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MEMORANDUM

Date: March 29, 2022

To: Tim Marsh, PE

From: Ryan Delo, PE

Re: Justification for Property Acquisition – Norview Estabrook Division I (VP010920)

Rummel, Klepper & Kahl, LLP (RK&K) is contracted with the Hampton Roads Sanitation District (HRSD) to provide engineering services for the replacement of three sections of the Norview Estabrook Force Main located in the City of Norfolk. The force main sections located in the Winona, Lafayette Annex, Fairmont Manor and Estabrook neighborhoods, convey flows from City PS #21 located in Fairmont Park, City PS #57 (HRSD is in the process of acquiring) located near Sherwood Forest Elementary School, and HRSD PS #105 located along Chesapeake Boulevard. The existing cast iron (CI) force main sections were constructed in the 1950's and achieved their useful lifespan. The replacement force main sections include:

- 18-inch Force Main, Phase III (VP016700) – Replacement of 2,182 LF of 18-inch CI Force Main along Lasalle Avenue and Tidewater Drive, referred to herein as the Lasalle Avenue Section.
- 18-inch Force Main, Phase II, Section 2 (VP010920) – Replacement of 1,071 LF of 18-inch CI Force Main along Chesapeake Boulevard, referred to herein as the Chesapeake Boulevard Section.
- 12-inch Force Main (VP016500) – Replacement of 3,292 LF of 12-inch CI Force Main along Robin Hood Road, referred to herein as the Robin Hood Road Section.

The force main sections were identified for replacement due to a history of failures in the area with force mains of this material and vintage. HRSD is also in the process of upgrading PS #105 (Chesapeake Boulevard) and intends on replacing the downstream force main sections prior to completion of the upgrades. Project completion deadlines include:

- May 2024 – Completion of the Chesapeake Blvd. PS #105 Replacement
- May 2025 – Completion of the Lasalle Avenue, Chesapeake Boulevard, and Robin Hood Road Sections in advance of the Rehabilitation Action Plan, Phase 2 deadline

The *Final Alignment Analysis – Norview Estabrook Division I, Technical Memorandum* (TM), dated March 2, 2021, recommended alignments for replacement of the three force main sections. HRSD accepted the recommended alignments and is on schedule for completion on 12/1/2024. This completion date provides five months for any construction delays or extended lead times. This memorandum provides justification for the property acquisition required to construct the recommended alignment for the Chesapeake Boulevard Section.

Alternative 1 – Purchase 3310 Cromwell Drive

3310 Cromwell Drive was appraised for \$135,000. The property owner countered the appraisal with an asking price of \$350,000. The property has multiple encumbrances and restrictions which will expire in 10 years, which could impact property value. Purchase of the property will provide adequate space for installation of the force main by guided auger bore across the adjacent rail line, construction staging, overnight staging for tractor trailer deliveries while the entrance to 3307 Chesapeake Boulevard is closed, and can be sold in the future retaining an easement for the force main. In addition to the purchase of 3310 Cromwell Drive, this alternative is dependent upon obtaining an easement from 3307 Chesapeake Boulevard.

Alternative 2 – Easement on 3310 Cromwell Drive

Easement acquisition is an alternative solution to the purchase of 3310 Cromwell Drive. The owner has not been receptive to an easement as it will add an additional restriction to the existing encumbrances and restrictions which limit development. Condemnation through eminent domain would likely be required to acquire the easement. The HRSD easement would further reduce the current build-able area and further assessment of the site to determine if the property would be classified as an uneconomical remnant should be preformed. The easement acquisition through eminent domain will only cover the permanent 30-foot easement around the force main, negotiation for purchase of an additional construction easement will be required to accommodate the pit for installation under the railroad. In addition to the easement on 3310 Cromwell Drive, this alternative is dependent upon obtaining an easement from 3307 Chesapeake Boulevard. The assumed appraised value for the 3307 Chesapeake Boulevard permanent easement for this alternative is \$12,729 based on 3,917 sf at a value of \$6.50 per sf with a 50% reduction. The assumed appraised value for the 3310 Cromwell Drive permanent easement for this alternative is \$9,293 based on 4,200 sf at a value of \$4.43 per sf with a 50% reduction. The easement cost for 3310 Cromwell Drive will likely be higher due to a challenging property owner. The current property owner is unwilling to sell an easement for this parcel with the proposed easement encroaching into the limited available, buildable area. Obtaining a permanent easement without the benefit of additional area for construction significantly complicates installation of the railroad crossing by limiting available property for staging and construction. An additional temporary construction easement estimated at \$2,213 would be required to install the railroad crossing. Limiting access to just the permanent and temporary easements would result in additional time expenditure to complete the installation. This site is needed in conjunction with the easement for 3307 Chesapeake Boulevard to provide overnight staging for tractor trailer deliveries while the entrance is closed nightly. Additional available parcels for overnight staging of tractor trailers were not found in the immediate area.

Alternative 3 – Realign the Chesapeake Boulevard Section

This alternative continues the alignment down Chesapeake Boulevard and eliminates any private property impacts. This alternative was evaluated and eliminated during the preliminary engineering phase for the following reasons.

1. The single, right, turn lane from Chesapeake Boulevard onto Cromwell Drive would need to be utilized during construction. A temporary turn lane cannot be implemented due to the geometry of the intersection. City of Norfolk Traffic Engineering staff will only allow this alignment if no other options are feasible.
2. Crossing of the railroad right-of-way shall be as close to perpendicular as feasible, but not less than 45 degrees, according to Norfolk Southern's Public Projects Manual. Due to the angle of the Norfolk Southern Railroad and Chesapeake Boulevard crossing, the alignment would require crossing the railroad at approximately 45 degrees. The realignment would require a Norfolk Southern review. Approval for the crossing near 3310 Cromwell drive took 6 months. Review and approval of the new crossing would jeopardize the May 5, 2025, deadline and would not allow for any construction delays

or extended lead times. This crossing would result in considerable impacts to Chesapeake Boulevard, require multiple extended duration late closures, a scenario the City of Norfolk would only consider as a last option.

3. The realignment would result in an additional cost of \$813,200 when compared to Alternative 1, purchasing the property. The additional cost exceeds the asking price for the property due to the additional pipe and materials, maintenance of traffic requirements, and construction challenges and would likely increase City review times due to work in Chesapeake Boulevard near the intersection with Cromwell Drive.

Alternative Analysis and Recommendation

The three alternatives were weighted and rated in the matrix presented in Table 1. The rating evaluation reflects assigned selection criteria, importance weightings, and individual ratings for each of the alternatives. Each configuration was given a rating of 1, 2 or 3, where the ratings represent the following:

- Rating of 1 – Alternative option is the least favorable alternative relative to the other options
- Rating of 2 – Alternative option satisfies some criteria requirements or offers a satisfactory benefit relative to the other options.
- Rating of 3 – Alternative option satisfies all criteria requirements or offers the most favorable benefits relative to the other options.

Based on the evaluation, proceeding with Alternative 1, the purchase of 3310 Cromwell Drive, is recommended. Alternative 1 is dependent upon acquiring an easement from 3307 Chesapeake Boulevard. The recommended site would help avoid the long and expensive eminent domain process, avoid extensive traffic impacts to the motoring public, allow the project to maintain the project schedule without a large impact to the overall budget, and provides an area for construction staging.

Table 1. Alignment Criteria Ranking Matrix

Selection Criteria	Criteria Weight	Alternative 1		Alternative 2		Alternative 3		Criteria Description
		Rating	Score	Rating	Score	Rating	Score	
Maintenance of Traffic	2	3	6	3	6	1	2	Impacts to the Traveling Public
Stakeholder Impacts	3	2	6	2	6	1	3	Impacts to Property Owners/Renters
Easement /Property Acquisition Requirements	2	2	4	1	2	3	6	Amount of Property and/or Easements
Utility Conflicts	2	2	4	2	4	1	2	Amount of Conflicts with existing Water, Sewer, Communication, and Electric Infrastructure
Permitting - Norfolk Southern	2	3	6	3	6	1	2	Permitting Required
Permitting - City of Norfolk	2	3	6	3	6	1	2	Permitting Required
Cost	3	2	6	3	9	1	3	Difference in Cost
Schedule	2	3	6	2	4	1	2	Delays/Extension to Schedule
Storage and Staging Area	3	3	9	1	3	1	3	Area Available for Tractor Trailers and the Contractor
Sum		53		46		25		