

## FEASIBILITY STUDY



# DAY Emmitsburg to Thurmont Trail

July 2024



# Contents

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1. Project Purpose and Need .....	1
2. Corridor Description .....	4
3. Overview of Bicycle/Pedestrian Facility Design.....	11
4. Alignment Alternatives Considered in the Thurmont to Emmitsburg Corridor .....	14
5. Agency Coordination .....	18
6. Recommended Alternative.....	19
7. Environmental Effects of Recommended Alternative.....	23
8. Cost Estimates .....	25
9. Evaluation Findings & Recommendations.....	26
10. Appendix .....	See Separate Document

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# 1. Project Purpose and Need

The purpose of this report is to document the existing conditions, alternatives considered, and preferred alternatives for a hard surface trail between Emmitsburg and Thurmont with connections to Mount St. Mary's University (MSM) in Frederick County, Maryland (referred throughout as the "Trail.") Accompanying this narrative report is a set of concept-level engineering plans based on desktop review of existing conditions, limited field inspection, and input from stakeholders. Issues for further evaluation during final design are identified in the discussion of the preferred alternative. While not specifically intended to satisfy all requirements of an action under the National Environmental Policy Act (NEPA), this document does meet its basic purposes of defining a project purpose and need, establishing evaluation criteria, identifying reasonable alternatives, receiving public and agency input on those alternatives, screening and evaluating the alternatives, and selecting a preferred alternative.

## 1.1 Project Purpose and Need

The Frederick County Comprehensive Plan known as "Livable Frederick" strongly embraces an expanded trail network through following specific actions:

- Increase the percentage of individuals in the county who live close to a location for physical activity, such as parks, hiking and biking trails, health clubs, fitness centers, and recreational centers.

- Systematically prioritize bicycle and pedestrian network implementation as identified in the Bikeways and Trails Master Plan.
- Maintain and expand the county's recreational areas, parks, bike and walking trails, and other recreational infrastructure that contributes toward improving county residents' physical and mental health and promotes economic opportunities associated with recreational activity.

Livable Frederick also includes by reference the 2018 Bikeways and Trails Plan; a path connecting Emmitsburg, MSM, and Thurmont is one of the proposed on-street bikeways listed throughout Frederick County in the plan. The vision for the trail network as articulated in the Bikeways Plan is for "Frederick County [to be] a community where bicycling and walking are viable modes of travel for recreation and transportation purposes. A network of bikeways and multi-use trails are safe and convenient connections between municipalities through improved access to recreational, historical/cultural, commercial, and employment areas." The plan makes little distinction between trails for transportation or "utilitarian" transportation purposes and recreational purposes is blurry at best because the same transportation system can be used for both purposes. Just as roads are designed for various motor vehicle trip purposes, roads and pathways should be designed to facilitate various bicycle trip purposes.

In the above context, the purpose of the proposed Trail is to connect communities, parks and recreation facilities, schools, and points of interest between the two municipalities with connections to MSM for both transportation and recreational purposes. The trail should be accessible to users of all ages and abilities, buffered from traffic wherever possible, and connect with other existing and planned county and municipal trails; impacts to the natural environment should be avoided, minimized, and mitigated.



E. Eugene Myers community Park - Emmitsburg

## 1. Project Purpose and Need

### 1999 Frederick County Bikeways & Trails Plan

In the 1999 county bikeways plan, the Emmitsburg Railroad Trail was proposed as a rail-to-trail conversion of the abandoned Emmitsburg Railroad traveling from Emmitsburg and going south to Rocky Ridge for 6.5 miles. While the trail would not have connected to Mount St. Mary's University, the campus was suggested as a trip generator.

### 2010s Emmitsburg – Mount St. Mary's Trail Feasibility Study

The Town of Emmitsburg worked with Mount Saint Mary's University and Frederick County to create a plan for a trail connection between the University and the end of the existing sidewalk of S. Seton Avenue but the plan was deferred in 2017 due to higher-expected costs for Emmitsburg. Initially, the town planned to partner with Mount St. Mary's and Frederick County on a Transportation Alternatives Program grant through the Maryland State Highway Administration. The trail was proposed to travel on S. Seton Avenue south from the FEMA campus to Old Emmitsburg Road's connection at the university.

### 2018 Frederick County Bikeways & Trails Plan

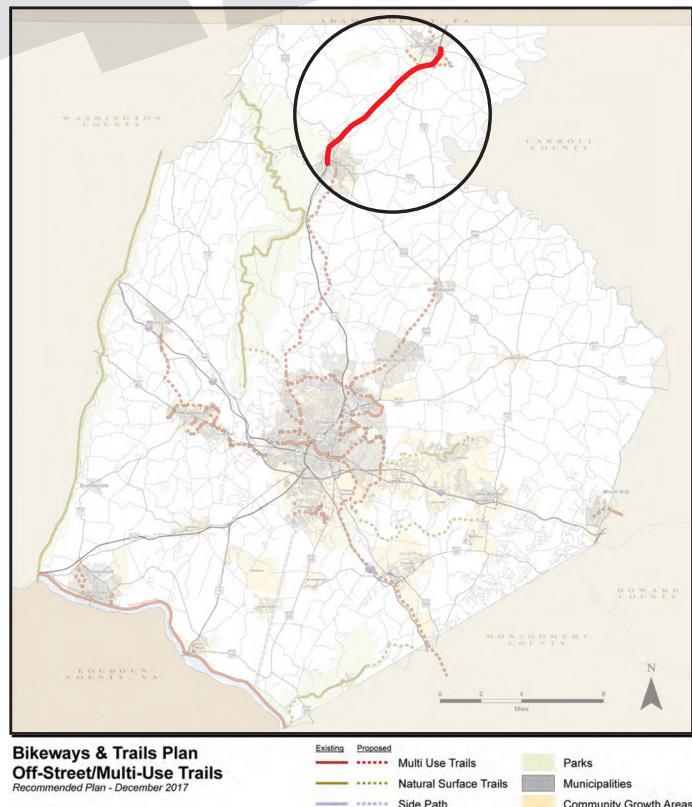
The 2018 county bikeways plan removed some bikeways and multi-use trails listed in the 1999 plan and deleted the Emmitsburg Railroad trail and added a Mount St. Mary's to Emmitsburg multi-use trail. The plan suggested a shared use path through farms for the proposed trail between Emmitsburg and Mount St. Mary's. The plan also references the Grand History Trail (GHT) as a future planned undertaking traveling across Frederick County primarily on off-street trails and states that GHT between Emmitsburg and Thurmont would likely need to use an on-street bikeway along Kelbaugh and Old Emmitsburg Roads. The plan lists Kelbaugh and Old Emmitsburg Roads as proposed portions of the on-street bikeway.

### 2022 Town of Thurmont Master Plan: 2040 Envisioned

The plan describes how Thurmont looks to mostly expand walking and biking trails to the north and east (in the direction of Emmitsburg) through "interconnected parks, walkways, and bikeways." The plan calls for the extension of the Trolley Trail in Thurmont north to Eyler Road Recreation Area along with proposing other trails that could be other options to connect to Emmitsburg. The plan has an overall goal of promoting walking, biking, and outdoor recreation.

### 2022 Frederick County Complete and Green Streets Plan

Proposed on-street bicycle facilities are proposed in the Green Streets Plan near Emmitsburg, Mount St. Mary's University, and Thurmont. Proposed on-street bicycle facilities (seen below in purple) would be located on S. Seton Avenue, Old Frederick Road, MD 77, MD 550, Kelbaugh Road, and Old Emmitsburg Road in the plan, which would connect Emmitsburg, Mount St. Mary's University, and Thurmont in an indirect way. The proposed on-street bicycle facilities would diverge at S. Seton Avenue towards Thurmont with the shorter path running west of US 15 and a longer path continuing Old Frederick Road to MD 77 to the east of US 15. There are several proposed multi-use trails around Emmitsburg but no mention of a proposed off-road trail between Emmitsburg and Mount St. Mary's Trail as the 2018 Bikeways & Trails Plan described it as a priority though connection between Emmitsburg and Mount St. Mary's would be provided by proposed on-street bikeways on S. Seton and Old Emmitsburg.



## 1. Project Purpose and Need

### 1.2 Evaluation Criteria

Critical to this feasibility study is to identify those segments that can best meet the design criteria (grade, curve radii, etc. as described in Section 3) and evaluation criteria which are based on the county's goals and plans.

#### Safety and User Experience

Is the alignment segment suitable to users of all ages and abilities through separation from auto traffic? Are vertical grades comfortable? Does the segment provide scenic views and access to natural environmental features? Is there a location for a trailhead and parking?

#### Directness and Connectivity

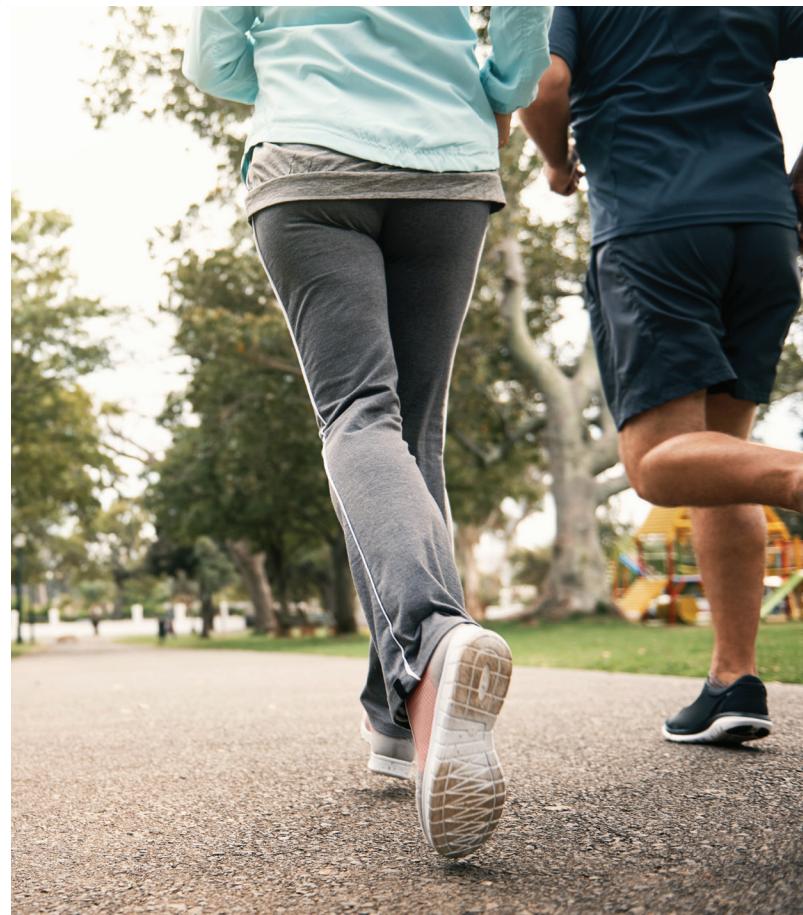
Does the alignment segment provide a reasonably direct connection between Myersville and Middletown? Does the segment provide connections to neighborhoods, schools, and points of interest?

#### Property and Environmental Impacts

Is there sufficient right of way along the adjacent roadway or does the alignment necessitate the acquisition of private property? Can the property impacts be minimized or mitigated to the satisfaction of the affected property owner? Are there environmental impacts that would require mitigation (reforestation, stream restoration, etc.)?

#### Cost and Constructability

Are there significant obstacles to be overcome on the alignment that would drive the cost higher (bridges and retaining walls, utility relocation)? Does the overall alignment have natural phases or breakout projects that advance the overall vision?



## 2. Corridor Description

This section describes the Emmitsburg to Thurmont corridor in terms of its land uses, demographics, environmental, and transportation conditions.

### 2.1 Land Use

The area between the towns is mostly as an agricultural or forested land with the towns of Emmitsburg and Thurmont being primarily residential with supporting commercial, industrial, and institutional land uses. No significant change in land use is anticipated in this corridor, although some residential subdivisions may be possible on the outskirts of the two towns as described in the municipal growth element of their respective comprehensive plans.

### 2.2 Demographics

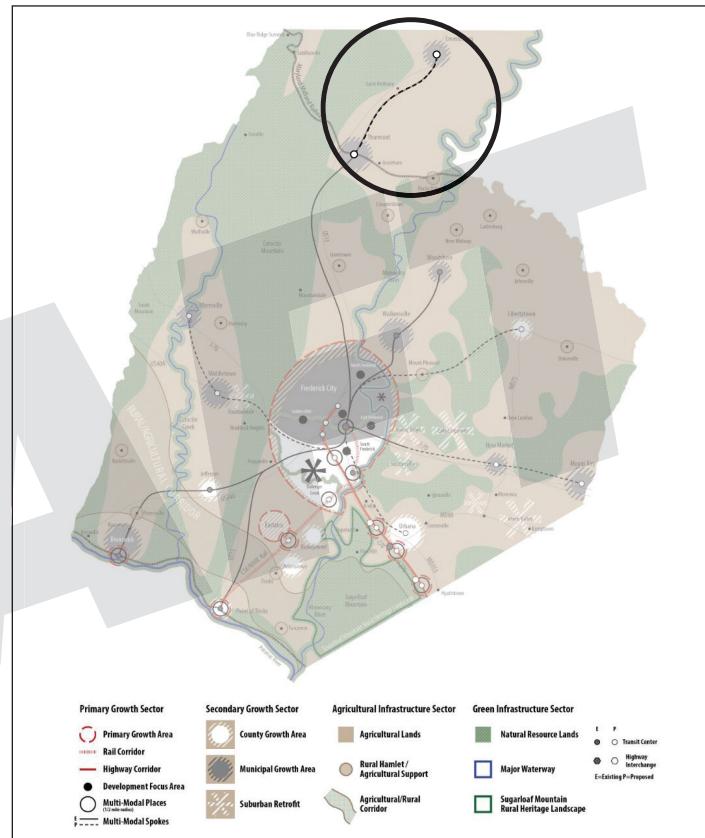
Including the populations of Thurmont and Emmitsburg, approximately 14,000 people live in the area around the proposed trail according to the 2020 Census. The Town of Emmitsburg has approximately 2,770 residents and the Town of Thurmont has approximately 6,213 residents. Mount Saint Mary's University has 1,750 full-time students with about 75% living on campus. The area has a slightly smaller percentage of individuals under 18 and a slightly larger percentage of individuals over 65 compared to the rest of Frederick County.

### 2.3 Community Facilities, Points of Interest, and Connecting Trails

Schools, parks, historic sites and community facilities can serve as potential trip generators for a trail.

Thurmont has a trail along the former trolley line between Main St and Thurmont St. Future trail extensions in the Thurmont Master Plan will provide connections to the Emmitsburg to Thurmont trail. Through the trailhead at Thurmont's northern edge at the Roddy Road covered bridge. Another trip generator for the potential trail is Catoctin Mountain Park, due west of Thurmont, and managed by the National Park Service with camping, fishing and hiking. The Town of Emmitsburg has 13 miles of professionally designed off-use multi-use trails in Emmitsburg Watershed to the west of town for recreational use. The trailhead is on Annandale Road, one mile away from the Town and Mount St. Mary's.

Mount Saint Mary's University is the second-largest private university in Frederick County and one of the largest Catholic seminaries in the United States. At Mount St. Mary's, a pedestrian tunnel underneath US 15 connects the two sides of the campus, which is large enough to be used as part of the shared use path.



Emmitsburg has the National Shrine of St. Elizabeth Ann Seton, the first U.S. citizen to be canonized by the Roman Catholic Church, a pilgrimage spot for many Catholics. Next to the shrine is FEMA's National Emergency Training Center campus. The Town of Emmitsburg also has 13 miles of professionally designed multi-use trails in Emmitsburg Watershed to the west of town for recreational use. The trailhead is on Annandale Road, one mile away from the Town and Mount St. Mary's.

Thurmont has the area's middle and high school while Emmitsburg and Thurmont both have elementary schools. Both Emmitsburg and Thurmont have a branch of the Frederick County Public Library, a volunteer fire company, and contract with Frederick County Sheriff's Office for additional police services. Both towns have grocery stores.

## 2. Corridor Description (continued)

### 2.4 Transportation Facilities

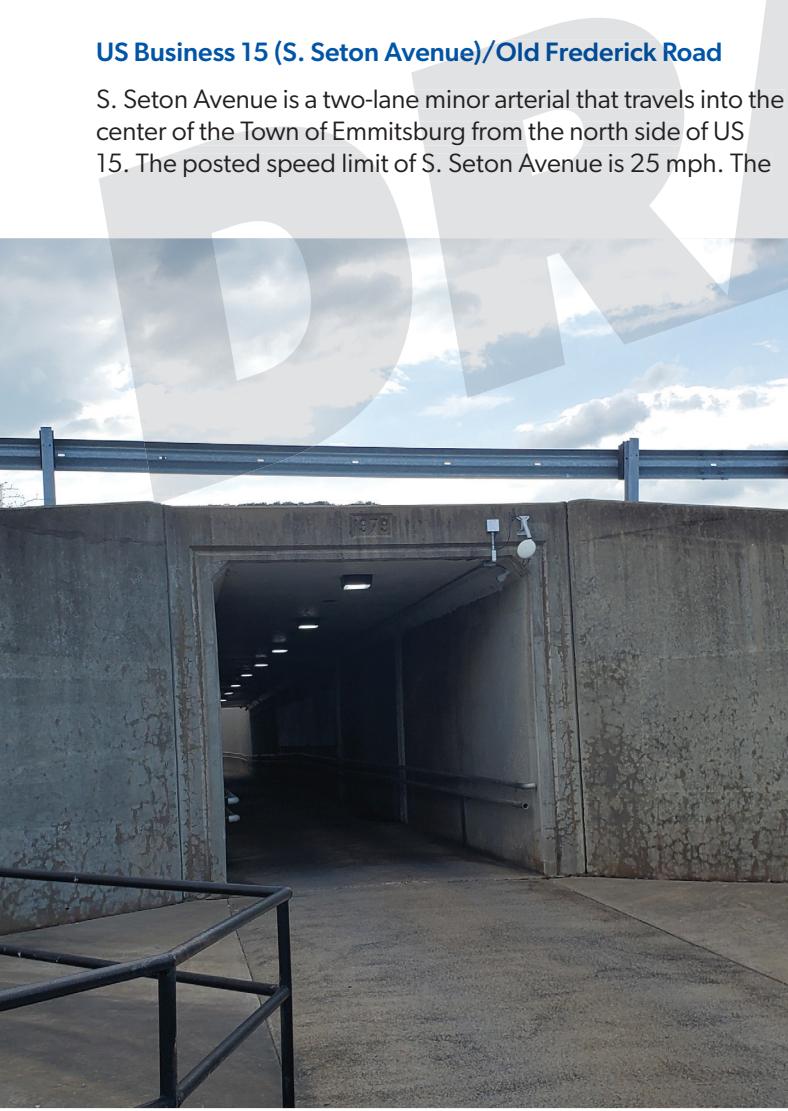
For providing on-street bikeways or adjacent shared use paths, the application of each facility types varies by operating environment, including the level of traffic stress, roadside conditions, and available right-of-way, and other considerations. Below are the main corridors between Emmitsburg and Thurmont.

#### US 15 (Catoctin Memorial Highway)

US 15 is the primary auto connection between Emmitsburg and Thurmont. It is a four-lane controlled-access highway. As of 2022, it has an AADT of approximately 25,000 between MD 76 and MD 550 and 35,000 between MD 76 and US 15 Business. There is limited shoulder along both sides. The posted speed limit is 55 mph.

#### US Business 15 (S. Seton Avenue)/Old Frederick Road

S. Seton Avenue is a two-lane minor arterial that travels into the center of the Town of Emmitsburg from the north side of US 15. The posted speed limit of S. Seton Avenue is 25 mph. The



Mount Saint Marys University - Pedestrian Tunnel

St. Seton Shrine and the FEMA campus are both on S. Seton Avenue. It had an AADT of approximately 5,600 in 2022. The south side of US 15 begins Old Frederick Road. Old Frederick Road is a two-lane rural minor arterial with a posted speed limit of 40 mph. It had an AADT of around 800 in 2022.

#### MD 76

MD 76 (Motters Station Road) begins as a 4-way j-turn intersection with US 15. The western leg of the intersection begins as turn into the Mount Saint Mary's University campus. The eastern leg starts the two rural collector with a posted speed limit of 50 mph. It had an AADT of around 800 in 2022.

#### St. Anthony Road/Orndorff Road

St Anthony Road is a two-lane rural local road with a posted speed limit of 30 mph that travels along the west side of US 15 from Mount Saint Mary's University and then crosses over US 15 to become Orndorff Road. This road has the densest housing of the rural area between Emmitsburg and Thurmont.

#### Kelbaugh Road

Kelbaugh Road is a two-lane rural local road with a posted speed limit of 35 mph that travels along the west side of US 15 from St Anthony Road near the Mount Saint Mary's University campus to MD 550 on the western edge of Thurmont. The road travels along hilly territory on the edge of the Catoctin Mountains.

#### Old Kiln Road/Roddy Road/Apples Church Road

Old Kiln is a two-lane rural local road with a posted speed limit of 30 mph. Old Kiln's northern terminus is MD 76 and its southern terminus is three-way intersection with Roddy Road. Roddy begins as an eastern exit off US 15 and becomes Apples Church Road in Thurmont before terminating at MD 550 in Thurmont. It is a two-lane rural local road with a posted speed limit of 30 mph. Old Kiln and Roddy Road connect as one north-south nearly connecting Emmitsburg and Thurmont. Roddy includes the historic Roddy Road Covered Bridge over Owens Creek.

#### Transit

A shuttle connects Emmitsburg and Thurmont three times a day on weekdays and twice a day on Saturdays traveling on US 15.

## 2. Corridor Description (continued)

### Bicycling Conditions from Emmitsburg to Thurmont

The Level of Traffic Stress (LTS), a metric for comfort level for bicyclists on a roadway, calculated by factors including vehicle AADT, posted vehicle speed, number of travelling lanes, and bicycling facilities, among other factors, is graded by a 1-4 scale, 1 being the least stressful and 4 the most stressful. Currently, the primary roads connecting Emmitsburg and Thurmont do not have bicycling facilities.

These are nearly all 2-lane roads or roads or roads without lanes marked. The roads with the highest vehicle traffic are minor arterials S. Seton Avenue (US 15 Business) and Old Frederick and collectors Old Emmitsburg between Emmitsburg and Mount St. Mary's University and MD 76. Others have lower levels of traffic, which provides a path between Emmitsburg and Thurmont on roads mostly with an LTS of 2 or lower.

**Table 1a: Bicycle Level of Traffic Stress Description**

Level of Traffic Stress	Bicycle Facility Characteristics
1	Strong separation from all except low speed, low volume traffic. Simple crossings. Suitable for children.
2	Except in low speed/low volume traffic situations, cyclists have their own place ride that keeps them from having to interact with traffic except at formal crossings. Crossings that are easy for an adult to navigate. A level of traffic stress that non-regular adult bikers can tolerate.
3	Involves interaction with moderate speed or multi-lane traffic, or close proximity to higher speed. A level of traffic stress acceptable to confident adult bike riders.
4	Involves interaction with higher speed traffic or close proximity to high-speed traffic. A level of stress acceptable only to those classified as "strong and fearless."

**Table 1b: Level of Traffic Stress Based on ADT and MPH**

Lanes per Direction	ADT	20 MPH	25 MPH	30 MPH	35 MPH	40 MPH	45 MPH	50+ MPH
Unlaned yet two-way	0-750	1	1	2	2	3	3	3
	751-1500	1	1	2	3	3	3	4
	1501-3000	2	2	2	3	4	4	4
	3000+	2	3	3	3	4	4	4
1	0-750	1	1	2	2	3	3	3
	751-1500	2	2	2	3	3	3	4
	1501-3000	2	3	3	3	4	4	4
	3000+	3	3	3	3	4	4	4
2	0-8000	3	3	3	3	4	4	4
	8001+	3	3	4	4	4	4	4
3	any ADT	3	3	4	4	4	4	4

## 2. Corridor Description (continued)

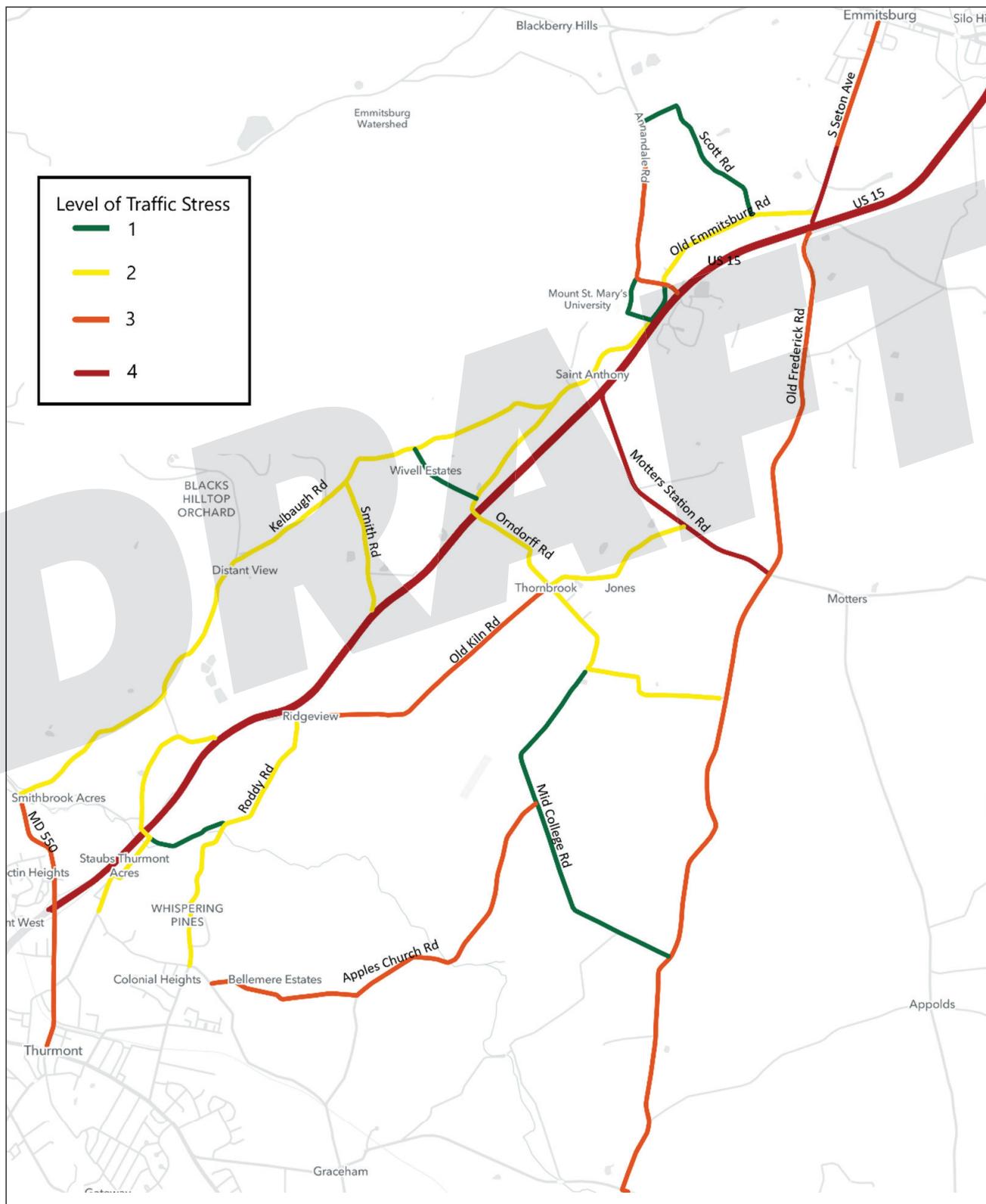


Figure 1. Bicycle Level of Traffic Stress on primary roadways between Emmitsburg and Thurmont

## 2. Corridor Description (continued)

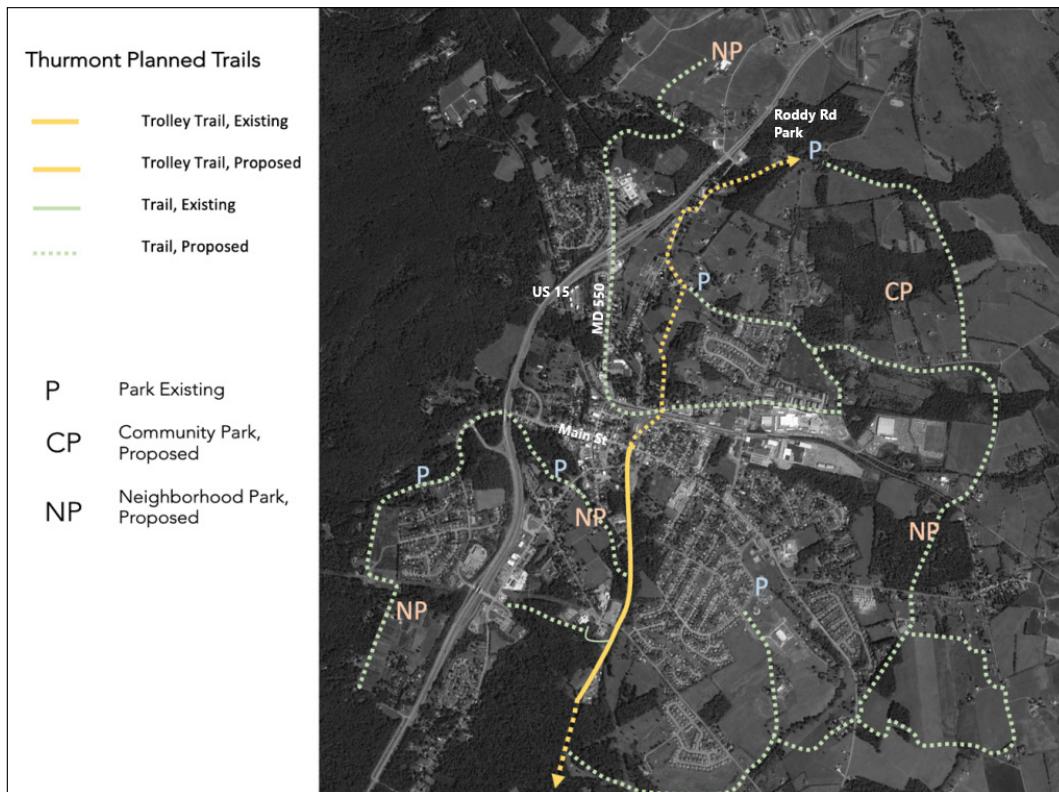
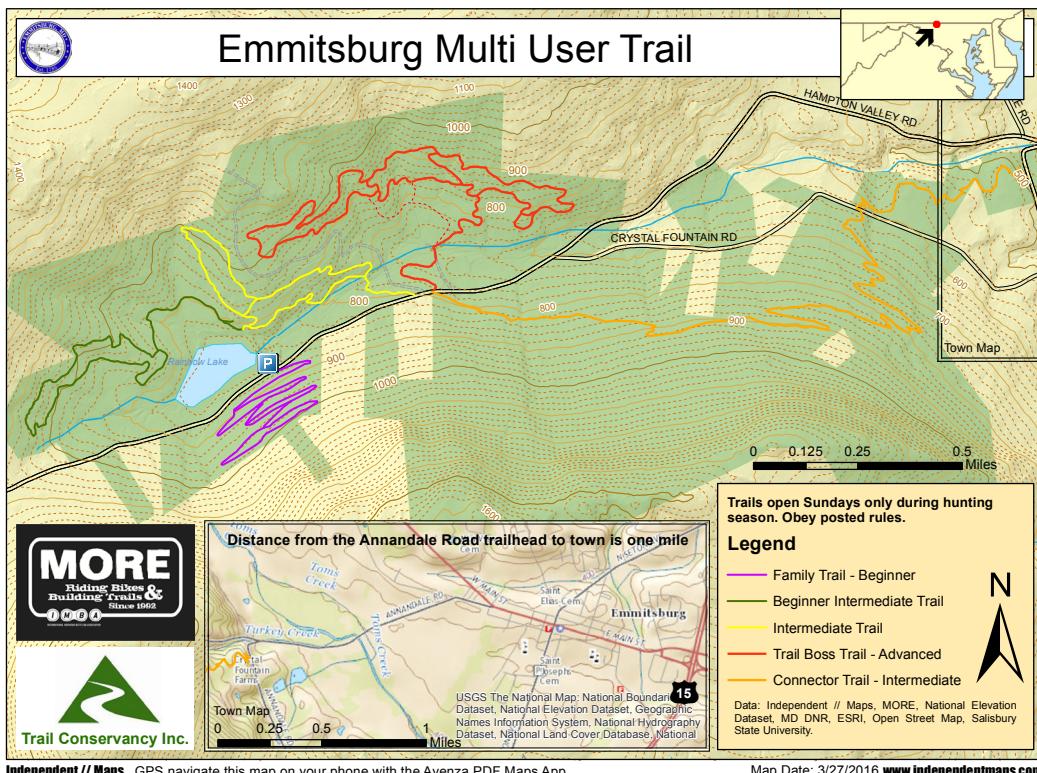


Figure 2. Thurmont Planned Trails Credit: Town of Thurmont Master Plan: 2040 Envisioned



Independent // Maps GPS navigate this map on your phone with the Avenza PDF Maps App.

Map Date: 3/27/2016 [www.independentmaps.com](http://www.independentmaps.com)

Figure 3. Emmitsburg Multi User Trail

## 2. Corridor Description (continued)

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### 2.5 Corridor Environmental Characteristics and Requirements in General

This section describes general environmental characteristics in the study area. Further information on general considerations when planning trails in environmentally sensitive areas can be found in the Rails to Trails Conservancy publication *Developing Trails in Sensitive Areas*. This section also describes in general terms the environmental planning and permitting requirements for any type of infrastructure or development project in the corridor.

#### Forests

Mapped forests along the Thurmont to Emmitsburg trail study area include the riparian areas of Toms Creek, an Unnamed Tributary (UNT) to Toms Creek, Stony Branch, Beaver Branch, an UNT to Beaver Branch, and an UNT to Owens Creek. Based on aerial imagery, these forests appear to be deciduous with an area of coniferous forest along the northwest side of Alternative 1-A. The forests throughout the study area appear to be mid successional, with some areas of younger growth. Along these forested areas, potential Forest Interior Dwelling Species (FIDS) habitat is mapped around Toms Creek, extending northeast to Emmitsburg Community Park; along Stony Branch; in the area extending north from Old Emmitsburg Road; in the area east of Orndorf Road; and the area north of Roddy Road, surrounding the UNT to Owens Creek. One county-held forest conservation easement overlaps the study area at Mount Saint Mary's University. There are no state-held forest conservation easements located within the study area.

#### Surface Waters

Ten streams cross the corridor from Thurmont to Emmitsburg. From north to south they are Toms Creek, UNT to Toms Creek, Stony Branch, UNT to Stony Branch, UNT to Beaver Branch, Beaver Branch, a second UNT to Beaver Branch, three UNT to Owens Creek, Little Owens Creek, and two additional UNT to Owens Creek. Toms Creek, the UNT to Toms Creek, Stony Branch, and the UNT to Stony Branch are Use IV-P streams (recreational trout-stocking waters). Beaver Branch, the UNTs to Beaver Branch, Little Owens Creek, and the UNTs to Owens Creek are classified as Use III-P (nontidal cold water and public water supply). No State Designated Scenic and Wild Rivers are located within the study area.

#### Wetlands And Waters of The United States

There are no tidal areas within the study area. Consequently, federal and state regulations pertaining to tidal waters of the U.S. do not apply to the project and are therefore not discussed in this document.

According to the National Wetland Inventory (NWI), there are non-tidal mapped wetlands and streams within and adjacent to the study area. To the north is Toms Creek and an UNT to Toms Creek, as well as three adjacent forested non-tidal wetlands. Further south is Stony Branch, an UNT to Stony Branch, a freshwater pond, and a forested nontidal wetland. Toward the southern end of the study area are Beaver Branch, the UNTs to Beaver Branch, Little Owens Creek and the UNTs to Owens Creek. One scrub shrub non-tidal wetland is present just south of the Little Owens Creek crossing.

#### Floodplains

Floodplains within the Thurmont to Emmitsburg trail study area were identified using Flood Insurance Rate Maps (FIRM) produced by the Federal Emergency Management Agency (FEMA) (DHS 2016). Along Toms Creek, Beaver Branch, and Owens Creek are Zone A floodplain areas with a 1% annual chance of flooding. Flood Zone A refers to low-lying areas close to lakes, ponds and other large bodies of water. Trails may be built in flood zones with special measures to prevent washout and limit risk to other properties. Frederick County addresses floodplain districts in detail in Section 1-19-326 and 327 of the County Zoning Ordinance. Currently, these sections of the ordinances state that a minimum set back of 25 feet shall be provided from all floodplain boundaries, or 50 feet from the bank of any perennial or intermittent stream, whichever is greater. The 50-foot setback is required by the county as a stream buffer.

#### Conservation Easements

One Purchase Development Rights (PDR) Easement is located at the southernmost end of the study area. One Local Protected Lands area, Emmitsburg Community Park, is located at the northernmost end of the study area. One Maryland Agricultural Land Preservation Foundation (MALPF) easement overlaps the 50-foot study area buffer along Old Kiln Road, southwest of Orndorff Road, toward the southern end of the study area. Two DNR Conservation Reserve Enhancement Program (CREP) Easements overlap the study area surrounding Beaver Branch.

## 2. Corridor Description (continued)

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### Rare, Threatened And Endangered Species

A project review online through the USFWS Information for Planning and Consultation (IPaC) website was completed for the study area and identifies two endangered mammals, the Indiana Bat (*Myotis sodalis*) and Northern Long-eared Bat (*Myotis septentrionalis*); one proposed threatened clam, the green floater (*Lasmigona subviridis*); and one candidate species insect, the monarch butterfly (*Danaus plexippus*), which have habitat the lie wholly or partially within the study area. There is one Sensitive Species Project Review Area (SSPRA) within the northernmost portion of the Thurmont to Emmitsburg study area. The SSPRA is categorized as Group 2 which denotes the potential presence of state-listed species. At a later stage of project development, coordination with DNR-Wildlife and Heritage and USFWS is necessary to confirm the potential impacts and permitting requirements.

### Topography

The topography of the corridor is generally flat with mild rolling hills which descend into stream valleys.

### Geology and Soils

Most soils in the study area are Hydrologic Group B which are soils having moderate infiltration rates and consists of moderately deep to deep, moderately well to well drained soils with fine to moderately coarse textures. Hydrologic Group B and Hydrologic Group C soils are also present within the study area, having slow and very slow infiltration rates, respectively. Three soils within the study area were classified as highly erodible. Eleven prime farmland soil map units were identified within the study area. The quality, growing season, and moisture supply of these soils are those needed to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. Thirteen farmland of statewide importance soil map units were identified within the study area. These soils are nearly prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods. During later stages of the project a more detailed assessment of the potential project effects on infiltration rate will be completed. Identification of soil types is also necessary to calculate and design stormwater management facilities, bridges, and retaining walls.

### 2.6 Recent, Ongoing, and Upcoming Projects in Corridor

#### North County Regional Park

In 2017, Frederick County found a gap in regional park coverage that spurred a short-range land acquisition goal of acquiring 100+ acres for a regional County Park in the Emmitsburg/ Thurmont area. Frederick County is developing a North County Regional Park along 152 acres Frederick County purchased from Mount Saint Mary's University and is adjacent to the university's athletic fields. Funding for design is scheduled to be complete in 2027 with construction to follow. This park is to provide amenities such as sports fields, picnic facilities including shelter, playgrounds, exercise station, restrooms, board walk, trail, gymnasium, dog park, parking, utilities and landscaping.

#### Thurmont Trolley Trail

Thurmont has completed the first planned phase of the Hagerstown & Frederick (H&F or Trolley Trail) Trail has been completed from Main St at Memorial Park to Moser Road, near Thurmont library. The next phase is from Main St north to Boundary Ave. Other trail extensions are being developed through coordination with new subdivision applications. Nearby hiking trails in the Catoctin Mountain Park intersect with Foxville Road (MD Route 77) at the Town's western boundary. Foxville Road however does not have sidewalks or a bikeway, so for now the Park's trail system does not connect with the Trolley Trail.

### 3. Overview of Bicycle/Pedestrian Facility Design

#### 3.1 Bicycle/Pedestrian Facility Types

There are five types of bicycle facilities typically used: off-street or shared use paths, protected bike lanes, striped bike lanes, bike-on-shoulder, and “sharrows.” This section describes each and if/how they might be suitable for the study area, considerations used when applying those facilities, and design standards used in developing the concept plans.



##### Off-Street Trail/Shared-Use Path

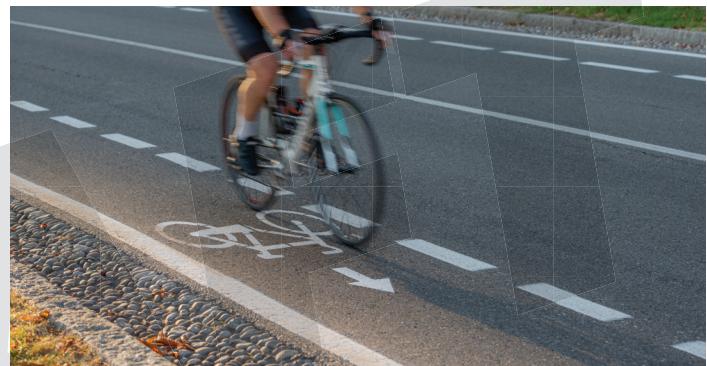
Off-street trails or shared-use pathways are bicycle- and pedestrian-specific transportation corridors. Pathways are ideally 10 to 12 feet wide to accommodate bidirectional walking and bicycling, with 2-foot-wide grass shoulder areas. Adjacent to roadways, they are called sidepaths and typically require at least a 5-foot landscaped buffer from the roadway. In the Emmitsburg to Thurmont corridor, shared use paths/trails may be appropriate for the Myers Park area, along stream valleys or utility corridors, or where wide rights of way are adjacent to roadways. An off-street trail or shared use path most clearly aligns with the purpose and need for the project.



##### Protected Bike Lane

Bike lanes are “protected” when they provide physical separation between motor vehicles and bicycles. One-way protected bike lanes are usually at least 5 feet wide and two-

way lanes are 8 to 10 feet wide, with at least a 2-foot-wide buffer with delineators such as flex posts (as shown here), parking stops, precast curbs, planter boxes, or “armadillos.” In the Emmitsburg to Thurmont corridor, protected bike lanes may be appropriate along US 15 and S. Seton Avenue (US 15 Business) in Emmitsburg. Except in these areas, a protected bike lane does not align with the purpose and need for the project.



##### Bike Lane

Bike lanes are roadway lanes that provide designated space for people bicycling but do not provide any physical separation or protection between motor vehicles and bicycles. Bike lanes are typically 5 to 6 feet wide. If 7 feet or more is available, a buffer should be provided, instead of a very wide bike lane, to discourage driving or parking in the bike lane. Other than US 15 are no four-lane roadway sections that could be converted to a single travel lane with bicycle lane; except in this area, a protected bike lane does not align with the purpose and need for the project. While it may be possible to create a bike lane along US 15 and S. Seton Avenue (US Business 15) in Emmitsburg, paved shoulders would not meet the purpose and need test of being buffered from traffic and provide a safe experience for users of all ages and abilities.



#### Paved Shoulder

Paved Shoulders are a paved space beyond the edge line of a roadway's travel lanes. They provide space for bicycling outside the usual path of motor vehicles, but also provide clear space (a "recovery area") for motorists and accommodate drainage and emergency stopping. Paved shoulders are located on S. Seton Avenue in Emmitsburg but they would not meet the purpose and need test of being buffered from traffic and provide a safe experience for users of all ages and abilities.



#### Shared Lane Marking ("Sharrow")

Sharrows are bike icons with chevrons marked in roadway lanes that advise motorists that bicyclists may be present and indicate to bicyclists where to position themselves within a travel lane. Along very low speed, low volume roads like Roddy Creek Road Sharrows might not meet the purpose and need test of being buffered from traffic and provide a safe experience for users of all ages and abilities.

#### 3.2 General Design Requirements and Assumptions

In general, the feasibility study assumes that the trail will follow the design guidance and standards in the following documents. At the feasibility study level, the most generous standards are used; however, as design progresses it often becomes necessary to deviate from the standards in response to localized conditions such as right of way constraints, topography, utilities, etc.

- Frederick County Parklands Bikeway and Trail Design Standards and Planning Guidelines 2003
- Bicycle Policy & Design Guidelines Maryland State Highway Administration 2013
- Frederick County Bikeway and Trails Plan 1999
- Guide for the Development of Bicycle Facilities American Association of State Highway and Transportation Officials (AASHTO) 1999
- Designing Sidewalks and Trails for Access: Part II of II: Best Practices Design Guide, Federal Highway Administration (FHWA) 2001
- Maryland Manual Uniform Traffic Control Devices Design assumptions and deviations specific to this project are described below.

#### Pathway Geometry

Curves and longitudinal slope will generally follow the adjacent roadway, with deviations as needed to match topography and reduce impacts to trees, utilities, monument signs, and other features. Horizontal curves not associated with the roadway alignment generally have a minimum radius of 60 feet, corresponding to a design speed of 12 miles per hour.

#### Design Speed and Curve Radius

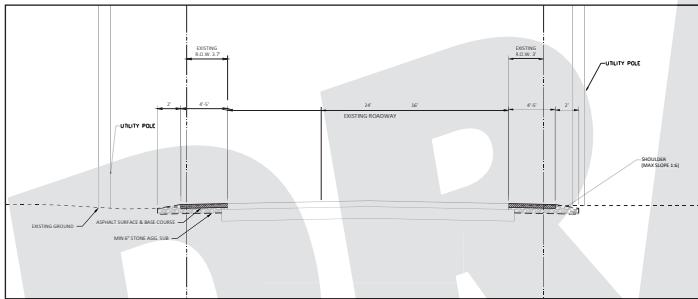
As a shared use path for both pedestrians and bicycle riders of all ages and abilities, the project is to be designed for bicycle users traveling at 12 mph. As such, the minimum curve radius is planned at 36'. Curve radii smaller than recommended may be used due to narrow right of way, topography, or other considerations. Standard curve warning signs and pavement markings should be installed.

### 3. Overview of Bicycle/Pedestrian Facility Design (continued)

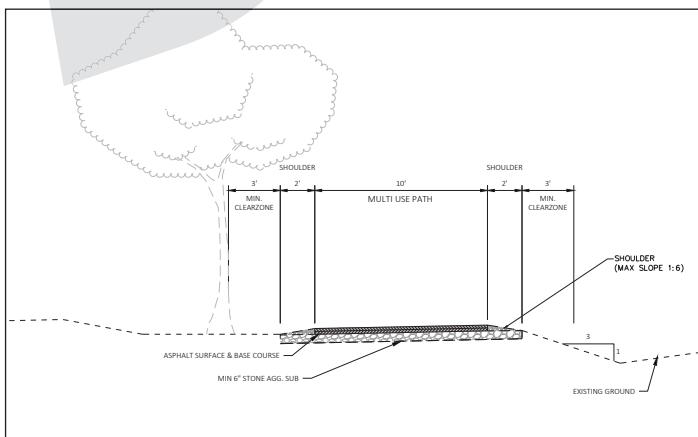
#### Vertical Grade

Vertical grades should be a maximum 5% when possible. Where grades must exceed 5%, the AASHTO bicycle design guide recommends as follows:

- 5 to 6% for up to 800 feet
- 7% for up to 400 feet
- 8% for up to 300 feet
- 9% for up to 200 feet
- 10% for up to 100 feet
- 11%+ for up to 50 feet



Mount Saint Mary's University - Old Emmitsburg Road

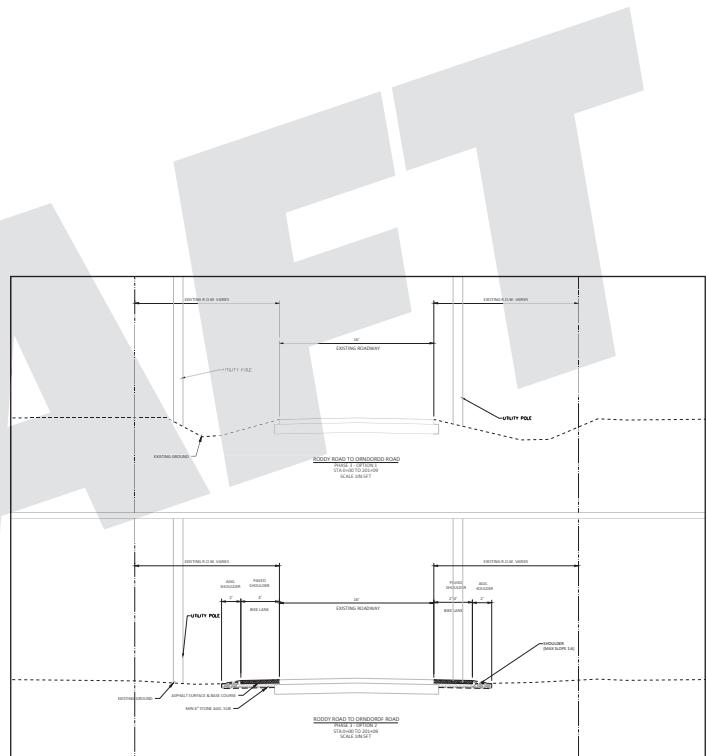


Old Emmitsburg Road to E. Eugene Myers Community Park

#### Typical Section (Trail Width)

The preferred trail width is a minimum 10' wide asphalt pathway (with 12' preferred) with a maximum cross slope of 2%. A minimum 5' clear zone on each side of the trail is preferred.

Examples of typical sections are shown below:



Widen shoulder or shared roadway option comparison.



Example of Segment 1-A: Mount Saint Mary's to E. Eugene Myers Community Park

## 4. Alignment Alternatives Considered in the Thurmont to Emmitsburg Corridor

To develop alignment alternatives, the corridor was divided into three north to south segments along the ~7-mile corridor. Individual segments following natural features, transportation and utility corridors were then identified and assessed through a high-level screening related to the evaluation criteria listed in Section 1.2.

Every alignment alternative in the corridor has challenges. Some alternatives would require significant right of way acquisition, other alternatives would require significant land disturbance to achieve a pathway that has suitable grades or curves to meet design requirements and be comfortable for users of all ages and abilities. Some alignments would require construction in the floodplain (around Beaver Branch near Motters Station Road and Old Kiln Road and around Owens Creek near Roddy Road and Roddy Road Park), on active farmland, or across regulated wetlands. The maps included indicate some of the challenges associated with each of the alternatives.

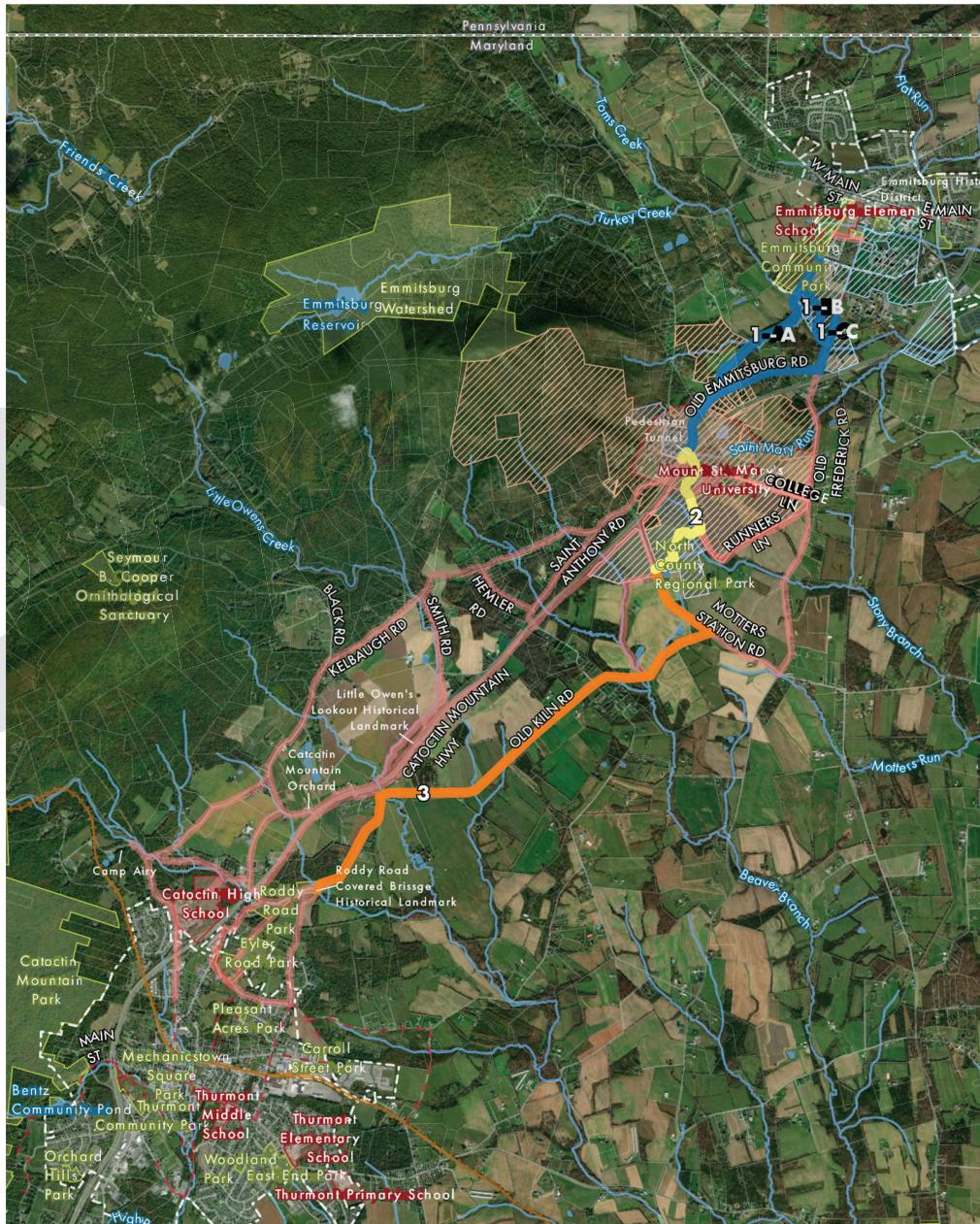


Figure 4. Preferred Alignment and All Alternatives Considered

## 4. Alignment Alternatives (continued)

### Alignments Removed From Consideration

## Segment 1

### Emmitsburg Area

Segment 1-C originally began at Emmitsburg Community Park, went along a residential development to S. Seton Avenue, and continued south on S. Seton Avenue. Segment 1-E was rejected because it is not a direct enough connection to MSM and Old Frederick Rd has too high of a speed limit to place a shared use path for users of all ages and abilities. There is not space to convert one travel lane along this segment.



Figure 5. Segment 1-C was shortened because it may require potential ROW acquisition from the properties on right side of this photo.



Figure 6. Segment 1-E: Old Frederick Road

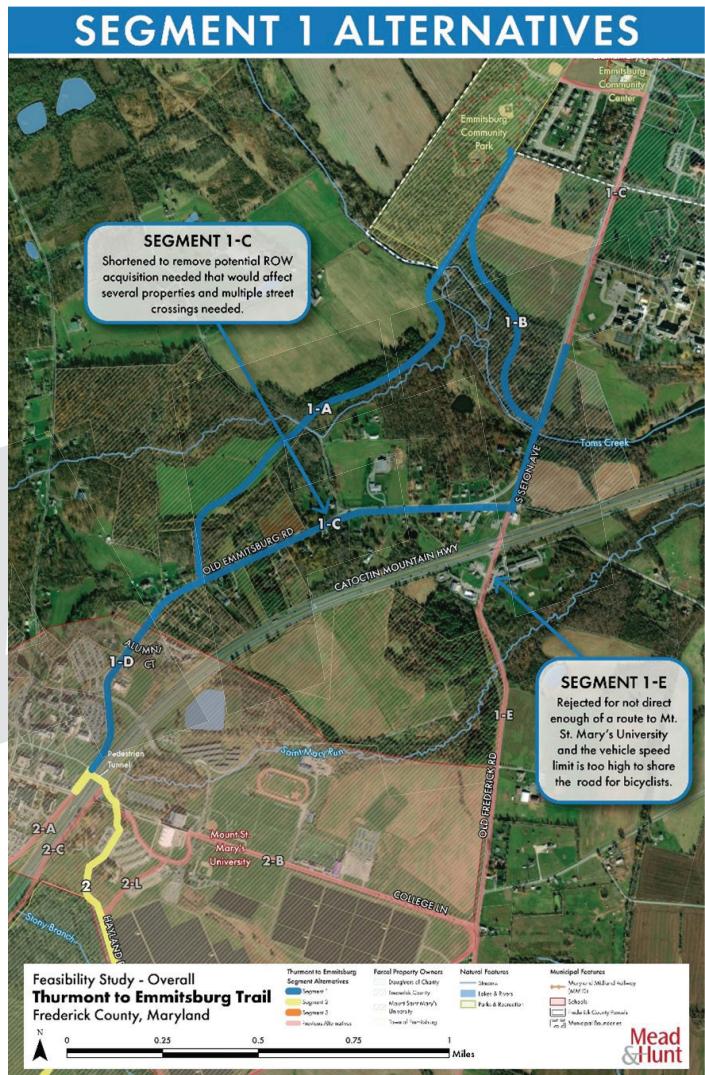


Figure 7. Segment 1 Alternatives

## Segment 2

### Mount St. Mary's University and North County Regional Park

There are many options for Segment 2 once the potential trail reaches the MSM campus but only one path (made of what were Segments 2-P, 2-Q, 2-M, 2-F, and 2-H) was found to be safe and direct and could be easily constructed. Segments 2-A, 2-J, and 2-K are along the hills to the east of US 15 along mostly two lane roads. To establish a trail on these roads, they require significant grading and ROW acquisition with several utility pole conflicts. Segments 2-C and 2-S were rejected because there did not appear to be a safe way to have a trail significantly separate from US 15, which is the fastest and busiest road in the northern half of Frederick County. Segment 2-R was similarly rejected because the trail needed to be along US 15 to be included. Segment 2-G was rejected because it requires ROW acquisition in the middle of a property.



Figure 8. Segments 2-A and 2-K are along St Anthony Rd



Figure 9. Segments 2-C, 2-S, 3-E, 3-H, and 4-C are along US 15

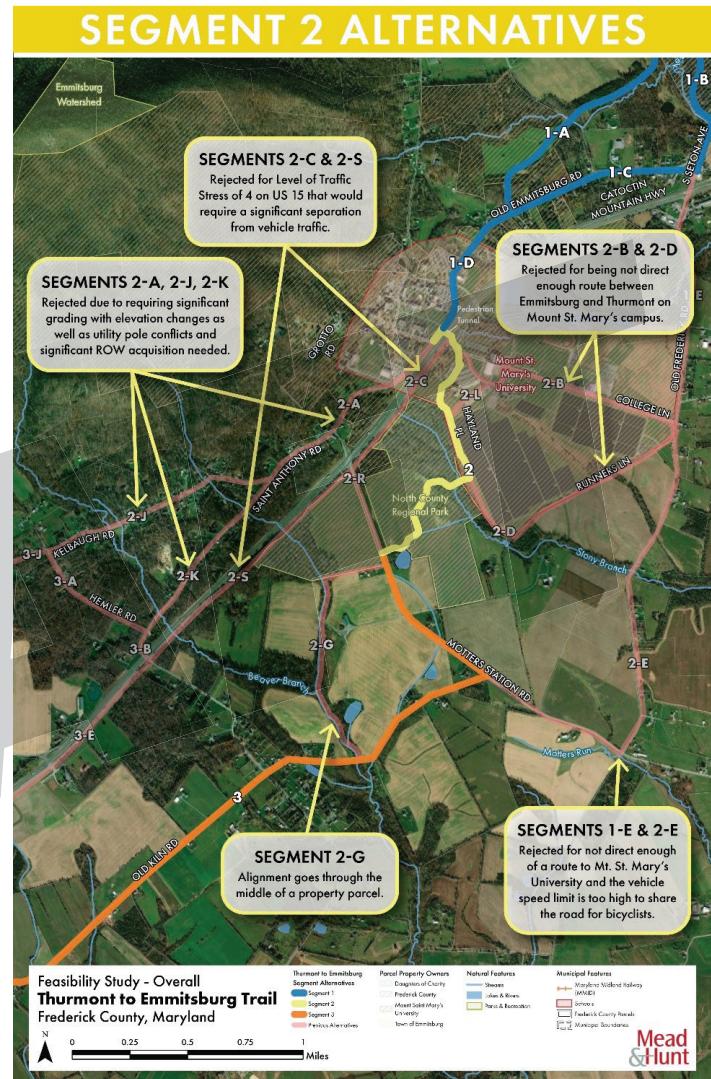


Figure 10. Segment 2 Alternatives

## Segment 3

### Between MSM and Thurmont

Safest and most direct alternative for Segment 3 (Segment 4-D, the preferred alternative of Segment 4, has been merged into Segment 3) was found to be along Motters Station, Old Kiln, and Roddy roads, which are roads with limited elevation changes and relatively low AADT. Segments 3-A, 3-B, 3-D, 3-F, 3-G, 4-A, 4-B, 4-E, and 4-F are all to the west of US 15 and are rejected because the Segment 2 alternatives that are west of US 15 or along US 15 were rejected. These alternatives generally require significant grading with elevation changes to cross US 15 at-grade as well as significant ROW acquisition needed. Alternatives 3E, 3H, and 4C, are along US 15, which has too high traffic volume and posted speed limit to be safe for users of all ages and abilities.



Figure 11. Segments 2-J and 3-J are along Kelbaugh Road

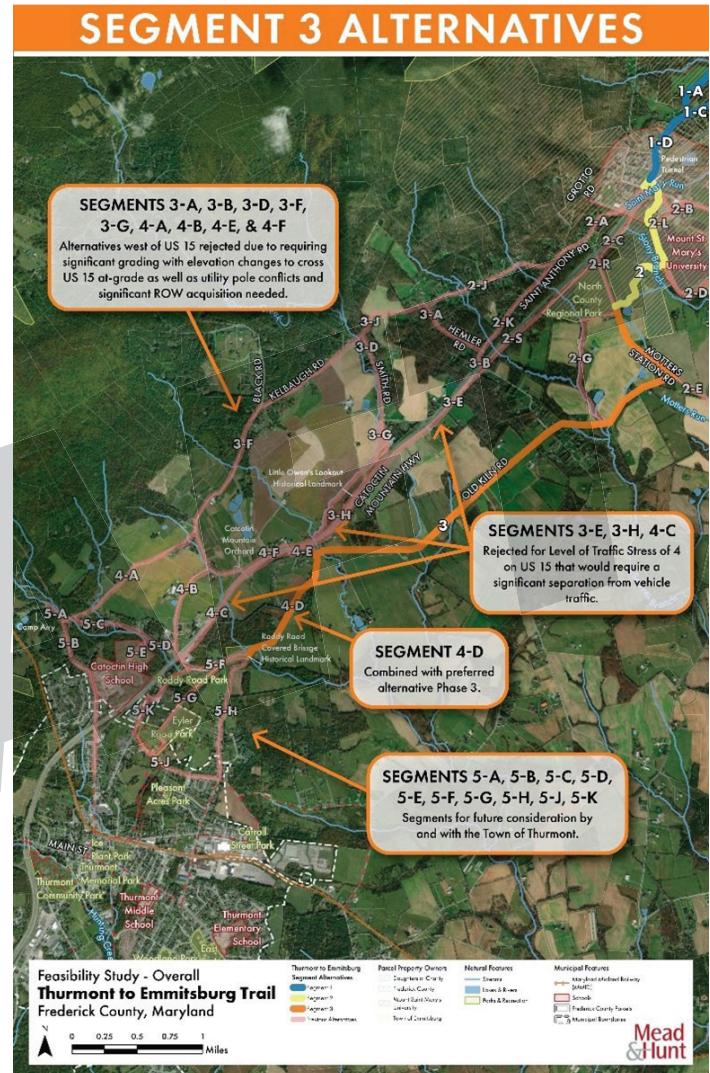


Figure 12. Segment 3 Alternatives

### Thurmont Alignments

Alignments within Thurmont (5A – J) were removed from consideration as they are located within Town boundaries and are either already noted in the Town's comprehensive plan for future design and construction by the Town, rejected by the Town, or connected to alternatives of Segment 4 that tack too far west. Overall, the segments are options for future consideration once the trail is established with the collaboration of Frederick County and the Town of Thurmont.

# 5. Agency Coordination

## 5.1 Town of Emmitsburg

A discussion with the Town Planner on August 28, 2023 found that the Town leadership was supportive of the project and believed it would enhance connectivity. One concern was increasing impervious surface from the trail project.

## 5.2 Mount Saint Mary's University

A discussion with Todd Otis, Director of Capital Projects, was held on December 7, 2023, helped determine what was feasible towards the most promising potential alignment through the campus including usage of the pedestrian underpass below US 15. Otis discussed the long history of collaboration between MSM and Emmitsburg on trails with the Emmitsburg Area Trails Task Force that helped establish the Emmitsburg Watershed trails. The university is open to the trail crossing campus but will need more detail on that plan to move forward to provide connections for students to Emmitsburg while making sure that the campus remains secure. MSM is preliminarily supportive of allowing a shared use path to be constructed on property they currently own to the north of the MSM campus near Emmitsburg and expressed that the Daughters of Charity Ministers Inc., has a strong partnership with MSM and is likely to be supportive of having a shared use path constructed on their property.

## 5.3 Town of Thurmont

Consultation with the Town Planner via email provided information on potential trail connections with Thurmont. Thurmont has a working trail plan in which they are coordinating with current subdivision applications. The first planned phase of the Hagerstown & Frederick (H&F or Trolley Trail) Trail has been completed from Main Street at Memorial Park to Moser Road, near Thurmont library. Next phase is from Main Street north to Boundary Avenue. Nearby hiking trails in the Catoctin Mountain Park intersect with Foxville Road (MD Route 77) at the Town's western boundary. Foxville Road however does not have sidewalks or a bikeway, so for now the Park's trail system does not connect with the Trolley Trail. While there is interest in connecting Emmitsburg to Eyler Road Park, residents on the edge of Thurmont preferred an on-road trail.



Mount Saint Mary's University - Pedestrian Tunnel

## 6. Recommended Alternative

The recommended alternative is shown in Figure 12 and is generally described below. Significant issues remain to be worked through if design development progresses. All references to specific properties are for informational and descriptive purposes only and do not represent the consent of the property owner. Concept design sheets can be found in Appendix 1.



Figure 13. Recommended Alternative

## 6. Recommended Alternative (continued)

### Segment 1 – Emmitsburg to Mount Saint Mary’s University

Emmitsburg Community Park would serve as the preferred northern trailhead with its existing paths and parking. The trail would travel south either along property lines (Segment 1-A) towards Old Emmitsburg Road or along Toms Creek (Segment 1-B) towards S. Seton Avenue. Property owner support would be a major factor in determining the alignment. Segment 1-A is preferred because safety is the highest priority and it is completely removed from vehicle traffic compared the combination of Segments 1-B and 1-C. Segments 1-A and 1-B would likely be a shared-use path. If there is not property owner support for either segment and/or construction appears to be difficult along Toms Creek, Segment 1-C would be the third choice for a trailhead adjacent to the FEMA’s National Emergency Training Center. Segment 1-C would likely be a widened shoulder. Segment 1-C is the third choice because it is the least separated from vehicle traffic and near Toms Creek, the segment would require utility realignment and a difficult bridge crossing. Most of Segment 1-C would still be used if Segment 1-B is adopted. All options would lead to Old Emmitsburg Road where the trail would likely be part of a shared roadway into the MSM campus. On campus, Old Emmitsburg Road becomes John Walsh Way and through MSM’s 8 ft. wide pedestrian tunnel that crosses under US 15. A sloped, ADA-accessible ramp leads down into the tunnel.



Figure 14. Segment 1 – Emmitsburg to Mount Saint Mary’s University



Figure 15. Old Emmitsburg Road

## 6. Recommended Alternative (continued)

### Segment 2 – Mount Saint Mary’s University to Beaver Branch

Segment 2 travels across the southern edge of the east side of MSM campus. After crossing US 15 via the pedestrian tunnel, the trail would run along John Walsh Way and through the parking lot along Jim Thelan Way and Hayland Place to the anticipated North County Regional Park. Within the North County Regional Park, the trail would be a shared-use path crossing the Stony Branch. Unavoidable impacts to wetlands and other waters of the U.S. are subject to a Section 404 permit from the USACE and a non-tidal wetlands permit from the Maryland Department of Natural Resources.



Figure 16. Mount Saint Mary’s Eastern Campus

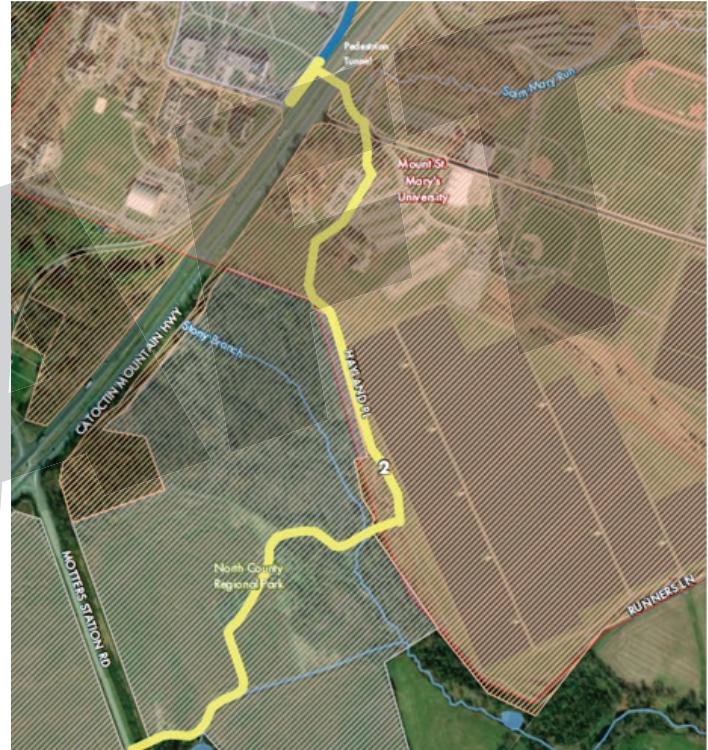


Figure 17. Segment 2 – Mount Saint Mary’s University to Motters Station Road

## 6. Recommended Alternative (continued)

### Segment 3 – Motters Station Road to Roddy Road Covered Bridge Historic Landmark

Segment 3 will primarily take the form of shared roadway in many sections since it follows the path out of the future North County Regional Park along Motters Station Road, Old Kiln Road and Roddy Road with limited ROW available on the sides of Motters Station and portions of Old Kiln Road. There appears to be some available on ROW on the northern and western side of Old Kiln and Roddy. All of this would be along primarily flat terrain. The southern trailhead would be at the small gravel area that is used for parking where Roddy Road and Roddy Creek Road meet across from the Roddy Road Covered Bridge. The portion on Roddy Rd around Roddy Road Park falls within the 100-year floodplain. Unavoidable impacts to wetlands and other waters of the U.S. are subject to a Section 404 permit from the USACE and non-tidal wetlands permit from the Maryland Department of Natural Resources.



Figure 18. Potential Trailhead at Intersection of Roddy Road and Roddy Creek Road



Figure 19. Segment 3 – Motters Station Road to Roddy Road Covered Bridge Historic Landmark

## 7. Environmental Effects of Recommended Alternative

Every infrastructure project has near-term construction impacts and long-term impacts. The U.S. Council on Environmental Quality regulations describe the following hierarchy to address those impacts:

- Avoid an impact by not taking a certain action or parts of an action;
- Minimize an impact by limiting the degree or magnitude of the action and its implementation
- Rectify an impact by repairing, rehabilitating, or restoring the affected environment.
- Reduce or eliminate an impact over time, through preservation and maintenance operations during the life of the action
- Compensate for an impact by replacing or providing substitute resources or environments.

To identify and assess the potential impacts of the preferred alternative for the Trail, Coastal Resources Inc. conducted a desktop analysis using readily available public datasets. A 100-foot study area, centered over the proposed trail alignment, was defined as the area of maximum potential effect. At future design stages, field surveys and additional data collection will be necessary to refine and/or enhance the information presented below. Since Segment 2 involves the future construction of North County Regional Park and Segment 3 is entirely on-road, only the construction of Segment 1 is expected to have an environmental impact. Segment 1 is also the priority phase to be completed of this project.

### Soils & Geology

Minor impacts and/or changes to topography and geology are anticipated from the preferred alternative. Local topography would be altered by excavation and grading that would be necessary for the trail construction. Soil impacts would result from soil removal or alterations to the soil profile and structure due to construction activities. Removal of vegetation would result in increased exposure of soils to weather and runoff potential. The preferred alternative may impact prime farmland soils and soils of statewide importance. Coordination with U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) will be necessary, and a Farmland Conversion Impact Rating Form (NRCS-CPA-106) may be required as part of that coordination.

### Surface Waters

The preferred alternative may affect surface waters and water quality within the study area. Impacts would be associated with the construction of the trail, the potential for accidental spills or sediment releases, increased impervious, and added stormwater. Potential impacts to aquatic biota from the preferred alternative could range from mortality of aquatic organisms during construction, loss of natural habitat from the placement of instream structures at proposed stream crossings, to more gradual changes in stream conditions that affect aquatic communities. The preferred alternative may impact tributaries of the Monocacy River which is designated as State-listed Scenic River. These impacts would be to Toms Creek, one UNT to Toms Creek, and Stony Branch. The exact type and quantity of impacts to surfaces waters and water quality will not be fully known until later project design stages. Coordination with the Maryland Department of the Environment will be necessary.

### Wetlands and Other Waters of the United States

The preferred alternative would result in direct impact to nontidal waters of the U.S., including wetlands. Anticipated impacts to regulated waters of the U.S., including wetlands, will require permits from MDE and the USACE. Avoidance and minimization efforts would continue during more detailed phases of project design. As part of the permitting process, mitigation of unavoidable impacts to wetlands and stream channels will be required. All mitigation measures employed to compensate for unavoidable project impacts to waters of the U.S. would follow the federal Compensatory Mitigation Rule (33 CFR Part 325 and 40 CFR Part 230), and other state compensatory mitigation guidelines, as well as other recommendations from federal and state resource agencies. When unavoidable impacts have been avoided and minimized to the greatest extent practicable, mitigation may be required in the form of establishment/creation, enhancement, or preservation to replace the loss of wetland, stream, and/or other aquatic resource functions. The federal mitigation rule and state guidance establishes a hierarchy for mitigation options with the purchase of credits from an approved mitigation bank as the preferred mitigation approach over other options such as permittee-responsible mitigation. The exact type and quantity of impacts to wetlands and other waters of the U.S. will not be fully known until later project design stages.

## 7. Environmental Effects of Recommended Alternative (continued)

### Terrestrial Vegetation and Wildlife

The preferred alternative will impact forest resources, primarily those associated with the riparian areas of Toms Creek and Stony Branch. The preparation of a forest stand delineation (FSD) and forest conservation plan (FCP), in accordance with the Frederick County FRO, may be required for impacts to forest, specimen trees, and forest conservation easements with the study area. Impacts to trees within the roadway right-of-way may require a Roadside Tree Permit. Avoidance and minimization efforts would continue during more detailed phases of project design. As part of the permitting process, mitigation of unavoidable impacts to forests may be required in the form of on-site preservation, on-site planting, off-site planting, purchasing of credits from an approved bank, or a fee-in-lieu payment. The exact type and quantity of impacts to forest, specimen trees, and roadside trees will not be fully known until later project design stages. Wildlife impacts from the preferred alternative could occur because of habitat disturbance and/or loss during construction. Impacts to wildlife will not be fully known until later project design stages.

### Rare, Threatened, and Endangered (RTE) Species

The preferred alternative may impact RTE or other sensitive species within the study area. Coordination with DNR-WHS and USFWS is necessary to confirm the potential impacts and permitting requirements. There is one Sensitive Species Project

Review Areas (SSPRA) within the preferred alternative. It is categorized as Group 2 which denotes the potential presence of state-listed species. At later project stages, project review request letters will need to be sent to the DNR – Wildlife and Heritage Service (WHS) to request information on the potential presence of state-listed rare, threatened, or endangered species (RTE) within the study area. Additional coordination with USFWS is necessary to define the potential project impacts on federally-listed RTE species.

### Floodplains

The preferred alternative will occur within regulated floodplains. Longitudinal floodplain encroachments and transverse floodplain crossings are anticipated. During later design stages detailed hydrologic and hydraulic studies will be undertaken to confirm the floodplain impacts. The MDE is responsible for coordination of all state floodplain programs. Floodplains are also governed by local Flood Insurance Programs administered by localities and supervised by FEMA (FEMA 2015). Frederick County addresses floodplain districts in detail in Section 1-19-326 and 327 of the County Zoning Ordinance. Currently, these sections of the ordinances state that a minimum set back of 25 feet shall be provided from all floodplains.



## 8. Cost Estimates

High level cost estimates are developed at the concept planning/feasibility analysis stage to help project sponsors develop a budget and determine if the project is financially viable. Estimating the cost of any infrastructure project is difficult with limited information on scope and limited detailed design engineering data; however, for planning and budgeting purposes, agencies need at least a rough estimate or range of costs to begin financial programming from engineering through to construction.

<b>Segment 1: Emmitsburg to Mount Saint Mary's University</b>		
Alternative:	<b>Shared Use Path</b>	<b>Widen Shoulder</b>
Construction Activities	\$1,046,000	\$1,324,000
Structures	\$160,000	\$160,000
Contingent Categories	\$423,000	\$883,000
Construction Cost	\$2,920,000	\$4,237,000
Design, Permitting, and Construction Management	\$875,000	\$1,272,000
<b>Total Segment Cost:</b>	<b>\$5,424,000</b>	<b>\$7,876,000</b>
85% Range:	\$4,611,000	\$6,695,000
115% Range:	\$6,238,000	\$9,058,000

<b>Segment 2: Mount Saint Mary's University to Beaver Branch</b>		
Alternative:	<b>Shared Use Path</b>	
Construction Activities	\$705,000	
Structures	\$0	
Contingent Categories	\$310,000	
Construction Cost	\$1,817,000	
Design, Permitting, and Construction Management	\$182,000	
<b>Total Segment Cost:</b>	<b>\$3,014,000</b>	
85% Range:	\$2,562,000	
115% Range:	\$3,467,000	

<b>Segment 3: Motters Station Road to Roddy Road Covered Bridge</b>		
Alternative:	<b>Widen Shoulder</b>	<b>Shared Roadway</b>
Construction Activities	\$2,279,000	\$74,000
Structures	\$160,000	\$160,000
Contingent Categories	\$66,000	\$66,000
Construction Cost	\$535,000	\$535,000
Design, Permitting, and Construction Management	\$161,000	\$161,000
<b>Total Segment Cost:</b>	<b>\$3,201,000</b>	<b>\$996,000</b>
85% Range:	\$10,763,000.00	\$847,000.00
115% Range:	\$14,562,000.00	\$1,146,000.00

# 9. Evaluation Findings & Recommendations

## Safety and User Experience

Is the alignment segment suitable to users of all ages and abilities through separation from auto traffic? Are vertical grades comfortable? Does the segment provide scenic views and access to natural environmental features? Is there a location for a trailhead and parking?

### Finding #1:

- There is a viable alignment that is largely separated from auto traffic to accommodate users of all ages and abilities on Segments 1 and 2 but not on Segment 3.
- The recommended alignment has acceptable grades that do not require switchbacks or wide radii curves.
- There are several scenic vistas along the recommended alignment, most notably along Toms Creek in Segment 1 views of College Mountain to the west, and the Roddy Road Covered Bridge Historic Landmark at the end of Segment 3.
- Potential parking and trailheads can be identified at the northern and southern ends of the trail and each segment, especially once North County Regional Park is built.

### Finding #2:

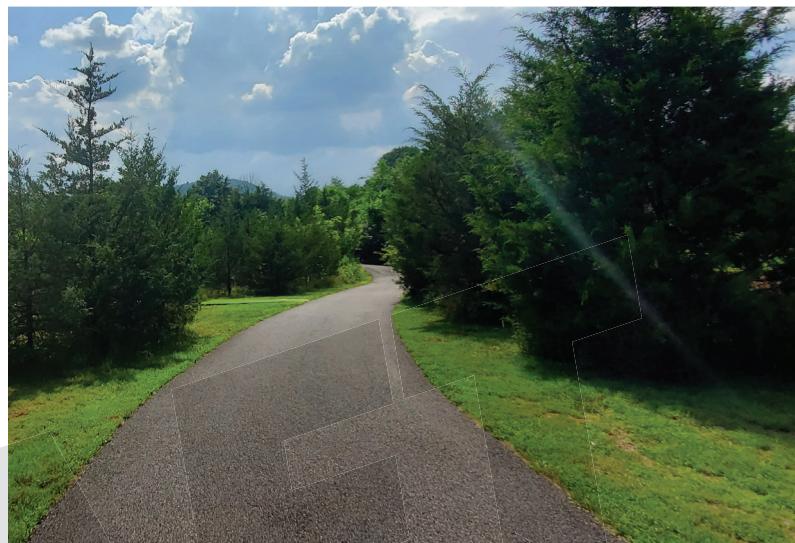
- Segment 1 is the priority segment to construct since there has been community and stakeholder interest in the connection between Emmitsburg and MSM for decades.
- Segments 2 and 3 are less of initial interest because there is less potential use for them and there are limited options to construct an off-road trail that will encourage recreation.
- Most recreational trail users do not want to share lanes with vehicles. However, once Segment 1 is constructed, there is value to trail users in connecting Emmitsburg and MSM to Thurmont and the adjacent facilities.

## Directness and Connectivity

Does the alignment segment provide a reasonably direct connection between Emmitsburg and Thurmont? Does the segment provide connections to neighborhoods, schools, and points of interest?

### Finding #3:

- The recommended alignment is the most direct of all alternatives considered.
- Opportunities exist for connections to Mount Saint Mary's University, existing parks in Emmitsburg and Thurmont and schools and points of interest in Emmitsburg.



E. Eugene Myers community Park - Emmitsburg

## Property and Environmental Impacts

Is there sufficient right of way along the adjacent roadway or does the alignment necessitate the acquisition of private property? Can the property impacts be minimized or mitigated to the satisfaction of the affected property owner? Are there environmental impacts that would require mitigation (reforestation, stream restoration, etc.)?

There are some challenges regarding whether through traveling on primarily along roads or constructing a shared use path. Having the trail on S Seton Ave separated from traffic would likely require conversion of one travel lane in some sections because it is difficult to widen the shoulder at Toms Creek because that would require construction of a new bridge. It is uncertain whether travel demand could be met in this area without causing significant delay to motorist delays. Constructing a shared-use path along Segment 1-A will require ROW acquisition that will impact at least one non-institutional property owner between Emmitsburg and MSM.

### Finding #4:

- Property impacts will be minimized by adhering to traveling along the road, particularly on Segment 3.
- Along Segment 1, there are some challenges regarding whether through traveling on primarily along roads or constructing a shared use path.
- Having the trail on S. Seton Avenue separated from traffic would likely require conversion of one travel lane in some sections because it is difficult to widen the shoulder at Toms Creek, since that would require construction of a new bridge.

## 9. Evaluation Findings & Recommendations (continued)

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- It is uncertain whether travel demand could be met in this area without causing significant delay to motorist delays.
- Constructing a shared-use path along Segment 1-A will require ROW acquisition that will impact at least one non-institutional property owner between Emmitsburg and MSM.
- Based on the concept design, approximately 20 parcels may be minorly affected mostly along the roads sit borders. (See Appendix 2.)
- Frederick County's policy of not acquiring property by eminent domain for trail projects may make for a right of way acquisition a challenge in this corridor.

### **Finding #5:**

- Compensatory mitigation for streams, wetlands and forests will likely be required. The extent of mitigation will not be known until later stages of design.

### **Cost and Constructability**

Are there significant obstacles to be overcome on the alignment that would drive the cost higher (bridges and retaining walls, utility relocation)?

### **Finding #6:**

- There are no significant constructability issues that are atypical of trail projects along the recommended alignment.
- When compared to the other alternatives considered, the recommended alignment has the fewest environmental and property impacts, would have the same or fewer structures (bridges, boardwalks, retaining walls), and the least land disturbance and paving required.

DRAFT

## 9. Evaluation Findings & Recommendations (continued)

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### A Path Forward

The vision of a trail corridor is embedded in the 2018 Bikeways and Trails Master Plan, the feasibility of implementing that vision is described favorably throughout this study.

The first step in the path forward is to secure right-of-way for the project. Fortunately, much of the land needed for the preferred alignments is already held by MSM, its affiliates, or partner organizations. Establishing a MOU to use the property will create confidence by funders that the project can be built in a reasonable time frame. Concurrently, the County should begin discussion with the other 20 property owners regarding the preferred alignment. MSM has indicated that it has relationships with some of those property owners and may be able to facilitate those discussions. This could include conversations about placing the land into a conservation easement which may be attractive from a tax perspective but is not necessary to construct the trail.

Once a MOU is established and conversations with the other property owners seem favorable, then the County should initiate preliminary design for the trail. This would include:

- Conducting topographical and boundary survey
- Tying down the horizontal and vertical alignment and establishing likely grading limits
- Preparing cross sections, typically at 200' intervals.
- Identifying the type, size and location of structures, including stream crossings and any retaining walls, and performing geotechnical investigation, if necessary.
- Determining the extent of stormwater management needed and potential locations and devices.
- Identifying any utilities that may need to be adjusted.

Once the 30% design is complete and a cost estimate is prepared, the county then should consider the potential source of final design and construction funds. If local funds are available, it is strongly recommended that local funds be used to advance the project through final design, environmental permitting, and bid package. The process for selecting an engineering firm when using federal funds would be at least one year and adds significant inefficiencies. It is estimated that the full cost of design from the current state of plans to construction documents would be in the range of \$350,000 - \$400,000. The county may wish to seek funding from MSM or the Town of Emmitsburg to supplement available county funds.

Lastly acquiring right-of-way - even if by donated easement - is also more complicated once federal funds are involved in project design. It should be the county's goal to complete right-of-way acquisition prior to using any federal funds on the project. With the above process, it is likely that the project could be advanced towards construction within 18 months of assigning an engineering consultant to begin work.

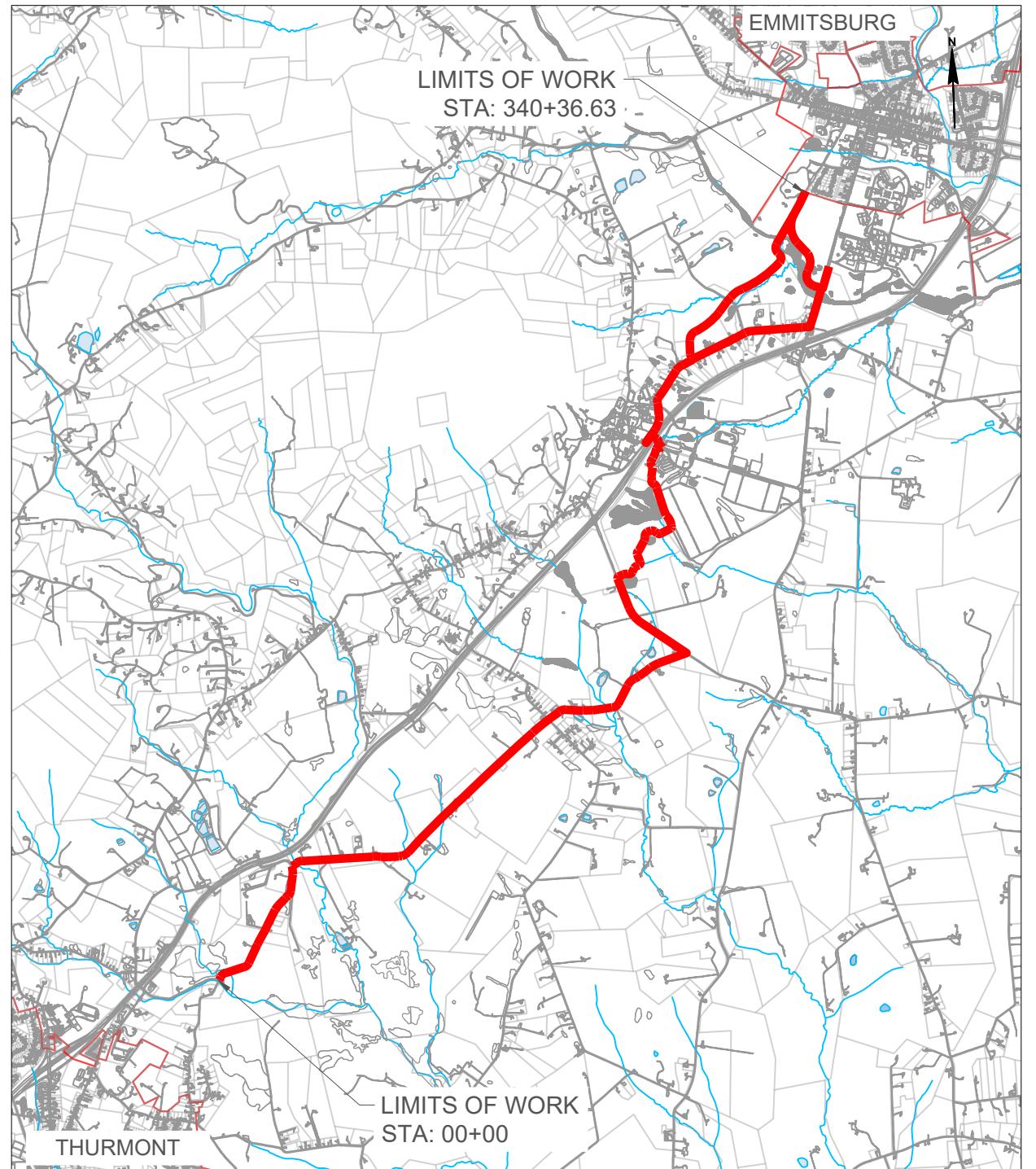


# Appendix

# Appendix 1

FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH  
FREDRICK COUNTY, MD  
1234567-123456.12

**Mead & Hunt**  
Mead and Hunt, Inc.  
2440 Deming Way  
Middleton, WI 53562  
phone: 608-273-6380  
meadhunt.com



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FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH  
ISSUED

THURMONT TO EMMITSBURG  
FREDRICK COUNTY, MD

NOT FOR CONSTRUCTION

M&H NO.: 4664431-223191.01  
DATE: Month 00, 2023  
DESIGNED BY: AP  
DRAWN BY: AP  
CHECKED BY: XXX  
DO NOT SCALE DRAWINGS

SHEET CONTENTS  
COVER SHEET

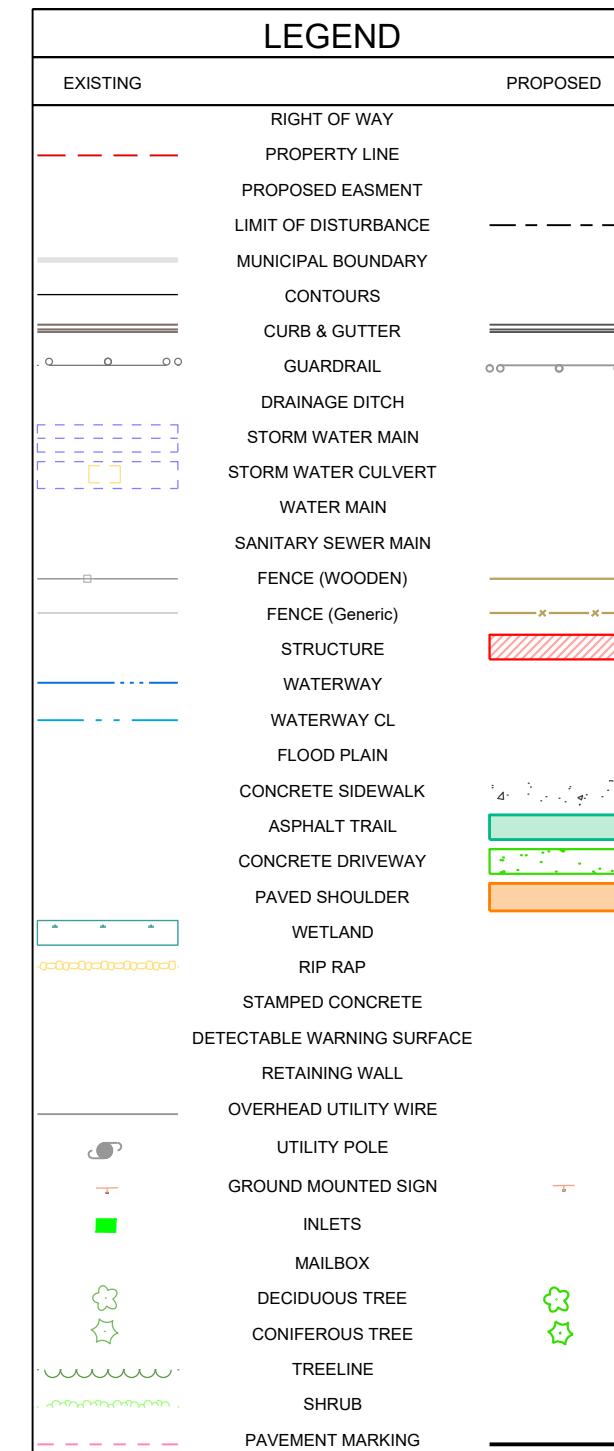
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1-001

## INDEX

Sheet Number	Sheet Title	5-020	Phase 1-A
1-001	Cover Sheet	5-021	Phase 1-A
1-002	INDEX AND LEGEND	5-022	Phase 1-A
1-003	PROJECT ALIGNMENT PROJECT LIMITS	5-023	Phase 1-A
1-006	PROJECT ALIGNMENT PHASE 3	5-024	Phase 1-A
1-005	PROJECT ALIGNMENT PHASE 2	5-025	Phase 1-A
1-004	PROJECT ALIGNMENT PHASE 1	5-026	Phase 1-A
2-001	TYPICAL SECTIONS	5-028	Phase 1-A
2-002	TYPICAL SECTIONS	5-029	Phase 1-A
2-003	TYPICAL SECTIONS	5-030	Phase 1-B
2-004	TYPICAL SECTIONS	5-031	Phase 1-B
5-001	Phase 2	5-032	Phase 1-B
5-002	Phase 2	5-033	Phase 1-B
5-003	Phase 2	5-034	Phase 1-B
5-004	Phase 2	5-035	Phase 1-B
5-005	Phase 2	5-036	Phase 1-B
5-006	Phase 2	5-037	Phase 1-B
5-008	Phase 2	5-038	Phase 1-B
5-009	Phase 2	5-039	Phase 1-B
5-010	Phase 2	5-040	Phase 1-B
5-011	Phase 2	5-041	Phase 1-B
5-012	Phase 2	5-042	Phase 1-B
5-013	Phase 1	5-043	Phase 1C
5-014	Phase 1	5-044	Phase 1C
5-015	Phase 1	8-001	STRUCTURAL
5-016	Phase 1		
5-017	Phase 1		
5-018	Phase 1-A		
5-019	Phase 1-A		



FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH

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SHEET CONTENTS  
INDEX AND LEGEND

SHEET NO.

1-002



## PHASE 3: MOTTERS STATION ROAD TO RODDY ROAD COVERED BRIDGE

**Mead  
& Hunt**  
Mead and Hunt, Inc.  
2440 Deming Way  
Middleton, WI 53562  
phone: 608-273-6380  
[meadhunt.com](http://meadhunt.com)

Mead and Hunt, Inc.  
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Middleton, WI 53562  
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THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG SH/ EREDICK COUNTY MD

1700 T FOR CONSTRUCTION

4664431-223191.01  
Month 00, 2023  
AP  
AP  
XXX  
DO NOT SCALE DRAWINGS

## PROJECT ALIGNMENT PHASE 3

MEET NO.

1-004

## PHASE 2: MOUNT ST. MARY'S UNIVERSITY TO MOTTERS STATION ROAD

**Mead & Hunt**  
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2440 Deming Way  
Middleton, WI 53562  
phone: 608-273-6380  
[meadhunt.com](http://meadhunt.com)

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## THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
FREDRICK COUNTY MD

T FOR CONSTRUCTION

&H NO.: 4664431-223191.01  
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RAWN BY: AP  
HECKED BY: XXX  
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## PROJECT ALIGNMENT PHASE 2

HEET NO.

1-005

PHASE 1: E. EUGENE MYERS PARK TO MOUNT ST. MARY'S UNIVERSITY



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FREDRICK COUNTY  
 THURMONT TO EMMITSBURG SHARED PATH

FREDRICK COUNTY  
 THURMONT TO EMMITSBURG

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## THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
FREDRICK COUNTY MD

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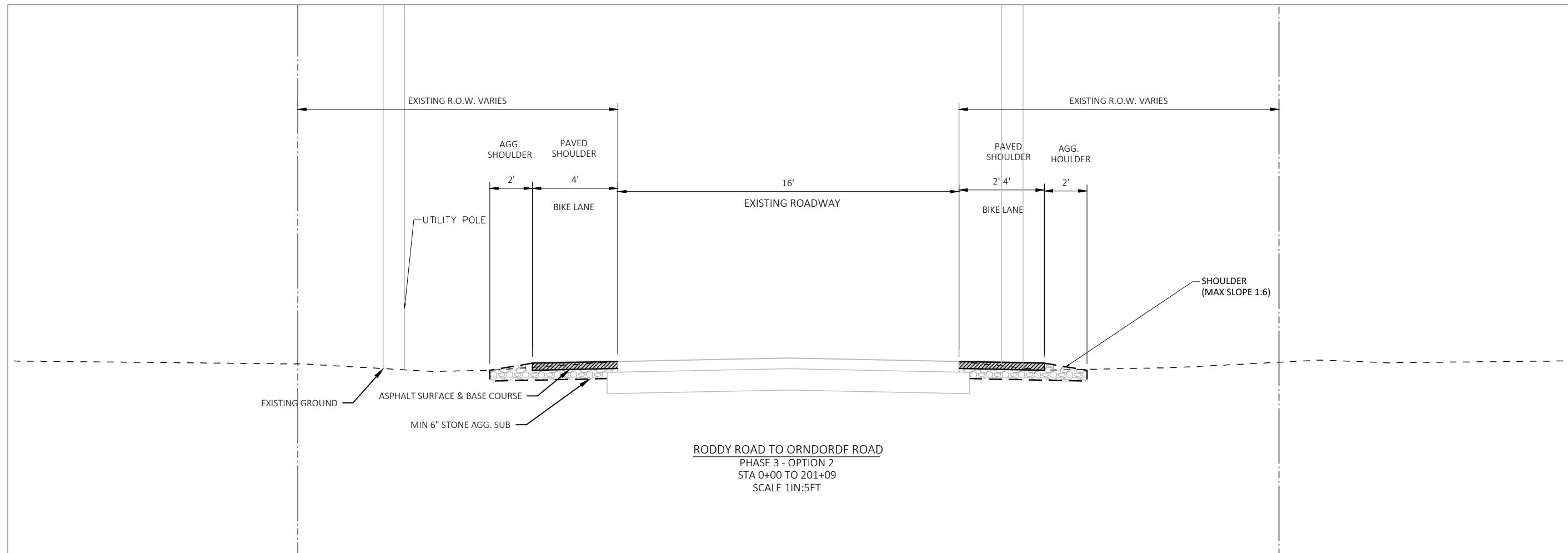
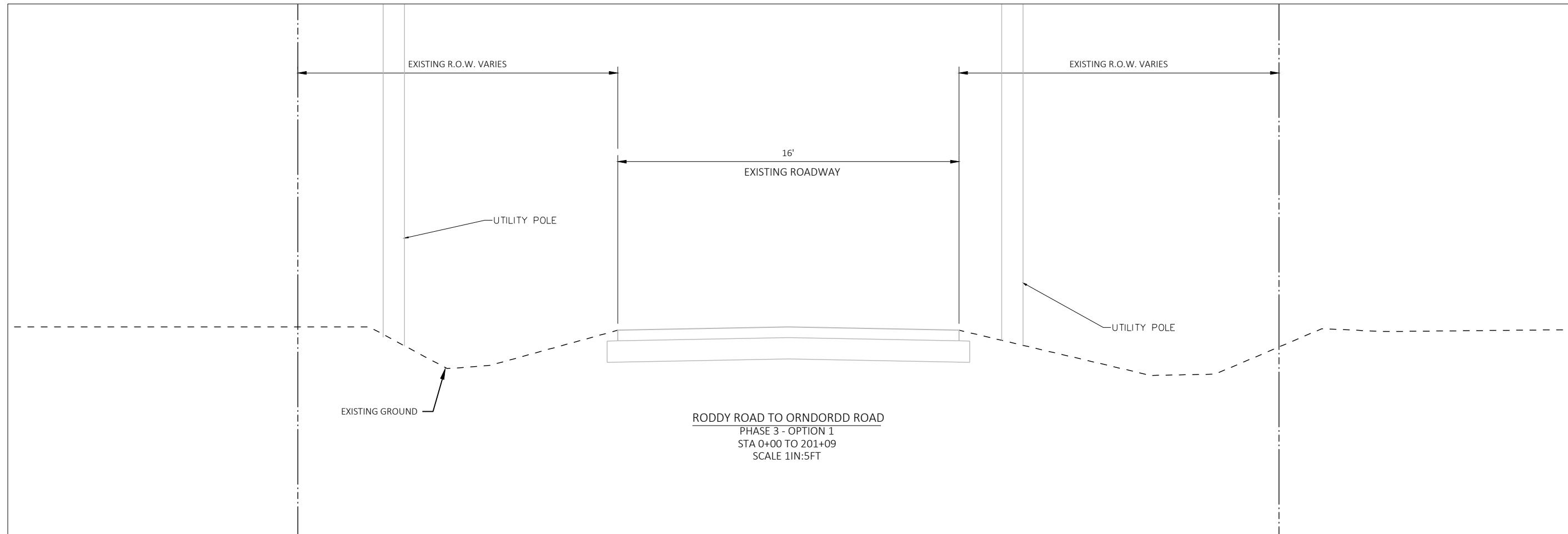
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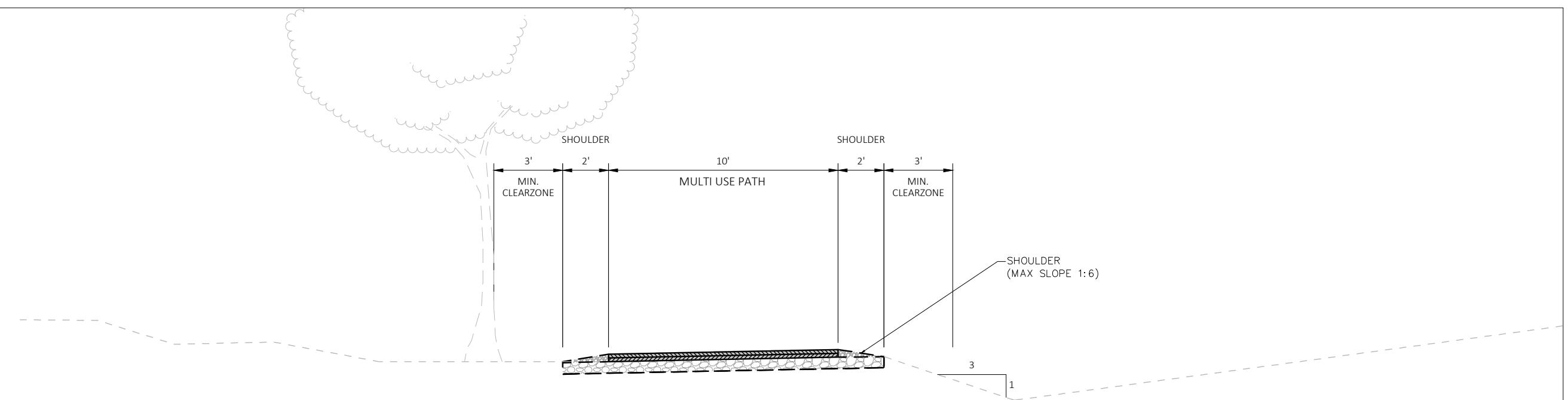
## CONTENTS

### TOPICAL SECTIONS

## MEET NO

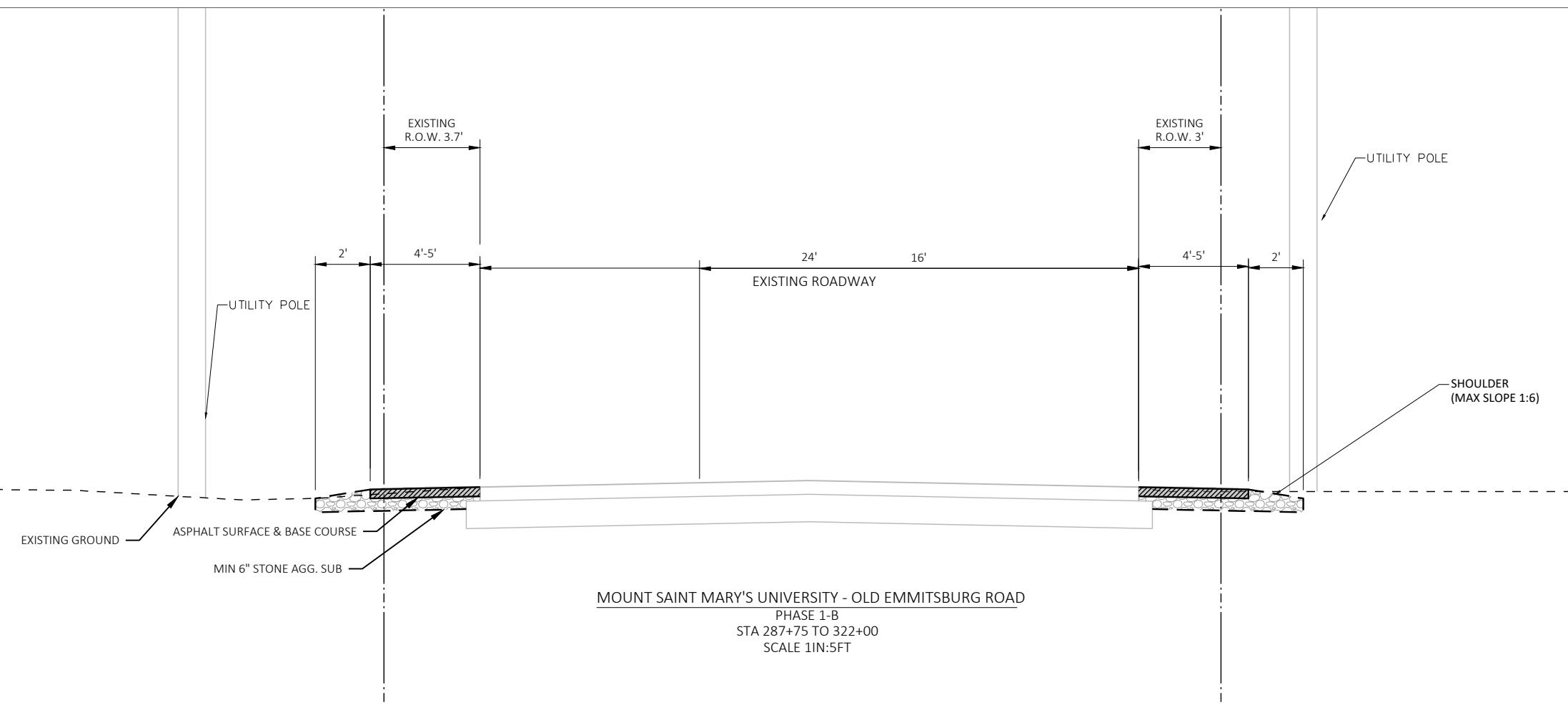
2-001





## ORINDORF ROAD TO MOUNT SAINT MARY'S

PHASE 2  
STA 201+09 TO 262+  
SCALE 1IN:5FT



MOUNT SAINT MARY'S UNIVERSITY - OLD EMMITSBURG ROAD

PHASE 1-B  
STA 287+75 TO 322+00  
SCALE 1IN:5FT

## **FREDRICK COUNTY THURMONT TO EMMITSBURG SHARED PATH**

THURMONT TO EMMITSBURG  
FREDRICK COUNTY, MD

## ISSUE

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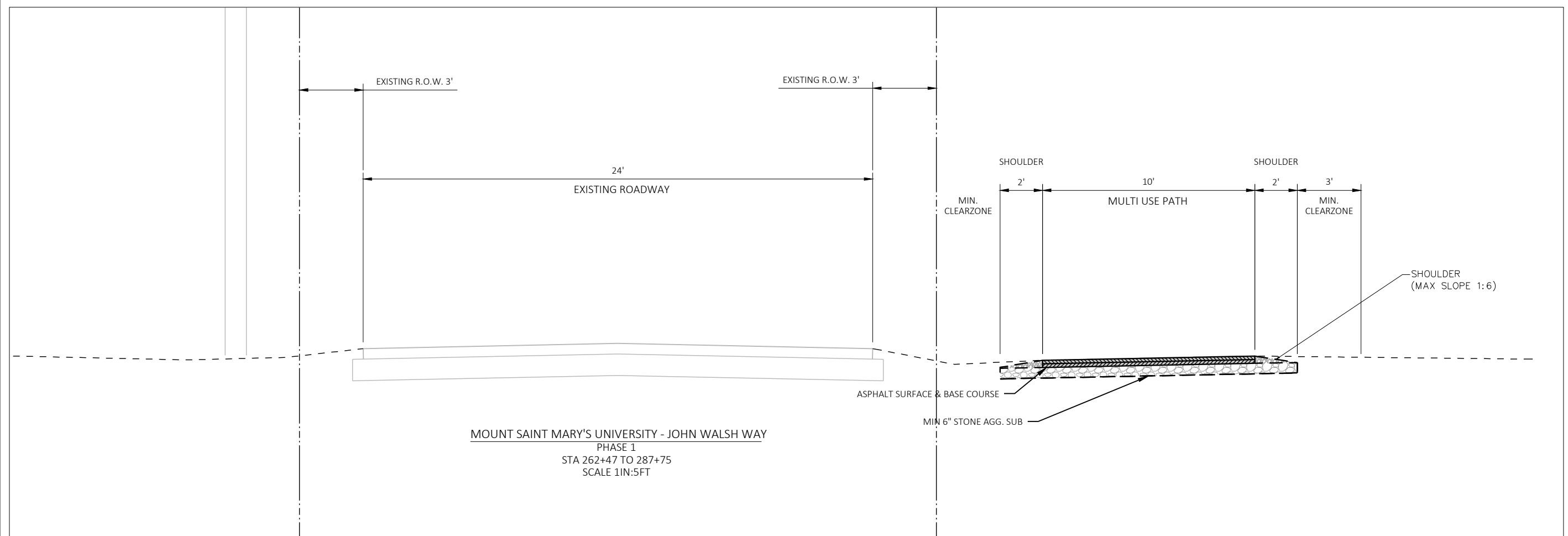
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SHEET NO. \_\_\_\_\_

OF

2 002

2-002



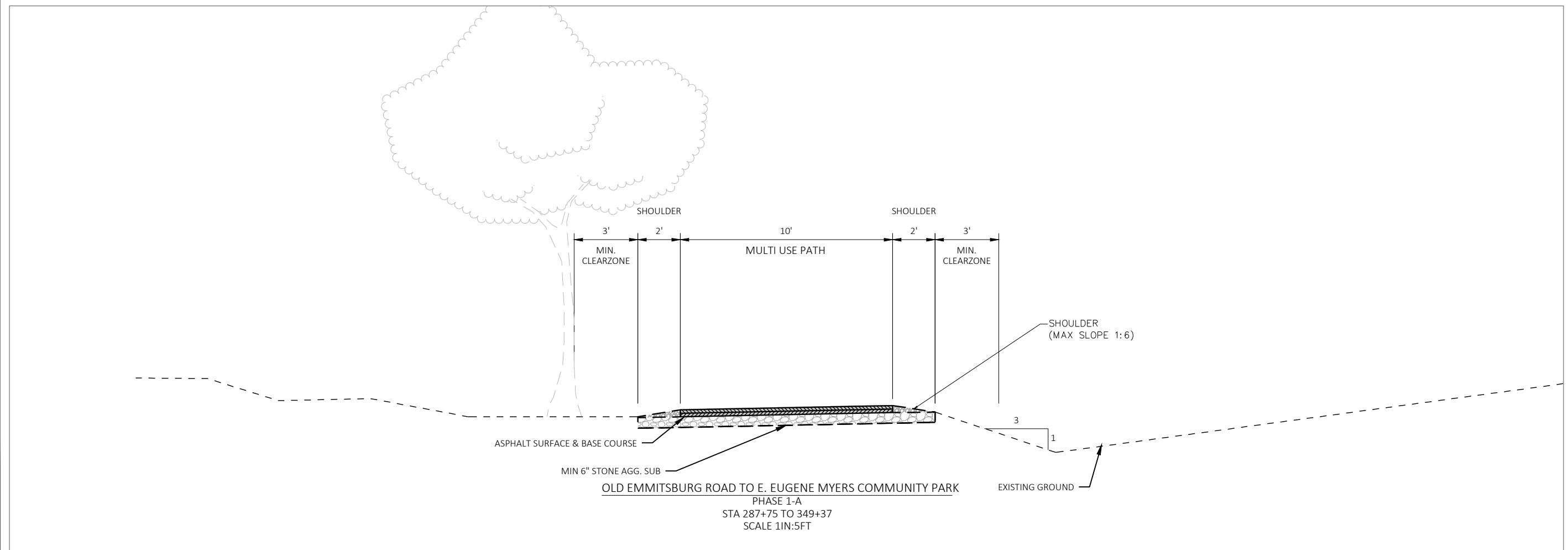
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## THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
EREDICK COUNTY MD



4664431-223191.01  
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## CONTENTS

PROBLEMS

10 of 10

MEET NO. **OE**

51

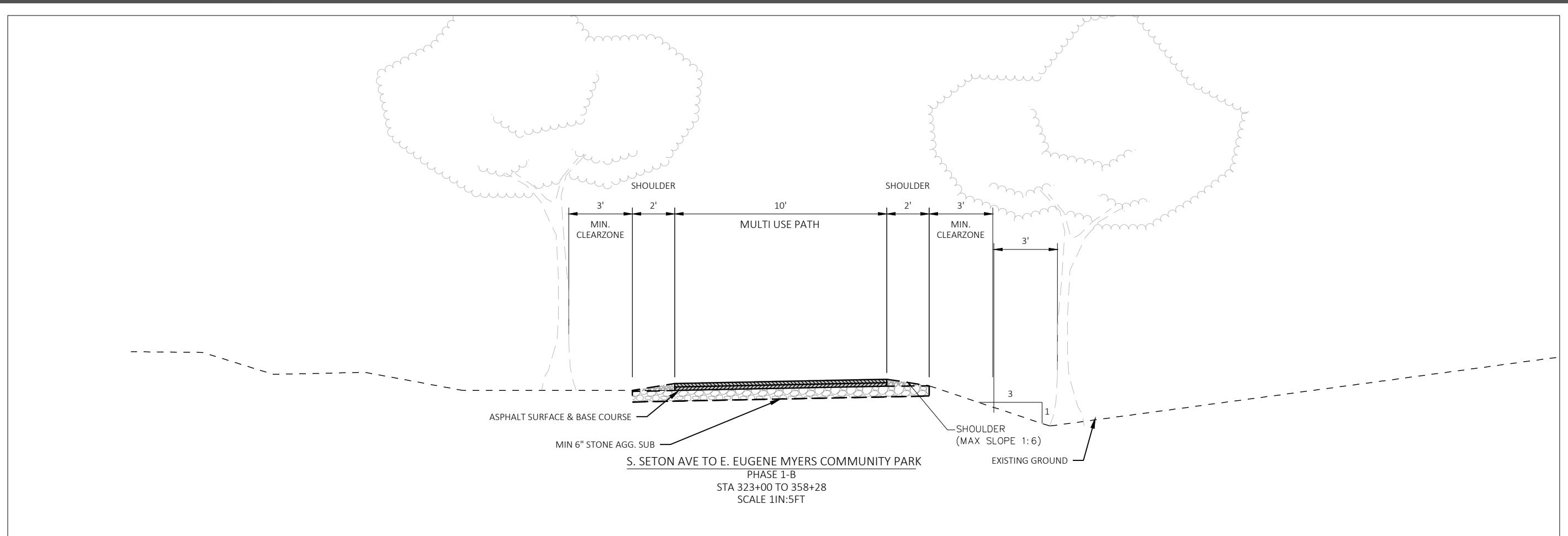
2003

2-003

— 1 —

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HEET NO. OF  
**2-003**



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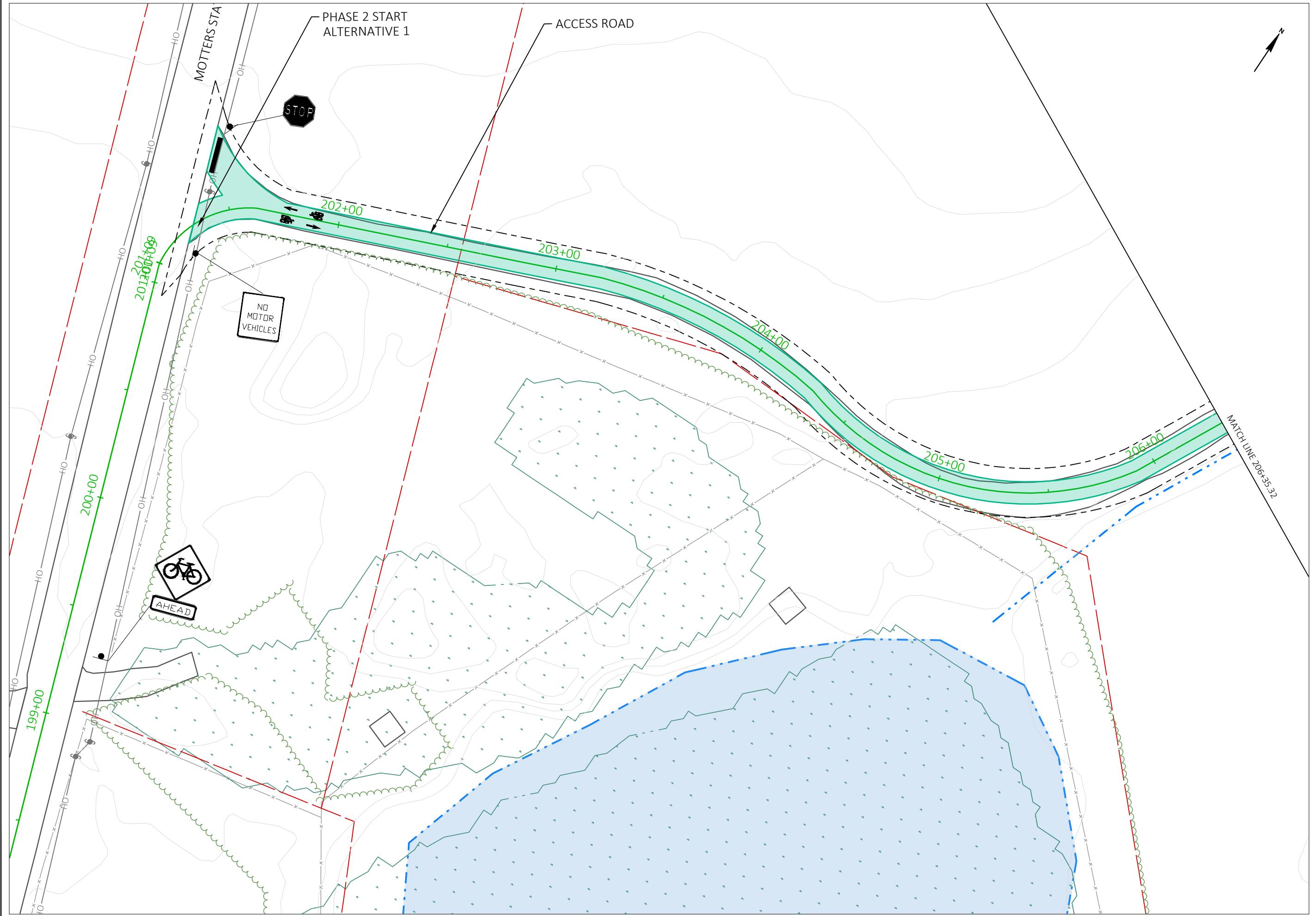
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THURMONT TO EMMITSBURG  
FREDRICK COUNTY, MD

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EET CONTENTS  
YPICAL SECTIONS

EEET NO. OF 2-004



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## SHEET CONTENTS

# PHASE 2

SCALE 1IN 40FT

001 OF X

5-001

5-001



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Month 00, 2023  
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MEET CONT

SCALE 1IN. 10FT.

GOALS IN 4011

5-003

This figure is a topographic map with the following features:

- Contour Lines:** Shown as a series of grey lines representing elevation levels. A vertical profile line is drawn through the center of the map, with elevations marked at 213+00, 214+00, 215+00, 216+00, and 217+00.
- Match Lines:** Two dashed lines labeled "MATCH LINE 212+21.04" and "MATCH LINE 217+70.12" are shown, with a series of "x" marks along them.
- Road:** A solid black line representing a road or path, with a series of '+' marks along its length.
- Cemetery:** Labeled "ELDER CEMETERY", this area is marked with green cross symbols.
- Quarry:** A large area in the bottom right corner is outlined in green and filled with a green dotted pattern, representing an open-pit mine or quarry.
- North Arrow:** A small black arrow in the top right corner indicates the direction of North.



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4664431-223191.01  
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AP  
AP  
XXX  
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## MEET CONTENTS

SCALE 1IN 40FT

001 OF X

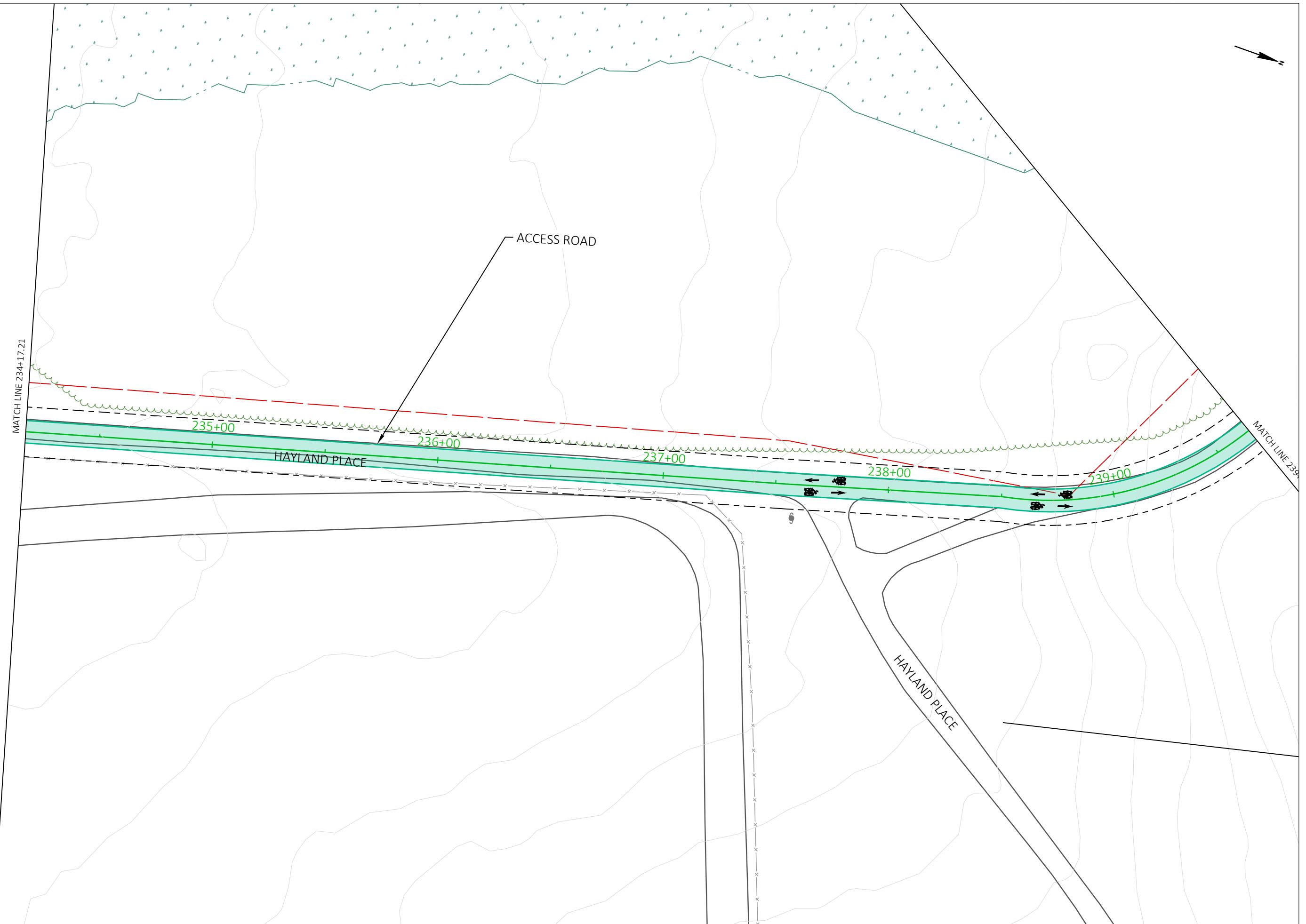
5-005

5-005

This site plan illustrates a residential development on a sloping hillside. The plan includes the following key features and labels:

- Match Lines:** Indicated by green wavy lines, with labels: MATCH LINE 223+17.38 (top left), MATCH LINE 224+00 (middle left), MATCH LINE 225+00 (center), MATCH LINE 226+00 (bottom center), MATCH LINE 227+00 (bottom right), and MATCH LINE 228+00 (right side).
- Building:** A rectangular footprint representing a building structure.
- ACCESS ROAD:** A road leading into the development area.
- RUNNERS LANE:** A road running parallel to the hillside.
- HAYLAND PLACE:** A road running along the right side of the hillside.
- Contour Lines:** Gray lines representing the natural topography of the hillside.
- Red Lines:** Lines indicating property boundaries or specific survey points.
- Blue Lines:** Lines representing the proposed road alignment or property boundaries.
- North Arrow:** A small arrow in the top right corner indicating the direction of North.







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## FREDRICK COUNTY THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
FREDRICK COUNTY, MD

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## SHEET CONTENTS

# PHASE 2

SCALE 1IN 40FT

SHEET NO. 001 OF X

5-009

This site plan illustrates the layout of Father Redmond Court. The property is bounded by several lines: MATCH LINE 247+41.13 to the north, MATCH LINE 249+42.22 to the east, and an unnamed line to the west. The plan shows a paved area labeled "FATHER REDMOND COURT" with a green line, and a lower-level area with a grey line. A "VEHICLE PARKING LOT" is indicated with a large rectangular area containing two elongated, irregular shapes representing parking spaces. A small rectangular building is located near the top center. The terrain is depicted with light grey hatching, and several green shrubs are marked with small green icons. A north arrow is located in the top right corner.



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## THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG SHA  
FREDRICK COUNTY MD

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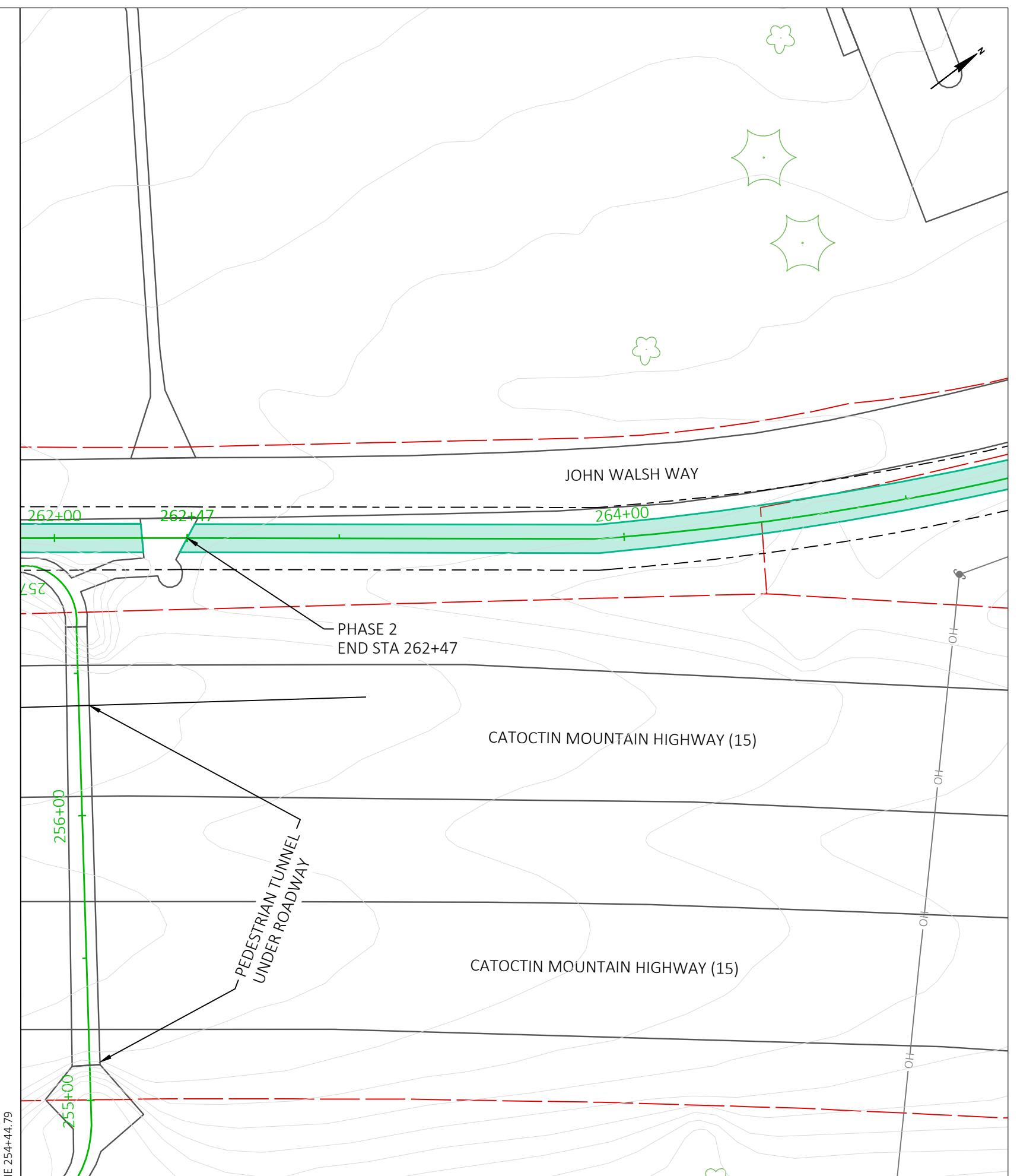
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## MEET CONTENTS PHASE 2

SCALE 1IN 40FT

001 OF X

5-011



MATCH LINE 254+44.7

MATCH LINE 256

258+00  
261+00

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MEET CONTENTS

SCALE 1IN 40FT

STREET NO.

001 OF X

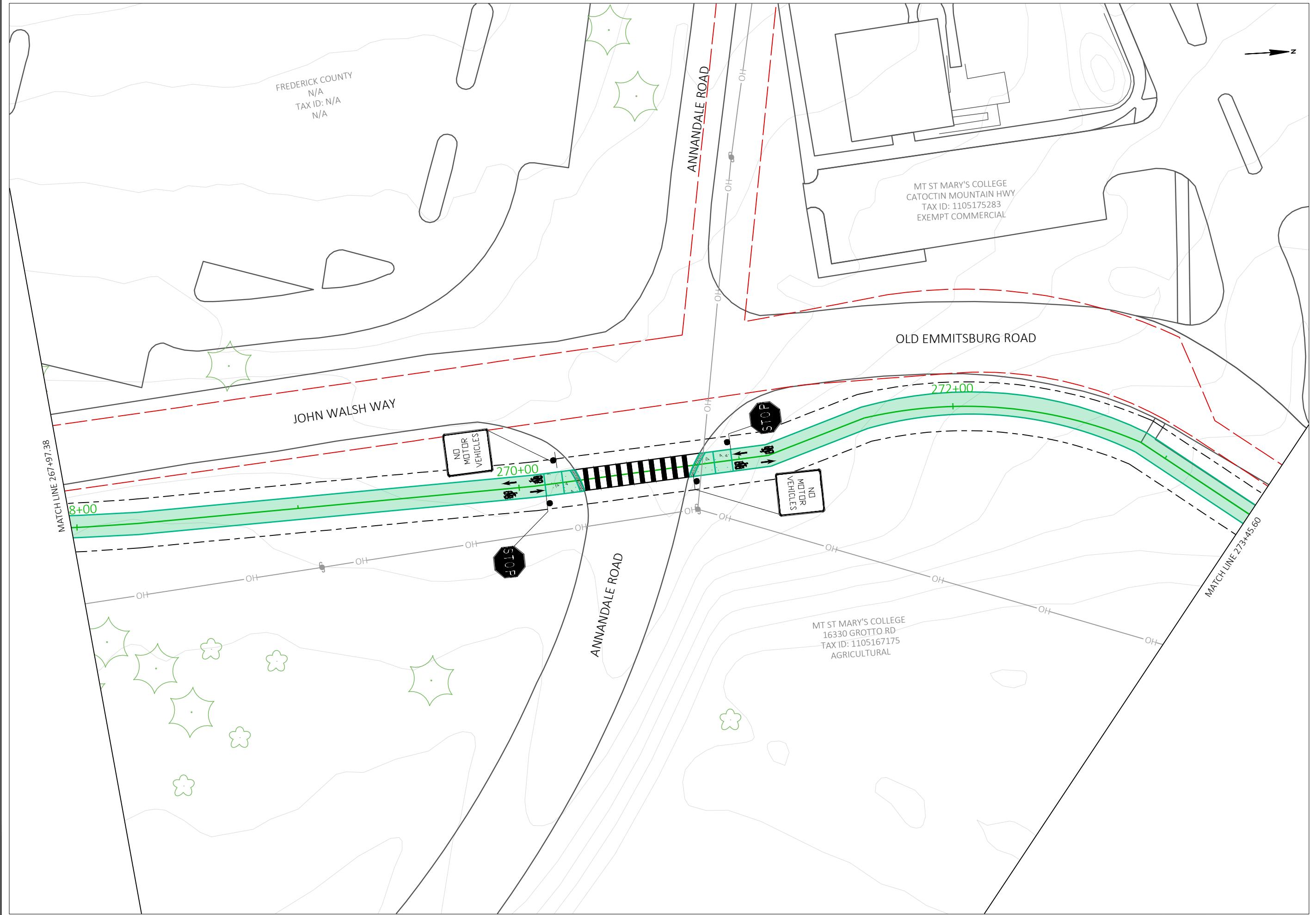
5 013

5-015

1000 JOURNAL OF CLIMATE

This map displays a highway alignment with the following key features:

- Highway Alignments:** A red dashed line represents the proposed alignment, and a green solid line with a light green shaded buffer represents the existing alignment. Milepost markers 262+17, 264+00, and 266+00 are indicated along the green line.
- Right-of-Way:** A black line indicates the right-of-way boundary.
- Property Lines:** Gray lines represent property boundaries, some of which are labeled with "N/A".
- Landmarks:** A north arrow is located in the top right corner. A rectangular building is shown in the upper center. A cluster of green trees is labeled "FREDERICK COUNTY N/A TAX ID: N/A N/A". A green Holly bush is labeled "MT ST MARY'S COLLEGE 16330 GROTTO RD TAX ID: 1105167175 AGRICULTURAL".
- Other Features:** A red dashed line labeled "MATCH LINE 267+97.30" runs parallel to the highway. A series of "OH" labels with arrows indicate overhead utility crossings. The highway is labeled "CATOCTIN MOUNTAIN HIGHWAY (15)" in two locations.



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FREDRICK COUNTY

## FREDRICK COUNTY

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## SHEET CONTENTS

# PHASE 1

SCALE 1IN 40FT

001 OF X

5-015

5-015

MT ST MARY'S COLLEGE  
CATOCTIN MOUNTAIN HWY  
TAX ID: 1105175283  
EXEMPT-COMMERCIAL

PRICE JOHN FRANCIS ETAL  
16404 OLD EMMITSBURG RD  
TAX ID: 1105161940  
RESIDENTIAL

MOUNT SAINT MARYS UNIVERSITY INC  
16428 OLD EMMITSBURG RD  
TAX ID: 1105175275  
AGRICULTURAL

OLD EMMITSBURG ROAD

274+00

276+00

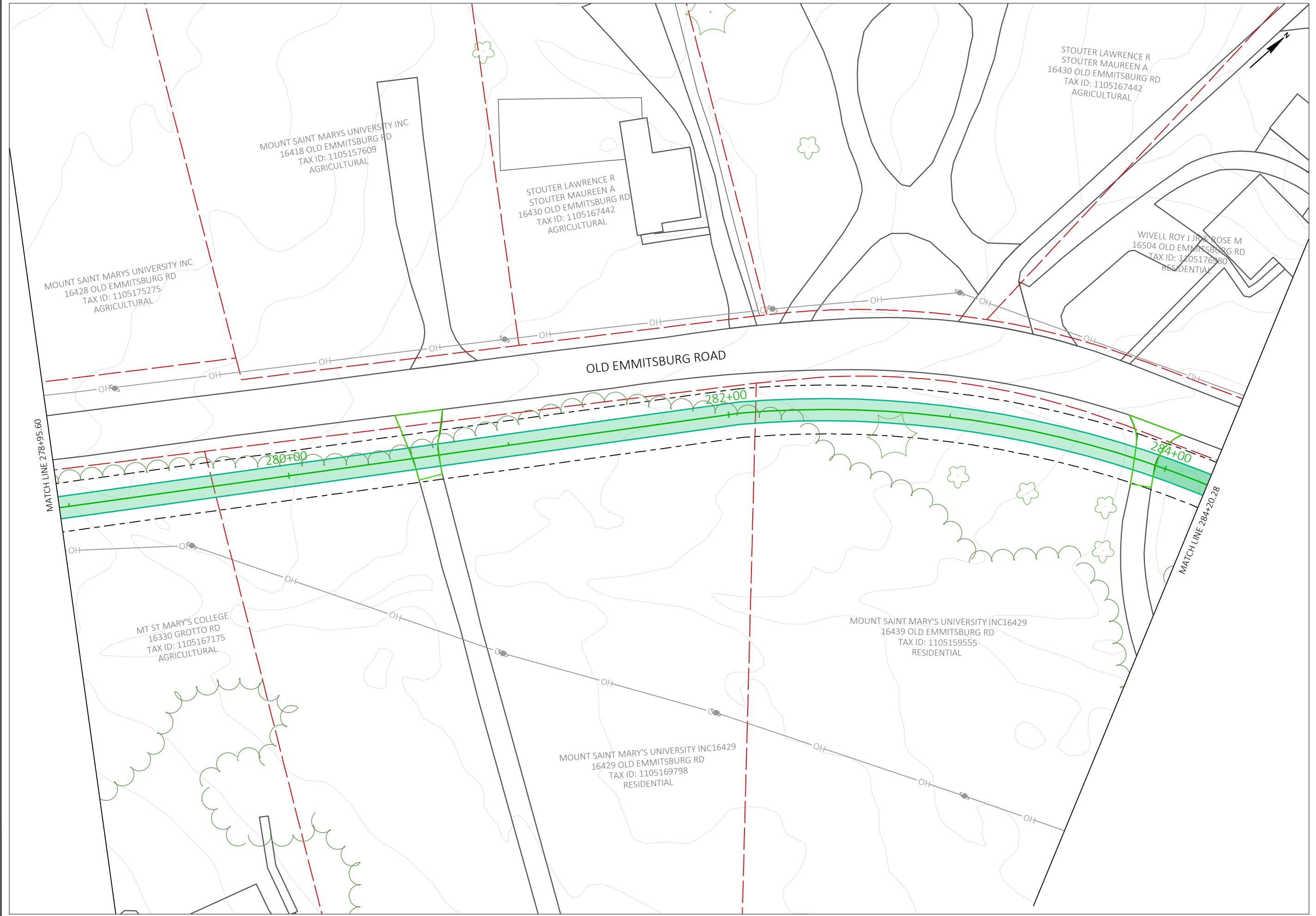
278+00

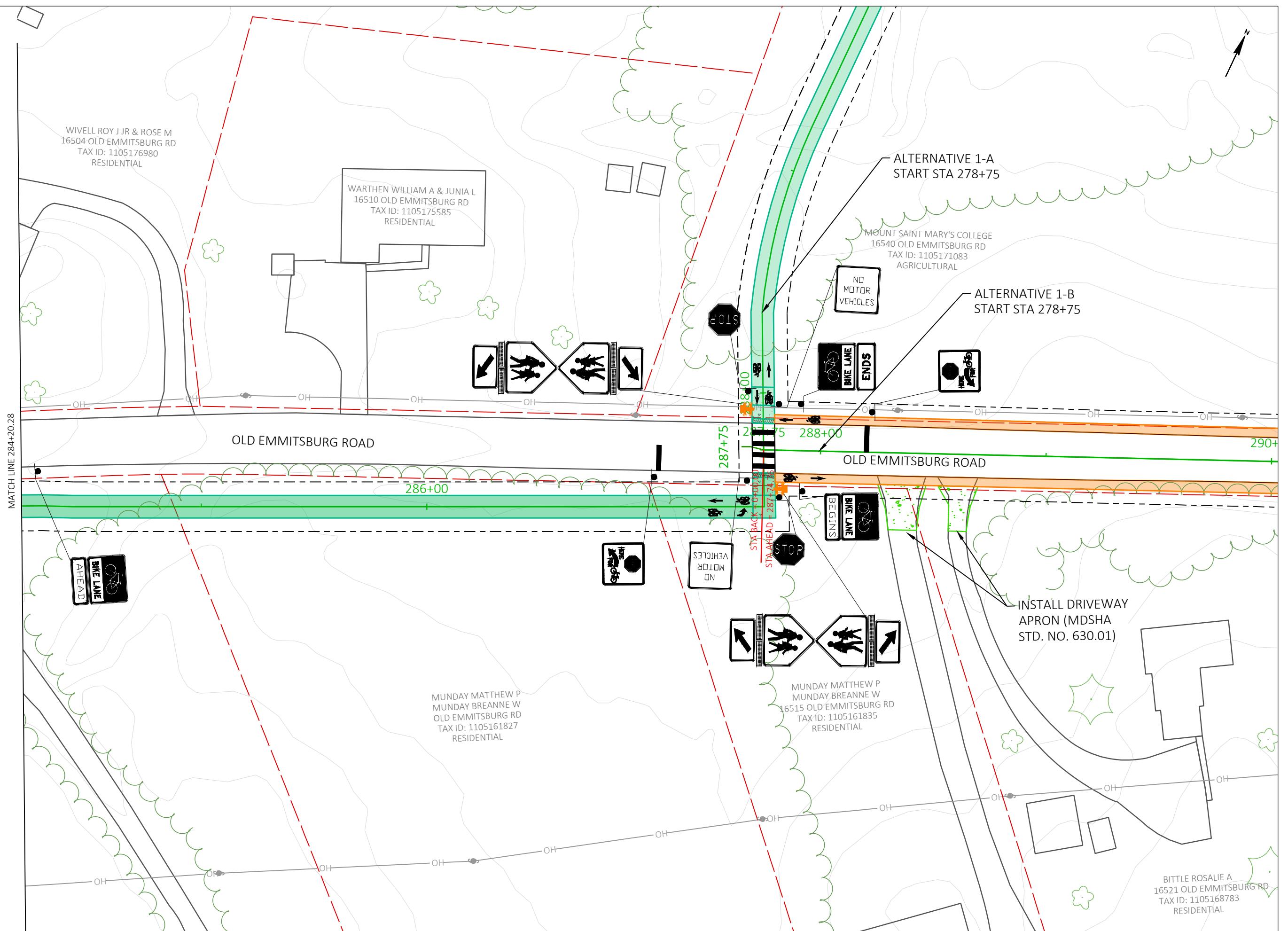
NO MOTOR VEHICLES

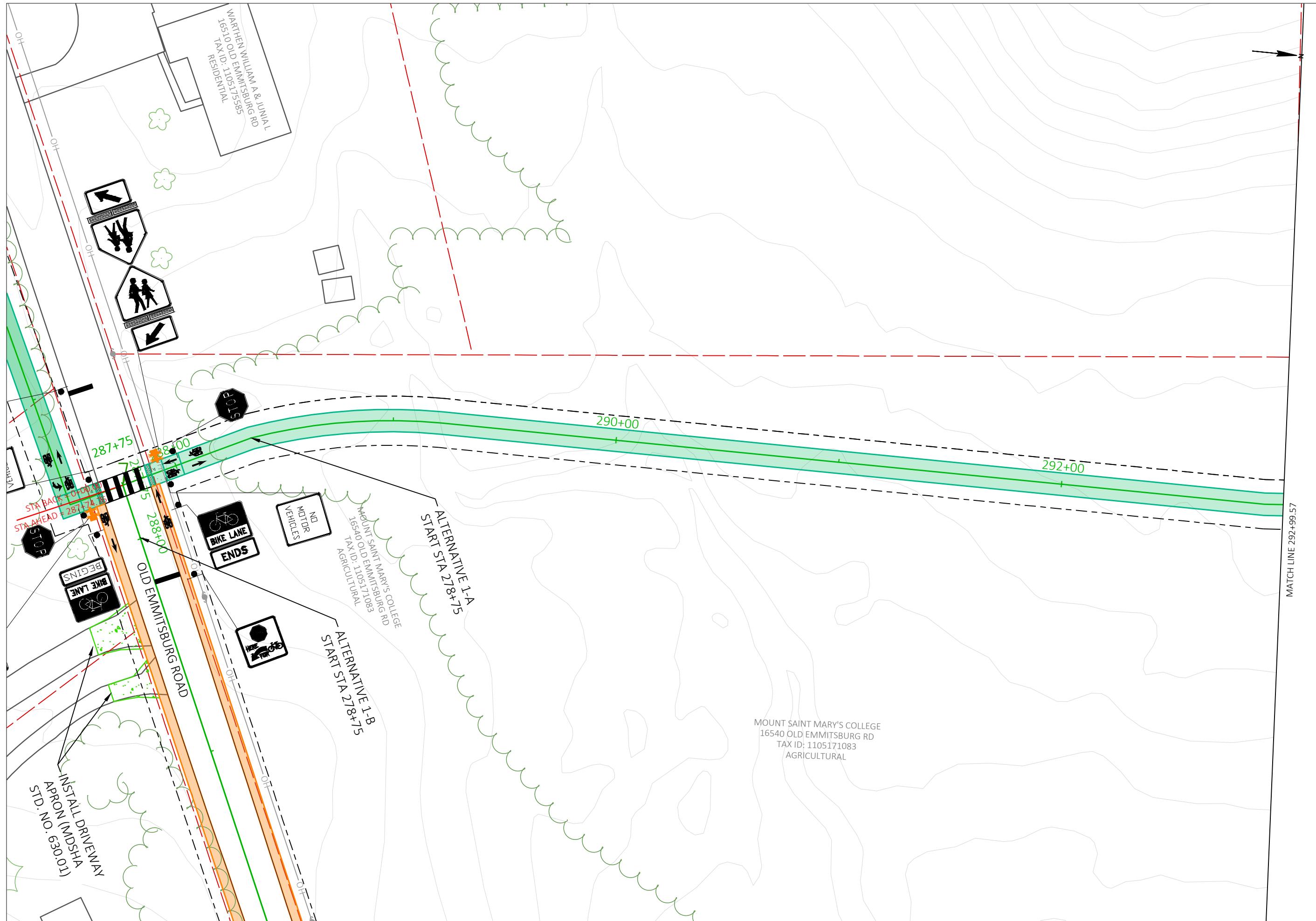
STOP

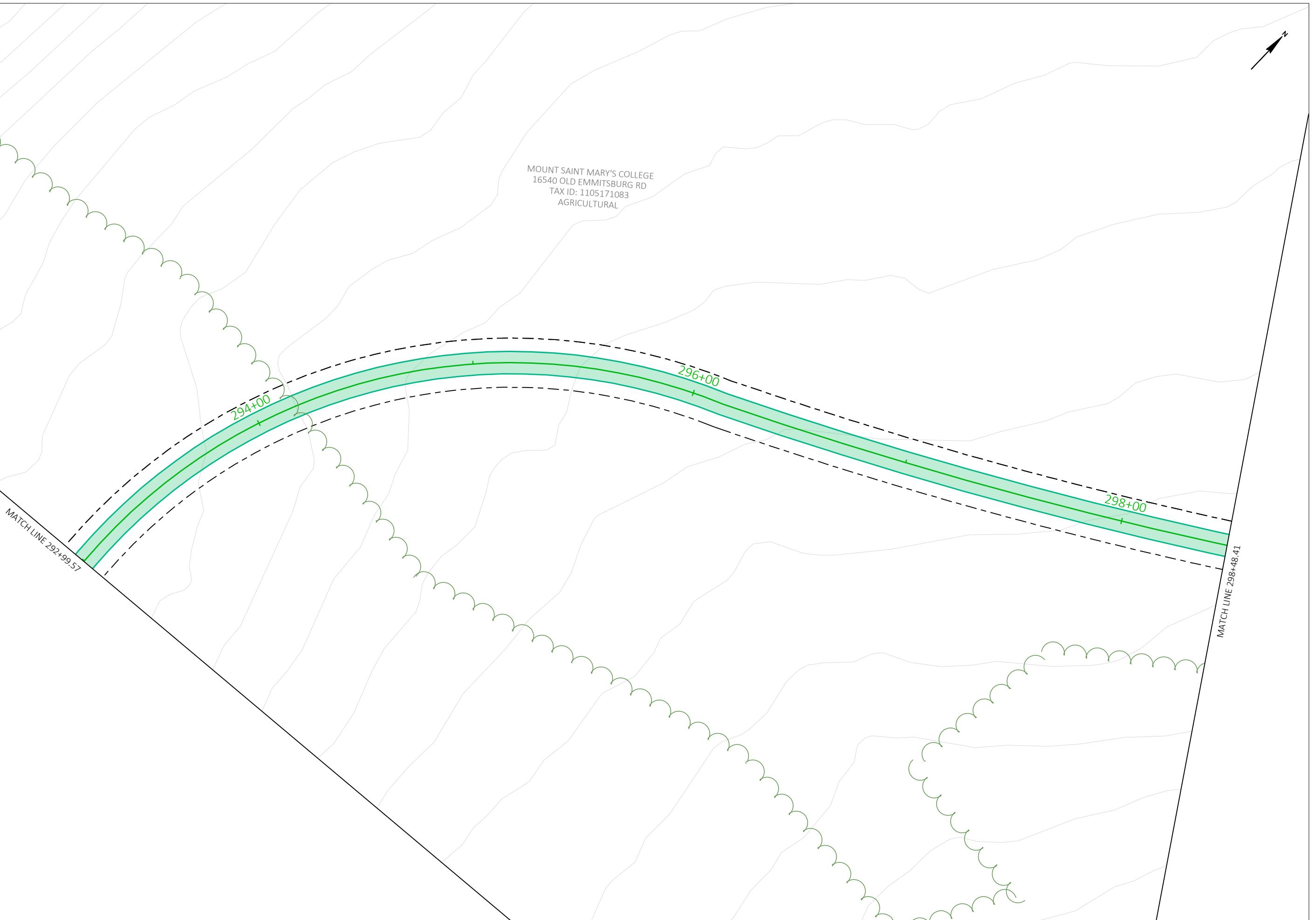
MATCH LINE 273+45.60

MATCH LINE 278+95.60









MATCH LINE 298+48.41

~~300+00~~

MOUNT SAINT MARY'S COLLEGE  
16540 OLD EMMITSBURG RD  
TAX ID: 1105171083  
AGRICULTURAL

卷之三

## FREDRICK COUNTY THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
FREDRICK COUNTY MD

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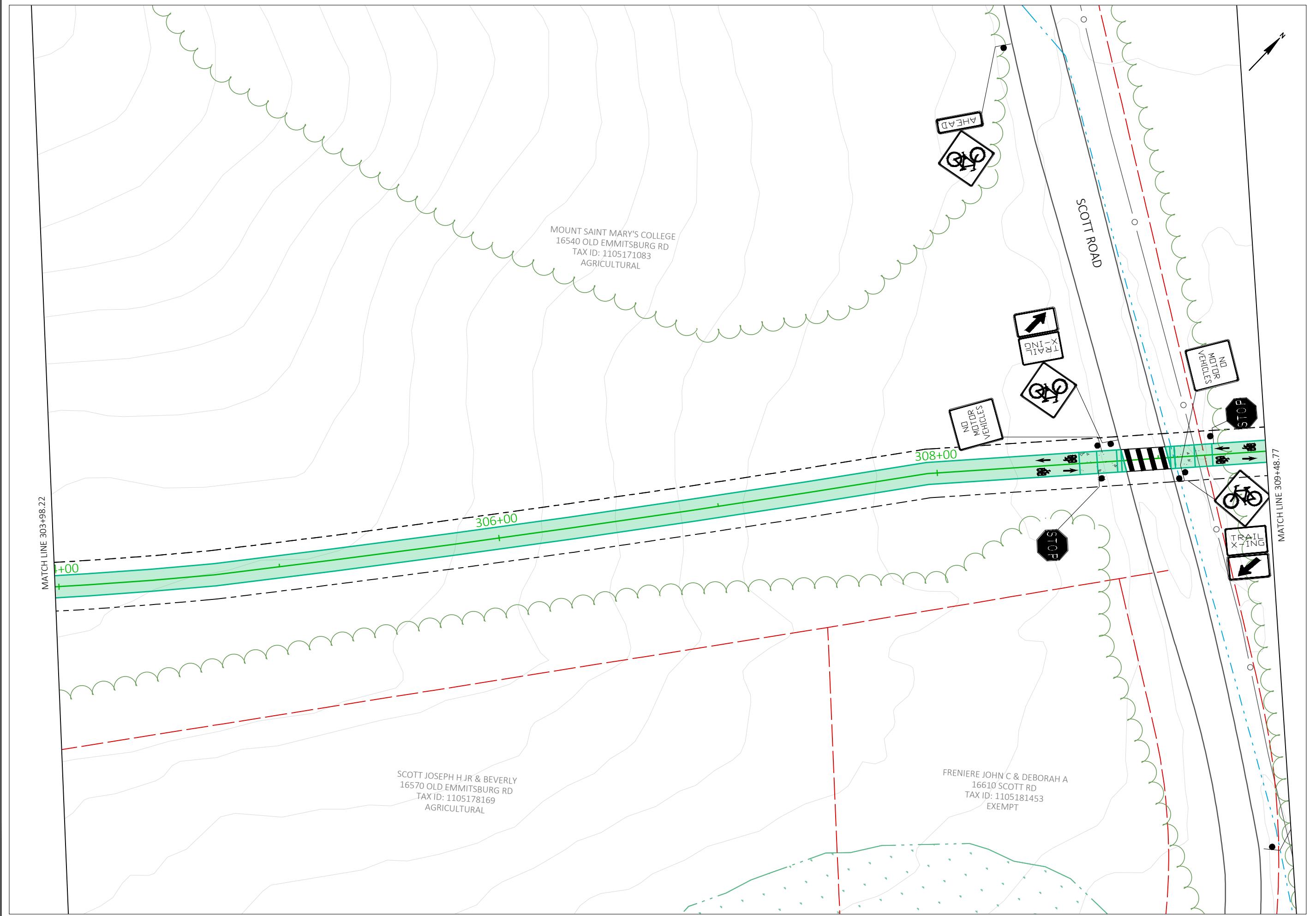
## SHEET CONTENTS

# PHASE 1-A

SCALE 1IN 40FT

SHEET NO. 001 OF X

5-020



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THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG SHA  
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## PHASE 1-A

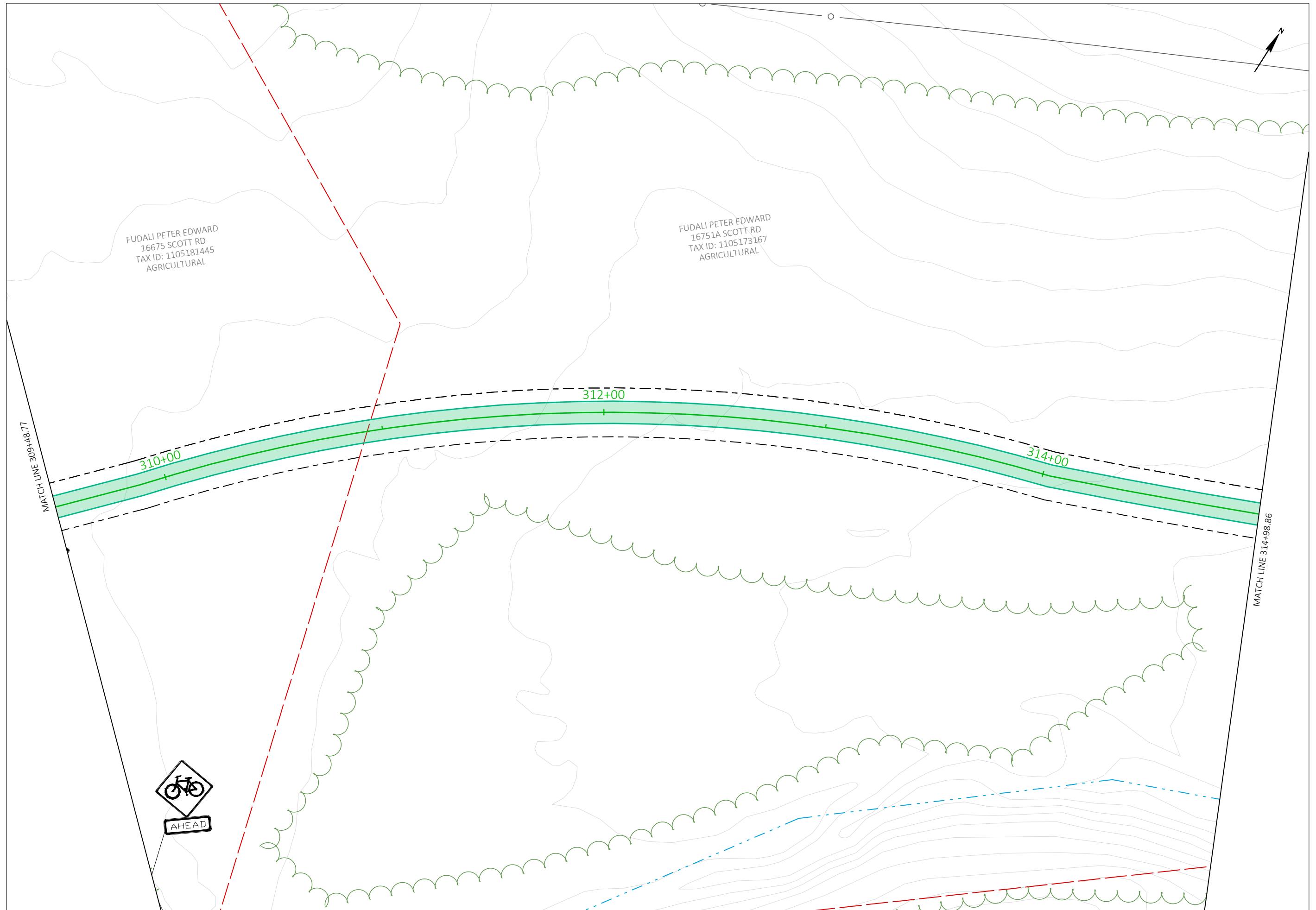
SCALE 1IN 40FT

001 OF X

5-221

5-021

5 52 1



MATCH LINE 314+98.86

10

FUDALI PETER EDW  
16751A SCOTT I  
TAX ID: 1105173  
AGRICULTUR

FUDALI PETER E  
SCOTT R  
TAX ID: 1105  
SIGHT

## FREDRICK COUNTY THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG  
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SHEET CONTENTS  
PHASE 1-A

SCALE 1IN 40FT

SHEET NO. 001 OF 1

5-023

5-023

MATCH LINE 320+49.47

- 1 -

FUDALI PETER EDWAR  
16751A SCOTT RD  
TAX ID: 110517316  
AGRICULTURAL

1

225+97.02

FUDALI PETER EDWARD  
SCOTT RD  
TAX ID: 1105173175  
AGRICULTURAL

**FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH**

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**PHASE 1-A**

SCALE 1IN 40FT

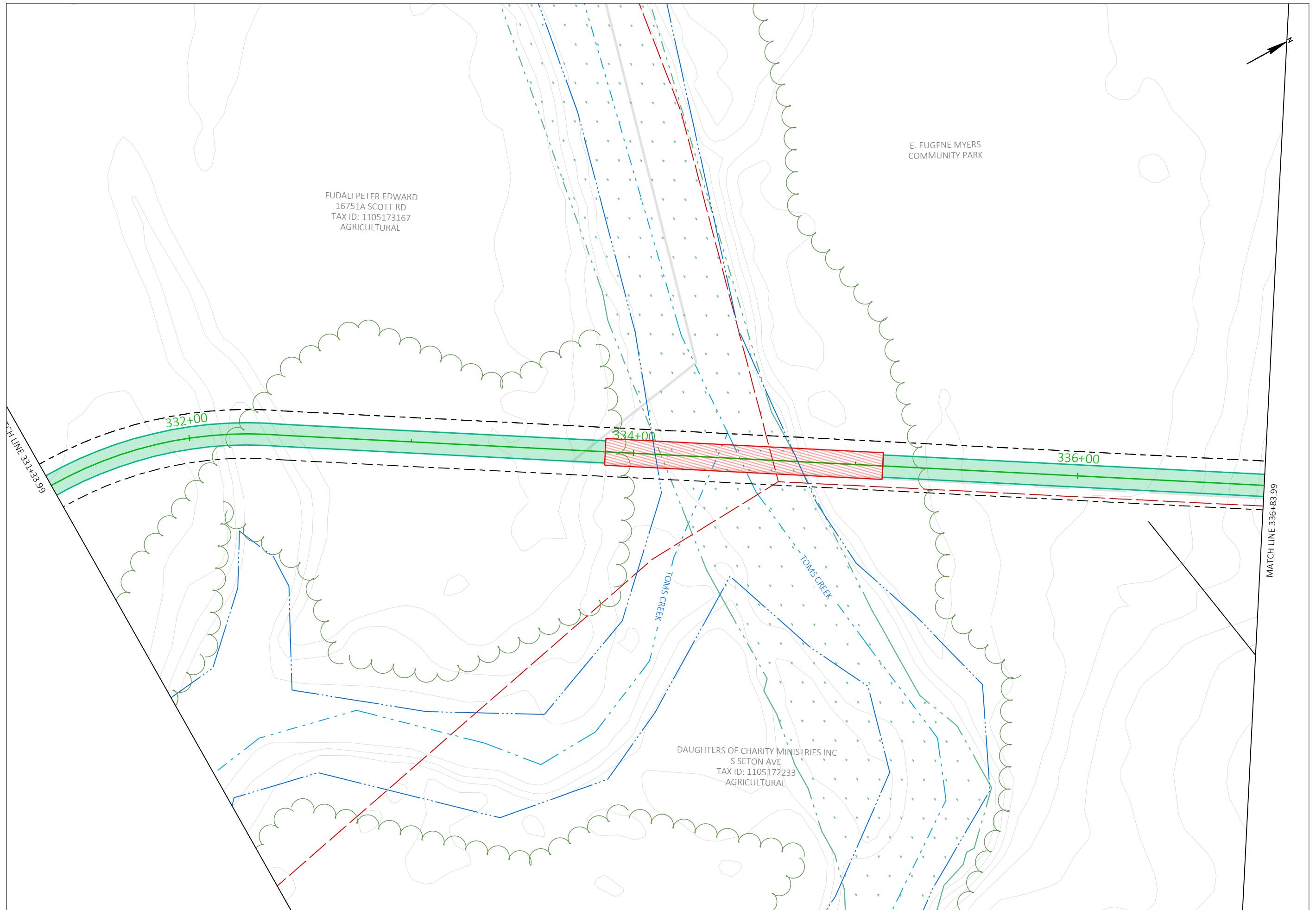
SHEET NO. 001 OF 1

5 024

5-024

10 of 10





E. EUGENE MYERS COMMUNITY PARK  
TOWN OF EMMITSBURG  
201 W LINCOLN AVE  
TAX ID: 1105174546  
EXEMPT COMMERCIAL

## ✓ ALTERNATIVE 1-A

MATCH LINE 336+83.99

1000

— — — —

- - - -

MATCH LINE 342+33.99

THURMONT TO EMMITSBURG  
FREDRICK COUNTY MD

DAUGHTERS OF CHARITY MINISTRIES INC  
S SETON AVE  
TAX ID: 1105172233  
AGRICULTURAL

## ALTERNATIVE 1-B

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X:\666443\1\223191.01\TEC

4664431-223191.01  
Month 00, 2023  
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SCALE 1IN 40FT

5-027

MATCH LINE 342+33.99

E. EUGENE MYERS COMMUNITY PA  
TOWN OF EMMITSBURG  
201 W LINCOLN AVE  
TAX ID: 1105174546  
EXEMPT COMMERCIAL

DAUGHTERS OF CHARITY MINISTRIES INC  
S SETON AVE  
TAX ID: 1105172233  
AGRICULTURAL

346+00

**FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH**

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FREDRICK COUNTY MD

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SHEET CONTENTS  
**PHASE 1-A**

SCALE 1IN 40FT

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SHEET NO. 001 OF X

5-028

E. EUGENE MYERS COMMUNITY PAR  
TOWN OF EMMITSBURG  
201 W LINCOLN AVE  
TAX ID: 1105174546  
EXEMPT COMMERCIAL

MATCH LINE 347+83.99

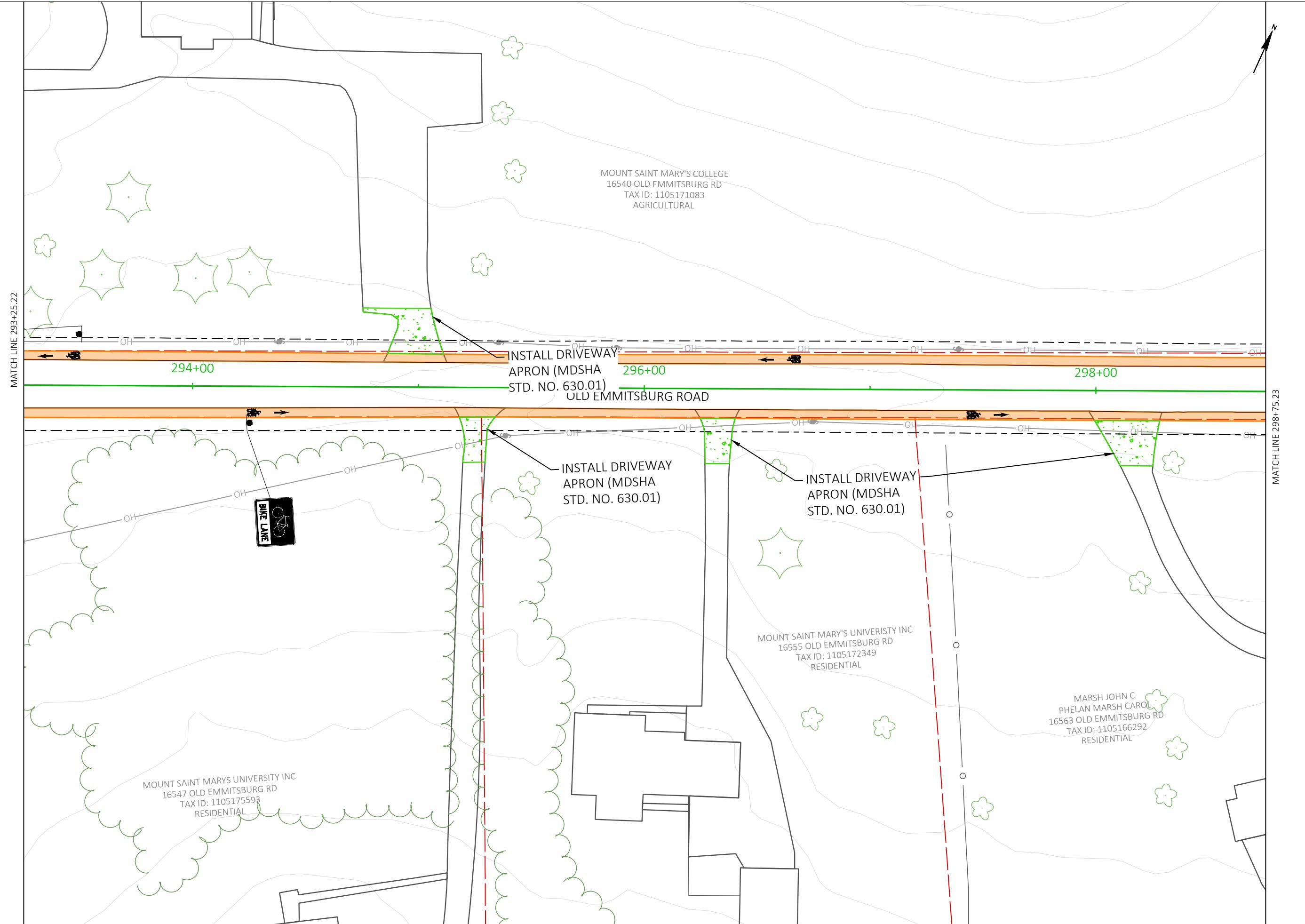
DAUGHTERS OF CHARITY MINISTRIES IN  
S SETON AVE  
TAX ID: 1105172233  
AGRICULTURAL

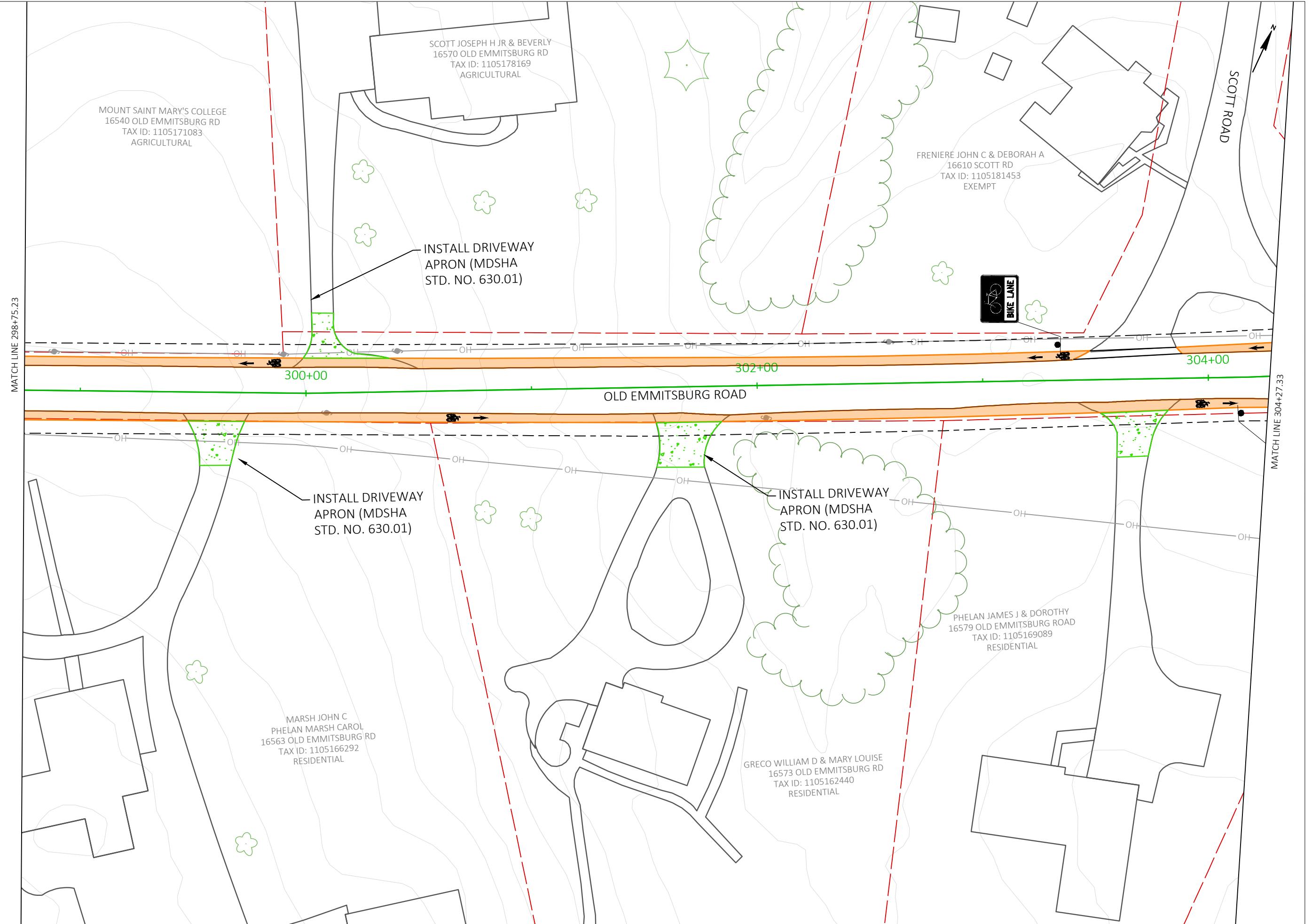
BOEHMAN-POLLITT AMY  
328 MOUNTAINEERS W  
TAX ID: 1105185912  
RESIDENTIAL

MAZE DAVID A & D  
330 MOUNTAINEER  
TAX ID: 1105185  
RESIDENTIAL

CANADAS ALEJANDRO A &  
FRAGA-CANADAS CYNTHIA P  
332 MOUNTAINEERS WAY  
TAX ID: 1105185890  
RESIDENTIAL







This figure is a topographic map showing a road alignment. The map includes contour lines, a north arrow, and a legend for symbols like trees and utility poles. Key features include a 'BIKE LANE' sign, a green line labeled '306+00', a green line labeled '308+00', and a red line labeled 'MATCH LINE 309+89.47'. The map is filled with numerous green starburst markers and small green leaf icons.

## THURMONT TO EMMITSBURG SHARED PATH

THURMONT TO EMMITSBURG SHAFT  
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FREDRICK COUNTY, MD

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## MEET CONTENTS

## PHASE 1-B

SCALE 1IN 40FT

HEET NO. 001 OF X

5-033



MATCH LINE 315+39.47

316

OLD EMMITSBURG RO

111

ZURGABLE PROPERTIES LLC  
16663 OLD EMMITSBURG RD  
TAX ID: 1105177367  
COMMERCIAL

TOLL GATE HILL LLC  
16665 OLD EMMITSBURG  
TAX ID: 1105177359  
COMMERCIAL

POTOMAC EDISON COMPANY  
OLD EMMITSBURG ROAD  
TAX ID: 1105169429  
COMMERCIAL

**FREDRICK COUNTY  
THURMONT TO EMMITSBURG SHARED PATH**

THURMONT TO EMMITSBURG  
FREDERICK COUNTY, MD

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M&H NO.: 4664431-223191.0  
DATE: Month 00, 2023  
DESIGNED BY: AP  
DRAWN BY: AP  
CHECKED BY: XXX  
DO NOT SCALE DRAWINGS

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## SHEET CONTENTS

# PHASE 1-B

SCALE 1IN 40FT

SCALE 1IN 40FT

SHEET NO. 001 OF X

001 OF 8

5/235

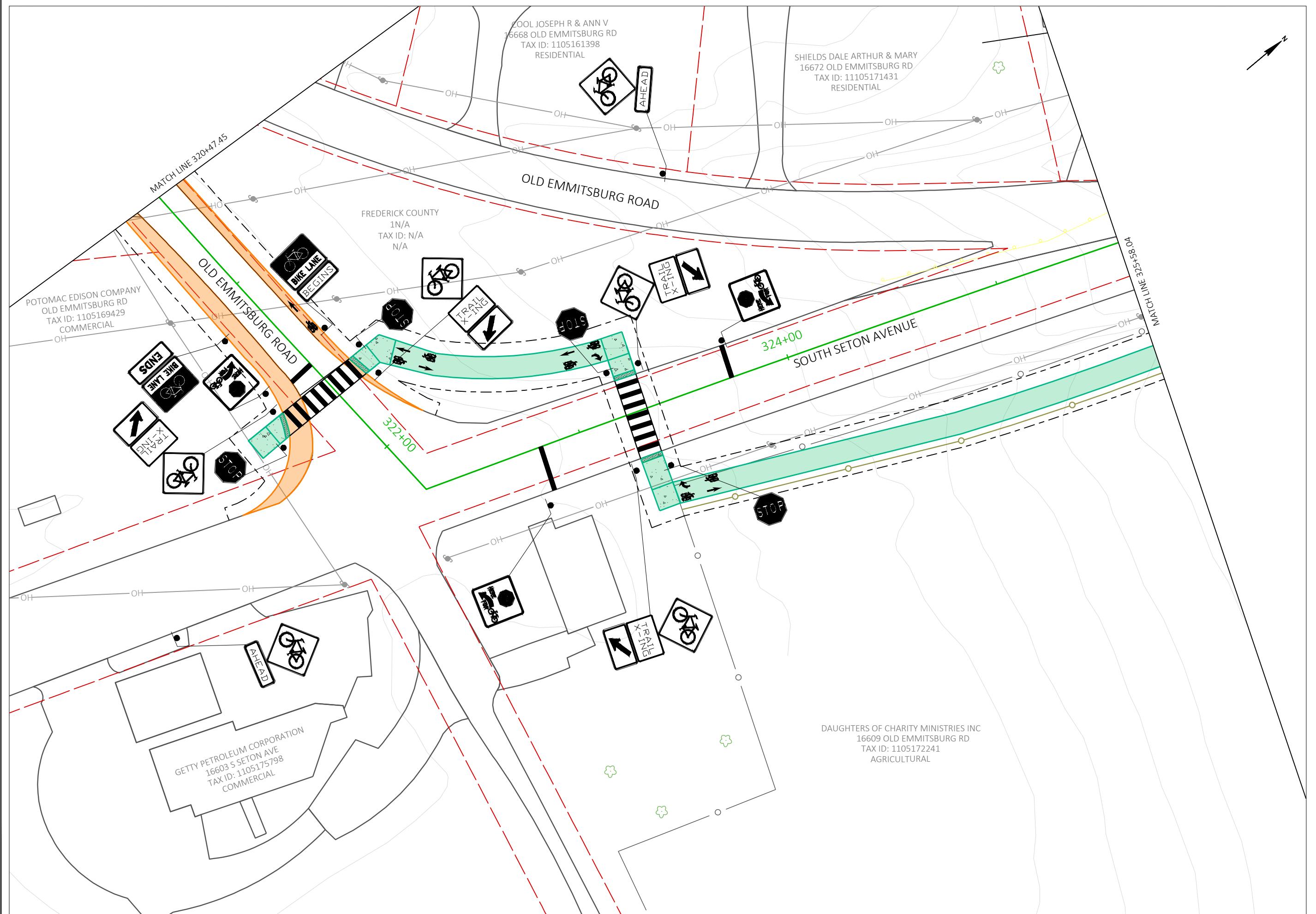
5-035

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THE INFLUENCE OF CULTURE ON PARENTING

ANSWER

5 035



THURMONT TO EMMITSBURG SHARED PATH

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Month 00, 2023  
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AP  
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SEE CONTENTS

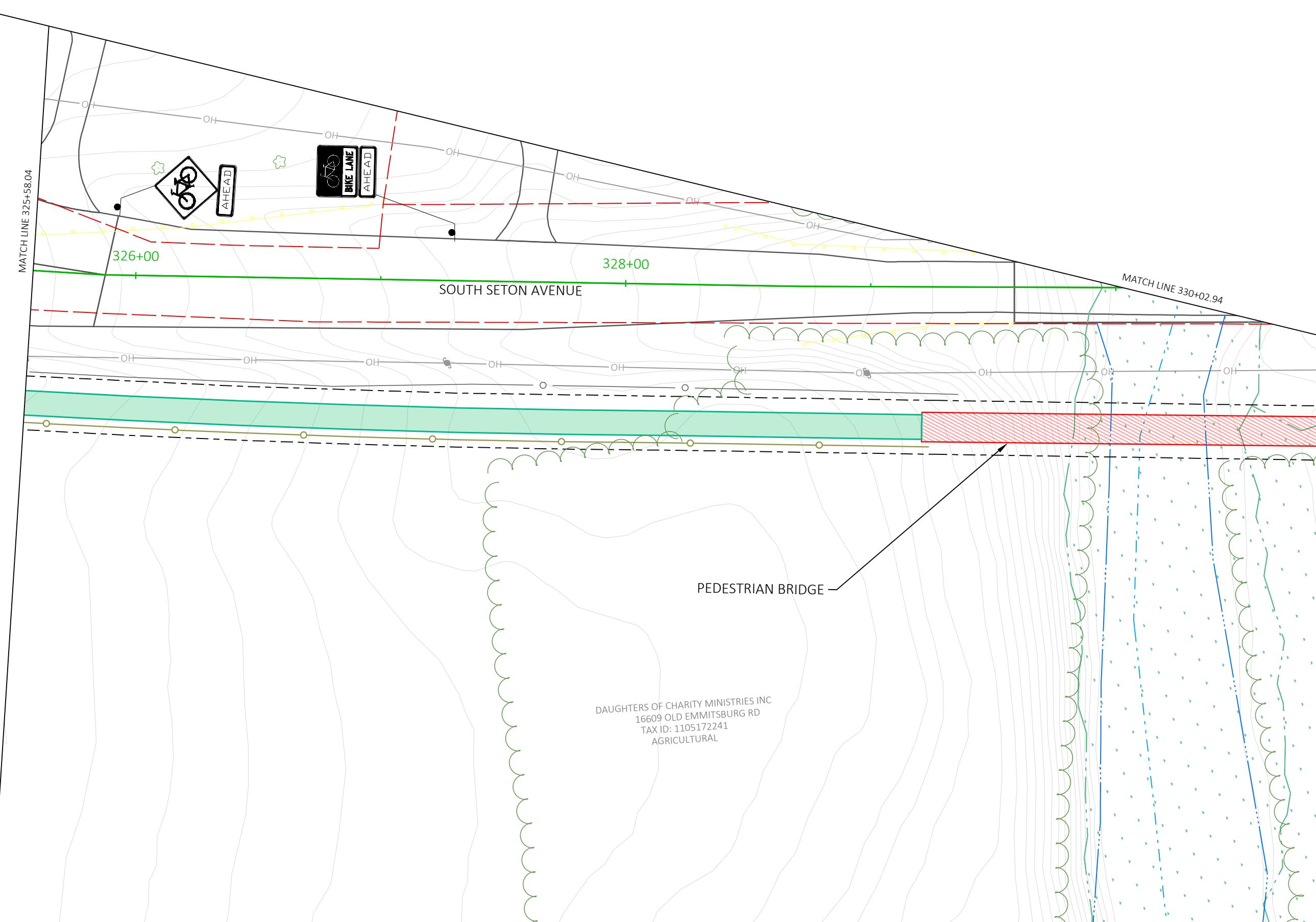
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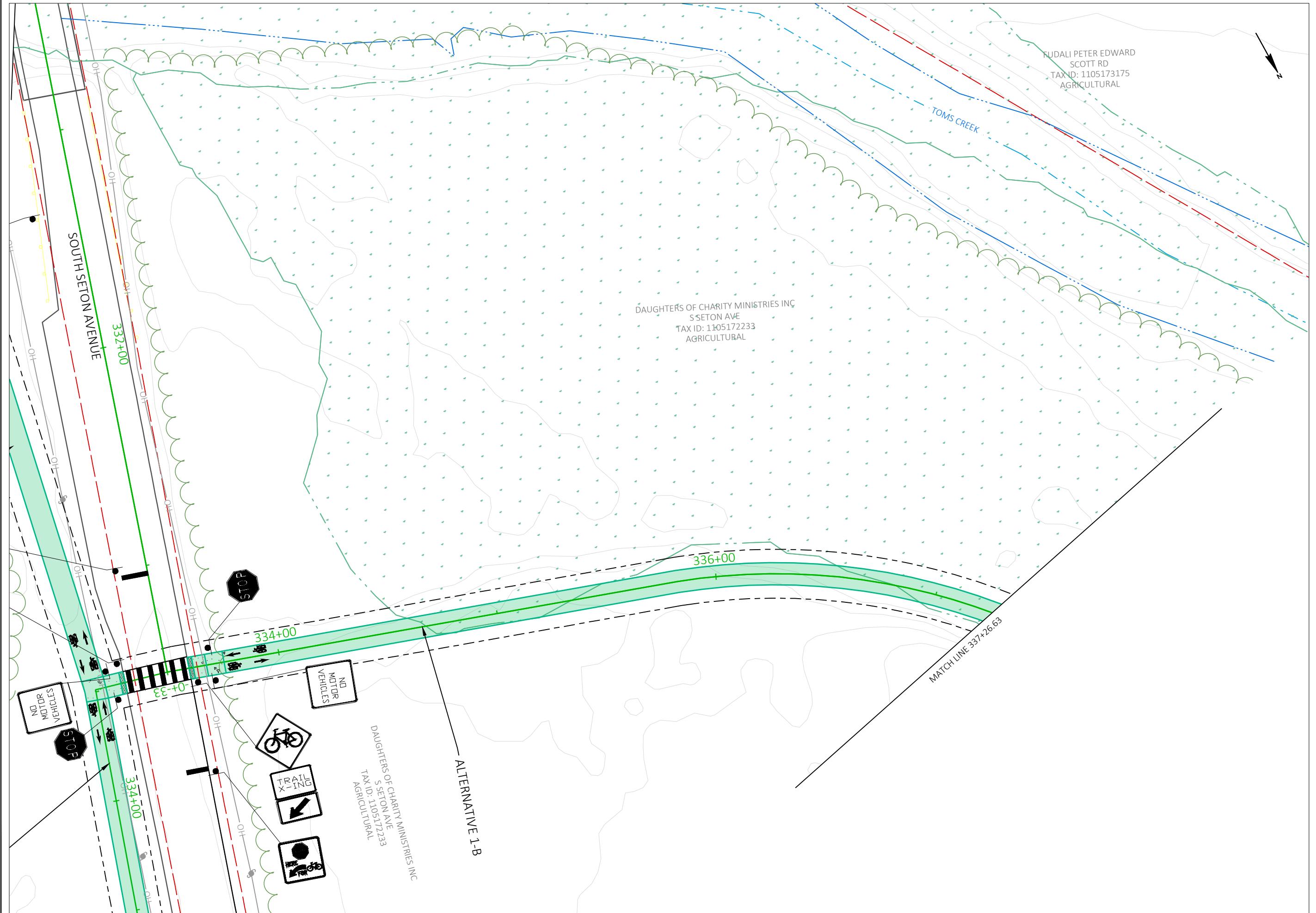
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001 OF X

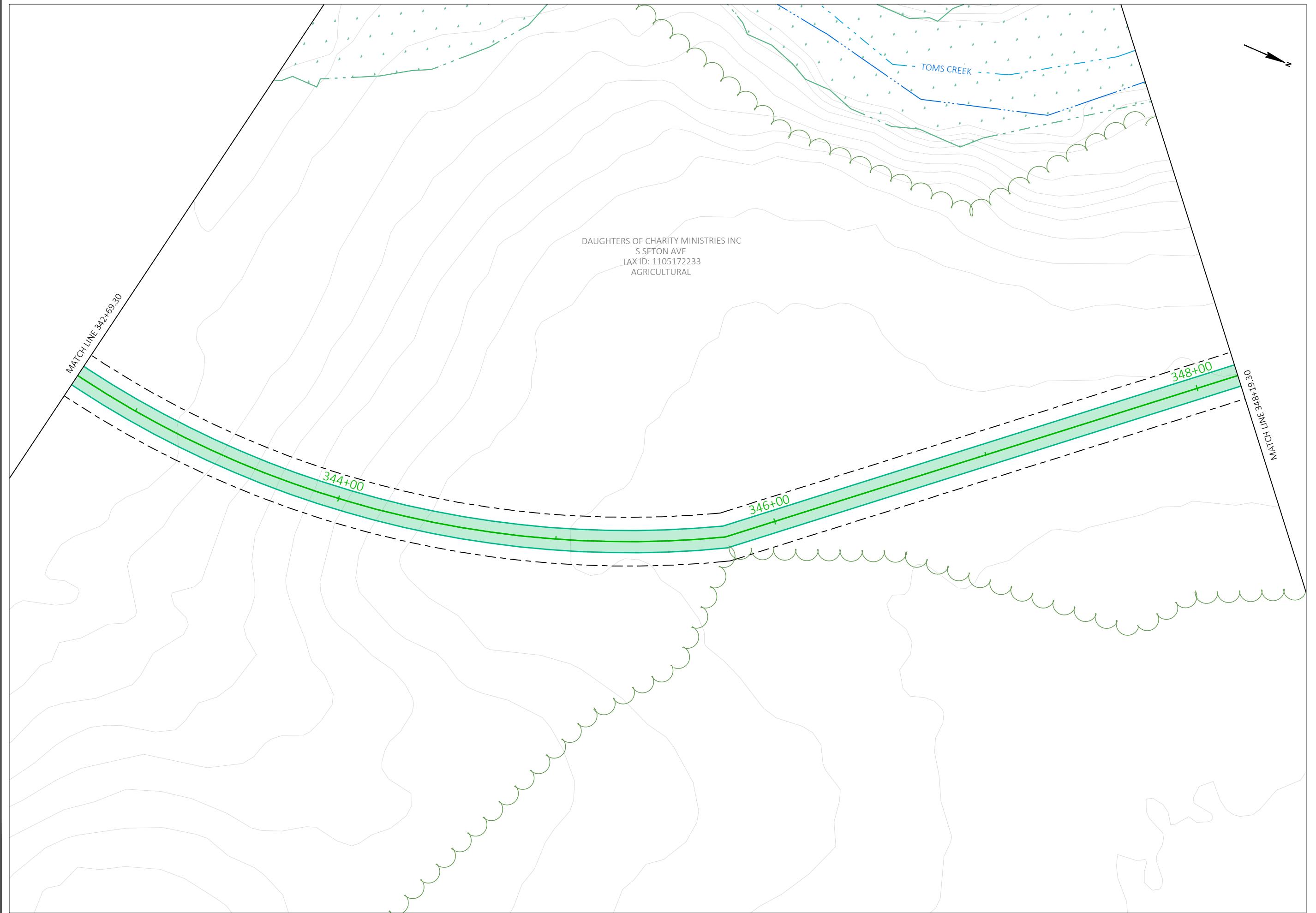
E 036

5-036









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EBERDICK COUNTY MD

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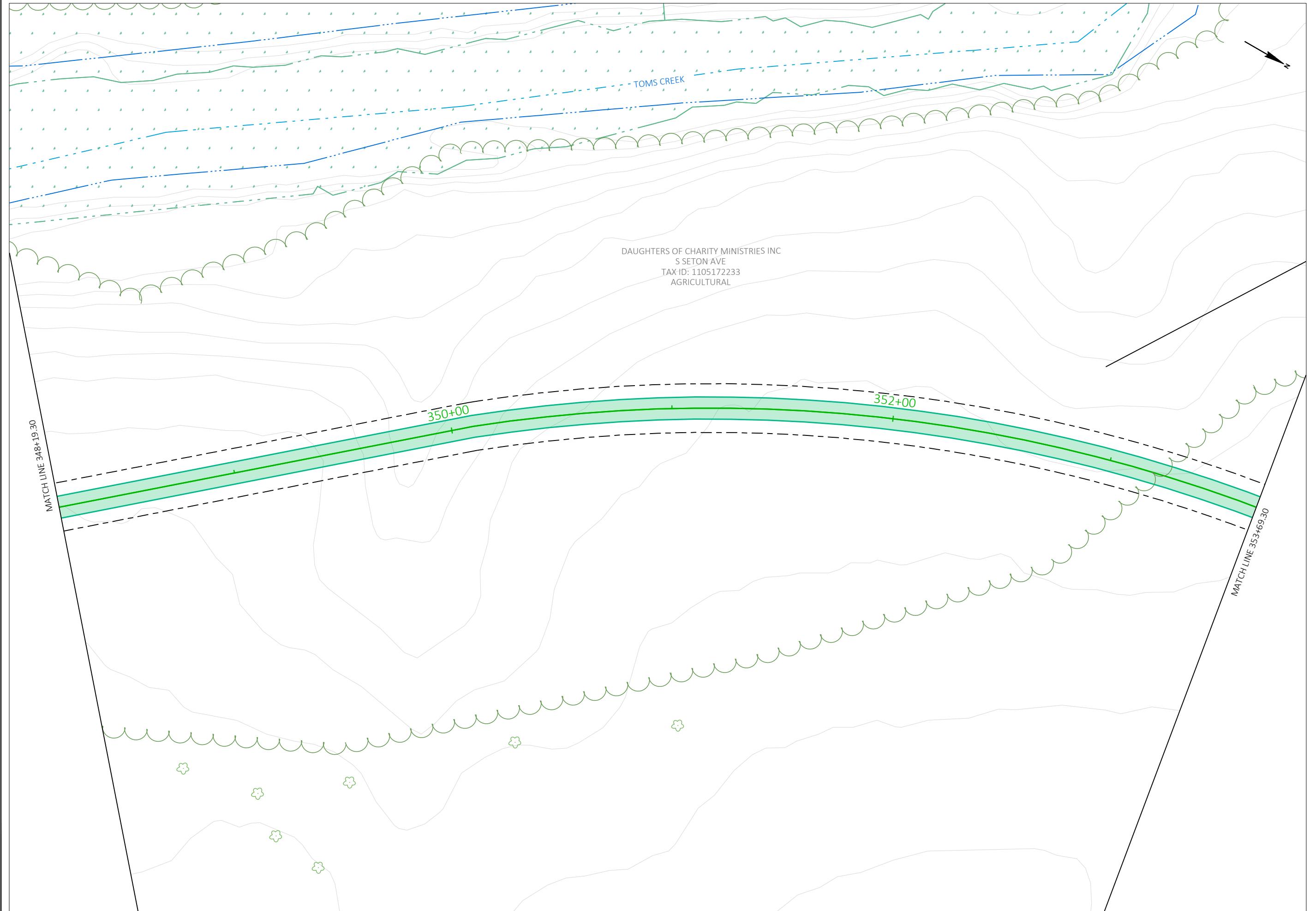
## MEET CONTENTS

SCALE 1IN 40FT

001 OF X

5-040

5-040



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## PHASE 1-B

SCALE 1IN 40FT

STREET NO.

001 OF X

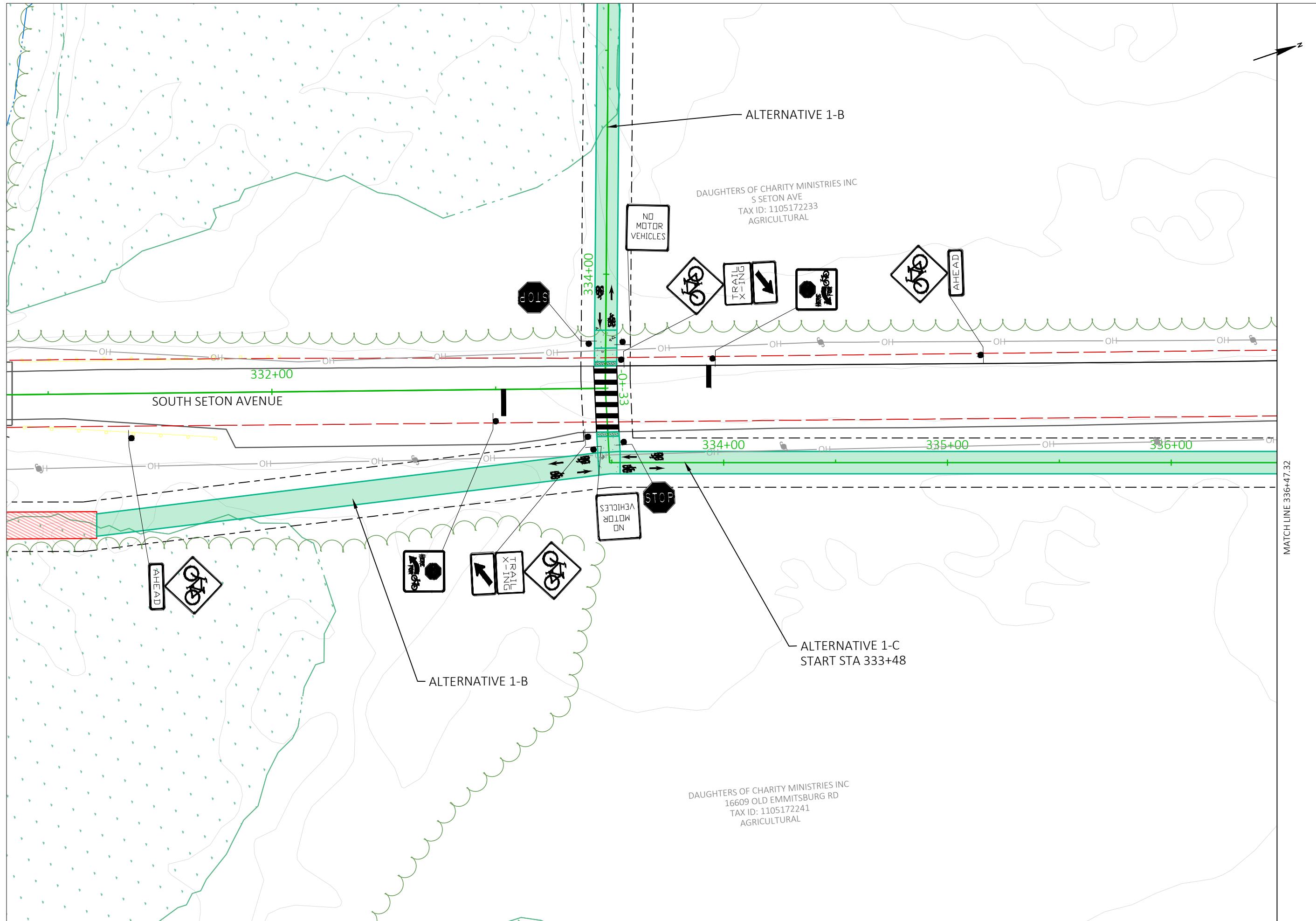
5.041

5-04

111 -

10 of 10 | Page





The logo for Mead & Hunt, featuring the words "Mead" and "Hunt" stacked vertically, with an ampersand "&" positioned between them.

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THURMONT TO EMMITSBURG  
FREDRICK COUNTY, MD

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## MEET CONTENTS

## PHASE 1C

SCALE 1IN 40FT

001 OF X

5-044

MATCH LINE 336+47.32

## SOUTH SETON AVENUE

DAUGHTERS OF CHARITY MINISTRIES INC  
S SETON AVE  
TAX ID: 1105172233  
AGRICULTURAL

DAUGHTERS OF CHARITY MINISTRIES INC  
16609 OLD EMMITSBURG RD  
TAX ID: 1105172241  
AGRICULTURAL

ALTERNATIVE 1-C  
END STA 339+81

X:\466443\1223191.01\TECH\THURMONT\_EMMITSBURG\CAD\XXXXXX\SHEETPLAN\THURMONT\EMMITSBURG-PN-PHASE1.DWG

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# Appendix 2

**Affected Properties on the Recommended Alternative**

SCOTT RD TAX ID: 1105173175  
S SETON AVE TAX ID: 1105172233  
16751A SCOTT RD TAX ID: 1105173167  
16675 SCOTT RD TAX ID: 1105181445  
16540 OLD EMMITSBURG RD TAX ID: 1105171083  
9152 OLD KILN RD TAX ID: 1105168244  
15828 MOTTERS STATION RD TAX ID: 1105167078  
8956 OLD KILN RD TAX ID: 1105182999  
8948 OLD KILN RD TAX ID: 1105182980  
8747 ORNDORFF RD TAX ID: 1105187001  
8737 ORNDORFF RD TAX ID: 1105187036  
8726 OLD KILN RD TAX ID: 1105174716  
15602B LOHR RD TAX ID: 1115332166  
8524 OLD LIME KILN RD TAX ID: 1115336803  
8411 OLD LIME KILN RD TAX ID: 1115333820  
LIME KILN RD TAX ID: 1115325534  
8302 OLD LIME KILN RD TAX ID: 1115326271  
8110 OLD KILN RD TAX ID: 1115338490  
15184 RODDY RD TAX ID: 1115363886  
15000 RODDY RD TAX ID: 1115362197