



MCPB  
ITEM NO. 5  
05-12-05

May 6, 2005

**MEMORANDUM**

**TO:** Montgomery County Planning Board

**VIA:** Jeffrey Zyontz, Chief  
Countywide Planning Division

Richard C. Hawthorne, Chief  
Transportation Planning *RCH*

Sue Edwards and Callum Murray, Team Leaders  
Community-Based Planning *cm*

**FROM:** Larry Cole: 301-495-4528, for the Park and Planning Department *LC*

**PROJECT:** Shady Grove Road/Darnestown Road Connector  
CIP No. 500204.

**REVIEW TYPE:** Mandatory Referral No. 05804-DPW&T-1

**APPLICANT:** Department of Public Works & Transportation

**APPLYING FOR:** Plan Approval

**COMMUNITY-BASED PLANNING TEAM AREA:** I-270 Corridor and Potomac Sub-region

**RECOMMENDATION:** Approval with comments

*Staff recommends that the Board approve the proposed project (see Attachment 1: Location Map) with the following comments to DPWT:*

1. We believe that this is a much needed project that will greatly relieve traffic congestion in a rapidly developing area of the county.
2. Remove the unneeded pavement on Shady Grove Road between Darnestown Road and the proposed connector, and ensure that pedestrians waiting at the northeast corner of Shady Grove Road and Darnestown Road are safely accommodated.
3. Consider enlarging the traffic island at the intersection of Shady Grove Road and the connector to improve pedestrian and driver safety.
4. Provide dual handicap ramps at all corners of the Shady Grove Road/Darnestown Road intersection and move the crosswalk on the north leg of Shady Grove Road farther back from the intersection. Extend the median on the south leg of Shady Grove Road and move the crosswalk to create a pedestrian refuge.
5. Reduce the curb radius to forty feet at the southeast corner of the Darnestown Road/Glen Mill Road/Connector intersection to reduce the pedestrian crossing distance. Consider constructing a curbed median on the west leg of the intersection and providing an additional crosswalk.
6. Construct sidewalks behind handicap ramps where possible.
7. Provide a five-foot wide sidewalk with a landscape panel along the west side of Glen Mill Road.
8. Connect the proposed sidewalk along the east side of Shady Grove Road to the existing sidewalk opposite the University of Maryland's Shady Grove campus.
9. Request a right-of-entry from the property owner in the northeast quadrant of the Darnestown Road/Connector intersection to allow the proposed bike path to be constructed at an eight-foot offset from the curb where possible.
10. Construct a standard cul-de-sac on Marian Road.
11. Provide street and sidewalk/bikeway lighting in accordance with the recommendations of the International Illuminating Society of North America (IESNA).
12. Provide street trees where possible within the project limits.

**PREVIOUS BOARD ACTION:** None

## **PROJECT DESCRIPTION**

This project would construct approximately 700 feet of new connector in the northeast quadrant of the Shady Grove Road/Darnestown Road intersection and would make other traffic improvements in the immediate area (see Attachment 2). The new road would intersect

Darnestown Road opposite Glen Mill Road and extend to Shady Grove Road about 350 feet north of Darnestown Road. The northernmost block of Glen Mill Road acts as an extension of Wootton Parkway and is anticipated to be renamed as such at some point in the future.

The connector would serve southbound traffic on Shady Grove intending to head east on Darnestown Road or to head south on Wootton Parkway and would serve traffic destined for northbound Shady Grove Road from either northbound Wootton Parkway or westbound Darnestown Road.

Sidewalks or off-road bike paths would be provided along both sides of all roads within the project limits with the exception of the west side of Glen Mill Road between Darnestown Road and Wootton Parkway.

This project straddles the boundary between the City of Rockville and the unincorporated area of Montgomery County (see Attachment 3).

## **STAFF ANALYSIS**

### **Traffic Improvements**

Discussions began on the traffic improvements needed at this intersection when the Traville project was reviewed in 1997. At that time, the Shady Grove Road/Darnestown Road intersection had a Level of Service (LOS)/Critical Lane Volume (CLV) of F/1699 in the morning and F/1751 in the evening. Alternatives to the Master Plan-recommended grade-separated interchange began to be studied at that time.

The proposed connector road is the result of this study and would greatly relieve traffic congestion at the Shady Grove Road/Darnestown Road intersection. In the 2020 design year, the LOS/CLV would be C/1198 in the morning and C/1193 in the evening. Traffic calculations done for the current update of the Gaithersburg Vicinity Master Plan show that the Shady Grove Road/Darnestown Road intersection will operate well in 2030 with the proposed improvements and that a grade-separated interchange would not be required.

Staff believes that this is a much-needed project that is a creative solution to the traffic problems in a rapidly developing area of the county.

### **Shady Grove Road**

The proposed design would provide a good level of service, but staff believes that too much pavement would be provided along Shady Grove Road. The project would shift the northbound through lanes of Shady Grove Road to the west to accommodate an acceleration lane from the proposed connector. Because of this shift, the existing curb lane in this section would be unusable and is proposed to be striped out, rather than be removed. This would create a pedestrian safety problem at the Darnestown Road intersection, would generate unnecessary stormwater runoff, and would create a place for roadway debris to collect. The first two

problems are discussed in greater detail in the Pedestrian Accommodation and Environmental sections below.

*Staff recommends that the unneeded pavement along Shady Grove Road between Darnestown Road and the connector be removed.*

### **Darnestown Road**

With the exception of the intersection changes, no physical changes are proposed for Darnestown Road.

### **Glen Mill Road**

Glen Mill Road would be widened to a four-lane divided roadway. The project plans also note that Wootton Parkway will be widened to a four-lane divided roadway south of Glen Mill Road as part of a separate project by the City of Rockville. At that time, the proposed striped median at the Glen Mill Road/Wootton Parkway intersection will become a curbed median.

### **Marian Road**

Department of Public Works and Transportation (DPWT) proposes to close Marian Road at Glen Mill Road to eliminate a conflict point in the short 800-foot distance between the Glen Mill Road intersections at Darnestown Road and Wootton Parkway. This would require the residents of fourteen homes along Marian Road to access Glen Mill Road via Mary Knoll Drive. No objections were raised by citizens attending the public meeting and staff agrees with the proposed closure.

Because there is insufficient right-of-way to build a cul-de-sac and no funds were included in the project to purchase right-of-way, DPWT proposes to terminate the road by constructing a "hammerhead", which is classified as a temporary turnaround in the County standards and is normally used in cases where the road is intended to be extended in the future. DPWT's expectation is that the owner of the adjacent vacant residential lot, which is 78,408 square feet and is zoned R-200, would be required to build the cul-de-sac when the lot is developed in the future. Staff does not believe that such a nexus exists and that DPWT should build the cul-de-sac per the County standards, either as part of this project if additional funds for right-of-way can be obtained or as a follow-up project, since the County's intent is that the road remains closed.

## **PEDESTRIAN ACCOMMODATION**

### **General**

*Staff recommends that two directional handicap ramps be provided at all corners of intersections per the Americans for Disabilities Act (ADA) Best Practices Guide.*

*Staff also recommends that sidewalks be constructed behind handicap ramps where possible* rather than through the ramps so that pedestrians are not forced down into the ramp if they are continuing around the corner. This arrangement would also allow handicapped pedestrians to wait in a level area at the top of the ramp, prepared to make their crossing, rather than forcing them to make a ninety-degree turn when the WALK light comes on.

### **Shady Grove Road at Darnestown Road**

Because of the excess pavement noted above, a very inhospitable condition would be created for pedestrians at the intersection of Shady Grove Road and Darnestown Road where pedestrians crossing two legs of the intersection would be encouraged to wait in the unprotected striped-out portion of the roadway (see Attachment 4). The alternative would be to go up the ramp onto the sidewalk and then back down when the walk signal to cross the other leg is activated. The latter alternative would be incomprehensible to blind pedestrians, particularly since it would involve making a sharp turn to remain in their travel path in the crosswalk.

Since almost all right turns from westbound Darnestown Road to northbound Shady Grove Road will take place via the proposed connector, the curb radius on the northeast corner of the Darnestown/Shady Grove intersection should be made as small as possible to keep pedestrian crossing distances short.

Two ramps are generally recommended at each corner of intersections by the ADA Best Practices Guide to ensure that the best directional guidance is given to blind pedestrians. *Staff recommends that two ramps be provided in the northeast corner of the intersection* in connection with the changes noted above. Shifting the crosswalk slightly to the north would allow the end of the proposed median protecting the pedestrian refuge to be larger, providing more protection for pedestrians and making it more visible to drivers. *Staff also recommends that the median on the south leg of Shady Grove Road be extended to create a pedestrian refuge.*

A sidewalk is proposed along the east side of Shady Grove Road within the limits of the roadway work, but a gap of about 175 feet would be left between the proposed sidewalk and the existing sidewalk opposite the University of Maryland's Shady Grove campus. *Staff recommends that a continuous sidewalk be provided.* DPWT staff has said that this will likely be done through the Annual Sidewalk Program.

### **Shady Grove Road at the Connector**

The proposed traffic island at the intersection is very small for a pedestrian refuge and would have a tiny median end that would be almost invisible to traffic turning north from the connector. Staff recommends that DPWT consider enlarging the island and shifting the crosswalk to increase the size of the median end and to improve the safety of the pedestrian refuge. (See Attachment 4.)

## **Glen Mill Road and Connector at Darnestown Road**

Glen Mill Road intersects Darnestown at an acute angle, which creates a less than desirable pedestrian crossing when combined with the proposed fifty-foot curb radius. *Staff recommends that the curb radius at the southeast corner be reduced to forty feet to shorten the pedestrian crossing distance (see Attachment 5).*

*Staff also recommends that DPWT consider replacing the striped-out area of pavement on the west leg of Darnestown Road at this intersection with a curbed median.* Although this is not a major crossing point for pedestrians, it would provide an additional opportunity to cross Darnestown Road with fewer traffic conflicts.

## **Glen Mill Road**

Pedestrians would be accommodated along the east side of the road by means of the proposed ten-foot-wide bikeway. A sidewalk along the west side was requested by residents of Marian Road at the public meeting for this project, but it would not be constructed as part of this project.

Staff believes that sidewalks should typically be provided along arterials and major highways within the project limits when public projects are implemented. If DPWT chooses not to build the sidewalk as part of this project, the proposed grading and drainage ditch along Glen Mill Road should at least be done in such a way that it will not have to be redone when a sidewalk is constructed in the future. While DPWT expects that the sidewalk between Darnestown Road and Marian Road will be developer-built, they anticipate that the segment between Marian Road and Wootton Parkway will be built under the Annual Sidewalk Program.

## **BICYCLIST ACCOMMODATION**

### **Off-Road Bike Accommodation**

Off-road bikeways already exist along the east side of Shady Grove Road north of Darnestown Road and along the north side of Darnestown Road east of Shady Grove Road.

An eight-foot-wide off-road bikeway would be constructed along the northeast side of the connector with a two-foot offset to the curbline. A ten-foot-wide off-road bikeway would be constructed along the east side of Glen Mill Road between Darnestown Road and Wootton parkway with a two-foot offset to the curbline. This accommodation would be acceptable but far from optimal. The narrower-than-normal landscape panels would be provided because of limitations posed by adjacent stormwater management ponds for the former and to minimize impacts to the yards of single-family homes for the latter.

Along the proposed connector, staff recommends that DPWT take advantage of the flatter slope in the first three hundred feet north of Darnestown Road to provide an eight-foot offset from the curbline. While there are no funds for the additional right-of-way needed to accomplish this, staff believes that DPWT should request a right-of-entry to do this work, which is in an area not usable by the property owner.

In regard to Glen Mill Road, there is sufficient right-of-way to provide a ten-foot wide landscape panel, and an existing slope easement would allow DPWT to perform this work without requiring additional right-of-way. But, actually using this area would create conflict with the residents. The adjacent homes were built in 1992 and since that time, property owners have had full use of their yards and have built walls, fences, and other improvements in the easement area.

### **On-Road Bike Accommodation**

A wide curb lane would be provided for northbound Shady Grove Road south of Darnestown Road.

## **LIGHTING**

DPWT has not completed the lighting plans for this project yet, but *staff recommends that State Highway Administration provide lighting in accordance with IESNA recommendations* to ensure that all sidewalks, bikeways and crosswalks are as sufficiently and safely lighted as the roadways.

## **LANDSCAPING/STREETSCAPING**

Landscaping plans will not be done for this project but, *staff recommends that street trees be provided where possible within the project limits and that other plant materials be considered for planting in the wide median of Shady Grove Road.*

## **ENVIRONMENTAL**

### **Forest Conservation Law Compliance**

This project has an approved Natural Resource Inventory/Forest Stand Delineation and an exemption from Forest Conservation (Exemption No. 4-05212E, issued February 22, 2005).

### **Piney Branch Special Protection Area**

The southern portion of the project area, along Shady Grove Road, extends slightly into the Piney Branch Special Protection Area (SPA) to construct a sidewalk. As the area of the proposed disturbance would be less than 5,000 square feet, no Water Quality Plan submission is required.

## Water Quality

The project is mostly within the Rockville-Lakewood subwatershed of the Watts Branch watershed, with the exception of the small portion in the Piney Branch SPA, as noted above. The *Countywide Stream Protection Strategy* (CSPS, 1998) lists the subwatershed/stream and habitat conditions in Rockville-Lakewood as "fair" based on data available at that time. High levels of impervious surfaces and uncontrolled stormwater runoff have contributed to high sediment deposition and bank instability. CSPS has designated this part of the watershed as a Watershed Restoration Area.

The project would shift the eastbound through lanes of Shady Grove Road to the west to accommodate an acceleration lane from the proposed connector. Because of this shift, the existing curb lane in this section would be unusable and is proposed to be striped out. Removing this pavement would reduce the proposed impervious by about 3, 000 square feet and would reduce the overall stormwater runoff. As noted above, *staff recommends that the unneeded pavement be removed.*

## **PUBLIC OUTREACH**

DPWT held a public meeting for this project at Lakewood Elementary School on March 31, 2005. Residents at the meeting requested that a sidewalk be built along the west side of Glen Mill Road within the limits of the project.

LC:gw  
Attachments

mno to MCPB re 05804-DPWT-1 Shady Grove Spur Rd.doc