Development Special Use Permit #2024-10009
Robinson Terminal North – 500 & 501 North Union Street

Application	**General Data**	
Project Name: Robinson Terminal North	PC Hearing:	June 4, 2025
	CC Hearing:	June 14, 2025
	If approved, DSUP Expiration:	June 14, 2030
	Site Area	141,177 SF (3.24 acres)
Location: 500 and 501 North Union Street	Zone:	W- 1, Waterfront Mixed-Use
	Proposed Use:	Mixed-Use
	Dwelling Units:	73
	Gross Floor Area:	238,773 square feet
Applicant: RTN East, LLC and RTN West, LLC, represented by Kenneth Wire, Attorney	Small Area Plan:	Old Town North & Waterfront
	Green Building:	Compliance with 2019 Green Building Policy

Purpose of Application

A development special use permit with site plan and modifications to construct two buildings containing 73 dwelling units and three restaurant commercial spaces.

Special Use Permits and Modifications Requested:

Development Special Use Permit and Site Plan with modifications for a mixed-use development in the W-1 zone

- Special Use Permit for an increase the Floor Area Ratio (FAR) for a development site in the Waterfront Plan per section 5-504(D)
- Special Use Permit for an increase in height from 30 feet to 50 feet in the Potomac River Vicinity Height District per Section 6-403(B) for the 501 North Union Street (east) building
- Special Use Permit for increase in penthouse height for elevator overrun per Section 6-403(B) for 500 North Union Street (west) building
- Special Use Permit for a parking reduction for residential and commercial uses for the 500 North Union Street (west) parcel
- Modifications to the side yard setback per Section 5-506(B)(2); crown coverage and street tree spacing requirement per Section 11-410; each for the 500 North Union Street (west) parcel

Staff Recommendation: APPROVAL WITH CONDITIONS

Staff Reviewers:
Robert M. Kerns, AICP, Development Division Chief (robert.kerns@alexandriava.gov)
Catherine Miliaras, AICP, Principal Planner (catherine.miliaras@alexandriava.gov)
Michael Swidrak, Urban Planner III (michael.swidrak@alexandriava.gov)

PLANNING COMMISSION ACTION, JUNE 4, 2025:

On a motion by Vice Chair Koenig, seconded by Commissioner Manor, the Planning Commission voted to recommend approval of Development Special Use Permit #2024-10009, subject to all applicable codes and staff recommendations. The motion carried on a vote of 7 to 0.

Reason: The Planning Commission agreed with the staff analysis.

Chair McMahon asked staff to confirm that parking lots (for the East Block) are not a permitted use in the W-1 zone. Staff confirmed this, also stating that construction worker parking for the development would be permitted on site. She also asked if temporary lighting will be included in any temporary waterfront path. Mr. Wire answered that it is not currently included in the conditions but the applicant is happy to include.

Chair McMahon asked about the timing of the environmental mitigation process. Mr. Wire stated the order is first remapping the sites out of the floodplain, then developing the environmental remediation plan and health and safety plan to be reviewed by City staff. T&ES staff added that the City staff in T&ES has reviewed the management of numerous contaminated sites across city for decades. Staff also mentioned that the City will be reviewing a soils management plan that includes information on truck hauling routes. Mr. Wire noted that the applicant will be employing lined trucks for hauling contaminated soil off the site.

Commissioner Brown asked the applicant how many units in the East Building will have entries along the open space. Mr. Wire stated that five units will face the East Block Open Space, but all of them are two-story "maisonette" units that will have bedrooms on the second floor. Commissioner Brown noted some concern with residential units fronting the publicly accessible open space, but understood the challenges of developing the site, and noted his support of the overall open space and the East Building restaurant. Commissioner Brown also noted that the applicant may want to secure additional restaurant parking, some of which may be available on nearby office parking lots.

Commissioner Dube asked who comments on the health and safety plan and will there be a health and safety official on site. Staff answered that there will be a health and safety official on site from the construction team, and that the health and safety plan will be posted online. Staff mentioned the project has contingent approval by Virginia Department of Environmental Quality (DEQ) pending the submission of the health and safety plan.

Commissioners Lennihan and Ramirez expressed support for the project noting that issues regarding phasing and project delays are understandable considering the complex nature of development on the site. Commissioner Ramirez added that without any improvements or development on the site, the soil would remain contaminated. Commissioner Manor asked the applicant about the status of potential restaurant operators, which Mr. Wire responded was too early to state.

Vice Chair Koenig noted his support of the project and his agreement with other Planning Commission comments. He noted it is best to see the two-block site as an integrated proposal even if phasing requires the blocks to be built separately. He also noted his support for the architecture and the open space design with connections to existing waterfront open space.

Speakers:

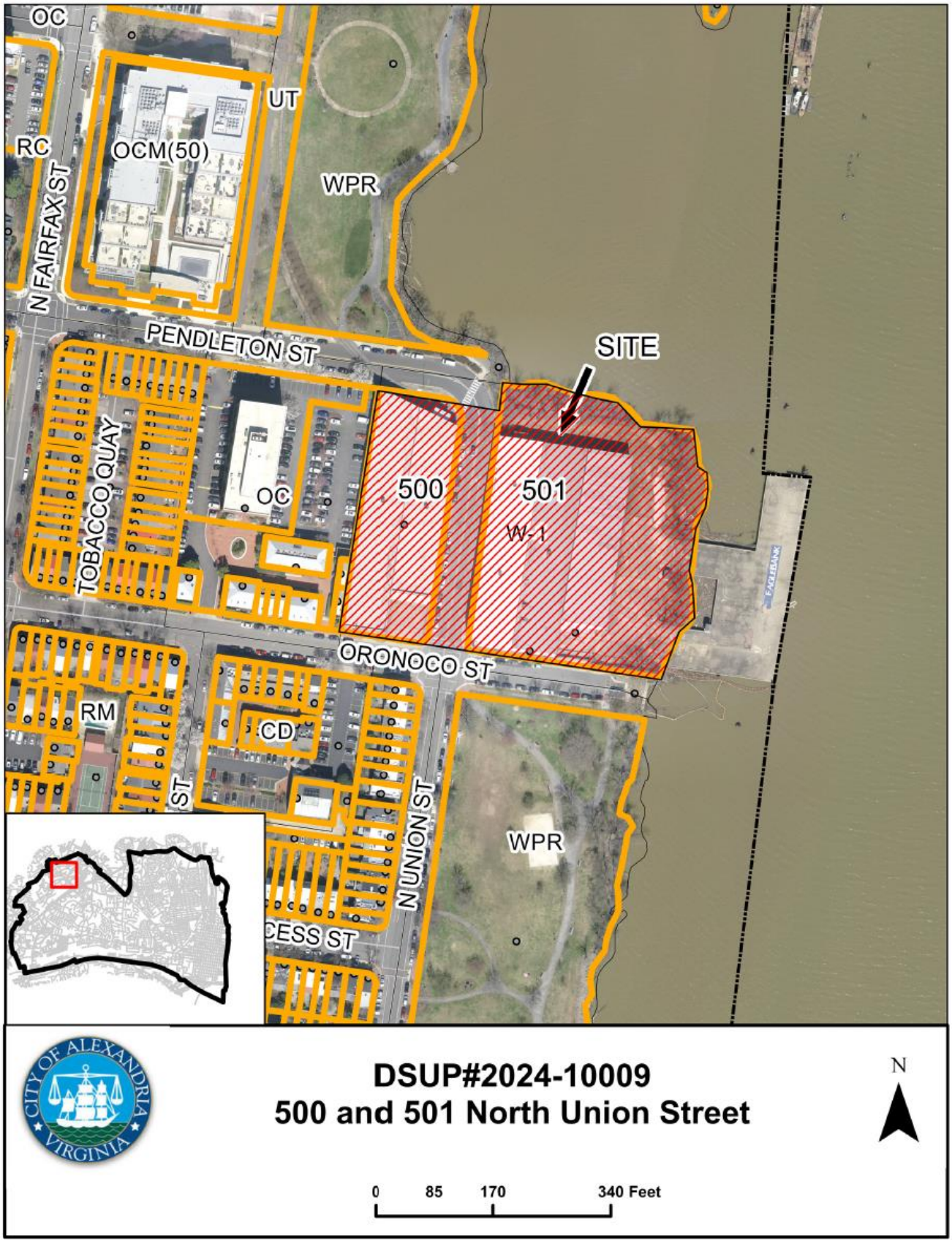
Tommy Volk, a representative from the Old Town North Alliance, spoke in support of the proposal. Mr. Volk stressed the importance of integrating public art into site as a gateway into the Old Town North Arts and Cultural District. He asked about the amount of public art contribution and if it can be provided earlier in the development process. He also added that he was in support of public input on any public art and having waterfront public access provided at the start of the first phase of construction with clear deadline for final park improvements. Chair McMahon asked staff to clarify the public art contribution. Staff noted that the contribution based on the Public Art Policy formula, and that staff plans to coordinate with the applicant during the Final Site Plan process on located public art in a public access easement area on site or in the future dedicated open space area, the latter of which requires a separate public process with the Commission for the Arts.

Melissa Kuennen, representing NOTICe (North Old Town Citizens' Association), noted her concerns regarding community discussions on project phasing and contribution amounts. Ms. Kuennen said that the applicant plan to phase the project was only public discussed since March and only mentioned in the parking reduction SUP application. She noted concerns with the virtual-only format of the applicant-led community meetings. She also expressed concerns about the open space contribution amounts, asking why the original proposal of over $7 million had been reduced to $2.7 million. She also asked that grass and temporary lighting be added to the condition requiring a temporary waterfront path on the East Block per Condition 2.

Ann Shack, representing Tobacco Quay and nearby residents, noted her concerns with the site contamination and the phased approach to remediation, and specifically that the Health and Safety and Remediation plans should be available for public review before any site permit approvals.

Boyd Walker, a resident of King Street, noted the proposal needs a stronger approach to the site's history and how it will be interpreted. Specifically, he advocated for additional interpretation that provides background on the tobacco warehouse on or near the site in the 18th century and the waterfront's use for the docking and berthing of boats at the time, including by George Washington.

Ken Wire, attorney for the applicant, spoke in support of the project. Mr. Wire mentioned the broad support for the architectural program from UDAC and BAR and talked about the overall construction phasing and remediation timeline. He noted that the pier removal (as a separate project) will be commencing later in June, and that after approval, the applicant will be seeking grading plan approval to regrade both blocks will clean fill (on top of existing concrete slabs), and add grass to the East Block to clear the minimum elevation for residential development from FEMA. He acknowledged the contamination on the site and that construction phasing is partially based on the unknown timeline of the remediation process and excavating a garage on a historic site. He promised that the applicant will bring all reports and materials related to remediation to the community, per condition language. Mr. Wire also clarified that the overall site improvement budget is $9 million overall with $2.7 million for the public improvements after initial site work (per conditions of approval). He stated that additional improvements to the interim trail may come out of the overall contribution amount.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I. SUMMARY

A. Recommendation

Staff recommends approval of the request for a development special use permit with site plan and modifications, and associated special use permits to construct 73 multi-unit dwellings three proposed restaurant spaces, subject to compliance with the staff recommendations. The proposal provides a number of public benefits that address impacts of the development, including:

- High quality design for two new, mixed-use buildings on the City's waterfront;
- Improved access to the Potomac River with the construction of over 50,000 square feet of publicly accessible and dedicated open space[1] with a new waterfront Promenade, creating a key public connection between Founder's Park and Oronoco Bay Park, at an improved value of approximately $2.7 million. These open space areas will include:
    - Significant areas of publicly accessible and publicly dedicated open space with play and lawn areas.
    - Flexible covered pavilions.
    - A public restroom accessed directly from the open space;
- Coordination and completion of development that will connect to the RiverRenew Plaza and stormwater treatment facility;
- Extensive remediation of onsite contamination;
- Compliance with the Public Art Policy through a contribution of $71,362;
- Compliance with the Affordable Housing Policy through a contribution of approximately $651,831;
- Compliance with the City's 2019 Green Building Policy;
- On-site design features highlighting the history of West's Point through signage, historical markers and other interpretative elements, to be developed in coordination with City staff;
- An annual maintenance contribution of $30,000 in perpetuity dedicated to the long-term operation and maintenance of the Waterfront Plan area, and agreements for the applicant to complete regular maintenance on portions of land to be dedicated to the City;
- Enhanced streetscapes on North Union and Oronoco streets, including undergrounding utilities, new sidewalks, street lights, street trees, and conversion of Oronoco Street to a street end garden between North Union Street and the Potomac River;
- A $20,000 contribution towards installation or maintenance for Capital Bikeshare.

B. General Project Description & Summary of Issues

The applicant, RTN East, LLC and RTN West, LLC, requests approval of a Development Special Use Permit (DSUP) with site plan and modifications, and associated special use permits to construct two buildings on a 3.32-acre development site bisected by N. Union Street. The applicant proposes a two-block mixed-use development with 73 dwelling units and three restaurant spaces totaling approximately

[1] The open space total includes dedicated and public access easement areas on the East Block, and approximately 9,000 square feet of RiverRenew Plaza within the applicant's property.

10,000 to 15,000 SF of floor area. The West Block will have 38 dwelling units in a five-story building and two proposed restaurant spaces with extensive outdoor dining areas. The East Block will have 35 dwelling units and feature an approximately 4,000 SF restaurant space fronting the Potomac River. Each block features internal off-street parking, with access from Pendleton Street (West Block) and North Union Street (East Block). The development includes a variety of above-grade and ground-level open space, including a publicly accessible park on the East Block that connects to the RiverRenew Plaza under construction directly to the north and to the city's Waterfront park system.

The applicant is requesting the following approvals with this project:

- A Development Special Use Permit with Site Plan and for the construction of a mixed-use development in the W-1 zone, including requests for:
    - SUP for an increase the Floor Area Ratio (FAR) for Waterfront Plan a development site per section 5-504(D);
    - SUP for an increase in height from 30 feet to 50 feet in the Potomac River; Vicinity Height District per Section 6-403(B) for the 501 North Union Street (east) building;
    - SUP for increase for penthouse height for an elevator overrun per Section 6-403(B) for 500 North Union Street (west) building;
    - Special Use Permit for a parking reduction for residential and commercial uses for the 500 North Union Street (west) parcel; and
    - Modifications to the side yard setback per Section 5-506(B)(2); crown coverage and street tree spacing requirement per Section 11-410; each for the 500 North Union Street (west) parcel.

Key issues considered with this proposal, which are discussed in further detail within the report, include:

- Compliance with the Alexandria Waterfront Plan and Old Town North Small Area Plan (OTNSAP);
- Compliance with the Floodplain Ordinance;
- Compliance with the Potomac River Vicinity Height District;
- General mass, scale and architectural character;
- Parking, loading and multimodal site access;
- Design and ownership of open space amenities and the Oronoco Street End; and
- Development phasing and construction.
- Site Remediation

It should be noted that the removal of the pier connected to the site and the remediation of the area under the pier is being undertaken as a separate project that is not being considered or reviewed as part of the overall DSUP proposal.

II. BACKGROUND

A. Site Context

The Robinson Terminal North site is located in the southeast corner of Old Town North, adjacent to the Potomac River, and bisected by North Union Street. The site is located within both the Waterfront Plan

and OTNSAP boundaries based on its adjacency to the Potomac River Waterfront and location north of Oronoco Street. The portion of the site located on the western side of North Union Street (West Block) is bordered by Pendleton Street and Oronoco Bay Park to the north, Oronoco Street and townhomes to the south, North Union Street to the east, and the Dalton Wharf office complex to the west. The portion of the site on the eastern side of North Union Street (East Block) is bordered by Oronoco Bay and the Potomac River to the north and east, Oronoco Street and Founder's Park to the south and North Union Street to the west. The plaza/open space, floodwall and outfall for the RiverRenew project is located directly to the north of the East Block, with portions of the plaza to be constructed within the East Block property. The plaza is anticipated to open in 2025.

The West Block currently contains a warehouse building (approximately 30 feet tall) that has near-full lot coverage and currently serves a restaurant supply company. The East Block was also the site of a warehouse until 2020 when it was demolished for the RiverRenew project, where it has been used for construction staging. Both warehouses were used by the Washington Post Company until their sale in 2013 for receiving pulp and newsprint and later for storage.[2]

The western side of the site slopes relatively steeply from west to east, with a change in grade of 10 feet, while the eastern side is generally flat. Due to the proximity of the site to the Potomac River, a significant portion of the entire site is located within the 100-year floodplain and a Resource Protection Area.

Situated at West's Point, the east side of the site is one of the City's most historically important locations. Named for Hugh West, of the City's prominent West family, it is the earliest continuously occupied site in the city. The early 18th century wharf, no longer standing, was the likely location of Alexandria's original tobacco warehouses, and the arrival port for Major General Edward Braddock's forces in March 1755. Numerous changes to the river shoreline have landlocked the original "point" on the northeast side of the intersection of Oronoco and North Union Streets. As part of the 1983 Settlement Agreement (see Procedural Background below), the Robinson Terminal Warehouse Corporation constructed a small overlook and park area at the foot of Oronoco Street, on City land, as West's Point Park. This location has served as the historic reminder of West's Point for a generation.

The two-block site was the location of a gas-burning power plant late in the 19th and early in the 20th centuries. This former use of the site has contaminated soils on the site. The Construction Management section of the Staff Analysis will provide an overview of the applicant's plans to control the excavation of contaminated soils on the East Block. The soil contamination is more concentrated under the West Block, where the applicant has determined to maintain the existing concrete slab and construct the proposed building on top.

B. Procedural Background and Project Evolution

Waterfront Settlement Agreement

[2] "Washington Post Co. subsidiary puts Alexandria warehouses up for sale," *The Washington Post*, February 5, 2013. https://www.washingtonpost.com/business/capitalbusiness/washington-post-co-subsidiary-puts-alexandria-warehouses-up-for-sale/2013/02/04/fb398186-6f38-11e2-8b8d-e0b59a1b8e2a_story.html

The Robinson Terminal North site is subject to compliance with the 1983 settlement agreement between the Robinson Terminal Warehouse Corporation and the United States of America (Settlement Agreement), which resulted from a 1973 lawsuit by the federal government regarding ownership of the edge of the property along the Potomac River. The Settlement Agreement guides the use of the subject sites and establishes restrictions on land use, building height and floor area ratio. The Settlement Agreement specific to Robinson Terminal North permits a mixture of uses on the sites, including residential and commercial. For the purposes of prescribed development rights, the East Block into "parcels."[3] A summary of the development restrictions for the Robinson Terminal North property are in Table 1 below.

Table 1 – Waterfront Settlement Agreement Development Parameters

Settlement Agreement Parcel/Tract Name	Area	Permitted Uses	Permanent Buildings Permitted	Maximum Height	Maximum FAR
West Block - 500 N. Union Street					
Tract I (entire lot)	43,521 SF / 1.0 acres	commercial, residential	Yes	66 feet	3.0
East Block - 501 N. Union Street					
Parcel A	39,200 / 0.90 acres (approx.)	open space/public park	No	12 feet	N/A
Parcel B-1	4,873 SF / 0.1 acres	"open air shops or restaurants"	No	N/A	N/A
Parcel B-2	4,843 SF / 0.1 acres	"open air shops or restaurants"	No	N/A	N/A
Parcel C	9,690 SF / 0.2 acres	commercial, residential	Yes	30 feet	1.5
Parcel D	39,050 SF / 0.9 acres	commercial, residential	Yes	45 feet	2.4

Per the table above, the development program is shaped by the Settlement Agreement, which requires three of the "parcels" (Parcels A, B-1 and B-2) on the East Block to serve as publicly accessible open space. Parcels B-1 and B-2 have some additional flexibility and may be used for "*open air shops or restaurants (with or without canopies), entrance ways …plantings…patio areas, sun decks, lighting and security devices*" per the terms of the Settlement Agreement. It should be noted that the City is not regulating the development based on the Settlement Agreement parameters, though the parameters have helped to solidify the proposed development program and influenced the bulk and area recommendations in the Waterfront Plan.

[3] The East Block is a single lot of record per City records.

Previous Site Plan Approval (DSUP#2014-00007) and Additional Proposals

Prominent City focus on the redevelopment of the site dates back to the Waterfront Plan process in the early 2010s, as the site was identified as one of three redevelopment sites identified in the Plan approved by City Council in January 2012. The redevelopment process with the current property owner, began with the owner's site acquisition in 2013 and led to the approval of DSUP#2014-00007 in October 2015.

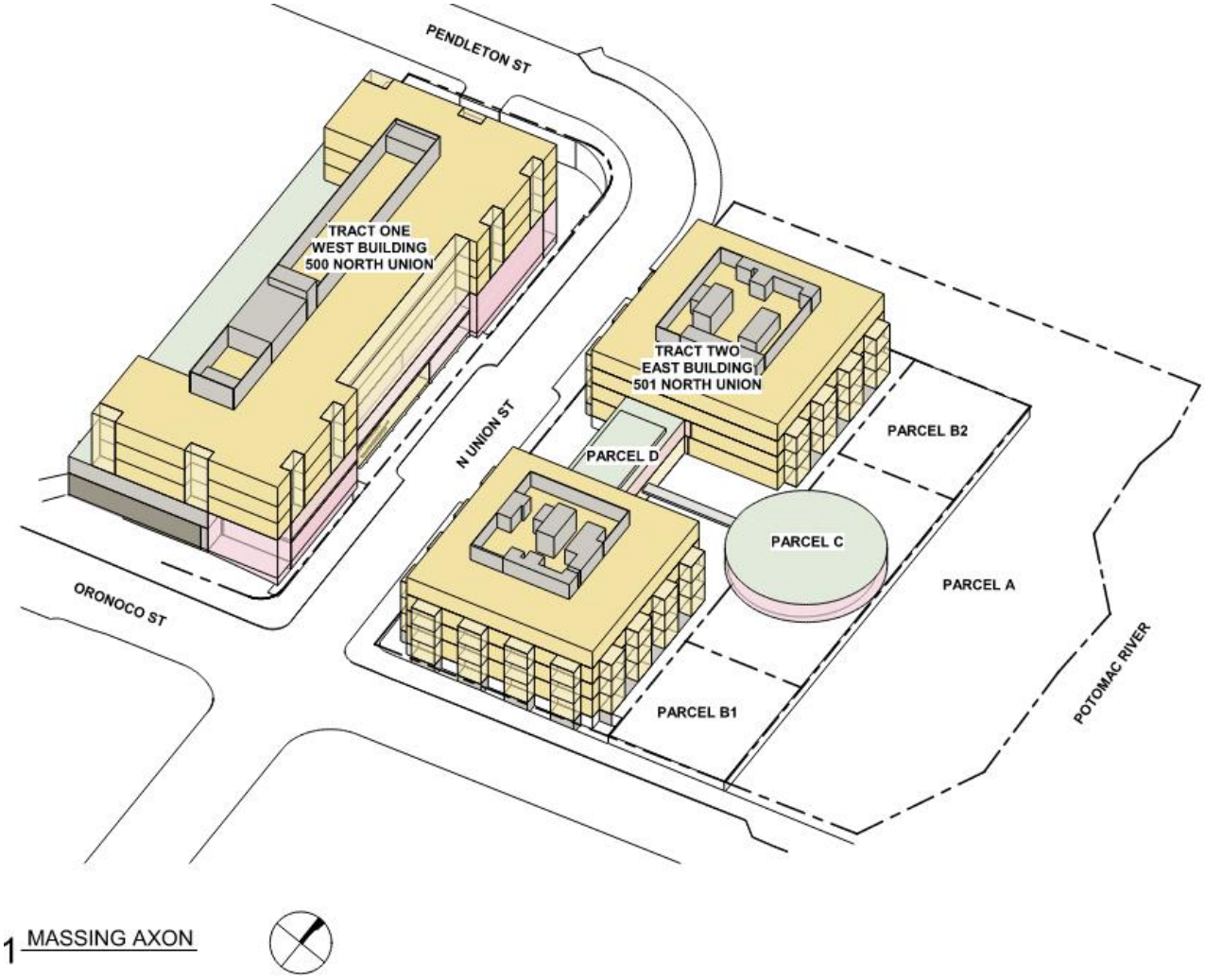


Figure 1: Proposed site plan overlaid on Waterfront Settlement Agreement Parcel/Tract Name

The staff report, conditions and supporting materials for the 2015 approval can be found here. The approval was to construct a 132-room hotel with an associated restaurant and 25 residential units for the building on the West Building, and 41 residential units (for a site total of 66 units) with approximately 16,500 SF of commercial space for the East Building. While the mix of proposed uses and building designs have changed, the general footprint of the buildings were similar to what is currently proposed based on the constraints of the Waterfront Settlement Agreement. The proposal went through the same sequence of

design review, with reviews by the Board of Architectural Review (BAR), Waterfront Commission and the Old Town North Urban Design Advisory Committee (UDAC).

The previously approved DSUP stalled at the final site plan phase of review and the approval expired by the end of 2022, accounting for the land use approval extensions related to the COVID-19 emergency. The applicant submitted pre-concept plans to the City for initial consideration in 2017 and 2019. The proposals focused specifically on constructing the West Building as either a simplified multi-unit version of the original approval and replacing the West Building with townhouses, respectively.

Evolution of Current Proposal

The applicant restarted discussions with the City in late 2023 and submitted initial concept plans. The overall proposal includes several high-level changes from the 2015 approved preliminary plan which were a result of local, economic and environmental realities. These changes have included:

- A new mix of uses, including multi-unit residential and three restaurant spaces between the two blocks.
- Maintaining the existing concrete slab for the West Building to limit ground disturbance with the inclusion of above-grade parking.
- Removal of the pier due to environmental and structural issues.
- The expansion of the open space area on the East Block based on the construction of the RiverRenew Plaza and stormwater facility with portions of the plaza within and directly to the north of the current East Block parcel.
- Negotiations with the applicant on the amount and application of Waterfront Plan-related contributions for open space and the Oronoco Street End.

Considering the changes above, previous project approval and Waterfront Settlement Agreement, many of the development parameters were set early in the concept-stage process. This included the general building footprints and locations of the internal parking and loading entrances. The applicant, staff and City boards and commissions (BAR, Waterfront Commission and UDAC) worked on iterative refinements to the site and building design. Specifically, staff and City boards worked with the applicant on vehicular and pedestrian access to the site and its amenities, including pickup and drop-off and enhancement of the North Union Street bicycle lane; site activation and the juxtaposition of residential and active uses; and an iterative design process for the open space and Oronoco Street End.

C. Detailed Project Description

The applicant, RTN East, LLC and RTN West, LLC, requests DSUP approval to construct two buildings on the two-parcel Robinson Terminal North site. The development will have a total of 73 dwelling units and approximately 15,600 SF of restaurant[4] space (with additional outdoor seating spaces) between the two development blocks. As part of the development, approximately an acre of publicly accessible waterfront-adjacent open space will be provided and the unit block of Oronoco Street will be converted to a street-end pedestrian space.

[4] The restaurants will be approved separately as administrative SUPs during construction.

The building at the West Block (500 North Union Street) is proposed as a five-story mixed-use building with 38 dwelling units and approximately 11,000 SF of restaurant space split into two commercial spaces at each end of the building. The smaller restaurant space at the southern end of the building has an outdoor dining space of nearly 500 SF while the larger two-story restaurant space at the north end of the building features two patios with nearly 2,000 SF of outdoor space.[5] The western building will be constructed on top of the existing concrete pad to minimize disturbance of contaminated soils, and therefore parking will be located on the first and second floor above-grade. Parking and loading activities will be located from a curb cut off Pendleton Street to the north of the site. The applicant is requesting an SUP to permit a mechanical penthouse up to 20 feet in height for an elevator overrun on the rooftop – the rooftop elevator will facilitate access to nearly 9,000 SF of rooftop open space.

Figure 2: Proposal – view looking northwest.

The building on the East Block (501 North Union Street) includes 35 dwelling units between two four-story wings of the building that are connected to a mid-block one-story building hyphen that serves as entry to the building from North Union Street. Connected to the mid-block hyphen via a covered corridor connection is the 4,000 SF circular restaurant space that fronts the waterfront open space. The restaurant building element is centered in the acre-plus publicly accessible open space and will feature outdoor dining around the perimeter of the element. The East Block building will feature activity adjacent to each of its frontages and sides, including residential and restaurant access on North Union Street, public open space

[5] The applicant has indicated that it may convert the West Building second-floor restaurant space into resident amenity space during the Final Site Plan review process. See Condition 23i.

and waterfront access to the north and east, and the Oronoco Street End to the south. The one-level underground parking garage is accessed at the north end of the building from North Union Street. Parking spaces for restaurant patrons for all three restaurants are located in the East Building garage, separated by a gate from the remaining resident spaces.

The applicant has proposed significant changes to the public realm as part of the overall development. Streetscape and bicycle infrastructure improvements will be made to Pendleton and North Union streets, including a raised table for pickup and drop-off and multimodal connections between the two buildings mid-block on North Union Street. Per the recommendations of the Waterfront Plan, the "street end" of Oronoco Street east of North Union Street will be transformed into a primarily pedestrian space connecting Founders Park and the open space at the east of the site. The street end will be protected by removable bollards from vehicular traffic and feature tree planting areas, two covered/shaded pavilions and areas for tables and chairs.

The applicant is providing over an acre of publicly accessible and publicly dedicated park and open space with the development, the majority of which connects to the RiverRenew Plaza to the north and the Oronoco Street End on the south. The primary open space of the development will provide a mix of passive waterfront uses with active elements and will be designed to connect directly into the forthcoming RiverRenew Plaza and relate to the waterfront restaurant space. The applicant and the City have delineated areas of this open space between areas with public access easement (private ownership) and areas for dedication to the City. In the unit block of Oronoco Street, the applicant will be converting the public right-of-way section into a pedestrian-oriented plaza with areas of shade, seating and covered/shaded pavilions. The applicant has included rooftop open space on both blocks, with the East Block including open space on the fourth-floor rooftop (for individual units) and likely on top of the restaurant space (for all East Building residents).

The size and locational restraints of the West Block necessitate site plan modifications related to open space, crown coverage, street tree spacing and for the west side yard, which is adjacent to a building wall for the office development to the west. The applicant requests an SUP to permit an increase in height for the elevator overrun on the West Building to 20 feet. The West Building garage will include 63 parking spaces; a parking reduction SUP has been filed for the West Block for four residential spaces and 12 commercial/restaurant spaces, the latter of which will be provided in the East Building garage once it is constructed.

As significant portions of the East Block are located within the floodplain, the applicant proposes to re-grade the block by adding dirt fill to officially raise the site out of the floodplain through the Letter of Map Revision (LOMR) process, administered by the Federal Emergency Management Agency (FEMA). This process is discussed in the Compliance with City's Floodplain Ordinance section in the Staff Analysis. The landscape design for the East Block incorporates the additional grade into transitional areas that will create interesting vistas and spaces.

III. ZONING

Compliance with the W-1 Zone

The proposal meets the requirements of the W-1 Zone (Section 5-500 of the Zoning Ordinance), meeting the zone goal to "promote mixed use development with suitable public amenities."[6] The proposal meets the Ground Floor Occupancy Regulations of Section 5-509 due to the proposal of "publicly accessible waterfront and waterfront-related amenities" with the development. These amenities are discussed in the Open Space section below.

Table 2 – Zoning Tabulations

Property Address:	**500 (west block) and 501 (East Block) North Union Street**	
Site Area:	Total: 141,177 SF (3.24 acres) *West: 43,521 SF (1.0 acres)* *East: 97,656 SF (2.24 acres)*[7]	
Zone:	W-1, Waterfront Mixed-Use	
Current Use:	Warehouse (west) and vacant (east)	
Proposed Use:	Mixed Use	
	Permitted/Required	**Proposed**
FAR **(Floor area ratio)**	1.69 (entire site w/ SUP per Waterfront Plan) 3.0 (West) 2.4 (East, Parcel D) 1.5 (East, Parcel C)	1.51 (Entire site)[8] 2.88 (West) 2.36 (East, Parcel D) 0.35 (East, Parcel C)
Open Space:[9]	Minimum 35% of lot West: 15,233 SF East: 34,180 SF	Total: 85,233 SF (60.3% of site) West: 15,233 SF (35.0% of lot) East: 70,000 SF (71.7% of lot)
Setbacks **Front** **Side**	None required per W-1 Zone West: 33' (west property line) East: 23' (north and east property lines)	 West: 35' (N); 4' (E); 16' (S) East: 12' (W); 7' (S) West: 0' (W)[10] East: 57' (N); >100' (E)
Canopy Coverage	Minimum 25% of lot West: 10,880 SF East: 25,277 SF	Total: 49,000 SF (34.7% of site) West: 4,000 SF (9.2% of lot)[11] East: 45,000 SF (44.5% of lot)

[6] The site plan modification request for relief to W-1 side yard setback requirements is discussed in the Modifications section below.
[7] The Waterfront Settlement Agreement divides the east block into five sub-parcels based on development rights, not based on City lots of record. See Table 1 in the Background Chapter above for more information.
[8] Combined net floor area is 213,312 SF. The West Building is 125,173 SF and the East Building is 88,179 SF.
[9] Further breakdown of open space by type and access is located in the Open Space section below.
[10] Site plan modification requested.
[11] Modification Requested

Parking (Total)[12]	Total: 152 spaces West: 79 spaces East: 73 spaces	Total: 153 spaces West: 63 spaces[13] East: 95 spaces
Residential Multi-unit:	West: 67 spaces East: 69 spaces	West: 63 spaces East: 79 spaces
Restaurant	West: 12 spaces[14] East: 4 spaces	West: 0 spaces[15] East: 16 spaces
Loading	West: 0 spaces East: 0 spaces	West: 2 spaces East: 0 spaces

IV. STAFF ANALYSIS

A. Compliance with the City Master Plan

Waterfront Plan

The City Council adopted the Waterfront Plan in January 2012 and designated development sites. The Waterfront Plan, an overlay plan, includes several goals and guidelines to guide the redevelopment of the Robinson Terminal North site. The following paragraphs outline the proposal's compliance with the development goals, while compliance with the development guidelines is provided within Attachment 1. The Waterfront Commission also evaluated the proposal's compliance with the Waterfront Plan and have provided an overall recommendation of support to Planning Commission and City Council. Waterfront Commission discussion is located in the Community Chapter at the end of the report.

Review and discussion of the proposal's compliance with the site-specific development goals and guidelines are located in the Attachments chapter of the report. Staff finds that the proposal complies with the goals of the plan to provide a mix of uses, provide compatible development and expand public and waterfront access in the Waterfront Plan area.

Restaurant Uses in the Waterfront Plan Area

The Waterfront Plan includes a policy for restaurants, hotels and commercial uses, similar to the Old Town Restaurant Policy within the Old Town Small Area Plan. Since this policy predates the inclusion of restaurants as administrative special uses in Old Town zones (including W-1), staff is not providing analysis of the proposal against this policy in this report.

[12] Parking totals shown are based on the minimum required parking per the Zoning Ordinance. The development is parked within the minimum-maximum range of Zoning Ordinance required parking. The requested parking reduction SUP is discussed in the Parking Layout and Reduction SUP section below.
[13] Does not include 7 tandem parking spaces that do not count toward the Zoning Ordinance requirement
[14] If the second-floor restaurant space on the West Building is converted to resident amenity space, the requirement will be reduced.
[15] The 12 required restaurant spaces for the West Building will be provided in the East Building garage per Section 8-200(C)(4) of the Zoning Ordinance. A parking reduction is requested for the gap in operation of the West Building restaurants and the East Building garage.

Waterfront Plan Contributions

As part of the DSUP approval, the applicant and staff have agreed to a contribution consistent with the Waterfront Plan. A contribution of $9 per net square foot of development is outlined in the Waterfront Plan, with an increase to $12.68 per square foot based on inflation since plan approval in 2012, with additional increases through construction based on the consumer price index.

The applicant and staff anticipate that this contribution will be provided in-kind, which is outlined in Condition 167 below. The contribution will be used for the construction of the waterfront open space sections to be dedicated to the City, including the Promenade, West's Point Park improvements or improvements to Oronoco Street after initial site grading activities. The contribution will also be utilized for the provision of the five pavilions (three in the East Block open space, both public access easement and public dedication; two in Oronoco Street). See the Open Space and Site Activation section below for more discussion of the in-kind improvements.

Old Town North Small Area Plan (OTNSAP)

Robinson Terminal North was identified as a redevelopment site in the 2017 OTNSAP update, though it was understood during the small area plan process that any site-specific recommendations were reserved for the Waterfront Plan development goals and guidelines since the previous DSUP approval for the site coincided with the small area plan process timeline. With this in mind, the proposal meets the intent of the OTNSAP, which envisions a "pedestrian-focused neighborhood" with a "diverse public realm network."

The project advances several of the Old Town North Small Area Plan Principles, including the providing of a mix of land uses, enhancements to the public realm and expansion of open space, and the addition of historic interpretive elements on the site. Please see the Attachments at the end of this report for a review of the proposal against the plan principles.

Old Town North Urban Design Standards and Guidelines for Old Town North (OTNUDSG)

As part of the iterative design review of the project, the applicant presented to the Urban Design Advisory Committee (UDAC) on three occasions, where UDAC reviewed the proposal based on the OTNUDSG. The OTNUDSG, adopted with the OTNSAP in 2017, promotes "high-quality architectural and urban design within an established urban context" and "encourage[s] a cohesive and attractive environment for the people who live, work, shop, recreate and visit Old Town North." UDAC found that the proposal was consistent with the OTNUDSG and voted to endorse the proposal 4-0 at its October 2024 meeting.

Regarding the OTNUDSG, for "relief" from certain development standards in the document has been requested and were reviewed by UDAC and staff. The standards, of which "projects are required to comply…to the extent feasible[16]," are discussed below:

[16] *Old Town North Urban Design Standards and Guidelines for Old Town North, page 6.*

- Section 3.2 – IV. A. Ground-Floor Retail (page 30). Standard 1 requires a minimum retail depth of 35 feet and a minimum retail floor-to-ceiling height of 15 feet.
    - Regarding retail depth, the northern restaurant of the West Building has a small portion of the ground-floor restaurant space that is only 26 feet deep. Staff supports this deviation from the minimum since it is a small portion of the restaurant space, the overall size of the two-story restaurant space (with significant areas of outdoor dining), and limitations of building width and the need for parking and loading access.
    - Regarding retail height, the West Building is proposed to have its two restaurant spaces have 14-foot floor-to-ceiling heights for the first floor of the restaurants, while the East Building restaurant space will have an 11'10" floor-to-ceiling height. Staff is amenable to the reduction in height for the West Building spaces based on minimizing building height, the proposal of the two-story northern restaurant space and the minimal request for relief. Regarding the East Building restaurant, staff acknowledges the challenges of raising the restaurant building height based on the constraints of retaining access to the open space on top of the restaurant. With this in mind, staff has added a condition of approval asking the applicant to study the restaurant building design to accommodate more height to the extent feasible.
    - UDAC members discussed the floor-to-ceiling heights of the East Block restaurant space, noting that the approximately 12-foot height is not ideal, but can be made to work for a restaurant space if the architecture team works closely with mechanical engineers to minimize ceiling ductwork.

- Section 3.2 – IV. A. Ground-Floor Retail (page 30). Standard 3 requires a minimum window transparency of 70 percent for retail spaces, though "Flexibility may be considered based on creativity and the overall compatibility and character of the storefront design, meets the intent of the Design Standards and Guidelines, and is approved by the Director of Planning and Zoning."
    - The applicant has provided 56 percent transparency for the East Building restaurant and 58-59 percent transparency for the West Building spaces. Staff and the Director of Planning and Zoning support both requests based on how the retail/restaurant spaces have a high-quality of design and are integrated into the overall building design. For the West Building, it is bringing the warehouse punched window scheme to the ground floor and having inset two-story entries. For the East Building, the metal superstructure was added to cover outdoor dining areas and as a central architectural feature.

- Section 3.2 – V. Residential Uses at Grade (page 32). Standard 1 requires a "front setback of 2-10 feet from the required sidewalk to provide space for individual front yards, plantings, landscaping, fences, stoops, and similar elements, unless art and/or live work spaces are provided."
    - The applicant has provided an approximately 12-foot setback for East Building units fronting North Union Street, and the approximately 32-foot setback for the mid-block entrance. Staff supports both requests. The required first-floor grade (based on floodplain requirements) necessitate a slightly larger setback, while staff supports the treatment of the mid-block hyphen which creates a welcoming front yard area and creates an area of openness on a relatively narrow public right-of-way.

- Section 3.5 – Walls, Fences and Railings (page 35). Standard 1 limits railings and walls to 3 feet in height in front and side yards. The applicant is proposing railings in certain locations (building entrances and retail spaces on the West Building, for individual units on the East Building) that will be 3.5 feet in height, which is a building code requirement. The East Building will also have portions of a building wall along the Oronoco Street End that will exceed 3 feet, including upwards of nearly 6 feet at the east end of the block. This retaining wall is a necessary building feature that is part of the required floodwall system and is needed for the building to be raised out of the floodplain. The wall will be high-quality brick to match the building and will help frame the Oronoco Street End space.

B. Compliance with City Policies

The proposed development meets several applicable City policies including:

Affordable Housing Policy

The applicant has committed to providing a voluntary monetary affordable housing contribution. The contribution is assessed on the 2023 Tier I contribution rate[17] of $3.37 per net square foot for residential floor area permitted by-right (measured at 144,177 square feet of lot area), $6.75 per net square foot for residential Tier II floor area, and $2.53 per net square foot for nonresidential floor area. The total contribution is assessed at $651,831 based on the Preliminary plan set. The voluntary contribution will advance the implementation of the City's Housing Master Plan recommendations which include supporting down payment assistance programs for first-time homebuyers and public-private affordable housing partnerships.

Green Building Policy

The project is proposing to meet the City of Alexandria's 2019 Green Building Policy. The project will earn LEED v4 New Construction Certification at the Silver level. The East and West parcels will be certified to this threshold individually. The applicant's Green Building Narrative, dated July 23, 2024, provides additional detail on the specific strategies explored to date and selected to be implemented by the project.

The project will be conducting energy modeling and will meet the minimum performance points required by the Green Building Policy. Energy modeling conducted to date has demonstrated the project – as currently designed – can expect to earn a site EUI of approximately 34. This is a site-wide estimate which accounts for both buildings. The applicant has also provided an estimate of the project's monthly site EUI represented by end-use.

The applicant has provided a list of additional Energy Efficiency Opportunities being evaluated which have been ranked by their Energy Impact, First Cost Impact, and General Feasibility. If the project's design – which is already heavily optimized – is optimized further beyond current assumptions, it is

[17] The City is utilizing the 2023 rate based on the timing of the initial Concept Plan submission in the fall of 2023.

estimated that the project could earn a site EUI of 28. The project team has provided a study exploring the feasibility of onsite renewable energy.

The project's interior lighting power density has been optimized by use of high-efficacy LED fixtures, minimal decorative lighting, and by avoiding the use of linear-strip LEDs which often inflate overall lighting power. Energy modeling will be used to evaluate further optimizing lighting power using lighting controls. Staff has added Condition 75 that requires the applicant demonstrate that the building roofs are solar ready, including necessary conduit and available electrical panel area to enable future solar panel installation, as part of the Final Site Plan process.

The project is located on a previously developed infill site and contaminated soils will be remediated. The site and building will include areas of bioretention and green roof to support stormwater management. The project will use low-flow and WaterSense certified plumbing fixtures indoors and ENERGY STAR appliances to further reduce potable water consumption and domestic hot water usage. Low emitting interior materials and thermal comfort controls will be used to support occupant health and comfort.

Five percent of the project's parking spaces will have electric vehicle (EV) chargers and twenty-five percent of the project's parking spaces will be EV charger-ready.

Public Art Policy

The City's Public Art Policy requires new development projects to provide on-site or in-kind contributions to support the growth of public art in the city. Based on the formula of $0.30 per gross square foot of development, the applicant will provide on-site public art or a contribution totaling approximately $71,362. The applicant has not indicated at this time if it will provide on-site public art within the development and will work with the City on the provision of public art or confirm a contribution during the Final Site Plan review period. If the funds are utilized to provide public art within the open space to be dedicated to the City or the adjacent public parks, then a public review and selection process coordinated with the Alexandria Commission for the Arts will be completed.

C. Compliance with City's Floodplain Ordinance

As previously noted in this report, Robinson Terminal North is located within FEMA's Special Flood Hazard Area (SFHA a.k.a.100-year floodplain). Although this project proposes a mix of commercial and residential uses, it is regulated as a residential development in the administration of the floodplain requirements. The following sections provide additional detail on the floodplain requirements, as well as the process required to remove the site from the floodplain and permit residential construction with enclosed areas (underground garage) below the Base Flood Elevation (BFE) in this location.

Floodplain Compliance Process

The City of Alexandria's Floodplain Ordinance (Section 6-300 - FLOODPLAIN DISTRICT of Article VI -SPECIAL AND OVERLAY ZONES) requires all new development in the Special Flood Hazard Area (SFHA) to set the lowest floor of each building to a minimum of 1-ft above the Base Flood Elevation (BFE) established by the Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) that

became effective on January 11, 2024. For new nonresidential development, flood proofing is permitted where the lowest floor is below the BFE (6-306(B)). Flood proofing is not permitted for new or substantially improved residential development. The Robinson Terminal North development, considered mixed-use for planning purposes, does not meet the requirements for mixed-use as defined in the Floodplain Ordinance (6-306(K)). For the purposes of administering these regulations, the Robinson Terminal North development is regulated as residential development.

In order for this development proposal to comply with the City's Floodplain Ordinance, the development must be removed from the floodplain which requires a Letter of Map Revision based on Fill (LOMR-F) for each development site, issued by the Federal Emergency Management Agency (FEMA). To accomplish this, the site must be re-graded by adding fill material to an elevation above the BFE. The sequence of events to bring the developments in compliance with the City's Floodplain Ordinance is as follows:

- The developer submits for review a floodplain study technical memo including sufficient technical analysis and modeling results that identifies the impacts to the FEMA floodplain due to the proposed placing of fill in the floodplain. The study must show "no impact" to adjacent properties to be approvable by the Floodplain Administrator.
- The developer applies for a Conditional Letter of Map Revision based on Fill (CLOMR-F) through FEMA using their proposed grading plans;
- FEMA reviews the applications for compliance with NFIP minimum standards. If found compliant, FEMA issues the conditional letter, but does not remove the property from the floodplain;
- The applicant imports the fill to re-grade the site and completes an as-built topographic survey to demonstrate compliance with the CLOMR-F;
- The applicant files a second application sent to FEMA, which includes the as-built topographic survey post placement of fill, for the official determination of map revision (LOMR-F);
- FEMA issues the final LOMR-F and removes the site from the floodplain.

Once the site is officially removed by FEMA from the floodplain and meets the City's Floodplain Ordinance, the project can process as proposed. At this time, the applicant has not applied for the CLOMR-F review, though the applicant has indicated they are prepared to submit initial review materials during Final Site Plan review.

Re-grading Process

The applicant anticipates that the LOMR-F process will require approximately one year to complete. During this time the applicant will submit a grading plan and demolition permit to the City for review prior to release of the final site plan. The initial grading plan allows staff to review the demolition of the existing warehouses, proposed grading, erosion and sediment control and stormwater management to ensure compliance with the development special use permit conditions of approval, as well as all applicable codes and ordinances. The applicant then proposes to disconnect all utilities, demolish the buildings and prepare the site for the import of fill operation. The site will be raised to an elevation of

approximately 11.2 feet by adding fill. Upon completion of the fill work, the applicant will complete the as-built survey to FEMA for review and final flood zone determination. During the FEMA review process, the applicant plans to carry out the extensive archaeological investigations anticipated for this property.

D. Building Design

The applicant has created simple, elegant building designs based on the prominent location of the site and zoning and legal constraints. The two mixed-use buildings step down in height eastward towards the waterfront and will serve as an anchor along the Waterfront area as Old Town transitions to Old Town North. The buildings on the two blocks share an architectural vocabulary with gray brick and warehouse-style windows. However, each block has a unique building design which responds to its general contextual surroundings. The building design was reviewed by UDAC (see Compliance with the City Master Plan section above and Community chapter below) and the BAR, in an advisory role per the Waterfront Plan also described further in the Community chapter below.

500 North Union Street (West Block)

The West Building mirrors the shape of the site with a rectilinear footprint. The five-story building is about 61 feet in height (below the 66-foot maximum mandated by the Waterfront Settlement Agreement) with a mechanical penthouse for rooftop access. The building footprint is informed by the existing concrete slab below the metal warehouse structure on the site, with setbacks of approximately 16 feet from the southern property line and approximately 35 feet from the northern property line.

The building design includes brick masses at the north and south ends connected by a tiled green portico that defines the primary eastern building frontage and adds visual interest. This portico creates balconies for the second through fifth-floor residential units and a covered primary entrance for the residential portion of the building. The upper floors of the building and areas below the tiled portico feature large punched openings similar to the industrial buildings that were once along the waterfront.

The West Building features two corner retail spaces that will likely house restaurants and/or cafes. Each of the restaurant spaces have double-height covered patio entrance areas that can be used for outdoor dining. The northern restaurant is the larger space with two stories[18] and will include a terraced patio space for diners accessed from the second floor of the restaurant. The northern edge of the block also facilitates parking and loading access to the site via a driveway entrance to the above-grade parking and loading facilities located at the rear of the building. The above-grade parking is located on the first and second floors of western half of the building. The third through fifth stories are stepped back over 40 feet in the center massing of the building from the western property line to allow for light and open space on the shared property line with the Dalton Wharf office complex.

[18] The restaurant is currently proposed as two stories, though the applicant may repurpose the second story as resident amenity space during Final Site Plan.

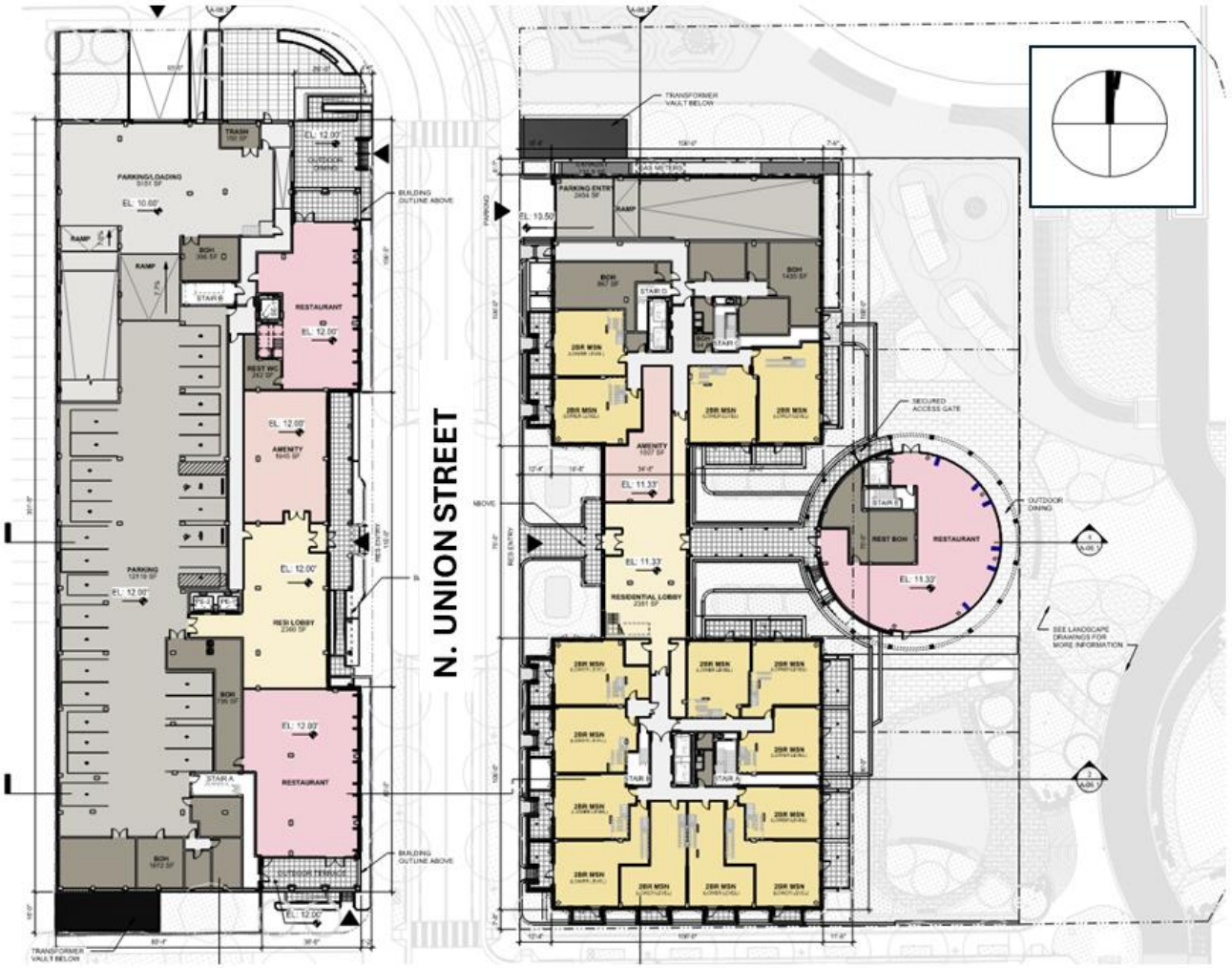


Figure 3: First-floor site plan for each building. Note the retail/restaurant spaces are in pink.

Figure 4: West Building, North Union Street elevation.

Figure 5: Southern wing of West Building, as viewed from Oronoco Street End. The southern restaurant space can be seen in the foreground, with the brick façade in front of the above-grade parking to its left.

501 North Union Street (East Block)

The East Building consists of three building sections connected by a mid-block building hyphen and an internal walkway connector (refer to Figure 3 on the previous page). The building fronts North Union Street with two four-story massings that anchor the northern and southern ends of the block. The square massings are approximately 100-feet by 100-feet each and feature two-story "maisonette" units in the southern building wing and portions of the northern building wing, with larger one-story units on upper floors. The maisonette units feature townhouse-style entrances and elevated patios fronting North Union Street. The square massings will feature brick cladding with vertical warehouse-style windows and metal columnar balconies over each bay.

Figure 6: East building looking southeast from North Union Street.

The main building entrance is located at the mid-block of North Union Street and is enclosed in a two-story glass building hyphen that is set back from the street. The entrance serves both the residential units and the restaurant that fronts the river. The entrance lobby is connected to the restaurant by a covered corridor that cuts through the center of the building. Above the corridor is an open walkway that connects the second floor of the building hyphen to the roof of the restaurant, where communal rooftop open space is proposed for residents.

The circular one-story restaurant is located in the center of the waterfront open space for the East Block. The approximately 4,000 square-foot space has an arched metal superstructure that covers a portion of outdoor dining and is covered in glass and metal. The applicant will work with staff during Final Site Plan to confirm entrance locations fronting the open space. The northern portion of the northern square building massing is reserved for back-of-house functions and parking entry for the one-level underground garage.

The overall building design responds to the Waterfront Settlement Agreement restrictions and steps down to the water, consistent with the Potomac River Vicinity District standards (see the Special Use Permit Requests section below). In addition to stepping down towards the riverfront, the building and site design consider the interaction and separation between residential and public-facing (restaurant and open space) uses. The east-facing units of the building have private patios with walls that provide a degree of separation from publicly accessible portions of the open space.

Figure 7: Mid-block glass hyphen of East Building.

Figure 8: View west from Waterfront of restaurant and east elevation. Note that the rendering may not be to scale, as the floor to ceiling height of the restaurant space is shown as approximately 12 feet from floor to ceiling and 14 to the top of the metal superstructure in the Preliminary Site Plan.

E. Open Space and Site Activation

Open space and waterfront public amenities are integral to the site design and overall applicant proposal. The applicant is providing over 66,000 square feet of ground-level open space, the majority of which will be publicly accessible and/or dedicated to the City. The applicant's open space program includes several significant areas of above and at-grade private open space, but the linchpin of the open space program is

the nearly 30,000 square feet of publicly accessible open space and nearly 22,000 square feet of open space to be dedicated to the City. The public and publicly accessible open space is located on the East Block and connects the proposed Oronoco Street End and Founders Park to the RiverRenew Plaza at the north, which is the connection missing for continuous waterside access from Jones Point Park to Daingerfield Island. Staff has worked with the applicant to ensure that the publicly accessible open space will be inviting and provide a range of passive and active recreational opportunities with the provision of varied landscape and structural elements.

Private Open Space

The proposal's private open space includes mostly above-grade space for residents, with some areas at ground level for private use, entry areas or as buffers between private patios and publicly accessible open space. Both buildings will have above-grade balcony space for each unit. Both buildings have rooftop open space – for the West Building this is communal terrace space, and for the East Building, they are private terraces for the fourth-floor units. East Building residents will have access to the rooftop of the circular restaurant as open space facing the water as a communal but private open space.

At the ground level, each East Building first floor unit will have a patio. For the maisonette units fronting North Union Street, these will be akin to townhouse front yards. Units on the east side of the building will have patios fronting the internal restaurant connector or fronting the waterfront open space. The latter patios will be separated from public areas of open space by a concrete planter wall that will create visual separation and privacy.

Table 3 – Open Space

	West Block (500 N Union Street)	East Block (500 N Union Street)
Open Space Required (35% of Parcel Area)	***15,233 SF***	***34,180 SF***
Total Open Space Provided	**15,233 SF** (35.0%)	**70,000 SF** (71.7%)
For Public Dedication	*n/a*	21,847 SF
For Private-Owned Public Access Easement	1,737 SF	28,000 SF
Ground-Level Private	4,551 SF	10,204 SF
Above-Grade Private	8,945 SF	9,949 SF

Publicly Accessible and Publicly Dedicated Open Space

The development program includes significant amounts of open space that will be publicly accessible or dedicated to the City and will enhance the enjoyment of the waterfront. This includes approximately an acre of continuous open space on the East Block, connecting the new RiverRenew Plaza to the Oronoco Street End and Founders Park. City staff have worked intensively with the applicant on the design and programming of the public and publicly accessible open space, with the programming and materials to be further developed and refined during the Final Site Plan process.

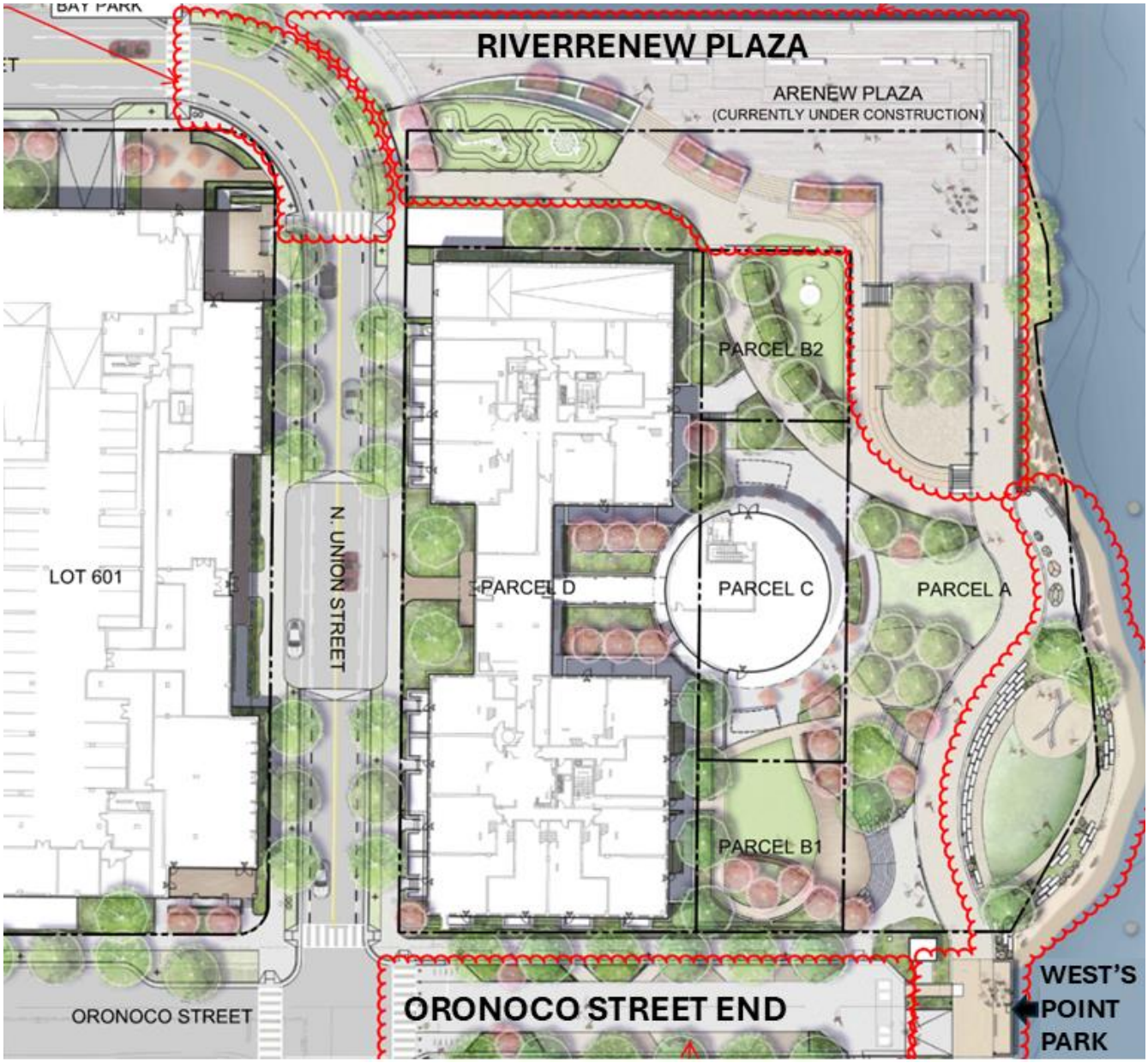


Figure 9: Open space plan.

West Block

The West Block will feature a pocket park at the corner of Pendleton and Union Streets adjacent to the building and northern restaurant outdoor dining space. The applicant has shown seating areas in the paved pocket park on the Preliminary Plan. The proposed public restroom with be on the northern façade of the West Building adjacent to this pocket park. This area will have a public access easement and will have direct views of the Potomac River and Washington, DC in the background. The applicant will provide more programming details as part of the Final Site Plan process. Because this area counts toward the overall open space requirements, the applicant may not have restaurant outdoor dining though seating

open to the public is permitted and encouraged. The applicant is proposing an adjacent area for outdoor dining associated with the restaurant.

East Block

As outlined in the Waterfront Settlement Agreement and the Waterfront Plan, a large portion of the East Block is reserved for open space. The applicant has reserved the majority of the East Block for both privately owned, publicly accessible open space and public open space to be dedicated to the City. The open space will contain several different areas of programming based on elevation, ownership and location on the site.

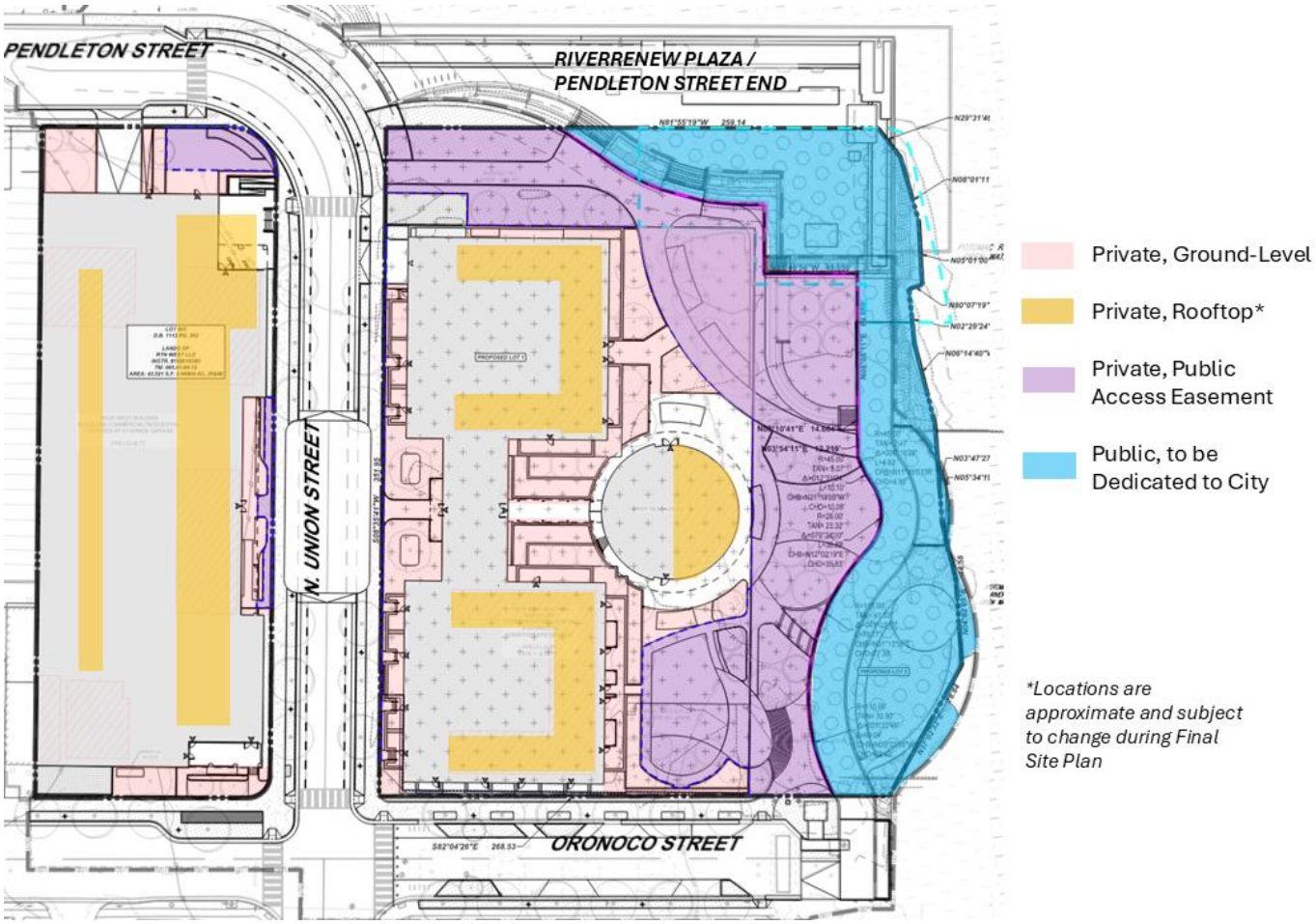


Figure 10: Open space breakdown by ownership and access.

Privately Owned, Publicly Accessible Open Space

Open space areas immediately adjacent to the east side of the East Building will be private space designed to create a buffer between the residential terraces and the publicly accessible open space areas along the waterfront. East of the private open space and adjacent to the restaurant will be areas owned and maintained by the future condominium association with a public access easement. The open space south and east of the restaurant will be primarily passive open space with plantings, walkways and seating walls. The area directly south of the restaurant will have clear views of the Potomac River since it sits above the

waterfront at about 11 feet above sea level. The northern half of the public access easement open space has been reserved for playspace equipment and open space elements that take advantage of the approximately 4-foot grade change upward from the open space as it connects to the RiverRenew Plaza.

As labeled on the landscape sheets of the Preliminary Site Plan, the play equipment and other hardscape elements are to be determined during the Final Site Plan process. The area labeled as the "North Gateway" on Sheet L102 of the Preliminary Site Plan will require a redesign based on discussions between the City, AlexRenew and the applicant. AlexRenew is in the process of executing easements with the applicant for crane access into the site to service equipment and shafts in the RiverRenew Plaza, specifically in the North Gateway area. City staff will work with the applicant and AlexRenew to relocate playspace equipment locations and tree plantings within the open space in the Final Site Plan phase, ensuring that the requirements of the utility easement are met but also creating an inviting and welcoming space for the public.

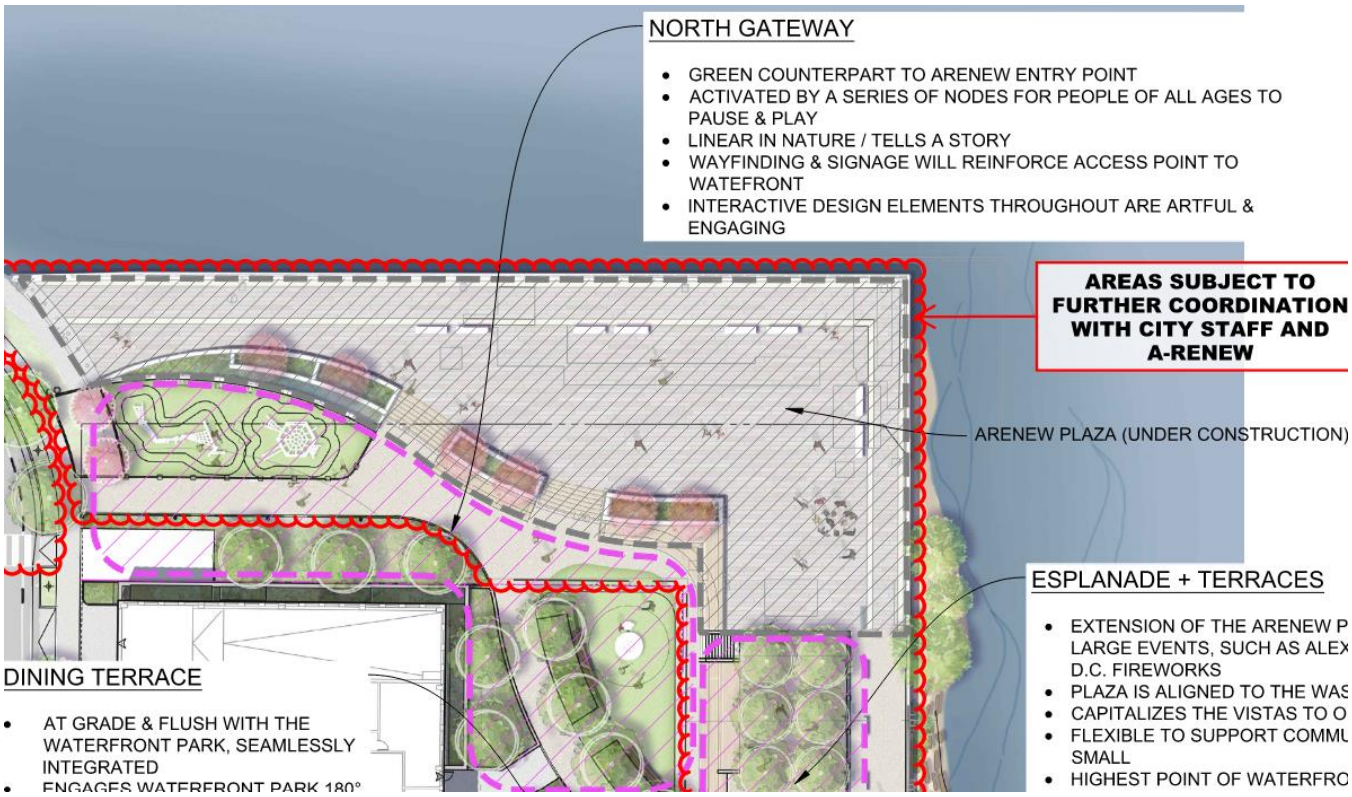


Figure 11: North Gateway area of the open space.

Publicly Dedicated Open Space

The applicant will dedicate nearly 22,000 SF of open space along the waterfront, from a 20-foot-wide Promenade eastward to the waterfront between Oronoco Street and the RiverRenew Plaza. The publicly dedicated area features the sinuous Promenade which provides views of the waterfront as it climbs slowly in elevation from Oronoco Street (approx. 5' above sea level) to the RiverRenew Plaza (15' above sea level). The Promenade will incorporate paving and lighting elements in the City-endorsed Waterfront Common Elements Palette. The area east of the Promenade is currently designed as a flexible lawn

bordered by seating areas with swings that face the Potomac River. These areas are likely to be refined by City staff from P&Z and RP&CA staff during Final Site Plan to balance design with flooding and maintenance considerations, including raising the grade to above at least 6 feet above sea level.

City staff have worked with the applicant and AlexRenew to confirm a ramp or bridge connection between the Promenade and RiverRenew Plaza. AlexRenew has identified potential structural support issues based on the location of the piles used on the RiverRenew Plaza structure. All parties will coordinate during Final Site Plan to confirm the location of the RiverRenew Plaza connection during the Final Site Plan process in its current location or directly to the west in the open space. Staff have also added a condition that requires the applicant to construct a temporary asphalt path along the waterfront if the West Building is ready for occupancy and building permits have not been approved for the East Building. The path would be accessible until construction commences on the East Building.

The applicant will also be improving West's Point Park as part of East Block improvements. The improvements will include new wooden decking, seating areas and interpretive elements, and a more accessible connection to the Oronoco Street End.

Open Space Maintenance

Staff has negotiated with the applicant an annual open space maintenance contribution to the City of $30,000 from future residents of the buildings, to commence with the occupancy of the first building and escalated yearly by 3 percent. Condition 171 outlines the terms of the use of the funds for City-owned open space in the Waterfront Plan area. Condition 172 outlines the responsibility of future condominium owners for regular trash pickup and grass mowing within the dedicated open space, and two yearly removals of any accumulated debris from the Potomac River adjacent to the dedicated open space area.

Pavilions

The City has worked with the applicant to incorporate three pavilions into the waterfront open space (see Condition 28). Two more pavilions are also proposed for the Oronoco Street End garden described further below in the Streetscape section below. These approximately 10-foot-by-20-foot pavilions are intended to provide areas of shade in the open space and will serve as locations for potential activities and events sponsored by the City or local groups. Each pavilion will have lighting, water and electric service. The locations for the pavilions will be coordinated as part of the Final Site Plan process, taking into consideration limitations associated with the AlexRenew easements.


Figure 12: Examples of pavilions.

Tree Canopy

The applicant is proposing a significant areas for tree and shrub plantings as part of the open space design. Due to the size of the East Block Open Space, more than an acre (45,000 SF) of crown coverage is proposed. Tree plantings have been proposed in clusters of passive open space, along portions of the Promenade and as screening in planters adjacent to the waterfront-facing ground-level dwelling units. The applicant has proposed 4,000 square feet of crown coverage on the West Block and has requested a crown coverage reduction. See the Site Plan Modifications section below for more information.

Historic Interpretation

The applicant is planning to incorporate historic interpretive elements throughout the East Block Open Space and West's Point Park, consistent with the recommendations of the Waterfront and Old Town North plans. Sheet L105 of the Preliminary Site Plan identifies the general locations for the signage, panels and wood features that will be incorporated into the landscape. The applicant will work with City staff during the Final Site Plan process to further develop and implement the interpretive elements, which will focus primarily on the early days of Alexandria's history and the importance of West's Point in the City's founding.

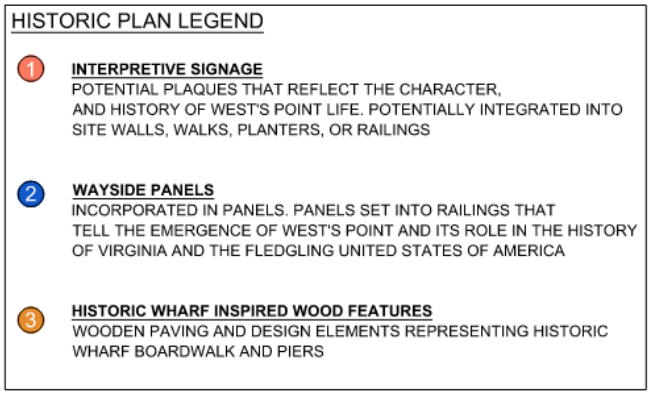


Figure 13: Historic interpretive elements to implemented by the applicant.

F. Streetscape and Oronoco Street End

Streetscape

The applicant will be enhancing the streetscapes adjacent to the site. Improvements will include widening sidewalks to 7 feet with tree planting strips along the majority of the North Union Street frontage and Oronoco Street west of North Union Street. Short stretches of sidewalk will be 5.5 feet (Pendleton Street Curve) and over 6 feet (west side of North Union Street at the mid-block raised table) to accommodate the constraints of the Pendleton Curve and the relatively narrow North Union Street right-of-way.

The 500 block of North Union Street will have an approximately 90-foot-wide mid-block raised table connecting the main entrances of the East and West buildings and as a traffic-calming measure. The mid-block crossing will facilitate pickup and drop-off activities, reduce vehicular speed (see Transportation section below) and provide safer pedestrian crossings. Staff and the applicant will coordinate on pedestrian crossing signage for the mid-block area during the Final Site Plan process.

Oronoco Street End

The applicant has included in their overall proposal the transformation of the Oronoco Street End, Oronoco Street east of North Union Street to the river and West's Point Park, as a primarily pedestrian zone that connects the open space on site to Founders Park, while maintaining access to the biosparging equipment maintained in this right-of-way. The Oronoco Street End will be pedestrianized with removable bollards east of the intersection with North Union Street. The applicant will coordinate with the City on specialty paving materials during the Final Site Plan process. Staff anticipates that any paving materials used in the Oronoco Street End will reflect what is selected for the Lower King Street Pedestrianization Project.

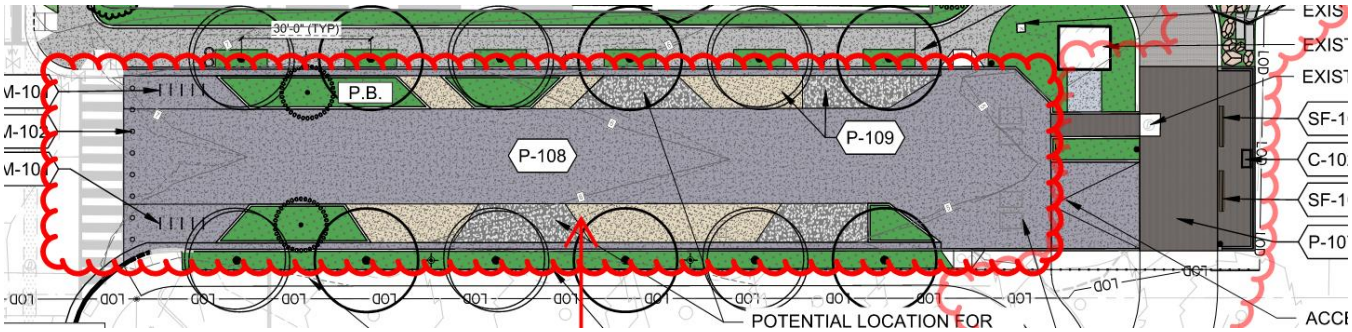


Figure 14: Oronoco Street End.

The design of the area will focus on pedestrian accessibility and flexible programming for potential events. This flexible programming will focus on two approximately 200 square-foot open pavilion spaces located at the east end of the pedestrian street and will have lighting and electrical outlets for special events. These pavilions will be similar in design to the three pavilions proposed for the East Block Open Space. The Oronoco Street End may also accommodate removable tables and chairs for special events.

Staff has added conditions of approval that detail the construction of the pavilions and the materiality and final design of the Street End, which will be influenced by the future palette for the Lower King Street pedestrianized area. The proposal for the Oronoco Street End is consistent with the Waterfront Plan goals regarding Street End Gardens.

G. Special Use Permit Requests

Section 11-500 of the Zoning Ordinance gives authority to the City Council to approve Special Use Permits (SUPs). The Zoning Ordinance requires that the approval of the SUPs associated with the development application "will not adversely affect the health or safety of persons residing or working in the neighborhood of the proposed use; will not be detrimental to the public welfare or injurious to property or improvements in the neighborhood; and will substantially conform to the Master Plan of the City."[19]

Increased Floor Area in W-1 Zone for Designated Development Sites in Waterfront Plan

Section 5-504(D) of the Zoning Ordinance states that for development sites in the W-1 zone and the Waterfront Plan, a "special use permit, the maximum floor area ratio may be increased provided the development meets and is consistent with the Development Goals and Guidelines listed in the Waterfront plan for the property."

Staff supports this SUP request based on the staff analysis on the overall consistency of the proposal with the Waterfront Plan. The massing of each block is generally consistent with the massing model shown in the Waterfront Plan. The discussion and review of the proposal against the Waterfront Plan Development Goals is located in Section A. of the Staff Analysis above.

[19] The parking reduction SUP is discussed in the Parking Layout and Reduction SUP section below.

Figure 15: Robinson Terminal North conceptual massing model from the Waterfront Plan (page 91).

Potomac River Vicinity Height District Increase in Height for the East Block

The east side of the site is located within the Potomac River Vicinity Height District, defined in Section 6-404 of the Zoning Ordinance. Buildings within the Potomac River Vicinity Height District are not permitted to exceed 30 feet above the average finished grade, except that the height may be increased to 50 feet with SUP approval. The applicant requests SUP approval to increase the height of the main residential wings of the East Building, exclusive of the circular restaurant space of the pavilion, from 30 to approximately 45 feet above average finished grade.

The Potomac River Vicinity Height District Zoning Ordinance provisions include several "standards and guidelines" to evaluate the SUP request for buildings within the district with heights that exceed 30 feet. Staff has provided analysis addressing each of the five standards and guidelines located in Section 6-404(B)(3) of the Zoning Ordinance below. Staff supports the granting of this SUP request based on the responses below, and the overall contextual design of the East Building which features a multi-part massing to minimize visual impact and high-quality architectural design. Since the property is located outside of the Old and Historic Alexandria District, a Certificate of Appropriateness review will not be required.

Zoning Ordinance 6-404(B)(3): In addition to the provisions of section 11-504, the following standards and guidelines, to the extent relevant in each individual case, shall apply in considering an application for a special use permit for additional building height:

(a) The degree to which imaginative and creative architectural solutions advance recreational access to and enjoyment of the historic waterfront from public streets and other public areas. Buildings

should be in harmony with existing buildings of genuine architectural merit, to be found in the historic district.

Staff Response: The East Building design can be considered to have "genuine architectural merit" with the proposed brick detailing and warehouse-style punched-window openings. Specific aspects of the overall building design, including the circular restaurant fronting the waterfront open space, and the multi-building massing with mid-block hyphen, will enhance this block of the Waterfront and encourage and frame activities in the adjacent open space and RiverRenew Plaza.

(b) The degree to which the basic 30 feet height is maintained at the street faces and the waterfront face of the proposed building or buildings. To provide a transition, building heights over this basic height level should be set back from the street faces and waterfront faces.

Staff Response: The residential wings of the East Building are joined by a long glassy entrance hyphen measuring approximately 24 feet tall that serves as a focal point on North Union Street. Additionally, on the waterfront side, the primary visual element is the circular restaurant which will measure approximately 14 feet tall with the two residential elements set back at least 140 feet from the waterfront's edge and framing the open space. The hyphen, balcony structures and the circular restaurant serve to ground the overall project with a 30-foot-tall height while allowing the residential elements to reach 45 feet.

(c) The degree to which the height, mass and bulk of the proposed construction are compatible with and reflect the traditional height, mass, and bulk of buildings and structures displayed within the streetscapes of the historic district.

Staff Response: The tallest portions of the East Building are two building forms located at the corners of the site. Each of these buildings recalls the scale, mass and bulk of historic waterfront warehouses. The building features significant breaks in the building massing with the mid-block hyphen and mid-block internal corridor leading to the one-story restaurant space fronting the waterfront. These building breaks give the appearance of three smaller buildings on the block with open glass connections.

(d) The degree to which imaginative and creative architectural solutions enhance views and vistas from public streets and other public-access areas along the historic waterfront. The waterfront faces of the buildings, in particular, should be designed and integrated so as to enhance pedestrian enjoyment of the waterfront, and the quality and character of the historic waterfront, as a totality, when viewed from passing vessels.

Staff Response: The three-part building design creates different sight lines based on one's location near the site, and helps to enhance the vistas eastward from the Oronoco and Pendleton street ends as well as towards Old Town from the river. The mid-block entrance on North Union Street gives the appearance of openness toward the waterfront, and the waterfront-facing restaurant is a visual anchor in the waterfront open space that will fit into the programming

and water-facing vistas in the open space. The high-quality brick facades of the residential wings will be carried around from the street frontages to the waterfront facades.

(e) The degree to which the use or uses of the proposed building or buildings are compatible with historical waterfront-related uses in the City of Alexandria.

Staff Response: The mixed-use character of the East Building creates an additional node of activity along the Waterfront area that relates to the mixed-use character all along the waterfront from Robinson Landing at the southern end to the vibrant core at the foot of King Street and the Marina to areas of Old Town North.

Increase in Penthouse Height for West Block

The applicant has requested an SUP to increase the height of the penthouse for the West Building to approximately 20 feet per Section 6-403(B)(3)(b) of the Zoning Ordinance. The section requires that building "penthouses shall not exceed 15 feet unless the height is increased by a special use permit." The applicant has requested the additional penthouse height specifically for an elevator overrun that allows the central elevator core of the building to serve the rooftop for resident access to rooftop open space.

The majority of penthouse coverage and screening does not exceed 14 feet in height. The elevator overrun area is approximately 10 feet by 22 feet and will occupy a minimal portion of the rooftop. Staff supports the request for the extended elevator overrun as it will have minimal visual impact to the surrounding area due to its size and enhances the site design by facilitating access for residents to the approximately 13,000 square-foot rooftop open space.

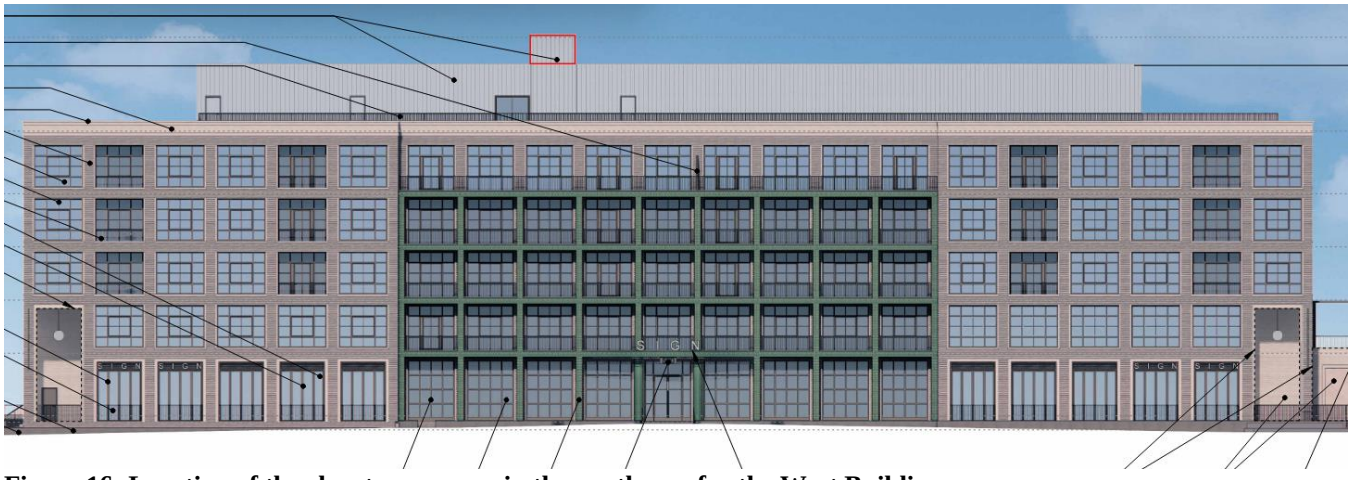


Figure 16: Location of the elevator overrun in the penthouse for the West Building.

It should be noted that the request for additional penthouse height is not consistent with the requirements of the Waterfront Settlement Agreement. The settlement agreement (via City Deed Book 1113 Page 396) states that the maximum building height for the West Block is 66 feet "exclusive of a penthouse housing mechanical equipment for which an additional fourteen (14) feet of height shall be allowed." The applicant has reached out to the National Park Service, who administers the settlement agreement on behalf of the United States Government, and to request the penthouse height increase.

H. Parking Layout and Reduction SUP

Parking and Loading

The applicant has included parking with each building. Parking for the West Building will be located on the first and second floors, accessed from Pendleton Street and with the parking wrapped by active uses fronting North Union and Oronoco streets. The applicant is maintaining the existing concrete slab to minimize ground disturbance on the West Block, and the West Building will have 63 spaces accessed from Pendleton Street. These spaces will be accessible only by residents of the West Building. The entrance area of the parking garage will accommodate two loading spaces that will serve the West Building uses and potentially the East Building restaurant.

The East Building will have 95 parking spaces in a one-story underground garage accessed from North Union Street at the north end of the building. Sixteen of the 95 parking spaces will be made available for the commercial parking requirement for all three restaurants in the project area.

Table 4 – Parking and Loading Tabulations

	Required per Zoning Ordinance	**Provided**
Parking (Total)	Total: 152 spaces West: 79 spaces East: 73 spaces	Total: 153 spaces West: 63 spaces East: 95 spaces
Residential Multi-unit:	West: 67 spaces East: 69 spaces	West: 63 spaces East: 79 spaces
Restaurant	West: 12 spaces East: 4 spaces	West: 0 spaces East: 16 spaces
Loading	West: 0 spaces East: 0 spaces	West: 2 spaces East: 0 spaces *(van loading will be accommodated, but not per Zoning Ordinance requirements)*

Parking Reduction SUP Request

The applicant is requesting an SUP for a parking reduction for the West Building. The West Building will accommodate 63 of the 67 required residential spaces and none of the required commercial/restaurant parking. The East Building will accommodate the 12 commercial parking spaces for the West Building restaurants, permitted per Section 8-200 (C), subsection (4) of the Zoning Ordinance. Since the East Building will likely be under construction as the West Building is ready for occupancy, the applicant is requesting relief from providing the 12 commercial parking spaces tied to the West Building during this period, though will seek parking within 1,000 feet of the West Building to the extent feasible.

The applicant is asking for a parking reduction for the 4 residential spaces required for the West Building, since the condominium ownership for each building will likely be separate entities and it is unclear if the 4 spaces could be provided in the East Building garage. Staff supports the West Building residential parking reduction request due to the relatively small number of required parking spaces requested to be waived. Staff also supports the commercial parking request for the West Building since it is likely

temporary and for the number of office developments within a few blocks of the site that may have excess parking for lease.

The site is located outside of any residential parking district and is adjacent to the border of Parking District 2. Residents of the future development are not eligible for on-street residential parking permits so long as the site is located outside of a parking district.

I. Transportation

Multimodal Transportation Study

Gorove/Slade prepared a Multimodal Transportation Study (dated July 26, 2024) to evaluate impacts to the existing transportation network to support the proposed development of the Robinson Terminal North site.

The proposed use mix at Robinson Terminal North are projected to generate 21 AM peak hour trips, 31 PM peak hour trips and 313 weekday daily trips. The study concluded that the Robinson Terminal North development "will not have a detrimental impact to the surrounding transportation and roadway network" based on the study area of North Washington Street to the west, Pendleton Street to the north, North Union Street to the east and Princess Street to the south. The study is included with staff report materials.

Staff has added conditions of approval that outline the applicant's (and future Master Associations') participation in the City-run Transportation Management Plan (TMP).

Transit

The site is located within a walkable and transit-rich portion of the city. The Braddock Road Metrorail Station is a mile from the site, and several bus lines are located within a few blocks. This includes DASH 30, 31 and 34 bus lines that run along North Fairfax Street two blocks to the west, the King Street Trolley four blocks to the south and WMATA 10A, 10B and 11Y bus lines[20] five blocks to the west on North Washington Street.

Bicycle Infrastructure

Staff and the applicant have worked extensively over the course of the Concept and Preliminary Site Plan review to design protected bicycle lanes from the curve of Pendleton Street south to the North Union Street and Oronoco Street intersection, with the exception of the open mid-block raised table. This section of roadway is considered a critical link along the Waterfront for the City's bicycle network. Staff has added a condition of approval that outlines the construction of the protected bicycle lanes while maintaining adequate-width travel lanes and streetscape amenities, acknowledging the constraints of North Union Street, which is approximately 57 feet wide. Staff and the applicant also worked extensively on the design of the Pendleton Street curve to accommodate all modes of transportation safely.

[20] WMATA bus lines are being revised and renumbered at the end of June 2025.

The applicant will be providing additional bicycle infrastructure serving the site and neighborhood. This includes the addition of 10 bicycle racks on the Oronoco Street End and the reservation of sidewalk bulb-out space on Oronoco Street west of North Union Street for a new Capital Bikeshare station. The applicant will be contributing $20,000 to the City for the Capital Bikeshare program per the conditions of approval.

J. Site Plan Modifications

Section 11-416 of the Zoning Ordinance allows the Planning Commission to approve modifications to the minimum requirements for the zone if they determine that such modifications are "necessary or desirable to good site development, that specific and identified features of the site design make up for those impacts otherwise protected by the regulations for which modification is sought and that such modification will not be detrimental to neighboring property or to the public health, safety and welfare." The applicant has requested approvals of the modifications discussed below.

Crown coverage and street tree placement modifications (West Block)

The applicant is requesting relief from on-site crown coverage for the West Block (500 N. Union Street) and for the number and regular placement of street trees along the block frontages (Oronoco, North Union and Pendleton streets). Minimum crown coverage requirements are located in Section 11-410(CC) of the Zoning Ordinance. The minimum requirement for street tree plantings on public frontages is outlined in the City Landscape Guidelines and is a Zoning Ordinance requirement per the reference of the Landscape Guidelines in the aforementioned Zoning Ordinance section.

Regarding crown coverage, the applicant is providing 4,000 square feet of crown coverage on the West Block, or about 9.2 percent of the West Block lot area. The applicant includes locations for several tree plantings and areas for shrub plantings at the northern and southern ends of the block, though the areas for shade plantings are limited based on the construction of the building on the existing concrete slab, which extends for most of the block length. Staff supports the crown coverage modification due to site constraints on the West Block and the significant amount of crown coverage provided on the East Block.

The applicant is requesting a modification to the street tree placement requirements (tree plantings every 25-30 feet with flexibility for parking and loading curb cuts) due to required right-of-way design requirements that preclude tree plantings in certain locations of the West Block site frontage. This includes the mid-block raised table on North Union Street and the removal of street trees around the Pendleton Street and North Union Street curve to allow for adequate turning movements around the curve and vision clearance. Staff supports this modification due to its necessity in good site design and the number of shade trees planted on and adjacent to the East Block, including along the Oronoco Street End and in areas of open space to be dedicated to the City or publicly accessible.

Side yard setback (West Block)

The applicant requests approval of a modification to the side yard setback for the West Building. Section 5-506 of the Zoning Ordinance requires two side yards based on a setback ratio of 1:2 or a minimum of 16 feet for multi-family residential buildings. The West Parcel has three public street frontages and one

side yard. Because the West Building directly abuts the property line on the western side of the lot, the applicant requests approval of a modification to the western side yard of the building.

Staff supports the modification requests and finds they comply with Section 11-416. The building placement utilizes the existing concrete slab and the building will be sited in generally the same location as the existing warehouse, which is also located on the western property line. The West Block is adjacent to the Dalton Wharf office complex, where office buildings and surface parking abut the shared property line with the West Block.

K. Construction and Environmental Issues

Construction Phasing

The applicant has indicated that they plan to phase construction of the two buildings. The applicant has stated their intent to start construction of the East Building soon after the West Building, though the exact timing will remain unclear until the West Building plan set is closer to release of Final Site Plan. Staff has added a section of conditions to outline the process for phasing construction and has added timing/phase clarifications in the conditions when necessary for certain milestones and contributions. If the building permits for the East Building have not been issued once at the applicant is in the midst of seeking certificates of occupancy for the West Building, then a stone dust or asphalt path will be required to be constructed along the waterfront on the East Block to provide public waterfront access until the construction is commenced for the East Building.

Stormwater Management

The applicant proposes to implement a combination of stormwater best management practices (BMPs) across the site, including extensive vegetated (green) roofs and urban bioretention facilities. These systems will collectively reduce phosphorus runoff by a total of 0.85 pounds per year across the east and west buildings—fully satisfying Virginia Stormwater Management Program (VSMP) requirements for pollutant removal. To meet these requirements, the east building will utilize 0.14 acres of green roof and 0.77 acres of drainage directed to urban bioretentions, achieving a reduction of 0.45 lb/year of phosphorus. For the west building, 0.17 acres of green roof and 0.60 acres of urban bioretention drainage will achieve a 0.40 lb/year reduction. These facilities meet the criteria set forth in the City's 2018 memorandum to industry requiring at least 65% treatment through non-proprietary practices listed on the Virginia Stormwater BMP Clearinghouse. All facilities on site are to be privately maintained.

Contaminated Lands

Environmental site assessments and investigations, and prior remediation activity, have confirmed the presence of legacy contamination in soil and groundwater across the Robinson Terminal North property. While the site must satisfy the City’s Contaminated Lands Requirements that are similar in scope to state requirements, the applicant has also chosen to re-enter the Virginia Department of Environmental Quality (VDEQ) Voluntary Remediation Program (VRP). The applicant also must submit an updated Corrective Action Plan under VDEQ’s Petroleum Program. VDEQ has also required the applicant to amend the prior

restrictive covenants to allow residential use, contingent on implementation of specific environmental controls.

Per the recorded VRP-required amendments to the restrictive covenants allowing residential development with the implementation of additional controls, and consistent with the City's Contaminated Lands Program requirements, occupied buildings must include vapor mitigation systems such as ventilated underground parking, open-air design, or a sub-slab depressurization system. In addition, any area of subsurface disturbance must be restored with a minimum of two feet of clean fill or hardscape cover that effectively acts as a cap. Utility corridors must be over-excavated on each side and backfilled with two feet of certified clean soil. Following construction, a Post-Certificate Monitoring Report must be submitted to VDEQ confirming full compliance with the approved vapor mitigation and cover (cap) requirements. The Site Characterization Report will define the type and extent of subsurface impacts, while the accompanying Risk Assessment will determine whether any identified conditions pose unacceptable risks based on the future residential use of the site. The east building will be elevated over underground parking or designed with open-air elements and the west building is planned to remain slab-on-grade and will be required to include a sealed vapor barrier on top of the slab prior to construction to ensure protective conditions are met. Construction and environmental remediation activities will be closely coordinated. The remediation effort is integrated into site development activities such as utility installation, grading, and foundation excavation. This integrated approach requires environmental controls to be implemented in tandem with typical construction sequencing to ensure regulatory compliance and safety. Finally, the VRP requires, per the amended restrictive covenants, that the future owner of the property develop and submit a Health and Safety Plan prior to any future excavation onsite occurring after the completion of the project.

The City's Contaminated Lands Program requires review and approval of reports and documentation prior to the release of the Final Site Plan. Required submittals including a Site Characterization Report, Risk Assessment, Remedial/Corrective Action Plan, Health and Safety Plan (HASP), and Soils Management Plan. The HASP must be prepared by a certified industrial hygienist and professional engineer and must address worker safety, adjacent property protections, and dewatering protocols. The Soils Management Plan must include the extent of impacted soils, excavation limits, transport and disposal methods, approved haul routes, and verification of clean import material. During active remediation, which will mostly coincide with construction activities such as excavating for the underground garage and installing utilities, a qualified on-site Health and Safety Officer must be present and have the authority to halt work if hazardous conditions are observed. Air monitoring will be required during excavation and load-out of contaminated material. Any unanticipated discovery of contamination, tanks, or drums must be reported immediately to the City and handled per the approved Remediation Plan.

The applicant has created a publicly accessible website and is required to maintain it so that it includes all relevant documentation from the VRP, Petroleum Program, and City Contaminated Lands Program through final occupancy. Prior the issuance of construction permits, the applicant must also hold a public meeting to present the approved Remediation Plan and HASP to adjoining property owners, civic associations, and City staff, with notice provided at least 14 days in advance of the public meeting.

Based on available information, this site was preliminarily evaluated by the EPA for addition to the National Priorities List (NPL), but was never added to the NPL, and was classified under the No Further

Remedial Action Planned (NFRAP) designation, indicating that no federal cleanup was deemed necessary based on the available information.

L. School Impacts

The applicant proposes to construct 73 mid-rise dwelling units. The student generation rate for new mid-rise apartments is 0.04 students per unit, or approximately three students. This project is located in the Jefferson-Houston Pre-K-8 IB School attendance area. The proposed development project has been accounted for in school enrollment forecasts.

V. COMMUNITY

This application has gone through an extensive public review with three formal advisory groups, the Alexandria Waterfront Commission, the Board of Architectural Review and the Old Town North Urban Design Advisory Committee, in addition to applicant-led community meetings. A brief overview of the outreach efforts is discussed below.

Waterfront Commission

The applicant presented to the Waterfront Commission three times throughout the design process, beginning in February and September 2024. Additionally, the commission convened a subcommittee to discuss the project compliance with the site-specific Goals and Guidelines in the Waterfront Plan with two meetings in late 2024 and two subsequent meetings in the winter and spring of 2025 as discussions between the City and the applicant evolved over the open space design and Waterfront Plan contributions.

The subcommittee drafted an initial letter to City Council outlining its review findings in November 2024, then updated the letter in January 2025 and May 2025 to incorporate the project evolution based on the draft conditions of approval. Discussion at the subcommittee members (in addition to reviewing the Waterfront Plan goals and guidelines) included the restoration of the waterfront after pier removal, park maintenance and ownership, the encouragement of waterfront activation, vending and activities, and securing an interim public path along the waterfront between Oronoco Street and the RiverRenew Plaza as soon as feasible. At the May 20th meeting, the Commission found that the proposal generally complied with the goals and guidelines of the Waterfront Plan. The letter from the Waterfront Commission has been included in the staff report materials.

Park and Recreation Commission

The applicant gave a brief presentation at the Park and Recreation Commission in September 2024. The applicant focused on the East Block open space area. The commission had no issues with the proposed open space scheme at the time of presentation.

Board of Architectural Review

The site North Union Street lies entirely outside of the boundary of the Old and Historic Alexandria District and therefore does not require either a Permit to Demolish or a Certificate of Appropriateness for new construction. However, Development Guideline #8 of the adopted Waterfront Plan states: "Redevelopment proposals shall require review on an advisory basis by the Old and Historic District Board of Architectural Review prior to being considered by the Planning Commission and City Council." With this direction, the Board of Architectural Review considered the proposed design at two Concept Review work sessions.

BAR 2024-00015 was first considered at the February 21, 2024 BAR hearing. Comments regarding the east building were focused on the relationship of the building to the streetscape and to the waterfront park to the east. Board members noted the location of the main entrance centered on the building as an opportunity to draw the public into the site, while further noting that the design of the round restaurant form on the east side of the site was less developed than other portions of the building. Regarding the west building, Board members discussed the north end of the building and how the parking entrance and retail areas worked with the overall design. Additional comments were regarding the design and detailing of the proposed two-story entry porches.

The applicant returned to the Board on July 16, 2024 with revisions to the design made in response to Board comments. The Board expressed appreciation for the revisions noting that the design had improved since the last meeting. Discussions regarding the east building were mainly concerned with the revised design for the restaurant and the adjacent courtyards. The Board was mixed on these revisions however a majority of the members preferred the new design approach. The Board also discussed the detailing at the balconies on the east building, stating a preference for them to be integrated into the building. Board members appreciated the revisions to the design for the west building, specifically noting the revisions to the massing around the north end of the site. There was further discussion of the materials for the west building, including the use of a green glazed brick. A majority of the members appreciated this selection and noted that it helped to tie the two buildings together.

Old Town North Urban Design Advisory Committee (UDAC)

The applicant met with UDAC on three occasions in 2024. UDAC was supportive of the building and site design and general compliance of those designs with the OTNUDSG, and the support of request for relief from specific standards and guidelines (see discussion in Section A of the staff analysis above). The committee voted 4-0 in favor of endorsement of the proposal at the October meeting.

Community Meetings

In addition to the BAR, UDAC and the Waterfront Commission, the applicant hosted four virtual community meetings. The applicant provided project design updates at these meetings in addition to answering questions about construction timing and process, including site contamination, remediation and flooding in the area. Other topics raised by the community have included parking and the creation of an interim path along the waterfront. The community meetings were generally well attended, with the last meeting including approximately 20 community members in attendance.

Table 5 – Community Meetings

DATE	MEETING
Applicant-Held Community Meetings	
February 29, 2024	Meeting held by applicant (virtual)
June 26, 2024	Meeting held by applicant (virtual)
September 24, 2024	Meeting held by applicant (virtual)
May 19, 2025	Meeting held by applicant (virtual)
City Meetings	
February 7, 2024	UDAC Presentation
February 20, 2024	Waterfront Commission Presentation
February 21, 2024	BAR Concept Review
June 12, 2024	UDAC Presentation
June 25, 2024	Waterfront Commission Presentation
July 16, 2024	BAR Concept Review
September 17, 2024	Waterfront Commission Presentation
September 26, 2024	Park and Recreation Commission Presentation
October 2, 2024	UDAC Presentation and Recommendation
October 8, 2024	Waterfront Commission Subcommittee
October 16, 2024	Waterfront Commission Subcommittee
November 19, 2024	Waterfront Commission Discussion and Updates
January 21, 2025	Waterfront Commission Discussion and Updates
January 29, 2025	Waterfront Commission Subcommittee
February 18, 2025	Waterfront Commission Discussion and Updates
May 14, 2025	Waterfront Commission Subcommittee
May 20, 2025	Waterfront Commission Recommendation Discussion

VI. CONCLUSION

Staff recommends approval of the development special use permit with site plan and other associated applications, subject to compliance with all applicable codes and the following staff recommendations. Staff has included specific recommendations to ensure compliance with the Waterfront Plan, guide the ownership and maintenance of open space amenities, and oversee parking and construction management.

VII. ATTACHMENTS

Attachment I: Compliance with City Policies and Regulations

A. Compliance with Development Goals (Page 91 of the Waterfront Plan)

Goal #1: Employ a land use mix and design which invites the public and encourages activity within the proposed development and in the adjacent public spaces.

The two-block development will create a new node of activity in this section of the Waterfront. The 73-dwelling unit project has a significant residential component, though the placement of three restaurant spaces at the corners of the West Block and a Waterfront-facing restaurant on the East Block with an inviting architectural expression will draw area residents and visitors to the site. The East Block open space design and Oronoco Street End further encourage activity with the planned seating areas and pavilions, active recreational elements and connection to the RiverRenew Plaza, currently under construction, along the Promenade.

Goal #2: Provide extensive public amenities and free access to and along the water's edge.

The applicant has worked closely with staff and stakeholders over the past year to design an accessible and inviting section of the Waterfront from the proposed Oronoco Street End through the Promenade in Parcel A to the connection to the RiverRenew Plaza. The proposal includes enhanced access to the Waterfront via the pedestrianized Oronoco Street End and north of the East Building into the site's open space and the RiverRenew Plaza. The Promenade and adjacent open space to the east will be dedicated to the City, ensuring free, perpetual public access along the Waterfront.

The 1 acre plus of open space on the East Block will provide active and passive areas, including along or facing the Potomac River, access to food and beverage at the circular East Building restaurant, and opportunities for special event programming at the Plaza. Visual access to the river is provided in the areas from Oronoco Street continuously to the RiverRenew Plaza, with some physical access close to the river at the southern portion of the East Block open space. City staff will further coordinate with the applicant (continuing during Final Site Plan) on the design and limits of easements related to the RiverRenew project. The applicant is also providing 1-2 public restrooms located likely in the West Building with public access from Pendleton Street.

Goal #3: Improve access by extending Pendleton Street as a pedestrian connection to an improved pier.

Since the previous DSUP approval in 2015 for the Robinson Terminal North site, the pedestrian extension of Pendleton Street has been accomplished with the construction of the RiverRenew Plaza by AlexRenew, while rehabilitation of the pier has been deemed infeasible and is being removed with direction from the City. The applicant has coordinated with AlexRenew on the construction of the RiverRenew Plaza, which is partially located on the applicant property. The applicant will be constructing additional open space

paths near the plaza and will construct enhancements around the plaza, including shade pavilions, additional seating and opportunities for activation.

Goal #4: Pay homage to historic West's Point through public space design and interpretive features.

The applicant has proposed improvements to West's Point Park and has drafted an overall historic interpretive plan for the site. West's Point Park will be improved with new decking and seating areas and will be designed as the focal point at the end of the Oronoco Street End to highlight this important site. The park and overall on-site open space will be enhanced with interpretive elements, including several panels and signs, and wood features that will recall the removed pier and boardwalk areas of the Waterfront. A condition of approval requiring additional historic interpretive elements to be added to the Final Site Plan has been added by staff who will coordinate with the applicant on additional potential elements.

Goal #5: Maintain a building scale compatible with the existing fabric to the south and west.

The applicant has worked closely with staff, the Board of Architectural Review and the Urban Design Advisory Committee (UDAC) to develop two distinct blocks with a shared design vocabulary that both fit into the neighborhood but have a presence at the north end of North Union Street. The mass, scale and general architectural character are discussed in greater detail in the Building Design section and Community chapter of the report below. In addition, staff finds that the proposed building scale for the East Building complies with the Potomac River Vicinity Height District (see discussion in the Special Use Permit Requests section below).

Goal #6: Maximize water views from buildings, streets and rooftop open spaces.

The two proposed buildings and the site plan have been designed to allow for enhanced views of the Potomac River on, around and adjacent to the site. Building design elements that will create river views for residents are the inclusion of balconies on many of the East and West building units; the location of rooftop open space on each of the buildings, including on top of the East Building restaurant; and the lower-height elements at the mid-block of the East Building (glass hyphen and restaurant space).

The applicant has considered the views of visitors to the area by setting back each building from the northern and southern property lines, creating vistas to the river as one looks east on Pendleton and Oronoco streets, and allowing for more views from pedestrians on the west side of North Union Street. The West Building setback allows for open space and outdoor dining terraces at the north end of the block with uninterrupted views to the Potomac River. The design of the East Block open space and the Oronoco Street End provide significant public space adjacent to the shoreline.

B. Compliance with the Waterfront Plan Guidelines for Robinson Terminal North

Development Guidelines (Pages 92- 93 of the Waterfront Plan)	*How the Proposal Complies (Staff Response)*
1. Active uses should be part of any development, and should constitute the predominant ground floor uses. Active ground floor uses shall be generally located as depicted in the Public Space and Active Frontages Diagram (Figure 31), and shall consist of uses that are open and welcoming to the public during normal business hours, such as lobbies, restaurants, retail, civic or cultural uses.	*As discussed in greater detail in the staff report, the applicant proposes a mixed use development with active ground floor uses. These active uses are predominantly located on facing N. Union Street and the water. The active uses will include lobbies and restaurants. Staff acknowledges the challenges of providing continuous active frontages for each building, and negotiated the East Building restaurant entrance from N. Union Street. Pavilions with utilities will be provided that can be used informally for shade or as part of special events.*
2. The preferred use on the site is mixed use, emphasizing arts, history and culture (including a museum) and including vibrant commercial uses (such as hotel).	*The current proposal is mixed use with three restaurant spaces. The applicant will be including a significant historic interpretive element to the site open spaces and will be contributing to the City's Public Art Fund.*
3. Residential use and design should be compatible with a high level of public activity and located away from the water.	*Staff has worked with the applicant to provide transitions between the east façade of the East Building and the adjacent open space, including tree planting areas that separate private patios from publicly accessible open space.*
4. Residential use should not be the primary use of the site. The location, design and specific type of residential use proposed must coexist well with the other planned uses on the site and planned public activity in the public spaces adjacent to the residential development. Ground floor residential units are not permitted.	*Residential use can be considered the primary use of the site, though the three restaurant spaces (approx. 10,000-15,000 SF) and approximately an acre of publicly accessible open space have been provided. Staff feels that the restaurants and open space are significant enough in size and prominence to minimize the multi-unit component of the proposal. Some ground-floor residential units have been proposed in the East Building - staff worked with the applicant on the design of the front yards of these units to ensure the building frontages feel inviting.*
5. The streetscape and pedestrian experience along North Union Street should be enhanced; in addition to undergrounding utilities, providing street trees and appropriate light fixtures, Union Street should present an obvious continuation of pedestrian access between open space areas to the north and south and be improved with, at minimum, wide sidewalks, landscaping and special street paving.	*The applicant has worked extensively with staff to design each streetscape to maximize sidewalk widths and add a street tree canopy along N. Union, Oronoco and Pendleton streets. Union Street will also be enhanced with the mid-block raised table and crossing, while the Oronoco Street End at the south and connection to the RiverRenew Plaza at the north ensure visible and inviting connections to the Waterfront from public streets.*

6. Historic interpretation, consistent with the recommendations of the History Plan, should inform every aspect of the design of the redevelopment an adjacent public spaces, with particular attention given to the West's Point site which is the area which extends from the water west up Oronoco Street to Union Street and represents the origins of Alexandria.	*The applicant has built upon previous site history research and provided a historical interpretation plan that outlines the inclusion of interpretive signage and interpretive wood features throughout the site open spaces. Staff has added a condition asking for further interpretive elements (in addition to signage) to be added to the historic interpretation plan in Final Site Plan. The applicant has proposed improvements to West's Point Park that will make it a focal point between the site open space and Founders Park.*
7. Encourage modern design inspired by historic precedent (such as 18th century Alexandria warehouse architecture) while maintaining compatibility with nearby residential neighborhoods and ensuring compliance with the Potomac River Vicinity Height District regulations. Reflect historic east-west orientation of buildings, alleys and wharves.	*The building designs are simple and elegant with high-quality brick, glass and metal embellishments and recalls previous warehouses along the Waterfront. The buildings are set back from the street on the south, creating a transition to the residential units to the south, and the East Building meets the Potomac River Vicinity Height District regulations.*
8. Redevelopment proposals shall require review on an advisory basis by the Old and Historic Alexandria District Board of Architecture Review prior to being considered by the Planning Commission and City Council prior to approval.	*The proposal was presented to the BAR twice. The BAR provided verbal support for the overall building designs, and the applicant updated architectural elements based on initial BAR comments.*
9. Parking for new buildings should be accommodated on site and below grade. Although the Plan anticipates low parking ratios, the applied ratio must be consistent with industry norms for similar hotels.	*The parking will be provided on-site for the residential and restaurant uses. The applicant is requesting a parking reduction SUP for some West Building required spaces based on the phasing of construction. The West Building parking will be at and above grade to minimize ground disturbance where the most contamination on the site exists.*
10. The bulk and scale of the buildings should be stepped down from Union Street toward the water.	*The building heights comply with the heights permitted under the Settlement Agreements and step down from N. Union Street towards the water.*
11. Curb cuts should not be located on any building and/or block frontages facing the water or N. Union Street, and should be minimized if facing open space along Oronoco Street.	*Each building has a curb cut for loading and/or parking access for each building. The curb cut for the west building faces Pendleton Street. As discussed in the report, the curb cut for the east building faces N. Union Street, in order to minimize traffic impacts on the park, and because vehicular access was not permitted on the north side of the building.*
12. Shoreline treatment at Robinson Terminal North should include native plantings and naturalization where possible.	*The applicant proposes extensive shore naturalization efforts along the Potomac River edge on the east side of the property, and all proposed plantings will comply with the City's Landscape Design Guidelines*
13. Redevelopment should be compatible with any biosparging technology, or other bioremediation, being emplyed by the City in treatment of the Oronoco Outfall-Alexandria Town Gas site located at the eastern end of Oronoco Street.	*The applicant has worked extensively with staff to coordinate proposed programming and redesign of the Oronoco Street End with the biosparging infrastructure in the Street End. Staff has added conditions requiring future coordination during Final Site Plan.*

14. As part of redevelopment, on and off site public amenities shall be provided by the developer of the site. The specific amenities to be provided will be determined during the development review process. Desirable public amenities include:	
· **Public art as a prominent feature of the public realm, both on public and private property. The recommendations of the Art Plan should be incorporated, to the greatest extent possible, in the design for the redeveloped warehouses, pier, and public spaces.**	*In compliance with the City's Public Art Policy, the applicant has agreed to provide a monetary contribution or may provide public art on site. Beyond compliance with the Public Art Policy, the applicant has also designed the open space to be suitable for festivals, temporary exhibits or other programming to activate these spaces and create the lively environment envisioned by the Waterfront Plan.*
· **Open spaces with public access easements and/or dedications, provided as generally reflected in the Proposed Public Space and Active Frontages (Figure 31). The Plan encourages new open space to be provided on an improved pier, consistent with the federal settlement agreement. Riverside open space widths of less than 100 feet are acceptable only if it is found that an alternative site design better meets the objectives of this Plan.**	*The applicant has provided an extensive area of open space for public access easement and dedication adjacent to the Potomac River Waterfront. The distance from the East Building to the shoreline exceeds 100 feet along the East Block.*
· **Retention of the Robinson Terminal pier, repaired and expanded to be used as a public space and incorporated into the public space/pedestrian concept for the Plan as a whole. The Plan encourages retaining the pier's ability to accommodate larger ships visiting Alexandria. Use of the pier should be active and welcoming to the general public, and should advance the goal of the uninterrupted public pedestrian walkway along the water's edge. Examples of potential uses include water features, river watching, bocce, horseshoes, shuffleboard, plant and sculpture gardens, or outdoor cares. Any structure erected on the pier should be temporary in nature, such as a tensile structure, fabric awning, or prefabricated, demountable, glass pavilion. The responsibility for the design, construction, maintenance and programming of the pier and public space will be determined in the future, the Plan recommends close coordination between the City and the developer on all of these issues.**	*The pier is to be removed pending the completion of the RiverRenew Plaza. The pier has been found to be in poor condition with significant damage to the concrete portions of the pier. The City has been coordinating with the applicant on the pier removal, as it is essential in the process of remediating contaminated areas along the site's shoreline. Staff acknowledges the concern of the Waterfront Commission about pier removal and supports monitoring the future potential for a new pier and/or docks at the site.*
· **Environmental amenities, above and beyond the minimum required.**	*The proposal will improve stormwater retention from the current site configuration and improve the condition along the shoreline.*
15. The maximum FAR and floor area allowed is included on the chart at page 105.	*The proposal will comply with the square footage and floor area permitted within the Waterfront Plan.*

C. Compliance with the Old Town North Small Area Plan Principles

- **Principle 1: Elevate the importance of design excellence through design standards and guidelines.**
  - The proposal achieves a high level of design through the use of high-quality materials such as brick, glass and metal accents and the inclusion of elements that achieve design excellence, like the restaurant of the East Building.

- **Principle 2: Achieve a balanced mix of residents and employees.**
  - The mixed-use development will provide additional employment opportunities in the area in addition to dwelling units.

- **Principle 3: Focus retail in concentrated areas.**
  - The development will create a new retail node in the vicinity with the inclusion of three restaurant spaces.

- **Principle 4: Establish land uses and building heights compatible with the neighborhood.**
  - The land uses proposed are compatible with the mixed-use nature of the neighborhood while the building height complies with regulations (Settlement Agreement) and is compatible with nearby buildings.

- **Principle 5: Encourage arts and cultural uses.**
  - While the site is not located within the Old Town North Arts and Cultural District, the East Block open space, Oronoco Street End and adjacent RiverRenew Plaza provide locations for City and cultural events as part of site activation. The five pavilions to be placed on Oronoco Street and in the East Block Open Space will provide potential venues and/or support for cultural programming and events.

- **Principle 8: Enhance the design of the public realm in a way that prioritizes the pedestrian.**
  - The applicant will be widening the sidewalks along each adjacent site frontage, constructing a mid-block raised table crossing on North Union Street, and pedestrianizing the Oronoco Street End. The Promenade will provide continuous pedestrian connectivity along the waterfront.

- **Principle 11: Create a variety of passive and active open spaces with an additional 7 to 10 acres of new public parkland.**
  - The applicant will be adding more than an acre of publicly accessible and dedicated open space to Old Town North and the Waterfront.

- **Principle 13: Utilize sustainability measures based on the priorities of water quality, stormwater, green infrastructure, energy and green building.**
  - The applicant will be meeting the 2019 Green Building Policy and reducing stormwater runoff, with consideration to shoreline stabilization and on-site retention, including areas of green roof on both buildings.

- **Principle 14: Incorporate the history of the plan area into future redevelopment sites, parks and open spaces.**
    - The applicant has submitted a historic interpretation plan and will add interpretive elements in addition to signage in open space areas on the site.

I. STAFF RECOMMENDATIONS

1. The Final Site Plan shall conform substantially with the Preliminary Site Plan dated 11/01/2024, as amended 05/19/25, and comply with the following conditions of approval.

I. PHASING AND SITE PLAN

A. DEVELOPMENT PHASING

2. The applicant has the option to phase the construction of the development. If the applicant decides to phase the construction, then a phasing plan shall be prepared and submitted for the entire project for review and approval by the Directors of P&Z, T&ES and RP&CA, prior to the release of the Final Site Plan for the West (or first) Block. Separate final site plans under unique case numbers will also be required, both of which shall include the phasing plan. The phasing plan shall: (P&Z) (RP&CA) (T&ES) *, **
   a. Address the sequencing of building demolition of the West Block and regrading of the sites;
   b. Minimize the duration of the closure of the North Union Street roadway for grading improvements, which shall occur in the first building phase;
   c. Propose appropriate interim conditions for North Union Street that maintain pedestrian, bicycle and vehicular access prior to the final completion of the project; and,
   d. The applicant shall construct and maintain a temporary 10-foot minimum asphalt or stone dust path, with a temporary public access easement, along the waterfront between the Oronoco Street End connecting to the RiverRenew Plaza prior to issuance of the 10th Certificate of Occupancy for the West Building, unless building permits have been issued for the East Building. The applicant is responsible for maintenance of the temporary asphalt path.

3. Final open space and promenade improvements on the East Block must be completed prior to the issuance of the 10th Certificate of Occupancy for the East Building. P&Z) (RP&CA) (T&ES) ***

4. The construction of each block shall include the complete construction of the adjacent public right-of-way frontages to the face of curb. (T&ES) (P&Z) (RP&CA) ***
   a. Completion of North Union Street in first phase from curb-to-curb and operational including all associated street lights, street signs, underground utilities;
   b. Permanent sidewalk improvements along all rights-of-way frontages of the given phase;

5. Each phase of the development shall be responsible for complying with each of the DSUP conditions applicable to that phase. (P&Z) (RP&CA) (T&ES)

B. SITE PLAN

6. Per §11-418 of the Zoning Ordinance, the Development Special Use Permit (DSUP) shall expire and become null and void, unless the applicant commences substantial construction of the project within 60 months after initial approval and the applicant thereafter pursues such construction with due diligence. The applicant shall provide a written status report to Staff 36 months after initial approval to update the City Council on the project status if they have not yet commenced substantial construction. The applicant may petition to extend the validity period after adequate notice and a public hearing. (P&Z)

7. Submit the plats and associated deeds for all applicable easements identified in the Preliminary Site Plan dated May 19, 2025, with the first Final Site Plan for each phase. The applicant must obtain approval of the plat(s) prior to or concurrent with Final Site Plan release for each phase. Provide proof of recordation with the first application for a building permit for each phase. (P&Z) (T&ES) (RP&CA) *
   a. Provide public easements to the satisfaction of the Directors of P&Z and T&ES. Easements shall be:
      i. A public access easement for areas of the East Block as generally depicted on the Preliminary Site Plan dated May 19, 2025. Open space areas west of the 20-foot-wide promenade and areas generally to the south of the RiverRenew Plaza will be depicted as public access easement.
      ii. A public access easement for areas on the West Block as depicted on Sheet C-3.8 of the Preliminary Site Plan, with the addition of the approximately 1,200 square-foot pocket park at the northeast corner of the block.
      iii. A public access easement will be provided for the temporary 10-foot-wide asphalt path along the waterfront pursuant to Condition 2(d). This easement is temporary, will be terminated upon beginning active construction of the East Building and will be superseded by the public dedication after the construction of the East Block Open Space.
   b. Emergency Vehicle Easement(s) (EVEs) shall not be painted. When an EVE is shared with a pedestrian walkway or consists of grasscrete or a similar surface treatment, the EVE shall be defined in a manner that is compatible with the surrounding ground plane.

8. Submit the final plat and deed for the conveyance and/or subdivision with the first Final Site Plan for approval prior to Final Site Plan release for each phase. (P&Z) (T&ES) *

9. Make all fee-simple conveyances to the City with General Warranty of title (unless not available) or provide current ALTA survey and Title Report that includes the areas to be dedicated to City. Include the City as an authorized user of the ALTA survey for any purposes that the City deems necessary, including obtaining title insurance. Submit the ALTA survey and Title Report for review prior to approval of subdivision plat and deed by City. (T&ES) *

10. The applicant shall dedicate the following to the City per the Preliminary Site Plan dated May 19, 2025, to be depicted in the final subdivision plat. Plats and deeds shall be recorded per the following condition. (P&Z) (T&ES) (RP&CA) *
    a. The approximately 20-foot-wide Promenade and areas located directly to the east to the waterfront from the Oronoco Street right-of-way to the RiverRenew Plaza.
    b. Areas of the RiverRenew Plaza within Parcel A (unless AlexRenew and the City come to an agreement on AlexRenew ownership prior to plat recordation).

11. Record the plat and submit a copy of the recorded plat, dedications (except in a. below), and deeds with the first application for a building permit for each block/phase. (P&Z) (T&ES) **
    a. The deed and plat depicting the East Block open space area to be dedicated per the Preliminary Site Plan will be accepted and required once construction of the open space has been completed, accepted and as-builts have been approved. ***

12. The applicant shall confirm that riparian rights for construction of docks, piers and other structures along the Waterfront will be conveyed to the City with dedication prior to Final Site Plan release for the East Block. (P&Z) (RP&CA) *

13. Provide the following changes on the first Final Site Plan: (P&Z) (T&ES) *
    a. Show all proposed subdivision lot numbers on all Layout Sheets such as (at least) C3.1-C3.2 and C5.1-5.2.
    b. All proposed (public) easements must also be shown on layout sheets such as C3.1-2 and C5.1-5.2.
    c. Update all relevant plan sheets with updated site area tabulations for the entire site (measured by applicant as 141,177 SF) and per block as needed.

14. Show site utilities compatibly with other conditions on the site plan to the satisfaction of the Directors of P&Z, T&ES prior to Final Site Plan release: (P&Z) (T&ES) *
    a. Locating above grade service openings and required clearances for items such as transformers, telephone, HVAC units, and cable boxes.
    b. Minimizing conflicts with plantings, pedestrian areas, and major view sheds.
    c. Excluding above grade utilities from dedicated open space areas and tree wells.
    d. Screening all utilities from the public right-of-way.

15. Provide a lighting plan with the Final Site Plan, unless otherwise identified below, to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of P&Z, T&ES, Code, and the Climate Action Officer of OCA and shall include: (P&Z) (T&ES) (OCA) (Code) *
    a. The location of all existing and proposed streetlights and site lights, shading back less relevant information.
    b. A lighting schedule that identifies each type and number of all fixtures, mounting height, and strength of fixture in Lumens or Watts.
    c. A photometric plan with lighting calculations encompassing all existing and proposed streetlights and site light fixtures, including any existing streetlights

located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all adjacent streets and/or 20 feet beyond the property line on all adjacent properties and rights-of-way.

d. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
e. The numeric summary for various areas (i.e., roadway, walkway/sidewalk, alley and parking lot, etc.) in the proposed development.
f. Full cut-off lighting as applicable to prevent light spilling onto adjacent properties. Provide a plan distinguishing between the site with all streetlights and other pertinent off-site lighting and the site without streetlights and off-site lighting to demonstrate how the plan complies with § 13-1-3 light spill regulations.
g. Additional lighting to achieve City standards if existing lighting within the City right-of-way adjacent to the site does not meet the minimum standards.
h. Basic, approved Dominion LED light fixtures for all proposed light fixtures in the City right-of-way.
i. A minimum of 5.0-foot candle-maintained lighting for underground/structured parking garages. When unoccupied, the lighting may turn off and on using motion sensors. Without motion sensor lighting, unoccupied lighting levels may be no less than 1.5-foot candles. **
j. Light fixtures for the open canopies and underground/structured parking garages shall be recessed into the ceiling for any areas visible from the public right-of-way. **

16. Street light fixtures located with the Waterfront Plan area (North Union, Pendleton and Oronoco streets) shall be the Alexandria Historic Street Light LED Fixture and Pole, City Standard Detail CSHL-1, and as shown on Sheet L701 of the Preliminary Site Plan. (T&ES) (P&Z) *

17. Lighting fixtures in West's Point Park and along the Promenade should be consistent with the recommendations of the Waterfront Common Elements .[21]
    a. All site lights designed to meet City of Alexandria photometric standards shall have photovoltaic switches.
    b. The location of conduit routing between site lighting fixtures to avoid conflicts with street trees.
    c. Details indicating proposed light pole and footings relative to the adjacent grade and pavement. All light pole foundations shall be concealed from view or light poles shall be direct bury.
    d. Paint or dye all garage walls and ceilings in a light color to increase reflectivity and improve night lighting levels. **

18. Provide a unit numbering plan for each floor of a multi-unit building with the first Final Site Plan. The unit numbers shall comply with a scheme of 100 level numbers on the first

[21] The "Waterfront Common Elements" refers to the Alexandria Waterfront Common Elements Design Guidelines, approved by the Board of Architectural Review on September 7, 2016 (as amended).

floor, 200 level numbers on the second floor, and continue in this scheme for the remaining floors. Indicate the use of each unit (i.e., residential, retail, office). (GIS) *

19. Provide a georeferenced CAD file in **AutoCAD 2018**.dwg or greater format that adheres to the National CAD Standards prior to Final Site Plan release. The file shall have the dimension plan including existing conditions, proposed conditions, and grading elements. (P&Z) (DPI) (GIS) *

20. Sheeting and shoring, support of excavation shall not extend beyond the property line, except when the applicant has obtained a written release or encroachment from adjacent property owners which has been reviewed prior to Final Site Plan release and recorded in the Land Records. (P&Z) (Code) *

21. The total number of residential units may be adjusted higher or lower so long as the new unit count does not increase the building envelope, parking is provided per the Zoning Ordinance and parking reduction SUP (if approved), and the building is in substantial conformance with the Preliminary Site Plan to the satisfaction of the Director of P&Z. (P&Z) *
    a. Minor changes to the façade fenestration and details will be permissible, including but not limited to, window count and alignment, to be coordinated with sustainability envelope attributes and energy performance submission.
    b. The Sanitary Adequate Outfall Analysis must reflect the actual number of units.
    c. The unit count must be finalized prior to Final Site Plan release. (P&Z) *

C. BUILDING

22. Provide a building code analysis with these building code data prior to Final Site Plan release: (1) use group, (2) number of stories, (3) type of construction, (4) total floor area per floor, (5) height of structure, (6) non-separated or separated mixed use, (7) fire protection system requirements, and (8) accessible routes. (P&Z) (Code) *

23. The building design, including the appearance, color, and quality of materials; final detailing; three-dimensional expression; and depth of all plane changes, shall be consistent with the elevations dated December 2, 2024 and the following conditions. Provide this information regarding materials and design to the satisfaction of the Director of P&Z prior to Final Site Plan release: (P&Z) (Code) (OCA) *
    a. Samples of actual window glazing, frame, and sash components proposed for each area of the building in the color and material that will be provided (may reduce sample sizes for ease in handling).
        i. Window sizes and types.
        ii. Window mullion dimensions and projection in front of face of glass.
        iii. Window frame, sash, and mullion materials.
        iv. Any windows visible from a public park or right-of-way shown as simulated divided light type shall include between the glass spacer bars aligned with exterior muntins; any such exterior muntins shall project not

less than 3/8 inch beyond the face of glass and be reflected in the window samples provided. Grills located between the glass will not be supported.

b. The underside of all balconies shall be finished and present a visually cohesive appearance.
c. Fiber cement siding is not permitted on any frontage below the roof line facing a public right-of-way or public access easement area.
d. Coordinate the design, color, and materials of all penthouses, rooftop mechanical areas, and rooftop screening with the overall architecture of the building, as regards massing, materials, and detailing/expression. Roof surfaces must be light-colored with green roofs encouraged as an alternative.
e. The recessed or projecting depth of brick rustication must be a minimum of 3/4 inches.
f. Where plane changes in facades are proposed, they shall generally not be less than 2 feet.
g. Where dissimilar materials meet, they must typically meet at an interior corner; where that is not possible, such transitions shall occur at a significant plane change or reveal.
h. The applicant shall study during Final Site Plan the feasibility of increasing the floor-to-ceiling height of the West Block restaurant/retail spaces to a minimum 15 feet and the East Block restaurant space to a minimum 14 feet, consistent with the Old Town North Urban Design Standards and Guidelines, to the satisfaction of the Director of P&Z.
i. The second-floor retail space on the West Building may be converted to private resident amenity or service space.

24. The applicant shall provide documentation that the National Park Service has reviewed the penthouse height increase for the West Building (Tract I) in accordance with the Waterfront Settlement Agreement prior to Site Plan Release for the West Block to the satisfaction of the Director of P&Z. (P&Z) *

25. Provide detailed drawings in realistic colors to permit evaluation of key building elements such as the building base, entrances, entry canopy, stoops, windows, balconies, railings, cornices, and other ornamental elements, and material details including the final detailing, finish, and color of these elements prior to Final Site Plan release. (P&Z) *

a. The drawings shall be enlarged and coordinated plan-section-elevation studies, typically at ¼" =1'-0" scale, with shadows cast at 45 degrees from both left and above to show true depth of recesses and projections.
b. Separate design drawings shall be submitted for each primary building typology, different wall, or bay type.
c. When warranted by the three-dimensional complexity of the design, the applicant shall provide isometric vignettes of special conditions or building areas to the satisfaction of the Director of P&Z.
d. All structures must remain within the property (e.g., balconies, railings, and canopies), unless permitted under the City of Alexandria Code or an encroachment has been obtained.

26. Provide the items listed below to allow staff to review the materials, finishes, and architectural details. These materials shall conform substantially to the Preliminary Site Plan and the current *Guidelines for Preparation of Mock-Up Panels*, Memo to Industry effective at application submission. (P&Z) (Code)
    a. Prior to ordering final building materials, provide a materials board that includes all proposed materials and finishes at first Final Site Plan. The materials board shall remain with P&Z until the issuance of the final Certificate of Occupancy, when staff will return all samples to the applicant. (P&Z) *, ***
    b. Staff may request more detailed/extensive materials relating to the proposed fenestration, such as samples of the glazing, frame, and sash components, and including whether the windows will be double-or-triple glazed and have simulated divided lights.
    c. Materials may be modified or substituted only if in substantial conformance with the Preliminary Site Plan approval and to the satisfaction of the Director of P&Z. *
    d. Drawings of mock-up panel(s) that depict all proposed materials, finishes, and relationships as part of the first Final Site Plan. *
    e. An on-site mock-up panel using the approved materials, finishes, and relationships shall be constructed for staff review and approval. Per VCC108.2, concrete or masonry mock-up panels exceeding 6 feet in height require a building permit. The panel(s) shall be constructed and approved prior to vertical (above-grade) construction and before ordering building materials. Locate the panel so that it receives sunlight from the same predominant direction as will the finished structure. **
    f. The mock-up panel(s) shall remain on-site, in the same location, and visible from the right-of-way without entering the site throughout construction until the issuance of the first Certificate of Occupancy. ***

D. OPEN SPACE, LANDSCAPE & SITE ACTIVATION

27. The applicant shall work with the City to develop an open space design, both in areas to be dedicated to the City and privately held with a public access easement, that provides sufficient features and spaces to create an active waterfront park that will draw diverse users to the plaza and riverside. Such design shall include shaded seating, interactive features and furnishings, including pavilions. Staff has provided examples of such activities/elements in the comment process. Provide these details and modifications[22] to the landscape plan and supporting drawings with the Final Site Plan for the first block: (P&Z) (RP&CA) *
    a. Provide details on benches/seating and other elements in the West Block pocket park at the northeast corner of the site.
    b. Modifications to the Waterfront Plains (per Sheet L102) area:
        i. Provide grading alterations to this area to raise the space above the nuisance flood elevation to avoid the majority of river-borne trash deposition. The inclusion of a bulkhead or seat-height wall to protect low-

[22] See Sheet L102 of the Preliminary Site Plan for references to the open space areas named in the condition.

lying areas from nuisance floods could replace some of the grading alterations to the satisfaction of the Director of RP&CA.

ii. Staff and the applicant will consider additional activation measures as part of Final Site Plan.

c. Modifications to the North Gateway and Esplanade + Terraces:

i. All proposed changes that impact the RiverRenew Plaza and the AlexRenew facilities shall be coordinated with and approved by AlexRenew.

ii. Consolidate the terrace area with the directly adjacent terrace of the North Gateway area.

iii. Continue to work with staff on the final configuration of outdoor seating areas with both fixed and moveable seating and tables, planting areas, and the location of site furnishings including but not limited to bicycle parking, trash receptacles, and similar.

28. Provide three pavilions (or general equivalent) in the general area north or east of the East Building. The pavilions may be located on land publicly dedicated or with a public access easement. The pavilions shall be roofed areas approximately 10-12 feet in width and 20 feet in length with lighting, water and electric service. Surfacing within the pavilions shall be monolithic with an appropriate finish or scoring pattern for aesthetic appeal. The height of the pavilions should be consistent with applicable requirements of the Waterfront Settlement Agreement. (P&Z) (RP&CA) *

a. The pavilion locations should be determined in coordination with AlexRenew as needed.

29. The design of the Promenade and adjoining East Block open space areas, including the materials, lighting, fixtures and site amenities shall be consistent with those identified in the Waterfront Common Elements. (P&Z) (T&ES) (RP&CA) *

30. As-built information from the RiverRenew Plaza construction shall be incorporated into the Final Site Plan when available. (P&Z) (T&ES) *

31. Develop a palette of site furnishings in consultation with staff and consistent with the Waterfront Common Elements for review and approval by staff prior to Final Site Plan release. (P&Z) (T&ES) *

a. Provide location, specifications, and details for site furnishings that depict the installation, scale, massing, and character of site furnishings to the satisfaction of the Directors of P&Z and T&ES.

b. Site furnishings may include benches, bicycle racks, trash bins, recycling receptacles, and other associated features. City standard materials are mandatory in all public right-of-way.

32. Provide material, finishes, and architectural details for all retaining, seat, decorative, and screen walls prior to Final Site Plan release. Indicate methods for grade transitions, handrails, directional changes, and above and below-grade conditions. Coordinate with

adjacent site and building conditions. The design and construction of all walls shall be to the satisfaction of the Directors of P&Z, T&ES, and Code. (P&Z) (T&ES) (Code) *

33. The applicant shall prepare an Establishment Maintenance Plan to the satisfaction of the Director of RP&CA prior to Final Site Plan release. The Establishment Maintenance Plan shall detail execution of work, labor, and materials for maintenance of the park until final Performance Bond release. (RP&CA) *

34. Provide a Final Project Maintenance Plan for the public park for approval by the City prior to final performance bond release. Staff will collaborate with the applicant to develop the Final Project Maintenance Plan. The Maintenance Plan shall guide execution of work, labor, and materials for maintenance of new and established plantings in a vigorous, flourishing growth, and attractive appearance. The Maintenance Plan shall include scheduling and provision of all labor and materials for: (RP&CA) ****
    a. Daily, weekly, and seasonal facilities maintenance for all applicable project components including irrigation system, lighting, and active recreation and fitness features.
    b. Daily, weekly, and seasonal grounds maintenance including litter, debris, solid waste, and recycling removal and general policing of grounds.
    c. Product warranty and anticipated replacement schedules.

35. Any open space areas to be dedicated to the City are subject to review and programming, material and design changes during Final Site Plan to the satisfaction of the Director of RP&CA. Open space materials and fixtures in dedicated areas shall be consistent with the Waterfront Common Elements and Park Facility Standards Manual. (P&Z) (RP&CA). *

36. Each phase of open space shall be accepted upon completion of construction to the satisfaction of RP&CA and P&Z, at which time the Performance Bond shall be released. The open space in each phase shall be maintained by the applicant per the Establishment Maintenance Plan until release of the maintenance bond. (RP&CA) ****

37. Post sign(s) stating that open space public access easements are open to the public, noting any operating hours, other restrictions, and contact information to facilitate reporting of issues. Show the sign locations and design on the Final Site Plan and install the signs prior to the issuance of the 10th Certificate of Occupancy for the Eastern Building. (P&Z) (RP&CA) *, ***

38. All publicly accessible open spaces shall be maintained and managed by the applicant/owner or its successors consistent with the Level 2 conditions of the APPA Grounds Standards and other applicable City standards. Maintenance shall include the life cycle replacement of materials and components depicted in the landscape design. (RP&CA) *

E. TREE PROTECTION AND PRESERVATION

39. Provide a Tree and Vegetation Protection Plan per the City of Alexandria's Landscape Guidelines for approval prior to Final Site Plan release and implement the plan for the duration of construction. (P&Z) (RP&CA) *

F. ARCHAEOLOGY

40. In conformance with the Waterfront Plan, incorporate and interpret elements of the site history and archaeological findings into the design of the public realm with a professional archaeological consultant or qualified historian, in consultation with staff. An updated Historic Interpretation Plan in the Final Site Plan shall indicate themes and locations of interpretive elements such as interpretive signs, markers, plaques, monuments, inscriptions, specialty paving, specialty railings, historic features, and the like, prior to Final Site Plan release for the related block(s) subject to approval by the Office of Historic Alexandria/Alexandria Archaeology and the Director of P&Z. (P&Z) (Arch) *, ***
    a. The historic interpretation plan in the Final Site Plan should include a significant number of interpretive elements and installations that are not interpretive signs or plaques.
    b. The historic interpretation plan should consider the phasing of interpretive elements and what would be included with the West Block development.
    c. Regarding interpretive signage: a professional archaeological consultant or qualified historian, in consultation with staff, shall write text and graphically design the historical interpretive signage using a template provided by the Office of Historic Alexandria (OHA) (or an alternative template as approved by OHA).
        i. Alternatively, the applicant may opt to have the Office of Historic Alexandria write, design, fabricate, and install the interpretive signage for a fixed fee of $7,500 per sign. If a consultant does the work, they must provide text and graphics for the interpretive signage to the Office of Historic Alexandria/Alexandria Archaeology for review prior to the issuance of the initial Building Permit for this project. Once approved, the historic interpretive sign must be installed prior to issuance of the Certificate of Occupancy.

41. Hire an archaeological consultant to complete a Documentary Study and an Archaeological Evaluation. [*The consultant must contact Alexandria Archaeology to obtain access to historical information about the Robinson Terminal North property before beginning any background research*.] If significant resources are discovered, the consultant shall complete a Resource Management Plan, as outlined in the City of Alexandria Archaeological Standards. Preservation measures presented in the Resource Management Plan, as approved by the City Archaeologist, will be implemented. (Archaeology) *

42. The Final Site Plan, Grading Plan, or any other permits involving ground disturbing activities (such as coring, grading, filling, vegetation removal, undergrounding utilities,

pile driving, landscaping and other excavations as defined in Section 2-151 of the Zoning Ordinance) shall not be released until the City archaeologist confirms that all archaeological fieldwork has been completed or that an approved Resource Management Plan is in place to recover significant resources in concert with construction activities. (Archaeology) *

43. Call Alexandria Archaeology at 703.746.4399 two weeks before starting any ground disturbance activities to establish an inspection or monitoring schedule with City archaeologists. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

44. Call Alexandria Archaeology immediately at 703.746.4399 if you discover any buried structural remains (wall foundations, wells, privies, cisterns, etc.) or concentrations of artifacts during development. Cease work in the discovery area until a City archaeologist inspects the site and records the finds. Include the preceding text on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology) *

45. The applicant/developer shall not allow any metal detection to be conducted on the property, or allow independent parties to collect or excavate artifacts, unless authorized by Alexandria Archaeology. Failure to comply shall result in project delays. The language noted above shall be included on all Final Site Plan sheets involving any ground disturbing activities. (Archaeology)

46. The installation of interpretive elements, interpretive markers, and the final archaeological report received and approved by the City Archaeologist will be tied to the review and acceptance of the open space for the East Block. Any interpretive elements and markers on the West Block (if proposed) should be constructed and erected prior to final CO for the block/phase. (P&Z) (Archaeology) ***

G. PEDESTRIAN/STREETSCAPE

47. Provide the pedestrian improvements listed below to the satisfaction of the Directors of P&Z and T&ES. Complete all pedestrian improvements prior to the issuance of the final Certificate of Occupancy. (P&Z) (T&ES) ***
    a. Install ADA accessible pedestrian improvements serving the site.

48. Construct all concrete sidewalks to City standards. The minimum unobstructed width of newly constructed sidewalks shall be 6 feet, except for portions of the sidewalk within the curve on Pendleton Street, which may be reduced to below 6 feet to accommodate bicycle and vehicular turning operations within the road.
    a. Sidewalks must comply with the City's Green Streets and Sidewalks guidance.
    b. Sidewalks shall be flush across all driveway crossings.
    c. All newly constructed curb ramps shall be concrete with detectable warning and shall conform to current VDOT standards.

d. Provide separate curb ramps for each direction of crossing (i.e., two ramps per corner). Curb ramps shall be perpendicular to the street.
e. Provide thermoplastic pedestrian crosswalks at all crossings at the proposed development.
f. All crosswalks shall be standard, 6 inches wide, white thermoplastic parallel lines with reflective material, with 10 feet in width between interior lines. High-visibility crosswalks may be required as directed by staff at Final Site Plan. Alternative crosswalk treatments must be approved by the Director of T&ES.
g. All below grade utilities placed within a City sidewalk shall be integrated with the adjacent paving materials and to minimize any visible impacts.

49. The streetscape dimensions of the 500 block of North Union Street north and south of the mid-block crossing shall be adjusted to accommodate two 11-foot travel lanes for adequate emergency vehicle access in the first Final Site Plan submitted. The applicant shall reduce the adjacent tree wells by 6 inches on each side and narrow other sections of the right-of-way by 1 foot to accommodate the 11-foot travel lanes, in coordination with and to the satisfaction of the Director of T&ES. (T&ES) (P&Z) *

50. The following modifications to the Oronoco Street End shall be shown on the Final Site Plan: (P&Z) (T&ES) *
    a. Two pavilions in close proximity to the western side of the promenade shall be provided in the design. The pavilions shall be a roofed area approximately 10-12 feet in width and 20 feet in length with lighting and accessible electric outlets. Surfacing within the pavilions shall be monolithic with an appropriate finish or scoring pattern for aesthetic appeal.
    b. Continue to work with staff on the final configuration of outdoor seating areas with both fixed and moveable seating and tables, planting areas, and the location of site furnishings including but not limited to bicycle parking, trash receptacles, and similar.

51. Coordinate with the City on the design of the paving treatments and removable bollards in the Oronoco Street End during Final Site Plan for the East Block to align with proposed conditions along the Waterfront, including improvements to Lower King Street and to allow for adequate access and maintenance of the bio-sparging system in the street end. (T&ES) (P&Z)

52. Curb and tree well elements shall be consistent with the Waterfront Common Elements and Landscape Guidelines. (P&Z) (T&ES) *

53. Show the final location and approximate dimensions of Capital Bikeshare station on Oronoco Street on the Final Site Plan. Site the station to provide adequate space for maneuvering bikes in and out of docks, to allow access by Capital Bikeshare staff or contractors to rebalance bikes, and to provide adequate sun for solar panels. Further adjustments to the siting of the station shall be coordinated during review of the Final Site Plan, to the satisfaction of the Director of T&ES. (T&ES) *

H. PARKING

54. Unbundle all residential parking (i.e., the cost to purchase or rent a parking space is separate from the cost to purchase or rent the residential unit). (T&ES)

55. Advertise off-site parking spaces serving the West Block restaurant/retail spaces to visitors with signage visible from the entrance to the commercial spaces prior to the availability of the East Block garage. (P&Z) (T&ES)
    a. Retail/restaurant tenants in the West Building shall clearly advertise available restaurant parking available in the East Building parking garage once a Certificate of Occupancy for the East Building garage has been granted.

56. Provide a Parking Management Plan with the Final Site Plan submission that complies with the requirements of the Parking Management Plan Template provided in Memo to Industry 01-19. The Departments of P&Z and T&ES must approve the Parking Management Plan prior to the Final Site Plan release. (P&Z) (T&ES) *

57. Update Sheet A-4.0 of the Final Site Plan to show how the approximately 19-foot by 32-foot space in the commercial section of the East Building parking garage will be used as one of the 16 required commercial parking spaces. (P&Z) (T&ES) *

58. Share parking occupancy with the City upon request. (T&ES)

59. The applicant may make garage parking spaces, which are required to comply with zoning requirements, available for public/off-site users if the applicant can demonstrate excess parking to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES)

60. The applicant shall secure at least 12 parking spaces within 1,000 feet of the West Block for the ground-floor retail or restaurant uses (if developed first) by the first Certificate of Occupancy for the West Block. These off-site parking spaces should be maintained until the Certificate of Occupancy for the East Block garage. The 12 commercial spaces needed for the West Block retail spaces shall be located in the East Block garage upon operation. (P&Z) (T&ES) ***
    a. This requirement will be reduced to approximately 8 spaces if the second-floor restaurant space on the West Building becomes resident amenity space.

61. Show all existing and proposed on-street parking controls and restrictions on the Final Site Plan. (P&Z) (T&ES) *

62. Provide bicycle parking per current Bicycle Parking Standards, available at: www.alexandriava.gov/bicycleparking. (T&ES) *, ***
    a. Include details on the locations and types of bicycle parking for both short-term and long-term spaces prior to Final Site Plan release. Install bicycle parking prior to the issuance of the first Certificate of Occupancy.
    b. Provide signage, striping, and/or other means to direct people to indoor and covered bicycle parking areas within the private property. Show the proposed signage, etc.

prior to release of the Final Site Plan and install the signage, etc. prior to issuance of the Final Certificate of Occupancy.

c. With the first Final Site Plan, increase the number of short-term bicycle parking spaces the respective entries of the buildings and the programmed public open space abutting the waterfront, to the satisfaction of the Director in T&ES. The number of both short-term and long-term spaces shall be noted on the cover sheet of the plan set. (T&ES) *

63. Provide signage, striping, or other means to prevent parking in emergency vehicle easement(s) prior to Final Site Plan release, to the satisfaction of the Director of T&ES. (T&ES) *

64. Provide electric vehicle chargers for at least 5 percent of the required parking spaces, consisting of Level 2, Level 3 DC Fast Chargers, or a combination thereof, rounded up to the next whole number parking space. (OCA) ***

65. At least 25 percent of the required parking spaces shall be electric vehicle charger ready per these requirements: (OCA) ***

66. Size and install the conduit correctly based on the number and location of future chargers. A combination of Level 1, Level 2, and DCFCs may be used; based on the estimated demand for charging and planned usage.
    a. Label parking space location junction box for the future electric vehicle charger.
    b. Provide available physical space within the utility closet for future cabinetry required to add vehicle chargers to the electrical panel.
    c. Additional conduit does not need to account for transformer sizing.
    d. EV chargers may encroach in the required parking space dimension.

67. Update parking counts on the cover sheet to state the number of electric vehicle charger and electric vehicle charger ready parking spaces, show the location of these spaces, and detail the signage, striping, or similar used to direct people to these spaces prior to Final Site Plan release. Install the signage, etc. prior to release of the final Certificate of Occupancy. (OCA) *, ***

I. SUSTAINABILITY

68. The project shall comply with the requirements of the City of Alexandria Green Building Policy that is in effect at the time of DSUP approval. (OCA) *, **, ***, ****

69. The applicant may propose additional sustainability strategies to the satisfaction of the Directors of P&Z and the Climate Action Officer of OCA. (P&Z) (OCA) *, **, ***, ****

70. The applicant shall provide these items to comply with the Green Building Policy at first Final Site Plan: (OCA) *
    a. Evidence of the project's registration with LEED, Green Globes, EarthCraft, NGBS, or equivalent.

b. A copy of the draft certification scorecard which indicates the project will meet the required performance points as outlined in the Green Building Policy for LEED, Green Globes, EarthCraft, NGBS, or equivalent.

71. The applicant shall provide these items to comply with the Green Building Policy with the Building Permit: (OCA) **
   a. An updated copy of the draft certification scorecard/checklist prior to building permit release for above-grade construction for LEED, Green Globes, EarthCraft, NGBS, or equivalent.
   b. A draft commissioning plan and verification, if required by the Green Building Rating System and the building code, from a certified third-party reviewer that includes items "i" through "iii" below, prior to receiving building permits for above-grade construction.
      i. A narrative describing the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
      ii. A listing of the specific equipment, appliances, or systems to be tested and a description of the tests to be performed, to include, but are not limited to, calibrations and economizer controls, conditions under which the test will be performed. Testing shall affirm winter and summer design conditions and full outside air conditions.
      iii. Measurable criteria for performance; the plan should match the project's submitted plans and sustainability certification scorecard.
   c. Water efficiency and indoor environmental quality documentation for the priority performance points in the Green Building Policy prior to building permit release for above-grade construction for LEED, Green Globes, EarthCraft, NGBS, or equivalent.

72. The applicant shall provide these items to comply with the Green Building Policy at First and Final Certificates of Occupancy: (OCA) ***
   a. Evidence that design phase credits (for the certifying party) have been submitted by Temporary Certificate of Occupancy for LEED, Green Globes, EarthCraft, NGBS, or equivalent.

73. A commissioning report verified by a certified, third-party reviewer, including issues log, completed pre-function checklists, and any completed functional performance tests to match scorecard and approved permit plans prior to issuance of the final Certificate of Occupancy.
   a. Evidence showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for Design Phase credits for LEED, Green Globes, EarthCraft, NGBS, or equivalent.
   b. If the project fails to achieve the required certification level and priority performance points, then demonstrate a good faith, reasonable, and documented effort to achieve the certification level to the satisfaction of the Climate Action Officer.

74. The applicant shall provide the following to comply with the Green Building Policy at Release of Performance Bond: (OCA) ****
    a. Documentation of applicable green building certification showing that the project meets the priority performance points for Energy Use Reduction, Water Efficiency, and Indoor Environmental Quality for LEED, Green Globes, EarthCraft, NGBS, or equivalent.

75. Demonstrate that the roof(s) are solar ready, with the necessary conduit and available electrical panel area to enable future solar panel installation on the Final Site Plan. (OCA) *

76. At the first Final Site Plan, demonstrate that the building will be fully electric including all mechanical systems. For limited accessory elements, including commercial restaurant equipment, if using gas, food and beverage uses in retail spaces and outdoor grills, must be controlled with occupancy sensors, timers not to exceed two hours, or other technology to prevent the accessory element from using natural gas when not being used by an occupant of the building. (OCA) *

II. TRANSPORTATION

A. STREETS/TRAFFIC

77. Repair any of the City's existing public infrastructure that construction damages per the most recent version of the T&ES Design and Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES, prior to Performance Bond release. (T&ES) ****

78. Conduct a pre-construction walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration Staff to document existing conditions prior to Final Site Plan release. (T&ES) (Code) *

79. Slopes on parking ramps to garage entrances and exits shall not exceed 15 percent. For slopes 10 percent or greater, provide trench drains connected to a storm sewer to eliminate or diminish the possibility of ice forming. The slope on a ramp with parking or used for egress shall not exceed 6.5 percent. For non-parking ramps with slopes of 10 percent and greater, provide a minimum of 10 feet in length transition slopes at the top and bottom of the ramp. The transition slope shall be half the difference in slope between two adjacent sections. Provide final design prior to Final Site Plan release subject to the satisfaction of the Director of T&ES. (T&ES) *

80. Wall-mounted obstructions at the wall end of a parking space shall be no more than 24 inches extended from the wall and at least 48 inches from the garage floor. Areas with obstructions that exceed this requirement will not count as parking spaces. (T&ES) ****

81. Provide full curb to curb restoration for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property

frontage and/or extending to the centerline of the street prior to Performance Bond release. (T&ES) ****

82. Work with City staff during the Final Site Plan process to determine final materials and dimensions of the mid-block raised crossing and drop-off areas on North Union Street and any necessary dimensional and material adjustments to the design of the Pendleton and North Union Street curve. (P&Z) (T&ES) *
    a. Show pedestrian crossing signage by the North Union Street mid-block raised crossing on the signage and striping plan to the satisfaction of the Director of T&ES. *

83. Provide bicycle facilities on the site frontage and through the site per the City's Alexandria Mobility Plan, Pedestrian and Bicycle Mobility Plan, and applicable Small Area Plans and Design Guidelines to the satisfaction of the Director of T&ES. (T&ES) *, ***
    a. Provide routing signage for all on-street bicycle facilities consistent with guidance from AASHTO, NACTO, and MUTCD.
    b. Install the protected bicycle lanes on both sides of Union Street and Pendleton Street consistent with the City's Complete Streets Design Guidelines, AASHTO and/or NACTO guidelines. ***
    c. Final design, treatment and implementation of the protected bike facilities shall be coordinated during review of the Final Site Plan, to the satisfaction of the Director in T&ES. *

84. Provide these construction and maintenance details for non-standard emergency vehicle easement/landings if required within the Oronoco Street right-of-way prior to Final Site Plan release subject to the satisfaction of the Director of T&ES: (T&ES) *
    a. Prioritize the selection of ground stabilized, permeable materials to the greatest extent possible.
    b. Show any non-standard materials in the site plan and landscape plan sheets.
    c. Confirm that the landing will not compromise any existing underground utilities.
    d. Manufacturer's data sheets and specifications with engineering details describing the materials, installation method, loading capabilities (minimum 80,000 lbs.), and maintenance requirements.
    e. A maintenance agreement with the abutting property owner(s) responsible for maintaining the landing.

85. Coordinate with staff during Final Site Plan to facilitate service access to RiverRenew Plaza from Pendleton Street, which could involve curb and streetscape changes. (P&Z) (T&ES) *

86. Finalize street names and addresses for mail delivery (addressed per the front door) and for emergency services (addressed per street access) prior to Final Site Plan release. (P&Z) (T&ES) (GIS) *

B. TRANSPORTATION MANAGEMENT PLAN

87. Contribute to the Citywide Transportation Management Plan (TMP) at the rate specified by the current TMP policy. Unless the upfront payment or partial upfront payment option is chosen as described below, payments are due once per year no later than September 30 for 30 years with rates adjusted annually for inflation based on the April-to-March Consumer Price Index change reported by the Bureau of Labor Statistics. (T&ES)
    a. Projects that obtain their first Certificate of Occupancy prior to July 1, will have their first year of assessment in the current calendar year. Projects that obtain their first Certificate of Occupancy on July 1 or later will have their first year of assessment in the next calendar year.
    b. A development may receive a 35% discount for paying the entire 30-year amount (unadjusted for inflation) prior to receipt of the first Certificate of Occupancy. Under this option, no further TMP payments are required. ***
    c. A development may receive a 25% discount for paying one quarter of the entire 30-year amount (unadjusted for inflation) before receipt of the final Certificate of Occupancy and five standard subsequent payments over the next five years. The five annual payments will be made no later than September 30 each year. After these payments are made, no further TMP payments are required. ***

88. The applicant/owner may request permission to manage its own TMP fund subject to the approval of the Director of T&ES. The property must have achieved specific single occupancy vehicle targets for at least three years in a row, as specified in the current TMP policy, and have provided the City with detailed information about how the applicant/owner will manage the TMP for the development. Development would retain the annual TMP contributions and must spend it exclusively on transportation related activities approved by the Director of T&ES or designee. (T&ES)

89. Designate an on-site TMP Coordinator prior to the issuance of the first Certificate of Occupancy. Provide the name, address, email, and telephone number of the coordinator to the City's Mobility Services Division, updating this information annually or as needed. This person will be the City's point of contact for the development and will be responsible for paying invoices, coordinating with staff on TMP-related activities as needed. (T&ES) ***

III. PUBLIC WORKS

A. WASTEWATER/SANITARY SEWERS

90. Pay the sewer connection fee per the City Code Sec. 5-6-25.1(a). (T&ES)

B. UTILITIES

91. If the applicant does not have a franchise agreement with the City, locate all private utilities outside of the public right-of-way and public utility easements. (T&ES)

92. Underground all overhead power and communication lines fronting the development prior to the Performance Bond release. (T&ES) ****

93. Do not locate transformers and switch gears in the public right-of-way. (T&ES)

94. The City shall own and maintain all new fire hydrants on public streets. The applicant or their representative shall own, inspect, test, and maintain all hydrants on private streets. Install hydrants prior to issuance of the first Certificate of Occupancy. (T&ES) ***

C. SOLID WASTE

95. Provide storage space for both trash and recycling containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines" to the satisfaction of the Director of Transportation & Environmental Services. The City's storage space guidelines are at: https://www.alexandriava.gov/ResourceRecovery or by contacting the City's Resource Recovery Division at (703) 746-4410 or commercialrecycling@alexandriava.gov. (T&ES)

96. Store containers inside the units or within an enclosure that completely screens them from view. (T&ES)

97. Solid waste collection services will be the responsibility of the property owner and will need to be contracted with a private hauler. The point of collection shall be as agreed upon between the owner and the private collector duly licensed, provided that such point shall not be in a public right-of-way and shall not hinder or interfere with parking, traffic, or pedestrians. (T&ES)

98. Show the turning movements of the collection trucks, minimizing the need to reverse to perform trash or recycling collection. (T&ES)

99. Submit a Recycling Implementation Plan to the Resource Recovery Division, as outlined in Article H of Title 5 prior to Final Site Plan release. The form is available at: https://www.alexandriava.gov/Resourcerecovery or contact the Resource Recovery Division at (703) 746-4410 or CommercialRecycling@alexandriava.gov. (T&ES) *

IV. ENVIRONMENTAL

A. FLOODPLAIN MANAGEMENT

100. Demonstrate compliance with Zoning Ordinance § 6-300 to § 6-311 of Article VI (Special and Overlay Zones) prior to Final Site Plan release. (T&ES) *

101. Provide this minimum required information on the Final Site Plan to comply with the City of Alexandria Floodplain Ordinance: (T&ES) (OCA) *
   a. The base flood elevation (BFE);
   b. The elevation of the lowest floor (including basement);
   c. The elevation to which the structure will be floodproofed; and
   d. Topographic information showing existing and proposed ground elevations.

102. Provide floodplain study technical memorandum, sealed by a Professional Engineer, including detailed computations of the impact of fill in the floodplain on the 100-year Water Surface Elevation (WSE) to the satisfaction of the Director of T&ES or the Floodplain Administrator. Include backwater calculations starting at a downstream cross section to an upstream cross section. Derive figures from modifying the existing HEC-RAS model, as prepared by the U.S. Army Corps of Engineers, Baltimore District, provided by the City upon request. Proposed fill placement shall not raise the 100-year water surface level at any location along the channel to reach more than a maximum of 6 inches as permitted under Floodplain Regulations. (T&ES) *

103. Release of Final Site Plan shall be contingent upon the City receiving a copy of the development's Letter of Map Revision based on Fill (LOMR-F) from the Federal Emergency Management Agency (FEMA), declaring the building development site is out of the floodplain. The sequence of events should be as follows:
    a. Final Site Plan approval;
    b. Early release of the Demolition and Grading Plans;
    c. Developer submits the LOMR-F application using the as-built survey as the basis for the application for map change following the placement of fill;
    d. City receives and approves FEMA LOMR-F determination letter; and
    e. Full release of Final Site Plan for construction.

B. STORMWATER MANAGEMENT

104. The City of Alexandria's stormwater management regulations for water quality are: (1) state phosphorus removal requirement and (2) Alexandria Water Quality Volume Default. Complying with the state phosphorus reduction requirement does not relieve the applicant from the Alexandria Water Quality Default requirement. Treat the Alexandria Water Quality Volume Default, as determined by the site's post-development impervious area, in a Best Management Practice (BMP) facility. (T&ES) *

105. Provide a BMP narrative and complete pre- and post-development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMPs and a completed Virginia Runoff Reduction Method (VRMM) worksheet showing project compliance prior to Final Site Plan release. The project must use hydrologic soil group "D" in the spreadsheet unless a soils report from a soil scientist or geotechnical engineer delineates onsite soils otherwise. (T&ES) *

106. Design all stormwater (BMPs to comply with the most recent standards and specifications published in the Virginia Stormwater BMP Clearinghouse. Provide complete design details for all BMPs, including site specific plan views, cross sections, planting plans, and complete design calculations for each BMP prior to Final Site Plan release. (T&ES) *

107. Provide a BMP table with a separate listing for each individual BMP that includes the name of the practice, total area treated (acres), pervious area treated (acres), impervious

area treated (acres), phosphorous removal efficiency (percentage), phosphorous removal efficiency (percentage), phosphorous removed by the practice (lbs.), and latitude and longitude in decimal degrees, prior to Final Site Plan release. (T&ES) *

108. All BMPs must be accessible for regular maintenance and inspections. The final building design must include access points and maintenance accessibility for the green roof and any other BMPs. Access to green roofs may be by a door on the same level as the green roof, an interior elevator, interior stairway with door through a penthouse, or by an alternating tread device with a roof hatch or trap door not less than 16 square feet in area and with a minimum dimension of 24 inches. Access to any portion of the green roof of other BMP shall not be solely through a private residence. (T&ES) (OCA)

109. The applicant shall provide visual access from the roof of the four-story portion of the building to the BMP on the second floor roof of the Eastern Building as the second floor roof does not have direct pedestrian access. The applicant shall provide alternative means of ladder access to this space if necessary for maintenance and inspection.

110. Complete construction inspection checklists and associated photographic documentation for each stormwater BMP and detention facility. Submit all documents required by the City of Alexandria As-Built Stormwater Requirements including as-built plans, CAD data, BMP certifications, and completed construction inspection checklists prior to Performance Bond release. (T&ES) ****

111. Construct and install the stormwater BMPs required for this project under the direct supervision of the design professional or their designated representative. Submit a written certification from the design professional to the Director of T&ES prior to Performance Bond release certifying that the BMPs are: (T&ES) ****
    a. Constructed and installed as designed and in accordance with the released Final Site Plan.
    b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized.

112. Install descriptive signage for surface-installed stormwater BMPs (e.g., Bio-Retention Filters, Vegetated Swales) prior to the submission of As-Built Plans to the satisfaction of the Director of T&ES. (T&ES) ****

113. Submit the stormwater quality BMP and/or Stormwater Detention Facilities Maintenance Agreement to include the BMP Schedule and Guidelines Addendum with the Final Site Plan #2. Execute and record the agreement with the Land Records Division of Alexandria Circuit Court prior to Final Site Plan release. (T&ES) *

114. The applicant shall be responsible for maintaining stormwater Best Management Practices (BMPs) until activation of the homeowner's association (HOA), and/or master association, if applicable, or until sale to a private owner. Prior to transferring maintenance responsibility for the BMPs to the HOA, master association, and/or owner, the applicant shall: (T&ES) ****

a. Execute a maintenance service contract with a qualified private contractor for a minimum of three years, and transfer the contract to the HOA, master association, and/or owner.
b. Include a copy of the contract in the BMP Operation and Maintenance Manual.
c. Submit a copy of the maintenance contract to T&ES prior to Performance Bond release.

115. Provide the Homeowner's Association (HOA), and/or master association, with an Owner's Operation and Maintenance Manual for all on site BMPs. The manual shall include at a minimum: (T&ES)
a. An explanation of the functions and operations of the BMP(s),
b. Drawings and diagrams of the BMP(s) and any supporting utilities,
c. Catalog cuts on maintenance requirements including any mechanical or electrical equipment,
d. Manufacturer contact names and phone numbers,
e. A copy of the executed maintenance service contract, and
f. A copy of the maintenance agreement with the City.

116. Provide an Owner's Operation and Maintenance Manual for all BMPs to the owner. The manual shall include at a minimum: (T&ES)
a. An explanation of the functions and operations of the BMP(s),
b. Drawings and diagrams of the BMP(s) and any supporting utilities,
c. Catalog cuts on maintenance requirements including mechanical or electrical equipment,
d. Manufacturer contact names and phone numbers,
e. A copy of the executed maintenance service contract, and
f. A copy of the maintenance agreement with the City.

117. The applicant/owner shall install and maintain stormwater BMPs. The applicant/owner shall execute a maintenance service contract with a qualified private contractor for a minimum of three years and develop an Owner's Operation and Maintenance Manual for all BMPs on the project. The manual shall include at a minimum: (T&ES) ****
a. An explanation of the functions and operations of the BMP(s),
b. Drawings and diagrams of the BMP(s) and any supporting utilities,
c. Catalog cuts on maintenance requirements including mechanical or electrical equipment; manufacturer contact names, and phone numbers,
d. A copy of the executed maintenance service contract, and
e. A copy of the maintenance agreement with the City. Include a copy of the contract in the BMP Operation and Maintenance Manual. Submit a copy of the maintenance agreement to the City prior to Performance Bond release.

118. Submit a copy of the Operation and Maintenance Manual to the T&ES Stormwater Management Division prior to Performance Bond release. (T&ES) ****

119. Submit a certification by a qualified professional that any existing stormwater management facilities adjacent to the project and associated conveyance systems were not

affected adversely by construction operations prior to Performance Bond release to the satisfaction of the Director of T&ES. If maintenance of the facilities or systems were required to make this certification, describe the maintenance measures performed. (T&ES) ****

C. WATERSHED, WETLANDS, & RPAs

120. Use standard city markers to mark all on-site stormwater curb inlets and public curb inlets within 50 feet of the property line to the satisfaction of the Director of T&ES. (T&ES)

121. For sites that contain marine clays, account for marine clay or highly erodible soils in the construction methodology and erosion and sediment control measures. (T&ES)

122. Provide Environmental Site Assessment Notes that delineate, map, describe, and/or explain these environmental features (if located on site): (T&ES)
    a. Individual components of the RPA as well as the total geographic extent of the RPA, to include the appropriate buffer, intermittent streams, and associated buffers,
    b. Highly erodible and highly permeable soils,
    c. Steep slopes greater than 15 percent in grade,
    d. Known areas of contamination; springs, seeps, or related features, and
    e. A listing of all wetlands permits required by law.

123. Prepare a Water Quality Impact Assessment per Article XIII of the Zoning Ordinance to the satisfaction of the Director of T&ES. (T&ES)

124. Prepare a Stormwater Pollution Prevention Plan with enhanced protective measures from site sources to the proximity of the RPA(s) to the project. (T&ES)

D. CONTAMINATED LAND

125. The applicant shall establish and maintain a publicly accessible webpage dedicated to the project as part of the Final Site Plan submission. This webpage shall include all relevant environmental documents related to the Virginia Department of Environmental Quality (DEQ) Voluntary Remediation Program (VRP), the DEQ Petroleum Program, and the City of Alexandria Contaminated Lands Program. The webpage must remain active and updated throughout the duration of the development project and until Certificate of Occupancy for the buildings have been obtained. (T&ES) *

126. Indicate on the site plan whether any soil and groundwater contamination are present. Submit supporting reports for associated environmental investigations or assessments performed to substantiate this determination. (T&ES) *

127. Since environmental site assessments have discovered the presence of contamination on site, the Final Site Plan and Grading Plan shall not be released, and no construction activity shall occur until these items have been submitted and approved by the Director of T&ES: (T&ES) *

a. A Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
b. A Risk Assessment indicating any risks associated with the contamination.

128. Submit a Remediation/Corrective Action Plan detailing any contaminated soil and/or groundwater, including plans to discharge water from foundation drains, sump-pumps, and remediate utility corridors. Utility corridors in contaminated soil shall be over excavated by two feet and backfilled with "clean" soil. Describe the environmentally sound methods of off-site transport and disposal of contaminated soils and debris (including, but not limited to types of vehicles appropriate for handling specific materials and ensuring vehicle loads are covered). (T&ES) *

129. Submit a Health and Safety Plan signed and approved by a professional engineer and certified industrial hygienist that indicates measures taken during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment. This includes construction dewatering activities. (T&ES) *

130. During the remediation phase of construction, an onsite Health and Safety Manager/Officer must be present at all times during remediation activities, to include excavation and removal of onsite contaminated materials. Through site monitoring, this individual must have the authority to stop work if unsafe or hazardous conditions related to contaminants are observed. (T&ES)

131. Initial Air Monitoring will be required during exaction and loadout of contaminated soil until it is demonstrated that contaminants are not present in the air at unacceptable levels based on the risk assessment. . The determination to suspend air monitoring must be approved by the Director of T&ES.

132. If past use of the site is found to include one of the following VA DEQ-identified high risk category sites for potential sources of residual PCBs, the applicant shall screen for PCBs as part of the site characterization if any of the past uses are within the identified high risk category sites for potential sources of residual PCBs, which includes these SICs: 26&27 (Paper and Allied Products), 30 (Rubber and Misc. Plastics), 33 (Primary Metal Industries), 34 (Fabricated Metal Products), 37 (Transportation Equipment), 49 (Electrical, Gas, and Sanitary Services), 5093 (Scrap Metal Recycling), and 1221 and 1222 (Bituminous Coal). (T&ES)

133. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the applicant must notify T&ES, Office of Environmental Quality immediately. The Remediation Plan will include requirements for how unanticipated contamination will be addressed, including for the onsite Health and Safety Manager/Officer to stop work if unsafe or hazardous conditions related to contaminants are observed (T&ES) (Code) *

134. With respect to land-disturbing activities, to include import of materials, include information on the special handling of exported materials and haul routes. Imported fill material must be deemed clean prior to import. Based on the remediation plan, the method of offsite export of soil and debris will need to consider arsenic, petroleum constituents and other contaminants present onsite, as shown in the Phase II ESA. (T&ES)

135. All environmental management, remediation, hauling and work safety plans must address onsite contamination prior to the beginning of any site work. This includes demolition and site work to determine new site elevation related to the floodplain. If imported materials contact onsite soils with known contamination, this material must be handled as if contaminated, or tested to allow for alternate handling. (T&ES)

136. If warranted by a Site Characterization report, design and install a vapor barrier and ventilation system for buildings and parking areas to prevent the migration or accumulation of methane or other gases or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. The vapor barrier and ventilation system must include a passive ventilation system that can be converted to an active ventilation system if warranted. If a vapor barrier and ventilation system is required, the schematic shall be signed by a professional engineer and included in the Final Site Plan. (T&ES) (Code) *

137. If a Soils Management Plan is required by the Site Characterization report, then the plan shall be included in the Final Site Plan and may be part of the Remediation/Correction Action Plan. (T&ES) *

138. If onsite construction activities and associated land disturbance result in damage to, maintenance requirements for, or the need to replace any components of the biosparge remediation system located on Oronoco Street, the owner/applicant shall, at their sole expense, restore, maintain, or replace all affected elements of the remediation system in-kind. Such restoration or replacement shall ensure the system's continued functionality and compliance with all applicable regulatory requirements, to the satisfaction of the Director of T&ES. (T&ES)

139. The applicant shall hold a community meeting to provide a summary of the Remediation/Corrective Action Plan and the Health and Safety Work Plan.
    a. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting.
    b. Hold the meeting before any permits are issued. (P&Z) (T&ES) **

E. SOILS

140. Provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments prior to Final Site plan release. (T&ES) *

F. NOISE

141. Submit a noise study identifying the noise levels that residents will be exposed to initially and 10 years into the future per the Noise Guidance Book used by the Department of Housing and Urban Development prior to the Final Site Plan release. (T&ES) *

142. If the noise study identified noise impacted areas, conduct a building shell analysis identifying ways to minimize noise and vibration exposure to future residents. Submit the building shell analysis and the noise commitment letter for review and approval prior to Final Site Plan release. (P&Z) (T&ES) *

143. All rooftop HVAC and other mechanical equipment shall comply with the City noise ordinance by equipment design, location, or with noise mitigating devices (e.g., silencers, acoustic plenums, louvers, or enclosures). (T&ES) (Code) *, ***

144. Windows serving residential units shall have sound-rated window glazing or the building shall have other noise-mitigating features to dampen noise from adjacent uses and air traffic serving Ronald Reagan Washington National Airport. (P&Z) (T&ES)

145. Supply deliveries, loading, and unloading activities shall not occur between the hours of 11 PM and 7 AM. (T&ES)

146. All exterior building-mounted loudspeakers shall be prohibited and no amplified sound shall be audible at the property line. (T&ES)

147. No trucks or other vehicles, including construction equipment, associated with this project shall be permitted to idle for more than 10 minutes when parked, including vehicles in the loading dock. Post at least two no idling for greater than 10 minutes signs in the loading dock area in plain view prior to the issuance of the Certificate of Occupancy. (T&ES) ***

148. Submit a noise mitigation plan for the fitness center and amenity space with amplified sound, if located onsite, to address noise impacts from the use on other residents or businesses within the building. To the satisfaction of the Director of T&ES, the plan shall aim to achieve an interior noise level below 45dBA, consistent with the Noise Guidance Book used by the U.S. Department of Housing and Urban Development. Provide a commitment letter stating the applicant's commitment to implementing the mitigation measures specified in the plan. Submit the mitigation plan and commitment letter for review and approval by T&ES Office of Environmental Quality Staff prior to Final Site Plan release. (T&ES) *

G. AIR POLLUTION

149. Control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of T&ES. (T&ES)

150. Provide an electrical plug and related equipment within loading docks that will have refrigerator vehicle deliveries to limit emissions and noise from idling. Show the plug location prior to Final Site Plan release and install prior to the issuance of the Certificate of Occupancy. (T&ES) *, ***

VI. CONSTRUCTION MANAGEMENT

151. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements: (P&Z) (T&ES) (Code)
    a. Do not remove streetlights without authorization from the City of Alexandria,
    b. If streetlights are to be removed from the public right-of-way, then provide temporary lights until the installation and commissioning of new lights, *
    c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed, *
    d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction, *
    e. Include an overall proposed schedule for construction, *
    f. Include a plan for temporary pedestrian circulation, *
    g. Include the location and size of proposed construction trailers, if any, *
    h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and *
    i. Post copies of the plan in the construction trailer and give it to each subcontractor before they start work. ***
    j. Haul routes that cross or traverse King Street east of Washington Street shall be prohibited.

152. Provide off-street parking for all construction workers without charge and ensure that all workers use the provided parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall: (P&Z) (T&ES) *
    a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit, *
    b. Post information on transit schedules and routes, *
    c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
    d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. If the violation is

not corrected within five days, a "stop work order" will be issued, with construction halted until the violation has been corrected.

153. Include a chapter on maintaining pedestrian access within the Construction Management Plan. Sidewalks adjacent to the site shall remain open throughout the duration of phased construction, including along the 500 block of North Union Street connecting to Pendleton Street. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) *

154. Include a chapter on maintaining bicycle access within the Construction Management Plan. Bicycle facilities adjacent to the site shall remain open during construction. If a bicycle facility must be closed, bicycle access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project. (T&ES) **

155. Include a chapter on the waste control program in the Construction Management Plan. This program shall control waste such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of T&ES and Code Administration. Dispose of all waste offsite per all applicable federal, state, and local laws. Provide documentation as required per the City's Green Building Policy and conditions therein. (T&ES) (Code) *

156. Discuss construction staging activities with T&ES prior to the release of any permits for ground disturbing activities. No major construction staging shall be allowed within the public right-of-way. (T&ES) *

157. Obtain additional City approvals for any structural elements that extend into the public right-of-way, including but not limited to footings, foundations, and tiebacks, from the Director of T&ES as a part of the Sheeting and Shoring permit. (T&ES) **

158. Identify a Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets prior to Final Site Plan release. If the CLD changes during the project, then note that change in a letter to the Division Chief. (T&ES) *

159. Conduct an in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Additionally, the applicant shall hold a community meeting, either in-person or virtual, to provide a summary of the Remediation/Corrective Action Plan and the Health and Safety Work Plan.
    a. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting.
    b. Hold the meetings before any permits are issued. (P&Z) (T&ES) **

160. Hold an in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z project planner prior to starting work. (P&Z)

161. Identify a community liaison throughout the construction. Provide their name and telephone number, including an emergency contact number, to residents, property managers, and business owners whose property abuts the site, to the satisfaction of the Directors of P&Z and T&ES. Install a temporary informational sign prior to Final Site Plan release with the community liaison's name and contact information. Display the sign until construction finishes. (P&Z) (T&ES) *, ***

162. Temporary construction and/or on-site sales trailer(s) are permitted and subject to the approval of the Directors of P&Z and Code Administration. Remove the trailer(s) prior to the issuance of the final Certificate of Occupancy. (P&Z) (Code) ***

163. Submit a stamped electronic copy of a wall check survey for the East Block completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows: (P&Z) **
    a. Key dimensions of the building as shown on the approved Final Site Plan,
    b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
    c. Extent of any below-grade structures,
    d. Foundation wall in place, and
    e. Future face of finished wall above.

164. Submit a stamped electronic copy of a wall check survey for the West Block completed by a licensed, certified public land surveyor or professional engineer when the building reaches the proposed finished grade. Ensure each wall check shows: (P&Z) **
    a. Key dimensions of the building as shown on the approved Final Site Plan,
    b. Key dimensions from future face of finished wall above to the property line and any adjacent structures on the property,
    c. Extent of any below-grade structures,
    d. Foundation wall in place, and
    e. Future face of finished wall above.

165. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. Include a note stating that the height was calculated based on all applicable provisions of the Zoning Ordinance. (P&Z) (T&ES) ***

166. If outstanding performance, completion, or other bonds for the benefit of the City are in effect for the property at such time as it may be conveyed or sold to a party other than the applicant, a substitute bond and associated documents must be provided by that party or, in the alternative, an assignment or other documentation from the bonding company indicating that the existing bond remains in effect despite the change in ownership may

be provided. The bond(s) shall be maintained until such time that all requirements are met, and the bond(s) released by the City. (T&ES) ****

VII. CONTRIBUTIONS

167. Pursuant to the Waterfront Plan, provide an in-kind contribution of $12.68 (in 2025 dollars) per square foot of total net floor area (to be adjusted per CPI-U yearly) to be used for off-site and limited on-site improvements that contribute to the implementation of the Waterfront Plan. These contributions shall be due prior to the issuance of the 10th certificate of occupancy for the East Building.
    a. The applicant shall make the following contributions, which shall be deemed equal to the total monetary contribution. The in-kind contributions should be directed on the below areas, consistent with relevant conditions in the Open Space and Pedestrian/Streetscape sections above:
        i. Areas of open space on Parcel A of the East Block to be dedicated to the City;
        ii. Three pavilions in the East Block Open Space (per Condition 29);
        iii. Oronoco Street End improvements, limited to paving treatments, garden plantings (not street trees), installation of removable bollards and of two pavilions with utility installation. Curbing, surfacing, grading and general construction restoration costs would not be included;
        iv. Improvements to West's Point Park, including decking, railings and access from the Oronoco Street End and the Waterfront Promenade; and
        v. Improvements to the RiverRenew Plaza.
    b. Other site improvements provided by the project, including but not limited to stormwater or flood infrastructure, and street and streetscape improvements outside of the Oronoco Street End, will not be accounted as in-kind contributions.
    c. The applicant shall provide prior to the first Final Site Plan a detailed cost estimate of site improvements and structures as the basis for the in-kind contributions. The applicant will work with City Staff to formulate the final, prioritized list of site design, amenities, and structures that the applicant will provide, subject to approval by the Director of P&Z. Acceptance of this list shall constitute an agreement for the minimum provision of site improvements.
    d. In the event that the cost of these improvements are less than $12.68 per square foot (adjusted for CPI-U per above) of total net floor area, the applicant shall provide a cash payment to the City for the difference prior to the release of the public improvement bonds.

168. Contribute $20,000 to the City prior to Final Site Plan release for the first block for a Capital Bikeshare station and bicycles or system operations. (T&ES) *

169. Provide a monetary contribution, in the amounts specified within the Landscape Guidelines, to the City of Alexandria's Urban Forestry Fund to account for a modification in meeting the street tree placement requirement. Provide the contribution prior to issuance of the first Certificate of Occupancy for the building in the related phase. Payment shall be payable to the City of Alexandria, with a transmittal letter addressed to

RP&CA citing the project name and case number, contribution amount, and the condition being fulfilled. (P&Z) (RP&CA) ***

a. The contribution amount is projected to be approximately $7,500 for the deficiency of three trees based on the Preliminary Site Plan planting plan.

VIII. WATERFRONT MANAGEMENT & MAINTENANCE

170. The applicant shall maintain at least one public restroom to be accessed in the West Building and one water fountain to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA) *, ***
    a. Explore providing a second restroom during the Final Site Plan process.
    b. Signage shall be provided on the building wall detailing public hours to the public restrooms.
    c. The public restrooms shall not require passing through the restaurant and shall have direct access for the public to be coordinated during Final Site Plan to the satisfaction of the Director of P&Z.
    d. The restroom facilities shall be accessible from 8:00 a.m. to 10:00 p.m. daily, including holidays.
    e. The applicant is responsible for daily cleaning and all maintenance of the restroom(s).
    f. Provide a City-standard water fountain (location to be determined during Final Site Plan).

171. The applicant, and/or its successors and assigns shall provide a minimal annual contribution of $30,000 (in 2025 dollars) to be adjusted 3% annually dedicated to the construction, operations, maintenance and programming of public improvements and activities within the Waterfront Plan area, or portion thereof, including the areas of open space dedicated to the City. The first annual contribution shall be provided to the City in a designated fund for waterfront management and maintenance prior to the first certificate of occupancy for the East Building. (P&Z) (RP&CA) ***

172. The applicant shall conduct regular trash pickup and grass mowing within the portion of Parcel A dedicated to the City (not including RiverRenew Plaza). The applicant will also conduct two yearly removals of any accumulated debris from the Potomac River that collects on Parcel A. These items to be coordinated with RP&CA. (RP&CA)

XI. HOUSING

173. Contribute $651,831 to the City's Housing Trust Fund. Make all payments to the City of Alexandria and submit them to the Office of Housing with a cover letter to include the project name and case number.
    a. The contribution payments will be due at the time of issuance of the first Certificate of Occupancy for each building. Payments will be proportionate to the square

footage of each building as reflected in the Preliminary Site Plan—$339,025 for the West Block and $312,806 for the East Block.

IX. PUBLIC ART

174. Work with City Staff to incorporate on-site public art elements or provide an equivalent monetary contribution for public art within the Small Area Plan per the City's Public Art Policy, adopted December 13, 2014, to the satisfaction of the Directors of P&Z and RP&CA. (P&Z) (RP&CA)

175. Identify the location, type, and goals for public art in the Final Site Plan. Select the artist, finalize locations and medium, and provide a schedule for the art installation prior to Final Site Plan release.
    a. If on-site public art is to be provided on one or both blocks, a plan for phasing should be provided during Final Site Plan. (P&Z) (RP&CA) *

176. Install the art prior to issuance of the first Certificate of Occupancy, to the satisfaction of the Directors of P&Z and/or RP&CA. (P&Z) (RP&CA) ***

177. The in-lieu contribution shall be $0.30 per gross square foot, with a maximum contribution of $75,000 per building prior to issuance of the first Certificate of Occupancy. On-site public art shall be of an equivalent value to the contribution. If the development is phased, then the contribution should be paid at first Certificate of Occupancy for each building. (P&Z) (RP&CA) ***

X. USES AND SIGNS

A. RETAIL/COMMERCIAL

178. Provide these conditions for the retail/commercial areas, to the satisfaction of the Director of P&Z: (P&Z)
    a. Maintain operable entrances for all retail/restaurant spaces. Include this requirement in each tenant's lease.
    b. All ground floor windows shall remain transparent, except as otherwise allowed by the Zoning Ordinance per § 5-511. Do not block windows with walls, film, storage cabinets, shelving, boxes, coat racks, storage bins, closets, or similar. Retailers may have display cases that face the street.

179. The Director of P&Z shall review administrative Special Use Permits after one year of operation, and shall docket the matter for the Planning Commission and City Council if (1) violations of the permit conditions occurred and were not corrected immediately, constitute repeat violations, or create a direct and immediate adverse zoning effect on the surrounding community; (2) the Director has received a request from any person to docket the permit for review due to a complaint that may be a violation of the permit conditions;

or (3) the Director has determined that problems with the operation of the use exist and that new or revised conditions are needed. (P&Z)

180. Contact Go Alex at goalex@alexandriava.gov prior to receipt of the Final Certificate of Occupancy to: (T&ES) ***
   a. Identify ways to encourage employees who drive to use off-street parking.
   b. Learn how to establish an employee transportation benefits program to encourage employees to commute using public transportation.
   c. Receive printed and electronic business promotional material to provide information on ways to access the site other than driving.
   d. Receive information on nearby garages to post on the business' website to encourage patrons to park off-street.

181. The applicant/owner may designate a limited number of apartments for short-term rentals, as defined by §3-2-141 of the Code of Ordinances, provided that the number of short-term rental apartments or individuals renting those apartments does not meet the definition of a hotel per §2-161 of the Zoning Ordinance, which would require a change of use application. If the units are made available to the general public outside of condominium owners and residents of the building(s), then parking shall be required per the Section 7-1400 of the Zoning Ordinance. (P&Z)

B. SIGNAGE

182. Design and develop a coordinated sign plan sheet(s) including the number, location, size, height, clearance, color, material, and any illumination for all proposed signage prior to Final Site Plan release subject to the requirements below to the satisfaction of the Director of P&Z. (P&Z) (Code) *
   a. Commercial signs shall have variable and creative designs that highlight the individual identities of tenants, including sculptural and dimensional features.
   b. Coordinate signage with the building and individual storefront designs, including but not limited to integrating with awnings and canopies.
   c. Depending on the location and dimension of the sign(s), building permit(s) may be required.

183. Design and develop a sign plan for wayfinding and directional signage that sets location, scale, massing, and character of all proposed signage prior to Final Site Plan release to the satisfaction of the Directors of P&Z and T&ES. (P&Z) (T&ES) *

184. Provide signage at the entrances to the East Block parking garage with retail parking that is consistent with the City's wayfinding standards for identifying parking garages. (T&ES)

185. Incorporate and interpret elements of site environmental features (e.g., innovative stormwater facilities and plantings) including along the riverfront and facilities in the Oronoco Street End into the design of the public realm in consultation with staff. Provide text, graphics, and materials for interpretive elements prior to Final Site Plan release subject to approval by the Directors of T&ES, and the Climate Action Officer of OCA.

Install the interpretative elements prior to issuance of the Certificate of Occupancy. (P&Z) (T&ES) *, ***

XII. DISCLOSURE REQUIREMENTS

186. Incorporate these elements in the Condominium/Homeowner's Association (HOA) documents to maintain all elements shown on the approved DSUP Preliminary Site Plan and released Final Site Plan, including but not limited to tree plantings and landscape plans: (P&Z) ***
    a. Require property owners to sign a disclosure statement acknowledging the DSUP conditions, the Final Site Plan and Deeds of Easement.
    b. Changes to the approved DSUP and released Final Site Plan require City approval.

187. Submit all condominium association covenants for review and approval by the Director of P&Z and the City Attorney prior to applying for the first Certificate of Occupancy. Include the conditions listed below in a dedicated section of the association covenants. The language shall establish and state that these conditions cannot be changed except by an amendment to this DSUP approved by the City Council. (P&Z) (T&ES) (City Attorney) ***
    a. The development is located adjacent to City parks and publicly accessible open space including Oronoco Bay, West's Point and Founders parks, as well as the Promenade. The Promenade and adjacent public and publicly accessible parks and facilities are programmed for active uses including but not limited to recreation, scheduled events such as fireworks, festivals, concerts, classes and demonstration activities as part of the implementation of the City's approved Waterfront Plan.
    b. At the time of request for certificates of occupancy for the East Building constructed, the Master Association shall provide an ongoing annual contribution of $30,000 (in 2025 dollars) to be adjusted annually by 3% dedicated to the construction, operations, maintenance and programming of public improvements and activities within the Waterfront Plan area, or portion thereof, including the East Block open space.
    c. Future property owners are responsible for the maintenance and upkeep of privately owned, publicly accessible spaces to a minimum standard of City-owned park space and public restroom(s) required by these conditions.
    d. This is a mixed-use development including restaurant and retail uses, which are noise-generating uses and will require frequent deliveries and loading activities.
    e. Active pavilion spaces with potential live events will be located on adjacent City property and will be subject to City park hours and the City Noise Ordinance.
    f. The City reserves the right to construct floating or fixed piers along the waterfront in the future.
    g. The principal use of the underground garage and parking spaces reserved for resident use shall be for passenger vehicles garaged at the address; storage which interferes with the use of a parking space for a motor vehicle is not permitted.

h. All West Building homeowners should be made aware of the public restroom(s) in the West Building that will be accessible per the parameters outlined in these conditions of approval.

188. The East Building garage is required to have approximately 12 parking spaces available as parking for the adjacent restaurant/retail uses and/or as public parking.
   a. All landscaping and open space areas within the property shall be maintained by the relevant Condominium Association.
   b. Obtain approval for any exterior building improvements or changes from the City, as determined by the Director of P&Z.
   c. Develop a noise control by-law to control noise levels in the development and resolve noise issues between neighboring occupants and disclose this by-law to all involved at the time of sale or lease agreement.
   d. Inspect and maintain stormwater facility BMPs to ensure proper functioning.
   e. That residents of this development are ineligible for Residential Parking Permit ("RPP") placards as of Preliminary Site Plan approval since the blocks are located outside of an RPP district.
   f. In the event a special service district, business improvement district or similar governance structure for the Waterfront Plan area or a portion thereof, is established by the City, the commercial and residential property owners shall be included in such district as directed by the City, to assist in financing the construction, operation, maintenance and programming of public improvements within the Waterfront Plan area, or a portion thereof.
   g. If the City adopts a special service district, business improvement district or similar assessment, the annual contribution noted above shall be replaced by such assessment.

189. The applicant shall disclose to future owners and residents of this proposed development that the development was removed from the floodplain by fill. Further, the development shall encourage future owners, commercial tenants and residents to purchase flood insurance for residential and commercial spaces. The cost of flood insurance outside of the floodplain is significantly less than high hazard flood insurance. In Alexandria, all residents are eligible to purchase flood insurance, currently at a 20% discount. For more information, go to www.floodsmart.gov. (T&ES) ***

190. There shall be a disclosure statement to potential purchasers that AlexRenew owns and operates a Combined Sewer Overflow (CSO) outfall that is located at the corner of Pendleton and North Union streets that can be a source of intermittent odor for future residents. This outfall is activated a limited number of times after storm events that discharges combined sewer overflows that are predominantly stormwater, and include sewage, trash and/or debris. The disclosure statement shall be approved by Director of T&ES. (T&ES) ***

191. It shall be disclosed to all future owners and residents that soil and groundwater contamination exist onsite based on the history of the site. The extent and type of soil and

groundwater contamination shall be provided based on the appropriate investigatory reports completed for the project. (T&ES) ***

192. The site is located adjacent to the RiverRenew Plaza and the stormwater diversion facility with access at the eastern portion of the plaza. AlexRenew maintenance crews will access the plaza via the Promenade and Oronoco Street End for service from time to time. (T&ES) (AlexRenew)

193. Maintenance of the City's bio-sparging infrastructure in the Oronoco Street End will occur as needed from T&ES and/or licensed contractors. (T&ES)

XIII. SUBDIVISIONS

194. The final subdivision plat shall comply with Zoning Ordinance § 11-1709 requirements. (P&Z) *

195. Depict the location of all easements and reservations, including those required in this approval, on the Final Subdivision Plat. (T&ES) *

196. Revise the plat to incorporate the edits specified by P&Z and T&ES Staff to incorporate any changes to areas of public dedication and public access easement approved by City Council prior to submitting the Final Subdivision Plat submission. (P&Z) (T&ES) *

197. Provide a georeferenced CAD file in **AutoCAD 2018.dwg** or greater format that adheres to the National CAD Standards with the Signature Set submission. The file shall include the subdivision plat including existing and new parcels and neighboring parcels. Identify legal lot numbers for each lot and document the square footage. Show adjacent lots and their Tax Map numbers on the subdivision plat. (GIS) *

CITY DEPARTMENT CODE COMMENTS

Legend: C - Code Requirement R – Recommendation F - Finding

A. Planning and Zoning (P&Z)

C – 1 Demonstrate continued compliance with open space, floor area ratio, and setback requirements if a property owner requests future approval to construct a deck on their property.

C - 2 Submit as-built documents for all landscape and irrigation installations with the as-built plan and request for Performance Bond release. Refer to City of Alexandria Landscape Guidelines. ****

C - 3 Identify all trees to remove and protect/preserve in the tree conservation and protection plans prior to Final Site Plan release. Detail the construction methods to reduce disturbance within driplines.

Schedule an on-site inspection of existing conditions with the City Arborist and Natural Resources Division Staff prior to preparing the Tree Conservation and Protection Plan. *

C - 4 The landscape elements of this development are subject to Performance and Maintenance bonds, based on criteria established by the City and available through T&ES. Performance and Maintenance Bond release are subject to inspections by City Staff per City Code requirements. A final inspection for landscaping must occur three years after completion. ****

C - 5 Any parking requirement may be adjusted within five percent of the requirement if the Director of P&Z determines that physical requirements of the building prevent complying with the specific number of required parking spaces per Zoning Ordinance § 8-200(A)(2)(c)(i).

B. Code Administration (Building Code)

C – 1 The review by Code Administration is a preliminary review only. Once the applicant has filed for a building permit, code requirements will be based upon the building permit plans. A preconstruction conference is recommended for large projects. Contact the Code Administration Office, Plan Review Supervisor: 703.746.4200 with any questions.

C - 2 New construction or alterations to existing structures must comply with the current Uniform Statewide Building Code in effect when applying for building permit(s).

C - 3 Facilities shall be accessible for persons with disabilities per the current Virginia Uniform Statewide Building Code in effect when applying for building permit(s).

C - 4 Submit a soils report with the building permit application for all new and existing building structures. **

C - 5 Submit an abatement plan from a licensed Pest Control Company to prevent rodents from spreading from the construction site to the surrounding community and sewers to the Department of Code Administration prior to receiving a demolition or land disturbance permit. Code Administration Staff will conduct a pre-demolition site survey to verify that the abatement plan is consistent with the field installation. **

C - 6 Submit a wall location plat prepared by a land surveyor to the Department of Code Administration prior to any building framing inspection. **

C. Federal Environmental Reviews

F – 1 Any project that is defined as a federal undertaking, in accordance with the National Historic Preservation Act of 1966 requires a § 106 review and/or other National Environmental Policy Act (NEPA) review. Projects that require federal review, approval or permitting, or projects that include federal funding are generally considered a federal undertaking. Consult with the appropriate federal or state agency to determine the requirements and process relevant to the project and coordinate with the appropriate City Staff and, if necessary, the Virginia Department of Historic Resources.

a. Information on the § 106 process is at www.achp.gov or www.dhr.virginia.gov/environmental-review/
b. Information on the NEPA process is at www.epa.gov
c. Information on the U.S. Department of Housing and Urban Development environmental review process is at https://www.hudexchange.info/programs/environmental-review/

D. Archaeology

F - 1 The subject property is located at historic West Point, named after Hugh West, one of the earliest residents of what was to become the City of Alexandria. Prior to West's association with the property, Simon Pearson built a public warehouse there in the early 1730s. Also in the immediate vicinity, perhaps on the south side of Oronoco Street, Richard Conway built an opulent house. An inlet known as Ralph's Gut may have been present at the end of Pendleton Street, a remnant of an old tributary that drained into the Potomac River. Once West acquired the property in the late 1730s, he operated the tobacco warehouse on the property, and also was authorized to operate a ferry service. Hugh West's son John West built a wharf on the property by early 1755, soon enough for troops under General Edward Braddock to disembark there on their way to defeat against the French at Fort Necessity.

Activity and development of West Point continued apace throughout the remainder of the eighteenth century and into the nineteenth century. The wharf at West Point served as one of the city's primary points of commerce. Warehouses and wharves fronted on the river, while on each side of North Union Street, between Pendleton St. and Oronoco St., shipping offices, support buildings, and even a set of scales were built. By the Civil War era a guard house was erected on the northwest corner of Oronoco and N. Union streets. After the war, the property continued to function as a wharf and shipping complex, changing ownership periodically. By the late nineteenth century, the American Coal Company owned the property, and by the early twentieth century the Alexandria Fertilizer and Chemical Company occupied the entire block to the east of N. Union Street as well as the frontage on the west side of N. Union Street. Alexandria Fertilizer continued to operate on the property well into the mid-twentieth century.

F-2 If this project is a federal undertaking or involves the use of any federal funding, the applicant shall comply with federal preservation laws, in particular Section 106 of the National Historic Preservation Act of 1966. The applicant will coordinate with the Virginia Department of Historic Resources and the federal agency involved in the project, as well as with Alexandria Archaeology.

C - 1 All archaeological preservation measures shall comply with Zoning Ordinance § 11-411.

E. Transportation & Environmental Services (T&ES)

F – 1 Prepare the Final Site Plan per Memo to Industry 02-09, Design Guidelines for Site Plan Preparation, which is available at: http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf *

F – 2 Show and label the sanitary and storm sewer and water line in plan and profile in the first Final Site Plan, cross referencing sheets if plan and profile cannot be on the same sheet. Provide existing and proposed grade elevations plus the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. *

F – 3 Provide a dimension plan with all proposed features, the final property lines, and associated property line annotation. When possible, show all annotations pertaining to the final property line configuration on the site layout sheet (also referred to as the site plan sheet). *

F – 4 Construct all storm sewers to the City of Alexandria standards and specifications. The minimum diameter for storm sewers is 18-inches in the public right-of-way and the minimum size storm sewer catch basin lead is 15-inches Acceptable pipe materials are Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. Alternatively, the Director of T&ES may approve AWWA C-151 (ANSI A21.51) Class 52. For roof drainage system, Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes are acceptable. The minimum and maximum velocities are 2.0 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public right-of-way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public right-of-way shall be owned and maintained privately). *, ****

F – 5 Construct all sanitary sewers to the City of Alexandria standards and specifications. The minimum diameter of sanitary sewers is 10-inches in the public right-of-way and sanitary lateral 6-inches for all commercial and institutional developments; however, a 4-inch sanitary lateral is acceptable for single unit residences. Acceptable pipe materials are Polyvinyl Chloride (PVC) ASTM D-3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 or reinforced concrete pipe ASTM C-76 Class IV (For 12-inches or larger diameters); Class III may be acceptable on private properties. Minimum and maximum velocities are 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured "Y" or "T" or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured "Y" or "T," or else install a manhole. *, **** Provide a horizontal separation of 10-feet (edge to edge) between a storm or sanitary sewer and a water line. However, if this horizontal separation cannot be achieved, then install the sewer and water main in separate trenches and set the bottom of the water main at least 18-inches above the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 for the sewer pipe material and pressure test it in place without leakage prior to install. *, ****

F – 6 Provide at least 18-inches of vertical separation for sanitary sewers and 12-inches for storm sewers when a water main over crosses or under crosses a sanitary/storm sewer. However, if this cannot be achieved, then construct both the water main and the sanitary/storm sewer using Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for 10-feet on each side of the point of crossing. Center a section of water main pipe at the point of crossing and pressure test the pipes in place without leakage prior to installation. Provide adequate structural support for sewers crossing over the water main (i.e., concrete pier support and/or concrete encasement) to prevent damage to the water main. Encase in concrete

sanitary sewers under creeks and storm sewer pipe crossings with less than 6-inch clearance. *, ****

F – 7 No water main pipe shall pass through or touch any part of sanitary/storm sewer manhole. Place manholes at least 10-feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, ensure that the manhole is watertight and tested in place. *, ****

F – 8 Maintain at least 12-inches of separation or clearance from water main, sanitary, or storm sewers when crossing underground telephone, cable TV, gas, and electrical duct banks. If this separation cannot be achieved, then use Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 material for the sewer pipe for 10-feet on each side of the point of crossing and pressure test it in place without leakage prior to installation. Provide adequate structural support for sanitary/storm sewers and water main crossing over the utilities (i.e., pier support and/or concrete encasement) to prevent damage to the utilities. *, ****

F – 9 Design any rip rap per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. *, ****

F – 10 Provide the dimensions of parking spaces, aisle widths, etc. within the parking garage on the Final Site Plan. Exclude column widths from the dimensions. *, ****

F – 11 Show the drainage divide areas on the grading plan or on a sheet that includes topography and structures where each sub-area drains. *

F – 12 Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. *

F – 13 Show all existing and proposed public and private utilities and easements on the Final Site Plan with a narrative. *

F – 14 Provide a Maintenance of Traffic Plan with the Construction Management Plan prior to Final Site Plan release that replicates the existing vehicular, pedestrian, and bicycle routes as closely as practical. Maintain pedestrian and bike access adjacent to the site per Memo to Industry 04-18. *

F – 15 Include these notes on all Maintenance of Traffic Plan Sheets (MOT): *

a. FOR INFORMATION ONLY.
b. No sidewalks can remain closed for the duration of the project. Temporary sidewalk closures are subject to separate approval from T&ES at the time of permit application.
c. The contractor shall apply for all necessary permits for use of the City right-of-way and shall submit MOT Plans with the T&ES Application for final approval at that time.

F – 16 Add complete streets tabulation to the cover sheet with the Final Site Plan submission. *

F – 17 Parking for the residential and commercial uses shall match the Zoning Ordinance requirements in effect at approval by the City Council and/or Planning Commission. *

F – 18 Maintain a separation of 150 feet between the beginning of street corner radius and any driveway apron radius on arterial and collector roadways, with a minimum of 100 feet permitted, subject to the approval of the Director of T&ES. *

F – 19 Maintain a minimum separation of 30 feet on residential streets between the beginning of the street corner radius and any driveway apron radius. *

C - 1 Complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site, per Article XI of the Zoning Ordinance. If the existing storm system is inadequate, design and build on-site or off-site improvements to discharge to an adequate outfall, even if post development stormwater flow from the site is less than pre-development flow. Demonstrate that a non-erosive stormwater outfall is present to the satisfaction of the Director of T&ES. *

C - 2 Comply with the stormwater quality requirements and provide channel and flood protection per Article XIII of the Zoning Ordinance. Meet the peak flow requirements of the Zoning Ordinance if the development proposes combined uncontrolled and controlled stormwater outfall. If the project site is within the Braddock West watershed or a known flooding area, provide an additional 10 percent storage of the pre-development flows in the watershed to meet detention requirements. *

C - 3 Design stormwater facilities that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and stormwater flow conveyance systems according to Article XIII of the Zoning Ordinance, § 13-114(F), as signed and sealed by a professional engineer registered in Virginia. Include the adequate outfall, inlet, and hydraulic grade line analyses to the satisfaction of the Director of T&ES. Provide the references and/or sources used to complete these analyses. * The proposed development shall conform to all requirements and restrictions set forth in § 6-300 (Flood plain District) of Article VI (Special and Overlay Zones) of the Zoning Ordinance. *

C - 4 Provide additional improvements to adjust lighting levels if the site does not comply with § 13-1-3 of the City Code, to the satisfaction of the Director of T&ES to comply with the Code. *

C - 5 The location of customer utility services and installing transmission, distribution, and main lines in the public rights-of-way by any public service company shall be governed by franchise agreement with the City per Title 5, Ch. 3, § 5-3-2 and § 5-3-3, respectively. The transformers, switch gears, and boxes shall be outside of the public right-of-way.

a. All new customer utility services, extensions of existing customer utility services, and existing overhead customer utility services supplied by any existing overhead facilities must be installed underground below the surface of the ground unless exempted by City Code § 5-3-2, to the satisfaction of the Director of T&ES. *, ****
b. Install all new installation or relocation of poles, towers, wires, lines, cables, conduits, pipes, mains, and appurtenances used or intended to transmit or distribute any service (electric current, telephone, telegraph, cable television, traffic control, fire alarm, police communication, gas, water, steam, or petroleum) whether or not on streets, alleys, or other public places of the City must be installed underground or below the surface of bridges and

elevated highways unless exempted by City Code § 5-3-3, to the satisfaction of the Director of T&ES. *, ****

C - 6 Discharge flow from downspouts, foundation drains, and sump pumps to the storm sewer per the requirements of Memorandum to Industry 05-14. Pipe discharges from downspouts and sump pump to the storm sewer outfall, where applicable after treating for water quality per Article XIII of the Zoning Ordinance. *, ****

C - 7 Provide a total turning radius of 25-feet and show turning movements of standard vehicles in the parking lot per the latest AASHTO vehicular guidance per the requirements of Title 4, Ch. 2, Article B, § 4-2-21, Appendix A, § A 106(6), Figure A 106.1 Minimum Standards for Emergency Vehicle Access to the satisfaction of the Directors of T&ES, Office of Building, and Fire Code Administration. *

C - 8 Provide storage space for both trash and recycling materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines" to the satisfaction of the Director of Transportation & Environmental Services. Show the turning movements of the collection trucks, minimizing the need to reverse to perform trash or recycling collection. The City's storage space guidelines are at: https://www.alexandriava.gov/ResourceRecovery or by contacting the City's Resource Recovery Division at 703.746.4410 or commercialrecycling@alexandriava.gov. *

C - 9 Include a note on the Final Site Plan that mandates delivering all solid waste, as defined by the City Charter and Code of the City of Alexandria, to the Covanta Energy Waste Facility located at 5301 Eisenhower Avenue. Stipulate in any future lease or property sales agreement that all tenants and/or property owners shall also comply with this requirement. *

C - 10 Submit a Recycling Implementation Plan to the Solid Waste Division, as outlined in Article H of Title 5 prior to Final Site Plan release. The form is available at: https://www.alexandriava.gov/resourcerecovery or contact the Resource Recovery Division at 703.746.4410 or commercialrecycling@alexandriava.gov. *

C - 11 Satisfy the City's Minimum Standards for Private Streets and Alleys prior to Final Site Plan Release. *

C - 12 Post the bond for the public improvements before Final Site Plan release. *

C - 13 Provide plans and profiles of utilities and roads in public easements and/or public right-of-way for review and approval prior to Final Site Plan release. *

C - 14 Provide a phased erosion and sediment control plan consistent with the grading and construction plan prior to Final Site Plan release. *

C - 15 Provide as-built sewer data with the final as-built process per the Memorandum to Industry, dated July 20, 2005, prior to release of the Performance Bond. Prepare initial site survey work and plans

using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Reference the control points/benchmarks used to establish these coordinates. ****

C - 16 Design the thickness of sub-base, base, and wearing course using "California Method" as set forth on page 3-76 of the second edition of a book entitled, "Data Book for Civil Engineers, Volume One, Design" written by Elwyn E. Seelye. Determine the values of California Bearing Ratios used in the design by field and/or laboratory tests. Using an alternate pavement section for Emergency Vehicle Easements to support H-20 loading designed using California Bearing Ratio determined through geotechnical investigation and using VDOT method (Vaswani Method) and standard material specifications is acceptable to the satisfaction of the Director of T&ES. *, ****

C - 17 Provide all pedestrian, traffic, and wayfinding signage per the Manual of Uniform Traffic Control Devices, latest edition to the satisfaction of the Director of T&ES. *

C - 18 No overhangs (decks, bays, columns, post, or other obstructions) shall protrude into public rights-of-ways, public easements, and the pedestrian or vehicular travel ways unless otherwise permitted by the City Code or additional City approvals are obtained. *

C - 19 Design all driveway entrances, curbing, etc. in or abutting public right-of-way per City standards. *

C - 20 All sanitary laterals and/or sewers not shown in the easements shall be owned and maintained privately.

C - 21 Comply with the City's Noise Control Code, Title 11, Ch. 5, which sets the maximum permissible noise level as measured at the property line.

C - 22 Comply with the City's Noise Control Code Title 11, Ch. 5, § 11-5-4(b)(15), which permits construction activities to occur during these hours:

i. Monday Through Friday from 7 AM to 6 PM
ii. Saturdays from 9 AM to 6 PM
iii. No construction activities allowed on Sundays and holidays

a. § 11-5-4(b)(19) further restricts pile driving to these hours:
   iv. Monday through Friday from 9 AM to 6 PM
   v. Saturdays from 10 AM to 4 PM
   vi. No pile driving is allowed Sundays and holidays
b. § 11-5-109 restricts excavating work in the right-of-way to:
   vii. Monday through Saturday 7 AM to 5 PM
   viii. No excavation in the right-of-way allowed on Sundays, New Year's Day, Independence Day, Thanksgiving, and Christmas.

C - 23 Comply with the stormwater pollutant load reduction, treatment of the Alexandria Water Quality Volume Default, and stormwater quantity management per Zoning Ordinance Article XIII. *

C - 24 Comply with the City's Erosion and Sediment Control Code, Title 5, Ch. 4. *

C - 25 Obtain all necessary permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and/or Virginia Marine Resources for all project construction and mitigation work prior to Final Site Plan release. This condition includes the state requirement for a state General VPDES Permit for Discharges of Stormwater from Construction Activities (general permit) and associated Stormwater Pollution Prevention Plan for land disturbing activities equal to or greater than one acre. Refer to the Memo to Industry 08-14: http://alexandriava.gov/tes/info/default.aspx?id=3522. *

C - 26 Provide a Stormwater Pollution Prevention Plan (SWPPP) Book with the Final Site Plan. The project's stormwater management (SWM) plan and the erosion and sediment control (E&SC) plan must be approved prior to the SWPPP being deemed approved and processed to receive coverage under the VPDES Construction General Permit. Upon approval, provide an electronic copy of the SWPPP Book with the Signature Set submission and a copy of the coverage letter must be added to the plan sheet containing the stormwater management calculations. Include an electronic copy of the SWPPP Binder Book in the released site plans and include a hardcopy of the SWPPP Binder Book with the on-site construction drawings. Separate parcel owners must seek separate VPDES Construction General Permit Coverage unless a blanket entity incorporated in Virginia has control of the entire project. *

F. Information Technology

R - 1. Coordinate with the GIS Division for address assignments at tenant fit-out for all first-floor bays with a street-facing door as their primary access. These uses may not use the primary building address for their address. Contact the Addressing Coordinator in the GIS Division 703.746.3823 for each new tenant to receive the address based on the primary entrance door.

G. Fire Department

C - 1 Show the location of Fire Department Connections prior to Final Site Plan release. *

R - 1. Consider letting the Alexandria Fire Department use buildings that will be razed for training exercises. The Fire Department will formulate conditions of use between the parties and provide a hold harmless agreement to the owner or their representative.

H. Health Department

C - 1 An Alexandria Health Department Permit is required for all regulated facilities. A permit shall be obtained prior to operation, and is not transferable between one individual, corporation or location to another. Permit application and fee are required.

C – 2 Construction plans shall be submitted to the Health Department located at 4480 King Street and through the Multi-Agency Permit Center. Plans shall be submitted and approved by the Health Department prior to construction. There is a $200.00 plan review fee payable to the City of Alexandria- fee must be paid separate from any other departmental fees.

C – 3 Construction plans shall comply with Alexandria City Code, Title 11, Chapter 2, The Food Safety Code of the City of Alexandria. Plans shall include a menu of food items to be offered for service at the facility and specification sheets for all equipment used in the facility, including the hot water heater.

C – 4 A Food Protection Manager shall be on-duty during all operating hours.

C – 5 The facility shall comply with the Virginia Indoor Clean Air Act and the Code of Alexandria, Title 11, Chapter 10, Smoking Prohibitions.

C – 6 In many cases, original wooden floors, ceilings and wall structures in historical structures may not be suitable for food service facilities. Wood materials shall be finished in a manner that is smooth, durable, easily-cleanable, and non-absorbent.

C – 7 Facilities engaging in the following processes may be required to submit a HACCP plan and/or obtain a variance: Smoking as a form of food preservation; curing/drying food; using food additives to render food not potentially-hazardous; vacuum packaging, cook-chill, or sous-vide; operating a molluscan shellfish life-support system; sprouting seeds or beans; and fermenting foods.

C – 8 Starting on 1/1/2023, The Virginia Department of Agriculture and Consumer Services (VDACS) is the point of contact for the following type of establishments: grocery stores, convenience stores, ice cream stores, wine shops, or bakeries. The divisions of Food Safety can offer further guidance. Please use the following contact information:
VDAC's Food Safety Program
804.786.3520
804.371.7792
foodsafety@vdacs.virginia.gov

I. Police Department

R - 1. Gate off the section of the underground garage dedicated to residents from the retail section. Control access by electronic means. This design helps prevent tampering with resident's vehicles and other crimes.

R - 2. Provide controlled access for doors in the garage (garage levels only) that lead to the stairwell. Controlled access must not interfere with the emergency push-bar release located on the inside of the stairwell.

R - 3. Plant shrubbery that achieves a natural growth height of no more than 2.5 to 3 feet with a maximum height of 3 feet when it matures to avoid obstructing the view of patrolling law enforcement officers.

R - 4. Equip all ground floor windows with a device or hardware that enables securing them in a partially open position. This design prevents breaking and entering when the windows are open for air.

R - 5. Install “door-viewers” (commonly known as peepholes) in all doors on the ground level that lead directly into an apartment to increase security for the occupant.

Asterisks denote:

* Condition must be fulfilled prior to release of the Final Site Plan
** Condition must be fulfilled prior to release of the building permit
*** Condition must be fulfilled prior to issuance of the Certificate of Occupancy
**** Condition must be fulfilled prior to release of the bond

APPLICATION

DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

DSUP # DSUP 2024-10009 Project Name: Robinson Terminal North

PROPERTY LOCATION: 500 & 501 N. Union Street

TAX MAP REFERENCE: 065.01-04-12 and 065.01-04-13 ZONE: W-1

APPLICANT:

Name: RTN East LLC and RTN West LLC

Address: [redacted]

PROPERTY OWNER:

Name: RTN East LLC and RTN West LLC

Address: [redacted]

SUMMARY OF PROPOSAL Residential and retail development with waterfront open space with an SUP for increased density per Zoning Ordinance Section 5-504(D)

MODIFICATIONS REQUESTED On West Bldg: 1) Side yard setbacks per Zoning Ordinance Section 5-506; 2) less crown coverage than required; and 3) tree spacing (Section 11-410).

SUP's REQUESTED Per Section 6-404, increase in height above 30' for the East Parcel in the Potomac River Vicinity Height District; Increase in elevator overrun height West Parcel to 20' per Section 6-403; and parking reduction for residential and retail/restaurant at the West Parcel

☑ THE UNDERSIGNED hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.

☑ THE UNDERSIGNED, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

☑ THE UNDERSIGNED also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Kenneth W. Wire, Wire Gill LLP — [signature]

Print Name of Applicant or Agent

[redacted]

Mailing/Street Address

[redacted] #

City and State Zip Code

[redacted] Email address

Nov. 1, 2024

Date

DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: Received Plans for Completeness:

Fee Paid and Date: Received Plans for Preliminary:

ACTION - PLANNING COMMISSION:

ACTION - CITY COUNCIL:

Development SUP # DSUP 2024-10009

ALL APPLICANTS MUST COMPLETE THIS FORM.

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

1. The applicant is: (check one)

(●) The Owner ( ) Contract Purchaser ( ) Lessee or ( ) Other: _____ of the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

[redacted]

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

X ( ) Yes. Provide proof of current City business license.

( ) No. The agent shall obtain a business license prior to filing application, if required by the City Code.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. See Disclosure Attachment.		
2.		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at 500 & 501 N. Union St. (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. See Disclosure Attachment.		
2.		
3.		

3. BusinessorFinancialRelationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1. See Disclosure Attachment.	None	None
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

Oct. 11 2024	Kenneth W. Wire, Wire Gill LLP	
Date	Printed Name	Signature

Disclosure Attachment

Owner and Applicant:

RTN East LLC and RTN West LLC
[redacted]

100% owned by Alexandria North Terminal LLC

100% owned by subsidiary entities

Greater than 3% owned by Kathleen C. Rooney, Trustee
c/o Rooney Properties
[redacted]0

2. Narrative description. The applicant shall describe below the nature of the request in detail so that the Planning Commission and City Council can understand the nature of the operation and the use, including such items as the nature of the activity, the number and type of patrons, the number of employees, the hours, how parking is to be provided for employees and patrons, and whether the use will generate any noise. If not appropriate to the request, delete pages 6-9. (Attach additional sheets if necessary.)

The Applicant seeks development of the last site along the Alexandria Waterfront. Specifically, the Applicant requests a residential and retail/restaurant development of approximately 75 units and ~10,000 SF of restaurant use in two buildings known as the East Parcel and West Parcel. There is also substantial waterfront open space that will be provided with the development. The development is largely consistent with the development guidance of both the Old Town North Plan and the Waterfront Plan. Substantial streetscape & bicycle improvements are planned along N. Union Street, signficantly increasing the walkability and access to the ARenew Plaza at N. Pendleton Street and the waterfront. A circular restaurant is planned on the east side of the East Parcel, facing the waterfront, which will serve as a point of visual interest as viewed from both the water and the adjacent open space. A DSUP, SUP, and Subdivision requests have been filed to further this development. The Applicant has met with BAR, UDAC, the Waterfront Commission and has held virtual community meetings.

3. How many patrons, clients, pupils and other such users do you expect? Specify time period (i.e., day, hour, or shift).

Typical for similarly-sized residential and restaurant development.

4. How many employees, staff and other personnel do you expect? Specify time period (i.e. day, hour, or shift).

Typical for similarly-sized residential and restaurant development.

5. Describe the proposed hours and days of operation of the proposed use:

Day	Hours	Day	Hours
7	24		

6. Describe any potential noise emanating from the proposed use:

A. Describe the noise levels anticipated from all mechanical equipment and patrons.

Typical for similarly-sized residential and restaurant development.

B. How will the noise from patrons be controlled?

City noise ordinance. There will also be building management staff.

7. Describe any potential odors emanating from the proposed use and plans to control them:

There may be odors from restaurants which will be mitigated.

8. Provide information regarding trash and litter generated by the use:

A. What type of trash and garbage will be generated by the use?

Typical residential and restaurant trash.

B. How much trash and garbage will be generated by the use?

Typical for similarly-sized residential and restaurant development.

C. How often will trash be collected?

1-2 times per week at minimum.

D. How will you prevent littering on the property, streets and nearby properties?

Waste receptacles, building maintenance staff and signs.

9. Will any hazardous materials, as defined by the state or federal government, be handled, stored, or generated on the property?

☐ Yes. ☑ No.

If yes, provide the name, monthly quantity, and specific disposal method below:

10. Will any organic compounds (for example: paint, ink, lacquer thinner, or cleaning or degreasing solvent) be handled, stored, or generated on the property?

☑ Yes. ☐ No.

If yes, provide the name, monthly quantity, and specific disposal method below:

Cleaning and building maintenance materials will be handled and stored on site.

11. What methods are proposed to ensure the safety of residents, employees and patrons?

Secure resident garage and building access measures such as key fob. Residents will also be separated from restaurant patrons through secured interior access points.

ALCOHOL SALES

12. Will the proposed use include the sale of beer, wine or mixed drinks?

☑ Yes. ☐ No.

If yes, describe alcohol sales below, including if the ABC license will include on-premises and/or off-premises sales. Existing uses must describe their existing alcohol sales and/or service and identify any proposed changes in that aspect of the operation.

The restaurants may seek sale of beer, wine or mixed drinks; however the restaurant operator has not been determined, so pursuit of an ABC license is premature at this time.

PARKING AND ACCESS REQUIREMENTS

13. Provide information regarding the availability of off-street parking:

A. How many parking spaces are required for the proposed use pursuant to section 8-200 (A) of the zoning ordinance?

See DSUP Coversheet.

B. How many parking spaces of each type are provided for the proposed use:

See DSUP Coversheet Standard spaces

Compact spaces

Handicapped accessible spaces

Other

C. Where is required parking located? (check one) [✔] on-site [ ] off-site

If the required parking will be located off-site, where will it be located?

_____

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the Parking Reduction Supplemental Application.

14. Provide information regarding loading and unloading facilities for the use:

A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance? 1

B. How many loading spaces are available for the use? 1

C. Where are off-street loading facilities located? Within the West Building

D. During what hours of the day do you expect loading/unloading operations to occur?

7 am - 10pm

E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?

Undetermined and will depend on restaurant operator. For residential units, loading will occur at initial unit sales and thereafter as units are sold.

15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?

Street access to the property is adequate and no new lanes or streets are needed to accommodate the development.

SUP # _____

APPLICATION - SUPPLEMENTAL

PARKING REDUCTION

Supplemental information to be completed by applicants requesting special use permit approval of a reduction in the required parking pursuant to section 8-100(A)(4) or (5).

1. Describe the requested parking reduction. (e.g. number of spaces, stacked parking, size, off-site location)

The Applicant requests a parking reduction of 4 residential spaces and 12 restaurant/commercial spaces for West Building restaurant. The 12 restaurant/commercial space reduction is temporary while the East building and garage is under construction. See DSUP Plans.

2. Provide a statement of justification for the proposed parking reduction.

The Applicant requests a parking reduction of 4 residential and 12 required restaurant/commercial parking spaces within the West Building. The 12 space restaurant/commercial reduction is temporary while the East building and garage is under construction. The Applicant is not able to build underground parking due to prior uses of the site, and is limited to providing above grade parking. There is adequate street parking and it is envisioned the West Building restaurant will be frequented by pedestrians and bicyclists due to adjacency to the trail and sidewalk network.

3. Why is it not feasible to provide the required parking?

The Applicant cannot build underground parking on the West Building due to existing site constraints related to prior use of the site.

4. Will the proposed reduction reduce the number of available parking spaces below the number of existing parking spaces?

_____ Yes. ___✔___ No.

5. If the requested reduction is for more than five parking spaces, the applicant must submit a *Parking Management Plan* which identifies the location and number of parking spaces both on-site and off-site, the availability of on-street parking, any proposed methods of mitigating negative affects of the parking reduction.

6. The applicant must also demonstrate that the reduction in parking will not have a negative impact on the surrounding neighborhood.

Waterfront Commission and
Park & Recreation Commission

Department of Recreation, Parks & Cultural Activities
1108 Jefferson Street
Alexandria VA 22311

May 21, 2025

To: The Honorable Mayor and Members of City Council

Re: Joint Letter on Robinson Terminal North (RTN) Development Proposal

We write to share recommendations from both the Waterfront Commission and the Park and Recreation Commission on the development of the Robinson Terminal North (RTN) site. Attached also is a more detailed report developed by the Waterfront Commission Subcommittee on this project.

RTN is one of the last remaining waterfront development sites in Alexandria. The process to bring the development to this point has taken many years and considerable planning, and the Commissions commend the progress made. It is imperative to learn from the lessons of past developments along the waterfront and incorporate these lessons into RTN. We recognize that waterfront property in Alexandria is a scarce resource and important for both the enjoyment and economic needs of the city, residents and visitors. We strongly encourage the City to work with the developer to maximize the public amenity space on the site, develop a plan for providing near-term public access to the water, and visibly recognize the historic nature of the site.

Several points are paramount to the success of RTN, consistent with the Waterfront Small Area Plan Development Goals and Guidelines:

- Designing and maintaining a continuous waterfront pedestrian promenade has long been a tenant of Alexandria's waterfront improvement efforts. The complexity and cost of the development has the potential to lead the developer to complete the work in two phases (West and East) with a lengthy delay in construction possible between the two phases. The project is expected to start with the West building. If there is a delay in start of construction of the East portion of the development, the City should require the developer to complete a public access path along the riverfront as soon as the developer is aware of its need for delays. It could be an extended period for the second (East) phase to be completed and leaving the waterfront access unavailable during this period is not acceptable.

- The site is contiguous to a large, dilapidated and complex pier. The pier is owned by the current owner of the site. We are pleased that the developer's demolition plan calls for cutting the pilings to a level close to the riverbed to allow for and protect waterborne traffic. We understand this work will begin in early summer 2025. The City should work towards replacing the pier and/or make improvements to the shoreline to enable use by pedestrians and boats or a floating dock (for kayaks, paddleboards or other non-motorized vehicles). This

enhancement would help accomplish the long-term vision of the Waterfront Plan to provide multiple water access points to Alexandria.

- The Commissions discussed at great length the optimal ownership of the public access areas of RTN. Ultimately, the Commission supports having the area that is contiguous to the river, including a walking path, owned by the City. Ongoing, daily maintenance would be the responsibility of the condominium residents and major capital improvements to be the responsibility of the City. The Commission saw merits to the City in having the Condominium owners retain ownership and full maintenance responsibilities with public access and authority given to the City for future development of the riverfront including a dock and access points. But ultimately it is decided that the City's ownership of the land along the river is in the public's best interest.

- The Commissions support construction of up to five pavilions with supporting infrastructure on the unit block of Oronoco Street and in the public access areas of the development to allow for publicly accessible areas for shade and for small gathering spaces. We request ongoing updates and consultation on the planned amenities and activation in the public access spaces in the development so that we may provide additional feedback.

- Finally, we urge the City and the developers to consider ways to visibly recognize the historic nature of the site through appropriate signage or art installations that would serve as a reminder of the vibrant past and present of this unique Alexandria space.

Thank you for the opportunity to review plans for this site and provide feedback to City Council. The two Commissions welcome further opportunities to review development plans as they are refined and finalized.

Sincerely,

Lebaron K Reid
Lebaron Reid, Chair
Alexandria Waterfront Commission

Dana R. Colarulli
Dana Robert Colarulli, Chair
Park & Recreation Commission

Janice M. Abraham
Jan Abraham, Chair
Robinson Terminal North Subcommittee

Attachment:

Report of Waterfront Commission Subcommittee on Robinson Terminal North Development

Report of Waterfront Commission Subcommittee on Robinson Terminal North Development

The Subcommittee, which was chaired by Jan Abraham and included Sydney Smith, David Robbins, Louise Roseman, and William Vesilind, met on October 8 and 16, 2024, and January 29 and May 14, 2025 to review the proposed Robinson Terminal North Development. The discussion focused on adherence to Waterfront Small Area Plan Development Goals and Development Guidelines for the RTN site. The meetings were announced and open to the public. Representative City staff attended the meetings.

Development Goals

1. **Employ a land use mix and design which invites the public and encourages activity within the proposed development in the adjacent public spaces.**

   The proposed development plan achieves land use mix.

2. **Provide extensive public amenities and free access to and along the water's edge.**

   Free access to and along the water's edge is achieved. The Commission requests ongoing engagement and consultation on the yet-to-be-designed public amenities. The Commission strongly encourages extensive interactive amenities (e.g., game tables, places for music concerts, exercise classes, and other public events). Bryant Park in New York City can be a model of a public space with high interactive amenities and engagement by the public. Chicago has also invested heavily in enhancing and supporting the waterfront as a community asset, notably with The Wild Mile, which is an example of a public-private partnership that enhances urban living.

   Although the intent of the developer is to have the two phases (East and West of Union St.) be developed sequentially and as a continuous construction project, external and financial factors could delay construction of the East portion. The Commission strongly recommends, as a condition of DSUP, that if the construction of the East portion is delayed, the public riverfront path be completed as soon as the delay of the East project is identified by the developer and the City. This would allow continuous riverfront access throughout the City, if for some reason the East portion of the project is delayed.

   To support public activation of the site, the Commission encourages utilities and other supporting infrastructure, including water fountains, electricity, and generator support, be installed in the public access area and up to five pavilions be constructed and located in the unit block of Oronoco and in the public access area of the development.

   Public restrooms are planned for the West building. We believe these restrooms are an important element of the planned development and should be a condition of the DSUP.

The on-site restrooms should be publicly available 7 days a week, 365 days per year, from 7 am – 10 pm.

3. **Improve access by extending Pendleton Street as a pedestrian connection to an improved public pier.**

   Pedestrian connection to the waterfront via Pendleton Street and Oronoco St. is achieved. No public pier is included in the proposed development and the current pier will be removed by the developer due to lack of structural integrity. The Commission encourages the City to retain the flexibility to build a public pier at Robinson Terminal North in the future to provide water access to the site for kayakers, paddle boarders, and boats. We believe amenities, either a fixed pier or a floating dock, should exist to encourage public access via the river.

   The Waterfront Commission believes the park should be accessible to visitors who arrive from the river in various modalities. Robinson Terminal North is a historical deep-water port and a key connection between Alexandria and the river. Access from/to the river is also a key component of the Waterfront Plan. The current Robinson Terminal North development plan provides no access for visiting kayakers, paddle boarders or boaters. Access to Robinson Landing by boat, kayak and paddleboard has proven to be a huge success that both provides revenue to the City through docking fees, as well as public "parking" to access retail, restaurants, and adjacent parks.

4. **Pay homage to historic West's Point through public space design and interpretive features.**

   The Commission has not yet seen the public space design and interpretive features paying homage to West's Point. The Commission requests an update on the plans before they go to the City for approval.

5. **Maintain a building scale compatible with existing fabric to the south and west.**

   The proposed development is compatible in scale.

6. **Maximize water views from buildings, streets and rooftop open spaces.**

   Many portions of the development have water views, which are primarily accessible to residents, such as from many of the condominium units and from the building rooftops. Residents will have access to water views from the West Building and restaurant patrons will have water views from the West and East Building restaurants. The public will have views and access to the water from the areas along the waterfront.

Development Guidelines

1. **Active uses should be part of any development and should constitute the predominant ground floor uses.**

   Two ground-floor restaurants are included in the West building and one ground-floor restaurant is included in the East building. Most of the ground floor space in the East building is devoted to residential units.

2. **Preferred use on the site is mixed use, emphasizing arts, history and culture (including a museum) and including vibrant commercial uses (such as hotel).**

   The proposed use of the site does not emphasize arts, history, and culture. Three restaurants on site support vibrant commercial use. The Waterfront Commission has been an advocate for a high level of activation for portions of the waterfront and encourages the plans to include appropriate infrastructure (electricity, plumbing etc.) to allow for active use of the public space, including the adjacent AlexRenew site, the football-shaped site on the southeast portion of the public space and up to five pavilions to provide sun protection and casual gathering spaces. The Commission requests updates on the plans as they are further developed.

3. **Residential use and design should be compatible with a high level of public activity and located away from the water.**

   The design currently has residential units in the East building on the ground floor and in close proximity to the area of public activity. There should be a requirement that the residential units have robust soundproofing to minimize noise complaints.

4. **Residential use should not be the primary use of the site. The location, design and specific type of residential use proposed must coexist well with the other planned uses on the site and planned public activity in the public spaces adjacent to the residential development. Ground floor residential units are not permitted.**

   This guideline is not met. While the development plan includes three restaurants, residential use is the primary use of the site. The East building has ground floor residential units. The Commission is concerned with the interface between the public activation of the area and the highly priced residential condominium units with special attention on the ground floor condominium units. The Commission encourages sound insultation, privacy screens and triple-pane windows for ground-floor condominium units as well as full disclosure for all residents in condominium documents, describing the public access to the surrounding areas.

5. **The streetscape and pedestrian experience along North Union Street should be enhanced; in addition to undergrounding utilities, providing street trees and appropriate light fixtures.**

This guideline appears to be met. Union St will have areas for ride share drop offs and quick delivery of people and things to access the two residential buildings, East and West.

6. **Historic interpretation, consistent with the recommendations of the History Plan, should inform every aspect of the redevelopment and adjacent public spaces, with particular attention given to the West's Point site which is the area which extends from the water west up Oronoco Street to Union Street and represents the origins of Alexandria.**

   We encourage implementation of this guideline but have not seen the developer's plans in this regard. The Commission requests updates on the plans as they are developed.

7. **Encourage modern design inspired by historic precedent while maintaining compatibility with the nearby residential neighborhoods and ensuring compliance with the Potomac River Vicinity Height District regulations.**

   This guideline appears to be met.

8. **Redevelopment proposals shall require review on an advisory basis by the Old and Historic District Board Architectural Review prior to being considered by the Planning Commission and City Council prior to approval.**

   This guideline has been met.

9. **Parking for new buildings should be accommodated on site and below grade. Although the Plan anticipates low parking ratios, the applied ratio must be consistent with industry norms for similar hotels.**

   Parking for East building is below grade, but building constraints require parking for the West building to be at grade. The current plan does not include a hotel. The Commission does not believe that 12 public parking spaces are adequate for the three restaurants and guests of residents in the condominium units.

10. **The bulk and scale of the buildings should be stepped down from Union Street toward the water.**

    This guideline appears to be met; the East building is a smaller bulk and scale than the West building.

11. **Curb cuts should not be located on any building and/or block frontages facing the water or North Union Street, and should be minimized if facing open space along Oronoco Street.**

    There are two curb cuts at the development, one facing Pendleton Street for deliveries, trash collection and parking for the West building and one facing North Union Street for deliveries and the underground parking garage in the East building.

The Commission suggests that trash removal and deliveries, particularly supporting the East building 35 condominium units and a full-service restaurant, be further studied as the amount of activity for deliveries and trash will be considerable and the practicality of using smaller vans for trash collection and delivery is questionable. Much more frequent trash collection than specified in the DSUP application is encouraged.

12. **Shoreline treatment at Robinson Terminal North should include native plantings and naturalization where possible.**

    The Commission does not have information regarding the landscape design and requests further updates as the plans are developed. The Commission supports ensuring that nothing is done during or after development that will hinder stabilization of the shore line.

13. **Redevelopment should be compatible with any biosparging technology, or other bioremediation being employed by the City in treatment of the Oronoco Outfall-Alexandria Town Gas site located at the eastern end of Oronoco Street.**

    City staff confirmed these requirements have been met.

14. **As part of the redevelopment, on and off-site public amenities shall be provided by the developer of the site. The specific amenities to be provided will be determined during the development review process. Desirable public amenities include:**
    - **Public art**
    - **Open spaces with public access easements**
    - **Retention of the Robinson Terminal pier**
    - **Environmental amenities above and beyond minimum required**

    Public art. The Commission is very supportive of public art on this site but has not yet seen the proposed art. We request that the Commission be updated as the plans are developed.

    Open spaces with public access easements. The Commission strongly recommends that the RTN condominium association retain ownership of and maintenance/upkeep responsibilities for the public space (excluding the AlexRenew portion of the site), subject to a public access easement. The Commission believes this model of ownership will provide the highest level of maintenance and upkeep to this important public area and has been successfully adopted elsewhere along the waterfront, such as Harborside's ownership of and responsibility to maintain Shipyard Park including the shoreline.

    The open space development plans should be coordinated with the contiguous AlexRenew space which while under separate ownership will flow naturally from the visitors' perspective.

Retention of the Robinson Terminal pier. The Commission recognizes the financial challenges of rebuilding the pier/dock at this time but strongly encourages the City to work towards replacing the pier in the near future with either another fixed pier for use by pedestrians and boats or a floating kayak/dinghy/paddleboard/dock. This enhancement would help accomplish the long-term vision of the Waterfront Plan with multiple water access points to Alexandria.

The Commission is pleased that the developer has assumed responsibility to remove the existing pier, including the pilings (to a level at or slightly above the river bed), and believes it is essential that it be done in an environmentally sensitive way. We also encourage the City begin the planning process for a replacement recreational, aesthetically pleasing shore line. The photo below illustrates the scale and complexity of the current dock with the numerous pilings supporting the pier. The Commission strongly recommends that nothing be done in the development of the RTN that would preclude long-term development of the waterfront for a future dock/pier. The Commission needs clarity on the future plans for the pier/dock and while this process evolves.

Environmental amenities. The Commission encourages the inclusion of one or more water fountains in the public space, consistent with City standards. Also, the Commission supports the removal of the railroad tracks on the street to support safer bike traffic. Special attention to the bike trail to road intersection is needed for safety of pedestrians and bikers, focusing on the corner of Pendelton and Union Streets.

The Commission encourages additional amenities, such as pavilions with utilities, games and recreational amenities on the public access area including a fire pit, lawn games, seating to watch the river and an area for small musical performances.

15. The maximum FAR and floor area allowed is included on the chart.

City staff confirm this condition has been met.

Signature: Lebaron Reid (May 22, 2025 13:21 EDT)

Signature: Dana Colarulli (May 22, 2025 14:22 EDT)

Signature: Janice M. Abraham (May 22, 2025 14:32 EDT)

Planning Commission

4 June 2025

Item 10 - Development Special Use Permit #2024-10009
500 and 501 North Union Street - **Robinson Terminal North**

Comments by **NOTICe** - North Old Town Independent Civic Association
Melissa Kuennen, VP

The Robinson Terminal North parcel is the last remaining property on the city of Alexandria's waterfront to be developed, and its design must reflect the high standards the city has set for public access to the Potomac River waterfront. The project will ultimately connect Oronoco Bay Park to Founders Park with its own waterfront park, which in turn will provide the final connection of public access to the waterfront from **Jones Point** to **Daingerfield Island**. This connection has been planned by the City for over 30 years.

We understand that the applicant has indicated they may divide the project into 2 phases –

- with the West Building of **Phase 1** to be completed by RTN West LLC, and
- with the East Building, underground parking, and a waterfront park in **Phase 2** (RTN East LLC) happening in "a few years" *(as stated in the Supplemental Application for Parking Reduction)*,
- which will leave the **Old Town North neighborhood** with an **unfinished parcel**, and **no guarantee of completion of the park.**

We request that once the **River Renew Plaza** is turned over to the applicant - expected in October 2025 - that the remaining construction site immediately be developed **with approval of the DSUP**, prior to construction of the West Building, to create a safe pedestrian connection between Oronoco Bay Park and Founders Park.

● the existing concrete slab (as shown) be removed,
● the site graded with appropriate planting fill and planted with grass,
● a landscaped public walkway be created, similar to the walking paths in Oronoco Bay Park, that connects to River Renew Plaza, and
● appropriate (down-lighted) sidewalk lighting be installed for the length of the path.

The design of this temporary park is to meet the design expectations of the City for a safe, landscaped public path to be utilized by residents and visitors to the city for an undefined amount of time.

The temporary public waterfront park is to be maintained by the owner until RTN East LLC, returns to complete the full design.

Should, for any reason, the applicant not return to complete the East parcel the city will not have to invest significant funds to complete the design of the park.

The design is to be reviewed and approved by the **Old Town North community** as well as **UDAC**, the **Waterfront Commission, the Planning Commission and City Council.**

May 7, 2025

Catherine Miliaras
Principal Planner, Development - Old Town and Old Town North
Planning & Zoning Department
City of Alexandria
301 King Street, Room 2100
Alexandria, VA 22314

catherine.miliaras@alexandriava.gov

Re: Robinson Terminal North

Dear Catherine,

The Robinson Terminal North parcel is the last remaining property on the city's waterfront to be developed and its design must reflect the high standards the city has set for access to the Potomac River. The project as a whole will ultimately connect Oronoco Park to Founders Park with its own waterfront park, which in turn will provide the final connection of public access to the waterfront from Jones Point to Daingerfield Island. This connection has been planned by the City for over 30 years.

We understand that the developer, Rooney Partners, has decided to divide the project into 2 phases - with Phase 1 to be completed by RTN West LLC, and with Phase 2 (RTN East LLC) happening "in several years" - leaving the Old Town North neighborhood with an unfinished parcel, and no guarantee of completion of the park.

We request that once the River Renew Plaza is turned over to the owners - expected in October of this year - that the remaining construction site be developed as follows right away to create a safe pedestrian connection between Oronoco Park and Founders Park.

- the existing concrete slab be removed,
- the site graded with appropriate planting fill and planted with grass,
- a landscaped public walkway be created, similar to the walking paths in Oronoco Bay Park, and
- appropriate (down-lighted) sidewalk lighting be installed.

The waterfront park is to be maintained until Rooney Partners, as RTN East LLC, returns to complete the full design. The design of this temporary park is to meet the expectations of the City for a landscaped public path to be utilized by residents and visitors to the city. The design is to be reviewed and approved by UDAC, the Waterfront Commission, the Planning Commission and City Council.

We look forward to the successful completion of both phases of Robinson Terminal North in a timely manner.

Sincerely,

The Board of Directors of NOTICe

Mary C Harris, President

Melissa B Kuennen Vice President

Marsha Smith, Secretary

Peggy Marchbanks, Treasurer

Margaret Townsend, At Large Member

(adopted May 7, 2025)

UPDATED RISK ASSESSMENT REPORT ADDENDUM (ADDRESSING RESIDENTIAL RISK)

FORMER ROBINSON TERMINAL NORTH PROPERTY
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VIRGINIA

VDEQ VRP# 00673
VDEQ PC# 2016-3090

Prepared for:

Commonwealth of Virginia Department of Environmental Quality
Northern Regional Office: Petroleum Remediation
13901 Crown Court
Woodbridge, Virginia 22193
(703) 583-3800

and

Office of Remediation Programs
629 East Main Street
Richmond, Virginia 23219
(804) 698-4021

On Behalf of:

Alexandria North Terminal, LLC
c/o Rooney Properties
3330 Washington Boulevard, Suite 220
Arlington, Virginia 22201
(571) 297-4833

Prepared by:

ENVECO Environmental Solutions, LLC
103 Manor Lake Estates Drive
Spring, Texas 77379-3722
(713) 429-0779

ENVECO Project No. 202416

June 14, 2024

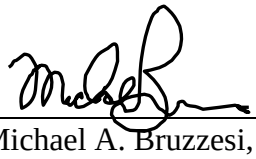
SIGNATURE SHEET

This *Updated Risk Assessment Report Addendum* (URARA) for the Former Robinson Terminal North property located at 500 and 501 North Union Street in Alexandria, Virginia, was prepared by:

June 14, 2024

Clifford A. Opdyke, PhD Date
Senior Risk Assessor

The URARA was reviewed and approved for release by:



June 14, 2024

Michael A. Bruzzesi, CPG Date
Project Manager/Senior Geologist
VA CPG No. 2801 001428

TABLE OF CONTENTS

FIGURES

TABLES

ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AlexRenew	Alexandria Renew Enterprises
A-Zone	A-Zone Environmental Services, LLC
CAP	Corrective Action Plan
COPC	constituents of potential concern
CSM	Conceptual Site Model
ENVECO	ENVECO Environmental Solutions, LLC
EPA	United States Environmental Protection Agency
ICOR	ICOR, Ltd.
IM	Implementation Monitoring
mg/kg	milligram per kilogram
PCB	polychlorinated biphenyls
PC#	Pollution Compliant Number
PID	photo-ionization detector
PSCM	Post Site Characterization Monitoring
PSCMR	Post Site Characterization Monitoring Report
PSTP	Petroleum Storage Tank Program
PVC	polyvinyl chloride
RA	Risk Assessment
RAR	Risk Assessment Report
SCR	Site Characterization Report
SCS	Site Characterization Study
SVOC	semi-VOC
TAL	Target Analyte List
TCLP	Toxic Characteristic Leaching Procedure
TPH	total petroleum hydrocarbons
TPH-DRO	diesel range TPH
TPH-GRO	gasoline range TPH
URAR	Updated Risk Assessment Report
URARA	Updated Risk Assessment Report Addendum
UST	underground storage tank
VDEQ	Commonwealth of Virginia Department of Environmental Quality
VI	vapor intrusion
VOC	volatile organic compound
VOV	volatile organic vapors
VURAM	Virginia Unified Risk Assessment Model
VRP	Voluntary Remediation Program

1.0 INTRODUCTION

This *Updated Risk Assessment Report Addendum* (URARA) was prepared by ENVECO Environmental Solutions, LLC (ENVECO) for the Former Robinson Terminal North property (herein referred to as the SITE) located at 500 and 501 North Union Street in Alexandria, Virginia. The URARA supplements the *Update Risk Assessment Report* (URAR) prepared for the SITE by A-Zone Environmental Services, LLC (A-Zone) dated March 26, 2021. The URAR was submitted to and accepted by the Virginia Department of Environmental Quality (VDEQ) Petroleum Storage Tank Program and Voluntary Remediation Program. This URARA addresses potential risks to future residential site users from affected soil, groundwater, and surface water documented at the SITE. The URAR only addressed risks associated with current commercial use.

The SITE is currently being considered for mixed use development to include residential, retail, and commercial. Of note, for the last several years a large stormwater infrastructure/utility project associated with Alexandria Renew Enterprises (AlexRenew) has been underway on the 501 North Union Street parcel (501 Parcel). The AlexRenew project is expected to be completed in early 2025, after which, mixed use development is planned. Anticipated development includes multi-story residential buildings on the 500 North Union Street parcel (500 Parcel) and 501 Parcel. The ground-level floors of both buildings will be used for restaurant and retail purposes. The 501 Parcel is anticipated to include at least one subsurface parking level.

The URARA was prepared in accordance with current Virginia Unified Risk Assessment Model – VURAM User Guide (VURAM, Version 3.2.2) guidelines. The URARA includes an updated Conceptual Site Model (CSM) and addresses potential risks to future residential site users from affected soil and groundwater, in a residential land use scenario.

2.0 BACKGROUND

The SITE is comprised of two parcels, the 500 and 501 Parcels, separated by North Union Street. The SITE is in a mixed commercial and residential land use area. The 500 Parcel is currently improved with a warehouse, paved parking lot, and landscaping. The warehouse is currently occupied by a restaurant supply company and is used for storage of equipment and supplies for a construction company. At the time the URAR was prepared, the 501 Parcel was improved with a warehouse, paved parking lot, dock (pier), and landscaping. Since that time, the warehouse was demolished and construction of the AlexRenew project started. The warehouse slab was left in place and the vast majority of AlexRenew construction focuses on the northern portion of the 501 Parcel. The remaining portions of the parcel are used for equipment and materials storage. As part of construction, a sheet pile wall was installed to extend the northern shoreline and mass excavation was conducted to install deep stormwater conveyance piping and infrastructure.

After the AlexRenew project is completed, the 500 and 501 Parcels will be developed. Anticipated development includes multi-story residential buildings on both parcels. The ground-level floors of both buildings will be used for restaurant and retail purposes. The 501 Parcel is anticipated to include at least one subsurface parking level.

Based on the findings of historical environmental assessments, soil and groundwater beneath the SITE have been impacted by the past use of the SITE for bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and warehouse operations. Contributions to impacts from adjacent and nearby properties used in the past for fertilizer storage, city gas works, chemical manufacturing and mixing, and bulk oil storage are also suspected. Constituents of potential concern (COPC) identified at elevated concentrations in soil, groundwater, and soil gas at the SITE include gasoline and diesel range total petroleum hydrocarbons (TPH-GRO and TPH-DRO, respectively), volatile organic compounds (VOCs), semi-VOCs (SVOCs), and metals.

In 2016, the SITE was assigned Pollution Compliant number (PC#) 2016-3090 by the VDEQ PSTP to address a suspect release of petroleum from past storage tanks. When the SITE was assigned the PC#, the VDEQ mandated that a Site Characterization Study (SCS) be conducted to address the suspect release. The SITE was also entered into the VDEQ's VRP in 2016 and was assigned VRP number 00673. The SITE was entered into the VRP to address non-petroleum impacts, which are not typically addressed through the VDEQ's PSTP. The SCS was completed in February 2017 and a *Site Characterization Report* (SCR) was submitted to the VDEQ in August 2017. The VDEQ accepted the findings of the SCS in September 2017. Based on their review of the SCS, the VDEQ mandated further groundwater monitoring as part of a Post-Site Characterization Monitoring (PSCM) program. At that time, several new groundwater monitoring wells were installed, and groundwater samples were collected for laboratory analysis on two occasions as part of the program. The findings of each sampling event were reported to the VDEQ. Based on the findings of PSCM events, the VDEQ mandated that a Corrective Action Plan (CAP) be prepared for the SITE to address identified petroleum impacts to soil and groundwater. A CAP was submitted to the VDEQ in January 2019 and granted approval in May 2019. The CAP detailed corrective actions and engineering and institutional controls proposed to address the petroleum impacts. The SCS was conducted, and the SCR and CAP were prepared to satisfy PSTP and VRP SCS and SCR and PSTP CAP requirements.

As part of the CAP approval, the VDEQ requested that semi-annual groundwater sampling of the groundwater monitoring well network be initiated in July 2019 and be continued every 6 months until the start of SITE development. The Implementation Monitoring (IM) activities were conducted in conformance with a VDEQ-approved SCS Work Plan (WP) prepared by ICOR, Ltd. (dated April 1, 2016) and two PSCM events conducted in January and June 2018. The PSCM activities were conducted to further evaluate the type, degree, and extent of soil and groundwater impacts and to further evaluate general risks posed by the impacts to current and future site users. The findings of the SCS and follow-up PSCM were used to develop a remedial approach (in the form of a CAP) that allows for successful development of the SITE and minimization of risks to human health and the environment.

The history of the SITE and detailed discussion of the SCS activities and findings were provided in the SCR. The corrective actions and engineering and institutional controls proposed to address the identified impacts were presented in the CAP.

In general, the historical groundwater sampling results indicate concentrations of target constituents have decreased or remained relatively stable over the years sampled (with little variations between time of year).

This URARA addresses potential risks to future residential site users from affected soil, groundwater, and surface water documented at the SITE. The URAR only addressed risks associated with current commercial use.

3.0 SITE DESCRIPTION

The SITE is located at 500 and 501 North Union Street in Alexandria, Virginia, at the intersection of Oronoco Street and North Union Street. The 500 and 501 Parcels which comprise the SITE are separated by North Union Street. The two parcels encompass approximately 3.2 acres of land. In past reports, the parcel addresses have also been listed as 1 and 101 Oronoco Street (corresponding to the 500 and 501 Parcels, respectively). A site location map is included as Figure 1. The SITE is situated in a mixed commercial and residential land use area. Adjacent property use is depicted on the aerial photograph included as Figure 2.

The 500 Parcel is currently improved with one 1-story, slab-on-grade brick, concrete, and steel warehouse, asphalt and concrete-paved parking area, and landscaping. The 501 Parcel is currently improved with gravel, asphalt, and concrete-paved areas and a large concrete dock (pier). The warehouse located at the 500 Parcel and is referred to as Warehouse #16. Warehouse #16 is currently occupied by a restaurant supply company and is used for storage of equipment and supplies for a construction company. A vacant warehouse was formerly located at the 501 Parcel along with a small shed and railroad spur. The warehouse (referred to as Warehouse #10, #11, and #12) and shed were demolished and removed as part of the AlexRenew project. The thick concrete building slab was left in place. The railroad spur was covered by gravel to create a driveway. Both warehouses were constructed in 1966. The vast majority of AlexRenew construction focuses on the northern portion of the 501 Parcel. The remaining portions of the parcel are used for equipment and materials storage. As part of construction, a sheet pile wall was installed to extend the northern shoreline and mass excavation was conducted to install deep stormwater conveyance piping and infrastructure. A site plan depicting existing conditions is included as Figure 3.

Three diesel underground storage tanks (USTs) were formerly buried on the northeastern portion of the 501 Parcel. The USTs were used to store and dispense diesel fuel via two dispensers located on the east-central portion of the 501 Parcel (next to the small woodshed). The tanks were removed in 2016. The former tank locations are depicted on Figure 3.

Topography at SITE is relatively flat. The SITE is bound to the north by Pendleton Street and railroad tracks across which is Oronoco Bay Park and Oronoco Bay, to the east and northeast by the Potomac River, to the south by Oronoco Street across which is Founders Park and a residential building, and to the west by Dalton Wharf Office Center and North Union Street.

4.0 SAMPLING METHODOLOGY AND ANALYSIS

Site sampling methodology and analytical methods can be found in the SCR, PSCM reports, and CAP IM reports. The sampling methods used were consistent with those recommended and

approved by the VDEQ. A broad overview is presented in this URARA along with historical sampling locations (i.e., soil, groundwater, and soil gas).

During historical assessment events, soil samples were collected using mobile drill rigs and direct-push sampling rigs. When a mobile drill rig was used, soil samples were collected at specified intervals using split-spoon samplers. When a direct-push rig was used, soil samples were collected continuously using acetate-lined barrel samplers. The soil samples were collected for lithologic characterization, visual inspection, field screening, and potential laboratory analysis. Field screening was conducted using a photo-ionization detector (PID). Field screening was performed to check for the presence of volatile organic vapors (VOVs). Observations and field screening readings were recorded on boring logs.

Soil samples were collected for laboratory analysis from the surface (upper 1.5 feet of soil underlying bare site surface, concrete floor slabs, or pavement) and subsurface. The samples were collected from soil intervals exhibiting the highest degree of impact. Samples were also collected from depths suspected of being impacted based on the findings of a real-time assessment. The real-time assessment was performed using a direct-push rig fitted with downhole sensors that measured contaminant concentrations, soil resistivity, and hydraulic conditions. The samples were also collected to provide good spatial coverage of the SITE and to delineate the vertical extent of impacts. Most of the soil samples were grab samples; however, some of the early soil samples obtained are considered composite samples based on a large sample interval.

Soil samples were analyzed for some or all of the following: TPH-GRO and TPH-DRO using EPA Method 8015C, Target Compound List (TCL) VOCs using EPA Method 8260B (more recently using TerraCore® samplers), TCL SVOCs using EPA Method 8270C, polychlorinated biphenyls (PCBs) using EPA Method 8082, pesticides using EPA Method 8081B, herbicides using EPA Method 8151A, 2,3,7,8-TCDD using EPA Method 8290A, and Resource Conservation and Recovery Act (RCRA) or Priority Pollutant List metals using EPA Method 6020A. Based on the type and concentration of metals detected, some of the samples were additionally analyzed for Toxic Characteristic Leaching Procedure (TCLP) RCRA metals using EPA Method 301A/6020A and chromium VI using EPA Method 7196A.

Over the years, numerous temporary groundwater monitoring wells and 17 permanent groundwater monitoring wells were installed at the SITE. The temporary and permanent wells were installed using mobile drill rigs and direct-push sampling rigs. Permanent wells range from 1 to 2-inch in diameter and are constructed on polyvinyl chloride (PVC) well casing and screens. Screened intervals are typically 10 feet in length and have been positioned to “straddle” the water table (to allow for detection and measurement of petroleum free product if present). All wells were properly developed before sampling. Sampling over the last few years has been performed using low-flow sampling methods. Deep groundwater samples have also been collected at the SITE using discrete water samplers advanced using a direct-push sampling rig.

Groundwater samples collected have been analyzed for some or all the following: TPH-DRO and TPH-GRO using EPA Method 8015, TCL VOCs using EPA Method 8260B, TCL SVOCs using EPA Method 8270C, and total and dissolved PPL metals using EPA Method 6020A. Samples collected for dissolved metals analysis were filtered in the field.

Sub-slab and deep soil gas samples were collected from the SITE on one occasion. The sub-slab samples were collected using VaporPins® installed through the warehouse slabs. Deep soil gas samples were collected from soil gas sampling points installed using a direct-push sampling rig. The sub-slab and deep soil gas samples were collected using Summa canisters and were analyzed for VOCs using EPA TO15.

5.0 CONCEPTUAL SITE MODEL

ENVECO updated the CSM to include potential receptors and potential exposure pathways under current land use (vacant commercial property with limited access) and future land use scenarios (commercial, retail, residential, or mixed use), and during construction. The updated CSM is included as Figure 5. The CSM details the following:

- **Primary Release Mechanism**. Identification of the primary mechanisms by which the SITE became or continues to be impacted. The impacts appear to be the result of past site operations, with significant contribution from past operations at adjacent and nearby properties. No release mechanisms currently exist.

- **Source Media**. Identification of the affected media that continues to be a source of impacts. Source media at the SITE appears to be limited to impacted surface and subsurface soil.

- **Migration Pathway**. Identification of potential pathways by which impacted media can lead to potential exposure. Potential pathways identified included surface water runoff, biological uptake, leaching, and volatilization and diffusion.

- **Exposure Media**. Identification of media that provides a potential pathway of exposure. Potential exposure media identified includes soil, surface water and sediment, plants and animals, groundwater, and vapor.

- **Exposure Routes**. Identification of the routes by which exposure to impacted media may occur. Exposure routes identified include ingestion, dermal contact, and inhalation.

- **Potential Receptors**. Identification of potential receptors that could be exposed under current land use, future land use, and during construction.

Current Site Use Scenario

In the SITE's current use scenario, no potential pathways of exposure are complete at the 500 Parcel and for most of the 501 Parcel. Potential receptors considered under this scenario include authorized workers and site visitors, and those exposure scenarios were completed and presented in the URAR. The Declaration of Restrictive Covenants recorded on each parcel as required by the Certifications of Satisfactory Remediation included the necessary institutional controls to close exposure pathways for the current commercial and industrial uses, including the AlexRenew RiverRenew project. The current URARA contains the possible future residential scenario only to supplement those use scenarios for the SITE that were previously presented (URAR, 2021). Exposure scenarios are based on the following knowledge:

- The 500 Parcel warehouse is currently occupied and access to the SITE is limited to authorized visitors and unauthorized access is restricted by locked building doors. The 501 Parcel is an active construction site with access limited to workers and authorized site visitors. Unauthorized access to the 501 Parcel is currently restricted by fencing.

- Soil and groundwater impacts are limited and localized in extent and most of the SITE surface, including the areas where the highest degree of soil and groundwater impacts was identified, is covered by thick concrete building slabs or pavement limiting the potential for contact with impacted media. The surfaced areas also limit the potential for erosion, surface water runoff, formation of dusts, and vapor intrusion (VI).

- The potential for impacted groundwater to discharge into the nearby Potomac River exists; however, the concentrations of constituents detected in the wells located nearest to the shoreline contained constituents of concern at relatively low concentrations except for benzene, naphthalene, arsenic, lead, and zinc. Arsenic, lead, and zinc have relatively low mobility and are not expected to migrate readily or extensively. The potential risks to surface water were further assessed through this updated RA.

- The SITE is not used for agricultural purposes and there is no knowledge of any sensitive animal species living on or using the SITE for any purpose.

- Groundwater is not used at the SITE or in the City of Alexandria as a potable or irrigation water source.

- The 500 Parcel warehouse is currently occupied with some portions used only for storage. The thick concrete building pad limits the potential for inhalation of vapors should VI occur. The warehouse at the 501 Parcel has been removed and the slab remains in place limiting the potential for accumulation and inhalation of vapors should VI occur. In addition, the soil gas analytical data from both parcels does not suggest VOCs are present at concentrations presenting a VI risk (this has been confirmed through VURAM Site Screening, see Section 6.0).

- The current institutional controls addressed the risk concerns for the current commercial and industrial uses of the SITE.

The conditions listed above limit the risk to users of surrounding properties.

Future Site Use Scenario

The proposed future use is mixed use development to include residential, retail and commercial. Possible future residential dwellings built on the SITE and the risk associated with such structures and residential use of the SITE are covered under this URARA. The previous controls prohibiting the use of groundwater and requirement for a health and safety plan for subsurface work to protect construction and utility line workers as provided in the URAR will continue to restrict the SITE.

Pathways of exposure for future residential use not previously covered in the URAR are likely to include dermal contact with surface and subsurface soil and possible vapors from volatile constituents rising through future structures constructed on the SITE.

Surrounding and Nearby Properties

It should be noted that the 501 Parcel is surrounded by roads or the Potomac River. The 500 Parcel is surrounded by roads on its northern, eastern, and southern sides and commercial use property on its western side. The closest residential properties are located across the roads and commercial property to the northwest, west, and southwest. Adjacent property use is depicted on Figure 2.

The exposure risk to surrounding and nearby properties from SITE releases, including residents at residential use properties, workers, and visitors at surrounding commercial use properties, and visitors of Founders and Oronoco Bay Parks, is anticipated to be minimal based on the following:

- Soil and groundwater impacts appear to be limited and localized in extent and most of the impacted media is covered by building slabs or pavement limiting the potential for disturbance of and contact with the impacted media and potential for erosion, surface water runoff, and formation of dusts.

- The potential for impacted groundwater to discharge into the nearby Potomac River exists; however, the concentrations of constituents detected in the wells located nearest to the shoreline contained constituents of concern at relatively low concentrations except for benzene, naphthalene, arsenic, lead, and zinc. Arsenic, lead, and zinc have relatively low mobility and are not expected to migrate readily or extensively. The potential risks to surface water were further assessed through this RA.

- Based on groundwater measurement data obtained from SITE, groundwater flow is towards the east-northeast, away from surrounding properties of concern.

- Historical and recently collected data suggest that the properties bounding the SITE to the west and south are hydraulically upgradient of the SITE and the data does not indicate that they have been impacted by the SITE.

- Groundwater is not used in the City of Alexandria as a potable or irrigation water source.

6.0 RISK ASSESSMENT

According to the VDEQ VRP "The regulatory basis for performing risk assessments under the Virginia Voluntary Remediation Program is found in the Voluntary Remediation Regulations section 9 VAC 20-160-70(A)(1)(a). The risk assessment….should include an evaluation of the risks to human health and the environment posed by the release."

The RA described below was conducted according to the methodology presented in the VRP Risk Assessment Guidance and attempts to quantify potential human health risks posed by constituents released into the environment. The basic steps in completing the RA include identification of the constituents present in the environmental media, assessment of population exposure and exposure pathways, assessment of the constituent's toxicity to the exposed populations, and a summary of human health risks.

The VRP Risk Assessment Guidance allows for the comparison of laboratory data collected from the SITE to any or all three screening levels, Tier I, Tier II, and/or Tier III.

- In Tier I screening, constituent concentrations from the SITE for all media of concern are compared to those from background samples collected from nearby areas that have not been affected by the substances of concern. If concentrations from the affected area exceed background levels, the participant may choose to employ Tier II or Tier III screening methods. Note that Tier I screening is not required and participants in the VRP may choose to begin with Tier II screening.

- In Tier II screening, constituent concentrations from the SITE for all media of concern are compared to medium specific values obtained from published sources, such as the EPA Region III Regional Screening Level Tables, the EPA Soil Screening Guidance, maximum constituent levels or other action levels established by the Safe Drinking Water Act and the National Primary Drinking Water Regulations. Tier II screening is intended for unrestricted use sites (e.g., residential). Tier II levels for soil and groundwater are based on the assumption of residential exposure.

- Tier III screening is based upon site-specific analysis that weighs current and potential exposure scenarios for the population(s) of concern and characteristics for the affected media. Tier III screening is used for sites that are or will be formally restricted to a specified use and is not intended for unrestricted use properties.

Screening of the data has been accomplished previously and was presented using the VURAM screening module and was included in Attachment 1 of the URAR. Soil, groundwater, sub-slab soil gas, and deep soil gas samples were collected to characterize and define the extent of impacts at the SITE. Historical sampling locations are depicted on Figure 4 and historical analytical results for soil, groundwater, sub-slab soil gas, and deep soil gas are present on Tables 1 through 12. Only detected compounds and their respective concentrations are summarized on the tables. Constituents that exceeded VDEQ screening values and determined to be COPCs are listed below by media.

COPCs for Soil

- Acenaphthene, Acenaphthylene, Anthracene, Antimony, Arsenic, Benzo(a)anthracene, Benzene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, 1,1-Biphenyl, Cadmium, Chromium, Copper, Cumene, Cyclohexane, Dibenz(a,h)anthracene, Dibenzofuran, Fluoranthene, Fluorene, Indeno(1,2,3-c,d)pyrene, Lead, Mercury, 2-Methylnaphthalene, Naphthalene, Phenanthrene, Pyrene, Selenium, Silver, 2,3,7,8-TCDD, Tetrachloroethylene, Thallium, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, m-Xylene, o-Xylene and Zinc.

COPCs from Groundwater for use in the EPA Vapor Intrusion Model

- Benzo(a)anthracene, Benzene, 1,1-Biphenyl, Chloroform, 2-Chlorophenol, Cyclohexane, Dibenzofuran, Fluorene, 2-Methylnaphthalene, Naphthalene, Phenanthrene, Tetrachloroethylene, Trichloroethylene, m-Xylene, o-Xylene.

There were no VDEQ screening levels that were exceeded for the tested constituents in soil gas; therefore, there was no risk assessment run for VI, using VURAM; however, to be conservative, the EPA Vapor Intrusion Screening Level (VISL) Model was run based on those COPCs found in groundwater to be volatile.

Possible future residents would not be drinking the groundwater at the SITE or vicinity as the City of Alexandria provides drinking water to residents and workers.

VURAM was used to run the risks to SITE media as directed by VDEQ. All exposure defaults, toxicity values, and physical parameters of the constituents of concern chosen for SITE media are contained within databases found in the VURAM model maintained by VDEQ so that VRP RAs will be consistent from site to site. None of the defaults provided by the VDEQ within their VURAM model were changed or altered in any way for the risk outputs provided in this URARA.

The VURAM model was run only for the possible future resident in this RA; however, the risk to future industrial/commercial workers and construction workers was previously addressed in the URAR.

The EPA developed a model for assessing risk to people living and working in buildings that might be impacted from volatile and toxic chemicals called the VISL. The primary objective of risk-based screening is to identify sites or buildings that may pose a health concern through the soil gas intrusion pathway. Generally, at properties where subsurface concentrations of vapor-forming chemicals, such as those in groundwater or “near source” soil gas, fall below the recommended screening levels (i.e., VISLs), no further action or study is warranted. This condition is generally true so long as the exposure assumptions match those accounted for in the calculations, and the site fulfills the conditions and assumptions of the generic conceptual model underlying the screening levels. Similarly, the results of risk-based screening can help the project team identify areas, buildings and/or chemicals that can be eliminated from further assessment. This calculator provides generally recommended, media-specific, risk-based screening level concentrations for groundwater and other media. These screening-level concentrations are based on default residential exposure scenarios and both: a target cancer risk level of one per million; and a target hazard quotient of 0.1 for potential non-cancer effects. The VISL calculator also provides risk estimates for residential exposures to VOCs in groundwater and it was in that capacity that the VISL was used for this SITE. The COPCs that were previously determined for groundwater in the URAR that were also VOCs were used as inputs into the VISL model.

COPCs Exposure Point Concentrations

VDEQ recommends using maximum concentrations for soil and soil gas results. Groundwater results were input into the EPA upper confidence limit model called “ProUCL” and the results and output from using that model to determine the exposure point concentrations are found in

Attachment 4 of the 2021 URAR. Certain constituents contained too few detected concentrations to enable running the ProUCL model and in those instances (e.g., arsenic) the highest concentration was used as input for VURAM. Where quantitative limits of detection were input in the tables for nondetects in certain samples, then the ProUCL model was run using both detected and nondetected concentrations. Groundwater results sampled during the years 2016 through 2020 were used for derivation of mean concentrations using the ProUCL model.

Surface Water
Results and discussion were presented in the URAR.

Risk Results
The resident receptor module within VURAM was used to assess risk to a possible future resident and results of the model output can be found in Attachment 1. The non-cancer hazard index exceeded 1 at 24.4 for the resident adult and 139 for the resident child. The carcinogenic risk also exceeded the 1E-04 action level for the combined age resident at 1.12E-02. The non-cancer hazard is due mainly to arsenic at over 50% of the total excess hazard to the resident child. The carcinogenic risk is shared between arsenic at 33%, and PAHs such as benzo(a)pyrene at nearly 45%.

Risk is not run within VURAM for lead in soil; however, the exposure point concentration for lead was calculated to be 2,200 milligram per kilogram (mg/kg) in soil (the maximum concentration found historically), which does exceed the resident EPA screening level of 200 mg/kg and may pose a chronic risk if SITE soils were exposed in that location.

VISL Results
The VISL risk output is included in Attachment 2. The fourth page of Attachment 2 shows the cumulative risk output to residents breathing air containing the volatile COPCs found in SITE groundwater. Several COPCs did not have inhalation toxicity values; therefore, the model was unable to provide quantitative output for those COPCs. The non-cancer hazard index exceeded 1 at 30 for resident receptors. Also, the carcinogenic action level of 1E-04 was exceeded at a risk of nearly 1E-03. The non-cancer hazard was driven mainly by benzene, chloroform and trichloroethylene. The carcinogenic risk was dominated by both benzene and naphthalene.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the RA, without the implementation of engineering controls and institutional controls there is risk from impacted SITE soil to the possible future residential receptor. The risk to these receptors is largely dictated by the presence of arsenic and PAHs in soil. If arsenic and PAH impacted soils were removed, then the risks would be expected to be within acceptable ranges for the potential receptors.
Institutional and/or engineering controls maintained on the SITE would prevent receptor interaction with impacted SITE soil and groundwater which would minimize risk to future receptors. It should be noted that removal and capping of impacted soil, incorporation and use of engineering controls, and incorporation of institutional controls are expected and anticipated as part of future development.

The VISL Model showed that there was the possibility of VOCs within groundwater that are volatile to pose a risk to future residents living above the contaminated groundwater if there were no engineering controls in place to either passively or actively mitigate such risks. These vapor model results support the conclusion of looking closely into building into any future structures the capacity to vent such vapors around the living spaces much as is commonly done for radon in many homes and structures throughout the United States. VI concerns associated with or resulting from future redevelopment will be addressed in the amended CAP and Remedial Action Work Plan.

The following engineering controls and institutional controls are under consideration for the SITE through restrictive covenants recorded with the Certification of Satisfactory Completion of Remediation issued under the VRP to close the potential exposure pathways:

1. No groundwater wells will be installed on the SITE other than for purposes of environmental monitoring and groundwater beneath the SITE shall not be used for any purposes other than for environmental testing and collection for de-watering in compliance with law;

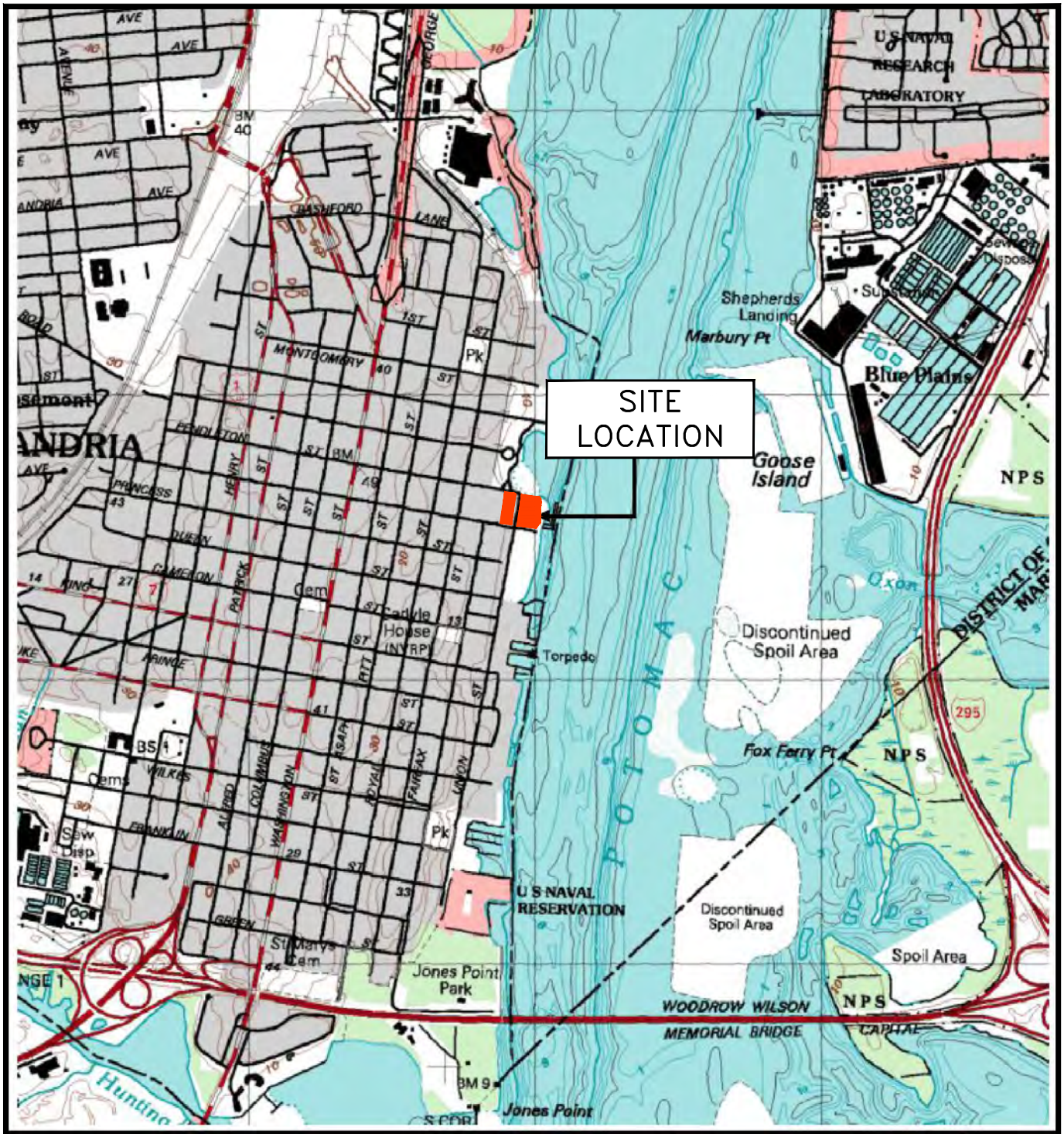
2. After development, the SITE will be maintained with a minimum of two feet of clean fill or hardscape cover (e.g., asphalt, concrete or pavers), and any subsurface work on the SITE will be completed in accordance with Condition 3 set forth below and any disturbed area restored with two feet of clean fill or hardscape cover;

3. Any subsurface work or excavation on the SITE shall be completed in accordance with a site-specific health and safety plan, which shall be developed by a qualified health and safety professional and in accordance with applicable federal, state, and local regulation;

4. The ground floor or subterranean areas of buildings constructed on the SITE and occupied for residential use will be situated over ventilated underground parking or will have a vapor barrier or sub-slab depressurization system operated and maintained pursuant to an operation and maintenance plan; and

5. After completion of development of the SITE, the owner will provide the VDEQ with a report documenting compliance with Conditions 2. and 4 above for such developed area.

FIGURES



REFERENCE:
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLE
ALEXANDRIA, VIRGINIA
PHOTOREVISED 1994 SCALE 1:24,000

0 1000 2000 4000
SCALE, FEET

SITE LOCATION

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

ENVECO
ENVIRONMENTAL SOLUTIONS

PROJECT NO. 202416	SCALE: AS SHOWN
DRAWING NO.	FIGURE 1

6078-04-RTN SCR01-SITE LOC.DWG — July 6, 2016

MICROSOFT CORPORATION 2016

0 125 250 500

SCALE IN FEET

AERIAL PHOTOGRAPH

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ENVECO ENVIRONMENTAL SOLUTIONS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 202416	SCALE: AS SHOWN
DRAWING NO.	FIGURE 2

6078-04-RTN SCR02-AERIAL.DWG — July 6, 2016

APPROXIMATE LIMITS OF VRP SITE BOUNDARIES

500 N. UNION STREET PARCEL

2 STORY BRICK & ALUMINUM BUILDING
36,552 S.F. OR 0.839 AC.
BUILDING HT.=±37.8'

501 N. UNION STREET PARCEL

WAREHOUSE CONCRETE SLAB (STRUCTURE REMOVED)

TRACT I
LOT 601

LANDS OF
RTN WEST LLC
TM: 065.01-04-12
ZONING: W-1
USE: VACANT LAND COMMERCIAL
AREA: 43,512 S.F. 0.998 AC.

TRACT II
PARCEL "A", "B-1", "B-2", "C" & "D"

LANDS OF
RTN EAST LLC
ZONING: W-1
USE: VACANT LAND COMMERCIAL
TM: 065.01-04-13
TOTAL AREA: 101,106 S.F. 2.32 AC.

PARCEL "A"
AREA: 42,650 S.F. 0.979 AC.

PARCEL "B-2"
AREA: 4,843 S.F. 0.111 AC.

PARCEL "B-1"
AREA: 4,872 S.F.
0.112 AC.

PARCEL "C"
AREA: 9,691 S.F. 0.222 AC.

PARCEL "D"
AREA: 39,050 S.F. 0.896 AC.

POTOMAC RIVER
OPEN WATER

LIMITS OF DISTURBANCE = 213,444 SF OR 4.9 AC.

RESOURCE PROTECTION AREA INTERMITTENT STREAM
100' BUFFER (FIELD VERIFIED)

0 30 60 120
SCALE IN FEET

SITE PLAN (EXISTING CONDITIONS)

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ENVECO ENVIRONMENTAL SOLUTIONS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 202416	SCALE: AS SHOWN
DRAWING NO.	FIGURE 3

6078-04-RTN SCR03-EXIST SITE.DWG – April 20, 2021

APPROXIMATE LIMITS OF VRP SITE BOUNDARIES

TRACT II
PARCEL "A", "B-1", "B-2", "C" & "D"

LANDS OF
RTN EAST LLC
ZONING: W-1
USE: VACANT LAND COMMERCIAL
TM: 065.01-04-13
TOTAL AREA: 101,106 S.F. 2.32 AC.

PARCEL "B-2"
AREA: 4,843 S.F. 0.111 AC.

TRACT I
LOT 601

LANDS OF
RTN WEST LLC
TM: 065.01-04-12
ZONING: W-1
USE: VACANT LAND COMMERCIAL
AREA: 43,512 S.F. 0.998 AC.

PENDLETON STREET

N. UNION STREET

ORONOCO STREET

POTOMAC RIVER OPEN WATER

FORMER 8,000-GALLON DIESEL UST LOCATIONS (TANKS REMOVED)

SUSPECT TANK SHED LOCATION

SUSPECT OIL TANK LOCATIONS

SUSPECT UST TANK FIELD

GROUNDWATER TREATMENT SYSTEM FOR ALEXANDRIA TOWN GAS SITE

PARCEL "C"
AREA: 9,691 S.F. 0.222 AC.

PARCEL "D"
AREA: 39,050 S.F. 0.896 AC.

PARCEL "B-1"
AREA: 4,872 S.F.
0.112 AC.

MW-23, MW-24, MW-25
MiHpt-1 through MiHpt-20
ECS-B1, ECS-B2/MW2, ECS-B3, ECS-B4/MW4, ECS-B5, ECS-B6, ECS-B7, ECS-B8, ECS-B9, ECS-B10, ECS-B11, ECS-B12
ICOR-SB1 through ICOR-SB15
TEC-MW1/B12, TEC-MW2/B2, TEC-MW3/B10, TEC-MW4/B4, TEC-MW5/B9, TEC-MW6/B13, TEC-MW7/B6
TEC-B3, TEC-B5, TEC-B7, TEC-B8, TEC-B11
SSG-1, SSG-2, SSG-3, SSG-4
DSG-1, DSG-2, DSG-3, DSG-4

LEGEND

- GROUNDWATER MONITORING WELL
- HISTORICAL SHALLOW TEST BORING (<30 FT)
- HISTORICAL DEEP TEST BORING (>30 FT)
- SUB-SLAB SOIL GAS SAMPLING POINT
- DEEP SOIL GAS SAMPLING POINT
- MiHpt — DESIGNATES A REAL-TIME ASSESSMENT BORING LOCATION

0 30 60 120
SCALE IN FEET

WELL AND BORING LOCATION MAP

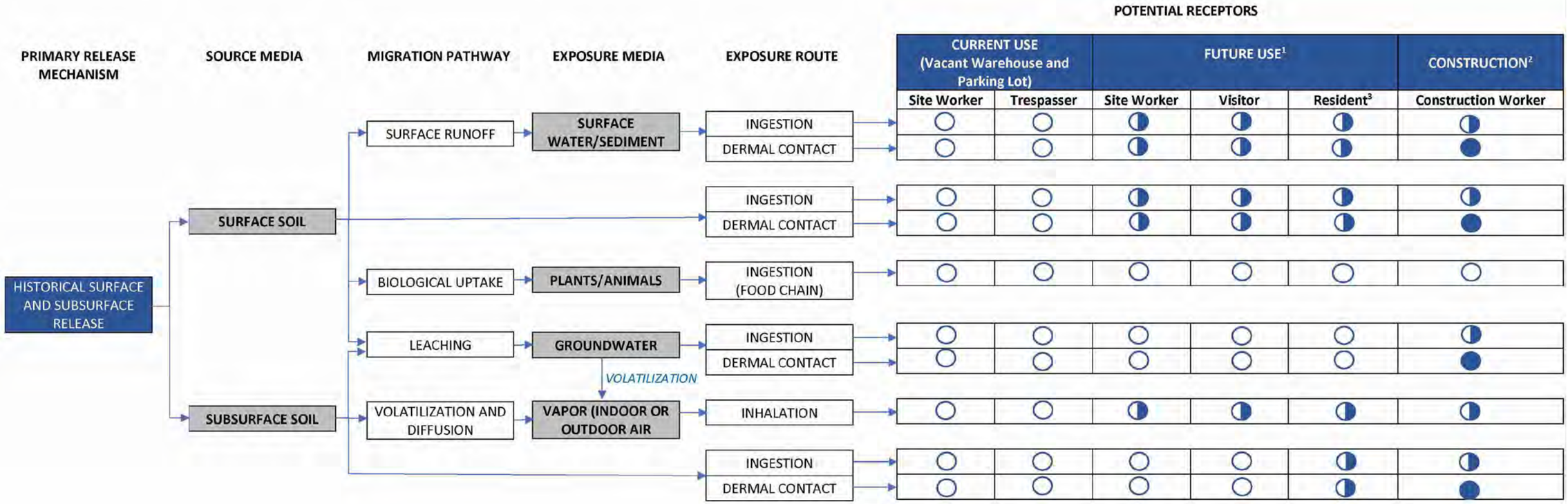
DESIGNED	BRUZZESI	DATE	01/19/17
DRAWN	CONNELLY	DATE	01/19/17

ENVECO ENVIRONMENTAL SOLUTIONS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 202416	SCALE: AS SHOWN
DRAWING NO.	FIGURE 4

6078-04-RTN SCR04-WELL BOR LOC MAP.DWG — July 6, 2016



Note:

1. Identified pathways will be addressed via remedial actions, engineering controls, and/or institutional controls.
2. Identified pathways will be addressed via remedial actions, engineering controls, and/or establishment of health and safety controls.
3. Only the Resident risk is addressed in the current risk assessment, all other receptors were addressed in the 2021 URAR.

● COMPLETE PATHWAY
◑ POTENTIALLY COMPLETE PATHWAY
○ INCOMPLETE PATHWAY

CONCEPTUAL SITE MODEL

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ENVECO ENVIRONMENTAL SOLUTIONS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 202416	SCALE: AS SHOWN
DRAWING NO.	FIGURE 5

TABLES

TABLE 1. 2006 TEC GROUNDWATER ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	TEC-MW1	TEC-MW2	TEC-MW3	TEC-MW4	TEC-MW5	TEC-MW6	TEC-MW7
Date:								5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06
TPH														
TPH-GRO	mg/L	**NE**	**NE**	**NE**	**15**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**15**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
VOCs														
Benzene	ug/L	**13.7**	**57.3**	**14.2**	**12**	**22**	**510**	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	**1920**	**8100**	**949**	**43**	**510**	**6000**	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**34.1**	**152**	**591**	**4.3**	**530**	**2100**	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ug/L	**36.9**	**162**	**83.1**	**2070**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
Methyl-t-butyl ether	ug/L	**4580**	**19600**	**524**	**15**	**NE**	**NE**	**2**	**2**	**1**	**67**	ND	ND	ND
Naphthalene	ug/L	**17.2**	**72.3**	**0.722**	**8.9**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 2. 2008 ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ECS-B1				ECS-B2				ECS-B3				
					(1-2.5)	(2.5-4)	(8.5-10)	(18.5-20)	(2.5-4)	(5-6.5)	(8.5-10)	(13.5-15)	(1-2.5)	(2.5-4)	(8.5-10)	(13.5-15)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH																	
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**10200**	**7060**	ND	**56**	NA	**17**	**70**	**115**	NA	**40**	ND	**27**
VOCs																	
Benzene	ug/kg	**NE**	**51.1**	**42000**	NA	ND	**2.8**	ND	ND	NA	ND	**11**	**9.8**	NA	**5120**	ND	ND
2-Butanone (MEK)	ug/kg	**NE**	**2340**	**19000000**	NA	ND	ND	ND	ND	NA	**7.3**	ND	ND	NA	ND	ND	ND
n-Butylbenzene	ug/kg	**NE**	**6440**	**5800000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**11700**	**12000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**3100**	**12000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**477**	**350000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	NA	ND	ND	ND	ND	NA	ND	**17**	**8.6**	NA	ND	ND	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**1470**	**990000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**1470**	**990000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Methyl-t-butyl ether	ug/kg	**NE**	**631**	**2100000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	**2.7**	**3.2**
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	**136**	**70**	ND	ND	NA	ND	**204**	**7.4**	NA	ND	**84**	ND
n-Propylbenzene	ug/kg	**NE**	**2460**	**2400000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**2200**	**3500000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**13800**	**4700000**	NA	**7.7**	**13**	**3.4**	**4.2**	NA	**4.2**	**4.7**	**70**	NA	**196**	**5.6**	**2.7**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**162**	**180000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**16**	NA	ND	**10**	ND
1,3,5-Trimethylbenzene	ug/kg	**NE**	**172**	**150000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**7.5**	NA	ND	**11**	ND
Total Xylenes	ug/kg	**NE**	**58000**	**250000**	NA	**3.4**	**14.1**	ND	ND	NA	ND	**16.3**	**58**	NA	ND	**11.1**	ND
RCRA Metals																	
Arsenic	mg/kg	**NE**	**3.5**	**30**	**4.3**	NA	NA	NA	NA	**1090**	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**22000**	**82.3**	NA	NA	NA	NA	**90.9**	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	**NE**	**7.1**	**98**	ND	NA	NA	NA	NA	**23.6**	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	**NE**	**0.134**	**63***	**16.3**	NA	NA	NA	NA	**17.5**	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	**14.9**	NA	NA	NA	NA	**297**	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	ND	NA	NA	NA	NA	**75.1**	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	ND	NA	NA	NA	NA	**10.3**	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	**NE**	**1.6**	**580**	ND	NA	NA	NA	NA	**1.41**	NA	NA	NA	NA	NA	NA	NA
Pesticides, PCBs, and Herbicides																	
Pesticides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
PCBs					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Herbicides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 2. 2008 ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ECS-B4					ECS-B5				
					(5-6.5)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)	(2.5-4)	(5-6.5)	(8.5-10)	(28.5-30)	(33.5-35)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH														
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	**123**	**22**	NA	**22**	ND	**95**	NA	**20**	**58**	ND
VOCs														
Benzene	ug/kg	**NE**	**51.1**	**42000**	ND	**6.3**	NA	**4.6**	ND	ND	NA	ND	ND	**3.7**
2-Butanone (MEK)	ug/kg	**NE**	**2340**	**19000000**	ND	ND	NA	ND	ND	ND	NA	ND	**7.3**	ND
n-Butylbenzene	ug/kg	**NE**	**6440**	**5800000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**11700**	**12000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**3100**	**12000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**477**	**350000**	ND	ND	NA	ND	ND	ND	NA	**3.3**	ND	**11**
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	**2.2**	**5.1**	NA	**4.9**	ND	ND	NA	ND	ND	**7**
Isopropylbenzene (Cumene)	ug/kg	**NE**	**1470**	**990000**	ND	ND	NA	**2.5**	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**1470**	**990000**	ND	ND	NA	ND	ND	ND	NA	**166**	**226**	**419**
Methyl-t-butyl ether	ug/kg	**NE**	**631**	**2100000**	ND	ND	NA	**2.6**	ND	ND	NA	ND	ND	ND
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	ND	**66**	NA	**155**	**4.9**	ND	NA	**14**	**5.9**	**27**
n-Propylbenzene	ug/kg	**NE**	**2460**	**2400000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**2200**	**3500000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**13800**	**4700000**	**16**	**11**	NA	**29**	ND	ND	NA	**4.5**	**5.7**	**8.4**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**162**	**180000**	**4.9**	**6.5**	NA	**12**	ND	**4**	NA	**11**	**9.8**	**9.3**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**172**	**150000**	**4.7**	**2.8**	NA	**5**	ND	ND	NA	**4.6**	**3.8**	**2.8**
Total Xylenes	ug/kg	**NE**	**58000**	**250000**	**12.2**	**9**	NA	**24.7**	ND	ND	NA	ND	**3.3**	**3.7**
RCRA Metals														
Arsenic	mg/kg	**NE**	**3.5**	**30**	NA	NA	NA	NA	NA	NA	**7**	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**22000**	NA	NA	NA	NA	NA	NA	**99.7**	NA	NA	NA
Cadmium	mg/kg	**NE**	**7.1**	**98**	NA	NA	NA	NA	NA	NA	**3.79**	NA	NA	NA
Chromium	mg/kg	**NE**	**0.134**	**63***	NA	NA	NA	NA	NA	NA	**25.8**	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	NA	**11.5**	NA	NA	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	NA	NA	NA	NA	NA	NA	**0.25**	NA	NA	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Silver	mg/kg	**NE**	**1.6**	**580**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Pesticides, PCBs, and Herbicides														
Pesticides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
PCBs					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Herbicides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 2. 2008 ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ECS-B6						
					(1-2.5)	(5-6.5)	(8.5-10)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH											
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**142**	**111**	**31**	**68**	NA	**33**
VOCs											
Benzene	ug/kg	**NE**	**51.1**	**42000**	NA	**977**	ND	**16**	ND	NA	ND
2-Butanone (MEK)	ug/kg	**NE**	**2340**	**19000000**	NA	ND	ND	ND	ND	NA	ND
n-Butylbenzene	ug/kg	**NE**	**6440**	**5800000**	NA	**366**	ND	**3.2**	ND	NA	**3.6**
sec-Butylbenzene	ug/kg	**NE**	**11700**	**12000000**	NA	ND	ND	**26**	ND	NA	ND
tert-Butylbenzene	ug/kg	**NE**	**3100**	**12000000**	NA	ND	ND	**11**	ND	NA	ND
Carbon Disulfide	ug/kg	**NE**	**477**	**350000**	NA	ND	ND	ND	ND	NA	ND
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	NA	**1360**	ND	**6.4**	ND	NA	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**1470**	**990000**	NA	ND	ND	**8.4**	ND	NA	ND
p-Isopropyltoluene	ug/kg	**NE**	**1470**	**990000**	NA	**473**	ND	**3.8**	ND	NA	ND
Methyl-t-butyl ether	ug/kg	**NE**	**631**	**2100000**	NA	ND	ND	ND	ND	NA	ND
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	ND	ND	**5.2**	**5500**	NA	ND
n-Propylbenzene	ug/kg	**NE**	**2460**	**2400000**	NA	ND	ND	**5.8**	ND	NA	**2.7**
Styrene	ug/kg	**NE**	**2200**	**3500000**	NA	ND	ND	ND	ND	NA	ND
Toluene	ug/kg	**NE**	**13800**	**4700000**	NA	**3800**	**238**	**36**	ND	NA	**2.9**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**162**	**180000**	NA	**1050**	ND	**18**	ND	NA	**19**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**172**	**150000**	NA	**1870**	ND	**11**	ND	NA	**9.8**
Total Xylenes	ug/kg	**NE**	**58000**	**250000**	NA	**4209**	**361**	**38**	ND	NA	**3.5**
RCRA Metals											
Arsenic	mg/kg	**NE**	**3.5**	**30**	NA	NA	NA	NA	NA	**6.6**	NA
Barium	mg/kg	**NE**	**1500**	**22000**	NA	NA	NA	NA	NA	**46**	NA
Cadmium	mg/kg	**NE**	**7.1**	**98**	NA	NA	NA	NA	NA	ND	NA
Chromium	mg/kg	**NE**	**0.134**	**63***	NA	NA	NA	NA	NA	**19.9**	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	**39.5**	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	NA	NA	NA	NA	NA	**0.06**	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	NA	NA	NA	NA	NA	ND	NA
Silver	mg/kg	**NE**	**1.6**	**580**	NA	NA	NA	NA	NA	ND	NA
Pesticides, PCBs, and Herbicides											
Pesticides					ND	NA	NA	NA	ND	NA	NA
PCBs					ND	NA	NA	NA	ND	NA	NA
Herbicides					ND	NA	NA	NA	ND	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 3. 2008 ECS GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	ECS-MW2	ECS-MW4
Date:								1/4/08	1/4/08
TPH									
TPH-DRO	mg/L	NE	NE	NE	NE	NE	NE	2.87	0.99
VOCs									
Benzene	ug/L	13.7	57.3	14.2	12	22	510	60	ND
Naphthalene	ug/L	17.2	72.3	0.722	8.9	NE	NE	ND	8.6
Total Xylenes	ug/L	36.9	162	83.1	2070	NE	NE	3.1	4.2
SVOCs									
Acenaphthene	ug/L	NE	NE	2950	NE	670	990	ND	17
Acenaphthylene	ug/L	NE	NE	1430	NE	NE	NE	ND	10
Dimethyl phthalate	ug/L	NE	NE	NE	NE	NE	NE	3.9	ND
Fluorene	ug/L	NE	NE	4370	NE	1100	5300	ND	5.6
2-Methylnaphthalene	ug/L	NE	NE	59	NE	NE	NE	ND	2.3
Naphthalene	ug/L	17.2	72.3	0.722	8.9	NE	NE	ND	8.3
Phenanthrene	ug/L	NE	NE	1430	NE	NE	NE	ND	2.2
Total RCRA Metals									
Arsenic	mg/L	NE	NE	0.197	NE	0.001	0.15	0.020	0.009
Barium	mg/L	NE	NE	20.2	NE	2	NE	0.129	0.581
Cadmium	mg/L	NE	NE	0.0192	NE	0.0011	0.0011	0.160	ND
Chromium	mg/L	NE	NE	NE	NE	NE	NE	0.015	0.048
Lead	mg/L	NE	NE	NE	NE	0.011	0.011	0.044	0.112
Mercury	mg/L	0.0000881	0.000369	0.0000086	NE	0.00077	0.00077	ND	ND
Selenium	mg/L	NE	NE	3.28	NE	0.005	0.005	0.005	0.002
Silver	mg/L	NE	NE	0.0484	NE	NE	NE	ND	ND

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
VOCs = volatile organic compounds
SVOCs = semi-VOCs
RCRA = Resource Conservation and Recovery Act
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 4. 2013 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ICOR-SB2(3-4)	ICOR-SB2(5-6)	ICOR-SB5(6-7)	ICOR-SB6(2-3)	ICOR-SB7(7.5-8.5)	ICOR-SB8(2-3)	ICOR-SB8(7.5-8.5)	ICOR-SB9(4.5-5.5)
Date:					10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13
TPH EPA 8015												
TPH-GRO	mg/kg	**8300**	**NE**	**NE**	NA	**1.2**	<0.11	NA	**240**	NA	**370**	NA
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**77**	**420**	NA	**3800**	NA	**42**	NA
TCL VOCs EPA 8260B												
Acetone	ug/kg	**NE**	**574000**	**67000000**	NA	<23	<23	NA	<2200	NA	<2400	NA
Isopropylbenzene	ug/kg	**NE**	**1470**	**990000**	NA	**15**	<5.6	NA	<560	NA	<600	NA
Methylcyclohexane	ug/kg	**NE**	**NE**	**NE**	NA	**41**	<23	NA	<2200	NA	**16000**	NA
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	**14**	**7.4**	NA	<560	NA	<600	NA
TCL SVOCs EPA 8270C												
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	NA	**260**	<190	NA	<740	NA	<200	NA
Pyrene	ug/kg	**NE**	**26100**	**2300000**	NA	**210**	<190	NA	<740	NA	<200	NA
PPL Metals EPA 6020A												
Antimony	mg/kg	**NE**	**3.1**	**47**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Arsenic	mg/kg	**NE**	**3.5**	**30**	**2.8**	NA	**3.8**	**11**	**130**	**600**	**12**	**3.6**
Chromium	mg/kg	**NE**	**3600000***	**NE***	**20**	NA	<2.1	**26**	**11**	**22**	**12**	**10**
Copper	mg/kg	**NE**	**310**	**4700**	**18**	NA	**4.6**	**200**	**7.6**	**18**	**5.0**	**12**
Lead	mg/kg	**NE**	**270**	**800**	**15**	NA	**16**	**32**	**4.7**	**9.1**	**7.2**	**60**
Mercury	mg/kg	**NE**	**1.1**	**4.6**	<0.095	NA	<0.084	<0.10	<0.11	<0.11	<0.089	**0.56**
Nickel	mg/kg	**NE**	**50.9**	**2200**	**22**	NA	<2.1	**26**	**5.9**	**21**	**22**	**9.4**
Selenium	mg/kg	**NE**	**5.2**	**580**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Silver	mg/kg	**NE**	**1.6**	**580**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Thallium	mg/kg	**NE**	**0.078**	**1.2**	<1.9	NA	<1.7	<2.1	<2.2	<2.2	<1.8	<2.2
Zinc	mg/kg	**NE**	**746**	**35000**	**68**	NA	<8.4	**1100**	**33**	**63**	**37**	5000
Chromium VI EPA 7196A												
Chromium VI	mg/kg	**NE**	**0.134**	**63**	NA	NA	NA	NA	NA	NA	NA	NA
TCLP RCRA Metals EPA 3010A/6020A												
Arsenic	ug/L	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA
Lead	ug/L	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 4. 2013 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ICOR-SB10(2-3)	ICOR-SB10(5.5-6.5)	ICOR-SB11(5.5-6.5)	ICOR-SB12(6-7)	ICOR-SB13(5.5-6.5)
Date:					10/8/13	10/8/13	10/8/13	10/8/13	10/8/13
TPH EPA 8015									
TPH-GRO	mg/kg	**8300**	**NE**	**NE**	NA	NA	<0.12	NA	<0.12
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	NA	<4.8	NA	<5.1
TCL VOCs EPA 8260B									
Acetone	ug/kg	**NE**	**574000**	**67000000**	NA	NA	**77**	NA	NA
Isopropylbenzene	ug/kg	**NE**	**1470**	**990000**	NA	NA	<5.9	NA	NA
Methylcyclohexane	ug/kg	**NE**	**NE**	**NE**	NA	NA	<24	NA	NA
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	NA	<5.9	NA	NA
TCL SVOCs EPA 8270C									
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	NA	NA	<210	NA	NA
Pyrene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	<210	NA	NA
PPL Metals EPA 6020A									
Antimony	mg/kg	**NE**	**3.1**	**47**	**12**	<2.3	<3.0	<2.0	<2.8
Arsenic	mg/kg	**NE**	**3.5**	**30**	**1300**	**190**	**3.9**	**3.1**	**9.9**
Chromium	mg/kg	**NE**	**3600000***	**NE***	**18**	**19**	**24**	**22**	**30**
Copper	mg/kg	**NE**	**310**	**4700**	**1800**	**270**	**21**	**16**	**59**
Lead	mg/kg	**NE**	**270**	**800**	**2200**	**10**	**12**	**14**	**17**
Mercury	mg/kg	**NE**	**1.1**	**4.6**	**7.8**	**0.17**	**0.19**	**0.15**	**0.24**
Nickel	mg/kg	**NE**	**50.9**	**2200**	**13**	**18**	**23**	**24**	**21**
Selenium	mg/kg	**NE**	**5.2**	**580**	**8.2**	<2.3	<3.0	<2.0	<2.8
Silver	mg/kg	**NE**	**1.6**	**580**	**15**	<2.3	<3.0	<2.0	<2.8
Thallium	mg/kg	**NE**	**0.078**	**1.2**	**3.0**	<1.8	<2.4	<1.6	<2.2
Zinc	mg/kg	**NE**	**746**	**35000**	**2100**	**620**	**61**	**1700**	**1700**
Chromium VI EPA 7196A									
Chromium VI	mg/kg	**NE**	**0.134**	**63**	NA	NA	NA	NA	<0.97
TCLP RCRA Metals EPA 3010A/6020A									
Arsenic	ug/L	**NE**	**NE**	**NE**	**1.4**	NA	NA	NA	NA
Lead	ug/L	**NE**	**NE**	**NE**	**7.8**	NA	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5. 2014 GEOTECHNICAL INVESTIGATION SOIL ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T2RSL	VDEQ-T3ISL	ECS-B7(2.5-10)	ECS-B8(2.5-4)	ECS-B9(2.5-10)	ECS-B10(4-10)	ECS-B11(5-10)	ECS-B12(5-10)
Date:				10/6/14	10/7/14	10/7/14	10/8/14	10/10/14	10/8/14
RCRA Metals EPA 6020A									
Arsenic	mg/kg	**3.5**	**30**	**1600**	**1900**	**11**	**6.8**	**18**	**7.7**
Barium	mg/kg	**1500**	**22000**	**320**	**190**	**81**	**170**	**140**	**81**
Cadmium	mg/kg	**7.1**	**98**	**17**	**12**	<2.7	<2.6	<2.7	<2.9
Chromium	mg/kg	**3600000***	**NE***	**27**	**20**	**21**	**5.4**	**15**	**3.4**
Lead	mg/kg	**270**	**800**	**1500**	**370**	**15**	**59**	**600**	**160**
Mercury	mg/kg	**1.1**	**4.6**	**27**	**20**	<0.11	**0.18**	**0.23**	**0.27**
Selenium	mg/kg	**5.2**	**580**	**10**	**6.0**	<2.7	<2.6	**3.2**	<2.9
Silver	mg/kg	**1.6**	**580**	**12**	**2.8**	<2.7	<2.6	**5.9**	<2.9
TCLP RCRA Metals EPA 3010A/6020A									
Arsenic	ug/L	**NE**	**NE**	**2.0**	**6.3**	NA	NA	NA	NA
Barium	ug/L	**NE**	**NE**	<1.0	**1.0**	NA	NA	NA	NA
Cadmium	ug/L	**NE**	**NE**	**0.063**	**0.070**	NA	NA	NA	NA
Chromium	ug/L	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA
Lead	ug/L	**NE**	**NE**	**0.75**	<0.050	NA	NA	NA	NA
Mercury	ug/L	**NE**	**NE**	<0.0020	<0.0020	NA	NA	NA	NA
Selenium	ug/L	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA
Silver	ug/L	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA

NOTES:
(2.5-4) = designates depth sample was collected below ground surface
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 6020A = United States Environmental Protection Agency SW-846 analytical method
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	ECS-B7(1-2)	ECS-B7(5-6)	ICOR-SB3(10.5-11.5)	ICOR-SB9(4-5)	ICOR-SB14(1-2)	ICOR-SB14(4-5)	ICOR-SB15(1-2)	MiHpt-03(1-2)	MiHpt-03(4-5)	MiHpt-04(1-2)	MiHpt-04(4-5)	MiHpt-05(1-2)	MiHpt-06(1-2)	MiHpt-06(4-5)	MiHpt-07(1-2)	MiHpt-07(7-8)	MiHpt-08(4-5)
Sample Date:					9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/6/16
TPH 8015																					
TPH-GRO (C6-C10)	mg/kg	**8300**	**NE**	**NE**	NA	<0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1300**	**0.260**
TPH-DRO (C10-C28)	mg/kg	**11000**	**NE**	**NE**	NA	**100**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**59**	<12
TCL VOCs 8260B																					
Acetone	ug/kg	**NE**	**574000**	**67000000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Cyclohexane	ug/kg	**NE**	**26600**	**2700000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Isopropylbenzene	ug/kg	**NE**	**1470**	**990000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Methylcyclohexane	ug/kg	**NE**	**NE**	**NE**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	**260**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Tetrachloroethene	ug/kg	**NE**	**45.3**	**39000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Toluene	ug/kg	**NE**	**13800**	**4700000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
m,p-Xylenes	ug/kg	**NE**	**371**	**240000**	NA	<11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<930	<8.6
o-Xylene	ug/kg	**NE**	**374**	**280000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
TCL SVOCs 8270C																					
2-Methylnaphthalene	ug/kg	**NE**	**371**	**300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	**NE**	**10900**	**4500000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	ug/kg	**NE**	**119000**	**23000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/kg	**NE**	**2120**	**210000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/kg	**NE**	**1100**	**21000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ug/kg	**NE**	**11000**	**210000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	**NE**	**110000**	**2100000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	ug/kg	**NE**	**1100000**	**21000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	ug/kg	**NE**	**1100**	**21000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	ug/kg	**NE**	**293**	**100000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	ug/kg	**NE**	**10700**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	ug/kg	**NE**	**11000**	**210000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																					
PCBs	mg/kg				<0.055	NA	<0.060	<0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides 8081B																					
4,4-DDD	ug/kg	**NE**	**29.6**	**2500**	**6.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDE	ug/kg	**NE**	**2160**	**35000**	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDT	ug/kg	**NE**	**3700**	**52000**	**7.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides 8151A																					
2,4,5-T	ug/kg	**NE**	**NE**	**NE**	<22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins 8290A																					
2,3,7,8-TCDD	ng/kg	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**0.0670** JQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																					
Antimony	mg/kg	**NE**	**3.1**	**47**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**17**	NA	NA	NA
Arsenic	mg/kg	**NE**	**3.5**	**30**	**49**	NA	NA	NA	**9.1**	**9.2**	NA	**1.1**	**190**	**3.9**	**320**	**2.2**	**1.2**	**150**	**1.0**	NA	NA
Cadmium	mg/kg	**NE**	**7.1**	**98**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	<2.5	NA	NA	NA
Chromium	mg/kg	**NE**	**3600000***	**NE***	**17**	NA	NA	NA	NA	NA	NA	**5.5**	NA	**4.0**	NA	NA	**8.1**	**11**	NA	NA	NA
Copper	mg/kg	**NE**	**310**	**4700**	**39**	NA	NA	NA	NA	NA	NA	**4.2**	NA	**6.7**	NA	NA	**6.0**	**410**	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	**160**	NA	NA	NA	NA	NA	NA	**22**	NA	**94**	NA	NA	**6.7**	**1800**	NA	NA	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	**1.3**	NA	NA	NA	NA	NA	NA	<0.10	NA	**0.094**	NA	NA	**0.12**	**0.47**	NA	NA	NA
Nickel	mg/kg	**NE**	**50.9**	**2200**	**14**	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	**3.2**	**6.5**	NA	NA	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**6.3**	NA	NA	NA
Silver	mg/kg	**NE**	**1.6**	**580**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**3.3**	NA	NA	NA
Thallium	mg/kg	**NE**	**0.078**	**1.2**	<2.0	NA	NA	NA	NA	NA	NA	<2.1	NA	<1.6	NA	NA	<2.0	**2.4**	NA	NA	NA
Zinc	mg/kg	**NE**	**746**	**35000**	**130**	NA	NA	NA	NA	NA	NA	<10	NA	**16**	NA	NA	**15**	**370**	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	MiHpt-08(37.8-38.8)	MiHpt-10(24.5-25.5)	MiHpt-12(1-2)	MiHpt-13(1-2)	MiHpt-13(4-5)	MiHpt-14(1-2)	MiHpt-14(4-5)	MiHpt-14(5-6)	MiHpt-14(25-26)	MiHpt-15(1-2)	MiHpt-15(4-5)	MiHpt-16(1-2)	MiHpt-16(4-5)	MiHpt-16(8-9)	MiHpt-17(1-2)	MiHpt-17(4-5)	MiHpt-18(1-2)
Sample Date:					9/6/16	9/6/16	9/7/16	9/7/16	9/7/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/7/16	9/7/16	9/7/16
TPH 8015																					
TPH-GRO (C6-C10)	mg/kg	**8300**	**NE**	**NE**	**0.160**	**0.180**	NA	NA	NA	NA	NA	NA	<0.11	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO (C10-C28)	mg/kg	**11000**	**NE**	**NE**	<15	**150**	NA	NA	NA	NA	NA	NA	<12	NA	NA	NA	NA	NA	NA	NA	NA
TCL VOCs 8260B																					
Acetone	ug/kg	**NE**	**574000**	**67000000**	**66**	**84**	NA	NA	NA	NA	NA	**45**	<20	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/kg	**NE**	**26600**	**2700000**	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	ug/kg	**NE**	**1470**	**990000**	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	ug/kg	**NE**	**NE**	**NE**	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	<6.8	**10**	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ug/kg	**NE**	**45.3**	**39000**	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	ug/kg	**NE**	**13800**	**4700000**	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	ug/kg	**NE**	**371**	**240000**	<14	<14	NA	NA	NA	NA	NA	<9.5	<10	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	ug/kg	**NE**	**374**	**280000**	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
TCL SVOCs 8270C																					
2-Methylnaphthalene	ug/kg	**NE**	**371**	**300000**	<250	**560**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	**NE**	**10900**	**4500000**	<250	**2300**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	ug/kg	**NE**	**119000**	**23000000**	<250	**3400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/kg	**NE**	**2120**	**210000**	<250	**5500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/kg	**NE**	**1100**	**21000**	<250	**5200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	ug/kg	**NE**	**11000**	**210000**	<250	**3800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	ug/kg	**NE**	**26100**	**2300000**	<250	**2700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	**NE**	**110000**	**2100000**	<250	**3500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	ug/kg	**NE**	**1100000**	**21000000**	<250	**4800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	ug/kg	**NE**	**1100**	**21000**	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	ug/kg	**NE**	**293**	**100000**	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	<250	**8700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	ug/kg	**NE**	**10700**	**3000000**	<250	**2200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	ug/kg	**NE**	**11000**	**210000**	<250	**3100**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	<250	**570**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	ug/kg	**NE**	**26100**	**2300000**	<250	**8200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	ug/kg	**NE**	**26100**	**2300000**	<250	**7400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																					
PCBs	mg/kg				NA	NA	NA	NA	NA	<0.056	NA	NA	NA	NA	NA	<0.059	<0.061	NA	NA	NA	NA
Pesticides 8081B																					
4,4-DDD	ug/kg	**NE**	**29.6**	**2500**	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDE	ug/kg	**NE**	**2160**	**35000**	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDT	ug/kg	**NE**	**3700**	**52000**	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
Herbicides 8151A																					
2,4,5-T	ug/kg	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	<22	NA	NA	NA	NA	NA	<25	<25	NA	NA	NA	NA
Dioxins 8290A																					
2,3,7,8-TCDD	ng/kg	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.115** J	NA	NA	NA	NA	NA
PPL Metals 6020A																					
Antimony	mg/kg	**NE**	**3.1**	**47**	NA	NA	NA	**12**	NA	**18**	NA	NA	NA	<2.7	NA	NA	NA	NA	**14**	NA	NA
Arsenic	mg/kg	**NE**	**3.5**	**30**	NA	NA	**400**	**810**	**32**	**730**	**93**	NA	NA	**9.6**	**1800**	NA	NA	**6.6**	**670**	**6.9**	**12**
Cadmium	mg/kg	**NE**	**7.1**	**98**	NA	NA	NA	**17**	NA	**7.7**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Chromium	mg/kg	**NE**	**3600000***	**NE***	NA	NA	NA	**29**	NA	**16**	NA	NA	NA	**15**	NA	NA	NA	NA	**27**	NA	NA
Copper	mg/kg	**NE**	**310**	**4700**	NA	NA	NA	**11000**	NA	**780**	NA	NA	NA	**35**	NA	NA	NA	NA	**6900**	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	**1800**	NA	**380**	NA	NA	NA	**100**	NA	NA	NA	NA	**1500**	NA	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	NA	NA	NA	**26**	NA	**18**	NA	NA	NA	**0.61**	NA	NA	NA	NA	**20**	NA	NA
Nickel	mg/kg	**NE**	**50.9**	**2200**	NA	NA	NA	**18**	NA	**12**	NA	NA	NA	**12**	NA	NA	NA	NA	**16**	NA	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	NA	NA	NA	**11**	NA	**5.0**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Silver	mg/kg	**NE**	**1.6**	**580**	NA	NA	NA	**16**	NA	**2.3**	NA	NA	NA	<2.7	NA	NA	NA	NA	**16**	NA	NA
Thallium	mg/kg	**NE**	**0.078**	**1.2**	NA	NA	NA	**6.5**	NA	**5.6**	NA	NA	NA	<2.2	NA	NA	NA	NA	<21	NA	NA
Zinc	mg/kg	**NE**	**746**	**35000**	NA	NA	NA	**7200**	NA	**1300**	NA	NA	NA	**83**	NA	NA	NA	NA	**4300**	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	MiHpt-19(1-2)	MiHpt-19(4-5)	MiHpt-20(1.5-2.5)	MiHpt-20(4-5)	MiHpt-21(1-2)	MiHpt-21(4.5-5.5)	MiHpt-21(9-10)	MiHpt-21(24-25)	MiHpt-22(1-2)	MiHpt-22(4.5-5.5)	MiHpt-22(19-20)	MiHpt-22(24-25)
Sample Date:					9/7/16	9/7/16	9/8/16	9/8/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16
TPH 8015																
TPH-GRO (C6-C10)	mg/kg	**8300**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**760**	<0.12	NA	NA	**2.5**	<0.12
TPH-DRO (C10-C28)	mg/kg	**11000**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**49**	<12	NA	NA	**71**	<12
TCL VOCs 8260B																
Acetone	ug/kg	**NE**	**574000**	**67000000**	NA	NA	NA	NA	NA	NA	<1900	<21	NA	NA	<24000	<22
Cyclohexane	ug/kg	**NE**	**26600**	**2700000**	NA	NA	NA	NA	NA	NA	**190000**	<21	NA	NA	**35000**	<22
Ethylbenzene	ug/kg	**NE**	**15700**	**250000**	NA	NA	NA	NA	NA	NA	**8500**	<5.2	NA	NA	**15000**	<5.5
Isopropylbenzene	ug/kg	**NE**	**1470**	**990000**	NA	NA	NA	NA	NA	NA	**1900**	<5.2	NA	NA	<6000	<5.5
Methylcyclohexane	ug/kg	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**400000**	<21	NA	NA	**200000**	<22
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	NA	NA	NA	NA	NA	<490	<5.2	NA	NA	**46000**	<5.5
Tetrachloroethene	ug/kg	**NE**	**45.3**	**39000**	NA	NA	NA	NA	NA	NA	**3800**	<5.2	NA	NA	<6000	<5.5
Toluene	ug/kg	**NE**	**13800**	**4700000**	NA	NA	NA	NA	NA	NA	**990**	<5.2	NA	NA	<6000	<5.5
m,p-Xylenes	ug/kg	**NE**	**371**	**240000**	NA	NA	NA	NA	NA	NA	**14000**	<10	NA	NA	**18000**	<11
o-Xylene	ug/kg	**NE**	**374**	**280000**	NA	NA	NA	NA	NA	NA	**700**	<5.2	NA	NA	**7300**	<5.5
TCL SVOCs 8270C																
2-Methylnaphthalene	ug/kg	**NE**	**371**	**300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Acenaphthene	ug/kg	**NE**	**10900**	**4500000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Anthracene	ug/kg	**NE**	**119000**	**23000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)anthracene	ug/kg	**NE**	**2120**	**210000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)pyrene	ug/kg	**NE**	**1100**	**21000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(b)fluoranthene	ug/kg	**NE**	**11000**	**210000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(q,h,i)perylene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(k)fluoranthene	ug/kg	**NE**	**110000**	**2100000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Chrysene	ug/kg	**NE**	**1100000**	**21000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenz(a,h)Anthracene	ug/kg	**NE**	**1100**	**21000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenzofuran	ug/kg	**NE**	**293**	**100000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluorene	ug/kg	**NE**	**10700**	**3000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Indeno(1,2,3-c,d)Pyrene	ug/kg	**NE**	**11000**	**210000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Phenanthrene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Pyrene	ug/kg	**NE**	**26100**	**2300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
PCBs 8082																
PCBs	mg/kg				NA	NA	<0.062	NA	<0.061	<0.060	NA	NA	<0.061	<0.059	NA	NA
Pesticides 8081B																
4,4-DDD	ug/kg	**NE**	**29.6**	**2500**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDE	ug/kg	**NE**	**2160**	**35000**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDT	ug/kg	**NE**	**3700**	**52000**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
Herbicides 8151A																
2,4,5-T	ug/kg	**NE**	**NE**	**NE**	NA	NA	<26	NA	**52**	**42**	NA	NA	<24	<23	NA	NA
Dioxins 8290A																
2,3,7,8-TCDD	ng/kg	**NE**	**NE**	**NE**	**12.4**	NA	**0.691** J	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																
Antimony	mg/kg	**NE**	**3.1**	**47**	NA	NA	**13**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Arsenic	mg/kg	**NE**	**3.5**	**30**	**130**	**480**	**480**	**5.8**	NA	**7.7**	NA	NA	**2500**	**810**	NA	NA
Cadmium	mg/kg	**NE**	**7.1**	**98**	NA	NA	**5.9**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Chromium	mg/kg	**NE**	**3600000***	**NE***	NA	NA	**21**	NA	NA	NA	NA	NA	**22**	NA	NA	NA
Copper	mg/kg	**NE**	**310**	**4700**	NA	NA	**1400**	NA	NA	NA	NA	NA	**25**	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	**690**	NA	NA	NA	NA	NA	**69**	NA	NA	NA
Mercury	mg/kg	**NE**	**1.1**	**4.6**	NA	NA	**3.5**	NA	NA	NA	NA	NA	**0.26**	NA	NA	NA
Nickel	mg/kg	**NE**	**50.9**	**2200**	NA	NA	**14**	NA	NA	NA	NA	NA	**22**	NA	NA	NA
Selenium	mg/kg	**NE**	**5.2**	**580**	NA	NA	**4.4**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Silver	mg/kg	**NE**	**1.6**	**580**	NA	NA	**4.5**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Thallium	mg/kg	**NE**	**0.078**	**1.2**	NA	NA	<2.1	NA	NA	NA	NA	NA	<2.1	NA	NA	NA
Zinc	mg/kg	**NE**	**746**	**35000**	NA	NA	**2700**	NA	NA	NA	NA	NA	**79**	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-PSS = VDEQ petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 7. 2018 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2RSL	VDEQ-T3ISL	MW-23(11.5-12.5)	MW-24(8-9)	MW-25(9-10)
Sample Date:					1/22/18	1/22/18	1/22/18
TPH 8015							
TPH-GRO (C6-C10)	mg/kg	**8300**	**NE**	**NE**	**3.2**	<0.11	<0.12
TPH-DRO (C10-C28)	mg/kg	**11000**	**NE**	**NE**	**9000**	**58**	**220**
TCL VOCs 8260B							
Acetone	ug/kg	**NE**	**574000**	**67000000**	<3000	**34**	<25
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	**9700**	<4.7	<6.2
TCL SVOCs 8270C							
2-Methylnaphthalene	ug/kg	**NE**	**371**	**300000**	**16000**	<20	<110
Acenaphthene	ug/kg	**NE**	**10900**	**4500000**	**850000**	**35**	<110
Acenaphthylene	ug/kg	**NE**	**26100**	**2300000**	**52000**	**57**	<110
Anthracene	ug/kg	**NE**	**119000**	**23000000**	**780000**	**100**	<110
Benzo(a)anthracene	ug/kg	**NE**	**2120**	**210000**	**680000**	**430**	<110
Benzo(a)pyrene	ug/kg	**NE**	**1100**	**21000**	**570000**	**450**	<110
Benzo(b)fluoranthene	ug/kg	**NE**	**11000**	**210000**	**390000**	**400**	<110
Benzo(g,h,i)perylene	ug/kg	**NE**	**26100**	**2300000**	**190000**	**220**	<110
Benzo(k)fluoranthene	ug/kg	**NE**	**110000**	**2100000**	**420000**	**320**	<110
Biphenyl (Diphenyl)	ug/kg	**NE**	**17.4**	**20000**	**160000**	<200	<1100
Carbazole	ug/kg	**NE**	**NE**	**NE**	**180000**	<200	<1100
Chrysene	ug/kg	**NE**	**1100000**	**21000000**	**530000**	**440**	<110
Dibenz(a,h)Anthracene	ug/kg	**NE**	**1100**	**21000**	**130000**	**80**	<110
Dibenzofuran	ug/kg	**NE**	**293**	**100000**	**600000**	<200	<1100
Fluoranthene	ug/kg	**NE**	**178000**	**3000000**	**1600000**	**720**	**190**
Fluorene	ug/kg	**NE**	**10700**	**3000000**	**800000**	**43**	<110
Indeno(1,2,3-c,d)Pyrene	ug/kg	**NE**	**11000**	**210000**	**280000**	**280**	<110
Naphthalene	ug/kg	**NE**	**40.1**	**59000**	**62000**	<20	<110
Phenanthrene	ug/kg	**NE**	**26100**	**2300000**	**2100000**	**400**	**130**
Pyrene	ug/kg	**NE**	**26100**	**2300000**	**1300000**	**660**	**190**

NOTES:
(11.5-12.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2RSL = VDEQ Tier II residential screening level
VDEQ-T3ISL = VDEQ Tier III industrial screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 8. 2013 ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
TPH EPA 8015															
TPH-GRO	mg/L	NE	NE	NE	15	NE	NE	2.8	<0.1	<0.1	0.25	0.21	0.18	11	0.25
TPH-DRO	mg/L	NE	NE	NE	15	NE	NE	0.91	0.15	0.17	0.30	0.11	0.16	0.93	0.77
TCL VOCs EPA 8260B															
Benzene	ug/L	13.7	57.3	14.2	12	22	510	160	<1.0	<1.0	49	50	1.7	57	7.4
Cyclohexane	ug/L	103	424	3330	NE	NE	NE	150	<10	<10	<10	<10	<10	710	<10
Ethylbenzene	ug/L	34.1	152	591	4.3	530	2100	47	<1.0	<1.0	15	7.7	<1.0	80	<1.0
Isopropylbenzene	ug/L	89.3	383	19.9	NE	NE	NE	6.7	<1.0	<1.0	3.5	<1.0	1.2	<10	<1.0
Methylcyclohexane	ug/L	NE	NE	NE	NE	NE	NE	230	<10	<10	<10	<10	<10	520	<10
Naphthalene	ug/L	17.2	72.3	0.722	8.9	NE	NE	73	<1.0	<1.0	29	27	<1.0	50	19
Toluene	ug/L	1920	8100	949	43	510	6000	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	16	1.7
m,p-Xylenes	ug/L	150	1290	20.8	33	NE	NE	17	<2.0	<2.0	4.8	2.9	<2.0	76	<2.0
o-Xylene	ug/L	47.2	208	20.9	33	NE	NE	28	<1.0	<1.0	21	3.2	<1.0	<10	<1.0
TCL SVOCs EPA 8270C															
Acenaphthene	ug/L	NE	NE	2950	NE	670	990	<11	17	7.2	<5.0	<5.0	<5.0	<11	27
Acenaphthylene	ug/L	NE	NE	1430	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.5
Anthracene	ug/L	NE	NE	7850	NE	8300	40000	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	7.3
Biphenyl (Diphenyl)	ug/L	3.34	14.3	1.18	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	9.3
Carbazole	ug/L	NE	NE	NE	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Dibenzofuran	ug/L	NE	NE	48.4	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	22
Fluoranthene	ug/L	NE	NE	311	NE	130	140	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	12
Fluorene	ug/L	NE	NE	4370	NE	1100	5300	<11	5.9	<5.0	<5.0	<5.0	<5.0	<11	30
Naphthalene	ug/L	17.2	72.3	0.722	8.9	NE	NE	36	<5.0	<5.0	<5.0	8.4	<5.0	<11	13
Phenanthrene	ug/L	NE	NE	1430	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	25
Pyrene	ug/L	NE	NE	1430	NE	830	4000	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Total PPL Metals EPA 6020A															
Antimony	ug/L	NE	NE	78.6	NE	5.6	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	9.9
Arsenic	ug/L	NE	NE	197	NE	1	150	95	38	120	480	400	15	NA	370
Beryllium	ug/L	NE	NE	55	NE	NE	NE	26	<1.0	<1.0	60	1.8	<1.0	NA	<1.0
Cadmium	ug/L	NE	NE	19.2	NE	1.1	1.1	31	<1.0	13	32	6.7	<1.0	NA	2.5
Chromium	ug/L	NE	NE	NE	NE	NE	NE	180	<1.0	24	270	39	3.7	NA	3.5
Copper	ug/L	NE	NE	6570	NE	9	9	3300	<1.0	700	2000	790	1.4	NA	150
Lead	ug/L	NE	NE	NE	NE	11	11	1100	14	530	610	290	3.2	NA	76
Mercury	ug/L	0.0881	0.369	0.0086	NE	0.77	0.77	0.72	<0.20	0.38	0.26	<0.20	<0.20	NA	0.40
Nickel	ug/L	NE	NE	4950	NE	20	20	160	<1.0	38	1500	33	2.9	NA	6.6
Selenium	ug/L	NE	NE	3280	NE	5	5	<5.0	<1.0	3.7	5.8	7.6	<1.0	NA	<1.0
Silver	ug/L	NE	NE	48.4	NE	NE	NE	<1.0	<1.0	3.7	<1.0	<1.0	<1.0	NA	<1.0
Thallium	ug/L	NE	NE	26.3	NE	0.24	0.47	1.1	<1.0	1.0	1.0	<1.0	<1.0	NA	<1.0
Zinc	ug/L	NE	NE	236000	NE	120	120	19000	<20	6900	21000	1800	28	NA	8200
Dissolved PPL Metals EPA 6020A															
Arsenic	ug/L	NE	NE	197	NE	1	150	1.4	<1.0	14	420	38	5.0	NA	25
Beryllium	ug/L	NE	NE	55	NE	NE	NE	<1.0	<1.0	<1.0	32	<1.0	<1.0	NA	<1.0
Cadmium	ug/L	NE	NE	19.2	NE	1.1	1.1	<1.0	<1.0	6.4	39	<1.0	<1.0	NA	<1.0
Chromium	ug/L	NE	NE	NE	NE	NE	NE	<1.0	<1.0	<1.0	250	<1.0	<1.0	NA	<1.0
Copper	ug/L	NE	NE	6570	NE	9	9	<1.0	<1.0	52	1000	3.0	<1.0	NA	<1.0
Lead	ug/L	NE	NE	NE	NE	11	11	<1.0	<1.0	2.9	820	<1.0	<1.0	NA	<1.0
Mercury	ug/L	0.0881	0.369	0.0086	NE	0.77	0.77	<0.20	<0.20	<0.20	0.25	<0.20	<0.20	NA	<0.20
Nickel	ug/L	NE	NE	4950	NE	20	20	1.5	<1.0	24	1500	3.8	<1.0	NA	3.0

TABLE 8. 2013 ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
Selenium	ug/L	**NE**	**NE**	**3280**	**NE**	**5**	**5**	<1.0	<1.0	**1.7**	**4.3**	**7.2**	<1.0	NA	<1.0
Zinc	ug/L	**NE**	**NE**	**236000**	**NE**	**120**	**120**	**130**	<20	**4200**	**23000**	**530**	<20	NA	**6400**

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 9. GROUNDWATER ANALYTICAL RESULTS (OBTAINED DURING UST REMOVAL AND INCLUDES COMPARISON TO HISTORICAL DATA)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	TEC-MW2		TEC-MW3		TEC-MW4		TEC-MW5	
Date:								5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16
TPH 8015															
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**15**	**NE**	**NE**	ND	**0.29**	ND	**0.13**	ND	**0.75**	ND	<0.12
VOCs 8021B															
Benzene	ug/L	**13.7**	**57.3**	**14.2**	**12**	**22**	**510**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Toluene	ug/L	**1920**	**8100**	**949**	**43**	**510**	**6000**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Ethylbenzene	ug/L	**34.1**	**152**	**591**	**4.3**	**530**	**2100**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
m,p-Xylenes	ug/L	**150**	**1290**	**20.8**	**33**	**NE**	**NE**	ND	<2.0	ND	<2.0	ND	<2.0	ND	<2.0
o-Xylenes	ug/L	**47.2**	**208**	**20.9**	**33**	**NE**	**NE**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Naphthalene	ug/L	**17.2**	**72.3**	**0.722**	**8.9**	**NE**	**NE**	ND	**4.9**	ND	<1.0	ND	**4.3**	ND	<1.0

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
ND = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	TEC-MW2							TEC-MW4						
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																						
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**0.21**	**0.18**	**0.28**	**0.22**	<0.13	**0.12**	**0.15**	**0.21**	**0.26**	**0.30**	**0.17**	**0.11**	**0.19**	**0.60**
TCL VOCs 8260B																						
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	4.3	530	2100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	**2.5**	**2.8**	**2.3**	**1.5**	<1.0	**1.1**	**1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	NE	NE	NE	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	5	6.9	33	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	43	510	6000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	5	25	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	NE	NE	**2260**	70	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	NE	NE	**157**	100	140	10000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	33	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	33	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TCL SVOCs 8270C																						
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	**7860**	NE	**300**	**600**	NA	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	NE	NE	**27.37**	NE	**14**	**24**	NA	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	**1060**	NE	**77**	**290**	NA	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	NE	NE	**5388.61**	NE	**380**	**850**	NA	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2-Chlorophenol	ug/L	95-57-8	NE	NE	**1110**	NE	**81**	**150**	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	**59**	NE	NE	NE	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
2-Methyl phenol	ug/L	95-48-7	NE	NE	**30174.44**	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		NE	NE	NE	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	NE	NE	**2950**	NE	**670**	**990**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	**0.30**	<0.25
Acenaphthylene	ug/L	208-96-8	NE	NE	**1430**	NE	NE	NE	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Anthracene	ug/L	120-12-7	NE	NE	**7850**	NE	**8300**	**40000**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	**0.038**	**0.18**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Dibenzofuran	ug/L	132-64-9	NE	NE	**48.4**	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Fluoranthene	ug/L	206-44-0	NE	NE	**311**	NE	**130**	**140**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Fluorene	ug/L	86-73-7	NE	NE	**4370**	NE	**1100**	**5300**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Pentachlorophenol	ug/L	87-86-5	NE	NE	**5.54**	NE	**0.03**	**0.04**	NA	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	NE	NE	**1430**	NE	NE	NE	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Pyrene	ug/L	129-00-0	NE	NE	**1430**	NE	**830**	**4000**	NA	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	**12**	**22**	NA	<0.50	<0.50	<0.50	<0.50	**0.83**	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	ECS-MW4							MiHpt-05						
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																						
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.81**	**0.79**	**0.6**	**0.95**	**0.45**	**0.49**	**0.19**
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	<0.10	<0.10	**0.11**	<0.10	<0.10	<0.11	<0.11	**0.52**	**0.41**	**0.41**	**0.48**	**0.70**	**0.44**	**0.18**
TCL VOCs 8260B																						
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**110**	**150**	**130**	**130**	**100**	**91**	**67**
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	4.3	530	2100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**26**	**14**	**13**	**24**	**30**	**48**	<1.0
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.5**	**4.4**	**5.5**	**7.9**	**10**	**12**	**2.4**
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	**3.7**	**4.7**	**4.9**	**4.8**	**5.9**	**5.1**	**3.9**	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<1.0
Methylcyclohexane	ug/L	108-87-2	**NE**	**NE**	**NE**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**170**	**250**	**220**	**340**	**390**	**430**	**96**
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	5	6.9	33	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	43	510	6000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.4**	**1.0**	**1.5**	**2.6**	**2.9**	**2.8**	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	5	25	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	**NE**	**NE**	**2260**	70	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	**NE**	**NE**	**157**	100	140	10000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	33	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**12**	**18**	**19**	**22**	**27**	**26**	**6.4**
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	33	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**23**	**38**	**39**	**37**	**45**	**47**	**17**
TCL SVOCs 8270C																						
2,4,5-Trichlorophenol	ug/L	95-95-4	**NE**	**NE**	**7860**	NE	300	600	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	**NE**	**NE**	**27.37**	NE	14	24	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	**NE**	**NE**	**1060**	NE	77	290	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	**NE**	**NE**	**5388.61**	NE	380	850	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2-Chlorophenol	ug/L	95-57-8	**NE**	**NE**	**1110**	NE	81	150	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	**NE**	**NE**	**59**	NE	NE	NE	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	**16**	**1.9**	**1.4**	**8.0**	**36**	**53**	**0.65**
2-Methyl phenol	ug/L	95-48-7	**NE**	**NE**	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		**NE**	**NE**	**NE**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	**NE**	**NE**	**2950**	NE	670	990	<5.0	**2.5**	**2.1**	**1.1**	**5.0**	**7.4**	**7.1**	<5.3	**1.0**	<0.50	**1.7**	**8.7**	**15**	<0.25
Acenaphthylene	ug/L	208-96-8	**NE**	**NE**	**1430**	NE	NE	NE	<5.0	<0.50	<0.50	<0.50	**0.70**	**0.93**	**0.82**	<5.3	<0.50	<0.50	<0.50	<0.50	**0.50**	<0.25
Anthracene	ug/L	120-12-7	**NE**	**NE**	**7850**	NE	8300	40000	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.3	<0.50	<0.50	<0.50	<0.50	**0.29**	<0.25
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	0.038	0.18	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	**3.1**	<0.50
Carbazole	ug/L	86-74-8	**NE**	**NE**	**NE**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	**0.78**	<0.50
Dibenzofuran	ug/L	132-64-9	**NE**	**NE**	**48.4**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	**5.6**	<0.50
Fluoranthene	ug/L	206-44-0	**NE**	**NE**	**311**	NE	130	140	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.3	<0.50	<0.50	<0.50	<0.50	**0.68**	<0.25
Fluorene	ug/L	86-73-7	**NE**	**NE**	**4370**	NE	1100	5300	<5.0	**0.75**	**0.66**	<0.50	**1.3**	**1.9**	**1.8**	<5.3	**1.1**	<0.50	**1.3**	**4.9**	**7.0**	<0.25
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	**83**	**47**	**16**	**48**	**190**	**230**	**29**
Pentachlorophenol	ug/L	87-86-5	**NE**	**NE**	**5.54**	NE	0.03	0.04	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<5.3	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	**NE**	**NE**	**1430**	NE	NE	NE	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.3	<0.50	<0.50	**0.55**	**1.8**	**3.1**	<0.25
Pyrene	ug/L	129-00-0	**NE**	**NE**	**1430**	NE	830	4000	<5.0	<0.50	<0.50	<0.50	<0.50	**0.28**	<0.25	<5.3	<0.50	<0.50	<0.50	<0.50	**0.48**	<0.25
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	12	22	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	MiHpt-07							MiHpt-08						
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																						
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	**0.88**	**0.89**	**1.4**	**2.1**	**1**	**0.97**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**2.0**	**1.8**	**2.6**	**3.6**	**2.7**	**1.5**	**0.92**	**0.15**	**0.20**	**0.22**	**0.17**	<0.12	<0.10	<0.11
TCL VOCs 8260B																						
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	**25**	**31**	**59**	**75**	**88**	**93**	**5.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	4.3	530	2100	**61**	**57**	**94**	**110**	**140**	**120**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	**12**	**13**	**15**	**23**	**25**	**21**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	**1.0**	**1.6**	**1.4**	**1.7**	**1.7**	**1.6**	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	NE	NE	NE	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**830**	**720**	**970**	**1400**	**1900**	**1500**	**1.0**	**14**	**14**	<1.0	**21**	**20**	**16**	**1.1**
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	5	6.9	33	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	43	510	6000	**3.7**	**2.7**	**2.9**	**2.9**	**4.2**	**3.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	5	25	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	NE	NE	**2260**	70	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	NE	NE	**157**	100	140	10000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	33	NE	NE	**32**	**30**	**39**	**52**	**110**	**78**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	33	NE	NE	**32**	**38**	**56**	**61**	**77**	**70**	**1.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TCL SVOCs 8270C																						
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	**7860**	NE	**300**	**600**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	NE	NE	**27.37**	NE	**14**	**24**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	**1060**	NE	**77**	**290**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	NE	NE	**5388.61**	NE	**380**	**850**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2-Chlorophenol	ug/L	95-57-8	NE	NE	**1110**	NE	**81**	**150**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	**59**	NE	NE	NE	**40**	**28**	**4.7**	**37**	**190**	**270**	<0.25	<5.3	<0.50	<0.50	**0.74**	**1.0**	**1.9**	<0.25
2-Methyl phenol	ug/L	95-48-7	NE	NE	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	NE	NE	**2950**	NE	**670**	**990**	**36**	**38**	**14**	**25**	**74**	**130**	**61**	<5.3	**1.6**	**0.66**	**1.4**	**1.8**	**4.2**	**7.7**
Acenaphthylene	ug/L	208-96-8	NE	NE	**1430**	NE	NE	NE	<5.0	**1.2**	<0.50	**0.57**	**0.92**	**0.91**	**1.3**	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Anthracene	ug/L	120-12-7	NE	NE	**7850**	NE	**8300**	**40000**	<5.0	**1.6**	**0.61**	**1.7**	**3.3**	**5.1**	**3.1**	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	**0.038**	**0.18**	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	**7.0**	**7.1**	<5.0	**5.4**	**17**	**29**	**2.7**	<5.3	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	**6.0**	**2.5**	<5.3	<5.0	<5.0	<5.0	<5.0	**2.0**	<0.50
Dibenzofuran	ug/L	132-64-9	NE	NE	**48.4**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	**5.3**	**7.4**	**3.3**	<5.3	<5.0	<5.0	<5.0	<5.0	**1.4**	<0.50
Fluoranthene	ug/L	206-44-0	NE	NE	**311**	NE	**130**	**140**	<5.0	<0.50	<0.50	<0.50	**0.67**	**1.1**	**0.64**	<5.3	<0.50	<0.50	<0.50	<0.50	**0.38**	**0.29**
Fluorene	ug/L	86-73-7	NE	NE	**4370**	NE	**1100**	**5300**	**8.2**	**9.5**	**3.5**	**7.2**	**18**	**28**	**16**	<5.3	**0.51**	<0.50	**0.68**	**0.70**	**1.6**	**0.54**
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**200**	**170**	**73**	**170**	**740**	**1100**	<0.25	<5.3	**2.2**	<0.50	**4.1**	**4.8**	**7.6**	**0.91**
Pentachlorophenol	ug/L	87-86-5	NE	NE	**5.54**	NE	**0.03**	**0.04**	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	<5.3	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	NE	NE	**1430**	NE	NE	NE	**8.7**	**8.8**	**3.2**	**8.3**	**17**	**27**	**12**	<5.3	<0.50	<0.50	<0.50	<0.50	**1.2**	**0.30**
Pyrene	ug/L	129-00-0	NE	NE	**1430**	NE	**830**	**4000**	<5.0	<0.50	<0.50	<0.50	**0.77**	**1.3**	**0.74**	<5.3	<0.50	<0.50	<0.50	<0.50	<0.25	**0.26**
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	**12**	**22**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	MiHpt-14							MiHpt-15						
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																						
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	**0.33**	**0.41**	**0.28**	**0.41**	**0.22**	**0.21**	**0.18**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**0.75**	**1.2**	**1.5**	**1.3**	**0.59**	**0.84**	**1.0**	<0.10	<0.10	<0.10	<0.10	<0.11	<0.10	<0.13
TCL VOCs 8260B																						
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	**66**	**70**	**66**	**92**	**73**	**49**	**36**	**9.9**	**6.2**	<1.0	**1.6**	**11**	**4.7**	<1.0
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	**1.4**	**1.3**	**2.2**	**1.1**	**6.8**	**9.1**	**10**	**7.7**	**63**	**12**	**43**	**1.7**	**5.8**	**49**
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	4.3	530	2100	**5.4**	**7.4**	**6.0**	**9.8**	**10**	**6.4**	**3.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	<1.0	<1.0	<1.0	**1.3**	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	NE	NE	NE	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**37**	**48**	**48**	**62**	**56**	**39**	**39**	<1.0	**1.1**	<1.0	<1.0	**1.1**	**1.5**	<1.0
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	5	6.9	33	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	43	510	6000	**5.6**	**5.6**	**4.7**	**6.1**	**6.2**	**5.0**	**4.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	5	25	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	NE	NE	**2260**	70	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	NE	NE	**157**	100	140	10000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	33	NE	NE	**2.8**	**4.5**	**3.8**	**4.9**	**5.8**	**4.0**	**2.6**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	33	NE	NE	**4.8**	**7.4**	**5.7**	**8.5**	**9.2**	**6.1**	**3.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TCL SVOCs 8270C																						
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	**7860**	NE	300	600	<5.0	<5.0	<5.3	<5.0	<2.0	**0.70**	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	NE	NE	**27.37**	NE	14	24	<5.0	<5.0	<5.3	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	**1060**	NE	77	290	**13**	<5.0	<5.3	<5.0	<2.0	**7.8**	**8.5**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	NE	NE	**5388.61**	NE	380	850	<5.3	<5.0	<5.3	<5.0	<2.0	**0.63**	**0.56**	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50
2-Chlorophenol	ug/L	95-57-8	NE	NE	**1110**	NE	81	150	<5.0	<5.0	<5.3	<5.0	<5.0	**1.2**	**0.92**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	**59**	NE	NE	NE	<5.0	**0.68**	<0.53	**0.54**	**1.1**	**2.1**	**2.4**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
2-Methyl phenol	ug/L	95-48-7	NE	NE	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.3	<5.0	<5.0	**0.78**	**0.92**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.3	<5.0	<5.0	**1.7**	**1.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	NE	NE	**2950**	NE	670	990	**12**	**8.5**	**2.5**	**5.9**	**18**	**34**	**28**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Acenaphthylene	ug/L	208-96-8	NE	NE	**1430**	NE	NE	NE	<5.0	<0.50	<0.53	<0.50	**1.2**	**2.0**	**2.1**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Anthracene	ug/L	120-12-7	NE	NE	**7850**	NE	8300	40000	**6.3**	**2.4**	**0.83**	**1.6**	**3.8**	**9.1**	**8.9**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	0.038	0.18	<5.3	<0.50	<0.50	<0.50	<0.50	**0.41**	**0.36**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	<5.0	<5.0	<5.3	<5.0	<5.0	**6.5**	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	**7.4**	<5.0	<5.3	<5.0	**13**	**20**	**14**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Dibenzofuran	ug/L	132-64-9	NE	NE	**48.4**	NE	NE	NE	**13**	**7.2**	<5.3	<5.0	**14**	**28**	**24**	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Fluoranthene	ug/L	206-44-0	NE	NE	**311**	NE	130	140	<5.0	**1.9**	**0.60**	**1.1**	**2.5**	**6.0**	**5.2**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Fluorene	ug/L	86-73-7	NE	NE	**4370**	NE	1100	5300	**18**	**9.6**	**2.9**	**6.0**	**17**	**35**	**31**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**10**	**8.8**	**2.9**	**7.1**	**17**	**29**	**20**	<5.0	**1.7**	**1.8**	<0.50	**0.62**	**0.66**	<0.25
Pentachlorophenol	ug/L	87-86-5	NE	NE	**5.54**	NE	0.03	0.04	<5.0	<5.0	<5.3	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	NE	NE	**1430**	NE	NE	NE	**21**	**6.9**	**2.3**	**4.1**	**10**	**24**	**25**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Pyrene	ug/L	129-00-0	NE	NE	**1430**	NE	830	4000	<5.0	**1.3**	<0.53	**0.71**	**1.8**	**4.0**	**3.6**	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	12	22	<5.0	<0.50	<0.53	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	MiHpt-20							MiHpt-21						
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																						
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	**0.18**	**0.14**	**0.16**	<0.1	<0.1	<0.1	<0.1	**7.5**	**15**	**4.5**	**12**	**12**	**12**	**8.9**
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**0.72**	**0.62**	**0.77**	<0.10	<0.10	<0.10	<0.11	**1.7**	**1.2**	**2.3**	**2.4**	**2.2**	**1.5**	**2.5**
TCL VOCs 8260B																						
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<50	<100	**19**	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	**14**	**13**	**14**	<1.0	<1.0	<1.0	<1.0	**58**	**59**	**75**	**74**	**77**	**71**	**58**
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	<1.0	<1.0	<1.0	**1.2**	**1.4**	**1.3**	**1.4**	<5.0	<10	<1.0	**8.4**	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	**560**	**710**	**460**	**1200**	**1500**	**1600**	**490**
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	4.3	530	2100	**1.4**	<1.0	**1.5**	<1.0	<1.0	<1.0	<1.0	**150**	**160**	**73**	**140**	**170**	**150**	**130**
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**17**	**15**	**8.4**	**15**	**14**	**12**	**11**
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	**NE**	**NE**	**NE**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	**460**	**690**	**340**	**670**	**740**	**690**	**280**
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**67**	**42**	**64**	<1.0	<1.0	<1.0	<1.0	**6.4**	<10	**3.2**	**3.2**	**3.1**	**3.3**	**2.2**
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	5	6.9	33	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**47**	**64**	**26**	**60**	**76**	**70**	**46**
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	43	510	6000	**2.6**	**2.0**	**2.2**	<1.0	<1.0	<1.0	<1.0	**45**	**44**	**31**	**46**	**67**	**62**	**52**
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	5	25	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	**11**	**10**	**14**	**27**	**26**	**24**
cis-1,2-Dichloroethene	ug/L	156-59-2	**NE**	**NE**	**2260**	70	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	**2.1**	**5.4**	**4.4**	**6.4**
trans-1,2-Dichloroethene	ug/L	156-60-5	**NE**	**NE**	**157**	100	140	10000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**6.1**	**5.5**	**4.4**
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	33	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**190**	**240**	**110**	**200**	**250**	**240**	**190**
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	33	NE	NE	**1.4**	**1.1**	**1.6**	<1.0	<1.0	<1.0	<1.0	**9.1**	**11**	**4.6**	**7.6**	**11**	**9.6**	**8.2**
TCL SVOCs 8270C																						
2,4,5-Trichlorophenol	ug/L	95-95-4	**NE**	**NE**	**7860**	NE	300	600	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	**53**	**19**	**11**	**32**	**32**	**75**	**50**
2,4,6-Trichlorophenol	ug/L	88-06-2	**NE**	**NE**	**27.37**	NE	14	24	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	**3.3**	**1.6**
2,4-Dichlorophenol	ug/L	120-83-2	**NE**	**NE**	**1060**	NE	77	290	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	**710**	**220**	**120**	**370**	**290**	**920**	**700**
2,4-Dimethylphenol	ug/L	105-67-9	**NE**	**NE**	**5388.61**	NE	380	850	<5.0	<5.0	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<2.0	**0.61**	**0.78**
2-Chlorophenol	ug/L	95-57-8	**NE**	**NE**	**1110**	NE	81	150	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	**8.3**	<5.0	<5.0	**5.1**	**13**	**47**	**42**
2-Methylnaphthalene	ug/L	91-57-6	**NE**	**NE**	**59**	NE	NE	NE	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	**0.35**	**0.32**
2-Methyl phenol	ug/L	95-48-7	**NE**	**NE**	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		**NE**	**NE**	**NE**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	**1.1**	<0.50
Acenaphthene	ug/L	83-32-9	**NE**	**NE**	**2950**	NE	670	990	**6.3**	**1.7**	**2.0**	<0.50	<0.50	**0.30**	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Acenaphthylene	ug/L	208-96-8	**NE**	**NE**	**1430**	NE	NE	NE	<5.0	**0.94**	**1.2**	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Anthracene	ug/L	120-12-7	**NE**	**NE**	**7850**	NE	8300	40000	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	0.038	0.18	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Carbazole	ug/L	86-74-8	**NE**	**NE**	**NE**	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Dibenzofuran	ug/L	132-64-9	**NE**	**NE**	**48.4**	NE	NE	NE	**11**	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<5.0	<5.0	<0.50	<0.50
Fluoranthene	ug/L	206-44-0	**NE**	**NE**	**311**	NE	130	140	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Fluorene	ug/L	86-73-7	**NE**	**NE**	**4370**	NE	1100	5300	**12**	**2.5**	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	8.9	NE	NE	**13**	**4.3**	**5.7**	**0.52**	<0.50	**0.62**	<0.25	**35**	**0.66**	<0.50	**26**	**48**	**1.1**	<0.25
Pentachlorophenol	ug/L	87-86-5	**NE**	**NE**	**5.54**	NE	0.03	0.04	<5.0	<5.0	<5.0	<5.0	<5.0	<2.0	<2.0	**13**	<5.0	<5.0	**6.8**	**7.8**	**22**	**15**
Phenanthrene	ug/L	85-01-8	**NE**	**NE**	**1430**	NE	NE	NE	**10**	**1.5**	**1.7**	<0.50	<0.50	**0.25**	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
Pyrene	ug/L	129-00-0	**NE**	**NE**	**1430**	NE	830	4000	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25	<5.0	<0.50	<0.50	<0.50	<0.50	<0.25	<0.25
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	12	22	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	MiHpt-22							MW-23				
Sample Date:									9/21/16	2/7/17	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																				
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	**0.38**	**2.3**	**0.27**	**0.56**	**0.23**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**0.27**	**0.19**	**33**	**0.38**	**0.12**	<0.11	**0.16**	**0.28**	**0.15**	<0.10	<0.10	**0.46**
TCL VOCs 8260B																				
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<5.0	**5.2**
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	12	22	510	**130**	**630**	**34**	**200**	**93**	**33**	<1.0	<1.0	<1.0	<1.0	<1.0	**2.8**
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<10	<10	<1.0	<1.0	<10	<10	<10	<1.0	<1.0
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	80	340	11000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	**10**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	**4.3**	**530**	**2100**	**1.6**	**16**	<1.0	**2.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	<1.0	**1.6**	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	15	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.3**	**5.5**	**5.7**	**6.4**	<1.0
Methylcyclohexane	ug/L	108-87-2	NE	NE	NE	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	**8.9**	NE	NE	<1.0	**3.1**	**1.3**	<1.0	**1.1**	<1.0	<1.0	**1.4**	**1.3**	<1.0	<1.0	<1.0
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	**5**	**6.9**	**33**	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	**43**	**510**	**6000**	<1.0	**3.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	**5**	**25**	**300**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	NE	NE	**2260**	**70**	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	NE	NE	**157**	**100**	**140**	**10000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	**33**	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	**33**	NE	NE	<1.0	**8.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
TCL SVOCs 8270C																				
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	**7860**	NE	**300**	**600**	<5.0	<5.0	<5.6	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	NE	NE	**27.37**	NE	**14**	**24**	<5.0	<5.0	<5.6	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	**1060**	NE	**77**	**290**	<5.0	<5.0	<5.6	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	NE	NE	**5388.61**	NE	**380**	**850**	<5.0	<5.0	<5.6	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2-Chlorophenol	ug/L	95-57-8	NE	NE	**1110**	NE	**81**	**150**	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	**59**	NE	NE	NE	<5.0	<0.50	<0.56	<0.50	**0.69**	<0.25	<0.25	<0.50	<0.50	<0.50	<0.25	<0.25
2-Methyl phenol	ug/L	95-48-7	NE	NE	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	NE	NE	**2950**	NE	**670**	**990**	<5.0	<0.50	<0.56	<0.50	**0.75**	<0.25	<0.25	**0.90**	**1.5**	**7.2**	**6.8**	**19**
Acenaphthylene	ug/L	208-96-8	NE	NE	**1430**	NE	NE	NE	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	<0.50	<0.50	<0.50	<0.25	**1.2**
Anthracene	ug/L	120-12-7	NE	NE	**7850**	NE	**8300**	**40000**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	<0.50	<0.50	**0.50**	**0.47**	**4.7**
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	**0.038**	**0.18**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	**3.7**	**23**
Dibenzofuran	ug/L	132-64-9	NE	NE	**48.4**	NE	NE	NE	<5.0	<5.0	<5.6	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	**3.7**	**15**
Fluoranthene	ug/L	206-44-0	NE	NE	**311**	NE	**130**	**140**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	<0.50	<0.50	**0.67**	**0.77**	**6.5**
Fluorene	ug/L	86-73-7	NE	NE	**4370**	NE	**1100**	**5300**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	**0.52**	**0.77**	**3.8**	**3.4**	**7.4**
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	**8.9**	NE	NE	<5.0	<0.50	<0.56	<0.50	**0.99**	<0.25	<0.25	<0.50	<0.50	<0.50	<0.25	<0.25
Pentachlorophenol	ug/L	87-86-5	NE	NE	**5.54**	NE	**0.03**	**0.04**	<5.0	<5.0	<5.6	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	NE	NE	**1430**	NE	NE	NE	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	**0.60**	<0.50	**1.5**	**1.5**	**0.48**
Pyrene	ug/L	129-00-0	NE	NE	**1430**	NE	**830**	**4000**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.25	<0.25	<0.50	<0.50	<0.50	**0.56**	**4.5**
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	**12**	**22**	<5.0	<0.50	<0.56	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 10. 2016-2020 A-ZONE/ICOR GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3IGSL	VDEQ-T3CDSL	VDEQ-PDS	VDEQ-T2PWSSL	VDEQ-T2SWFSL	MW-24					MW-25				
Sample Date:									1/29/18	6/7/18	7/11/19	2/5/20	8/20/20	1/29/18	6/7/18	7/11/19	2/5/20	8/20/20
TPH 8015																		
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	15	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1	**0.11**	**0.16**	<0.1	<0.1	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	15	NE	NE	**1.1**	**0.61**	**0.13**	**0.47**	**0.16**	**0.45**	**0.33**	**0.16**	**0.26**	**0.18**
TCL VOCs 8260B																		
Acetone	ug/L	67-64-1	**2240000**	**9780000**	**13400**	NE	NE	NE	<10	<10	<10	<5.0	<5.0	<10	<10	<10	<5.0	<5.0
Benzene	ug/L	71-43-2	**13.7**	**57.3**	**14.2**	**12**	**22**	**510**	<1.0	<1.0	<1.0	<1.0	<1.0	**14**	**17**	**26**	**23**	**11**
Carbon Disulfide	ug/L	75-15-0	**124**	**527**	**122**	NE	NE	NE	<10	<10	<10	<1.0	<1.0	<10	<10	**15**	**11**	**5.6**
Chloroform	ug/L	67-66-3	**8**	**35.3**	**54.3**	**80**	**340**	**11000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	74-87-3	**26.07**	**108.16**	**432.29**	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**103**	**424**	**3330**	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**34.1**	**152**	**591**	**4.3**	**530**	**2100**	<1.0	<1.0	<1.0	<1.0	<1.0	**2.3**	**2.1**	**2.8**	**2.3**	**1.1**
Isopropylbenzene	ug/L	98-82-8	**89.3**	**383**	**19.9**	NE	NE	NE	**1.7**	**2.7**	<1.0	**2.8**	<1.0	**1.6**	**1.7**	**1.5**	**1.3**	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4580**	**19600**	**524**	**15**	NE	NE	**3.9**	**1.9**	**1.5**	**3.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	NE	NE	NE	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	**8.9**	NE	NE	**2.6**	**3.4**	<1.0	**2.1**	<1.0	**83**	**77**	**78**	**65**	**24**
Tetrachloroethene (PCE)	ug/L	127-18-4	**5.8**	**24.9**	**10.4**	**5**	**6.9**	**33**	<5.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8100**	**949**	**43**	**510**	**6000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	79-01-6	**0.521**	**2.19**	**0.46**	**5**	**25**	**300**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	ug/L	156-59-2	NE	NE	**2260**	**70**	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	ug/L	156-60-5	NE	NE	**157**	**100**	**140**	**10000**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**150**	**1290**	**20.8**	**33**	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**47.2**	**208**	**20.9**	**33**	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	**2.4**	**1.9**	**2.5**	**2.1**	<1.0
TCL SVOCs 8270C																		
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	**7860**	NE	**300**	**600**	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4,6-Trichlorophenol	ug/L	88-06-2	NE	NE	**27.37**	NE	**14**	**24**	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	**1060**	NE	**77**	**290**	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	<0.50	<0.50
2,4-Dimethylphenol	ug/L	105-67-9	NE	NE	**5388.61**	NE	**380**	**850**	<5.0	<5.0	<2.0	<0.50	<0.50	<5.0	<5.0	<2.0	**0.54**	<0.50
2-Chlorophenol	ug/L	95-57-8	NE	NE	**1110**	NE	**81**	**150**	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	**59**	NE	NE	NE	<0.50	<0.50	<0.50	<0.25	<0.25	<0.50	**0.58**	**1.9**	**3.5**	**0.85**
2-Methyl phenol	ug/L	95-48-7	NE	NE	**30174.44**	NE	NE	NE	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
3&4-Methylphenol	ug/L		NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	<0.50	<0.50
Acenaphthene	ug/L	83-32-9	NE	NE	**2950**	NE	**670**	**990**	**2.5**	**8.3**	**8.0**	**56**	**15**	**0.81**	**1.5**	**5.0**	**11**	**5.3**
Acenaphthylene	ug/L	208-96-8	NE	NE	**1430**	NE	NE	NE	<0.50	<0.50	<0.50	**0.38**	<0.25	<0.50	<0.50	<0.50	<0.25	<0.25
Anthracene	ug/L	120-12-7	NE	NE	**7850**	NE	**8300**	**40000**	**0.55**	**1.1**	**0.73**	**7.2**	**1.2**	<0.50	<0.50	<0.50	**0.71**	**0.54**
Benzo(a)anthracene	ug/L	56-55-3	**346.52**	**4076.67**	**69.33**	NE	**0.038**	**0.18**	<0.50	<0.50	<0.50	**0.25**	<0.25	<0.50	<0.50	<0.50	<0.25	<0.25
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.34**	**14.3**	**1.18**	NE	NE	NE	<5.0	<5.0	<5.0	<0.50	<0.50	<5.0	<5.0	<5.0	**1.3**	<0.50
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	**0.79**	<0.50	<5.0	<5.0	<5.0	**5.8**	**2.9**
Dibenzofuran	ug/L	132-64-9	NE	NE	**48.4**	NE	NE	NE	<5.0	<5.0	<5.0	**23**	**2.1**	<5.0	<5.0	<5.0	**3.7**	**1.6**
Fluoranthene	ug/L	206-44-0	NE	NE	**311**	NE	**130**	**140**	**1.1**	**0.91**	**0.87**	**6.7**	**2.9**	<0.50	<0.50	<0.50	**1.1**	**0.79**
Fluorene	ug/L	86-73-7	NE	NE	**4370**	NE	**1100**	**5300**	**1.3**	**3.9**	**3.8**	**28**	**5.8**	<0.50	**0.75**	**2.5**	**5.3**	**2.6**
Naphthalene	ug/L	91-20-3	**17.2**	**72.3**	**0.722**	**8.9**	NE	NE	<0.50	<0.50	<0.50	**0.98**	<0.25	**3.5**	**6.1**	**20**	**35**	**8.3**
Pentachlorophenol	ug/L	87-86-5	NE	NE	**5.54**	NE	**0.03**	**0.04**	<5.0	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0
Phenanthrene	ug/L	85-01-8	NE	NE	**1430**	NE	NE	NE	**2.2**	**5.8**	**3.5**	**34**	**0.50**	<0.50	**1.1**	**2.6**	**5.7**	**3.1**
Pyrene	ug/L	129-00-0	NE	NE	**1430**	NE	**830**	**4000**	**0.88**	**0.59**	**0.56**	**4.3**	**2.2**	<0.50	<0.50	<0.50	**0.70**	**0.62**
bis(2-ethylhexyl) phthalate	ug/L	117-81-7	**0.00252**	**0.01122**	**0.02572**	NE	**12**	**22**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater vapor intrusion screening level
VDEQ-T3CGSL = VDEQ Tier III industrial groundwater vapor intrusion screening level
VDEQ-T3CDSL = VDEQ Tier III construction direct (<15 feet) screening level
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-T2PWSSL = VDEQ Tier II public water supply screening level
VDEQ-T2SWFSL = VDEQ Tier II surface water fresh screening level
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Blue highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 11. SUB-SLAB SOIL GAS ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RSSG	VDEQ-T3ISSG	ICOR-SSG1	ICOR-SSG2	ICOR-SSG3	ICOR-SSG4
Sample Date:				12/5/16	12/5/16	12/5/16	12/5/16
VOCs TO15							
1,2,4-Trimethylbenzene	ug/m3	**210**	**867**	**6.5**	**6.3**	<25	**6.1**
2,2,4-Trimethylpentane	ug/m3	**NE**	**NE**	**8.6**	**9.9**	**63**	**11**
2-Butanone (MEK)	ug/m3	**17300**	**73300**	**11**	**18**	<37	**16**
Acetone	ug/m3	**10700**	**467000**	**46**	**260**	<240	**540**
Benzene	ug/m3	**103**	**433**	**2.4**	**3.0**	<16	**4.0**
Chloroform	ug/m3	**40**	**177**	**7.0**	<2.4	<24	**23**
Cyclohexane	ug/m3	**21000**	**86700**	**1.8**	**4.9**	**150**	**18**
Dichlorodifluoromethane	ug/m3	**333**	**1470**	**3.6**	**4.9**	<25	**8.8**
Ethylbenzene	ug/m3	**367**	**1630**	**7.5**	**7.9**	<22	**8.0**
Propylene	ug/m3	**10300**	**43300**	**9.9**	**8.5**	<43	**37**
Tetrahydrofuran	ug/m3	**7000**	**29300**	**22**	**28**	**26**	**29**
Toluene	ug/m3	**17300**	**73300**	**32**	**43**	**35**	**38**
m,p-Xylenes	ug/m3	**333**	**1470**	**27**	**28**	**47**	**29**
n-Heptane	ug/m3	**1400**	**6000**	**2.7**	**3.4**	<20	**5.3**
o-Xylene	ug/m3	**333**	**1470**	**14**	**14**	**26**	**15**

NOTES:
VOCs = volatile organic compounds
TO15 = United States Environmental Protection Agency analytical method
ug/m3 = micrograms per meter cubed
<0.86 = not detected above the analytical method reporting limit (RL)
Bold and right justification designates constituent was detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RSSG = VDEQ Tier III residential Shallow/Subslab Soil Gas screening Level
VDEQ-T3ISSG = VDEQ Tier III industrial Shallow/Subslab Soil Gas Screening Level
NE = not established
Bold and center justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 12. DEEP SOIL GAS ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RDSG	VDEQ-T3IDSG	VDEQ-T3CSG	ICOR-DSG1	ICOR-DSG2	ICOR-DSG3	ICOR-DSG4
Sample Date:					12/5/16	12/5/16	12/5/16	12/5/16
Depth Collected (feet bgs):					6 - 6.5	5 - 5.5	3.5 - 4	2 - 2.5
VOCs TO15								
1,2,4-Trimethylbenzene	ug/m3	**630**	**2600**	**9689**	**7.7**	**8.2**	**4.8**	<25
1,3,5-Trimethylbenzene	ug/m3	**630**	**2600**	**1390**	<2.5	**2.9**	<2.5	<25
2,2,4-Trimethylpentane	ug/m3	**NE**	**NE**	**NE**	**490**	**4.0**	**11**	**400**
2-Butanone (MEK)	ug/m3	**52000**	**220000**	**91700**	<3.7	**5.6**	**4.1**	**180**
4-Methyl-2-Pentanone	ug/m3	**31000**	**130000**	**365000**	<5.1	<5.1	<5.1	**300**
Acetone	ug/m3	**320000**	**1400000**	**2450000**	**65**	**43**	**30**	**19000**
Benzene	ug/m3	**310**	**1300**	**7500**	**18**	**130**	**5.4**	<16
Carbon Disulfide	ug/m3	**7300**	**31000**	**55200**	**76**	**53**	<31	<310
Chloroethane	ug/m3	**NE**	**NE**	**NE**	<1.3	<1.3	**1.5**	<13
Chloroform	ug/m3	**120**	**530**	**2660**	**5.9**	**17**	**5.5**	<24
Cyclohexane	ug/m3	**63000**	**260000**	**1890000**	**190**	**68**	**73**	**320**
Ethylbenzene	ug/m3	**1100**	**4900**	**358000**	**7.2**	**2.7**	**5.8**	<22
Naphthalene	ug/m3	**31**	**130**	**416**	**6.7**	<2.6	<2.6	<26
Propylene	ug/m3	**31000**	**130000**	**229000**	**450**	**640**	**870**	**600**
Toluene	ug/m3	**52000**	**220000**	**539000**	**20**	**8.1**	**18**	**22**
m,p-Xylenes	ug/m3	**1000**	**4400**	**12300**	**22**	**11**	**21**	<43
n-Heptane	ug/m3	**4200**	**18000**	**51700**	**20**	**9.8**	**8.6**	**130**
n-Hexane	ug/m3	**7300**	**31000**	**230000**	**100**	<35	<35	**640**
n-Propylbenzene	ug/m3	**10000**	**44000**	**139000**	**2.5**	<2.5	<2.5	<25
o-Xylene	ug/m3	**1000**	**4400**	**12200**	**13**	**7.5**	**12**	<22

NOTES:
bgs = below ground surface
VOCs = volatile organic compounds
TO15 = United States Environmental Protection Agency analytical method
ug/m3 = micrograms per meter cubed
<1.3 = not detected above the analytical method reporting limit (RL)
Bold and right justification designates constituent was detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RDSG = VDEQ Tier III residential Deep Soil Gas Screening Level
VDEQ-T3IDSG = VDEQ Tier III commercial Deep Soil Gas Screening Level
VDEQ-T3CSG = VDEQ Tier III Construction Soil Gas Screening Level
NE = not established
Bold and center justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

ATTACHMENT 1

VURAM RESIDENTIAL OUTPUT

Virginia Department of Environmental Quality

VURAM

Virginia Unified Risk Assessment Model

VERSION: 3.2.2

Residential Quantitative Risk Assessment Report

Program: Voluntary Remediation Program (VRP)

Site Name: RTN500501UNIONST

By submitting this report to the Virginia DEQ, the user confirms that VURAM's default exposure parameters have not been altered, unless a complete unaltered VURAM analysis is provided and all modifications are detailed explicitly in an accompanying narrative or documentation that shows DEQ's prior concurrence with specific changes.

Chemical Specific Notes Displayed as Applicable

Lead

VURAM does not perform an evaluation for lead exposure. Use other approved models for lead modeling.

All Report Pages are Required for Risk Assessment Submission

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Acenaphthene

CAS: 83-32-9

Concentration mg/kg :	8.50E+02
RfDo (mg/kg-day):	6.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	1.70E-02	Ingestion:	1.81E-01	Ingestion:	
Dermal:	9.32E-03	Dermal:	5.59E-02	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**2.63E-02**	**Total:**	**2.37E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.11%		0.17%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Acenaphthylene

CAS: 208-96-8

Concentration mg/kg :	5.20E+01
RfDo (mg/kg-day):	3.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.08E-03	Ingestion:	2.22E-02	Ingestion:	
Dermal:	1.14E-03	Dermal:	6.84E-03	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**3.22E-03**	**Total:**	**2.90E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.01%		0.02%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Anthracene

CAS: 120-12-7

Concentration mg/kg :	7.80E+02
RfDo (mg/kg-day):	3.00E-01
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	3.12E-03	Ingestion:	3.32E-02	Ingestion:	
Dermal:	1.71E-03	Dermal:	1.03E-02	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**4.83E-03**	**Total:**	**4.35E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.02%		0.03%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Antimony (metallic)

CAS: 7440-36-0

Concentration mg/kg :	1.80E+01
RfDo (mg/kg-day):	4.00E-04
RfCi (mg/m3):	3.00E-04
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	5.39E-02	Ingestion:	5.75E-01	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	4.23E-05	Inhalation:	4.23E-05	Inhalation:	
Total:	**5.40E-02**	**Total:**	**5.75E-01**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.22% 0.41% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Arsenic, Inorganic

CAS: 7440-38-2

Concentration mg/kg :	2.50E+03
RfDo (mg/kg-day):	3.00E-04
RfCi (mg/m3):	1.50E-05
SFO (mg/kg-day)-1:	1.50E+00
IUR (µg/m3)-1:	4.30E-03
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	5.99E+00	Ingestion:	6.39E+01	Ingestion:	3.24E-03
Dermal:	1.27E+00	Dermal:	7.58E+00	Dermal:	4.55E-04
Inhalation:	1.18E-01	Inhalation:	1.18E-01	Inhalation:	2.82E-06
Total:	**7.38E+00**	**Total:**	**7.16E+01**	**Total:**	**3.69E-03**

% Contribution to Media Hazard/Risk 30.26% 51.48% 33.13%

Exceeds Hazard! Exceeds Risk!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*3.39E+02*	*3.49E+01*	*6.77E-01*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Benz[a]anthracene

CAS: 56-55-3

Concentration mg/kg :	6.80E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	1.00E-01
IUR (µg/m3)-1:	6.00E-05
Mutagen:	Y
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	4.44E-04
Dermal:		Dermal:		Dermal:	1.48E-04
Inhalation:		Inhalation:		Inhalation:	9.15E-06
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**6.01E-04**
% Contribution to Media Hazard/Risk	0.00%		0.00%		5.39%

Exceeds Risk! mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*N/A*	*N/A*	*1.13E+00*

Analyte: Benzene

CAS: 71-43-2

Concentration mg/kg :	5.12E+00
RfDo (mg/kg-day):	4.00E-03
RfCi (mg/m3):	3.00E-02
SFO (mg/kg-day)-1:	5.50E-02
IUR (µg/m3)-1:	7.80E-06
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	1.53E-03	Ingestion:	1.64E-02	Ingestion:	4.05E-07
Dermal:		Dermal:		Dermal:	
Inhalation:	4.62E-02	Inhalation:	4.62E-02	Inhalation:	4.02E-06
Total:	**4.78E-02**	**Total:**	**6.26E-02**	**Total:**	**4.42E-06**
% Contribution to Media Hazard/Risk	0.20%		0.04%		0.04%

Exceeds Risk! mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*N/A*	*N/A*	*1.16E+00*

Analyte: Benzo(g,h,i)perylene

CAS: 191-24-2

Concentration mg/kg :	1.90E+02
RfDo (mg/kg-day):	3.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	7.59E-03	Ingestion:	8.10E-02	Ingestion:	
Dermal:	4.17E-03	Dermal:	2.50E-02	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**1.18E-02**	**Total:**	**1.06E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.05%		0.08%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Benzo[a]pyrene

CAS: 50-32-8

Concentration mg/kg :	5.70E+02
RfDo (mg/kg-day):	3.00E-04
RfCi (mg/m3):	2.00E-06
SFO (mg/kg-day)-1:	1.00E+00
IUR (µg/m3)-1:	6.00E-04
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	2.28E+00	Ingestion:	2.43E+01	Ingestion:	3.72E-03
Dermal:	1.25E+00	Dermal:	7.49E+00	Dermal:	1.24E-03
Inhalation:	2.01E-01	Inhalation:	2.01E-01	Inhalation:	2.48E-07
Total:	**3.73E+00**	**Total:**	**3.20E+01**	**Total:**	**4.96E-03**
% Contribution to Media Hazard/Risk	15.30%		22.99%		44.51%

Exceeds Hazard! Exceeds Risk!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*1.53E+02*	*1.78E+01*	*1.15E-01*

Analyte: Benzo[b]fluoranthene

CAS: 205-99-2

Concentration mg/kg :	3.90E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	1.00E-01
IUR (µg/m3)-1:	6.00E-05
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:		Ingestion:		Ingestion:	2.55E-04
Dermal:		Dermal:		Dermal:	8.50E-05
Inhalation:		Inhalation:		Inhalation:	1.70E-08
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**3.40E-04**
% Contribution to Media Hazard/Risk	0.00%		0.00%		3.05%

Exceeds Risk!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*1.15E+00*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Benzo[k]fluoranthene

CAS: 207-08-9

Concentration mg/kg :	4.20E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	1.00E-02
IUR (µg/m3)-1:	6.00E-06
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	2.74E-05
Dermal:		Dermal:		Dermal:	9.15E-06
Inhalation:		Inhalation:		Inhalation:	1.83E-09
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**3.66E-05**
% Contribution to Media Hazard/Risk	0.00%		0.00%		0.33%

Exceeds Risk! mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*N/A*	*N/A*	*1.15E+01*

Analyte: Biphenyl, 1,1'-

CAS: 92-52-4

Concentration mg/kg :	1.60E+02
RfDo (mg/kg-day):	5.00E-01
RfCi (mg/m3):	4.00E-04
SFO (mg/kg-day)-1:	8.00E-03
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	3.84E-04	Ingestion:	4.09E-03	Ingestion:	1.84E-06
Dermal:		Dermal:		Dermal:	
Inhalation:	3.36E+00	Inhalation:	3.36E+00	Inhalation:	
Total:	**3.37E+00**	**Total:**	**3.37E+00**	**Total:**	**1.84E-06**
% Contribution to Media Hazard/Risk	13.81%		2.42%		0.02%

Exceeds Hazard! Exceeds Risk! mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*4.75E+01*	*4.75E+01*	*8.69E+01*

Analyte: Cadmium (Diet)

CAS: 7440-43-9-Diet

Concentration mg/kg :	2.36E+01
RfDo (mg/kg-day):	1.00E-04
RfCi (mg/m3):	1.00E-05
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	1.80E-03
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.83E-01	Ingestion:	3.02E+00	Ingestion:	
Dermal:	4.78E-02	Dermal:	2.86E-01	Dermal:	
Inhalation:	1.66E-03	Inhalation:	1.66E-03	Inhalation:	1.11E-08
Total:	**3.32E-01**	**Total:**	**3.31E+00**	**Total:**	**1.11E-08**
% Contribution to Media Hazard/Risk	1.36%		2.38%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Exceeds Hazard!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*7.14E+00*	*N/A*

Analyte: Chromium(VI)

CAS: 18540-29-9

Concentration mg/kg :	3.00E+01
RfDo (mg/kg-day):	3.00E-03
RfCi (mg/m3):	1.00E-04
SFO (mg/kg-day)-1:	5.00E-01
IUR (µg/m3)-1:	8.40E-02
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	1.20E-02	Ingestion:	1.28E-01	Ingestion:	9.79E-05
Dermal:		Dermal:		Dermal:	
Inhalation:	2.12E-04	Inhalation:	2.12E-04	Inhalation:	1.83E-06
Total:	**1.22E-02**	**Total:**	**1.28E-01**	**Total:**	**9.98E-05**
% Contribution to Media Hazard/Risk	0.05%		0.09%		0.89%

Exceeds Risk!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*3.01E-01*

Analyte: Copper

CAS: 7440-50-8

Concentration mg/kg :	1.80E+03
RfDo (mg/kg-day):	4.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	5.39E-02	Ingestion:	5.75E-01	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**5.39E-02**	**Total:**	**5.75E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.22%		0.41%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Cumene

CAS: 98-82-8

Concentration mg/kg :	1.90E+00
RfDo (mg/kg-day):	1.00E-01
RfCi (mg/m3):	4.00E-01
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.28E-05	Ingestion:	2.43E-04	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	7.33E-04	Inhalation:	7.33E-04	Inhalation:	
Total:	**7.56E-04**	**Total:**	**9.76E-04**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.00%		0.00%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Cyclohexane

CAS: 110-82-7

Concentration mg/kg :	1.90E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	6.00E+00
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	2.92E-02	Inhalation:	2.92E-02	Inhalation:	
Total:	**2.92E-02**	**Total:**	**2.92E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.12%		0.02%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Dibenz[a,h]anthracene

CAS: 53-70-3

Concentration mg/kg :	1.30E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	1.00E+00
IUR (µg/m3)-1:	6.00E-04
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	8.49E-04
Dermal:		Dermal:		Dermal:	2.83E-04
Inhalation:		Inhalation:		Inhalation:	5.66E-08
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**1.13E-03**
% Contribution to Media Hazard/Risk	0.00%		0.00%		10.15%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Exceeds Risk!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*1.15E-01*

Analyte: Dibenzofuran

CAS: 132-64-9

Concentration mg/kg :	6.00E+02
RfDo (mg/kg-day):	1.00E-03
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	7.19E-01	Ingestion:	7.67E+00	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**7.19E-01**	**Total:**	**7.67E+00**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 2.95% 5.51% 0.00%

Exceeds Hazard!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*7.82E+01*	*N/A*

Analyte: Fluoranthene

CAS: 206-44-0

Concentration mg/kg :	1.60E+03
RfDo (mg/kg-day):	4.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	4.79E-02	Ingestion:	5.11E-01	Ingestion:	
Dermal:	2.63E-02	Dermal:	1.58E-01	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**7.43E-02**	**Total:**	**6.69E-01**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.30% 0.48% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Fluorene

CAS: 86-73-7

Concentration mg/kg :	8.00E+02
RfDo (mg/kg-day):	4.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.40E-02	Ingestion:	2.56E-01	Ingestion:	
Dermal:	1.32E-02	Dermal:	7.89E-02	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**3.71E-02**	**Total:**	**3.35E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.15%		0.24%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Indeno[1,2,3-cd]pyrene

CAS: 193-39-5

Concentration mg/kg :	2.80E+02
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	1.00E-01
IUR (µg/m3)-1:	6.00E-05
Mutagen:	Y
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	1.83E-04
Dermal:		Dermal:		Dermal:	6.10E-05
Inhalation:		Inhalation:		Inhalation:	1.22E-08
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**2.44E-04**
% Contribution to Media Hazard/Risk	0.00%		0.00%		2.19%

		mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Exceeds Risk!					
Recommended Acceptable Concentration			*N/A*	*N/A*	*1.15E+00*

Analyte: Lead and Compounds

CAS: 7439-92-1

Concentration mg/kg :	2.20E+03
RfDo (mg/kg-day):	
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:		Ingestion:		Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.00%		0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Mercury (elemental)

CAS: 7439-97-6

Concentration mg/kg :	7.51E+01
RfDo (mg/kg-day):	
RfCi (mg/m3):	3.00E-04
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:		Ingestion:		Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	6.92E+00	Inhalation:	6.92E+00	Inhalation:	
Total:	**6.92E+00**	**Total:**	**6.92E+00**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	28.38%		4.97%		0.00%

Exceeds Hazard!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*1.09E+01*	*1.09E+01*	*N/A*

Analyte: Methylnaphthalene, 2-

CAS: 91-57-6

Concentration mg/kg :	1.60E+01
RfDo (mg/kg-day):	4.00E-03
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	4.79E-03	Ingestion:	5.11E-02	Ingestion:	
Dermal:	2.63E-03	Dermal:	1.58E-02	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**7.43E-03**	**Total:**	**6.69E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.03%		0.05%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Naphthalene

CAS: 91-20-3

Concentration mg/kg :	6.20E+01
RfDo (mg/kg-day):	2.00E-02
RfCi (mg/m3):	3.00E-03
SFO (mg/kg-day)-1:	1.20E-01
IUR (µg/m3)-1:	3.40E-05
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	3.72E-03	Ingestion:	3.96E-02	Ingestion:	1.07E-05
Dermal:	2.04E-03	Dermal:	1.22E-02	Dermal:	3.91E-06
Inhalation:	4.28E-01	Inhalation:	4.28E-01	Inhalation:	1.62E-05
Total:	**4.34E-01**	**Total:**	**4.80E-01**	**Total:**	**3.08E-05**
% Contribution to Media Hazard/Risk	1.78%		0.34%		0.28%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Exceeds Risk!				
Recommended Acceptable Concentration		*N/A*	*N/A*	*2.01E+00*

Analyte: Phenanthrene

CAS: 85-01-8

Concentration mg/kg :	2.10E+03
RfDo (mg/kg-day):	3.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	8.39E-02	Ingestion:	8.95E-01	Ingestion:	
Dermal:	4.61E-02	Dermal:	2.76E-01	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**1.30E-01**	**Total:**	**1.17E+00**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.53%		0.84%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Exceeds Hazard!				
Recommended Acceptable Concentration		*N/A*	*1.79E+03*	*N/A*

Analyte: Pyrene

CAS: 129-00-0

Concentration mg/kg :	1.30E+03
RfDo (mg/kg-day):	3.00E-02
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	5.19E-02	Ingestion:	5.54E-01	Ingestion:	
Dermal:	2.85E-02	Dermal:	1.71E-01	Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**8.05E-02**	**Total:**	**7.25E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.33%		0.52%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Selenium

CAS: 7782-49-2

Concentration mg/kg :	1.20E+01
RfDo (mg/kg-day):	5.00E-03
RfCi (mg/m3):	2.00E-02
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	2.88E-03	Ingestion:	3.07E-02	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	4.23E-07	Inhalation:	4.23E-07	Inhalation:	
Total:	**2.88E-03**	**Total:**	**3.07E-02**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.01% 0.02% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Silver

CAS: 7440-22-4

Concentration mg/kg :	1.60E+01
RfDo (mg/kg-day):	5.00E-03
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	3.84E-03	Ingestion:	4.09E-02	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**3.84E-03**	**Total:**	**4.09E-02**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.02% 0.03% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: TCDD, 2,3,7,8-

CAS: 1746-01-6

Concentration mg/kg :	1.24E-05
RfDo (mg/kg-day):	7.00E-10
RfCi (mg/m3):	4.00E-08
SFO (mg/kg-day)-1:	1.30E+05
IUR (µg/m3)-1:	3.80E+01
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.12E-02	Ingestion:	2.26E-01	Ingestion:	2.32E-06
Dermal:	2.69E-03	Dermal:	1.61E-02	Dermal:	1.96E-07
Inhalation:	1.52E-04	Inhalation:	1.52E-04	Inhalation:	8.57E-08
Total:	**2.41E-02**	**Total:**	**2.43E-01**	**Total:**	**2.60E-06**
% Contribution to Media Hazard/Risk	0.10%		0.17%		0.02%

Exceeds Risk!	mg/kg *Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*N/A*	*N/A*	*4.77E-06*

Analyte: Tetrachloroethylene

CAS: 127-18-4

Concentration mg/kg :	3.80E+00
RfDo (mg/kg-day):	6.00E-03
RfCi (mg/m3):	4.00E-02
SFO (mg/kg-day)-1:	2.10E-03
IUR (µg/m3)-1:	2.60E-07
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	7.59E-04	Ingestion:	8.10E-03	Ingestion:	1.15E-08
Dermal:		Dermal:		Dermal:	
Inhalation:	3.88E-02	Inhalation:	3.88E-02	Inhalation:	1.50E-07
Total:	**3.95E-02**	**Total:**	**4.69E-02**	**Total:**	**1.61E-07**
% Contribution to Media Hazard/Risk	0.16%		0.03%		0.00%

	mg/kg *Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration	*N/A*	*N/A*	*N/A*

Analyte: Thallium (Soluble Salts)

CAS: 7440-28-0

Concentration mg/kg :	6.50E+00
RfDo (mg/kg-day):	1.00E-05
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	7.79E-01	Ingestion:	8.31E+00	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**7.79E-01**	**Total:**	**8.31E+00**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	3.20%		5.97%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Exceeds Hazard!	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*7.82E-01*	*N/A*

Analyte: Trimethylbenzene, 1,2,4-

CAS: 95-63-6

Concentration mg/kg :	1.05E+00
RfDo (mg/kg-day):	1.00E-02
RfCi (mg/m3):	6.00E-02
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	1.26E-04	Ingestion:	1.34E-03	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	2.12E-03	Inhalation:	2.12E-03	Inhalation:	
Total:	**2.25E-03**	**Total:**	**3.46E-03**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.01% 0.00% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Trimethylbenzene, 1,3,5-

CAS: 108-67-8

Concentration mg/kg :	1.87E+00
RfDo (mg/kg-day):	1.00E-02
RfCi (mg/m3):	6.00E-02
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	2.24E-04	Ingestion:	2.39E-03	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	4.52E-03	Inhalation:	4.52E-03	Inhalation:	
Total:	**4.75E-03**	**Total:**	**6.91E-03**	**Total:**	**0.00E+00**

% Contribution to Media Hazard/Risk 0.02% 0.00% 0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

Analyte: Xylene, m-

CAS: 108-38-3

Concentration mg/kg :	1.80E+01
RfDo (mg/kg-day):	2.00E-01
RfCi (mg/m3):	1.00E-01
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	1.08E-04	Ingestion:	1.15E-03	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	3.16E-02	Inhalation:	3.16E-02	Inhalation:	
Total:	**3.17E-02**	**Total:**	**3.27E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.13%		0.02%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Xylene, o-

CAS: 95-47-6

Concentration mg/kg :	7.30E+00
RfDo (mg/kg-day):	2.00E-01
RfCi (mg/m3):	1.00E-01
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	Y

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	4.37E-05	Ingestion:	4.67E-04	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:	1.09E-02	Inhalation:	1.09E-02	Inhalation:	
Total:	**1.09E-02**	**Total:**	**1.13E-02**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.04%		0.01%		0.00%

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Analyte: Zinc and Compounds

CAS: 7440-66-6

Concentration mg/kg :	7.20E+03
RfDo (mg/kg-day):	3.00E-01
RfCi (mg/m3):	
SFO (mg/kg-day)-1:	
IUR (µg/m3)-1:	
Mutagen:	
VOC:	

Calculated Hazard/Risk

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	2.88E-02	Ingestion:	3.07E-01	Ingestion:	
Dermal:		Dermal:		Dermal:	
Inhalation:		Inhalation:		Inhalation:	
Total:	**2.88E-02**	**Total:**	**3.07E-01**	**Total:**	**0.00E+00**
% Contribution to Media Hazard/Risk	0.12%		0.22%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Soil

	mg/kg	*Non-Cancer Adult*	*Non-Cancer Child*	*Cancer*
Recommended Acceptable Concentration		*N/A*	*N/A*	*N/A*

Total Calculated Hazard Index/Risk for Soil

Non-Cancer Adult		**Non-Cancer Child**		**Cancer**	
Ingestion:	1.05E+01	Ingestion:	1.12E+02	Ingestion:	8.83E-03
Dermal:	2.70E+00	Dermal:	1.62E+01	Dermal:	2.29E-03
Inhalation:	1.12E+01	Inhalation:	1.12E+01	Inhalation:	3.46E-05
Total:	**2.44E+01**	**Total:**	**1.39E+02**	**Total:**	**1.12E-02**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

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Summary Report Follows

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Report Summary

Hazard/risk values of zero (0.00+00) are reflective of non-calculated values. Hazard/risk for zero value analytes must be evaluated outside of quantitative risk assessment.

Hazard/Risk Summary for Soil

Analyte	CAS	Hazard Adult	Hazard Child	Risk
Acenaphthene	83-32-9	2.63E-02	2.37E-01	0.00E+00
Acenaphthylene	208-96-8	3.22E-03	2.90E-02	0.00E+00
Anthracene	120-12-7	4.83E-03	4.35E-02	0.00E+00
Antimony (metallic)	7440-36-0	5.40E-02	5.75E-01	0.00E+00
Arsenic, Inorganic	7440-38-2	7.38E+00	7.16E+01	3.69E-03
Benz[a]anthracene	56-55-3	0.00E+00	0.00E+00	6.01E-04
Benzene	71-43-2	4.78E-02	6.26E-02	4.42E-06
Benzo(g,h,i)perylene	191-24-2	1.18E-02	1.06E-01	0.00E+00
Benzo[a]pyrene	50-32-8	3.73E+00	3.20E+01	4.96E-03
Benzo[b]fluoranthene	205-99-2	0.00E+00	0.00E+00	3.40E-04
Benzo[k]fluoranthene	207-08-9	0.00E+00	0.00E+00	3.66E-05
Biphenyl, 1,1'-	92-52-4	3.37E+00	3.37E+00	1.84E-06
Cadmium (Diet)	7440-43-9-Diet	3.32E-01	3.31E+00	1.11E-08
Chromium(VI)	18540-29-9	1.22E-02	1.28E-01	9.98E-05
Copper	7440-50-8	5.39E-02	5.75E-01	0.00E+00
Cumene	98-82-8	7.56E-04	9.76E-04	0.00E+00
Cyclohexane	110-82-7	2.92E-02	2.92E-02	0.00E+00
Dibenz[a,h]anthracene	53-70-3	0.00E+00	0.00E+00	1.13E-03
Dibenzofuran	132-64-9	7.19E-01	7.67E+00	0.00E+00
Fluoranthene	206-44-0	7.43E-02	6.69E-01	0.00E+00
Fluorene	86-73-7	3.71E-02	3.35E-01	0.00E+00
Indeno[1,2,3-cd]pyrene	193-39-5	0.00E+00	0.00E+00	2.44E-04
Lead and Compounds	7439-92-1	0.00E+00	0.00E+00	0.00E+00
Mercury (elemental)	7439-97-6	6.92E+00	6.92E+00	0.00E+00
Methylnaphthalene, 2-	91-57-6	7.43E-03	6.69E-02	0.00E+00
Naphthalene	91-20-3	4.34E-01	4.80E-01	3.08E-05
Phenanthrene	85-01-8	1.30E-01	1.17E+00	0.00E+00
Pyrene	129-00-0	8.05E-02	7.25E-01	0.00E+00
Selenium	7782-49-2	2.88E-03	3.07E-02	0.00E+00
Silver	7440-22-4	3.84E-03	4.09E-02	0.00E+00
TCDD, 2,3,7,8-	1746-01-6	2.41E-02	2.43E-01	2.60E-06
Tetrachloroethylene	127-18-4	3.95E-02	4.69E-02	1.61E-07

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

Hazard/Risk Summary for Soil

Analyte	CAS	Hazard Adult	Hazard Child	Risk
Thallium (Soluble Salts)	7440-28-0	7.79E-01	8.31E+00	0.00E+00
Trimethylbenzene, 1,2,4-	95-63-6	2.25E-03	3.46E-03	0.00E+00
Trimethylbenzene, 1,3,5-	108-67-8	4.75E-03	6.91E-03	0.00E+00
Xylene, m-	108-38-3	3.17E-02	3.27E-02	0.00E+00
Xylene, o-	95-47-6	1.09E-02	1.13E-02	0.00E+00
Zinc and Compounds	7440-66-6	2.88E-02	3.07E-01	0.00E+00

Total Hazard Index/Risk for All Media

Non-Cancer Adult		Non-Cancer Child		Cancer	
Ingestion:	1.05E+01	Ingestion:	1.12E+02	Ingestion:	8.83E-03
Dermal:	2.70E+00	Dermal:	1.62E+01	Dermal:	2.29E-03
Inhalation:	1.12E+01	Inhalation:	1.12E+01	Inhalation:	3.46E-05
Total:	**2.44E+01**	**Total:**	**1.39E+02**	**Total:**	**1.12E-02**
Exceeds Hazard Index!		***Exceeds Hazard Index!***		***Exceeds Cumulative Risk!***	

Residential Exposure Default Values

Symbol	Description	Value	Units
AF0-02	Soil Adherence Factor - age segment 0-2	0.2	(mg/cm2)
AF02-06	Soil Adherence Factor - age segment 2-6	0.2	(mg/cm2)
AF06-16	Soil Adherence Factor - age segment 6-16	0.07	(mg/cm2)
AF16-26	Soil Adherence Factor - age segment 16-26	0.07	(mg/cm2)
AFres-a	Resident Soil Adherence Factor - adult	0.07	(mg/cm2)
AFres-c	Resident Soil Adherence Factor - child	0.2	(mg/cm2)
ATr	Resident Averaging Time	365	(days/yr)
ATres	Resident Averaging Time: 365 x LT	25550	(days)
ATres-a	Resident Averaging Time - adult: 365 x EDres	9490	(days)
ATres-c	Resident Averaging Time - child: 365 x EDres-c	2190	(days)
BW0-02	Body Weight - age segment 0-2	15	(kg)

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

BW02-06	Body Weight - age segment 2-6	15	(kg)
BW06-16	Body Weight - age segment 6-16	80	(kg)
BW16-26	Body Weight - age segment 16-26	80	(kg)
BWres-a	Resident Body Weight - adult	80	(kg)
BWres-c	Resident Body Weight - child	15	(kg)
DFSMres-adj	Resident Soil Mutagenic Dermal Contact Factor - age adjusted	428260	(mg/kg)
DFSres-adj	Resident Soil Dermal Contact Factor - age adjusted	103390	(mg/kg)
DFWMres-adj	Resident Groundwater Mutagenic Dermal Contact Factor - age adjusted	8191633.33333333	(cm2-event/kg)
DFWres-adj	Resident Groundwater Dermal Contact Factor - age adjusted	2610650	(cm2-event/kg)
ED0-02	Exposure Duration - age segment 0-2	2	(yrs)
ED02-06	Exposure Duration - age segment 2-6	4	(yrs)
ED06-16	Exposure Duration -age segment 6-16	10	(yrs)
ED16-26	Exposure Duration -age segment 16-26	10	(yrs)
EDres	Resident Total Exposure Duration	26	(yrs)
EDres-a	Resident Exposure Duration - adult	20	(yrs)
EDres-c	Resident Exposure Duration - child	6	(yrs)
EFres	Resident Exposure Frequency	350	(days/yr)
EFres0-02	Resident Exposure Frequency - age segment 0-2	350	(days/yr)
EFres02-06	Resident Exposure Frequency - age segment 2-6	350	(days/yr)
EFres06-16	Resident Exposure Frequency - age segment 6-16	350	(days/yr)
EFres16-26	Resident Exposure Frequency - age segment 16-26	350	(days/yr)
EFres-a	Resident Exposure Frequency - adult	350	(days/yr)
EFres-c	Resident Exposure Frequency - child	350	(days/yr)
ETevent-res(0-02)	Resident Water Exposure Time - age segment 0-2	0.54	(hrs/event)
ETevent-res(02-06)	Resident Water Exposure Time - age segment 2-6	0.54	(hrs/event)
ETevent-res(06-16)	Resident Water Exposure Time - age segment 6-16	0.71	(hrs/event)

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

ETevent-res(16-26)	Resident Water Exposure Time - age segment 16-26	0.71	(hrs/event)
ETevent-res-a	Resident Groundwater Exposure Time -adult	0.71	(hrs/event)
ETevent-res-adj	Resident Water Exposure Time -age adjusted	0.670769230769231	(hrs/event)
ETevent-res-c	Resident Groundwater Exposure Time - child	0.54	(hrs/event)
ETevent-res-madj	Resident Water Exposure Time - mutagen age adjusted	0.670769230769231	(hrs/event)
ETrai	Resident Air Inhalation Exposure Time	24	(hrs/day)
ETres	Resident Soil Exposure Time	24	(hrs/day)
ETres0-02	Resident Exposure Time - age segment 0-2	24	(hrs/day)
ETres02-06	Resident Exposure Time - age segment 2-6	24	(hrs/day)
ETres06-16	Resident Exposure Time - age segment 6-16	24	(hrs/day)
ETres16-26	Resident Exposure Time - age segment 16-26	24	(hrs/day)
ETres-a	Resident Exposure Time - adult	24	(hrs/day)
ETres-c	Resident Exposure Time - child	24	(hrs/day)
ETres-gwi	Resident Groundwater Inhalation Exposure Time	24	(hrs/day)
EVres-a	Resident Groundwater Events - adult	1	(events/day)
EVres-c	Resident Groundwater Events - child	1	(events/day)
IFSMres-adj	Resident Mutagenic Soil Ingestion Rate - age adjusted	166833.333333333	(mg/kg)
IFSres-adj	Resident Soil Ingestion Rate - age adjusted	36750	(mg/kg)
IFWMres-adj	Resident Mutagenic Drinking Groundwater Ingestion Rate - age adjusted	1019.9	(L/kg)
IFWres-adj	Resident Drinking Groundwater Ingestion Rate - age adjusted	327.95	(L/kg)
INHMres-ai-adj	Resident Air Inhalation Exposure Duration Mutagen - age adjusted	604800	(hrs)
INHMres-gw-adj	Resident Groundwater Inhalation Exposure Duration Mutagen - age adjusted	25200	(days)
INHMres-s-adj	Resident Soil Inhalation Exposure Duration Mutagen - age adjusted	25200	(days)
IREres-a	Resident Food Eggs Ingestion Rate - Virginia DEQ	150000	(mg/day)
IRFres-a	Resident Food Fish/Shellfish Ingestion Rate - Exposure Defaults Handbook	54000	(mg/day)
IRFVres-a	Resident Food Fruit/Vegetables Ingestion Rate - Exposure Defaults Handbook	122000	(mg/day)

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Individual Chemical	Default Cumulative Risk (All Chemicals)
1	1.00E-06	1.00E-04

IRMDres-a	Resident Food Meat/Dairy - Virginia DEQ	280000	(mg/day)
IRS0-02	Soil/Sediment Ingestion Rate - age segment 0-2	200	(mg/day)
IRS02-06	Soil/Sediment Ingestion Rate - age segment 2-6	200	(mg/day)
IRS06-16	Soil/Sediment Ingestion Rate - age segment 6-16	100	(mg/day)
IRS16-26	Soil/Sediment Ingestion Rate - age segment 16-26	100	(mg/day)
IRSres-a	Resident Soil Ingestion Rate - adult	100	(mg/day)
IRSres-c	Resident Soil Ingestion Rate - child	200	(mg/day)
IRW0-02	Drinking Water Ingestion Rate - age segment 0-2	0.78	(L/day)
IRW02-06	Drinking Water Ingestion Rate - age segment 2-6	0.78	(L/day)
IRW06-16	Drinking Water Ingestion Rate - age segment 6-16	2.5	(L/day)
IRW16-26	Drinking Water Ingestion Rate - age segment 16-26	2.5	(L/day)
IRWres-a	Resident Drinking Groundwater Ingestion Rate - adult	2.5	(L/day)
IRWres-c	Resident Drinking Groundwater Ingestion Rate - child	0.78	(L/day)
SAres-a	Resident Soil Surface Area - adult	6032	(cm2/day)
SAres-a	Resident Water Surface Area - adult	19652	(cm2)
SAres-c	Resident Water Surface Area - child	6365	(cm2)
SAres-c	Resident Soil Surface Area - child	2373	(cm2/day)
SAs0-02	Surface Area Soil/Sediment - age segment 0-2	2373	(cm2/day)
SAs02-06	Surface Area Soil/Sediment - age segment 2-6	2373	(cm2/day)
SAs06-16	Surface Area Soil/Sediment - age segment 6-16	6032	(cm2/day)
SAs16-26	Surface Area Soil/Sediment - age segment 16-26	6032	(cm2/day)
SAw0-02	Surface Area Water - age segment 0-2	6365	(cm2)
SAw02-06	Surface Area Water - age segment 2-6	6365	(cm2)
SAw06-16	Surface Area Water - age segment 6- 16	19652	(cm2)
SAw16-26	Surface Area Water - age segment 16- 26	19652	(cm2)

END OF REPORT

ATTACHMENT 2

VAPOR INTRUSION SCREENING LEVEL OUTPUT

Resident Air Inputs

Variable	Resident Air Default Value	Site-Specific Value
AF_{gw} (Attenuation Factor Groundwater) unitless	0.001	0.001
AF_{ss} (Attenuation Factor Sub-Slab) unitless	0.03	0.03
ED_{res} (exposure duration) years	26	26
ED_{0-2} (mutagenic exposure duration first phase) years	2	2
ED_{2-6} (mutagenic exposure duration second phase) years	4	4
ED_{6-16} (mutagenic exposure duration third phase) years	10	10
ED_{16-26} (mutagenic exposure duration fourth phase) years	10	10
EF_{res} (exposure frequency) days/year	350	350
EF_{0-2} (mutagenic exposure frequency first phase) days/year	350	350
EF_{2-6} (mutagenic exposure frequency second phase) days/year	350	350
EF_{6-16} (mutagenic exposure frequency third phase) days/year	350	350
EF_{16-26} (mutagenic exposure frequency fourth phase) days/year	350	350
ET_{res} (exposure time) hours/day	24	24
ET_{0-2} (mutagenic exposure time first phase) hours/day	24	24
ET_{2-6} (mutagenic exposure time second phase) hours/day	24	24
ET_{6-16} (mutagenic exposure time third phase) hours/day	24	24
ET_{16-26} (mutagenic exposure time fourth phase) hours/day	24	24
THQ (target hazard quotient) unitless	0.1	0.1
LT (lifetime) years	70	70
TR (target risk) unitless	1.0E-06	1.0E-06

Resident Vapor Intrusion Screening Levels (VISL)

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; U = user provided; G = see RSL User's Guide Section 5; CA = cancer; NC = noncancer.

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? (C_{vp} > $C_{i,a}$,Target?)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? (C_{hc} > $C_{i,a}$,Target?)	Target Indoor Air Concentration (TCR=1E-06 or THQ=0.1) MIN($C_{ia,c}$,$C_{ia,nc}$) ($\mu g/m^3$)	Toxicity Basis	Target Sub-Slab and Near-source Soil Gas Concentration (TCR=1E-06 or THQ=0.1) C_{sg},Target ($\mu g/m^3$)	Target Groundwater Concentration (TCR=1E-06 or THQ=0.1) C_{gw},Target ($\mu g/L$)
Benz[a]anthracene	56-55-3	Yes	Yes	Yes	Yes	1.69E-02	CA	5.63E-01	3.44E+01
Benzene	71-43-2	Yes	Yes	Yes	Yes	3.60E-01	CA	1.20E+01	1.59E+00
Biphenyl, 1,1'-	92-52-4	Yes	Yes	Yes	Yes	4.17E-02	NC	1.39E+00	3.31E+00
Chloroform	67-66-3	Yes	Yes	Yes	Yes	1.22E-01	CA	4.07E+00	8.14E-01
Chlorophenol, 2-	95-57-8	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-
Cyclohexane	110-82-7	Yes	Yes	Yes	Yes	6.26E+02	NC	2.09E+04	1.02E+02
Dibenzofuran	132-64-9	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-
Fluorene	86-73-7	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-
Methylnaphthalene, 2-	91-57-6	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	8.26E-02	CA	2.75E+00	4.59E+00
Phenanthrene	85-01-8	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-
Tetrachloroethylene	127-18-4	Yes	Yes	Yes	Yes	4.17E+00	NC	1.39E+02	5.76E+00
Trichloroethylene	79-01-6	Yes	Yes	Yes	Yes	2.09E-01	NC	6.95E+00	5.18E-01
Xylene, m-	108-38-3	Yes	Yes	Yes	Yes	1.04E+01	NC	3.48E+02	3.55E+01
Xylene, o-	95-47-6	Yes	Yes	Yes	Yes	1.04E+01	NC	3.48E+02	4.92E+01

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Resident Vapor Intrusion Screening Levels (VISL)

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; U = user provided; G = see RSL User's Guide Section 5; CA = cancer; NC = noncancer.

Is Target Groundwater Concentration < MCL? (C_{gw} < MCL?)	Pure Phase Vapor Concentration C_{vp} \ (25 °C)\ (µg/m³)	Maximum Groundwater Vapor Concentration C_{hc} \ (µg/m³)	Temperature for Maximum Groundwater Vapor Concentration (°C)	Lower Explosive Limit LEL (% by volume)	LEL Ref	IUR (ug/m³)$^{-1}$	IUR Ref	RfC (mg/m³)	RfC Ref	Mutagenic Indicator	Carcinogenic VISL TCR=1E-06 $C_{ia,c}$ (µg/m³)	Noncarcinogenic VISL THQ=0.1 $C_{ia,nc}$ (µg/m³)
--	2.58E+00	4.61E+00	25	-		6.00E-05	E	-		Mut	1.69E-02	-
Yes (5)	3.98E+08	4.06E+08	25	1.20	CRC	7.80E-06	I	3.00E-02	I	No	3.60E-01	3.13E+00
--	7.41E+04	9.42E+04	25	0.60	CRC	-		4.00E-04	X	No	-	4.17E-02
Yes (80)	1.26E+09	1.19E+09	25	-		2.30E-05	I	1.95E-03	A	No	1.22E-01	2.03E-01
	1.75E+07	5.17E+06	25	1.70	YAWS	-		-		No	-	-
--	4.38E+08	3.37E+08	25	1.30	CRC	-		6.00E+00	I	No	-	6.26E+02
	2.24E+04	2.70E+04	25	0.80	YAWS	-		-		No	-	-
	5.36E+03	6.65E+03	25	0.70	YAWS	-		-		No	-	-
	4.21E+05	5.21E+05	25	0.80	YAWS	-		-		No	-	-
--	5.86E+05	5.58E+05	25	0.90	CRC	3.40E-05	C	3.00E-03	I	No	8.26E-02	3.13E-01
	1.16E+03	1.99E+03	25	0.70	YAWS	-		-		No	-	-
No (5)	1.65E+08	1.49E+08	25	-		2.60E-07	I	4.00E-02	I	No	1.08E+01	4.17E+00
Yes (5)	4.88E+08	5.15E+08	25	8.00	CRC	4.10E-06	I	2.00E-03	I	Mut	4.78E-01	2.09E-01
--	4.73E+07	4.73E+07	25	1.10	CRC	-		1.00E-01	G	No	-	1.04E+01
--	3.77E+07	3.77E+07	25	0.90	CRC	-		1.00E-01	G	No	-	1.04E+01

Resident Vapor Intrusion Risk

Chemical	CAS Number	Site Groundwater Concentration C_{gw} \ (µg/L)	Site Indoor Air Concentration $C_{i,a}$ \ (µg/m³)	VI Carcinogenic Risk CDI (µg/m³)	VI Carcinogenic Risk CR	VI Hazard CDI (mg/m³)	VI Hazard HQ	IUR (ug/m³)$^{-1}$
Benz[a]anthracene	56-55-3	0.41	2.01E-04	1.98E-04	1.19E-08	1.93E-07	-	6.00E-05
Benzene	71-43-2	630	1.43E+02	5.09E+01	3.97E-04	1.37E-01	4.57E+00	7.80E-06
Biphenyl, 1,1'-	92-52-4	29	3.65E-01	1.30E-01	-	3.50E-04	8.75E-01	-
Chloroform	67-66-3	63	9.45E+00	3.37E+00	7.74E-05	9.06E-03	4.65E+00	2.30E-05
Chlorophenol, 2-	95-57-8	47	-	-	-	-	-	-
Cyclohexane	110-82-7	1600	9.81E+03	3.49E+03	-	9.41E+00	1.57E+00	-
Dibenzofuran	132-64-9	28	-	-	-	-	-	-
Fluorene	86-73-7	35	-	-	-	-	-	-
Methylnaphthalene, 2-	91-57-6	270	-	-	-	-	-	-
Naphthalene	91-20-3	1900	3.42E+01	1.22E+01	4.14E-04	3.28E-02	1.09E+01	3.40E-05
Phenanthrene	85-01-8	34	-	-	-	-	-	-
Tetrachloroethylene	127-18-4	76	5.50E+01	1.96E+01	5.09E-06	5.27E-02	1.32E+00	2.60E-07
Trichloroethylene	79-01-6	27	1.09E+01	5.54E+00	2.27E-05	1.04E-02	5.21E+00	4.10E-06
Xylene, m-	108-38-3	250	7.34E+01	2.61E+01	-	7.04E-02	7.04E-01	-
Xylene, o-	95-47-6	77	1.63E+01	5.81E+00	-	1.56E-02	1.56E-01	-
*Sum		-	-	-	9.16E-04	-	3.00E+01	-

Resident Vapor Intrusion Risk

IUR Ref	Chronic RfC (mg/m^3)	RfC Ref	Temperature (℃)\ for Groundwater Vapor Concentration	Mutagen?
E	-		25	Mut
I	3.00E-02	I	25	No
	4.00E-04	X	25	No
I	1.95E-03	A	25	No
	-		25	No
	6.00E+00	I	25	No
	-		25	No
	-		25	No
	-		25	No
C	3.00E-03	I	25	No
	-		25	No
I	4.00E-02	I	25	No
I	2.00E-03	I	25	Mut
	1.00E-01	G	25	No
	1.00E-01	G	25	No
	-		-	

Chemical Properties

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	MW	MW Ref	Vapor Pressure VP (mm Hg)	VP Ref	S (mg/L)	S Ref	MCL (ug/L)	HLC (atm-m ^{3}/mole)
Benz[a]anthracene	56-55-3	Yes	Yes	228.30	PHYSPROP	2.10E-07	PHYSPROP	9.40E-03	PHYSPROP	-	1.20E-05
Benzene	71-43-2	Yes	Yes	78.12	PHYSPROP	9.48E+01	PHYSPROP	1.79E+03	PHYSPROP	5	5.55E-03
Biphenyl, 1,1'-	92-52-4	Yes	Yes	154.21	PHYSPROP	8.93E-03	PHYSPROP	7.48E+00	PHYSPROP	-	3.08E-04
Chloroform	67-66-3	Yes	Yes	119.38	PHYSPROP	1.97E+02	PHYSPROP	7.95E+03	PHYSPROP	80	3.67E-03
Chlorophenol, 2-	95-57-8	Yes	No	128.56	PHYSPROP	2.53E+00	PHYSPROP	1.13E+04	PHYSPROP	-	1.12E-05
Cyclohexane	110-82-7	Yes	Yes	84.16	PHYSPROP	9.69E+01	PHYSPROP	5.50E+01	PHYSPROP	-	1.50E-01
Dibenzofuran	132-64-9	Yes	No	168.20	PHYSPROP	2.48E-03	PHYSPROP	3.10E+00	PHYSPROP	-	2.13E-04
Fluorene	86-73-7	Yes	No	166.22	PHYSPROP	6.00E-04	PHYSPROP	1.69E+00	PHYSPROP	-	9.62E-05
Methylnaphthalene, 2-	91-57-6	Yes	No	142.20	PHYSPROP	5.50E-02	PHYSPROP	2.46E+01	PHYSPROP	-	5.18E-04
Naphthalene	91-20-3	Yes	Yes	128.18	PHYSPROP	8.50E-02	PHYSPROP	3.10E+01	PHYSPROP	-	4.40E-04
Phenanthrene	85-01-8	Yes	No	178.24	PHYSPROP	1.21E-04	PHYSPROP	1.15E+00	PHYSPROP	-	4.23E-05
Tetrachloroethylene	127-18-4	Yes	Yes	165.83	PHYSPROP	1.85E+01	PHYSPROP	2.06E+02	PHYSPROP	5	1.77E-02
Trichloroethylene	79-01-6	Yes	Yes	131.39	PHYSPROP	6.90E+01	PHYSPROP	1.28E+03	PHYSPROP	5	9.85E-03
Xylene, m-	108-38-3	Yes	Yes	106.17	PHYSPROP	8.29E+00	PHYSPROP	1.61E+02	PHYSPROP	-	7.18E-03
Xylene, o-	95-47-6	Yes	Yes	106.17	PHYSPROP	6.61E+00	PHYSPROP	1.78E+02	PHYSPROP	-	5.18E-03

Chemical Properties

Henry's Law Constant (unitless)	H` and HLC Ref	Henry's Law Constant Used in Calcs (unitless)	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T_C\ (K)	T_C\ Ref	Enthalpy of vaporization at the normal boiling point $\Delta H_{v,b}$\ (cal/mol)	$\Delta H_{v,b}$\ Ref	Lower Explosive Limit LEL (% by volume)	LEL Ref
4.91E-04	PHYSPROP	4.91E-04	710.75	PHYSPROP	9.79E+02	YAWS	16000.00	Weast	-	
2.27E-01	PHYSPROP	2.27E-01	353.15	PHYSPROP	5.62E+02	CRC	7342.26	CRC	1.20	CRC
1.26E-02	PHYSPROP	1.26E-02	529.25	PHYSPROP	7.73E+02	CRC	10890.00	DECHEMA	0.60	CRC
1.50E-01	PHYSPROP	1.50E-01	334.25	PHYSPROP	5.36E+02	CRC	6988.53	CRC	-	
4.58E-04	PHYSPROP	4.58E-04	448.05	PHYSPROP	6.75E+02	YAWS	9572.00	Weast	1.70	YAWS
6.13E+00	PHYSPROP	6.13E+00	353.85	PHYSPROP	5.53E+02	CRC	7163.00	CRC	1.30	CRC
8.71E-03	EPI	8.71E-03	560.15	PHYSPROP	8.24E+02	CRC	66400.00	TOXNET	0.80	YAWS
3.93E-03	PHYSPROP	3.93E-03	568.15	PHYSPROP	8.26E+02	YAWS	12666.00	Weast	0.70	YAWS
2.12E-02	PHYSPROP	2.12E-02	514.25	PHYSPROP	7.61E+02	CRC	12600.00	DECHEMA	0.80	YAWS
1.80E-02	PHYSPROP	1.80E-02	491.05	PHYSPROP	7.48E+02	CRC	10325.05	CRC	0.90	CRC
1.73E-03	PHYSPROP	1.73E-03	613.15	PHYSPROP	8.69E+02	YAWS	12915.15	YAWS	0.70	YAWS
7.24E-01	PHYSPROP	7.24E-01	394.45	PHYSPROP	6.20E+02	YAWS	8288.72	CRC	-	
4.03E-01	PHYSPROP	4.03E-01	360.35	PHYSPROP	5.71E+02	YAWS	7504.78	CRC	8.00	CRC
2.94E-01	PHYSPROP	2.94E-01	412.25	PHYSPROP	6.17E+02	CRC	8522.94	CRC	1.10	CRC
2.12E-01	PHYSPROP	2.12E-01	417.65	PHYSPROP	6.30E+02	CRC	8661.57	CRC	0.90	CRC

From: Catherine Miliaras
To: PlanComm; Kendra Jacobs; Ted Alberon
Cc: Michael Swidrak
Subject: FW: [EXTERNAL]NOTICe Request for pedestrian path as Robinson Terminal North redevelops
Date: Thursday, May 22, 2025 2:03:43 PM

Please add to RTN docket

Catherine K. Miliaras, AICP
City of Alexandria
703.407.1450 (mobile)

From: NOTICe Communication <notice.communications@gmail.com>
Sent: Thursday, May 22, 2025 12:59 PM
To: Catherine Miliaras <Catherine.Miliaras@alexandriava.gov>
Cc: Melissa Kuennen <melissa.b.kuennen@gmail.com>; Marsha Thaler Smith <marshathalersmith@yahoo.com>; Margaret Townsend <yoga.with.margaret@gmail.com>; Mary Harris <mary.celeste.harris@gmail.com>; Peggy Marchbanks <peggy@marchbanks.us>
Subject: [EXTERNAL]NOTICe Request for pedestrian path as Robinson Terminal North redevelops

May 7, 2025

Catherine Miliaras
Principal Planner, Development - Old Town and Old Town North
Planning & Zoning Department
City of Alexandria
301 King Street, Room 2100

Alexandria, VA 22314

catherine.miliaras@alexandriava.gov

Re: Robinson Terminal North

Dear Catherine,

The Robinson Terminal North parcel is the last remaining property on the city's waterfront to be developed and its design must reflect the high standards the city has set for access to the Potomac River. The project as a whole will ultimately connect Oronoco Park to Founders Park with its own waterfront park, which in turn will provide the final connection of public access to the waterfront from Jones Point to Daingerfield Island. This connection has been planned by the City for over 30 years.

We understand that the developer, Rooney Partners, has decided to divide the project into 2 phases - with Phase 1 to be completed by RTN West LLC, and with Phase 2 (RTN East LLC) happening "in several years" - leaving the Old Town North neighborhood with an unfinished parcel, and no guarantee of completion of the park.

We request that once the River Renew Plaza is turned over to the owners - expected in October of this year - that the remaining construction site be developed as follows right away to create a safe

pedestrian connection between Oronoco Park and Founders Park.

- the existing concrete slab be removed,
- the site graded with appropriate planting fill and planted with grass,
- a landscaped public walkway be created, similar to the walking paths in Oronoco Bay Park, and
- appropriate (down-lighted) sidewalk lighting be installed.

The waterfront park is to be maintained until Rooney Partners, as RTN East LLC, returns to complete the full design. The design of this temporary park is to meet the expectations of the City for a landscaped public path to be utilized by residents and visitors to the city. The design is to be reviewed and approved by UDAC, the Waterfront Commission, the Planning Commission and City Council.

We look forward to the successful completion of both phases of Robinson Terminal North in a timely manner.

Sincerely,

The Board of Directors of NOTICe

Mary C Harris, President

Melissa B Kuennen Vice President

Marsha Smith, Secretary

Peggy Marchbanks, Treasurer

Margaret Townsend, At Large Member

(adopted May 7, 2025)

North Old Town Independent Citizens Association, PO Box 25571, Alexandria VA 22313

www.notice-alexandria.org Email: notice.communications@gmail.com

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From: Kendra Jacobs
To: Kendra Jacobs
Subject: FW: [EXTERNAL]Walking path at RTN
Date: Wednesday, May 28, 2025 5:24:59 PM

-----Original Message-----
From: Jennifer Williams <jswilliams2@me.com>
Sent: Sunday, May 11, 2025 7:16 PM
To: Catherine Miliaras <Catherine.Miliaras@alexandriava.gov>
Subject: [EXTERNAL]Walking path at RTN

[You don't often get email from jswilliams2@me.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Hi,

I want to add my voice to those asking for completion of a walking path along the Potomac River between the river and the slow-rolling construction of the eastern half of the Robinson Terminal North or River Renew or whatever it's properly called.

That’s a really badly constructed sentence, but I think you’ll know what I mean.

Thanks for counting my vote,
Jennifer

Jennifer Williams
601 N. Fairfax St., ALX
Mobile: 410-371-4211

From: Kendra Jacobs
To: Kendra Jacobs
Subject: FW: [EXTERNAL]Walkway on Robinson Terminal North plot
Date: Wednesday, May 28, 2025 5:24:38 PM

-----Original Message-----
From: Bill Jacob <wcjacob@me.com>
Sent: Monday, May 12, 2025 1:06 PM
To: Catherine Miliaras <Catherine.Miliaras@alexandriava.gov>
Subject: [EXTERNAL]Walkway on Robinson Terminal North plot

[You don't often get email from wcjacob@me.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Hello

I hope that the Waterfront Commission can convince the developer of RTN to construct a walkway to connect the riverside walking paths as soon as possible.

Even a simple paved path across the eastern (riverside) plot would be useful.

Thanks
Bill Jacob
601 N Fairfax St Apt 217

From: Kendra Jacobs
To: Kendra Jacobs
Subject: FW: Docket #10 Planning Commission Meeting June 4, 2025
Date: Tuesday, June 3, 2025 9:08:32 AM
Attachments: Planning Commission June 4, 2025.docx

-----Forwarded Message-----
From: <annshack@earthlink.net>
Sent: Jun 1, 2025 2:17 PM
To: <plancomm@alexandriava.gov>
Cc: : Alyia Gaskins <alyia.gaskins@alexandriava.gov>, Sarah Bagley <sarah.bagley@alexandriava.gov>, John Chapman <john.taylor.chapman@alexandriava.gov>, Kirk McPike <kirk.mcpike@alexandriava.gov>, Jacinta Greene <jgreene4citycouncil@gmail.com>, Abdel Elnoubi <abdel.elnoubi@alexandriava.gov>, <canek.aguirre@alexandriava.gov>, <jim.parajon@alexandriava.gov>, Jesse Maines <Jesse.Maines@alexandriava.gov>, Jeremy Flachs <jeremy.flachs@flachslaw.com>, <annshack@earthlink.net>, Andrea Stowers <andreal.stowers@gmail.com>, Hal Hardaway <jameshhardaway@gmail.com>, Mary Harris <mary.celeste.harris@gmail.com>, Agnès Artemel <aartemel@gmail.com>, <foundersparkalexandria@gmail.com>, <president@theoldtowncivicassociation.org>, <info@oldtownnorth.org>, Laurie Hughes <lauriehughesmba@gmail.com>, <nancyk764@verizon.net>, NANCY MEYERS <echomeyers@verizon.net>, Ben <FrankeB@uanpf.org>, <melissa.b.kuennen@gmail.com>, Robert Kerns <robert.kerns@alexandriava.gov>, Ryan Whitaker <president@otnalliance.org>, Mace Carpenter <pmasoncarpenter@aol.com>, Robert J. Segan <bsegan@seganmason.com>, Andrew Macdonald <ahmacdonald@mac.com>
Subject: Docket #10 Planning Commission Meeting June 4, 2025

Planning Commision Members:
Since I am unable to attend the meeting on June 4th, I submit this attached letter to you in advance. Please read this and put it into the record.
While the City staff has a "standard" method of allowing development of land within the Alexandria City limits, not all sites that are contaminated should be treated the same way. In this case, the health and safety of the next door residents are a significant risk.Thank you for your consideration of our request.Sincerely,Ann ShackTobacco Quay

June 4, 2025

Planning Commission Docket #10

Development Special Use Permit #2024-10009

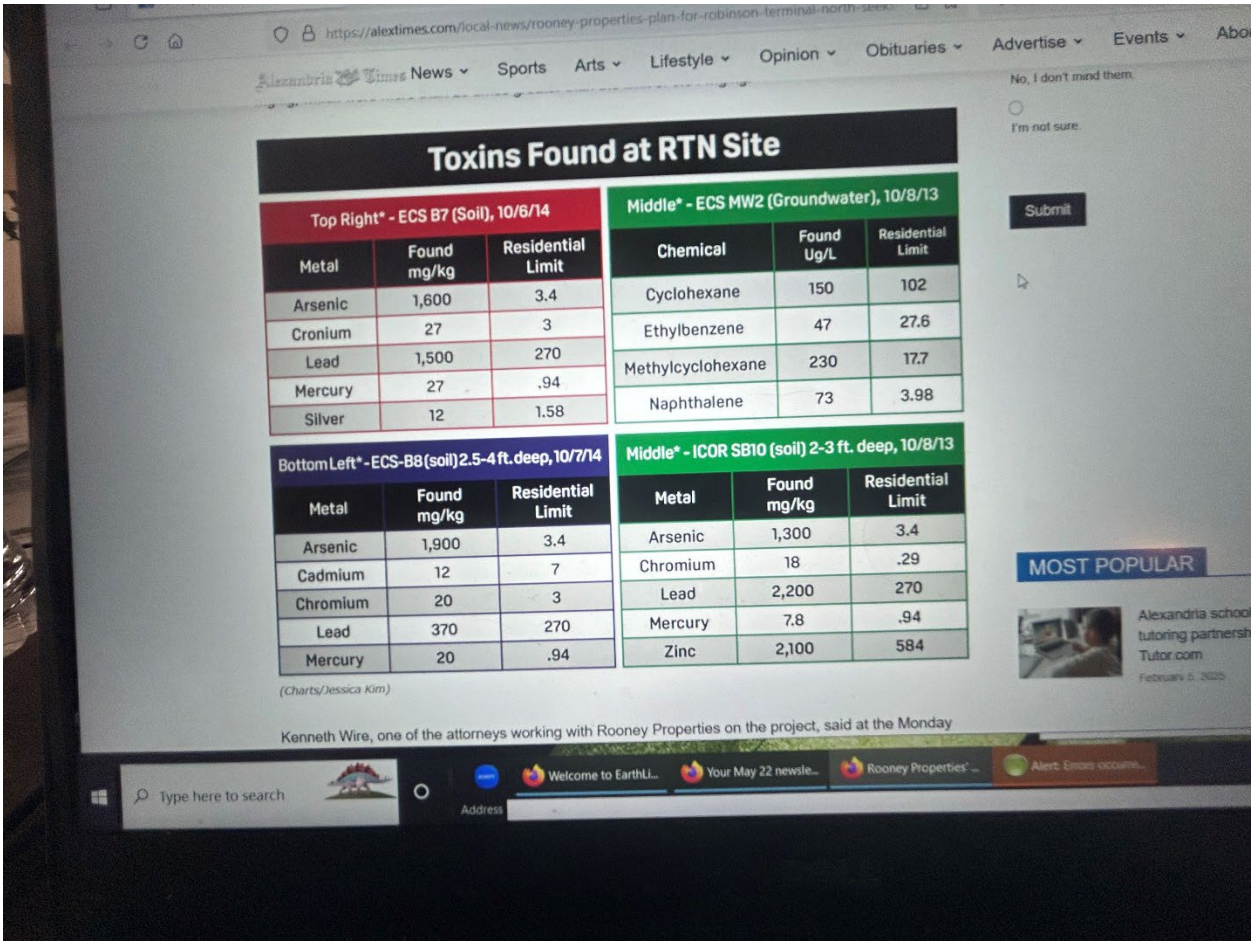
500 and 501 North Union Street - Robinson Terminal North

Statement for the Planning Commission Regarding the RTN Site – Carcinogenic Toxins and Public Safety

Dear Planning Commission Members,

I submit this statement to raise a serious concern regarding the extraordinarily high levels of **carcinogenic toxins** found in the ground at the RTN site.

"RTN Site – Toxin Levels Compared to Acceptable Standards."



This is a chart that illustrates, in stark terms, the gap between what levels of these toxins are considered acceptable and what is actually present at the site. These are not minor deviations — they represent significant, well-documented health risks.

These substances are **known carcinogens**. Exposure to them, even at low levels over time, can result in long-term health consequences. This affects not only construction workers and future residents, but the surrounding community as well.

We, the residents, are not opposed to development. We want development that is **safe**, **transparent**, and **accountable**. Currently, there has been **no public review** of two essential, legally required documents:

- The **site mitigation/remediation plan**
- The **health and safety plan**

We respectfully request that the Planning Commission **condition any approval of the DSUP** on the addition of a **public hearing step** that would:

1. Require the **submission and public disclosure** of both the remediation and health and safety plans.
2. Allow **public and expert review and comment** before any final DSUP approval.

This is not an obstruction. It is a **reasonable and necessary safeguard** to ensure that our community is not exposed to unnecessary risk.

We urge the Commission to make this added step a formal part of the approval process.

Thank you for your time and your commitment to protecting the public interest.

Sincerely,

Ann Shack

Tobacco Quay

City of Alexandria, Virginia

MEMORANDUM

DATE: MAY 30, 2025

TO: MAYOR GASKINS AND MEMBERS OF CITY COUNCIL
CHAIR McMAHON AND MEMBERS OF PLANNING COMMISSION

FROM: KARL MORITZ, DIRECTOR; DEPARTMENT OF PLANNING & ZONING

SUBJECT: DSUP #2024-10009 / ROBINSON TERMINAL NORTH AND THE CITY'S CONTAMINATED LANDS PROGRAM

Community Concerns and Questions

City residents have raised concerns about preexisting contamination at the proposed site and asked questions about how contamination would be mitigated during construction. In particular, the following questions have been asked

1. What is the environmental status of the site?
2. How does the City's Contaminated Lands Program work? And what other project sites in the city have gone through this remediation process?
3. How will the public be kept informed if the project is approved?

City staff appreciates the seriousness of land contamination and has established procedures that developers must follow to maintain safety during construction and properly mitigate environmental hazards. These procedures provide for the safety of neighbors, workers, and future residents. This memo provides responses to the questions raised and describes how the City's procedures apply to this application.

Environmental Status of the Site

The Robinson Terminal North (RTN) site includes two parcels at 500 and 501 North Union Street in Alexandria's Old Town North. The 500 parcel (West) currently contains a one-story warehouse on concrete slab and is occupied by a restaurant ware supplier, between Pendleton and Oronoco streets. The 501 parcel (East) serves as a staging area for Alexandria Renew Enterprise's RiverRenew CSO tunnel project and contains a concrete slab, pier, access shaft, and material storage yard.

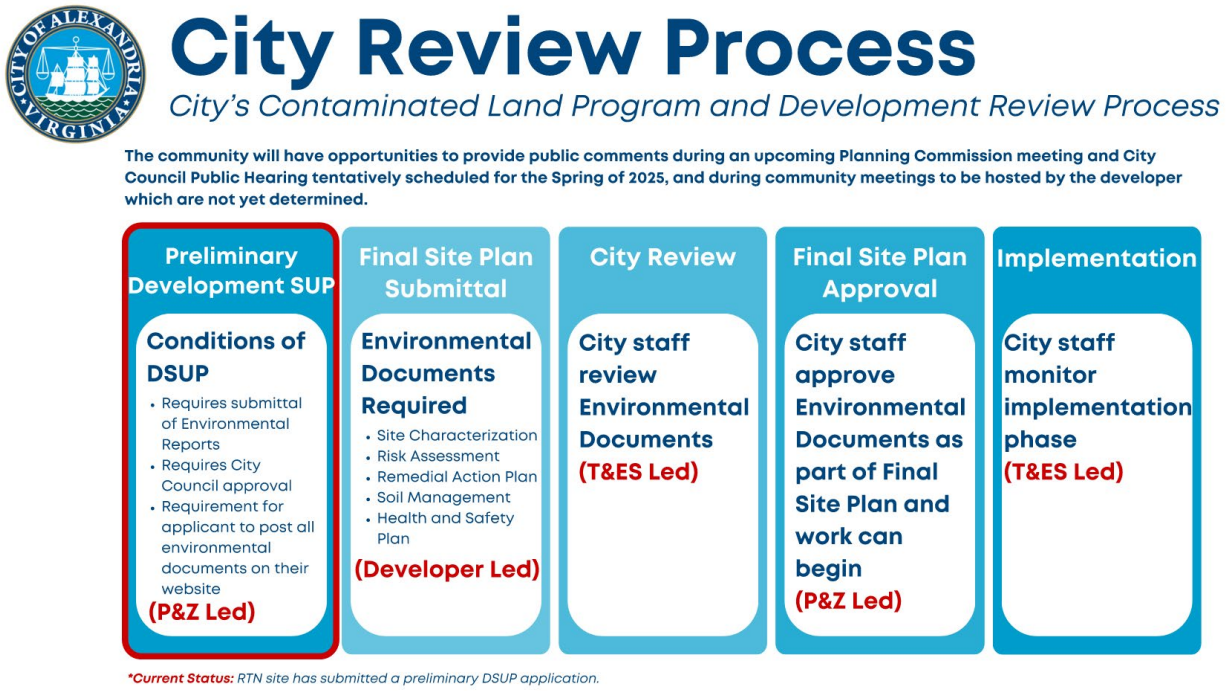
Like much of Old Town and the City's rail corridors, both parcels have a documented history of industrial use dating back to the 19th and 20th centuries. Historical uses included coal and petroleum storage, fertilizer and acid manufacturing, and chemical mixing operations. Adjacent properties also hosted gas works and other industrial activities commonly seen in the Old Town district at the time. These uses contributed to contamination in soil and groundwater, including petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals such as mercury and arsenic. The most recently known industrial use at the West site was with the R.H. Bogle Company, which consisted of an herbicide production plant. Other sections of the Bogle site were redeveloped as the Tobacco Quay town houses and Dalton Wharf office complex in the early 1980s.

EPA Review and Non-Superfund Finding
The R.H. Bogle site was evaluated by the U.S. Environmental Protection Agency (EPA) beginning in the early 1980s under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for potential inclusion on the National Priorities List (NPL). Following that review, the site was designated No Further Remedial Action Planned (NFRAP), indicating that based on available data, the site did not warrant federal Superfund cleanup.

State Voluntary Remediation Program and Petroleum Program
In 2016, applicants seeking to redevelop the West and East parcels entered the Virginia Department of Environmental Quality (VDEQ) Voluntary Remediation Program (VRP) and received closure under an industrial use standard in 2022. In parallel, the East site was also enrolled in VDEQ's Petroleum Program (PP) following the removal of three 8,000-gallon underground storage tanks. This triggered a Site Characterization Study, groundwater monitoring, and the development of a Corrective Action Plan (CAP) to address petroleum-related impacts under VDEQ PP guidance. As part of the current process, an updated CAP is required under the Petroleum Program to reflect ongoing site conditions and proposed land use changes. In 2024, the owners re-entered the VRP to enhance mitigation standards for residential redevelopment. Updated restrictions under the residential classification within VDEQ's amended restrictive covenants require the site developer to install vapor mitigation, place two feet of clean fill or hardscape cover, and submit a Health and Safety Plan (HASP) along with post-construction compliance reporting to VDEQ.

City's Contaminated Lands Program for Development Projects and Precedent Projects
The City has a very robust Contaminated Lands Program for development projects. Projects that have evidence of past contamination are required to furnish sampling analytical data and risk assessments for City review under the Contaminated Lands Program to ensure potential exposure risks are below the VRP threshold for commercial and residential standards. Many applicants, including this one, enroll into the VRP when seeking redevelopment approval and provide this information in advance of project approval. This approach has been used regularly for other sites with similar historical uses, including projects at Robinson Terminal South, Potomac Yard, Carlyle, Cameron Station, and Vulcan Materials Storage, among others.

Regardless of VRP enrollment, City staff utilize exposure thresholds established by the VRP as the basis for mitigation requirements if the environmental investigations find contamination exceeding the commercial or residential standard. As is the case for RTN, the City often requires additional mitigation and remediation documents like a Soils Management Plan (SMP) and a HASP. These plans specifically targets mitigating effects to adjacent landowners and onsite workers as an additional layer of protection to human health and the environment. The SMP specifies haul routes, off-site disposal protocols, and requirements for the handling of imported and exported materials, especially those in contact with contaminated soil. The HASP, prepared and signed by a professional engineer and certified industrial hygienist, addresses mitigation to protect construction workers, adjacent landowners, and the broader community. This includes protocols for air monitoring, dewatering, and real-time oversight by an on-site Health and Safety Officer empowered to stop work if unsafe conditions are identified. (See the figure below for the City's process.)



Keeping the Public Informed

Staff has proposed development conditions to enhance public transparency throughout the application process, and if approved, the construction process.

In Condition 125, staff recommends requiring the applicant to maintain a publicly accessible project website throughout the duration of construction and until Certificates of Occupancy are issued. This webpage must house all relevant environmental documentation submitted to VDEQ and the City, including reports related to the VDEQ's VRP and PP, and the City's Contaminated Lands Program.

In Condition 139, staff recommends requiring the applicant to host a community meeting to present the approved Remediation/Corrective Action Plan and HASP required under the City's Program prior to the release of any permits for new construction. The meeting must be publicly notified at least 14 days in advance and include outreach to all adjoining property owners, registered civic associations, and the Departments of Planning & Zoning (P&Z) and Transportation & Environmental Services (T&ES). The goal of the meeting is to provide surrounding residents with a clear understanding of the planned environmental safeguards and risk mitigation measures before site work begins. Note that demolition of the pier is being reviewed under a separate demolition permit and that work is anticipated to occur in June 2025.

For questions or further clarification, residents may contact

- Gavin Pellitteri gavin.pellitteri@alexandriava.gov, Stormwater Principal Planner or
- Jesse Maines Jesse.Maines@alexandriava.gov, Stormwater Management Division.

Staff:

Karl Moritz, Director, P&Z
Paul Stoddard, Deputy Director, P&Z
Jesse E. Maines, Division Chief, Stormwater Management, T&ES

Robert M. Kerns, AICP, Chief of Development, P&Z
Gavin Pellitteri, Principal Planner, Stormwater Management, T&ES
Catherine Miliaras, AICP, Principal Planner, P&Z

From:	Jeremy Flachs
To:	annshack@earthlink.net; PlanComm
Cc:	Alyia Gaskins; Sarah Bagley; John Chapman; Kirk McPike; Jacinta Greene; Abdel Elnoubi; Canek Aguirre; Jim Parajon; Jesse Maines; Andrea Stowers; Hal Hardaway; Mary Harris; Agnès Artemel; foundersparkalexandria@gmail.com; president@theoldtowncivicassociation.org; info@oldtownnorth.org; Laurie Hughes; nancyk764@verizon.net; NANCY MEYERS; Ben; melissa.b.kuennen@gmail.com; Robert Kerns; Ryan Whitaker; Mace Carpenter; Robert J. Segan; Andrew Macdonald
Subject:	RE: Docket #10 Planning Commission Meeting June 4, 2025
Date:	Monday, June 2, 2025 12:29:13 PM
Attachments:	ENVECO Updated Risk 2024pdf.pdf

Dear Mayor Gaskins, Vice Mayor Bagley, Council, City Staff and Planning Commission. I share the concerns of Ms. Shack. After reviewing the levels of dangerous chemicals, mostly petroleum bi-products, found on this site when last tested by VDEQ (which appears to be in 2020 – see attachment) I suggest that the health of the nearby residents (and also the health of those who in the future will live and work in the new development) should be the paramount consideration. The City must not default to the developer to figure out how to remediate the pollution and instead must take the lead in the evaluation of all health and safety considerations. My recollection from my communication with DEQ is that it has no plans to remediate, and it has no plans to determine if any of the chemicals are flowing into the Potomac River. Instead, DEQ is relying on the City and Developer to do so. We hope the City will also provide the citizens an opportunity to be informed about the extent pollution, the risks to the public, and how the pollution will be contained/remediated before approvals are granted to the Developer. Also embedded within the attached report is a revised 2024 risk assessment compiled for DEQ, which is complex, but also concerning. We must fully understand this complex data, and determine whether capping can accomplish remediation before approving anything related to developing the property. As is obvious, this property lies adjacent to the Potomac River, and as the data reflects, the groundwater under this site is very close to the surface and is polluted with toxic chemicals.

Here's the attachment as a link for your review:
ENVECO Updated Risk 2024pdf.pdf
Add your comments and collaborate with others in real time. You don't need to download Acrobat or sign up to access the file.

Jeremy Flachs
109 E Randolph Ave.
Alexandria, Virginia 22301
Ph. 703-282-0087
Jeremy.flachs@flachslaw.com

From: Ann Shack <annshack@earthlink.net>

Sent: Sunday, June 1, 2025 2:18 PM
To: plancomm@alexandriava.gov
Cc: : Alyia Gaskins <alyia.gaskins@alexandriava.gov>; Sarah Bagley <sarah.bagley@alexandriava.gov>; John Chapman <john.taylor.chapman@alexandriava.gov>; Kirk McPike <kirk.mcpike@alexandriava.gov>; Jacinta Greene <jgreene4citycouncil@gmail.com>; Abdel Elnoubi <abdel.elnoubi@alexandriava.gov>; canek.aguirre@alexandriava.gov; jim.parajon@alexandriava.gov; Jesse Maines <Jesse.Maines@alexandriava.gov>; Jeremy Flachs <jeremy.flachs@flachslaw.com>; annshack@earthlink.net; Andrea Stowers <andreal.stowers@gmail.com>; Hal Hardaway <jameshhardaway@gmail.com>; Mary Harris <mary.celeste.harris@gmail.com>; Agnès Artemel <aartemel@gmail.com>; foundersparkalexandria@gmail.com; president@theoldtowncivicassociation.org; info@oldtownnorth.org; Laurie Hughes <lauriehughesmba@gmail.com>; nancyk764@verizon.net; NANCY MEYERS <echomeyers@verizon.net>; Ben <FrankeB@uanpf.org>; melissa.b.kuennen@gmail.com; Robert Kerns <robert.kerns@alexandriava.gov>; Ryan Whitaker <president@otnalliance.org>; Mace Carpenter <pmasoncarpenter@aol.com>; Robert J. Segan <bsegan@seganmason.com>; Andrew Macdonald <ahmacdonald@mac.com>
Subject: Docket #10 Planning Commission Meeting June 4, 2025

Planning Commision Members:
Since I am unable to attend the meeting on June 4th, I submit this attached letter to you in advance. Please read this and put it into the record.
While the City staff has a "standard" method of allowing development of land within the Alexandria City limits, not all sites that are contaminated should be treated the same way. In this case, the health and safety of the next door residents are a significant risk.Thank you for your consideration of our request.Sincerely,Ann ShackTobacco Quay

NORTH
OLD TOWN NORTH ALLIANCE

May 30, 2025

Members of the Planning Commission
City of Alexandria
301 King Street
Alexandria, VA 22314

VIA EMAIL

Subject: Response to Docket Item #10 – Development Special Use Permit #2024-10009, Robinson Terminal North – 500 & 501 North Union Street

Dear Members of the Planning Commission:

The Old Town North Alliance (OTNA) writes to you today regarding the Development Special Use Permit #2024-10009 for the Robinson Terminal North project. Our mission is to contribute to the health and vitality of the Old Town North business and residential communities and to forward the implementation of the award-winning Old Town North Small Area Plan. We aim to create opportunities for community involvement in the exciting future of Old Town North, focusing on activation, placemaking, and enhancing our vibrant, walkable mixed-use community.

OTNA strongly supports Planning Commission approval of the DSUP but requests serious consideration of the points raised in this letter. We appreciate the thorough staff report and the considerable effort that has gone into this proposal. The Robinson Terminal North development represents a significant opportunity for our neighborhood and the broader Alexandria waterfront. While we are broadly supportive of the project's goals, the Old Town North Alliance wishes to emphasize two matters of specific interest where we believe further attention and commitment from the developer are crucial: Public Art, and the integrated development of Open Space, Site Activation, Streetscape, and the Oronoco Street End.

1. Public Art

The Robinson Terminal North site serves as a crucial **Gateway to Old Town North**. As such, its development, particularly its public art component, must be thoughtfully integrated into the greater plan for our neighborhood. Its strategic location along the planned **Art and Culture Walk** route makes the inclusion of significant public art installations here essential, providing a vital link between Old Town and Old Town North and enriching the experience for residents and visitors alike.

Old Town North is envisioned as a dynamic arts and cultural corridor, and public art is a cornerstone of this vision. We acknowledge the staff report's inclusion of conditions regarding public art (Conditions 174-177). However, to ensure a truly impactful and lasting contribution to the neighborhood's cultural fabric, OTNA proposes the following for your consideration:

- **Clarity and Transparency on In Lieu Contributions to the Public Art Fund:** In order to satisfy the requirement to provide public art, the developer may opt between

providing such art on-site or making a financial contribution in lieu. As a threshold matter, it is important for the community to understand how any in lieu contributions from this, or any, developer to the public art fund will be utilized. This is particularly important given the location of the Robinson Terminal North Project as a Gateway to Old Town North's Arts & Cultural District. We urge the Planning Commission to work with the applicant to ensure a transparent process for how their specific contributions will be decided upon and how they will be allocated to benefit the community. It has been widely acknowledged that progress on the implementation of the Arts & Cultural District has been far slower than expected. Ensuring that in lieu contributions to the public art fund for developments in and around Old Town North are designated for installations and initiatives that enhance the Arts & Cultural District can help accelerate that progress. A broader concern exists regarding transparency around the utilization of in lieu contributions to the public art fund by developers on other projects. When OTNA advocated for the Whitley Phase II developer's in lieu contribution to be spent in Old Town North at a Planning Commission meeting in April, the Planning Commission indicated that it had no visibility into the expenditure of such funds. Upfront clarity and transparency on the expenditure of these funds is essential.

- **Minimum In-Lieu Contribution:** We strongly encourage the Planning Commission to determine **an appropriate minimum in-lieu developer contribution per phase** towards public art installations for this project, with the existing maximum of $75,000 per building (as stated in Condition 177) being the aspirational goal for each phase. This dedicated funding per phase will guarantee a substantive investment.
- **Art Installations in Both Phases:** Condition 175.a. mentions that if on-site public art is provided, a phasing plan should be provided during Final Site Plan. We urge the Commission to make it a clear expectation that significant art installations will be incorporated into **both Phase 1 and Phase 2** of the Robinson Terminal North development. This ensures that the entire project contributes to the artistic landscape of Old Town North and that early residents and visitors benefit from these enhancements.
- **Timeline for Phase 2 Art Contribution:** To ensure the public art benefit from this development is not indefinitely deferred, we request a condition that if Phase 2 construction (East Block) does not commence within a **reasonable and clearly defined timeframe** following the completion of Phase 1 (West Block), the in-lieu monetary contribution designated for Phase 2 public art, as outlined in Condition 177, shall be made by the developer to the City's Public Art Fund, with this specific contribution **dedicated to art development within Old Town North.**
- **OTNA Participation in Art Selection:** The Old Town North Alliance, as a key stakeholder and representative of the community, requests (i) the opportunity to provide feedback on public art installations provided on-site; and/or (ii) formal inclusion in the process to select and locate public art in Old Town North if the developer opts to make an in-lieu contribution. Our involvement would help ensure that the selected art aligns with the neighborhood's character, the Small Area Plan's objectives, and the community's aspirations.

2. Open Space, Site Activation, Streetscape, and Oronoco Street End

The planned open spaces, enhanced streetscape, and the transformation of the Oronoco Street End are vital components for creating a vibrant, accessible, and pedestrian-focused environment, as envisioned in both the Waterfront Plan and the Old Town North Small Area Plan. We are

pleased to see the detailed attention given to these elements in the staff report. To ensure timely delivery and long-term success, OTNA puts forth the following recommendations:

- **Early Streetscape Development and Interim Park/Walkway:** We urge the Commission to ensure that the full streetscape improvements along North Union Street, Pendleton Street, and Oronoco Street (west of Union) adjacent to the West Block (Phase 1) are developed at the **onset of Phase 1 construction**. Concurrent with this, we strongly advocate for the establishment of the **interim 10-foot minimum asphalt or stone dust path along the waterfront** (as stipulated in Condition 2.d.) at the very beginning of Phase 1. This interim park and walkway are crucial for maintaining public access and enjoyment of the waterfront during the multi-year construction period.
- **Timeline for Permanent Park and Walkway:** While Condition 2.d. outlines the construction of a temporary path if the East Building permits are not issued by the 10th Certificate of Occupancy for the West Building, we believe a more definitive timeline for the activation of the East Block (Phase 2) is prudent. We request that the Planning Commission establish a condition that if Phase 2 (East Block development and its associated permanent open space improvements) is not initiated within a **reasonable and clearly defined timeframe** following the completion of Phase 1, the then-existing interim park and walkway on the East Block be enhanced **to create a high-quality public open space installation**, funded by the developer, the City or a combination of the two. This will prevent the East Block from remaining undeveloped or the interim solution from becoming a de facto permanent state without the full investment intended for this critical public amenity.

The Robinson Terminal North project holds immense promise for Old Town North. By giving special attention to these aspects of public art and the timely, comprehensive development of public spaces, we can ensure that this development fully realizes its potential to enhance our neighborhood's unique character and vitality.

The Old Town North Alliance supports the development of Robinson Termination North as generally proposed by the developer and encourages the Planning Commission, City Staff and, ultimately, City Council to move this project through its entitlement phase carefully but expediently. OTNA is committed to working collaboratively with the Planning Commission, City staff, and the applicant to achieve the best possible outcomes for our community. We thank you for your time and consideration of our input.

Sincerely,

Ryan Whitaker	Tommy Volk	Agnes Artemel	Sarah Almy
President	Treasurer	Board Member	Executive Director

City of Alexandria, Virginia

MEMORANDUM

DATE: MAY 30, 2025

TO: MAYOR GASKINS AND MEMBERS OF CITY COUNCIL
CHAIR McMAHON AND MEMBERS OF PLANNING COMMISSION

FROM: KARL MORITZ, DIRECTOR; DEPARTMENT OF PLANNING & ZONING

SUBJECT: DSUP #2024-10009 / ROBINSON TERMINAL NORTH AND THE CITY'S CONTAMINATED LANDS PROGRAM

Community Concerns and Questions

City residents have raised concerns about preexisting contamination at the proposed site and asked questions about how contamination would be mitigated during construction. In particular, the following questions have been asked

1. What is the environmental status of the site?
2. How does the City's Contaminated Lands Program work? And what other project sites in the city have gone through this remediation process?
3. How will the public be kept informed if the project is approved?

City staff appreciates the seriousness of land contamination and has established procedures that developers must follow to maintain safety during construction and properly mitigate environmental hazards. These procedures provide for the safety of neighbors, workers, and future residents. This memo provides responses to the questions raised and describes how the City's procedures apply to this application.

Environmental Status of the Site

The Robinson Terminal North (RTN) site includes two parcels at 500 and 501 North Union Street in Alexandria's Old Town North. The 500 parcel (West) currently contains a one-story warehouse on concrete slab and is occupied by a restaurant ware supplier, between Pendleton and Oronoco streets. The 501 parcel (East) serves as a staging area for Alexandria Renew Enterprise's RiverRenew CSO tunnel project and contains a concrete slab, pier, access shaft, and material storage yard.

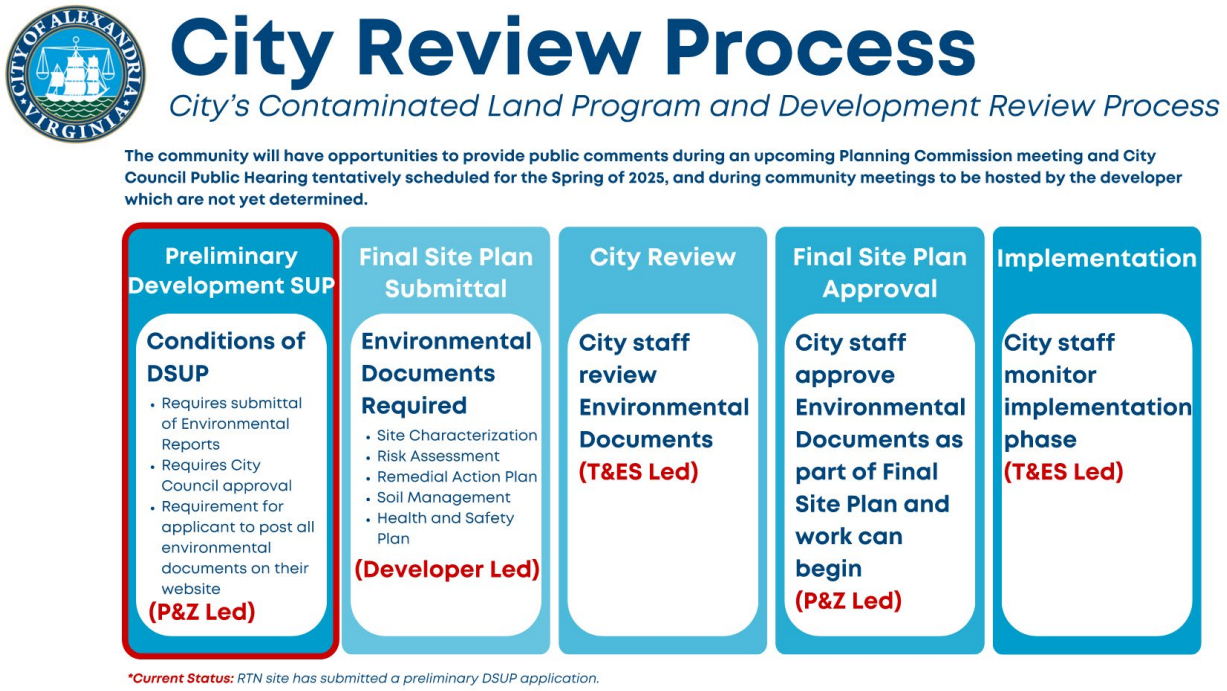
Like much of Old Town and the City's rail corridors, both parcels have a documented history of industrial use dating back to the 19th and 20th centuries. Historical uses included coal and petroleum storage, fertilizer and acid manufacturing, and chemical mixing operations. Adjacent properties also hosted gas works and other industrial activities commonly seen in the Old Town district at the time. These uses contributed to contamination in soil and groundwater, including petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals such as mercury and arsenic. The most recently known industrial use at the West site was with the R.H. Bogle Company, which consisted of an herbicide production plant. Other sections of the Bogle site were redeveloped as the Tobacco Quay town houses and Dalton Wharf office complex in the early 1980s.

EPA Review and Non-Superfund Finding
The R.H. Bogle site was evaluated by the U.S. Environmental Protection Agency (EPA) beginning in the early 1980s under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for potential inclusion on the National Priorities List (NPL). Following that review, the site was designated No Further Remedial Action Planned (NFRAP), indicating that based on available data, the site did not warrant federal Superfund cleanup.

State Voluntary Remediation Program and Petroleum Program
In 2016, applicants seeking to redevelop the West and East parcels entered the Virginia Department of Environmental Quality (VDEQ) Voluntary Remediation Program (VRP) and received closure under an industrial use standard in 2022. In parallel, the East site was also enrolled in VDEQ's Petroleum Program (PP) following the removal of three 8,000-gallon underground storage tanks. This triggered a Site Characterization Study, groundwater monitoring, and the development of a Corrective Action Plan (CAP) to address petroleum-related impacts under VDEQ PP guidance. As part of the current process, an updated CAP is required under the Petroleum Program to reflect ongoing site conditions and proposed land use changes. In 2024, the owners re-entered the VRP to enhance mitigation standards for residential redevelopment. Updated restrictions under the residential classification within VDEQ's amended restrictive covenants require the site developer to install vapor mitigation, place two feet of clean fill or hardscape cover, and submit a Health and Safety Plan (HASP) along with post-construction compliance reporting to VDEQ.

City's Contaminated Lands Program for Development Projects and Precedent Projects
The City has a very robust Contaminated Lands Program for development projects. Projects that have evidence of past contamination are required to furnish sampling analytical data and risk assessments for City review under the Contaminated Lands Program to ensure potential exposure risks are below the VRP threshold for commercial and residential standards. Many applicants, including this one, enroll into the VRP when seeking redevelopment approval and provide this information in advance of project approval. This approach has been used regularly for other sites with similar historical uses, including projects at Robinson Terminal South, Potomac Yard, Carlyle, Cameron Station, and Vulcan Materials Storage, among others.

Regardless of VRP enrollment, City staff utilize exposure thresholds established by the VRP as the basis for mitigation requirements if the environmental investigations find contamination exceeding the commercial or residential standard. As is the case for RTN, the City often requires additional mitigation and remediation documents like a Soils Management Plan (SMP) and a HASP. These plans specifically targets mitigating effects to adjacent landowners and onsite workers as an additional layer of protection to human health and the environment. The SMP specifies haul routes, off-site disposal protocols, and requirements for the handling of imported and exported materials, especially those in contact with contaminated soil. The HASP, prepared and signed by a professional engineer and certified industrial hygienist, addresses mitigation to protect construction workers, adjacent landowners, and the broader community. This includes protocols for air monitoring, dewatering, and real-time oversight by an on-site Health and Safety Officer empowered to stop work if unsafe conditions are identified. (See the figure below for the City's process.)



Keeping the Public Informed

Staff has proposed development conditions to enhance public transparency throughout the application process, and if approved, the construction process.

In Condition 125, staff recommends requiring the applicant to maintain a publicly accessible project website throughout the duration of construction and until Certificates of Occupancy are issued. This webpage must house all relevant environmental documentation submitted to VDEQ and the City, including reports related to the VDEQ's VRP and PP, and the City's Contaminated Lands Program.

In Condition 139, staff recommends requiring the applicant to host a community meeting to present the approved Remediation/Corrective Action Plan and HASP required under the City's Program prior to the release of any permits for new construction. The meeting must be publicly notified at least 14 days in advance and include outreach to all adjoining property owners, registered civic associations, and the Departments of Planning & Zoning (P&Z) and Transportation & Environmental Services (T&ES). The goal of the meeting is to provide surrounding residents with a clear understanding of the planned environmental safeguards and risk mitigation measures before site work begins. Note that demolition of the pier is being reviewed under a separate demolition permit and that work is anticipated to occur in June 2025.

For questions or further clarification, residents may contact

- Gavin Pellitteri gavin.pellitteri@alexandriava.gov, Stormwater Principal Planner or
- Jesse Maines Jesse.Maines@alexandriava.gov, Stormwater Management Division.

Staff:

Karl Moritz, Director, P&Z
Paul Stoddard, Deputy Director, P&Z
Jesse E. Maines, Division Chief, Stormwater Management, T&ES

Robert M. Kerns, AICP, Chief of Development, P&Z
Gavin Pellitteri, Principal Planner, Stormwater Management, T&ES
Catherine Miliaras, AICP, Principal Planner, P&Z

Waterfront Commission and
Park & Recreation Commission

Department of Recreation, Parks & Cultural Activities
1108 Jefferson Street
Alexandria VA 22311

May 21, 2025

To: The Honorable Mayor and Members of City Council

Re: Joint Letter on Robinson Terminal North (RTN) Development Proposal

We write to share recommendations from both the Waterfront Commission and the Park and Recreation Commission on the development of the Robinson Terminal North (RTN) site. Attached also is a more detailed report developed by the Waterfront Commission Subcommittee on this project.

RTN is one of the last remaining waterfront development sites in Alexandria. The process to bring the development to this point has taken many years and considerable planning, and the Commissions commend the progress made. It is imperative to learn from the lessons of past developments along the waterfront and incorporate these lessons into RTN. We recognize that waterfront property in Alexandria is a scarce resource and important for both the enjoyment and economic needs of the city, residents and visitors. We strongly encourage the City to work with the developer to maximize the public amenity space on the site, develop a plan for providing near-term public access to the water, and visibly recognize the historic nature of the site.

Several points are paramount to the success of RTN, consistent with the Waterfront Small Area Plan Development Goals and Guidelines:

- Designing and maintaining a continuous waterfront pedestrian promenade has long been a tenant of Alexandria's waterfront improvement efforts. The complexity and cost of the development has the potential to lead the developer to complete the work in two phases (West and East) with a lengthy delay in construction possible between the two phases. The project is expected to start with the West building. If there is a delay in start of construction of the East portion of the development, the City should require the developer to complete a public access path along the riverfront as soon as the developer is aware of its need for delays. It could be an extended period for the second (East) phase to be completed and leaving the waterfront access unavailable during this period is not acceptable.

- The site is contiguous to a large, dilapidated and complex pier. The pier is owned by the current owner of the site. We are pleased that the developer's demolition plan calls for cutting the pilings to a level close to the riverbed to allow for and protect waterborne traffic. We understand this work will begin in early summer 2025. The City should work towards replacing the pier and/or make improvements to the shoreline to enable use by pedestrians and boats or a floating dock (for kayaks, paddleboards or other non-motorized vehicles). This

enhancement would help accomplish the long-term vision of the Waterfront Plan to provide multiple water access points to Alexandria.

- The Commissions discussed at great length the optimal ownership of the public access areas of RTN. Ultimately, the Commission supports having the area that is contiguous to the river, including a walking path, owned by the City. Ongoing, daily maintenance would be the responsibility of the condominium residents and major capital improvements to be the responsibility of the City. The Commission saw merits to the City in having the Condominium owners retain ownership and full maintenance responsibilities with public access and authority given to the City for future development of the riverfront including a dock and access points. But ultimately it is decided that the City's ownership of the land along the river is in the public's best interest.

- The Commissions support construction of up to five pavilions with supporting infrastructure on the unit block of Oronoco Street and in the public access areas of the development to allow for publicly accessible areas for shade and for small gathering spaces. We request ongoing updates and consultation on the planned amenities and activation in the public access spaces in the development so that we may provide additional feedback.

- Finally, we urge the City and the developers to consider ways to visibly recognize the historic nature of the site through appropriate signage or art installations that would serve as a reminder of the vibrant past and present of this unique Alexandria space.

Thank you for the opportunity to review plans for this site and provide feedback to City Council. The two Commissions welcome further opportunities to review development plans as they are refined and finalized.

Sincerely,

Lebaron K Reid
Lebaron Reid, Chair
Alexandria Waterfront Commission

Dana R. Colarulli
Dana Robert Colarulli, Chair
Park & Recreation Commission

Janice M. Abraham
Jan Abraham, Chair
Robinson Terminal North Subcommittee

Attachment:

Report of Waterfront Commission Subcommittee on Robinson Terminal North Development

Report of Waterfront Commission Subcommittee on Robinson Terminal North Development

The Subcommittee, which was chaired by Jan Abraham and included Sydney Smith, David Robbins, Louise Roseman, and William Vesilind, met on October 8 and 16, 2024, and January 29 and May 14, 2025 to review the proposed Robinson Terminal North Development. The discussion focused on adherence to Waterfront Small Area Plan Development Goals and Development Guidelines for the RTN site. The meetings were announced and open to the public. Representative City staff attended the meetings.

Development Goals

1. **Employ a land use mix and design which invites the public and encourages activity within the proposed development in the adjacent public spaces.**

   The proposed development plan achieves land use mix.

2. **Provide extensive public amenities and free access to and along the water's edge.**

   Free access to and along the water's edge is achieved. The Commission requests ongoing engagement and consultation on the yet-to-be-designed public amenities. The Commission strongly encourages extensive interactive amenities (e.g., game tables, places for music concerts, exercise classes, and other public events). Bryant Park in New York City can be a model of a public space with high interactive amenities and engagement by the public. Chicago has also invested heavily in enhancing and supporting the waterfront as a community asset, notably with The Wild Mile, which is an example of a public-private partnership that enhances urban living.

   Although the intent of the developer is to have the two phases (East and West of Union St.) be developed sequentially and as a continuous construction project, external and financial factors could delay construction of the East portion. The Commission strongly recommends, as a condition of DSUP, that if the construction of the East portion is delayed, the public riverfront path be completed as soon as the delay of the East project is identified by the developer and the City. This would allow continuous riverfront access throughout the City, if for some reason the East portion of the project is delayed.

   To support public activation of the site, the Commission encourages utilities and other supporting infrastructure, including water fountains, electricity, and generator support, be installed in the public access area and up to five pavilions be constructed and located in the unit block of Oronoco and in the public access area of the development.

   Public restrooms are planned for the West building. We believe these restrooms are an important element of the planned development and should be a condition of the DSUP.

The on-site restrooms should be publicly available 7 days a week, 365 days per year, from 7 am – 10 pm.

3. **Improve access by extending Pendleton Street as a pedestrian connection to an improved public pier.**

   Pedestrian connection to the waterfront via Pendleton Street and Oronoco St. is achieved. No public pier is included in the proposed development and the current pier will be removed by the developer due to lack of structural integrity. The Commission encourages the City to retain the flexibility to build a public pier at Robinson Terminal North in the future to provide water access to the site for kayakers, paddle boarders, and boats. We believe amenities, either a fixed pier or a floating dock, should exist to encourage public access via the river.

   The Waterfront Commission believes the park should be accessible to visitors who arrive from the river in various modalities. Robinson Terminal North is a historical deep-water port and a key connection between Alexandria and the river. Access from/to the river is also a key component of the Waterfront Plan. The current Robinson Terminal North development plan provides no access for visiting kayakers, paddle boarders or boaters. Access to Robinson Landing by boat, kayak and paddleboard has proven to be a huge success that both provides revenue to the City through docking fees, as well as public "parking" to access retail, restaurants, and adjacent parks.

4. **Pay homage to historic West's Point through public space design and interpretive features.**

   The Commission has not yet seen the public space design and interpretive features paying homage to West's Point. The Commission requests an update on the plans before they go to the City for approval.

5. **Maintain a building scale compatible with existing fabric to the south and west.**

   The proposed development is compatible in scale.

6. **Maximize water views from buildings, streets and rooftop open spaces.**

   Many portions of the development have water views, which are primarily accessible to residents, such as from many of the condominium units and from the building rooftops. Residents will have access to water views from the West Building and restaurant patrons will have water views from the West and East Building restaurants. The public will have views and access to the water from the areas along the waterfront.

Development Guidelines

1. **Active uses should be part of any development and should constitute the predominant ground floor uses.**

   Two ground-floor restaurants are included in the West building and one ground-floor restaurant is included in the East building. Most of the ground floor space in the East building is devoted to residential units.

2. **Preferred use on the site is mixed use, emphasizing arts, history and culture (including a museum) and including vibrant commercial uses (such as hotel).**

   The proposed use of the site does not emphasize arts, history, and culture. Three restaurants on site support vibrant commercial use. The Waterfront Commission has been an advocate for a high level of activation for portions of the waterfront and encourages the plans to include appropriate infrastructure (electricity, plumbing etc.) to allow for active use of the public space, including the adjacent AlexRenew site, the football-shaped site on the southeast portion of the public space and up to five pavilions to provide sun protection and casual gathering spaces. The Commission requests updates on the plans as they are further developed.

3. **Residential use and design should be compatible with a high level of public activity and located away from the water.**

   The design currently has residential units in the East building on the ground floor and in close proximity to the area of public activity. There should be a requirement that the residential units have robust soundproofing to minimize noise complaints.

4. **Residential use should not be the primary use of the site. The location, design and specific type of residential use proposed must coexist well with the other planned uses on the site and planned public activity in the public spaces adjacent to the residential development. Ground floor residential units are not permitted.**

   This guideline is not met. While the development plan includes three restaurants, residential use is the primary use of the site. The East building has ground floor residential units. The Commission is concerned with the interface between the public activation of the area and the highly priced residential condominium units with special attention on the ground floor condominium units. The Commission encourages sound insultation, privacy screens and triple-pane windows for ground-floor condominium units as well as full disclosure for all residents in condominium documents, describing the public access to the surrounding areas.

5. **The streetscape and pedestrian experience along North Union Street should be enhanced; in addition to undergrounding utilities, providing street trees and appropriate light fixtures.**

This guideline appears to be met. Union St will have areas for ride share drop offs and quick delivery of people and things to access the two residential buildings, East and West.

6. **Historic interpretation, consistent with the recommendations of the History Plan, should inform every aspect of the redevelopment and adjacent public spaces, with particular attention given to the West's Point site which is the area which extends from the water west up Oronoco Street to Union Street and represents the origins of Alexandria.**

   We encourage implementation of this guideline but have not seen the developer's plans in this regard. The Commission requests updates on the plans as they are developed.

7. **Encourage modern design inspired by historic precedent while maintaining compatibility with the nearby residential neighborhoods and ensuring compliance with the Potomac River Vicinity Height District regulations.**

   This guideline appears to be met.

8. **Redevelopment proposals shall require review on an advisory basis by the Old and Historic District Board Architectural Review prior to being considered by the Planning Commission and City Council prior to approval.**

   This guideline has been met.

9. **Parking for new buildings should be accommodated on site and below grade. Although the Plan anticipates low parking ratios, the applied ratio must be consistent with industry norms for similar hotels.**

   Parking for East building is below grade, but building constraints require parking for the West building to be at grade. The current plan does not include a hotel. The Commission does not believe that 12 public parking spaces are adequate for the three restaurants and guests of residents in the condominium units.

10. **The bulk and scale of the buildings should be stepped down from Union Street toward the water.**

    This guideline appears to be met; the East building is a smaller bulk and scale than the West building.

11. **Curb cuts should not be located on any building and/or block frontages facing the water or North Union Street, and should be minimized if facing open space along Oronoco Street.**

    There are two curb cuts at the development, one facing Pendleton Street for deliveries, trash collection and parking for the West building and one facing North Union Street for deliveries and the underground parking garage in the East building.

The Commission suggests that trash removal and deliveries, particularly supporting the East building 35 condominium units and a full-service restaurant, be further studied as the amount of activity for deliveries and trash will be considerable and the practicality of using smaller vans for trash collection and delivery is questionable. Much more frequent trash collection than specified in the DSUP application is encouraged.

12. **Shoreline treatment at Robinson Terminal North should include native plantings and naturalization where possible.**

    The Commission does not have information regarding the landscape design and requests further updates as the plans are developed. The Commission supports ensuring that nothing is done during or after development that will hinder stabilization of the shore line.

13. **Redevelopment should be compatible with any biosparging technology, or other bioremediation being employed by the City in treatment of the Oronoco Outfall-Alexandria Town Gas site located at the eastern end of Oronoco Street.**

    City staff confirmed these requirements have been met.

14. **As part of the redevelopment, on and off-site public amenities shall be provided by the developer of the site. The specific amenities to be provided will be determined during the development review process. Desirable public amenities include:**
    - **Public art**
    - **Open spaces with public access easements**
    - **Retention of the Robinson Terminal pier**
    - **Environmental amenities above and beyond minimum required**

    Public art. The Commission is very supportive of public art on this site but has not yet seen the proposed art. We request that the Commission be updated as the plans are developed.

    Open spaces with public access easements. The Commission strongly recommends that the RTN condominium association retain ownership of and maintenance/upkeep responsibilities for the public space (excluding the AlexRenew portion of the site), subject to a public access easement. The Commission believes this model of ownership will provide the highest level of maintenance and upkeep to this important public area and has been successfully adopted elsewhere along the waterfront, such as Harborside's ownership of and responsibility to maintain Shipyard Park including the shoreline.

    The open space development plans should be coordinated with the contiguous AlexRenew space which while under separate ownership will flow naturally from the visitors' perspective.

Retention of the Robinson Terminal pier. The Commission recognizes the financial challenges of rebuilding the pier/dock at this time but strongly encourages the City to work towards replacing the pier in the near future with either another fixed pier for use by pedestrians and boats or a floating kayak/dinghy/paddleboard/dock. This enhancement would help accomplish the long-term vision of the Waterfront Plan with multiple water access points to Alexandria.

The Commission is pleased that the developer has assumed responsibility to remove the existing pier, including the pilings (to a level at or slightly above the river bed), and believes it is essential that it be done in an environmentally sensitive way. We also encourage the City begin the planning process for a replacement recreational, aesthetically pleasing shore line. The photo below illustrates the scale and complexity of the current dock with the numerous pilings supporting the pier. The Commission strongly recommends that nothing be done in the development of the RTN that would preclude long-term development of the waterfront for a future dock/pier. The Commission needs clarity on the future plans for the pier/dock and while this process evolves.

Environmental amenities. The Commission encourages the inclusion of one or more water fountains in the public space, consistent with City standards. Also, the Commission supports the removal of the railroad tracks on the street to support safer bike traffic. Special attention to the bike trail to road intersection is needed for safety of pedestrians and bikers, focusing on the corner of Pendelton and Union Streets.

The Commission encourages additional amenities, such as pavilions with utilities, games and recreational amenities on the public access area including a fire pit, lawn games, seating to watch the river and an area for small musical performances.

15. The maximum FAR and floor area allowed is included on the chart.

City staff confirm this condition has been met.

Signature: Lebaron Reid (May 22, 2025 13:21 EDT)

Signature: Dana Colarulli (May 22, 2025 14:22 EDT)

Signature: Janice M. Abraham
Janice M. Abraham (May 22, 2025 14:32 EDT)