



New Ave Bikeway Section B, City of Takoma Park Mandatory Referral, MR2021024



Stephen Aldrich, Master Planner, CP&P, Stephen.Aldrich@montgomeryplanning.org, 301-495-4528



Jason Sartori, Chief, CP&P, Jason.Sartori@montgomeryplanning.org, 301-495-2172

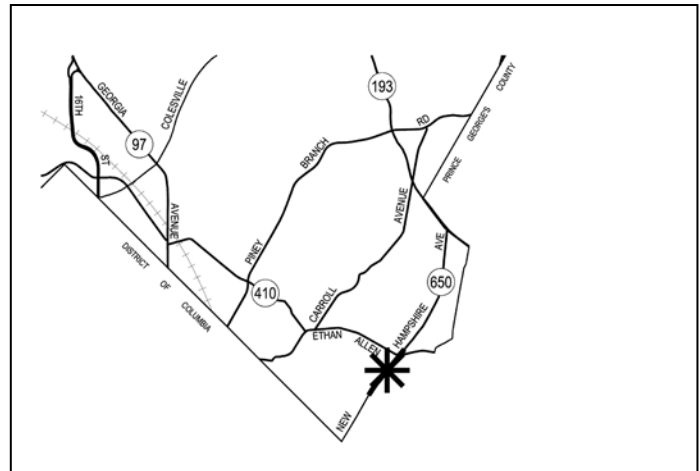
Completed: 10-21-21

Description

Construction of bikeway improvements on the west side of MD 650 between Poplar Avenue and Auburn Avenue in Takoma Park, Maryland. The project elements are a continuous bikeway within the project limits.

- Applicant: City of Takoma Park
- Takoma Park Master Plan (2001)

Staff Recommendation: Approval of Mandatory Referral with Comments



Contents

Summary	2
Mandatory Referral Review	2
Recommendations	3
Project Description.....	4
New Ave Bikeway.....	4
Pedestrian and Bicycle Safety Impacts	5
Typical Sections.....	6
Proposed Plan View	14
Transportation Analysis	16
Design Issues	16
Design Elements – Transportation.....	21
Master Plan Conformance – Transportation	22
Historic Resources Analysis.....	22
Environmental Guidelines.....	22
Forest Conservation.....	23
Stormwater Management	23
Community Outreach and Notification.....	24
Conclusion.....	24
Attachment	24

Summary

The City of Takoma Park is proposing to design and construct bikeway improvements (2,200 feet in total length) along the west side (southbound direction) of MD 650 between Poplar Avenue and Auburn Avenue in Takoma Park. The project includes the following improvements:

- An eight-foot-wide sidepath with a three-foot-wide buffer starting at Poplar Avenue extending one block to Conway Avenue,
- An eight-foot-wide sidepath with no buffer between Conway Avenue and Prince George's Avenue (south leg),
- An 11-foot-wide sidepath between the two legs of Prince George's Avenue with a wide buffer,
- Closure of the north leg of Prince George's Avenue and the MD 650 southbound frontage road between Prince George's Avenue (north leg) and Belford Place,
- Construction of a contraflow five-foot-wide bike lane (with no buffer) on the MD 650 southbound frontage road between Belford Place and Station 115+25 (total distance of approximately 550 feet). Southbound bicycle travel in this section will be using the frontage road as a shared use (sharrow) lane, and
- An eight-foot-wide sidepath with a narrow two-foot-wide concrete buffer between Station 115+25 Auburn Avenue (in front of the New Hampshire Avenue shopping center).

The project location is depicted in Figure 1.

The 30 percent design plan presentation drawings are provided as Attachment A to this report.



Figure 1: Project Limits and Site Vicinity

Mandatory Referral Review.

This proposal for the construction of bikeway improvements is required to undergo the Mandatory Referral review process under the Montgomery County Planning Department's Uniform Standards for Mandatory Referral Review. State law requires all federal, state, and local governments and public utilities

to submit proposed projects for a Mandatory Referral review by the Commission. The law requires the Planning Board to review and approve the proposed location, character, grade and extent of any road, park, public way or ground, public (including federal) building or structure, or public utility (whether publicly or privately owned) prior to the project being located, constructed or authorized.

Planning staff acknowledges that the implementation of master plan transportation recommendations is a challenge faced by the applicant in developing design plans to convert desired master plan recommendations into engineering design drawings. The design process brings clarity with considerably more detail than considered during a master plan, and issues such as environmental impacts, historical impacts, and construction costs may introduce new factors that need to be weighed in developing a final design solution. It is hoped that the Mandatory Referral process aids in this process to develop an optimal or at least an improved design solution.

Recommendations

Staff recommends **approval** of the Mandatory Referral with the following comments to transmit to the City of Takoma Park:

- 1) Consistent with Sec. 22A-9. County and Municipal Highway Projects, the applicant must:
 - a) Minimize forest cutting, clearing, and loss of specimen trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.
 - b) If the forest to be cut or cleared for a county highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
 - c) Mitigate for loss of specimen or champion trees. Mitigation amounts are based on the size and character of the tree.
- 2) Applicant must submit a Final Forest Conservation Plan to M-NCPPC staff for review and approval prior to issuance of a Sediment Control Permit.
- 3) Modify the sidepath design between Poplar Avenue and Conway Avenue by shifting the sidepath and bus stop by three feet to provide a full six-foot-wide buffer.
- 4) Modify the sidepath design between Conway Avenue and Prince George's Avenue (south leg) with the following modifications:
 - a) Reduce the median between the Conway Avenue frontage road and MD 650 from four feet to a two-foot-wide concrete median,
 - b) Reduce the width of the Conway Avenue frontage road from 22 feet to 20 feet, and
 - c) Relocate the curbing along the west side of the Conway Avenue frontage road to fit a four-foot-wide grass buffer between the road and the sidepath. While substandard per the Bicycle Master Plan and the Complete Streets Design Guidelines, this would be a significant improvement over the design now proposed.
- 5) Modify the sidepath design between Prince George's Avenue (north leg) and Belward Place by shifting the sidepath to the north to provide a six-foot-wide buffer between the sidepath and MD 650.
- 6) For the design between Belward Place and the New Hampshire Avenue shopping center signal, consider the three design options presented by Planning staff as either replacements for the proposed

design or as a medium-term replacement. The proposed design is less than ideal for anything other than a short-term solution.

- 7) Modify the parking along the road edge of the New Hampshire Avenue shopping center to add curb stops to prevent vehicles from partially blocking the proposed sidepath along MD 650.
- 8) Consistent with the county's Vision Zero Action Plan efforts, eliminate the right-turn channelization and porkchop island on the Ethan Allen Avenue approach to MD 650. Furthermore, the applicant should close the southernmost driveway access to the corner parcel at this intersection.

Project Description

As a follow-on to a 2012 New Ave feasibility study¹ and bikeway recommendations in the Bicycle Master Plan adopted and approved in 2018, the City of Takoma Park is proposing to design and construct bicycle improvements along MD 650 (New Hampshire Avenue) between Poplar Avenue and Auburn Avenue. The specific project elements include:

- An eight-foot-wide sidepath with a three-foot-wide buffer starting at Poplar Avenue extending one block to Conway Avenue,
- An eight-foot-wide sidepath with no buffer between Conway Avenue and Prince George's Avenue (south leg),
- An 11-foot-wide sidepath between the two legs of Prince George's Avenue with a wide buffer,
- Closure of the north leg of Prince George's Avenue and the MD 650 southbound frontage road between Prince George's Avenue (north leg) and Belford Place,
- Construction of a contraflow five-foot-wide bike lane (with no buffer) on the MD 650 southbound frontage road between Belford Place and Station 115+25 (total distance of approximately 550 feet). Southbound bicycle travel in this section will be using the frontage road as a sharrows lane, and
- An eight-foot-wide sidepath with a narrow two-foot-wide concrete buffer between Station 115+25 Auburn Avenue (in front of the New Hampshire Avenue shopping center).

New Ave Bikeway

The City of Takoma Park has embarked on this ambitious project to “creatively redesign the underutilized service lanes on the southbound side on New Hampshire Avenue as a two-directional bikeway, while still providing vehicular access to properties.”² The location of the planned New Ave Bikeway is shown in Figure 2 by the three sections proposed. Section B is the most southern section and is the subject of this Mandatory Referral review. Section A came before the Planning Board for mandatory referral review on February 18, 2021 and Section C will be the subject a future mandatory referral review.

The City of Takoma Park has completed the concept (15 percent) and preliminary (30 percent) design phases of the New Ave Bikeway Section B Improvements. The project limits are along the southbound side of MD 650 (New Hampshire Avenue) between Poplar Avenue and Auburn Avenue, an approximate

¹ <https://www.thenewave.com/development/planning-vision/feasibility-study>

² <https://takomaparkmd.gov/government/housing-and-community-development/planning-and-community-development/new-ave-bikeway/>

distance of 2,200 feet. The project is in Takoma Park, Maryland and the adjacent properties are residential and commercial. The proposed improvements include a continuous bikeway along southbound MD 650 from Poplar Avenue to Auburn Avenue and related stormwater management improvements.

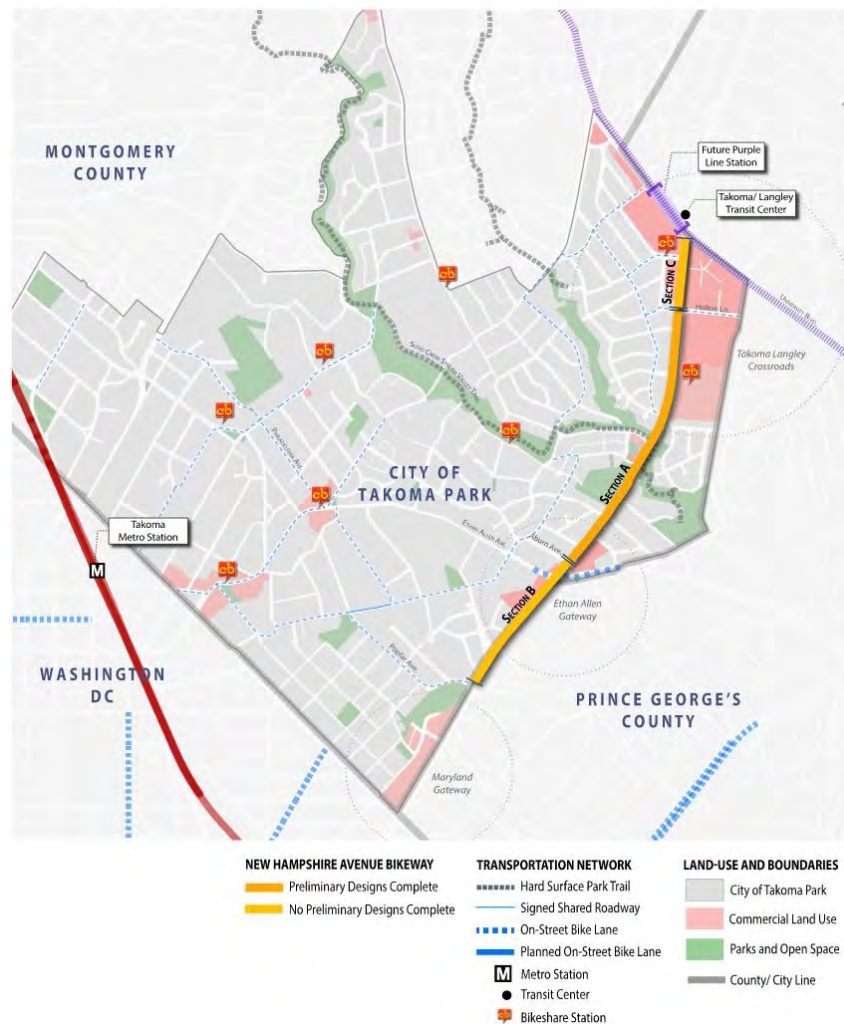


Figure 2: New Ave Bikeway Vision

Pedestrian and Bicycle Safety Impacts

This project is anticipated to improve pedestrian and bicycle safety along the southbound side of New Hampshire Avenue (MD 650) within the project limits. The proposed bikeway (Section B) is the second phase of a three-phase plan by the City of Takoma Park to implement a continuous bikeway along southbound MD 650 from MD 193 to Poplar Avenue.

This project will utilize the available low-volume/low-speed frontage roads as buffer separation for the bikeway from the southbound MD 650 travel lanes. Where there is not adjacent frontage road, a grass or paved buffer will be provided between the proposed bikeway and the southbound MD 650 travel lanes. Key facility types for the proposed bikeway include a shared use path / sidepath and southbound shared lane with contra-flow bike lane.

Also proposed under this project are ADA-compliance and pedestrian safety upgrades to sidewalk facilities, driveways, bus stops and signalized intersection crossings, with improved connectivity to transit and residential / commercial property along the corridor.

Typical Sections

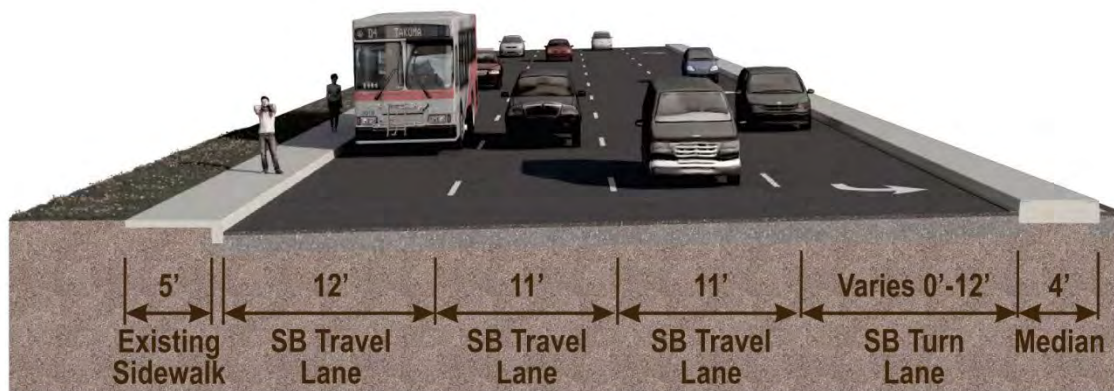
New Hampshire Avenue (MD 650) is a state road with a posted speed of 35 MPH and is classified as a Principal Arterial and is a part of the National Highway System. New Hampshire Avenue is also classified by Montgomery County as a Major Highway per the Master Plan of Highways and Transitways (MPOHT). Under the Planning Board-approved Complete Streets Design Guide, New Hampshire Avenue will be classified as a Boulevard. The New Ave Bikeway Section B improvements are broken down into five (5) segments from south to north:

- 1) Poplar Avenue to Conway Avenue;
- 2) Conway Avenue to Prince George's Avenue;
- 3) Prince George's Avenue to Belford Place;
- 4) Belford Place to the signalized entrance at the New Hampshire Avenue shopping center; and
- 5) The signalized entrance at the New Hampshire Avenue shopping center to Auburn Avenue.

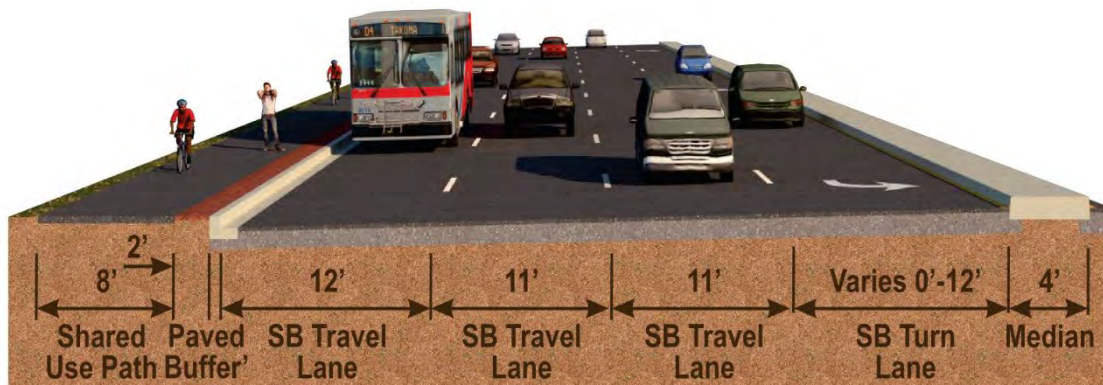
Segment 1: Poplar Avenue to Conway Avenue. The existing typical section includes a five-foot-wide concrete sidewalk with no buffer between the southbound MD 650 travel lanes.

Under the proposed condition, a two- to three-foot-wide (hardscape paver) buffer will be provided, to separate an eight-foot-wide sidepath from the southbound MD 650 travel lanes. One (1) utility pole and one (1) pedestrian push button pole will be relocated outside of the proposed sidepath. The existing bus stop will be relocated behind the sidepath. A backing curb will be installed at a one-foot offset from the eight-foot-wide sidepath just north of the bus stop to avoid grading impacts and the existing treeline.





EXISTING TYPICAL – Poplar to Conway



PROPOSED TYPICAL – Poplar to Conway

Segment 2: Conway Avenue to Prince George's Avenue.

The existing typical section is a one-way (northbound), 25-foot-wide (typical) frontage road with on-street parking, separated from southbound MD 650 travel lanes by a five-foot-wide (typical) raised median. The frontage road also has five-foot-wide concrete sidewalk separated from an existing retaining wall by a two-foot-wide (typical) grass buffer.

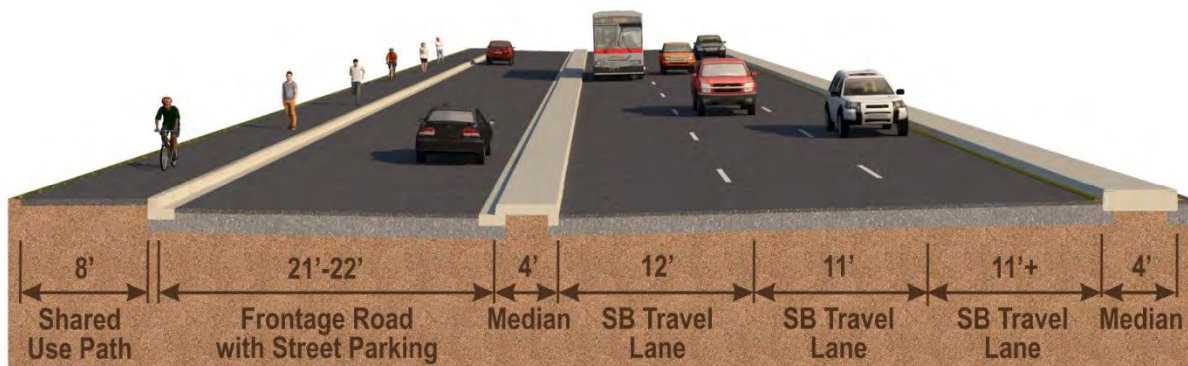
Under the proposed condition, the frontage road



EXISTING CONDITION

Looking south along Conway Avenue

will be narrowed to 22' wide (typical) to accommodate an eight-foot-wide sidepath. A three-foot-wide grass buffer will separate the back of the bike path from the existing retaining wall. This will also allow space to relocate an existing fire hydrant behind the sidepath. Two existing on-street parking spaces will be eliminated by the proposed curb line bump out. No property impacts are required.



PROPOSED TYPICAL – Conway Avenue

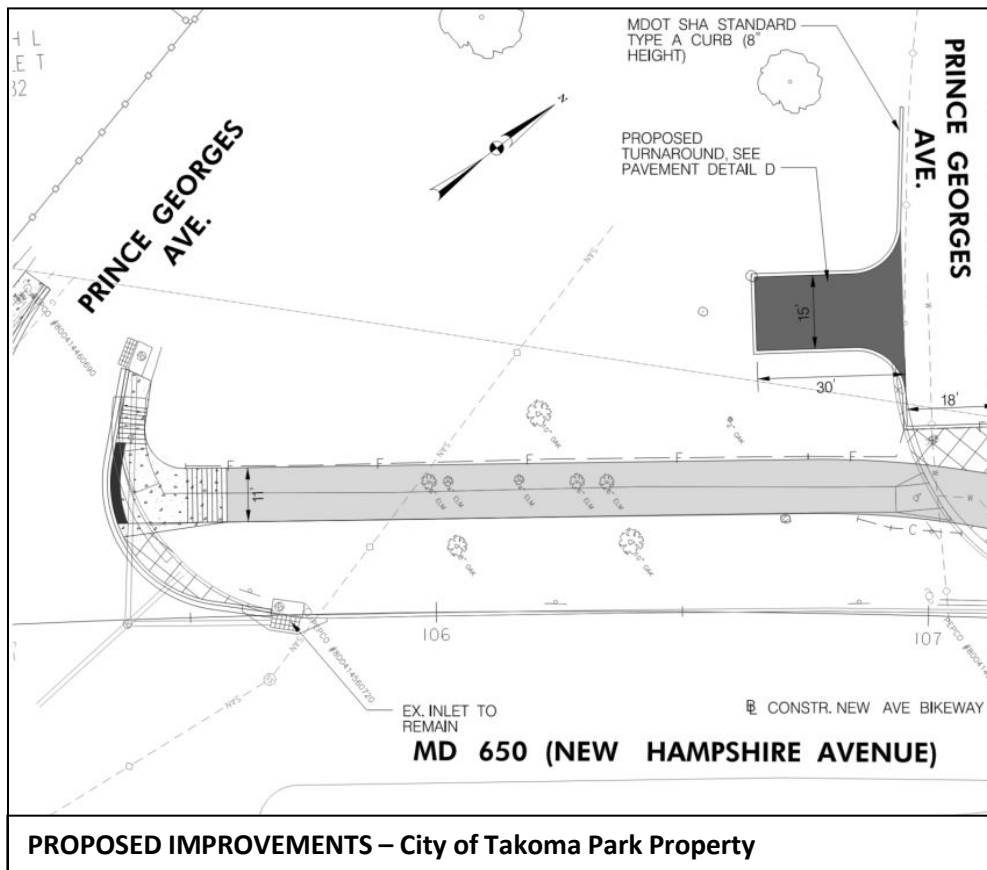
Segment 3: Prince George's Avenue to Belford Place. Prince George's Avenue to Belford Place has two existing typical sections. The first section (Typical 1) is between the two Prince George's Avenue roadways within the city-owned park/greenspace. An existing six-foot-wide (typical) concrete sidewalk passes through this segment, approximately 20 feet west of the southbound MD 650 travel lanes.

Under proposed conditions, an 11-foot-wide sidepath will replace the existing sidewalk along the same alignment.



EXISTING CONDITIONS – TYPICAL 1

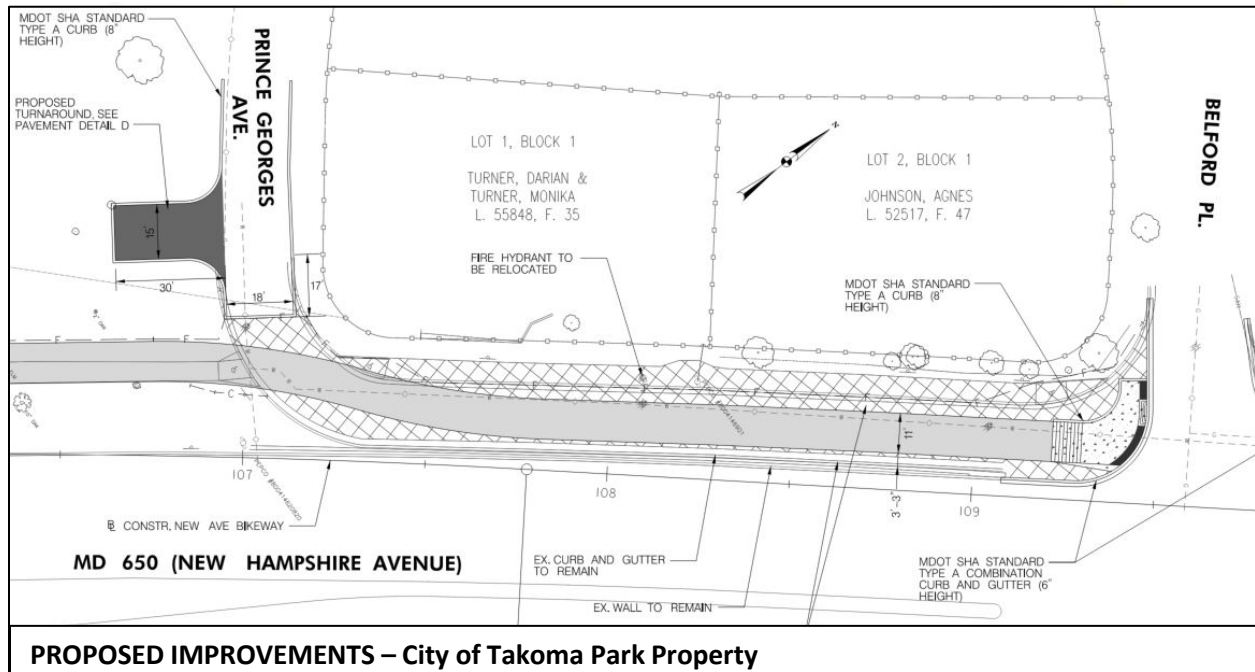
Looking North at the City of Takoma Park property at Prince George's Avenue at MD 650 intersection



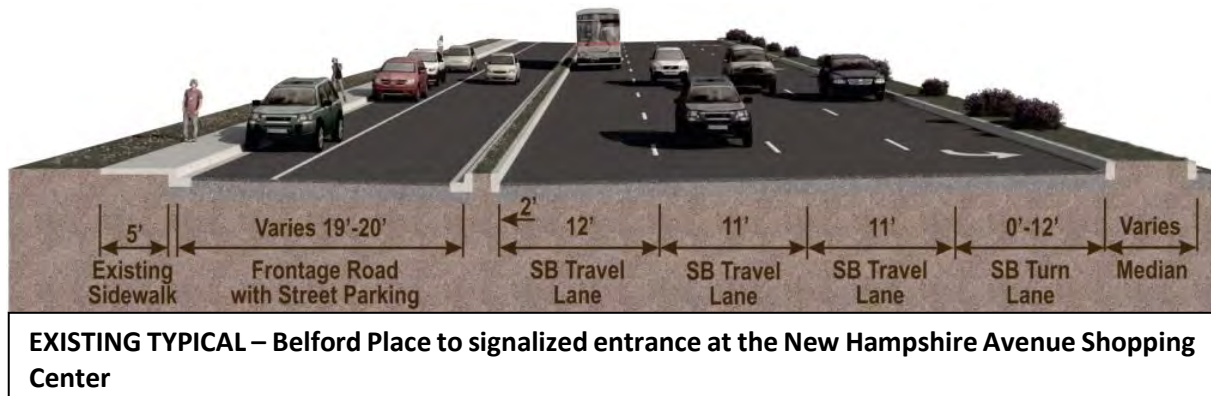
The second section (Typical 2) is between the northernmost Prince George's Avenue and Belford Place. A two-way frontage road with on-street parking is grade-separated from the southbound MD 650 travel lanes by a concrete retaining wall. The typical section includes an existing five-foot-wide concrete sidewalk with no buffer along the frontage road.

Under proposed conditions, the frontage road will be closed to traffic. The frontage road and existing sidewalk will be converted to an 11-foot-wide sidepath with greenspace on both sides. The existing retaining wall will remain. Approximately five (5) on-street parking spaces will be eliminated by the closure of the frontage road. A proposed turnaround will be installed along Prince George's Avenue to maintain access to the private residences. No property impacts are required.



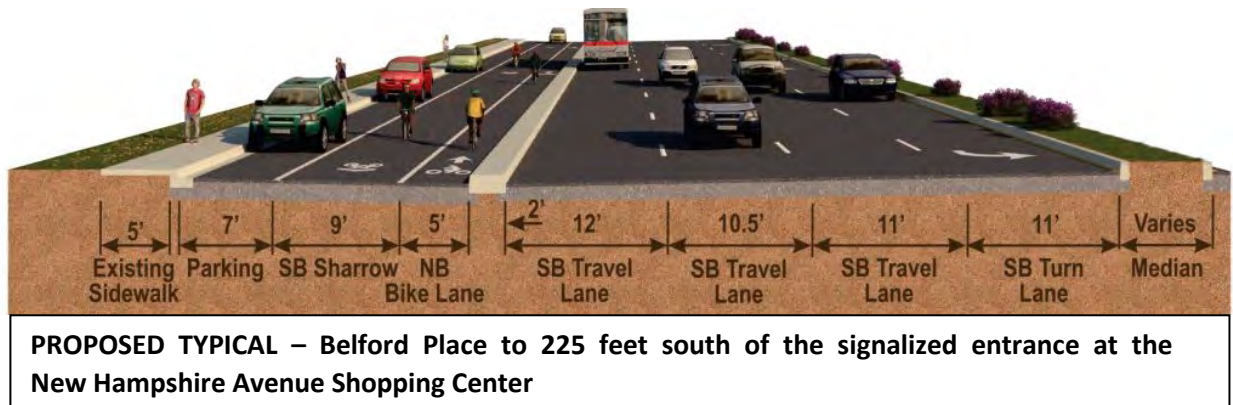


Segment 4: Belford Place to signalized entrance at the New Hampshire Avenue Shopping Center. The existing typical section is a one-way (southbound) frontage road with on-street parking, separated from southbound MD 650 travel lanes by a two-foot-wide (typical) raised median or concrete retaining wall. This segment of the corridor also has a concrete sidewalk with no buffer separation from frontage road traffic.



Two typical sections represent the proposed conditions. The first section is between Belford Place and the New Hampshire Avenue shopping center driveway, located approximately 225 feet south of the signalized entrance. Under the proposed condition, a geometric shift will be introduced to the southbound MD 650 travel lanes to allow enough space to accommodate the bikeway improvements. The proposed frontage road median will be shifted approximately one foot east of its current location toward MD 650. The frontage road will be converted to a nine-foot-wide southbound sharrows lane with a five-foot-wide northbound contra-flow bike lane. On-street parking (seven feet wide) will be maintained; however, the

proposed improvements will eliminate one parking space. The existing concrete sidewalk will remain. No property impacts are required.



The second section is between the New Hampshire Avenue Shopping Center southern-most driveway north to the signalized entrance at the New Hampshire Avenue Shopping Center. Under the proposed condition, the geometric shift along the MD 650 travel lanes will be carried through to accommodate the improvements. The existing three-foot-wide concrete median / retaining wall separating the frontage road from southbound MD 650 travel lanes will be removed and reconstructed as a one-foot-wide concrete barrier curb wall to accommodate the southbound travel lanes shift. The frontage road will be converted to a 14-foot-wide southbound sharrow lane and a five-foot-wide northbound contra-flow bike lane, separated from the concrete barrier curb wall by a two-foot-wide paved buffer. Eight (8) on-street parking spaces in front of the two business will be eliminated. Note that there is ample parking both in the front and back of the New Hampshire Avenue Shopping Center. The existing concrete sidewalk will remain along the store fronts.



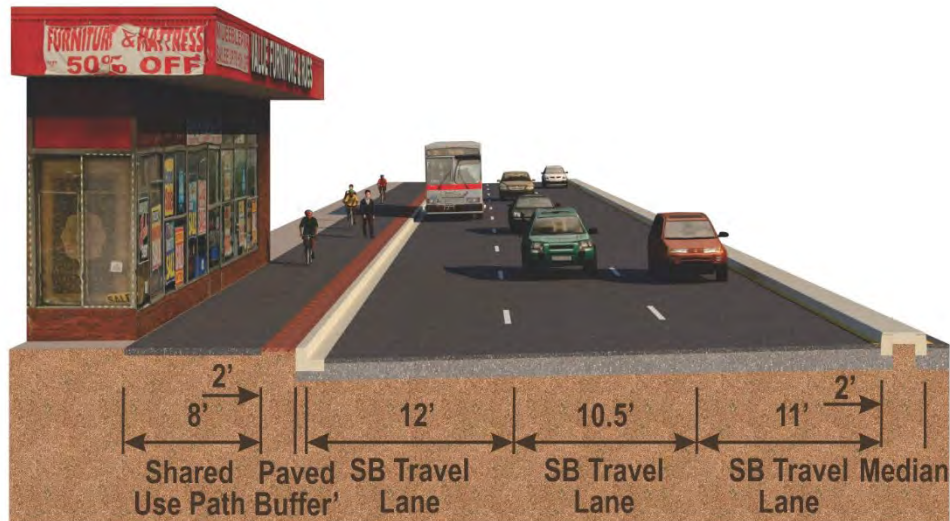
PROPOSED TYPICAL – 225 feet south of the signalized entrance at the New Hampshire Avenue shopping center

Segment 5: Signalized Entrance at the New Hampshire Avenue Shopping Center to Auburn Avenue. The existing typical section includes a six- to seven-foot-wide (typical) concrete sidewalk with no buffer between the southbound MD 650 travel lanes.



EXISTING TYPICAL – Signalized entrance at the New Hampshire Avenue shopping center to Auburn Avenue

Under the proposed condition, the southbound travel lanes will shift to the east and the travel lanes will be reduced as shown below in the typical proposed section below. The existing median along MD 650 will be narrowed by two feet to accommodate these shifts. The proposed curb line will be shifted approximately three feet east of its current location to accommodate an eight-foot-wide sidepath separated from the southbound MD 650 travel lanes by a two-foot-wide hardscaped buffer (typical). Three (3) utility poles, one traffic signal pole, and two (2) pedestrian push button poles will be relocated outside of the proposed sidepath. An existing bus stop bench just north of the shopping center signalized entrance will be removed to provide room for the bikeway. No property impacts are required.



PROPOSED TYPICAL – The signalized entrance to the New Hampshire Avenue shopping center to Auburn Avenue

Proposed Plan View

The proposed roadway plans are provided in Figures 3 through 6. These plans are presented traveling south to north.

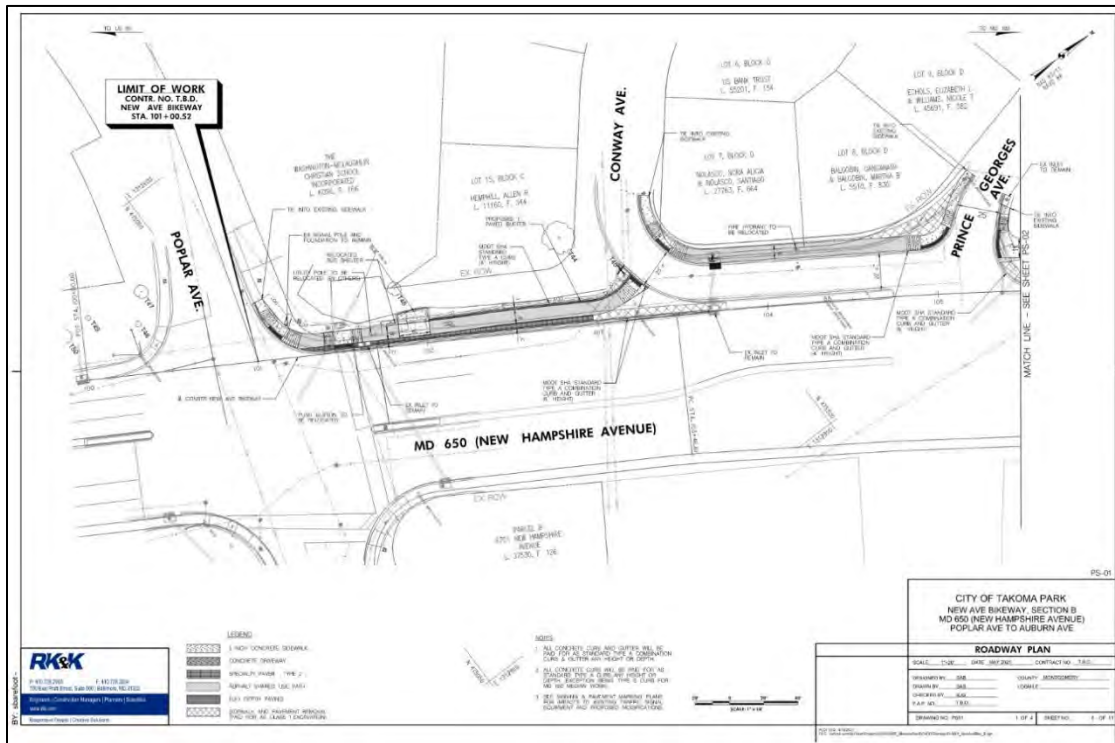


Figure 3: Plan View of Proposed New Avenue Section B Improvements (Part 1)

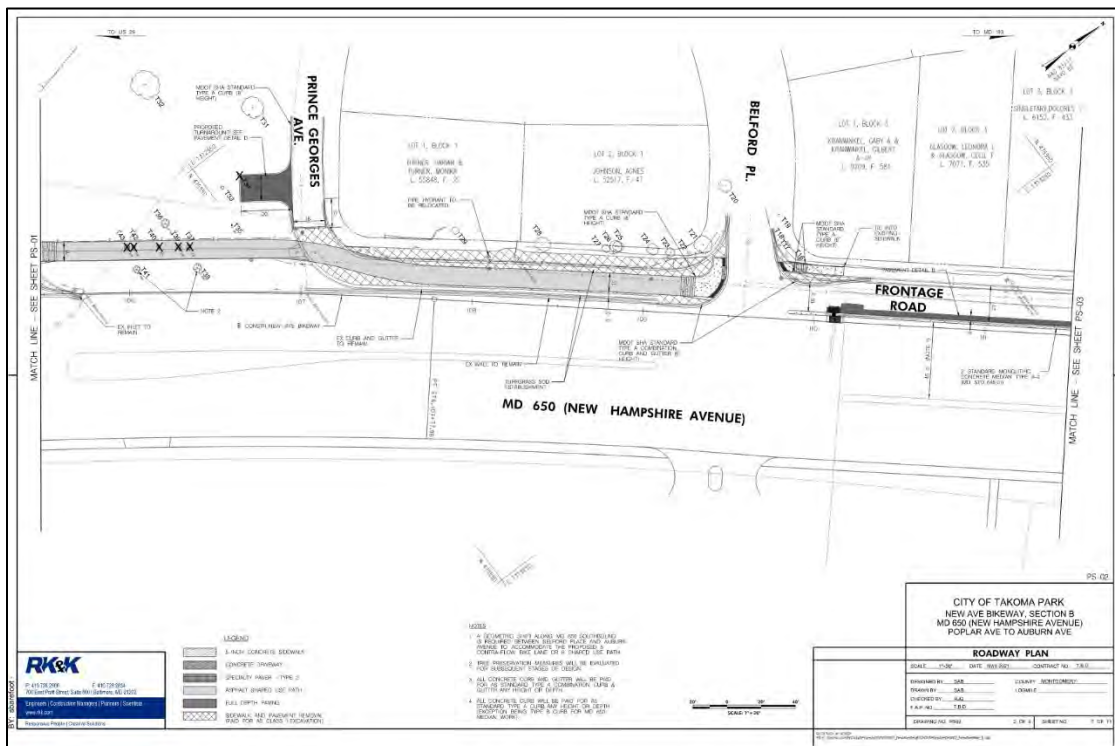
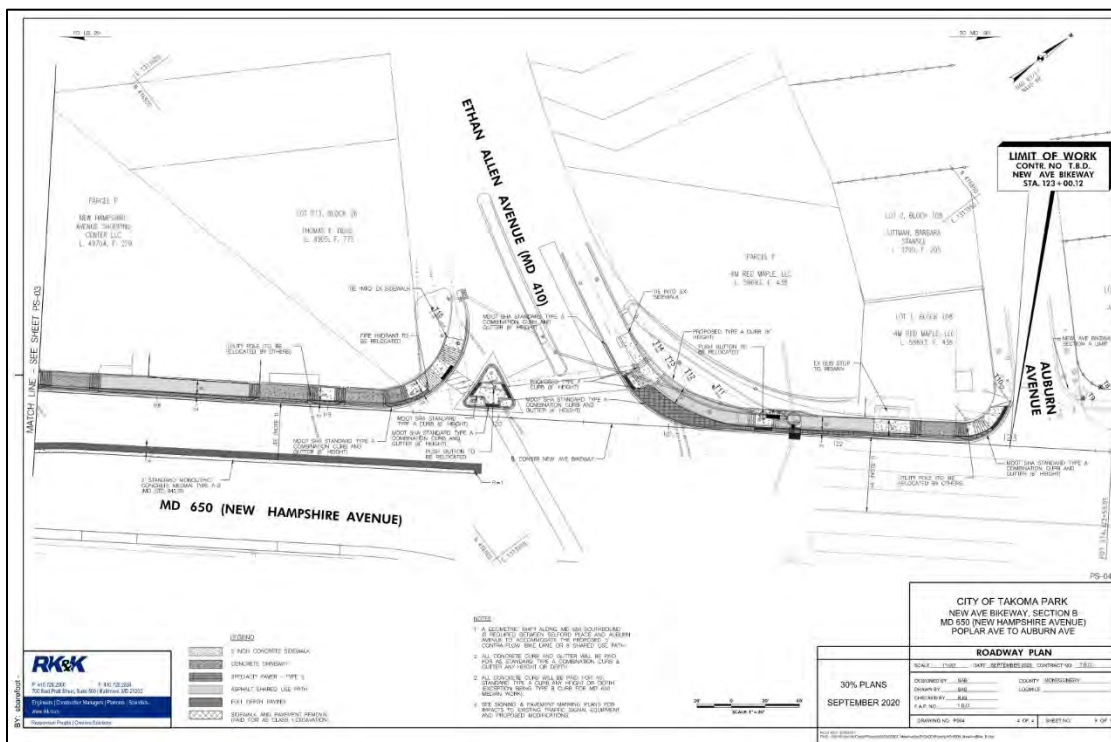
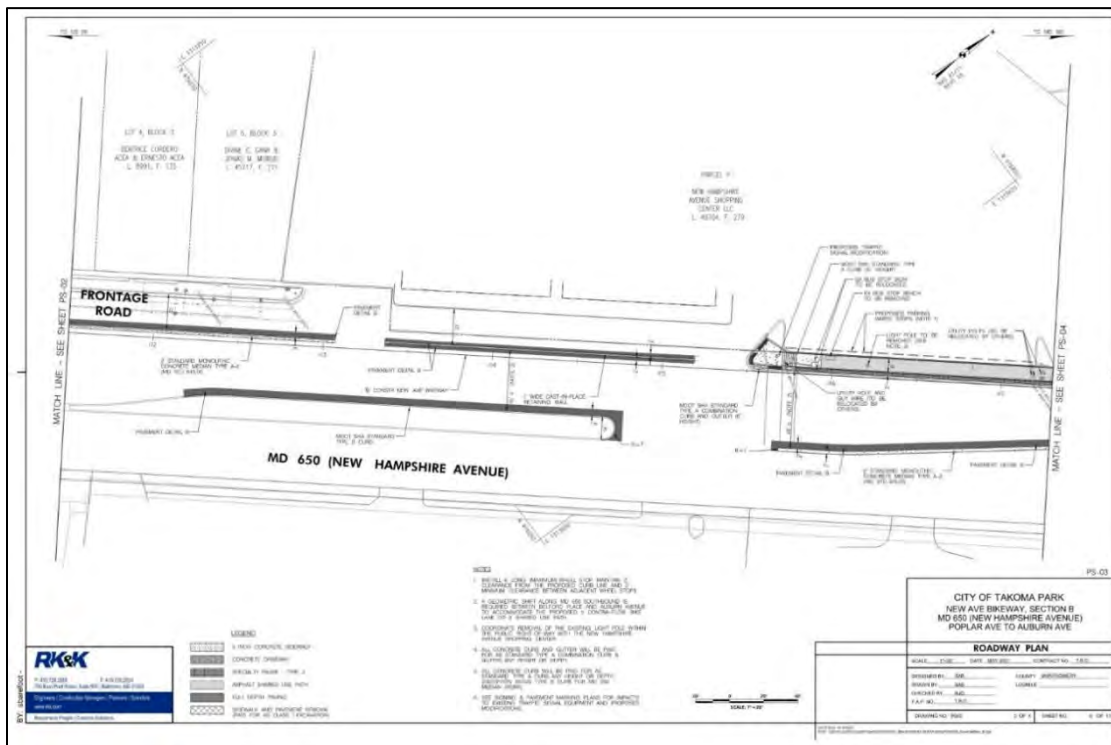


Figure 4: Plan View of Proposed New Avenue Section B Improvements (Part 2)



Transportation Analysis

Design Issues

While not consistent with the Bicycle Master Plan in terms of facility type, the proposed design does provide a consistent sidepath design except for a section between Belford Place and the New Hampshire Avenue shopping center signal. Following are review comments on ways to improve or modify the design.

Sidepath between Poplar Avenue and Conway Avenue: This section is extremely tight with the provision of an eight-foot-wide sidepath and only a three-foot-wide buffer. This could be improved significantly by shifting the sidepath to the west (away from MD 650) to run along the edge of the right of way to allow the provision of a wider buffer (generally up to 6 feet wide). This is shown below in Figure 7.

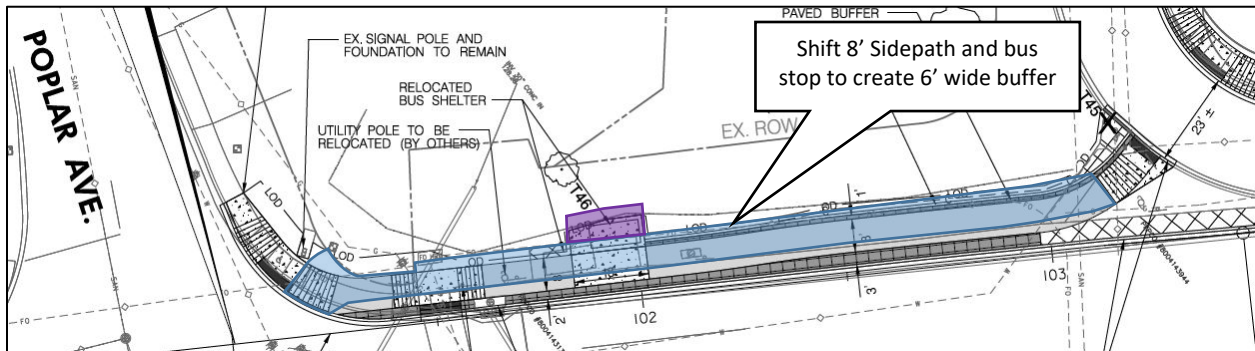


Figure 7: New Ave Bikeway at Poplar Avenue to Conway Avenue – Proposed Modifications

Sidepath between Conway Avenue and Prince George's Avenue: The proposed sidepath between Conway Avenue and Prince George's Avenue will be eight feet with no buffer. This is largely due to a lack of right of way and steep grades on the two adjacent residential parcels. As shown in Figure 8, a four-foot buffer could be provided with the following changes to the design:

1. Reduce the median between the Conway Avenue frontage road and MD 650 from four feet to a two-foot-wide concrete median (shown in green).
2. Reduce the width of the Conway Avenue frontage road from 22 feet to 20 feet.
3. Relocate the curbing along the west side of the Conway Avenue frontage road to fit a four-foot-wide grass buffer between the road and the sidepath (shown in blue). While substandard per the Bicycle Master Plan and the Complete Streets Design Guidelines, this would be a significant improvement over the design now proposed.

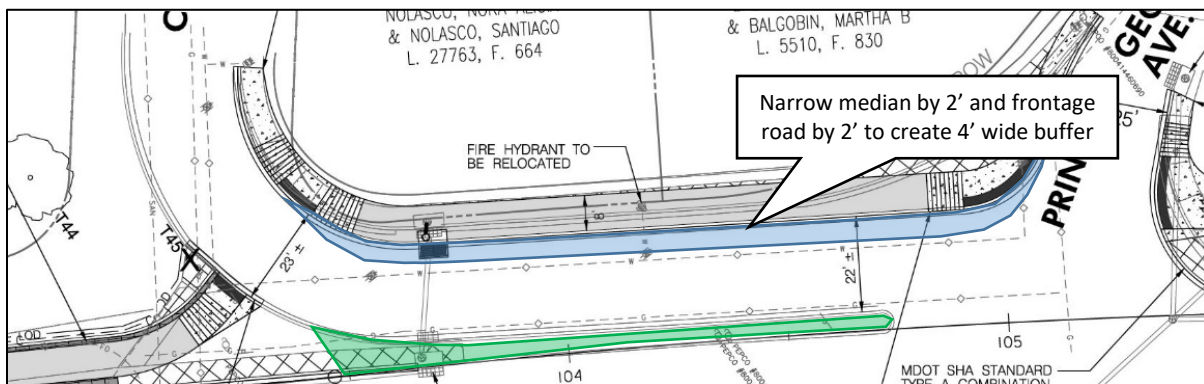


Figure 8: New Ave Bikeway at Conway Avenue to Prince George's Avenue – Proposed Modifications

Sidepath between Prince George's Avenue and Belford Place: The closure of the existing Prince George's Avenue frontage road provides an opportunity to improve bicycle and pedestrian accommodations; however, the proposed design only provides a buffer between the sidewalk and MD 650 of 3.25 feet. Per the Bicycle Master Plan and the Complete Streets Design Guidelines, a minimum buffer of six feet should be provided. This can be done by shifting the sidepath within the existing right of way, as shown in Figure 9.

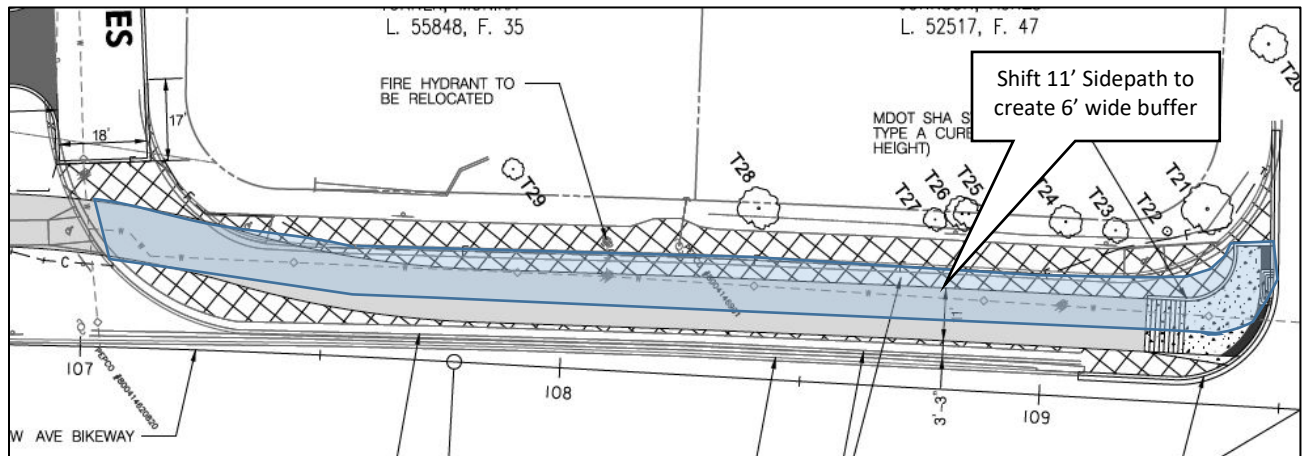


Figure 9: New Ave Bikeway at Prince George's Avenue to Belford Place – Proposed Modifications

Segment Between Belford Place and New Hampshire Avenue shopping center: The proposed design is a sudden shift from sidepaths to a sharrow lane in the southbound direction and an unbuffered contraflow bike lane in the northbound direction. While this seems to work, it does so by putting northbound bicyclists within two feet of the southbound MD 650 travel lanes. The southbound sharrow is likely workable due to the low traffic volume in this one-way frontage road. It is workable but nowhere near ideal. A sketch of this improvement is shown in Figure 10.



Figure 10: New Ave Bikeway from Belford Place to New Hampshire Shopping Center – Proposed Design

This area has multiple constraints that make the provision of either a sidepath or separated bike lanes difficult to implement. This includes the existence of a varying height retaining wall adjacent to the existing sidewalk, a sidewalk with three (3) utility poles severely reducing the effective width of this sidewalk, and three residential properties without driveways, necessitating the provision of on-street parking in the frontage road. The sidewalk is currently not compliant with the Americans with Disabilities (ADA) act. These issues can be clearly seen in the photo shown in Figure 11.



Figure 11: Existing Photo – Frontage Road between Belford Place and New Hampshire Avenue Shopping Center

A second plan view (Figure 12) is provided in front of the New Hampshire Avenue shopping center for 225 feet from the southern property line to the existing shopping center traffic signal. The southbound sharrows/northbound contraflow bike lane concept is extended on this segment.

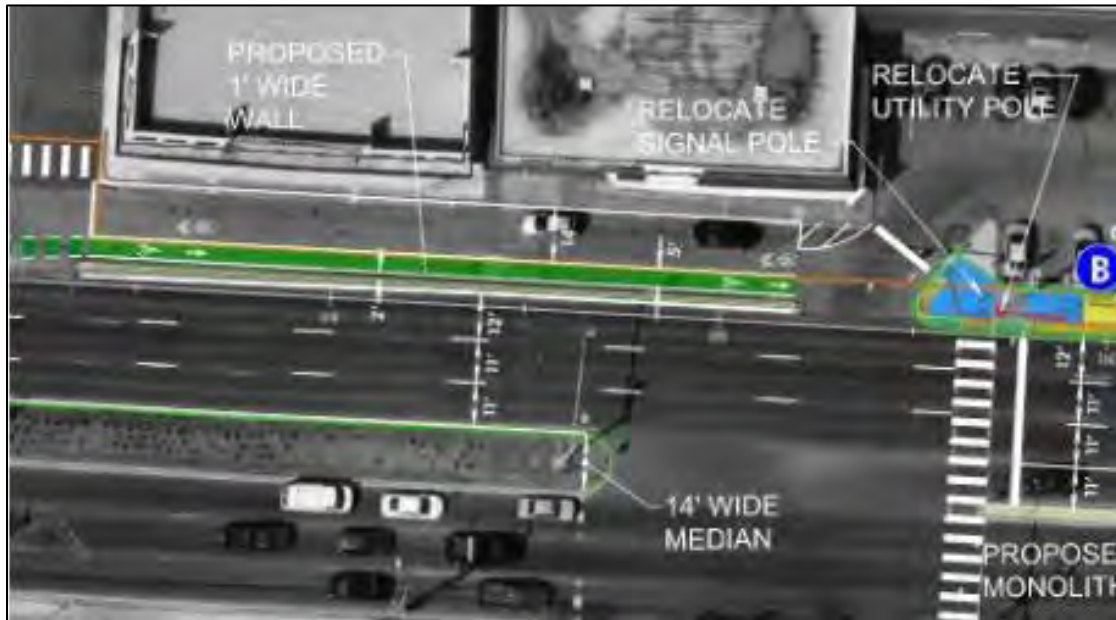


Figure 12: New Ave Bikeway at Auburn Avenue – Proposed Design

Staff does not endorse this substandard design between Belford Place and the shopping center signal; however, we recognize that preferable bikeway options are not likely to be affordable for the City of Takoma Park in the short term. The proposed design will function, but without buffers, and the Level of Traffic Stress will likely be poor. The only mitigating feature is that this frontage road has very low traffic

volumes. We recommend for consideration for the medium term, the following three options, all of which are substantially preferable to the proposed design:

Option 1: Provide driveways for the three residential parcels without driveways, and then modify the design by eliminating the seven-foot-wide on-street parking space, widening the southbound sharrow lane to 10 feet, and providing a two-foot-wide striped buffer between the contraflow bike lane and the southbound sharrow lane, and adding a three-foot-wide striped buffer between the median and the contraflow bike lane. (See Figure 13). With this option, the sidewalk will still be substandard and not ADA compliant.

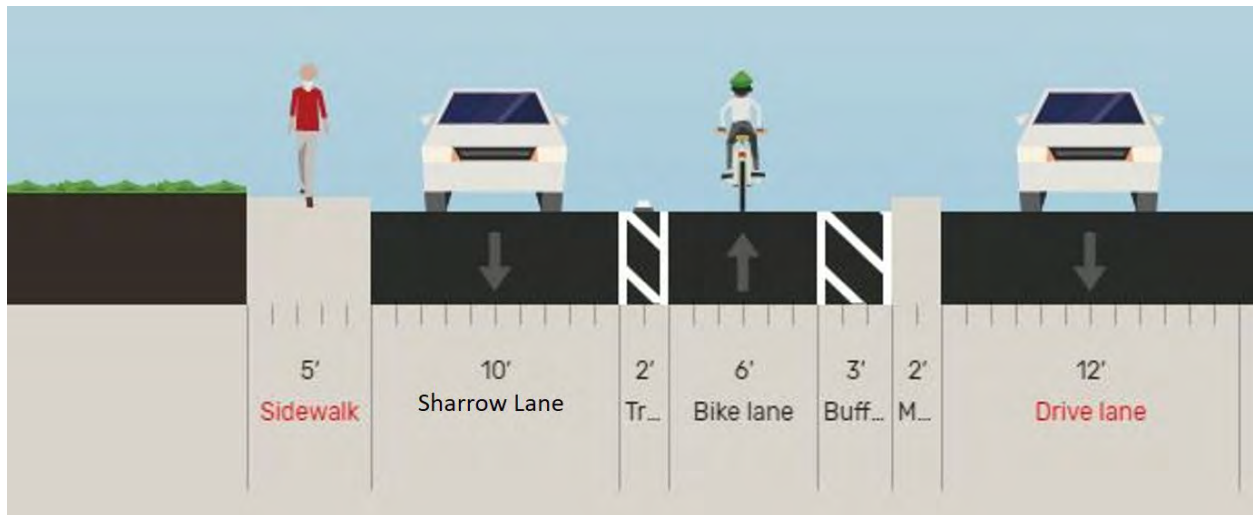


Figure 13: New Avenue Bikeway between Belford Place and Shopping Center Signal – Option 1

Option 2: Relocate three utility poles now partially blocking the existing sidewalk, widen the existing sidewalk by three feet in width to provide an eight-foot-wide sidepath for pedestrians and bicycles, provide an eight-foot-wide parking lane, and provide a 10-foot-wide southbound travel lane. (See Figure 14).

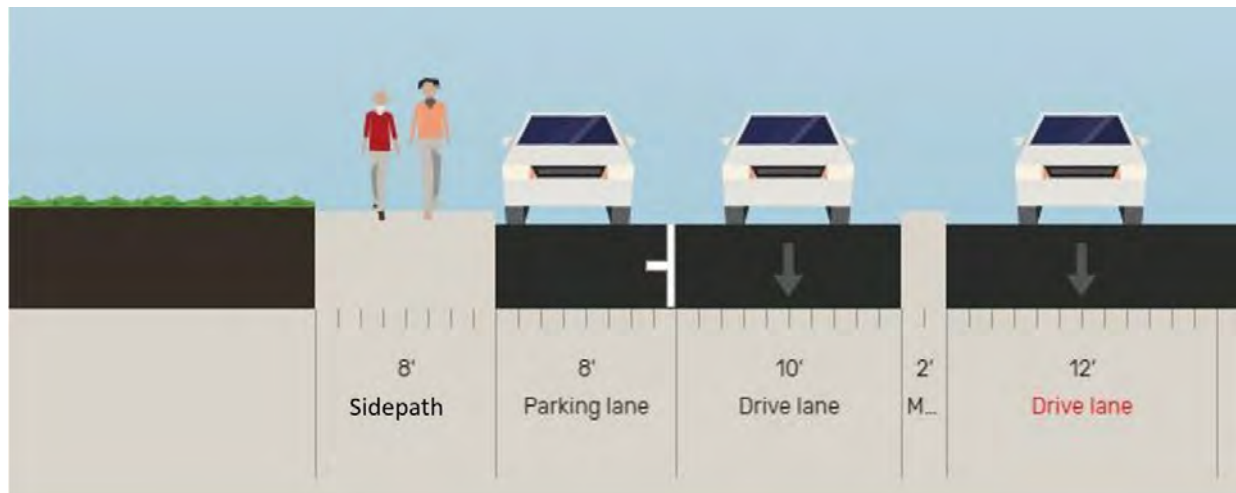


Figure 14: New Avenue Bikeway between Belford Place and Shopping Center Signal – Option 2

Option 3: Eliminate the frontage road entirely, provide two-way separated bike lanes in the vacated space, and relocate on-street parking to southbound MD 650 proper as shown below in Figure 15. This would occur between Belford Place and the southern property line of the New Hampshire Avenue shopping center. The remaining 225 feet between the southern property line and the signal would be redesigned as a sidepath. With this option, the sidewalk will still be substandard and not ADA compliant.

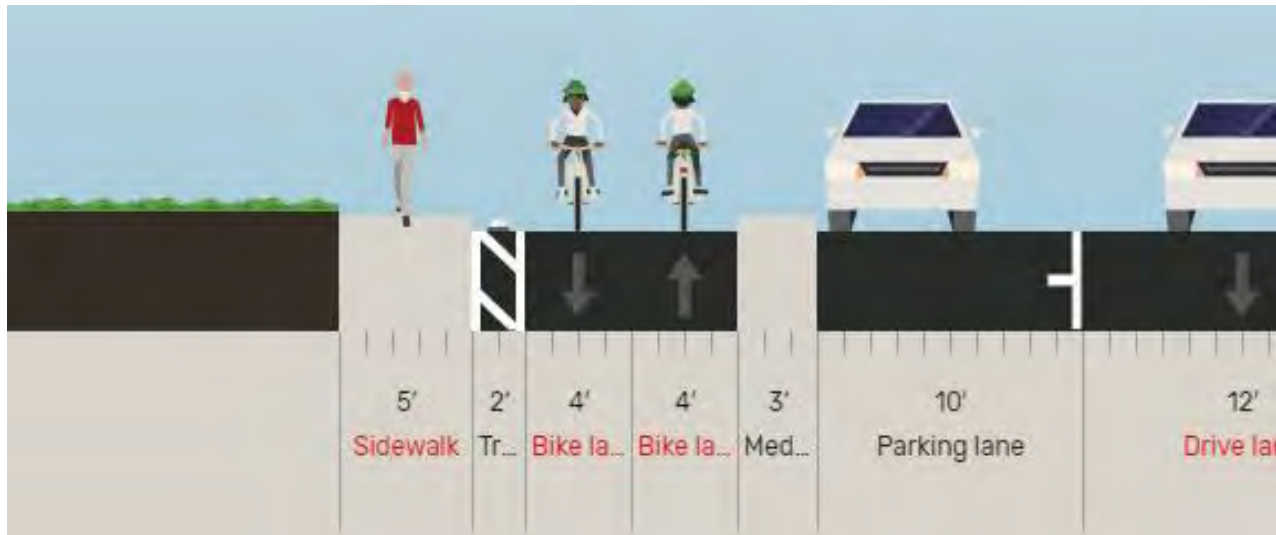


Figure 15: New Avenue Bikeway between Belford Place and Shopping Center line – Option 3

Ethan Allen Intersection and Corner Parcel Access: The proposed design has not modified the existing eastbound channelized right turn and porkchop island on the Ethan Allen Avenue (MD 410) approach to MD 650. In addition, the corner parcel (Langley Auto Sales Repair) has two access points shown to be retained. Only one access point is needed for this property, and recent observations show that the southernmost access is often blocked by parked cars. Figure 16 displays this general area on the design plans. Staff recommends that the channelized right turn and porkchop island be removed and that the southernmost driveway access to the corner parcel be closed. Since both roads at this intersection are state roads, the applicant should engage the State Highway Administration to discuss these recommended changes.

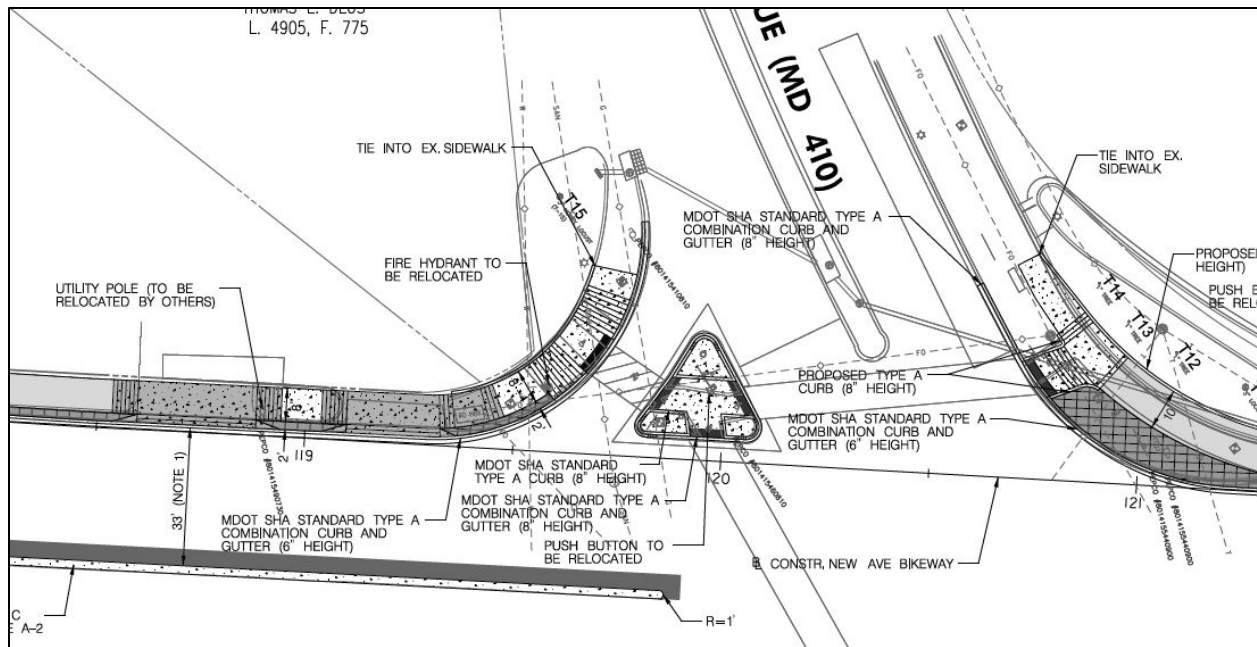


Figure 16: New Ave Bikeway at Auburn Avenue – Proposed Modifications

Design Elements – Transportation

Sidepath Design: In general, the proposed sidepath width ranging from 8 to 11 feet is not consistent with the approved Bicycle Master Plan. For sidepaths, a width of 10 feet is the current Montgomery County design standard. In the Planning Board-approved Complete Streets Design Guidelines, 11 feet is the preferred sidepath width on facilities like MD 650. The sidepaths are also recommended in both the Bicycle Master Plan and the Complete Streets Design Guidelines with adequate six-foot-wide minimum buffers to protect pedestrians and bicyclists from motoring traffic. Following is a summary of the sidepath and buffer widths proposed for this project:

From	To	Sidepath Width	Buffer Width
Poplar Avenue	Conway Avenue	8'	2-3'
Conway Avenue	Prince George's Avenue (south)	8'	0'
Prince George's Avenue (south)	Prince George's Avenue (north)	11'	>16'
Prince George's Avenue (north)	Belford Place	11'	Variable (3.5' min)
Belford Place	225' south of shopping center signal	N/A (SB sharrow and NB contraflow bike lane)	
225' south of shopping center signal	Auburn Avenue	8'	2'

Separated Bike Lane Design: In general, the default two-way separated bike lane design width in the Planning Board-approved Complete Streets Design Guidelines is 11 feet, with 8 foot minimums allowed for short sections. While two-way separated bike lanes are Master Planned on the east side of MD 650

between Poplar Avenue and Ethan Allen Avenue, the proposed design does not propose any separated bike lanes for this project. The proposed five-foot wide contraflow bike lane between Belford Place and 225 feet south of the New Hampshire Avenue shopping center signal does not have any buffer between the bike lane and the frontage road. The proposed southbound sharrow lane with a non-buffered contraflow northbound bike lane is unusual and generally substandard; however, there are many constraints in this section that make providing either a sidepath, buffered bike lane, or separated bike lanes difficult. The obstructions include a retaining wall between the existing properties and the sidewalk, an existing sidewalk with utility poles within the sidewalk surface, two parcels without driveways necessitating the provision for on-street parking on the frontage road, and a very narrow median between the frontage road and southbound MD 650.

Master Plan Conformance – Transportation

The 2018 Bicycle Master Plan recommends separated bike lanes (west side) on MD 650 between the DC line and Ethan Allen Avenue and a sidepath (west side) between Ethan Allen Avenue and Auburn Avenue. The proposed design is not consistent between Poplar Avenue and Ethan Allen Avenue, but consistent between Ethan Allen Avenue and Auburn Avenue.

The Takoma Park Master Plan (2000) has some key transportation and streetscape recommendations for the New Hampshire Avenue corridor to provide the following:

1. Tree-lined sidewalks, landscaped medians, and street trees in wide panels separating sidewalks from traffic. Provide on-road bikeways and shared use paths (8-10 feet) on both sides.
2. Enhancement of selected locations to improve pedestrian comfort and safety and to improve character, such as bus stops and pedestrian crossings. Improvements should include crossings of New Hampshire Avenue at Ethan Allen Avenue and Poplar Avenue.

The Master Plan also has specific bicycle recommendations:

1. Provide good connections to surrounding neighborhoods.
2. Provide safe crossings of roadways, particularly county-wide trails.
3. Accommodate bicyclists on public roads wherever possible.

The proposed project does improve bicycle connectivity and connections; however, the improvements are limited by substandard buffers and bare minimum bikeway widths. The contraflow bikeway segment is extremely substandard, as unbuffered bike lanes are not a preferred design solution. This is somewhat mitigated as this occurs on a frontage road, not on MD 650 itself, but a striped buffer between the bike lane and the southbound sharrow lane would be preferred. This could be accomplished by removing on-street parking along this section. This design does not provide tree-lined sidewalks as envisioned in the Master Plan, and it does remove some trees on the City of Takoma Park property.

Historic Resources Analysis

The Maryland Historical Trust confirmed on June 19, 2020 that there are no historic properties affected by this project.

Environmental Guidelines

This project is located primarily within the New Hampshire Avenue (MD 650) right-of-way and within the Sligo Creek watershed, a tributary to the Anacostia River. Soils within the project area consist of varieties of the Chillum silt loam soil series, which are characteristically well drained and are not considered highly erodible or otherwise sensitive or protected according to the Montgomery County Environmental Guidelines. There are no wetlands, streams and/or associated buffers, 100-year floodplains, or

rare/threatened/endangered species onsite. Just south of the site, a tributary to the Takoma Branch stream runs parallel to Poplar Avenue but will not be impacted by this application. Further, no forest stream buffer will be impacted. The applicant is required, by the Maryland Department of Natural Resources (MD-DNR) to strictly adhere to the approved sediment and erosion control plans during work.

No forest is proposed to be impacted; further tree root impacts will be assessed and identified on semi-final design plans and the project develops. Currently, six trees have been identified for removal due to the associated work. All tree removals/impacts are inside of the state right-of-way and will be permitted through MD-DNR. The City of Takoma Park will provide tree replacement plantings, at a 1:1 ratio, for all roadside trees impacted as required by MD-DNR.

While the Environmental Guidelines are designed to protect the environmental features by the restriction of development in environmentally sensitive areas, disturbance is allowed for necessary roadway and right-of-way work. In this case, the work is associated with a master plan recommended bikeway and sidewalk improvements. Disturbance has been minimized to avoid major tree and environmental impacts, and the ultimate project will result in improved pedestrian and bicyclist safety and will include stormwater management practices to meet quality requirements. As proposed, the project complies with Chapter 22A, Forest Conservation Law, and is in conformance with the Montgomery County Environmental Guidelines.

Forest Conservation

This Application is subject to Chapter 22A Forest Conservation Law but is exempt from the requirement to submit a Forest Conservation Plan per 22A-5(e) – *“the requirements of Article II do not apply to...a State, County, or municipal highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code, or Section 22A-9.”*

This Application is for a State highway construction and is subject to review under state reforestation law as stated above.

While the project is exempt, the applicant is still required under section 22A-9 of the County Code to:

- a) Minimize forest cutting, clearing, and loss of specimen trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.
- b) If the forest to be cut or cleared for a county highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
- c) Mitigate for loss of specimen or champion trees. Mitigation amounts are based on the size and character of the tree.

Stormwater Management

A stormwater management (SWM) concept letter was approved by the Department of Public Works for the City of Takoma Park on May 20, 2021 subject to the conditions of approval requiring approval (by the City) of a tree protection plan and approval of a Sediment and Erosion Control Plans by (MCDPS). The SWM practices for quality control for the limit of disturbance will be further defined as plans develop. At the time of 30 percent plan review, final stormwater management details were not yet available.

Community Outreach and Notification

This application was noticed in accordance with the Uniform Standards for Mandatory Referral Review. Throughout the project design process, proposed concepts were presented to key stakeholders, as well as the community. The applicant conducted an agency review meeting on December 2, 2020 and a community outreach meeting on February 18, 2021.

Conclusion

Based on information provided by the applicant and the analysis contained in this report, staff concludes that the proposed New Avenue Bikeway Section B improvements project can be designed with some modifications to meet Master Plan and relevant design standards as specified in the Recommendations section of this report.

Attachment

- A. Proposed Project Plans

DRILL HOLES

DRILL HOLES

DRILL HOLES

BY: SBAREFOOT

THE CITY OF TAKOMA PARK

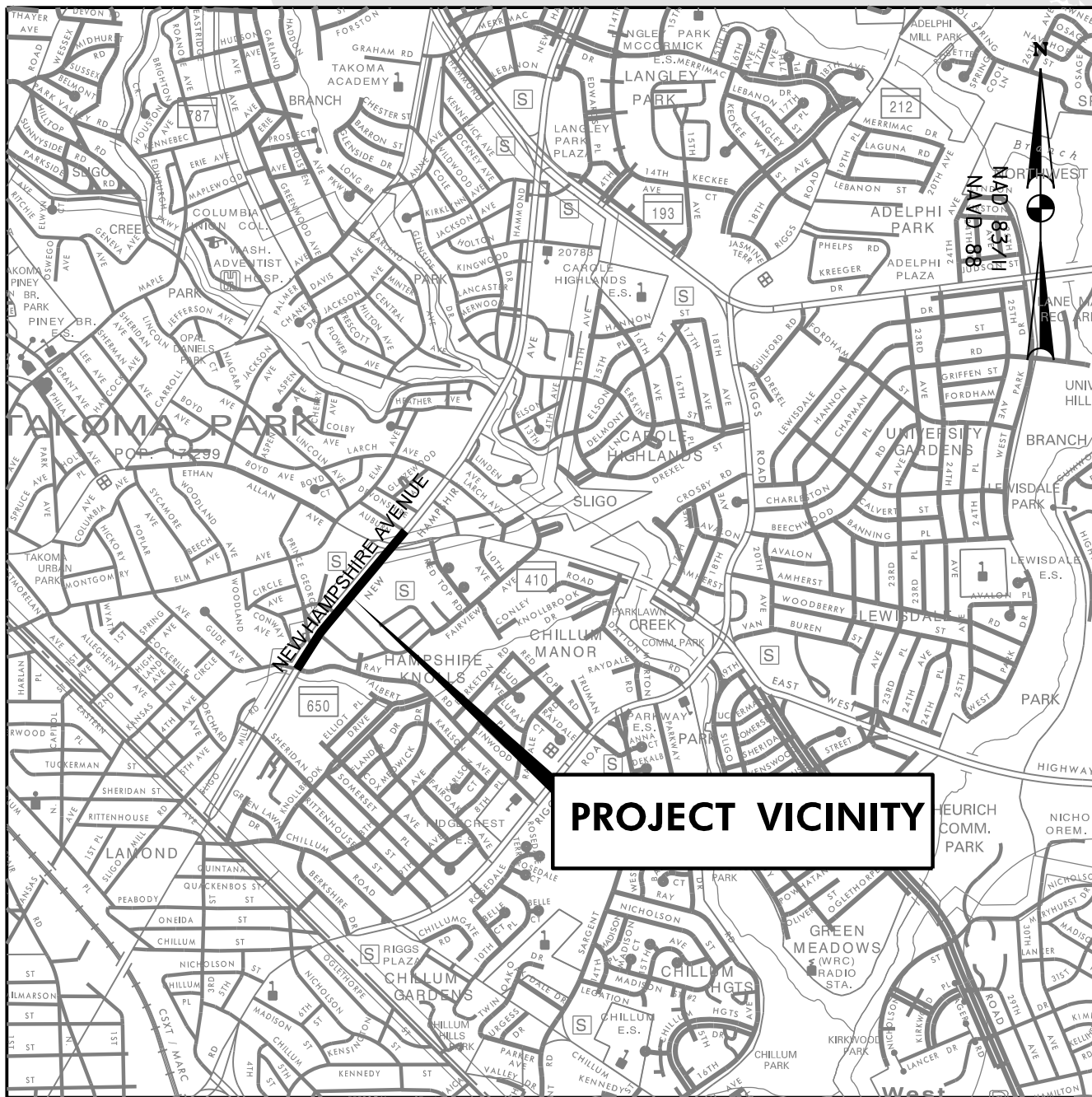
PLANS OF PROPOSED BIKEWAY SHA TRACKING NO. 20-AP-MO-20-xx

NEW AVE BIKEWAY, SECTION B MD 650 (NEW HAMPSHIRE AVENUE) POPLAR AVENUE TO AUBURN AVENUE

INDEX OF SHEETS

SHEET NO.	SHEET NAME	DESCRIPTION
1	-	TITLE SHEET
2	AB-01	ABBREVIATIONS, GENERAL NOTES AND INDEX
3	TS-01	TYPICAL SECTION SHEET
4	DT-01	PAVEMENT DETAILS
5	GS-01	GEOMETRY SHEET
6-9	PS-01 TO PS-04	ROADWAY PLAN SHEETS
10-11	SN-2.01 TO SN-2.02	SIGNING & PAVEMENT MARKING PLANS

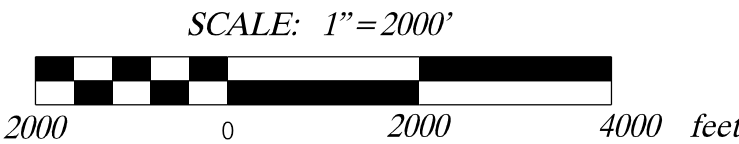
30% SUBMISSION
SEPTEMBER 2020



MONTGOMERY COUNTY

LENGTH OF PROJECT:
NEW HAMPSHIRE AVENUE (MD 650) = 0.40 miles

HORIZONTAL DATUM	NAD 8311
VERTICAL DATUM	NAVD 88



REVISIONS

AASHTO DESIGN CRITERIA

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2018 (7TH EDITION) PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

STANDARD SPECIFICATIONS BOOK, BOOK OF STANDARDS AND MUTCD

ALL WORK ON THIS PROJECT SHALL CONFORM TO: THE LATEST APPROVED MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION (MDOT SHA) "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS" REVISIONS THEREOF OR ADDITIONS THERETO, AS INDICATED IN THE PROJECT DESCRIPTION OF THE INVITATIONS FOR BIDS BOOK; THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK; THE ADMINISTRATION'S "BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES" AND THE LATEST ADOPTED MUTCD.

RIGHT OF WAY

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT OF WAY PLATS.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

COMPLETENESS OF DOCUMENTS

THE CITY OF TAKOMA PARK SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE STATE HIGHWAY ADMINISTRATION'S CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION.

ENVIRONMENTAL INFORMATION

ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED FOR THIS CONTRACT SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE CITY OF TAKOMA PARK MUNICIPAL CODE TITLE 16 (SECTIONS 16.04.210 THROUGH 16.04.260).

SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDER DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN DAYS (7) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

OWNERS / DEVELOPERS CERTIFICATION :

I / WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

Signature _____ DATE _____
Jamee Ernst Planner
(301) 891-7213 City of Takoma Park
Printed Name and Title

RK&K

P: 410.728.2900
700 E. Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

SURVEY
BOOK NO.

\\ad.rkk.com\fs\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pGN-T000_NewAveBike_B.dgn
2242021

ABBREVIATIONS

AASHTOAmerican Association of State Highway Transportation Officials	HDWL.....Headwall	RW or RW... Right of Way
ADT.....Average Daily Traffic	HERCP.....Horizontal Elliptical Reinforced Concrete Pipe	RCPReinforced Concrete Pipe
AHD.....Ahead	HP.....High Point	RCPPReinforced Concrete Pressure Pipe
APPROX.....Approximate	IN.....Inch	R.Q.D.Rock Quality Designation
B or BL.....Baseline	I.S.T.....Inlet Sediment Trap	R.M.Rootmat
BKBack /Book	INV.....Invert	SSouth
BIT.Bituminous	J.B.....Junction Box	SAN.Sanitary Sewer
B.C.....Bituminous Concrete	KK Inlet	SB or SBSouthbound
B.M.....Bench Mark	L.....Length	S.D.Storm Drain
BOT.....Bottom	LFLinear Feet	S.D.D.Surface Drain Ditch
C.C.....Center of Curve	L.L.....Liquid Limit	SESuper Elevation
CAP.....Corrugated Aluminum Pipe	LPLow Point	SFSilt Fence
CAPA.....Corrugated Aluminum Pipe Arch	L.P.....Light Pole	SFSquare Feet
CATV.....Cable Television	LT.....Left	SHT.Sheet
C.B.R.....California Bearing Ratio	MAC.....Macadam	SPPStructural Steel Plate Pipe
CL or CL.....Centerline	M.C.....Moisture Content	SPPAStructural Steel Plate Pipe Arch
CL.....Class	MAX.....Maximum	S.P.T.Standard Penetration Testing
CLF.....Chainlink Fence	M.D.D.....Maximum Dry Content	SRPSteel Spiral Rib Pipe – Aluminized Type 2
CMP.....Corrugated Metal Pipe	MOD.....Modified	SRPASteel Spiral Rib Pipe Arch – Aluminized Type 2
C.O.....Cleanout	MIN.....Minimum	
COMB.....Combination	N.....North	SSDStopping Sight Distance
CONC.....Concrete	NBNorthbound	SSFSuper Silt Fence
CONSTR.....Construction	NENortheast	STD.Standard
COR.....Corner	N.P.....Non-Plastic	STA.Station
CORR.....Correction	O.C.....On Center	SO.Single Opening
CPP-SCorrugated Polyethylene Pipe – Type ‘S’	OHEOverhead Electric	SYSquare Yards
CSPCorrugated Steel Pipe – Aluminized Type 2	O.M.....Optimum Moisture	SWM.....Stormwater Management
CSPACorrugated Steel Pipe Arch – Aluminized Type 2	PAV T.....Pavement	TTangent
DC.....Degree of Curve	PCPoint of Curvature	TTelephone
D.H.V.....Design Hourly Volume	PCCPoint of Compound Curvature	T.C.Top of Cover
D.I.....Drop Inlet	PCPoint of Crown	T.G.Top of Grate
DIA.....Diameter	PGEProfile Grade Elevation	T or TLTraverse Line
D.O.....Double Opening	P.G.E.....Profile Ground Elevation	T.M.Top of Manhole
EEast	P.G.L.....Profile Grade Line	TRAV.....Traverse
EElectric	P.GL.....Profile Ground Line	TSTemporary Swale
EExternal Distance	P/RPoint of Rotation	T.S.Top of Slab
EAEach	P.I.....Plasticity Index	T.S.Topsoil
EBEastbound	PIPoint of Intersection	TYP.....Typical
ELEV.....Elevation	POCPoint On Curve	U.D.....Under Drain
ES.....End Section	POTPoint On Tangent	U.G.....Underground
EX or EXIST.....Existing	PPWPPolyvinyl Chloride Profile Wall Pipe	U.P.Utility Pole
FTFeet	PROPProposed	USDAUnited States Department of Agriculture
F or FL.....Flowline	PRCPoint of Reverse Curve	VCLVertical Clearance
F.B.D.Flat Bottom Ditch	PTPoint	V.C.L.....Vertical Curve Length
F.H.....Fire Hydrant	PTPoint of Tangency	WWater
FWD.....Forward	PVCPoint of Vertical Curve	WWest
GGas	PVCPolyvinyl Chloride	WBWestbound
G.V.....Gas Valve	PVIPoint of Vertical Intersection	WBWetland Buffer
H.B.....Handbox	PVRCPoint of Vertical Reverse Curve	W.M.....Water Meter
HDPEHigh Density Polyethylene	PVTPoint of Vertical Tangency	W.S.Wrapped Steel
	RRadius	WUSWaters of the United States
	R.F.....Rock Fragments	W.V.Water Valve
	RTRight	

GENERAL NOTES

1. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THESE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS CONCERNED AND MISS UTILITY PRIOR TO CONSTRUCTION ACTIVITIES.THE CONTRACTOR SHALL CALL "MISS UTILITY" AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK AT 1-800-257-7777.
2. THE CONTRACTOR SHALL PROTECT AND NOT INTERRUPT EXISTING UTILITY SERVICES UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. SEE UTILITY STATEMENT.
3. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SAFETY OF THE PUBLIC AND ALL WORKERS IS MAINTAINED AT ALL TIMES THROUGHOUT THE TERM OF THE CONTRACT. MOTORISTS SHALL BE GUIDED IN A CLEAR AND POSITIVE MANNER WHILE APPROACHING AND PASSING THROUGH CONSTRUCTION WORK AND EQUIPMENT AREAS.
4. HORIZONTAL CONTROL: THE LOCATION AND ELEVATION OF BENCH MARKS ARE SHOWN ON THE PLANS. ALL ELEVATIONS ARE IN FEET AND ARE BASED ON THE NAVD 88.
5. WHERE REFERENCE IS MADE TO MDOT SHA STANDARD PLATES IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE IN HIS POSSESSION THE LATEST UP-TO-DATE STANDARD PLATES AS OF THE DATE OF ADVERTISEMENT OF THESE PLANS. STANDARD PLATES ARE AVAILABLE AT WWW.MARYLANDROADS.COM.
6. THE CONTRACTOR SHALL GRADE FOR POSITIVE DRAINAGE AT ALL ROADWAY INTERSECTIONS, ENTRANCES AND YARDS.
7. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION SHALL BE MADE AT NO ADDITIONAL COST TO THE CITY, THE ADMINISTRATION OR THE OWNER.
8. PROVIDE 4-INCH FURNISHED TOPSOIL AND TURFGRASS SOD ESTABLISHMENT ON SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.
9. MATERIAL REMOVED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
10. THE CONTRACTOR SHALL RESET ANY SIGN POSTS OR MAIL BOXES TO FACILITATE THE WORK,EXCEPT WHERE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
11. FINAL DETERMINATION AS TO THE LOCATION OF EROSION AND SEDIMENT CONTROLS WILL BE AT THE DIRECTION OF THE ENGINEER WHO RESERVES THE RIGHT TO ORDER ADDITIONAL E&S DEVICES.
12. CONSTRUCTION EQUIPMENT SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD.ALL MATERIAL REMOVAL/LOAD OUT SHALL BE LIFTED FROM THE LOD.ALL SEDIMENT SPILLED,DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING,SCRAPING OR SWEEPING.
13. SEVERAL PROPOSED DRAINAGE STRUCTURES AND PIPES WILL CONNECT TO EXISTING STORM DRAIN STRUCTURES AND PIPES.THE CONTRACTOR SHALL FIELD VERIFY INVERTS PRIOR TO ORDERING,FABRICATING OR CONSTRUCTING PROPOSED STORM DRAIN STRUCTURES.
14. SAW CUTS WILL NOT BE MEASURED BUT WILL BE INCIDENTAL TO OTHER RELATED ITEMS AS SPECIFIED IN THE CONTRACT DOCUMENTS.
15. VERTICAL ADJUSTMENT OF EXISTING UTILITIES SHALL BE INCIDENTAL TO THE 5 INCH CONCRETE SIDEWALK,SPECIALTY PAVERS – TYPE 2 OR ASPHALT SHARED USE PATH PAY ITEMS. SEE SP 603 – SIDEWALKS.

CONVENTIONAL SIGNS
(SAMPLES)

PROPOSED MEDIAN BARRIER		PROPOSED PIPE / CULVERT	
ELECTRICAL HAND BOX – SIGNALS		EXISTING PIPE / CULVERT	
FLOW LINE		EXISTING DROP INLET	
STATE,COUNTY OR CITY LINES		UTILITY POLE	
PROPOSED TRAFFIC BARRIER		WETLAND	
EXISTING TRAFFIC BARRIER		WETLAND BUFFER	
PROPOSED FENCE LINE		WATERS OF THE U.S.	
EXISTING FENCE LINE			
RIGHT OF WAY LINE		HEDGE /TREE LINE	
EXISTING ROADWAY		BUSH /TREE	
RAILROAD		CONIFEROUS TREE	
BASE LINE OR SURVEY LINE		GROUND ELEVATION	
FIRE HYDRANT		GRADE ELEVATION	
HISTORIC BOUNDARY			
WATERS OF THE U.S.			
WETLAND BOUNDARY			

AB-01

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

ABBREVIATIONS, GENERAL NOTES & INDEX

SCALE _____ N.T.S. _____ DATE _SEPTEMBER 2020_ CONTRACT NO. _T.B.D._

30% PLANS

SEPTEMBER 2020

DESIGNED BY _____ SAB _____ COUNTY _MONTGOMERY_

DRAWN BY _____ TJS _____ LOGMILE _MD 650_ 0.040- 0.830

CHECKED BY _____ R/JG _____

F.A.P. NO. _____ T.B.D. _____

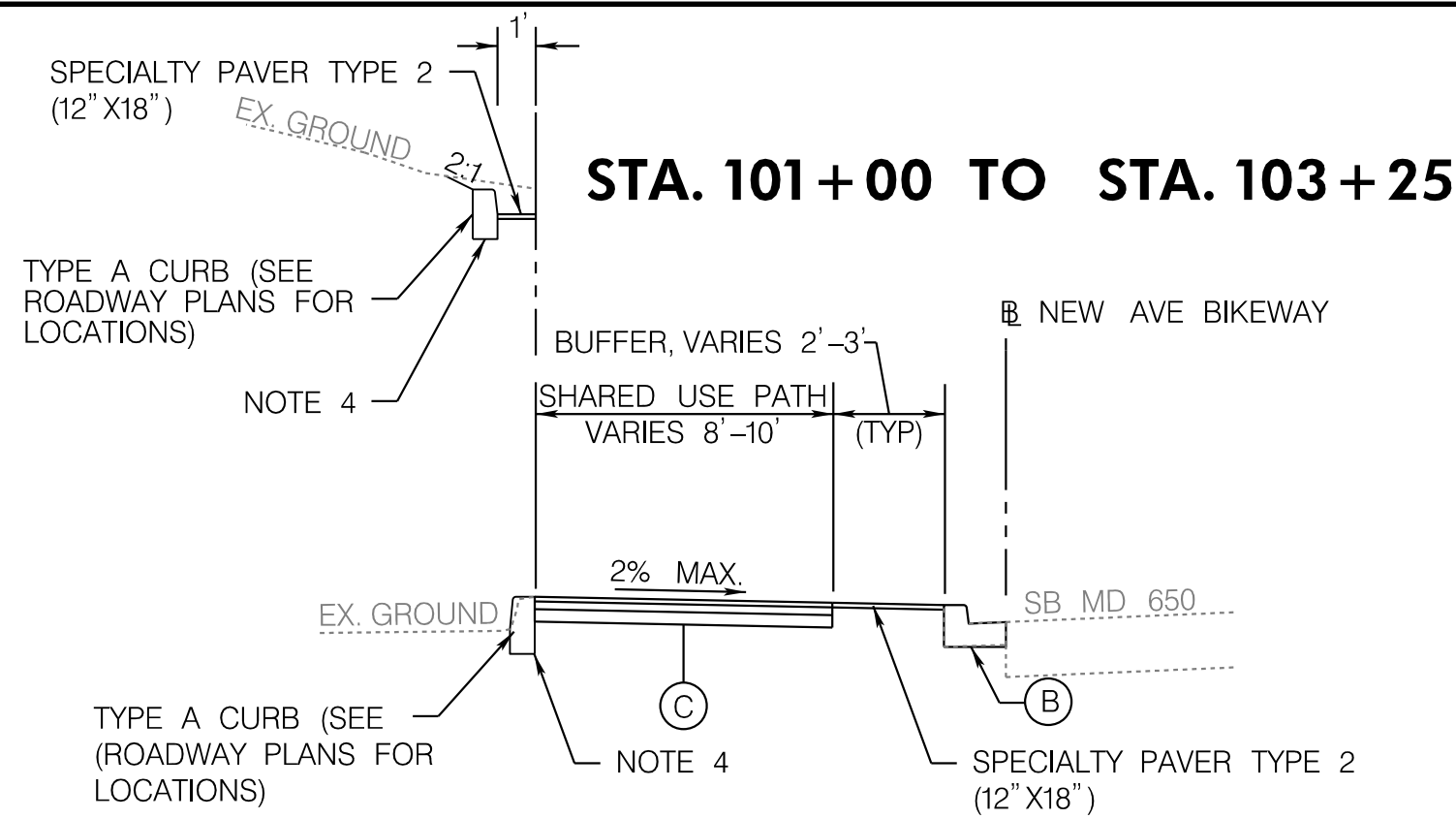
DRAWING NO. AB01 1 OF 1 SHEET NO. 2 OF 11



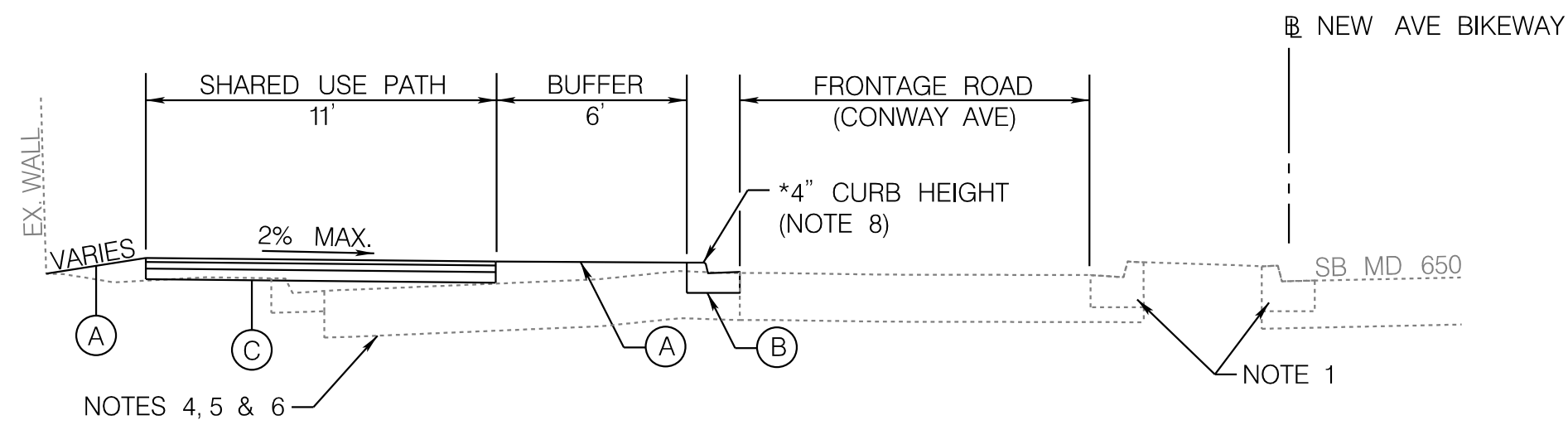
P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

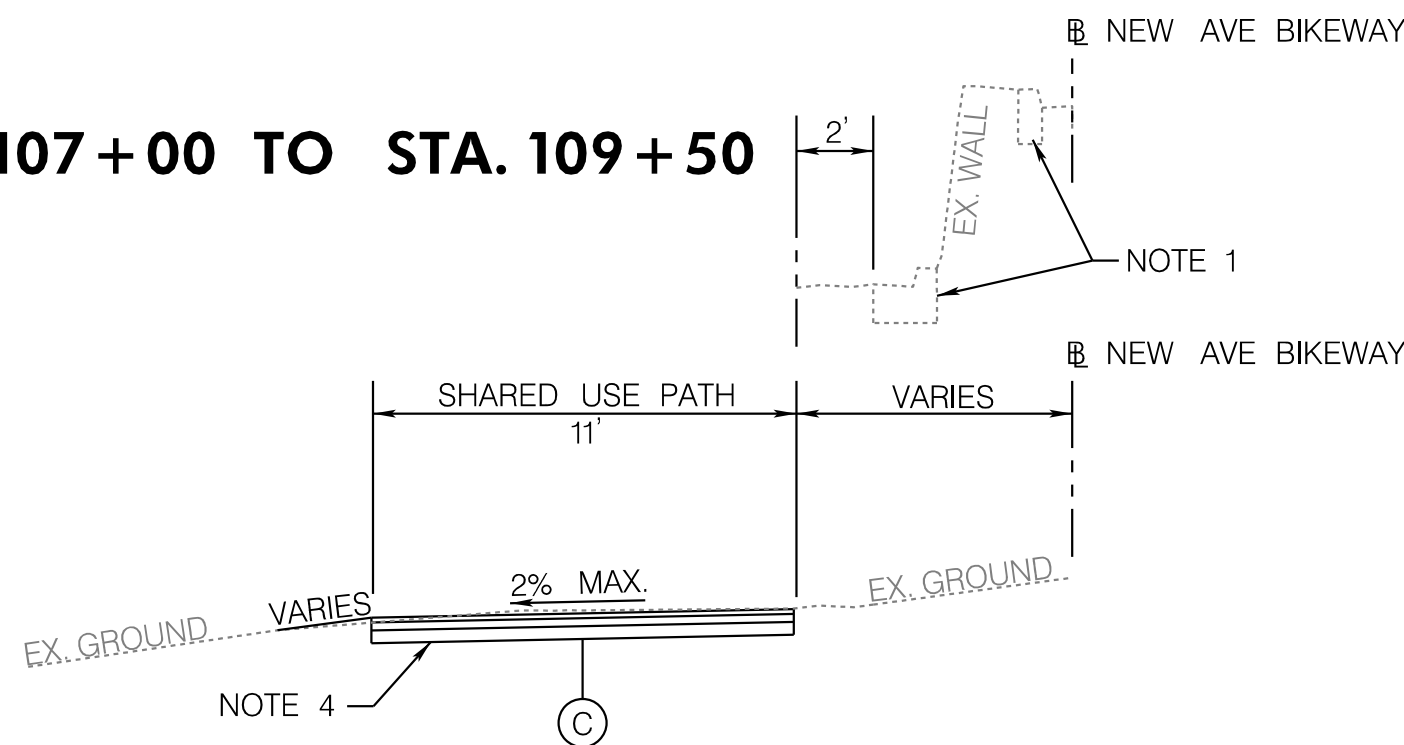


NEW AVENUE BIKEWAY
STA. 101+00 TO STA. 103+25
STA. 115+25 TO STA. 123+00



NEW AVENUE BIKEWAY
STA. 103+25 TO STA. 105+50

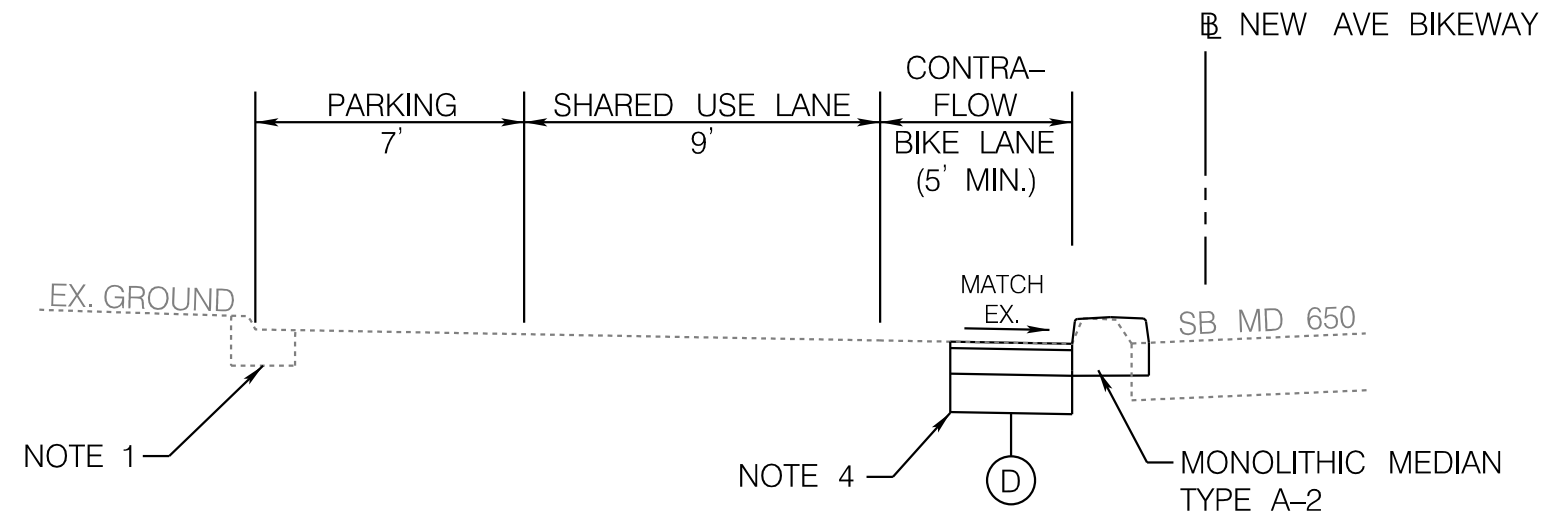
STA. 107+00 TO STA. 109+50



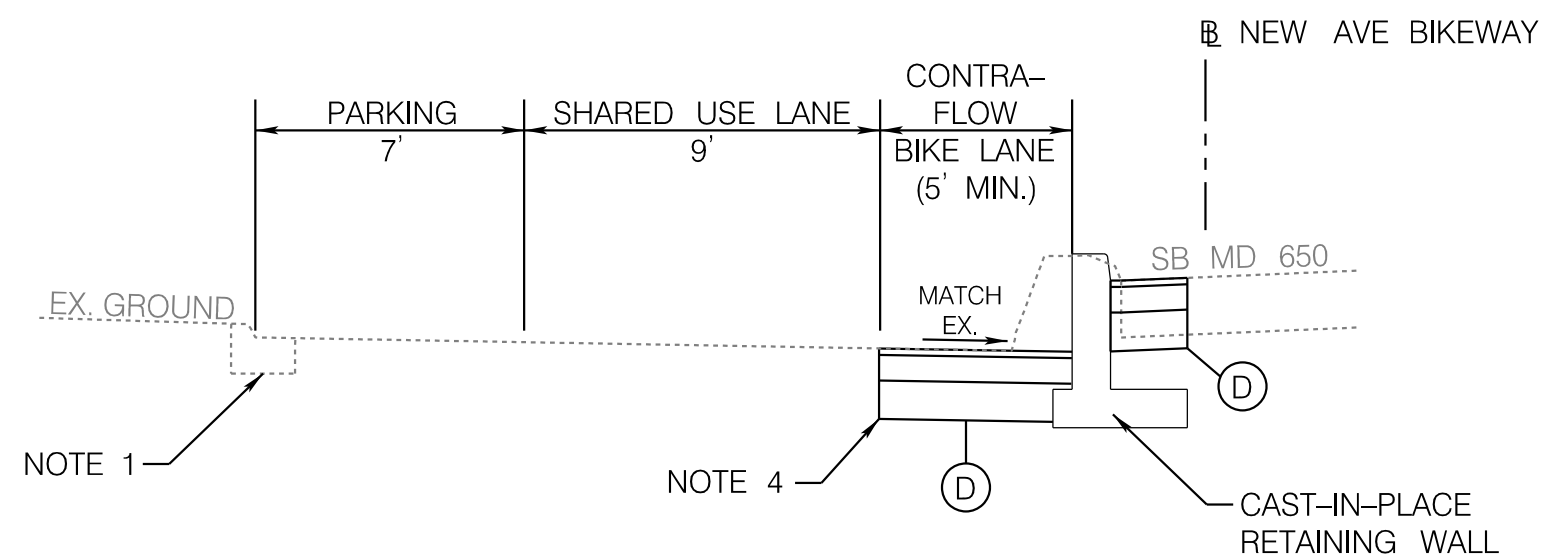
NEW AVENUE BIKEWAY
STA. 105+50 TO STA. 109+50

TYPICAL SECTION LEGEND

- (A) 4" FURNISHED TOPSOIL & TURFGRASS SOD ESTABLISHMENT
- (B) MDOT SHA STANDARD TYPE A COMBINATION CURB AND GUTTER, ANY HEIGHT OR DEPTH
- (C) MDOT SHA STD. NO. 580.08: BIKE PATHS - FLEXIBLE PAVEMENT SECTION
- (D) SEE PAVEMENT DETAIL B, SHEET DT-01



NEW AVENUE BIKEWAY
STA. 109+50 TO STA. 113+25



NEW AVENUE BIKEWAY
STA. 113+25 TO STA. 115+25

NOTES:

1. EXISTING CURB AND GUTTER TO REMAIN.
2. SAW CUTS ARE INCIDENTAL TO THE EXCAVATION OR PAVING ITEMS.
3. ALL ROADWAY EXCAVATION SHALL BE DEFINED AS CLASS 1 REGARDLESS OF THE WIDTH OF THE EXCAVATION.
4. LIMIT OF CLASS 1 EXCAVATION AND TOP OF SUBGRADE.
5. EXCAVATE TO THE TOP OF EXISTING SUBGRADE. BACKFILL WITH COMMON BORROW TO BOTTOM OF SIDEWALK OR ASPHALT SHARED USE PATH.
6. EXCAVATE TO THE TOP OF EXISTING SUBGRADE. BACKFILL WITH FURNISHED SUBSOIL TO 4" BELOW PROPOSED GRADE. PLACE 4" FURNISHED TOPSOIL TO PROPOSED GRADE. PROVIDE TURFGRASS SOD ESTABLISHMENT.
7. SEE SIGNING AND PAVEMENT MARKING PLANS FOR BIKE PAVEMENT STRIPING.
8. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.

TS-01

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

TYPICAL SECTIONS

SCALE	1"=20'	DATE	SEPTEMBER 2020	CONTRACT NO.	T.B.D.
DESIGNED BY	SAB	COUNTY	MONTGOMERY		
DRAWN BY	SAB	LOGMILE	MD 650	0.040-0.830	
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	TS01	1 OF 1	SHEET NO.	3 OF 11	

PLOTTED: 2/24/2021
FILE: \\ad.rkk.com\ts\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pHT-0001_NewAveBike_B.dgn

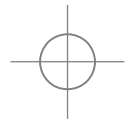
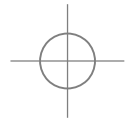
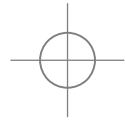


P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

BY: sbarefoot -



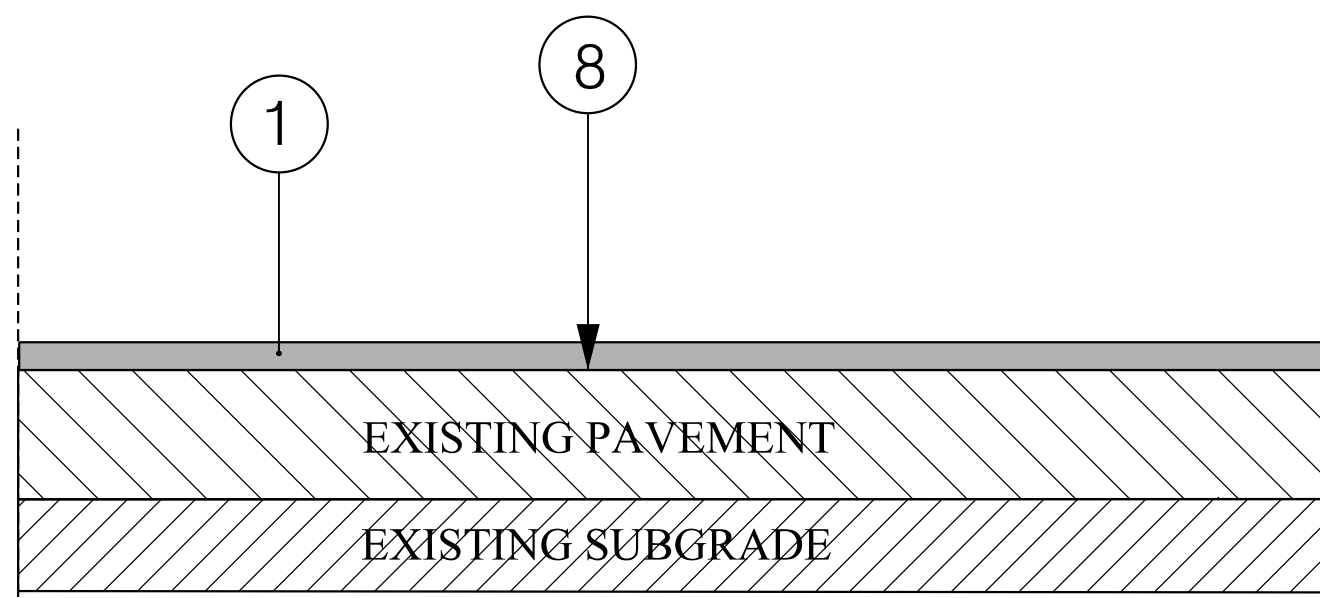
BY: sbarefoot -



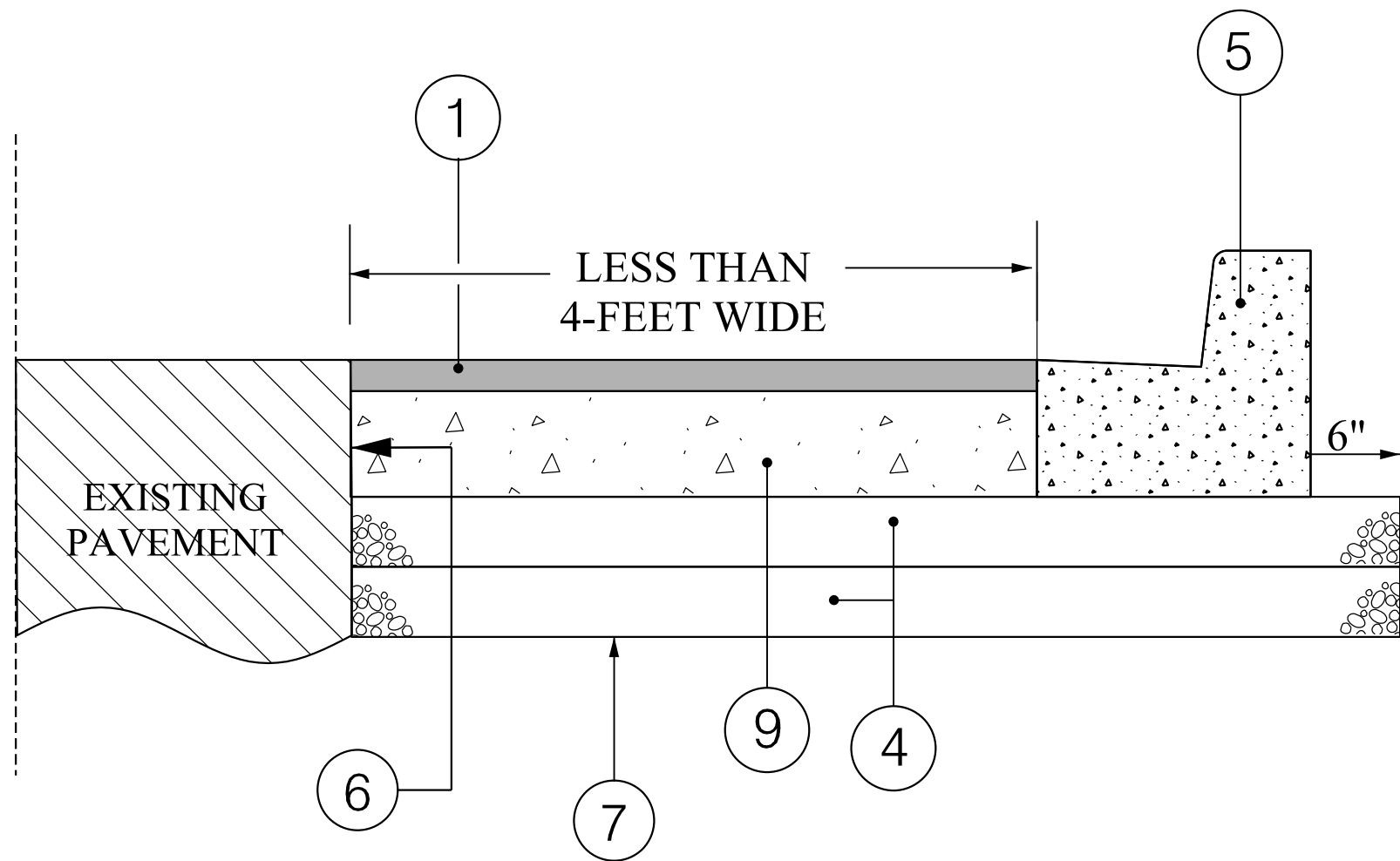
P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

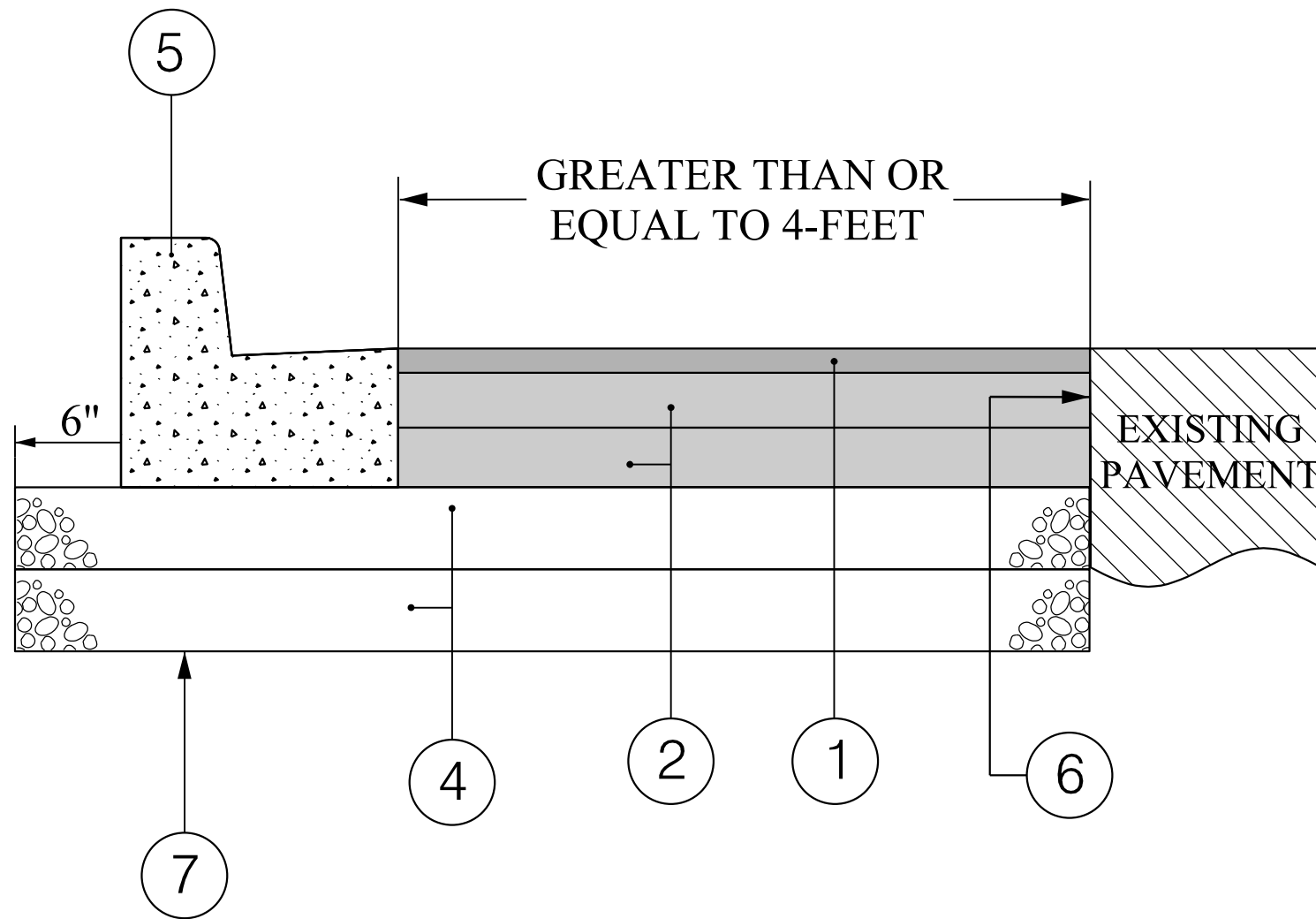
Responsive People | Creative Solutions



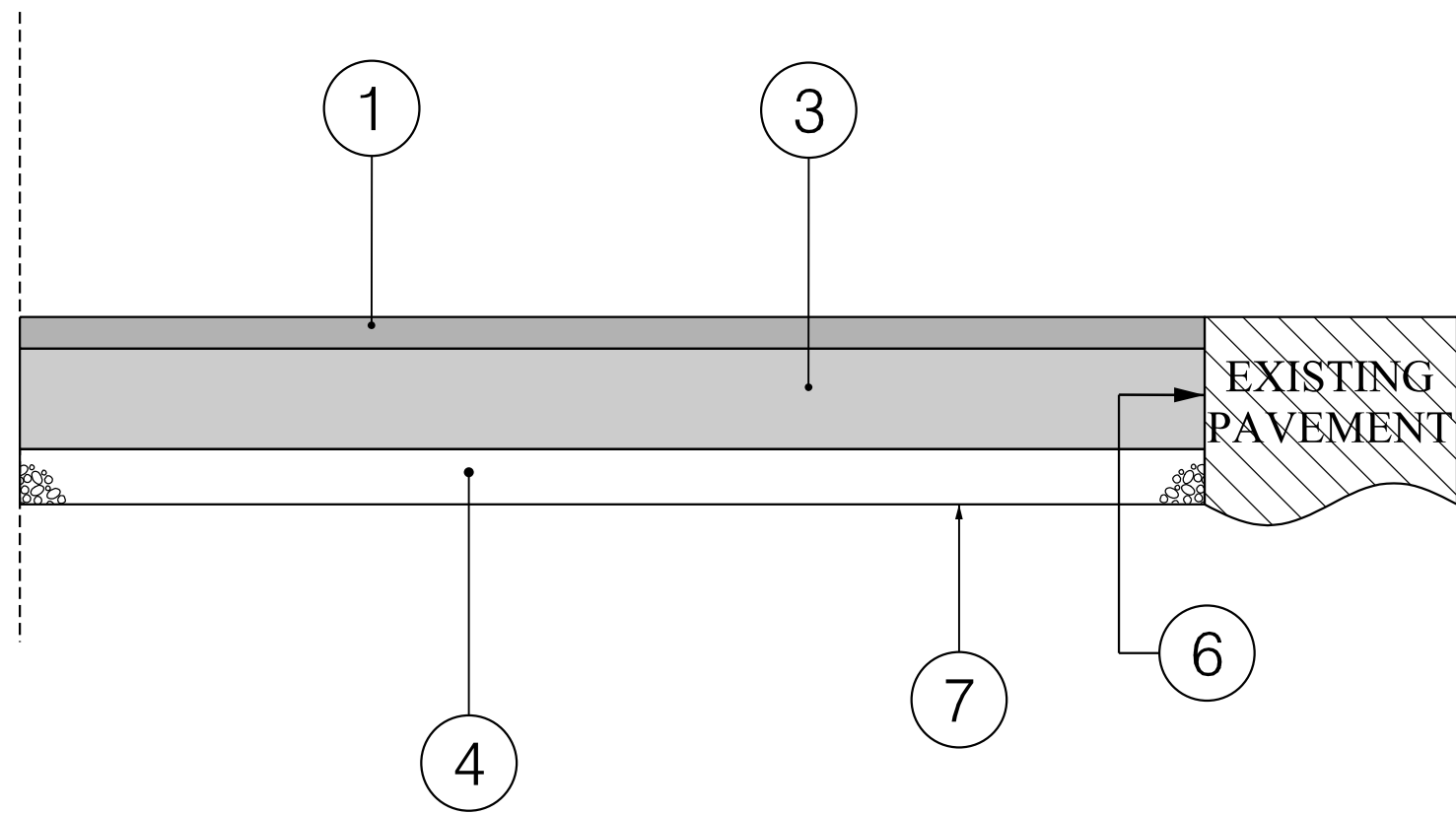
PAVEMENT DETAIL A
FINE MILLING AND RESURFACING



PAVEMENT DETAIL B
NARROW BASE WIDENING



PAVEMENT DETAIL C
BASE WIDENING



PAVEMENT DETAIL D
ASPHALT SECTION FOR DRIVEWAY

PAVEMENT LEGEND

- ① 2" SUPERPAVE ASPHALT MIX 9.5 mm FOR SURFACE, HDFV, PG64E-22, LEVEL 2
- ② 4" SUPERPAVE ASPHALT MIX 19.0 mm FOR BASE, PG 64S-22, LEVEL 2
- ③ 3" SUPERPAVE ASPHALT MIX 19.0 mm FOR BASE, PG 64S-22, LEVEL 2
- ④ 6" GRADED AGGREGATE BASE COURSE
- ⑤ MDOT SHA STANDARD TYPE A COMBINATION CURB AND GUTTER, OR MONOLITHIC MEDIAN (SEE PLANS)
- ⑥ FULL-DEPTH SAW CUT INCIDENTAL TO FULL-DEPTH PATCH, CURB AND GUTTER AND EXCAVATION ITEMS
- ⑦ TOP OF SUBGRADE AND LIMIT OF EXCAVATION (SEE NOTE 2)
- ⑧ TOP OF EXISTING PAVEMENT AFTER 2" FINE MILLING
- ⑨ 8" PLAIN PORTLAND CEMENT CONCRETE MIX NO. 9

PAVEMENT DETAIL NOTES

- REMOVE AND DISPOSE OF ALL SOFT AND UNSTABLE MATERIAL PER SECTION 208 OF THE MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
- IN AREAS WHERE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR AT THE TOP OF SUBGRADE, WHICHEVER IS LOWER.
- FOR ASPHALT SHARED USE PATH, REFER TO MDOT SHA STD. NO. 580.08 FOR BIKE PATHS - FLEXIBLE PAVEMENT SECTION.
- REFER TO MDOT SHA STD. NO. 578.01 FOR REPAIRING PAVEMENT OPENINGS WITHIN UTILITY/STORM DRAIN TRENCHES. PAVEMENT REPAIR FOR PIPE INSTALLATION IS INCIDENTAL TO PIPE INSTALLATION.
- REFER TO MDOT SHA STD. NO. 578.03 FOR PERMANENT PATCHING FOR FLEXIBLE PAVEMENT USING APPROVED ASPHALT MIX.
- REFER TO MDOT SHA STD. NO. 580.03 FOR NEW CURB AND GUTTER PLACEMENT ALONG EXISTING PAVEMENT.

PAVEMENT DETAILS SHALL BE REVIEWED BY MDOT SHA. DETAILS WERE DEVELOPED AS A PLACE HOLDER AND NOT BASED ON PAVEMENT BORINGS OR CORE DATA.

DT-01

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

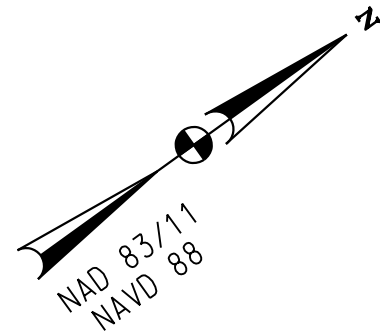
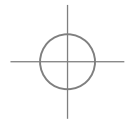
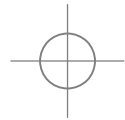
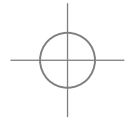
PAVEMENT DETAILS

SCALE _N.T.S._ DATE _SEPTEMBER 2020_ CONTRACT NO. _T.B.D._

DESIGNED BY _SAB_ COUNTY _MONTGOMERY_
DRAWN BY _BB_ LOGMILE _MD 650_ 0.040-0.830
CHECKED BY _RJG_
F.A.P. NO. _T.B.D._

DRAWING NO. DT01 1 OF 1 SHEET NO. 4 OF 11

PLOTTED: 2/24/2021
FILE: \\ad.rkk.com\its\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pDT-0001_NewAveBike_B.dgn

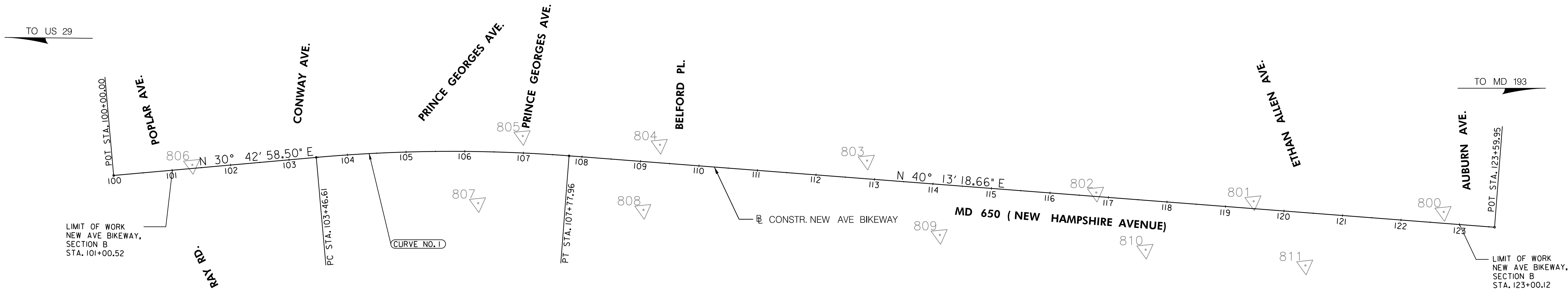


CURVE DATA						
CURVE NO.	Δ	Dc	R	T	L	E
I	9° 30' 20.16"	2° 12' 13.26"	2,600.00'	216.17'	431.35'	8.97'

BASELINE CONTROL COORDINATES CONSTR. MD 650		
	NORTH	EAST
POT STA. 100+00.00	474,968.1366	1,312,668.4796
PC STA. 103+46.61	475,226.1227	1,312,845.5252
PI STA. 105+62.78	475,451.9668	1,312,955.9426
PT STA. 107+77.96	475,617.0243	1,313,095.5350
POT STA. 123+59.95	476,824.9497	1,314,117.1010

TRAVERSE POINTS				
POINT NO.	NORTH	EAST	ELEVATION	PLAN SHEET NO.
659	477,089.7324	1,314,330.8027	178.33	-
800	476,770.0060	1,314,045.2907	189.90	PS-04
801	476,517.8914	1,313,841.0045	201.77	PS-04
802	476,309.1096	1,313,672.0181	211.04	PS-03
803	476,024.1202	1,313,399.3005	205.68	PS-03
804	475,753.7070	1,313,170.9315	176.51	PS-02
805	475,572.8268	1,313,021.9856	152.47	PS-02
806	475,087.4455	1,312,732.2320	136.99	PS-01
807	475,444.3321	1,313,070.1947	153.56	PS-02
808	475,666.1119	1,313,244.3769	176.67	PS-02
809	476,050.6859	1,313,574.5269	210.01	PS-03
810	476,320.3597	1,313,800.1156	208.26	PS-04
811	476,525.4742	1,313,981.2735	198.00	PS-04

NOTES:
1. TOPOGRAPHIC SURVEY AND BOUNDARY LINE ESTABLISHMENT
WAS PREPARED BY CAPITOL DEVELOPMENT DESIGN, INC. IN
MAY 2020.



GS-01

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

BASELINE GEOMETRY & SURVEY CONTROL

SCALE 1"=100' DATE SEPTEMBER 2020 CONTRACT NO. T.B.D.

30% PLANS
SEPTEMBER 2020

DESIGNED BY SAB COUNTY MONTGOMERY
DRAWN BY SAB LOGMILE MD 650 0.040-0.830
CHECKED BY RJG
F.A.P. NO. T.B.D.

DRAWING NO. GS01 1 OF 1 SHEET NO. 5 OF 11



P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

PLOTTED: 2/24/2021
FILE: \\ad.rkk.com\its\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pGS-0001_NewAveBike_B.dgn

LIMIT OF WORK
CONTR. NO. T.B.D.
NEW AVE BIKEWAY
STA. 101+00.52

POPLAR AVE.

CONWAY AVE.

PRINCE GEORGES AVE.

MD 650 (NEW HAMPSHIRE AVENUE)

LEGEND

- 5 INCH CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- SPECIALTY PAVER - TYPE 2
- ASPHALT SHARED USE PATH
- FULL DEPTH PAVING
- SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

NOTES

- ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
- ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
- SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.

20' 0 20' 40'
SCALE: 1"=20'

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

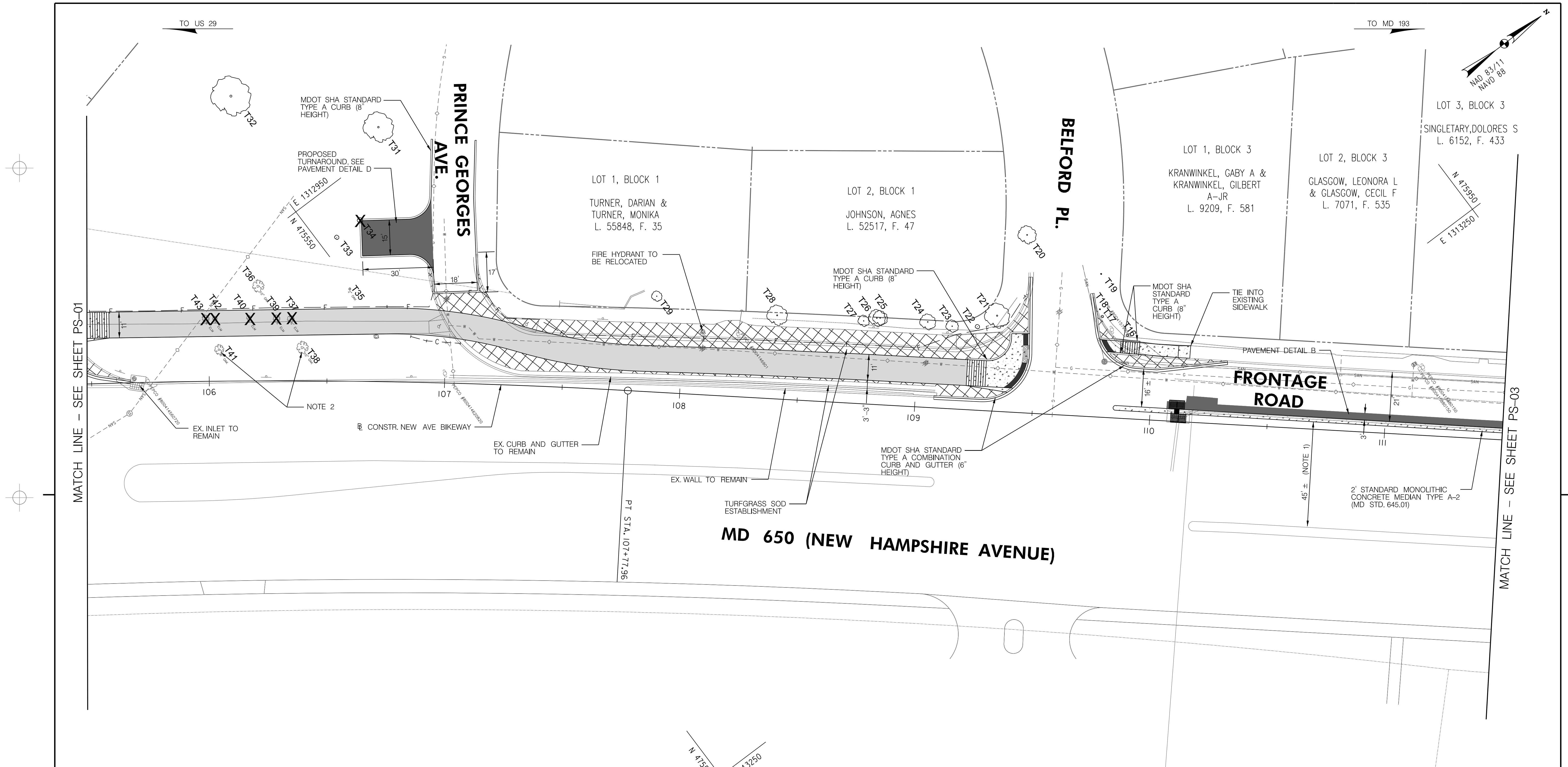
ROADWAY PLAN

SCALE 1"=20' DATE MAY 2021 CONTRACT NO. T.B.D.

DESIGNED BY SAB COUNTY MONTGOMERY
DRAWN BY SAB LOGMILE
CHECKED BY RJG
F.A.P. NO. T.B.D.

DRAWING NO. PS01 1 OF 4 SHEET NO. 6 OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\ts\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pHD-0001_NewAveBike_B.dgn



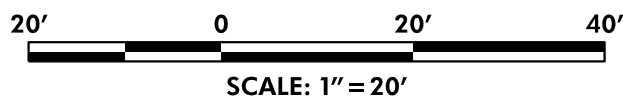
P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

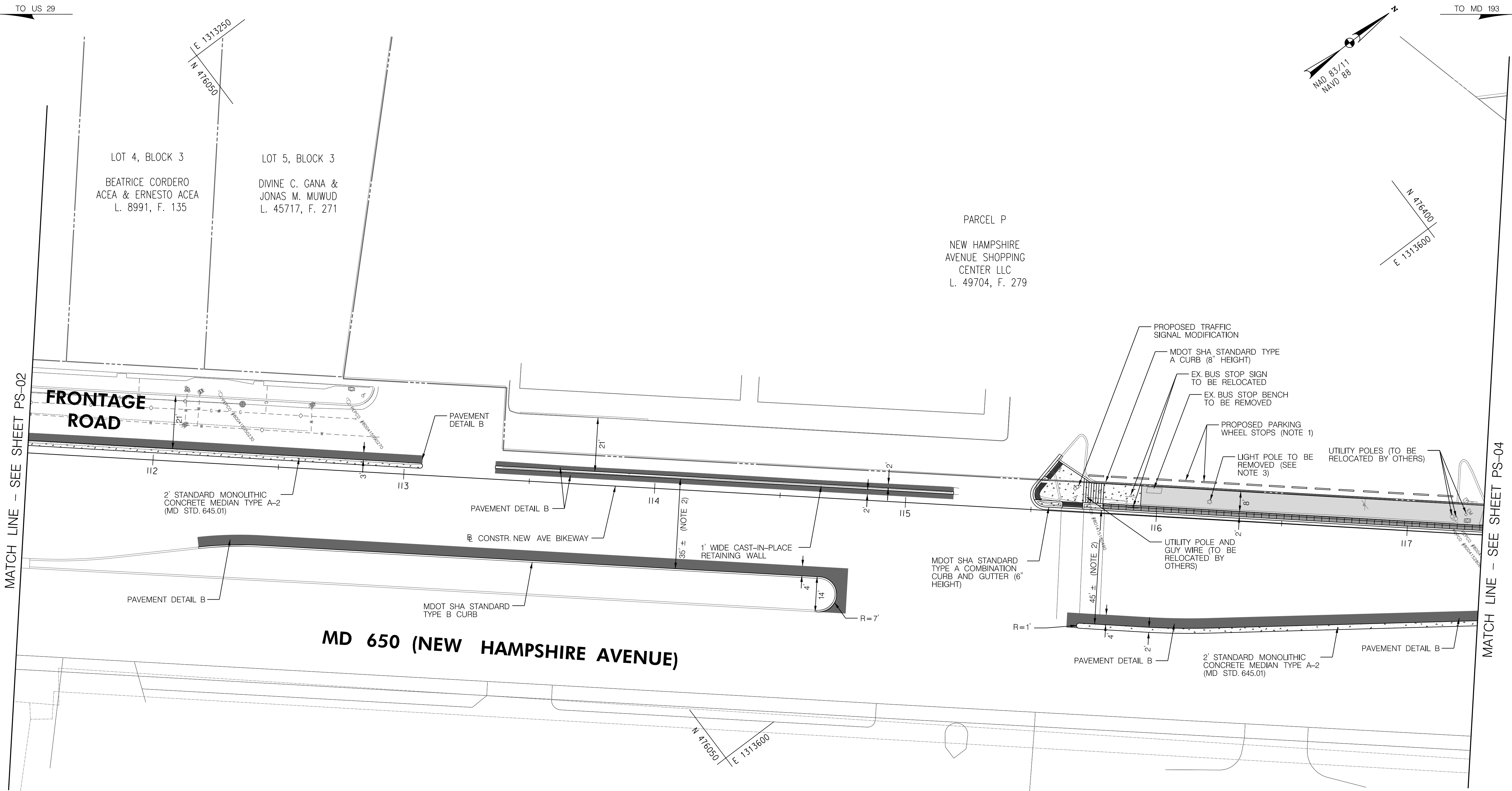
LEGEND	
	5 INCH CONCRETE SIDEWALK
	CONCRETE DRIVEWAY
	SPECIALTY PAVER – TYPE 2
	ASPHALT SHARED USE PATH
	FULL DEPTH PAVING
	SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

- NOTES
1. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
 2. TREE PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.
 3. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
 4. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).



CITY OF TAKOMA PARK NEW AVE BIKEWAY, SECTION B MD 650 (NEW HAMPSHIRE AVENUE) POPLAR AVE TO AUBURN AVE	
ROADWAY PLAN	
SCALE <u>1"=20'</u> DATE <u>MAY 2021</u> CONTRACT NO. <u>T.B.D.</u>	
DESIGNED BY <u>SAB</u> COUNTY <u>MONTGOMERY</u>	
DRAWN BY <u>SAB</u> LOGMILE <u></u>	
CHECKED BY <u>RJG</u>	
F.A.P. NO. <u>T.B.D.</u>	
DRAWING NO. <u>PS02</u> 2 OF 4	SHEET NO. <u>7</u> OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\ts\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pHD-0002_NewAveBike_B.dgn



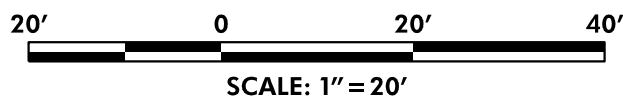
- NOTES**
1. INSTALL 6' LONG (MAXIMUM) WHEEL STOP. MAINTAIN 2' CLEARANCE FROM THE PROPOSED CURB LINE AND 3' MINIMUM CLEARANCE BETWEEN ADJACENT WHEEL STOPS.
 2. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
 3. COORDINATE REMOVAL OF THE EXISTING LIGHT POLE WITHIN THE PUBLIC RIGHT-OF-WAY WITH THE NEW HAMPSHIRE AVENUE SHOPPING CENTER.
 4. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
 5. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
 6. SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.

LEGEND	
	5 INCH CONCRETE SIDEWALK
	CONCRETE DRIVEWAY
	SPECIALTY PAVER - TYPE 2
	ASPHALT SHARED USE PATH
	FULL DEPTH PAVING
	SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

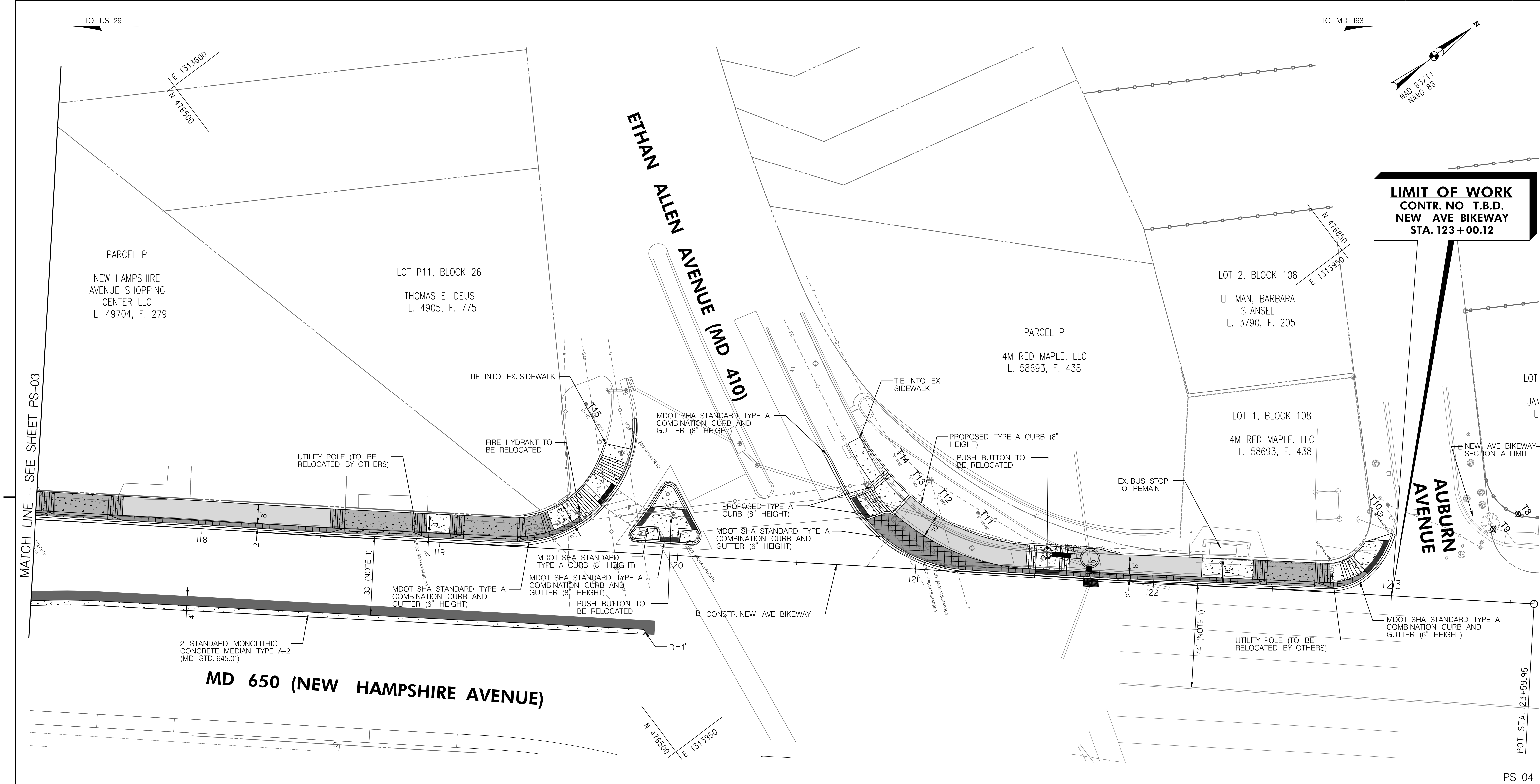
Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions



CITY OF TAKOMA PARK NEW AVE BIKEWAY, SECTION B MD 650 (NEW HAMPSHIRE AVENUE) POPLAR AVE TO AUBURN AVE	
ROADWAY PLAN	
SCALE 1"=20' DATE MAY 2021 CONTRACT NO. T.B.D.	
DESIGNED BY SAB COUNTY MONTGOMERY	
DRAWN BY SAB LOGMILE	
CHECKED BY RJG	
F.A.P. NO. T.B.D.	
DRAWING NO. PS03 3 OF 4	SHEET NO. 8 OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\its\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\pHD-0003_NewAveBike_B.dgn



LIMIT OF WORK
CONTR. NO T.B.D.
NEW AVE BIKEWAY
STA. 123+00.12

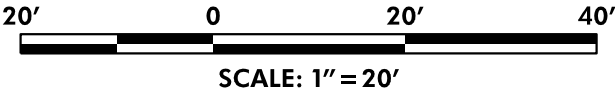
MATCH LINE - SEE SHEET PS-03

PS-04

RK&K
P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions

	5 INCH CONCRETE SIDEWALK
	CONCRETE DRIVEWAY
	SPECIALTY PAVER - TYPE 2
	ASPHALT SHARED USE PATH
	FULL DEPTH PAVING
	SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

- NOTES**
1. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
 2. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
 3. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
 4. SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.



CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

ROADWAY PLAN

SCALE 1"=20' DATE SEPTEMBER 2020 CONTRACT NO. T.B.D.	
DESIGNED BY SAB	COUNTY MONTGOMERY
DRAWN BY SAB	LOGMILE
CHECKED BY RJG	
F.A.P. NO. T.B.D.	
DRAWING NO. PS04	4 OF 4
SHEET NO.	9 OF 11

30% PLANS
SEPTEMBER 2020

LIMIT OF WORK
CONTR. NO. T.B.D.
NEW AVE BIKEWAY
STA. 101+00.52

POPLAR AVE.

CONWAY AVE.

PRINCE GEORGES AVE.

MD 650 (NEW HAMPSHIRE AVENUE)

LEGEND

- 5 INCH CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- SPECIALTY PAVER - TYPE 2
- ASPHALT SHARED USE PATH
- FULL DEPTH PAVING
- SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

NOTES

- ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
- ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
- SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.

20' 0 20' 40'
SCALE: 1"=20'

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

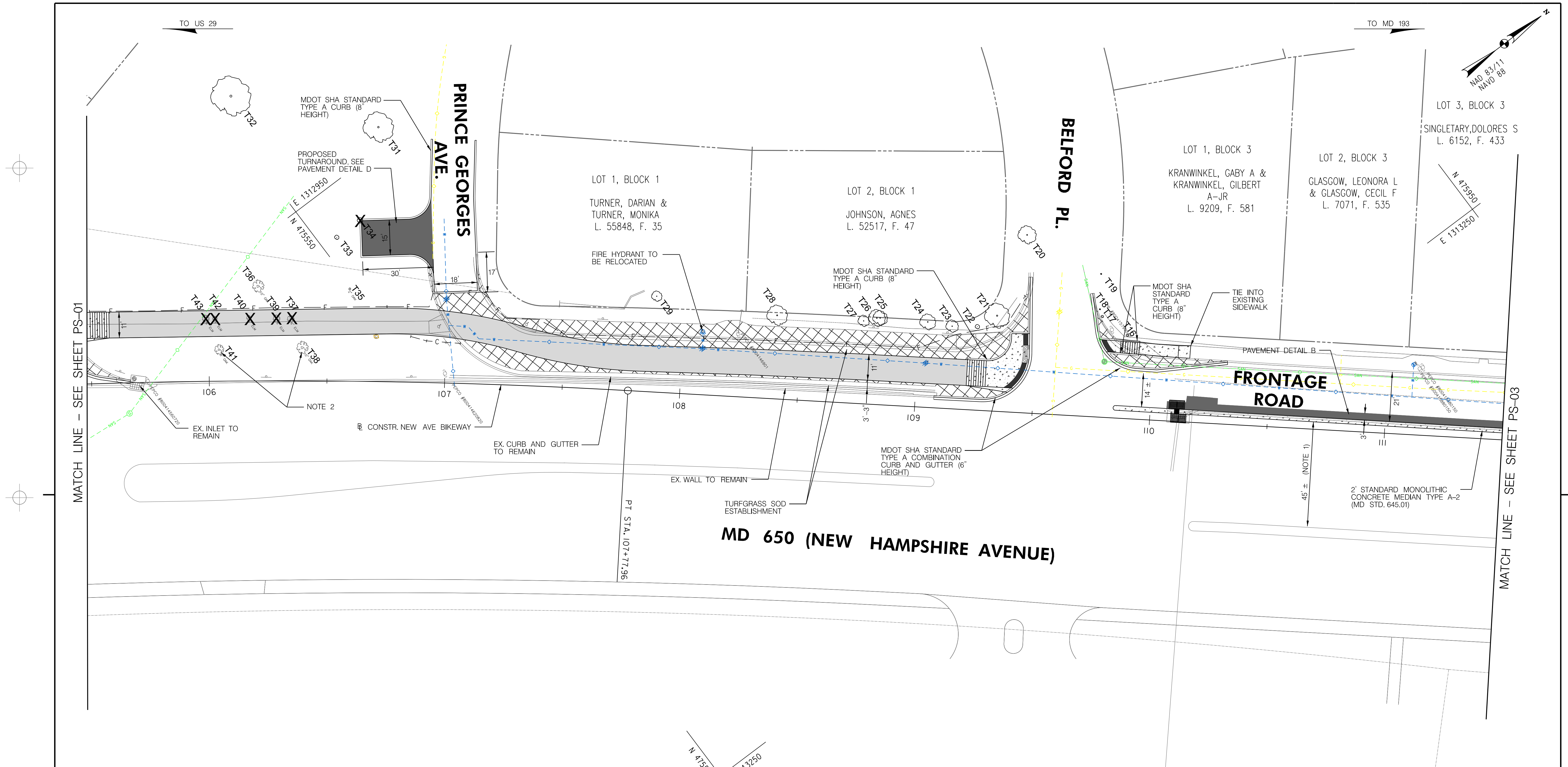
ROADWAY PLAN

SCALE 1"=20' DATE CONTRACT NO. T.B.D.

DESIGNED BY SAB COUNTY MONTGOMERY
DRAWN BY SAB LOGMILE
CHECKED BY RJG
F.A.P. NO. T.B.D.

DRAWING NO. PS01 1 OF 4 SHEET NO. 6 OF 11

PLOTTED: 5/11/2021
FILE: \\ad.rkk.com\its\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\Utility Color Plans for MRF\pHD-0001_NewAveBike_B-utility-color.dgn



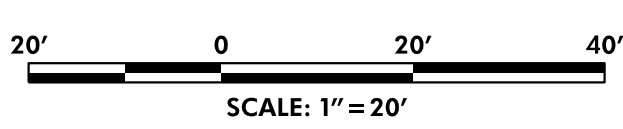
P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

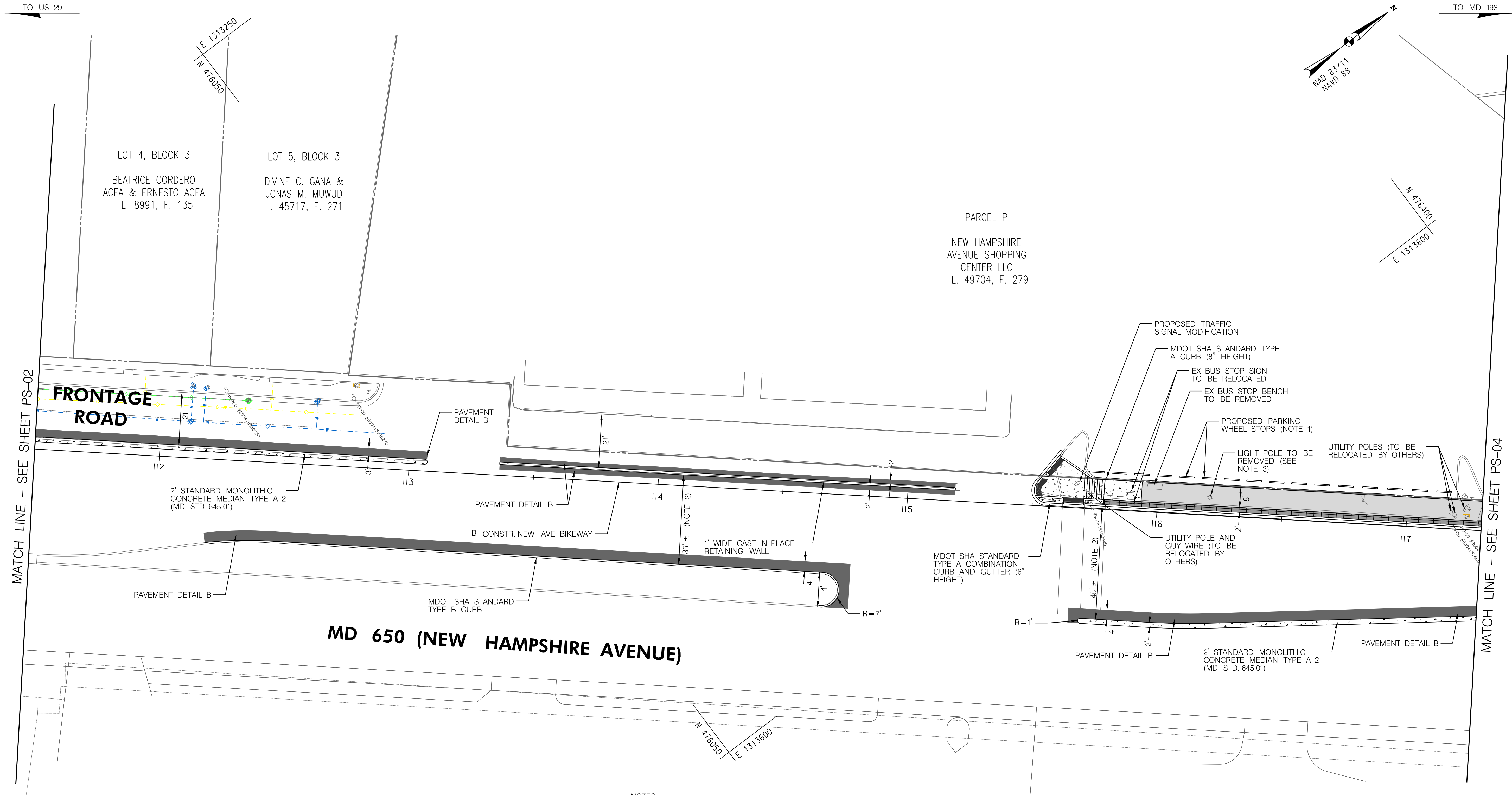
LEGEND	
	5 INCH CONCRETE SIDEWALK
	CONCRETE DRIVEWAY
	SPECIALTY PAVER - TYPE 2
	ASPHALT SHARED USE PATH
	FULL DEPTH PAVING
	SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)

- NOTES
1. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
 2. TREE PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.
 3. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
 4. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).



CITY OF TAKOMA PARK NEW AVE BIKEWAY, SECTION B MD 650 (NEW HAMPSHIRE AVENUE) POPLAR AVE TO AUBURN AVE	
ROADWAY PLAN	
SCALE 1"=20' DATE CONTRACT NO. T.B.D.	
DESIGNED BY SAB COUNTY MONTGOMERY	
DRAWN BY SAB LOGMILE	
CHECKED BY RJG	
F.A.P. NO. T.B.D.	
DRAWING NO. PS02 2 OF 4	SHEET NO. 7 OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\ts\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\Utility Color Plans for MR\pHD-0002_NewAveBike_B-utility-color.dgn



- NOTES**
1. INSTALL 6' LONG (MAXIMUM) WHEEL STOP. MAINTAIN 2' CLEARANCE FROM THE PROPOSED CURB LINE AND 3' MINIMUM CLEARANCE BETWEEN ADJACENT WHEEL STOPS.
 2. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
 3. COORDINATE REMOVAL OF THE EXISTING LIGHT POLE WITHIN THE PUBLIC RIGHT-OF-WAY WITH THE NEW HAMPSHIRE AVENUE SHOPPING CENTER.
 4. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
 5. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
 6. SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.

LEGEND	
	5 INCH CONCRETE SIDEWALK
	CONCRETE DRIVEWAY
	SPECIALTY PAVER - TYPE 2
	ASPHALT SHARED USE PATH
	FULL DEPTH PAVING
	SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)



P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

Responsive People | Creative Solutions

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

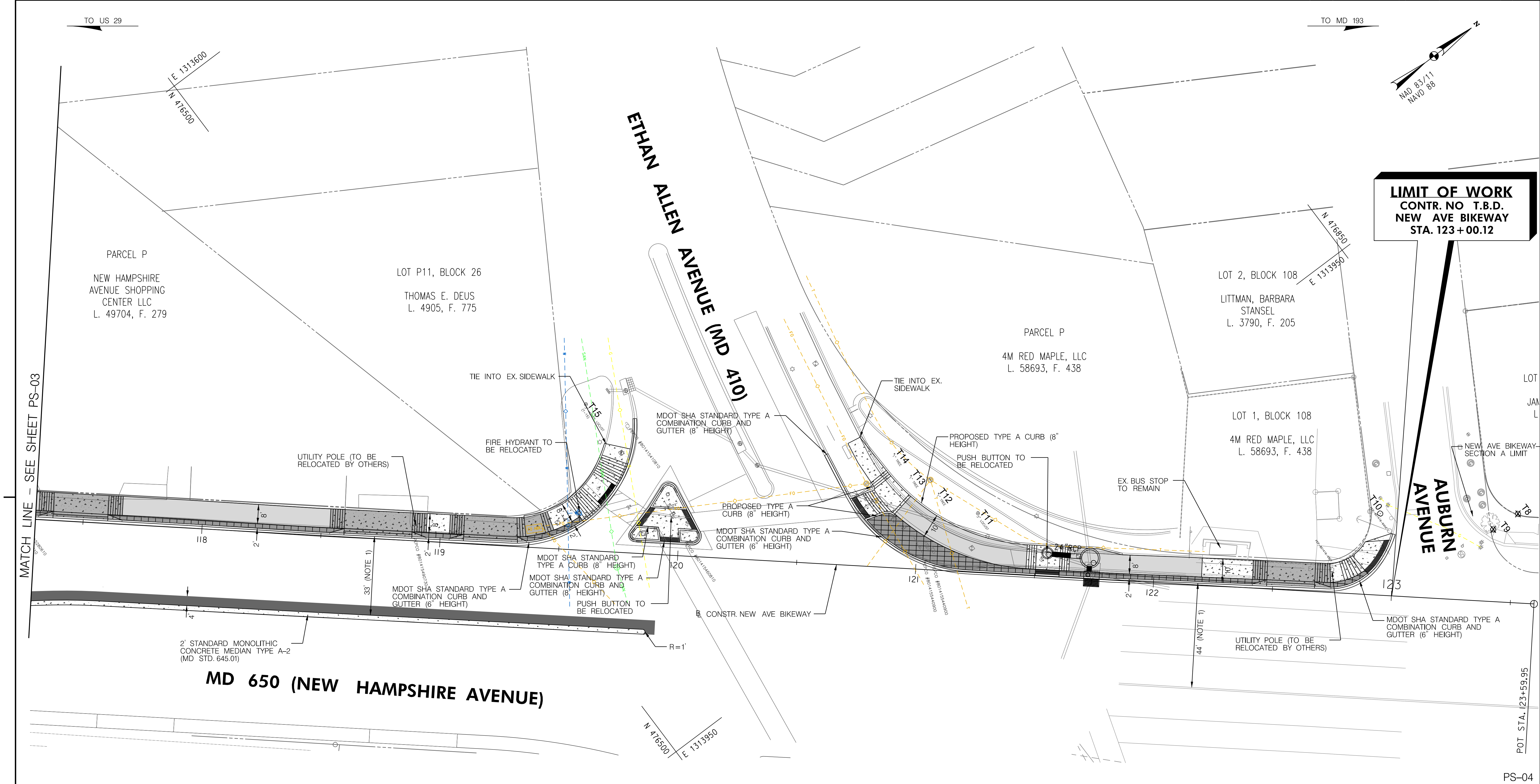
ROADWAY PLAN

SCALE 1"=20' DATE CONTRACT NO. T.B.D.

DESIGNED BY SAB COUNTY MONTGOMERY
DRAWN BY SAB LOGMILE
CHECKED BY RJG
F.A.P. NO. T.B.D.

DRAWING NO. PS03 3 OF 4 SHEET NO. 8 OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\its\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\Utility Color Plans for MFR\pHD-0003_NewAveBike_B-utility-color.dgn



LIMIT OF WORK
CONTR. NO T.B.D.
NEW AVE BIKEWAY
STA. 123+00.12

MATCH LINE - SEE SHEET PS-03

POT STA. 123+59.95

PS-04

MD 650 (NEW HAMPSHIRE AVENUE)

ETHAN ALLEN AVENUE (MD 410)

AUBURN AVENUE

NOTES

1. A GEOMETRIC SHIFT ALONG MD 650 SOUTHBOUND IS REQUIRED BETWEEN BELFORD PLACE AND AUBURN AVENUE TO ACCOMMODATE THE PROPOSED 5' CONTRA-FLOW BIKE LANE OR 8' SHARED USE PATH.
2. ALL CONCRETE CURB AND GUTTER WILL BE PAID FOR AS STANDARD TYPE A COMBINATION CURB & GUTTER, ANY HEIGHT OR DEPTH.
3. ALL CONCRETE CURB WILL BE PAID FOR AS STANDARD TYPE A CURB, ANY HEIGHT OR DEPTH (EXCEPTION BEING TYPE B CURB FOR MD 650 MEDIAN WORK).
4. SEE SIGNING & PAVEMENT MARKING PLANS FOR IMPACTS TO EXISTING TRAFFIC SIGNAL EQUIPMENT AND PROPOSED MODIFICATIONS.

LEGEND

- 5 INCH CONCRETE SIDEWALK
- CONCRETE DRIVEWAY
- SPECIALTY PAVER - TYPE 2
- ASPHALT SHARED USE PATH
- FULL DEPTH PAVING
- SIDEWALK AND PAVEMENT REMOVAL (PAID FOR AS CLASS 1 EXCAVATION)



P: 410.728.2900 F: 410.728.2834
700 East Pratt Street, Suite 500 | Baltimore, MD 21202

Engineers | Construction Managers | Planners | Scientists
www.rkk.com

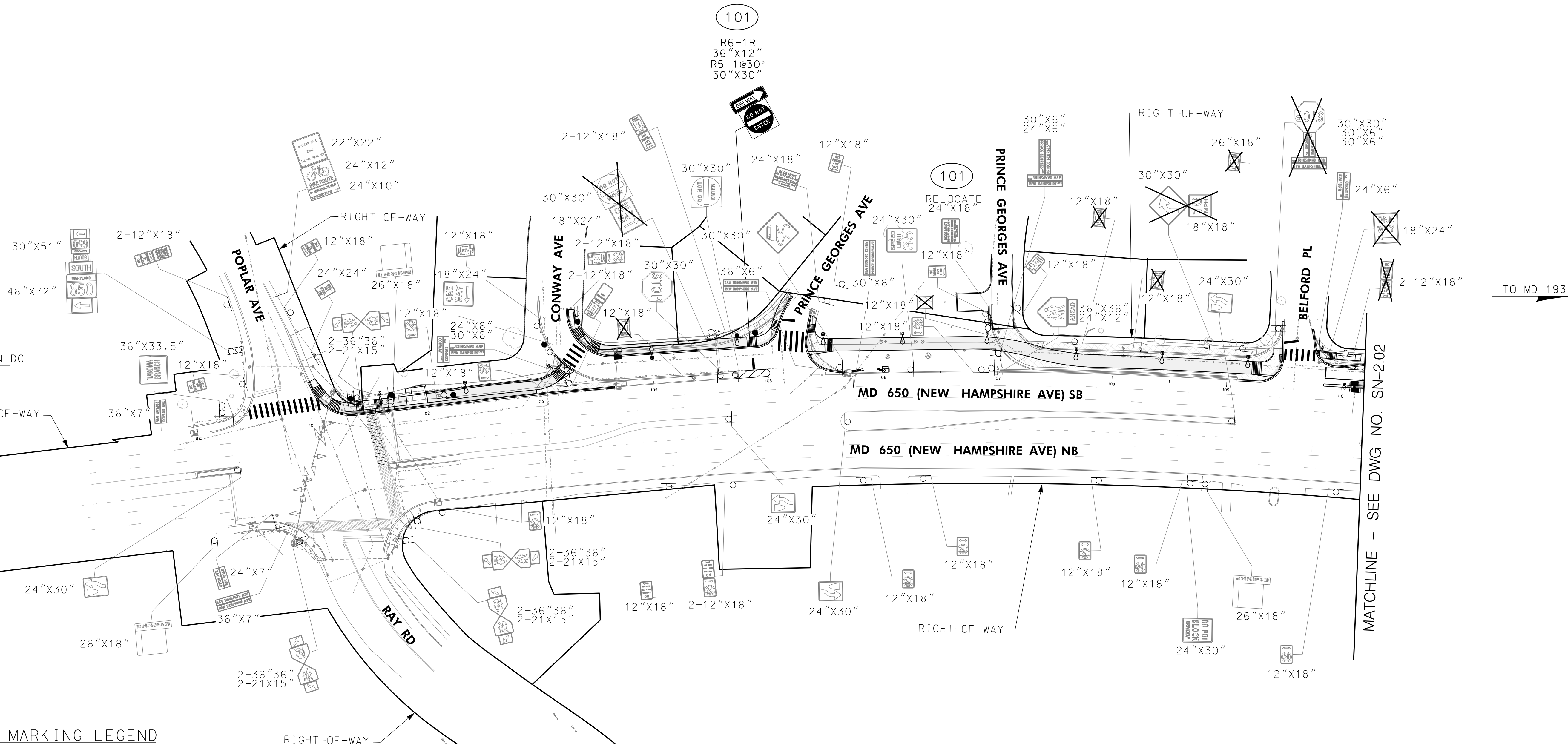
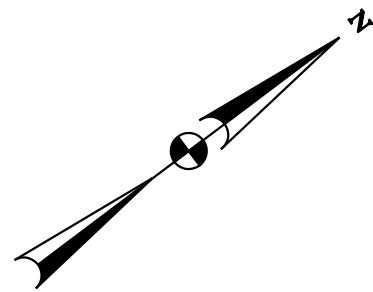
Responsive People | Creative Solutions

CITY OF TAKOMA PARK
NEW AVE BIKEWAY, SECTION B
MD 650 (NEW HAMPSHIRE AVENUE)
POPLAR AVE TO AUBURN AVE

ROADWAY PLAN

SCALE 1"=20' DATE _____ CONTRACT NO. T.B.D.	
DESIGNED BY SAB	COUNTY MONTGOMERY
DRAWN BY SAB	LOGMILE _____
CHECKED BY RJG	
F.A.P. NO. T.B.D.	
DRAWING NO. PS04	4 OF 4 SHEET NO. 9 OF 11

PLOTTED: 4/14/2021
FILE: \\ad.rkk.com\ts\Cloud\Projects\2020\20007_NewAveSecB\CADD\Plans\Utility Color Plans for MR\pHD-0004_NewAveBike_B-utility-color.dgn



PAVEMENT MARKING LEGEND

- A. 5 IN. WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINE
- B. 5 IN. YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING LINE
- C. 5 IN. WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINE (3 FT. LINE, 3 FT. GAP)
- D. 24 IN. SOLID WHITE PERFORMED THERMOPLASTIC PAVEMENT MARKING LINE
- E. 16 IN. WHITE PERFORMED THERMOPLASTIC PAVEMENT MARKING LINE
- F. WHITE PERFORMED THERMOPLASTIC PAVEMENT MARKING SYMBOL
- G. GREEN MMA BICYCLE CONFLICT MARKINGS. SEE DETAILS ON SN-2.02
- H. REMOVE EXISTING PAVEMENT MARKING LINE, SYMBOL OR ARROW BY HYDROBLASTING

60% SUBMITTAL NOTES

- SIGNING AND PAVEMENT MARKING QUANTITY TABULATIONS AND CONSTRUCTION CALLOUTS WILL BE INCLUDED IN SUBSEQUENT SUBMITTALS.
- LIGHTING DESIGN AND PHOTOMETRICS WILL BE PROVIDED IN SUBSEQUENT SUBMITTALS.

LEGEND

- (BY OTHERS) EXISTING SIGN TO REMAIN
- (BY OTHERS) EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- PROPOSED PEDESTRIAN LIGHT POLE
- PROPOSED LEASED LIGHT ON UTILITY POLE



OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

NEW AVE BIKEWAY

MD 650 (NEW HAMPSHIRE AVE) FROM
POPLAR AVE TO AUBURN AVE

SIGNING & PAVEMENT MARKING PLAN

SCALE 1" = 50' DATE JUNE 2021 CONTRACT NO. PENDING

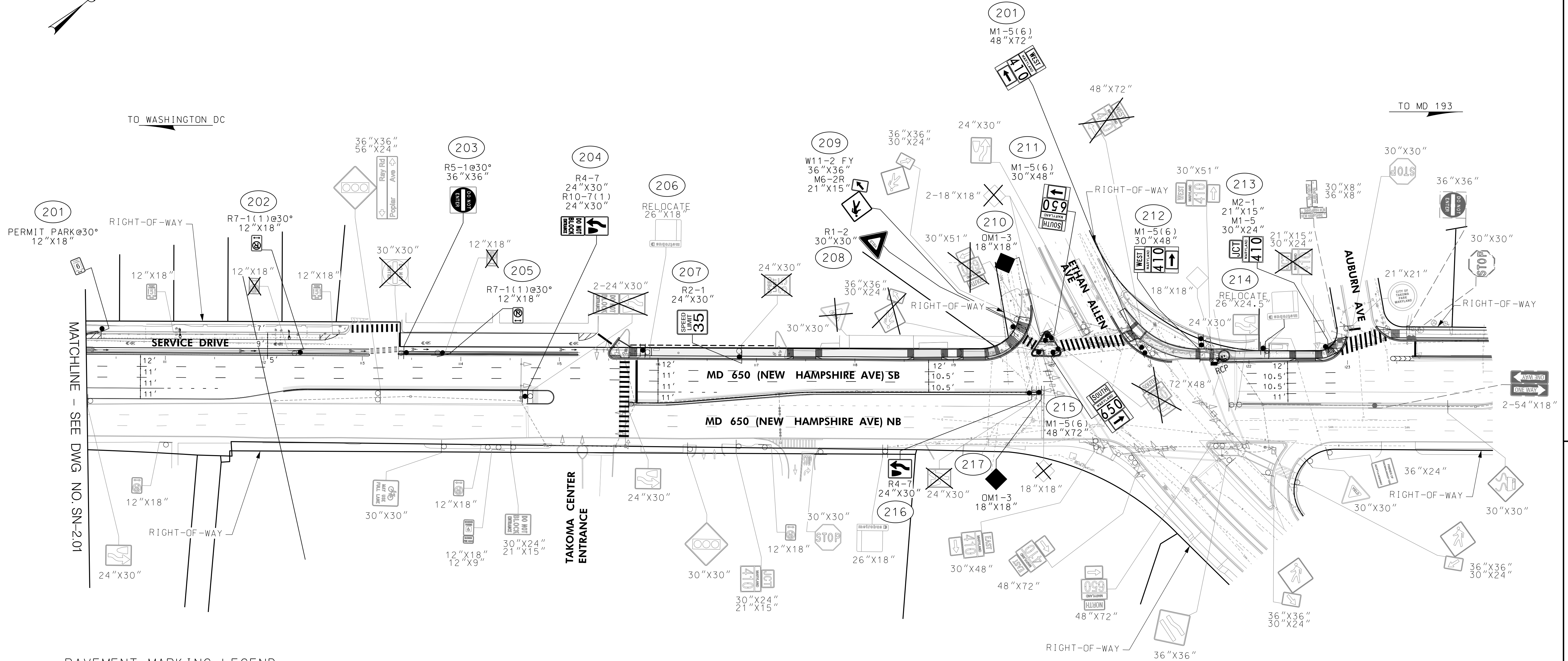
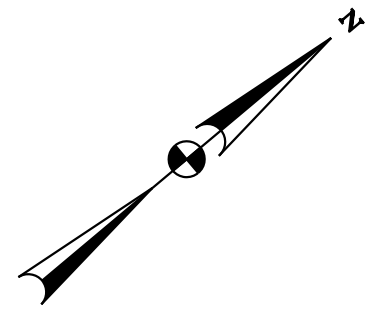
DESIGNED BY SJL COUNTY MONTGOMERY
DRAWN BY SJL LOGMILE
CHECKED BY WFW TMS NO. PENDING
MDE/PRD SEE TITLE SHEET TOD NO.

DRAWING NO. SN-2.01 OF 2 SHEET NO. 10 OF 11

PLOTTED: 5/12/2021
FILE: \\ad.rnk.com\ys\Cloud\Projects\2020\NewAveSecB\CADD\Plans\psn-2001_NewAveBike_B.dgn

BY: synch -

RK&K
P: 410.728.2900
700 East Pratt Street, Suite 500 | Baltimore, MD 21202
Engineers | Construction Managers | Planners | Scientists
www.rkk.com
Responsive People | Creative Solutions



PAVEMENT MARKING LEGEND

- A. 5 IN. WHITE SOLID THERMOPLASTIC PAVEMENT MARKING LINE
- B. 5 IN. YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING LINE
- C. 5 IN. WHITE SKIP THERMOPLASTIC PAVEMENT MARKING LINE (3 FT. LINE, 3 FT. GAP)
- D. 24 IN. SOLID WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE
- E. 16 IN. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE
- F. WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING SYMBOL
- G. GREEN MMA BICYCLE CONFLICT MARKINGS. SEE DETAILS ON SN-2.02
- H. REMOVE EXISTING PAVEMENT MARKING LINE, SYMBOL OR ARROW BY HYDROBLASTING

60% SUBMITTAL NOTES

1. SIGNING AND PAVEMENT MARKING QUANTITY TABULATIONS AND CONSTRUCTION CALLOUTS WILL BE INCLUDED IN SUBSEQUENT SUBMITTALS.
2. LIGHTING DESIGN AND PHOTOMETRICS WILL BE PROVIDED IN SUBSEQUENT SUBMITTALS.

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- EXISTING GROUND MOUNTED SIGN
- PROPOSED GROUND MOUNTED SIGN
- PROPOSED PEDESTRIAN LIGHT POLE
- PROPOSED LEASED LIGHT ON UTILITY POLE



OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

NEW AVE BIKEWAY

MD 650 (NEW HAMPSHIRE AVE) FROM
POPLAR AVE TO AUBURN AVE

SIGNING & PAVEMENT MARKING PLAN

SCALE	1" = 50'	DATE	JUNE 2021	CONTRACT NO.	PENDING
DESIGNED BY	SJL	COUNTY	MONTGOMERY		
DRAWN BY	SJL	LOGMILE			
CHECKED BY	WFW	TIMS NO.	PENDING		
MDE/PRD	SEE TITLE SHEET	TOD NO.			
DRAWING NO.	SN-2.02	OF	2	SHEET NO.	11 OF 11

PLOTTED: 5/12/2021
FILE: \\ad.rnk.com\fs\Cloud\Projects\2020\2007-NewAveSecB\CADD\Plans\PSN-2002-NewAveBike_B.dgn