

October 12, 2006

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Gwen Wright, Acting Chief *GW*
Countywide Planning Division

Richard C. Hawthorne, Chief *RCH*
Transportation Planning

Sue Edwards, Team Leader for the I-270 Corridor *SE*
Community-Based Planning

FROM: Michael Zamore: 301-495-2106, Environmental Planning and *mz*
Larry Cole: 301-495-4528, Transportation Planning *LC*

PROJECT: Shady Grove Road (north)/Noise Abatement Project
CIP No. 500338

REVIEW TYPE: Forest Conservation Plan and Mandatory Referral No. 06802-DPW&T-1

APPLICANT: Montgomery County Department of Public Works and Transportation

APPLYING FOR: Plan Approval

COMMUNITY-BASED PLANNING TEAM AREA: I-270 Corridor

This combined staff report provides recommendations on the Forest Conservation Plan and Mandatory Referral for the Shady Grove Road (north)/Noise Abatement Project (see Attachment 1: Location Map).

RECOMMENDATIONS:

Staff recommends that the Board approve the Forest Conservation Plan for the proposed project with the following conditions:

1. Submit a Final Forest Conservation Plan that meets the requirements of Section 109(B) of the Forest Conservation Regulations and includes a 0.85 acre of forest debit from an approved forest mitigation bank. Approval of the Final FCP by M-NCPPC Staff must be obtained prior to any clearing or grading for the new facility.
2. Prior to the start of construction, the Maryland-National Capital Park and Planning Commission (M-NCPPC) Plan Inspector must field check the limits of disturbance and tree protection measures to ensure that wetlands impacts and tree losses are minimized. At that site meeting the applicant's arborist and M-NCPPC staff will determine which trees along the alignment can be saved and the steps that must be taken to protect them. All opportunities for minor realignments of the LOD to reduce tree removals/wetlands impact should be explored at that time.

Staff recommends that the Board approve the Mandatory Referral of the proposed project with the following comments to DPWT:

1. Install guardrail at the curbline of Shady Grove Road west of Briardale Road where the proposed noise walls would be twelve feet or less from the curb.
2. Install any additional lighting needed prior to the construction of sidewalks.
3. Where space is available, provide an eight-foot-wide landscape panel between the curb and the location of the future sidewalk.
4. Coordinate the construction of the sidewalks adjacent to the proposed noise walls with the construction of the Shady Grove Metro Access Road Bike Path.
5. Add caps to the vertical posts and add a horizontal band at the top of the front side of the walls to give the walls more of a finished look. The concrete for the posts and walls should be matched in color.
6. Simultaneously monitor noise levels on the sidewalk along Shady Grove Road in locations with and without noise walls to evaluate the effectiveness of the noise-absorptive qualities of the proposed walls.
7. Amend the Highway Noise Abatement Policy to emphasize the importance of landscape screening of noise barriers from the roadway perspective. All reasonable options shall be considered to accomplish this objective, including but not limited to flexibility in elements of the cross section, location of the barrier on private land, and/or other engineering or design adjustments.

PREVIOUS BOARD ACTION: None.

PROJECT DESCRIPTION

This project would construct three segments of noise walls along Shady Grove Road:

- An 848-foot-long wall on the north side (11 feet to 18 feet high) (LAS-1) and an 832-foot-long wall on the south side (10 feet to 18.5 feet high) (LAS-6) between the Metro access road interchange and Briardale Road.
- A 400-foot-long wall on the north side (7.5 feet to 15 feet high) (LAS-2A) beginning about 300 feet east of Briardale Road.

STAFF ANALYSIS

Staff strongly supports noise barrier installation along this segment of Shady Grove Road. This project would be the first constructed as a stand-alone County noise wall project, which reflects the fact that the requests of residents of this area for noise relief were a significant reason for the creation of the County's Highway Noise Abatement Policy, which was adopted in July 2001 (copies of which are attached to this memo for Board members only). The only other noise wall project the County has undertaken is part of the Montrose Parkway West project, now under construction. While the policy calls for each project to compete on a countywide basis to determine the priority for construction, the Board recommended as part of the parkway Mandatory Referral that the noise walls be included in the project and the Council agreed.

Noise Walls

Five segments of noise wall were originally proposed by DPWT along Shady Grove Road (see Attachment 2), but only three are included in this project. For each segment of noise wall, the County's noise policy requires approval by at least 60% of benefited homeowners, but also requires approval by *all* of the homeowners from whom right-of-way (ROW) would be required.

For the three segments covered by this Mandatory Referral (with the study segment identifier noted in parentheses), the votes were as follows:

- South side, between the Metro access road interchange and Briardale Road (LAS-6): ROW required from all nine affected property owners; all nine voted yes.
- North side, between the Metro access road interchange and Briardale Road (LAS-1): Nine affected property owners, plus the Home Owners Association (HOA); ROW is required from two property owners, plus the HOA; six property owners voted yes, including the two from whom ROW was required, and the HOA voted yes.
- North side, beginning about 300 feet east of Briardale Road (LAS-2A): ROW required from all three affected property owners; all three voted yes.

The noise policy limits the County's costs to \$50,000 per benefited residence, but no homeowner contribution is anticipated to be needed for this project.

For the two segments originally proposed but rejected by residents, the votes were as follows:

- North side, west of Epsilon Drive (LAS-2B): ROW required from all five affected property owners; only one voted yes.
- North side, from Epsilon Drive to Midcounty Highway (LAS-3): ROW required from all twelve affected property owners; only eight voted yes.

In accordance with the County's noise policy, residents rejecting a noise barrier cannot request reconsideration for six years.

The three segments of proposed concrete noise walls would have an ashlar stone finish on the roadside and a double raked aggregate finish on the homes side (see Attachment 3). The proposed aesthetic treatment was shown to affected residents prior to their voting on the walls. DPWT staff reports that no negative comments have been received.

Staff believes that the proposed treatment is good, but could be improved by the addition of caps on the vertical posts and by a horizontal band at the top of the front side of the walls, similar to what is proposed on the back side. These changes would give the walls more of a finished look. A closer color match between the posts and walls is also recommended.

General concerns about noise walls

Given that this is the County's first standalone noise wall project, and one that would be implemented in an existing residential area with sidewalks, staff believes that this project provides an opportunity to consider some issues that could affect the design of future noise wall projects.

Pedestrian comfort and noise wall location

The wall would occupy physical space that is not reflected in the County's roadway typical sections, but there is often not much unused or unassigned space available in the ROW. This is particularly the case for roadways such as Shady Grove Road, a six-lane Major Highway in a 120-foot-wide ROW. Providing space for one additional element means reducing space for another element. One segment of noise wall that was rejected by residents on this project (LAS-3) was proposed in a location that would have pre-empted the possibility of constructing a sidewalk along a segment of Shady Grove Road in the future. Staff believes that this wall segment would have created a safety hazard as some pedestrians would not have been deterred by the absence of a short section of sidewalk and could have put themselves in danger by walking in the road. Staff also believes that the design of this segment would have been in violation of the noise policy requirement that a noise wall not unduly restrict pedestrian access.

Whereas abutting property owners may want the noise walls, they also want their property to be affected as little as possible. As with other public improvements, homeowners will push to keep the walls in the ROW and the County in turn has to push back to retain the public ROW to accommodate the standard typical roadway section. Staff's concern is that the typical section element that is most likely to be lost by constructing the noise wall in the ROW is the landscape

panel separating the sidewalk, and pedestrians, from the road. The pedestrian space may become so constrained, pinned between the curb and the noise wall, that it becomes a very uncomfortable place to be, deterring pedestrian use. In the case of the subject project, the noise walls are taller than the distance between the wall and the curb (see Attachment 4).

While the noise walls are intended to mitigate the negative impacts of a public improvement (the road) on a private homeowner, staff believes that the interests of the general public must still receive appropriate consideration. In addition to the current policy requiring safe pedestrian access, staff recommends that the Highway Noise Abatement Policy be amended to emphasize the importance of landscape screening of noise barriers from the roadway perspective. All reasonable options shall be considered to accomplish this objective, including but not limited to flexibility in elements of the cross section, location of the barrier on private land, and/or other engineering or design adjustments. While any land needed to build the wall would be acquired by DPWT and become additional right-of-way, generally keeping the wall outside the Master Plan roadway right-of-way will ensure that pedestrians have an adequate, safe offset from the roadway and that in most cases there will be room for landscaping to screen the walls and create a more pedestrian-friendly environment.

Changes in noise distribution

Two of the three proposed noise walls would face each other across Shady Grove Road between the Metro access road interchange and Briardale Road, for a distance of over 800 feet. Having noise walls on both sides of the road could potentially create an uncomfortable environment for pedestrians who would essentially be in an open box that contains much of the sound from the roadway. Noise that normally traverses the sidewalk and dissipates through the abutting property would instead be reflected back into the sidewalk area. To mitigate this effect, DPWT has proposed that walls with a noise-absorptive coating be used. To confirm that the coating on the walls has the intended effect, staff recommends that, after construction, DPWT compare the noise levels that are created on the sidewalk in this section of Shady Grove Road against a different section with sidewalks but no walls, and provide this data to staff for information.

The other proposed noise wall would not have a counterpart on the opposite side of the road, which is bordered by Mill Creek Stream Valley Park.

Aesthetics

Staff is concerned that the addition of noise walls on non-freeways could have a negative visual impact on the surrounding communities. While the surface treatment of the noise walls could be attractive in itself, there must be sufficient landscaping to soften the visual impact of these often long and sometimes tall structures. Keeping the noise walls outside the standard roadway typical section, as noted above, would help in that regard. But there is also the potential that the cumulative impact of noise walls on the county's Major Highways and possibly Arterials could create the appearance of a maze or of communities that are walled off from the rest of the county. Transportation staff believes that the Community-Based Planning Division should consider this general issue as part of their work program for Mandatory Referrals.

Roadway

No changes to the roadway are proposed.

Bicyclist Accommodation

The Shady Grove Sector Plan calls for on-road bike lanes, which were constructed in this area in conjunction with the recent Shady Grove Road Widening project.

Pedestrian Accommodation

A sidewalk exists along the south side of Shady Grove Road. No sidewalks would be built as part of this project, but the location of the noise walls would permit a five-foot-wide sidewalk to be built between the walls and the roadway curbs on the north side of the road. It is DPWT's intent to build sidewalks along this segment of Shady Grove Road as part of their Annual Sidewalk program in the near future as a follow-up project. In areas where there would be greater constraints because of the ROW and/or the proposed retaining wall and the three-foot-wide landscape panel cannot be provided, the sidewalk would be widened to six feet.

DPWT has submitted the design for another bikeway and pedestrian improvement project, the Shady Grove Metro Access Road Bike Path, to staff for Mandatory Referral review, which staff anticipates will be administratively approved once the Tree Save Plan has been submitted and approved. That project would construct an off-road shared-use path along the east side of the access road between Shady Grove Road and Redland Road, and would provide access to the Metro station just north of Redland Road. The northern limit of the bike path project meets the western limit of the noise wall project; Both projects are anticipated to be under construction by next summer. Staff recommends that the construction of the sidewalks along Shady Grove Road and the bike path along the access road be coordinated to eliminate any potential gaps in pedestrian accommodation.

Guardrail

An issue that has come up on several projects is the provision of guardrail to protect pedestrians. The American Association of State Highway and Transportation Officials (AASHTO) recommends that guardrail be provided on bridges where pedestrians come into closer proximity to moving traffic. Part of the reason for that rationale is that the pedestrian's escape from an errant vehicle is blocked by the bridge parapet at the back of the sidewalk. Two sections of the proposed noise walls, about 300 feet on the north side and 700 feet on the south side of Shady Grove Road west of Briardale Road, would present a similar potential hazard. Despite DPWT's unwillingness to install such barriers in the past, staff recommends that guardrail be installed in these two locations to improve pedestrian safety.

Landscaping

Shady Grove Road is recommended as a six-lane Major Highway in a 120-foot-wide right-of-way and, with the recent widening project, currently meets both those recommendations. The County standard for this roadway has only a narrow three-foot-wide landscape panel between the sidewalk and curb does not accommodate the planting of street trees.

Staff has worked with DPWT to take advantage of other opportunities for landscaping in the right-of-way, such as the wider right-of-way near the Metro Access Road intersection and where the noise walls must be set back farther from the road because of topographical problems. Ivy would also be planted along the face of the noise walls to soften the physical presence of the walls. Staff believes that the proposed landscaping is adequate given the constraints.

Lighting

No change in roadway lighting is proposed as part of this project, however staff recommends that DPWT confirm that the existing lighting is sufficient before constructing the sidewalk project. It will be very difficult to retrofit lighting in the future in the narrow space between the noise walls and the curb once the sidewalks are installed if additional underground conduit is required.

Forest Conservation

The site has an approved NRI/FSD (No. 420070690) complete and correct per Section 22A-11(b)(1) of the Montgomery County Code. The applicant has submitted a preliminary forest conservation plan for review by Environmental Planning staff. The plan shows that 0.85 acre of forest will be disturbed by the project, which the applicant has agreed to mitigate by planting 0.85 acre of forest in an approved forest mitigation bank. The preliminary Forest Conservation Plan also shows the proposed removal of several trees along the noise abatement project alignment. Staff believes that some of these trees can be saved and recommends that the applicant should make a reasonable effort to minimize tree loss to the extent possible, while balancing other design, construction, and environmental standards. To facilitate the process, staff recommends that the limits of disturbance be jointly located with M-NCPPC staff at the first site meeting. By making the above efforts to minimize the cutting or clearing of trees and other woody plants, and planting an additional 0.85 acre offsite, the project will comply with forest conservation law. Staff recommends approval of the preliminary Forest Conservation Plan.

Compliance with the Environmental Guidelines

The site contains a small wetland (W1) and an ephemeral waterway that drains to a small tributary to Mill Creek. The existing Shady Grove Road pavement already crosses the wetland buffer. The stormwater management concept shows that steps will be taken (super silt fence placement) to protect the wetlands. Minor realignments of the limit of disturbance will be made at time of site meeting(s) to further protect these wetland resources per the Environmental Guidelines (*Guidelines for Environmental Management of Development in Montgomery County*).

Water Quality

The site drains to the Mill Creek subwatershed of the Upper Rock Creek Watershed. The *Countywide Stream Protection Strategy* (CSPS, 2003 Update) describes stream quality conditions in Mill Creek as poor, current habitat status as excellent to good, and habitat conditions as stable. The Upper Rock Creek Watershed supports a wide range of stream conditions ranging from 'excellent' to 'poor' and areas with excellent stream conditions are adjacent to areas with poor stream conditions reflecting the changes occurring in the watershed.

PUBLIC OUTREACH

A public meeting was held by DPWT on November 29, 2005. In addition, all directly affected property owners affected were given the opportunity to vote on the noise wall construction as noted above.

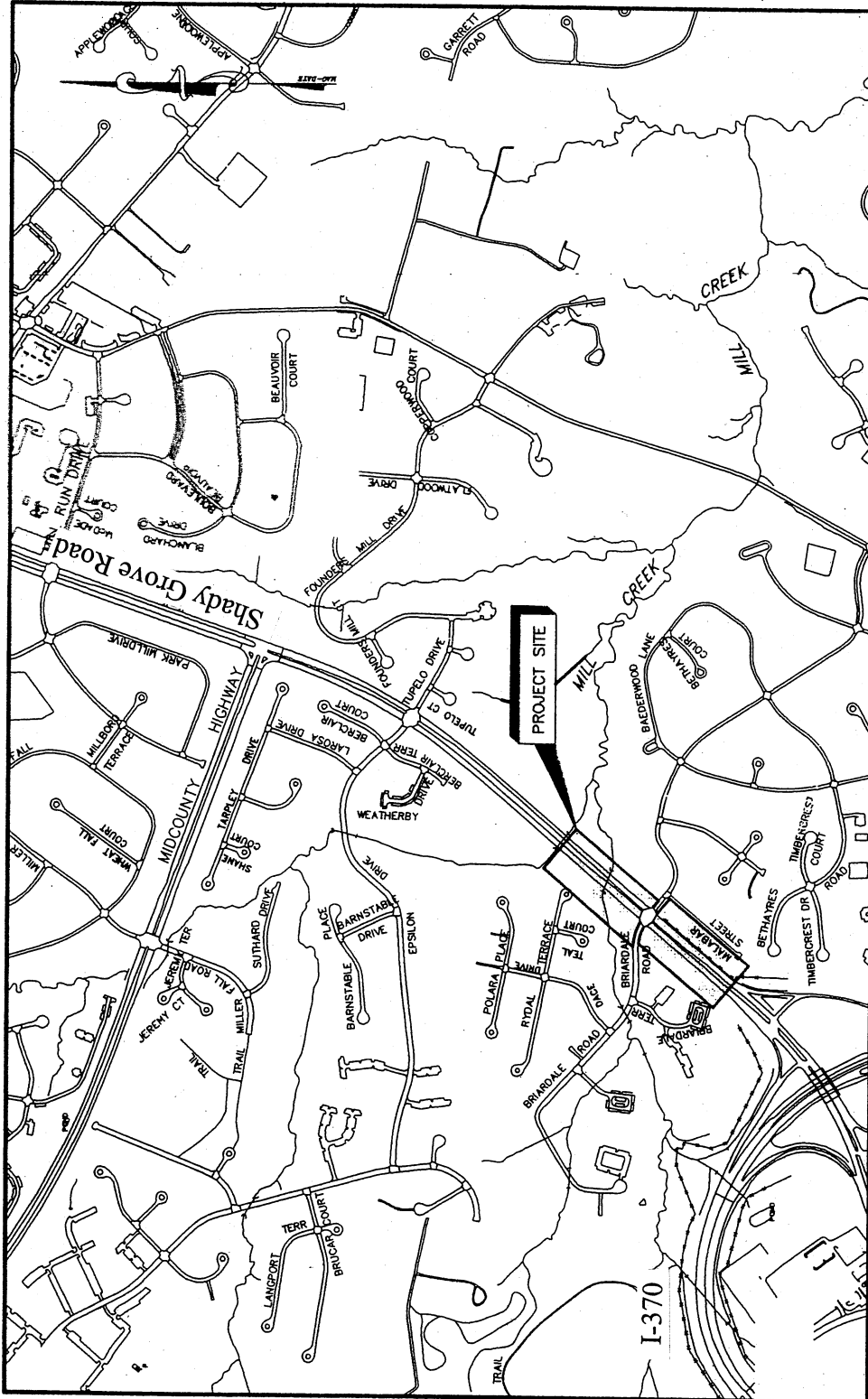
SCHEDULE

The design of this project is at the 90% stage. This project is not yet funded for construction, but DPWT staff anticipates approval soon by the County Council and that construction will start next year.

LC: ft

Attachments

mno to MCPB re Shady Grove Road (north) CIPNo. 500338

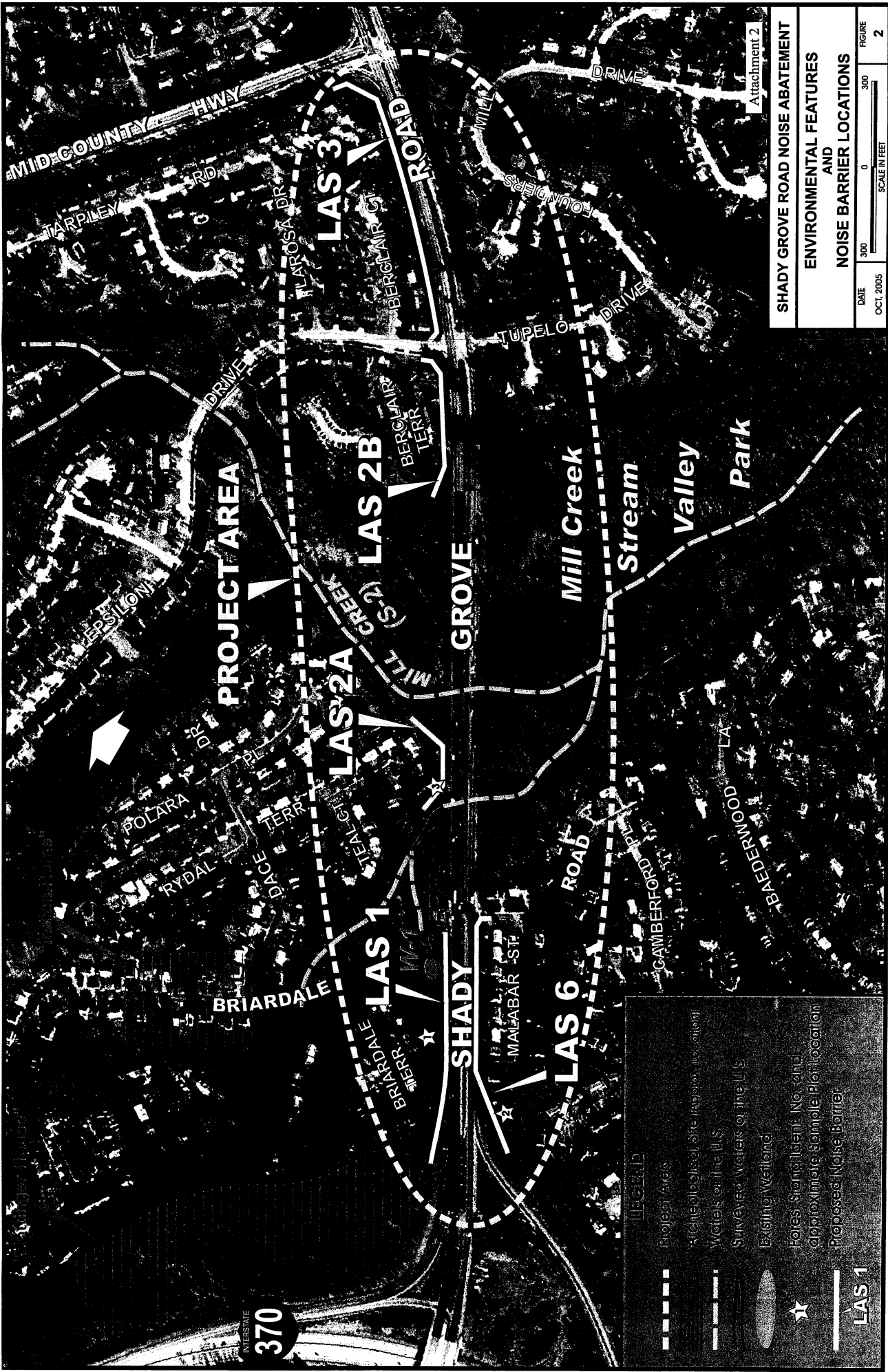


to Shady Grove Metro Station

LOCATION MAP

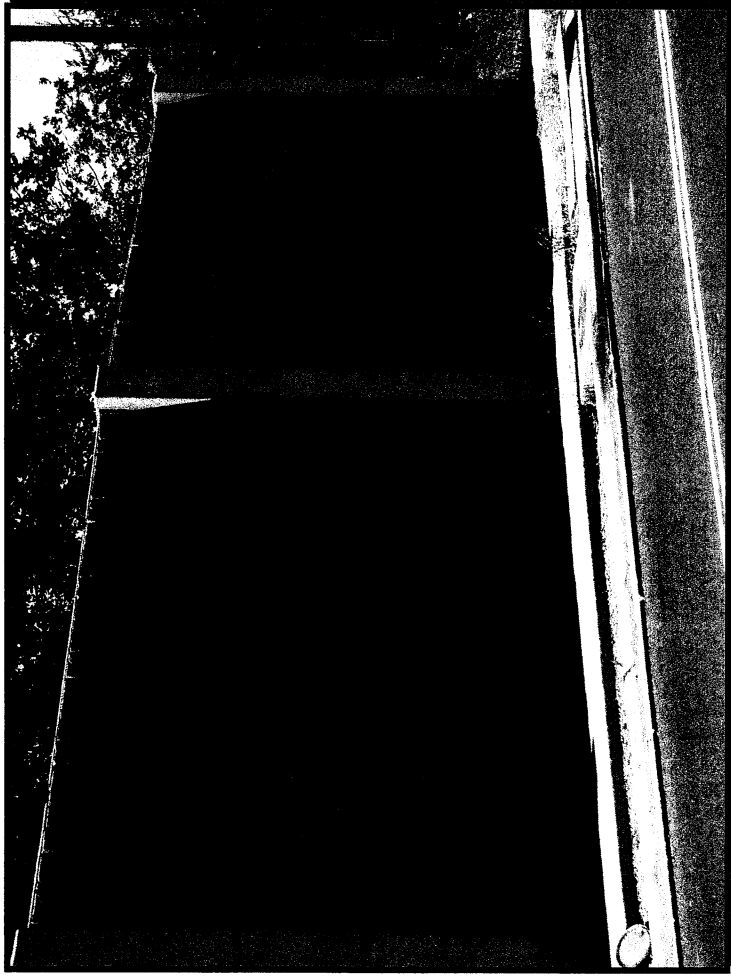
SCALE: 1"=1000'





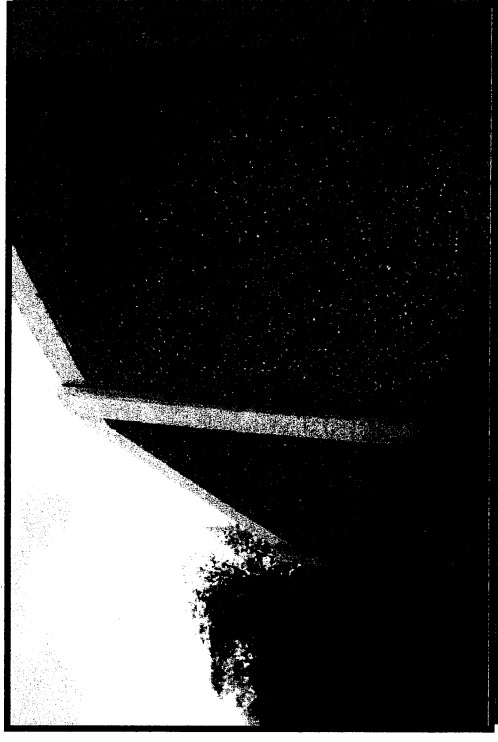
NOISE BARRIER FINISH AND COLOR

Roadway Facade (Front Side)



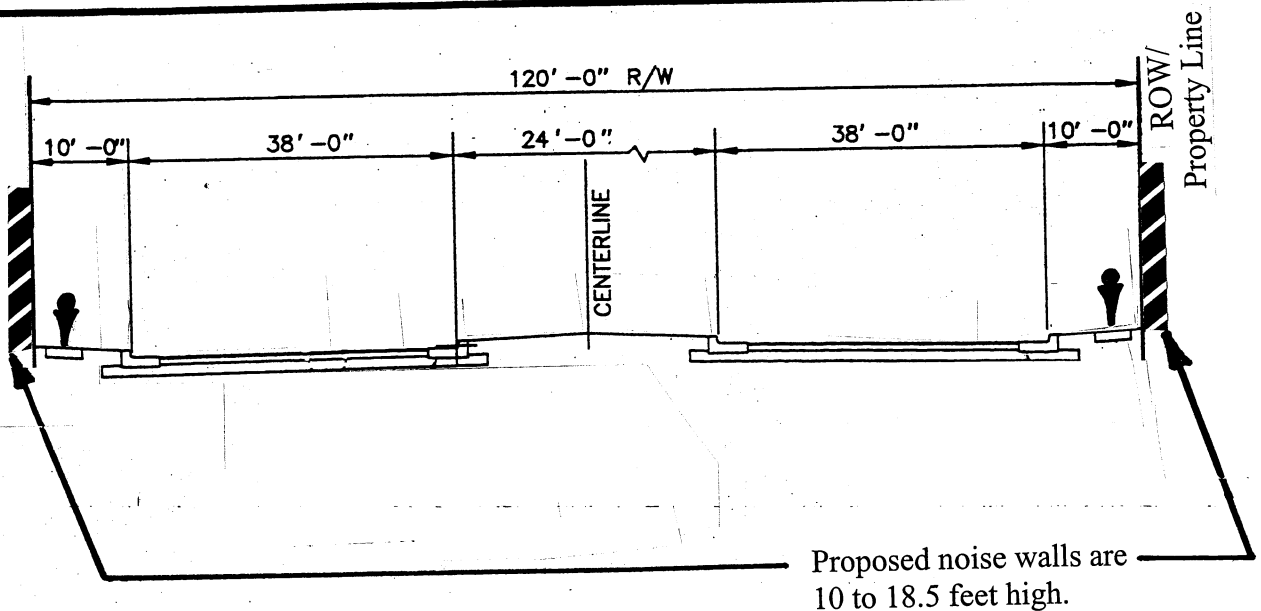
- Rustic Ashlar Finish
- Shades Of Gray

Residential Facade (Back Side)



- Double Rake Finish
- Light Brown

Final finish and color may vary from shown above.



TYPICAL ROAD SECTION

| |
|--|
| 3" BITUMINOUS CONCRETE SURFACE COURSE IN 2 - 1 1/2" LAYERS |
| 5" BITUMINOUS CONCRETE BASE COURSE |
| 8" GRADED AGGREGATE BASE COURSE IN 2 - 4" LAYERS |
| * |
| APPROVED SUBGRADE |

PREFERRED

| |
|--|
| 3" BITUMINOUS CONCRETE SURFACE COURSE IN 2 - 1 1/2" LAYERS |
| 9" BITUMINOUS CONCRETE BASE COURSE IN 2 - 4 1/2" LAYERS |
| * |
| APPROVED SUBGRADE |

ALTERNATE

* SUBGRADE DRAINS REQUIRED
SEE MC-525.01

PAVING SECTION GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. SEE STANDARD NO. MC-811.01 - METHODS OF GRADING SIDE SLOPES.
3. IN TYPICAL SECTION OR SUPERELEVATED SECTION, THE HIGH SIDE GUTTER PAN SLOPE SHALL EQUAL THE PAVEMENT SLOPE.
4. TYPICAL TOP OF CURB (LOW SIDE) ELEVATION = FLOWLINE (HIGHSIDE) ELEVATION -0.73' (FOR 6" CURB HEIGHT).
5. A CLASS I BIKE ROUTE SHALL BE PROVIDED IF REQUIRED AS A RESULT OF THE DEVELOPMENT PROCESS OR IF SPECIFIED IN THE MASTER PLAN.
6. OBSTRUCTIONS IN THE SIDEWALK THAT VIOLATE THE CLEAR WALKING SURFACE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" OF 1990 WILL NOT BE ALLOWED.
7. WHEN A TRAFFIC BARRIER IS WARRANTED INCREASE THE RIGHT OF WAY TO ALLOW THE TRAFFIC BARRIER TO BE PLACED OUTSIDE OF THE SIDEWALK.

Attachment 4

APPROVED 15 Sep '00

[Signature]
DIRECTOR, DEPT. OF TRANS.

[Signature]

REVISED



Add (GAB)
08-24-00

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

MAJOR DUAL ROAD
120' RIGHT OF WAY

STANDARD NO. MC-218.01