



Shady Grove Sector Plan Minor Master Plan Amendment: Worksession No. 5: Community Facilities, Parks, Trails and Open Space, Sustainability and Land Use Follow-up



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SUMMARY

At the fifth worksession for the Shady Grove Sector Plan Minor Master Plan Amendment, staff will discuss the recommendations for community facilities, parks, trails and open space and sustainability in the Public Hearing Draft. In addition, staff will also discuss the zoning approach for the Crabbs Branch Office Park and the vacant property at Frederick Road (MD 355) and Shady Grove Road, initially discussed with the Planning Board during the third worksession on July 23.

SCHEDULE

The proposed upcoming schedule and worksession topics for this Plan Amendment are the following:

- October 15: Worksession No. 6- Recommendations for Plan implementation and Redline Version of Draft Plan.

PURPOSE OF THIS WORKSESSION

The purpose of this worksession is to describe and discuss the community facilities, parks, trails and open space, and overall environmental sustainability recommendations in the Public Hearing Draft Plan. This worksession will also follow-up on land use and zoning recommendations for the Crabbs Branch Office Park and a vacant property at Frederick Road (MD 355) and Shady Grove Road, initially discussed with the Planning Board during the third worksession. Prior worksessions discussed the Metro Neighborhoods and other key properties, the historic designation for the Derwood Store and Post Office, and overall mobility issues in the plan area.

COMMUNITY FACILITIES

The Public Hearing Draft Plan recommends a broad range of community facilities, including an elementary school and new open spaces, to support the existing and future growth within the area (Figure 1). These recommended facilities are similar to those facilities recommended in the 2006 *Shady Grove Sector Plan*.

Public Schools

Magruder, Gaithersburg and Richard Montgomery are the three high school clusters that serve the Sector Plan area (Figure 2). Most of the anticipated new residential development from this Sector Plan Amendment will be within the current Gaithersburg cluster.

Existing residential neighborhoods, including Mill Creek and Parkside Estates, are in the Magruder cluster, while Derwood Station, which is east of the Crabbs Branch Way Office Park, is in the Richard Montgomery cluster. Properties north of Redland Road and west of the Metro Access Road are in the Gaithersburg cluster.

The 2006 Sector Plan recommended Jeremiah Park as the preferred location for a new elementary school in the plan area. The Draft Plan also confirms the recommended elementary school at Jeremiah Park. The approved Shady Grove Station preliminary plan has included a dedicated 8.1-acre park-school site, but the implementation of this site is dependent on the relocation of the existing Montgomery County Public Schools (MCPS) Bus Depot.

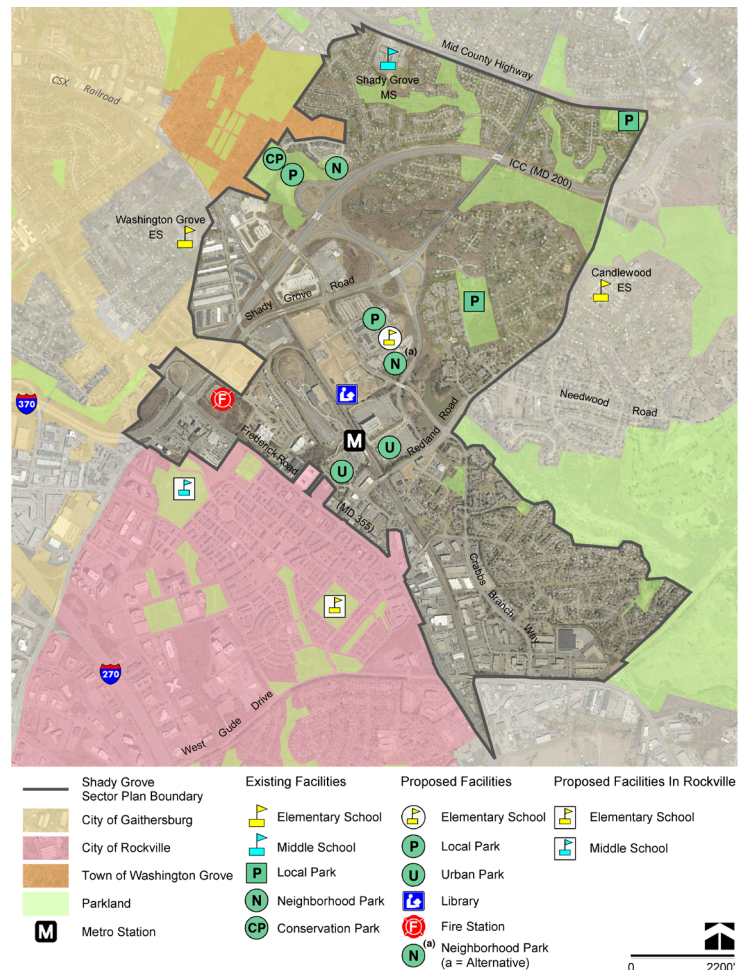


Figure 1: Existing and Proposed Community Facilities

A new Gaithersburg cluster elementary school is anticipated by September 2022 at Kelley Park, and a new high school at Crown Farm is expected by September 2026. These new schools are in the City of Gaithersburg. There are existing unbuilt school sites at King Farm in the City of Rockville that could accommodate an elementary school and a middle school.

Public Library

An urban library is anticipated in the near-term at Shady Grove Station, Westside. The Montgomery County Department of General Services (DGS) has entered into a lease agreement with EYA to provide space for an urban library on the ground level of a new multi-family residential building near the Metro Station. The Draft Plan supports the implementation of the library at this development.

Recreation Center

The Department of Recreation's *Facility Development Plan 2010-2030* (2011) determined that a community recreation center, with potential aquatic features, is appropriate for the Shady Grove area based on current and projected population densities. The Draft Plan recommends that a recreation center could be located within the Metro Neighborhoods since properties in this area are anticipated to redevelop in the future. The provision of a recreation center is considered a public benefit for redeveloping properties in the CR and CRT Zones.

Fire, Emergency Medical Services

Through the development of the 2006 Sector Plan, the Montgomery County Fire and Rescue Service (MCFRS) determined that a future fire-rescue station with emergency medical services (EMS) was needed for the Shady Grove area. The 2006 Sector Plan recommended the facility be located on the vacant property at the southeast intersection of MD 355 and Shady Grove Road. MCFRS continues to support this location, and the Draft Plan confirms this recommendation.

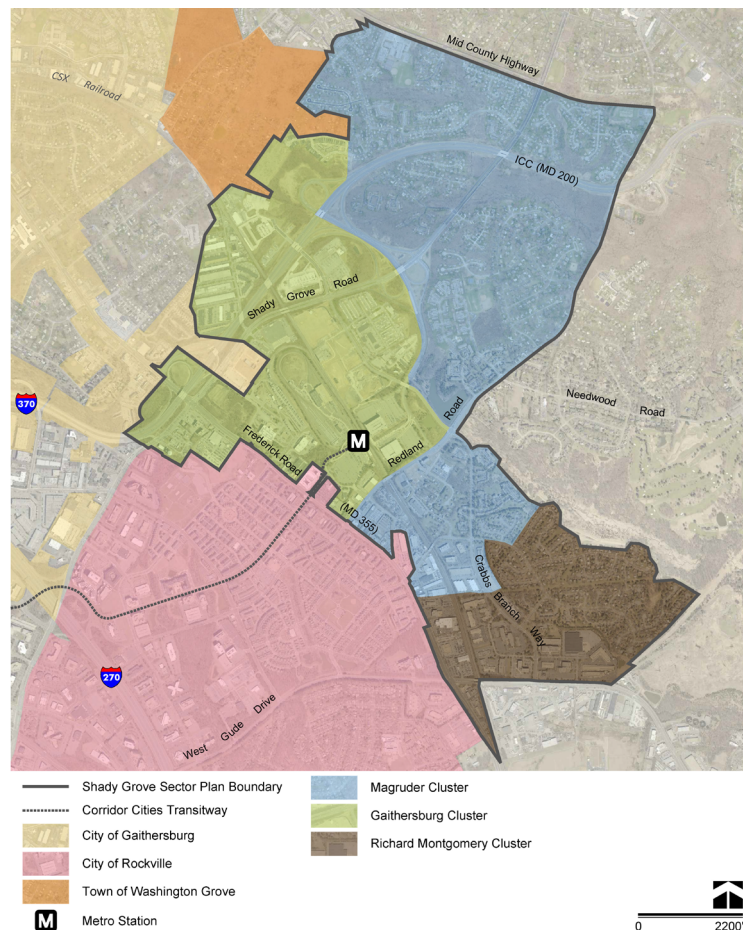


Figure 2: Existing High School Clusters

Public Safety

The Draft Plan supports a police substation in the plan area, in conjunction with the recommended fire station, a public benefit for redeveloping properties within the Metro Neighborhoods in the CR and CRT Zones. This confirms the recommendation of the 2006 Sector Plan, which recommended the “provision of a police facility within the plan area, potentially co-located with the Fire and Rescue facility” (p.102).

Senior Services and Child Daycare

The Draft Plan recommends additional senior and child daycare services to support existing and future families. There are two child daycare centers in the Sector Plan area, including at the Grove and the Shady Grove Metrorail Station. Child daycare and senior services are recommended as public benefits for redeveloping properties in the CR and CRT Zones.

PARKS, TRAILS AND OPEN SPACE

The Public Hearing Draft Plan supports the creation of new parks, trails and open space to support existing and future communities, expand recreational opportunities, and protect existing natural areas. These recommendations build upon the existing parks and stream valleys in the Plan area, such as Blueberry Hill Local Park and Mill Creek Stream Valley. Several recommendations from the 2006 Sector Plan are confirmed, including Jeremiah Park along Crabbs Branch Way (Figure 3).

New parks are recommended on properties that could redevelop, such as the Grove shopping center and the WMATA property. In addition, the typologies of proposed new parks are updated to reflect the 2017 *Park, Recreation, and Open Space Plan* (PROS).

Key Draft Plan recommendations are:

- Implement the acquired parkland at Derwood Station and Piedmont Crossing properties into a neighborhood park and local park, respectively, with a variety of recreational opportunities.
- Implement the preliminary plan approved four-acre Jeremiah Park on the Shady Grove Station, Jeremiah Park development.
- Create a new minimum one-acre Civic Green on the WMATA property in the Metro West neighborhood. This Civic Green is envisioned as the main public open space in the Metro West neighborhood.

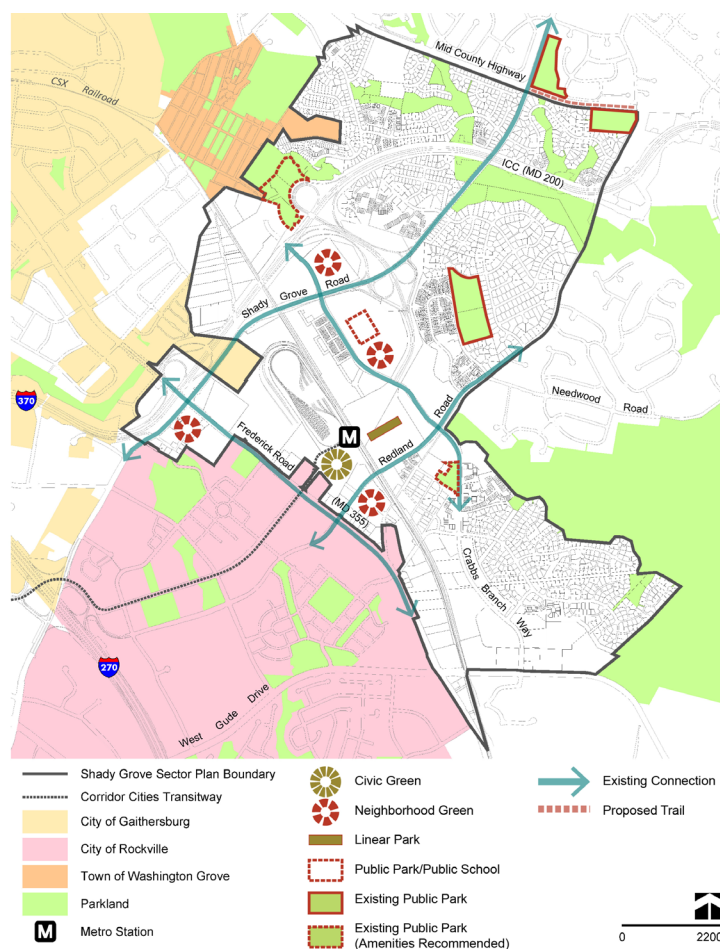


Figure 3: Open Space Network

- Create a minimum $\frac{3}{4}$ acre Neighborhood Green at the redeveloped Grove shopping center. This park should include neighborhood amenities, including a flexible open space and multi-age play features.
- Create a trail connection that links Redland Local Park with Mill Creek Towne Local Park, via the County-owned unbuilt right-of-way.

SUSTAINABILITY

The Draft Plan recommends a broad range of environmental sustainability measures that would contribute to improving air quality, reducing stormwater runoff, restoring and expanding tree canopy and the overall greening of the Sector Plan area. These environmental recommendations will primarily apply in areas where new development is anticipated, such as the Metro Neighborhoods.

Imperviousness and Tree Cover

Impervious surfaces cover approximately 36 percent of the Sector Plan area, while forests occupy about 11 percent of the Plan area (Figure 4). Approximately 40 percent of the Plan area has significant tree canopy, especially within the residential neighborhoods (Figure 5). The Metro Station neighborhoods have a tree canopy coverage of just under 20 percent.

The existing single-use commercial areas, such as the Metro Neighborhoods, have a high percentage of impervious surfaces since these areas developed as vehicle-oriented land uses with high impervious cover to support warehouse-type uses, vehicle storage and maintenance areas, and shopping areas.

Recommendations in the Sector Plan seek to minimize new impervious surfaces by redeveloping single-use properties into mixed-use development with new environmental features, such as tree cover and stormwater management. The Draft Plan also recommends

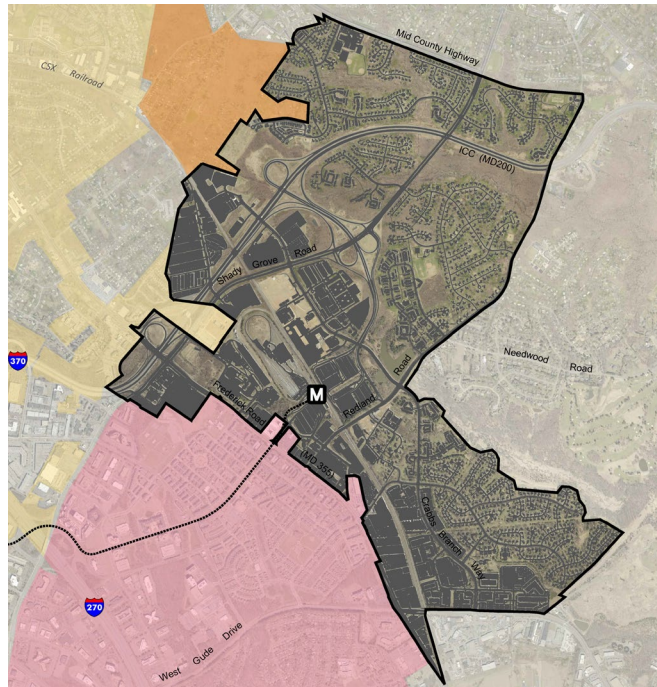


Figure 4: Existing Impervious Cover in the Sector Plan area

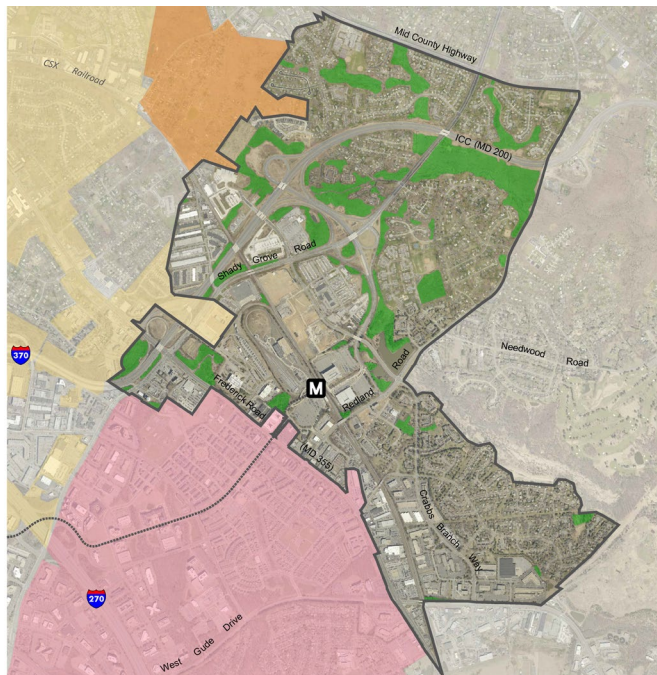


Figure 5: Existing Tree Cover in the Sector Plan area

preserving the existing green infrastructure, wherever possible, and extending new tree canopy and green spaces into and through the commercial and retail areas as portions of these areas are redeveloped.

Key tree cover and forest recommendations in the Draft Plan are the following:

- Maintain forest and tree cover at 40 percent of the Plan area, and increase where possible.
- Achieve a range of 25-30 percent of tree cover within the Metro Neighborhoods.
- Prioritize environmental public benefit points for tree canopy cover, green roofs and energy conservation.

Discussion: Tree Canopy, Sustainability Goals, and Alternative Approaches

For several years, Staff has been advocating tree canopy goals in our master plans because numerous studies link tree canopy coverage with reduced runoff, improved water quality, reduced urban heat island effect, improved air quality, increased carbon sequestration, and, most recently, improved human health outcomes. One of the most recent examples is a study from Philadelphia, PA, which estimates that increasing tree canopy coverage to 30 percent in all neighborhoods could prevent 400 premature deaths annually.

During the presentation of the preliminary sustainability recommendations, concerns were raised by Board members about the variability in tree canopy and green cover recommendations across master plans, as well as concern that higher tree canopy goals could displace buildings and infrastructure, thus hampering the ability to achieve the urban densities and form necessary to create compact, walkable, bikeable, mixed-use communities. Creating this form of development is also important for sustainable, active and healthy communities, and reduces per capita greenhouse gas emissions.

Staff has compiled the tree canopy and green cover recommendations from several master plans and confirmed that these recommendations have varied from plan to plan. While there may be logical reasons for the differences, a consistent approach, with appropriate explanation and justification to cover variations in approach based on zoning, form, and predominant land use category (urban, suburban, rural) and other factors must be developed. A recommendation to create a set of consistent tree canopy recommendations is included in the Healthy and Sustainable Environment chapter of Thrive Montgomery 2050 Working Draft.

In the meantime, recommendations are needed for the Shady Grove Minor Master Plan Amendment. The Planning Board's feedback on the alternatives presented can help inform staff's recommendations for a comprehensive tree canopy and green cover approach.

Since it is not the intention of the sustainability recommendations to displace development and infrastructure, but to make communities healthier and more sustainable, Planning staff has looked at the individual goals that should be achieved to create healthy and sustainable places:

improving air and water quality, reducing runoff, moderating high summer temperatures, improving human health, sequestering carbon, and providing habitat for native species where possible. Various approaches are available that address some or all of these goals, including tree canopy, green cover including green roofs, engineered stormwater management facilities, shade structures such as awnings, canopies and umbrellas, planter boxes and gardens (Figure 6).

Tree canopy goals may continue to have a place in our planning, but it may be that we could better address our sustainability goals through design recommendations in areas planned for greater urban densities, such as Metro station areas. This approach would involve prioritizing techniques in a hierarchy that enables us to place the most effective treatments into our urban design based on available space and the desired outcomes for the development. Since a robust tree canopy still provides the greatest benefits at the lowest cost, it would remain the top priority where the space allows, such as in our streetscapes and in open spaces, while allowing for bicycle lanes, active sidewalk zones, and attractive and usable gathering spaces. Green cover would be appropriate for rooftops where growing trees is less practical. Engineered stormwater facilities, shade structures, planter boxes and gardens or landscaping would fill in to supplement the tree canopy and green cover. These supplementary approaches can be used where tree canopy and green cover cannot be accommodated, and, in the case of stormwater management, will be required to slow and treat runoff.

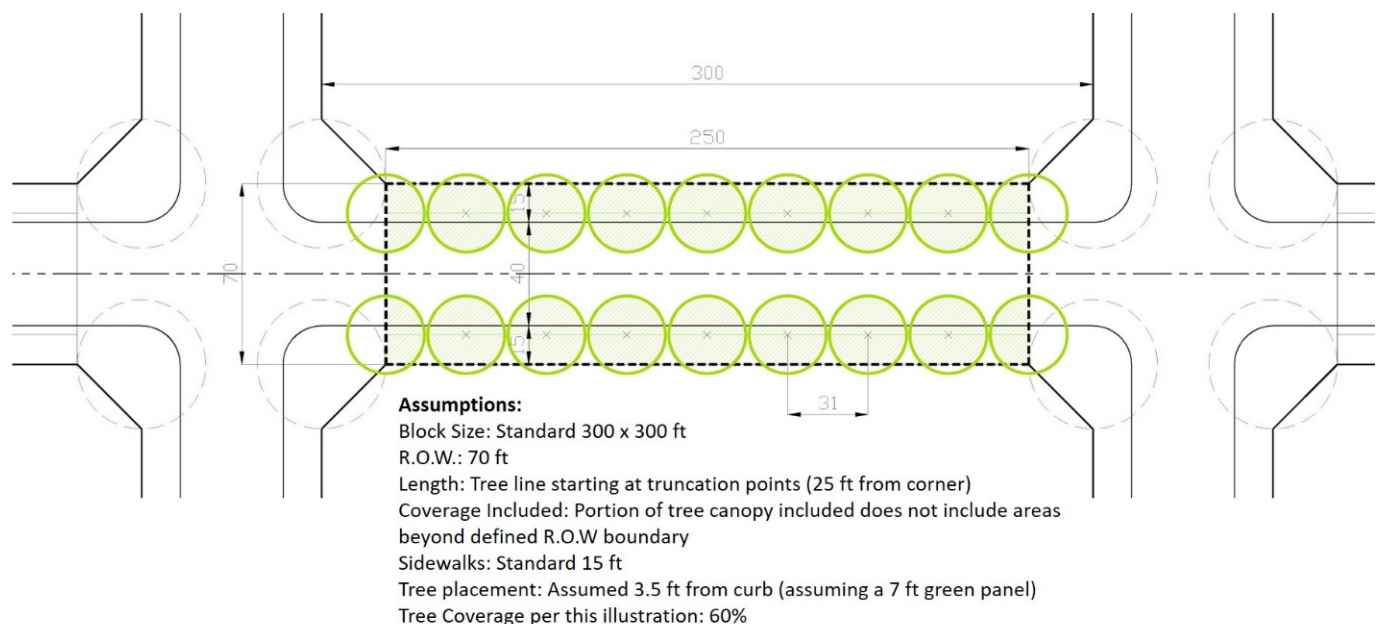


Figure 6: Example of Street Tree Canopy

Tree Canopy, Green Cover and Shade Recommendations for Metro Station Neighborhoods

Based on feedback provided by Board members in their review of the preliminary sustainability recommendations, as well as staff's analysis of the various approaches to achieve healthy and sustainable places, staff has developed the following alternative recommendations for tree canopy, green cover and shade within the Metro Station Neighborhoods for the Planning Board's consideration:

- Strive for maximum shade cover over paved areas in streetscapes and plazas.
 - Plant native shade trees that produce large (25 ft. diameter and larger) canopies, spaced a maximum of 30 feet apart on center.
 - Where possible, plant smaller native trees spaced in between the large trees.
 - Provide adequate soil volume to create and sustain a healthy tree canopy. Refer to the *Montgomery County Complete Streets* document for guidance on planting specifications.
 - Provide artificial shade structures in open areas over pavement where trees cannot be planted, especially in open spaces. These shade structures may include arbors, umbrellas, or features that can be opened or closed to allow flexibility in use.
- Promote green roofs wherever possible. Public benefit points can be prioritized to incentivize green roofs.

To improve upon forest and tree coverage, and minimize new impervious surfaces, infill development should be directed at existing surface parking lots. If surface parking lots are retained, improvements should be introduced to make them more environmentally benign, such as creating or improving tree cover and stormwater management.

Water Quality

In developed areas, such as the Shady Grove plan area, water quality is impacted by impervious surface areas and forest cover loss. Water quality is also degraded by runoff carrying pollutants, including sediment, hydrocarbons, fertilizers, waste from animals, and sewage leaks.

A large portion of the Sector Plan area drains east into the Rock Creek watershed. Smaller portions of the Sector Plan area include portions of three Rock Creek subwatersheds: Mill Creek, Crabbs Branch, and the Southlawn Tributary. Some watersheds, including Mill Creek and Crabbs Branch, are classified as being suitable for use as "recreational trout waters," meaning that the State may stock trout for recreational fishing, but stocked populations cannot survive and reproduce.

Key water quality recommendations include the following:

- Increase forest and tree cover.
- Minimize imperviousness and maximize pervious areas.

- Employ Environmental Site Design for stormwater management to the Maximum Extent Practicable.

Greenhouse Gas

Estimating the carbon footprint from master plans and reducing carbon emissions by 80 percent by 2027 are two County Council requirements that the Sector Plan must address. Chapter 33A-14 requires that master plans estimate the greenhouse gas (GHG) emissions from the projected development and include recommendations to reduce GHG emissions. In addition, Council Resolution No. 18-974, Emergency Climate Mobilization, aims to reduce carbon emissions by 80 percent over 2005 levels by 2027, and reduce emissions to zero by 2035.

Based on modeling, and assuming full buildout of the Shady Grove Sector Plan under a “business as usual” scenario, the estimated GHG would increase by 25 percent above existing conditions.

Key Recommendations to Reduce Greenhouse Gas Emissions

- Promote energy conservation in all new development and redevelopment.
- Generate clean energy on site.
- Preserve or replace lost tree canopy and plant trees and create green roofs to sequester carbon.
- Promote net zero building construction.

The recommended mixed-use and compact development in the Draft Plan, along with existing and future transit options, will contribute to reducing per-capita carbon emissions and improving air quality. Enhancing the pedestrian, bicycling and micro-mobility infrastructure also contributes significantly to improving air quality and climate protection. These and other improvements will contribute to reducing air pollution, energy consumption and carbon emissions.

The Draft Plan also recommends new development and redevelopment that showcases the best in sustainable design, including building orientation to take advantage of passive solar lighting and heating, architecture, ventilation systems, and operating systems that conserve energy, and incorporating new and developing technologies for generating renewable energy on-site.

The recommendation to promote net-zero building construction supports the County’s commitment to reduce greenhouse gas emissions to zero by the year 2035 and is in line with recommendations in the County’s draft Climate Action and Resilience Plan.

Recent work completed for Montgomery County by the World Resources Institute and the Woods Hole Research Center, in coordination with Montgomery County Department of Environmental Protection (DEP), the Montgomery County Planning Department, and the Metropolitan Washington Council of Governments (MWCOC), has created a report estimating the contribution of forest and tree cover in Montgomery County to carbon sequestration in fulfillment of achieving the County's Greenhouse Gas reduction goals.

Based on the sequestration and removal factors developed in this study, the existing forest in the Shady Grove Sector Plan area is sequestering 14,358 Metric Tons of Carbon Dioxide Equivalents (MTCO₂e), and will continue to sequester an additional 594 MTCO₂e each year. The existing tree canopy outside of the forest sequesters approximately 10,542 MTCO₂e (assuming an average tree age of 20 years), and will continue to sequester an additional 4,240 MTCO₂e each year for the foreseeable future.

Preserving Biological Diversity

Many recent reports have documented the continued loss of plant and animal species globally. While developing areas will never contain the broad plant and animal diversity of our wild areas, developing areas can contribute to the preservation of biological diversity in important ways. In particular, the decline in native pollinators, which are critical to our food production systems can be combatted by using native plant species beneficial to local native pollinators in our landscaping areas, within our green roofs, and in our street tree palettes.

Key Recommendations for Preserving Biological Diversity

- Plant native species of street trees in streetscaping. Use local native species in landscaping and on green roofs.
- Preserve existing forest and natural areas, where possible.

The preservation of biological diversity was not recommended in the Public Hearing Draft Plan, but staff recommends that the Board include this issue and the above recommendations in the Planning Board Draft.

LAND USE AND ZONING FOLLOW-UP

On July 23, the Planning Board reviewed key properties in the Sector Plan, including the Grove and Shady Grove Plaza and supported the Draft Plan's proposals for these properties. However, the Board requested alternative zoning options for the vacant property at the southeastern intersection of Frederick Road (MD 355) and Shady Grove Road as well as for some office properties in the Crabbs Branch Office Park.

Vacant property at MD 355 and Shady Grove Road

The vacant property at the southeastern quadrant of Shady Grove Road and Frederick Road (MD 355) is adjacent to the CarMax property, which is in the City of Gaithersburg (Figure 7). The Draft Plan recommended confirming the existing EOF 0.75 H-100 Zone for this 16-acre property. The Board questioned the appropriateness of retaining the EOF zone, especially since it has the potential of 30 percent of household living uses of the gross floor area.

The intent of the Draft Plan's recommendation is to promote non-residential development at this site since it is adjacent to the Transfer Station and near the WMATA rail yards.

In lieu of the EOF Zone, Planning staff recommends the Moderate Industrial (IM) Zone as an alternative since it does not include any residential potential. In addition, this zone also permits research and development uses and offices as a limited use. This zone is also recommended since it mirrors the Post Office property's proposed zone and buildings are permitted up to 120 feet, which includes the existing zone height.

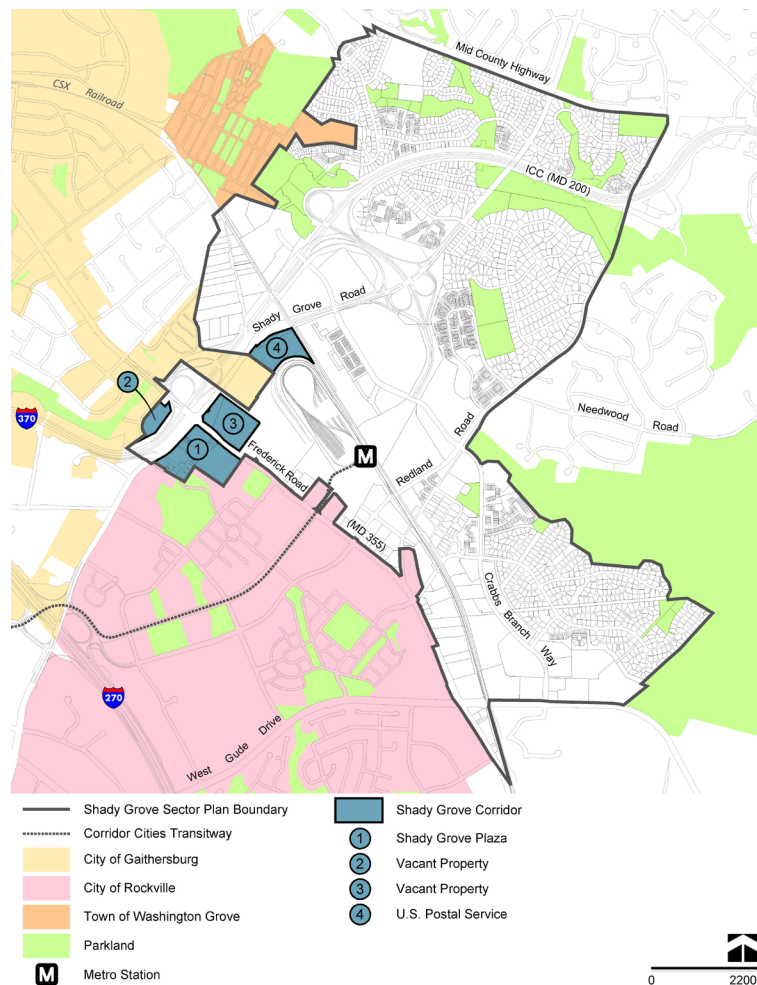


Figure 7: Key Shady Grove Road Properties

Crabbs Branch Office Park

The Draft Plan recommends rezoning some properties in the Crabbs Branch Office Park from the Moderate Industrial (IM) Zone to the Employment Office (EOF) Zone. The 2014 District Map Amendment rezoned these office properties to the Industrial Moderate (IM 2.5 H-50) Zone (Figure 8).

These properties were built primarily during the 1980s and 1990s under the prior Light Industrial (I-1) Zone that permitted a range of uses, including research and development and offices as a permitted use.

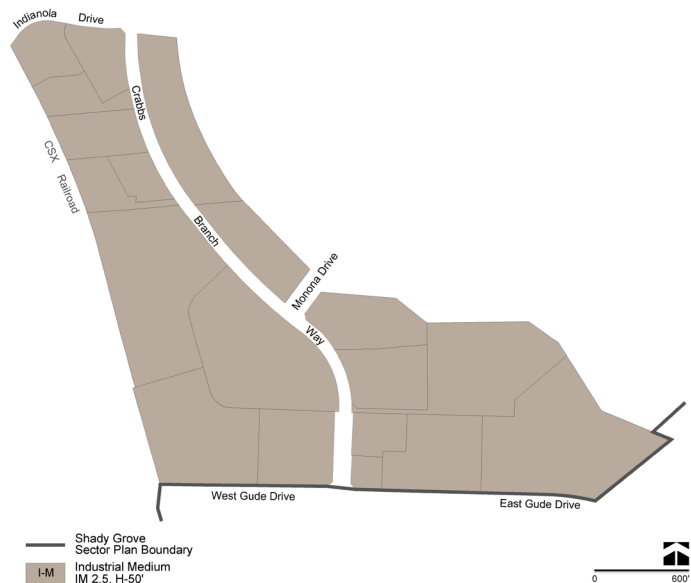


Figure 8: Existing Crabbs Branch Office Park Zoning

The intent of the Draft Plan recommendations is to better align existing offices to a zone where offices are allowed as a permitted use; address existing building heights, which are above the 50-foot height of the IM Zone; and to adjust any office property that may exceed the 35 percent office use limitation in the IM Zone.

During the third worksession, the Planning Board requested an alternative zoning approach than the EOF Zone for the office park. Staff recommends retaining the IM Zone for most of the office park properties, while adjusting the zone height to accommodate buildings that exceed the existing 50-foot height limit. This recommendation would permit office buildings at 7361 Calhoun Place, 7500 Standish Place, and 15400 Calhoun Drive to be in a conforming zone.

The IM Zone permit offices as a limited use and office development are limited to “a maximum of 35 percent of the mapped FAR”, per Section 3.5.8.B.2.a.ii of the Zoning Ordinance. The 35 percent of the IM 2.5 H-50 Zone is 0.87 FAR. The existing 1.09 FAR for the office building at 7361 Calhoun Place is above the 0.87 FAR maximum for an office use in the zone. To create a conforming zone for this property, Planning staff recommends the EOF Zone because it does not have any FAR limits for an office use. To permit this property in the IM Zone would require expanding the IM Zone FAR to 3.25. This would be the only Crabbs Branch office property where the EOF zone is recommended.

Revised Draft Plan Recommendations

- Rezone the office building at 7500 Standish Place from the IM 2.5 H-50 Zone to the IM 2.5 H-55 Zone.
- Rezone the office building at 15400 Calhoun Drive from the IM 2.5 H-50 Zone to the IM2.5 H-65 Zone.
- Rezone the office building located at 7361 Calhoun Place from the IM 2.5 H-50 Zone to the EOF 2.5 H-80 Zone to prevent a non-conforming property.

CONCLUSION

During the fifth worksession, staff will discuss the recommendations for community facilities, parks, trails and open space and sustainability as well as land use and zoning for the Crabbs Branch Office Park and the vacant property at Frederick Road (MD 355) and Shady Grove Road.

As discussed in this memo, staff requests that the Planning Board provide guidance on the following:

- Alternative recommendations for tree canopy, green cover and shade within the Metro Station Neighborhoods.
- Include recommendations for the preservation of biological diversity in the Planning Board Draft.
- Alternative zoning recommendations for properties within the Crabbs Branch Office Park.

The sixth worksession is scheduled for October 15 to discuss recommendations for Plan implementation and review the Redline Version of the Draft Plan.