GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. **Policy, Planning, and Sustainability Administration**

MEMORANDUM

TO: Tara Morrison
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FROM: Sam Zimbabwe
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Cc: James Cheeks, Chief Traffic Engineer
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DATE: May 7, 2012

SUBJECT: **Chevy Chase Circle Signalization at Western Avenue Approaches**

The District Department of Transportation (DDOT) is proposing a signalization project to improve safety and operations at Chevy Chase Circle. This project would install new traffic control signals on Chevy Chase Circle at both Western Avenue east and west approaches and signalize the existing crosswalks to the Circle. This project has been proposed as a result of community concerns over the years and a recent livability study completed in 2011. The traffic signals would provide safe pedestrian access to the Circle and create needed gaps for Western Avenue vehicles entering the Circle. DDOT developed a signalization design plan (see Figures 1 & 2), which was provided to the National Park Service (NPS) and DC SHPO staff for review. This memorandum serves to provide background to the project and address NPS concerns to the signalization proposal.

BACKGROUND

Chevy Chase Circle straddles the border of the District of Columbia and Montgomery County, MD. There are seven roadways intersecting the circle: Connecticut Avenue (extending north and south); Western Avenue (extending northeast and southeast); Grafton Street (extending to the west); Chevy Chase Parkway/Patterson Street (extending to the east); and Magnolia Avenue (extending on the west). While the other intersecting roadways have low volumes, Connecticut Avenue and Western Avenue carry heavy traffic volumes, especially during peak hours. All of the intersecting roadways within the Circle are unsignalized. The nearest signals to the circle are at Connecticut Avenue and Olive Street NW, just south of the Circle in the District and at Connecticut Avenue and Bradley Lane north of the Circle in Montgomery County, MD.

The park within Chevy Chase Circle is owned by NPS (Reservation 335) and has features such as a fountain, landscaping, and benches that are enjoyed by the community. DDOT received several requests from residents and the Advisory Neighborhood Commission to implement traffic control and traffic calming measures to improve access to the park and increase safety.

In 2002, DDOT conducted a signal warrant and engineering study that found that the intersections at the Western Avenue approaches satisfied more than one of the Manual on Uniform Traffic Control Devices (MUTCD) traffic signal warrants. The MUTCD is a federal standard that ensures safety and uniformity throughout the country in the application of all traffic control devices. The MUTCD specifies that at least one of the possible eight warrants must be satisfied before a traffic signal control is justified. A study found that the intersection exceeded the minimum vehicular volume at all times and resulted in interruption of continuous traffic flow. Although there are marked crosswalks, they are not controlled, making it difficult and dangerous for pedestrians to cross into the park. Based on the signal warrant and engineering study in 2003, DDOT developed a signalization plan for the Western Avenue approaches to the Circle (see Figures 1 and 2).

In 2011, DDOT conducted the Rock Creek West II Livability Study (RCW2) to take a big picture look at the street network and identify concrete actions to increase transportation and safety options in the study area, which included Chevy Chase Circle. The RCW2 study showed that between 2007 and 2009, there were 56 traffic collisions, as well as two pedestrian accidents at Chevy Chase Circle. Additionally, a survey that was conducted as part of the study asked residents to comment on their concerns within the study area and Chevy Chase Circle was one of two locations that garnered the most comments. Residents identified aggressive driving (i.e., failing to yield and speeding) and inadequate infrastructure (i.e., awkward intersections and missing pedestrian facilities) as major concerns. DDOT later conducted a traffic analysis using the 2003 signalization plan, which confirmed that the signalization design would significantly improve traffic operations and safety compared to the existing configuration.

PROPOSED SIGNALIZATION PROJECT

Two of the five proposed traffic signal poles labeled TS2 and TS3 at each approach on the design plan need to be within Chevy Chase Circle on NPS property due to MUTCD standards that require two signal heads per approach be within a 20 degree cone of vision.

The functions of each traffic signal pole required for the project are described in table below:

Traffic Signal Pole	Proposed Location	Function
TS1	Western Avenue on DDOT ROW	• A pedestrian signal head with push-button for pedestrians crossing Chevy Chase Circle to the park. • A vehicle signal head for vehicles on Chevy Chase Circle approaching Western Avenue.
TS2	Chevy Chase Circle park on NPS property	• A pedestrian signal head for pedestrians crossing Western Avenue • A vehicle signal head for vehicles on Western Avenue approaching Chevy Chase Circle
TS3	Chevy Chase Circle park on NPS property	• A pedestrian signal head, for pedestrians crossing Western Avenue • A vehicle signal head, for vehicles on Western Avenue approaching Chevy Chase Circle, as well as for vehicles on Chevy Chase Circle approaching Western Avenue.
TS4	Western Avenue on DDOT ROW	• A pedestrian signal head, for pedestrians crossing Western Avenue • A vehicle signal head, for vehicles on Western Avenue approaching Chevy Chase Circle (near side).

TS5 *(not in the 2003 Plan)*	*Western Avenue on DDOT ROW*	• *Required to meet additional ADA requirements.* • *A pedestrian signal head, for pedestrians crossing Western Avenue*

Typically, each pole will require a 2ft by 2ft foundation with a 5ft diameter level of disturbance. Each pole would be about 22 feet tall with a 20 feet mast arm. DDOT has designed the signal locations so as to minimize the impact to the park while meeting the MUTCD standards.

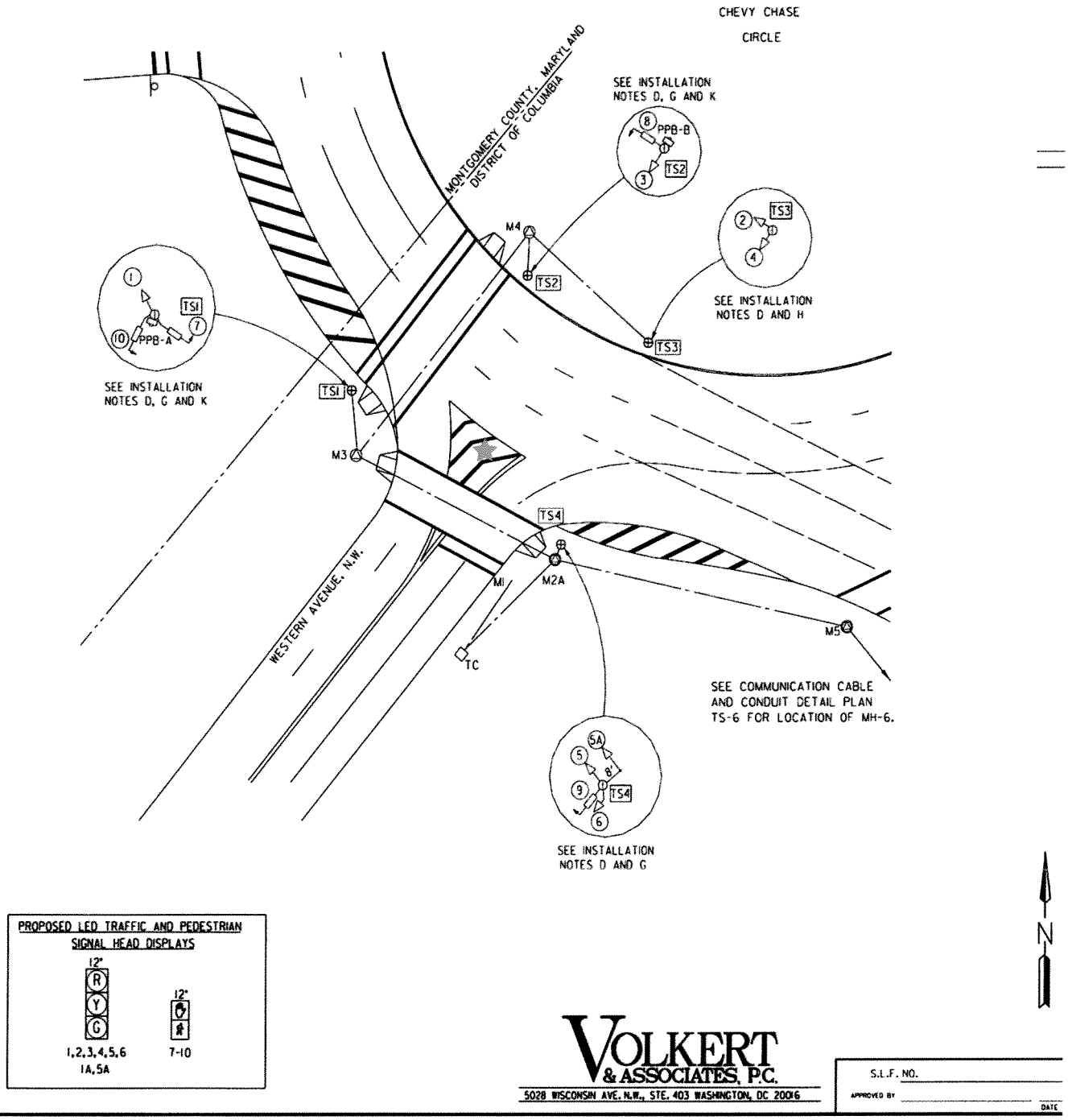

Figure 2: Traffic Signal installation for Chevy Chase Circle and Western Avenue, N.W (west)

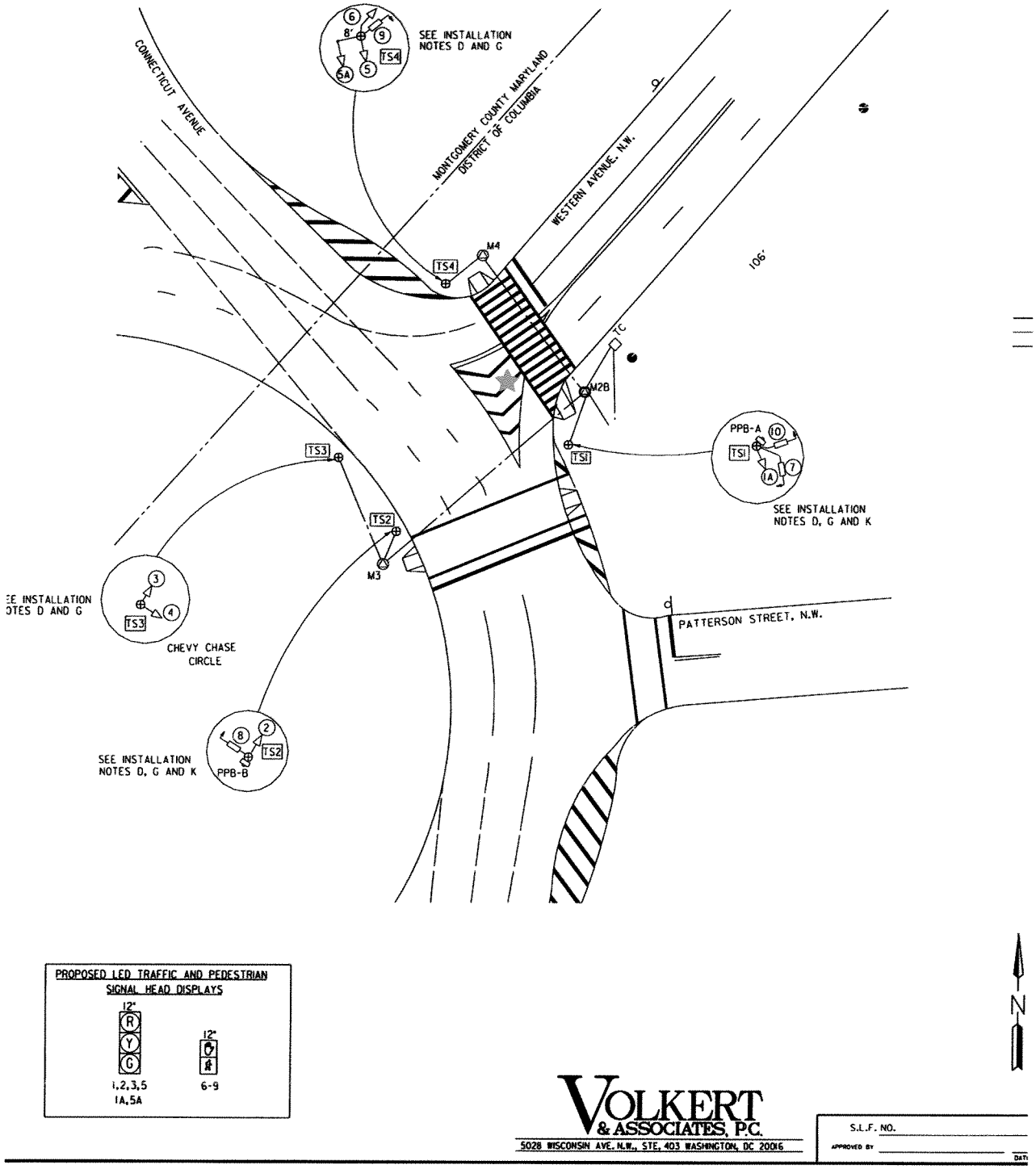

Figure 3: Traffic Signal installation for Chevy Chase Circle and Western Avenue, N.W (east)

NPS COMMENTS AND DDOT RESPONSES

On August 23, 2011, DDOT, NPS and DC SHPO staff met at Chevy Chase Circle for a site visit regarding the proposed Chevy Chase Circle Signalization Project. In attendance at the meeting were Michael Buckler and Simone Monteleone from NPS Rock Creek Park; David Hayes from NPS National Capital Region; Andrew Lewis

from DC SHPO; and Austina Casey, Elijah Robinson, and Bill McGuirk from DDOT. During the site visit, DDOT explained to NPS staff the functions of each proposed traffic signal and manhole. Below are NPS concerns posed to DDOT about the project (in bold/italic), followed by DDOT's response based on further review of the plan and the results of past studies conducted at the Circle.

- ***NPS does not typically allow traffic/street light poles within its circles and circles are typically not signalized.***

The majority of circles in the District are signalized. DDOT has worked with NPS to install traffic and/or street light poles on NPS properties in the following parks: Thomas Circle, Logan Circle, Dupont Circle, Ward Circle, and Sherman Circle.

- ***Why not use flags and flashing lights to address the functions of the poles within the circle?***

Flags have not been deemed effective and the only other pedestrian crossing in the District with flags is being replaced with a signal to improve pedestrian safety at the location of Connecticut Avenue and Northampton Street NW. Flashing lights would need to be powered and visible to drivers, thus the disturbance and location of poles would be similar to the proposed signalization project.

- ***NPS prefers to not have any of the poles installed on NPS property.***

In order to satisfy federal traffic control and pedestrian safety standards, the locations of TS2 and TS3 need to be located at the proposed locations within NPS property in order to provide a 20 degree cone of vision for approaching drivers.

- ***NPS suggests that only one pole will be allowed in the circle.***

Federal guidelines and standards per the MUTCD require two signal heads per approach with a 20 degree cone of vision for approaching drivers .

- ***The poles as proposed are too close to the root system of the trees surrounding the park. The NPS landscape inventory for that park would have to be reviewed.***

DDOT will make every effort to avoid impacting the tree root systems and locate the poles appropriately. DDOT's trained arborists will inspect the trees and ensure that the project does not adversely impact the tree root system.

- ***Move poles TS2 and TS3 (on both approaches) to the triangular section of the intersection (see the red star) and use a double mast arm to accommodate the functions of TS2 and TS3.***

There are several reasons the approach is not feasible and would result in major changes to the project:

- *Safety implications:* In order to accommodate the poles at the location NPS suggests, the stop bar will have to be moved 40-ft back into Western Avenue, which would reduce the line of sight for drivers entering the circle.
- *Project Approval Process:* Because of its size, a double mast arm is used on normally used on highways and freeways. DDOT is certain that this proposal would not meet National Capitol Planning Commission (NCPC) and Commission of Fine Arts (CFA) guidelines and approval.

- ***Prohibit pedestrians entering the Circle***

There are no other circles in the District of Columbia that prohibit pedestrian access. The circle is an attractive and valued community resource with a fountain and benches. The only way to prohibit pedestrians would be to fence off or remove the circle all together.

PROPOSED DESIGN MODIFICATIONS

In order to reduce impacts to NPS property, DDOT proposes to move two manholes (M4 on the west approach and M3 on the east approach), which were originally proposed to be inside the circle onto the roadway. This

would decrease the level of disturbance, trenching, and conduit work to a minimum within NPS property. The level of disturbance would be greatly reduced and only the foundation work per signal described above would occur on NPS property.

CONCLUSION AND NEXT STEPS

Signalization of the Western Avenue approaches at Chevy Chase Circle would provide safe access for pedestrians and improve the overall traffic safety and operation. Federal Highway Administration has concurred that the traffic signal control is warranted at both Western Avenue approaches. Given the demonstrated community support and safety benefits of the proposed signalization plan, DDOT would like to work with NPS to expeditiously implement a modified design plan that reduces impacts to NPS property to a minimum as soon as possible.

Based on a thorough review of the 2003 signal plan, DDOT has determined that the plan can be adjusted to minimize the disturbance created by the two proposed manholes and accompanying conduit work within the park area onto the roadway. However, poles in the Circle have to remain at the proposed locations with minor modifications to reduce tree conflicts in order to meet MUTCD requirements.

DDOT would like to work with NPS as we have on other circle signalization projects and requests a meeting to further discuss the permitting process for the necessary work to be performed within NPS property.