

ATTACHMENT A

Excerpts from *Transportation Needs Analysis*

**EASTERN CORRIDOR SEGMENTS II AND III
(PID 86462)
TRANSPORTATION NEEDS ANALYSIS**

Primary Needs	Secondary Needs
Address capacity issues and long queues on SR 32 and Round Bottom Road approaches	Address deficient sight distance at intersection
SR 32: Round Bottom Road to Little Dry Run Road	
<ul style="list-style-type: none"> • Address westbound AM peak-hour and eastbound PM peak-hour delays • Address pedestrian connectivity to east corporation limit 	<ul style="list-style-type: none"> • Address bicycle connectivity • Support access to future transit connections
Round Bottom Road: SR 32 to Valley Avenue	
Address congestion	Enhance bicycle connectivity
Round Bottom Road/Valley Avenue Intersection	
Address capacity issues with northbound left-turn movement and eastbound approach	None
Round Bottom Road: Valley Avenue to Broadwell Road	
None	<ul style="list-style-type: none"> • Correct deficient roadway curve near Natorp's Nursery • Enhance bicycle connectivity
Valley Avenue	
None	None
Church Street: SR 32 to Valley Avenue	
Address northbound AM and southbound PM peak-hour delays	<ul style="list-style-type: none"> • Address roadway grades at railroad crossing • Enhance bicycle connectivity • Support access to future transit connections
Church Street/Valley Avenue Intersection	
Address capacity issues for southbound left-turn movement	None
Newtown Road (Church Street): Valley Avenue to US 50	
Address northbound AM and southbound PM peak-hour delays	None

2.3 SR 125/SR 32 AREA FOCUS AREA

The SR 125/SR 32 Focus Area, which is within Anderson Township, includes segments of SR 125 just west and east of its interchange with SR 32, and the segment of SR 32 extending from its interchange with SR 125 to the west corp. limits of the Village of Newtown. This Focus Area includes the SR 125 crossing of the Little Miami River. A detailed roadway map of the SR 125/SR 32 Focus Area is provided in [Appendix 3](#).

2.3.1 Study Area Characteristics

The SR 125/32 interchange and SR 32 in this area are within a floodplain for the Little Miami River, which is largely undeveloped on the north side of the roadway and is used for agriculture, greenspace, and recreation. The Clear Creek Soccer Complex and a multi-use trail are located in this area. The area south of SR 32 is largely undeveloped as well, with the exception of several suburban-style single-family housing subdivisions. There are no planned transportation improvements for this focus area listed on ODOT's Statewide Transportation Improvement Program (STIP) for FY 2016-2019, dated July 29, 2016.

2.3.2 Community Attributes Identified in the Focus Area Workshop

Fifteen participants from the area and surrounding communities attended the SR125/SR 32 Focus Area Workshop. Workshop participants identified which community attributes are important to the SR 125/SR 32 area and should be considered throughout the transportation planning process. These features include:

- presence of attractive parks and natural features (hills, greenspaces, Little Miami River)
- strong sense of community (farms, churches, schools)
- strong sense of history
- measured pace and balanced lifestyles and attitudes
- diverse housing market
- accessibility to airports, downtown Cincinnati, Kenwood, and the Red Bank corridor

2.3.3 Transportation Needs

Stakeholder Input: Transportation needs within the SR 125/SR 32 Focus Area were identified during the Focus Area Workshop and the online interactive survey. These comments, which focus on safety, congestion, mobility, and access issues are included in the Needs Analysis Table, which is included in [Appendix 3](#), and summarized in the following sections.

Technical Studies: Technical data was collected for the roadway network within the SR 125/SR 32 Focus Area to identify areas of high crash rates, congestion, geometric deficiencies, and pedestrian usage. This information is provided in the Needs Analysis Table ([Appendix 3](#)) and summarized in the following sections.

2.3.3.1 SR 125: Beechmont Circle to SR 32

The segment of SR 125 between Beechmont Circle and SR 32 is a four-lane undivided limited-access roadway approximately one mile in length with a posted speed of 45 mph.

Stakeholder Input: Ten comments identify safety and congestion issues on SR 125 from the Beechmont Circle to SR 32. Representative comments include:

- The merge onto the levee from SR 32 is too short and dangerous (7 comments)
- Another lane should be added on the ramp from SR 32 to the levee (3 comments)
- Speeding is an issue on the levee (1 comment)

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Twenty-six comments concern bicycle issues. These comments identify the following needs:

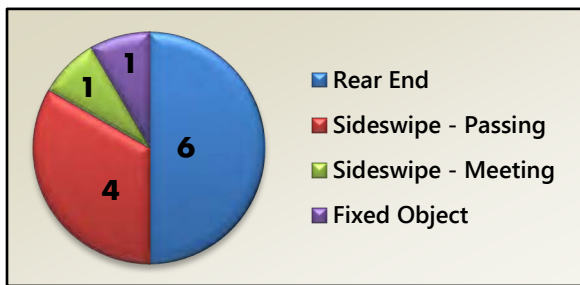
- A bikeway bridge over the Little Miami River due to safety concerns of bikes crossing the Beechmont Levee (7 comments)
- Bike lanes and traffic calming across the levee (2 comments)
- A connection between Lunken and Loveland Bike Trails (1 comment)
- A connection between Armleder and Lunken bike trails (2 comments)
- A connection between Little Miami Trail and Ohio River Trail (1 comment)
- A connection between existing bike trails and Downtown Cincinnati (1 comment)
- A bike path along Beechmont levee and Mt. Lookout Square (1 comment)

Eight comments address pedestrian issues. Representative comments include the following:

- There are a number of pedestrians who cross the levee even though there is a "Pedestrians Prohibited" sign (1 comment)
- Bike/pedestrian access is needed across the Little Miami River (4 comments)
- A connection between the sidewalk coming down Beechmont hill to the hike/bike trail is needed (1 comment)

Two comments identify the following public transit needs:

- Light transit (1 comment)
- Better transit (bus or rail) to move the region forward and attract people to the area (1 comment)



**Figure 25: Frequency of Crashes by Crash Type
SR 125: Beechmont Circle to SR 32**

Crash Data: An ODOT crash screening identified an approximate 0.15-mile stretch of SR 125 adjacent to the Reeves Golf Course Tennis Courts as a high hazard location. As a result, the entire segment of SR 125 from Beechmont Circle to SR 32 was further analyzed. As illustrated in **Figure 25**, there were 12 total crashes on this segment during a three-year period (2013-2015). Rear-end collisions represent 50% of the total crashes. Of the 12 total crashes on the segment, five (40%) occurred in the high hazard segment. Within the

high hazard segment, 60% of the crashes were rear-end crashes. See **Attachment A-2** for a plot of all 12 crashes.

LOS Analysis: A freeway analysis was performed using the HCS. During the AM peak-hour the eastbound direction operates at LOS A in 2015 and LOS B for the No Build opening year (2022) and No Build design year (2042) conditions while the westbound direction operates at LOS D in 2015 and LOS E for the No Build opening year and No Build design year conditions. During the PM peak-hour the eastbound direction operates at LOS D in 2015, the No Build opening year, and No Build design year conditions while the westbound direction operates at LOS B in 2015, the No Build opening year, and No Build design year conditions. No improvements are required for the existing, No Build opening year and No Build design year conditions. These results are supported by the

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travel time data which shows no significant increase in travel time during the peak hours compared to off-peak hours.

Geometric Data: No geometric deficiencies were identified along this segment.

Pedestrian Data: No pedestrian data is available for this segment.

2.3.3.2 SR 125/SR 32 Interchange

The SR 125/SR 32 interchange is a trumpet interchange which features a loop ramp to serve traffic traveling from eastbound SR 125 to SR 32, and slip ramps for traffic traveling to and from westbound SR 125 and SR 32. A partial loop ramp carries traffic from SR 32 to eastbound SR 32:



Figure 26. SR 125/SR 32 Interchange

Stakeholder Input: Forty-five comments address roadway issues at the SR 125/SR 32 intersection. Representative comments include:

- Dangerous interchange due to the short merge on ramp to westbound SR 125 from SR 32 and the tight loop on the ramp from eastbound SR 125 to SR 32 (32 comments)
- Congestion is a problem (1 comment)
- Visibility on the ramps at SR 125 and SR 32 should be improved (2 comments)
- There are frequent accidents at this interchange (1 comment)
- The ramp from eastbound SR 125 to SR 32 occasionally floods, which cuts off access to SR 32 under SR 125 (2 comments)
- A second exit lane should be added from eastbound SR 125 to SR 32 (1 comment)

Thirty-four (34) comments were provided regarding bicycle concerns and needs in this area. Representative comments include the following:

- A connection between the Little Miami Scenic Bike Trail and the Lunken/Amleder Bike Trail is needed (9 comments)
- A connecting bike path is needed (9 comments)

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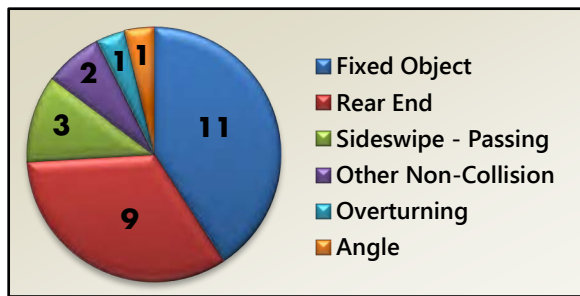
- It is unsafe for bicycles to cross the Beechmont Levee (8 comments)

Nine public transit comments identify the following needs:

- Public transit (3 comments)
- Transit, in combination with park and ride (1 comment)
- Smaller shuttles to provide point-to-point service (1 comment)
- Bus Rapid Transit (BRT) routes (1 comment)
- Transit to link smaller business districts together (1 comment)

Crash Data: Over a three-year period (2013-2015), a total of 27 crashes occurred at this interchange. Fixed object and rear-end crashes represented about 75% of the overall crashes, with a majority (17 crashes) occurring in wet conditions. The frequency of crashes by crash type is shown in [Figure 27](#).

Data indicates that many of the crashes at this interchange occurred in two distinct clusters. One cluster of nine (9) crashes occurred at the curve/merge on the ramp from southbound SR 32 to westbound SR 125. A majority of these crashes (6) occurred in wet conditions between the hours of 11:00 a.m. and 2:00 p.m. Fixed object crash type was the most prevalent at this cluster (4 crashes), all in wet conditions.



**Figure 27. Frequency of Crashes by Crash Type
SR 125/SR 32 Interchange**

Another cluster of eleven (11) crashes occurred along the curve on the ramp from eastbound SR 125 to northbound SR 32. Ten (10) of these crashes occurred in the daylight, and eight (8) occurred in wet conditions. Fixed-object crash type was the most prevalent (6 crashes), all in wet conditions.

Potential causal factors for crashes at this interchange include excessive speed, slippery pavement, inadequate geometry, and inadequate delineation. See [Attachment A-2](#) for a plot of all 27 crashes.

LOS Analysis: An analysis of the merge/diverge operations of the ramps was performed using the HCS. All ramps are operating at LOS D or better during both the AM and PM peak hours in 2015 and for the No Build opening year (2022) and No Build design year (2042) conditions. No improvements are required for the existing, No Build opening year and No Build design year conditions.

Geometric Data: One sag vertical curve is deficient at this interchange and the superelevation rate on all ramps does not meet current standards. The deficient sag vertical curve has a k-value of 43 and the minimum value for a design speed of 35 mph is 49. The superelevation on all four interchange ramps is based on an 0.083 ft/ft maximum superelevation. The current standard for maximum superelevation on urban ramps is 0.06 ft/ft.

Pedestrian Data: No pedestrian data is available for this segment.

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2.3.3.3 SR 125: SR 32 to Elstun Road

The section of SR 125 between SR 32 and Elstun Road is a four-lane undivided highway approximately 0.2 miles in length with a posted speed of 45 mph.

Stakeholder Input: Seventeen comments were provided for this area, which included concerns regarding congestion and safety on SR 125. Representative comments include:

- Speeding and congestion on SR 125 and through Mt. Washington has devastated Mt. Washington as the business district effectively has a highway through the middle of "town", which is unsafe for pedestrians, cyclists, and parked cars (7 comments)
- Congestion is bad on the ramp from the Beechmont levee and SR 32; second would allow a continuous turn without merging (1 comment)
- There should be a left turn lane at Beacon and Beechmont (1 comment)
- There should be consistency in the number of lanes going up or down the hill on Beechmont Avenue (1 comment)
- The bike lane going up the hill on Beechmont makes it impossible to put in a complete turn lane and compromises traffic safety (1 comment)
- Standing water is present on the eastbound lanes during rain events, causing a safety concern (1 comment)

Nine comments were provided regarding bicycle access issues. Representative comments include:

- A bike connection over the Little Miami River and a connection to the trail along Beechmont Avenue into Mt. Washington is needed (3 comments)
- Bike trail connection to Downtown Cincinnati is needed (1 comment)
- A connection of Little Miami Trail with Armleder and Lunken Trail is needed (1 comment)
- Metro buses should be used to transport bicyclists up the hill on Beechwood Avenue to Mt. Washington allowing the removal of the bike lane on Beechwood Avenue (1 comment)

The pedestrian comments include:

- Sidewalks are needed on Beechmont Avenue and Elston since many people walk from the apartment complexes to buses (1 comment)
- The lack of sidewalks in certain areas along Beechmont Avenue is unsafe (1 comment)
- There are no sidewalks on SR 125 between SR 32 and Ranchvale (1 comment)

Crash Data: ODOT's crash screening did not identify this segment as an area of high hazard. Crash data indicates that three crashes occurred over the three-year period (2013 – 2015).

LOS Analysis: No level of service analysis was conducted for this segment.

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Geometric Data: At the west approach to the bridge over Clough Creek, an abrupt grade change exceeds the maximum allowable grade break for a design speed of 45 mph. The existing grade break is 1.00%; the allowable grade break is 0.55% (L&D Vol. 1, Figure 203-2).

Pedestrian Data: No pedestrian data is available for this segment.

2.3.3.4 SR 125/Elstun Road Intersection

The SR 125/Elstun Road intersection is a signalized four-leg intersection:



Figure 28. SR 125/Elstun Road Intersection

Stakeholder Input: One public comment identifies congestion as an issue at this intersection.

Crash Data: ODOT's crash screening did not identify this intersection as an area of high hazard. Crash data indicates that 14 crashes occurred over the three-year period (2013 – 2015).

LOS Analysis: The HCS analysis indicates that during the AM peak-hour the 95th percentile queue length for the northbound left turn movement is more than twice the storage length for the existing, No Build opening year (2022), and No Build design year (2042) conditions. By the design year, the westbound movement is failing with a v/c ratio of 1.0. It is anticipated that operational or minor intersection improvements are required for the existing, No Build opening year and No Build design year conditions.

Geometric Data: One sag vertical curve is deficient on SR 125 through this intersection. The deficient sag vertical curve has a k-value of 38 and the minimum value for a design speed of 45 mph is 79.

Pedestrian Data: Sixty-six (66) pedestrians were observed at the intersection during a 24-hour period recorded on November 17, 2015.

2.3.3.5 SR 32: SR 125 to Clough Pike

The segment of SR 32 from the SR 125 interchange to Clough Pike is a two-lane undivided roadway which measures approximately 0.46 miles in length. The segment includes ODNR driveway access to the Great Miami River, driveway access to one commercial property, and two roadway access

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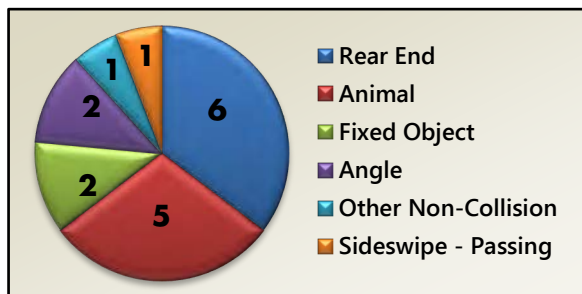
points to the Estates of Signal Hill subdivision. This roadway section has no sidewalks and two-foot, paved roadway shoulders. The speed limit through this section is 45 mph.

Stakeholder Input: Two roadway comments indicate that traffic congestion is a concern on SR 32 between SR 125 and Clough Pike.

Three bike comments include:

- A connection between the Little Miami Scenic Trail, Lunken Trail, and the Ohio River Trail is needed (1 comment)
- The Anderson Township Bike Path to Newtown should be finished (2 comments)
- Hike/bike trails should be linked with existing trails (1 comment)

Two public transit comments were provided which identify the need for light rail transit.



**Figure 29. Frequency of Crashes by Crash Type
SR 32: SR 125 to Clough Pike**

Crash Data: An ODOT crash screening identified an approximate 0.15-mile sub-segment east of the Beechmont Avenue interchange as a high-hazard location. Therefore, a detailed crash analysis of the entire segment was completed.

As illustrated in **Figure 29**, there were 17 total crashes in this roadway section during a three-year period (2013-2015). Rear-end and animal crashes represent 65% of the total crashes. Of the 17 total crashes on the segment, 12 (70%)

occurred in the high-hazard section. Within the high hazard segment, half of the crashes were rear-end crashes. All six of the rear-end crashes occurred in dry conditions. Five of the rear-end crashes occurred in clear daylight conditions, five occurred from 4:00 PM to 6:00 PM, and four occurred in the northbound direction. See **Attachment A-2** for a plot of all 17 crashes.

LOS Analysis: No level of service analysis was conducted for this segment; however, the travel time data indicates a 40% increase in the westbound travel time during the AM peak-hour compared to the off-peak travel time indicating congestion during the AM peak-hour.

Geometric Data: No geometric deficiencies were identified along this segment.

Pedestrian Data: No pedestrian data is available for this segment.

2.3.3.6 SR 32/Clough Pike Intersection

The SR 32/Clough Pike intersection is a three-leg, signalized intersection:



Figure 30. SR 32/Clough Pike Intersection

Stakeholder Input: Thirteen roadway comments address roadway issues at the SR 32/Clough Pike Intersection. Representative comments include:

- The roadway should be widened to 4 lanes (1 comment)
- A new intersection should be created (3 comments)
- Due to congestion on Clough and SR 32 in the morning it is difficult to turn left from westbound SR 32 (3 comments)
- The right turn-only lane is not marked well or with enough advance notice, so drivers unfamiliar with the area try to merge left, causing a safety issue (1 comment)
- There are frequent accidents here (1 comment)

Two bike comments were provided:

- A bike/pedestrian facility is needed along Clough Pike into Anderson Township (1 comment)
- A bike path connection is needed from Saddleback to SR 32 and Clough Pike to SR 125 (1 comment)

Crash Data: An ODOT crash screening did not identify this intersection as an area of high-hazard. Crash data indicates that eight crashes occurred over a three-year period (2013-2015).

LOS Analysis: The HCS analysis indicates that the westbound movement will fail during the AM peak-hour and have a v/c ratio greater than one during the No Build opening year (2022) and No Build design year (2042) conditions. No intersection improvements are required for the exiting

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Westbound Clough Pike AM Peak Period Queue at SR 32

conditions, but it is anticipated that operational or minor intersection improvements are required for the No Build opening year and No Build design year conditions.

To supplement the HCS analysis a queue study was conducted for the westbound approach during the AM peak period. The number of cars in the queue was recorded at the end of green for 15 minutes prior to the peak hour to 15 minutes after the peak-hour ended. The number of cars was

translated to a length by assuming a queue length of 25 feet per vehicle. During the AM peak period the maximum westbound queue extended 1,025 feet. The recorded queues during the AM peak period are shown in **Figure 31**:

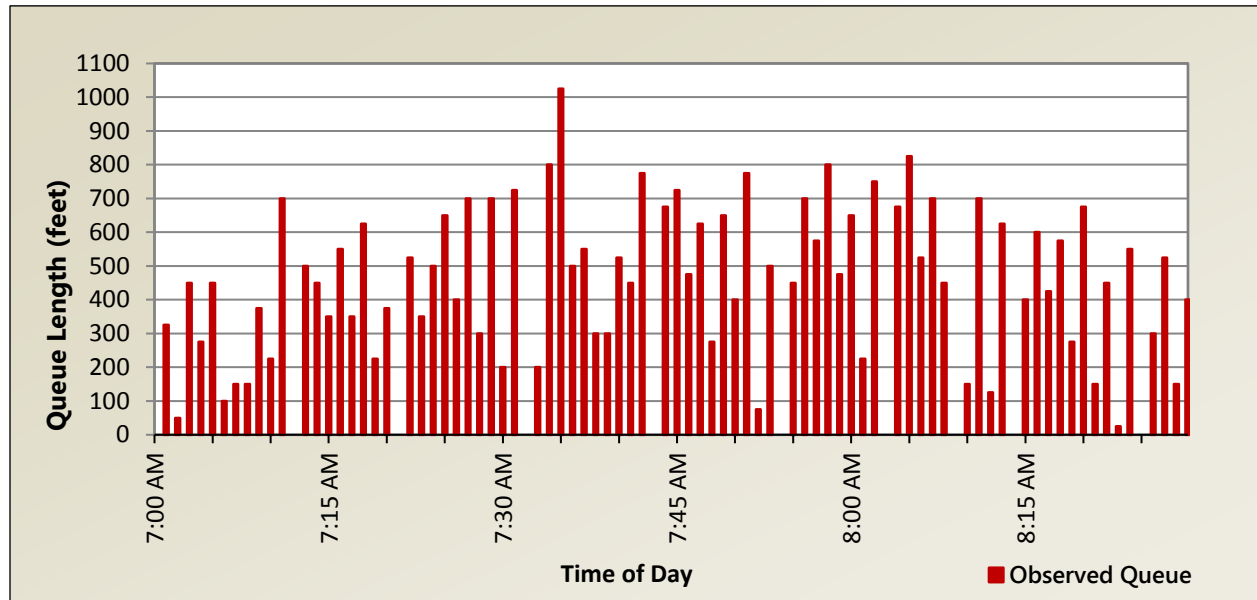


Figure 31. Westbound Clough Pike AM Peak Period Queue at SR 32

Geometric Data: No geometric deficiencies were identified at this intersection.

Pedestrian Data: No pedestrians were observed at the intersection during a 24-hour period recorded on November 17, 2015.

2.3.3.7 SR 32: Clough Pike to Village of Newtown Corporation Limit

The segment of SR 32 between Clough Pike and the west corporation limit of Newtown is a two-lane, undivided roadway with unpaved shoulders and guardrail along portions of the segment. This segment of SR 32 measures 1.55 miles in length. The only access points along this stretch of SR 32 are at Turpin Lake Place, Clear Creek Park, and Anderson Driving Range, and the posted speed limit is 55 mph.

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Stakeholder Input: Twenty-nine roadway comments address concerns in the section of SR 32 between Clough Pike and the West Newtown corporation limit. Of these comments, twenty-two identify congestion as a predominant concern on SR 32, especially during evening rush hour. Representative comments include:

- The road should be widened and light rail service provided in the center of a divided highway (5 comments)
- The road should be four lanes (1 comment)
- Additional lanes should be provided (3 comments)
- A bypass should be built around Newtown (1 comment)
- A new bridge is needed to connect SR 32 to the Red Bank Expressway (1 comment)
- The road needs to be repaired (1 comment)
- The roadway occasionally floods (1 comment)
- The “S” curves on SR 32 by the sod farms are an issue (1 comment)

Twelve bike comments identify the following needs:

- A new bike bridge to connect the future Five Mile Trail with the Little Miami Trail (2 comments)
- A bike path into Anderson Township (1 comment)
- The extension of the bike path to Downtown (3 comments)
- A connection between the Lunken and Loveland Trails (1 comment)
- Marked bike lanes (1 comment)

Six comments address pedestrian access needs/concerns including:

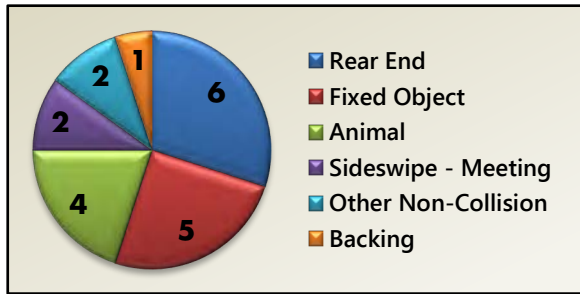
- The need for a sidewalk along SR 32 in the vicinity of the park (3 comments)
- Safe pedestrian access to Clear Creek Park (3 comments)

Public transit comments include:

- Expand bus service (1 comment)
- There is the need for public transportation in this area (1 comment)
- Expand public transportation other than bus (1 comment)
- Construct light rail along SR 32 right of way (1 comment)
- There is a need for a park and ride and public transit from Newtown to Downtown (3 comments)

Crash Data: ODOT's crash screening identified two locations (the curve west of McCullough Run and along the entrance to Clear Creek Park) as high hazard locations. Because two subsections of the segment of SR 32 from Clough Pike to the Newtown corporation limit were identified, a detailed crash analysis of the entire segment was completed.

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**Figure 32: Frequency of Crashes by Crash Type
SR 32: Clough Pike to Newtown Corp. Limit**

As illustrated in [Figure 32](#), there were 20 total crashes in this roadway section during a three-year period (2013-2015). Rear-end and fixed object crashes represent 55% of the total crashes. Of the 20 total crashes on the segment, four (20%) occurred in the high hazard section west of McCullough Run and two (10%) occurred in the high hazard segment at Clear Creek Park.

There were two clusters of crashes along the segment; the four that occurred in the high hazard section west of McCullough Run and four that occurred at Turpin Lake Place. Excluding the animal crash at both clusters, there is no correlation between the crash data and a specific contributing cause for the crashes at either location. See [Attachment A-2](#) for a plot of all 20 crashes.

LOS Analysis: No level of service analysis was conducted for this segment; however, the travel time data indicates a 55% increase in the eastbound travel time during the PM peak-hour compared to the off-peak travel time indicating congestion during the PM peak-hour.

Geometric Data: There are three deficient horizontal curves in this segment, one of which has a deficient superelevation. There is also one deficient vertical curve in this segment. The first deficient horizontal curve, crossing McCullough Run, has a curvature of 9°45', and a maximum superelevation of 0.08. The maximum degree of curvature for a design speed of 60 mph is 4°15', with a maximum superelevation of 0.06. The second deficient horizontal curve (just north of the first) has a curvature of 5°0'. A third deficient horizontal curve (at the Newtown corporation limit) has a curvature of 10°45'. The deficient crest vertical curve is located just south of the McCullough Run crossing. This curve has a k-value of 108 (the minimum design k-value for 60 mph is 151).

Pedestrian Data: No pedestrian data is available for this segment.

2.3.4 SR 125/SR 32 Focus Area Needs Analysis

Based on the results of the technical studies, as well as the extensive public input received from the Focus Area Workshops, online interactive survey, and other public outreach efforts, the primary and secondary needs of the transportation network within the SR 125/SR 32 Focus Area were identified (primary needs are needs that *will* be addressed by this project; secondary needs are needs that *may* be addressed by this project). The input used in the needs analysis is included in the Needs Analysis Table in [Appendix 3](#). The primary and secondary needs are presented in [Table 11](#):

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Table 11: SR 125/SR 32 Focus Area Needs Analysis

Primary Needs	Secondary Needs
SR 125: Beechmont Circle to SR 32	
None	None
SR 125/SR 32 Interchange	
<ul style="list-style-type: none"> • Address fixed-object crashes on the ramps from SR 32 to westbound SR 125 and eastbound SR 125 to SR 32 • Address merging traffic deficiencies on the ramp from SR 32 to westbound SR 125 • Connect Little Miami Trail to Lunken Trail 	<ul style="list-style-type: none"> • Address ramp flooding issues • Address deficient vertical grade under the SR 125 overpass and at the SR 125 ramps
SR 125: SR 32 to Elstun Road	
None	<ul style="list-style-type: none"> • Address deficient roadway grade at strip mall • Address pedestrian and bicycle connectivity from Elstun Road to Little Miami Trail
SR 125/Elstun Road Intersection	
Address capacity issues for northbound left-turn movement and westbound approach	<ul style="list-style-type: none"> • Address deficient roadway grade • Address pedestrian connectivity between rental properties on Elstun Road and bus stops along Beechmont Avenue.
SR 32: SR 125 to Clough Pike	
<ul style="list-style-type: none"> • Address westbound AM peak-hour delays • Address rear-end crashes 	none
SR 32/Clough Pike Intersection	
Address capacity issues and long queue on Clough Pike approach	None
SR 32: Clough Pike to Newtown Corporation Limits	
<ul style="list-style-type: none"> • Address eastbound PM peak-hour delays • Address deficiencies at the 'S'-curve • Address pedestrian and bicycle connectivity from the Turpin Lake subdivision to the Little Miami Trail 	<ul style="list-style-type: none"> • Address deficient roadway grade east of Turpin Lake Place • Correct deficient roadway curve at Newtown corporation limit • Address pedestrian and bicycle connectivity from Newtown to Clear Creek Park • Address roadway flooding issues

2.4 LINWOOD/EASTERN AVENUE INTERCHANGE FOCUS AREA

The Linwood/Eastern Interchange Focus Area extends from the Linwood Avenue/Herschel Avenue Intersection to the Beechmont Circle Interchange. This focus area also includes the area

ATTACHMENT B

Excerpts from *Conceptual Alternative
Implementation Plan*

Concept drawings are presented on the following pages.

DESCRIPTION

- Add a sidewalk on the east side of Elstun to connect bus stops on SR 125 with rental properties on Spindlehill Drive and Reserve Drive.
 - Sidewalk would extend between Spindlehill and SR 125

NEXT STEPS/RECOMMENDATION

- Include concept in the Implementation Plan as a high priority.
- Determine if a shared-use path is needed. If so, combine efforts with concept 125-3b (A6).

NEEDS ADDRESSED

- S9) Address pedestrian connectivity between rental properties on Elstun Road and bus stops along SR 125.

5/24 MEETING DISCUSSION AND COMMENTS

- Anderson Township may also want to consider adding a sidewalk along the access road from SR 125 to the Skytop Pavilion.
- No additional comments were received following the 5/24 meeting.

8/20 MEETING DISCUSSION AND COMMENTS

- A committee member suggested taking the path to the next major drive along Elstun to connect with the apartment complex too; committee members and ODOT agreed that this option has merit.
- No additional comments were received following the 8/20 meeting.

12/11 MEETING DISCUSSION AND COMMENTS

This concept was presented as A3 at the October Open House meetings.

•Estimated project costs are currently for sidewalk installation only. Need to determine if a shared-use path is needed.

Safety ECAT Benefit/Cost Ratio	Traffic Operations							Construction Cost	R/W Impacts		Environmental Impacts		Support and/or Facilitate Multi-Modal	Improve Regional Connectivity	Improve Local Access
	Time Period	HCS Results			TransModeler Results				Number of Relocations	R/W Cost	Anticipated Environmental Document	Red Flag Triggers			
		2042 Delay (seconds)	2042 LOS	% Reduction from No Build	2042 Delay (seconds)	2042 LOS	% Reduction from No Build								
								\$50K	0	\$15K to \$30K	C2	R/W, ESA Issues	Improves	Neutral	Improves



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure Elstun-1
SIDEWALK CONNECTION FROM S.R. 125 TO RENTAL PROPERTIES

Concept drawing was presented at the October 24 & 25 Open House meetings.



**New Sidewalk from
SR 125 to Reserve Circle**

- \$50,000 construction cost
- New R/W needed from 2 parcels; no buildings impacted
- Sidewalk to connect residential properties to Metro bus stop

PUBLIC FEEDBACK RATINGS SUMMARY

Strongly Oppose	Dislike	Neutral	Like	Strongly Support
6%	6%	31%	28%	31%

(percentages have been rounded)

Concept drawings are presented on the following pages.

DESCRIPTION

- Add a shared-use path along the south side of SR 125 between Elstun Road and Ranchvale Drive.

NEEDS ADDRESSED

None identified. This concept was requested at the previous Advisory Committee meeting to improve bike/pedestrian access to the Little Miami Trail.

5/24 MEETING DISCUSSION AND COMMENTS

- None discussed.
- No additional comments were received following the 5/24 meeting.

8/20 MEETING DISCUSSION AND COMMENTS

- Concept provides a pedestrian/bike connection between Elstun and Ranchvale. It would also eventually connect with the Lunken and Armleder park areas.
- There is a sidewalk on the northside of Beechmont along this stretch of road, but no bicycle/pedestrian access on the south side.
- Having a separate bike path may help bicyclists get up the hill. Using the road can be treacherous as cars move fast.
- Some of the land in this area is currently being marketed for sale.
- No additional comments were received following the 8/20 meeting.

12/11 MEETING DISCUSSION AND COMMENTS

This concept was presented as A4 at the October Open House meetings.

- The City of Cincinnati would consider moving the shared-use path to be adjacent to the street, per a suggestion received from the public. This suggestion will need to undergo further discussion.
- Mt. Washington would like to have a consistent center turn lane.
- The hillside property located on the south side of the road will soon be for sale.

NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a medium priority, but do not implement until either 125-3 (A5) or 125-3b (A6) has been completed.
- Consider locating the shared-use path adjacent to the street.

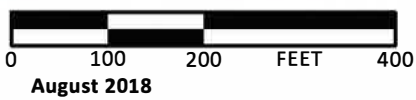
Safety ECAT Benefit/Cost Ratio	Traffic Operations							Construction Cost	R/W Impacts		Environmental Impacts		Support and/or Facilitate Multi-Modal	Improve Regional Connectivity	Improve Local Access
	Time Period	HCS Results			TransModeler Results				Number of Relocations	R/W Cost	Anticipated Environmental Document	Red Flag Triggers			
		2042 Delay (seconds)	2042 LOS	% Reduction from No Build	2042 Delay (seconds)	2042 LOS	% Reduction from No Build								
								\$140K to \$200K	0	\$200K to 400K	C2	R/W, Potential T&E, ESA Issues	Improves	Improves	Improves



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-3, 125-4 and 125-5

SHARED USE PATH AND WALK



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-5
SIDEPATH ALONG SOUTH SIDE OF
SR 125 BETWEEN ELSTUN RD. AND RANCHVALE DR.

Concept drawing was presented at the October 24 & 25 Open House meetings.



Shared-Use Path Along SR 125 Between Elstun and Ranchvale

- \$140,000 to \$200,000 construction cost
- New R/W needed from 15 parcels; no buildings impacted
- Improve safety for bicyclists riding up the SR 125 hill

DESCRIPTION

- Connect the SR 125 sidewalk to the Little Miami Trail with a shared-use path utilizing a new bridge over Clough Creek.

NEEDS ADDRESSED

- S8) Address pedestrian and bicycle connectivity from Elstun Road to the Little Miami Trail.

5/24 MEETING DISCUSSION AND COMMENTS

- This concept adds a bike path/sidewalk connection across the existing Clough Creek bridge.
- The area around the Clough Creek bridge is culturally sensitive. Keeping bike/pedestrian options on existing infrastructure areas would lessen concerns.
- No additional comments were received following the 5/24 meeting.

8/20 MEETING DISCUSSION AND COMMENTS

- The primary difference between concepts 125-3 and 125-4 is how to get across Clough Creek.
 - 125-3: A new shared-use path would follow the southwest curve of the SR 32 access ramp, then extend through open land to a new bike/pedestrian bridge located approximately 25 feet south of SR 125. The path would rejoin SR 125 approximately 200 feet west of UDF.
 - 125-4: A new shared-use path would follow curve of SR 32 access ramp, join up with SR 125 approximately 100 feet west of the

- Clough Creek, then travel alongside SR 125 and crossing the creek using the existing roadway bridge.
- The shared-use path could be separated from traffic using barriers.
- The shared-used path would be approximately 10 feet wide with a buffer.
- Committee members expressed a preference to redirect the bike/pedestrian path behind UDF to avoid vehicles entering and exiting UDF.
- Committee members proposed an alternate concept, 125-3b:
 - Starting from the Little Miami Trail connector, curve around the southwest portion of the SR 32 access ramp, then turn directly south to cross Clough Creek and connect with Elstun Road. Follow the east side of Elstun to SR 125.
 - This alternative avoids directing pedestrians and bicyclists into UDF traffic.
- No additional comments were received following the 8/20 meeting.

12/11 MEETING DISCUSSION AND COMMENTS

This concept was presented as A5 at the October Open House meetings. Concepts 125-3 (A5) and 123-3b (A6) were discussed together. Notes for the discussion are recorded on both project pages.

- Anderson Township is currently uncertain as to which option to choose, but wants to make sure that the option chosen offers the most benefit for the investment made.
- There are many buried utilities located on the south side of the ramp which could make construction challenging. Widening the SR 125 bridge over the creek will also be complicated due to buried utilities.
- In concept 125-3 (A5), the path will affect trucks serving UDF.
- In concept 125-3b (A6), it would be preferable to place the path on

Concept drawings are presented on the following pages.

- the south side of Elstun.
- The committee discussed that the estimated cost of concept 125-3b (A6) would increase if the path is extended to SR 125, due to clearing requirements, right-of-way acquisition and the steep hillside. With these costs in mind, the committee proposed eliminating the concept. However, it was determined that more information is needed. Both options will be retained for now.
- The committee noted that the following additional information is needed:
 - Concepts 125-3 (A5): evaluate slope stability
 - Concept 125-3b (A6): evaluate space and hillside issues; update the cost for constructing a shared-use path.
- The City of Cincinnati, Anderson Township and Great Parks of Hamilton County need to coordinate to make this connection happen. They can also apply for grants together.

NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a high priority.
- Evaluate slope stability issues further.

Safety ECAT Benefit/Cost Ratio	Traffic Operations							Construction Cost	R/W Impacts		Environmental Impacts		Support and/or Facilitate Multi-Modal	Improve Regional Connectivity	Improve Local Access
	Time Period	HCS Results			TransModeler Results				Number of Relocations	R/W Cost	Anticipated Environmental Document	Red Flag Triggers			
		2042 Delay (seconds)	2042 LOS	% Reduction from No Build	2042 Delay (seconds)	2042 LOS	% Reduction from No Build								
								\$770K to \$1.2M	0	\$50K to \$100K	D1	Section 4(f)	Improves	Improves	Improves



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-3, 125-4 and 125-5

SHARED USE PATH AND WALK



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-3
SHARED US PATH BETWEEN
SR 125 AND LITTLE MIAMI TRAIL

Concept drawing was presented at the October 24 & 25 Open House meetings.



**Shared-Use Path Along
SR 125**

- \$770,000 to \$1.2M construction cost
- New R/W needed from 3 parcels; no buildings impacted
- New bridge over Clough Creek

PUBLIC FEEDBACK RATINGS SUMMARY

Strongly Oppose	Dislike	Neutral	Like	Strongly Support
6%	6%	31%	28%	31%

(percentages have been rounded)

Concept drawing is presented on the following page.

DESCRIPTION

- Connect SR 125 sidewalk at Elstun Road to the Little Miami Trail with a shared-use path on new alignment south from SR 32 ramps, on new bridge over Clough Creek, and tying to Elstun Road. Path then utilizes Elstun Road alignment to SR 125.

NEEDS ADDRESSED

- S8) Address pedestrian and bicycle connectivity from Elstun Road to the Little Miami Trail.

8/20 MEETING DISCUSSION AND COMMENTS

- This was a new alternative requested at the 8/20/2018 Advisory Committee meeting:
- Starting from the Little Miami Trail connector, curve around the southwest portion of the SR 32 access ramp, then turn directly south to cross Clough Creek and connect with Elstun Road. Follow the east side of Elstun to SR 125.
 - This alternative keeps pedestrians and bicyclists away from UDF traffic.
- No additional comments were received following the 8/20 meeting.

12/11 MEETING DISCUSSION AND COMMENTS

- This concept was presented as A6 at the October Open House meetings. Concepts 125-3 (A5) and 123-3b (A6) were discussed together. Notes for the discussion are recorded on both project pages.*
- Anderson Township is currently uncertain as to which option to choose; but wants to make sure that the option chosen offers the most benefit for the investment made.
 - There are many buried utilities located on the south side of the ramp which could make construction challenging. Widening the SR 125 bridge over the creek also will be complicated due to buried utilities.
 - In concept 125-3 (A5), the path will affect trucks serving UDF.
 - In concept 125-3b (A6), it would be preferable to place the path on the south side of Elstun.
 - The committee discussed that the estimated cost of concept 125-3b (A6) would increase if the path is extended to SR 125, due to clearing requirements, right-of-way acquisition and the steep hillside. With these costs in mind, the committee proposed eliminating the concept. However, it was determined that more information is needed. Both options will be retained for now.
 - The committee noted that the following additional information is needed:
 - Concepts 125-3 (A5): evaluate slope stability
 - Concept 125-3b (A6): evaluate space and hillside issues; update the cost for constructing a shared-use path.
 - The City of Cincinnati, Anderson Township and Great Parks of Hamilton County need to coordinate to make this connection happen. They can also apply for grants together.

NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a high priority.
- Evaluate space and hillside issues further, then add separate shared-use path along Elstun to avoid sharing pavement; update cost estimate.

Safety ECAT Benefit/Cost Ratio	Traffic Operations							Construction Cost	R/W Impacts		Environmental Impacts		Support and/or Facilitate Multi-Modal	Improve Regional Connectivity	Improve Local Access
	Time Period	HCS Results			TransModeler Results				Number of Relocations	R/W Cost	Anticipated Environmental Document	Red Flag Triggers			
		2042 Delay (seconds)	2042 LOS	% Reduction from No Build	2042 Delay (seconds)	2042 LOS	% Reduction from No Build								
								\$360K to \$550K	0	\$25K to \$50K	D1	Section 4(f)	Improves	Improves	Improves

Concept drawing was presented at the October 24 & 25 Open House meetings.



Shared-Use Path Using Elstun

- \$360,000 to \$550,000 construction cost
- New R/W needed from 2 parcels; no buildings impacted
- Sensitive archaeological area
- New bridge over Clough Creek
- Path shares existing Elstun Road pavement with traffic

PUBLIC FEEDBACK RATINGS SUMMARY

Strongly Oppose	Dislike	Neutral	Like	Strongly Support
6%	6%	31%	28%	31%

(percentages have been rounded)

Concept drawings are presented on the following pages.

DESCRIPTION

- 5/24:
- Adjust lane widths on SR 125 to obtain the space needed to establish a shared-use path across the existing bridge over Clough Creek.
 - Work would be done in conjunction with creating the signalized intersection noted in concepts X-1f.
- 8/20:
- Connect SR 125 sidewalk at Elstun Rd to the Little Miami Trail with a shared-use path utilizing the existing bridges over Clough Creek by modifying the ramp from SR 32 to eastbound SR 125.

NEEDS ADDRESSED

- S8) Address pedestrian and bicycle connectivity from Elstun Road to the Little Miami Trail.

5/24 MEETING DISCUSSION AND COMMENTS

- Anderson Township has a concept similar to 125-4; however, the shared-use path would turn and go behind the UDF.
 - A route behind UDF would redirect bikes and pedestrians away from the SR 125/Elstun intersection.
- The area around the Clough Creek bridge is culturally sensitive. Keeping bike/pedestrian options on the existing roadway would lessen concerns.
- No additional comments were received following the 5/24 meeting.

8/20 MEETING DISCUSSION AND COMMENTS

- The primary difference between concepts 125-3 and 125-4 is how to get across Clough Creek.
 - 125-3: A new shared-use path would follow the southwest curve of the SR 32 access ramp then extend through open land to a new bike/pedestrian bridge located approximately 25 feet south of SR 125. The path would rejoin SR 125 approximately 200 feet west of UDF.
 - 125-4: A new shared-use path would follow curve of SR 32 access ramp, join up with SR 125 approximately 100 feet west of Clough Creek, then travel alongside SR 125 crossing the creek using the existing roadway bridge.
- The shared-use path could be separated from traffic using barriers.
- The shared-used path would be approximately 10 feet wide with a buffer.
- No additional comments were received following the 8/20 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. Prefer to redirect path behind UDF and away from SR 125 traffic.

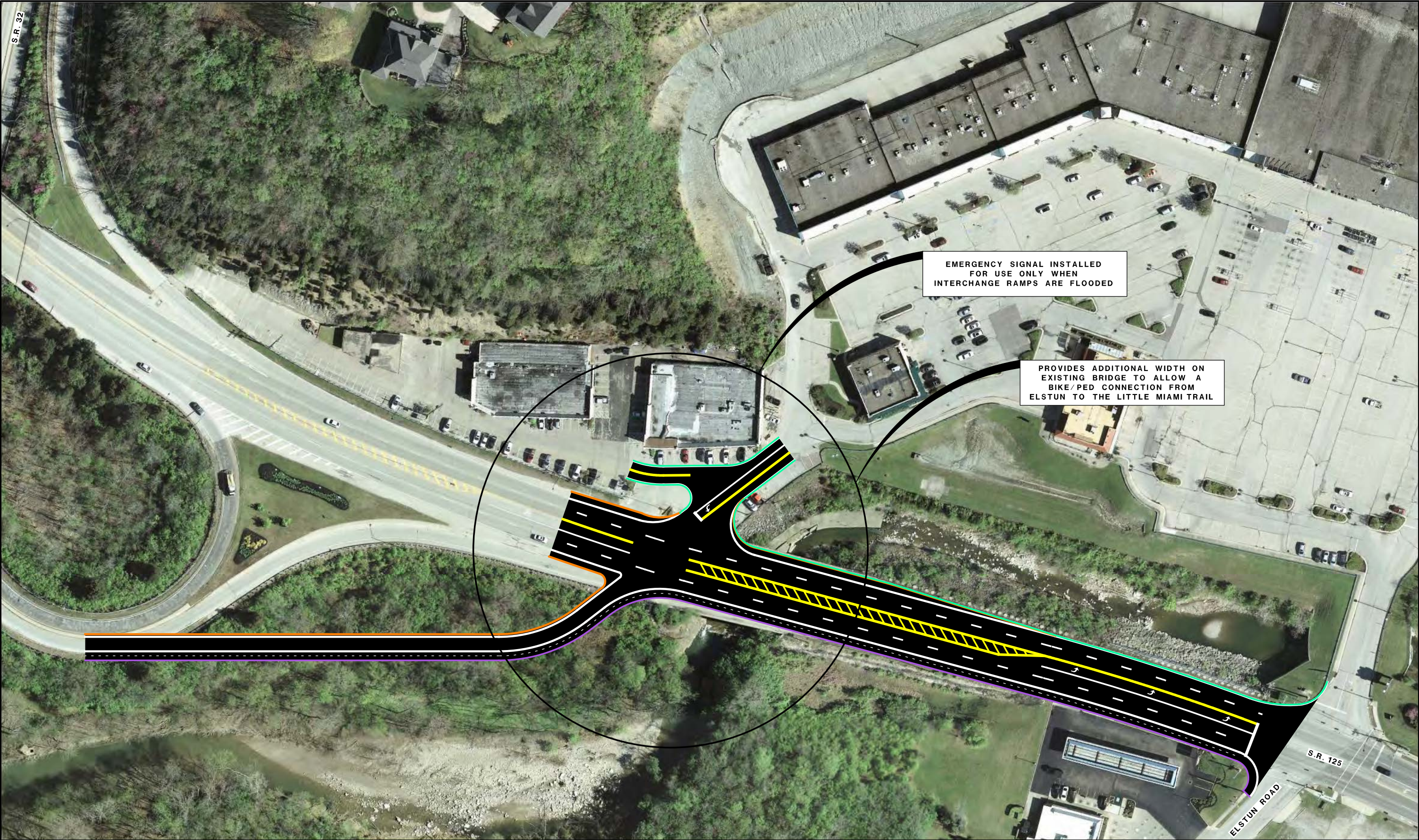
Safety ECAT Benefit/Cost Ratio	Traffic Operations							Construction Cost	R/W Impacts		Environmental Impacts		Support and/or Facilitate Multi-Modal	Improve Regional Connectivity	Improve Local Access
	Time Period	HCS Results			TransModeler Results				Number of Relocations	R/W Cost	Anticipated Environmental Document	Red Flag Triggers			
		2042 Delay (seconds)	2042 LOS	% Reduction from No Build	2042 Delay (seconds)	2042 LOS	% Reduction from No Build								
	AM	11.0 (Stop Control Approach)	B	--				\$400K to \$590K	0	\$25K to \$50K	D1	Section 4(f)	Improves	Improves	Improves
	PM	38.8 (Stop Control Approach)	E	--											

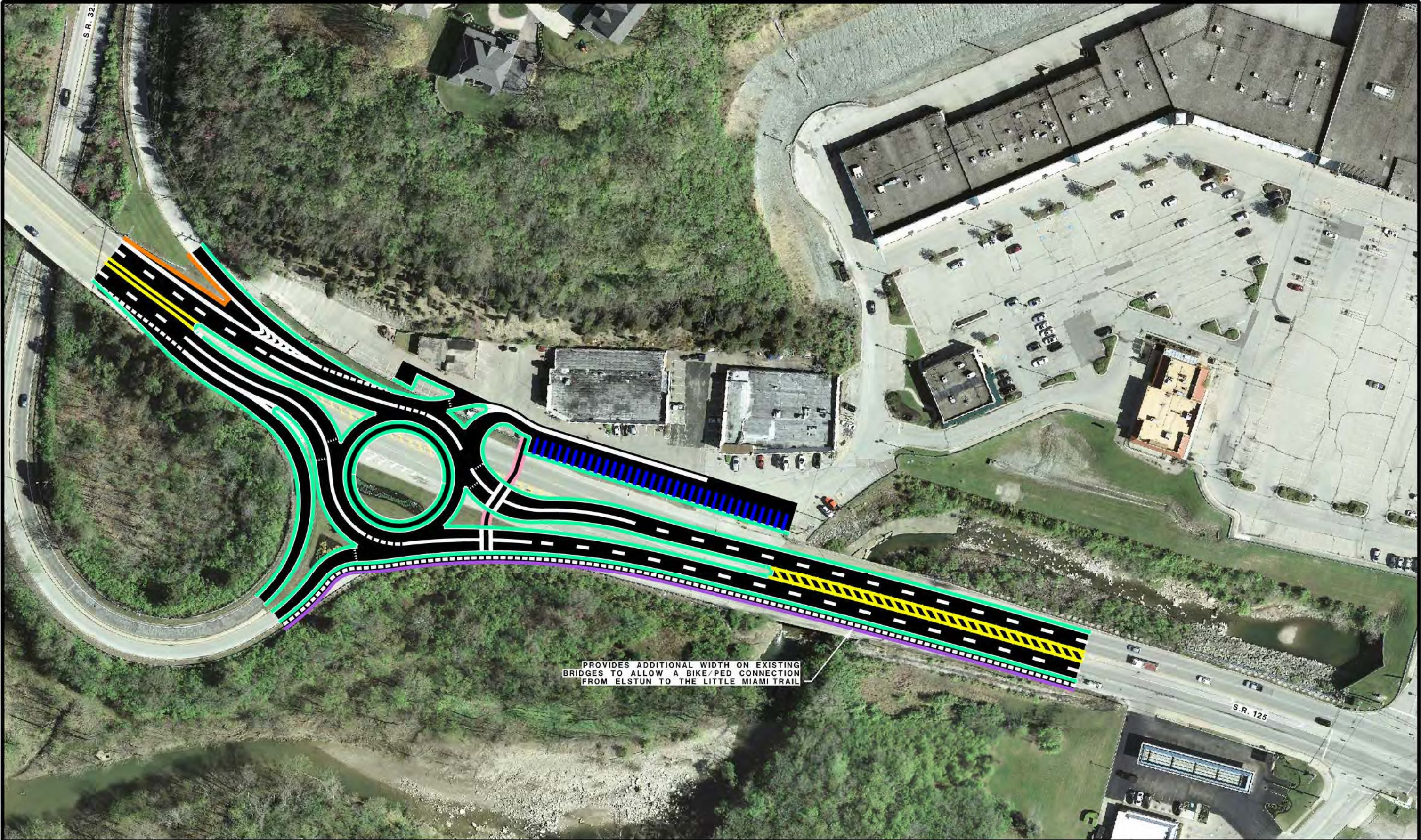
RECOMMENDATION: NO FURTHER STUDY



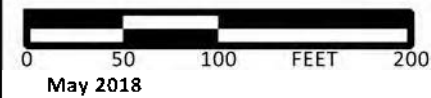
Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-3, 125-4 and 125-5
SHARED USE PATH AND WALK





PROVIDES ADDITIONAL WIDTH ON EXISTING
BRIDGES TO ALLOW A BIKE/PED CONNECTION
FROM ELSTUN TO THE LITTLE MIAMI TRAIL



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure X-1G and 125-4
MODIFY RAMP CONNECTION FROM S.R. 32 TO S.R. 125
TO ROUNDABOUT

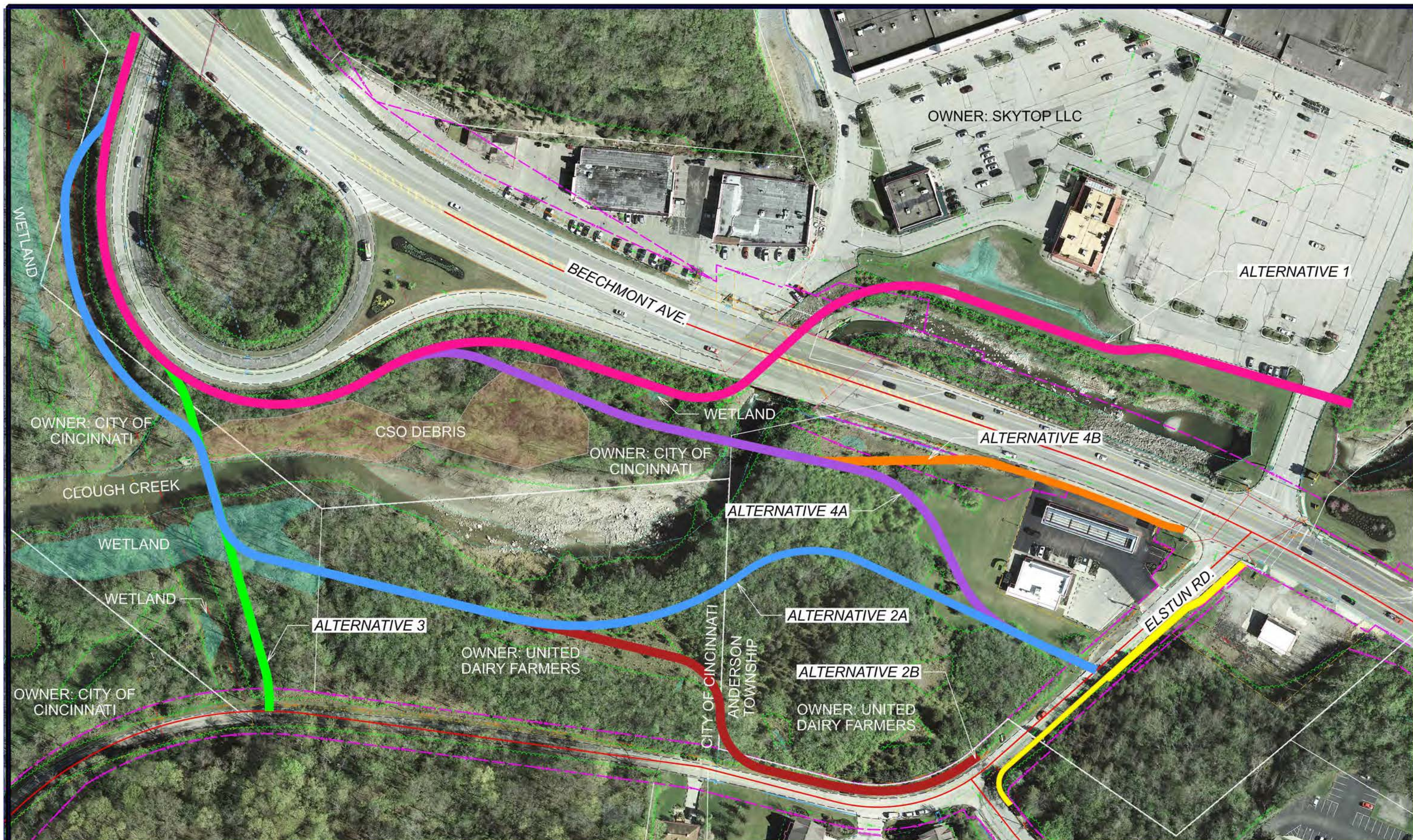


Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 125-4
SHARED USE PATH OVER
EXISTING BRIDGE

ATTACHMENT C

Build Alternative Plans

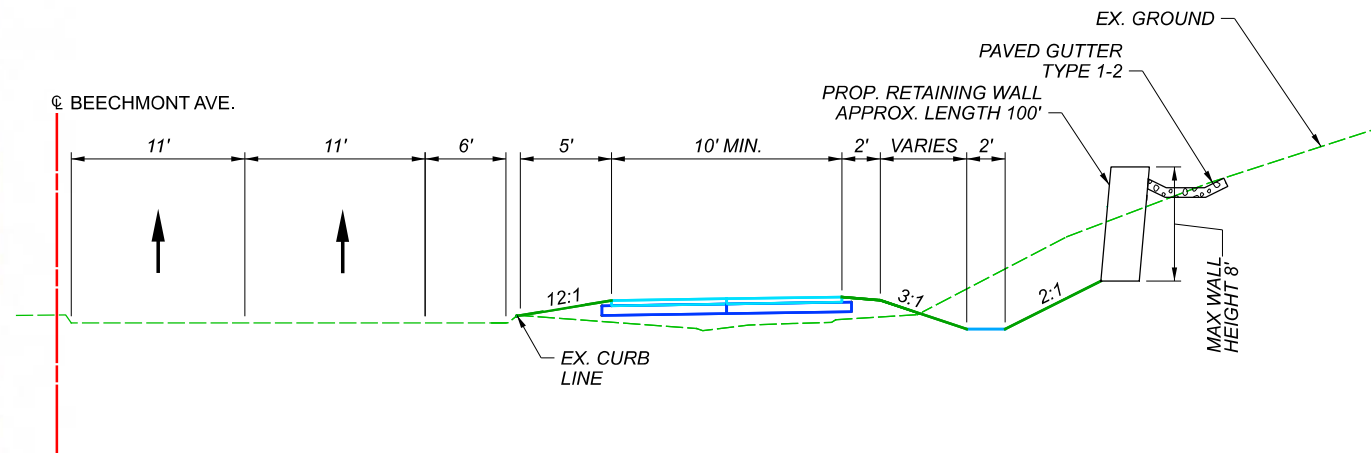
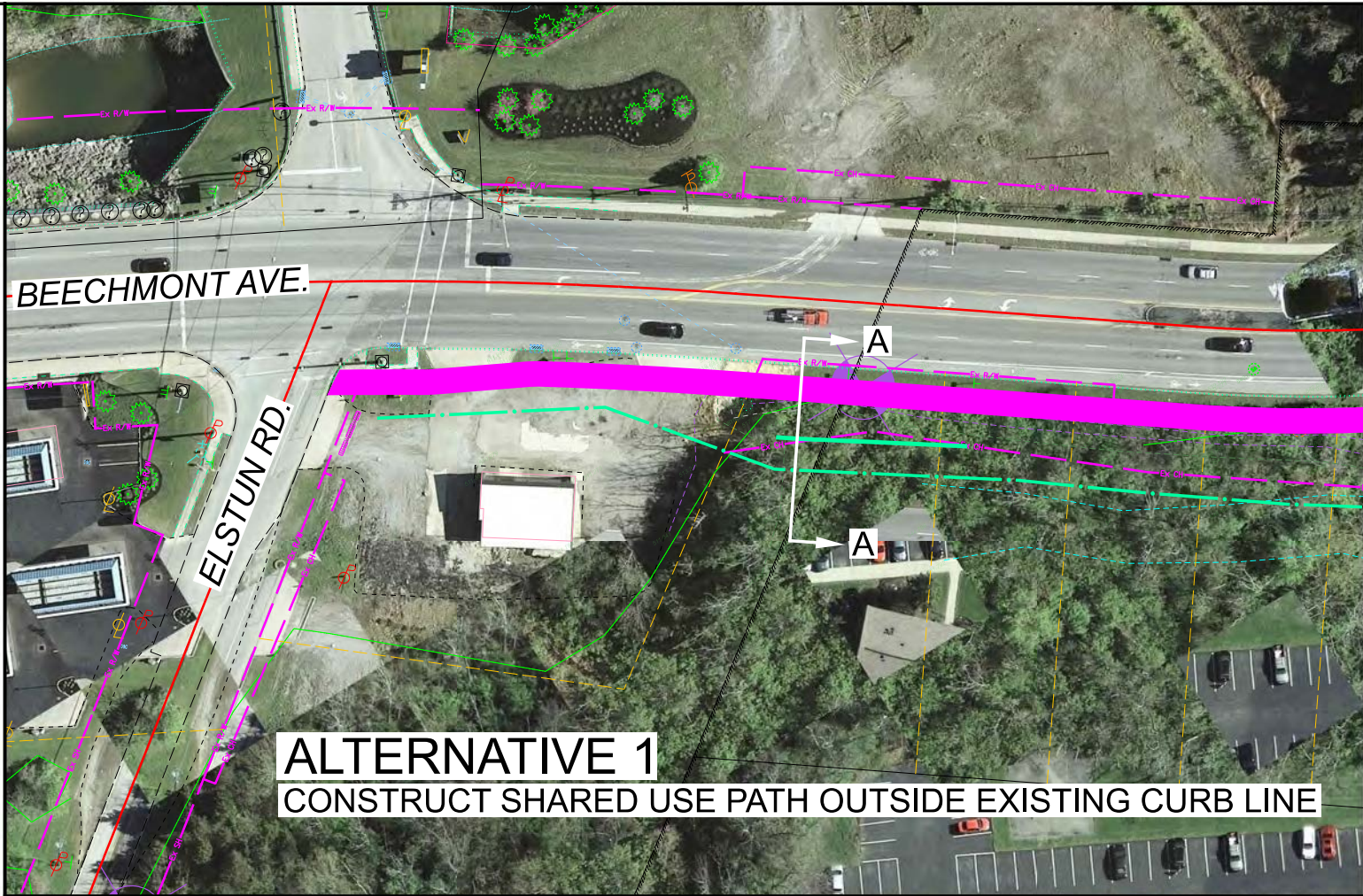


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MAY 2021

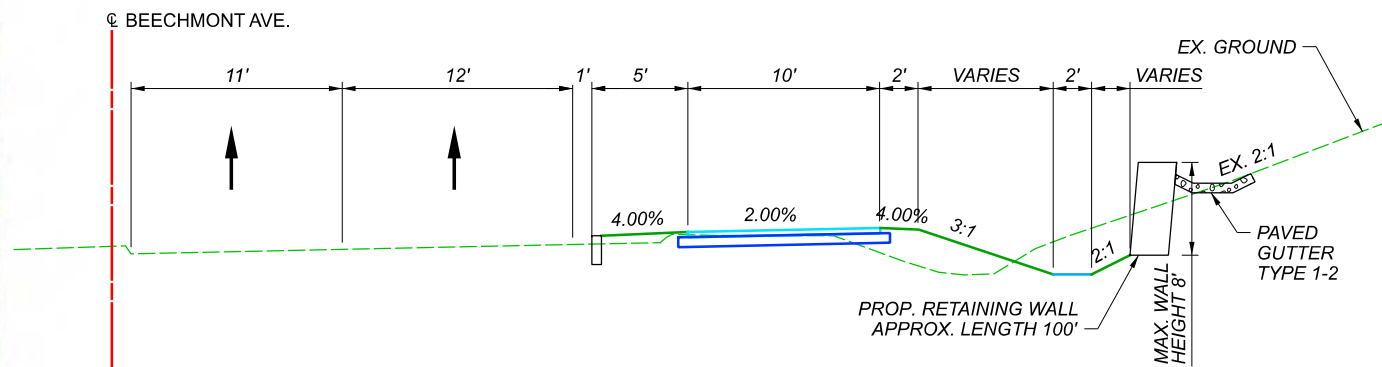
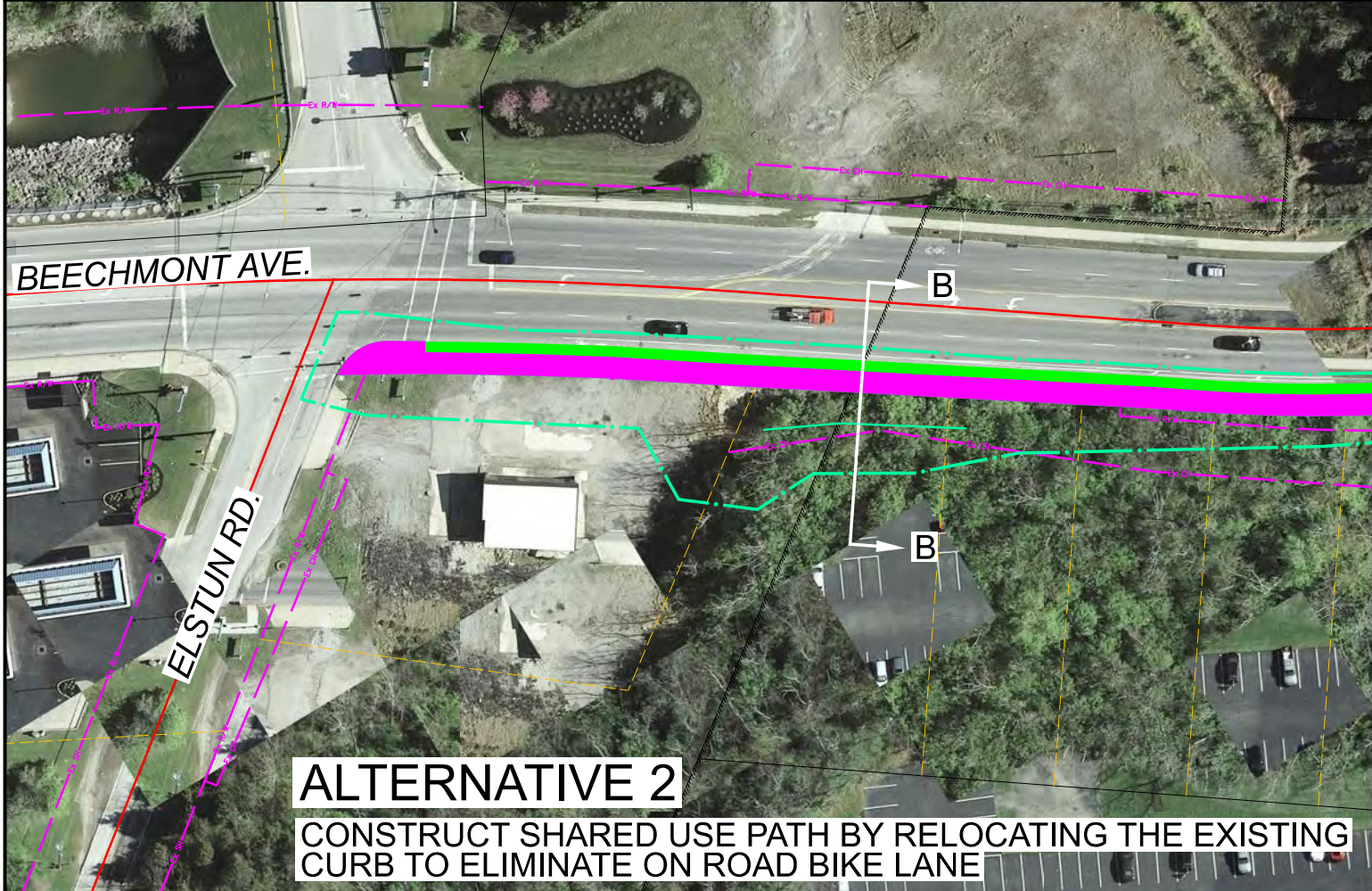


Concept Drawing
HAM-LMST EXT TO
RANCHVALE ALTERNATIVES
PID 113602

Figure C-I



ALTERNATIVE 1
CROSS SECTION
A-A



ALTERNATIVE 2
CROSS SECTION
B-B

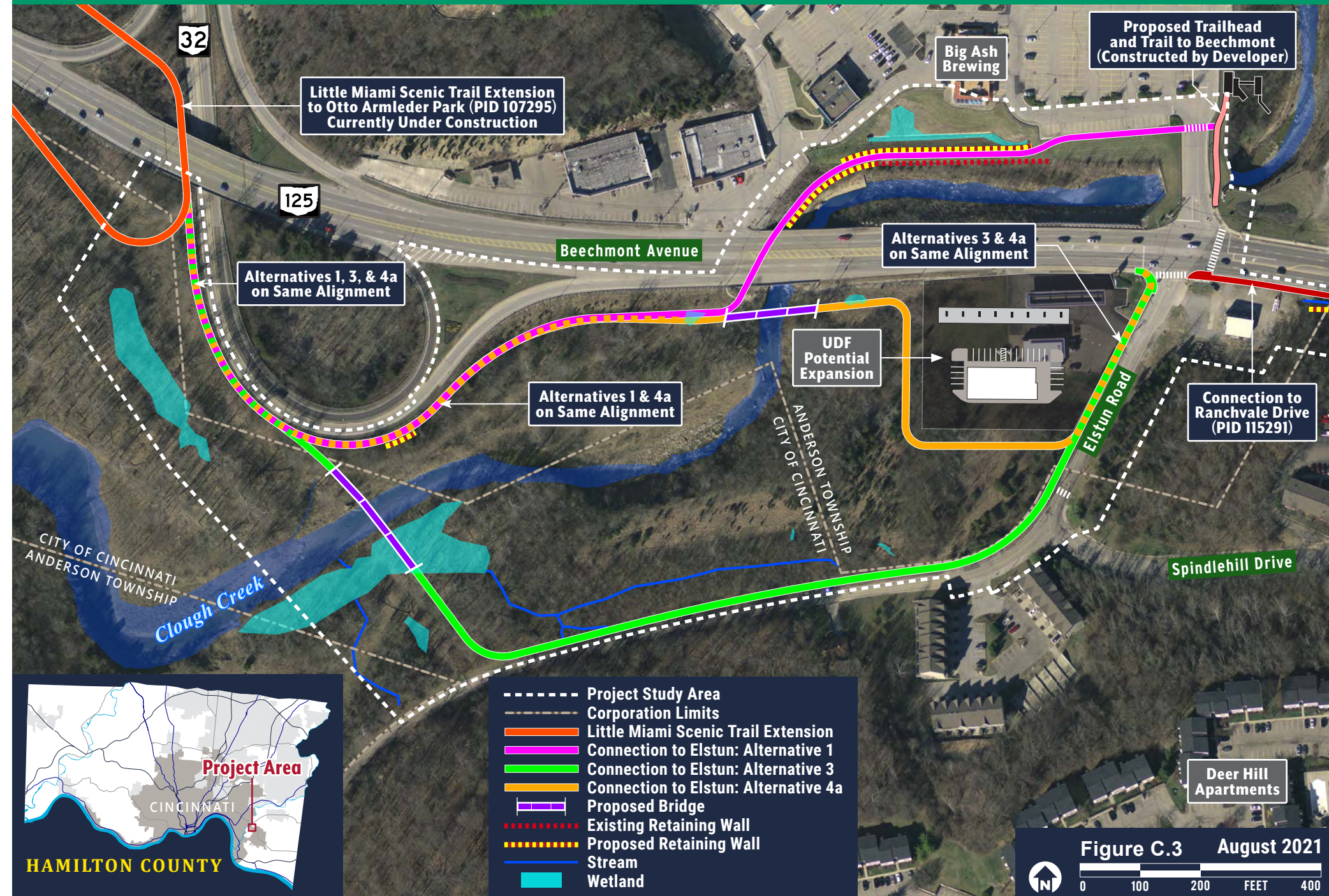
Figure C-2





Shared-Use Path Alternatives

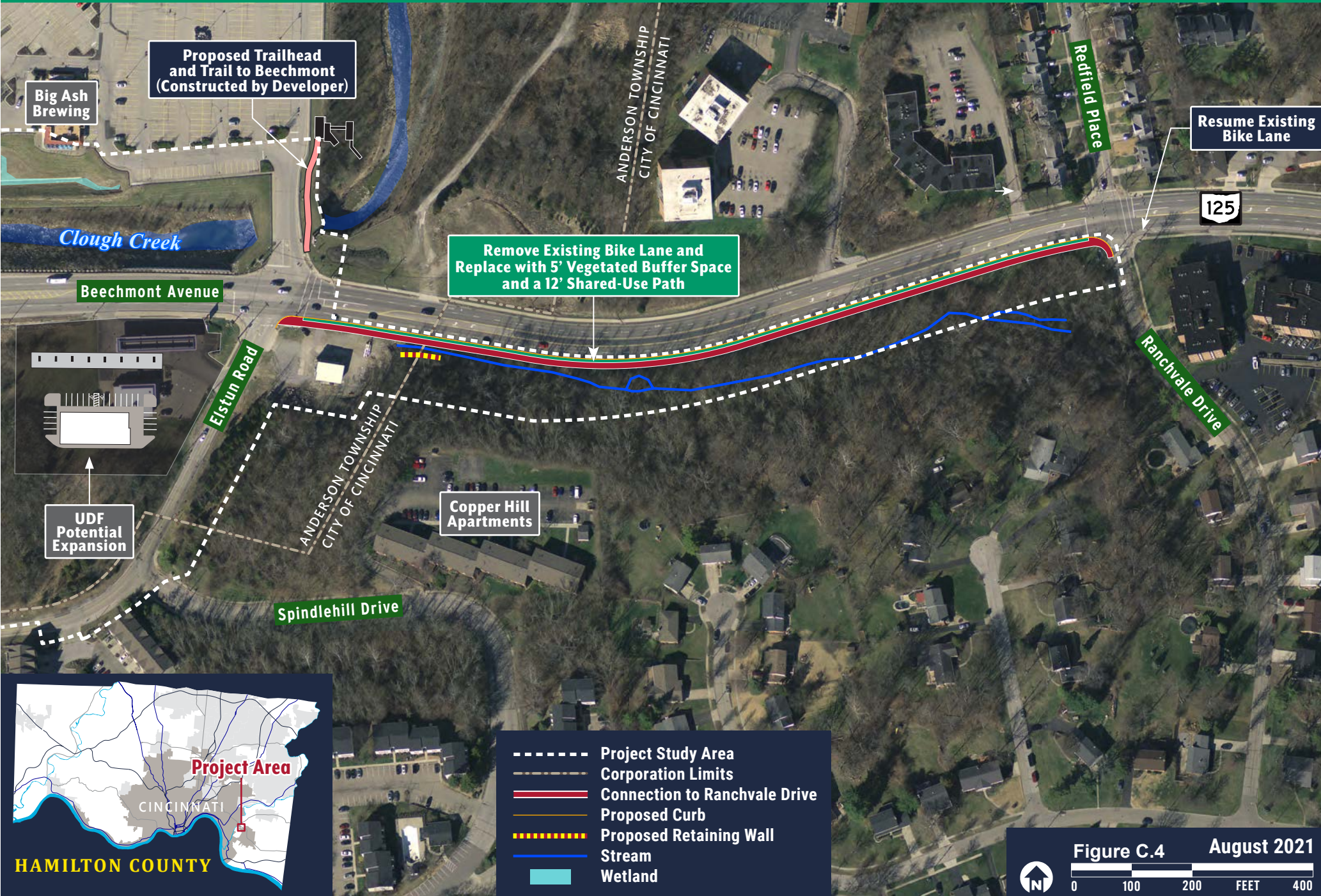
Little Miami Scenic Trail Connection to Elstun Road | PID 113602





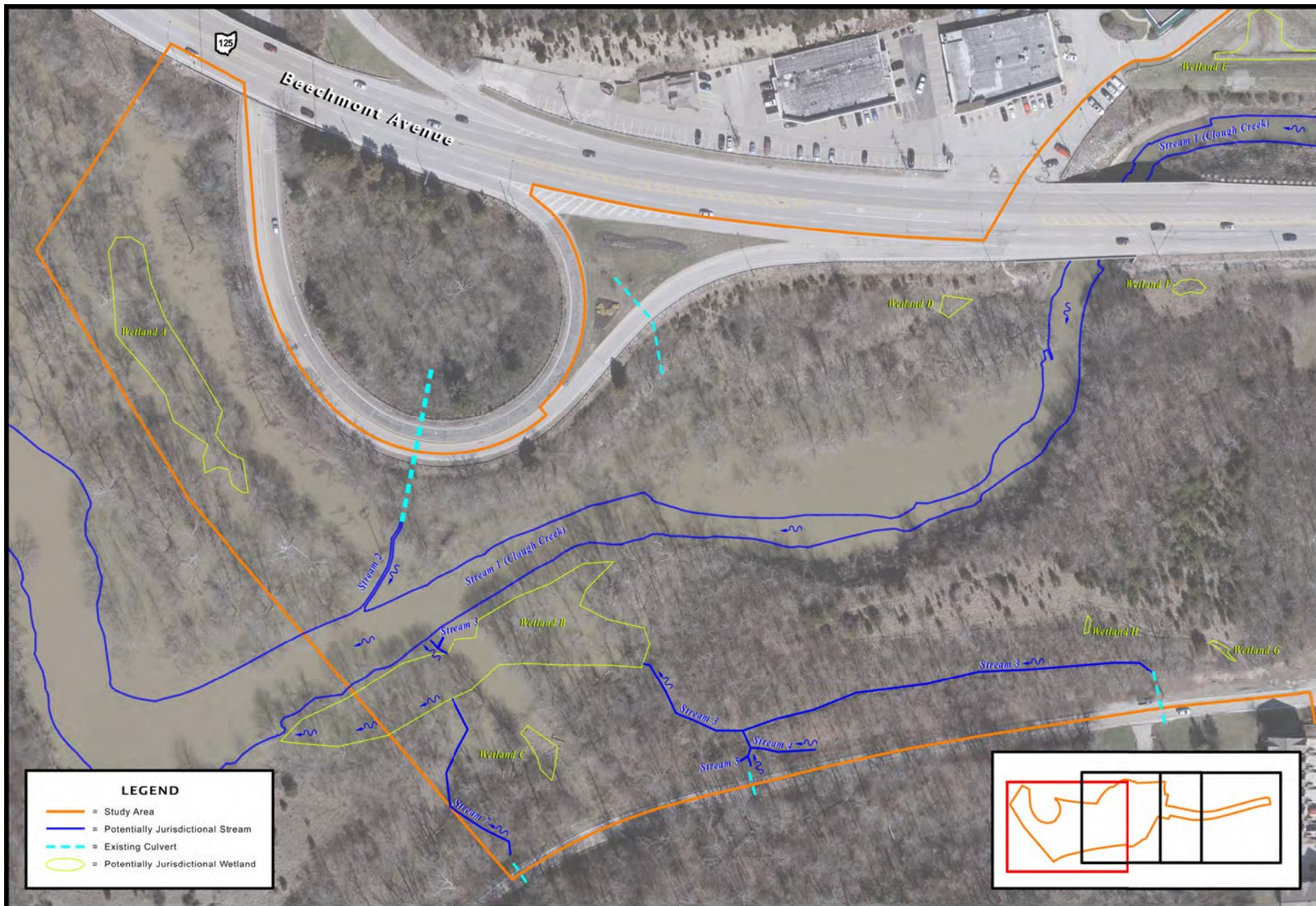
Shared-Use Path Connection

Elstun Road to Ranchvale Drive | PID 115291



ATTACHMENT D

Environmental Mapping

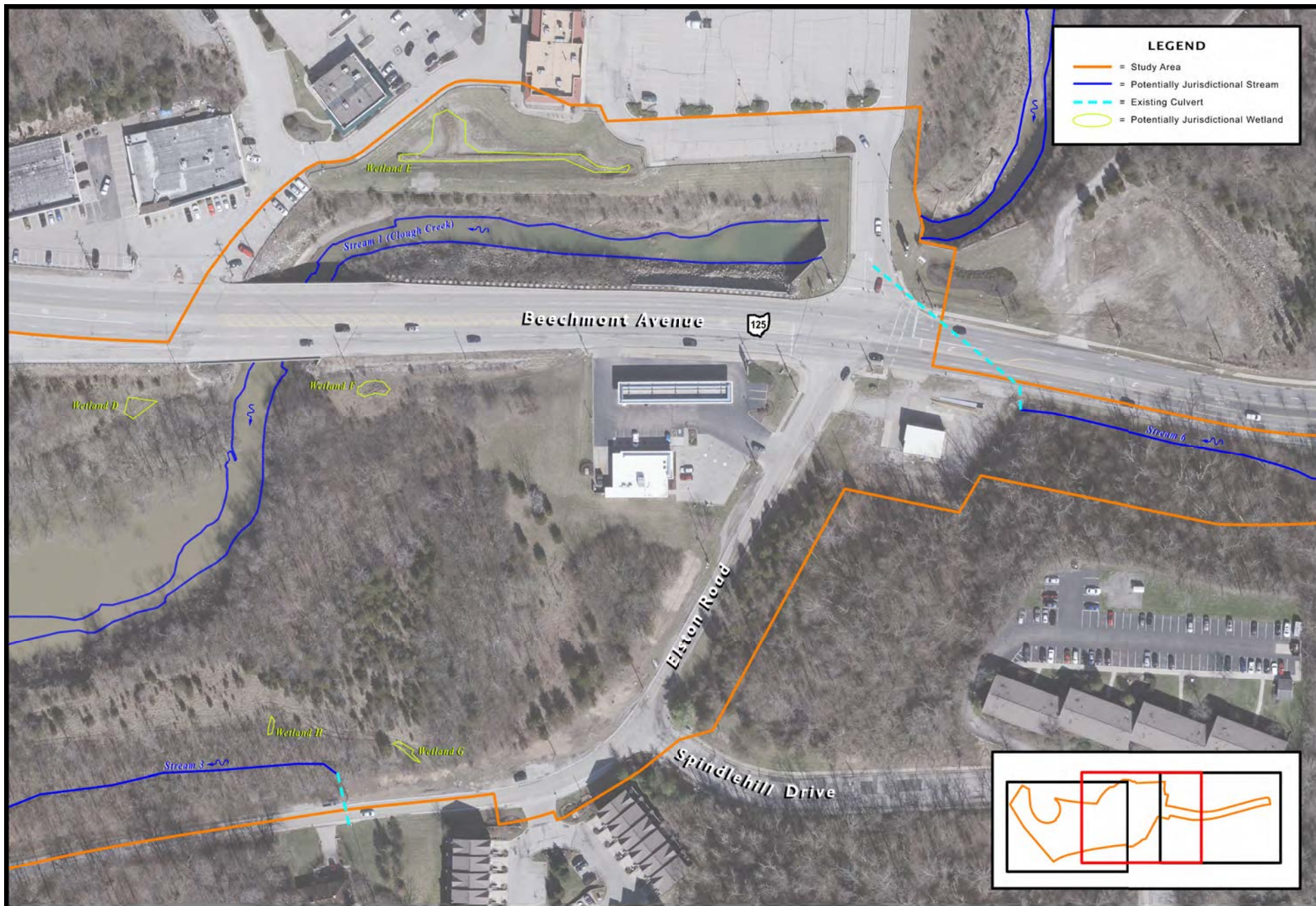


0 50 100 150 FEET
July 2021



Feasibility Study
EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure D.1a
Ecological Resources
(Streams and Wetlands)

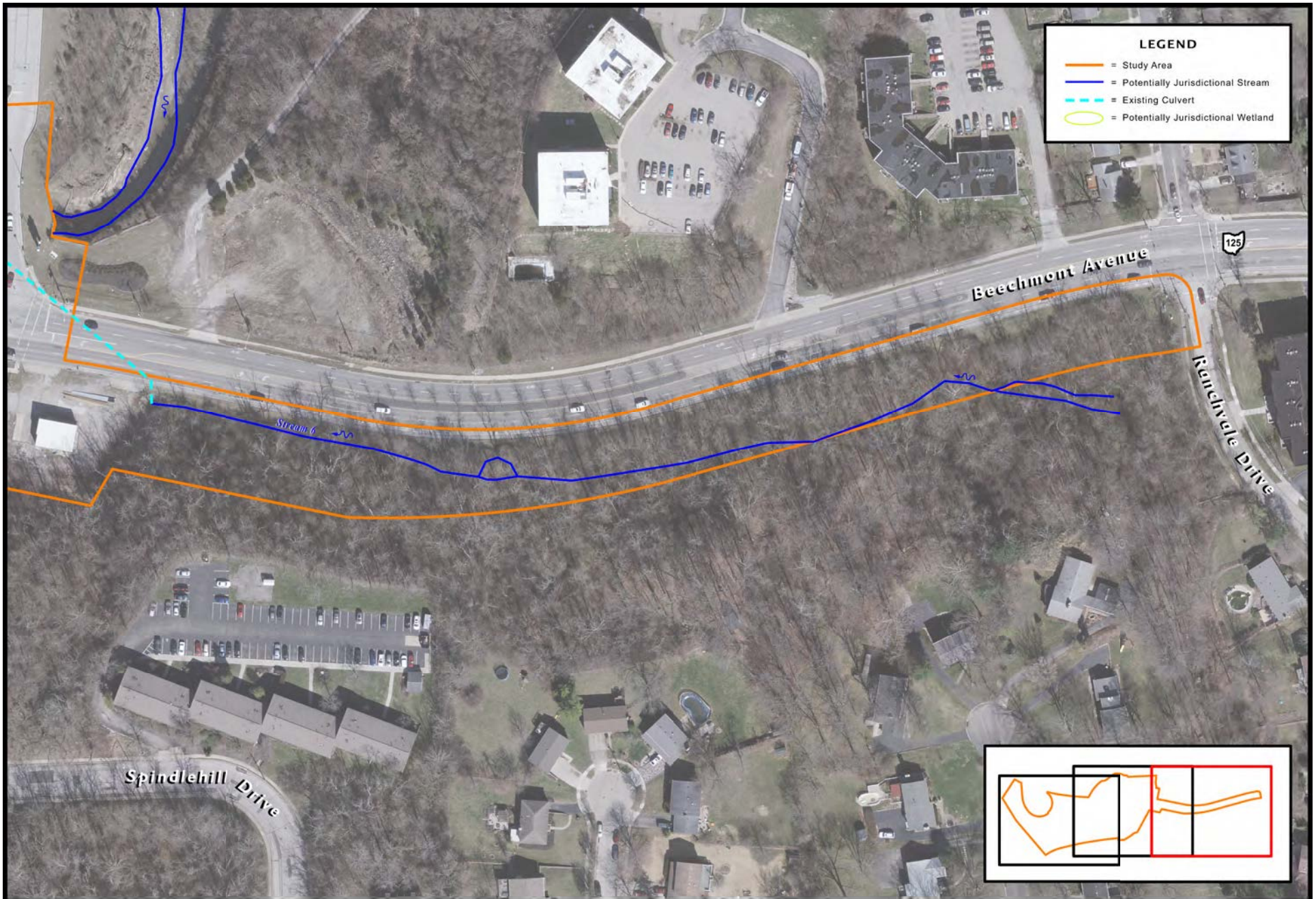


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July 2021



Feasibility Study
EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure D.1b
Ecological Resources
(Streams and Wetlands)



0 100 200 300 FEET

July 2021



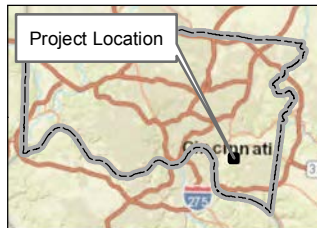
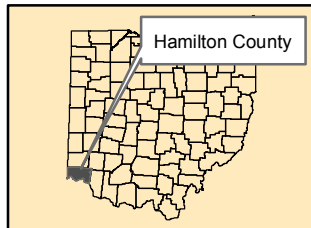
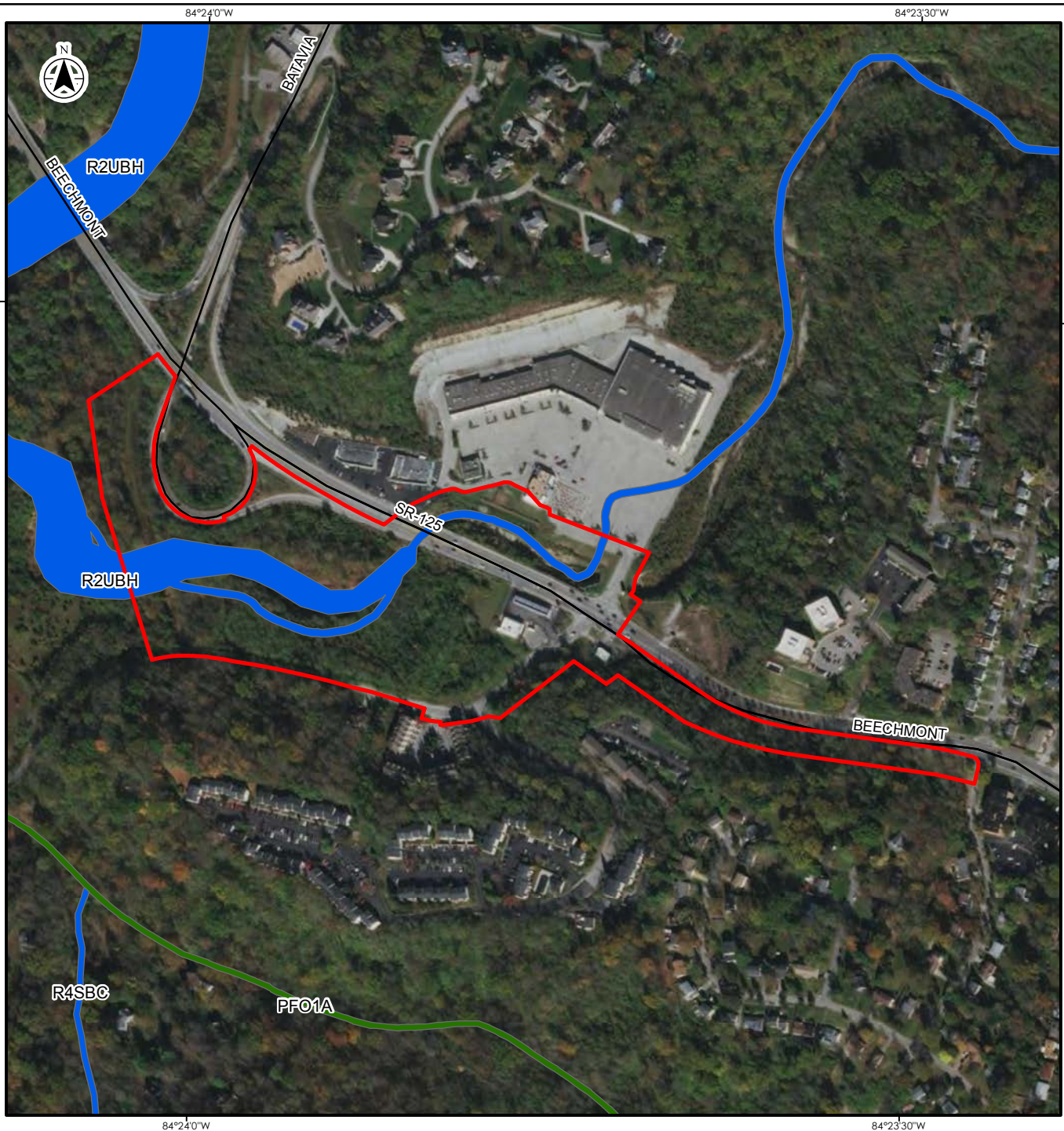
Stantec

Feasibility Study

EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure D.1c

Ecological Resources
(Streams and Wetlands)



Legend

- Study Area
- State Routes

National Wetland Inventory

Wetland Type

- Freshwater Forested/Shrub Wetland
- Riverine



Project Location
Anderson Township,
Hamilton County, Ohio

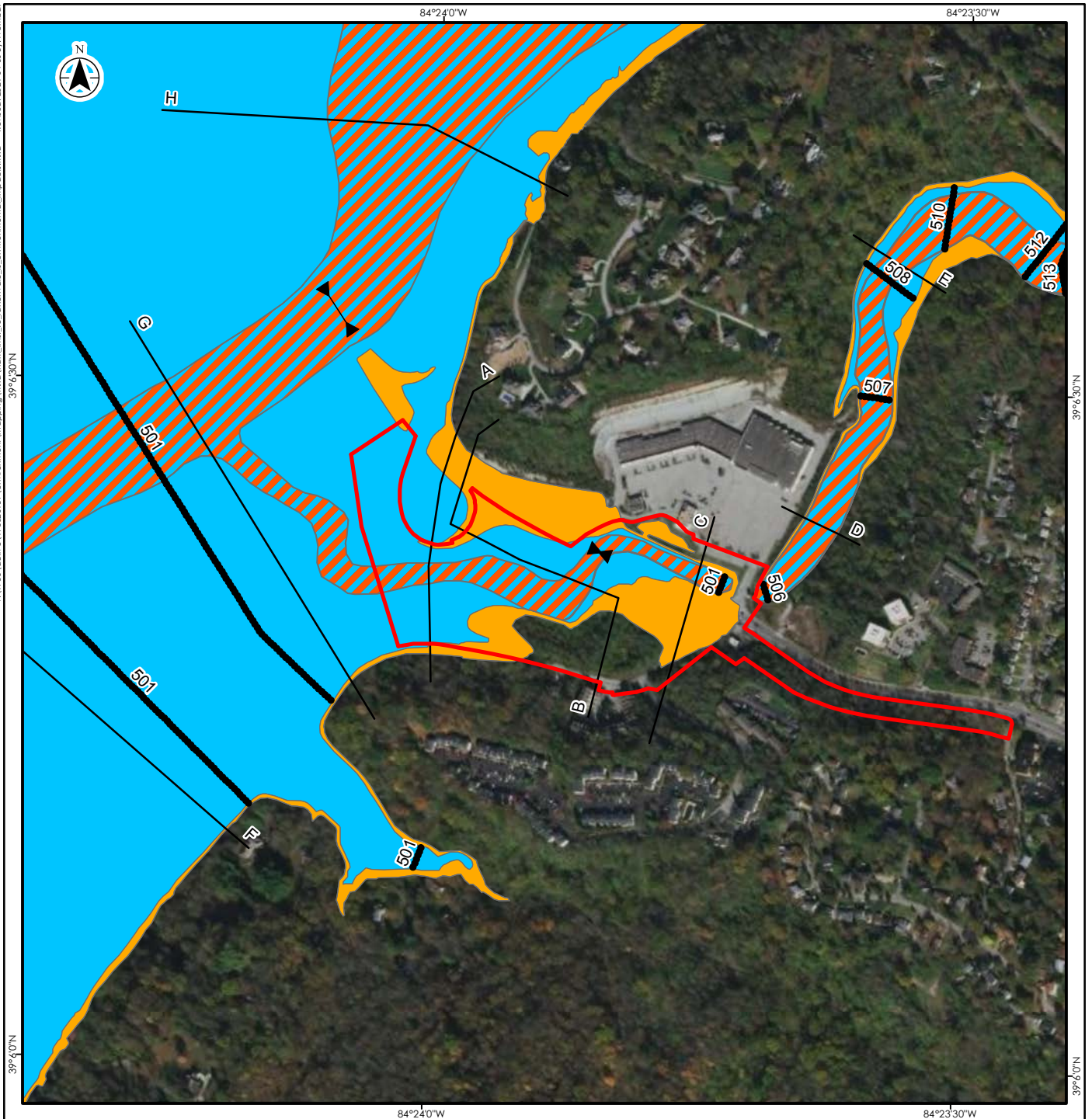
Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study

Figure No.
D.2
Title

Notes

- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
- Base features produced from project design elements.
- Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

National Wetland Inventory Map



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Study Area
- Cross Sections
- Base Flood Elevation
- Bridge
- Flood Hazard Zones**
 - 1% Annual Chance Flood Hazard
 - 0.2% Annual Chance Flood Hazard
 - Area of Minimal Flood Hazard
 - Regulatory Floodway

0 570 1,140 Feet
1:8,000 (at original document size of 8.5x11)



Project Location 173620137
Anderson Township,
Hamilton County, Ohio Prepared by RV on 2021-04-30

Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study

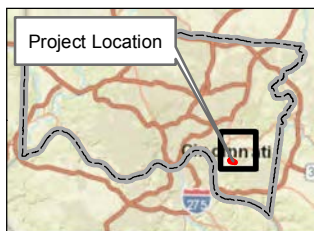
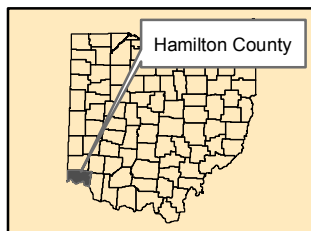
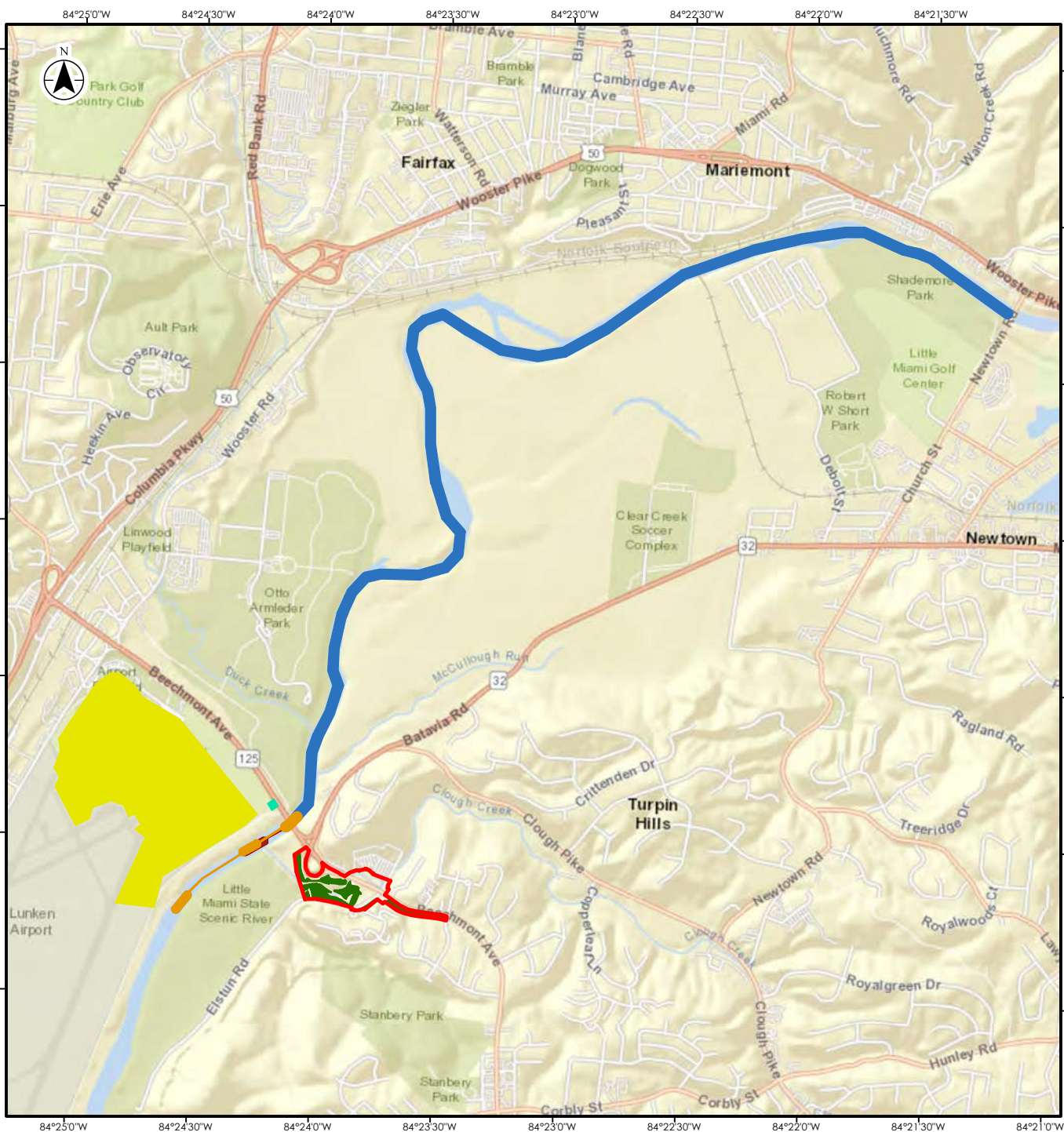
Figure No.

D.3

Title

FEMA NFHL Map

V:\1736a\active\173620137\environment\wrapping\mxd\ham.mxd To archive & environmental impact.mxd Revised: 2021-07-08 By:rvnbor



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS

Legend

- Study Area
- Suitable Wooded Habitat
- Species
 - Blue Sucker
 - Loggerhead Shrike
 - Mountain Madtom
 - Running Buffalo Clover
 - Wartyback

0 2,500 5,000
Feet
1:35,022 (at original document size of 8.5x11)



Project Location 173620137
Anderson Township,
Hamilton County, Ohio Prepared by RV on 2021-07-07

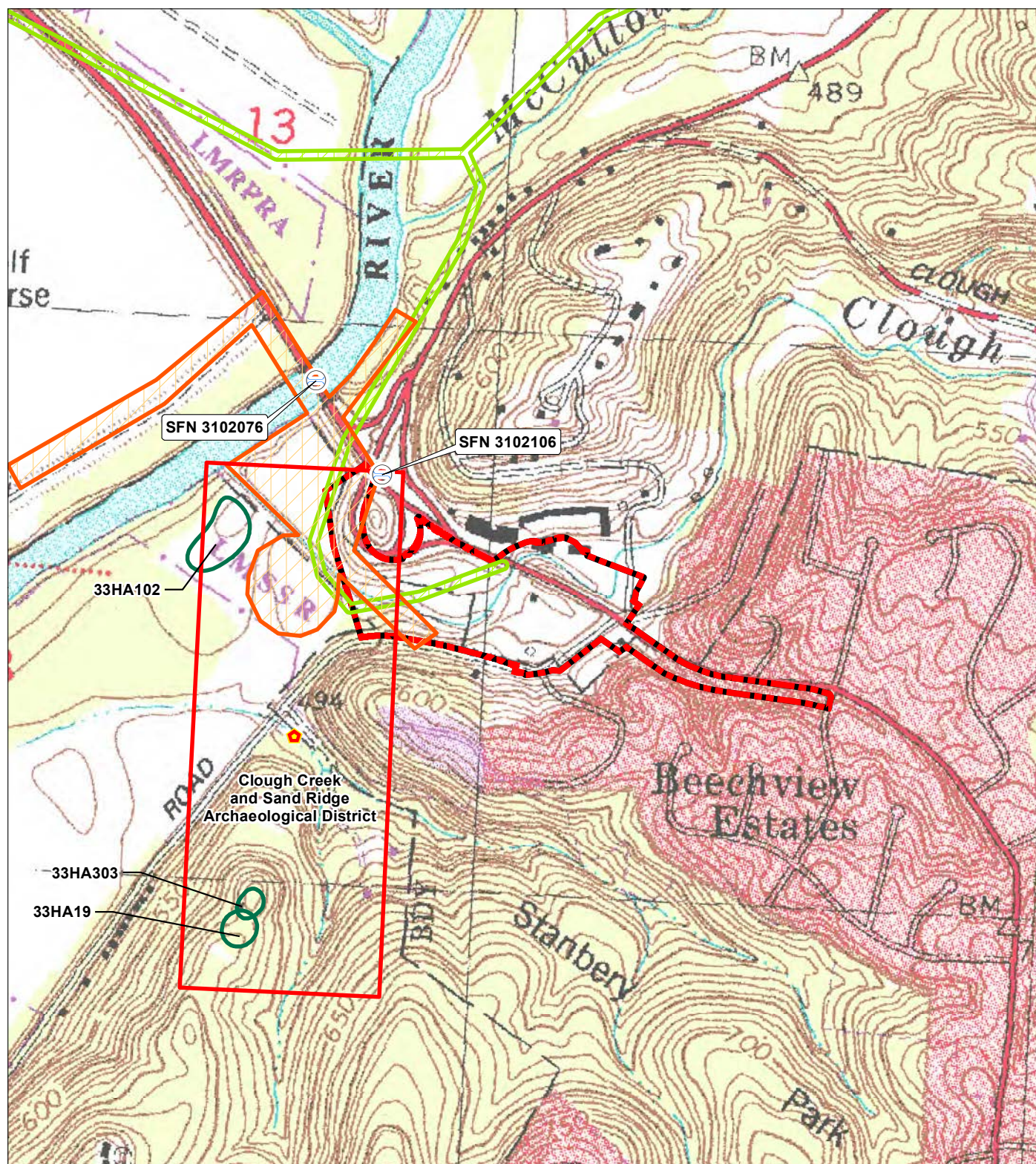
Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study








Figure No.

D.4

Title

**Threatened and Endangered
Species Map**



- | | |
|---|---|
|  Project area |  SFN location |
|  Previously inventoried archaeological site boundary | Previously surveyed area |
|  NRHP Listed |  Baltz et al. 1997 |
|  NRHP Boundary |  Genheimer and Scheurer 1977 |

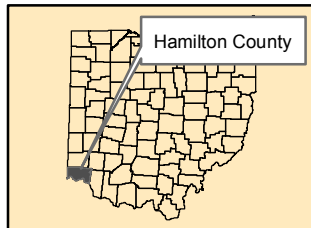
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0 420 840 1260 Feet



Figure D.5

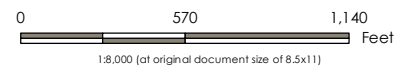
Portions of 1981 Cincinnati East and 1988 Madeira, Ohio and 1987 Newport and 1992 Withamsville, Kentucky-Ohio quadrangles (USGS 7.5' topographic maps) showing the project area and results of the records check obtained from the SHPO OMS.

Base: USGS Cincinnati East and Madeira, Ohio and Newport and Withamsville, Ky-Ohio, 7.5' series quadrangles



Legend

- Study Area
- + ODNR Water Wells
- Sole Source Aquifer



Project Location
Anderson Township,
Hamilton County, Ohio

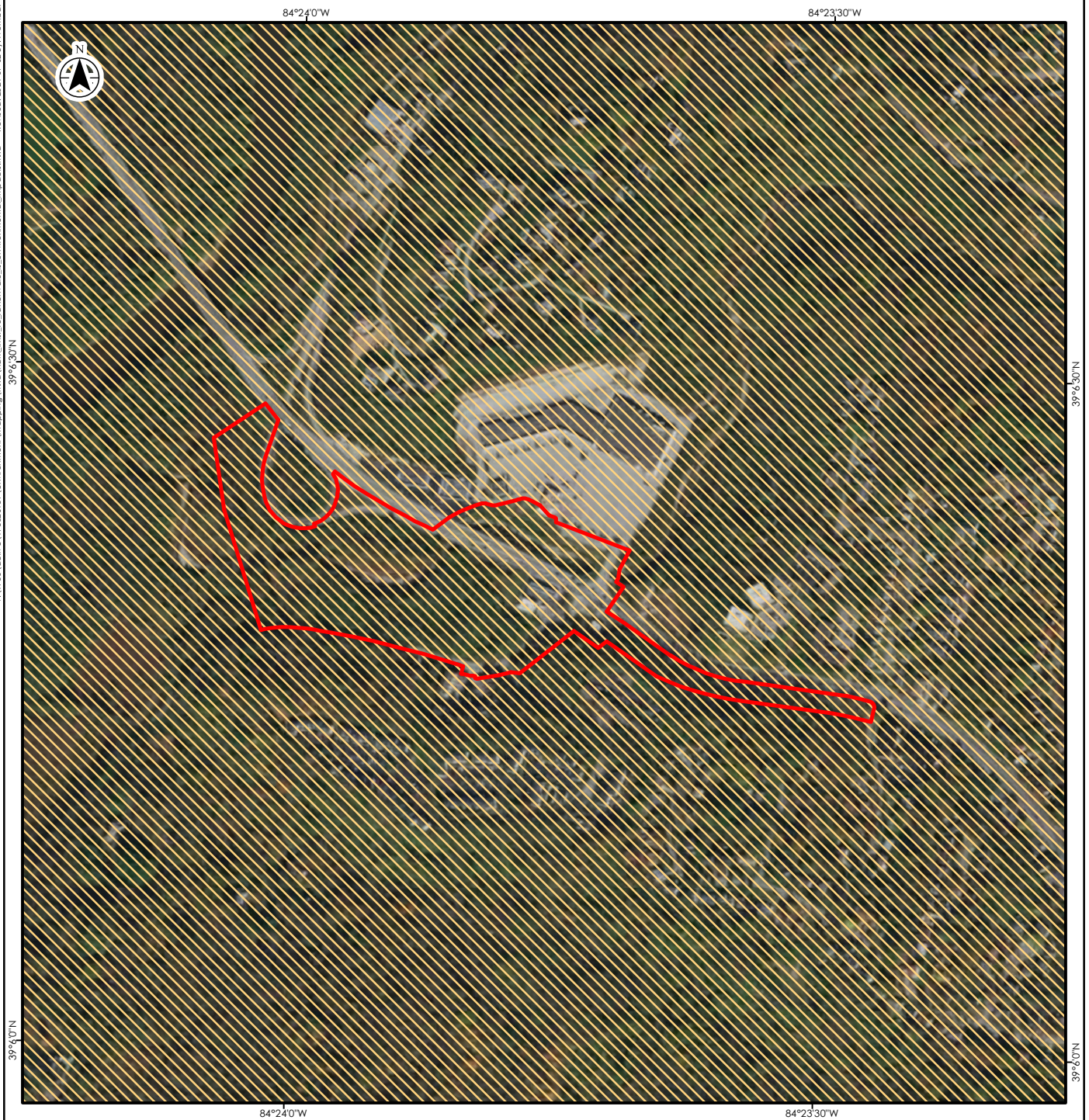
Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study

Figure No.
D.6
Title

Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Drinking Water Resources Map



Legend

- Study Area
- Census Urban Areas

0 570 1,140 Feet
1:8,000 (at original document size of 8.5x11)



Project Location 173620137
Anderson Township,
Hamilton County, Ohio
Prepared by RV on 2021-07-02

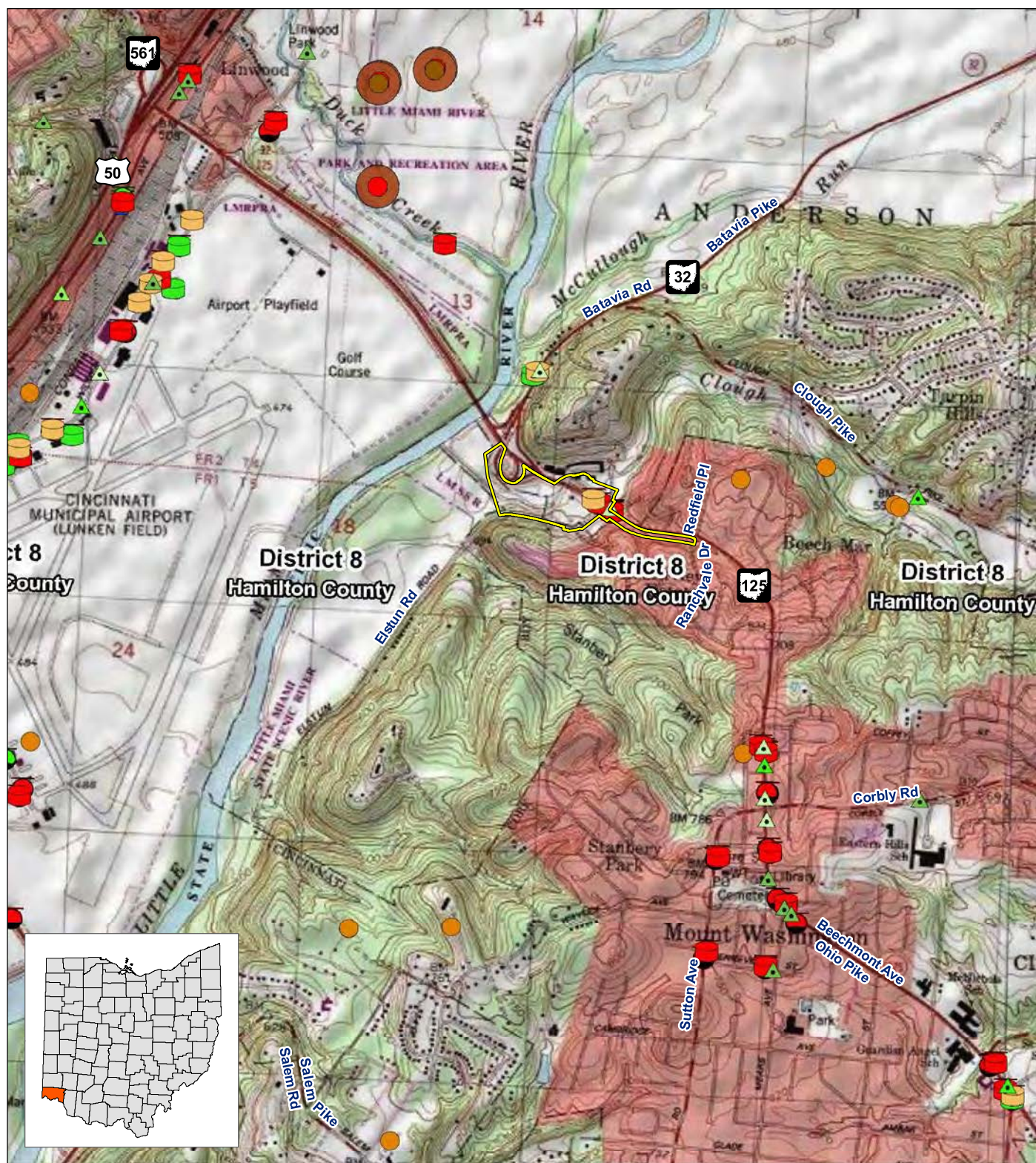
Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study






Figure No.
D.7
Title

Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Census Urban Areas Map



- | | |
|---|--|
|  Project area |  Inactive UST |
|  CESQG |  UST Status Unknown |
|  Inactive LUST | |

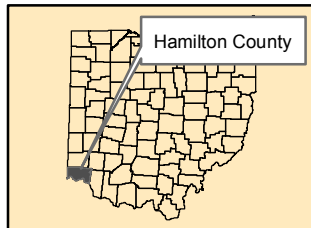
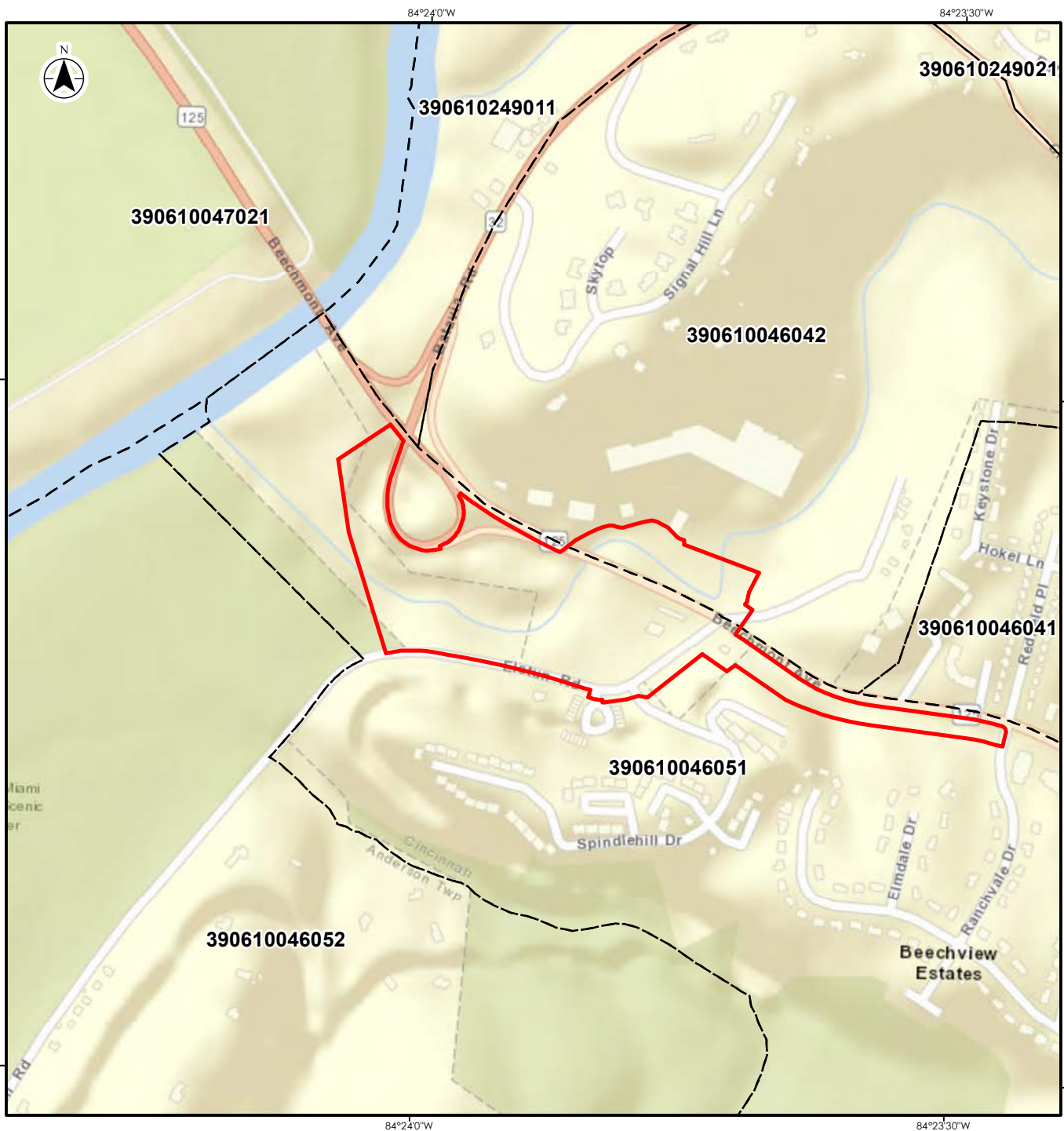
0 200 400 600 800 1000 Meters
0 1000 2000 3000 Feet



Figure 1
ORPS Summary Report

Figure D.8

Base: Ohio Regulated Properties Search (ORPS) Tool 4/26/2021;
USGS Newport, Kentucky-Ohio, 7.5' series quadrangle



Legend

- Study Area
- Census Blocks

0 570 1,140
Feet
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Project Location: Anderson Township, Hamilton County, Ohio
173620137
Prepared by RV on 2021-04-30

Client/Project: HAM-LMST Extension to Ranchvale
PID 113602/115291
Feasibility Study

Figure No.:
D.9
Title

Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS

Census Block Map

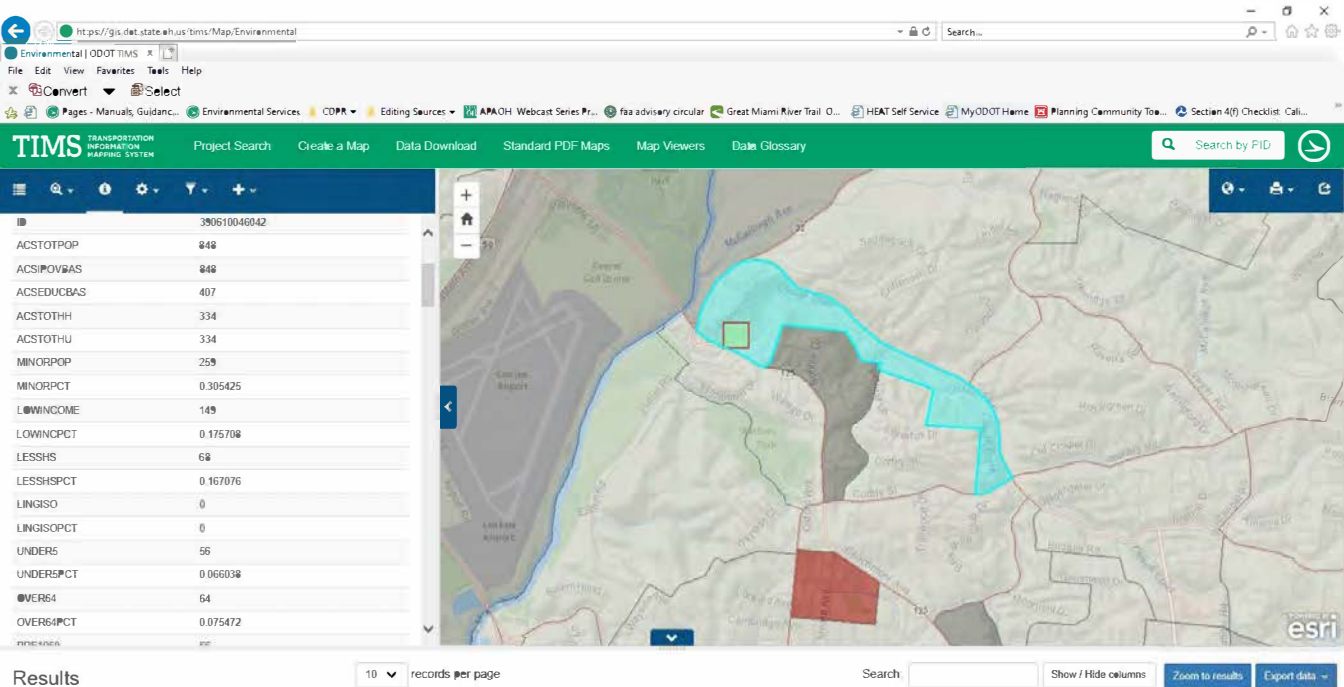


Figure D.10

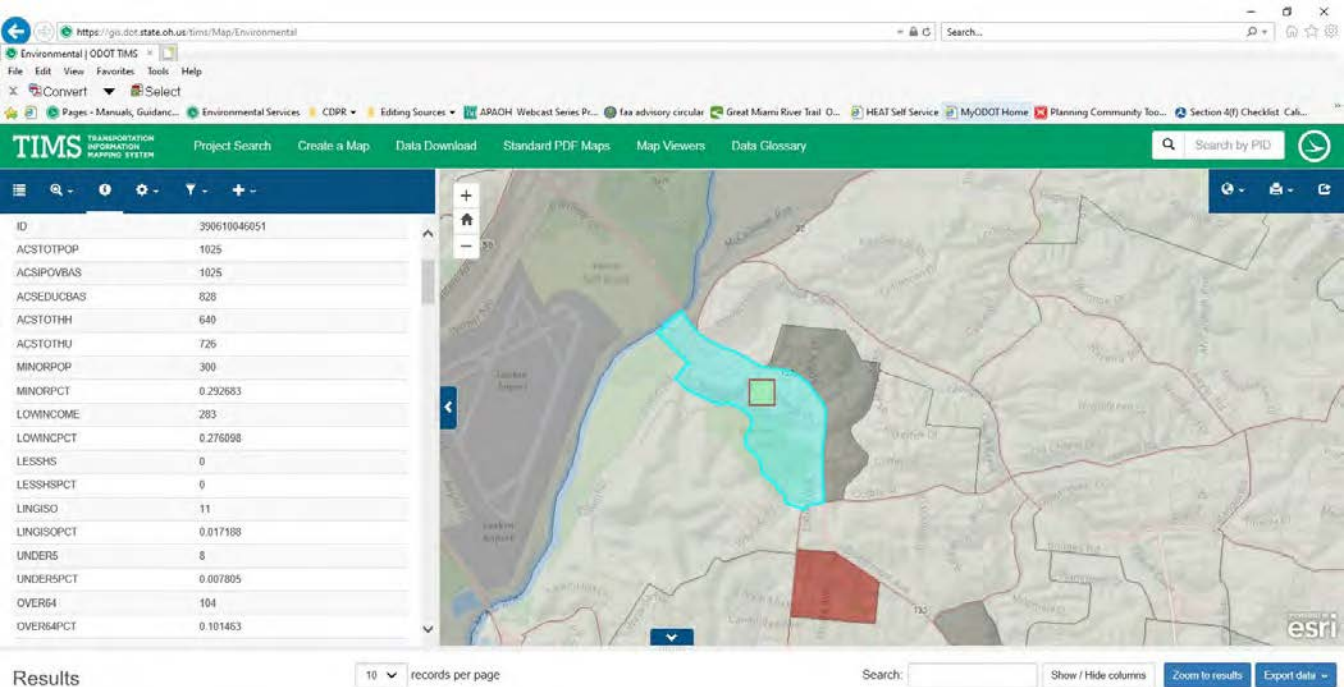


Figure D.11

Showing 0 to 0 of 0 entries

First Previous Next Last

ATTACHMENT E

Ecological Resources Technical Memorandum

To:	Paul Durham	From:	Michael de Villiers, Rohini Vembar
	Stantec Consulting Services Inc.		Stantec Consulting Services Inc.
File:	173620137	Date:	June 21, 2021

**Reference: HAM-LMST Ext. to Ranchvale – Trail Extension
Ecological Resources**

Introduction

The proposed trail extension project is located in Anderson Township, Hamilton County, Ohio (See **Figures 1.1** and **1.2**). The Ohio Department of Transportation (ODOT) District 8 is proposing improvements to connect the Little Miami Scenic Trail (LMST) to Elstun Road and to the bus stop along SR 125. The project is located in southeast Hamilton County and is one of 68 projects within the Eastern Corridor Segments II and III study area which were identified in the Conceptual Alternatives Implementation Plan for Segments II/III of the Eastern Corridor Study (PID 86462) as a secondary need. This project is split into two contiguous sections: the western section includes a shared-use path from the LMST at SR 32 to Elstun Road (PID 113602); and the eastern section extends the path from Elstun Road to Ranchvale Road (PID 115291). The project is needed to address safety for bicyclists riding up the SR 125 hill and to address pedestrian and bicycle connectivity from Elstun Road and the LMST. The project area is approximately 27.8 acres.

Ecological field surveys for the proposed project were conducted on April 20, April 23, and May 7, 2021. These surveys included wetland and stream delineations, a freshwater mussel reconnaissance survey, and a running buffalo clover survey. A total of seven (7) streams and eight (8) wetlands were found within the project area (See **Figure 2**). Ecological resources found within the project area are described below.

Streams

Seven (7) streams were found within the project area including two perennial streams, two intermittent streams, and three ephemeral streams. All seven streams are located in an area mapped by the Ohio Environmental Protection Agency (OEPA) as “Possibly Eligible” for Nationwide permitting. Table 1 below summarizes streams within the project area:

Table 1. Summary of Streams

Stream ID	Drainage Area (mi ²)	Stream Hydrology Type	Habitat Assessment	OEPA Aquatic Life Use Designation	Length in Study Area (LF)
Stream 1 (Clough Creek)	8.04	Perennial	QHEI 60.0	WWH	1,780
Stream 2	<0.01	Perennial	HHEI 50.0	Modified Small Drainage Warmwater Stream	85
Stream 3	0.01	Intermittent	HHEI 62.0	Small Drainage Warmwater Stream	877
Stream 4	<0.01	Ephemeral	HHEI 14.0	Ephemeral Stream	92
Stream 5	<0.01	Ephemeral	HHEI 22.0	Ephemeral Stream	22
Stream 6	0.13	Intermittent	HHEI 64.0	Small Drainage Warmwater Stream	1,150
Stream 7	<0.01	Ephemeral	HHEI 15.0	Ephemeral Stream	214

Reference: HAM-LMST Ext. to Ranchvale – Trail Extension
Ecological Resources

Wetlands

Eight (8) wetlands were found within the project area including two palustrine forested wetlands, one palustrine scrub/shrub wetland, and five palustrine emergent wetlands. Three of these wetlands are potentially isolated wetlands. Table 2 summarizes wetlands within the project area:

Table 2. Summary of wetlands.

Wetland ID	Hydrologic Connection	ORAM Score (Category)	Wetland Type (Cowardin)	Estimated Total Size (Acre)	Estimated Size in Study Area (Acre)
Wetland A	Adjacent	47 (Category 2)	Palustrine – Forested	0.28	0.28
Wetland B	Adjacent	48 (Category 2)	Palustrine – Forested	0.59	0.50
Wetland C	Adjacent	27 (Category 1)	Palustrine – Emergent	0.03	0.03
Wetland D	Isolated	27 (Category 1)	Palustrine – Emergent	0.01	0.01
Wetland E	Adjacent	12 (Category 1)	Palustrine – Emergent	0.09	0.09
Wetland F	Isolated	20 (Category 1)	Palustrine – Emergent	0.01	0.01
Wetland G	Isolated	28 (Category 1)	Palustrine – Emergent	0.004	0.004
Wetland H	Adjacent	29 (Category 1)	Palustrine – Scrub-Shrub	0.002	0.002

Threatened and Endangered Species

Federally Listed Species

The Ohio Department of Natural Resources, Division of Wildlife (ODNR-DOW) conducted a Natural Heritage Database (NHDB) records check on March 23, 2021. This check found no records of Indiana bat (*Myotis sodalis*) or Northern long-eared bat (*Myotis septentrionalis*) captures or hibernacula within a 1-mile radius of the project area. No potential maternity roost trees were identified 100 ft past edge of pavement. No portals, openings, cracks, or crevices in rock outcrops that may be an entrance to a cave or mine that would be considered suitable winter hibernacula for Indiana bat or northern long-eared bat were found within the project area. Approximately 7.25 ac of suitable wooded habitat is found within the project area.

The ODNR-DOW NHDB records check found no records of bald eagle (*Haliaeetus leucocephalus*) nests within a 1-mile radius of the project area and no nests were observed within the project area. Running buffalo clover (*Trifolium stoloniferum*) has been found within Hamilton County and adjacent to the project area. A field survey conducted on May 7, 2021 found no running buffalo clover within the project area. Five mussel species have been found within Hamilton County: fanshell (*Cyprogenia stegaria*), pink mucket pearly mussel (*Lampsilis orbiculata*), rayed bean (*Villosa fabalis*), sheepnose (*Plethobasus cyphus*), and snuffbox (*Epioblasma triquetra*). A mussel reconnaissance survey conducted on May 7, 2021 in Stream 1 (Clough Creek) found no mussel shells.

Reference: HAM-LMST Ext. to Ranchvale – Trail Extension
Ecological Resources

State Listed Species

The ODNR-DOW NHDB records check found four additional records of state-listed species within a 1-mile radius of the project area: loggerhead shrike (*Lanius ludovicianus*), mountain madtom (*Noturus eleutherus*), blue sucker (*Cycleptus elongatus*), and wartyback (*Cyclonaias nodulata*). The loggerhead shrike is found in semi-open grasslands, shrublands, grazed pastures, and agricultural areas with scrubby vegetation and lookout posts or perches. Their diet includes bugs, small animals, and other small birds, which they store on barbs, thorns, or forks between branches. The mountain madtom is found in the deep, rocky riffles of fast-flowing streams with gravel or cobble substrate and is very sensitive to pollution and siltation. The blue sucker is found in deep, swift, large rivers with cobble substrate and are bottom feeders. The wartyback mussel is found in large rivers where it buries itself in sand or fine gravel. Suitable habitat for the loggerhead shrike (in semi-open scrub/shrub habitat) and the mountain madtom (Stream 1) is found within the project area. There is no suitable habitat for the blue sucker and wartyback within the project area.

Mussels

A mussel reconnaissance survey was conducted on May 7, 2021 in Stream 1 (Clough Creek). Clough Creek is an unlisted stream as indicated by ODNR-DOW's *Ohio Mussel Surveyor Protocol* (not listed in Appendix A with watersheds >5 mi² with the potential for mussels but federally listed mussel species not expected). Although suitable habitat for mussels was observed in Stream 1, no mussel shells, including living mussels or dead mussel shells, were observed. An Ohio Mussel Habitat Assessment Form was completed for Stream 1 (Clough Creek).

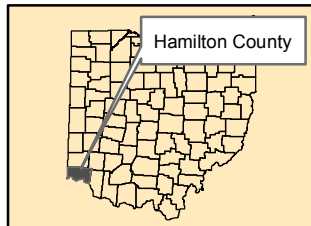
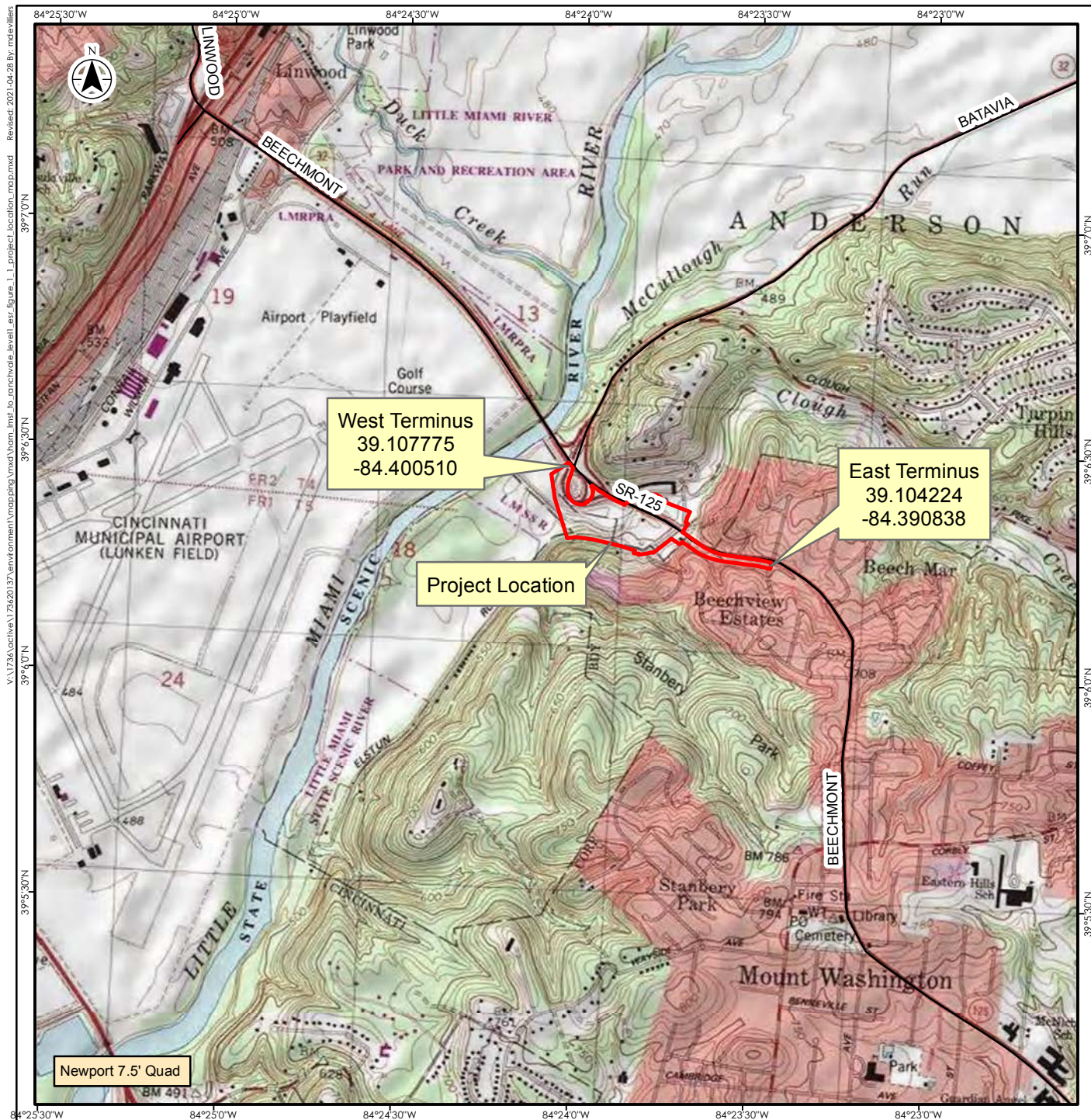
Land Cover

The project area was surveyed for vegetative communities on April 20 and April 23, 2021 (See **Figure 3**). Developed High Intensity (DH) and Developed Open Space (DS) vegetative communities account for approximately 18 percent and 14 percent of land cover within the project study area. Approximately 26 percent of the land cover within the project area is Upland Forest (UF), which consists primarily of boxelder (*Acer negundo*), American elm (*Ulmus americana*), redbud (*Cercis canadensis*), and Amur honeysuckle (*Lonicera maackii*). Approximately 10 percent of the land cover within the project area is Floodplain Forest (FF), which consists primarily of boxelder, silver maple (*Acer saccharinum*), cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), and sandbar willow (*Salix interior*). Approximately 17 percent of the land cover within the project area is Scrub/Shrub (SS), which consists of Amur honeysuckle, eastern red cedar (*Juniperus virginiana*), Callery pear (*Pyrus calleryana*), flowering dogwood (*Cornus florida*), and multiflora rose (*Rosa multiflora*). Approximately 4 percent of the land cover within the project area is Grassland/Herbaceous (GH) and 3 percent is Barren Land (BL). The remaining 8 percent of land cover within the project area is made up of streams and wetlands, of which approximately 5 percent is Open Water (OW), approximately 2.5 percent is Forested Wetland (FW), and approximately 0.5 percent is Marsh (MA) and Shrub Wetland (SW).

Attachments: [Figures 1.1, 1.2, 2, and 3; Attachment A Ecological Resources Photolog](#)

c.

Figures



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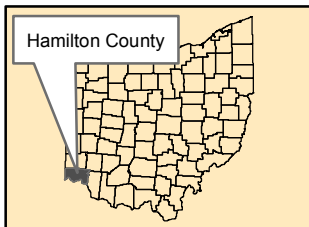
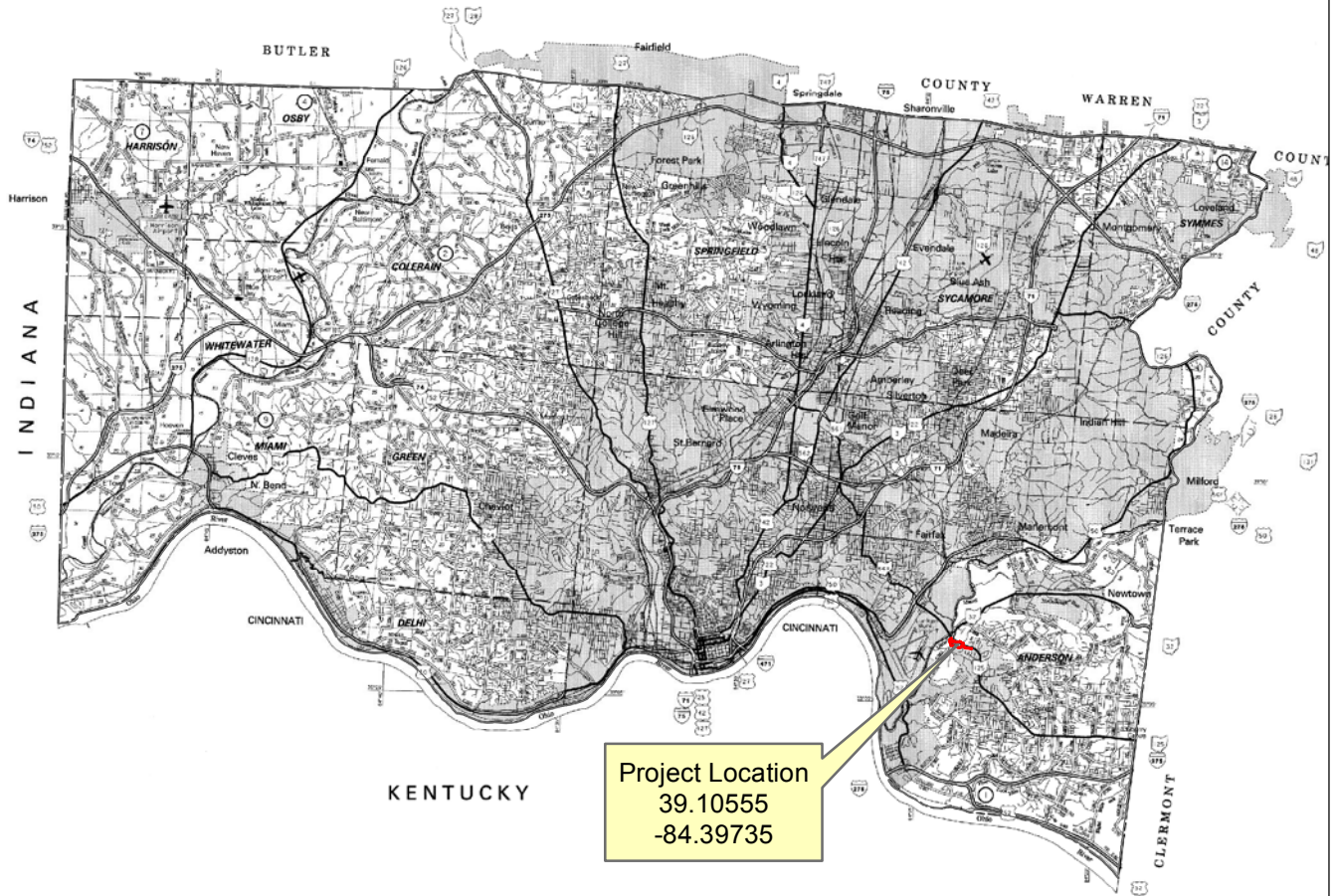
Project Location 173620137
Anderson Township, Hamilton County, Ohio Prepared by MDV on 2021-03-19

Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Technical Memorandum

Figure No.
1.1
Title

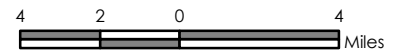
- Notes**
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Base features produced from project design elements.
 3. Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS

Project Location Map



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Base features produced from project design elements.
3. Service Layer Credits: ODOT Mapping Services (2014)



Project Location 173620137
Anderson Township,
Hamilton County, Ohio Prepared by MDV on 2021-04-28

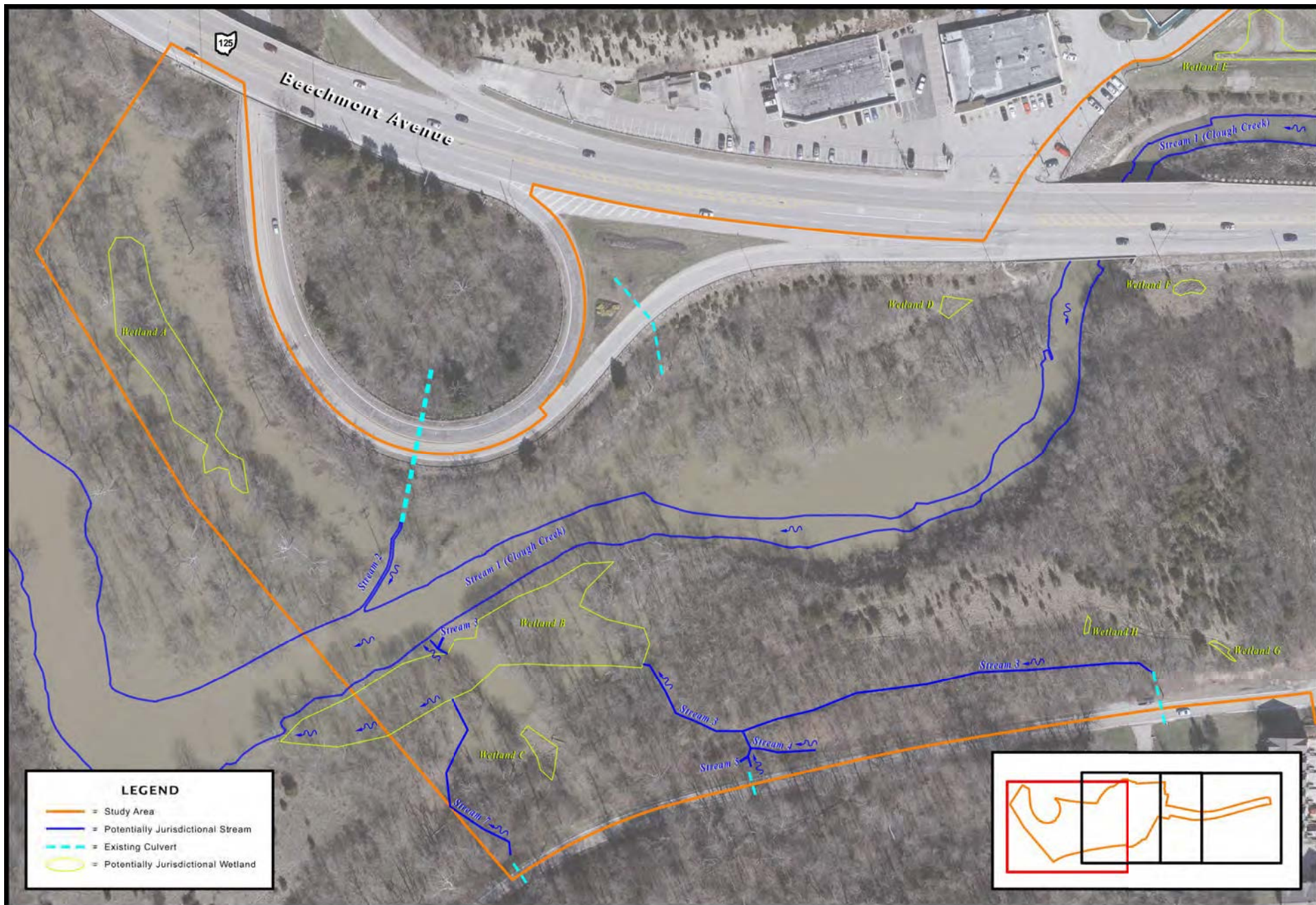
Client/Project
HAM-LMST Extension to Ranchvale
PID 113602/115291
Technical Memorandum

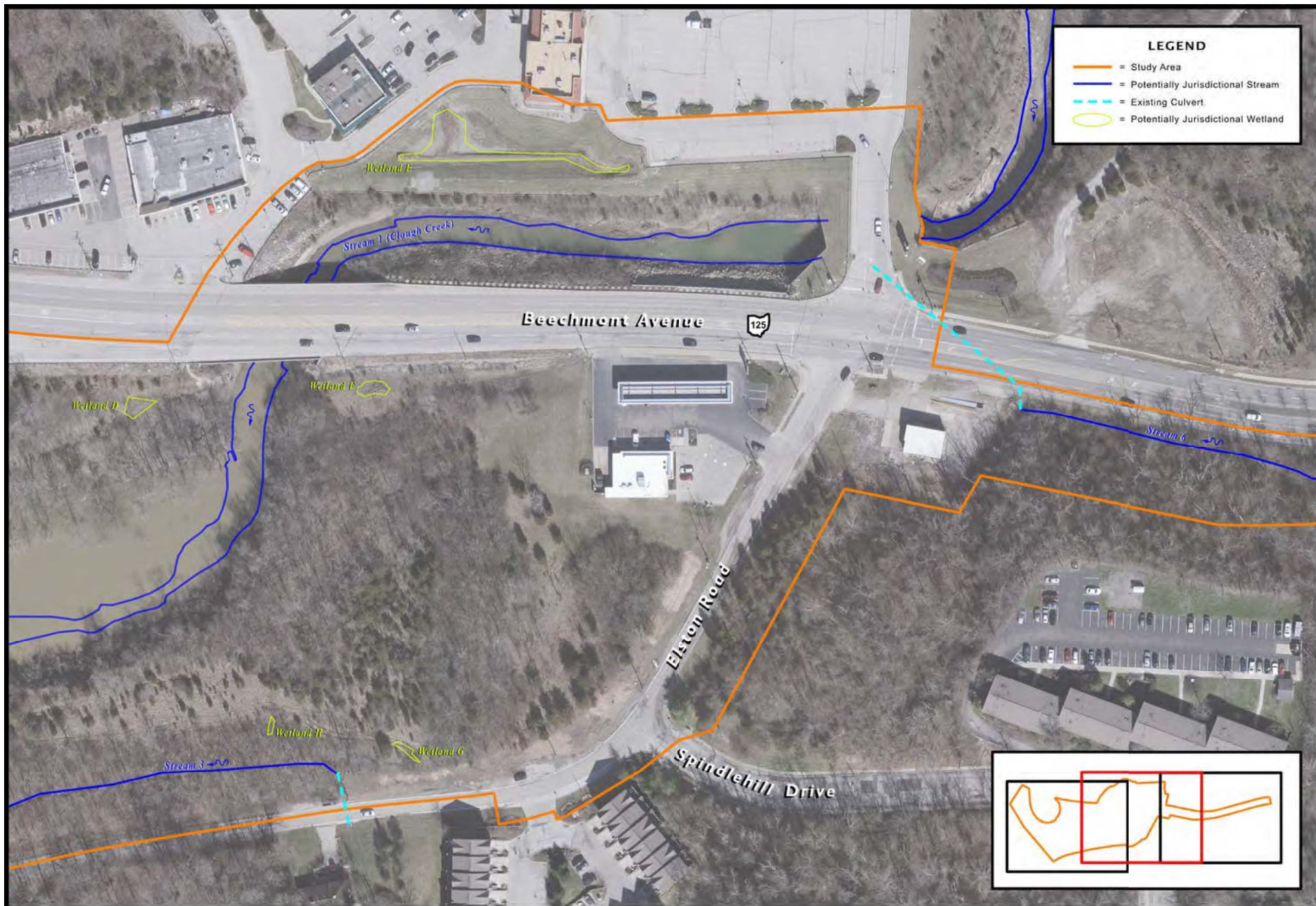
Figure No.

1.2

Title

**Project Location Map
County Roadway Map Base**





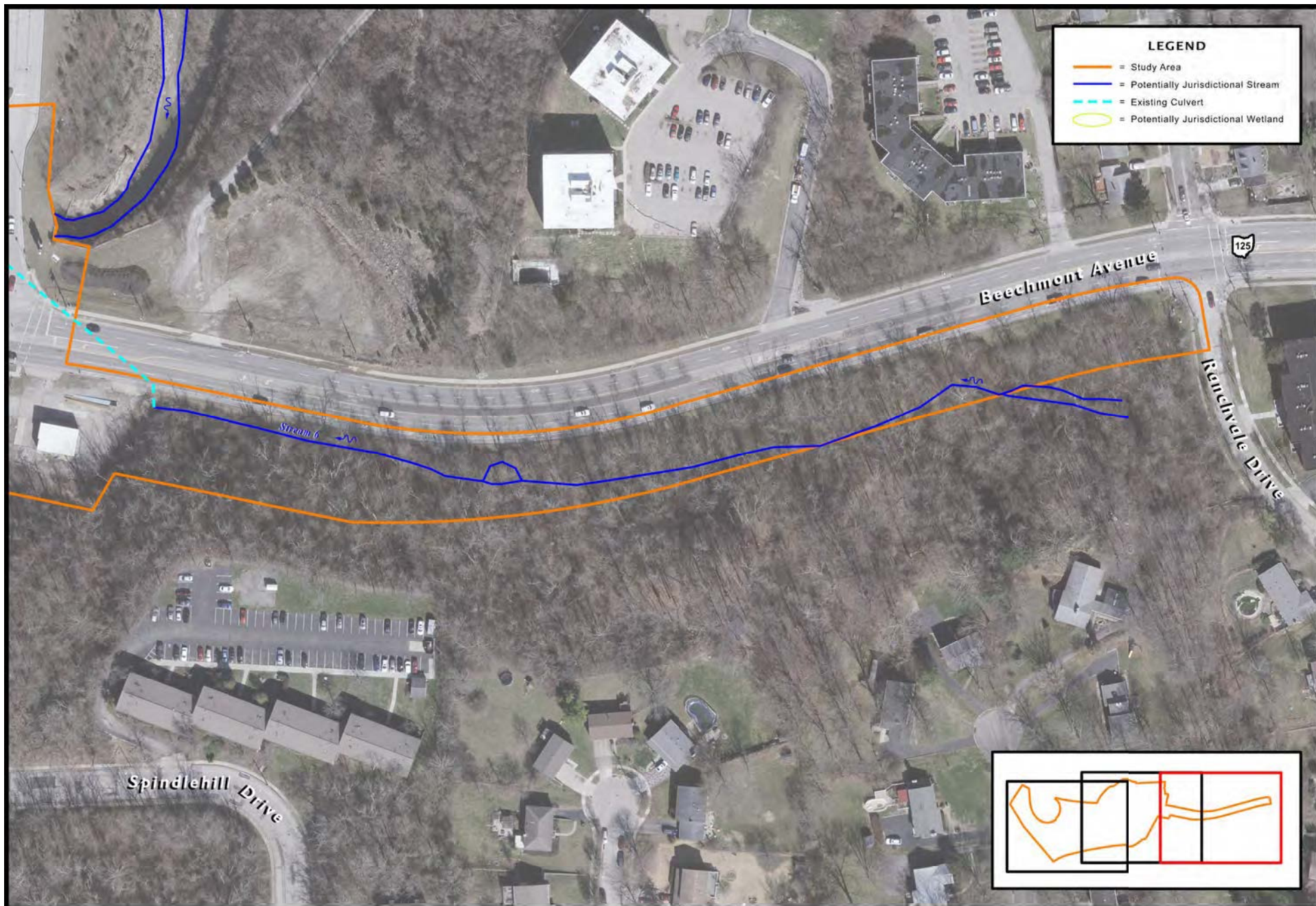
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May 2021



Technical Memorandum

EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure 2b
Ecological Resources
(Streams and Wetlands)



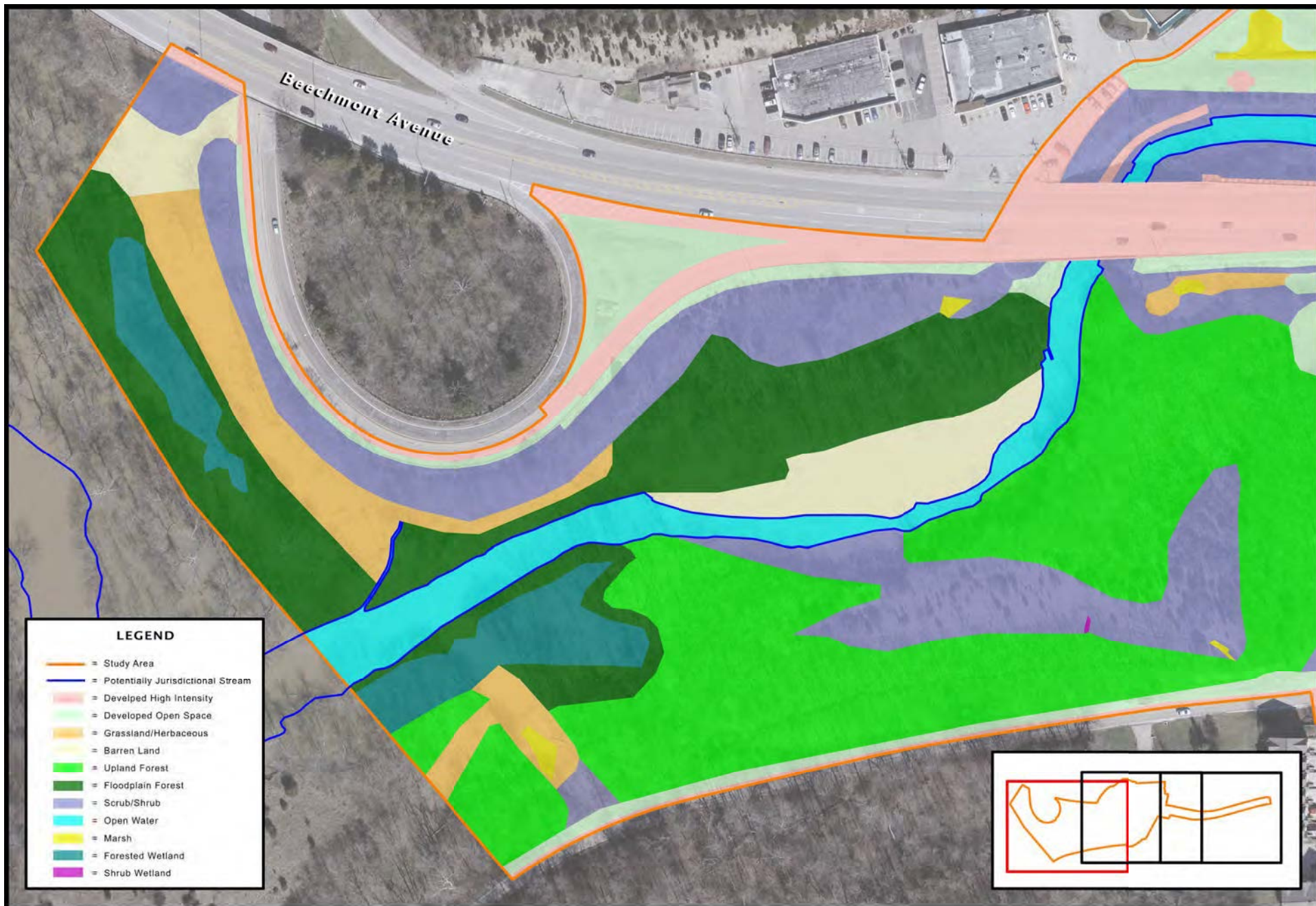
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Technical Memorandum

EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure 2c
Ecological Resources
(Streams and Wetlands)



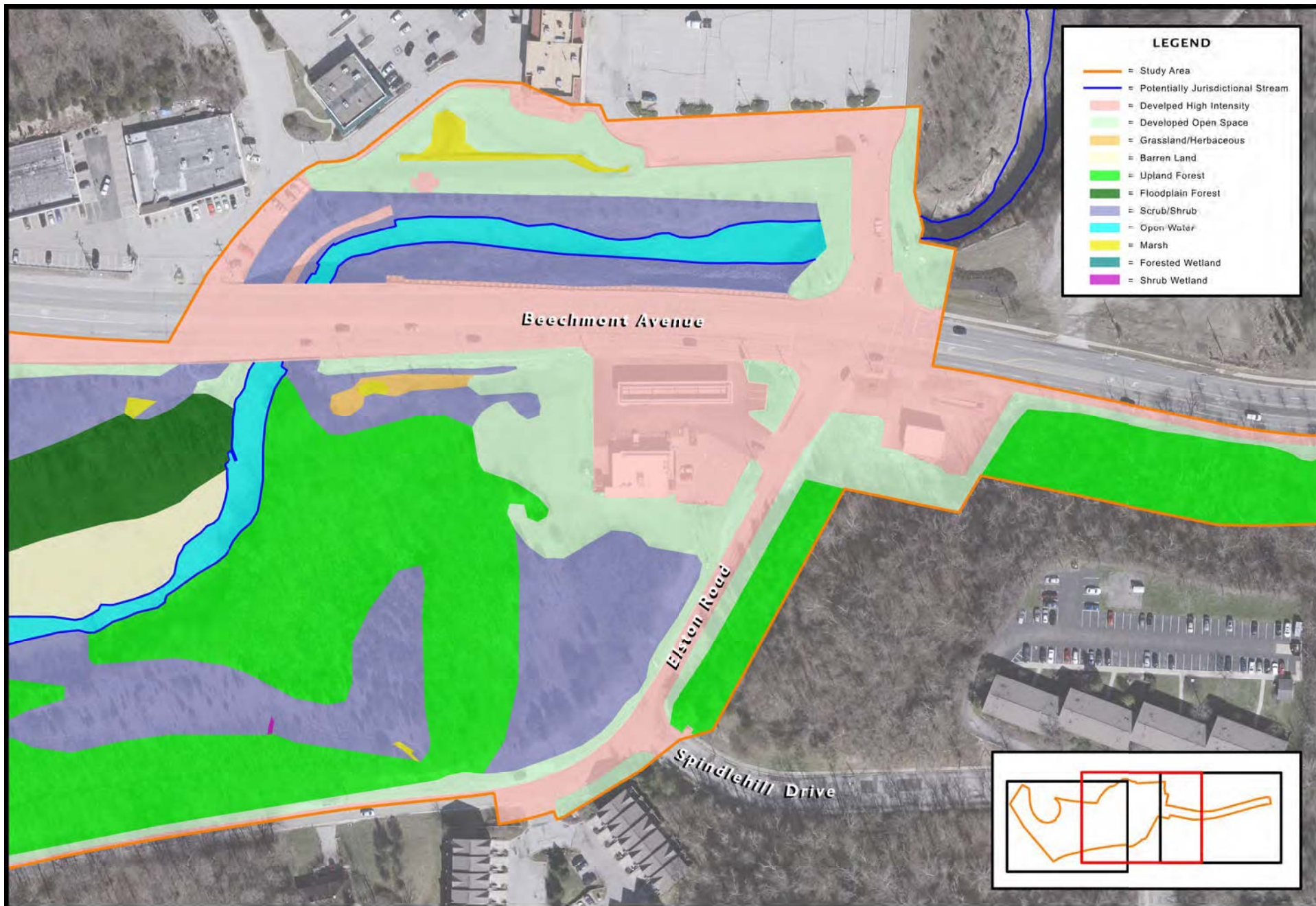
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Technical Memorandum

EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Figure 3a
Ecological Resources
(Vegetative Communities)



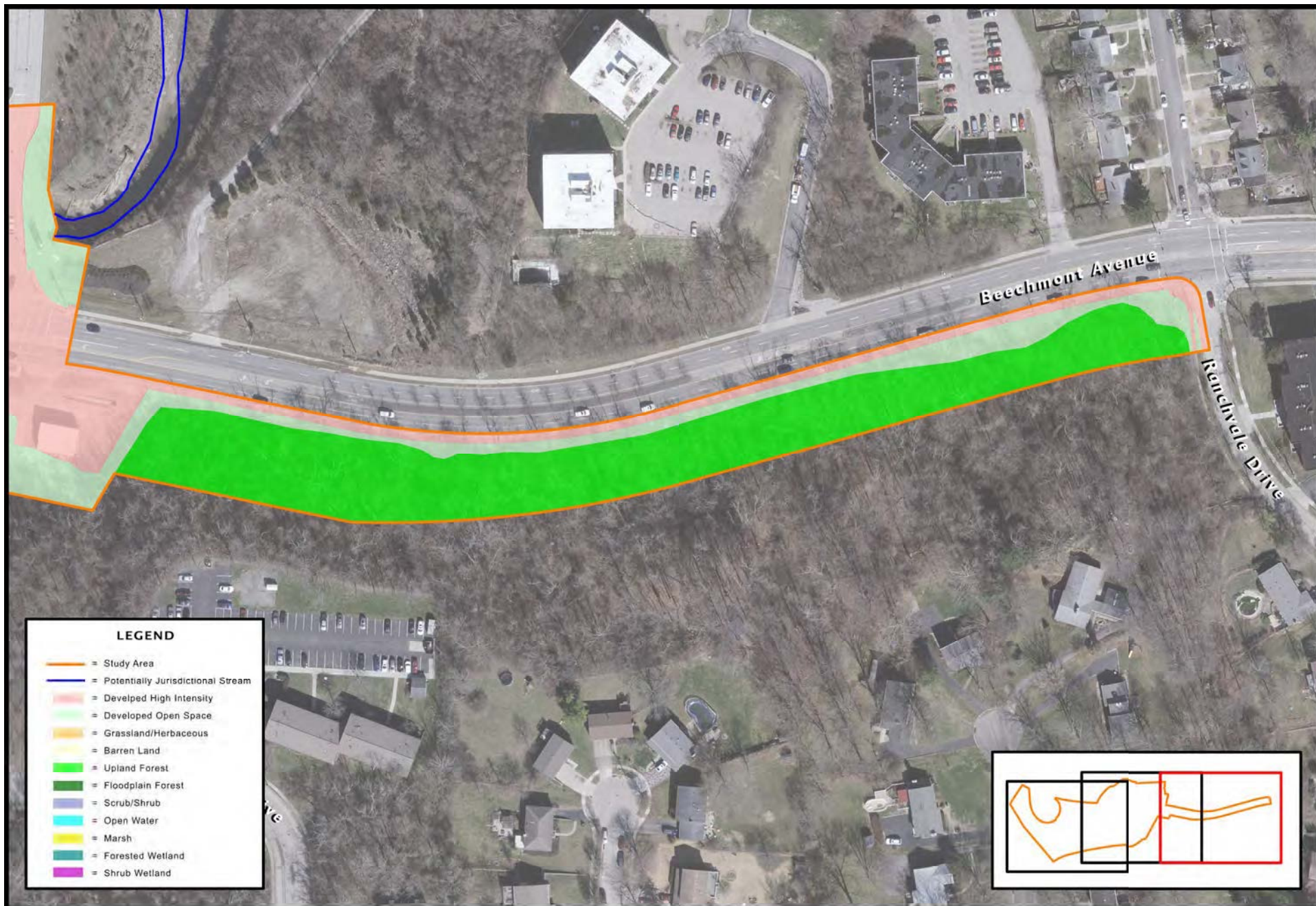
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May 2021



Technical Memorandum

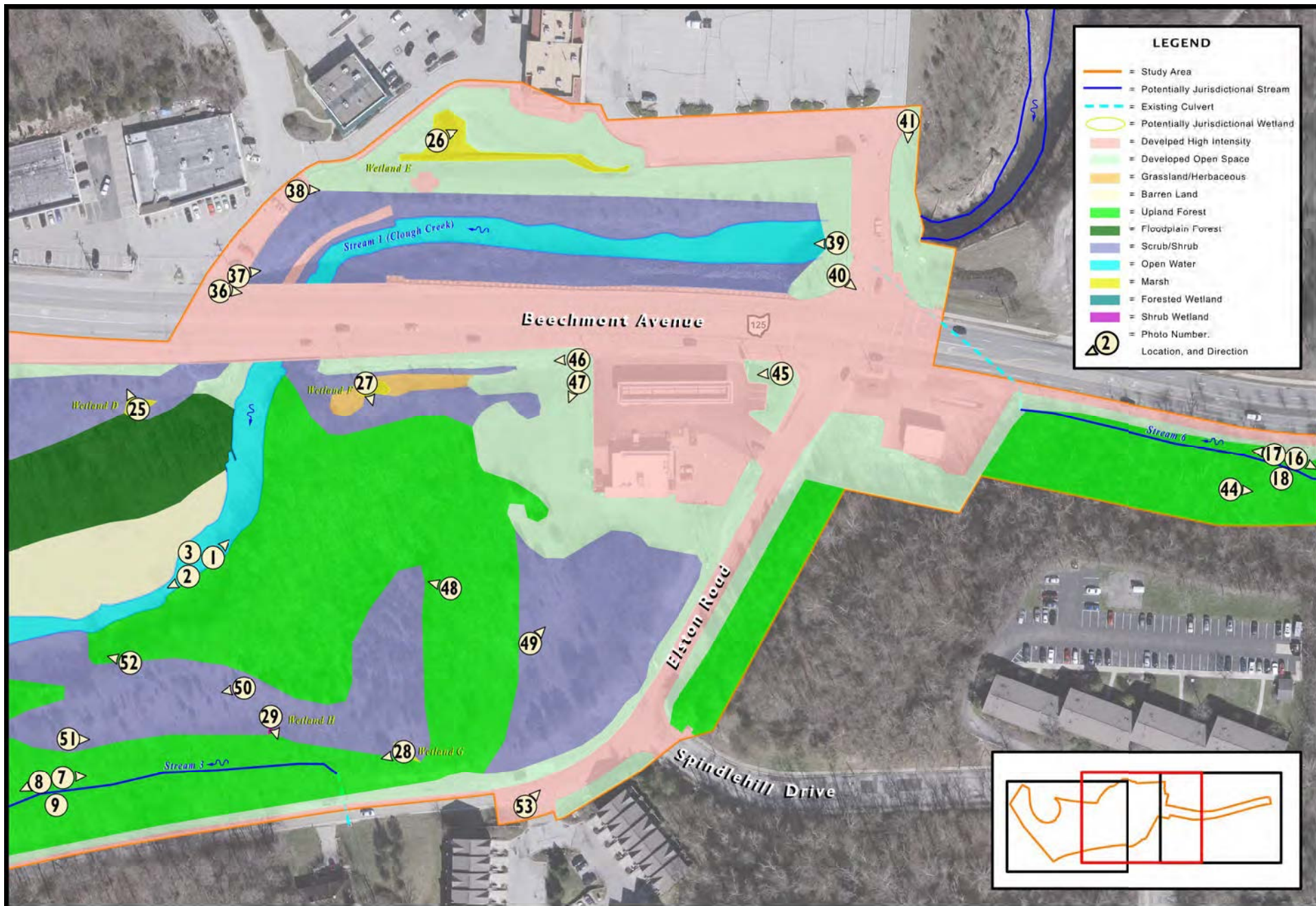
EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

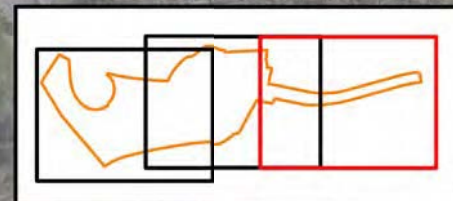
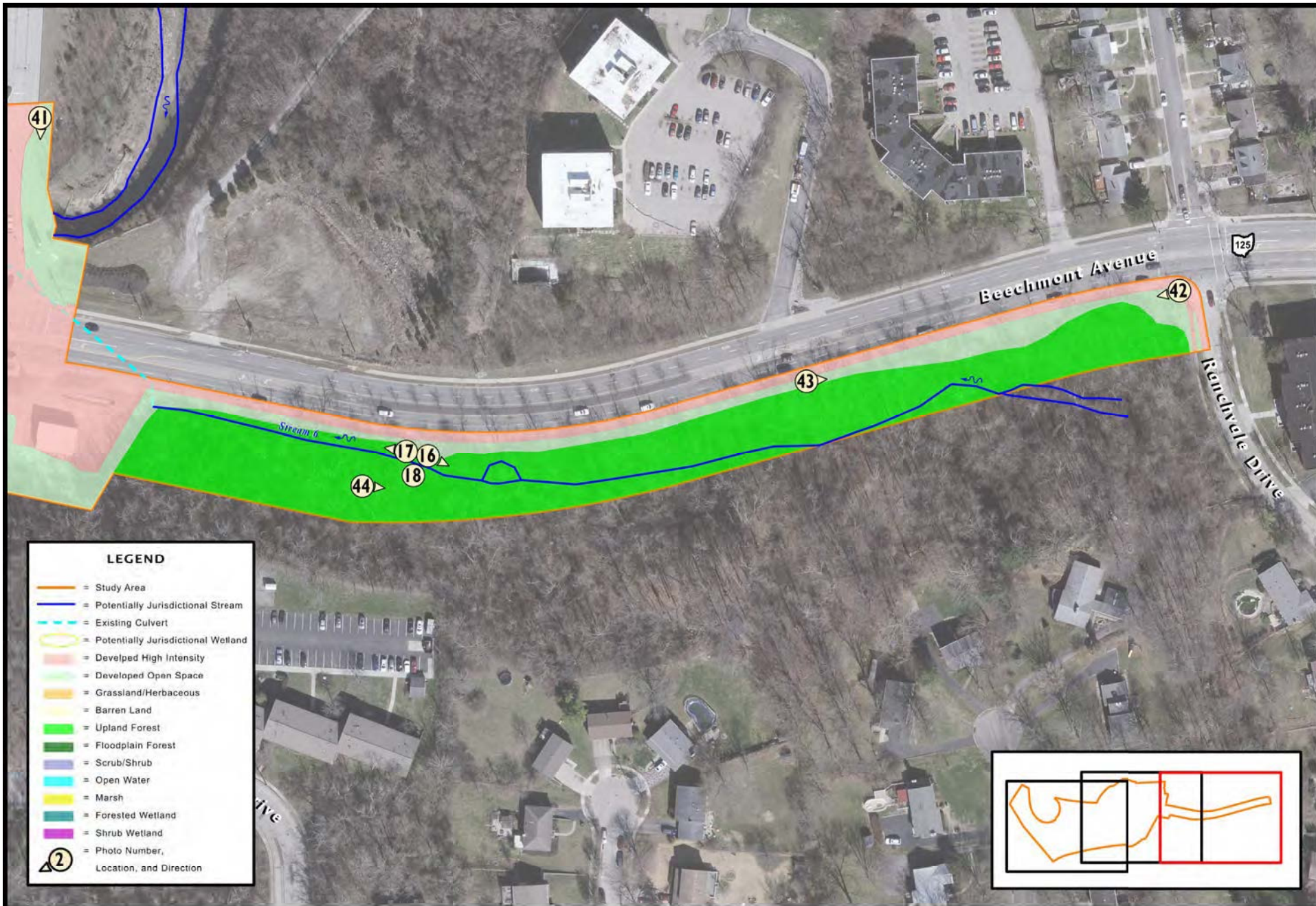
Figure 3b
Ecological Resources
(Vegetative Communities)



Attachment A

Photo Log





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May 2021



Technical Memorandum

EC Segment II/III - LMST to Ranchvale Feasibility Study, Hamilton County, Ohio
HAM-LMST to Ranchvale; PID 113602/115291

Attachment A3

Photograph Location Map



Photo 1: Stream 1, Clough Creek, facing upstream, east.



Photo 2: Stream 1, Clough Creek, facing downstream, west.



Photo 3: Stream 1, Clough Creek, typical substrates.



Photo 4: Stream 2, facing upstream, northeast.



Photo 5: Stream 2, facing downstream, southwest.



Photo 6: Stream 2, typical substrates.



Photo 7: Stream 3, facing upstream, east.



Photo 8: Stream 3, facing downstream, west.



Photo 9: Stream 3, typical substrates.



Photo 10: Stream 4, facing upstream, east.



Photo 11: Stream 4, facing downstream, west.



Photo 12: Stream 4, typical substrates.



Photo 13: Stream 5, facing upstream, south.



Photo 14: Stream 5, facing downstream, north.



Photo 15: Stream 5, typical substrates.



Photo 16: Stream 6, facing upstream, southeast.



Photo 17: Stream 6, facing downstream, northwest.



Photo 18: Stream 6, typical substrates.



Photo 19: Stream 7, facing upstream, southeast.



Photo 20: Stream 7, facing downstream, northwest.



Photo 21: Stream 7, typical substrates.



Photo 22: Wetland A, facing south.



Photo 23: Wetland B, facing north.



Photo 24: Wetland C, facing east.



Photo 25: Wetland D, facing north.



Photo 26: Wetland E, facing east.



Photo 27: Wetland F, facing south.



Photo 28: Wetland G, facing west.



Photo 29: Wetland H, facing south.



Photo 30: Scrub/Shrub (SS) and Grassland/Herbaceous (GH) vegetative communities, facing southeast.



Photo 31: Utility line corridor; Scrub/Shrub (SS) and Grassland/Herbaceous (GH) vegetative communities, facing north.



Photo 32: Utility line corridor; Scrub/Shrub (SS) and Grassland/Herbaceous (GH) vegetative communities, facing southeast.



Photo 33: Combined sewer outflow (CSO) pollution; Scrub/Shrub (SS), facing north.



Photo 34: Combined sewer outflow (CSO) pollution; Scrub/Shrub (SS), facing east.



Photo 35: Developed High Intensity (DH) and Developed Open Space (DS) vegetative communities, facing southeast.



Photo 36: Developed High Intensity (DH) vegetative community, facing southeast.



Photo 37: Scrub/Shrub (SS) vegetative community, facing east.



Photo 38: Developed Open Space (DS) vegetative community, facing southeast.



Photo 39: Open Water (OW) and Scrub/Shrub (SS) vegetative communities , facing west.

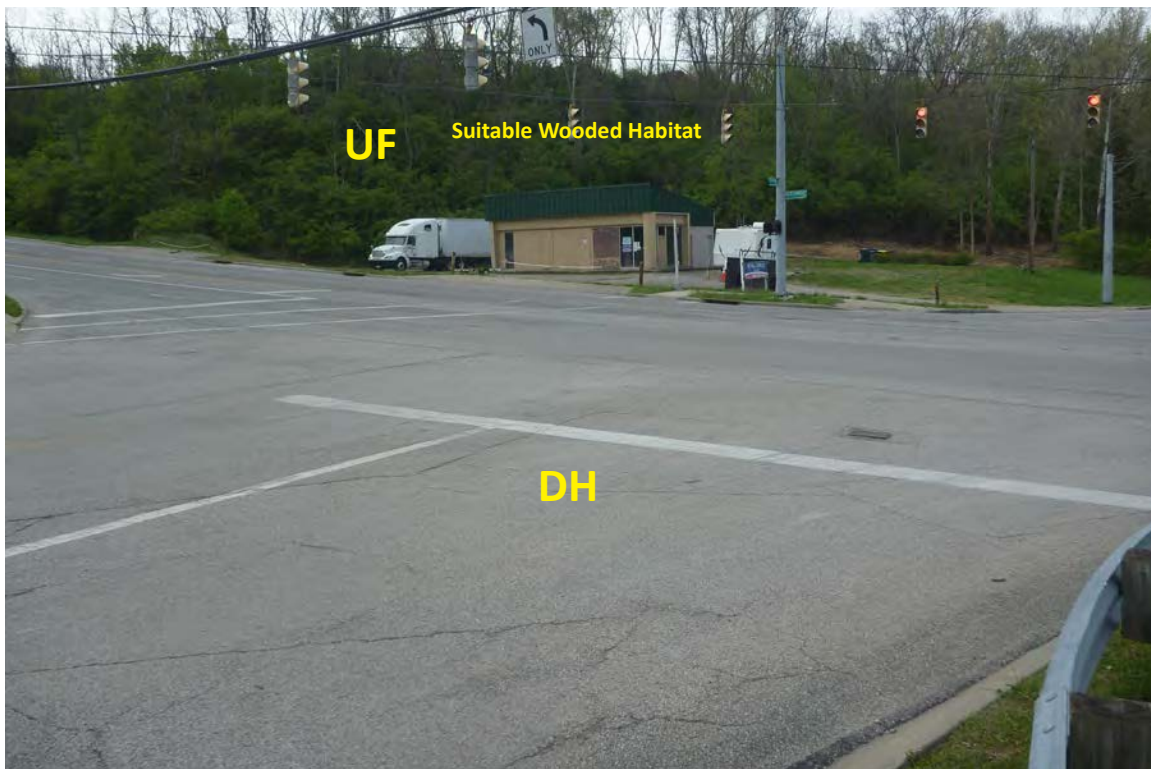


Photo 40: Developed High Intensity (DH) and Upland Forest (UF) vegetative communities, facing south-east.



Photo 41: Developed High Intensity (DH) and Developed Open Space (DS) vegetative communities, facing south.



Photo 42: Developed High Intensity (DH), Developed Open Space (DS), and Upland Forest (UF) vegetative communities, facing west.

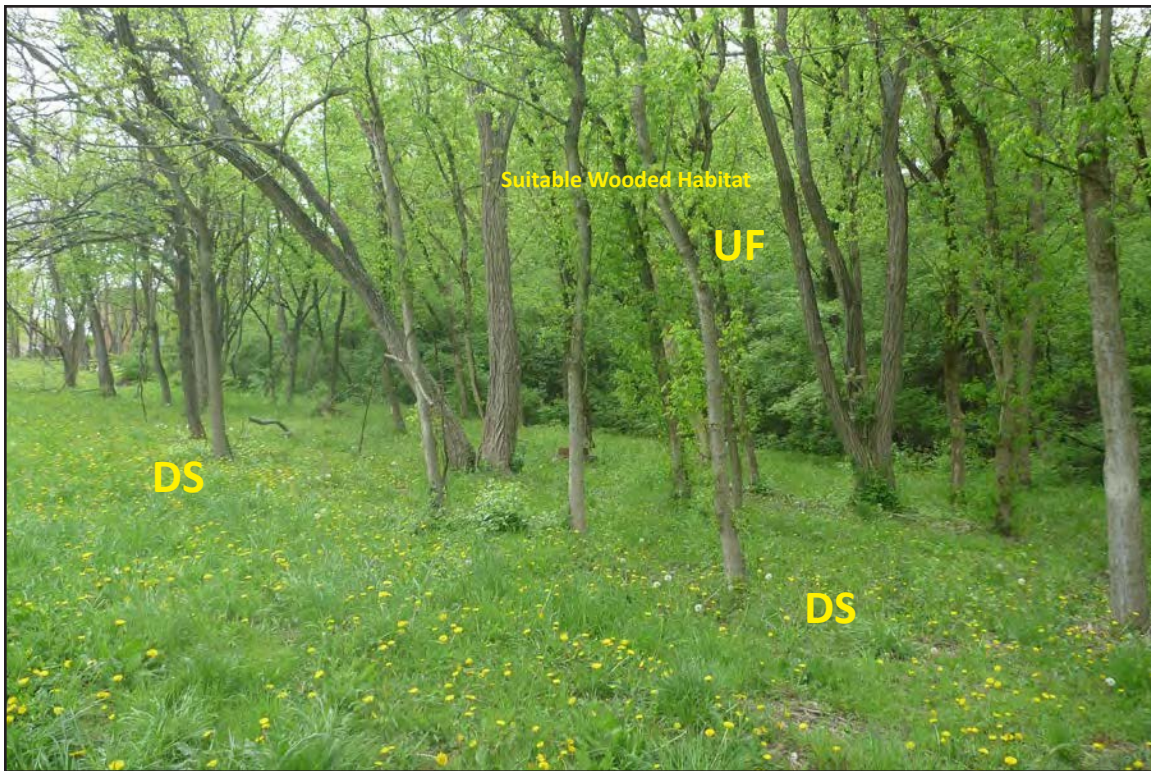


Photo 43: Developed Open Space (DS) and Upland Forest (UF) vegetative communities, facing east.



Photo 44: Scrubby Upland Forest (UF) vegetative community, facing east.



Photo 45: Developed High Intensity (DH) vegetative community, facing west.



Photo 46: Developed Open Space (DS), and Scrub/Shrub vegetative communities, facing west.



Photo 47: Developed Open Space (DS) and Upland Forest (UF) vegetative communities, facing southwest.



Photo 48: Upland Forest (UF) vegetative community, facing northwest.



Photo 49: Scrub/Shrub (SS) vegetative community, facing northeast.



Photo 50: Scrub/Shrub vegetative community, facing west.



Photo 51: Scrubby Upland Forest (UF) vegetative community, facing southeast.



Photo 52: Open Water (OW) and Scrub/Shrub (SS) vegetative communities, facing northwest.



Photo 53: Developed High Intensity (DH), Developed Open Space (DS), and Scrub/Shrub (SS) vegetative communities, facing northeast.

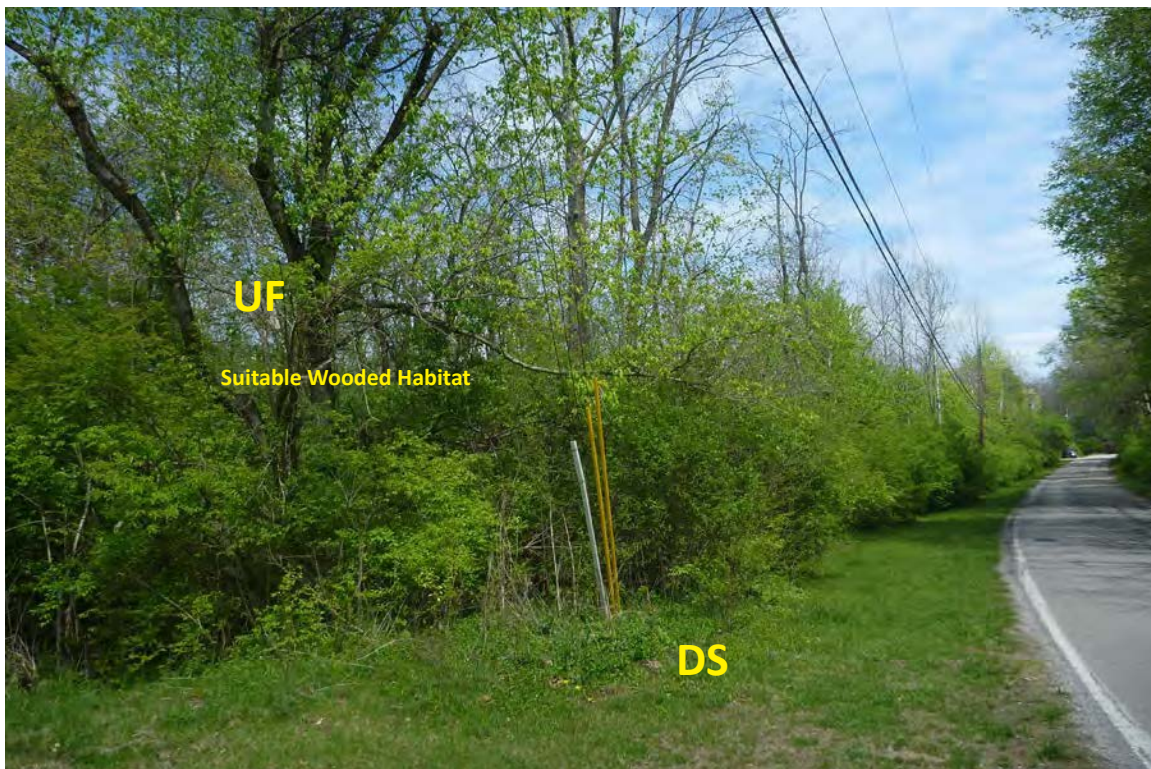


Photo 54: Developed Open Space (DS) and Upland Forest (UF) vegetative communities, facing northeast.



Photo 55: Utility line corridor; Scrub/Shrub (SS) and Grassland/Herbaceous (GH) vegetative communities, facing north.