

**MEMORANDUM**

March 7, 2019

TO: Planning, Housing, and Economic Development (PHED) Committee

FROM: Glenn Orlin, Deputy Director

SUBJECT: MARC Rail Communities Sector Plan—fiscal impact statement, evaluation of transportation adequacy at buildout; transportation elements

PURPOSE: Worksession—develop Committee recommendations

**Councilmembers: Please bring your copy of the Final Draft Plan to this worksession.**

This staff report addresses transportation adequacy at the time of the buildout, the transportation elements, and the fiscal impact statement. Attached are comments from the County Department of Transportation (©1-2).<sup>1</sup> Some technical corrections will be made to the final document, but they are not identified in this report. The purpose of this worksession is two-fold: for the Committee to make recommendations about the transportation elements of this plan.

Those anticipated to attend include:

Casey Anderson, Chair, Planning Board  
Gwen Wright, Director, Planning Department  
Richard Weaver, Area 3 Chief, Planning Department  
Frederick Boyd, Master Planner/Supervisor, Area 3, Planning Department  
Roberto Duke, Lead Planner, Area 3, Planning Department  
Laura Hodgson, Transportation Planner, Area 3, Planning Department  
Eric Graye, Functional Planning & Policy Division, Planning Department  
Christopher Conklin, Deputy Director, Department of Transportation (DOT)  
Andrew Bossi, Director's Office, DOT

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<sup>1</sup> Key words: #MARCraillcommunities, plus search terms master plan, road, transit, bikeway, sidewalk.

**Fiscal Impact Statement (FIS).** The Office of Management and Budget (OMB) transmitted the Executive’s FIS for this plan (©3-7). Executive staff estimates the County cost of new capital improvements associated with the Draft Plan to be \$163.4 million, all of which would be transportation improvements.<sup>2</sup>

The FIS makes certain assumptions about the share of costs between the County, State, and developers. A more detailed version of the FIS, showing the assumed breakdown of funding for the capital projects, is on ©8-10; it shows the total capital cost to be \$266.4 million, and this includes neither construction of a third CSX track, nor a relocated MARC station in Boyds. The largest expenditure is \$60.6 million for two of the four potential locations for parking garages at the Germantown MARC station. However, this does not include a cost estimate for adding a third track through Germantown and Boyds, a relocated Boyds MARC station, or gauntlet tracks at the Germantown MARC station.

The FIS also estimates an additional operating cost to the County of \$6.5 million/year once all the Draft Plan’s projects and services are implemented. Most of the cost—\$5.8 million—is associated with the recommended increase in bus service serving the Boyds and Germantown MARC stations. The \$700,000 balance is for the annual subsidy to operate the planned bikeshare stations (©7).

**Transportation adequacy at buildout.** Every master plan should have a balance between its proposed land use and its proposed transportation network and services. For a quarter-century this “balance” has been defined as what would be needed to meet the current adequate public facilities requirements as described in the Subdivision Staging Policy (SSP), last updated by the Council in 2016. Achieving this balance in a plan is not an academic exercise: if a plan is not balanced, then at some point in the future a proposed master-planned development will be unable to proceed because it will have no means to meet the adequate public facility requirements.

The SSP measures transportation level of service according to average vehicle delay (in seconds) during peak periods at signalized intersections. The standards vary by policy area. The Germantown portion of the Plan covers parts of two policy areas, and their adopted standards for tolerable peak hour congestion are:

Germantown West	51 seconds/vehicle
Germantown Town Center	63 seconds/vehicle

The table on ©11 shows the forecasted level of congestion at each of nine intersections in the Germantown portion of the Plan area. The table shows that if the Plan’s recommendations for intersection improvements, new business district streets, and road “diets” are built, the congestion standard will not be exceeded at any of these intersections. Therefore, in Germantown the Plan is in balance between land use and transportation.

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<sup>2</sup> The transmittal shows an assumed total County cost of \$187.8 million, but that is an error. While the FIS shows cost estimates for each of four potential locations for parking garages serving the Germantown MARC station, Executive staff meant only to assume that two will be built: a garage southwest of Bowman Mill Drive (Site A), and one other. Thus, only the costs for the Site A garage and the one other should be included in the total, not the costs of all four.

In Boyds, the State Highway Administration installed traffic signals late last year to mitigate traffic at the intersection of MD 117 and MD 121. The Draft Plan notes that delays there can last as much as 15 minutes, certainly well worse than the Rural West Policy Area standard of 41 seconds/vehicle. With the planned expansion of the Boyds MARC station park-and-ride lot and with the buildout of Cabin Branch in Clarksburg, traffic will increase more.

**Transportation elements in the Draft Plan. Council staff concurs with the transportation elements of the Plan, except where noted below.**

*Road “diets.”* A road diet is where a road’s capacity is reduced, usually to create more space for pedestrians and bicyclists. The road diets proposed in the Draft Plan are:

- To reduce the through lanes on Middlebrook Road between Germantown Road and Great Seneca Highway from 6 lanes down to 4. The number of approach lanes through the intersections would also be reduced by a lane in each direction. Furthermore, this segment of Middlebrook Road would be down-classified from a Major Highway to an Arterial. There is surplus capacity to allow for such a diet, although it is a close call at the MD 118/Middlebrook Road intersection in the evening peak, where the forecasted average evening peak-hour congestion is 62.8 seconds/vehicle, just better than the 63 seconds/vehicle standard.
- To reduce the number of master-planned through lanes on Great Seneca Highway between Middlebrook and Dawson Farm Roads from 6 lanes to 4. There are already 4 lanes in this segment, so what this recommendation means is that Great Seneca Highway would not be widened to 6 lanes in this segment in the future

Germantown Road will continue to have 6 lanes, but to keep an intersection from failing, the northbound approach of Bowman Mill Road to Germantown Road is proposed to be widened from one to 3 lanes. The last bullet on p. 60 could be interpreted as contrary to this recommendation. **Council staff recommends adding clarifying language, as follows:**

- **Confirm restrictions on the widening of the intersection approaches on Germantown Road [intersections] north of the tracks unless needed for pedestrian safety or improved bus and bicycle access.**

*Bowman Mill Road Extended.* Many of the figures show an extension of Bowman Mill Road from its current terminus at Walter Johnson Road southeast to Great Seneca Highway. DOT points out that there are environmental impacts if the road were extended as shown, likely impacting existing apartment buildings and two stormwater management ponds (©2). However, all the Draft Plan intends is that there be a means by one or more public roads to go between these two points. The entry for Bowman Mill Road Extended in Table 3 (p. 55) notes that for this and Crystal Rock Drive Extended “the alignment of new roads will be determined during the development review process.” Depending on the layout of the future subdivision, the route for this “extension” may consist of a series of streets requiring several left- and right-turns, wending its way to Great Seneca Highway avoiding the stormwater facilities and the new subdivision buildings. **Council staff recommends that the second bullet on p. 62 be revised as follows:**

- **[Extend] Create a public road route from Bowman Mill Road to Great Seneca Highway to improve connectivity and access to the MARC station. This [extension] route will also help to distribute traffic and avoid the widening of intersections beyond the recommended 60-foot crossing distances for pedestrians.**

*Walter Johnson Road extension.* Many figures also show a straight extension of Walter Johnson Road from its northern terminus north to intersect Middlebrook Road very close with the latter's intersection with Germantown Road (MD 118). DOT notes that this would create an intersection too close to the Middlebrook/MD 118 intersection, and that the extension should be realigned more to the northeast so that it reaches Middlebrook Road at least 100' away from it. **Council staff concurs with DOT; furthermore, the Draft Plan should note that this is to be a "right in, right out" intersection, which is the intent.**

*MARC parking garages.* Currently there are nearly 700 public parking spaces in the lots near the Germantown MARC station. The Draft Plan identifies two sites for garages, both on the northeast side of the tracks: one southwest of Bowman Mill Road and the other—if needed—between Bowman Mill Road and Wisteria Drive. If both garages and lots in the Draft Plan are ultimately built, the total number of public spaces would increase to about 1,650.

The Germantown Historical Society (GHS) opposes a multi-story parking garage in the historic district. The GHS suggested that a two-story garage may be suitable if it were built on a slope and the lower level built into it. However, although the Executive Branch costed out garages at four sites—including two south of the tracks in the Germantown Historic District—the Draft Plan only mentions the potential for garages north of the tracks.

*MD 117 Crossing in Boyds.* The existing Clarksburg Road underpass beneath CSX is only wide enough for its two traffic lanes; there is no space for sidewalks or bikeways. It has only a 12'6" vertical clearance; as the Department of Fire and Rescue Services (DFRS) points out, this is too low for some of its larger fire equipment (©12). The long-term proposal in the Draft Plan is for a new underpass that would render Clopper Road from Germantown and Clarksburg Road as a continuous two-lane minor arterial highway. The underpass would have at least a 14'6" vertical clearance and be wide enough to also accommodate with bike lanes and sidewalks (see ©13 and Figure 26 on p. 49). The order-of-magnitude cost estimate for construction is \$7.5 million.

An alternative is to relocate Clopper Road from Germantown on a bridge over the CSX tracks, aligning with Barnesville Road at its intersection with Clarksburg Road (©14). It, too, would be a two-lane minor arterial with bike lanes and sidewalks. The order-of-magnitude cost estimate for construction is \$10 million. DOT advocates including both options in the Plan, noting that since the cost estimates do not include the cost of maintaining rail traffic during construction, that the underpass option is likely to be higher than the overpass (©2). **Council staff concurs with DOT to include both the bridge and underpass alternatives in the Draft Plan.**

The closest fire station to the Boyds community is 6 minutes away on MD 118, just south of Clopper Road. If the overpass option is ultimately selected for the MD 117 crossing, the current extension to the Boyds residential area south of the tracks would be severed; access would be through the existing narrow underpass. In this instance, larger fire apparatus from the Germantown or Clarksburg fire stations would not be able to reach the Boyds community, because these vehicles would

not be able to pass beneath the existing underpass. Therefore, in the design of the park-and-ride facility on the Anderson property, room should be left for an emergency vehicle-only at-grade crossing connecting Barnesville Road to White Ground Road. Such an at-grade crossing is physically feasible.

*Boyds MARC Station.* The current Boyds station has 16 parking spaces. Last year DOT acquired the Anderson property north of the current station to create a space for a bus turnaround and a larger park-and-ride lot. The park-and-ride facility is in the second phase of facility planning, and funding for its final design and construction is likely to be candidate for inclusion in the FY21-26 Capital Improvements Program next year. The concept calls for 47 more spaces; given the topographic constraints, 47 spaces is likely about the maximum. Figure 47 on p. 69 shows 66 additional spaces. **Council staff recommends that Figure 47 be revised to reflect DOT's concept.** Usually the Planning staff publishes the Final Plan 6 months to a year after adoption; by then DOT's concept will be finalized.

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DEPARTMENT OF TRANSPORTATION

Marc Ehrlich  
County Executive

Al R. Roshdich  
Director

MEMORANDUM

February 1, 2019

**TO:** Greg Ossont, Deputy Director  
Department of General Services

**FROM:** Christopher Conklin, P.E., Deputy Director for Policy  
Department of Transportation

**SUBJECT:** MARC Rail Communities Plan – MCDOT Planning Board Draft Comments

Thank you for the opportunity to review the December 2019 Planning Board Draft of the MARC Rail Communities Plan. While we welcome the increased focus on the Boyds and Germantown MARC station areas, there remain a number of significant comments from the Public Hearing Draft which have not been resolved. We are disappointed that the revised draft does not address previous comments, and there has been minimal coordination or response from Planning staff. In addition to the enclosed detailed technical comments, a few of the more critical items include:

- 1) **Traffic Analyses:** MCDOT urges that more detailed analyses be performed, given the scale of proposed modifications and the results currently identified in the transportation analysis. Such an analysis would include an assessment of individual intersection approaches, evaluations of queueing, and accounting for multimodal operations considerations.

MCDOT also recommends that the TPAR analyses' Roadway Adequacy Test or a similar network evaluation be performed. Combined with more detailed intersection analyses, if favorable they will only strengthen the case for implementation of the proposed changes to the street networks.

- 2) **ROW Needs:** The plan should ensure that ROW needs are feasible. Along Wisteria Drive, ensure that MCPS has confirmed that the cross-section is achievable. Along Walter Johnson Road, to avoid impacts to historic resources it appears much or all of the additional ROW needs south of Wisteria Drive will come from the west side. Along several streets additional width may be necessary to account for stormwater and drainage needs, as well as landing strips alongside on-street parking.

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Office of the Director

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- 3) **Boyds Underpass:** We have previously noted that the estimates prepared for the underpass are likely too low, particularly in their inadequate consideration of costs associated with maintaining rail traffic through construction.

An underpass will be a very expensive project and given the relatively low traffic volumes as compared to elsewhere in the County: such a project could have difficulty seeking funding for a very long time; perhaps beyond the lifetime of the plan. We suggest that an overpass remain an option, as with a potentially lower cost it will be more likely to be realized.

Whether an overpass or underpass, either option will pose significant environmental impacts, including impacts to the historic nature, viewshed, and parkland. We urge that this plan establish right-of-way and define acceptable impacts, with concurrence from the Parks Department, as to reduce future disagreements if the project proceeds toward implementation.

- 4) **Corridor Cities Transitway:** Consider how the Middlebrook Road cross-section may accommodate a potential alignment of the CCT, which could potentially run along Middlebrook to improve its service of the Germantown area.
- 5) **Walter Johnson Extension:** We do not support a straight extension of Walter Johnson Road to Middlebrook Road, which would create a new intersection too close to the major intersection with MD 118. Text should be included to require that the street be aligned to intersect with Middlebrook Rd at least 100 ft from the MD 118 intersection.
- 6) **Bowman Mill Extension:** Consider environmental impacts relating to this extension, particularly to the apartment buildings and two stormwater management ponds. We suggest a drawing showing the potential alignment and impacts to demonstrate feasibility.

Should you have any questions regarding our comments on the plan, please feel free to contact me or Mr. Andrew Bossi, Senior Engineer, at 240-777-7200.

CC:AB

Attachments: detailed technical comments

cc: Al Roshdieh, MCDOT  
Gary Erenrich, MCDOT  
Andrew Bossi, MCDOT  
Amy Donin, DGS

**County Capital and Operating Cost Estimates Assumed to be Incurred as a Result of the  
MARC Rail Communities Sector Plan**

**Capital Improvement Projects**

Project		Description			Total County Costs
Project	Boys	Germantown	Notes	County	
MARC Station Bus and Park & Ride Expansion	X		Includes new bus loop, Park & Ride, and modifications to structures.	\$	3,000,000
Upgrade MARC Ped Underpass	X		Lighting, ramps, wheelchair lifts, entrance canopies.	\$	1,000,000
Upgrade MARC At-Grade Ped Crossing	X		Upgraded crossing; train warning systems.	\$	300,000
New Bus Service	X		An estimated 4 buses (with 1 set of replacements over the lifetime of the plan) serving a bidirectional loop connecting Clarksburg with the Boys MARC station. For cost estimating purposes only; actual operations have not been evaluated.	\$	4,400,000
Site A Parking Structure		X	Located southwest of Bowman Mill Dr, northwest of Walter Johnson Rd, and northeast of the CSX tracks. Cost may vary between 100% MTA, 100% County, or anywhere in between. This line <b>IS</b> included in the total cost estimate.	\$	14,300,000
Site B Parking Structure		X	Located southeast of Walter Johnson Rd, and northeast of the CSX tracks. Includes Bowman Mill Rd extended through the ground level of the garage. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.	\$	16,000,000
South Site Parking Structure		X	Located southwest of the CSX tracks and northwest of Liberty Mill Rd. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.	\$	8,400,000
7-Eleven Site Parking Structure		X	Located northeast of Bowman Mill Dr and northwest of Walter Johnson Rd. Includes the New Private Street extended through the ground level of the garage. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.	\$	16,000,000

Transit

<p align="center"><b>Enhanced Transit Services</b></p>		<p align="center"><b>X</b></p>	<p>This line item does not appear to be well defined in the plan, and the lack of Transit TPAR analysis makes it difficult to identify what needs to be enhanced. This estimate assumes 1 additional bus to reduce headways along the Ride-On 83, 94, and 97 lines (these are the routes that serve the Germantown MARC station), and 1 set of replacement buses over the lifetime of the plan.</p>	<p align="right">\$ 3,300,000</p>
<p align="center"><b>Express Bus Services</b></p>		<p align="center"><b>X</b></p>	<p>An estimated 4 buses (with 1 set of replacements over the lifetime of the plan) serving to provide Express services between Germantown neighborhoods and the Germantown MARC station. For cost estimating purposes only; actual operations have not been evaluated.</p>	<p align="right">\$ 4,400,000</p>
<p align="center"><b>Bikeshare</b></p>		<p align="center"><b>X</b></p>	<p>Capital costs only, including station installation, bikes, and 1 set of bike replacements. Does not include Operations. Likely to be built out by private contributions, though grants or a public CIP may also be feasible.</p>	<p align="right">\$ 300,000</p>

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Intersections			X	Unit price \$500,000 each, across an estimated 7 intersections where separated bike lanes intersect with other separated bike lanes or sidepaths. There may be some duplicative costs, as some Protected Intersections might be implemented concurrent with the Road Diet & Separated Bike Lane projects listed above. Those estimates include costs for signal work but not explicitly Protected Intersections, and Protected Intersections account for signal work.	\$ 2,500,000
	<b>Protected Intersections</b>				
New Roads	TBD	Bowman Mill Rd	X	Estimate is for the full length, without any consideration of whether a 2nd garage might be constructed on Site B. Assumes high contingency for significant environmental impacts.	\$ 4,300,000
Roads Impacts to Capacity	TBD	Middlebrook Rd	X	Near-term treatment per p58 of the plan. Reduced capacity to provide two-way separated bike lanes on each side. Assumes retrofit utilizing existing curb-to-curb.	\$ 1,700,000
	TBD	Middlebrook Rd	X	Long-term treatment per p58 of the plan. Assumes full reconstruct, impacting both curb lines.	\$ 19,700,000
	B-1	Crystal Rock Dr	X	Per p63 of the plan. Increased capacity. Assumes full reconstruct, impacting both curb lines. Includes sidepath on Southeast side.	\$ 4,900,000
	B-2	Wisteria Dr	X	Per p60 of the plan. Increased capacity. Assumes full reconstruct, impacting both curb lines. Does not include sidepath. Does include sep bike lane on northeast side and road widening.	\$ 36,100,000
Roads No Capacity Impacts	M-61	MD 118 (Germantown Rd)	X	Per p61 of the plan. Assumes full reconstruct, impacting both curb lines.	\$ 9,400,000
	M-90	MD 119 (Great Seneca Hwy)	X	Per p59 of the plan. Assumes full reconstruct, impacting both curb lines. Does not include master planned sidepath.	\$ 16,500,000
	B-3	Walter Johnson Rd	X	Per p65 of the plan. Assumes a reconstruct of the west curb line south of Wisteria (due to a historic building widening to the east does not appear feasible). Minor restriping north of Wisteria. Includes master planned sidepath along Northwest side.	\$ 5,000,000
	N/A	Liberty Mill Rd	X	Per p65 of the plan. Some reconstruct of west side curb line to potentially remove a short parking lane and accel/decel lanes at Liberty Heights La (pending operational evaluation of need). Includes sidepath along Northwest side.	\$ 3,200,000

Ped / Bike Focused

A-27	(MD 121) Clarksburg Rd	X		Sidepath on East side. Does not include any bridgework over Little Seneca Lake.	\$	400,000
A-7 A-8	(MD 117) Barnesville Rd	X		Sidepath on South side between MARC and Clarksburg Rd	\$	200,000
A-7 A-8	(MD 117) Barnesville Rd	X		Sidewalk on South side between MARC and Ganley Rd	\$	300,000
TBD	(MD 117) Clopper Rd	X		Sidepath on North side	\$	500,000
	Trail along CSX Tracks	X		Trail/sidepath along South side of CSX tracks from MARC to Bucklodge Rd. Only the portion within the plan area is included in this cost estimate. It is likely this would be done concurrently with master planned 3rd tracking.	\$	400,000
	Secured Covered Bike Parking	X		20 long-term spaces / 10 short-term racks (based on Bicycle Master Plan)	\$	200,000
M-61	MD 118 (Germantown Rd)		X	Sidepath on Northwest side	\$	800,000
M-90	MD 119 (Great Seneca Hwy)		X	Sidepath along Northwest side	\$	800,000
A-254	Dawson Farm Rd		X	Sidepath along Southwest side	\$	1,100,000
B-2	Wisteria Dr		X	Sidepath along Southwest side.	\$	3,700,000
B-16	Bowman Mill Rd		X	Sidepath along Southwest side. This only estimates for the existing roadway; the extension is accounted for under the <i>New Roads</i> section.	\$	300,000
N/A	Mateny Hill Rd		X	Filling in missing sidewalk gaps on both sides	\$	500,000
	Secured Covered Bike Parking		X	30 long-term spaces / 10 short-term racks (based on Bicycle Master Plan)	\$	200,000
	New ped bridge over CSX Tracks		X	Located Southeast of the existing MARC station	\$	2,700,000
	Bike / Ped Priority Area (BiPPA)		X	Unit estimate for undefined Ped/Bike Safety Treatments throughout the plan area.	\$	1,000,000
<b>TOTAL ESTIMATED CAPITAL COST</b>					<b>\$</b>	<b>163,400,000</b>

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**Operating Budget Impact (OBI)**

<b>Boyds Bus Service</b>	\$	2,100,000
<b>Germantown Enhanced Transit</b>	\$	1,600,000
<b>Germantown Express Buses</b>	\$	2,100,000
<b>Bikeshare at full implementation</b>	\$	700,000

<b>TOTAL ESTIMATED ANNUAL OPERATING BUDGET IMPACT</b>	<b>\$</b>	<b>6,500,000</b>
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**Notes**

- (1) Total estimated costs are \$385M, \$188M - County (\$10M - Boyds, \$176M - Germantown), \$91M - State/Federal, and \$106M Private. Only County costs are shown in the chart above. It is typical practice, along State corridors, to assume a 50/50 split in costs unless there is strong cause to assume otherwise. In practice the actual splits in such costs may vary significantly.
- (2) Operating costs are representative of annual costs at full build-out of the plan.
- (3) Costs along the CSX lines – 3rd tracking & gauntlet tracks / high-speed platforms – weren't estimated due to their scale and unknowns, though these costs are likely to be predominantly non-County sources. The new MARC station was not estimated as the plan itself states that it is unlikely to occur within the plan's lifetime; it is more laying out the future vision (though I have a comment to MNCPPC on the plan itself asking what we're expected to do if that property comes in for redevelopment).
- (4) Rounding - Individual values rounded up to nearest \$100,000, which is the cause of any apparent summation discrepancies
- (5) Inflation - All Dollars are in 2019 Dollars.

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**Cost Estimates for the  
MARC Rail Communities Sector Plan**

	Project	Boyd	Germ	Total Cost	County	State / Federal	Private Devel	Notes
Grade Separation	Reconstruction of CSX Tracks over Clopper Rd / Clarksburg Rd	X		\$ 7,500,000	\$ -	\$ 7,500,000	\$ -	Cost estimate is based on the 2016 study by VHB (PDF p42 of the Appendix). We have strong reservations that this estimate significantly underestimates the likely needs of maintaining rail traffic, and that temporary rail structures may be necessary which are not accounted for in the VHB estimate.
	<b><i>SUBTOTAL</i></b>			<b><i>\$ 7,500,000</i></b>	<b><i>\$ -</i></b>	<b><i>\$ 7,500,000</i></b>	<b><i>\$ -</i></b>	
Transit	MARC Station Bus and Park & Ride Expansion	X		\$ 3,000,000	\$ 3,000,000	\$ -	\$ -	Includes new bus loop, Park & Ride, and modifications to structures.
	Upgrade MARC Ped Underpass	X		\$ 2,000,000	\$ 1,000,000	\$ 1,000,000	\$ -	Lighting, ramps, wheelchair lifts, entrance canopies.
	Upgrade MARC At-Grade Ped Crossing	X		\$ 600,000	\$ 300,000	\$ 300,000	\$ -	Upgraded crossing; train warning systems.
	New MARC Station	X		\$ -	\$ -	\$ -	\$ -	Located east of the existing Boyds station. Set in plan to establish long-term vision; no cost is assigned to account for the plan not expecting implementation within the lifetime of the plan.
	Third Track (Boyd)	X		\$ -	\$ -	\$ -	\$ -	Not estimated at this time. Anticipated to be a State or CSX cost.
	New Bus Service	X		\$ 4,400,000	\$ 4,400,000	\$ -	\$ -	An estimated 4 buses (with 1 set of replacements over the lifetime of the plan) serving a bidirectional loop connecting Clarksburg with the Boyds MARC station. For cost estimating purposes only; actual operations have not been evaluated.
	Site A Parking Structure		X	\$ 28,600,000	\$ 14,300,000	\$ 14,300,000	\$ -	Located southwest of Bowman Mill Dr, northwest of Walter Johnson Rd, and northeast of the CSX tracks. Cost may vary between 100% MTA, 100% County, or anywhere in between. This line IS included in the total cost estimate.
	Site B Parking Structure		X	\$ 32,000,000	\$ 16,000,000	\$ 16,000,000	\$ -	Located southeast of Walter Johnson Rd, and northeast of the CSX tracks. Includes Bowman Mill Rd extended through the ground level of the garage. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.
	South Site Parking Structure		X	\$ 16,800,000	\$ 8,400,000	\$ 8,400,000	\$ -	Located southwest of the CSX tracks and northwest of Liberty Mill Rd. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.
	7-Eleven Site Parking Structure		X	\$ 32,000,000	\$ 16,000,000	\$ 16,000,000	\$ -	Located northeast of Bowman Mill Dr and northwest of Walter Johnson Rd. Includes the New Private Street extended through the ground level of the garage. Cost may vary between 100% MTA, 100% County, or anywhere in between. Only the largest cost among Site B, South Site, and 7-Eleven Site are tallied into the total cost estimate.
	Enhanced Transit Services		X	\$ 3,300,000	\$ 3,300,000	\$ -	\$ -	This line item does not appear to be well defined in the plan, and the lack of Transit TPAR analysis makes it difficult to identify what needs to be enhanced. This estimate assumes 1 additional bus to reduce headways along the Ride-On 83, 94, and 97 lines (these are the routes that serve the Germantown MARC station), and 1 set of replacement buses over the lifetime of the plan.
	Express Bus Services		X	\$ 4,400,000	\$ 4,400,000	\$ -	\$ -	An estimated 4 buses (with 1 set of replacements over the lifetime of the plan) serving to provide Express services between Germantown neighborhoods and the Germantown MARC station. For cost estimating purposes only; actual operations have not been evaluated.
	Gauntlet Tracks / High Speed Platforms		X	\$ -	\$ -	\$ -	\$ -	Not estimated at this time. Anticipated to be a State or CSX cost.
	Third Track (Germantown)		X	\$ -	\$ -	\$ -	\$ -	Not estimated at this time. Anticipated to be a State or CSX cost.
Bikeshare		X	\$ 1,500,000	\$ 300,000	\$ -	\$ 1,200,000	Capital costs only, including station installation, bikes, and 1 set of bike replacements. Does not include Operations. Likely to be built out by private contributions, though grants or a public CIP may also be feasible.	
	<b><i>SUBTOTAL</i></b>		<b><i>\$ 79,800,000</i></b>	<b><i>\$ 47,000,000</i></b>	<b><i>\$ 31,600,000</i></b>	<b><i>\$ 1,200,000</i></b>		

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**Cost Estimates for the  
MARC Rail Communities Sector Plan**

Intersections	Protected Intersections		X	\$ 3,500,000	\$ 2,500,000	\$ 1,000,000	\$ -	Unit price \$500,000 each, across an estimated 7 intersections where separated bike lanes intersect with other separated bike lanes or sidepaths. There may be some duplicative costs, as some Protected Intersections might be implemented concurrent with the Road Diet & Separated Bike Lane projects listed above. Those estimates include costs for signal work but not explicitly Protected Intersections, and Protected Intersections account for signal work.
	<b><i>SUBTOTAL</i></b>			<b><i>\$ 3,500,000</i></b>	<b><i>\$ 2,500,000</i></b>	<b><i>\$ 1,000,000</i></b>	<b><i>\$ -</i></b>	
New Roads	B-3 Walter Johnson Rd		X	\$ 1,700,000	\$ -	\$ -	\$ 1,700,000	Per p65 of the plan. Includes Sidepath on Northwest side.
	B-22 Waters House Ave		X	\$ 5,400,000	\$ -	\$ -	\$ 5,400,000	Per p63 of the plan.
	TBD Bowman Mill Rd		X	\$ 20,800,000	\$ 4,300,000	\$ -	\$ 16,500,000	Estimate is for the full length, without any consideration of whether a 2nd garage might be constructed on Site B. Assumes high contingency for significant environmental impacts.
	TBD Crystal Rock Dr		X	\$ 7,100,000	\$ -	\$ -	\$ 7,100,000	Per p63 of the plan. Includes Sidepath on Southeast side.
	TBD New Private Street		X	\$ 4,500,000	\$ -	\$ -	\$ 4,500,000	Per p62 of the plan. Estimate is for the full length, without any consideration of whether a 2nd garage might be constructed on the 7-Eleven site.
	<b><i>SUBTOTAL</i></b>			<b><i>\$ 39,500,000</i></b>	<b><i>\$ 4,300,000</i></b>	<b><i>\$ -</i></b>	<b><i>\$ 35,200,000</i></b>	
Roads Impacts to Capacity	TBD Middlebrook Rd		X	\$ 1,700,000	\$ 1,700,000	\$ -	\$ -	Near-term treatment per p58 of the plan. Reduced capacity to provide two-way separated bike lanes on each side. Assumes retrofit utilizing existing curb-to-curb.
	TBD Middlebrook Rd		X	\$ 19,700,000	\$ 19,700,000	\$ -	\$ -	Long-term treatment per p58 of the plan. Assumes full reconstruct, impacting both curb lines.
	B-1 Crystal Rock Dr		X	\$ 4,900,000	\$ 4,900,000	\$ -	\$ -	Per p63 of the plan. Increased capacity. Assumes full reconstruct, impacting both curb lines. Includes sidepath on Southeast side.
	B-2 Wisteria Dr		X	\$ 36,100,000	\$ 36,100,000	\$ -	\$ -	Per p60 of the plan. Increased capacity. Assumes full reconstruct, impacting both curb lines. Does not include sidepath. Does include sep bike lane on northeast side and road widening.
	<b><i>SUBTOTAL</i></b>			<b><i>\$ 62,400,000</i></b>	<b><i>\$ 62,400,000</i></b>	<b><i>\$ -</i></b>	<b><i>\$ -</i></b>	
Roads No Capacity Impacts	M-61 MD 118 (Germantown Rd)		X	\$ 18,800,000	\$ 9,400,000	\$ 9,400,000	\$ -	Per p61 of the plan. Assumes full reconstruct, impacting both curb lines.
	M-90 MD 119 (Great Seneca Hwy)		X	\$ 33,000,000	\$ 16,500,000	\$ 16,500,000	\$ -	Per p59 of the plan. Assumes full reconstruct, impacting both curb lines. Does not include master planned sidepath.
	B-3 Walter Johnson Rd		X	\$ 5,000,000	\$ 5,000,000	\$ -	\$ -	Per p65 of the plan. Assumes a reconstruct of the west curb line south of Wisteria (due to a historic building widening to the east does not appear feasible). Minor restriping north of Wisteria. Includes master planned sidepath along Northwest side.
	B-5 Waters Rd		X	\$ 5,100,000	\$ -	\$ -	\$ 5,100,000	Per p64 of the plan. Remaining work appears likely to occur as part of redevelopment.
	N/A Liberty Mill Rd		X	\$ 3,200,000	\$ 3,200,000	\$ -	\$ -	Per p65 of the plan. Some reconstruct of west side curb line to potentially remove a short parking lane and accel/decel lanes at Liberty Heights La (pending operational evaluation of need). Includes sidepath along Northwest side.
	Undergrounding Utilities		X	\$ -	\$ -	\$ -	\$ -	As most streets have capital projects these are assumed to be included in the costs of other projects, or to otherwise be implemented by private development.
	<b><i>SUBTOTAL</i></b>			<b><i>\$ 65,100,000</i></b>	<b><i>\$ 34,100,000</i></b>	<b><i>\$ 25,900,000</i></b>	<b><i>\$ 5,100,000</i></b>	

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**Cost Estimates for the  
MARC Rail Communities Sector Plan**

Ped / Bike Focused	A-27	(MD 121) Clarksburg Rd	X		\$ 800,000	\$ 400,000	\$ 400,000	\$ -	Sidepath on East side. Does not include any bridgework over Little Seneca Lake.
	A-7 A-8	(MD 117) Barnesville Rd	X		\$ 400,000	\$ 200,000	\$ 200,000	\$ -	Sidepath on South side between MARC and Clarksburg Rd
	A-7 A-8	(MD 117) Barnesville Rd	X		\$ 600,000	\$ 300,000	\$ 300,000	\$ -	Sidewalk on South side between MARC and Ganley Rd
	TBD	(MD 117) Clopper Rd	X		\$ 1,000,000	\$ 500,000	\$ 500,000	\$ -	Sidepath on North side
		Trail along CSX Tracks	X		\$ 400,000	\$ 400,000	\$ -	\$ -	Trail/sidepath along South side of CSX tracks from MARC to Bucklodge Rd. Only the portion within the plan area is included in this cost estimate. It is likely this would be done concurrently with master planned 3rd tracking.
		Secured Covered Bike Parking	X		\$ 200,000	\$ 200,000	\$ -	\$ -	20 long-term spaces / 10 short-term racks (based on Bicycle Master Plan)
	M-61	MD 118 (Germantown Rd)		X	\$ 1,600,000	\$ 800,000	\$ 800,000	\$ -	Sidepath on Northwest side
	M-90	MD 119 (Great Seneca Hwy)		X	\$ 1,600,000	\$ 800,000	\$ 800,000	\$ -	Sidepath along Northwest side
	A-254	Dawson Farm Rd		X	\$ 1,100,000	\$ 1,100,000	\$ -	\$ -	Sidepath along Southwest side
	B-2	Wisteria Dr		X	\$ 3,700,000	\$ 3,700,000	\$ -	\$ -	Sidepath along Southwest side.
	B-16	Bowman Mill Rd		X	\$ 300,000	\$ 300,000	\$ -	\$ -	Sidepath along Southwest side. This only estimates for the existing roadway; the extension is accounted for under the <i>New Roads</i> section.
	N/A	Mateny Hill Rd		X	\$ 500,000	\$ 500,000	\$ -	\$ -	Filling in missing sidewalk gaps on both sides
		Secured Covered Bike Parking		X	\$ 200,000	\$ 200,000	\$ -	\$ -	30 long-term spaces / 10 short-term racks (based on Bicycle Master Plan)
		New ped bridge over CSX Tracks		X	\$ 2,700,000	\$ 2,700,000	\$ -	\$ -	Located Southeast of the existing MARC station
		Bike / Ped Priority Area (BiPPA)		X	\$ 1,000,000	\$ 1,000,000	\$ -	\$ -	Unit estimate for undefined Ped/Bike Safety Treatments throughout the plan area.
		<b><i>SUBTOTAL</i></b>			<b><i>\$ 16,100,000</i></b>	<b><i>\$ 13,100,000</i></b>	<b><i>\$ 3,000,000</i></b>	<b><i>\$ -</i></b>	
		<b><i>TOTAL ESTIMATED COST</i></b>			<b><i>\$ 266,400,000</i></b>	<b><i>\$ 163,400,000</i></b>	<b><i>\$ 61,500,000</i></b>	<b><i>\$ 41,500,000</i></b>	

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**TRANSPORTATION ANALYSIS FOR  
MARC RAIL COMMUNITIES SECTOR PLAN - GERMANTOWN**

Capacity Results						2040 Configuration (if different than existing)
ID	Location		Future 2040			
	E-W Road	N-S Road	SSP Standard*	AM PEAK**	PM PEAK**	
1	Middlebrook Rd	MD 118 (Germantown Rd)	63	D (54.7)	E (62.8)	WB: L   L   T   T+R (Reduced by one through lane); Optimize Splits
2	Wisteria Dr	MD 118 (Germantown Rd)	63	D (52.8)	D (54.4)	Keep EB approach as is under existing conditions. More evenly distribute volumes between Wisteria Drive and Bowman Mill Drive.
3	Dawson Farm Rd	MD 118 (Germantown Rd)	51	B (19.5)	C (23.4)	
4	Middlebrook Rd	Crystal Rock Dr	63	D (48.7)	C (32.8)	EB: L   T   T+R / WB: L   T   T+R (Reduced by one through lane)
5	Wisteria Dr	Crystal Rock Dr	63	C (25.1)	C (23.9)	WB & EB: L   T   T+R (Added a through lane and revised lane sharing) Note: Two Way Stop Controlled Intersection; average intersection delay is minor, the southbound approach experiences the greatest delay. Signalize Intersection
6	Middlebrook Rd	MD 119 (Great Seneca Hwy)	51	D (48.4)	C (27.6)	EB: U   T   T   R (Removed third through lane) <sup>1</sup> Add northbound right turn permitted-overlap phase & Optimize Splits
7	Wisteria Dr	MD 119 (Great Seneca Hwy)	51	C (32.7)	D (39.9)	EB: L   T   R (Reduced by one through lane) <sup>1</sup>
8	Dawson Farm Rd	MD 119 (Great Seneca Hwy)	51	B (17.0)	B (16.6)	
9	Waters Rd / Bowman Mill Dr	MD 118 (Germantown Rd)	63	C (29.3)	D (38.8)	New Signalized Intersection Add exclusive left-turn lane and right-turn lane for Bowman Mill NW approach

\* Subdivision Staging Policy (SSP) standard expressed in average seconds of delay per vehicle.

\*\* Congestion level expressed as letter level of service and average seconds of delay per vehicle.

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MONTGOMERY COUNTY FIRE AND RESCUE SERVICE

Marc Elrich  
County Executive

MEMORANDUM

Scott E. Goldstein  
Fire Chief

January 28, 2019

TO: Greg Ossont  
Deputy Director, Department of General Services

FROM: Scott E. Goldstein   
Fire Chief

SUBJECT: Planning Board Draft MARC Rail Communities Sector Plan

Thank you for the opportunity to comment on the Planning Board Draft MARC Rail Communities Sector Plan dated December 2018. Based upon the input of staff, I have the following comments to offer:

- Page 18, text box: The 2<sup>nd</sup> bulleted priority pertaining to the creation of a “road diet” to reduce the number of travel lanes along Middlebrook Road could, at times, lead to increased traffic congestion on this major roadway, adversely impacting fire-rescue response time in Germantown. As such, MCFRS does not support the creation of a road diet along Middlebrook Road.
- Page 48, Recommendation H: MCFRS supports the replacement of the railroad bridge over Clarksburg Road that currently has a height restriction of 12-feet 6-inches for highway traffic. A new, taller bridge, built to modern standards, would allow passage of the tallest fire-rescue apparatus that exceed 12’6” in height (e.g., MCFRS technical rescue vehicles, command post vehicle, mobile ambulance bus) that cannot travel beneath the existing bridge.

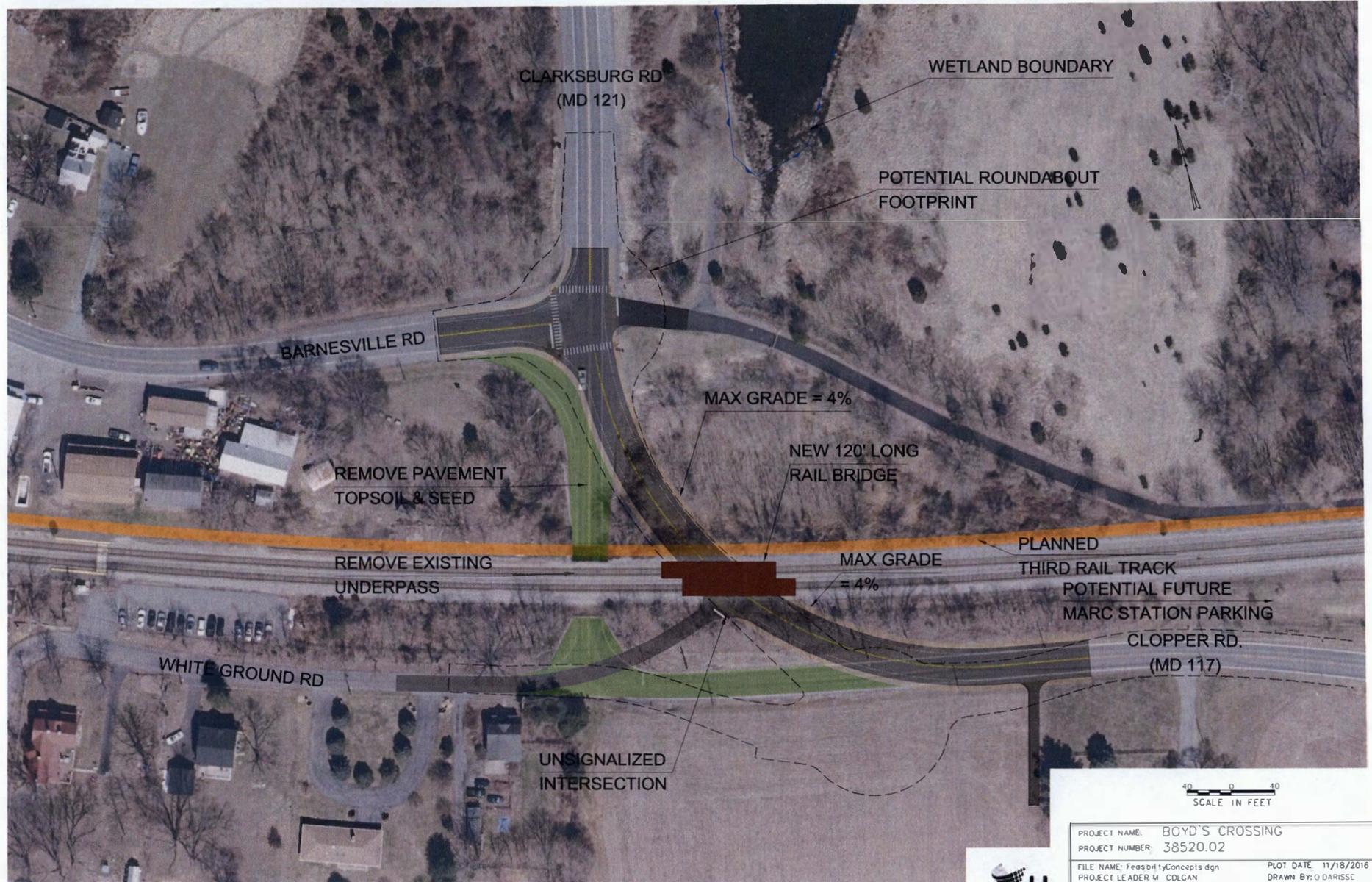
If you need further information or have questions, please contact me on 240-777-2468 or Planning & Accreditation Section Manager Scott Gutschick on 240-777-2417.

SEG/sg

cc: Scott Gutschick, Planning & Accreditation Section Manager, MCFRS  
Amy Donin, Redevelopment Program Manager, DGS

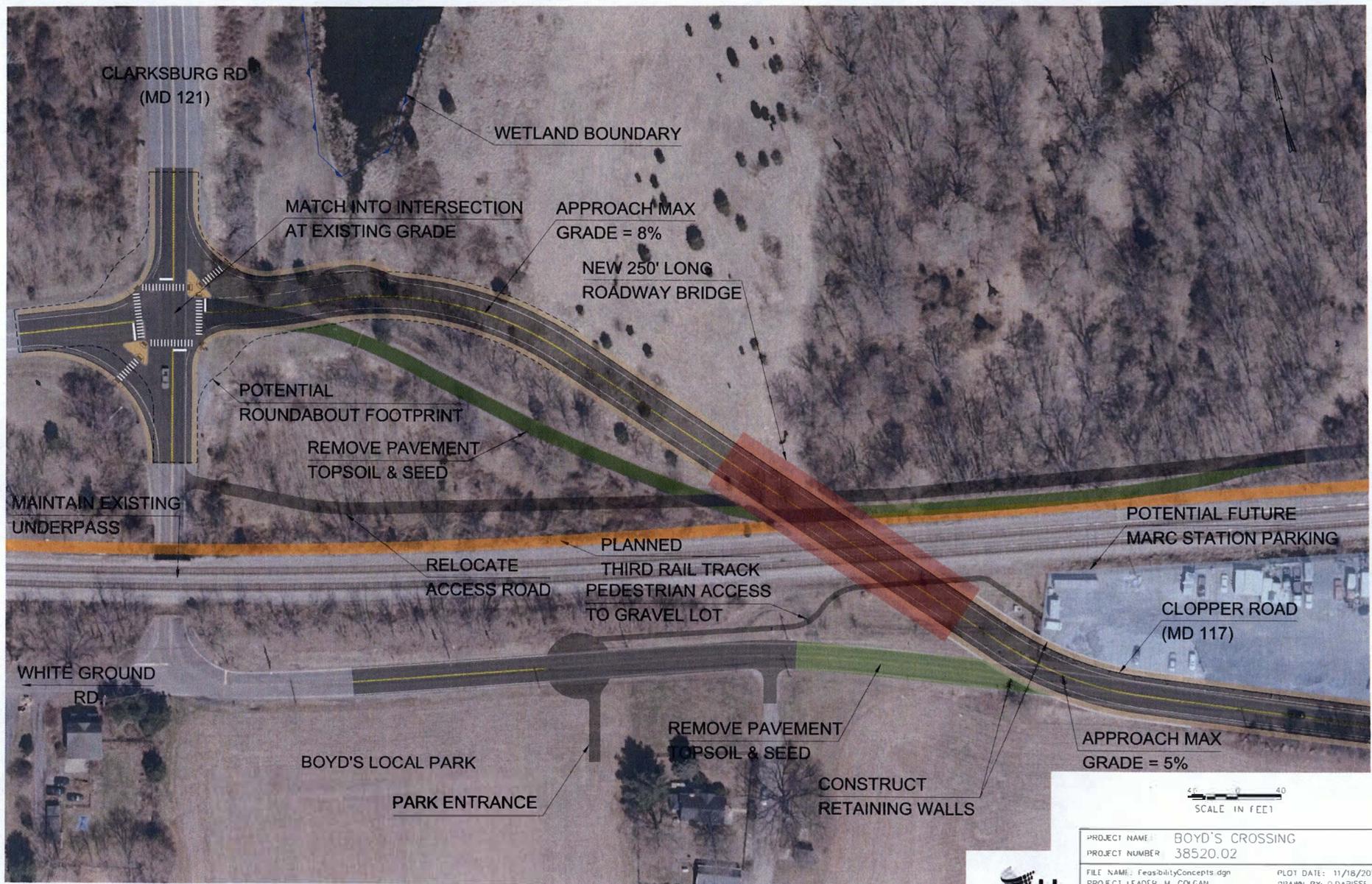
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PROJECT NAME:	BOYD'S CROSSING	PLOT DATE:	11/18/2016
PROJECT NUMBER:	38520.02	DRAWN BY:	O DARISSE
FILE NAME:	FeasibilityConcepts.dgn	DESIGNED BY:	O DARISSE
ALTERNATIVE:	2 INTERSECTION OPTION	CHECKED BY:	O M PECK
		SHEET:	3 OF 4

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SCALE IN FEET  
0 20 40

PROJECT NAME	BOYD'S CROSSING
PROJECT NUMBER	38520.02
FILE NAME	feasibilityConcepts.dgn
PROJECT LEADER	M. COUGAN
DESIGNED BY	O. DARISSE
ALTERNATIVE	1 INTERSECTION OPTION
PLOT DATE	11/18/2016
DRAWN BY	O. DARISSE
CHECKED BY	D.W. PECK
SHEET	1 OF 4

