City of Richmond, Virginia
Department of Planning and Development Review
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To: Planning Commission
From: Urban Design Committee
Date: November 18, 2019
RE: **Conceptual location, character, and extent review of sludge thickening and dewatering facility improvements at the Wastewater Treatment Plant, 1400 Brander Street; UDC 2019-28**

I. APPLICANT
Ed Alleyne, City of Richmond, Department of Public Utilities

II. LOCATION
1400 Brander Street

Property Owner:
City of Richmond

III. PURPOSE
The application is for conceptual approval of improvements to the Wastewater Treatment Plant's sludge thickening and dewatering facilities, which includes new equipment, a new electrical building, transformers, and rehabilitation of the existing buildings.

IV. SUMMARY & RECOMMENDATION
The City of Richmond's Wastewater treatment Plant's sludge thickening and dewatering facilities have been in continuous operation since the 1980's and have begun to require frequent and costly maintenance. The City selected Greeley and Hansen to develop a basis of design report for upgrades to both facilities. Upgrades to these facilities include new centrifuges, a new electrical building and equipment, a new loading building, interior renovations to office space and control rooms, replacement of windows and sound reducing panels, and raising existing HVAC and electrical equipment above the 100-yr flood plain.

Therefore Staff recommends that the Urban Design Committee recommend that the Planning Commission approve the conceptual design, with the following conditions:

- Applicant consider a simpler design for the new loading building that is compatible with the industrial nature and aesthetic of the site
- Applicant submit a context drawing of the new loading building that shows dimensions and scale in relation to the existing dewatering facility.

Committee Members in attendance were Emily Smith and John Reyna, however it should be noted a quorum consists of five members of the committee. Procedural guidelines state that the meeting may be held and the recommendation forwarded to the Planning Commission as long as the Planning Commission is advised of the (Urban Design) Committee's attendance.

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V. FINDINGS OF FACT

a. Site Description and Surrounding Context

The site is located at 1400 Brander Street and lies within the M-2 (Heavy Industrial) zoning district. The property is over one hundred fifty (150) acres in size and is surrounded by other industrial sites, bordered by Brander Street to the North and East, and Interstate 95 to the West.

There are around 40-50 employees working on site, with very limited public access, the exception being occasional staff-facilitated tours of the WWTP.

b. Scope of Review

The improvements associated with this project are subject to location, character, and extent review as a "public building or structure" in accordance with Section 17.07 of the Richmond City Charter.

c. UDC Review History

At the regular October 2019 meeting of the UDC, the conceptual location, character, and extent review of a new biosolids canopy, UDC 2019-27, was reviewed, and the UDC recommended that the Planning Commission grant conceptual approval, and subsequently was approved by the Planning Commission at a regular meeting on October 21, 2019.

At the regular May 2019 meeting of the UDC, the final location, character, and extent review of new Grit and Screening Facilities, UDC 2019-15 was reviewed, and the UDC recommended that the Planning Commission grant final approval, and was subsequently approved by the Planning Commission at a regular meeting on May 20, 2019.

At the regular March 2016 meeting of the UDC, the final location, character, and extent review of the CSO Control Program – Special Order 15A, Division 47 – Screenings and Grit Removal Facilities (UDC 2016-07) was recommended for approval and subsequently approved at the regular March 21, 2016 meeting of the Planning Commission.

At the regular December 2016 meeting of the UDC, the project was recommended for conceptual approval by the UDC.

The project was canceled in November 2018 due to lack of funding.

In addition:
To be in accordance with State Law that called for reducing the concentration of nitrogen and phosphorous that is discharged into the James River, a project was proposed that would be implemented through several contracts. The UDC reviewed several submittals under the project number UDC 07-37 (2,3,4,5,6,7) between 2007-2010 for the construction of new buildings and infrastructure on site that would bring the plant into compliance.

Final location, character, and extent review of the installation of a double-wide modular unit at 1400 Brander Street was approved as submitted at the February 2006 regular meeting of the UDC.

d. Project Description

The City of Richmond currently operates a sludge thickening facility and a sludge dewatering facility at its Wastewater Treatment Plant (WWTP). The facilities were installed in the late 1980's. Greely and Hansen designed both the Thickening and Dewatering facilities and they have been in continuous operation for over 30 years.

The thickening and dewatering centrifuges are near the end of their service life, and down time for maintenance has become excessive and costly. The City selected Greeley and Hansen to develop a basis of design report for upgrades to both facilities. Greeley and Hansen developed a report with an evaluation of current and future flow conditions, a characterization of existing equipment condition, a detailed review of multiple centrifuge manufactures, and a recommendation for facility upgrades.

The scope of the current project includes the following upgrades in the Thickening Facility: Replacement of four thickening centrifuges, new centrifuge control panels elevated on a platform above the 100-yr flood plain, replacement of four progressing cavity sludge pumps, new electrical building and transformers above 100-yr flood plain elevation adjacent to the existing facility, new outdoor HVAC platform above 100-yr flood plain elevation adjoining the existing facility. The thickening centrifuges will be replaced with current facility in operation and would not require a temporary thickening facility. The existing windows will be replaced in-kind, and interior upgrades to office space and control rooms are proposed.

The scope of the project includes the following upgrades to the dewatering facility: Replacement of five dewatering centrifuges, new centrifuge control panels and centrifuges on platform above 100-year flood plain elevation, new dewatering polymer system, new dewatered cake conveyer system, a new loading building, a new Integrated Power Assembly unit above the 100-yr flood plain elevation. Other supporting systems that need to be upgraded are central drains, noise reduction system in the centrifuge room, I&C Systems, and HVAC System. A temporary dewatering system will be constructed to the west of the current facility to allow the rehabilitation of the dewatering building to be conducted without coordinating a difficult phased construction approach. Windows will be replaced in-kind, and interior updates to office spaces and laboratory are being proposed.

e. Master Plan

This property is within the Old South Planning District. The current Master Plan calls for industrial uses at this location. It is appropriate for a wastewater treatment facility to be located at this site.

f. Urban Design Guidelines

In matters of public facilities the Urban Design Guidelines encourage consistency with the existing architectural massing, character, and materials. Building colors should be coordinated and compatible with adjacent buildings.

Staff finds that the conceptual design of the new loading building adjacent to the dewatering facility is not in keeping with the industrial aesthetic of the site and suggests that a simpler, more industrial design be proposed.

The Urban Design Guidelines state that, “Facilities required for the ongoing operation of the building, such as loading docks, maintenance sheds, or HVAC equipment” should be screened from view or located in the rear. All new electrical and HVAC equipment proposed in this project is either screened or located in a location that is minimally visible.

VII. ATTACHMENTS

a. Vicinity Map
b. Application
c. Plans