

CREATING A
COMPLETE
SUSTAINABLE
COMMUNITY

NPOY

SMALL AREA PLAN



REVISED DRAFT
JUNE 6, 2017

North Potomac Yard Small Area Plan
Adopted by Ordinance 4673 on June 12, 2010
Amended _____ by Ordinance _____
See Four Mile Run Master Plan, adopted 3/18/2006

NORTH POTOMAC YARD SMALL AREA PLAN | DRAFT 06.06.17

ACKNOWLEDGEMENTS

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VISION AND GUIDING PRINCIPLES



1

VISION

The Plan envisions North Potomac Yard as an environmentally and economically sustainable and diverse 21st Century urban, transit-oriented, mixed-use community that is compatible with adjacent neighborhoods. The Plan seeks to create a regional destination with diverse built and natural spaces where people want to spend time in a wide variety of pursuits.

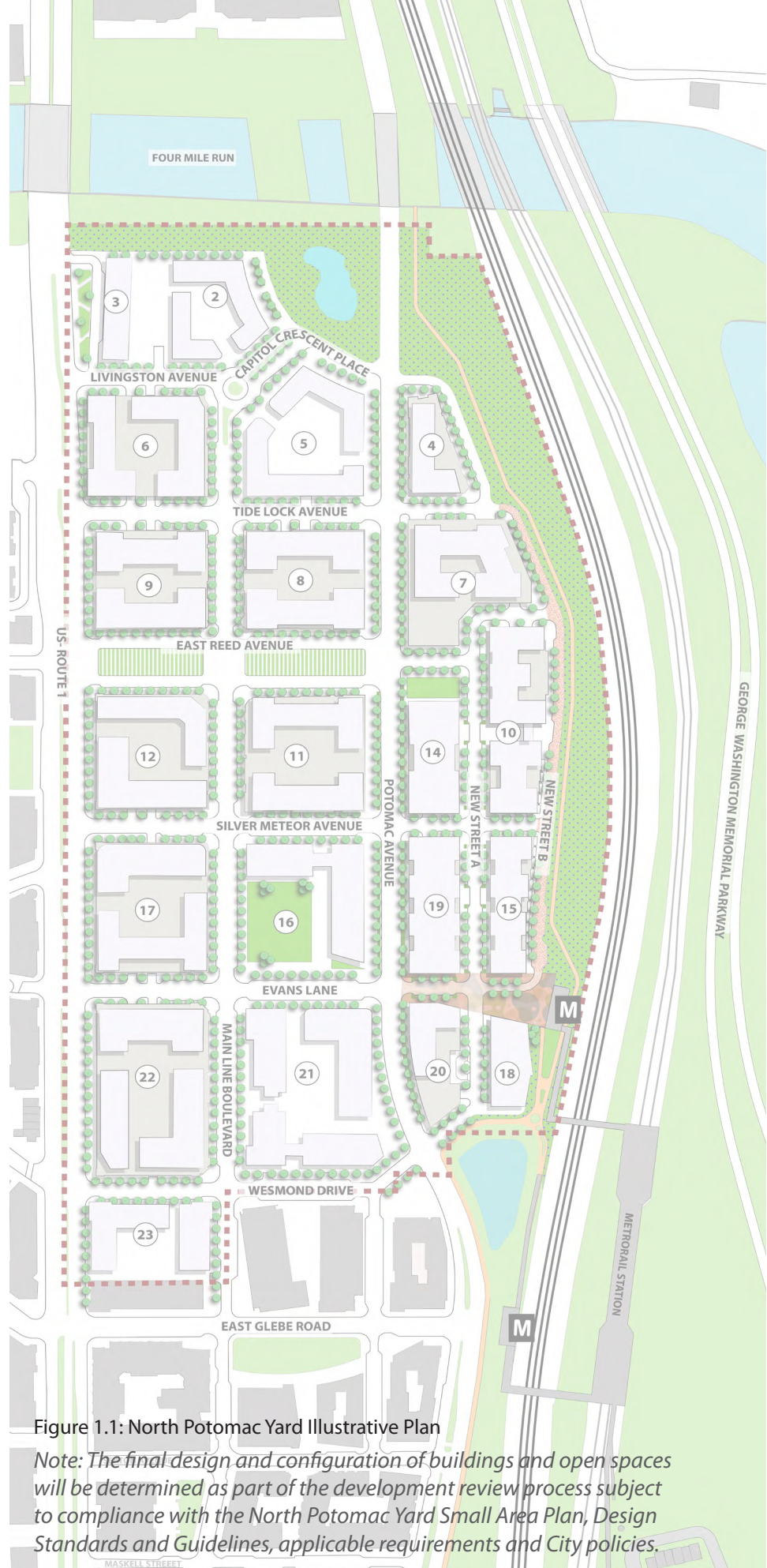


Figure 1.1: North Potomac Yard Illustrative Plan

Note: The final design and configuration of buildings and open spaces will be determined as part of the development review process subject to compliance with the North Potomac Yard Small Area Plan, Design Standards and Guidelines, applicable requirements and City policies.

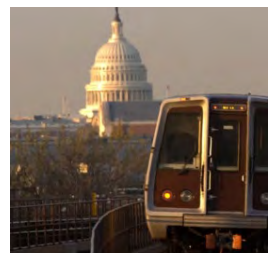
VISION AND GUIDING PRINCIPLES



Figure 1.2: Vicinity and Landbay Map
Note: See Appendix A.4 for definition of a Landbay.

The North Potomac Yard Small Area Plan (Plan) is intended to guide public and private investment and development decisions in the northern portion of Potomac Yard (Landbay F) (North Potomac Yard). The Plan focuses on the creation of dynamic urban forms, a complementary mix of land uses, community amenities, and a range of housing opportunities.

The Plan is a framework to create one of the most sustainable series of neighborhoods within the region, known for its outstanding Four Mile Run waterfront, parks, public transportation, innovative architecture, environmentally sustainable design and practices, and incorporation of Alexandria's rich history and culture.





PLAN PRINCIPLES

- Create North Potomac Yard as a **model of environmental sustainability** for its site planning, infrastructure, and buildings.
- Create an **economically sustainable** development.
- Promote **excellence in design** with a new standard in architecture, urban design, and materials that create a compelling and lasting identity.
- Create a **vibrant and diverse mixed-use community** that provides options for living, working, shopping, recreation, culture, and civic uses for a wide range of incomes and ages.
- Pursue a **comprehensive multi-modal approach to transportation** based on a highly walkable urban environment, minimal automobile impact, and maximum use of existing and new Metro stations.
- Create landscaped streets and a **network of usable open spaces and parks** with a strong connection to Four Mile Run and the Potomac.
- Provide **connections and transitions** appropriate to and protective of the character of surrounding neighborhoods.
-

CREATING A COMPLETE, SUSTAINABLE COMMUNITY

The Plan will guide future growth and redevelopment by taking advantage of North Potomac Yard's strengths: planned economic diversity, history, a central location in the region, dedicated high-capacity transitway (Metroway), a Metrorail station, and proximity to the Ronald Reagan Washington National Airport.

The Vision and Plan Principles emphasize the importance of creating a sustainable community. "Sustainability" refers to the long-term environmental, economic, and social health of a community, one in which the needs of this generation are met without

compromising the ability of future generations to meet their needs. The City has embraced sustainability as a core value through the adoption of numerous policies and regulations. Together, these policies and regulations will provide a roadmap to move Alexandria toward becoming a more sustainable City.

The fundamental goal of the Plan is for North Potomac Yard to achieve progressive and innovative strategies for sustainability in all aspects of development.

The three primary elements of sustainability integrated throughout the Plan consist of the following:

1. *Environmental Sustainability and Performance*

Redevelopment is based on establishing long-term environmental goals, such as carbon neutrality, as well as achieving short- and mid-term goals, such as the incorporation of environmentally responsible building and site development practices; aggressive strategies for the reduction of energy and water use, stormwater reduction, and water reuse; and the restoration and continued health of the ecosystem and watershed. These issues are discussed in more detail in *Chapter 2: Environmental Sustainability and Performance*, *Chapter 6: Transportation* and *Chapter 7: Infrastructure*.

2. *Economic Sustainability*

The Plan enables North Potomac Yard to be poised for future growth as a long-term economic development area for the City. This growth, which is good for the City and the region, requires the provision of a Metrorail station. The Plan requires additional office development in order to increase the real estate tax base and to maximize development (particularly office density) around the Metrorail station. A goal of the Plan is attracting businesses, jobs, visitors, families, shoppers, and tourists. These issues are discussed in more detail in *Chapter 4: Land Use*.

3. *Social Sustainability*

Consistent with the City goal of diversity, the Plan envisions a mix of uses, amenities, housing opportunities, and community facilities to serve a variety of age groups, interests, and income levels. These issues are discussed in more detail in *Chapter 4: Land Use* and *Chapter 5: Community Facilities*.

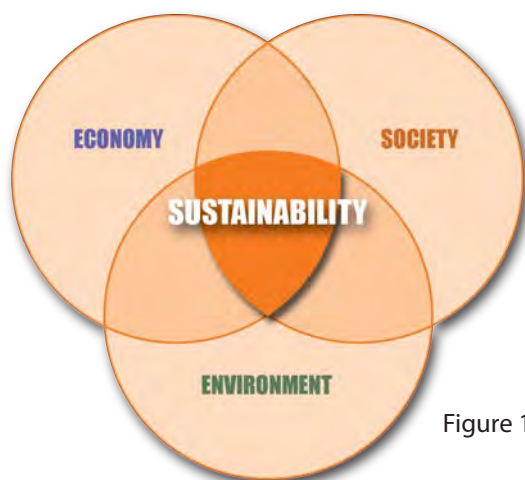


Figure 1.3: Sustainability Diagram

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ENVIRONMENTAL SUSTAINABILITY AND PERFORMANCE



ENVIRONMENTAL SUSTAINABILITY & PERFORMANCE



Sustainable design is not so much a collection of technologies, but rather the integration of the built environment into the natural ecosystem. The Plan supports redevelopment of a site impacted by historic rail yard operations by using innovative techniques and environmental requirements to achieve innovative outcomes in sustainability. The goal of the Plan is to prioritize strategies and implement sustainable approaches and technologies for the entire site.

North Potomac Yard will demonstrate environmental leadership through the following strategies to ensure that the redevelopment of the Plan area enhances the natural environment and quality of life and improves environmental performance with new development.



“ My interest is in the future, because I am going to spend the rest of my life there. ”

-Charles Kettering



A. Mixed-use Development

The Plan provides a balance of office, residential, and retail to maximize walkability and transit use. Creating a walkable mixed-use community with easy access to the Potomac Yard Metro Station, Metroway, local bus service, and pedestrian and bicycle networks will reduce the amount of single-occupancy vehicle trips and greenhouse gas (GHG) emissions.

B. District-wide Sustainability Measures

The intent of the Plan is to encourage district-wide sustainability measures that will be integrated in a coordinated and comprehensive manner supporting the City's environmental goal of new construction to be carbon neutral by 2040. These measures will be identified as part of an Environmental Sustainability Master Plan (ESMP), and will include, but are not limited to, green buildings, open spaces, stormwater management, energy and water efficiency, conservation measures, and use of renewable resources and emerging technologies. The Plan recommends strategies to evaluate district or neighborhood sustainability through certification approaches such as LEED-ND Silver or comparable.

C. Energy Utilization, Conservation, and Building Design

In addition to district-wide strategies, the Plan also recommends sustainability enhancements to individual buildings, particularly in energy use and stormwater. By transforming the built environment to be more energy-efficient and climate-friendly, the buildings in North Potomac Yard can reduce their carbon footprint. Buildings should incorporate effective use of energy utilization and conservation methods including but not limited to: lighting efficiency, electric vehicle charging stations, reduction in water resources, as well as other green infrastructure/technologies.



D. Green Roofs

New development will be required to provide green roofs. Green roofs have the potential to provide amenity space for building users; reduce heat (by adding thermal mass and thermal resistance value); reduce cooling (evaporative cooling) loads on buildings; reduce the urban heat island effect; increase the life span of the roof; reduce stormwater runoff; filter airborne pollutants and CO₂ out of the air; filter pollutants, nutrients, and heavy metals out of rainwater; and increase wildlife habitats in an urban area.

E. Stormwater Management, Green Infrastructure, and Natural Vegetation

Stormwater management and, if feasible, recaptured water is required to be integrated as part of the street and open space design to improve the site's hydrology to reduce runoff, improve water quality, and provide residents and visitors opportunities to participate in the natural processes of their environment. Creative use of water within the public realm increases vitality and adds visual interest to public spaces and streetscapes.



F. Water Conservation

Rainwater collection systems, natural irrigation, and greywater recycling are encouraged, and green roofs are required to help conserve energy and limit potable water usage.

G. Open Space Network

An interconnected park and greenway system will provide residents, employees, and visitors access to local and regional active and passive recreation amenities. Sustainable design of parks and open spaces can include pervious materials and native landscaping in addition to providing crown coverage and tree canopy to this area of the City.

H. Native Plants

The use of native plant species and water-efficient landscaping limits the need of fertilization and conserves water.





I. Designing for Longevity

Quality built forms that create timeless buildings which are also designed for longevity will encourage reuse rather than replacement and account for the life cycle of the building.

The Plan recommends the submission of an Environmental Sustainability Master Plan (ESMP) as part of the submission of the first development special use permit (DSUP) to identify strategies to implement the phased recommendations on a Plan area-wide basis. The ESMP should integrate long-term progressive goals in successive phases with the ultimate goal of carbon neutrality for the entire Plan area. The phasing should anticipate a 20- to 30-year build-out of North Potomac Yard and the evolution of sustainability requirements and technology during that period. The Plan encourages the creative use of technology and design to incorporate green infrastructure and sustainable design into buildings, structures, open spaces, and environment. The ESMP will be updated with the submission of subsequent DSUPs to meet the plan objectives and ensure the area continues to utilize progressive and new technologies for environmental performance and sustainability.



Environmental Sustainability & Performance Recommendations

Environmental Leadership

- 2.1** North Potomac Yard should strive to achieve carbon neutrality by 2040, and to strive to achieve carbon neutrality by 2030.
- 2.2** Provide a mix of land uses and a transit-oriented development as part of the redevelopment of the Plan area.
- 2.3** Explore the possibility of community gardens so that residents and visitors can have access to edible and non-edible plantings as well as offer a unique educational opportunity.

Reduce Energy Use

- 2.4** Explore a minimum of LEED Silver or comparable, or the City's green building standards and requirements, whichever is greater. In addition, new buildings will comply with the Environmental Action Plan (EAP), as implemented through City policies. Energy consumption/utilization and stormwater should be prioritized in the certification for the buildings.
- 2.5** Encourage on-site generation and storage of renewable electricity from solar photovoltaic (PV) and other available renewable resources.
- 2.6** Integrate the use of natural daylighting in all proposed buildings.

District – Wide Sustainability Measures

- 2.7** Require the submission of an Environmental Sustainability Master Plan as part of the submission of the first development special use permit (DSUP) that demonstrates the compliance with the goals and recommendations of the Plan and identifies short-term, mid-term and long-term strategies to achieve the goal of district-wide sustainability measures. The Plan should be updated with each subsequent block(s) and/or building(s) to show how the project achieves the Plan's goals.
- 2.8** Require Plan area-wide sustainability through LEED-ND Silver or comparable.
- 2.9** Explore the development of district energy systems for heating and cooling that take advantage of local renewable energy sources, including but not limited to geothermal energy, sewage heat, anaerobic digestion, and waste heat from buildings.
- 2.10** Require the provision of green roofs for new development.

- 2.11** Provide an integrated open space network, which incorporates environmental components as part of its design.
- 2.12** Design new development to prioritize travel by pedestrians, bikes, and transit, and minimize the need for car use.
- 2.13** Provide affordable housing within ½ mile of the Metrorail station.

Reduce Stormwater Runoff – Water Conservation

- 2.14** Establish minimum quantities of green roof and/or solar power generation on building roofs.
- 2.15** Encourage reuse of captured rainwater.
- 2.16** Require stormwater management, and, if feasible, recaptured water- to be integrated as part of the street, open space, and proposed buildings design.
- 2.17** Encourage water conservation using sustainable methods such as ultra-low and/or low flow plumbing fixtures.
- 2.18** Use native plant species and water-efficient landscaping.

Design for Longevity

- 2.19** Design buildings for long-term aesthetic appeal and flexibility for future changes in use.
- 2.20** Utilize quality building materials that consider the long term life cycle of the building.
- 2.21** Maintain a walkable small block network of streets and sidewalks for pedestrians; avoid super blocks.

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URBAN DESIGN PLAN FRAMEWORK



URBAN DESIGN -PLAN FRAMEWORK



Creating North Potomac Yard as a great place will involve the collective experience of architecture, public spaces, public art, urban design, and landscape design. An exclusive focus on density and land use will not result in a high quality cohesive urban community or an enduring sustainable place that will bring lasting value to the City. The combination of innovative and high-quality architecture, environmentally sustainable elements, and great public and private spaces will create attractive places to live - places that will express the culture and tradition of Alexandria, while also enabling this area to be an effective long-term economic engine for the City.

It is crucial that as projects proceed, buildings, open space and the public realm be held to the highest standards of quality, ensuring that all of the redevelopment provides amenities and economic value for the City. Quality begets quality.

A. Urban Design Framework

The urban design framework plan (Figure 3.1) provides the basic structure for an interconnected series of streets, blocks, and parks. The required street grid is based on Alexandria's historical pattern of pedestrian-scale blocks, with expected variations in the street grid pattern at the Metrorail station and Crescent Gateway Park to create a distinctive and memorable street pattern at these visually prominent locations. The Metrorail station serves as a focal design element for the Metro Square neighborhood. The framework streets will connect to existing streets within the rest of Potomac Yard, Potomac Yard Arlington, and align neighborhoods to the west. The Plan recommends the North Potomac Yard Urban Design Standards and Guidelines to augment the urban design elements of the Plan.

“If buildings are beautiful, higher density compounds that beauty. Conversely, if buildings are ugly, then higher density compounds that ugliness.”

- Vince Graham

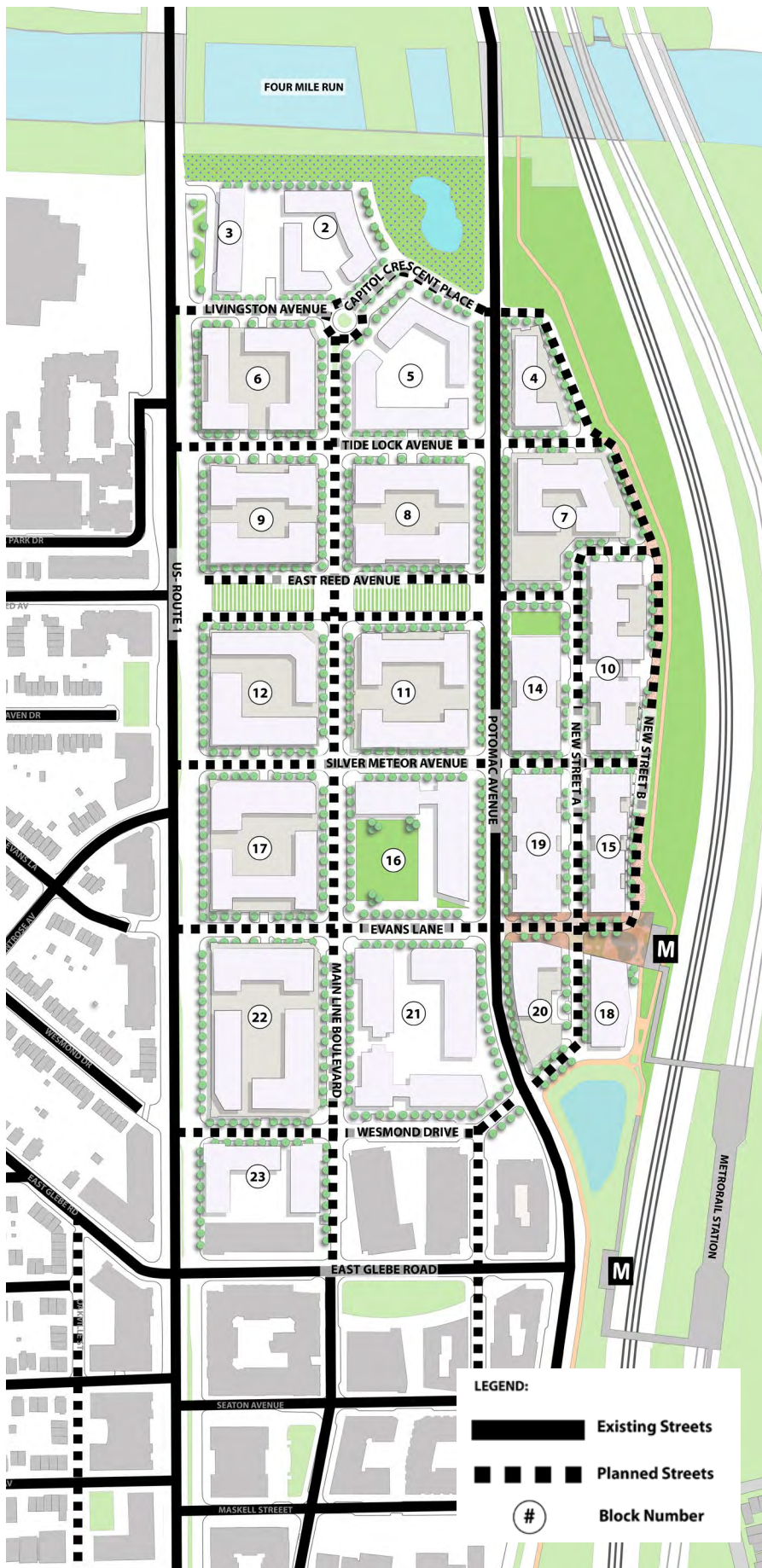
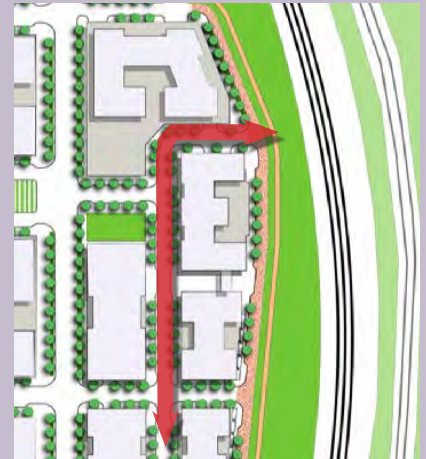


Figure 3.1: North Potomac Yard Urban Design Framework

Option 1



Option 2

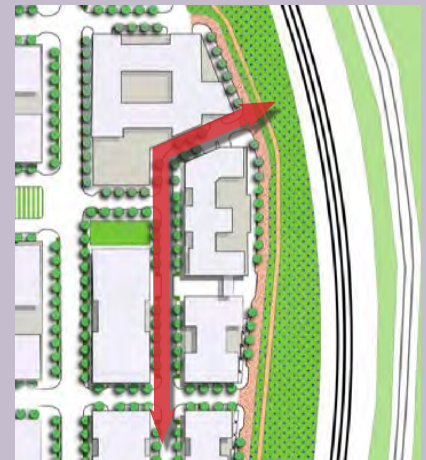


Figure 3.1a: New Street A Northern Connection Options

'New Street A' Northern Connection

The street and block configuration for the Plan area will be implemented as depicted in Figure 3.1. However, the final configuration of the northern portion of 'New Street A' between Block 7 and Block 10 will be finalized as part of the development review process. The intent on this section of the street is to provide a prominent physical and visual connection between the retail street and Potomac Yard Park. Figure 3.1a depicts two possible options.

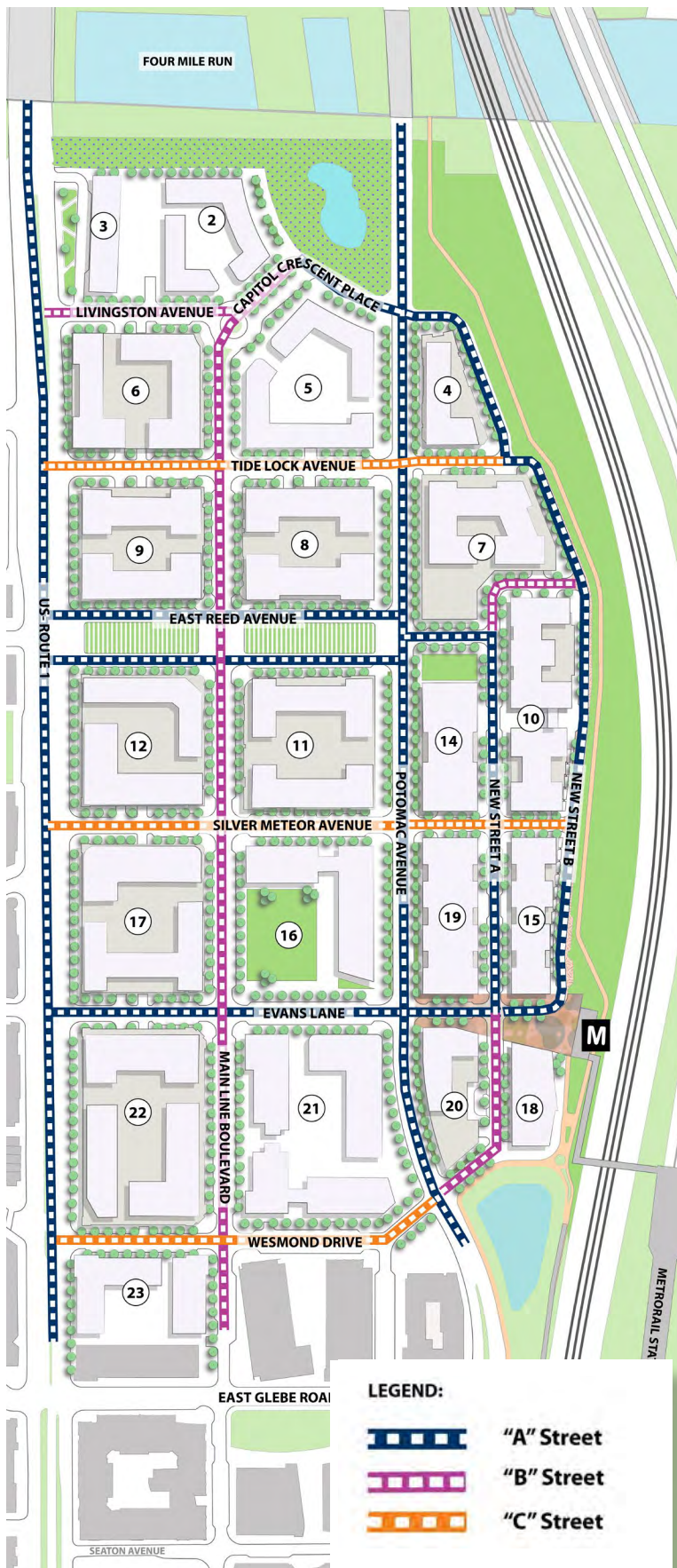


Figure 3.2: Street Hierarchy

B. Street Hierarchy

A street hierarchy based on function identifies prominent streets and streets for parking and service access (Figure 3.2). "A" streets are the most prominent streets; "B" streets connect "A" and "C" streets and provide general pedestrian and vehicular circulation for the neighborhoods. "C" streets provide a means of access and service entries to parking. The Design Guidelines may provide for service entries on "B" streets when buildings have no alley or "C" street frontage. The streets vary in width depending on their function, hierarchy, and scale of adjacent buildings. The required width of the streets and sidewalks capture the characteristics of great urban streets. All streets will be designed to favor the pedestrian and keep the vehicle at low speeds. All streets will also be designed to be consistent with the City's Complete Street Design Guidelines.

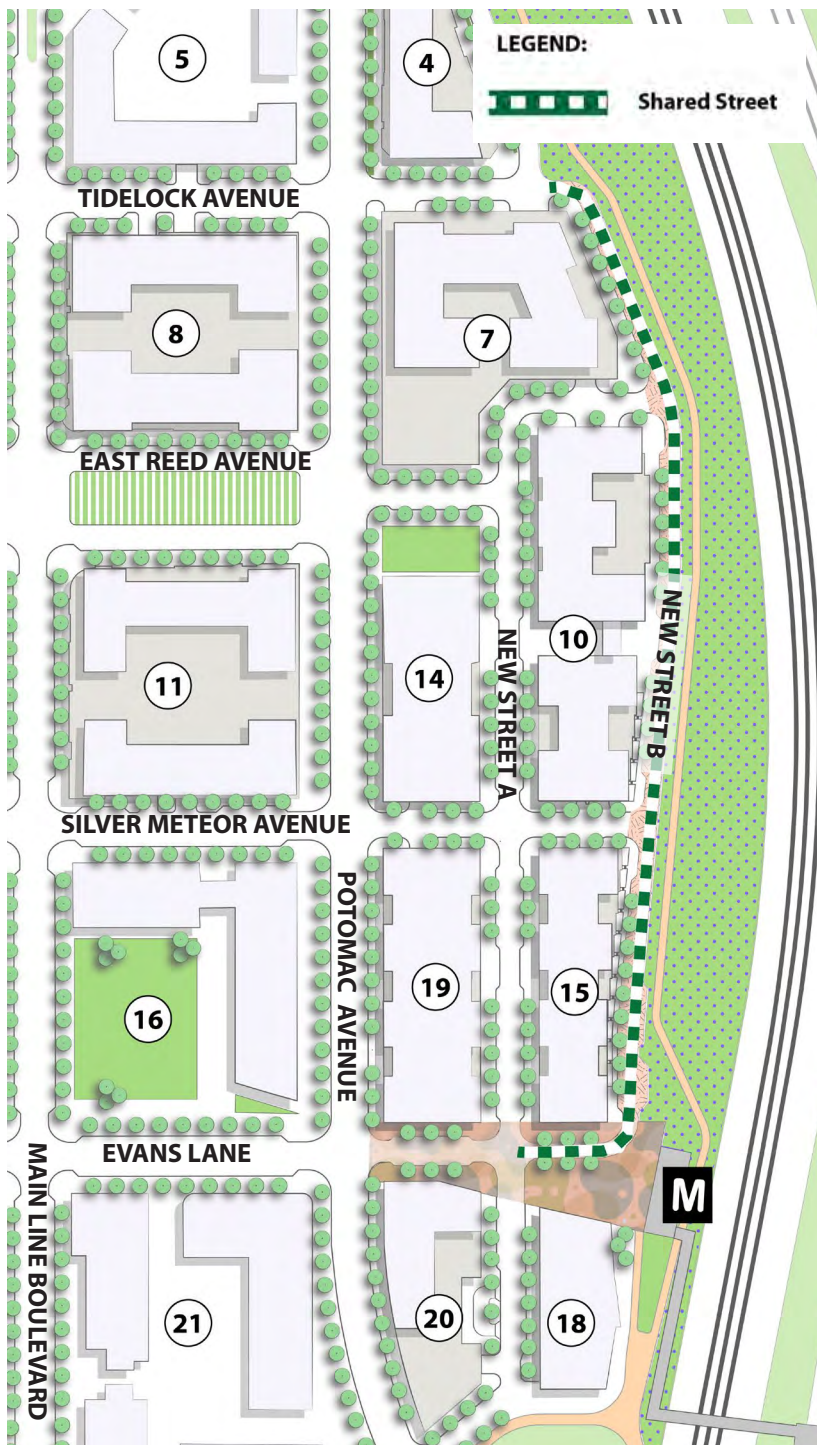
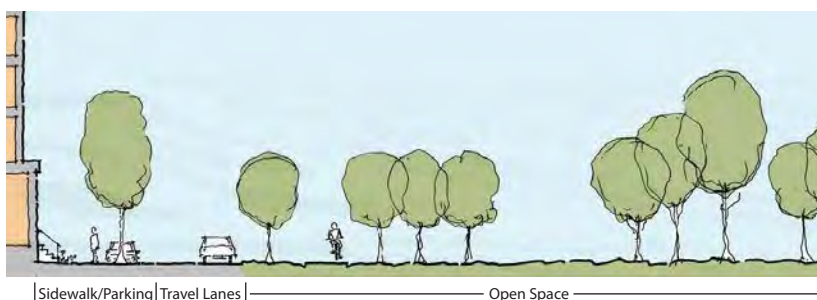


Figure 3.2a: Shared Street (New Street B)



Conceptual section for shared street ("New Street B") adjacent to Potomac Yard Park.

Shared Streets

The Plan recommends that portions of the roads adjacent to Potomac Yard Park and the Metrorail station be designed as shared streets, intended to prioritize pedestrians and provide a seamless transition from the open space and the adjoining streets (Figure 3.2a). Shared streets are also intended to have design elements such as pavers to differentiate from other streets within North Potomac Yard, and encourage slower traffic to maximize pedestrian safety adjacent to Potomac Yard Park and Metro Plaza.



A shared street, also known as "pedestrian priority", "green streets", or a "woonerf", is an integrated street used to better balance the needs of pedestrians, bicyclists, and low-speed vehicles. They are usually local-access, narrow streets without curbs, and vehicles are slowed by placing trees, planters, parking areas, and vertical elements in the street design.

C. Creation of Three Distinct Urban Neighborhoods

A defining element of the City is its distinct neighborhoods, such as Old Town, Del Ray, Northeast, Lynhaven, Rosemont, and Parker-Gray. The City also includes numerous emerging or transitioning neighborhoods such as Carlyle, Eisenhower East, and Landmark/Van Dorn. The differences in identity, character, and scale of the various communities complement each other and contribute to the richness of the urban experience of the City. Consistent with the City's urban tradition of a series of interconnected, distinctive neighborhoods, the Plan requires three unique and identifiable neighborhoods (Figure 3.3).

- Crescent Gateway Neighborhood
- Market Neighborhood
- Metro Square Neighborhood

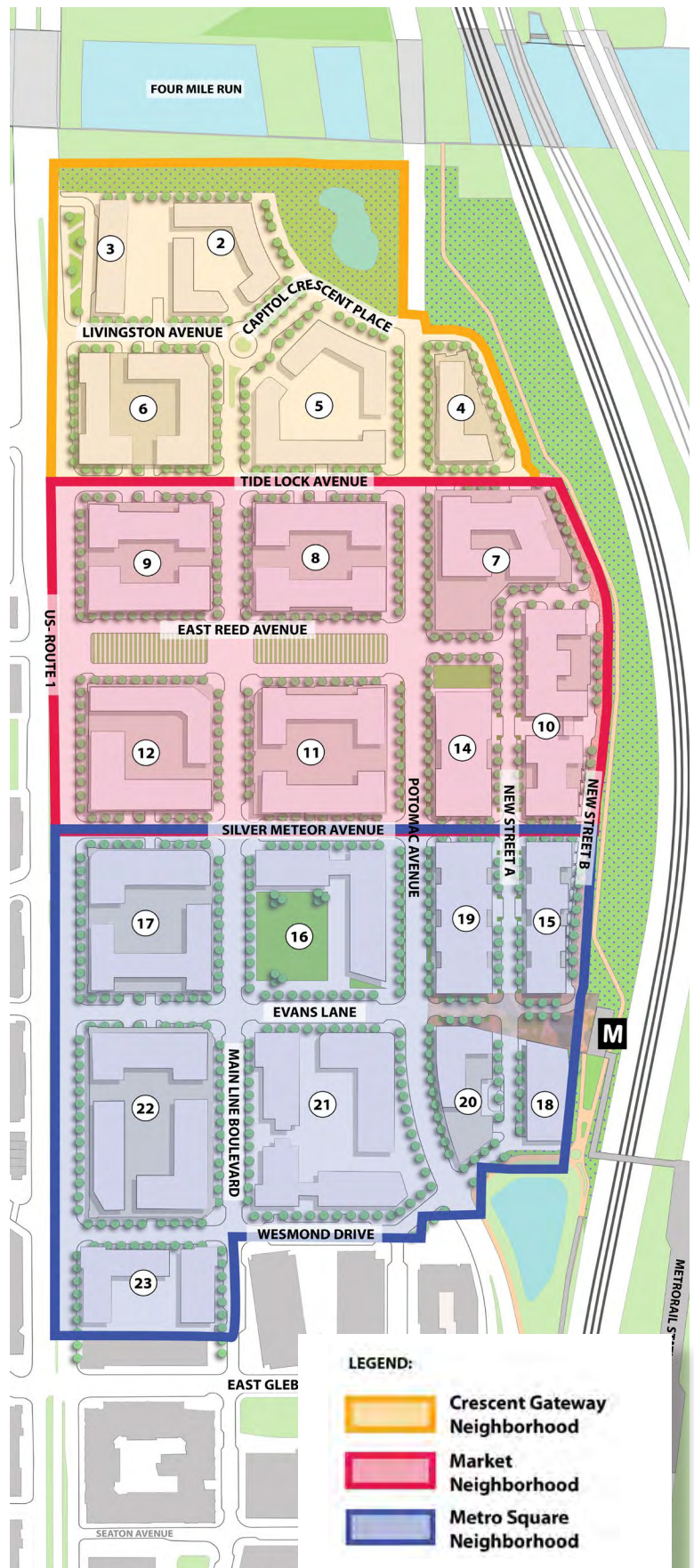


Figure 3.3: North Potomac Yard Neighborhoods



Conceptual rendering of Metro Plaza.

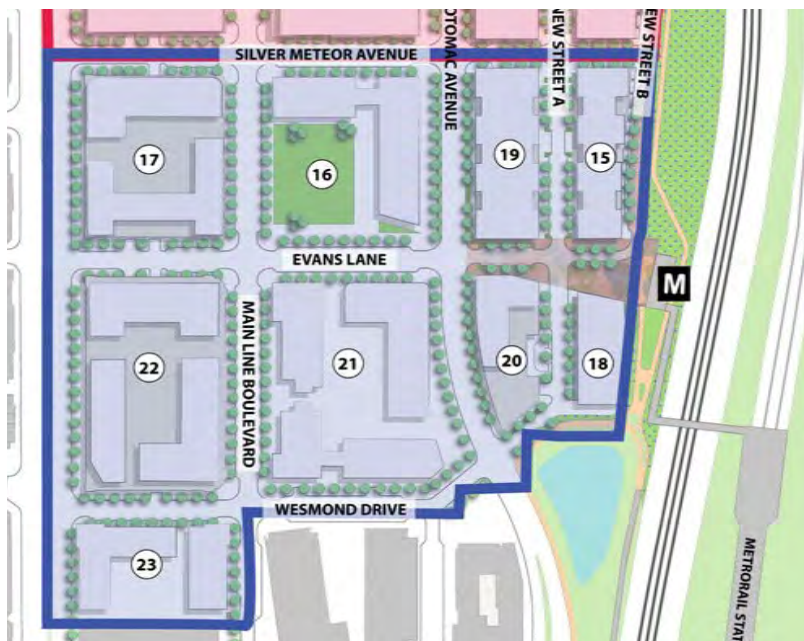


Figure 3.3a: Metro Square Neighborhood

Metro Square Neighborhood

This neighborhood is the transit hub of North Potomac Yard, where the Metrorail station, dedicated high-capacity Metroway, local and regional bus services, and bike lanes will converge. Two important public spaces define the character of the neighborhood: Metro Plaza and Metro Square Park. These open spaces are discussed in greater detail in *Chapter 4: Land Uses*. The neighborhood is characterized by a mix of uses, but will be predominantly office with ground floor retail. In addition, uses such as entertainment and/or live performance arts are encouraged. An entertainment district could provide a unique identity for

this neighborhood and would differentiate this new town center from others in the region. The entertainment and theater uses can utilize the office parking during the evening hours, and add evening activity within the neighborhood.



Conceptual rendering of Market Lawn at the northern end of Block 14 looking east.



Market Neighborhood

This neighborhood is the heart of North Potomac Yard, where a significant amount of retail and restaurants will create an exciting regional destination. This neighborhood is where large format retailers may be located (see Analysis of Market Conditions in Appendix 2). This neighborhood will provide the greatest mix of uses offering a range of housing and office uses above the ground floor retail uses near the Potomac Yard Metrorail Station. One of the blocks may include an internal pedestrian walkway/connection.

Figure 3.3b: Market Neighborhood



Figure 3.3c: Crescent Gateway Neighborhood

Crescent Gateway Neighborhood

Located in the northern portion of the site at the gateway to the City, this neighborhood primarily consists of residential uses, with other uses such as a hotel and a possible school. The neighborhood will be defined by its Crescent Park and will take advantage of the adjacent Four Mile Run and parks. Crescent Park creates a residential address for the adjoining larger scale residential buildings.

Buildings in this neighborhood are situated to enjoy views of the Potomac River and the Washington, D.C. skyline. A signature element of the neighborhood will be the required curved building facades adjacent to Crescent Park. Taller buildings are located within the central portion of the neighborhood and step down in height to the existing smaller-scale neighborhoods to the west and the George Washington Memorial Parkway to the east.



Conceptual rendering from Crescent Park.

D. Gateways and Vistas

Similar to Old Town and South Potomac Yard, most east-west streets visually terminate into the Potomac River or linear park except within the Metro Square Neighborhood where the street terminates at the Metro station pavilion and plaza.

Throughout the development, buildings will visually reinforce prominent vistas along Route 1, Potomac Avenue, and the George Washington Memorial Parkway. The scale, character, elements, and orientation of new buildings are required to highlight the designated gateways and vistas as depicted in Figure 3.4. Signature facades and gateway elements draw attention to specific points of interest and mark the location of entries and places for each of the neighborhoods. The Plan recommends variety in building massing, design, height, and distinctive building tops for taller buildings.

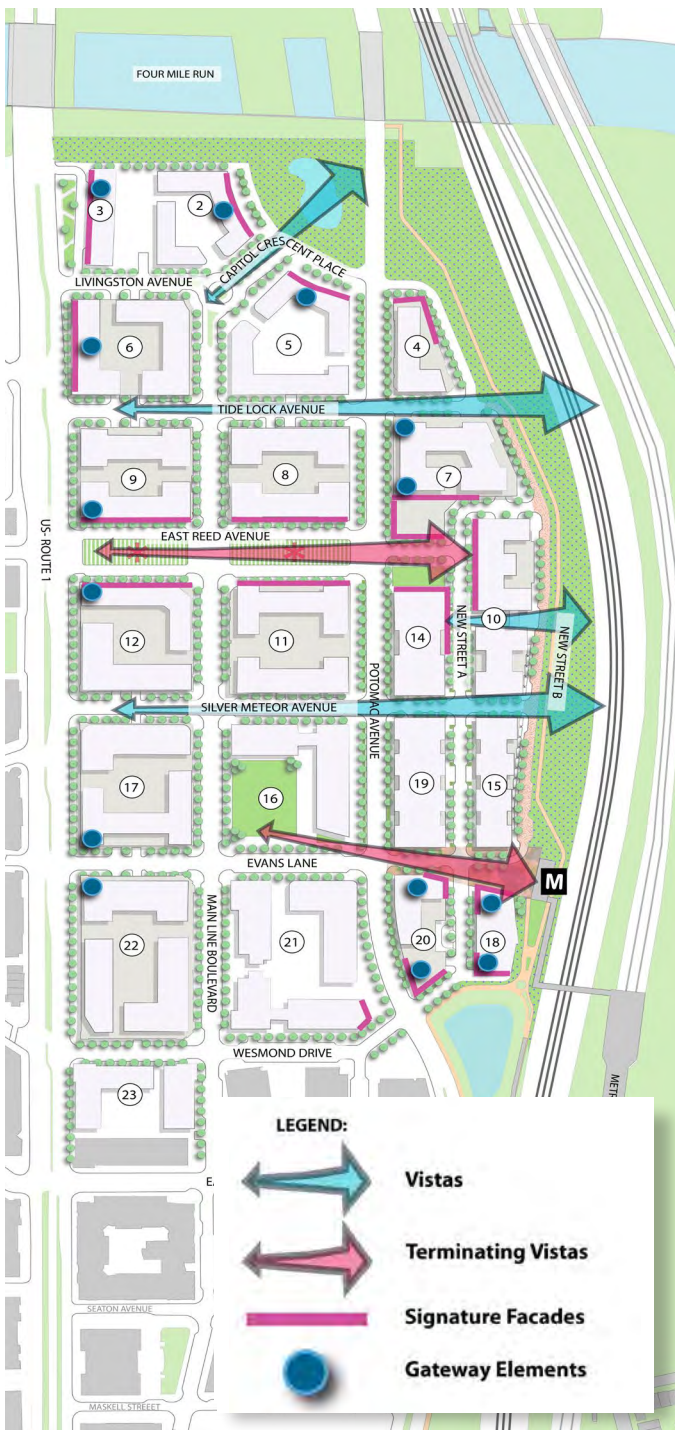


Figure 3.4: Gateways and Vistas

E. Urban and Building Form

The urban form (Figure 3.5) is based on the best of Alexandria's design elements such as pedestrian scale at the street level while creating distinctive urban buildings and forms. The buildings are intended to be contemporary, exhibit design excellence, and reinforce the public realm and character of each neighborhood. The higher density, mixed-use buildings in some of the neighborhoods will provide the urban density necessary to activate retail and restaurants as well as reinforce a sense of place, urban life, and vitality for North Potomac Yard.

The basic bulk and form of buildings are discussed in more detail in *Chapter 4: Land Use* and will be governed by the block-specific Development Summary (Table 4.3) and Maximum Building Heights (Figure 4.5b). Collectively, these standards will ensure that appropriate densities are maintained and that buildings will create an urban street wall from which the streets and open spaces will be defined and framed. The North Potomac Yard Design Standards and Guidelines address urban and building form elements such as building stepbacks, variation in heights, and form.



Figure 3.5: Urban Form Figure Ground



F. Flexible Metrorail Zone

The location of the Metrorail station and access points have been established, and the Metrorail station access pavilion is one of the primary and central components that has driven the function and design for the area around the Metrorail station.

The Plan recommends that the streets that contain the Metroway will need to be designed with as narrow a cross-section as possible, while still accommodating transit to ensure that these streets do not create a visual or physical barrier for the neighborhoods within North Potomac Yard or adjoining neighborhoods that will need to access the retail and Metrorail station. See *Chapter 6: Transportation* for a more detailed description of Potomac Avenue and the conceptual alignment of the Metroway.

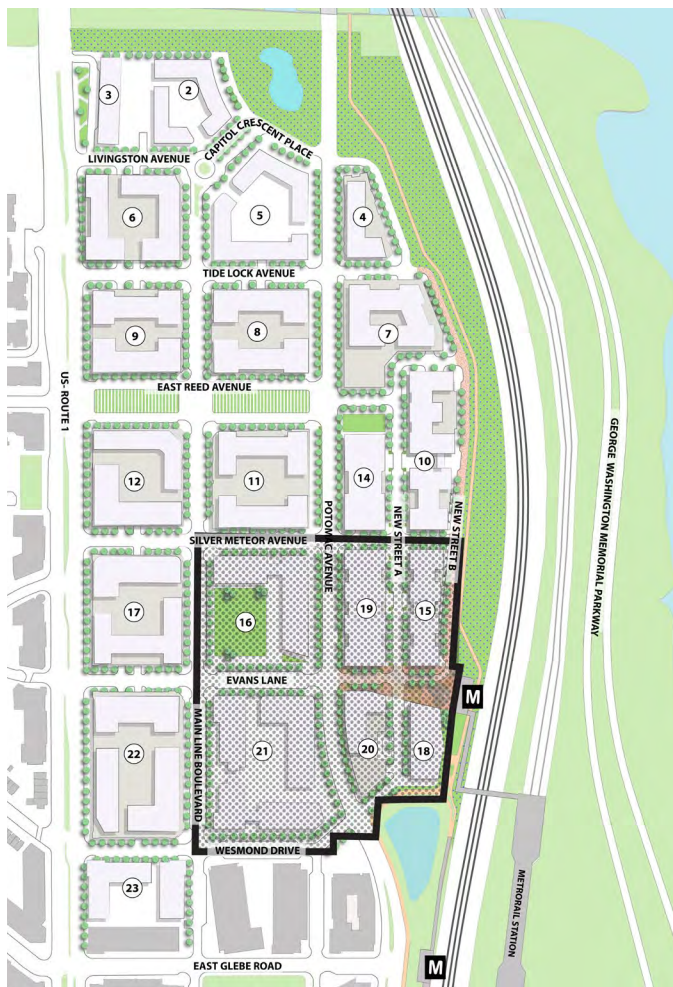


Figure 3.6: Flexible Metrorail Zone

The Flexible Metrorail Zone (Figure 3.6 and 3.6a) is envisioned as an urban place centered around the Metrorail station, Metro Plaza, Metro Square Park, and adjacent buildings. Key goals of the Flexible Metrorail Zone include:

- Creation of an urban Metrorail station which primarily serves pedestrians and not automobiles;
- Maximization of the accessibility of the Metrorail station and high-capacity transitway route and stations;
- Emphasis on connectivity to the Metrorail station and high-capacity transitway stations,
- Maximization of building height, office density, and memorable building forms in the vicinity of the Metrorail station;
- Provision of a centrally-located, well-defined urban park;
- Connection to the planned street network to the north and south via Potomac Avenue;
- Inclusion of a visual terminus for Evans Lane at Metro Plaza; and
- Provision of a meaningful connection to Potomac Yard Park.

Refer to recommendation 3.2 for specific requirements within the Flexible Metrorail Zone.

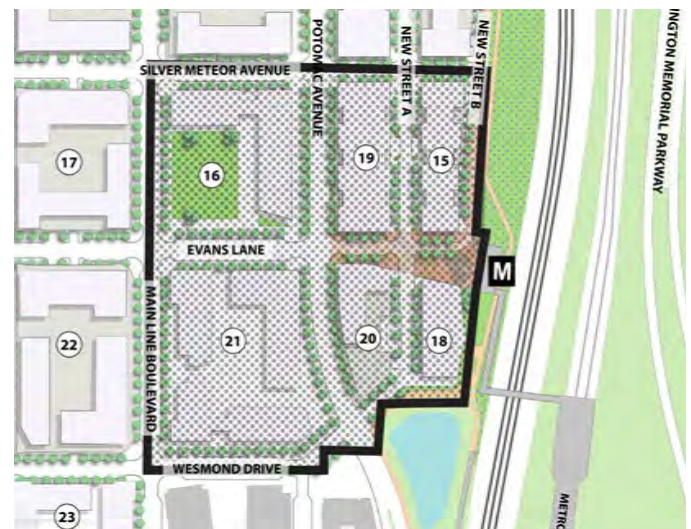


Figure 3.6a: Flexible Metrorail Zone

G. Public Art and History

Public art and historical interpretation help define a community, create a sense of place, celebrate the site's unique history, reinforce a design theme, engage and inspire the public, and add beauty to space that will be enjoyed for generations to come. Consideration should be given to the integration of public art and historical references, interpretation, and educational opportunities. The public art element of the Plan will need to be consistent with any City-wide public art funding policy and/or as required through the development review process. The Plan recommends a Public Art and History Interpretive Plan to integrate public art and history in a comprehensive way throughout the Plan area.



Urban Design Recommendations

Framework Streets and Blocks

3.1 Require the streets and blocks depicted in the Framework Plan (Figure 3.1) to be constructed as part of any redevelopment and dedicated or provided as public access easements to the City.

3.2 Metrorail Zone

The final configuration of the streets, blocks, buildings, and open space shall be subject to the following:

- a. An approximately 0.3-acre Metro Plaza shall be provided adjacent to the Metrorail Station and in the general shape and configuration as generally depicted in Figure 3.6a.
- b. An approximately 0.7-acre square-shaped park shall be centrally located within the Flexible Metrorail Zone on either Block 16 or 21 as generally depicted in 3.6a. Final location of Metro Square Park will be determined during Phase II.
- c. Parks shall be framed by streets, buildings, and uses that activate the parks/open spaces.
- d. Potomac Avenue shall align and connect to the Potomac Avenue right-of-way south of Landbay F and to the final alignment of the Potomac Avenue right-of-way to the north of the Flexible Metrorail Zone.
- e. The overall nature of Potomac Avenue shall prioritize pedestrian, cyclists, transit, and cars, in that order.
- f. The shape of the buildings in plan and form within the Flexible Metrorail Zone shall create distinct and memorable three-dimensional forms.
- g. Buildings surrounding the Metro Square Park shall be required to provide a primary entrance facing the approximately 0.7-acre park.
- h. Buildings on Potomac Avenue shall be designed to frame and activate Potomac Avenue.
- i. Buildings will be required to have more than one entrance and/or through lobbies for buildings with multiple street frontages.
- j. Pedestrian bridge(s) within the Flexible Metrorail Zone that access the Metrorail station shall be fully integrated into the design for the Metrorail station building and adjacent open spaces.
- k. The alignment of Potomac Avenue shall be such that the Potomac Yard Park is continuous.
- l. Development blocks east of Potomac Avenue shall be of sufficient size for market-acceptable building floor plates.

- m. The blocks and buildings shall be subject to the minimum height and density provisions and other applicable zoning provisions, design guidelines, and the North Potomac Yard Small Area Plan.
- n. The streets and buildings shall be configured to accommodate transit and transit stations.
- o. The streets shall be configured to provide a fine-grained interconnected street grid network and spacing consistent with and connecting to streets outside the Flexible Metrorail Zone.
- p. Evans Lane will connect from Route 1 to Potomac Avenue.

- 3.3** Require the street hierarchy to define space and differentiate the character of streets and neighborhoods (Figure 3.2).
- 3.4** Require streets to prioritize pedestrians and bicyclists.
- 3.5** Allow for internal pedestrian connections and alleys within the blocks.
- 3.6** Improve and enhance the Route 1 frontage with streetscape improvements, buildings, and landscaping.
- 3.7** Incorporate creative use of water elements and features within the public realm including, but not limited to, streetscapes and public spaces.
- 3.8** Street design will be consistent with the City's Complete Street Design Guidelines.

Creation of Three Distinct Urban Neighborhoods

- 3.9** The parks and open spaces depicted in the Framework Plan shall be required within each neighborhood as a defining element of each neighborhood (Figure 3.1).
- 3.10** Create three distinctive and unique neighborhoods. Encourage the use of history as inspiration for the design of the open space, public realm, and buildings. Encourage the use of public art to establish distinct neighborhood identities and create unifying themes for the neighborhoods.
- 3.11** Encourage a mix of innovative building typologies within each neighborhood.
- 3.12** The Metrorail station shall serve as a focal design element for the Metro Square Neighborhood.
- 3.13** Explore the possibility of providing cultural and civic uses to reinforce the character of each neighborhood.
- 3.14** Provide wayfinding signage consistent with the City's Wayfinding Design Guidelines throughout the Plan area.

Gateways and Vistas

- 3.15** a. Require variety in building massing, design, and height.
 - b. Use heights and variety in heights, building materials, orientation, and dimensions to create distinctive building tops for taller buildings.
- 3.16** Provide distinctive building forms and architecture at the designated gateway locations.

Urban and Building Form

- 3.17** Balance the aesthetic and functional criteria of sustainable design.
- 3.18** Create an urban building scale and relationship between buildings, streets, and open spaces that ensure urban relationships of the buildings and sidewalk and maximizes walkability and the use of transit.
- 3.19** Require any building with government tenants or tenants who require security measures to meet the vision, applicable provisions of the Master Plan, and North Potomac Yard Design Standards and Guidelines.
- 3.20** Adhere to the North Potomac Yard Urban Design Standards and Guidelines to implement the vision of the Plan.

Public Art and History

- 3.21** Require the submission of a Public Art & History Interpretive Plan for North Potomac Yard, and explore relationships between public art and the history of the site.
- 3.22** Integrate small and large-scale public art which considers the history of the site, as well as thematic, artistic, and cultural ideas into new development and the public realm, including the following areas: trails, transit infrastructure, open spaces, buildings, site furnishings, lighting, gateways, and wayfinding.

LAND USE



4

LAND USE

A. Balancing Land Uses

The allocation and mix of land uses are based on the proximity and relationship to the Metrorail station, high-capacity transit, existing and planned surrounding uses, open space, the required street network, circulation, and market conditions. A balanced mix of uses provides benefits including:

- Improving safety and walkability by sustaining street life through daytime and evening hours;
- Maximizing use of transportation infrastructure capacity by distributing peak hour traffic over longer periods, maximizing internal trips, and maximizing transit use;
- Decreasing parking demand and creating opportunities for shared parking; and
- Supporting retail by establishing a diverse customer base.

The Plan creates a balance among office, residential, and retail uses. Office uses have economic benefits for the City and provide patrons for restaurants and shops primarily during the day. Residential and hotel uses provide activity primarily in the mornings, evenings, and weekends. Office, residential, and retail uses require connectivity and critical mass to ensure their success. The challenge is to create a fine-grained mix of uses and still meet the market and relationship demands generally required for each of the uses.

A 50/50 mix of residential and office use does not mean an equal distribution of square footage for each use. The City's current occupancy for office is approximately 3.5 employees/1,000 square feet, while new office construction occupancy will likely be 4

employees/1,000 sq. ft.. Multi-family residential use is 1.8 residents/unit. Therefore, to provide a balance of residents and employees, approximately two to three times more residential than office square footage is necessary.

The Plan requires specific uses for certain blocks (Figure 4.1 and Table 4.3). For example, most of the blocks around the Metrorail station are required to be office. However, the Plan allows flexibility for the upper floors of the majority of the blocks to be residential and/or office use. The intent of the Plan is that as the Plan area is redeveloped, office and residential are balanced based on occupancy. The final maximum permitted square footage and range of permitted uses for each block will be determined as part of the development review process for each building to ensure a balanced mix of uses.

No urban area will prosper unless it attracts those who can choose to live wherever they wish.

- Jonathon Barnett

B. Neighborhood Land Use Strategy

The land use strategy capitalizes on the significant monetary investment in the Metrorail station and the additional investment in the dedicated high-capacity transit corridor (Metroway), local bus, and potential shuttle service which will be provided for North Potomac Yard. All of the proposed blocks in North Potomac Yard are located within a ½ mile radius of the Metrorail station, and more than half of the blocks are located within a ¼ mile. The close proximity of these blocks to the Metrorail station provides a unique opportunity to integrate land use with transit to create a transit-oriented development for Potomac Yard.

While the overall goal of the Plan is to maximize development, particularly office development near the Metrorail station and transit, the land uses are also based on creating community and reinforcing the character of each of the neighborhoods. (See Figure 3.3 Neighborhoods Map).

Many of the buildings leading to the Metrorail station and within Landbay G and adjacent to transit stops are required to provide ground floor retail (Figure 4.1 and 4.3). Office uses are required for the upper levels of some blocks closer to the Metrorail station, both to maximize transit use and to benefit from the existing office planned in the adjoining Landbays G and H. With approximately 1.34 to 2.44 million sq. ft. of office use within the Metro Square Neighborhood and the planned 2 million sq. ft. in Landbays G and H, there is a total of approximately 4 to 4.5 million sq. ft. of office within this neighborhood and the adjacent landbays.

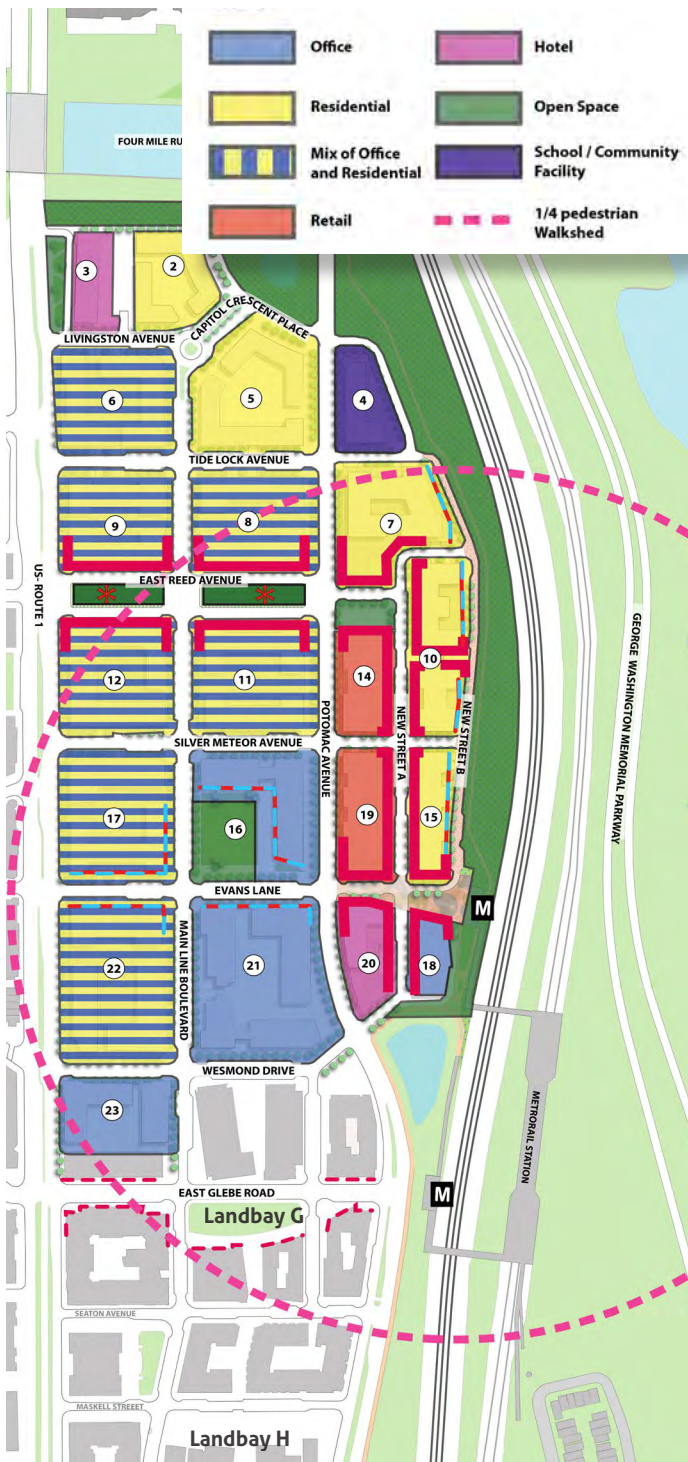


Figure 4.1: Land Use Plan and 1/4 Mile Pedestrian Walkshed (1/2 Mile pedestrian walkshed covers North Potomac Yard area)

Note: Office use(s) may be permitted for any of the blocks within ¼ mile of the Metrorail station as depicted within Figure 4.1, so long as the office use complies with the maximum permitted height(s) for each block and the amount of office complies with the total amount of office permitted within CDD 19; the use is subject to all applicable conditions and requirements as part of the development review process.

The Metro Square Neighborhood (Blocks 15-23) will include predominantly office and hotel uses with ground floor retail. Entertainment uses may also be allowed within this neighborhood. This neighborhood will be defined by two open spaces: Metro Plaza and Metro Square, as discussed in more detail in Section H: Open Space.

The Market Neighborhood (Blocks 7-14) will have the largest amount of retail of all the neighborhoods and a similar amount of development as the Metro Square Neighborhood. The Plan recommends flexibility for the upper floors for office and/or residential uses.

The Crescent Gateway Neighborhood (Blocks 1-6) requires predominantly residential uses, hotel, and possible community-civic uses on Block 4.



Table 4.1 Approximate Development within 1/4 and 1/2 Mile of Metrorail Station

	INSIDE 1/4 MILE SQ. FT.	1/4 - 1/2 MILE SQ. FT.	TOTAL WITHIN 1/2 MILE SQ. FT.
RESIDENTIAL/ OFFICE	7,452,350	2,350,000	9,802,350
RETAIL	990,300	75,000	1,065,300
HOTEL	257,100	82,900	340,000
TOTAL	8,699,750 SQ FT	2,507,900 SQ FT	11,207,650 SQ FT

Note: The amount of development shown includes total existing and planned development in North and South Potomac Yard. Planned development outside Potomac Yard, such as Oakville Triangle, is not included.

C. Land Use –Zoning (Coordinated Development District- CDD#19)

The Land Use Plan (Figure 4.1) depicts the principal land uses for each block. The Coordinated Development District Zoning - CDD #19 (Figure 4.2) implements the vision, intent, and recommendations of the Plan. It also establishes Design Standards and Guidelines (including a definitive plan agreed to by the property owners and the City in regard to financing the proposed Metrorail station) and included approval of a CDD Concept Plan. The recommendations of the Plan function as the CDD Guidelines and basis for the CDD zoning.

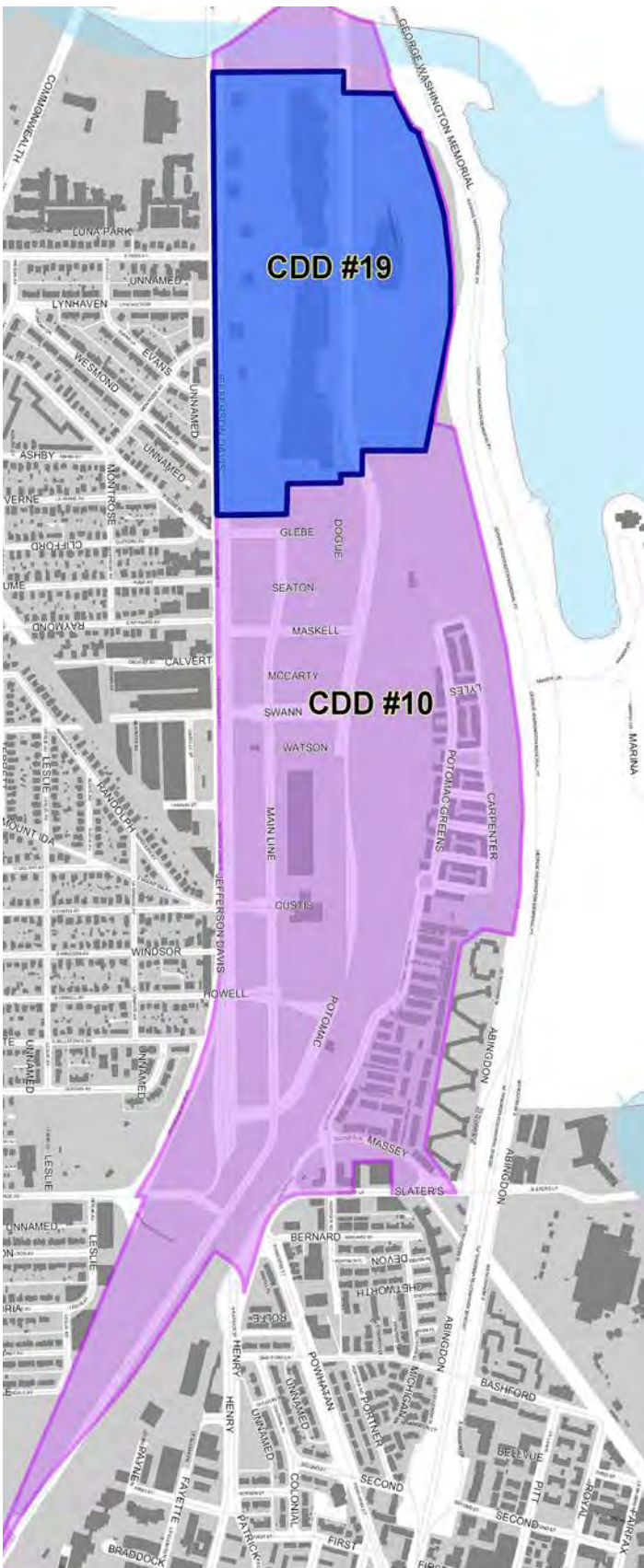


Figure 4.2 Approved CDD Zoning

D. Retail Uses

The required retail uses are an integral part of the development and land uses for North Potomac Yard (Figure 4.3). It is the intent of the Plan that the retail uses provide for the basic needs of residents and employees while also attracting visitors from throughout the region. The anticipated retail uses could include large and small tenants which serve the regional market, neighborhood-serving retail, restaurants and “lifestyle” entertainment retail. Large format retail tenants who serve the regional market, if provided, should be concentrated in the Market Neighborhood. Convenience retail to serve transit users should be concentrated in the Metro Square Neighborhood, and restaurants and entertainment uses could be located in both neighborhoods.

The Plan concentrates a significant amount of retail and relates to the planned retail for Landbay G (Figure 4.3). The Plan creates a new east-west retail street (East

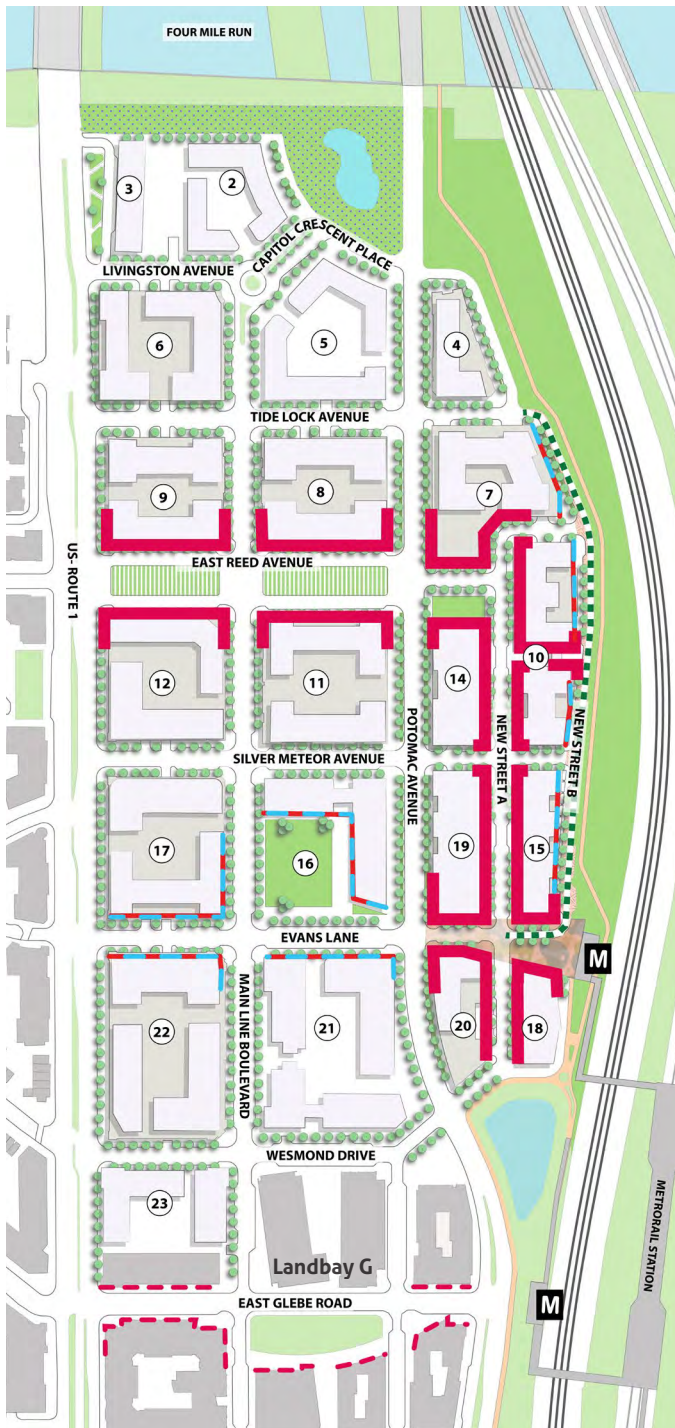
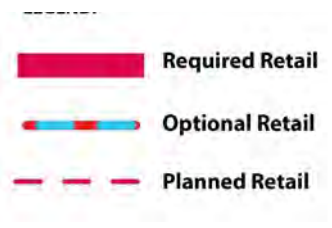


Figure 4.3: Required, Optional, and Planned Retail Locations

Note: Additional ground floor retail locations may be approved as part of the development review process if the proposed location is consistent with the intent of the Small Area Plan and within the total amount of permitted development.



Reed Avenue) and a new north-south retail street on the eastern portion of the site (New Street A) which will connect East Reed Avenue to the Metrorail station.

The locations depicted as Required Retail (Figure 4.3) will provide ground floor retail as part of the development of each of the blocks. The locations depicted as Optional Retail are anticipated to be retail, but the final ground floor use will be determined as part of the development review process. However, even where retail uses are optional, the height and depth of the ground floor space and potential loading and service areas are required to be designed to not preclude future retail uses. Additional retail may be provided within the Plan area pending future development approvals if the proposed locations are consistent with the intent of the Plan. As part of the redevelopment, retail must be focused and continual.

The Plan requires the submission of a comprehensive retail strategy that addresses coordination, management, and maintenance issues. The Plan recommends the establishment of a Business Improvement District (BID), or comparable entity, to ensure that the retail is comprehensively managed, the neighborhood open spaces are programmed, and marketing is coordinated. The establishment of the BID or comparable entity will be implemented prior to the occupancy of the first phase of redevelopment to ensure that the retail properties are managed in a comprehensive manner for the entirety of North Potomac Yard. The North Potomac Yard Design Standards and Guidelines include standards for the design of the retail uses, storefronts, and signage.



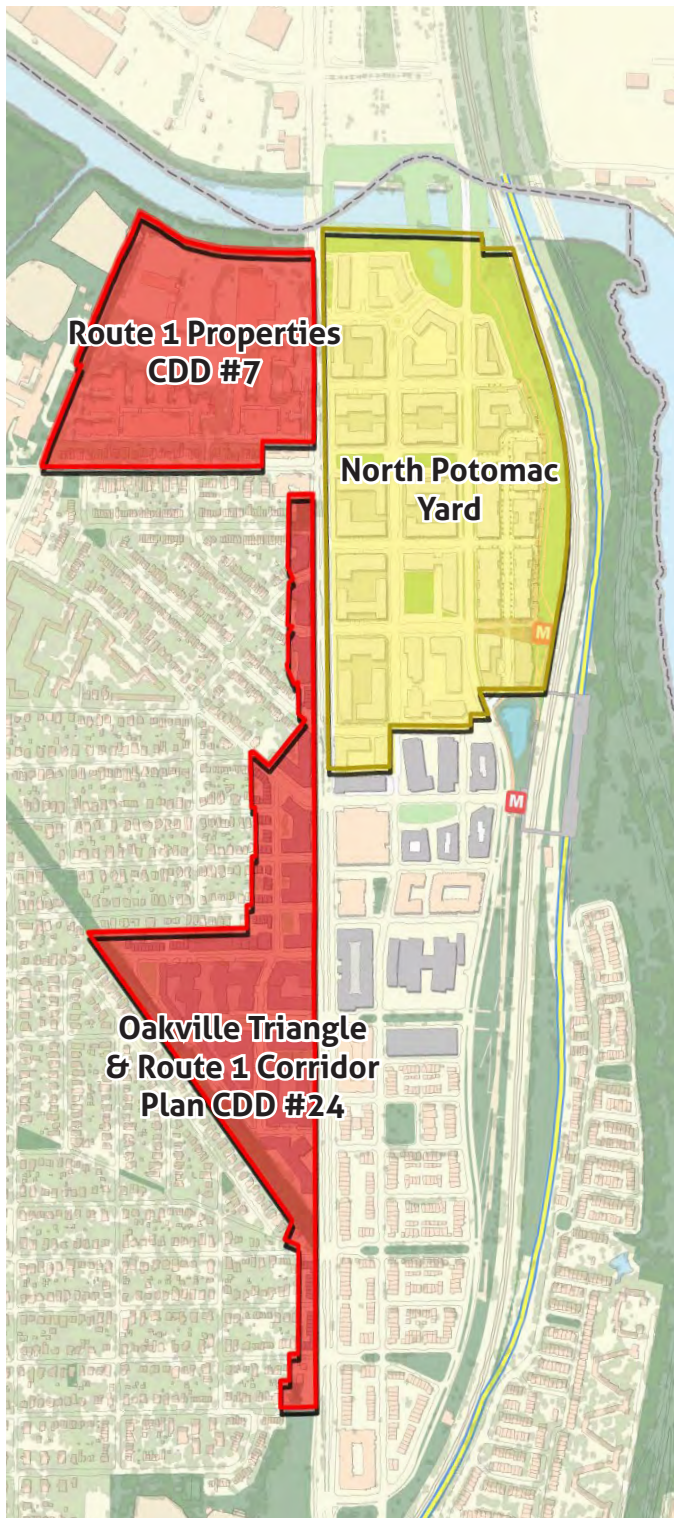


Figure 4.4: Adjacent redevelopment sites and plans

E. Adjacent Redevelopment Sites and Plans

Although not a part of North Potomac Yard, there are several possible redevelopment sites in close proximity to North Potomac Yard (Figure 4.4). Development and future planning of these sites should be mutually beneficial for the adjacent Route 1 corridor and Potomac Yard.

The Plan recognizes that the value of these properties will be positively impacted by the significant infrastructure and other public amenities constructed at Potomac Yard and recommends that when these properties redevelop as a result of a rezoning, they be required to participate in the financing of these and other improvements as may be determined by a future planning process or as part of the development review process.

The Oakville Triangle/Route 1 Corridor Plan establishes a 20-year vision and framework for many of the properties west of Route 1. The redevelopment on the west side of Route 1 (Figure 4.4) will include office, hotel, residential, and a combination of retail, neighborhood serving and “maker space” uses. The Plan addresses future infrastructure, land uses, building heights, design standards, open space, and affordable housing for these sites and is intended to guide public and private investment for infrastructure improvements. CDD#24 was established to guide the redevelopment of the properties within the Oakville Plan area.

Future redevelopment of sites in close proximity to Potomac Yard such as CDD#7, will need to enhance connections with Potomac Yard both physically and through programming of land uses and public amenities so that these individual parcels are integrated into Potomac Yard.

F. Building Height

The height for each neighborhood is based on the following:

- Define open space, streets, and the public realm;
- Maximize development in proximity to the Metrorail station;
- Smaller scale buildings on Route 1 adjacent to the lower scale established neighborhoods of Hume Springs, Lynhaven, and Del Ray to the west;
- Taller buildings in the central portion of the site to provide transitions to the existing neighborhoods to the west and the George Washington Memorial Parkway to the east;
- Taller signature buildings at the central portion of the site to denote the symbolic center of North Potomac Yard and at the visual terminus of Main Line Boulevard on the northern portion of the site;
- Using taller and shorter heights to demarcate the required gateways; and
- A variety of heights within each block and for individual buildings.

Adjacent to the Metrorail station, the Federal Aviation Administration (FAA) flight path limits the building heights to approximately 100 feet. Despite the limitation, the majority of the development in North Potomac Yard is located within $\frac{1}{4}$ mile of the Metrorail station. Figure 4.5a depicts the FAA height restrictions within North Potomac Yard.

The Plan recommends maximum heights which range from 50 feet to 250 feet for several taller signature buildings (Figure 4.5b). For buildings fronting the George Washington Memorial Parkway, particularly on Blocks 7 and 10, the buildings will provide massing

and building designs compatible with the adjoining character of the Parkway. In addition to maximum heights, the Plan also recommends minimum heights to ensure an appropriate urban scale and density near the planned transit and Metrorail station. Minimum heights are established by the North Potomac Yard Design Standards and Guidelines.





Figure 4.5a: FAA Height Restrictions

Figure 4.5a Notes:

- Heights depicted are heights above sea level
- Building heights within the flight path are pursuant to FAA requirements, as may be amended, and measured to the top of structure.

Figure 4.5b Notes:

- Where signature facades are required, maximum building height may be exceeded by a maximum of two levels not to exceed 5,000 sq. ft., if approved as part of the development review process. The locations shall be limited to those depicted in Figure 3.4.
- The North Potomac Yard Design Standards and Guidelines establish minimum heights.
- For Block 7, maximum building height shall be 85 feet. However, additional height may be permitted as part of a development review process in consultation with the National Park Service (NPS). In no event shall the maximum building height exceed 120 feet for the northern portion of the block and 180 feet for the southern portion of the block.
- For Block 14 and 19, the height range is 60 – 90 feet. However, to ensure height variety, only one block is permitted to go up to 90 feet. The remaining block will have a maximum height of 60 feet.
- The maximum building height for the Metrorail Station shall not exceed 50 feet in the general location as depicted within the Plan.
- The maximum height of the pump station or any park structures must comply with the intent of the Plan and require review as part of the development review process.



Figure 4.5b: Maximum Building Heights

G. Parking Strategy

Location of Parking

To the extent possible, parking should be located below-grade. Below-grade parking enables uses and people (rather than cars) to be located at and above the street level. Below-grade parking generally reduces the scale of buildings and generally results in a more urban building form and better relationship with the street. In addition, when there are height limits, above-grade parking generally reduces both density and open space, which is inconsistent with the vision and intent of the Plan.

Each building and block within North Potomac Yard is required to provide a minimum of one level of underground parking. All of the parking for Blocks 2, 3, 5, 10, 14, 15, 18, 19, 20, and 21 are required to be located below grade. This enables the internal ground level open space, ground floor use, possible pedestrian connections, and building entrances relating to the adjoining streets and open space (Figure 4.6a). On-street parallel parking is generally required for all of the streets, excluding the park frontages, where it may be provided to serve the Metrorail station.

Above-grade structured parking may be located within the central portion of the block at grade, provided that a minimum of one level of parking is provided below grade and each level of the entire street and/or park/open space frontage is devoted to active uses (residential, office and/or retail) (Figure 4.6b). If above-grade structured parking is provided above the ground floor uses, the parking is required to be screened with active uses (residential, office and/or retail) (Figure 4.6c) for the entire street and/or park/open space frontage. If collector parking garages are provided for retail uses, the parking structure will be predominantly screened with active uses and may be partially screened with

architectural or landscape treatments (Figure 4.6d). Additional parking and screening requirements are included in the Design Standards and Guidelines.

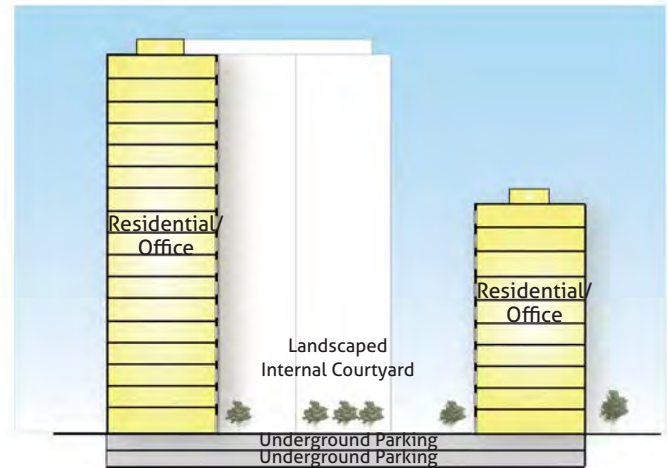


Figure 4.6a: Below-Grade Parking (Cross-section)

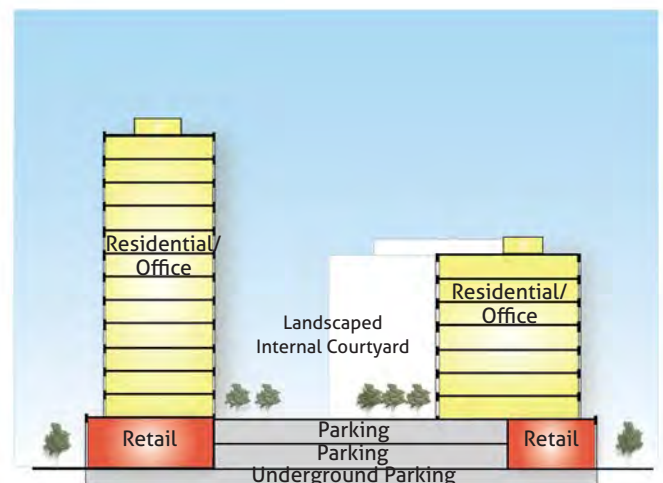


Figure 4.6b: Embedded Parking (Cross-section)

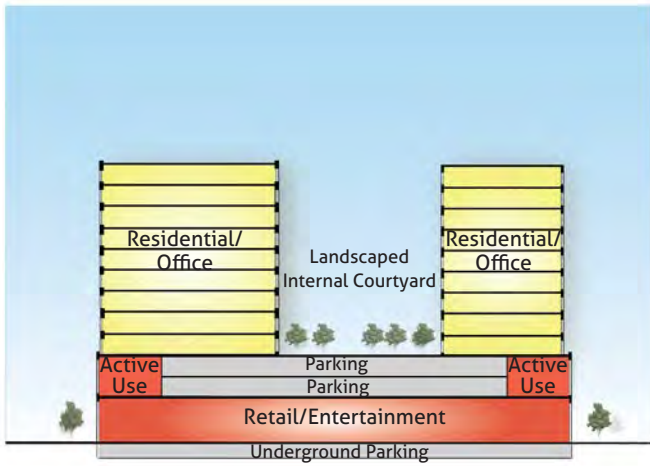


Figure 4.6c: Embedded Parking above Retail (Cross-section)

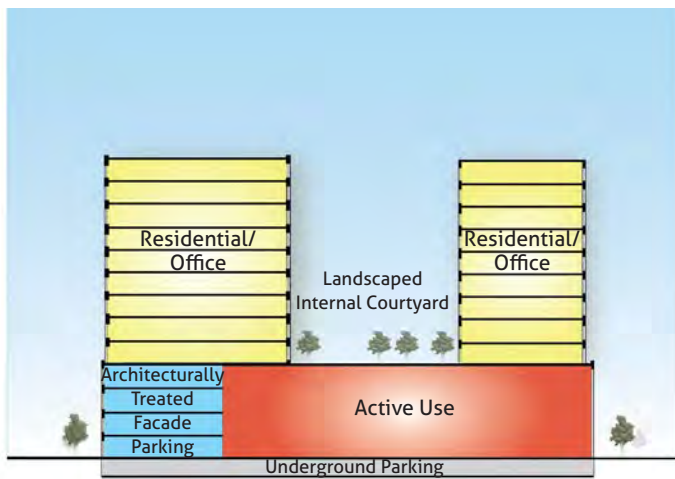


Figure 4.6d: Retail Collector Garage (Elevation)



Parking Ratios and Shared Parking

The amount of parking is intended to meet the economic and programmatic demands of the planned uses while also creating a transit-oriented development. To discourage single occupancy vehicle (SOV) travel, a maximum parking ratio is recommended for each land use. No minimum parking requirements are recommended in the Plan. The minimum amount of parking will be determined as part of the development review process for each block and/or building. Parking maximums have several advantages that include:

- Encouraging commuters to make transportation choices other than private autos, decreasing vehicle miles traveled, and reducing auto congestion and air pollution; and
- Maximizing the use of developable land and ensuring that the urban form remains compact.

Table 4.2 compares the parking required by the City's Zoning Ordinance and the parking maximums recommended by the Plan.

Table 4.2 Existing Parking and Proposed Parking Maximums

USE	EXISTING ZONING ORDINANCE MINIMUMS	PARKING MAXIMUMS*
CIVIC/COMMUNITY FACILITIES	5.0 SPACES/1,000 SQ. FT. (COMMUNITY BUILDINGS, MUSEUMS, LIBRARIES, OR SIMILAR) 1.0 SPACE/5 SEATS (CHURCH) 1.0 SPACE/ 25 SEATS (ELEMENTARY SCHOOL) 2.0 SPACES/CLASSROOM (DAY NURSERY-CHILDCARE)	2.5 SPACES/1,000 SQ. FT.
THEATER	1.0 SPACE/ 4 SEATS (THEATER)	1.0 SPACES/10 SEATS
HOTEL (PER ROOM)	1.0 SPACE/ROOM + 1.0 SPACE/ 15 ROOMS	0.75 SPACE /ROOM
OFFICE	1.7 SPACES /1,000 SQ. FT.	1.21 SPACES/1,000 SQ. FT.
RESIDENTIAL	0.64 – 0.8 SPACES/UNIT (1 BR)** 1.28 – 1.6 SPACES/UNIT (2 BR)** 1.28 – 2.4 SPACES/UNIT (3+ BR) **	1.0 SPACE /UNIT
RESTAURANT	1.0 SPACE PER 4 SEATS	3.5 SPACES /1,000 SQ. FT.
RETAIL/GROCERY	4.35 SPACES /1,000 SQ. FT.	3.5 SPACES /1,000 SQ. FT.

* All uses will be required to participate in a comprehensive shared parking strategy.

** Requirement for market rate units. Ratios for affordable units vary based on income level. Refer to Section 8-200(A) of the Zoning Ordinance.

Shared parking will be required as part of the development of each building and block. Therefore, the amount of parking for each of the blocks and buildings will likely be lower than the parking maximums. The amount, location, distribution, and management of shared parking will be determined as part of the development review process.

A number of factors contribute to the success of shared parking, including:

- A mixture of uses that lends itself to multiple stops within the same vehicular trip;
- Variations in the timing of peak parking demand for different uses;
- Alternate modes of transportation available; and
- Good pedestrian connections, amenities, and appropriate scale to encourage walking.

For additional information on parking, see *Chapter 6: Transportation*.

H. Open Space

Regional Context

The Plan area is located within a regional system of public parks, trails, and open spaces including parks and open spaces in South Potomac Yard/ Potomac Greens, Four Mile Run, pocket parks, and recreational fields west of Route 1, Potomac Yard - Arlington, the George Washington Parkway, and Daingerfield Island.

The locations of open spaces within North Potomac Yard provide an opportunity to connect existing and future residents, workers, and visitors to the larger regional system of spaces, while also providing a variety of open space types with the Plan area within a 5-minute walkshed.

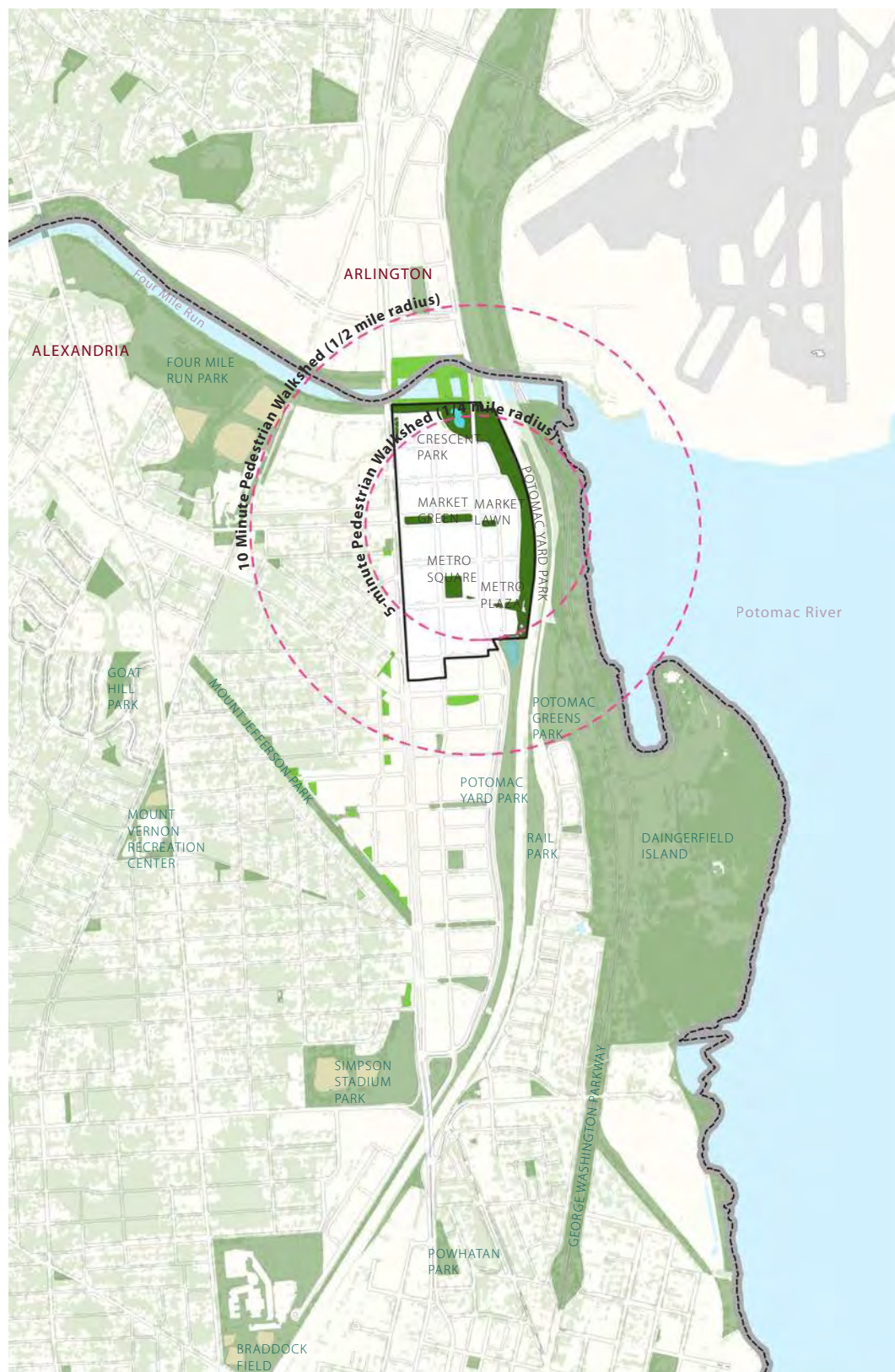
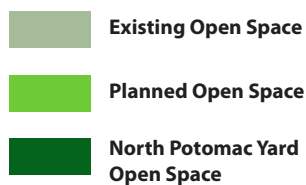


Figure 4.7: Local and Regional Open Space Network

North Potomac Yard Open Spaces

The Plan recommends a comprehensive network of open spaces that provide a variety of experiences, serve to define the neighborhoods in which they are located, and provide connections to local and regional open spaces systems and trails (Figure 4.8). More than 9 acres of new public parks and open spaces will be added to the open space network. The open spaces will have a focus on active, social, civic, or passive activity, but many will include flexibility for more than one activity. Open spaces will integrate historical interpretive elements, public art, and improve the City's urban tree canopy. Park design will include consideration for shade. Figure 4.9 depicts the activity focus for each open space.

Active open spaces: These spaces can include sports, exercise, or active play; can be recreational facilities such as playgrounds, playing fields, flexible fields spaces, courts, multi-purpose areas, and dog parks; or can include areas for large events and intense activity/programming.

Social open spaces: These spaces are designed and used for impromptu and organized gatherings and can include game elements, seating areas, community gardens, farmer's markets, and small event spaces.

Passive open spaces: These spaces can be used for relaxation, such as sitting or strolling and can include trails, picnic areas, and open areas.

Civic spaces: These spaces include plaza and event areas.

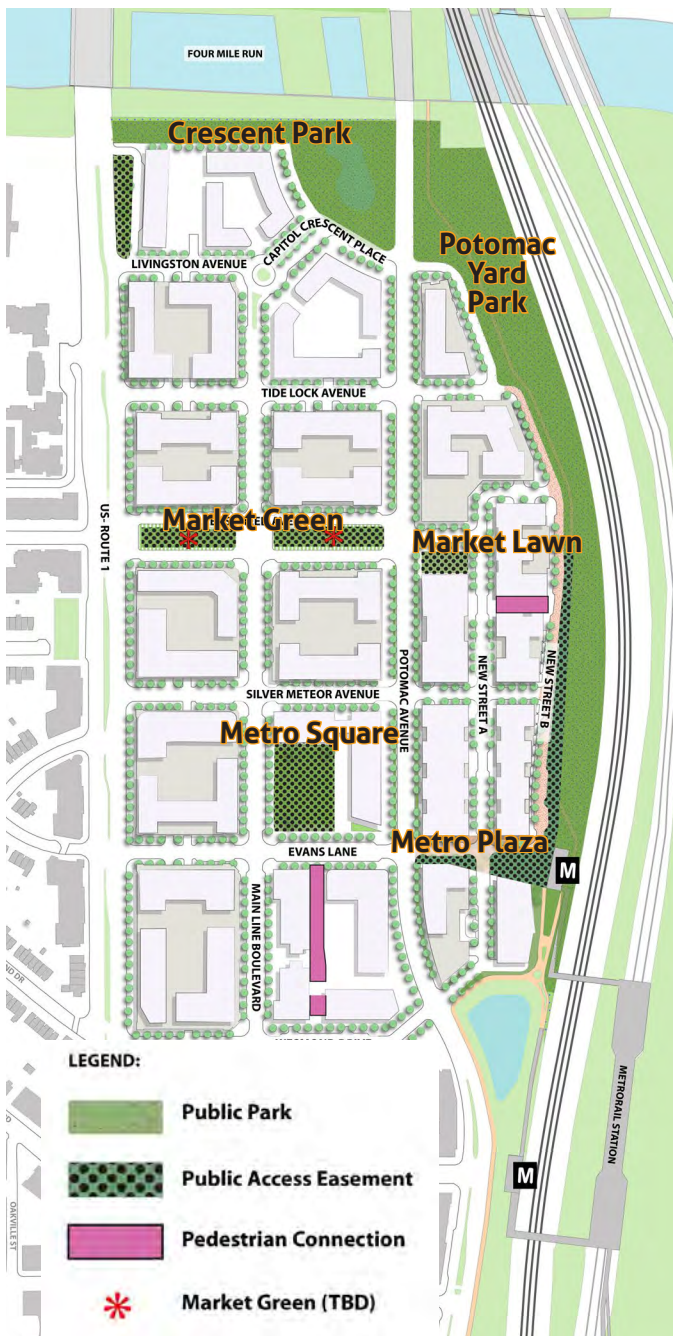


Figure 4.8: Plan Area Public and Private Parks with Public Access Easement



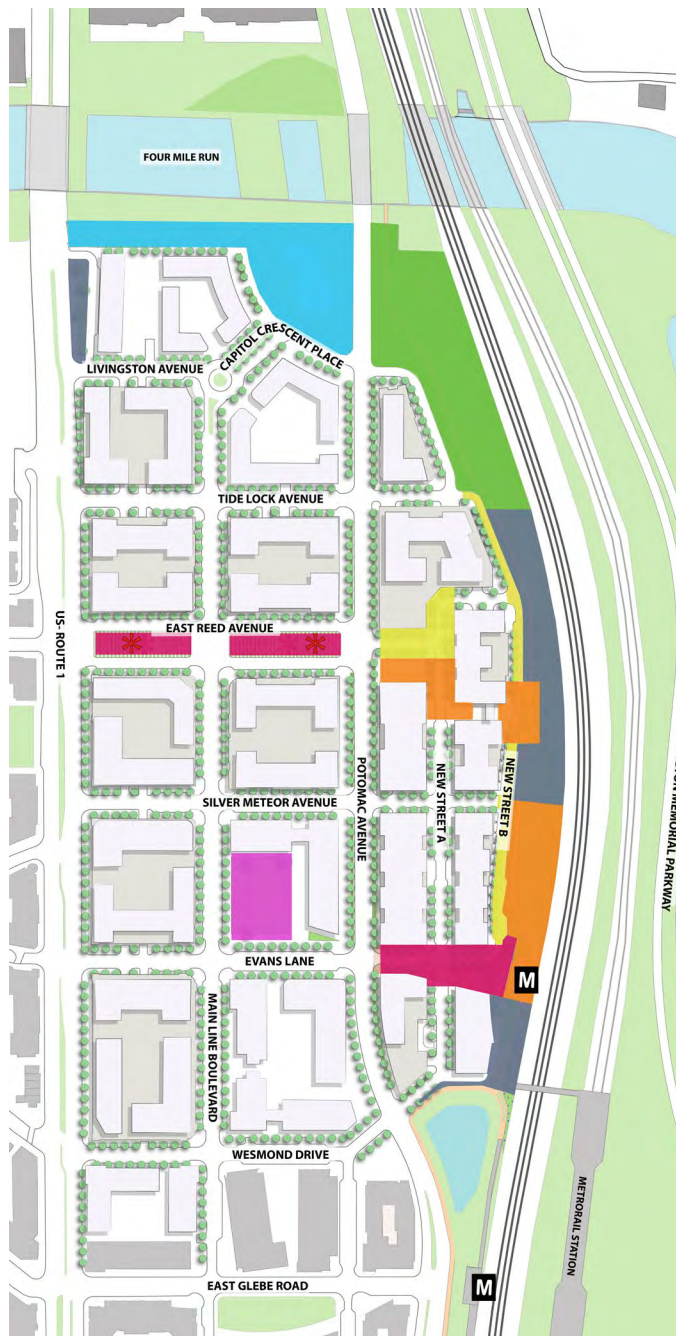


Figure 4.9: Open Space Activity Focus Areas

LEGEND:

Grey	Passive	Pink	Passive / Social
Green	Active	Light Blue	Active / Passive
Orange	Social	Yellow	Shared Space
Pink	Civic / Social		

A minimum of 15% of North Potomac Yard is required to be provided as ground level open space, with an additional 25% open space required to be provided at either ground level and/or on roof-tops. Blocks 2, 3, 5 and 21 will be required to provide ground level open space due to the required underground parking.

Open spaces and plazas are vital to the area's quality of life, helping to foster social interactions and establishing a sense of community for this area. As the population and densities within the Plan area increase, open space will become an increasingly important neighborhood amenity. Not only is there a need to increase the amount of open space, but also the type of space. Different users—from office workers, to attendees of special events, to residents walking with dogs or playing with their children—require unique open space facilities.



Four Mile Run

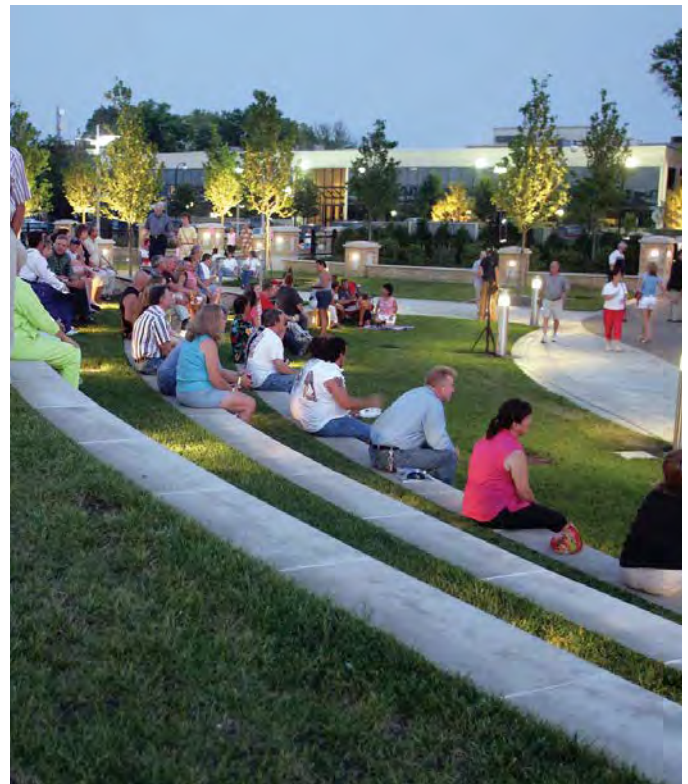
North Potomac Yard is bordered on the north by Landbay E (Four Mile Run Park) and Four Mile Run, a heavily urbanized flood control channel that is planned for restoration. The Four Mile Run Restoration Master Plan (FMRMP) was adopted to be a model of urban ecological restoration. Through the sensitive and sustainable integration of natural areas with active urban nodes, the FMRMP proposes that the corridor be a place along which the communities of Arlington and Alexandria can gather, recreate, and celebrate a shared waterfront. The FMRMP identifies Potomac Yard as “a vibrant urban node that is home to thousands of new residents and workers while offering terrific shopping. On nice days, it’s great to relax on the terraced banks that lead down to the water, on benches along the stream, or in the elevated park.”

The Plan builds on the FMRMP: it requires Crescent Park and improvements next to Four Mile Run (including the Four Mile Run Promenade), which are intended to provide a wide range of opportunities, both active and passive, and include opportunities for a gathering and event space. The planned removal of the Potomac Yard terminal station and associated poles will provide opportunities to enhance this adjacent open space consistent with the FMRMP.

Figure 4.10 depicts a conceptual rendering of Four Mile Run along North Potomac Yard. Together, through the FMRMP and the Plan, amenities will be provided on both sides of Four Mile Run and on the existing approximately 1-acre pedestrian bridge, which will connect to Crescent Park and Potomac Yard Park beyond, providing a series of spaces for a variety of interests which celebrate the connection to the water and natural environment.



Figure 4.10: Conceptual rendering of Four Mile Run Urban Deck



Potomac Yard Park

The Plan requires the extension of the currently constructed Potomac Yard Park to provide a continuous open space connection and off-street trail from Four Mile Run to Braddock Road. Together, the proposed (approximately 4.5 acres) extension and approved (24 acres) park will result in an approximately 29-acre City park. The park within North Potomac Yard will be designed as a regional amenity for users of all ages and abilities and will provide active, social, and passive recreational amenity areas for existing and future residents and visitors. The park could be designed to incorporate interpretive elements of the multi-century transportation history of this corridor. It will also provide a crucial non-motorized connection between Braddock Road Metro and Four Mile Run.

The continuation of Potomac Yard Park into North Potomac Yard enables integration of the park with the remainder of the Potomac Yard development. The

current Potomac Yard Park includes an approximately 15-foot section of land between North Potomac Yard and the active rail corridor. The extension of Potomac Yard Park along the eastern edge of North Potomac Yard will provide the opportunity to create a meaningful connection between the existing Potomac Yard Park, Crescent Park, Four Mile Run, and the George Washington Memorial Parkway. The Plan recommends that Potomac Yard Park extend to Four Mile Run along the eastern edge of the Plan area and that the extension be wide enough to provide substantial separated bicycle and pedestrian trail amenities, plantings, interpretive areas, and the ability for active, passive, and social uses while providing a buffer along the rail corridor consistent with Potomac Yard Park. The area at the northern end of Potomac Yard Park is a wider portion of the park and provides an opportunity to include flexible field space and play spaces for park users and possibly students.



Rendering from extended Potomac Yard Park looking northwest to adjacent development, shared street, and multi-use trail.

The street adjacent to the park (Figure 3.2a), New Street B, will be designed as a shared street that will reinforce the public nature of the Park. The street serves to delineate the private development from the public park but will also be designed as a transition between park users and the adjacent development. The Plan envisions the street to be designed as a shared street that reinforces the hierarchy of users: pedestrians, cyclists, then cars. The design of the street is envisioned to be curbsless with special treatment which integrates the road design with adjacent uses. The street can serve as an extension of Potomac Yard Park, with the opportunity for occasional closure for festivals, events, and/or park programming. The North Potomac Yard pump station will be coordinated with the design of this area to not preclude these uses.

Metro Plaza

This open space will be one of the most civic open spaces within North Potomac Yard as it will function as one of the visual and physical arrival points for the Potomac Yard Metrorail station. The buildings have been configured to create a distinct and memorable shape from the ground (Figure 4.11) but also from the Metrorail Pavilion and pedestrian bridge which will be elevated approximately 20 feet above grade.

The Metro Plaza will be a minimum of 0.3 acres. It is anticipated that the Plaza will be an urban space with pavers and street trees to provide a variety of functions and uses. In addition, the streets adjacent to the Plaza may be curbsless and use pavers or other special materials comparable to the Plaza to make the Plaza function as a larger space. The Plaza and streets together will be a minimum of approximately 0.7 acres. The Plaza will also be framed by ground floor retail and active uses such as outdoor dining/seating. The Metro Station pavilion will terminate the vista for the Plaza and reinforce the prominence of the Plaza as an active civic space. The Plaza will be an “iconic zone” that can include public art features, furniture, and/or creative paving/landscaping. The Plaza will also provide connections to Potomac Yard Park and the Potomac Yard Trail (Figure 4.11).

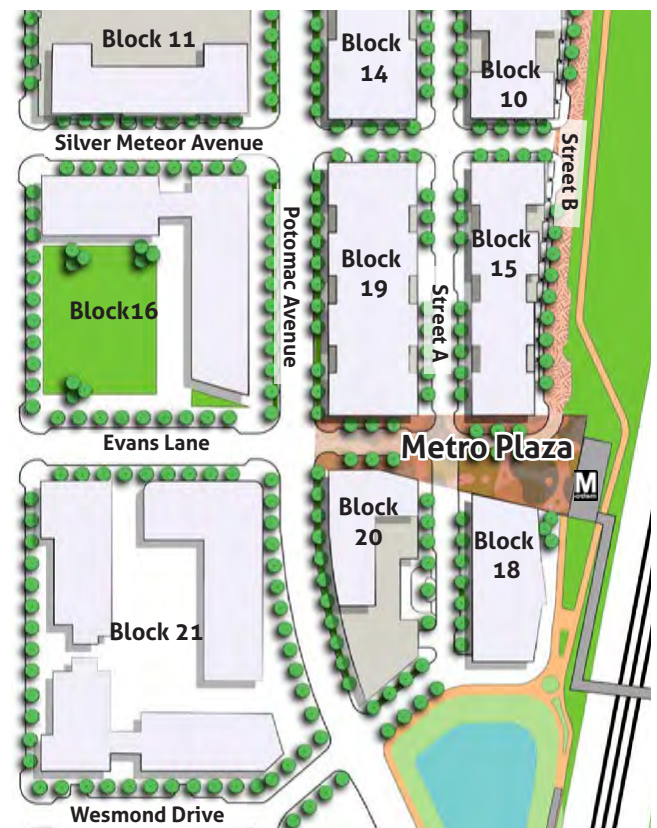
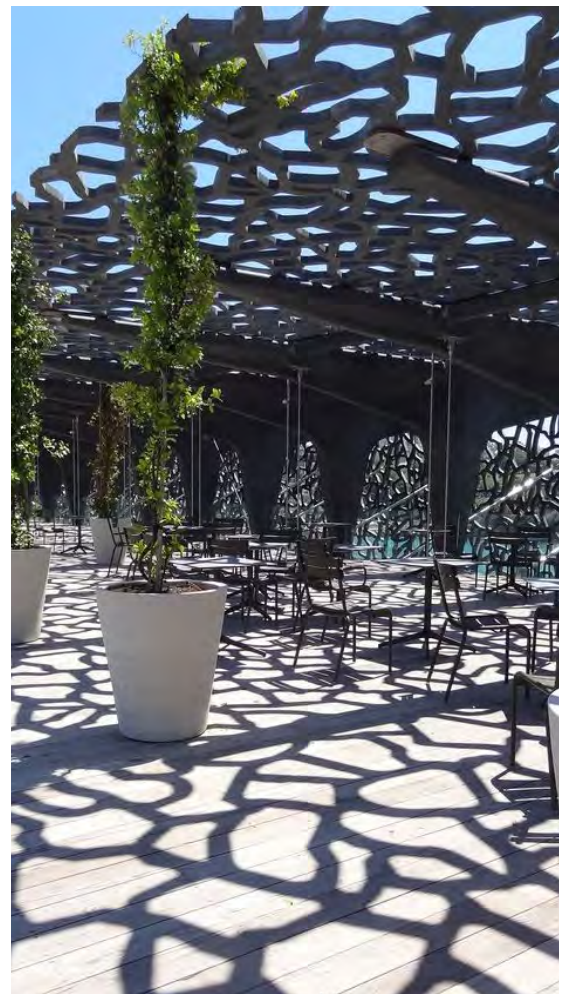


Figure 4.11: Metro Plaza



Conceptual rendering of Metro Plaza at night



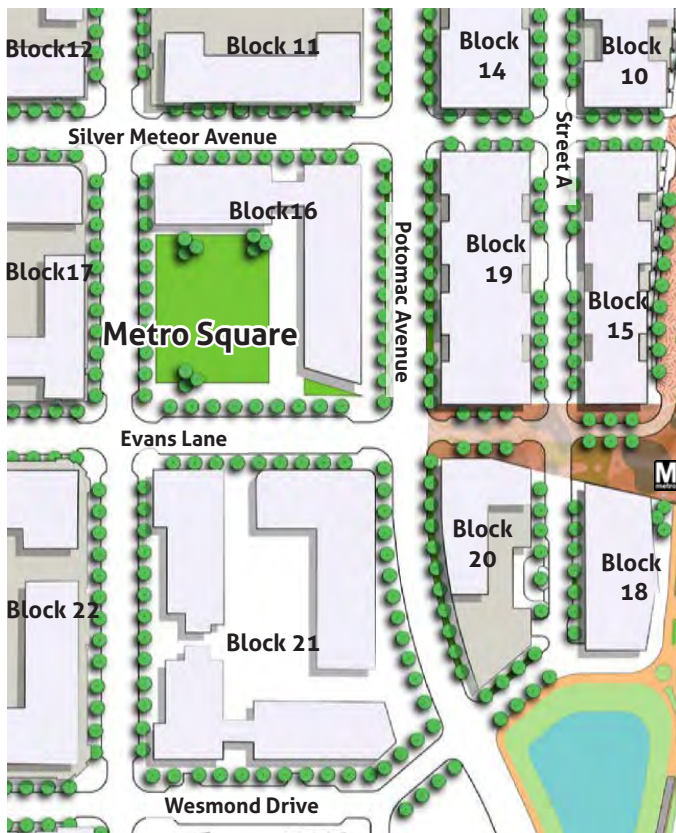


Figure 4.12: Metro Square and Block 21 Mid-block Connection

Metro Square

This park is proposed as an urban square of approximately 0.70 acres adjacent to a nearby dedicated high-capacity transit station (Metroway), and local bus service (Figure 4.12). The Square is required to be designed to have a distinct and clear public character. While Metro Plaza will be a smaller and more functional space, this larger space will be a gathering area for the surrounding office and ground floor uses. Metro Square will be framed by the surrounding buildings with active uses at the ground floor. Metro Square will need to be configured and designed in a manner that relates and provides connectivity to Metro Plaza to the east of Potomac Avenue. The design and configuration of Metro Square will be determined as part of the development review process for the future phases.

Centrally located within this neighborhood, Metro Square will visually connect to Metro Plaza and the Metro station. The Square provides a civic and social space where office workers, potential theater-goers, shoppers, commuters, and residents can gather. This park is envisioned to include a mix of landscaping and hardscape (pervious where appropriate), providing a range of experiences to accommodate active social gathering. Amenities in the Square may include benches, movable furniture, high-quality temporary retail carts, public art, historic interpretation, and water features. The Square should be designed to accommodate programming and events that serve its diverse users. In support of the principle of collocation, future development should consider utilizing the space below the park (underground) for uses supportive of the character of the neighborhood, such as a theatre.



Market Green

The Market Green is envisioned as open space forming the core of the Market Neighborhood (Figure 4.13). The Green is proposed to occupy approximately 1.0-acre on East Reed Avenue. Market Green will be framed at the ground level by active retail uses and buildings that front along portions of the park will rise up to 250 feet, the tallest and most prominent buildings in all of Potomac Yard. The location, configuration, and design of Market Green should reinforce this prominent location. It is envisioned to accommodate social and passive uses including pedestrian pathways, large open green spaces, plantings, and trees. Uses and activities in Market Green may include special events, such as fairs, live music, markets, and other similar events, which may, on occasion, also utilize the adjacent streets. For this purpose, the street surfacing material surrounding the Market Green should be of a distinct character and material from the other streets to enhance the pedestrian experience. The design and configuration of the Market Green will be determined as part of the development review process for the future phases.

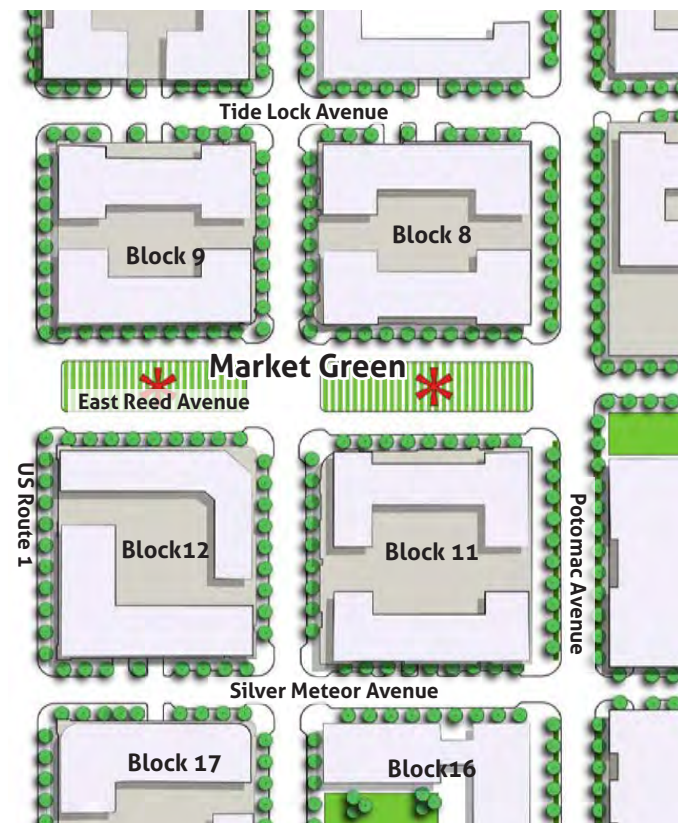


Figure 4.13: Market Green



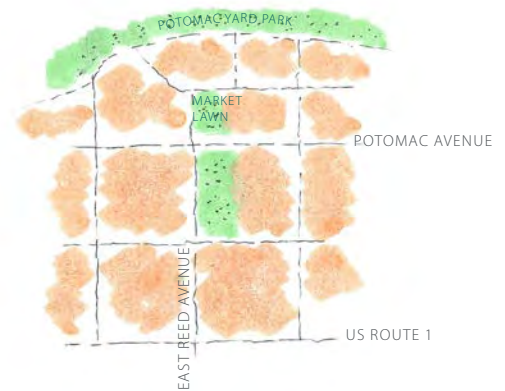
Market Green Design Principles

To facilitate the intent of Market Green as envisioned, the Plan recommends the design and configuration adhere to the following design principles:

- Configured to be contiguous and visually and/or physically connected open spaces;
- Configured primarily with an east-west orientation;
- Configured within one or more blocks along East Reed Avenue;
- Provides a combination of passive and social areas serving the community;
- Promotes successful retail;
- Integrates hardscape and landscape elements; and
- Considers adjacent building heights, orientation, and sunlight/shadows.

The illustrative plan (Figure 4.13) depicts the approximately 1.0-acre Market Green as a series of finger parks at the center of East Reed Avenue. The diagrams in Figure 4.13a are not intended as potential alternatives but serve to illustrate a few of many possible configuration scenarios for Market Green. The final design and configuration of Market Green will be determined with future phases reinforcing these design principles and the intent of the Plan.

Consolidated



Asymmetrical



Curvilinear

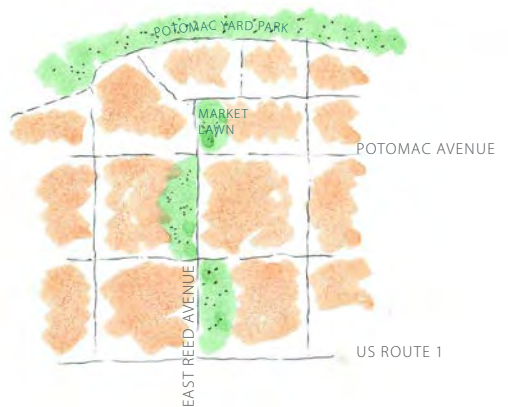


Figure 4.13a: Market Green Configuration Diagrams

Market Lawn (Phase I)

Market Lawn will be an approximately 0.2-acre open space (Figure 4.14) on the eastern portion of Reed Avenue. This open space is located at the terminus of East Reed Avenue and will be an active social space framed by retail uses. The Lawn and adjacent street section along Reed Avenue should be designed to be flexible to accommodate a variety of events and social gatherings such as outdoor movies, Farmer's Markets, and event programming. Streets adjacent to Market Lawn may be curbsless with special material to be a flexible extension of Market Lawn for occasional programming/events. The lawn will be designed with a combination of hard and landscaped materials that facilitate large gatherings and events, outdoor dining and seating, and creates an urban outdoor living room to the adjacent retail uses.



Figure 4.14: Market Lawn and Block 10 Pedestrian Connection

Internal Pedestrian Street / Connection

The Plan requires that a continual internal pedestrian connection be provided for Block 21 (Figure 4.12) which could consist of a central hardscaped open space area that could be lined with restaurants, outdoor dining, music venues, and theatre uses. This space is envisioned to be primarily hardscape with amenities that celebrate culture, art, and creative expression. Stone Street in New York City could serve as a potential design precedent. This space provides a “break” in the standard street grid.



An internal pedestrian connection is also proposed within Block 10 (Figure 4.14) to provide access from the pedestrian retail street to Potomac Yard Park. This pedestrian connection will be framed with active uses and can include overhead elements and lighting to create visual interest for the park users.



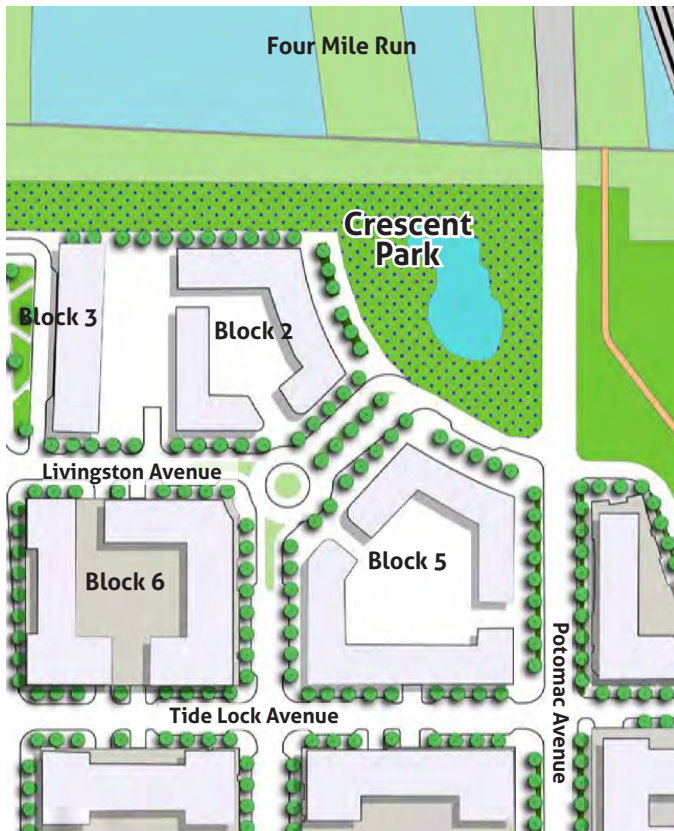


Figure 4.15: Crescent Park



Crescent Park

This curved open space (and adjoining area to the west along Four Mile Run) creates an important connection between Potomac Yard Park and Four Mile Run (Figure 4.15). Crescent Park is required to be approximately 2.3 acres, and its orientation and crescent shape are configured to maximize access and vistas, including views of the Capitol building. Crescent Park also serves as a buffer between the proposed buildings and the George Washington Memorial Parkway. It is partially bordered on its curved edge by a street and defined by signature buildings that follow the curved, crescent shape of the Park. The amenities for Crescent Park will likely include a large gathering and event space, pedestrian pathways, large open green spaces, significant landscaping, pedestrian and bicycle pathways, a stormwater water feature, and a possible civic use.

Coordination of Open Spaces

To realize the vision of these open spaces and to reinforce them as a coordinated system of spaces, the Plan requires a comprehensive open space plan, that includes rooftop open space, with the specific requirements to be provided as part of the Coordinated Development District (CDD) approvals.

Roof-Top Open Space

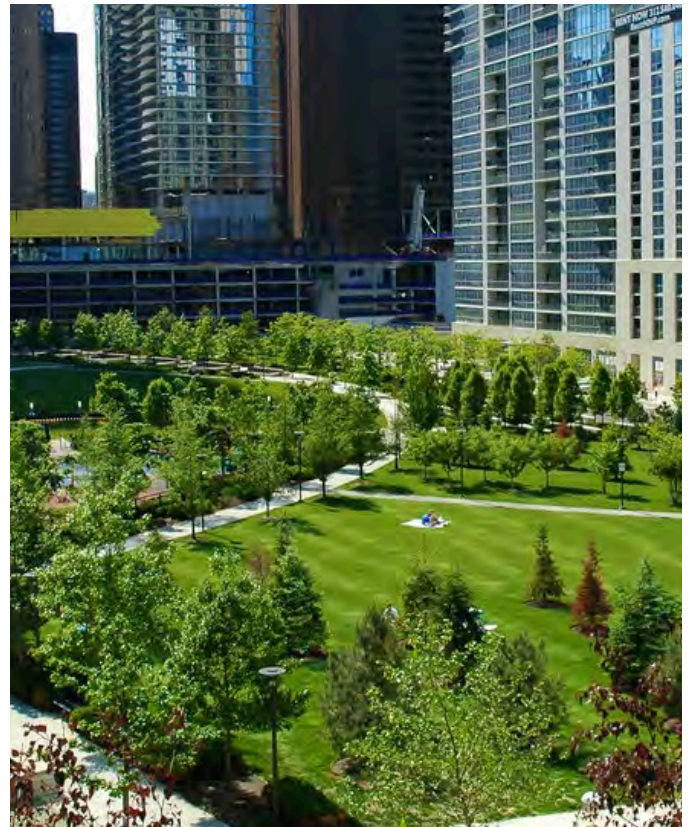
Suggested roof-top amenities could include active courts and turf areas, dog parks and/or dog runs, and playgrounds, as well as passive recreational spaces to meet the needs of the anticipated population. Public access of certain blocks should be considered to enhance the recreational opportunities and views within North Potomac Yard, increase community interaction, and, on office buildings, to activate space in the evenings. These roof-top open spaces are anticipated to incorporate substantial sustainable components, while maintaining access and uses for residents and building users.

Playing Fields

The City has a need for additional athletic playing fields for residents. While the Plan does not require the provision of playing fields within North Potomac Yard, the Plan recommends that the developer assist in the provision of off-site playing fields.

Pump Station

A pump station is necessary to accommodate the planned development within North Potomac Yard. The Plan recommends that the facility be generally located on the northeastern portion of the Plan area within Potomac Yard Park. Because of the prominent location within the park, the facility will need to include high quality design and materials, and be integrated with the design of Potomac Yard Park. Additional information and recommendations are discussed further in *Chapter 7: Infrastructure*.



I. Housing

Consistent with the Housing Master Plan (HMP), the Plan envisions a variety of housing options designed to accommodate households with different incomes and abilities, at different life stages, and of different sizes. The HMP established a “housing for all” policy to meet the diverse and changing housing preferences of existing and future Alexandrians, workers, and retirees and recommended focusing affordable housing efforts in areas with the greatest potential for increased density, in particular in mixed-use developments with good access to transit, jobs, and services.

Several tools will be instrumental in achieving this vision, including allowing additional bonus density for affordable housing; exploring opportunities to affordable housing with public uses (such as a school or recreation facility); to use public land for affordable housing, when feasible, including public housing and/or replacement Resolution 830 units; and leveraging the City’s Housing Trust Fund with private, state, and federal funding to the greatest extent possible.

Affordable housing contributions in the Plan will be governed by the City-wide guidelines in effect at the time of the development approval. It is anticipated that they will be satisfied through the provision of on-site housing units and/or cash contributions to the City’s Housing Trust Fund.

The growing unmet demand for affordable housing poses potential challenges to the City’s livability, economic competitiveness, social service network, and transportation system. In 2016, nine percent of the Potomac Yard Small Area’s rental housing stock was affordable to residents earning up to 60% of the Area Median Income (AMI) which ranges from \$45,660 for a one-person to \$65,160 for a four-person household.¹ Affordable units are currently available at The Station at Potomac Yard (64 units), Station 650 (8 units), and Notch 8 (12 units); 78 affordable rental units are also available just outside the small area plan at Jackson Crossing along with six affordable ownership units at The Preston. Providing and encouraging opportunities that increase the provision of affordable housing will help to meet growing demand.

¹As determined by the U.S. Department of Housing and Urban Development (HUD).

The Plan recommends that 30% in additional density be allowed for the provision of affordable housing where appropriate, pursuant to Section 7-700 of the Zoning Ordinance.

Resolution 830: Equivalent units required to replace public housing units when they are demolished or redeveloped.

In the City of Alexandria public housing typically serves households with incomes up to 30% of the Washington, D.C. area median income (“AMI”); affordable rental housing serves households with incomes up to 60% AMI; and workforce rental housing serves households with incomes up to 80% AMI. For qualified first-time home-buyers with incomes up to 100% of AMI, the City offers a range of homeownership assistance for the purchase of affordable for-sale units.

Housing Case Study: Jackson Crossing

Jackson Crossing has created an infusion of much needed affordable housing along the booming and increasingly expensive Route 1 Corridor between Potomac Yard and Crystal City. The apartment project, constructed by AHC at the intersection of East Reed Avenue and Jefferson Davis Highway, opened in January 2016 to a wait-list of over 500 households. Built to Earthcraft program standards, the 78-unit property offers a range of units affordable to households with incomes up to 60% of the area median income (AMI) and features underground parking, a rooftop patio, and on-site management. Ground-floor community space provides a pre-K program, available to children of residents at a reduced cost. The project's completion along this transit-, amenity-, -employment-rich corridor hinged on the implementation of best practices and tools from the Housing Master Plan. AHC successfully leveraged the City's \$2.5 million investment (including a pre-development loan) to secure \$24 million in low-income housing tax credit equity and private financing. The City also donated a publicly-owned parcel to assist AHC assemble land for the project while robust public engagement and education built community consensus and support.



Housing Case Study: Gateway at King and Beauregard

Slated for completion in 2019, Gateway Apartments reflects an innovative public-nonprofit and for-profit partnership: the affordable housing project is being constructed within a large mixed-use development—the Gateway at King and Beauregard. The Alexandria Housing Development Corporation (AHDC) purchased air rights to construct 74 affordable rental units on top of ground-floor retail and contracted with the master developer to construct the below-ground parking required to serve the project. The City's support (a loan of up to \$5.5 million, including \$350,000 in pre-development funding) has leveraged tax credit equity and other financing and enabled AHDC to broaden the project's level of affordability; units will serve households earning 40% to 60% AMI for a period of 60 years. In addition, the majority of units will be family-sized with two to three bedrooms, and 10% will be accessible. The project was the first in Alexandria to utilize the City's optional parking reductions for affordable housing effectively lowering project costs while its strategic location along a future bus-rapid-transit corridor and next to a bike-share station promises to expand residents' access to jobs and services.



Table 4.3. Development Summary

BLOCK #	PRINCIPAL LAND USE	OFFICE (SF)	RESIDENTIAL (SF)	OFFICE OR RESIDENTIAL (SF)	RETAIL (SF) ⁵	HOTEL (SF)	TOTAL ^{3,4}
1	OPEN SPACE (CRESCENT PARK)						
2	RESIDENTIAL	0	500,000	0	0	0	500,000
3	HOTEL	0	0	0	0	82,900	82,900
4 ¹	COMMUNITY FACILITY/ PUBLIC BUILDING	0	0	0	0	0	0
5	RESIDENTIAL	0	600,000	0	0	0	600,000
6	OFFICE/ RESIDENTIAL	110,000	0	250,000	35,000	0	395,000
CRESCENT GATEWAY NEIGHBORHOOD TOTAL		110,000	1,100,000	250,000	35,000	82,900	1,577,900
7	RESIDENTIAL	0	0	240,400	31,600	0	272,000
8	OFFICE/ RESIDENTIAL	0	0	643,300	154,800	0	798,100
9	OFFICE/ RESIDENTIAL	55,000	0	260,000	40,000	0	365,000
10	RESIDENTIAL	0	0	328,600	36,000	0	364,600
11	OFFICE/ RESIDENTIAL	0	0	643,400	171,900	0	815,300
12	OFFICE / RESIDENTIAL	55,000	0	295,000	50,000	0	400,000
13	OPEN SPACE (MARKET GREEN)						
14	RETAIL	0	0	0	62,900	0	62,900
MARKET DISTRICT NEIGHBORHOOD TOTAL		110,000	0	2,410,700	547,200	0	3,067,900
FLEXIBLE DISTRICT NEIGHBORHOOD ZONE (BLOCKS - 15, 16, 18 - 21) ²							
	OFFICE	1,100,000	0	484,300	212,800	87,100	1,884,200
17	OFFICE/RESIDENTIAL	60,000	0	250,000	50,000	0	360,000
22	OFFICE/RESIDENTIAL	0	0	0	65,000	0	435,000
23	OFFICE	180,000	0	0	20,000	0	200,000
METRO SQUARE NEIGHBORHOOD TOTAL		1,340,000	0	1,104,300	347,800	87,100	2,879,200
24	OPEN SPACE (POTOMAC YARD PARK EXTENSION) ^{6,7}						
TOTAL (SF)							7,525,000

Notes:

1. Community facilities, public buildings and accessory uses may be provided on any block and are not deducted from the maximum permitted development; however the uses will be subject to the height requirements, design guidelines and other applicable elements as part of the development review process. Block 4 is reserved as a possible school site. Collocation of uses within Block 4 (including residential) is encouraged where feasible and shall not count toward the maximum development square footage.
2. Approximately 0.7-acres within block 16 or 21 will be provided as open space for Market Square Park within the Flexible Metrorail Zone.
3. The maximum amount of development shall be 7,525,000 sq. ft.; however, the amount of permitted development within each block is conceptual. The final amount of development may be permitted to be transferred from block to block and will be determined as part of the rezoning for the subject property and development special use permit.
4. In addition to the maximum amount of development, a minimum amount of density is required for each block pursuant to the minimum heights and other applicable requirements.
5. Additional ground floor retail locations may be approved, if they are consistent with the intent of the Small Area Plan and is approved as part of the development review process. The retail amount will be deducted from the maximum amount of development permitted within each block.
6. The maximum building height for the Metrorail Station shall not exceed 50 feet in the general location as depicted within the Plan.
7. The maximum height of the pump station or any park structures must comply with the intent of the Plan and require review as part of the development review process.

Land Use Recommendations

Land Use - Zoning

- 4.1** Utilize CDD#19 to implement the Vision and recommendations of the Plan.
- 4.2** Permit the flexibility of office and/or residential uses for Blocks 6-12, 17, and 22.
- 4.3** Mixed use buildings that incorporate office and residential within the same building may be allowed as determined through the development review process.
- 4.4** Office use(s) may be permitted for any of the blocks within ¼ mile of the Metrorail station as depicted in Figure 4.1, subject to complying with the maximum permitted height(s) for each block, the total amount of office permitted within CDD 19, and subject to all applicable conditions and requirements as part of the development review process.

Metro Square Neighborhood

- 4.5** Require predominantly office uses in this neighborhood.
- 4.6** Explore the provision of live performance space/theatre.
- 4.7** Explore the possibility of uses such as a theatre below Metro Square Park (underground).

Market Neighborhood

- 4.8** Allow flexibility for office and/or residential uses on upper floors within the blocks of this neighborhood.

Crescent Gateway Neighborhood

- 4.9** Require predominantly residential uses in this neighborhood.

Retail Uses

- 4.10** Locations with Required Retail will be provided as depicted in Figure 4.3.
- 4.11** For Optional Retail locations, the ground floor height and depth will be designed to not preclude retail uses.
- 4.12** Adhere to the North Potomac Yard Design Standards and Guidelines for all retail uses, including large-format retailers.
- 4.13** Adhere to the North Potomac Yard Design Standards and Guidelines for retail storefronts and signage.
- 4.14** Encourage opportunities for live-work and comparable ground floor uses.

- 4.15** Encourage neighborhood-serving retail uses, including the potential provision of a grocery store within the Metro Square or Market neighborhoods.
- 4.16** Explore the possibility of allowing street carts - vendors.
- 4.17** Require the submission of a comprehensive retail marketing strategy prior to the submission of a development special use permit for the first building and updated with each subsequent development approval.
- 4.18** Require district-wide management of retail (i.e. business improvement district or other similar entity).

Building Height

- 4.19** Ensure that the ceiling heights and depths for various uses are flexible to encourage a broad range of uses within the residential and commercial buildings, particularly the ground floor.
- 4.20** Transition building height and scale to Route 1 and the existing residential neighborhoods to the west and the George Washington Memorial Parkway to the east.
- 4.21** Differentiate the height of the gateway elements of the neighborhood by establishing taller or shorter heights for these elements.
- 4.22** Adhere to the Federal Aviation Administration (FAA) flight path restrictions.
- 4.23** Adhere to maximum heights for each block consistent with Figure 4.5b and the minimum heights established by the North Potomac Yard Design Standards and Guidelines.
- 4.24** Require that any amenity space on the top floor of the building of Block 2 be made periodically available for public functions and/or meetings.
- 4.25** Provide taller signature buildings at the central portion of the site to denote the symbolic center of North Potomac Yard and at the visual terminus of Main Line Boulevard on the northern portion of the site.
- 4.26** Require a variety of heights within each block and for individual buildings.
- 4.27** For Blocks 7 and 10, height, massing, and building design will be compatible with the adjoining character of the George Washington Memorial Parkway. For Block 7, maximum building height will be 85 feet except additional height may be permitted as part of a development review process in consultation with the National Park Service (NPS). In no event will the maximum building height exceed 120 feet for the northern portion of the block and 180 feet for the southern portion of the block.

- 4.28** For Block 14 and 19, the height range will be 60 – 90 feet. However, to ensure height variety, only one block is permitted to go up to 90 feet. The remaining block will have a maximum height of 60 feet.
- 4.29** The building height for the locations depicted as signature facades (Figure 3.4), will vary from the primary maximum height of the building by being lower or taller as permitted herein. Where signature facades are required, it will be permitted to exceed the maximum building height by a maximum of two levels not to exceed 5,000 sq. ft., if approved as part of the development review process. The locations will be limited to locations depicted in Figure 3.4- Signature Facades.

Parking

- 4.30** Implement parking maximums.
- 4.31** Require unbundled residential parking.
- 4.32** Implement parking ratios that reflect the transit-oriented nature of the development consistent with Table 4.2.
- 4.33** Require shared parking throughout North Potomac Yard.
- 4.34** A minimum of one level of underground parking is required for each block and/or building.
- 4.35** All of the parking for Blocks 2, 3, 5, 10, 14, 15, 18, 19, 20, and 21 is required to be entirely below-grade.
- 4.36** Any above-grade parking is required to be lined with active uses for each level for all street and park and/or open space frontages (Figures 4.6a, 4.6b, 4.6c, 4.6d). If collector parking structures are provided for retail uses, they will be predominantly screened with active uses and may also be partially screened with architectural treatments or landscape elements.
- 4.37** Generally require on-street parking for streets, excluding park frontages.
- 4.38** Require provision of long and short-term bicycle parking.

Open Space

- 4.39** Require the submission of a Comprehensive Open Space Plan to identify the programming within each park/public open space. The Comprehensive Open Space Plan will include a mixture of active, passive, civic, and social spaces, as generally depicted in Figure 4.9.
- 4.40** The parks/open space required within the Framework Plan, which consist of the following, and will be implemented with the development of each neighborhood:

- Minimum 2.3-acre public park at Four Mile Run to provide a meaningful connection to the City's open space network, consistent with the Four Mile Run Restoration Master Plan (Crescent Park);
- A 1.0 acre park/open space in the retail district (Market Green);
- An approximately 0.2-acre open space east of Potomac Avenue in the Market Neighborhood (Market Lawn);
- A 0.7-acre park /urban square (Metro Square);
- An approximately 0.3-acre plaza at the Metrorail station (Metro Plaza);
- An approximately 4.5-acre extension of Potomac Yard Park to provide usable open space along the rail corridor; and
- Internal pedestrian connections with adjacent active uses will be provided in the Metro Square and/or Market neighborhoods.

4.41 Require that Potomac Yard Park and Crescent Park be dedicated to the City as public parks (Figure 4.8). The remainder of the parks (Crescent Park, Four Mile Run Promenade, Metro Square, Market Green, Market Lawn, and Metro Plaza) and the central open spaces are required to be privately maintained but accessible to the public through the provision of perpetual public access easements. Any ground level open space over parking garages will provide perpetual public access easements.

4.42 A minimum of 15% of North Potomac Yard is required to be provided as ground level open space, with an additional 25% to be provided at either ground level or on rooftops. Blocks 2, 3, 5, and 21 within North Potomac Yard will be required to provide additional open space due to the central ground level spaces within the blocks.

4.43 Explore the possibility of colocating uses in open space (i.e. entertainment, civic and cultural uses, historical interpretation, public art, and stormwater management).

4.44 Provide separated paths for pedestrians and bicyclists in the open space at Four Mile Run and Potomac Yard Park.

4.45 Provide public and private dog parks and/or runs. Explore the possibility of locating these facilities on roof tops.

4.46 The developer will assist in the provision of off-site playing fields.

4.47 Employ sound urban forestry principles and practices to improve the City's tree canopy.

4.48 Explore the possibility of including interim active recreational fields.

- 4.49** A pump station may be located on the northern portion within the Plan area within Potomac Yard Park. The facility will need to include high quality design and materials, integrated with the design of Potomac Yard Park, and be subject to the criteria and recommendations described in *Chapter 7: Infrastructure*.
- 4.50** The Plan envisions pedestrian connections which could consist of a central hardscaped open space area that could be lined with restaurants, outdoor dining, music venues, and theatre uses.
- 4.51** The final design, location, and configuration of the Market Green (Phase II) will be determined as part of the development review process for the future phases. The location, design, and configuration will be consistent with the intent and principles of the Plan.

Housing

- 4.52** Contribute to the City's Housing Trust Fund consistent with guidelines in effect at the time development approvals are sought, and /or provide affordable rental and for-sale workforce housing units with a minimum 40-year term of affordability throughout North Potomac Yard.
- 4.53** To maximize housing diversity throughout the Plan area, the Plan recommends bonus density of 30% for the provision of affordable housing pursuant to Section 7-700 of the Zoning Ordinance, as appropriate. If blocks adjacent to Route 1 request bonus height pursuant to Section 7-700, the maximum height of buildings shall not exceed the maximum height as depicted in Figure 4.5b.
- 4.54** Allow for potential ARHA replacement units in the Plan area. Bonus density or height for affordable housing should be considered to facilitate possible public housing relocation to North Potomac Yard.
- 4.55** Offer a range of housing types to accommodate different household sizes and compositions, including studio, one, two, and three bedroom units.
- 4.56** Incorporate green and sustainable designs and materials to enhance the interior living environment and to yield energy savings for residents.
- 4.57** Integrate universal design and/or accessibility features to accommodate multiple life stages and abilities. Incorporate "visitability" features, when feasible, to ensure new developments are accessible to people regardless of their physical abilities.
- 4.58** Explore opportunities for public, private, and nonprofit collaborations to maximize the use of private and public land and to leverage all available resources for the development of affordable and workforce housing, including public housing and/or replacement Resolution 830 units.

- 4.59** Permit micro-units, where appropriate, to enhance housing affordability options.
- 4.60** Encourage collocation of affordable housing, including senior or assisted living, with future civic, municipal, and other uses where possible.

COMMUNITY FACILITIES



COMMUNITY FACILITIES



The Plan recognizes that a successful urban community is one that strives to provide amenities and services for all its residents. New community facilities should be designed and constructed to meet the needs of the population today and tomorrow. Uses such as a school, child care center, recreation/community center, flexible exhibition and theatre/performance space, or library are potential community facilities.

A. Projected Demographics

Demographics give a snapshot of the size and character of the anticipated North Potomac Yard population. The projected number of residents will generate a demand for community and/or civic facilities, including public schools. It is expected that young workers and singles will comprise a substantial portion of North Potomac Yard's future population. Given the proposed affordable housing recommendations, persons with a range of incomes will be part of the community. Between 110 and 160 school-aged children are projected to reside in North Potomac Yard, weighted more heavily in favor of younger children of elementary school age.





The Station at Potomac Yard residential units amenity area above the Fire Station below.



*Potomac Yard Fire Station
2800 Main Line Boulevard*



*The Alexandria Police Headquarters
3600 Wheeler Ave*

B. Collocation, Flexibility, and Incentives

The term collocation refers to the vertical integration of multiple uses within the same building. Community facilities should be collocated to ensure cost and operational efficiency, as well as added convenience for users. Future community facilities should expand on the principle of the Potomac Yard Fire Station, which combines a fire station and affordable housing. In order to ensure that the needs of Potomac Yard residents, workers, and visitors can be accommodated throughout the day, and into the future, the Plan recommends that community facilities be designed as flexible multi-purpose spaces and possibly as part of residential and/or office buildings. Multi-purpose spaces are differentiated from collocated uses in that multiple uses can use the same space. In order to encourage provision of these facilities, whether public or private, the Plan recommends that the floor area for community facilities not count against the maximum amount of permitted development. While the community facilities will not be deducted from the maximum permitted development, the Plan recommends that each use require the approval of a development special use permit (DSUP), excluding childcare facilities within existing buildings.

C. Community Facilities

Emergency Services

No additional police services will be needed to serve the proposed development as the new police facility on Wheeler Avenue will adequately serve the proposed development. No new fire facility is needed as the area is located only a few blocks from the Potomac Yard Fire Station and is also served by the mutual aid fire service provided throughout the City.

Schools

The proposed development will potentially generate the need for additional school capacity. Based on 2017 student generation rates, between 60 and 90 elementary, 20 and 30 middle, and 25 and 40 high school students will be generated by the projected residential uses for North Potomac Yard. The remainder of Potomac Yard (including Landbays G, H, I, J, and L and Potomac Green) has generated a total of 84 students enrolled in ACPs during the 2016-2017 academic year. Of those students, 3 were enrolled in pre-k, 37 elementary, 22 middle, and 22 in high school.

If elementary school student generation rates continue to increase, the City will need additional capacity to support elementary school students. Furthermore, if middle and high school generation rates continue to increase, in the long-run, the City will face additional capacity challenges in the middle and high schools. The most critical need is the provision of additional system capacity at the elementary school level.

The Plan addresses three possible options to accommodate the needs of a possible school:

1. Block 4 has been reserved for a possible school site (Figure 5.1). Since North Potomac Yard will be urban in nature, a school, if constructed in this location, must be in an urban form, such as the Tenderloin Community School in San Francisco, California. The Tenderloin Community School is a multi-level elementary school including additional elements such as a family resource center, health center, counseling rooms, an adult education center, and a preschool child development center. The possible school building will require underground garage parking and possible rooftop recreation and community gardens;
2. Construct a new school at an off-site location; or
3. Expand or reconstruct an existing school like the Cora Kelly STEM School to accommodate additional students.

If the school reservation (Block 4) is not used for a school site, the City would reserve the right to use the block for other purposes such as open space and/or a comparable community facility/public building with potential colocated uses above. The remainder of the community facilities will be determined as part of the development review process.



Figure 5.1: Block 4 - School Reservation Site



Block 4 - Urban School Collocation Yield Study



Urban School Precedent: Tenderloin Community School, Children's Center & Community Services Facility

Childcare Facilities

Because of the proposed amount of residential and office uses, there will be a considerable need for childcare facilities that can serve residents and employees. Childcare may be located within an office and/or residential building and could be included as part of the school or adjacent to the proposed school. Considering the school will not likely be built in the early phases of the development, childcare facilities will need to be provided in the early phases and integrated within larger office or residential buildings. To encourage these uses, the Plan is recommending that childcare uses be permitted with administrative approval within existing buildings.



Other Potential Community Facilities

In addition to a potential school and childcare facilities, there are numerous other facilities that may be needed or desired as part of the development of North Potomac Yard. Some of the potential uses are listed below.

- **Community Arts, Exhibition and/or Performance Space.** This space could contain an art gallery and could be utilized for community gatherings as well as destination events such as festivals, concerts, and other arts performances. Such spaces would be particularly appropriate in the Metro Square Neighborhood.
- **Education Center.** A privately funded education center or learning facility could be provided, possibly with a focus on sustainability or green infrastructure. An education center could also serve as another feature supporting Potomac Yard's multi-faceted program of community building, similar to other models like the Living Classroom.
- **Neighborhood Reading Room/Library.** A neighborhood reading room or library could be provided and should be centrally located.
- **Community Center.** A space that can serve as a community function space could be provided. The facility could be linked to the school, which has often historically been the case for such facilities in urban communities.





- Recycling Center/Program. An important and significant component of the Sustainability Plan will be requirements and incentives for, and facilities to accommodate, a complete recycling program.
- Youth Center. Appropriate locations could be collocated with or near the school, parks or other educational settings and with easy access for all residents. Uses in this space could include after school, educational and social activities for young residents.

It is certain that not all these community facilities should be placed within North Potomac Yard, or even Potomac Yard. However, if provided, potential sites and buildings for locating these community facilities will need to be identified. If any, or a combination of all these uses were developed in the Plan area, they could assist in being a catalyst for redevelopment. The development of childcare and possibly a school in this area would also serve commercial office development, especially for employees with children. To integrate the facilities as part of the planning and development process, the Plan recommends the submission of a Comprehensive Community Facilities Proposal that is updated with each development.

Community Facilities Recommendations

Collocation, Flexibility and Development Incentive

- 5.1** To the greatest extent feasible, community facilities shall be collocated and be designed to provide for flexible use of interior spaces.

School

- 5.2** Adequate provision shall be made to accommodate an urban school, collocated with a childcare facility and/or comparable uses. Block 4 shall be reserved for a possible urban school. If Block 4 is not needed for a school, the City may use the block for open space and/or a comparable community facility/public building with potential collated uses above or as approved by City Council.

Daycare/Childcare

- 5.3** Require the provision of daycare/childcare facilities within North Potomac Yard as part of community facilities, mixed-use, and/or office buildings. Distribution and location of daycare/childcare facilities will be determined as part of the development review process and consistent with the Community Facilities Plan. Daycare/childcare facilities shall be permitted through an administrative approval within existing buildings.

Zoning

- 5.4** Community facilities and/or public buildings may be included on or in any block and/or building and shall not be deducted from the maximum permitted development. These uses shall be defined as part of the rezoning for the Plan area.

Implementation

- 5.5** Provide a Comprehensive Community Facilities Proposal depicting the general size and locations of community facilities and/or public buildings proposed within North Potomac Yard, including but not limited to the school and daycare/childcare facilities recommended herein. This Proposal shall be coordinated with the City to address known community facility needs and submitted as part of the first DSUP, amended as necessary to accommodate future uses and programming.

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TRANSPORTATION



The transportation strategy has been designed to facilitate a significant mode shift from private autos to alternative, more sustainable means of transportation, consistent with the Transportation Master Plan and Environmental Action Plan. The transportation network is required to include a Metrorail station, dedicated high-capacity transit corridor, buses, shuttles, car sharing, and bicycle facilities. In addition, an aggressive Transportation Management Plan (TMP) program will be required and parking will be managed, shared, priced, and designed to reduce car trips. The Plan is designed to allow employees and residents access to essential services within a five-minute walk, and streetscapes are designed to accommodate easy access to transit and the Metrorail station. The Plan also prioritizes pedestrians with a shared street adjacent to Potomac Yard Park and the Metrorail station.

“If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places.”

- Fred Kent

A significant portion of the adjoining roadway system is already established with limited opportunity to build additional east-west streets. The geography that gives Potomac Yard its special character – its location between the Potomac River and the adjoining established neighborhoods – also constrains access.

Recommendations include strategies to manage transportation demand, expand the street grid and connectivity, provide additional transit capacity, incorporate an expansive bicycle and pedestrian network, and create a culture of people first in a complete green streets context.

A. Transportation Network

In the preparation of the transportation analysis, the following parameters were developed relating to development density, the future transportation network, travel mode choice (mode split), a 2040 build-out year, and general future traffic growth (background traffic):

- **Future Metrorail Station:** A new Metrorail station is required by the Plan to support the proposed density and accommodate new person trips.
- **Crystal City/Potomac Yard (CCPY) Transit (Metroway):** High-capacity transit service will be provided in dedicated lanes on Route 1 and through the Plan area and Potomac Avenue. It will intersect with the Metro service to create a high-performance transit hub for Potomac Yard.
- **Local and Circulator Transit Service:** Additional local-serving routes will be provided to connect the new development in North Potomac Yard to existing neighborhoods and other destinations with enhanced service local transit.
- **US Route 1 (Jefferson Davis Highway) ("Route 1"):** Route 1 will be widened to accommodate a dedicated high-capacity Metroway between E. Glebe Road and Evans Lane, where Metroway is anticipated to turn east on to Potomac Avenue. Figure 6.6 depicts one option for the Metroway alignment. The final alignment will be determined as part of a future planning process and approval by City Council. Route 1 will not be widened to accommodate additional single occupancy vehicles (SOV) lanes.
- **Potomac Avenue:** This major north-south route will connect Route 1 to the south with Crystal Drive on the north and will provide additional north-south capacity for local and non-local trips.
- **Internal Street Network:** The Plan requires a fine-grained, interconnected network of urban streets with multi-modal connectivity to the surrounding neighborhoods.
- **New Potomac Yard Park Bicycle/Pedestrian Connection:** This off-street trail connection will tie Potomac Yard directly to Four Mile Run through a linear park connecting Braddock Road and Four Mile Run, enhancing its access to the major regional trail network that currently serves recreational users as well as commuters.



B. Transportation Analysis

A transportation study was conducted to determine the impact of the proposed development for North Potomac Yard, analyzing Phase I (year 2021) and full build-out impacts (year 2040). The study found that current vehicular traffic conditions along Route 1 and at most intersections adjacent to Potomac Yard are acceptable; however, some delays occur during the commuter peak period. With the increment of background traffic growth, traffic from approved (currently unbuilt) developments, and the completion of Potomac Yard, traffic will increase on roadways and at intersections.

The study assumes that through traffic on Route 1 will grow by approximately 10 percent by 2040. This growth is intended to reflect likely increases in traffic attributable to general city growth and regional through trips (Figure 6.1). Traffic for specific approved and unbuilt developments, such as Oakville Triangle, were considered separately from and in addition to the 10 percent growth. Regardless of whether or at what density North Potomac Yard is redeveloped, Route 1 will operate at capacity in areas. With the recommended multi-modal transportation network, most intersections will operate acceptably with exception of the intersections of Route 1/Slaters Lane, Route 1/Potomac Avenue, and Route 1 at the entrance to the existing Toyota dealership site.

The analysis assumed all roadway improvements included in this Plan and improvements associated with the Route 1/Oakville Triangle Corridor Plan including improvements at Route 1/E. Glebe Road, improvements at Route 1/E. Custis Avenue, improvements at Route 1/Swann Avenue, a signal at Route 1/Montrose Avenue, and improvements at Route 1/E. Reed Avenue to allow for east-west through traffic across the intersection, which is not allowed today.

The significant investments in the multi-modal transportation network already planned and recommended in the Plan, such as the new Metrorail station and dedicated transit lanes, will create the substantial capacity to move people and accommodate increases in travel demand associated with continued development in Alexandria as well as in Potomac Yard.

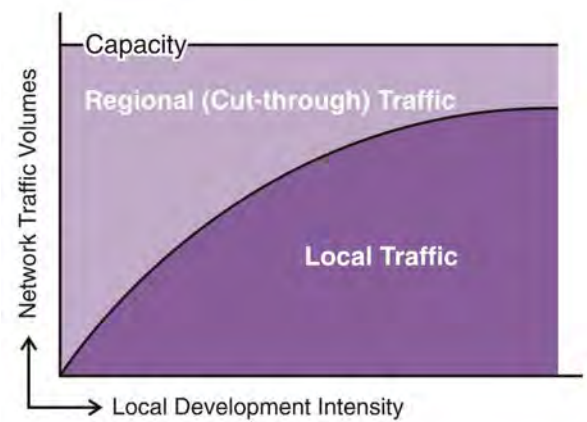
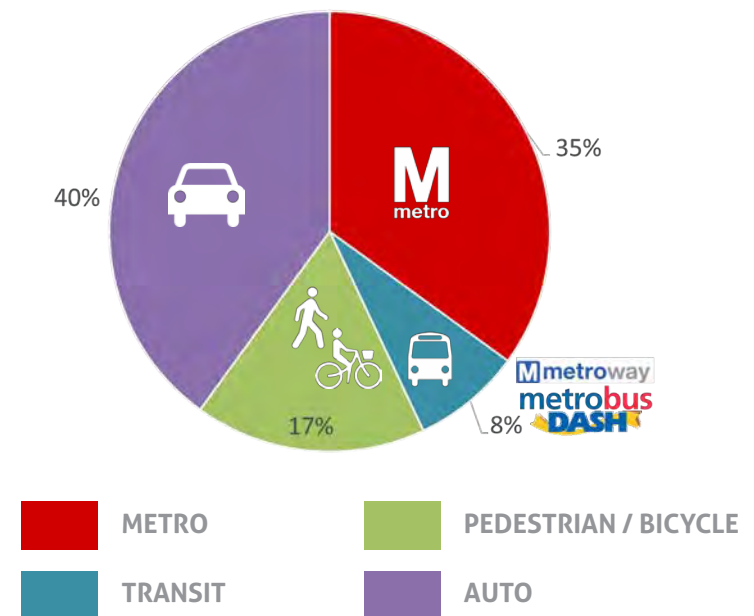


Figure 6.1: Local and Regional Traffic

C. Mode Share

To represent the anticipated trip-making patterns associated with the redevelopment of North Potomac Yard, assumptions were developed to assign trips to transit, pedestrian, bicycle, and auto modes. The assumptions were based on local, regional, and national experience and evidence from similar scale urban redevelopment projects. Specifically, a Metrorail ridership study was consulted in addition to data from the Crystal City, Braddock Road, and King Street Metrorail stations and US Census, Journey to Work data. It is widely recognized that urban, mixed-use developments with accessible transit will result in lower automobile trip generation. When the specific mode choice assumptions per land use are applied to the proposed mix in North Potomac Yard, the resulting mode share is 40% of the trips being made are by automobiles, 43% of the trips being made by transit, and 17% of the trips being made by bike or on foot (Chart 6.1). The mode share assumes build-out of the proposed mix of uses, accessibility to multiple modes of transportation, including Metrorail and dedicated high-capacity Metroway, enhanced street connectivity, and bike and pedestrian facilities.

Chart 6.1 : Mode Split



Note: The chart represents the combined mode split for the Plan area using specific mode choice assumptions by land use.

D. Streets and Connectivity

The Plan includes parameters not to further widen Route 1 with general purpose lanes, not to add any median breaks for single occupant vehicles along Route 1, and to minimize the number of additional left turn or right turn pockets along Route 1 or Potomac Avenue. To better address the limited east-west connectivity and support the anticipated level of east-west traffic, and to remain consistent with the recommendations of the Transportation Study and the Route 1/Oakville Triangle Corridor Plan, the Plan recommends:

- Physical improvements at the intersection of E. Glebe Road and Route 1;
- New east-west connectivity or comparable street, circulation, and/or transit improvements, as part of any proposed development and any future planning efforts for properties to the west of Route 1;
- Maximize the street grid by configuring Reed Avenue at Route 1 to allow all movements;
- Major intersections to the west of Route 1 may need to be further analyzed in the future to determine if any additional improvements, such as signalization or pedestrian improvements, are needed;
- Explore and evaluate the option of opening Evans Lane and Wesmond Drive in the future to provide access to Route 1 as new development occurs along the west side of Route 1; and
- Traffic calming for neighborhoods west of Route 1 phased and implemented with development of North Potomac Yard.

The recommendations of the Plan are consistent with the City's Transportation Master Plan, which recommends a fine-grained street grid to accommodate circulation for all modes through the site and connect to the neighborhoods across Route 1 (Figure 6.2).

The Plan and the transportation analysis, consistent with the Route 1/Oakville Triangle Corridor Plan, show East Reed Avenue connecting across Route 1 and serving

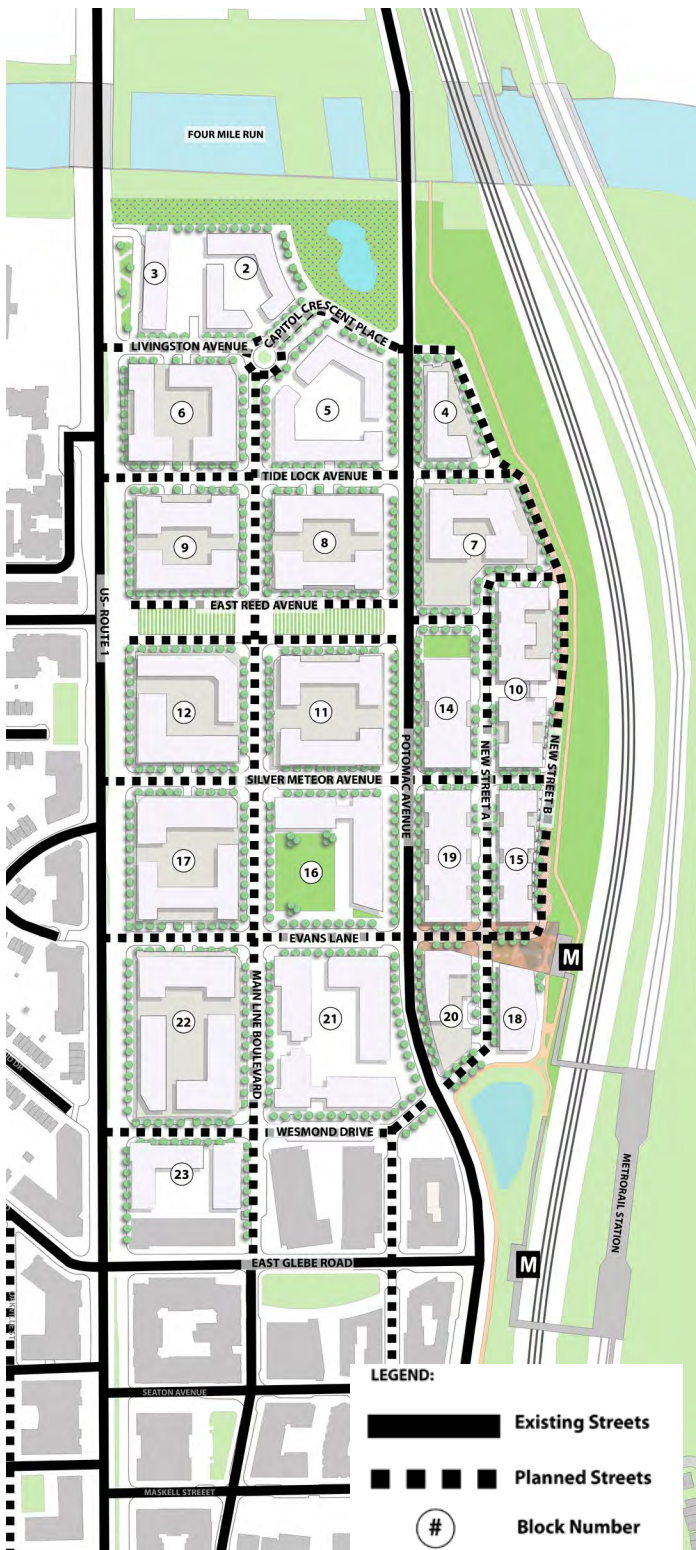


Figure 6.2: Proposed Street Network

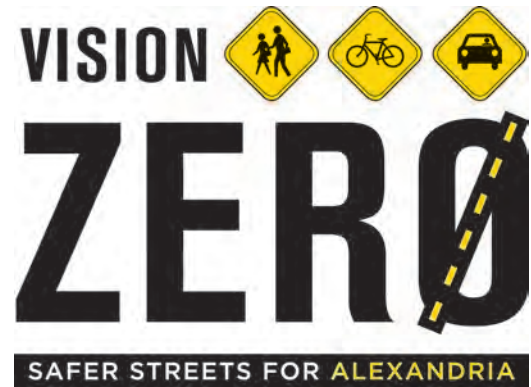
as an additional east-west connection. This connection is recommended to accommodate the additional traffic from the development. Additional street connections will help disperse traffic and alleviate overburdened intersections. The provision and timing for additional east-west connectivity or comparable street, circulation, and/or transit improvements will likely be desirable in the future. New east-west connections should continue to be explored as part of development and planning for properties to the west of Route 1.

In addition to exploring additional east-west street connectivity, additional right-of-way to provide turn lanes and enhanced pedestrian accommodations will be necessary at E. Glebe Road at Route 1. For a discussion of neighborhood impacts and other recommendations to address these issues, see *Chapter 8: Existing Neighborhoods*.

Further, the Plan recommends the following additional transportation improvements:

- Signal timing updates on Route 1;
- Lane reconfiguration at Route 1/Potomac Avenue (in the westbound direction to provide a left turn lane, left turn lane, and left/right turn lane); and
- Extend left turn lanes at select locations along US Route 1 based on the results of future traffic studies where appropriate.

All streets in North Potomac Yard are required to be public and dedicated to the City or include public access easements. In addition, the streets should be compatible with the City's Complete Street Design Guidelines. The streetscape and public right-of-way must play an important role in managing stormwater while visually reinforcing the environmental sustainability principles of the Plan. Low-impact design (LID) techniques that reduce runoff and provide water quality treatment are required to be incorporated as part of the street design. These techniques could include, but are not limited to, pervious surfaces for parking spaces and sidewalks, curbside bioretention areas, and large, interconnected tree wells irrigated with harvested rainwater.



The Plan and associated Design Standards and Guidelines provide a framework for improving the public realm in North Potomac Yard to be consistent with the City's Vision Zero policy goal to eliminate traffic deaths and serious injuries by 2028 and create a safe streetscape that is inclusive to all modes of transportation while prioritizing pedestrians and bicyclists.

Future Potomac Avenue

Keeping Potomac Avenue within its current alignment, connecting to Potomac Yard South and Arlington to the north is a key aspect of the Plan. To enhance the pedestrian character of Phase I Potomac Avenue, it will operate as depicted in Figure 6.3. During peak hours, this includes two travel lanes in the peak direction and one travel lane in the non-peak direction; in non-peak hours, there will be one travel lane in each direction with on-street parking permitted in the outside travel lanes.

Under the full Plan build-out, Potomac Avenue is anticipated to be designed to include the dedicated lanes for Metroway connecting to the dedicated lanes within Arlington County. The road will be designed in a manner that enhances the pedestrian environment and connectivity, while also maintaining efficient and reliable service of the Metroway. It will be designed to prioritize pedestrians, bicyclists, transit, and cars, in that order. The future design of the street will:

- Include a generous 20-25 foot streetscape on each side with accommodation for an enhanced bicycle facility on or adjacent to Potomac Avenue;
- Provide traffic signals at regular intervals to facilitate safe and timely pedestrian crossings;
- Design buildings to frame and activate the street and provide on-street parking where feasible;
- Facilitate connections between neighborhoods east and west of the street, striving to knit the two areas together;
- Minimize the distance pedestrians need to cross with streetscape enhancement for walkability and safety; and
- Maximize accessibility, reliability and ridership of Metroway service.

At the time of the redevelopment of uses west of Potomac Avenue, an additional traffic analysis will be conducted to determine the number of lanes/street cross-section needed to serve the development and location of the Metroway with the goal to have the minimum number required. As the future analysis is conducted, it will be important to consider new or emerging technologies, such as autonomous vehicles, that may have an impact on traffic operations.

AM PEAK



PM PEAK



NON PEAK

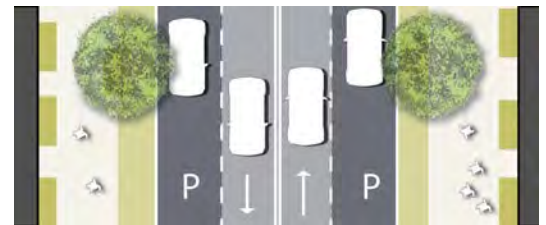


Figure 6.3: Phase I Potomac Avenue Configuration

Depicts two travel lanes in the AM and PM peak directions, and on-street parking in both directions at all other times.

Note: The configuration of Potomac Avenue as depicted in Figure 6.3 is limited to North Potomac Yard

E. Transit



One of the most important features of North Potomac Yard is its commitment to transit-oriented development. As such, the City is committed to providing levels of transit service which can help North Potomac Yard achieve a minimum 60% non-SOV mode split throughout its phases of development. This involves a range of transit options which will provide transit services consistent with the amount and type of planned development.

New transit infrastructure, including a new Metrorail station, dedicated high-capacity Metroway and expanded local bus service, are required by the Plan to support the proposed density. These transit facilities and the Metrorail station, in particular, allow for a higher transit ridership and a higher level of development density. Without the new transit infrastructure, the proposed levels of development could not be adequately supported by the proposed street network and the transportation network will fail.

In addition, streets, public spaces, and transit facilities should be designed to support and facilitate transfers between the various transportation modes, especially near the Metrorail station, to support the new transit options.



Figure 6.4: Location of Metrorail Station and Entrances

Metrorail Station

The Potomac Yard Metrorail station is a key element of the transportation plan for Potomac Yard and consistent with the City's Transportation Master Plan. The station will provide direct access to the regional Metrorail system from Potomac Yard and will enable the density and mix of uses envisioned in the Plan by encouraging a high transit mode split and adding capacity to the transportation network. The station will be located along the existing Metrorail Blue and Yellow Lines between the Ronald Reagan Washington National Airport Station and the Braddock Road Station.



Conceptual rendering of Metro Pavilion and entrance at East Glebe Road and Potomac Avenue.

The final station design is subject to review and approval by the Board of Architectural Review (BAR).

Metroway

The Metroway is a high-capacity bus rapid transit service that utilizes dedicated transit lanes within the Route 1 corridor providing cross jurisdictional connections through Potomac Yard between the Braddock Road Metrorail station and Crystal City (Figure 6.5). Arlington County has made significant investments in constructing dedicated lanes along Crystal Drive, Potomac Avenue and South Glebe Road, including a new station on South Glebe Road. Arlington has also reserved right-of-way along Potomac Avenue north of Four Mile Run.

In Alexandria, the Metroway provides centrally located transit vehicles within a central median on Route 1 between Potomac Avenue to the south and E. Glebe Road to the north.

The Plan illustrates one option for the Metroway alignment between E. Glebe Road and Evans Lane, where it is anticipated to turn east on to Potomac Avenue. Under this option (Figure 6.6), the Metroway would turn east onto Evans Lane and then north onto Potomac Avenue continuing into Arlington County. The Metroway service would operate within dedicated lanes for the length of its route. The final alignment will be determined as part of a future planning process and will require approval by City Council.

The Plan anticipates two additional Metroway stops to be located within the North Potomac Yard Plan area, one proximate to the Potomac Yard Metrorail Station and another at the northern end of the Plan area to serve future residential developments. The design



Figure 6.5: Existing Metroway Route

Note: The final alignment of Metroway and location of transit stations within North Potomac Yard will be determined as part of a future planning process and require approval by City Council.



of these stations may be consistent with the Route 1 stations or with a design determined to be consistent with the North Potomac Yard neighborhood.

The Plan recommends exploring options to incorporate innovative green technologies into the design of the dedicated transit right-of-way. The stations have been designed to include innovative real-time transit information and display technologies to include route maps, schedules and local and regional information. Stations provide shelter from the elements, seating, and lighting. These facilities are ADA accessible, and they provide near level boarding, emergency intercoms, public art, and solar power, optional WiFi/wireless Internet, and ways to purchase fare media .

Local Transit Service

While Metrorail and dedicated Metroway services are critical elements, other modes of transit cannot be overlooked. These are local buses operated by DASH and Metrobus that provide valuable connections between neighborhoods in the City. Currently, North Potomac Yard is served by local bus service, which provides seven days a week service to the existing shopping center. DASH bus service also connects North Potomac Yard to the Del Ray neighborhood. DASH will need to increase the service on this route and add service from other parts of the City as the project develops. The Metrorail station will also serve as a transit hub for DASH and other transit providers. Longer term plans call for direct bus connections from portions of the City, such as the West End, directly to North Potomac Yard. The Plan recommends that additional local-serving routes should be explored to connect locations within Potomac Yard to nearby communities and destinations.

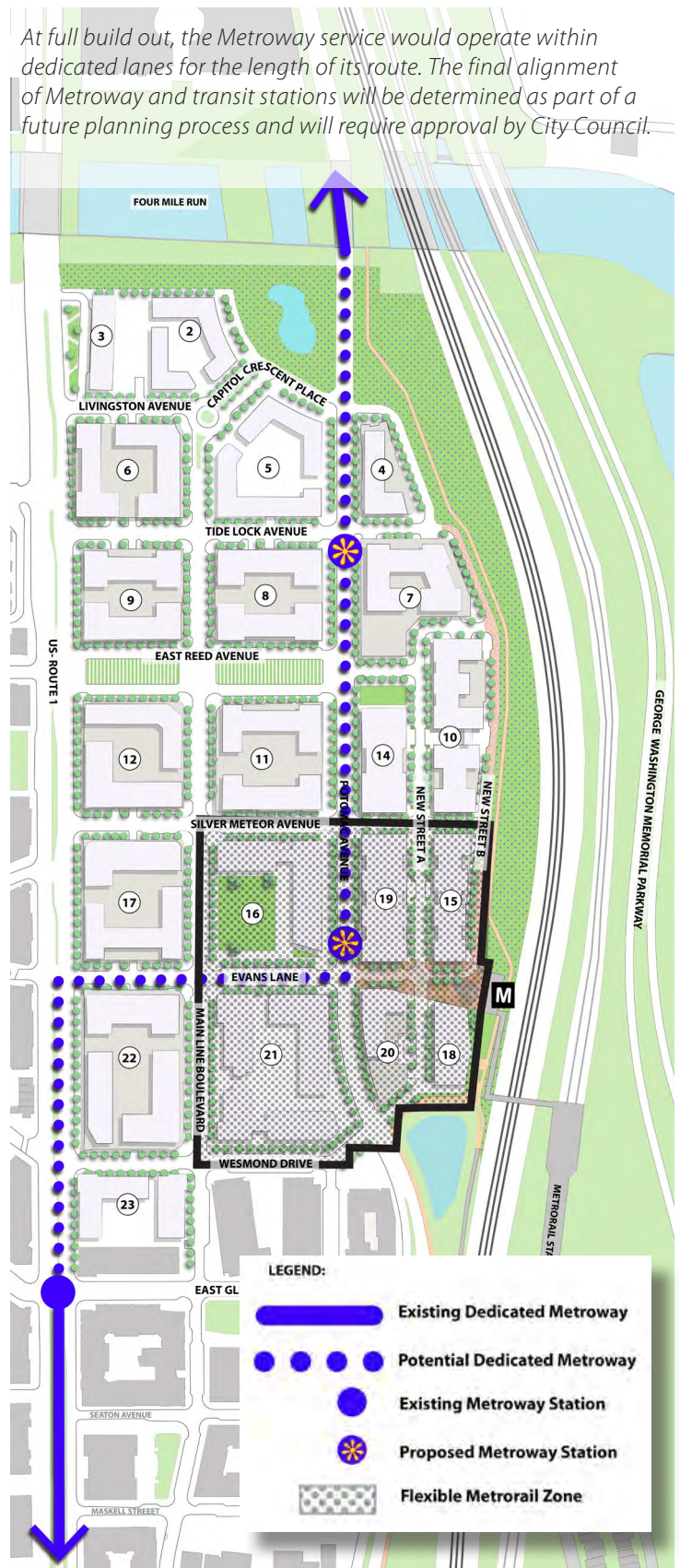


Figure 6.6: Proposed Dedicated Metroway Route

F. Truck Loading

The growth in office, retail, and other development will increase truck loading and deliveries. To maintain efficient traffic circulation, the City will require a comprehensive policy regarding truck loading and deliveries during the development review process. Locations for truck loading and deliveries will conform with the Plan's street hierarchy map (Figure 3.2) such that they are should be prohibited on "A" streets and limited on "B" streets. "C" streets are intended for access and service entries allowing "A" and "B" street frontages to function as primary streets. Additional requirements regarding access and loading are specified in the Design Standards and Guidelines.

G. Parking Management

Management of on-street and on-site parking is a critical feature of any transportation system and should be carefully coordinated with other transportation considerations. On-street parking spaces will be required to be efficiently managed to maximize turnover of spaces and encourage garage parking for longer stays. On-street parking spaces will be required to be metered and be part of a performance parking program to manage parking resources efficiently.

Parking garages should employ smart parking technologies including variable pricing and available parking space technologies. Parking garages should also be designed to accommodate electric vehicle charging stations and consider autonomous vehicles and other emerging transportation technologies.

Wayfinding signage should be employed to efficiently direct drivers to parking garages and clearly indicate price and availability of parking. Parking garage entrance widths shall be minimized.

Shared parking is a key element of the on-site parking program and is required as specified in *Chapter 4: Land Use*. Details about how shared parking will operate will be reviewed during the development review process.





Figure 6.7: Bicycle Network

H. Bicycles

The bicycle network requires both on- and off-street bikeways to serve all users and trip types with a particular focus on bicycle parking and better connections to transit. The network will enable more people to bicycle for some of their daily trips and increase the proportion of the workforce who cycle to work. The bicycle network is a key element in the multi-modal approach to transportation, has health and environmental benefits, and is consistent with the sustainability goals of the Plan.

An off-street shared-use path is required along the length of Potomac Yard Park between Braddock Road to the south and Four Mile Run to the north. The Potomac Yard Park path will provide a high-quality experience for pedestrians and bicyclists, and serve as a spine for a wider network of paths and associated connections. Designed to minimize conflicts and provide a direct connection between Braddock Metro neighborhood and Potomac Yard, the trail is an important complement to the street grid. The majority of this trail, now known as the Potomac Yard Trail, has been constructed between Braddock Road and E. Glebe Road. The extended portion of the trail will provide separated pedestrian and bicycle access to the Potomac Yard Metrorail station and continue north to the extended Four Mile Run Trail. The City will work with neighboring Arlington County to create the best possible connection for cyclists into Crystal City.

The slow design speed and urban context of the streets will encourage cyclists to ‘take the lane’ on all streets where appropriate. However, on-street bicycle facilities on primary streets may include bicycle lanes and shared-lane markings (“sharrows”) intended to improve bicycle safety and provide a sense of security. Roadway crossings are critical to the connectivity of the bicycle network, and intersections will be designed to stress the convenience and comfort of cycling.

Bicycle facilities will be implemented in locations as depicted in Figure 6.7. In addition, the Four Mile Run Trail will be extended east of Route 1 to North Potomac Yard, continue east traversing beneath Potomac Avenue, and the rail lines and George Washington Memorial Parkway to connect to the Mt. Vernon Trail, consistent with the City's Transportation Master Plan. The Plan provides a bicycle/pedestrian access bridge over the CSX tracks from the Potomac Yard Metrorail station to the Potomac Greens neighborhood.

Providing adequate end-of-trip facilities is a critical component of any bicycle network and perhaps more so in transit-oriented developments such as North Potomac Yard. The Plan considers bicycle parking in a number of contexts:

- Bike parking at residential and employment sites;
- Bike parking at retail areas;
- Long-term and short-term bike parking at the Potomac Yard Metrorail station;
- Long-term and short-term bike parking near Metroway stations

Bikeshare is often used by members during the first and last mile of their trips as it compliments existing public transit options. Bikeshare stations are located nearby in Crystal City, Del Ray, Potomac Greens, Arlandria, and Braddock Road Metro area. The Plan will require the provision of Bikeshare stations to serve future users; final locations will be dispersed throughout the Plan area and determined as part of development review and CDD permits.

I. Water Transportation

The Plan emphasizes the use of alternative modes of transportation including water transportation. The possibility of water transportation on the Potomac River, and potentially on Four Mile Run, would require technical and operational evaluation. Any future proposal for water transportation will need to be consistent with the intent of the Four Mile Run Restoration Master Plan and Design Guidelines. Water transportation, particularly on the Potomac River, may reduce demand on other transit systems that may be carrying increased



numbers of summer tourists and visitors to special events. Water transportation could link Potomac Yard to a growing system of waterfront destinations along the Potomac River, including Old Town, National Harbor, Anacostia, and Georgetown.

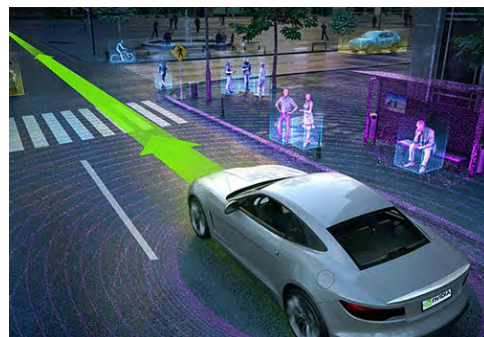
J. Carshare

Carsharing provides an effective incentive for participants to forgo car ownership and rely on transit or other modes since a shared car could be readily available when needed. The growth and success of these programs in the City and other urban neighborhoods throughout the country has shown their effectiveness in reducing auto dependency. Members pay based on how much they drive, thus reducing the fixed costs associated with private automobile ownership. As part of redevelopment, the Plan encourages development to establish carsharing in each building and for the City to identify potential carshare locations on public streets.



K. Autonomous Vehicles, Electric Vehicles / Charging Stations

The plan recommends that future development consider Autonomous Vehicles (AV) and other emerging transportation trends and technologies as part of the future traffic studies and the planning and design for future redevelopment. Future roadway and building design should incorporate elements that may facilitate automated vehicles and other emerging transportation trends without compromising pedestrian safety and the public realm.



Electric vehicle (EV) charging stations will become more important as drivers consider the switch to vehicles that reduce fuel use and emissions contributing to climate change. Charging stations should be installed at key locations to serve drivers using plug-in hybrid or electric vehicles. These key locations may include residential, commercial, and office parking areas or within parking structures and garages.





L. Transportation Management Plans

Transportation Management Plans (TMPs) are a set of specific strategies that influence travel behavior by mode, frequency, time, route or trip length to help achieve an efficient and sustainable use of transportation facilities, along with other City goals such as promoting access for all transportation system users, improving mobility, and minimizing the negative impacts of vehicular traffic.

Given the centrality of multi-modal transportation in North Potomac Yard, and in order to ensure that the systems and programs are in place as needed to support the density, the Plan requires that future development participate in a TMP district which employs aggressive TMP measures to achieve the 60% non-SOV mode share targets assumed in the study, and also meet future TMP requirements.

These strategies will include parking maximums, market-rate parking fees for all uses, performance parking, shared parking, parking management, transit passes, “unbundling” parking cost (parking facilities for residential uses available at additional cost rather than included in residential unit cost), transit incentives, required TMP plans and monitoring, and similar measures.

Providing market rate parking is an important tool in the TMP strategies employed to create a successful multi-modal community. Availability and cost of parking will heavily influence people’s decision whether to drive. Parking should be available for those that choose to drive and are willing to pay its cost. At the same time, incentives (financial and otherwise) should be provided to those who choose not to drive. Parking maximums, as discussed in *Chapter 4: Land Use*, are required to achieve the modal split anticipated for new development.

Transportation Recommendations

Public Realm - Streets

- 6.1** Provide a compact grid of streets consistent and in alignment with, and connecting to the established street grid in Potomac Yard (Potomac Avenue and Main Line Boulevard), on the west side of Route 1, and in Potomac Yard Arlington.
- 6.2** Maximize the street grid within the site and connectivity to adjacent neighborhoods including:
- Intersection improvements on west leg of Route 1/E. Glebe Road.
 - Restriping of Potomac Avenue at Route 1.
 - Reed Avenue at Route 1 shall be configured to allow all movements.
 - Explore and evaluate the option of opening Evans and Wesmond in the future to provide access to Route 1 as redevelopment occurs on the west side of Route 1.
 - Major intersections to the west of Route 1 may need to be further analyzed in the future to determine if any additional improvements, such as signalization or pedestrian improvements, are needed.
- 6.3** All streets and rights-of-way shall be dedicated or provided as public access easements to the City.
- 6.4** Consider all users in the future design of streets and streetscapes, consistent with the City's Complete Street Design Guidelines.
- 6.5** Design and configure Potomac Avenue to include the following for each Phase:
- a. Phase 1 (East of Potomac Avenue):
 - Provide frequent and safe pedestrian and bicyclist crossing access;
 - Provide on-street parking, as feasible;
 - During peak hours, design the street to include two travel lanes in the peak direction and one travel lane in the non-peak direction; in non-peak hours, there will be one travel lane in each direction, with on-street parking permitted in the outside travel lanes;
 - Design the street to facilitate connections between neighborhoods east and west of the street, knitting the two areas together;
 - Design buildings to frame and activate the street;
 - Provide streetscape enhancements for walkability and safety;
 - Provide traffic signals at regular intervals;
 - Maintain existing bike trail along western side of Potomac Avenue; and
 - Maximize accessibility to the Metroway service.

- b. Phase II (West of Potomac Avenue): Potomac Avenue will be designed to be a north-south multi-modal urban street within Potomac Yard. The Avenue will be designed to prioritize pedestrians, bikes, transit, and cars, in that order, and meet the following criteria:
 - Metroway alignment will be integrated to maintain urban scale streets and walkability and cycling;
 - Specific design of the enhanced bike facility will be determined as part of Phase II;
 - Design for the minimum width necessary to accommodate planned multi-modal functions of the street including pedestrian crossings;
 - Provide 20-25 foot streetscape on both sides;
 - Provide traffic signals at regular urban intervals to facilitate safe pedestrian crossings;
 - Design buildings to frame and activate the street;
 - Provide on-street parking where feasible;
 - Ensure street design that facilitates connections between neighborhoods east and west of the street, knitting the two areas together; and
 - Provide accessibility to Metroway to maximize ridership.

6.6 Shared streets, as identified in *Chapter 3* of the Plan, shall comply with the following recommendations:

- Shared streets should be curbless and provide the flexibility to potentially/periodically close for programming and events.
- The design of the street should include two-way circulation and provide on-street parking. On-street parking will allow for short-term parking.
- Ensure that the street is designed and functions as a smaller/neighborhood street.
- Incorporate special pavement treatment; Explore materials/pavers or vertical elements to slow traffic for walkability and safety.

6.7 Study, develop, and implement a comprehensive phased approach to address traffic impacts in neighborhoods adjacent to the development and other impacted neighborhoods. (See also recommendations in *Chapter 8: Existing Neighborhoods*).

6.8 New east-west connectivity or comparable street, circulation, and/or transit improvements should be explored as part of any proposed development and/or any future planning efforts for properties to the west of Route 1.

- 6.9** The provision and timing of improvements to the intersection of E. Glebe Road at Route 1 will be addressed within the CDD zoning.
- 6.10** Each development will be required to submit a comprehensive approach and policy regarding truck loading and deliveries as part of the development review process.
- 6.11** Ensure that the functions of passenger loading, unloading, and vehicle layover in the vicinity of the Metrorail station are designed so as to prioritize the pedestrian environment envisioned by the Plan.
- 6.12** Consider incorporating Autonomous Vehicles (AV) as part of the future roadway and building design by incorporating elements that may facilitate automated vehicles and other emerging transportation trends without compromising pedestrian safety and the public realm.

Transit

- 6.13** Require the construction of an operational Metrorail station. Rezoning of the property is contingent upon the City and the landowner agreeing to a financial plan funding the Metrorail station.
- 6.14** In conjunction with other public agencies, streets, public spaces, and transit facilities should be designed and constructed in a manner that supports and facilitates transfers between the various transportation modes proximate to the new Metrorail station.
- 6.15** Require dedication of right-of-way to accommodate the high-capacity Metroway.
- 6.16** Require the construction of the Metroway. The final alignment of the Metroway and station locations shall be determined with subsequent phases.
- 6.17** Incorporate green technologies into the design of the dedicated transit right-of-way and stations.
- 6.18** Transit stations should be designed to include real-time transit information and innovative display technologies to include route maps, schedules, and local and regional information.
- 6.19** Require participation in a Transportation Management (TMP) District in coordination with existing Potomac Yard TMP District.
- 6.20** Employ aggressive Transportation Management Plan (TMP) performance measures, meeting or exceeding a 60% non-SOV modal split.
- 6.21** Explore additional local-serving routes to connect locations within Potomac Yard to nearby communities and destinations.

Pedestrian – Bicycle

- 6.22** Provide a continuous, connected, and accessible network that enables pedestrians – particularly those with mobility impairments – to move safely and comfortably between places and destinations.

- 6.23** Develop a comprehensive on- and off-street bicycle network.
- 6.24** Develop a connected system of primary and secondary bikeways with ample bicycle parking to serve all bicyclists' needs.
- 6.25** Provide a bicycle and pedestrian connection across the railroad tracks to Potomac Greens in conjunction with Metrorail station development.
- 6.26** Provide centralized bicycle storage facilities, located near the Metrorail and transit locations for all users of Potomac Yard – including areas for private and for shared-use bicycles – in conjunction with Metrorail station development. Commuter and recreational bicycle information could also be available to residents and visitors.
- 6.27** Provide a future connection from Potomac Yard Park across the George Washington Memorial Parkway to the Mount Vernon Trail.
- 6.28** Provide a future connection from Potomac Yard Park to the Four Mile Run Trail.
- 6.29** Require an off-street shared-use path along the length of Potomac Yard Park between Braddock Road to the south and Four Mile Run to the north.
- 6.30** Incorporate Bikeshare stations at key activity centers within the Plan area.
- 6.31** Explore opportunities to enhance bike and pedestrian circulation around the existing stormwater pond in Potomac Yard Park using elements such as bridges, decks, and landscaping.
- 6.32** Coordinate with Arlington County to provide a seamless trail connection to Crystal City.

Parking

- 6.33** On-street parking is required to be metered and managed through a performance parking program.
- 6.34** Provide advanced parking management systems including real-time parking availability, pre-trip parking information, and parking reservation/navigation systems.
- 6.35** Design parking garages to accommodate electric vehicle charging stations and other emerging technologies including autonomous vehicles.
- 6.36** Adhere to additional parking recommendations found in *Chapter 4: Land Use Recommendations – Parking*.

INFRASTRUCTURE





Above: Stormwater management facility.

Green infrastructure is an integral component of sustainable communities primarily because it can help protect the environment and human health while providing other social and economic benefits.

A. Water Management Master Plan

With the intent of complying with Alexandria's Eco-City Charter of sustainably managing water resources to meet regulatory and capacity needs, a Water Management Master Plan (WMMP) is required to be provided by the developer, which will coordinate water supply, stormwater management, and wastewater systems. The Plan will include systems to reduce potable water use by capturing and reusing rainwater, reducing wastewater generation through water conservation, implementing low impact development (LID) and green infrastructure techniques for managing stormwater, and exploring reuse of greywater. These, in turn, will serve to reduce development impact on the storm and sewer infrastructure and improve the instream habitat and water quality of Four Mile Run, the Potomac River, and the Chesapeake Bay.

B. Stormwater Management

Redevelopment presents an opportunity to coordinate stormwater management on individual blocks, in new public roads and rights-of-way, and throughout North Potomac Yard that integrates within the development framework. To accomplish the innovative stormwater goals envisioned as part of the Plan, the WMMP will incorporate specific stormwater management requirements. Both smaller on-site systems and larger facilities serving multiple blocks will be required to be integrated as part of the WMMP. The innovative techniques specified will provide enhanced stormwater performance measures that exceed water quality requirements current at the time of development. Individual blocks, for example, should incorporate elements such as vegetated green roofs, rainwater harvesting, pervious pavement systems, urban bio-retention, and tree wells that integrate into the infrastructure. The technologies help to reduce the amount of stormwater runoff generated, treat stormwater runoff, create ecological habitat, provide cleaner air and other public health benefits, and reuse the remaining stormwater to the greatest extent possible. The harvested rainwater will provide irrigation to adjacent vegetated areas such as on-site landscaping and tree wells located in the public right of way.

The WMMP may allow for the possibility of locating limited stormwater management infrastructure in the public realm including new public roadways consistent with City requirements. Green infrastructure techniques such as urban bio-retention, infiltration planters, vegetated swales, native tree planting, cisterns, vegetated green roofs, and pervious surfaces (including but not limited to native plant materials, permeable paving, porous concrete, sidewalk planters, and other techniques) provide the opportunity to remove pollutants in stormwater runoff, reduce the volume of runoff, help clean the air, reduce energy costs, promote public health, and provide other community amenities.

The installation of green infrastructure that requires infiltration will require special consideration due to low-level soil and groundwater contamination remaining from Potomac Yard's previous use as a rail yard. Stormwater facilities, such as the stormwater management pond planned for Crescent Park, will be required to be designed to provide a high level of nutrient removal as well as function as a high-quality recreational amenity for residents and visitors and be integrated into the overall design of this urban park.

Since North Potomac Yard is uniquely located at the confluence of Four Mile Run and the Potomac River, the redevelopment is required to support the guidelines outlined in the Four Mile Run Restoration Master Plan while further enhancing protection of the adjacent Resource Protection Areas (RPA). This proposal will reclaim portions of the RPA to improve riparian character and ecological functionality.

What is a Resource Protection Area (RPA)?

RPAs are corridors of environmentally sensitive land that lie alongside or near the shorelines of streams, rivers and, other waterways that should be preserved in a natural condition.



LID tree wells.



Stormwater management BMP.

C. Wastewater Management

North Potomac Yard will have a significant impact on the City of Alexandria's sanitary sewer collection system and Alexandria Renew Enterprises' (AlexRenew) sewer collection and wastewater treatment systems. As a condition of approval of the Potomac Yard/Potomac Greens CDD zoning for CDD#10, a sanitary sewer interceptor was built from the Potomac Yard development directly to the AlexRenew Advanced Wastewater Treatment (AWT) facility. This Potomac Yard Trunk Sewer (PYTS) was required because the existing sewer system (both City and AlexRenew) did not have sufficient capacity to carry the sanitary flows from development proposed within CDD#10. The PYTS was designed to include additional capacity (beyond the anticipated requirement of CDD#10 at that time) to meet future needs of the City including the diversion of wet weather flows from the AlexRenew Four Mile Run Pump Station, separation of a portion of the City's combined sewer system (CSS) flows in the Old Town area, and limited development along the Route 1 corridor.

In the Potomac Yard/Potomac Greens CDD, it was anticipated that the redevelopment of North Potomac Yard would contain up to 600,000 sq. ft. of development. The Plan recommends increasing the permitted amount of development from 600,000 sq. ft. to 7.5 million sq. ft.. The sanitary flows generated from this level of development slightly exceed the remaining unallocated capacity in the PYTS, including what had originally been designed to accommodate future City needs (i.e., separated sanitary flows from CSS area and other future developments).

Based on preliminary analysis, the City's flow estimates indicate that an assignment of the available capacity will likely lead to a surcharged (i.e. an over capacity) condition within the PYTS, with the potential to cause back-ups and sanitary sewer overflows into the environment. The City has evaluated several options

for accommodating the additional flows anticipated from North Potomac Yard, which includes the use of low flow plumbing fixtures and practicing water conservation measures to reduce the generation of the municipal wastewater, construction of a separate, parallel sanitary trunk sewer, and possible reuse of greywater. The use of low-flow fixtures and water conservation practices are recommended by the City's Eco-City Charter. With these water conservation measures, additional conveyance capacity will still be needed to convey the flows from the area to the treatment plant. The applicant will contribute funding toward the required improvements to the infrastructure to provide the necessary conveyance for the 7.5 million sq. ft. in proposed development. In addition to the limited conveyance capacity, the City is evaluating capacity needs at the AlexRenew wastewater treatment facility. Based on the most current development projections, sufficient treatment capacity should be available for this development.



E. Pump Station

A pump station and any associated infrastructure upgrades will need to be constructed to accommodate the planned development within North Potomac Yard to pump sanitary sewage from the Plan area to the PYTS. The Plan recommends the pump station be generally located at the northern portion of Plan area as generally depicted in Figure 7.1, either adjacent to or integrated into Potomac Yard Park. The Plan recommends the pump station be designed in a manner that is integrated and compatible with the design and programmed uses of the adjoining Potomac Yard Park. The facility will be designed with high-quality materials compatible with the design of the adjoining Potomac Yard Park. The facility shall be located as close to the existing rail corridor, if feasible, to minimize impacts to Potomac Yard Park.

The design of the facility will require coordination with the City and AlexRenew. The pump station will need to be designed and constructed in accordance with AlexRenew's guidelines and requirements and ensure sufficient pumping capacity to serve the entire Plan area. Design of the pump station will be conducted as part of the Phase I development special use permit and design of Potomac Yard Park.

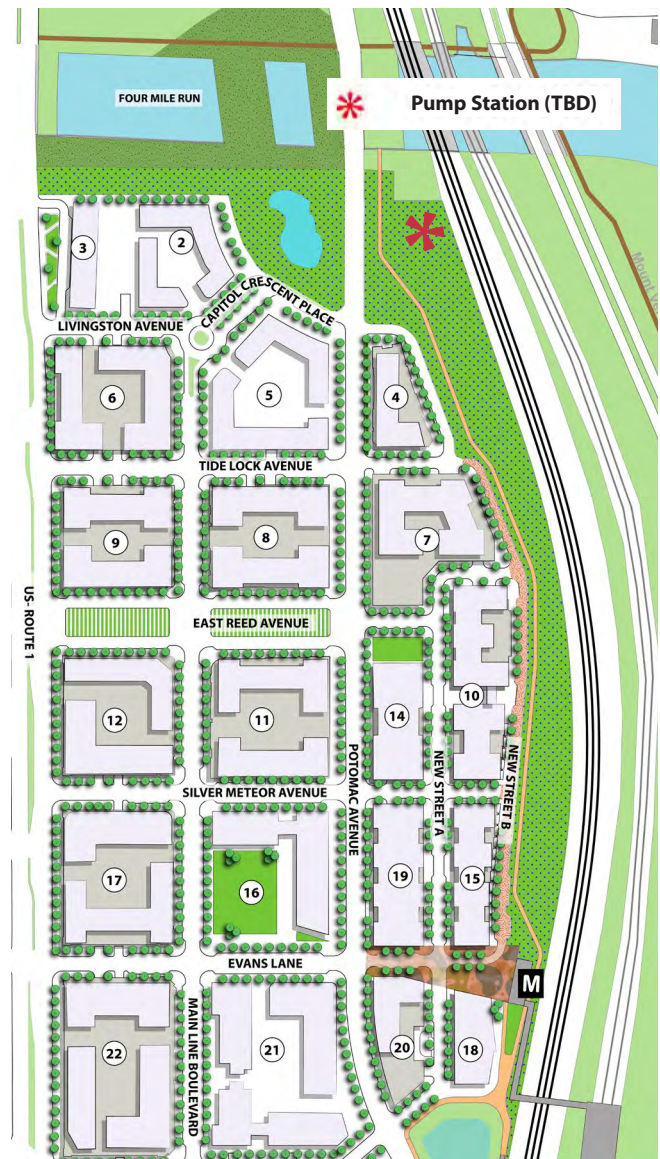


Figure 7.1: Pump Station General Location

Depicts the general location for future pump station. Final location to be determined during DSUP and Potomac Yard Park design.



Images depict types of potential pump station facility designs.
Left: existing facility located in South Potomac Yard.
Right: integrated facility concept.

D. Solid Waste Management

In compliance with the City's Eco-City Charter, the developer will prepare a solid waste management plan for handling and disposal of solid wastes in an environmentally sustainable manner, which will include a hierarchy of uses: Reduce, Reuse, Recycle Resource Recovery, and Proper Disposal. The Plan shall develop a program to recycle the construction and demolition debris and materials that can be converted into valuable resources that would otherwise become waste.

F. Dominion Virginia Power (DVP) Proposed 230-KV Transmission Line

Dominion Virginia Power's project will add and upgrade equipment at the existing switching station on E. Abingdon Drive in Alexandria and connect to the Glebe Substation on S. Glebe Road in Arlington. DVP's 230-KV Transmission Line could be located underground within the northern portion of the Plan area and potentially under a segment of Potomac Yard Park, Four Mile Run Park, and the future Crescent Park. As part of DVP's project, the existing terminal station along the southern bank of Four Mile Run will be removed, consistent with the Four Mile Run Master Plan. The Plan recommends that the final alignment of the transmission line minimize impacts to the planned open space, programming, and improvements within North Potomac Yard and Four Mile Run.



Figure 7.2: Existing Terminal Station to be Removed

Infrastructure Recommendations

Stormwater Management

- 7.1** A Water Management Master Plan (WMMP) is required as part of the CDD requirements. The WMMP will be updated/amended with each building and/or block to demonstrate compliance with each applicable phase.
- 7.2** Require use of pervious surfaces on sidewalks, driveways, parking areas, and streets to reduce generation of stormwater runoff and provide green infrastructure practices to reduce stormwater pollution.
- 7.3** Maximize use of rooftop space for other sustainability practices (for example, for open space, community gardens, green roofs, energy generation, etc).
- 7.4** Maximize on-site stormwater reduction and reuse techniques to reduce the impact on public stormwater infrastructure.
- 7.5** Remove impervious surfaces within RPAs and revegetate to restore function and quality.
- 7.6** Maximize exposure of stormwater management facilities as functional amenities to promote citizen awareness and understanding of stormwater quality issues, while providing community co-benefits through the use of green infrastructure.
- 7.7** Construct additional sanitary sewer conveyance infrastructure and address Potomac River and Chesapeake Bay nutrient treatment needs.
- 7.8** Use harvested rainwater to meet irrigation demand.
- 7.9** Research and evaluate other pioneering technologies to address the capacity needs.

Wastewater Management

- 7.10** Use water conservation measures to reduce the generation of municipal wastewater and explore reuse of greywater.

Solid Waste Management

- 7.11** Develop and launch an education program that will include a hierarchy of uses: Reduce, Reuse, Recycle, and Proper Disposal of hazardous wastes.
- 7.12** Develop a recycling program for commercial and multi-family buildings.
- 7.13** Develop a community recycling program.

Pump Station

- 7.14** A pump station and any associated infrastructure upgrades shall be constructed to accommodate the planned development within North Potomac Yard.
- 7.15** The facility shall be located on the northeastern portion of the Plan area as generally depicted in Figure 7.1.
- 7.16** The pump station will be designed with high quality materials and in a manner that ensures integration and compatibility with the design and programmed uses of the adjoining Potomac Yard Park. The facility should be located as close to the existing rail corridor as feasible to minimize impacts to the Potomac Yard Park. The design of the facility will require coordination between the City, developer, and AlexRenew and conducted as part of the Phase I development special use permit and design of Potomac Yard Park.

Dominion Virginia Power Proposed 230-KV Transmission Line

- 7.17** Any future power transmission lines will be undergrounded by DVP and located in a manner to minimize the impact on, and integrate with, the planned open space and infrastructure improvements within North Potomac Yard and Four Mile Run. As part of the construction of any additional transmission lines, the existing terminal station within Four Mile Run (Figure 7.2), will be removed by DVP.

EXISTING NEIGHBORHOODS



EXISTING NEIGHBORHOODS



Figure 8.1: Contextual Map

A. Neighborhood Character

The planning principles state that connections and transitions should be provided that are appropriate and protective of the character of surrounding neighborhoods. Each of the neighborhoods surrounding North Potomac Yard has a unique character that should be retained. New development should be compatible with the surrounding neighborhoods.

B. Established Neighborhoods

The neighborhoods located on the west side of Route 1 are generally low-density residential neighborhoods of historical and architectural significance. In particular, the Town of Potomac (which includes portions of the present-day Mount Jefferson and Del Ray communities), was designated a National Register Historic District in 1992. The area began to develop in 1894 as the planned residential communities of Del Ray and St. Elmo and was incorporated as the Town of Potomac in 1908 before being annexed by the City of Alexandria in 1930. These neighborhoods were some of the first streetcar suburbs in America.

The Lynhaven community is a predominately residential community of single-family, townhouse, and multi-family homes, most of which were constructed in the 1940s to house the largely African-American Potomac Yard railroad workers. North of Lynhaven, constructed as early as 1942, the Hume Springs community now includes a mix of single-family, brick row houses, townhouses, and multi-family homes. The Del Ray and Mount Jefferson communities are located just south of Lynhaven on the west side of Route 1 across from landbays G, H, I, and J. The communities include a mix of single-family, duplex, and multi-family homes, commercial, and industrial uses. Activity in this area is centered around Mount Vernon Avenue. Many of the railroad workers at Potomac Yard resided in the Del Ray and Mount Jefferson communities.



Aerial of Lynhaven neighborhood

C. New Neighborhoods

New neighborhoods are also located within the vicinity of North Potomac Yard and include:

- Potomac Yard Arlington,
- South Potomac Yard,
- Potomac Greens, and
- Route 1 Corridor - Oakville Triangle.

Potomac Yard Arlington - National Gateway

Potomac Yard Arlington is a development which, when complete, will include approximately 2 million sq. ft. of office uses, 225,000 sq. ft. of retail uses, 1,500 multi-family units, and 625 hotel rooms, and nearly 5 acres of new park space. Building heights will range from approximately 120 to 160 feet.



Potomac Yard Arlington Illustrative Site Plan

South Potomac Yard

South Potomac Yard is a neighborhood with a mix of office, residential, and retail uses. The neighborhood contains approximately 2 million sq. ft. of commercial uses, approximately 1,840 residential units, and approximately 145,000 sq. ft. of retail. The building types include mid-rise multi-family buildings, townhouses, office, and hotel buildings. The heights within South Potomac Yard currently range from 40 to 44 feet for most townhouses, up to 82 feet for multi-family residential buildings, and up to 132 for office buildings. An approved mixed-use, urban “Town Center” development is located in Landbay G within South Potomac Yard. The Town Center is approved for approximately 972,346 sq. ft. of office uses, 108,817 sq. ft. of retail uses, 666 multi-family units (which include 42 bonus density units), and 170 hotel rooms. The South Potomac Yard neighborhood establishes the urban framework which the North Potomac Yard Plan builds upon, creating a walkable, urban-scale system of blocks with active uses to encourage and reinforce the pedestrian experience.



Above: Images of townhouse development in South Potomac Yard

Left: Potomac Greens Park within the Potomac Greens Neighborhood

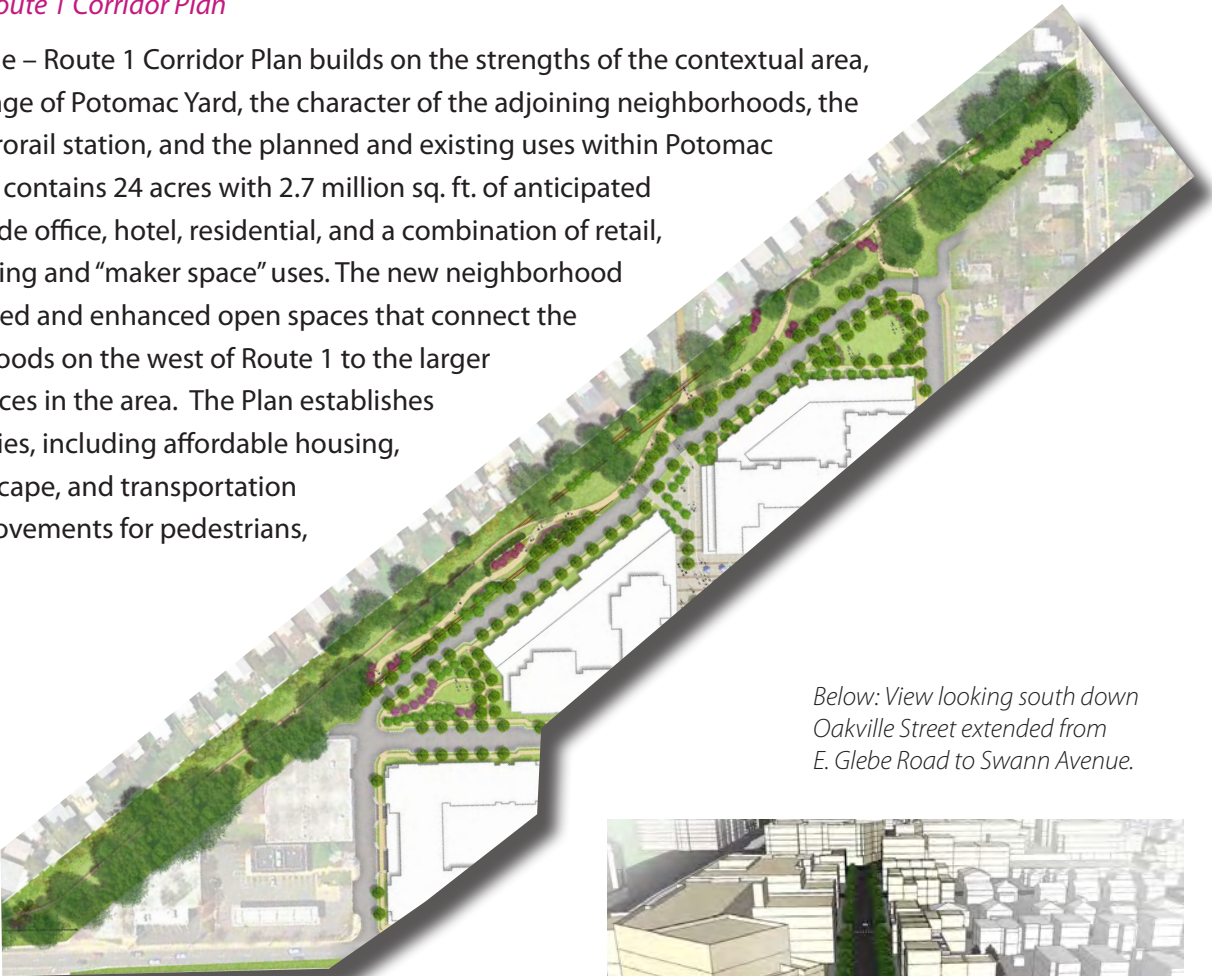




Oakville Triangle - Route 1 Corridor Illustrative Site Plan

Oakville Triangle - Route 1 Corridor Plan

The Oakville Triangle – Route 1 Corridor Plan builds on the strengths of the contextual area, the industrial heritage of Potomac Yard, the character of the adjoining neighborhoods, the Metroway and Metrorail station, and the planned and existing uses within Potomac Yard. The Plan area contains 24 acres with 2.7 million sq. ft. of anticipated mixed uses to include office, hotel, residential, and a combination of retail, neighborhood serving and “maker space” uses. The new neighborhood will provide improved and enhanced open spaces that connect the existing neighborhoods on the west of Route 1 to the larger system of open spaces in the area. The Plan establishes community amenities, including affordable housing, open space, streetscape, and transportation infrastructure improvements for pedestrians, bikes, and cars.



Below: View looking south down Oakville Street extended from E. Glebe Road to Swann Avenue.

Rendering of Mount Jefferson Park Improvements of the Oakville Triangle - Route 1 Corridor Plan



D. Connectivity and Accessibility

The existing neighborhoods are served by an interconnected system of streets, pedestrian and bicycle routes and trails, and open space. Route 1 is currently perceived as a barrier between the existing neighborhoods and Potomac Yard, in particular for pedestrians and bicyclists. The 1999 Concept Plan for Potomac Yard strives to integrate new development with existing neighborhoods. The continuation and expansion of this philosophy in North Potomac Yard will not only enable residents, workers, and visitors of existing neighborhoods to access amenities at Potomac Yard but it will also increase the accessibility of amenities in existing neighborhoods to future residents, workers, and visitors of Potomac Yard.

The Metroway and new Metrorail station provide existing and future residents with direct access to the larger regional and sub-regional transit system while encouraging multi-modal transportation use. The Metroway provides jurisdictional connections between Braddock Road and Crystal City while the Metrorail station provides regional connections to Fairfax County, Arlington, Washington DC, and Maryland. Specific information concerning the transportation network can be found in *Chapter 6: Transportation*.



Mount Vernon Avenue retail and restaurants



Northbound Metroway on Route 1



Above: Rendering of pedestrian and bicycle access entrance for Metrorail Station from Potomac Greens

E. Mitigating Neighborhood Traffic Impacts

The Potomac Yard Multi-modal Transportation Study found that traffic will increase with new development on collector streets such as E. Glebe and Reed, and there will be incremental increases on local streets. Currently, some of the streets on the west side of Route 1 do not have access to Route 1. Threshold analyses were performed to confirm that the anticipated volumes on the east-west roadways would not exceed the design capacity of the local roadway system. The analysis also showed that the greater the connectivity of the street grid, the greater the dispersal of trips on the street network, thus the impact on any one street is minimized. The Plan provides for some amenities and benefits to surrounding neighborhoods, including enhanced transit service, better connectivity, and improved bicycle and pedestrian accommodations. (*Chapter 6: Transportation* identifies some recommendations that address issues of connectivity and mitigating impacts on adjacent neighborhoods).

While the anticipated impact does not exceed the technical capacity of the existing local streets, there will be some impacts perceived by the residents living in adjacent neighborhoods. The narrow streets and frequent blocks in the adjacent neighborhoods are already a model of good neighborhood design that distributes traffic and encourages lower speeds.

In anticipation of increased traffic volumes, a variety of additional traffic calming and parking management strategies could be considered. The Plan recommends that the developer be required to provide a monetary contribution for a comprehensive traffic calming strategy to be implemented in the immediately adjacent neighborhoods and beyond and appropriately phased with development as it comes in for review. The City will conduct engagement with the neighborhoods to identify potential impacts and traffic calming improvements prior to the completion of developments. Baseline traffic data will be collected for evaluation of future impacts of development. While some tools would be considered as part of the comprehensive strategy, one strategy may be to provide traffic calming treatments specifically within the first blocks off of Route 1 to alert drivers of the residential character of the neighborhoods. Other tools include managing intersections with streetscape improvements, raised crosswalks, curb extensions, speed cushions, traffic circles, developing a parking management plan, and other traffic calming treatments.



Image of a neighborhood traffic circle



Image of bulb-outs and improved pedestrian crossings

Existing Neighborhoods Recommendations

- 8.1** Require the developer to provide a monetary contribution for the preparation and implementation of a comprehensive traffic calming and parking management strategy for the neighborhoods to the west of Potomac Yard. The study and implementation of traffic calming improvements shall be proactive and phased with the build out of North Potomac Yard development.
- 8.2** Evaluate alternatives for traffic calming treatments at gateway locations along the west side of Route 1 and throughout neighborhoods.
- 8.3** Promote smooth transitions between existing neighborhoods and new development at North Potomac Yard through a careful consideration of uses, heights, and massing.
- 8.4** Development at North Potomac Yard should preserve and build upon the unique history and character of existing neighborhoods.
- 8.5** Develop connections which are consistent and compatible with existing development within Potomac Yard and across Route 1.

IMPLEMENTATION



IMPLEMENTATION



Alexandria's growth in the past is partially the result of planning and infrastructure investments, such as the Eisenhower and King Street Metrorail stations and the urban street grid, that were the result of both public and private investment. The build-out of the Plan area, the Potomac Yard Metrorail station, land uses, street grid and associated infrastructure will enable long-term redevelopment for the City, similar to infrastructure investments and planning in the City decades ago. If the City implements all the recommendations of the Plan, the City could capture a significant share of the projected regional growth. The Plan lays out an ambitious 20 to 30-year vision for North Potomac Yard.

A. Overview

It is important to understand the degree to which the implementation and infrastructure components of the Plan are interrelated and depend on one another for their success. The required infrastructure and development must also be carefully phased. The transportation and circulation through the site are based on the provision of a Metrorail station and dedicated transit. Without a Metrorail station, the Plan does not work and is not feasible. The success of the residential neighborhoods will depend on the viable retail and commercial uses which will provide convenient access to goods and services. Open space and design excellence add value but will also add amenities for the workers, residents, and visitors. Without all the necessary infrastructure improvements and amenities working together and phased appropriately, potential tenants, residents, and retail patrons will go somewhere that does provide the desired level of infrastructure improvements and amenities.



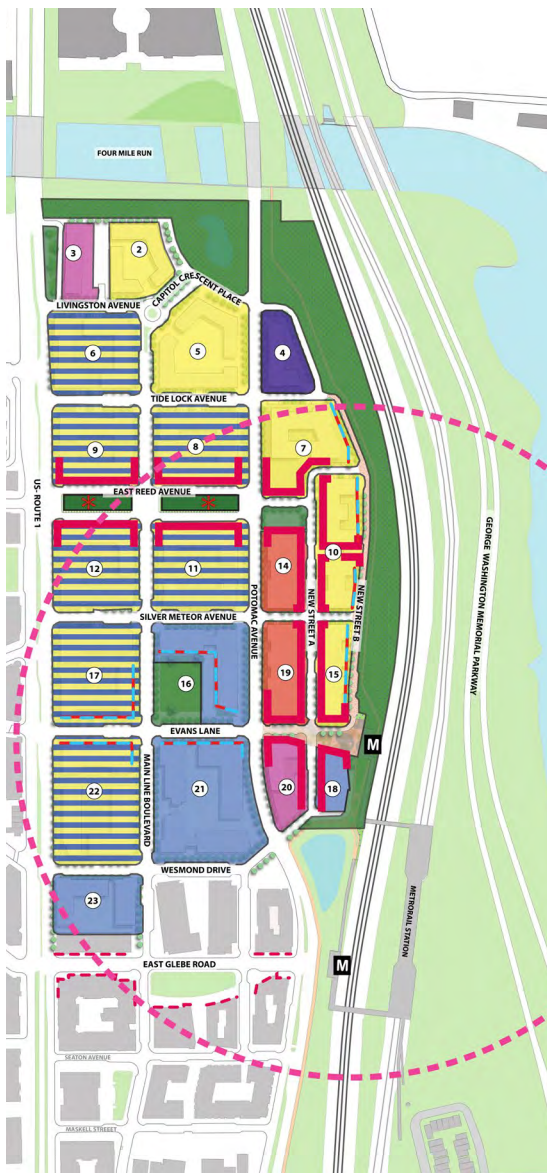


Figure 9.1 Land Use Plan, Required and Optional Retail Locations, and 1/4 Mile Pedestrian Walkshed



This chapter incorporates the planned land use and density, infrastructure, transportation, amenities, community facilities, phasing, and fiscal impacts. The implementation chapter serves several purposes:

- Evaluate the overall financial feasibility of the land use plan;
- Understand and describe the project economics and general financing concepts;
- Understand and describe the basic financial transaction structure between the City and developer contributions;
- Ensure that private development provides funding for public improvements and their on-going maintenance; and
- Find the right balance of private and public funding that is needed to construct the Metrorail station.

B. Infrastructure, Amenities, and Phasing

The cost to construct a new WMATA Metrorail station has been previously estimated by WMATA to be approximately \$270 million. The final cost and project budget will be finalized later in 2017 when WMATA selects a contractor and negotiates a construction contract. The developer is expected to construct the dedicated transitway. An additional \$5 million is anticipated for other transportation improvements, as well as other mitigation measures if deemed necessary through the development review process. Transportation is not the only needed infrastructure given the number of employees, residents, visitors, and students who will eventually reside, work, or visit North Potomac Yard. Significant additional investment in sewer and water distribution and management are needed to accommodate the basic needs generated by the planned amount of development. In addition, services such as police, fire, and schools will be required for the proposed development and anticipated to be funded with a portion of the new taxes this project will generate.

The discussion of the funding for the Metrorail station in this chapter provides a static summary of total project financing, total project costs, and total revenues. These costs and revenues are incurred over time from the inception of development through the build-out of the project, and the impacts of these timing issues have a potentially significant impact on the overall financial feasibility of the project. As is often the case with large, complex, urban infill redevelopment efforts, in the initial years of planning and construction, a large proportion of overall costs must be

incurred and revenues follow much later. At North Potomac Yard, this is particularly true as a result of the significant infrastructure improvements, such as the Metrorail station, that must be made in the early phases to support the planned development.

C. Zoning and Development Conditions

The City's Zoning Ordinance is a key regulatory tool, and is used to direct the size, character, use, and location of development throughout the City. Coordinated Development District (CDD) #19 has been established to implement the Plan.

The increase in allowable development from 600,000 sq. ft. to approximately 7.5 million sq. ft. will require significant investment from the developer for infrastructure and facilities and amenities to meet public needs. The following are some of requirements which are generally included in the development special use permit (DSUP) process:

- Street and Street Improvements – Sidewalks – Street right-of-way (necessary to serve the needs of the site);
- Applicable Utilities such as Sanitary and Storm Sewer – Water – Electric (necessary to serve the needs of the site);
- Parks – Open Space (necessary to serve the site);
- Voluntary Affordable Housing Contribution;
- Voluntary Public Art Contribution;
- High Quality Architecture and Streetscape;
- Underground Parking; and
- Sanitary Sewer and Stormwater.

In addition, for the development proposed in the Plan to be implemented, the following major transportation infrastructure improvements are required:

- WMATA Metrorail station; and
- Extension of the dedicated high-capacity transitway (Metroway) into North Potomac Yard.

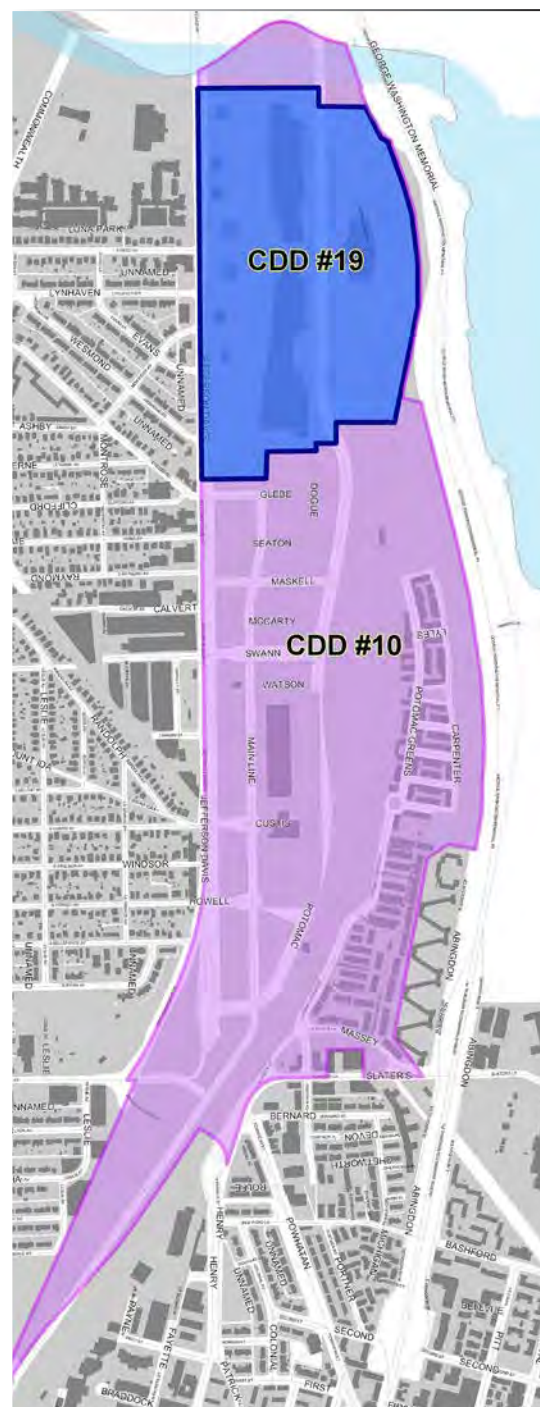
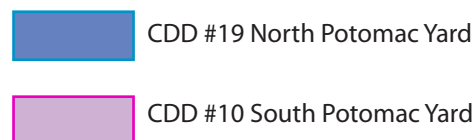


Figure 9.2 CDD Zoning for Potomac Yard



In the event that the Metrorail station is not constructed, no more than 3.7 million sq. ft. of development may be constructed.

The Plan recommends a number of other community benefits desired by the City and community be provided at additional cost to the developer, some of which include the following:

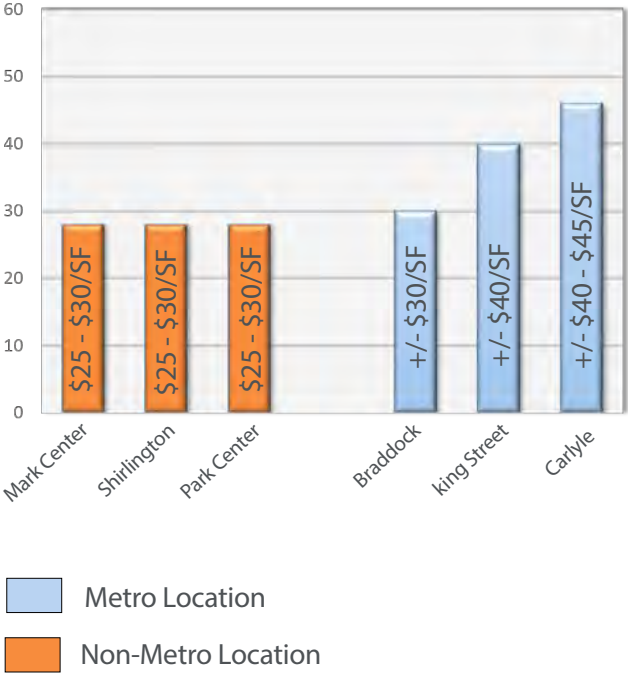
- Reservation for potential school or civic use;
- Other civic uses such as Performing Arts Theatre, etc.; and
- Green – Sustainable Building Elements

The developer’s ability to invest in community benefits is driven by the strength of the market (i.e. achievable rents and revenues) and development costs. Although Potomac Yard is in a relatively strong market, there are significant costs associated with infrastructure development. In addition, because of the existing retail buildings and uses, redevelopment must generate enough income to pay development costs and achieve an adequate investment return to redevelop the existing buildings. When a return exceeds the return-on-cost threshold there is an opportunity for the developer to invest in public amenities.

The CDD zoning significantly increases the amount of development and associated value that can be provided to the City. The presence of a Metrorail station significantly increases potential public amenities by creating market value (higher rents) and reducing development cost (such as less required parking). In addition, all other things being equal, absorption (the amount and pace of development) near Metrorail stations is faster than non-Metro locations. Office rents at Metrorail stations in Alexandria are almost one-and-a-half times greater than comparable non-Metrorail locations. As such, the ability for the developer to contribute significantly toward public amenities increases significantly, almost tenfold, when the Metrorail station is constructed.

While the current economic state of commercial real estate development makes a calculation speculative, accounting for developer cost and profit margin, the construction of a new Metrorail station will increase the value of the land by as much as \$240 million, creating value that can be spent toward community benefits. (See Table 9.1). The contribution amount will be refined as part of the implementation phase of the project.

Chart 9.1: Office Rents at Metrorail and Non-Metrorail Locations



- Average Metro Proximate Office Value = \$37.70
- Average increase of \$9.70/SF in office value for Metro Proximate Locations

Source: Department of Real Estate Assessment

Table 9.1: Increase in Value of Land Due to Increase in Planned Development

2.5 FAR, METRO OFFICE/RETAIL MIX POTOMAC YARD RETAIL CENTER			
	Existing Zoning	2.5 FAR	
Land Area	3,008,589 sf	3,008,589 sf	
FAR Feet	600,000 sf	7,521,473 sf	
<i>Retail</i>	600,000 sf	(20%) 1,504,295 sf	
<i>Office</i>	0	(80%) 6,017,178 sf	
Retail			
Land Value	\$90,000,000	\$60,171,800	
Value /FAR Ft.		\$40.00	
Office			
Land Value	\$0	\$270,773,000	
Value /FAR Ft.		\$45.00	
Difference			
Total Value	\$90,000,000	\$330,944,800	\$240,944,800
Discount for Profit			(10.00%) \$216,850,300
Contribution / FAR Ft.			\$28.83

Source: City of Alexandria, W-ZHA, 2010

D. Overview of Financing The Potomac Yard Metrorail Station

The rezoning of North Potomac Yard (Landbay F) increases the development in North Potomac Yard from 600,000 sq. ft. of “big box” retail to 7,500,000 sq. ft. of mixed-use development. The transportation network in this area of the City will not support this level of development, and therefore, the construction of a new Metrorail station and dedicated transitway are necessary to accommodate the planned development.

Funding of the Metrorail Station

The City has established the Potomac Yard Metrorail Station Fund, the proceeds of which are to be used solely for the design, construction, and financing of the station and will be segregated from other revenues. Potomac Yard Metrorail Station Fund will accumulate revenue from the following sources:

- Net New Tax Revenue;
- Special Tax Districts;
- Developer Contributions; and
- Federal-State Grants.

Net New Tax Revenue: For new tax revenue generated by new development in Potomac Yard, fixed percentages is anticipated to be allocated to the General Fund to pay for City services and schools that the new Potomac Yard residents and businesses will need. The net new tax revenues will go to the Station Fund to pay debt service and station-related operating costs. Any remaining balance after the Potomac Yard Metrorail station debt service and station operating costs will go to the City's General Fund to fund City-wide services for Alexandria residents and businesses.

Special Tax Districts: Two special tax districts (Figure 9.3) have been established to generate revenue for the Station Fund. The Tier I special tax district applies to non-single family development and collects 20 cents per \$100 of valuation. The tax levy in the Tier I district began in 2011. The Tier II special tax district would apply to single-family and condominium development in the southern part of Potomac Yard and is planned to assess 10 cents per \$100 of valuation. Collections are planned to begin in the calendar year after the station opens. Once station costs and all other potential sources of funding are better known, a final decision on the Tier II special tax district will be made.

Developer Contributions: CPYR, Inc., the owner of North Potomac Yard, is required to contribute up to \$54.6 million in 2017 dollars for the Metrorail station, indexed to inflation, some of which could be accelerated as a shortfall guaranty. MRP and PYD, the developers of the southern portion of Potomac Yard, previously agreed to contribute \$2 million as well as some of the land for the Metrorail station.

Federal-State Grants: A federal grant with a state match of \$1.0 million was utilized in the early stages of project planning and environmental documentation.

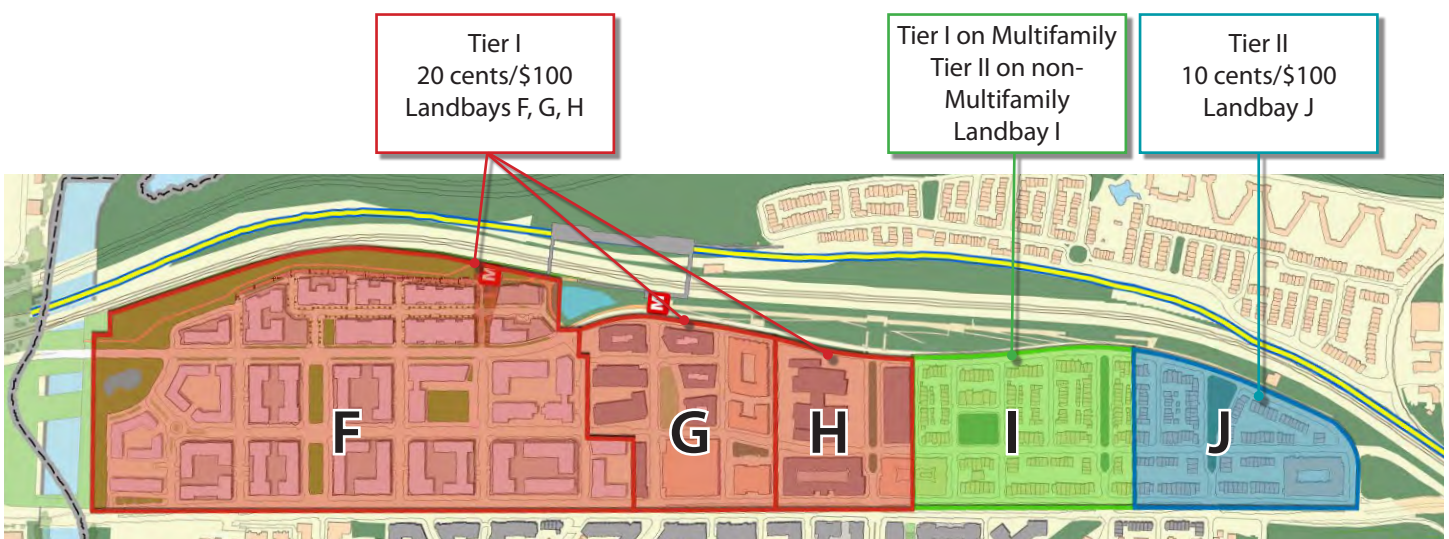


Figure 9.3: Potomac Yard Special Tax Districts

In addition, The City has been awarded a \$69.5 million grant from the Northern Virginia Transportation Authority (NVTA) to be used for planning, design, and construction of the Metrorail station. The rest of the station capital costs will largely be financed by borrowing of the City.

The revenue sources described above will be used to pay back loans from three sources:

- **Virginia Transportation Infrastructure Bank (VTIB):** In 2015, the City was awarded a \$50 million loan from the Virginia Transportation Infrastructure Bank. The low interest rate of the loan (2.17 percent) will reduce borrowing costs by lowering the overall debt service associated with total borrowing requirements for construction of the station. The flexible terms of the VTIB loan repayment reduce the City's risk as new development is anticipated to generate new revenues utilized for the repayment of principal and interest associated with the loan.
- **Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan:** The City is seeking a low cost substantial TIFIA loan (amount to be determined) from the U.S. Department of Transportation. Similar to VTIB, a TIFIA loan would have lower borrowing costs and flexible repayment terms, which would reduce the overall debt service and reduce risk associated with the pace of development.
- **General Obligation Bonds:** The City plans to fund the station construction costs not funded through other sources by issuing general obligation bonds (amount to be determined). The bond issuance will be structured to minimize debt service in the early years, with a gradually increasing annual principal repayment over the 30-year amortization period. A letter of credit will also likely be obtained by the City as an interim bridge financing source.



Conceptual rendering of southern Metro Pavilion at East Glebe Road and Potomac Avenue.

Note: Final design of the Metrorail station will be subject to review and approval by the Board of Architectural Review (BAR).

E. Phase I Development

Land Use

Phase I of development, as depicted in Figure 9.4, is a 25-acre area east of Potomac Avenue where the current theater is located. Phase I (Figure 9.5) proposes a land use mix of office, residential, hotel, and retail uses. The remainder of the sites west of Potomac Avenue would be developed in future phases. It is projected that the remaining phases will take 20-25 years to complete.

Phase 1



Figure 9.4: Phase 1 Existing Site Conditions

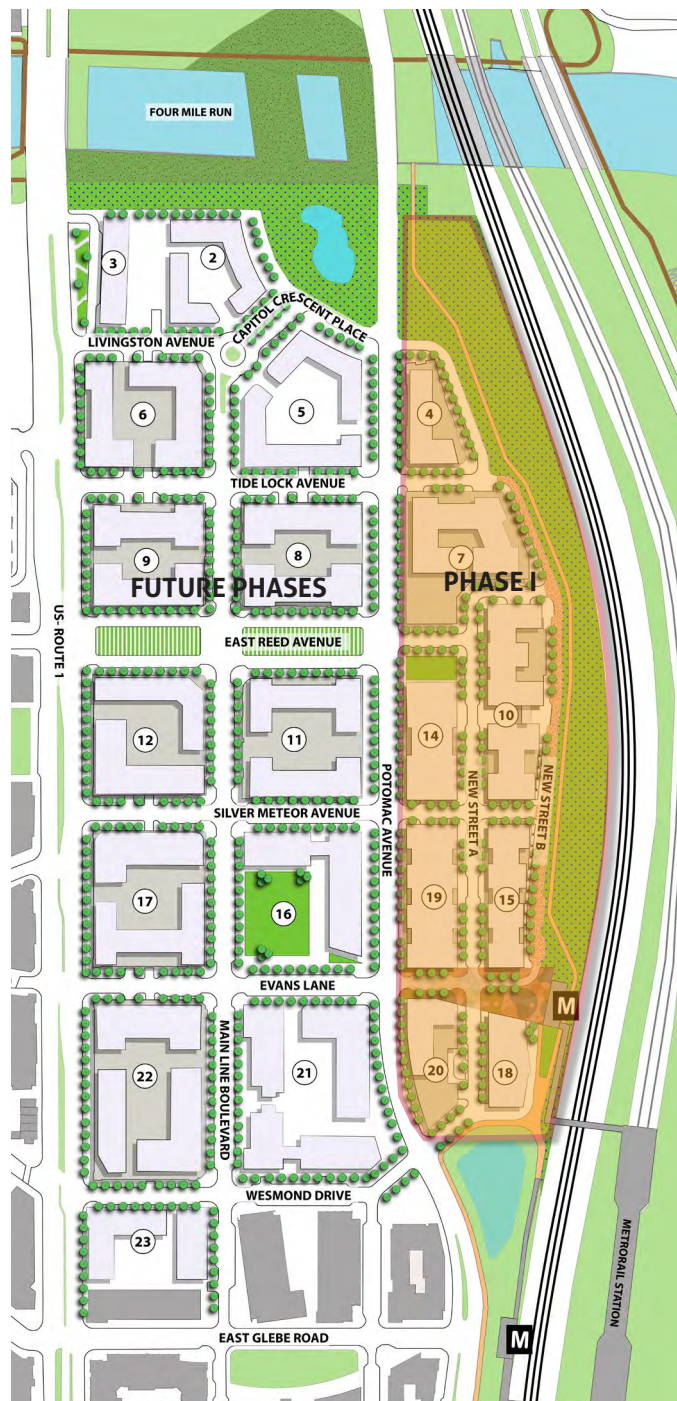
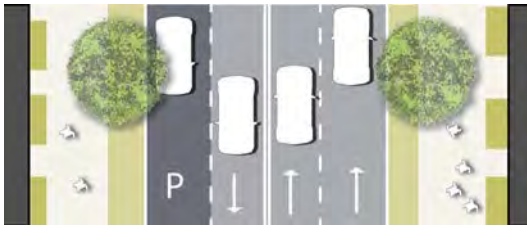


Figure 9.5: Phase 1 Illustrative Plan

AM PEAK



PM PEAK



NON PEAK



Figure 9.6: Phase I Potomac Avenue Configuration

Depicts two travel lanes in the AM and PM peak directions, and on-street parking in both directions at all other times. The configuration of Potomac Avenue as depicted is limited to North Potomac Yard.



Transportation

Phase I redevelopment anticipates retaining Potomac Avenue in its current alignment with transportation improvements to pedestrian safety and the character of the street. During peak hours, the portion of Potomac Avenue within North Potomac Yard will include two travel lanes in the peak direction and one travel lane and on-street parking permitted in the non-peak direction; in non-peak hours, there will be one travel lane in each direction, with on-street parking permitted in the outside travel lanes (Figure 9.6). Additionally, five traffic signals are proposed along Potomac Avenue at the intersections of Wesmond Drive, Evans Lane, E. Reed Avenue, Silver Meteor Avenue, and Tidelock Avenue. These improvements will provide traffic and pedestrian signals at urban intervals, reduce travel speed along Potomac Avenue, provide on-street parking to serve retail uses, and enhance the pedestrian character of the street.

The existing Potomac Avenue Trail on the west side of Potomac Avenue will remain during Phase I with a new north-south multi-use trail provided in the extended portion of Potomac Yard Park. The multi-use trail will connect with the existing trail with the south as well as the bike ramp to Potomac Greens Park. The final design and location of the trail will occur with the design of Potomac Yard Park.

Transit

During Phase I, the Metroway will run on its existing alignment in dedicated lanes along Route 1 from Potomac Avenue to E. Glebe Road, then in shared lanes turn right (northbound) on E. Glebe Road and then left onto Potomac Avenue, continuing north to Arlington. The existing theater and shopping center are served by two DASH bus lines, the AT9 and AT10, which will continue to serve the site. The realignment of these two lines will be analyzed and finalized as part of the development review process.

Open Space

As part of Phase I, the following public open spaces will be provided: Metro Plaza, Market Lawn, and an extended Potomac Yard Park. Combined, these open spaces equal approximately 5 acres of new ground level public parks or open spaces within the first phase of redevelopment. The final design of these open spaces will occur during the development review process with the opportunity for public input and participation.

F. Plan Implementation

North Potomac Yard Design Standards & Guidelines

The North Potomac Yard Design Standards & Guidelines (Design Guidelines) augment the Small Area Plan, CDD Concept Plan and CDD conditions, providing specific requirements for public realm, open spaces and buildings within the Plan area. Developments within the Plan area are required to comply with the Design Guidelines to ensure the highest standards of architectural design and sustainability. Implementation of the Design Guidelines will occur through the development review (DSUP) process.

The Potomac Yard Design Advisory Committee

The Potomac Yard Design Advisory Committee (PYDAC) will review preliminary development applications for compliance with the North Potomac Yard Urban Design Standards and Guidelines and provide recommendations to Planning Commission and City Council through the Director of Planning and Zoning. The review will occur during the DSUP process required by the CDD zoning.

The Role of the Planning Commission

The Planning Commission will oversee implementation of the Plan as carried out by City staff from various departments. A more detailed implementation plan, identifying specific roles and responsibilities, will be developed after the Plan approval. Implementation updates and refinements will be provided to the Planning Commission at regular intervals for review and guidance.

Supplemental Plans

The Plan recommends a comprehensive approach to addressing a variety of issues that will require coordination throughout the Plan area. Implementation of these recommendations will be coordinated and implemented as part of the development review process in compliance with Coordinated Development District - CDD#19.

Each of the plans outlined below will be submitted with each phase of development and amended with each subsequent phase to achieve the intent and recommendations of the Plan.

Environmental Sustainability & Stormwater Management

The Plan aims to establish and prioritize environmental sustainability and performance recommendations across the entire Plan area. The Environmental Sustainability Master Plan (ESMP) required by this Plan will provide guidance and identify short-term, mid-term, and long-term strategies to achieve carbon neutrality and coordinate sustainability in a comprehensive manner. The ESMP will include green buildings, open spaces, stormwater management, energy and water efficiency, conservation measures, and use of renewable resources and emerging technologies. Additionally, green building targets established as part of this Plan will comply with the Environmental Action Plan (EAP), as implemented through City policies.

A Wastewater Management Plan (WWMP) will also be required to provide a comprehensive approach to reducing, mitigating, treating, and reusing water resources. The WWMP will address stormwater management, green infrastructure, and other tools and technologies.

The measures identified in these documents will be coordinated and implemented through the subsequent development applications.

Community Facilities

The Plan requires the developer to provide a comprehensive Community Facilities Proposal (CFP) that identifies and anticipates the general locations and sizes of community facilities and/or public buildings within the Plan area. The CFP can also include locations for the school, daycare/

childcare, and other civic use buildings. The CFP should be coordinated with the City to identify City facility needs, community needs, and needs of future residents/users. The implementation of the CFP will occur as subsequent development applications are submitted and reviewed by the City.

Open Space

The Plan requires the developer to provide a comprehensive Open Space Plan to identify location, size, and use of public and private open space.

Public Art

The Plan requires the developer to submit a Public Art & History Interpretive Plan (PAHIP). The PAHIP should integrate small and large-scale public art that considers the history of the site, as well as thematic, artistic, and cultural ideas into new development and the public realm.

Neighborhood Traffic Calming

The developer will provide a monetary contribution for the preparation and implementation of a comprehensive traffic calming and parking management strategy for the neighborhoods to the west of Potomac Yard. Implementation will be proactive and phased with the development of North Potomac Yard.

SUMMARY OF RECOMMENDATIONS



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Environmental Sustainability & Performance Recommendations

Environmental Leadership

- 2.1** North Potomac Yard should strive to achieve carbon neutrality by 2040, and to strive to achieve carbon neutrality by 2030.
- 2.2** Provide a mix of land uses and a transit-oriented development as part of the redevelopment of the Plan area.
- 2.3** Explore the possibility of community gardens so that residents and visitors can have access to edible and non-edible plantings as well as offer a unique educational opportunity.

Reduce Energy Use

- 2.4** Explore a minimum of LEED Silver or comparable, or the City's green building standards and requirements, whichever is greater. In addition, new buildings will comply with the Environmental Action Plan (EAP), as implemented through City policies. Energy consumption/utilization and stormwater should be prioritized in the certification for the buildings.
- 2.5** Encourage on-site generation and storage of renewable electricity from solar photovoltaic (PV) and other available renewable resources.
- 2.6** Integrate the use of natural daylighting in all proposed buildings.

District – Wide Sustainability Measures

- 2.7** Require the submission of an Environmental Sustainability Master Plan as part of the submission of the first development special use permit (DSUP) that demonstrates the compliance with the goals and recommendations of the Plan and identifies short-term, mid-term and long-term strategies to achieve the goal of district-wide sustainability measures. The Plan should be updated with each subsequent block(s) and/or building(s) to show how the project achieves the Plan's goals.
- 2.8** Require Plan area-wide sustainability through LEED-ND Silver or comparable.
- 2.9** Explore the development of district energy systems for heating and cooling that take advantage of local renewable energy sources, including but not limited to geothermal energy, sewage heat, anaerobic digestion, and waste heat from buildings.

- 2.10** Require the provision of green roofs for new development.
- 2.11** Provide an integrated open space network, which incorporates environmental components as part of its design.
- 2.12** Design new development to prioritize travel by pedestrians, bikes, and transit, and minimize the need for car use.
- 2.13** Provide affordable housing within ½ mile of the Metrorail station.

Reduce Stormwater Runoff – Water Conservation

- 2.14** Establish minimum quantities of green roof and/or solar power generation on building roofs.
- 2.15** Encourage reuse of captured rainwater.
- 2.16** Require stormwater management, and, if feasible, recaptured water- to be integrated as part of the street, open space, and proposed buildings design.
- 2.17** Encourage water conservation using sustainable methods such as ultra-low and/or low flow plumbing fixtures.
- 2.18** Use native plant species and water-efficient landscaping.

Design for Longevity

- 2.19** Design buildings for long-term aesthetic appeal and flexibility for future changes in use.
- 2.20** Utilize quality building materials that consider the long term life cycle of the building.
- 2.21** Maintain a walkable small block network of streets and sidewalks for pedestrians; avoid super blocks.

Urban Design Recommendations

Framework Streets and Blocks

- 3.1** Require the streets and blocks depicted in the Framework Plan (Figure 3.1) to be constructed as part of any redevelopment and dedicated or provided as public access easements to the City.
- 3.2** Metrorail Zone

The final configuration of the streets, blocks, buildings, and open space shall be subject to the following:

- a. An approximately 0.3-acre shaped Metro Plaza shall be provided adjacent to the Metrorail station and in the general shape and configuration as generally depicted in Figure 3.6a.
- b. An approximately 0.7-acre square-shaped park shall be centrally located within the Flexible Metrorail Zone on either Block 16 or 21 as generally depicted in 3.6a. Final location of Metro Square Park will be determined during Phase II.
- c. Parks shall be framed by streets, buildings, and uses that activate the parks/open spaces.
- d. Potomac Avenue shall align and connect to the Potomac Avenue right-of-way south of Landbay F and to the final alignment of the Potomac Avenue right-of-way to the north of the Flexible Metrorail Zone.
- e. The overall nature of Potomac Avenue shall prioritize pedestrian, cyclists, transit, and cars, in that order.
- f. The shape of the buildings in plan and form within the Flexible Metrorail Zone shall create distinct and memorable three-dimensional forms.
- g. Buildings surrounding the Metro Square Park shall be required to provide a primary entrance facing the approximately 0.7-acre park.
- h. Buildings on Potomac Avenue shall be designed to frame and activate Potomac Avenue.
- i. Buildings will be required to have more than one entrance and/or through lobbies for buildings with multiple street frontages.
- j. Pedestrian bridge(s) within the Flexible Metrorail Zone that access the Metrorail station shall be fully integrated into the design for the Metrorail station building and adjacent open spaces.
- k. The alignment of Potomac Avenue shall be such that the Potomac Yard Park is continuous.
- l. Development blocks east of Potomac Avenue shall be of sufficient size for market-acceptable building floor plates.
- m. The blocks and buildings shall be subject to the minimum height and density provisions and other applicable zoning provisions, design guidelines, and the North Potomac Yard Small Area Plan.
- n. The streets and buildings shall be configured to accommodate transit and transit stations.
- o. The streets shall be configured to provide a fine-grained

interconnected street grid network and spacing consistent with and connecting to streets outside the Flexible Metrorail Zone.

p. Evans Lane will connect from Route 1 to Potomac Avenue.

- 3.3** Require the street hierarchy to define space and differentiate the character of streets and neighborhoods (Figure 3.2).
- 3.4** Require streets to prioritize pedestrians and bicyclists.
- 3.5** Allow for internal pedestrian connections and alleys within the blocks.
- 3.6** Improve and enhance the Route 1 frontage with streetscape improvements, buildings, and landscaping
- 3.7** Incorporate creative use of water elements and features within the public realm including but not limited to streetscapes and public spaces.
- 3.8** Street design will be consistent with the City's Complete Street Design Guidelines.

Creation of Three Distinct Urban Neighborhoods

- 3.9** The parks and open spaces depicted in the Framework Plan shall be required within each neighborhood as a defining element of each neighborhood (Figure 3.1).
- 3.10** Create three distinctive and unique neighborhoods. Encourage the use of history as inspiration for the design of the open space, public realm, and buildings. Encourage the use of public art to establish distinct neighborhood identities and create unifying themes for the neighborhoods.
- 3.11** Encourage a mix of innovative building typologies within each neighborhood.
- 3.12** The Metrorail station shall serve as a focal design element for the Metro Square Neighborhood.
- 3.13** Explore the possibility of providing cultural and civic uses to reinforce the character of each neighborhood.
- 3.14** Provide wayfinding signage consistent with the City's Wayfinding Design Guidelines throughout the Plan area.

Gateways and Vistas

- 3.15a** Require variety in building massing, design, and height.

- 3.15b** Use heights and variety in heights, building materials, orientation, and dimensions to create distinctive building tops for taller buildings.
- 3.16** Provide distinctive building forms and architecture at the designated gateway locations.

Urban and Building Form

- 3.17** Balance the aesthetic and functional criteria of sustainable design.
- 3.18** Create an urban building scale and relationship between buildings, streets and open spaces that ensure urban relationships of the buildings and sidewalk, and maximizes walkability and the use of transit.
- 3.19** Require any building with government tenants or tenants who require security measures to meet the vision, applicable provisions of the Master Plan and North Potomac Yard Design Standards and Guidelines.
- 3.20** Adhere to the North Potomac Yard Urban Design Standards and Guidelines to implement the vision of the Plan.

Public Art and History

- 3.21** Require the submission of a Public Art & History Interpretive Plan for North Potomac Yard and explore relationships between public art and the history of the site.
- 3.22** Integrate small and large-scale public art which considers the history of the site, as well as thematic, artistic, and cultural ideas into new development and the public realm, including the following areas: trails, transit infrastructure, open spaces, buildings, site furnishings, lighting, gateways, and wayfinding.

Land Use Recommendations

Land Use - Zoning

- 4.1** Utilize CDD#19 to implement the Vision and recommendations of the Plan.
- 4.2** Permit the flexibility of office and/or residential uses for Blocks 6-12, 17, and 22.

- 4.3** Mixed use buildings that incorporate office and residential within the same building may be allowed as determined through the development review process.
- 4.4** Office use(s) may be permitted for any of the blocks within ¼ mile of the Metrorail station as depicted in Figure 4.1, subject to complying with the maximum permitted height(s) for each block, the total amount of office permitted within CDD 19, and subject to all applicable conditions and requirements as part of the development review process.

Metro Square Neighborhood

- 4.5** Require predominantly office uses in this neighborhood.
- 4.6** Explore the provision of live performance space/theatre.
- 4.7** Explore the possibility of uses such as a theatre below Metro Square Park (underground).

Market Neighborhood

- 4.8** Allow flexibility for office and/or residential uses on upper floors within the blocks of this neighborhood.

Crescent Gateway Neighborhood

- 4.9** Require predominantly residential uses in this neighborhood.

Retail Uses

- 4.10** Locations with Required Retail will be provided as depicted in Figure 4.3.
- 4.11** For Optional Retail locations, the ground floor height and depth will be designed to not preclude retail uses.
- 4.12** Adhere to the North Potomac Yard Design Standards and Guidelines for all retail uses, including large-format retailers.
- 4.13** Adhere to the North Potomac Yard Design Standards and Guidelines for retail storefronts and signage.
- 4.14** Encourage opportunities for live-work and comparable ground floor uses.
- 4.15** Encourage neighborhood-serving retail uses, including the potential provision of a grocery store within the Metro Square or Market neighborhoods.
- 4.16** Explore the possibility of allowing street carts - vendors.

- 4.17** Require the submission of a comprehensive retail marketing strategy prior to the submission of a development special use permit for the first building and updated with each subsequent development approval.
- 4.18** Require district-wide management of retail (i.e. business improvement district, or other similar entity).

Building Height

- 4.19** Ensure that the ceiling heights and depths for various uses are flexible to encourage a broad range of uses within the residential and commercial buildings, particularly the ground floor.
- 4.20** Transition building height and scale to Route 1 and the existing residential neighborhoods to the west and the George Washington Memorial Parkway to the east.
- 4.21** Differentiate the height of the gateway elements of the neighborhood by establishing taller or shorter heights for these elements.
- 4.22** Adhere to the Federal Aviation Administration (FAA) flight path restrictions.
- 4.23** Adhere to maximum heights for each block consistent with Figure 4.5b and the minimum heights established by the North Potomac Yard Design Standards and Guidelines.
- 4.24** Require that any amenity space on the top floor of the building of Block 2 be made periodically available for public functions and/or meetings.
- 4.25** Provide taller signature buildings at the central portion of the site to denote the symbolic center of North Potomac Yard, and at the visual terminus of Main Line Boulevard on the northern portion of the site.
- 4.26** Require a variety of heights within each block and for individual buildings.

- 4.27** For Blocks 7 and 10, height, massing, and building design will be compatible with the adjoining character of the George Washington Memorial Parkway. For Block 7, maximum building height will be 85 feet except additional height may be permitted as part of a development review process in consultation with the National Park Service (NPS). In no event, will the maximum building height exceed 120 feet for the northern portion of the block and 180 feet for the southern portion of the block.
- 4.28** For Block 14 and 19, the height range will be 60 – 90 feet. However, to ensure height variety, only one block is permitted to go up to 90 feet. The remaining block will have a maximum height of 60 feet.
- 4.29** The building height for the locations depicted as signature facades (Figure 3.4), will vary from the primary maximum height of the building by being lower or taller as permitted herein. Where signature facades are required, it will be permitted to exceed the maximum building height by a maximum of two levels not to exceed 5,000 sq. ft., if approved as part of the development review process. The locations will be limited to locations depicted in Figure 3.4- Signature Facades.

Parking

- 4.30** Implement parking maximums.
- 4.31** Require unbundled residential parking.
- 4.32** Implement parking ratios that reflect the transit-oriented nature of the development consistent with Table 4.2.
- 4.33** Require shared parking throughout North Potomac Yard.
- 4.34** A minimum of one level of underground parking is required for each block and/or building.
- 4.35** All of the parking for Blocks 2, 3, 5, 10, 14, 15, 18, 19, 20, and 21 is required to be entirely below-grade.
- 4.36** Any above-grade parking is required to be lined with active uses for each level for all street and park and/or open space frontages (Figures 4.6a, 4.6b, 4.6c, 4.6d). If collector parking structures are provided for retail uses, they will be predominantly screened with active uses and may also be partially screened with architectural treatments or landscape elements.
- 4.37** Generally require on-street parking for streets, excluding park frontages.
- 4.38** Require provision of long and short-term bicycle parking.

- 4.39** Require the submission of a Comprehensive Open Space Plan to identify the programming within each park/public open space. The Comprehensive Open Space Plan will include a mixture of active, passive, civic, and social spaces, as generally depicted in Figure 4.9.
- 4.40** The parks/open space required within the Framework Plan, which consist of the following, and will be implemented with the development of each neighborhood:
- Minimum 2.3-acre public park at Four Mile Run to provide a meaningful connection to the City's open space network, consistent with the Four Mile Run Restoration Master Plan (Crescent Park);
 - A 1.0 acre park/open space in the retail district (Market Green);
 - An approximately 0.2-acre open space east of Potomac Avenue in the Market Neighborhood (Market Lawn)
 - A 0.7-acre park /urban square (Metro Square);
 - An approximately 0.3-acre plaza at the Metrorail Station (Metro Plaza)
 - An approximately 4.5-acre extension of Potomac Yard Park to provide usable open space along the rail corridor; and
 - Internal pedestrian connections with adjacent active uses will be provided in the Metro Square and/or Market Neighborhoods.
- 4.41** Require that Potomac Yard Park and Crescent Park be dedicated to the City as public parks (Figure 4.8). The remainder of the parks (Crescent Park, Four Mile Run Promenade, Metro Square, Market Green, Market Lawn, and Metro Plaza) and the central open spaces are required to be privately maintained but accessible to the public through the provision of perpetual public access easements. Any ground level open space over parking garages will provide perpetual public access easements.
- 4.42** A minimum of 15% of North Potomac Yard is required to be provided as ground level open space, with an additional 25% to be provided at either ground level or on rooftops. Blocks 2, 3, 5 and 21 within North Potomac Yard will be required to provide additional open space due to the central ground level spaces within the blocks.
- 4.43** Explore the possibility of colocating uses in open space, for example, entertainment, civic and cultural uses, historical interpretation, public art, and stormwater management.

- 4.44** Provide separated paths for pedestrians and bicyclists in the open space at Four Mile Run and Potomac Yard Park.
- 4.45** Provide public and private dog parks and/or runs. Explore the possibility of locating these facilities on roof tops.
- 4.46** The developer will assist in the provision of off-site playing fields.
- 4.47** Employ sound urban forestry principles and practices to improve the City's tree canopy.
- 4.48** Explore the possibility of including interim active recreational fields.
- 4.49** A pump station may be located on the northern portion within the Plan area within Potomac Yard Park. The facility will need to include high quality design and materials, and be integrated with the design of Potomac Yard Park and be subject to the criteria and recommendations described in *Chapter 7: Infrastructure*.
- 4.50** The Plan envisions pedestrian connections which could consist of a central hardscaped open space area that could be lined with restaurants, outdoor dining, music venues, and theatre uses.
- 4.51** The final design, location, and configuration of the Market Green (Phase II) will be determined as part of the development review process for the future phases. The location, design, and configuration will be consistent with the intent and principles of the Plan.

Housing

- 4.52** Contribute to the City's Housing Trust Fund, consistent with guidelines in effect at the time development approvals are sought; and /or provide affordable rental and for-sale workforce housing units with a minimum 40-year term of affordability, throughout North Potomac Yard.
- 4.53** To maximize housing diversity throughout the Plan area, the Plan recommends bonus density of 30% for the provision of affordable housing pursuant to Section 7-700 of the Zoning Ordinance, as appropriate. If blocks adjacent to Route 1 request bonus height pursuant to Section 7-700, the maximum height of buildings shall not exceed the maximum height as depicted in Figure 4.5b
- 4.54** Allow for potential ARHA replacement units in the Plan area. Bonus density or height for affordable housing should be considered to facilitate possible public housing relocation to North Potomac Yard.
- 4.55** Offer a range of housing types to accommodate different household sizes and compositions, including studio, one, two and three bedroom units.

- 4.56** Incorporate green and sustainable designs and materials to enhance the interior living environment and to yield energy savings for residents.
- 4.57** Integrate universal design and/or accessibility features to accommodate multiple life stages and abilities. Incorporate “visitability” features, when feasible, to ensure new developments are accessible to people regardless of their physical abilities.
- 4.58** Explore opportunities for public, private and nonprofit collaborations to maximize the use of private and public land and to leverage all available resources for the development of affordable and workforce housing, including public housing and/or replacement Resolution 830 units.
- 4.59** Permit micro-units, where appropriate, to enhance housing affordability options.
- 4.60** Encourage collocation of affordable housing, including senior or assisted living, with future civic, municipal, and other uses where possible.

Community Facilities Recommendations

Collocation, Flexibility and Development Incentive

- 5.1** To the greatest extent feasible, community facilities shall be colocated and be designed to provide for flexible use of interior spaces.

School

- 5.2** Adequate provision shall be made to accommodate an urban school, collocated with a childcare facility and/or comparable uses. Block 4 shall be reserved for a possible urban school. If Block 4 is not needed for a school, the City may use the block for open space and/or a comparable community facility/public building with potential collated uses above or as approved by City Council.

Daycare/Childcare

- 5.3** Require the provision of daycare/childcare facilities within North Potomac Yard as part of community facilities, mixed-use, and/or office buildings. Distribution and location of daycare/childcare facilities will be determined as part of the development review process and consistent with the Community Facilities Plan. Daycare/childcare facilities shall be permitted through an administrative approval within existing buildings.

Zoning

- 5.4** Community facilities and/or public buildings may be included on or in any block and/or building and shall not be deducted from the maximum permitted development. These uses shall be defined as part of the rezoning for the Plan area.

Implementation

- 5.5** Provide a comprehensive Community Facilities Proposal depicting the general size and locations of community facilities and/or public buildings proposed within North Potomac Yard, including but not limited to the school and daycare/childcare facilities recommended herein. This Proposal shall be coordinated with the City to address known community facility needs and submitted as part of the first DSUP, amended as necessary to accommodate future uses and programming.

Transportation Recommendations

Public Realm - Streets

- 6.1** Provide a compact grid of streets consistent and in alignment with, and connecting to the established street grid in Potomac Yard (Potomac Avenue and Main Line Boulevard), on the west side of Route 1, and in Potomac Yard Arlington.
- 6.2** Maximize the street grid within the site and connectivity to adjacent neighborhoods including:
- Intersection improvements on west leg of Route 1/E. Glebe Road.
 - Restriping of Potomac Avenue at Route 1.
 - Reed Avenue at Route 1 shall be configured to allow all movements.

- Explore and evaluate the option of opening Evans and Wesmond in the future to provide access to Route 1 as redevelopment occurs on the west side of Route 1.
- Major intersections to the west of Route 1 may need to be further analyzed in the future to determine if any additional improvements, such as signalization or pedestrian improvements, are needed.

6.3 All streets and rights-of-way shall be dedicated or provided as public access easements to the City.

6.4 Consider all users in the future design of streets and streetscapes, consistent with the City's Complete Street Design Guidelines.

6.5 Design and configure Potomac Avenue to include the following for each Phase:

a. Phase 1 (East of Potomac Avenue):

- Provide frequent and safe pedestrian and bicyclist crossing access;
- Provide on-street parking, as feasible;
- During peak hours, design the street to include two travel lanes in the peak direction and one travel lane in the non-peak direction; in non-peak hours, there will be one travel lane in each direction, with on-street parking permitted in the outside travel lanes;
- Design the street to facilitate connections between neighborhoods east and west of the street, knitting the two areas together;
- Design buildings to frame and activate the street;
- Provide streetscape enhancements for walkability and safety;
- Provide traffic signals at regular intervals;
- Maintain existing bike trail along western side of Potomac Avenue; and
- Maximize accessibility to the Metroway service.

- b. Phase II (West of Potomac Avenue): Potomac Avenue will be designed to be a north-south multi-modal urban street within Potomac Yard. The Avenue will be designed to prioritize pedestrians, bikes, transit, and cars, in that order, and meet the following criteria:
- Metroway alignment will be integrated to maintain urban scale streets and walkability and cycling;
 - Specific design of the enhanced bike facility will be determined as part of Phase II;
 - Design for the minimum width necessary to accommodate planned multi-modal functions of the street including pedestrian crossings;
 - Provide 20-25 foot streetscape on both sides;
 - Provide traffic signals at regular urban intervals to facilitate safe pedestrian crossings;
 - Design buildings to frame and activate the street;
 - Provide on-street parking where feasible;
 - Ensure street design that facilitates connections between neighborhoods east and west of the street, knitting the two areas together; and
 - Provide accessibility to Metroway to maximize ridership.

6.6 Shared streets, as identified in *Chapter 3* of the Plan, shall comply with the following recommendations:

- Shared streets should be curbless and provide the flexibility to potentially/periodically close for programming and events.
- The design of the street should include two-way circulation and provide on-street parking. On-street parking will allow for short-term parking.
- Ensure that the street is designed and functions as a smaller/ neighborhood street.
- Incorporate special pavement treatment; Explore materials/pavers or vertical elements to slow traffic for walkability and safety.

6.7 Study, develop, and implement a comprehensive phased approach to address traffic impacts in neighborhoods adjacent to the development and other impacted neighborhoods. (See also recommendations in *Chapter 8: Existing Neighborhoods*).

- 6.8** New east-west connectivity or comparable street, circulation, and/or transit improvements should be explored as part of any proposed development and/or any future planning efforts for properties to the west of Route 1.
- 6.9** The provision and timing of improvements to the intersection of E. Glebe Road at Route 1 will be addressed within the CDD zoning.
- 6.10** Each development will be required to submit a comprehensive approach and policy regarding truck loading and deliveries as part of the development review process.

Transit

- 6.11** Require the construction of an operational Metrorail station. Rezoning of the property is contingent upon the City and the landowner agreeing to a financial plan funding the Metrorail station.
- 6.12** In conjunction with other public agencies, streets, public spaces, and transit facilities should be designed and constructed in a manner that supports and facilitates transfers between the various transportation modes proximate to the new Metrorail station.
- 6.13** Require dedication of right-of-way to accommodate the high-capacity Metroway.
- 6.14** Require the construction of the Metroway. The final alignment of the Metroway and station locations shall be determined with subsequent phases.
- 6.15** Incorporate green technologies into the design of the dedicated transit right-of-way and stations.
- 6.16** Transit stations should be designed to include real-time transit information and innovative display technologies to include route maps, schedules, and local and regional information.
- 6.17** Require participation in a Transportation Management (TMP) District in coordination with existing Potomac Yard TMP District.
- 6.18** Employ aggressive Transportation Management Plan (TMP) performance measures, meeting or exceeding a 60% non-SOV modal split.
- 6.19** Explore additional local-serving routes to connect locations within Potomac Yard to nearby communities and destinations.

Pedestrian – Bicycle

- 6.20** Provide a continuous, connected, and accessible network that enables pedestrians – particularly those with mobility impairments – to move safely and comfortably between places and destinations.
- 6.21** Develop a comprehensive on- and off-street bicycle network.
- 6.22** Develop a connected system of primary and secondary bikeways with ample bicycle parking to serve all bicyclists' needs.
- 6.23** Provide a bicycle and pedestrian connection across the railroad tracks to Potomac Greens in conjunction with Metrorail station development.
- 6.24** Provide centralized bicycle storage facilities, located near the Metrorail and transit locations for all users of Potomac Yard – including areas for private and for shared-use bicycles – in conjunction with Metrorail station development. Commuter and recreational bicycle information could also be available to residents and visitors.
- 6.25** Provide a future connection from Potomac Yard Park across the George Washington Memorial Parkway to the Mount Vernon Trail.
- 6.26** Provide a future connection from Potomac Yard Park to the Four Mile Run Trail.
- 6.27** Require an off-street shared-use path along the length of Potomac Yard Park between Braddock Road to the south and Four Mile Run to the north.
- 6.28** Incorporate Bikeshare stations at key activity centers within the Plan area.
- 6.29** Explore opportunities to enhance bike and pedestrian circulation around the existing stormwater pond in Potomac Yard Park using elements such as bridges, decks, and landscaping.
- 6.30** Coordinate with Arlington County to provide a seamless trail connection to Crystal City.

Parking

- 6.31** On-street parking is required to be metered and managed through a performance parking program.
- 6.32** Provide advanced parking management systems including real-time parking availability, pre-trip parking information and parking reservation/navigation systems.
- 6.33** Design parking garages to accommodate electric vehicle charging stations and other emerging technologies including autonomous vehicles.

- 6.34** Adhere to additional parking recommendations found in *Chapter 4: Land Use Recommendations – Parking*.

Loading

- 6.35** Ensure that the functions of passenger loading, unloading, and vehicle layover in the vicinity of the Metrorail station are designed so as to prioritize the pedestrian environment envisioned by the Plan.

Infrastructure Recommendations

Stormwater Management

- 7.1** A Water Management Master Plan (WMMP) is required as part of the CDD requirements. The WMMP will be updated/amended with each building and/or block to demonstrate compliance with each applicable phase.
- 7.2** Require use of pervious surfaces on sidewalks, driveways, parking areas, and streets to reduce generation of stormwater runoff and provide green infrastructure practices to reduce stormwater pollution.
- 7.3** Maximize use of rooftop space for other sustainability practices (for example, for open space, community gardens, green roofs, energy generation, etc).
- 7.4** Maximize on-site stormwater reduction and reuse techniques to reduce the impact on public stormwater infrastructure.
- 7.5** Remove impervious surfaces within RPAs and revegetate to restore function and quality.
- 7.6** Maximize exposure of stormwater management facilities as functional amenities to promote citizen awareness and understanding of stormwater quality issues, while providing community co-benefits through the use of green infrastructure.
- 7.7** Construct additional sanitary sewer conveyance infrastructure and address Potomac River and Chesapeake Bay nutrient treatment needs.
- 7.8** Use harvested rainwater to meet irrigation demand.
- 7.9** Research and evaluate other pioneering technologies to address the capacity needs.

Wastewater Management

- 7.10** Use water conservation measures to reduce the generation of municipal wastewater and explore reuse of greywater.

Solid Waste Management

- 7.11** Develop and launch an education program that will include a hierarchy of uses: Reduce, Reuse, Recycle, and Proper Disposal of hazardous wastes.
- 7.12** Develop a recycling program for commercial and multi-family buildings.
- 7.13** Develop a community recycling program.

Pump Station

- 7.14** A pump station and any associated infrastructure upgrades shall be constructed to accommodate the planned development within North Potomac Yard.
- 7.15** The facility shall be located on the northeastern portion of the Plan area as generally depicted in Figure 7.1.
- 7.16** The pump station will be designed with high quality materials and in a manner that ensures integration and compatibility with the design and programmed uses of the adjoining Potomac Yard Park. The facility should be located as close to the existing rail corridor as feasible to minimize impacts to the Potomac Yard Park. The design of the facility will require coordination between the City, developer, and AlexRenew and conducted as part of the Phase I development special use permit and design of Potomac Yard Park.

Dominion Virginia Power Proposed 230-KV Transmission Line

- 7.17** Any future power transmission lines will be undergrounded by DVP and located in a manner to minimize the impact on, and integrate with, the planned open space and infrastructure improvements within North Potomac Yard and Four Mile Run. As part of the construction of any additional transmission lines, the existing terminal station within Four Mile Run (Figure 7.2), will be removed by DVP.

Existing Neighborhoods Recommendations

- 8.1** Require the developer to provide a monetary contribution for the preparation and implementation of a comprehensive traffic calming and parking management strategy for the neighborhoods to the west of Potomac Yard. The study and implementation of traffic calming improvements shall be proactive and phased with the build out of North Potomac Yard development.
- 8.2** Evaluate alternatives for traffic calming treatments at gateway locations along the west side of Route 1 and throughout neighborhoods.
- 8.3** Promote smooth transitions between existing neighborhoods and new development at North Potomac Yard through a careful consideration of uses, heights, and massing.
- 8.4** Development at North Potomac Yard should preserve and build upon the unique history and character of existing neighborhoods.
- 8.5** Develop connections which are consistent and compatible with existing development within Potomac Yard and across Route 1.

APPENDIX

A.1 Context

A.2 Community Outreach Process

A.3 Demographics

A.4 Background

A.5 History



A.1 CONTEXT - WHY UPDATE THE PLAN?

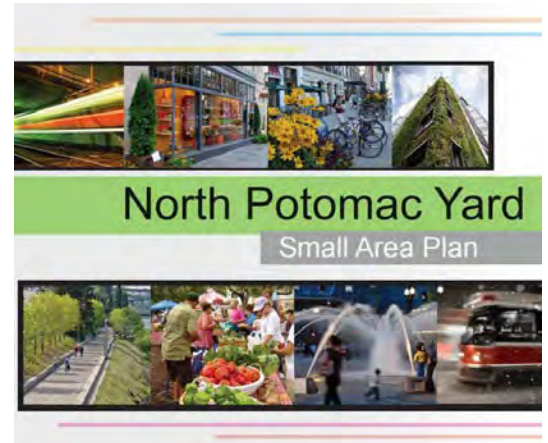
The North Potomac Yard Small Area Plan was approved in June 2010. The Plan established the vision and guiding principles for the redevelopment of the approximately 70-acre site as a transit-oriented, mixed-use, walkable, economically and environmentally sustainable community. The development approved by the 2010 Plan was based on construction of the Potomac Yard Metrorail Station. The 2010 Plan also provided the framework for potential funding sources for the Metrorail Station as well as phasing options for redevelopment of the Plan area.

2017 Plan Update

Since the 2010 approval, the majority of the Landbays within South Potomac Yard have developed; the Metroway (BRT/Transitway) has been constructed; and the City has greater certainty about the location of the Potomac Yard Metrorail Station and its funding sources. Additionally, information about market conditions have provided a better understanding of the phasing potential of parcels within the Plan area.

In 2015, the North Potomac Yard developer representative, JBG Companies, indicated a desire to begin the process for Phase I redevelopment of North Potomac Yard, which would necessitate amendments to the Plan. The proposal came in response to the feasibility and availability of land on the site, as leases for existing tenants will begin to expire over the next decade. This allows for more informed phasing projections than originally present in the 2010.

The 2017 Plan Update reinforces the vision of the 2010 Plan and builds on the recommendations to ensure consistency with the Plan's intent. Phase I anticipates development concurrent with the Metrorail station opening. This Plan retains the 7.5 million sq. ft. of development as originally approved.



2016-2017 Planning Process

On February 23, 2016, by City Council resolution, a 12-member Ad Hoc North Potomac Yard Advisory Group was established representing different stakeholders surrounding the Plan area. Membership was selected by the City Manager after a public nomination process. The mission of the Advisory Group was to advise city staff on the planning and potential amendments to the North Potomac Yard Small Area Plan.

Together, the community, Advisory Group, City staff, and Developer team worked to build on the recommendations of the 2010 Plan while establishing a framework for future planning and development in the Plan area.

The planning process included four phases from Spring 2016 to Spring 2017, Figure A.1.



Figure A.1: North Potomac Yard Planning Process Phases

A.2 COMMUNITY OUTREACH PROCESS

Advisory Group and Community Participation

Advisory Group members represented various Boards, Commissions, neighborhood and resident groups, and the business community. Members functioned as liaisons to the community, provided input on issues throughout the process, and developed recommendations based on the Plan vision, principles and objectives. The group convened from April 2016 – April 2017 for a total of 13 Advisory Group meetings and 2 Working Group Meetings.

Members also participated in a development bus tour and a design workshop. During the design workshop, members helped to develop framework options for testing, feasibility and analysis. The options were analyzed over four Advisory Group Meetings and two

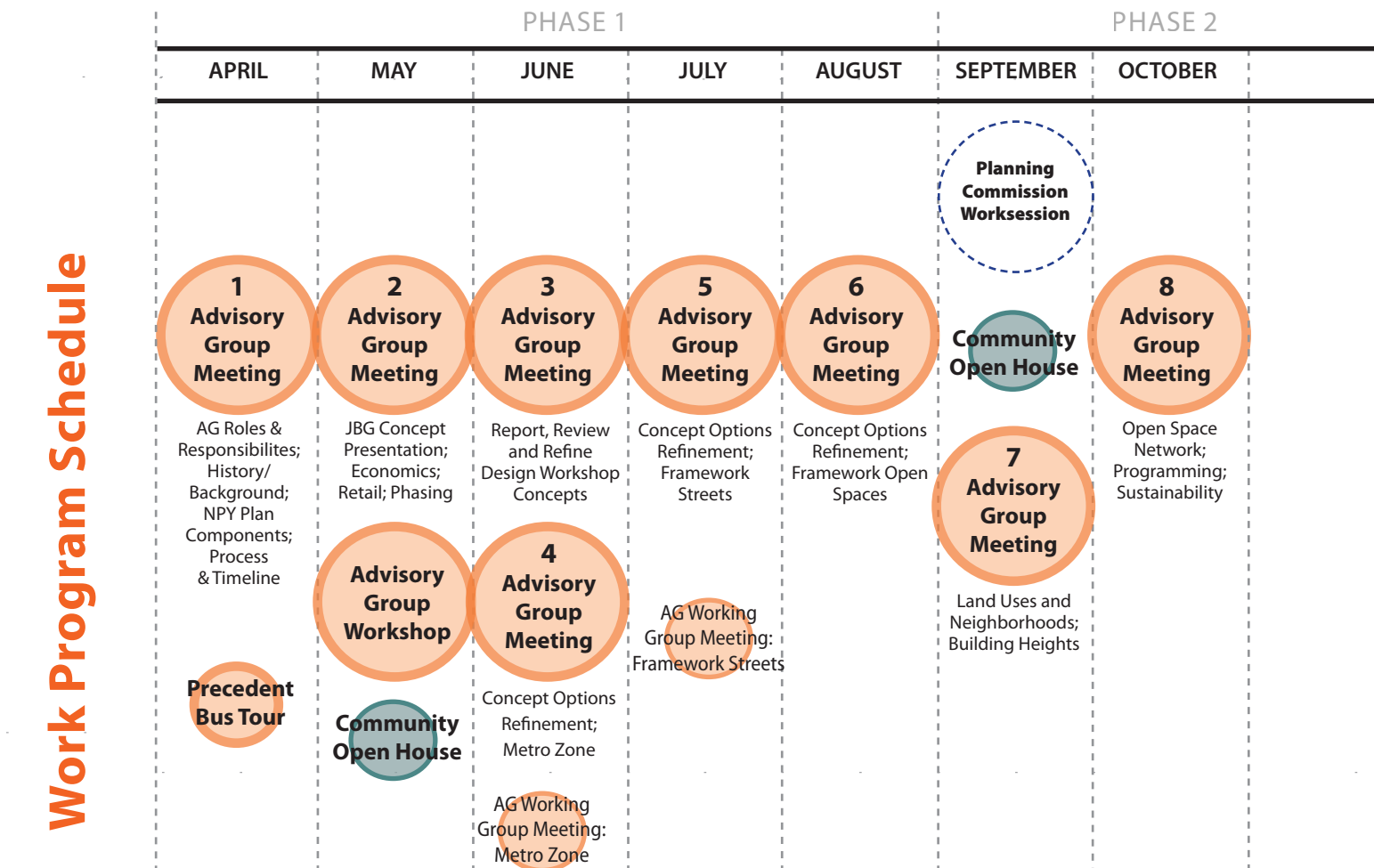
Working Group Meetings providing an opportunity for community feedback and suggestions to the framework options developed during the design workshop.

In addition to Advisory Group Meetings, City staff organized and facilitated three Community Open Houses at three key stages of the process:

1. The conclusion of the design workshop, creating framework options for analysis;
2. The selection of a framework plan; and
3. The formulation of draft plan recommendations.

Consistent with the City’s civic engagement policy, all North Potomac Yard Advisory Group meetings, workgroup meetings, workshops, and open houses

Figure A.2-1: Work Program



associated with this planning process were open to the public to attend, participate in, and provide feedback and concerns, see Table A-1 for list of meetings. All meetings were advertised on the City web site and by means of the City news bulletin (eNews), to which users can subscribe for free on the City web site. Background information and materials pertaining to each meetings were posted to the project webpage, alexandriava.gov/PotomacYardPlan throughout the process.

Draft chapters were posted to website for community review and community review and comments February 22 to May 12, 2017.

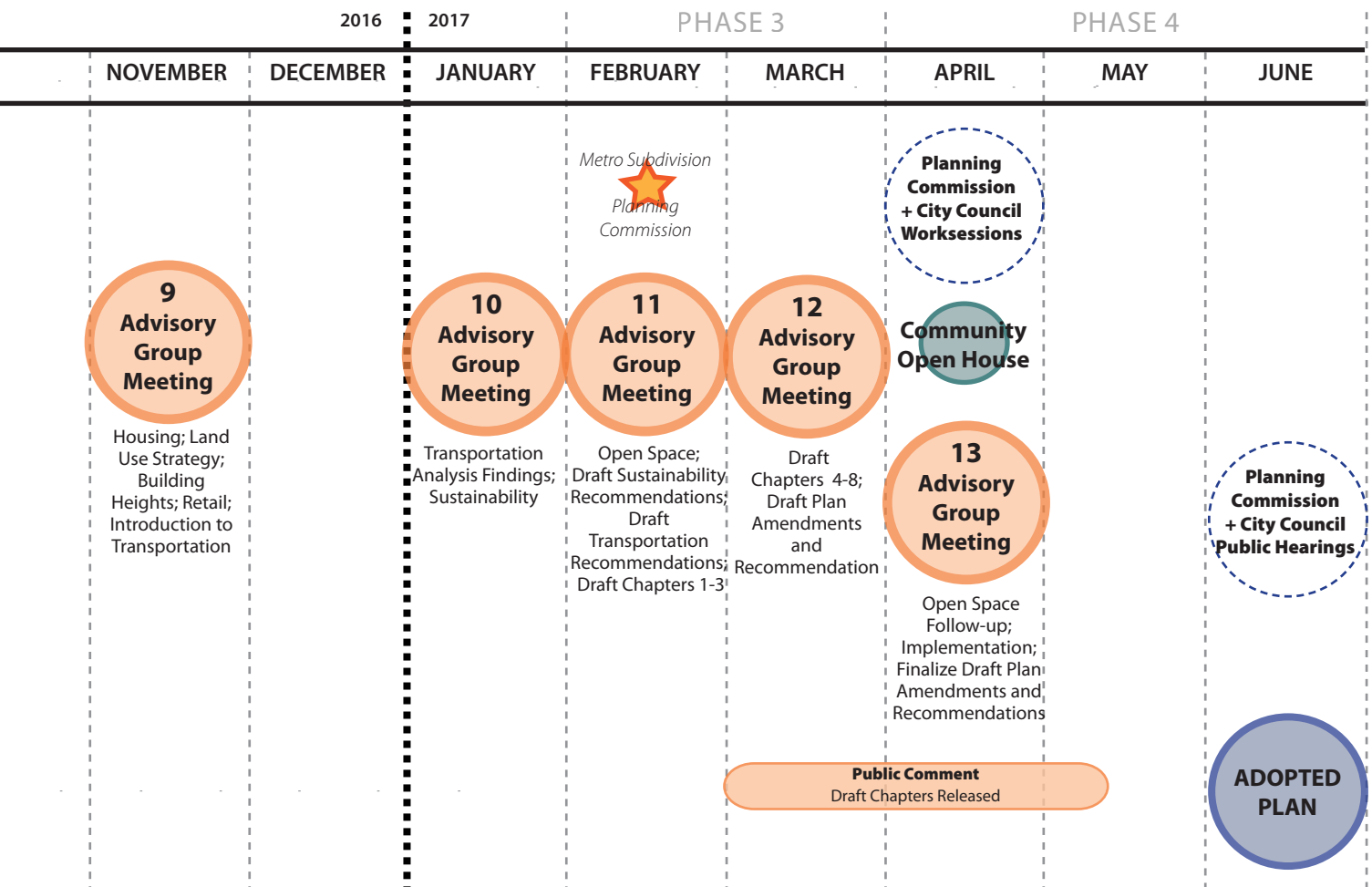
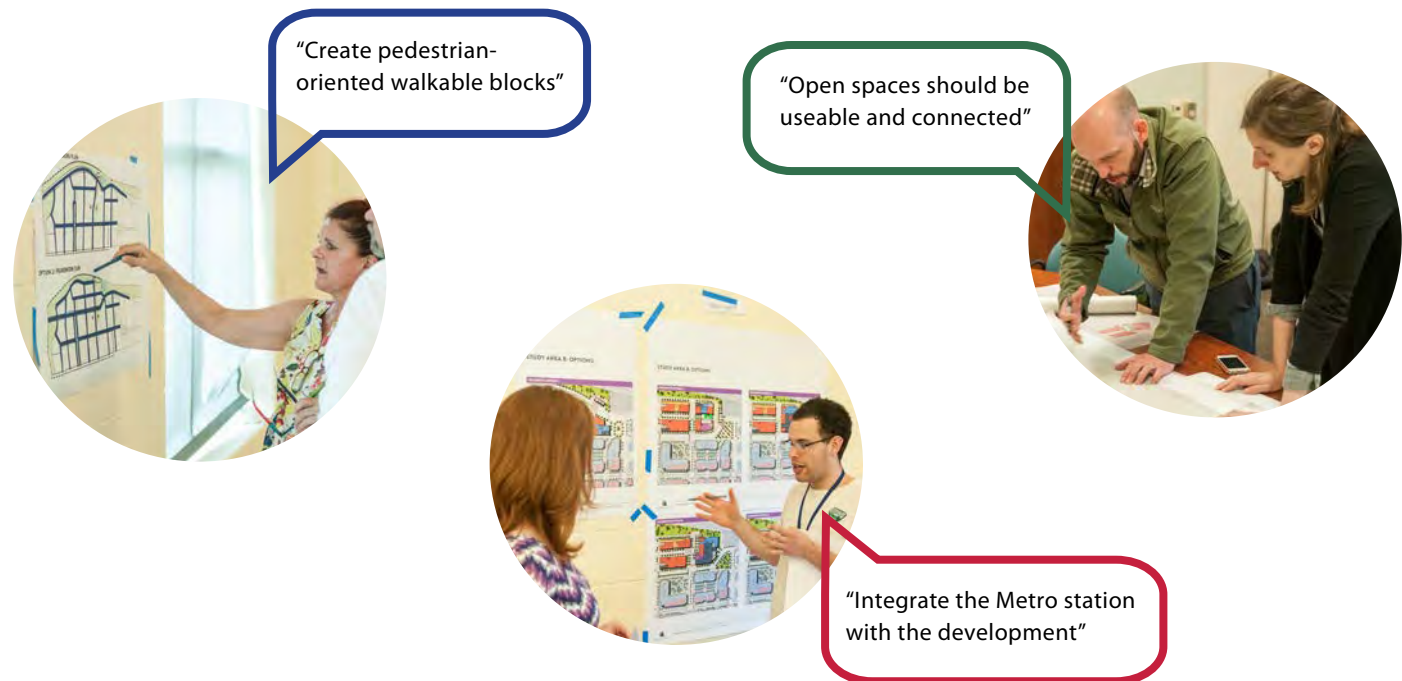


Table A.1: North Potomac Yard Civic Engagement, Meetings 2016-2017

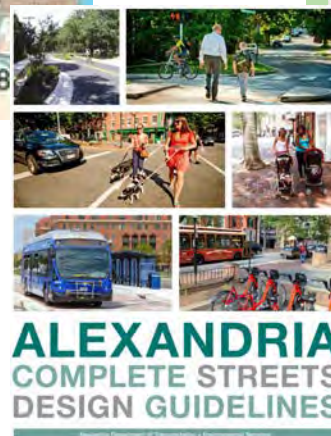
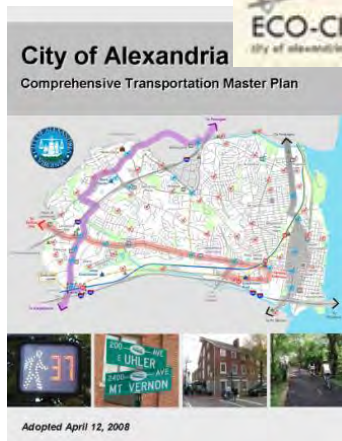
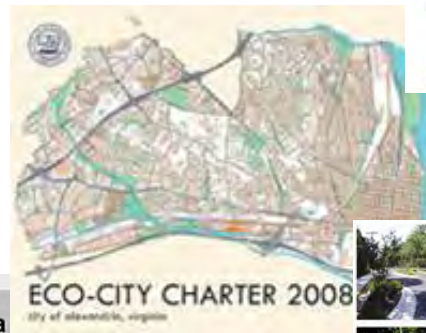
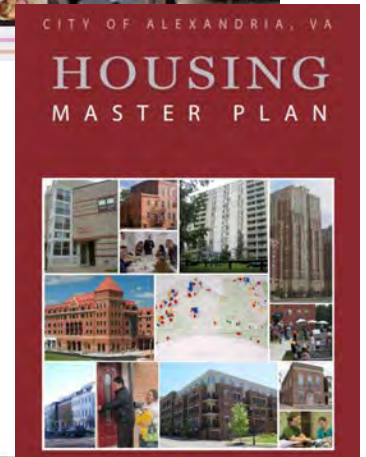
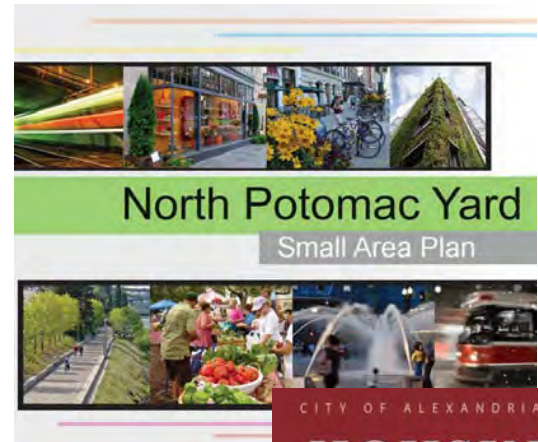
Meeting Date	Meeting Type	Meeting Date	Meeting Type
PUBLIC MEETINGS		3/28/2017	Advisory Group Meeting #12
April 18, 2016	Advisory Group Meeting #1	4/4/2017	City Council Legislative Meeting - Update
April 30, 2016	Precedent Bus Tour	4/6/2017	Planning Commission Worksession Update
May 16, 2016	Advisory Group Meeting #2	4/12/ 2017	Potomac Yard Design Advisory Committee
May 17, 2016	Design Workshop	4/18/2017	North Potomac Yard Community Open House #3
May 17, 2016	Community Open House #1	April 19, 2017	Transportation Commission Meeting
June 6, 2016	Advisory Group Meeting #3	April 20, 2017	Alexandria Housing Affordability Advisory Committee
June 27, 2016	Advisory Group Meeting #4	April 20, 2017	Parks & Recreation Commission
June 30, 2016	Advisory Group Working Group Meeting: Metro Zone	April 26, 2017	Advisory Group Meeting #13
July 25, 2016	Advisory Group Meeting #5	OTHER FORMS OF OUTREACH	
July 29, 2016	Advisory Group Working Group Meeting: Framework Streets	Throughout	eNews notifications prior to each public meeting
August 29, 2016	Advisory Group Meeting #6	Throughout	All public meetings posted to City calendar and website
9/8/2016	Planning Commission Worksession	Throughout	All materials and background information posted on project website
9/19/2016	Community Open House #2	February - May 2017	Online engagement opportunities
9/19/2016	Advisory Group Meeting #7		
10/17/2016	Advisory Group Meeting #8		
11/21/2016	Advisory Group Meeting #9		
1/31/2017	Advisory Group Meeting #10		
2/28/ 2017	Advisory Group Meeting #11		
3/13/2017	Enviornmental Policy Commission		



Related City Plans and Policies

The North Potomac Yard Small Area Plan builds on and is informed by the following Plans and studies:

- City Strategic Plan 2017-2022 (2017)
- Pedestrian and Bicycle Chapter of the Transportation Master Plan (2016)
- Potomac Yard/Potomac Greens Small Area Plan (1999), as amended through June 2016
- Complete Streets Design Guidelines (2016)
- Long Range Educational Facilities Plan (2015)
- Citywide Parks Improvement Plan (2014)
- Green Sidewalks BMP Design Guidelines (2014)
- Housing Master Plan (2013)
- Parks and Recreation Needs Assessment (2013)
- Sanitary Sewer Master Plan (2012)
- Public Art Policy (2012)
- Complete Streets Policy (2011)
- Wayfinding Design Guidelines (2010)
- 2030 Environmental Action Plan (2009)
- Green Building Policy (2009)
- Urban Forestry Master Plan (2009)
- Eco City Charter (2008)
- Transportation Master Plan (2008)
- Alexandria Open Space Master Plan (2002)
- Historic Preservation Plan (1992)



A.3 DEMOGRAPHICS

North Potomac Yard

There are currently no residential units within North Potomac Yard, therefore, there is no demographic data available for the area. The Plan anticipates a resident and employee balance based on the proposed mix of uses. New office construction in the Plan area will likely yield 4 employees/1,000 sq. ft. Multi-family residential use is 1.8 residents/unit for new construction across the City. The projected number of new residents and employees generated at full build-out is estimated to be:

- Residents: Approx 8,300*
- Employees: Approx. 8,800

**This assumes the average household size to be 1.84. ACS data indicates that this is the average household size in Eisenhower East, which shares characteristics with the future North Potomac Yard such as housing type and age, as well as proximity to Metrorail.*

Potomac Yard/Potomac Greens

At approximately 0.6 square miles, this area is located south of North Potomac Yard and includes the area known as South Potomac Yard and Potomac Greens. The majority, if not all, of the residential development in this planning area has occurred during the last 6 years, and therefore lacks reliable Census data. The following information is based on housing counts recorded by the City. For blocks where an average household size is unknown, the citywide average household size of 2.03 from the 2010 decennial census is used.

- Estimated Population as of 2017: 4,274
- Housing Units as of 2017: 2,247

By 2040

NEW RESIDENTS

8,300

NEW EMPLOYEES

8,800



Figure A.3-1: Census Tract Map, 2010

2010 Census data is available for the adjacent areas of Potomac West, Potomac Yard/Potomac Greens, Old Town, and Crystal City.

Potomac West is located to the west of Potomac Yard. It is an approximately 2.13 square mile area which roughly includes the Arlandria, Del Ray, Lynhaven, Mount Jefferson, and Rosemont neighborhoods (Census Tracts 2012.02, 2012.03, 2012.04, 2013.00, 2014.00, and 2015.00). Key characteristics of the neighboring areas including census tract 2018.01 to the south of the plan area, are as follows:

- Population: 29,570
- Race: White non-Hispanic, 58.3%; Asian 3% Hispanic, 23.6%; Black non-Hispanic, 12.7%
- Age: Under 18, 17.8%; 18-64, 73.8 %; 65 and over, 8.4%
- Median Household Income: \$96,250
- Tenure: Owner-occupied, 48.27%; renter-occupied, 45.92%
- Housing Units: 14,294

Crystal City is an approximately 1.71 square mile area located to the north of Potomac Yard in Arlington County (Census Tract 1034.02). Key characteristics of the Crystal City area are as follows:

- Population: 5,231
- Race: White non-Hispanic, 67.9%; Asian, 10.8%; Black non-Hispanic, 79.8%, Hispanic, 8.0%
- Age: Under 18, 5.3%; 18-64, 86.9%; 65 and over, 7.8%
- Median household income: \$108,203 (ACS 5 Year data)
- Tenure: Owner-occupied, 18.6%; renter-occupied, 81.4%
- Housing units: 4,211

A.4 BACKGROUND

The Planning Area

North Potomac yard is a 70-acre small area plan brownfield located in the northeast area of the City, immediately south of downtown Washington, D.C. and Ronald Reagan Washington National Airport. The area has served as a north-south trade and transportation corridor since prehistoric times, and most recently as the site of an active railroad, see A.5 History for additional information. Today, Potomac Yard is divided into two main areas – Potomac Yard and Potomac Greens – by a 120 foot wide active railroad corridor running north-south through the area. Potomac Yard is further divided into smaller portions or “landbays.” The focus of this Plan is North Potomac Yard or Landbay F, Figure A.4-2.

Landbay F – Current Uses

At 69.07 acres in size, Landbay F (Potomac Yard Center) is the largest property in Potomac Yard/Potomac Greens. Landbay F is located in the northern portion of Potomac Yard and is approximately one-half mile in length from north to south. It is bordered by Landbay E and Four Mile Run to the north, Landbay G (Town Center) to the south, Landbay K (Potomac Yard Park), CSX Railroad tracks, Washington Metropolitan Area Transit Authority (WMATA) Metrorail tracks, and Landbay A (Potomac Greens) to the east, and Route 1 to the west.

Landbay F was developed in the mid-1990s as an automobile-oriented, approximately 600,000 sq. ft., retail shopping center with predominately “big box” national retailers, pad sites, a 16-screen cinema, and surface parking. When it was developed it was intended to be an interim use, and not a long-term use.

In early 2009, the City Council approved an urban, mixed-use Town Center in Landbay G, which includes approximately 972,346 sq. ft. of office uses, 108,817 sq. ft. of retail uses, 666 multi-family units (which include 42 bonus density units), and 170 hotel rooms.



Figure A.4-1: North Potomac Yard location within the City



Figure A.4-2 Aerial image of Landbay F



Image of existing Shopping Center and Theater

Building heights range between 45 and 132 feet. To date, four multi-family residential buildings have been constructed within Landbay G including a mixed-use residential building and grocery store and the Potomac Yard Fire Station with residential units above. Under construction is the National Institute for the Blind (NIB). Also approved, but yet to be constructed, is the Institute for Defense Analysis (IDA).

In addition, west of Route 1, the Oakville Triangle Plan area contains 24 acres with 2.7 million sq. ft. of anticipated mixed uses to include office, hotel, residential, and a combination of retail, neighborhood serving and “maker space” uses.

To the north across Four Mile Run, the development of Potomac Yard Arlington is well under way, with a planned total gross square footage of 4,409,835, an FAR of 2.03, and building heights of approximately 120 to 160 feet.

Status of Other Potomac Yard Landbays

- Landbay A (Potomac Greens): Construction completed for 244 townhouses and approximately 20 acres of open space.
- Landbay C (Potomac Plaza): Construction completed of approximately 15,000 square feet of retail.
- Landbay D (Rail Park): Requires subsequent approval for design and programming of the park.
- Landbay E (Four Mile Run): Improvements to Landbay E such as the Four Mile Run Promenade and Urban Deck are tied to redevelopment of Landbay F.
- Landbay G (Town Center): DSUP approved for up to 972,346 sq. ft. of office space, 108,817 sq. ft. of retail uses, 666 multi-family units (which include 42 bonus density units), and 170 hotel rooms and 1.6 acres of open space. A portion of Landbay G is developed with “The Station,” a City-owned, collocated fire station and 64 affordable housing units. Construction is underway for Block A (NIB). 5 Development sites remain on 4 blocks within Landbay G.

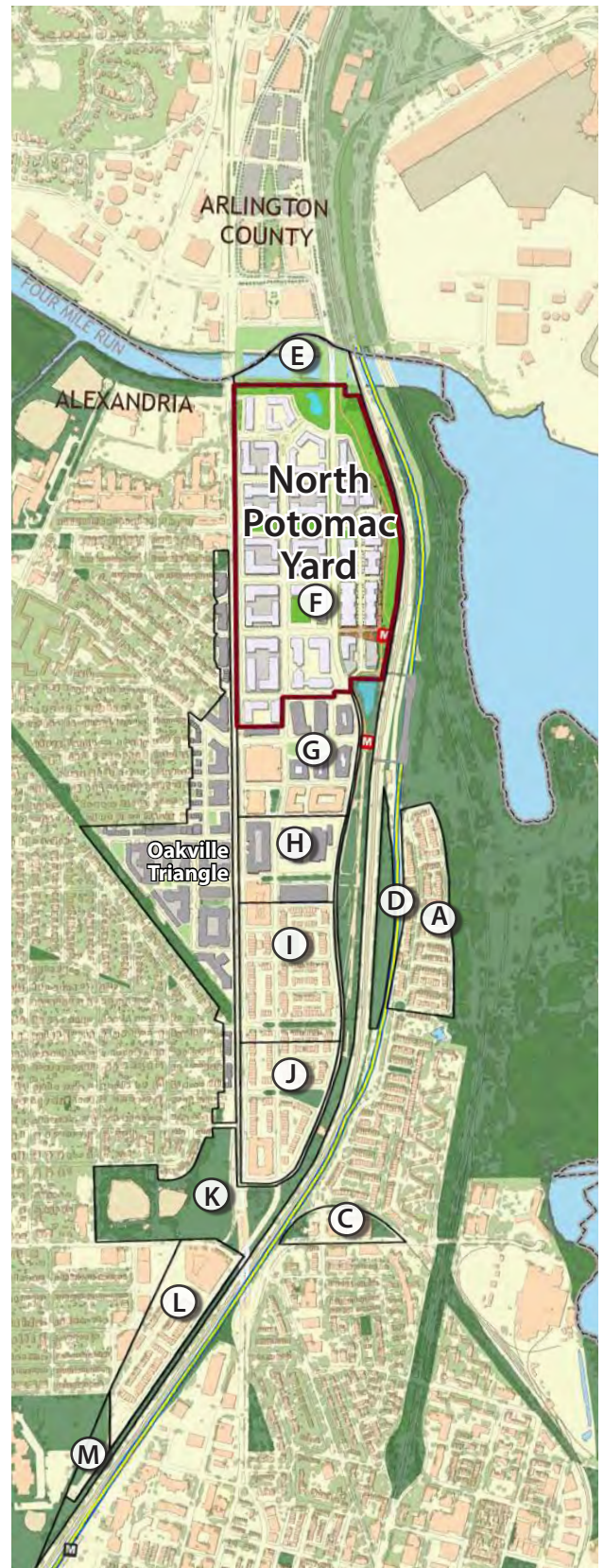


Figure A.4-2: North Potomac Yard Landbays

- Landbay H: Approved for 1,100,000 million sq. ft. of office space and 25,000 sq. ft. of retail. The Landbay is approved for 286 multi-family units (combined with multi-family units from Landbay I), 250 of which have been constructed.
- Landbay I: Construction completed for townhouse and urban lofts.
- Landbay J: Construction completed for a 183-unit multi-family building and townhouses/urban lofts.
- Landbay K (Potomac Yard Park): Construction completed for the approximately 24-acre park.
- Landbay L: Construction completed for a 276-unit multi-family building and townhouses/urban lofts. A portion of Landbay L is approved for a dog park adjacent to the multi-family building.
- Landbay M: A multipurpose athletic field approved as part of a DSUP.
- Landbay N: These parcels are City owned.

Prior Planning History

Plans for the redevelopment of Potomac Yard have been underway for 40 years. Starting in the late 1980s, the City began updating the 1974 Master Plan and the Richmond, Fredericksburg & Potomac (RF&P) Railroad began to explore development alternatives for Potomac Yard because it was no longer being used as a rail yard.

The first proposal (for the entirety of Potomac Yard), Alexandria 2020, was a mixed-use, neighborhood development which continued the street grid of the adjacent neighborhoods and replicated typical setbacks, heights and architectural styles. The plan included a tree-lined interior boulevard, parks, and pedestrian gathering places. The plan included a Metrorail station near the center of Potomac Yard, with the potential for commuter rail service and bus connections. The total amount of development proposed in the 2020 plan was approximately 16 million sq. ft.

Alexandria 2020 was never formally submitted to the City for approval; however, the City approved new zoning for the site in the context of updating the Master Plan in 1992. The new zoning, Coordinated Development District (CDD#10), provided for a lower level of development than was proposed in the Alexandria 2020 plan, with approximately 8.8 million sq. ft. of development.

In the early 1990s, the property owner of Potomac Yard pursued a proposal to locate Jack Kent Cooke football stadium at Potomac Yard. This proposal did not go forward.

In 1997, the property owner submitted a proposal for amendments to the Master Plan and CDD to allow the location of the Patent and Trademark Office (PTO) at Potomac Yard. However, the request was denied by the Planning Commission and withdrawn by the applicant prior to the City Council hearing. The PTO subsequently located its offices elsewhere in Alexandria at Carlyle.

Landbay F was developed in the mid-1990s in accordance with its underlying zoning: Commercial Service Low (CSL) and Industrial (I). The Shopping Center was opened in 1997 and the 16-screen theater opened in 1998.

2010 North Potomac Yard Planning Process

The City began an intensive, 17-month community planning process in October 2008 that resulted in the approved North Potomac Yard Small Area Plan. In October 2008, the City Council, by Resolution No. 2297, established the Potomac Yard Planning Advisory Group (PYPAG); a 20-member Advisory Group to represent the diverse interests in the Potomac Yard area. The group was comprised of:

- Residents of surrounding neighborhoods;
- Property owners;
- Members of the business community, including the Alexandria Economic Development Partnership (AEDP);



- Representatives from Alexandria City Public Schools (ACPS);
- Representatives of interest groups such as affordable housing, transportation, the environment, and others; and
- A member of the Planning Commission.

The PYPAG met monthly while the Plan was being developed (excluding January 2009, and July-September 2009) for a total of 13 PYPAG meetings. There were 9 additional subcommittee meetings included as part of that planning process. During PYPAG meeting and subcommittee meetings, the group explored the various components of the Plan including:

- Site influences and opportunities;
- Planning best practices;
- Plan principles;
- Circulation, connectivity, and neighborhood impacts;
- Metrorail station locations;
- Land use, massing, and height;
- Open space network;
- Sustainability; and
- Civic Uses

PYPAG identified and studied these various issues, challenges and opportunities presented by the redevelopment of Potomac Yard. The result of these meetings produced the recommendations included in the North Potomac Yard Small Area Plan, approved by City Council in 2010.

Potomac Yard Metrorail Station Feasibility Work Group

Although separate and distinct from the Potomac Yard small area community planning process, the work of the parallel Potomac Yard Metrorail Station Feasibility Work Group was integral to and informed this process. Three members of PYPAG also served on the Potomac Yard Metrorail Station Feasibility Work Group. A total of five Potomac Yard Metrorail Station Feasibility Work Group meetings were held from February to November 2009.



In 2010, City Council approved the North Potomac Yard Small Area Plan, designating the area known as “Landbay F” as a separate Plan area and chapter of the City Master Plan. The approval updated the Potomac Yard/Potomac Greens Small Area Plan, removing Landbay F, and rezoned the property from Coordinated Development District (CDD #10) to Coordinated Development District (CDD #19).

Approved with the CDD zoning for North Potomac Yard were the North Potomac Yard Urban Design Standards & Guidelines (the “Design Guidelines”). The Design Guidelines augment the Small Area Plan, CDD Concept Plan and CDD conditions, providing specific requirements for public realm, open spaces and buildings within the Plan area. Development within the Plan area is required to comply with the Design Guidelines to ensure the highest standards of architectural design and sustainability.

A detailed map showing two distinct colored regions. A large blue-shaded area at the top is labeled "CDD #19". Below it, a larger purple-shaded area is labeled "CDD #10". The map includes numerous street names such as COMMERCE AVENUE, LUNA PARK, LYNHAVEN, WESTMOND, EVANS, ASHBY, NORTH ROSE, CLAPHAM, HUME, RAYMOND, CALVERT, MOUNT DAVID, WINDSOR, JEFFERSON STANIS, HOWELL, MASSEY, SLATERS, BERNARD, DEVON, WHITEWORTH, POKER, SECOND, FIRST, BRADDOCK, FAYETTE, COLONIAL, and POTOMAC. The Potomac River is visible along the right edge of the map.

A15

A.5 HISTORY

The History of Potomac Yard: A Transportation Corridor through Time

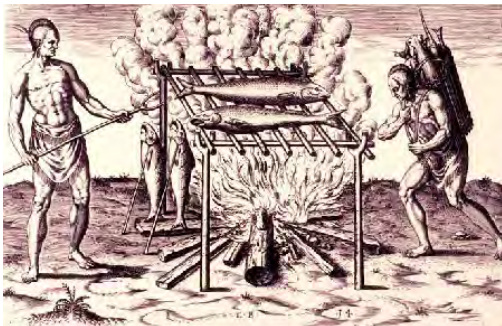
By Francine W. Bromberg, Alexandria Archaeology

The area that became Potomac Yard has a long history of serving as a trade and transportation corridor. From prehistoric times through the present, these level terraces paralleling the Potomac River provided a north/south pathway for moving people and goods. While the modes of transportation changed - from foot to horse and stagecoach, then to canal boats, and later to trains and automobiles, the landform remained an important link in the route connecting people and places throughout the course of history.



Native American Occupation

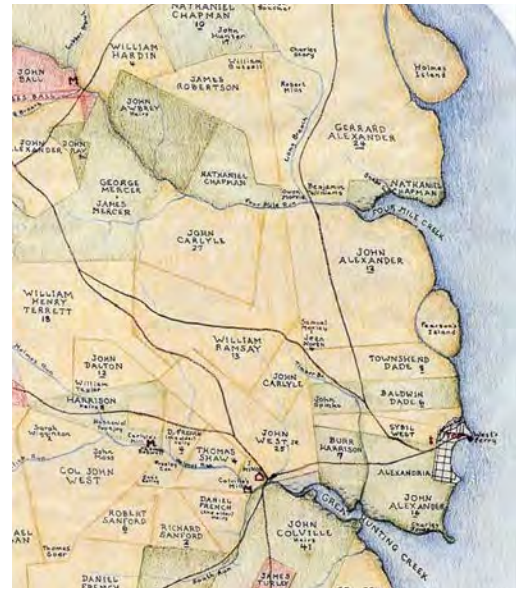
The word “Potomac” is thought to derive from an Algonquian Indian term meaning “where things are brought in” or a place for trade (National Museum of the American Indian 2008). Thus, even before the arrival of Europeans, the area was recognized as a transportation hub and center for the exchange of goods. While the river itself served as the major natural transportation corridor for Native Americans in their canoes, an old Indian trail purportedly followed the ridge from the Rappanhannock to the Potomac and developed into present-day Telegraph Road in the local area (Netherton et al. 1978:20).



Bands of Native American hunters and gatherers may have traversed the area that became Potomac Yard as early as 13,000 years ago. More intensive occupation undoubtedly began about 5000 years ago when anadromous fish became abundant in the Potomac (Bromberg 1987). In addition, the nearby marshes, which formed as the glaciers melted, provided a wide variety of resources. Temporary encampments to exploit the marsh resources and take advantage of the reliable spring fish runs probably continued on the Potomac Yard terraces into the historic period, which begins with John Smith’s voyage up the Potomac River in 1608. At that time, Smith recorded the locations of two nearby agricultural hamlets, Nameraughquend to the north (on what is now National Airport) and Assaomeck to the south (near Belle Haven), from which foraging parties could have departed for exploitation of the swamp and fish resources of the Potomac Yard property (Smith 1608).

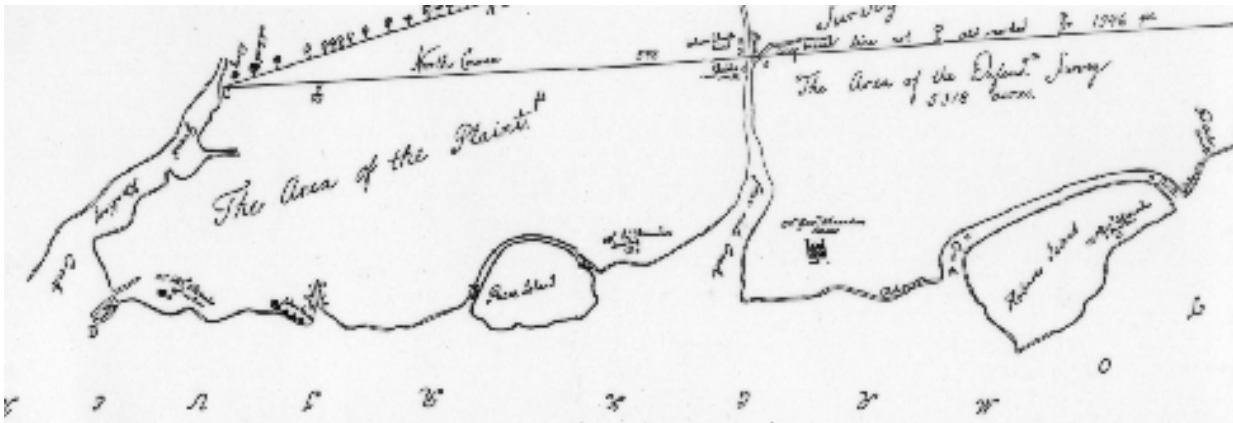
Tobacco Plantations, Farms, Towns And Turnpikes, 1669-1830

The area that became Potomac Yard was part of a 6,000-acre grant awarded to ship captain Robert Howsing (Howson) for the transport of 120 settlers to the Virginia colony in 1669. Not a settler himself, Howsing wasted no time in converting his property to the currency of the time, and sold the acreage to John Alexander, a planter residing in what is now King George County, for 6 hogsheads (6,000 pounds) of tobacco (Miller 1992a:107; Walker and Harper 1989:3-4; Mullen 2007:28). From the 1670s until the 1730s, John Alexander and his descendants leased the property to tenants. Thus, the earliest historical settlement of the land that became Potomac Yard consisted of tenant farms on large landholdings owned by absentee landlords (Walker and Harper 1989:3-4; Mullen 2007:28).



Land ownership of early Alexandria and adjacent

Historic Waterfront



In the 1730s, members of the Alexander family began subdividing the property and established plantations on it (Mullen 2007:28). John Alexander's great grandson John and his wife Susannah Pearson Alexander set up a quarter in the northern section of what was to become Potomac Yard. It is likely that enslaved African Americans lived in the quarter and worked the tobacco fields under the supervision of an overseer (Mullen 2007:30). Other plantations were established on adjacent properties by Alexander's descendants, including the Dade plantation to the southeast and Abingdon north of Four Mile Run. It is likely that John and Susannah's son Charles built the Preston plantation house in the 1750s or 1760s, in roughly the same location as the original quarter (Mullen 2007:30). The family cemetery was situated nearby (Miller 1992a:109). The river still served as a transportation artery, and the large landholdings had been subdivided to allow each plantation frontage on the Potomac.



Overland travel also linked the early plantations. A branch off the old Indian trail running closer to the river became known as the Potomac Path and developed into the present-day Route 1 (Netherton et al. 1978:20). In 1749, Alexandria was established south of the Potomac Yard property on a portion of Alexander's land around a tobacco warehouse and inspection station built to facilitate shipment of the cash crop to England. With the formation of the town, roads such as the Potomac Path took on new importance as stage and post roads.

Sometime during the second half of the eighteenth century, a road was extended north from Alexandria, incorporating portions of what is now Route 1, to the vicinity of present-day Rosslyn. There, a ferry shuttled passengers and goods across the Potomac to Georgetown. Known as the Georgetown Road, it was the route taken by the French army, led by Comte de Rochambeau, on their way to and from Yorktown to fight with the Americans against the British in 1781. A sketch map indicates that a portion of the French army camped adjacent to the road, probably near the southern end of what was to become Potomac Yard (Mullen 2007:32).

As the eighteenth century progressed, farmers abandoned the cultivation of tobacco for wheat, and the large plantations were subdivided into smaller farms. The growth of the town of Alexandria, along with the establishment of Washington, D.C., in 1791, created markets for the foods that could be cultivated on these smaller farmsteads and necessitated additional improvements in the transportation corridor. Wealthy townspeople also kept gardens, orchards and small farms on the outskirts of the town. One such farm, owned by the Fendalls, who resided in town on Oronoco Street, extended into the area that was to become Potomac Yard. In 1805, it was leased to innkeeper John Gadsby, who undoubtedly carted the produce to town for use in his tavern and hotel (Miller 1992:110; Mullen 2007:31).

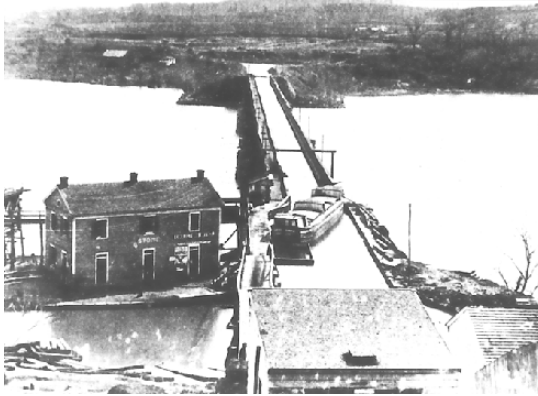
Recreational and institutional facilities arose along this transportation corridor in the rural community to serve the growing town. In the late 18th and early 19th centuries, a horse-racing track was located north of town, and around 1800,

Alexandria constructed an alms house at the northwest corner of present-day Monroe Avenue and Route 1, just outside of the property that would become the rail yard. The poorhouse provided shelter, food and clothing to indigent residents of town and functioned as a work house and farm. In addition, local courts sentenced petty criminals to serve time in the work house (Mullen 2007:31).

Good roads through the area that would become Potomac Yard became crucial to the town's economy; however, most were haphazardly constructed and poorly maintained. In 1785, a group of Alexandrians received permission from the Virginia General Assembly to erect toll gates on the Georgetown Road in order to raise money for road maintenance. This strategy proved inadequate, and by the 1790s, some local residents began forming private companies to build turnpikes to raise capital for road maintenance and improvements. In 1808, the Washington and Alexandria Turnpike Company received a charter to build a turnpike between Alexandria and Washington, and the turnpike opened in 1809. It began on Washington Street in Alexandria, then headed north following the route of the Georgetown Road, and continued along the present-day path of Route 1 toward a new bridge constructed over Four Mile Run. The toll house was situated on the south side of the bridge (Mullen 2007:33; Miller 1992a:114-115).

Transportation Improvements: Canal and Railroads, The Civil War, and the Seeds of Suburbanization, 1830-1905

Despite the construction of the turnpikes, overland travel remained slow. The level terraces that were eventually developed into Potomac Yard became the site of transportation innovations that connected Alexandria to the north, west, and south--first cutting through the rural landscape and then helping to transform it into suburban communities.



The Alexandria Canal

As cities and towns on the east coast began to grow, competition for trade with the agricultural lands to the west intensified, and merchants became anxious to improve navigation around the falls along the Potomac River. For Alexandrians, competition with Georgetown was always an issue. With plans for the construction of the Chesapeake and Ohio Canal connected to Georgetown on the Maryland side of the river, Alexandrians became concerned that trade would bypass their wharves and that the town would lose its connection to the west, which was so vital to its economic interests. To connect Alexandria with the Chesapeake and Ohio, the Alexandria Canal Company was chartered in 1830, and the canal opened for navigation in 1843. It crossed the Potomac via an aqueduct bridge, an amazing feat of engineering for its time, with a 1,000 foot-long trough resting on 8 masonry piers. Canal boats were then pulled for 7 miles along the flat ground that would later become Potomac Yard, and lowered to the level of the Potomac through four lift locks at the north edge of town. With the completion of the canal, business flourished for a time with wheat, corn, flour and whiskey carried downstream and fish, salt, plaster, and lumber transported on the upstream journeys. After 1850, when the C&O Canal reached Cumberland, Maryland, coal became the major commodity for downstream transport. When the coal reached Alexandria's port, much of it was loaded onto seagoing vessels for export to cities along the east coast and in Europe (City of Alexandria n.d.; Mullen 2007:34).

Above: Historic images of the Alexandria Canal



Image of railroad corridor along the Alexandria Canal

The Railroad Era Begins

While the canal was successful for a while, it was no match for the railroads, and ceased operation in 1886. Towns like Baltimore, which had invested in the railroad industry in the early nineteenth century, became the industrial centers of the northeast. Rail transportation finally came to Alexandria in 1851 with the opening of the Orange and Alexandria rail line, which headed west along tracks that ran parallel to Duke Street.

The first line to traverse the Potomac Yard property was built to link Alexandria and Washington. Completed in 1857, the Alexandria and Washington Railroad had six trains daily, leaving from a station on St. Asaph Street. Passengers found it a fast and convenient way to travel between the two cities and to connect with trains

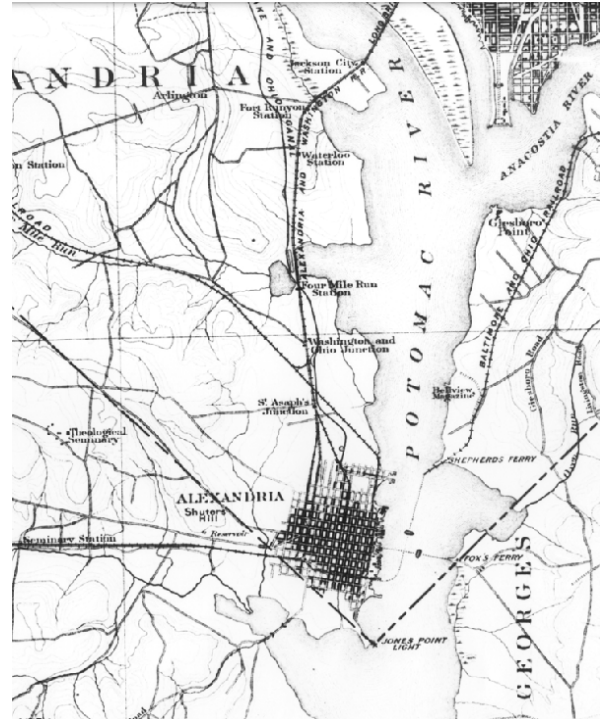
headed north. In addition, food and other products could be transported by rail for sale in Washington or transferred to northbound trains in the capital (Mullen 2007:34).

Plans for another railroad had begun to take shape in 1853, when a group of local residents, hoping to help Alexandria compete with Baltimore for trade with the west, secured a charter for the Alexandria, Loudoun and Hampshire railroad. Construction began in 1855, and trains began running between Alexandria and Leesburg in 1860, crossing from the southeast toward the northwest through what would become Potomac Yard (Mullen 2007:34, 39).

The Civil War: Rail Connections Improved

The connection of the north and south railroad lines through Alexandria occurred as a result of the Civil War. On March 24, 1861, the day after Virginia seceded from the Union, Federal troops entered by city, and it remained an occupied town throughout the course of the war. Tens of thousands of soldiers passed through the area, and during the early years of the war, the 5th Massachusetts may have camped on what would become Potomac Yard property (Mullen 2007:40-41).

Control of the railroads leading out of Alexandria to the west and south probably served as the major impetus for this occupation. Alexandria became a major depot for shipment of supplies and troops to the front as well as a hospital and convalescent center for those injured. The U.S. Military Railroad complex, a secure and stockaded 12-block area enclosing the facilities of the Orange and Alexandria, was constructed. The three rail lines to enter the city were connected and expanded during the occupation, and the rail connection with the North was made complete when tracks were laid across Long Bridge to the Baltimore & Ohio Railroad (Mullen 2007:39-40).



Historic street grid with rail context, 1888

Post-War Seeds of Suburbanization

Throughout the nineteenth century, land use in the area that would become Potomac Yard remained largely agricultural. The Swanns, descendants of the Alexanders, lived near the former location of Preston Plantation, which was burned down during the Civil War. The Daingerfields owned much of the land, and Susan Barbour, daughter of Henry Daingerfield and wife of U.S. Congressman and then Senator John Barbour, erected a house on the property in the 1870s. A small community, which included a school house by 1878, grew up near the intersection of what is now Monroe Avenue (Poorhouse Lane) and the turnpike. In 1894, two planned residential developments, Del Ray and St. Elmo, were established on the west side of the turnpike and laid the groundwork for the suburbanization that was to occur around Potomac Yard in the succeeding century. The proximity to the railroads made it possible for residents to commute to jobs in Alexandria and Washington. On the A&W rail line, St. Asaph Junction station served the community of Del Ray, and the Washington and Ohio station served St. Elmo (Mullen 2007:40-47).

Potomac Yard, 1906-1987

In the late nineteenth and early twentieth centuries, the Washington, D.C. area became a major point for the transfer of freight between northern and southern rail networks. The railroads carried perishable goods, such as fruits, vegetables, and livestock, from the southern states to urban markets in the North, and transported manufactured goods from northern factories to the South. With multiple rail companies serving each region at the turn of the twentieth century, there was no central location for the transfer of freight between the northern and southern lines (Mullen 2007:47)

The situation was particularly difficult in Alexandria, where a significant bottleneck occurred with all these rail lines trying to pass through town. East/west City streets were blocked, as 20 to 30 trains per day came through on Fayette and Henry streets. With the rising volume of rail traffic, the system became increasingly unwieldy, and a movement to beautify Washington took up the cause to get the railroads out of the cities (Griffin 2005). The solution took shape as an unusual business undertaking, when six competing railroads agreed to band together to construct the rail yard and facilitate the movement of freight between the northern and southern rail lines.

Potomac Yard, known as the “Gateway Between the North and the South,” became the largest railroad yard for freight car interchange on the east coast. When Potomac Yard opened on August 1, 1906, it had 52 miles of track that could handle 3,127 cars. The yard grew to a maximum of 136 miles of track crammed into a 2 ½ to 3 mile stretch of land. At its peak, it serviced 103 trains daily (Griffin 2005; Carper 1992; Mullen 2007:47, 49).

The yard was divided into two main areas—a northbound classification yard and a southbound classification yard. In the northbound yard, freight destined for the north came into the yard, was classified and made up into trains for the northern markets. The routine was the same in the southbound yard. Trains would come in, climb what was called the hump, and be directed toward the appropriate track to form outbound trains by the throwing of switches. Initially, gravity took the cars down the hump with brakemen riding on the sides of the cars and manually putting on the brakes (Griffin 2005; Mullen 2007).

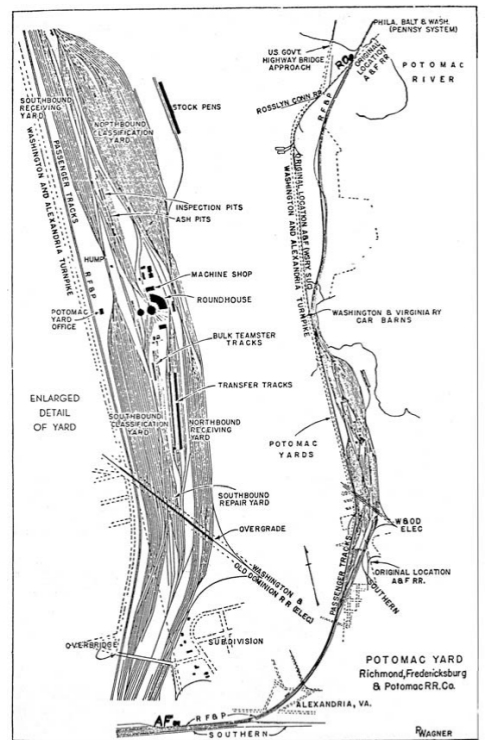
Turntable and transfer shed, 1936



While the main function was freight classification, the yard had numerous support buildings and facilities. These included an 800-foot long transfer shed to consolidate freight from cars that were not full, facilities for pit inspection of the cars, a 12-stall round house and engine house for repairs and maintenance, and a 135-foot high coal tipple that could load over 1500 tons of coal per day to satisfy the needs of the steam locomotives. There were also facilities for feeding and resting livestock in transit. In addition, a huge icing facility could service 500 cars of perishable goods per day with ice manufactured by the Mutual Ice Company of Alexandria. As the twentieth century progressed, the yard changed with increased mechanization and the advent of electric and diesel electric trains (Griffin 2005; Carper 1992; Miller 1992; Mullen 2007; Walker and Harper 1989).

To operate the classification yard and associated facilities, Potomac Yard employed approximately 1200 people in 1906 and about 1500 at its peak. Employees included mechanics and carpenters who worked on the rail cars, car inspectors, brakemen, switch operators, and locomotive engineers, as well as clerks who managed the huge amount of paperwork associated with the freight transfer. The work force consisted of both whites and African Americans, but the yard enforced racial segregation in employee facilities. In the early twentieth century, the workers were primarily male, but by mid-century African American women, and perhaps white women, had become part of the labor force (Mullen 2007:49).

By the 1970s, the heyday of the railroad era began to wane and the need for a classification yard between the North and South lessened. Technological improvements in the rail cars allowed for longer periods of use without maintenance. There was a decrease in the flow of agricultural goods from south to north, and competition from the trucking industry took its toll. By 1987, a decision was made to route freight trains around Washington, and Potomac Yard officially ceased operations (Miller 1992:115). Metro and Amtrak trains still carry passengers through this corridor, and with the development of the linear park, walkers, joggers and bikers will continue to travel the north-south transportation corridor that was first traversed by Native Americans thousands of years ago.



Pre-WWII - Richmond, Fredricksburg, Potomac RR Co. Map



Rail yard workers



Aerial of Potomac Yard, 1960s



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