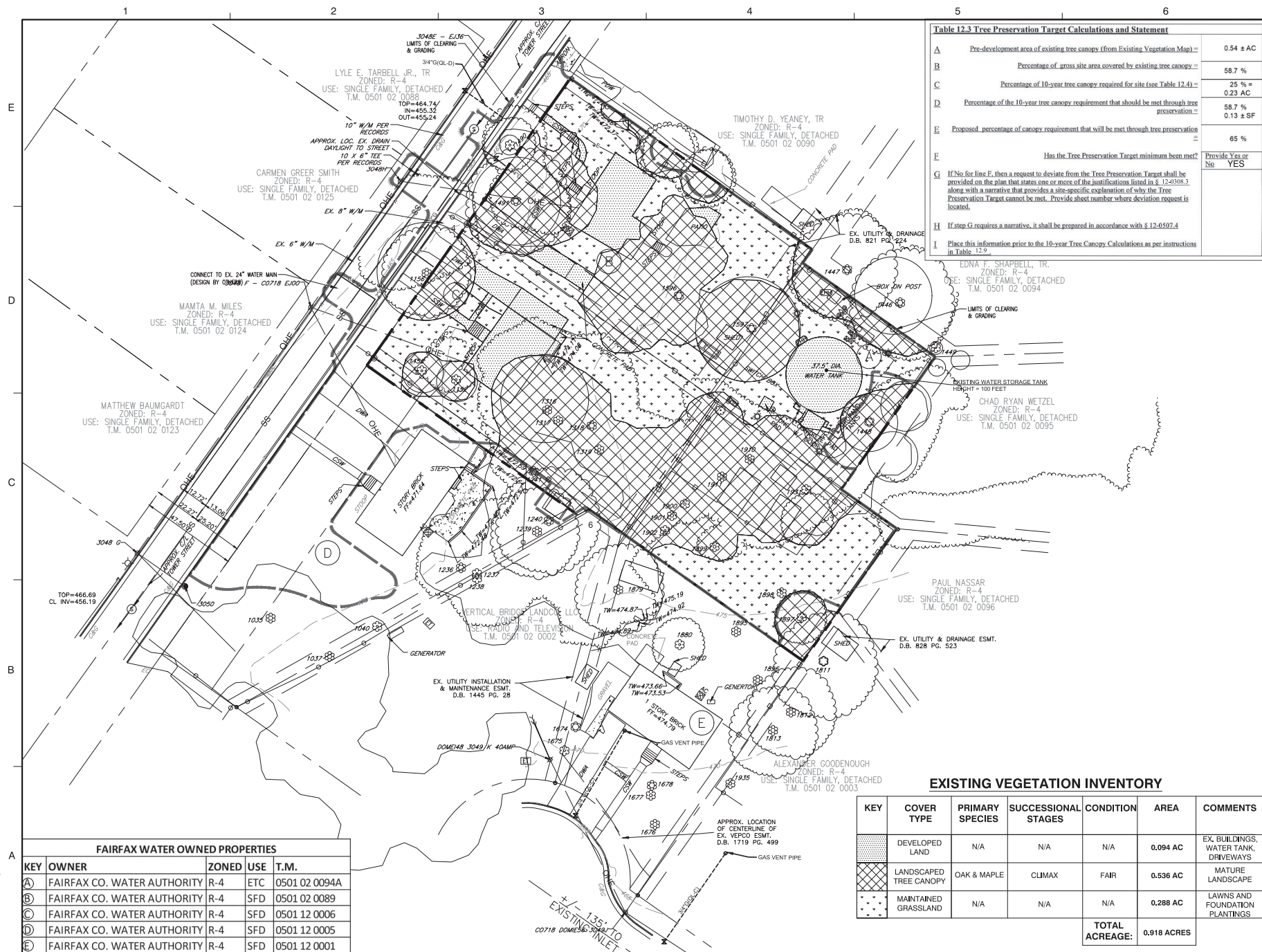
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SHEET NO. 10 OF 16

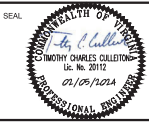
ALL PHOTOGRAPHS TAKEN ON 01/16/2024

SEE SHEET 8 FOR LOCATIONS

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User: P2729-001  
Date: Feb 05 2024 11:10:40am




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FAIRFAX, VA 22031  
703.849.0100 (PHONE)  
703.849.0518 (FAX)



SCALE NORTH

SCALE IN FEET  
1" = 20'



A graphic scale bar showing a 1-inch length divided into four equal segments, with the text "1" = 20'" above it. To the right of the scale bar is a north arrow pointing upwards, with the letter "N" at the top and "0° 00'" at the bottom.

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APPROVED BY	TCC
CHECKED BY	TCC
DATE	02/01/2024

PROJECT NO.	P2729-001
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SHEET NO. 11 OF 16



1 2 3 4 5 6

E

D

C

OUTFALL 1 - PRE DEVELOPMENT  
(HSG D)  
IMPERVIOUS @ CN 98= 0.17 Ac.  
TURF @ CN 80= 0.79 Ac.  
TOTAL = 0.96 Ac. @ CN 83

OUTFALL 2 - PRE DEVELOPMENT  
(HSG D)  
IMPERVIOUS @ CN 98= 0.01 Ac.  
TURF @ CN 80= 0.12 Ac.  
TOTAL = 0.13 Ac. @ CN 81

PRE-DEVELOPMENT

OUTFALL 1 - POST DEVELOPMENT  
(HSG D)  
IMPERVIOUS @ CN 98= 0.15 Ac.  
TURF @ CN 80= 0.81 Ac.  
TOTAL = 0.96 Ac. @ CN 83

OUTFALL 2 - POST DEVELOPMENT  
(HSG D)  
IMPERVIOUS @ CN 98= 0.00 Ac.  
TURF @ CN 80= 0.13 Ac.  
TOTAL = 0.13 Ac. @ CN 80

POST-DEVELOPMENT



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703.949.0710 (FAX)

POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT  
FAIRFAX COUNTY, VA



KEY PLAN

SCALE NORTH  
SCALE IN FEET  
1" = 30'  
1 INCH  
VCS-83

### STORMWATER MANAGEMENT NARRATIVE

THE STORMWATER MANAGEMENT PLAN FOR THIS SPECIAL EXCEPTION APPLICATION HAS BEEN PREPARED IN ACCORDANCE WITH THE FAIRFAX COUNTY STORMWATER MANAGEMENT ORDINANCE AND PUBLIC FACILITIES MANUAL.

#### I. SITE AREA

THE SITE AREA EVALUATED FOR WATER QUALITY AND WATER QUANTITY IS 1.09 AC. THE SITE BOUNDARY IS CALLED OUT ON SHEET 5.

#### II. WATER QUALITY

THE VIRGINIA RUNOFF REDUCTION METHOD AS DESCRIBED IN SECTION 124-4-2 OF THE FAIRFAX COUNTY STORMWATER MANAGEMENT ORDINANCE WAS USED TO EVALUATE WATER QUALITY FOR THIS SITE. BECAUSE THE SITE AREA INCLUDES NEW DEVELOPMENT ON PRIOR DEVELOPED LAND, THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) REDEVELOPMENT WORKSHEET WAS USED TO SHOW WATER QUALITY COMPLIANCE WITH ARTICLE 4, AS CALCULATED BY THE VRRM WORKSHEET, THE TOTAL LOAD REDUCTION REQUIRED FOR PHOSPHOROUS IS 0.13 LBS/15. OFFSITE NUTRIENT CREDITS WILL BE PURCHASED TO SATISFY THE POLLUTANT REMOVAL AS PERMITTED UNDER SECTION 124-4-5(A)(3) OF THE ORDINANCE.

#### III. WATER QUANTITY

##### A. DESCRIPTION OF OUTFALL

THERE ARE TWO OUTFALLS FOR WHICH STORMWATER FLOWS OFFSITE FROM THE SUBJECT SITE, BOTH OF WHICH OCCUR AS SHEET FLOW. OUTFALL ONE (1) MAKES UP A MAJORITY OF THE SITE AREA AND DRAINS OVERLAND NORTH AND WEST TO TOWER STREET. OUTFALL TWO (2) DRAINS OVERLAND TO THE SOUTH AND EAST TO THE ADJACENT PROPERTIES.

##### B. SHEET FLOW 124-4-4 (E)

AS SHOWN IN THE PRE-DEVELOPMENT AND POST-DEVELOPMENT MAPS ABOVE, THERE IS AN OVERALL DECREASE IN IMPERVIOUS AREA TO EACH OUTFALL IN THE DEVELOPED CONDITION. THESE AREAS OF SHEET FLOW ARE MINOR, WITH DECREASED FLOW VOLUMES FROM THE EXISTING CONDITION, AND WILL NOT CAUSE ANY DOWNSTREAM FLOODING OR EROSION PROBLEMS. SEE WATER QUANTITY SUMMARY TABLE, THIS SHEET, FOR SUMMARY OF SHEET FLOW RATES. PER FAIRFAX COUNTY CODE 124-4-4(E) NO FURTHER WATER QUANTITY CONTROLS ARE REQUIRED.

#### LEGEND:

- PROPERTY LINE
- APPROX. LIMITS OF DISTURBANCE (LOD)
- APPROX. LIMITS OF DISTURBANCE FOR SWM PURPOSES
- DRAINAGE DIVIDES
- IMPERVIOUS AREA
- TURF AREA

No.	DATE	BY	Description
-----	------	----	-------------

REVISIONS			
DRAWN BY	BWS		
APPROVED BY	TCC		
CHECKED BY	TCC		
DATE	02/01/2024		

TITLE  
**STORMWATER  
MANAGEMENT  
PLAN**

PROJECT NO. P2728-001

12

SHEET NO. 12 OF 16



## FAIRFAX COUNTY, VA



## KEY PLAN

SCALE NORTH

SCALE IN FEET  
1" = 20'



A horizontal scale bar divided into two equal segments. Below the bar, a bracket spans the entire length and is labeled "1 INCH". Above the bar, the text "1" = 20'" is written.

[illegible]

No.	DATE	BY	Description
REVISIONS			

DRAWN BY BWB

APPROVED BY TCC

CHECKED BY TOC

DATE 02/01/2024

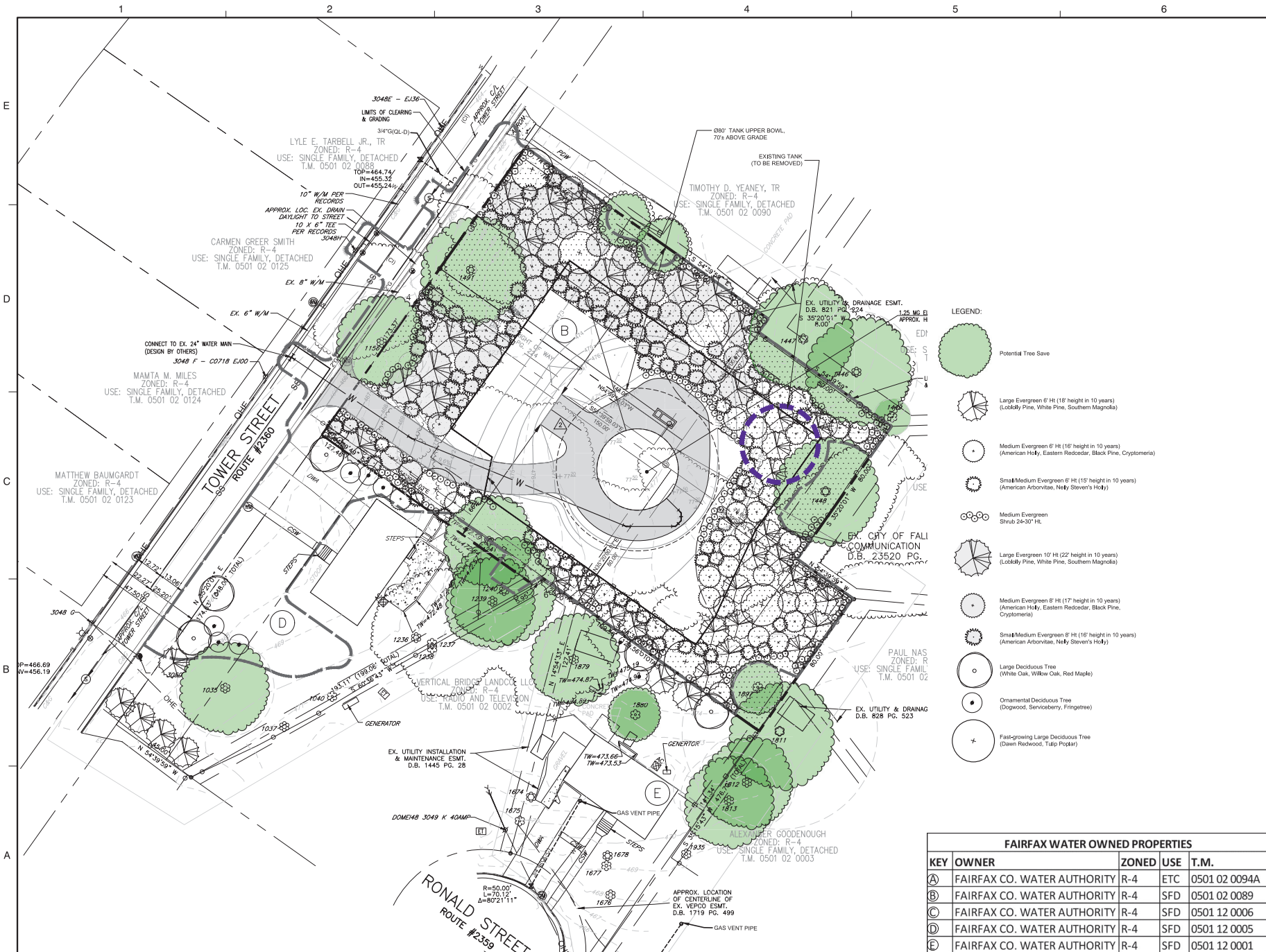
TITEL

LANDSCAPE  
PLAN

FAIRFAX WATER OWNED PROPERTIES				
KEY	OWNER	ZONED	USE	T.M.
A	FAIRFAX CO. WATER AUTHORITY	R-4	EDC	0501 02 0094A
B	FAIRFAX CO. WATER AUTHORITY	R-4	SFD	0501 02 0089
C	FAIRFAX CO. WATER AUTHORITY	R-4	SFD	0501 12 0006
D	FAIRFAX CO. WATER AUTHORITY	R-4	SFD	0501 12 0005
E	FAIRFAX CO. WATER AUTHORITY	R-4	SFD	0501 12 0001

PROJECT NO. P2729-001

SHEET NO. 14 OF 16



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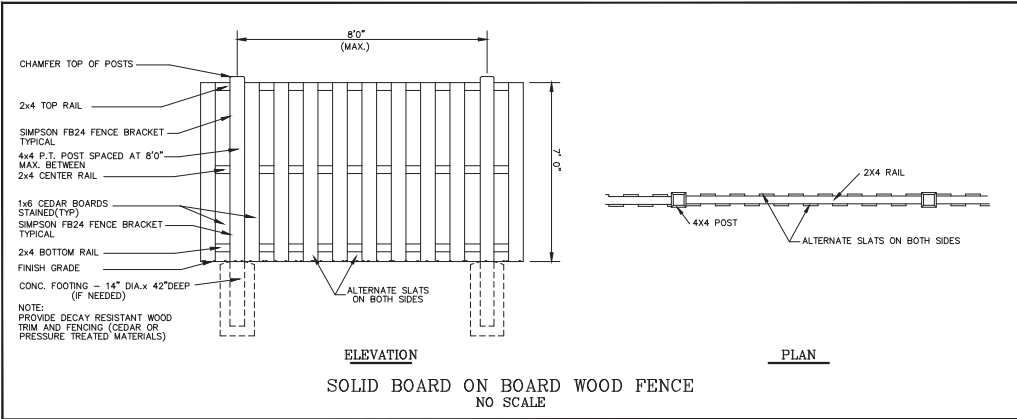
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Date: Feb 05 2024 11:13:39am



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POPLAR HEIGHTS  
WATER TANK  
SPECIAL EXCEPTION PLAT  
FAIRFAX COUNTY, VA



KEY PLAN

SCALE NORTH


No.	DATE	BY	Description
REVISIONS			
		BWS	
		TCC	
		TCC	
	02/01/2024		

TITLE  
SITE DETAILS

PROJECT NO. P2729-001

16

SHEET NO. 16 OF 16