**MCPB**
Date: 03-14-13

## Briefing: New Initiatives in Neighborhood Planning

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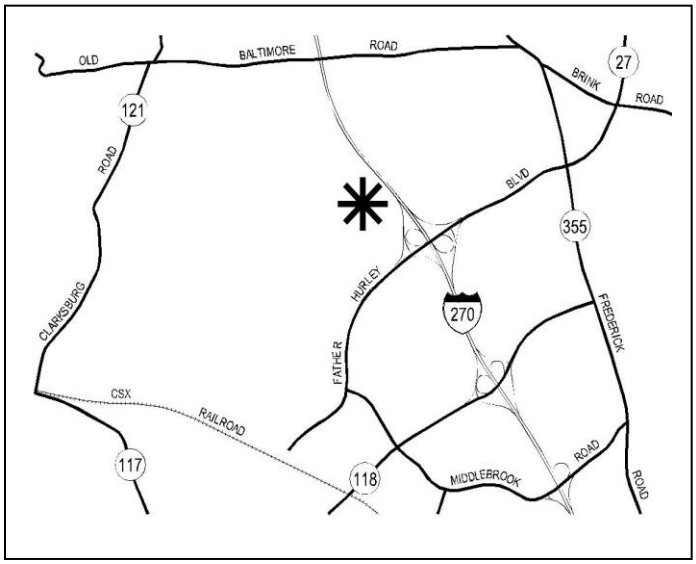
### Description

**Briefing: New Initiatives in Neighborhood Planning for Leadership in Energy Conservation and Environmental Design**
Principles and precedents for use in the review of Project Plans in the Germantown Employment Area
*Staff recommendation: Information for the Planning Board*




### Summary

The attached report is a review of new planning and design efforts to create sustainable neighborhoods that reduce energy consumption and the impact on the environment. The report is intended to be an informative document to augment and enhance the planning process. The review of the principles and precedents will create a new tool to enhance the review of Project Plans in the Germantown Employment Area in Montgomery County. Five of the neighborhood precedents were initiated by the private sector, and they received certification through the new LEED-ND or sustainable neighborhood program:

- Harbor Point: Stamford, Connecticut
- Metropolitan Gardens: Denver, Colorado
- Southwest Ecodistrict: Southwest, Washington, D.C.
- The Warf: Washington, D.C.
- Twinbrook Crossing: Rockville, Maryland

One precedent is a proposed development plan created by a local planning authority for a sustainable neighborhood.

- Lloyd Crossing: Portland, Oregon

## DISCUSSION

The Planning Department should provide leadership in planning for sustainable neighborhoods beyond the scale of individual buildings in Montgomery County. The private sector and some jurisdictions have begun to focus on sustainable planning at the scale of the neighborhood to reduce energy consumption and the impact on the environment. The use of green building technology has been incorporated into the building permit process in several jurisdictions. As an example, individual buildings are often required to receive the equivalent of LEED Silver certification. In contrast, sustainable planning and design to reduce energy consumption and the impact of development on the environment at the neighborhood scale has rarely been incorporated as a regulatory planning tool by local governments. Approved and adopted master and sector plans in Montgomery County often recommend sustainable neighborhood design features to be implemented during the review of development projects.

The attached report will assist in identifying appropriate methods to reduce energy consumption and the impact on the environment through sustainable planning at the neighborhood scale. As required in the review of project plans, the use of the design principles could assist in identifying design features that are capable of supporting the greater densities permitted by the optional method of development and establishing consistency with recommendations in master plans.

**Project Plans in the Germantown Employment Area**
The Approved and Adopted Germantown Employment Area Sector Plan recommends the use of an environmental framework and a series of neighborhood design features to be addressed in the review of development projects. The use of sustainable neighborhood design principles identified in this report provide a tool to assist applicants in meeting the following requirements:

- **Section 59-D-2.11. Project plan required.**
  The Montgomery County Zoning Ordinance requires that project plans ensure that development include the public facilities, amenities, and other design features that will create an environment capable of supporting the greater densities and intensities permitted by the optional method of development.

- **Section 59-D-2.42. Findings for approval.**
  The Montgomery County Zoning Ordinance also requires that a project plan be consistent with the applicable master plan. The Germantown Employment Area Sector Plan recommends an environmental framework and a series of design features that should be addressed in the review of development projects.

## CONCLUSION

The purpose of this briefing is to provide the Planning Board with a tool to assist in the review of project plans. The set of principles identified in the attached document should be used as a way to systematize and quantify the potential public facilities, amenities and other design features required to assist in the review of the project plans and preliminary plans including the Crystal Rock project and others in the Germantown Employment Area.

Attachment: Initiatives in Neighborhood Planning For Environment and Energy Conservation

Staff Report

# Initiatives in Neighborhood Planning for Environment and Energy Conservation

Principles, Precedents, and Application

March 7, 2013





## INTRODUCTION

Montgomery County and other jurisdictions have established standards for buildings that often follow the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system or equivalent for buildings. In contrast, few local governments have developed planning approaches that use the Leadership in Energy and Environmental Design rating system or equivalent for planning neighborhoods. As an example of a neighborhood planning approach, the Portland Development Commission developed a sustainable neighborhood plan for the development of the Lloyd Crossing area. To fill this gap, the U.S. Green Building Council (USGBC), the Congress for New Urbanism (CNU), and the Natural Resources Defense Council (NRDC) have combined to develop a more comprehensive approach to neighborhood planning (identified as LEED-ND) based on the combined principles of smart growth, New Urbanism, green infrastructure and sustainable building. The goal of this partnership is to establish a national standard for environmentally superior neighborhood planning practices.

Since the completion of the Sector Plan for the Germantown Employment Area, the detailed planning and design for parcels along the Corridor Cities Transitway has begun. These parcels vary in size from 30 acres to over 190 acres. The development of these parcels creates an opportunity to establish a collection of sustainable neighborhoods that meet the principles of LEED-ND planning and the recommendations in the Sector Plan for the Germantown Employment Area.

**New Initiative for the Germantown Employment Area**

Projects within the Germantown Employment Area should foster the creation of mixed- use neighborhoods that address objectives for public use space or place making, linkages, compatibility and green technology, and environmental sustainability. These objectives provide options to enhance the neighborhood planning and design in the Germantown Employment Area. The role of the Planning Department would be to use the principles identified in the precedents in this report in the review project plans in the Germantown Employment Corridor. The initial response from the development community for this approach is strong support for the initiative to provide predictability and to establish the highest quality neighborhoods that attract employers and residents to locate in the Germantown Employment Area.

*Germantown Employment Area*


Developments in the Germantown Employment Area are required to accomplish the following:

- Consistency with the Sector Plan (Section 59-D-2.42, Montgomery County Zoning Ordinance)
- Meet the Requirements of the Optional Method of Development (59-D-2.11, Montgomery County Zoning Ordinance)

The following pages summarize how sustainable neighborhood principles could be used in the Germantown Employment Area to establish consistency with the Sector Plan and to meet the requirements of the Zoning Ordinance.

**Consistent with the Sector Plan**

To establish consistency with the Germantown Employment Area Sector Plan, developments in the TMX-2 Zone should address specific objectives for land use, intensity, accessibility, building orientation, and place making (pages 38-41, Sector Plan). The Sector Plan for the Germantown Employment Area identifies specific environmental objectives (page 39 - 41) to be addressed by development. The list of environmental objectives includes:

- Environmental Framework Recommendations
- Forest Resources and Tree Canopy
- Open Spaces
- Wetland Resources
- Water Quality
- Stormwater
- Green Design for development

As part of the finding for consistency with the Germantown Employment Area Sector Plan, the principles in this report based on the precedents, the LEED-ND rating system, and other sustainable systems could be used as a tool in the review of project plans.

**Requirements of the Optional Method of Development**

**CBD Zones -** The Project Plans for the Optional Method of Development in the CBD Zones in Montgomery County have focused on the redevelopment of compact, high density and more urban sites found in the central business districts (CBDs). The approved Project Plans in the CBDs have provided public use space, streetscape, amenities and other design features such as public art.

**TMX-2 Zone** - A project plan in the TMX-2 Zone (Section 59-D-2.11, Montgomery County Zoning Ordinance) must satisfy the following:

> "To ensure that the development will include public facilities, amenities and other design features that will create an environment capable of supporting the greater densities and intensities permitted by the optional method of development, the developer must submit a project plan as part of the application for the use of the optional method."

In contrast with the CBDs, the sites in the Germantown Employment Area are often larger, less dense and include sensitive environmental features such as forest areas and streams. In addition to the focus on public use space, public facilities and amenities found in CBDs, the Project Plans for the Optional Method of Development in the Germantown Employment Area should also focus on an additional set of design features including preservation of environmental resources, and sustainable neighborhood planning and design principles and practices. The next page summarizes the sustainable design principles that could be used as a tool in the review of Project Plans in Germantown. These sustainable neighborhood planning principles are intended to assist in meeting the requirements for consistency with the recommendations in the Sector Plan and the requirements of the Zoning Ordinance.

## PRINCIPLES

**Neighborhood Location and Placemaking**

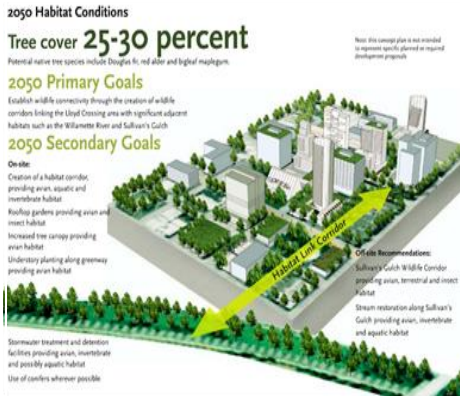
- Locations near transit
- Mixed-use with proximity of housing and jobs
- Variety of housing types
- Public use space
- Public Art
- Dedication and proximity of parkland
- Recreation facilities
- Public facilities

**Linkage and Pedestrian Orientation (Reduction in the Use of Fossil Fuels):**

- Links to the regional trail system
- Walkable streets
- Bicycle network
- Access to public spaces
- Access to recreation
- Tree lined and shaded streets (streetscape)
- Dedication of streets and transitways
- Transportation Demand Management

**Energy Conservation, Solar Orientation and Green Buildings:**

- Compatibility
- Orientation of blocks
- Street orientation
- Building height and shading
- Site planning for solar orientation
- Building orientation for daylighting
- Green roof and cool roof areas
- Green Buildings




**Environmental Protection and Conservation:**

- Wetland and stream protection
- Habitat protection
- Forest conservation
- Tree canopy and heat island reduction
- Street trees
- Coverage (buildings and paving)
- Agriculture and rural open space preservation
- Stormwater management

## PRECEDENTS

To augment and enhance the review of projects in Germantown that use the optional method of development, a summary of the components of sustainable neighborhoods that have been recognized or used as part of the program by the LEED-ND and other rating systems for sustainable neighborhood planning is included.

Over 230 neighborhood projects have received certification by the LEED-ND rating system as examples of sustainable neighborhood planning. These neighborhoods vary in size from 5 acres to over 1,500 acres. After a review of these neighborhoods that demonstrate the principles of sustainable neighborhood development, three national and three local examples were selected for a more detailed review. The next pages summarize the elements of six plans that demonstrate the best planning for sustainable neighborhoods:

- **Harbor Point:** Stamford, Connecticut
- **Lloyd Crossing:** Portland, Oregon
- **Metropolitan Gardens:** Denver, Colorado
- **Southwest Ecodistrict:** Southwest, Washington, D.C.
- **The Wharf:** Southwest Waterfront, Washington, D.C.
- **Twinbrook Station:** Rockville, Maryland

Five of the six neighborhood projects identified in this survey have received certification as sustainable neighborhoods as part of the LEED-ND pilot program. The sixth neighborhood project (Lloyd Crossing) is an example of a local government authority that developed a plan for sustainable neighborhood development before the LEED-ND rating system was established.

*Harbor Point*

*Lloyd Crossing*

*Metropolitan Gardens*

*Southwest Ecodistrict*

*The Wharf*

*Twinbrook Station*

## PRECEDENT

## HARBOR POINT: STAMFORD, CONNECTICUT

**Harbor Point neighborhood** is located in the South End section of Stamford, Connecticut, in southwestern Fairfield County. It includes five distinct areas each centered on a park or waterfront feature. It is currently one of the largest redevelopment projects in the nation. Once development is complete, Harbor Point will have over 8,000,000 square feet of residential, retail, office, hotel space, and a marina. Catering to the transit-oriented, Harbor Point is a central hub for commuters in and out of New York City. This project will redevelop industrial properties that have had a negative impact on the entire community of Stamford. Harbor Point also includes an independent school that serves lower-income families.

### Harbor Point, a Sustainable Neighborhood

#### Neighborhood Location and Place Making

This waterfront community includes a mix of land uses. A variety of housing opportunities will be provided including 400 affordable housing units. The core of the project includes the Square, a waterfront plaza and two major parks. Harbor Point includes 11 acres of parkland and provides access to the waterfront.

#### Linkage and Pedestrian Orientation

Harbor Point provides a variety of transportation choices. This neighborhood is located a five minute walk from the Stamford Train Station with 45-minute express trains to New York. Downtown Stamford is one mile away, accessible by sidewalks, bike paths, park walks, and a public jitney bus system.

#### Energy Conservation, Solar Orientation, Green Buildings

This project is one of only forty-eight neighborhoods in the world with the LEED-ND Gold certification. It is a compact, walkable, neighborhood with good connections to adjacent communities and New York City. It includes technologically advanced environmental design and community planning with LEED certified buildings.

#### Environmental Protection and Conservation

The project is designed to reclaim the former industrial waterfront. The redevelopment of a waterfront park preserves wetlands and protects environmentally sensitive areas. Shaded streets and walkways are designed to reduce the heat island effect for the entire Harbor Point neighborhood.

## Sustainable Neighborhood Objectives and Economic Development

The Stamford-based, Building and Land Technology (BLT) has completed projects worth more than $3 billion including over 8 million square feet of commercial development and over 4,000 residential units. Building and Land Technology properties include numerous high quality office parks, a variety of apartment complexes, single-family developments, joint development communities and adaptive reuse projects throughout Fairfield County. BLT emphasizes the creation of sustainable neighborhoods that meet the requirements for LEED-ND certification. Examples of BLT properties include the headquarters for Starwood Hotels & Resorts Worldwide, Gen Re, GE Commercial Finance, Diageo, GE Real Estate, Xerox, GE Energy Financial Services, IMS Health, Hewitt, Cornell University Veterinary Specialists, Design Within Reach, and Louis Dreyfus Highbridge Energy.

**LEED Gold Certified Neighborhood**

**Planning and Urban Design:**

- Cooper Robertson, Inc.
- Sasaki Associates

**LEED ND Features:**

- Open framework design centered on a prominent park
- Pedestrian friendly streets:
  - Wide sidewalks
  - Calmed traffic
  - Tree lined
  - Ground floor retail
  - Accessible building entrances
  - Bike lanes
- LEED buildings
- Structured parking

**Data Table:**

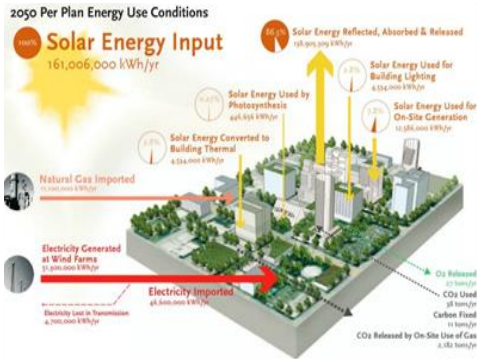
- Site area: 177.1 acres
- Total mixed use floor area of Harbor Point includes:
  - Retail/restaurant (350,000 SF)
  - Office (900,000 SF)
  - Residential (4,000 DUs)
  - Full service marina
  - Community school
  - Hotel
- Parkland: 11 acres
- Neighborhoods: 5 distinct areas

## PRECEDENT

## LLOYD CROSSING: PORTLAND, OREGON

The goal for **Lloyd Crossing** is to create a long range vision for the study area that is environmentally and financially sustainable which has the kind of critical urban qualities that distinguish it within the context of the greater Portland area as a unique, vibrant, attractive and healthy community, and would provide a model for development efforts throughout Portland.

Over the next 45 years, the market for real estate in the study area could potentially absorb the addition of over 8.0 million square feet of new development. The planning and design goal is to achieve the same impact of development as if the area remained in forest.


### Neighborhood Location and Place Making

The existing potential for development will be preserved. This amount of development is intended to reduce pressure on outlying areas. A FAR transfer mechanism has been created between selected sites to maximize development. An interconnected system of open spaces has been created. To begin the development, a catalyst project is proposed to demonstrate sustainability features in the short term.

### Linkage and Pedestrian Orientation

One of the overarching methods to reduce fossil fuels and reduce carbon emissions in the plan is based on creating a neighborhood that is walkable. The Lloyd Crossing plan calls for the implementation of a grid system, arguably the most pedestrian oriented ways of designing a walkable network of streets. The street grid will provide access for all vehicles. Pedestrian access and walkability will be a priority for the Lloyd Crossing neighborhood.

### Energy Conservation, Solar Orientation, Green Buildings

The vision of the Plan is to create a neighborhood in which the carbon balance and the use of solar energy closely match pre-development conditions. Building efficiency standards will generate significant energy cost savings. Photovoltaic and wind systems will reduce the use of electricity and generate cost savings. The reintroduction of small parks, green spaces and tree lined streets will also increase walkability and reduce the heat island effect.



## Environmental Protection and Conservation

The overarching goal for the neighborhood plan is to reduce the net environmental impact of development over the next 45 years to an absolute approaching or exceeding pre-development conditions on the site. The neighborhood plan will foster a wide variety of efforts to achieve the goal to significantly reduce the environmental impact, even with a five-fold increase in the intensity of development in the long term.

## Sustainability Goals for the Neighborhood

- **Habitat -** Restore pre-development habitat metrics through on-site and off-site strategies.
- **Water -** Achieve a "water neutral" neighborhood functioning within the on-site rainfall.
- **Energy Goal -** Live within the neighborhood area's usable annual solar budget and achieve a "carbon neutral" neighborhood.
- **Development Goal -** Achieve the maximum allowable development potential as measured by floor area.

**Sustainable Neighborhood**

**Consultant Team:**

- Mithun Architects: Architecture and Urban Design
- KPFF: Water Systems
- GreenWorks: Landscape Architecture
- SolArc: Neighborhood Energy Strategies
- Real Estate Analysis: Heartland
- Urban Design and Zoning: Urbanworks

**Sustainable Neighborhood Design Strategies:**

- Placemaking
- Habitat
- Energy
- Water
- Materials

**Data Table:** 2050 build-out

- Site area: 35 city blocks
- Mixed-use:
  - Office/Retail: 4,250,000 SF
  - Residences: 4,250 units
  - Hotel: 75,000 SF
- Parking: 3,143 spaces
- Jobs to housing ratio: 2.5 jobs for each household
- Building height: 150' to 250' Including a residential bonus of 75 feet
- FAR: 3 to 9 including a residential bonus of 3 FAR

## PRECEDENT

## METROPOLITAN GARDENS: DENVER, COLORADO

**The Metropolitan Gardens** is located in Denver, Colorado. It is a new urban infill project that blends residential, office, retail, and entertainment into a dense, pedestrian-oriented neighborhood. The master plan uses pocket parks and ample green space to transform the site of a former rubber factory into a mixed-use neighborhood.

The FasTracks light rail system in Denver is located adjacent to the site to improve connectivity to the region. This neighborhood is one of the largest in the Denver Metropolitan Area. The project is also a participant in the LEED-ND program.

### Neighborhood Location and Place Making

This LEED-ND certified, mixed-use neighborhood provides a balance of jobs and housing. The open spaces include both packet parks and a large central open space for public gathering.


### Linkage and Pedestrian Orientation

The system of streets creates a walkable community and link to the Denver transit system. The emphasis is on providing pedestrian access between public spaces and buildings.

### Energy Conservation, Solar Orientation, and Green Buildings

The design of this neighborhood establishes a major commitment to the redevelopment of an existing factory site. Buildings are oriented to maximize solar access to the open spaces and to increase daylighting.

**Metropolitan Gardens is a LEED Gold Certified Neighborhood located outside Denver, Colorado**

**Planning and Urban Design Team:**

- Rossetti Urban Design
- DW
- ComArts
- 4240 Architecture

**LEED ND Features**

**Placemaking:**

- Landscaped central park
- Small urban parks
- River edge

**Linkages:**

- Connectivity to the Denver street grid
- Transit orientation and pedestrian oriented development rather than auto dependent

**Environment**

- Brownfield redevelopment (commitment to environmental clean-up)
- Re-use of historic structures
- Below-grade structured parking to reduce heat island effect, and surface treatment of storm water run-off
- Balance of jobs and housings

**Data Table:**

- Total SF: 1 million
- Retail
- Residences: 2,300 with up to 55 housing units for artists
- Potential student housing
- Office: 450,000 SF
- Hotels: two
- Parking: Two levels, below grade
- Large landscaped park with picturesque views and access to the South Platt River
- "Pocket" parks
- Entertainment plazas with performance spaces

**Environmental Protection and Conservation**

The existing stream is designed to be preserved and enhanced as a visible asset to the neighborhood. The extensive landscaping along the existing stream, closely spaced street trees, and landscaping of public spaces will enhance the character of the neighborhood and reduce the heat effect. An extensive system of stormwater management will be provided.

**PRECEDENT**

## SOUTHWEST ECODISTRICT: WASHINGTON, D.C.

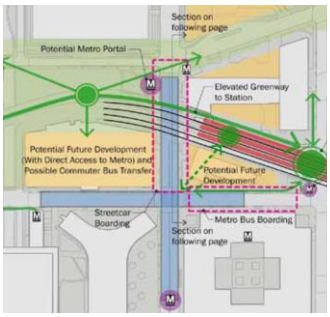
**The Southwest Ecodistrict Neighborhood Initiative** is a comprehensive effort to transform a 15-block federal precinct just south of the National Mall into a sustainable urban neighborhood. In addition to accommodating the future space needs of the federal government, the Ecodistrict will extend the civic qualities of the National Mall, create new places to live, and promote a walkable neighborhood. The initiative involves 17 federal and district agencies.

The federal government is reexamining its property to meet sustainability targets, and create efficient workplaces for a modern federal workforce. Sponsors are considering this area for future museum and memorial projects.

### Ecodistrict as a Sustainable Neighborhood

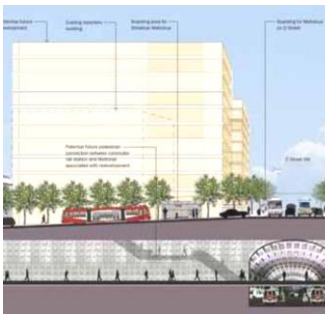
#### Neighborhood Location and Place Making

Federal agencies will be joined by a balance of residential, commercial, and cultural uses. Office workers, residents and visitors will be attracted to the new museums, parks and open spaces, the southwest waterfront, and the retail opportunities.




#### Linkage and Pedestrian Orientation

A planned network of tree lined streets, sidewalks, and bicycle lanes will improve walkability, and link to the national mall and the southwest waterfront. An expanded intermodal center and connection to the Metro system will be provided.

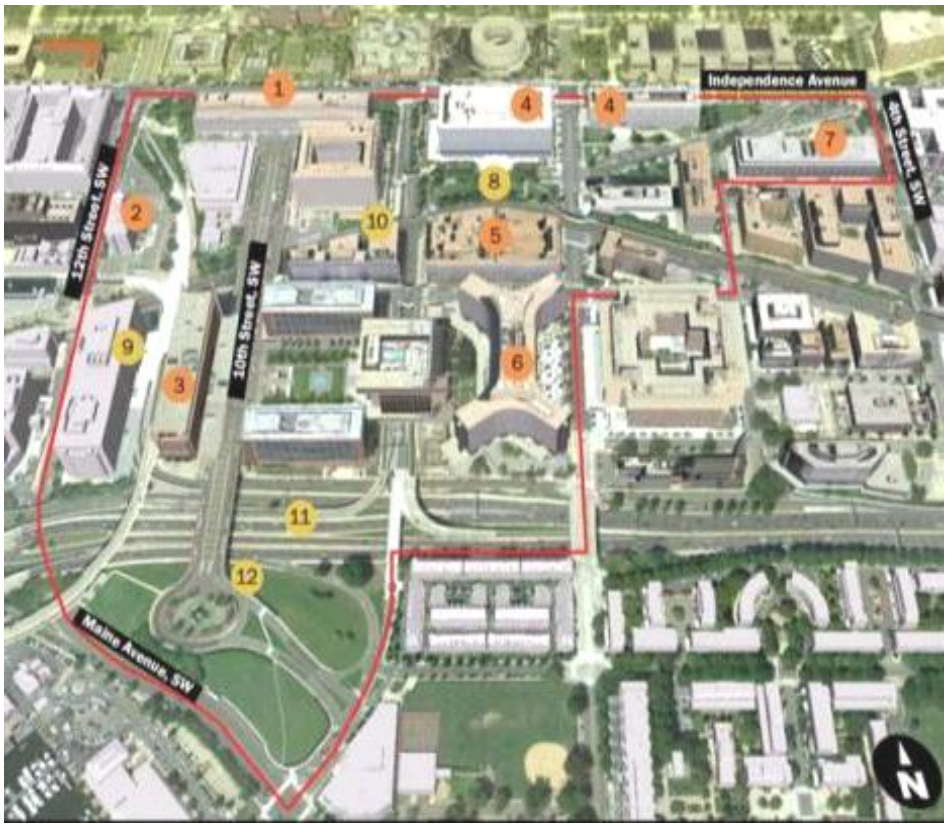


#### Energy Conservation and Solar Orientation

The existing mid-century modern buildings will be rehabilitated. Buildings will use less energy and water diverting waste from the landfill, and capturing stormwater for reuse. The approach will significantly reduce carbon emissions for the neighborhood.

#### Environmental Protection and Conservation

Additional open spaces will be provided. Imperviousness will be reduced. Expanding the tree canopy by providing closely spaced street trees, and extensive landscaping of parks and opens spaces will reduce the heat island effect.




The Southwest Ecodistrict is located between Independence Avenue to the north, Main Avenue to the south, 12th Street to the west, and 4th Street to the east. This area includes approximately 110 acres of publicly and privately owned land.

The project is located adjacent to the development of the Wharf located in the southwest waterfront of Washington, D.C. (see the next pages).

**Legend**

**Building Sites**

1. U.S. Department of Energy
2. Cotton Annex
3. U.S. Postal Service
4. Federal Aviation Administration
5. General Services Administration
6. U.S. Department of Housing and Urban Development
7. U.S. Department of Education

**Other Sites**

8. Reservation 113
9. 12th Street Tunnel
10. Rail Line/Maryland Avenue
11. Southwest Freeway
12. Banneker Park

**Southwest Ecodistrict will be a LEED Certified Neighborhood**

**Planning and Urban Design Team (Eco District task Force):**

- ZGF, LLP
- National Capital Planning Commission
- District Office of Planning
- 17 federal agencies

**LEED-ND Features**

- **Energy:** Lower green house gas emissions by **50 percent** while moving toward a zero-net energy district as measured in carbon.
- **Water:** Reduce potable water consumption by **70 percent** and improve stormwater management.
- **Waste:** Recycle **75 percent** of construction material as buildings are rehabilitated, and divert **80 percent** of the everyday waste sent to the landfill.
- **Green Infrastructure:** Cover **40 percent** of the Ecodistrict with tree canopy, and make at least **35 percent** of the surface area pervious.
- **Transit:** Located on the Metro public transit system.

**Data Table:**

- 15 blocks (study area including approximately 110 acres)
- Retail
- Residences
- Office space including federal agencies
- Hotels
- Below grade parking
- Large landscaped parks with views and access to the southwest waterfront and National Mall
- Urban plazas and open spaces

**PRECEDENT**

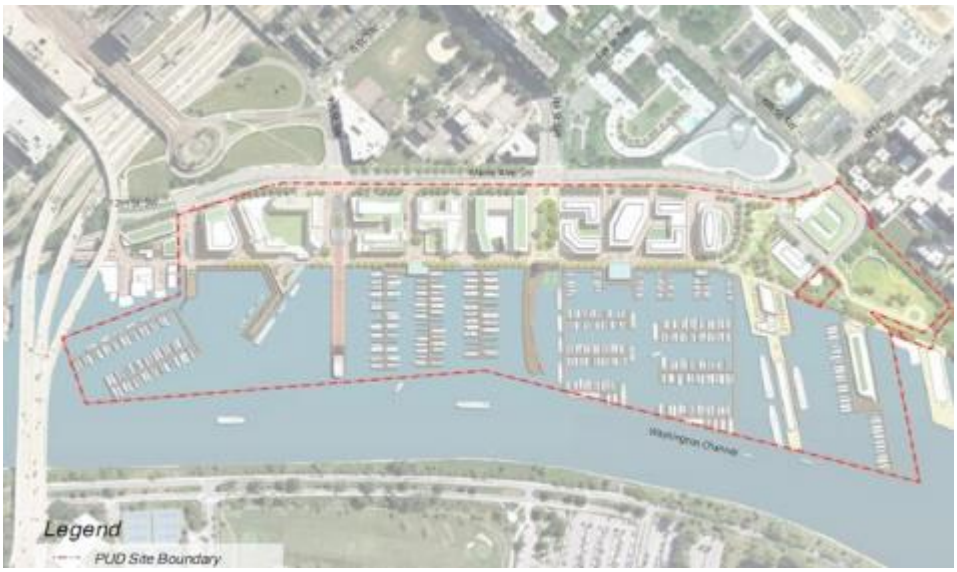
## THE WHARF: SOUTHWEST WATERFRONT, WASHINGTON, D.C.

**The Wharf** is a proposed waterfront development project located on the east bank of the Washington Harbor, in Southwest Washington, D.C. The approximately 52 acre property is located south of the Tidal Basin, and the 14th Street Bridge. The development is also adjacent to the Southwest Ecodistrict described on the previous pages.

Located along the waterfront of Washington, D.C., this desirable property will be designed to achieve a LEED-ND Gold certification for the neighborhood development.

The plan fosters the creation of a mixed-use development that is pedestrian oriented, and sustainable. The Wharf will become one of the major steps in the city's revitalization efforts for the waterfront.

Design elements such as building massing, orientation, and creation of short blocks will stitch the development into both the city and the waterfront of the Washington Channel.




### Neighborhood Location and Place Making

The development will bring the city to the water's edge and further. A key component to the development will be the extending the development out into the water on extensive piers. The plan calls for the extensions of commercial piers and the creation of new commercial piers, recreation piers, and even transit piers to host dinner boats, tourist travel, and commuter transits use.

### Linkage and Pedestrian Orientation

The project has been designed to give priority to the pedestrian. A new promenade along the water front, and wide sidewalks with closely spaced trees will be provided. The neighborhood is within a ten minute walk to a Metro station. This formerly isolated area will reconnect to the surrounding, southwest residential neighborhoods. The piers will provide space for boats and water taxis to connect to destinations along the Potomac River.


## Energy Conservation, Solar Orientation, and Green Buildings

Buildings and blocks are oriented to maximize daylighting of interior spaces and to provide adequate solar access to the public streets and open spaces. The neighborhood and buildings will be LEED certified. Green roofs and cool roofs will be used. An on-site co-generation plant with natural gas will generate electricity for the site and reduce dependence on the Washington grid system for electric utilities.

## Environmental Protection and Conservation

Development will be located above the flood plain of the Washington Channel. Stormwater will be managed on-site with a combination of efficient measures such as rain gardens and stormwater cisterns. The amount of imperviousness will be significantly reduced through the use of open spaces including a new park to commemorate the original designer of Washington, D.C. The tree canopy will be significantly increased.

**LEED Gold Certified Neighborhood**

**LEED Silver Certified New Construction**

**Planning and Urban Design:**

- PN Hoffman-Madison Marquette (Developer)
- EE&K a Perkens Eastmand Company (Planner/Architect)

**LEED ND Features:**

- Open framework design centered on a prominent park
- Pedestrian friendly streets:
  - Wide sidewalks
  - Calmed traffic
  - Tree lined
  - Ground floor retail
  - Accessible building entrances
  - Bike lanes
- LEED buildings
- Structured parking
- Green roofs

**Data Table:**

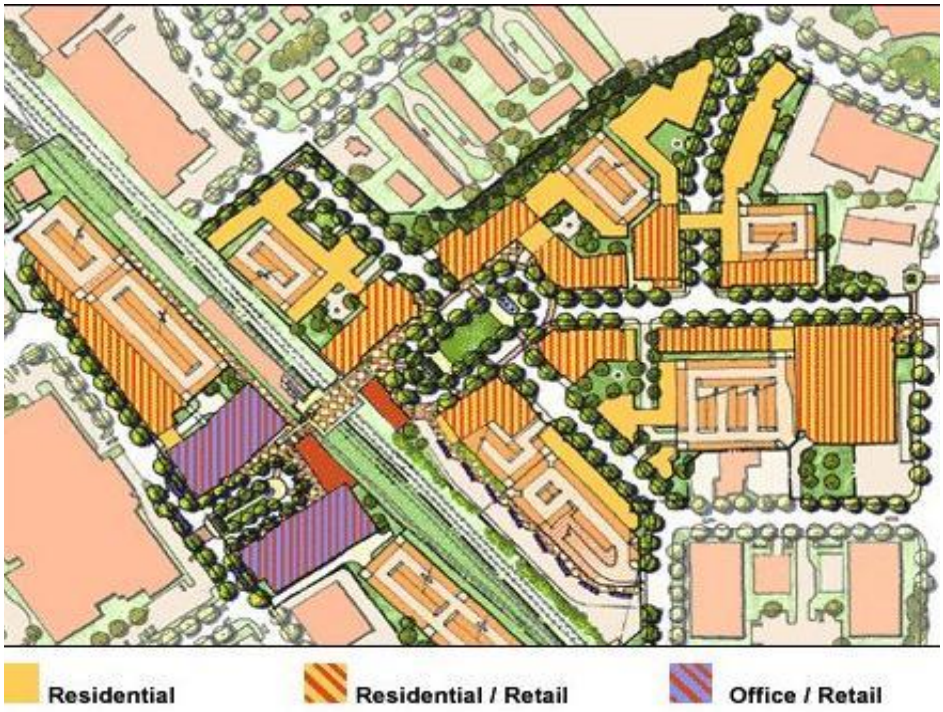
- Site area approx. 52 acres
- Residential - 560 DUs
- Hotel - 600 rooms
- Office - 840,000 SF
- Retail - 335,000 SF
- Cultural - 94,500 SF
- Parking - 2,500 spaces

## PRECEDENT

## TWINBROOK STATION: ROCKVILLE, MARYLAND

**Twinbrook Station** is located in Montgomery County within the southernmost section of the City of Rockville, MD. The transit-oriented development is a public-private partnership with WMATA and JBG.

**Twinbrook Station** is a located within Rockville's Twinbrook Metro Performance District. Twinbrook is the first LEED-ND certified neighborhood in the Washington Metropolitan area to achieve the level of Gold. The project includes a mix of building types including residential, office, and retail uses with structured parking. A Metro parking garage will also be provided to replace the existing surface parking facility.




### Neighborhood Location and Place Making

The site was formerly a surface parking lot for the Metro station. The site is a valuable location adjacent to the Twinbrook Metro Station with Rockville to the north, and the White Flint area to the south. The public space illustrated on this page provides a large green area and creates a positive, first impression of the area after arrival at the Twinbrook Metro Station.

### Linkage and Pedestrian Orientation

Anchored by the Twinbrook Metro Station and flanked by Rockville Pike to the west, residents and tenants have easy access to the City of Rockville, much of Montgomery County and the District. The development provides neighborhood amenities on-site, which coupled with tree lined streets, create a vibrant, active walkable neighborhood providing on-site amenities.

### Energy Conservation, Solar Orientation, and Green Buildings

The project will limit vehicle miles travelled (VMTs) because it is oriented around transit and designed to be walkable. The building design will emphasize saving energy, and integrating programs for recycling and waste-management. The buildings are projected to use 30 percent less water than traditional buildings.

### Environmental Protection and Conservation

This infill project replaces the existing impervious parking area with mixed-use development. By partnering with WMATA, the developer has the opportunity to eliminate surface parking by building new structured parking to serve the Metro station and the development. Twinbrook Station also locates density next to the Metro station in accordance with the Rockville Metro Performance District Guidelines.


## Sector Plan and Design Charrette

The neighborhood plan for the Twinbrook Metro Station area was started by a participatory design charrette produced by the staff of the M-NCPPC and the Design Collective with Seth Harry sponsored by the Montgomery County Council. A new Sector Plan for the neighborhood was approved and adopted in January 2009, based on the input from the charrette. After the rezoning and the development plan were approved, the site was annexed by the City of Rockville.


**Twinbrook Station is a LEED Gold Certified Neighborhood**

**Planning Department:**
- M-NCPPC
- City of Rockville

**Planning and Urban Design:**
- Design Collective, Urban Design
- Seth Harry, Urban Design
- Howard Transportation
- Torti Gallas, Architects

**Development:**
- JBG Companies
- WMATA

**LEED-ND Gold Features:**
- Neighborhood Location and Place Making
- Linkage and Pedestrian Orientation
- Energy Conservation and Solar Orientation
- Environmental Protection
- Transit location

**Data Table:**
- Residential: 1,209 DUs (1,000 rental units and 595 for sale units)
- Retail: 22,000 SF
- Residences: 1,595
- Office: 325,000 SF
- Parking: 1,150 spaces including parking for metro users
- 11 Metro Bus bays
- 4 Taxi stations
- Large landscaped park Metro Station
- Urban plazas and open spaces

## APPLICATION

**Sector Plan Vision**

**The Sector Plan for the Germantown Employment Area** establishes a vision that will transform the area into a vibrant town center and mixed-use districts. The Germantown of the future will be the center of business and community life in upper Montgomery County. The Plan's recommendations include:

- Complete the economic core envisioned in the General Plan
- Increase employment
- Organize communities around transit
- Enhance connections to Germantown's greenbelt and stream valley parks
- Pursue design quality and sustainability in the public and private realms
- Build on cultural and civic facilities

This Plan directs new uses, activity, and design attention to the Town Center-the heart of Germantown. Its mixed uses will be complementary with the offices on MD 118, and nearby Montgomery College. Century Boulevard will be the community's main street with shops and restaurants, library and arts center as focal points for civic life connected to the Corridor Cities Transitway.

Building at higher densities, in strategic locations results in a greener approach to building. More residents in compact walkable communities allow a more efficient use of resources. Jobs can draw workers from down-County to employment sites in Germantown, which increases the efficiency of the road and transit network without additional capital costs (Sector Plan, page 9).

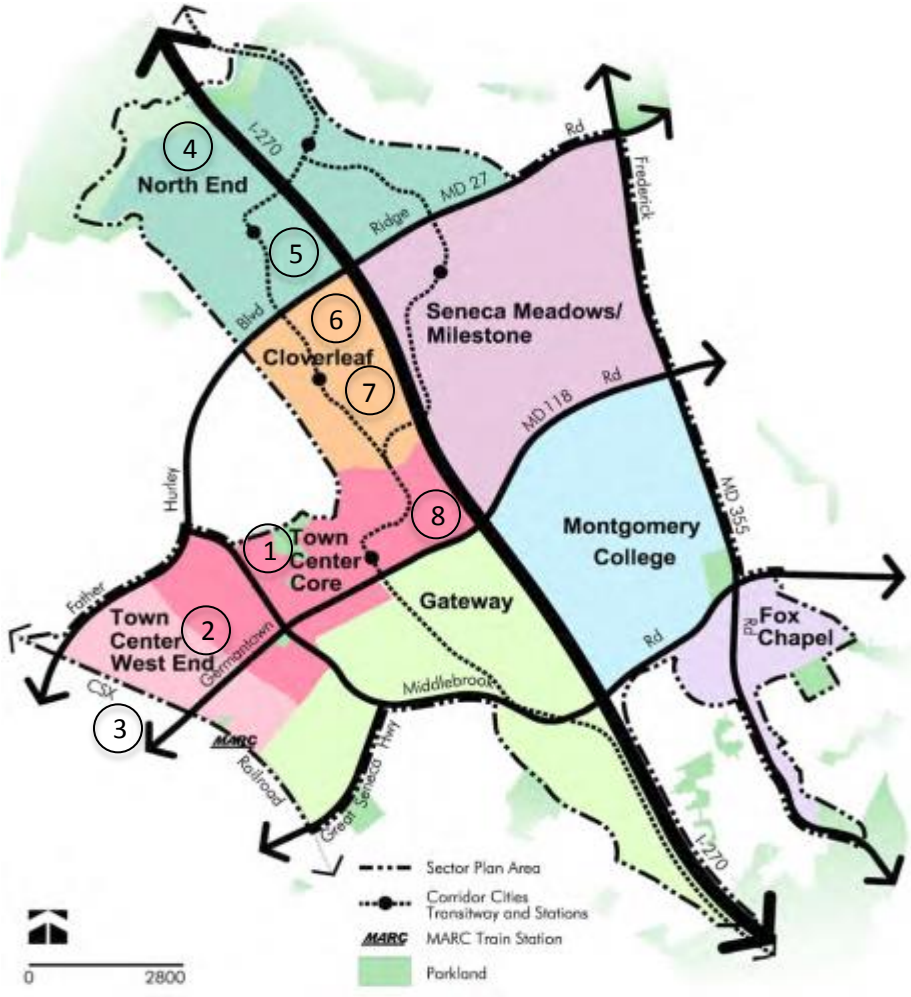
## GERMANTOWN EMPLOYMENT AREA


**Neighborhood Location and Place Making:**

- Locations near the Corridor Cities Transitway
- Mixed-use with proximity of housing and jobs
- Variety of Housing Types
- Public use space
- Dedicated space for needed public facilities


**Linkages and Emphasis on Pedestrian Travel:**

- Links to the regional trail system
- Pedestrian oriented streets
- Bicycle network
- Public spaces, the regional trail system, and the large park areas and recreation areas
- Corridor Cities Transitway and MARC Rail transit system




**Energy Conservation, Solar Orientation and Green Buildings:**

- Street orientation to maximize solar access to streets and public spaces
- Building height and site planning
- Building orientation to maximize daylighting
- Use of green or cool roof areas
- Green buildings

**Conservation and Preservation of the Environment:**

- Wetland and stream protection
- Habitat protection
- Forest conservation
- Increased tree canopy and reduction of heat island effect
- Street trees
- Stormwater management
- Reduced imperviousness

**Germantown Projects**
**West of I-270**

**Approved or Pending Projects:**

1. Germantown Town Center (approved and constructed)
   - Public Library
   - BlackRock Center for the Arts
   - Town Center Station Area (Panera Bread and others)
2. Village West at Germantown Town Center or Martens Property (approved)
   - 14,426 square feet of retail
   - 470 dwelling units
   - 868,893 square feet
3. Qiagen (pending)
   - Office, light manufacturing for a pharmaceutical company
   - 544,000 square feet total
4. Crystal Rock or Lerner Property (pending):
   - 1,432,400 square feet of employment including office, retail and hotel space
   - 1,618 dwelling units including high-rise , mid-rise, townhouses, and Senor Adult housing
   - 3,284,000 square feet total

**Future Private Projects:**

5. Totah Property (1.0 FAR) 1,010,972 square feet
6. Cloverleaf South (1.0 FAR) 1,339,667 square feet
7. Century Tech. Campus - Trammell Crow (FAR 1.0) 2,253,794 square feet
8. Matan Property (2.0 FAR) 1,066,348 square feet

**Future Public Projects:**

- Corridor City Transitway
- Future elementary school

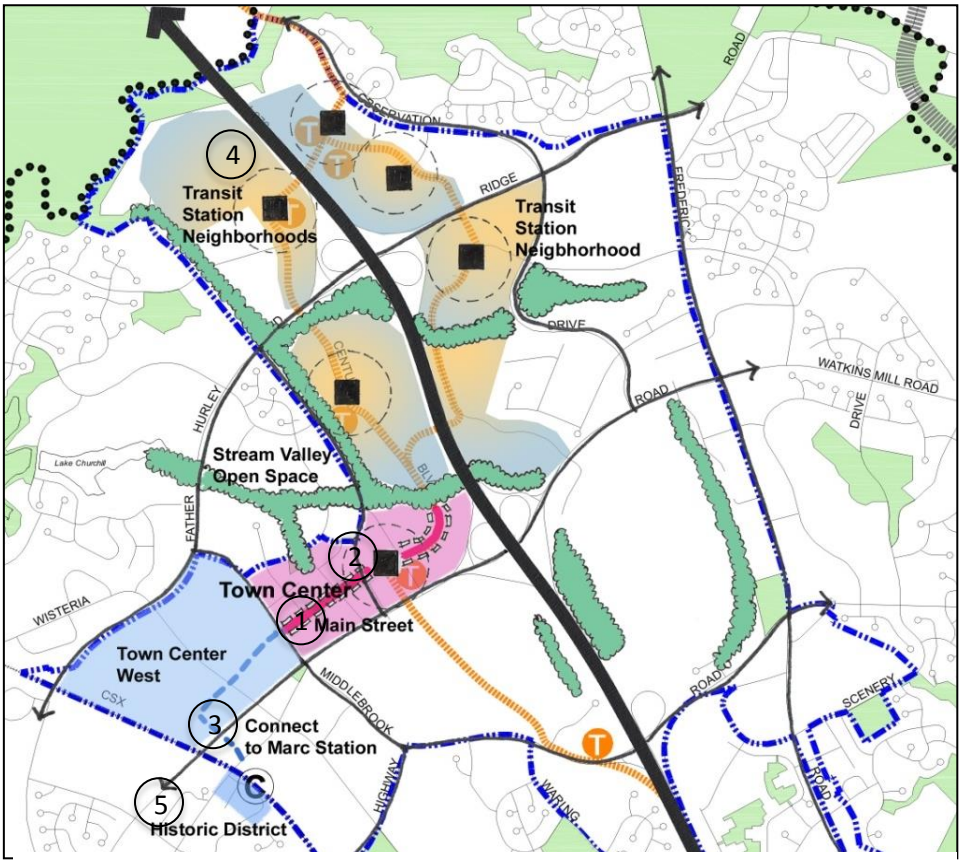
## APPROVED AND PENDING PROJECTS

**Design Framework**

The Sector Plan supports the green neighborhood concepts delineated in this document. The Germantown Employment Area Sector Plan includes recommendations for the Design Framework (page 20 - 22) including:

- Clustering development
- Connecting streets, bikeways and pedestrian routes
- Incorporating historic resources\locating the tallest buildings at the transit stations
- Expanding the natural open spaces, urban gathering spaces as amenities, recreation spaces, and conservation areas

In addition, the Sector Plan recommends reducing carbon emissions through energy efficiency to the fullest extent possible as part of compliance to achieve LEED certification level or equivalent.




*Design Framework for Germantown*

### 1. Germantown Town Center

This approved project was constructed in the early 1990s in accordance with the Germantown Town Center Design Study. This town center includes retail, offices a public library, open space, residences, and the BlackRock Center for the Arts.

### 2. BlackRock Center for the Arts

This completed public project was initiated by the residents of Germantown. It was funded by Montgomery County with a substantial contribution from an optional method project located east of I-270. This project is the core of the town center.

### 3. Martens Project

This approved project provides additional housing in the town center. The project is located near the Germantown MARC Rail Station. The project includes a small amount of retail, a mix of townhouses and multi-family units, and public use space.



*Crystal Rock Project Plan*

### 4. Crystal Rock

This pending project plan is located in the northern edge of Germantown. The project is the first to be conceived as a green neighborhood in Germantown. The project includes a variety of housing types, and office, hotel, retail and public use spaces.

### 5. Qiagen Sciences

This pending site plan amendment provides for an expansion to an existing employment project. The project provides for offices, limited manufacturing spaces, and parking for employees. The project is located along MD 118 and across from the MARC Rail Station.