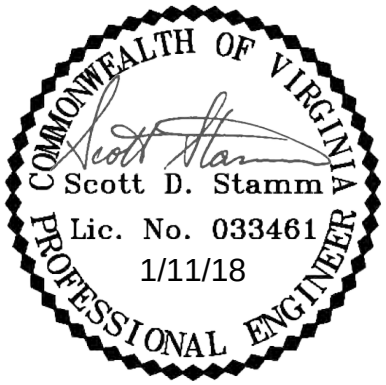
Public Facilities Report



The Pointe at Harbor View
Suffolk, Virginia

January 11, 2018

Prepared for:
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Project Description

The existing property (approximately 55+/- acres) consists of a single parcel that is bounded by Armstead Avenue to the north, College Drive to the west, and Interstate 664 to the east. The entire property is currently undeveloped and largely forested. The proposed development will impact the majority of the 55-acre parcel. The proposed land use is identified as the Pointe at Harbour View development consisting of retail space, office spaces and approximately 500 multi-family residential units.

Existing Conditions

The site is currently undeveloped with the exception of several unpaved access paths and an abandoned building, roughly 26' x 42'. A narrow strip of jurisdictional wetlands is located along the northeast portion of the property adjacent to Armstead Avenue, and another small pocket of wetlands exists in the center of the property adjacent to I-664. Runoff, generally as sheet flow, shallow concentrated flow, and open channel flow, currently drains the property to culverts located at the northeast and southeast corners of the property. Ground elevations fall gently from south to north across the parcel.

There is currently no City sanitary sewer service to the property. Existing City services end at the intersection of College Drive and Armistead Avenue. Although a gravity sanitary sewer stub is planned to be extended to this property as part of the College Drive Roundabout project, it appears a new pump station will be required to handle flows from the entire development. There is a 10" private force main crossing the site that may require relocation or planning during layout.

There is currently a 16" City water main to the southern portion of the property from under I-664. Existing City services also end at the intersection of College Drive and Armstead Avenue. As described in a subsequent section, a City project is underway that will extend water to the northwest corner of the property.

Design plans for the College Drive Roundabout are complete and under construction. All proposed improvements for The Pointe at Harbour View will be coordinated as required with the roundabout to ensure a seamless interface between the two projects.

Proposed Conditions

The proposed Concept Site Plan depicts the intended retail and office uses and related drive aisles and parking areas as well as the proposed mixed use multi-family and townhomes. The project will be served by City water for domestic and fire demands and sanitary sewer service. The project will also comply with applicable stormwater regulations. Runoff from streets, parking areas, and buildings will be captured by a combination of storm pipes and bioretention basins and conveyed to new wet retention ponds along the east side of the property for attenuation and primary water quality treatment. The stormwater management system will hold post-developed runoff back to pre-developed levels and treat the captured runoff for water quality prior to discharging.

Water Level of Service

In order to serve the development and complete the City's water supply system in the Harbour View Area, the 16" water main on the west side of the development will be extended to connect to the 16" water main one the east side of the property. Service to the site will connect to this main to form a distribution network for domestic water and fire protection needs.

A complete detailed water model will be prepared for the development, including any off-site improvements, as part of the design plans for The Point at Harbour View. All proposed improvements will meet or exceed City and State requirements.

Water level of service estimates are based on 376,800 square feet (SF) of retail space and 100,000 SF of office space and 500 residential units. The average demand based on the Virginia Department of Health Waterworks Regulations for both the retail and office is estimated to be 250 gallons per day per 1,000 SF for a 12-hour day with a 300% peaking factor. The average demand per residential unit is 310 gallons per day for a 24-hour period with a 250% peaking factor. Below are the water levels of service calculations:

Required Average Day Potable Water Demand

(376,800 sf Retail + 100,000 sf Office) x 250 GPD / 1,000 sf = 119,200 GPD

500 Residential Units x 310 GPD = 155,000 GPD

Total Average Demand = 274,200 GPD

Maximum Day Potable Water Demand

(376,800 sf Retail + 100,000 sf Office) x 250 GPD / 1,000 sf x 3 = 357,600 GPD

500 Residential Units x 310 GPD x 2.5 = 387,500 GPD

Total Peak Demand = 745,100 GPD

Maximum Hourly Potable Water Demand

357,600 GPD / (12 Hours x 60 Min) + 387,500 GPD / (24 Hours x 60 Min) = 765.8 GPM

Maximum Fire Protection Demand

The fire flow requirements for the proposed development will be calculated based on the 2012 International Fire Code and the type of construction based on the 2009 Virginia Statewide Fire Prevention Code.

The design plans will include a detailed water model to verify the capacity of the proposed water main network. Minimum fire flow demands are 1,500 GPM for commercial structures; however, calculations will be provided once the type of construction is determined. It is anticipated that the 16" water main will be adequate to serve the subject parcel.

Sewer Level of Service

The nearest viable connection to public sewer service is a sanitary sewer manhole at the intersection of Armistead Ave and College Drive. A formal sewer analysis will be prepared for the proposed development to determine the size of services and pump station required. A complete detailed sewer model will be prepared for the development, including any off-site improvements, as part of the design plans for The Point at Harbour View. All proposed improvements will meet or exceed City and State requirements.

Sewer level of service estimates are based on 346,800 SF of retail space, 110,000 SF of office space and 500 residential units. The average sewer demand is based on the Virginia Department of Health Waterworks Regulations and Hampton Roads Regional Technical Standards. For the retail space, the sewer demand is estimated to be 0.2 gallons per day per Gross SF for a 12-hour day with a 300% peaking factor. The office space is estimated to be 0.1 gallons per day per Gross SF for a 12-hour day with a 300% peaking factor. Below are the sewer level of service calculations:

Average Day Sewer Flow

376,800 sf Retail x 0.2 GPD = 75,360 GPD

100,000 sf Office x 0.1 GPD = 10,000 GPD

500 Residential Units x 310 GPD = 155,000 GPD

Total = 240,360 GPD

Maximum Day Sewer Flow

(75,360 GPD + 10,000 GPD) x 3 + 155,000 GPD x 2.5 = 643,580 GPD

Maximum Hourly Sewer Flow

(75,360 GPD + 10,000 GPD) x 3 / (12 Hours x 60 Min) + 155,000 GPD x 2.5 / (24 Hours x 60 Min) = 624.8 GPM

Stormwater Management

Because the proposed development is being submitted for a conditional use permit, a Major Water Quality Impact Assessment pursuant to UDO Appendix B, Section B-13 is required. A component of the Major Water Quality Impact Assessment (WQIA) is the Stormwater Management Plan pursuant to UDO Appendix B, Section B-12. A complete WQIA and Stormwater Management Plan has been prepared and submitted under a separate cover.

Traffic Impact Study

A complete Traffic Impact Study pursuant to UDO Appendix B, Section B-21, has been prepared and submitted under a separate cover.

Fiscal Impact Analysis

A Fiscal Impact Analysis has been performed and is being submitted as a separate report.