OXFORD PARKING & TRANSPORTATION BOARD AGENDA:

October 10, 2024
Talawanda Middle School
4030 Oxford Reily Road
6:00 PM

Members
Carla Blackmar, Chair
David Prytherch, Vice-Chair
Jon Ralinovsky, Secretary
Matt Arbuckle
Lee Fisher
Rick Bailey
Kathy Fawley

Staff
Sam Perry, Community Development Director
Jessica Greene, Assistant City Manager
Zachary Moore, City Planner / GIS Coordinator

Comments can be provided in-person or through the city website, www.cityofoxford.org, on the Public Comment to a Board or Commission webform. Click here to view the form.

Approval of Agenda

Business

1. Review of Northern Arc Oxford Area Trail Feasibility Study

Adjournment

City of Oxford OHIO
HOME OF MIAMI UNIVERSITY

MEMORANDUM

Community Development Department
www.cityofoxford.org
513-524-5204

TO: Oxford Parking & Transportation Advisory Board

FROM: Sam Perry, AICP
Community Development Director
Jessica Greene,
Assistant City Manager

DATE: October 3, 2024

MEETING DATE: October 10, 2024

RE: Oxford Area Trail, Northern Arc Feasibility Study

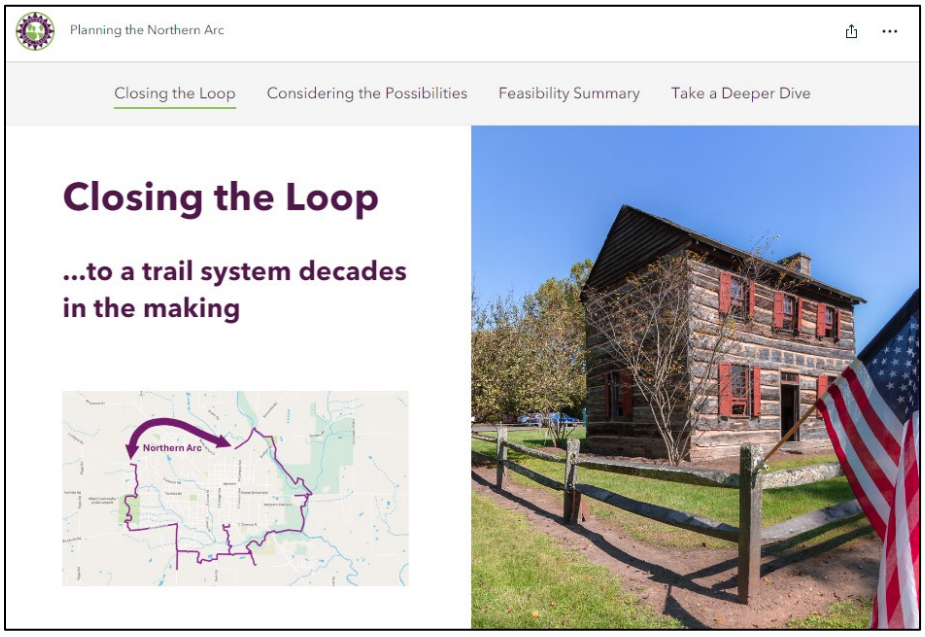
In 2007, after many years of community and university discussions, a citizen-led group, completed a study for a circumnavigating multi-use bike and pedestrian path around Oxford. In 2017, the first section of path outside of the Oxford Community Park, was completed, connecting Kelly Drive, the Black Covered Bridge and Bonham Road. Additional sections have been planned, designed and built. Most recently connecting the Talawanda Middle School to the Oxford Community Park, and the Talawanda High School to Peffer Park. In 2021, the City partnered with KZF Design and Bayer Becker Engineers to complete the route plan for the area between the Oxford Community Park and the Black Covered Bridge. The 2021 planning effort left unanswered questions that resulted in City Council placing the project on hold and only proceeding with the route planning for the section closest to the Community Park.

In 2024, the City again partnered with Bayer Becker, with guidance from the Parking and Transportation Advisory Board, in taking a deeper look at the feasibility. The intent of the 2024 effort is to provide more information on the section cost estimations as well as the potential path placement in neighborhoods. The project is an advanced planning tool but is not intended to be an engineering or construction design. Engineering design would come after a route plan is decided and construction funding is secured. This project utilizes a dynamic mapping tool, called

a StoryMap, to allow the comparison of sections, using seven key issues. The key issues are: Safety, User Experience, Accessibility to Users, Cost and Constructability, Land Acquisition, Environmental Impact, and Maintenance. This map and more can be found on the City of Oxford GIS page at www.cityofoxford.org/gis.

The StoryMap tool organizes the information into four clickable categories at the top of the page: Closing the Loop, Considering the Possibilities, Feasibility Summary and Take a Deeper Dive. See Figure 1 below.

Figure 1.



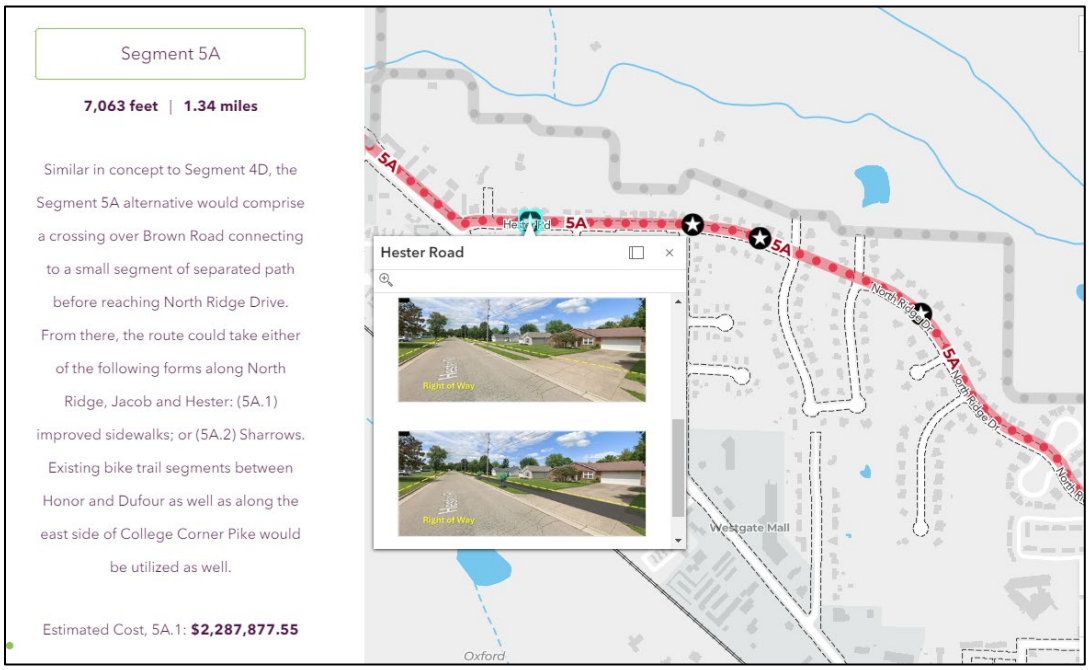
Compiling the seven key issues into one potential alignment, the data shows that a route plan could be: 4D-5A-5G (See Figure 2 below). This route would utilize existing public right of way of Kelly Drive, Brown Road, North Ridge Drive, Jacob Drive, Hester Road and College Corner Pike. The route would continue on Reagh's Way through Merry Day Park, over CSX Railroad, and would require private land acquisition/easement to Contreras Road. Depending on section location, the path would take the form of either a shared-use roadway, a completely rural path or an over-wide, asphalt sidewalk. A pedestrian bridge over the railroad would be a key transportation element. Users of the map should bear in mind that discussion of the key issues could reveal a stronger weight on one issue versus another. The map is only a tool to graphically represent the

options for purposes of discussion, the map is not a final decision.

Figure 2.

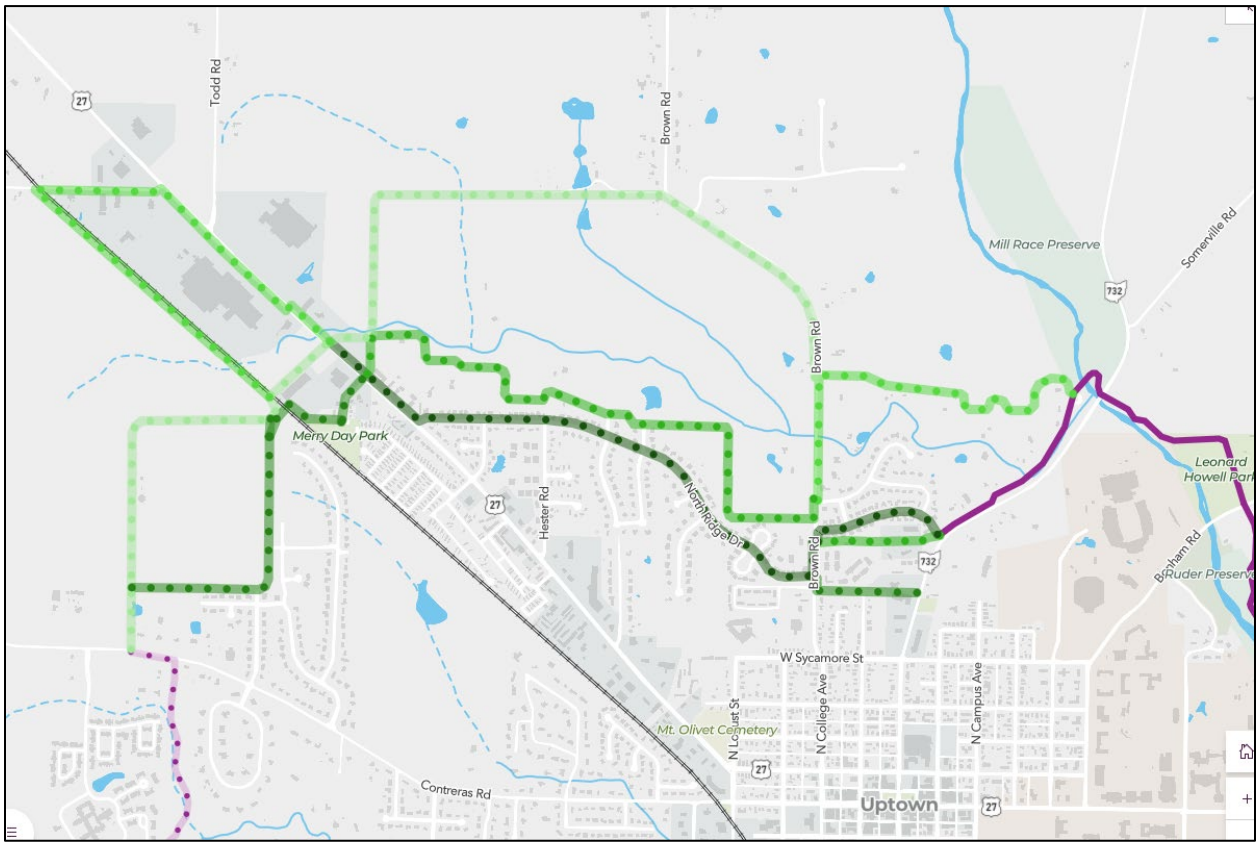
The StoryMap includes rendering examples of how the path could look in key locations. The example locations are identified by a star circle as shown in Figure 3 below. Map users can click the star to open the example rendering, which is not an engineering design.

Figure 3.



The map user can click any of the path sections to get more information or the map user can click any of the seven key issues to view the analysis based on only that one key issue. The user can then scroll to the composite score of all seven key issues to view the total results of the feasibility study. The darkest green indicates the route of greatest feasibility, which is 4D-5A-5G. See Figure 4 below. In general, the study shows that the route options that are closest to existing development are the most feasible. This is primarily due to the construction cost of additional path distance as well as land acquisition or easement costs.

Figure 4.



The Parking and Transportation Advisory Board is a recommending body to the City Manager and City Council. The board should review the feasibility study, discuss and ask questions. The board should also review any public comments. In consideration of its own discussion and any public feedback, the board may make a different determination than the study, for a route plan recommendation. The board may also require additional information before making a recommendation to City Council. Staff and the consultant will be available to answer questions during the meeting. It is anticipated that a recommendation from the board will be considered by

Council at an upcoming meeting in 2024. A Council adoption would allow the feasibility and route planning project to be completed.

Once this planning is complete, the city will be in position to examine and apply for funding opportunities. There is currently no funding for this segment of trail construction. If funding is secured, the final design and engineering process would begin. The grant funding for these projects has an 18-24-month lead time. If funding was secured in 2025 or 2026, the earliest construction would begin on this segment is 2027 -2028.

KEY ISSUES

Safety

The primary safety issue for pedestrians and bicyclists is exposure to motor vehicles; therefore, alternatives that minimize such exposure are preferred. Where practical, intersection and driveway crossings and travel along streets without pedestrian and bicycle facilities should be avoided.

User Experience

Alternatives that foster a positive experience for trail users are preferred. This includes an aesthetically pleasing environment, tree cover for comfort during hot weather, and separation from busy streets.

Accessibility to Users

Alternatives that have connections to surrounding neighborhoods at various locations along the length of the route are preferred. Easy access to the trail fosters recreational use and increases the likelihood that residents can reach various destinations using the trail.

Cost and Constructability

Alternatives with minimal earthwork, tree removal, and waterway crossings are preferred.

Land Acquisition

Most route segments of this project cannot be contained within existing right of way or on City owned property. For this reason, route segments are preferred that minimize the number of property owners affected and the extent to which they are affected. Route segments that affect property owners that are identified as supporters of the project are preferred.

Environmental Impact

Alternatives that minimize disturbance to streams, wetlands, trees, and wildlife are preferred.

Maintenance

Alternatives that minimize future trail maintenance requirements are preferred. Routes through heavily wooded areas and those subject to large numbers of vehicular crossings tend to increase maintenance requirements.

COMPARISON OF ALTERNATIVES

Legend

- Fully addresses key issues
- Minimally addresses key issues
- Does not address key issues/poses extreme challenges

Section 5 (West)

Comparison of Alternative Routes from Contreras Road to U.S. 27

Alternative	5F	5G	5I
Safety			
User Experience			
Access			
Cost & Constructability			
Land Acquisition			
Environmental Impact			
Maintenance			

Section 5 (East)

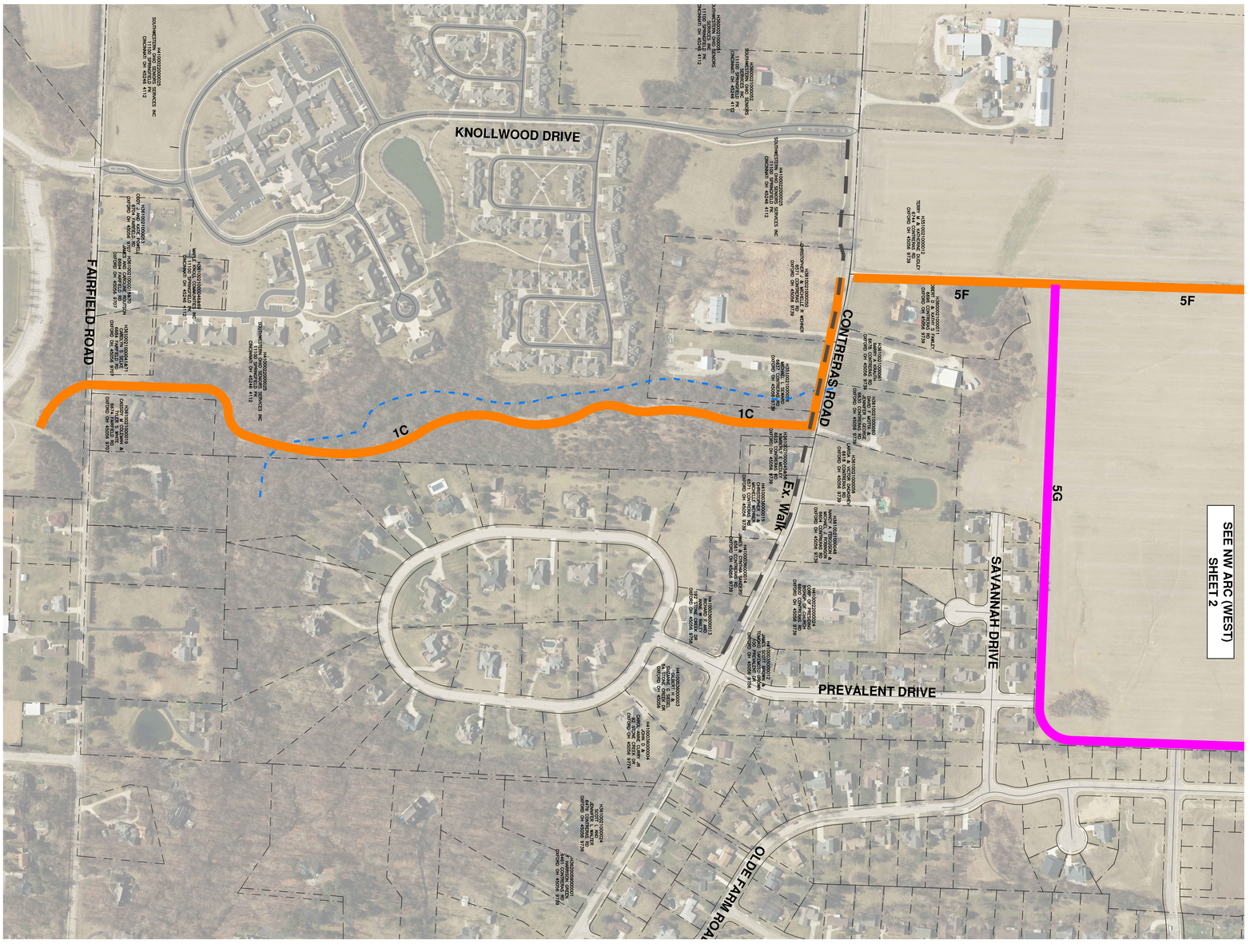
Comparison of Alternative Routes from U.S. 27 to Brown Road

Alternative	5A	5B	5C
Safety			
User Experience			
Access			
Cost & Constructability			
Land Acquisition			
Environmental Impact			
Maintenance			

Section 4

Comparison of Alternative Routes from Brown Road to Black Covered Bridge

Alternative	4A	4B	4C	4D
Safety				
User Experience				
Access				
Cost & Constructability				
Land Acquisition				
Environmental Impact				
Maintenance				



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Sheet: 1/4
Drawing: 21-0070 GIS 240418
Drawn by: TAE
Checked by: EMR
Issue Date: 09-23-24

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

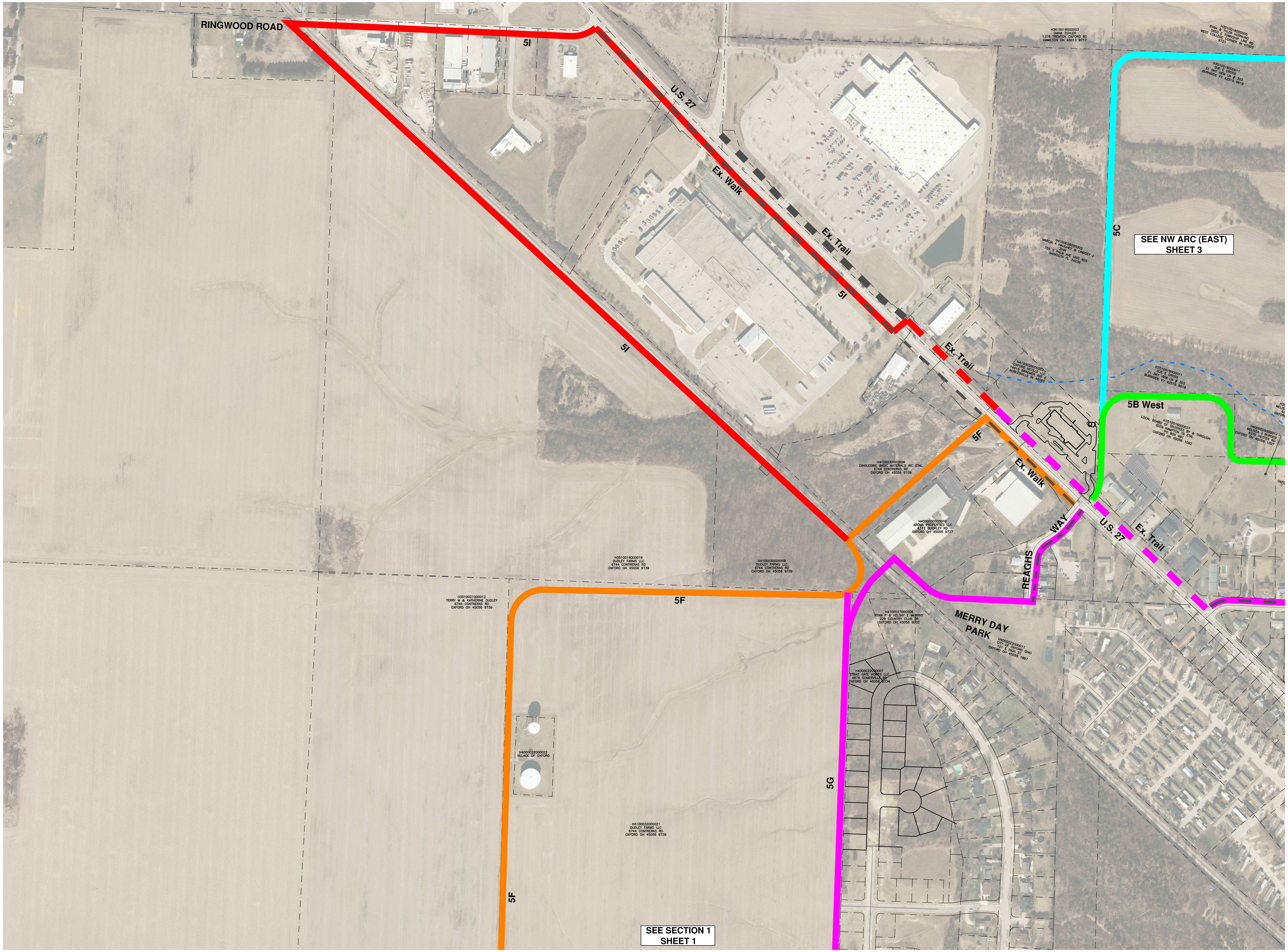
OATS
NORTHWESTERN ARC
CITY OF OXFORD
BUTLER COUNTY, OHIO

SECTION 1

Item	Revision Description	Date	Drwn:	Chk:
	PRELIMINARY			

Basis of Bearings:
State Plane NAD83 (2011)

SCALE: 1" = 200'
0 200 300



Plot time: Sep 23, 2024 - 7:27am
Drawing name: J:\2021\21-0070\SV\GIS\21-0070 GIS 240418.dwg - Layout Tab: SECTION 5

0 200 300
SCALE: 1" = 200'

Item	Revision Description	Date	Drwn:	Chk:

PRELIMINARY

OATS
NORTHWESTERN ARC
CITY OF OXFORD
BUTLER COUNTY, OHIO

NW ARC (WEST)

bayer becker
www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

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Checked By: EMR
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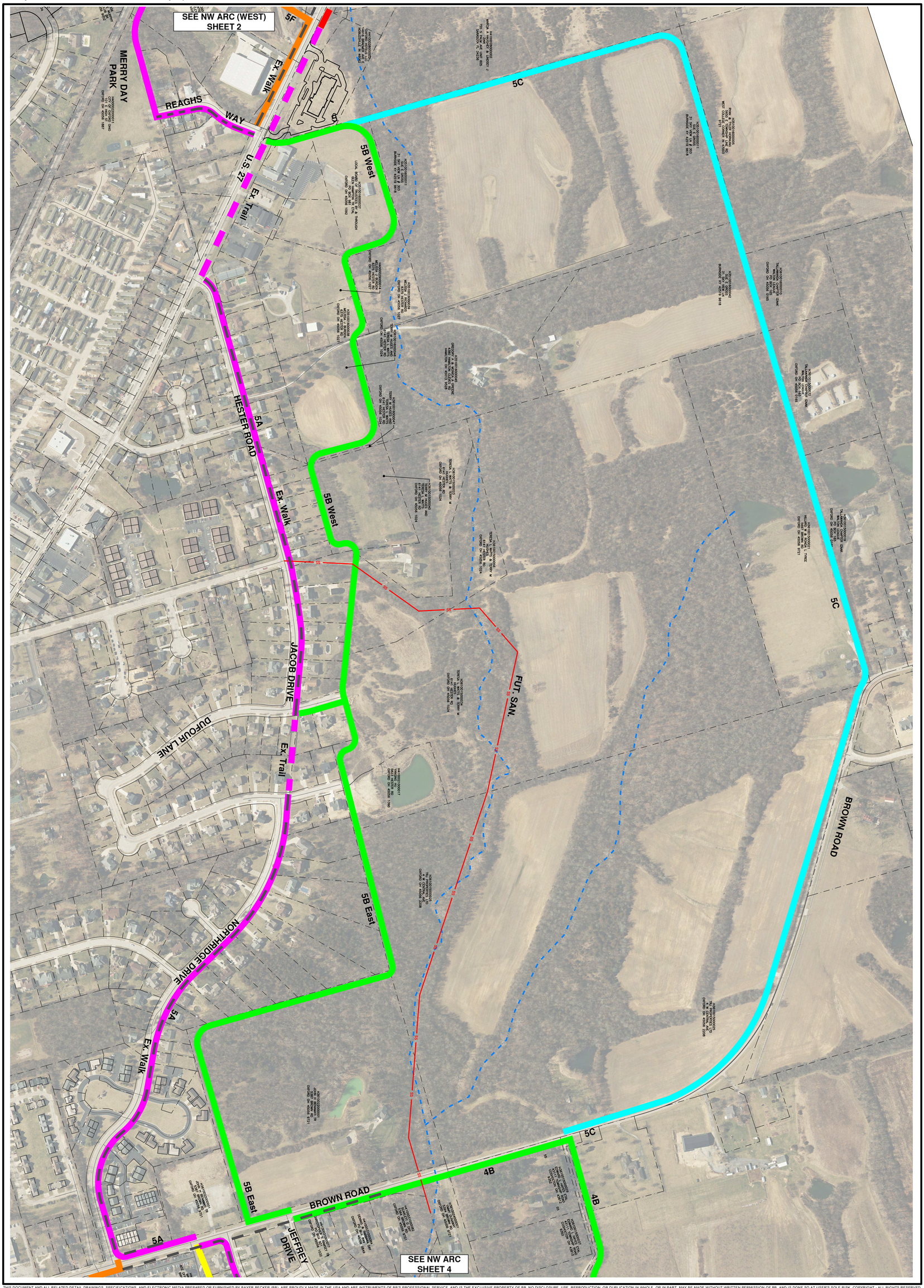
Sheet: 2/4



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www.bayerbecker.com
6900 Tylersville Road, Suite A
Mason, OH 45040 - 513.336.6600

OATS NORTHWESTERN ARC

CITY OF OXFORD
BUTLER COUNTY, OHIO

NW ARC (EAST)

Item	Revision Description	Date	Drwn:	Chk:
	PRELIMINARY			

SCALE: 1" = 200'
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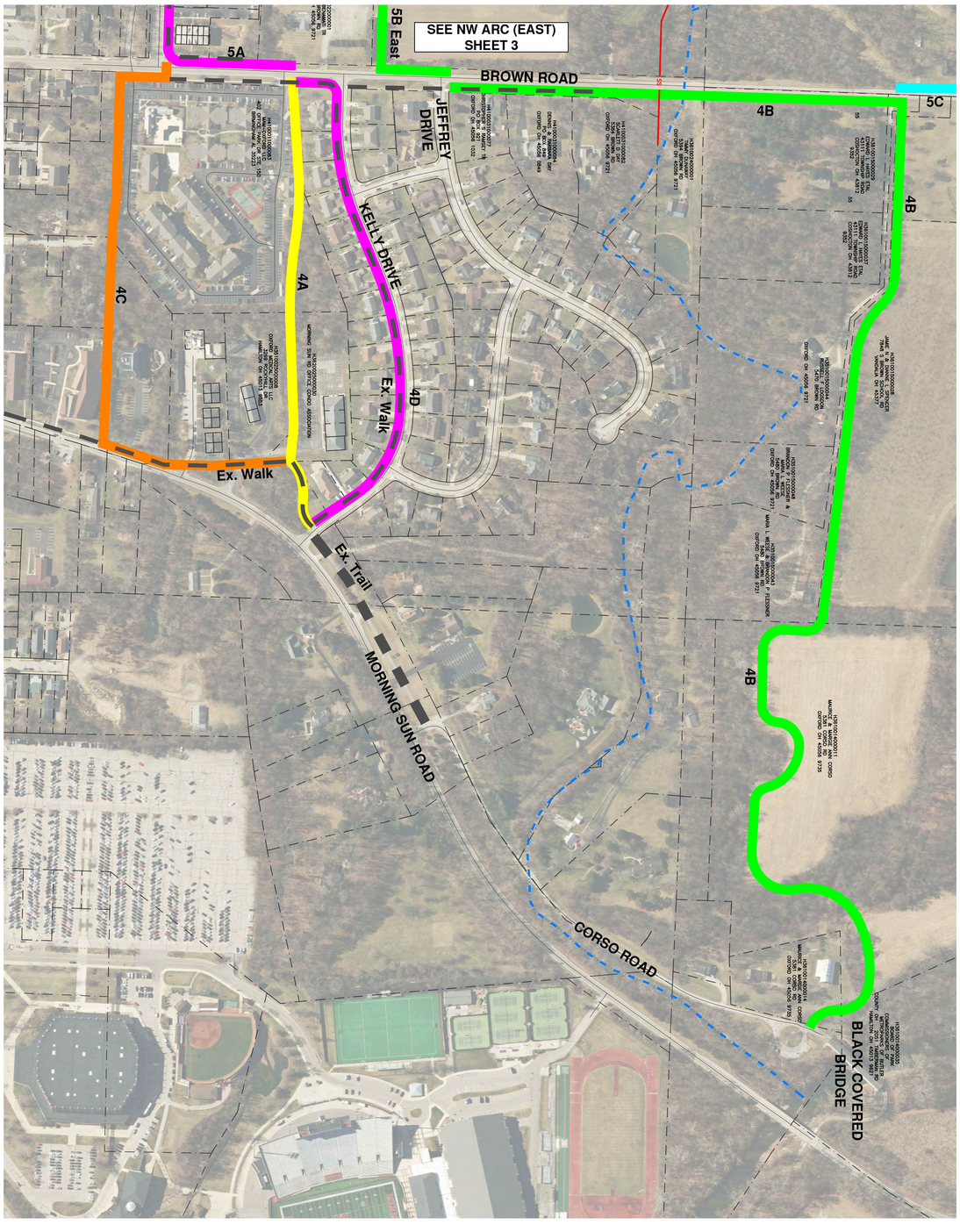

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Mason, OH 45040 - 513.336.6600

OATS
NORTHWESTERN ARC
CITY OF OXFORD
BUTLER COUNTY, OHIO

NW ARC

Item	Revision Description	Date	Drwn:	Chk:
	PRELIMINARY			

Basis of Bearings:
State Plane NAD83 (2011)

SCALE: 1" = 200'
0 200 300

110 South College Avenue, Suite 101
Oxford, Ohio 45056
p.513.523.4270
www.bayerbecker.com

Engineer's Estimate of Probable Construction Cost

Date: 9/20/2024 Revised: 9/24/2024
Calculated By: TAE File No.: 21-0070
Checked By: EMR

Project: Oxford Area Trail Northwestern Arc

Item Number	Description	Unit	@	Unit Cost	1C Quantity	=	1C Subtotal	5F Quantity	=	5F Subtotal	5G Quantity	=	5G Subtotal	5G ALT (sharrow) Quantity	=	5G ALT (sharrow) Subtotal	5I Quantity	=	5I Subtotal
Roadway																			
201	Clearing and Grubbing	Lump	@ $	8,000.00	5	=	$40,000.00	4	=	$32,000.00	4	=	$32,000.00	4	=	$32,000.00	4	=	$32,000.00
202	Remove Ex. Walk (~5 ft)	SF	@ $	8.00	2,750	=	$22,000.00	3,200	=	$25,600.00	2,650	=	$21,200.00	0	=	$0.00	10,050	=	$80,400.00
202	Remove Ex. Curb & Gutter	LF	@ $	18.00	0	=	$0.00	0	=	$0.00	530	=	$9,540.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pavement	SY	@ $	32.00	0	=	$0.00	0	=	$0.00	353	=	$11,306.67	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pipe (24" and Under)	LF	@ $	36.00	0	=	$0.00	0	=	$0.00	8	=	$288.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Catch Basin	Each	@ $	1,500.00	0	=	$0.00	0	=	$0.00	1	=	$1,500.00	0	=	$0.00	0	=	$0.00
252	Sawcut Ex. Pavement	LF	@ $	5.00	0	=	$0.00	0	=	$0.00	530	=	$2,650.00	0	=	$0.00	0	=	$0.00
638	Remove and Reset Fire Hydrant	Each	@ $	3,000.00	0	=	$0.00	1	=	$3,000.00	2	=	$6,000.00	0	=	$0.00	2	=	$6,000.00
690	Remove and Reset Ex. Mailbox	Each	@ $	300.00	0	=	$0.00	0	=	$0.00	3	=	$900.00	0	=	$0.00	0	=	$0.00
203	Excavation	CY	@ $	35.00	1,532	=	$53,620.00	3,000	=	$105,000.00	3,500	=	$122,500.00	3,400	=	$119,000.00	3,500	=	$122,500.00
203	Embankment	CY	@ $	35.00	1,918	=	$67,130.00	3,000	=	$105,000.00	3,500	=	$122,500.00	3,400	=	$119,000.00	3,500	=	$122,500.00
204	Subgrade Compaction	SY	@ $	3.00	4,600	=	$13,800.00	7,933	=	$23,800.00	6,987	=	$20,960.00	6,280	=	$18,840.00	9,707	=	$29,120.00
204	Proof Rolling	Hours	@ $	220.00	2.0	=	$440.00	3.0	=	$660.00	3.0	=	$660.00	3.0	=	$660.00	4.0	=	$880.00
608	Residential Concrete Drive Aprons (~50 SY)	Each	@ $	8,000.00	0	=	$0.00	0	=	$0.00	4	=	$32,000.00	0	=	$0.00	0	=	$0.00
608	Commercial Concrete Drive Aprons (~150 SY)	Each	@ $	24,000.00	0	=	$0.00	2	=	$48,000.00	2	=	$48,000.00	0	=	$0.00	9	=	$216,000.00
608	Curb Ramp	Each	@ $	1,820.00	2	=	$3,640.00	2	=	$3,640.00	1	=	$1,820.00	1	=	$1,820.00	3	=	$5,460.00
	Roadway Total						$200,630.00			$346,700.00			$433,824.67			$291,320.00			$614,860.00
Pavement																			
609	Curb & Gutter, Type 2	LF	@ $	32.00	0	=	$0.00	0	=	$0.00	530	=	$16,960.00	0	=	$0.00	0	=	$0.00
301	Asphalt Concrete Base, PG64-22	CY	@ $	275.00	511	=	$140,555.56	881	=	$242,407.41	776	=	$213,481.48	698	=	$191,888.89	1,079	=	$296,592.59
441	Asphalt Concrete Surface Course, Type 1, (448) PG64-22	CY	@ $	317.00	234	=	$74,260.19	404	=	$128,071.91	356	=	$112,789.38	320	=	$101,381.30	494	=	$156,699.75
	Pavement Total						$214,815.74			$370,479.32			$343,230.86			$293,270.19			$453,292.35
Drainage																			
511	Headwall	CY	@ $	1,500.00	35	=	$52,500.00	3	=	$4,500.00	42	=	$63,000.00	42	=	$63,000.00	19	=	$28,500.00
601	Rock Channel Protection	CY	@ $	200.00	35	=	$7,000.00	3	=	$600.00	13	=	$2,600.00	13	=	$2,600.00	5.0	=	$1,000.00
611	12" Conduit, Type D	LF	@ $	65.00	0	=	$0.00	60	=	$3,900.00	30	=	$1,950.00	30	=	$1,950.00	0	=	$0.00
611	15" Conduit, Type D	LF	@ $	70.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	18" Conduit, Type D	LF	@ $	75.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	24" Conduit, Type D	LF	@ $	92.00	33	=	$3,036.00	60	=	$5,520.00	90	=	$8,280.00	90	=	$8,280.00	30	=	$2,760.00
611	30" Conduit, Type D	LF	@ $	126.00	0	=	$0.00	0	=	$0.00	60	=	$7,560.00	60	=	$7,560.00	0	=	$0.00
611	48" Conduit, Type D	LF	@ $	195.00	0	=	$0.00	0	=	$0.00	60	=	$11,700.00	60	=	$11,700.00	30	=	$5,850.00
611	60" Conduit, Type D	LF	@ $	250.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	72" Conduit, Type D	LF	@ $	325.00	30	=	$9,750.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	84" Conduit, Type D	LF	@ $	400.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	90" Conduit, Type D	LF	@ $	500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	38" x 60" Conduit, Type D, 706.04	LF	@ $	1,100.00	45	=	$49,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	Catch Basin	Each	@ $	3,500.00	0	=	$0.00	0	=	$0.00	1	=	$3,500.00	0	=	$0.00	0	=	$0.00
611	Manhole	Each	@ $	4,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Drainage Total						$121,786.00			$14,520.00			$98,590.00			$95,090.00			$38,110.00
Structures																			
607	Fence, Misc.: Bikeway Railing (150' each pipe)	LF	@ $	60.00	450	=	$27,000.00	300	=	$18,000.00	1,050	=	$63,000.00	1,050	=	$63,000.00	300	=	$18,000.00
	Pedestrian Bridge (Waterway)	Lump	@ $	555,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Pedestrian Bridge (Railroad)	Lump	@ $	1,200,000.00	0	=	$0.00	1	=	$1,200,000.00	1	=	$1,200,000.00	1	=	$1,200,000.00	0	=	$0.00
	Structure Total						$27,000.00			$1,218,000.00			$1,263,000.00			$1,263,000.00			$18,000.00

Item Number	Description	Unit	@	Unit Cost	1C Quantity	=	1C Subtotal	5F Quantity	=	5F Subtotal	5G Quantity	=	5G Subtotal	5G ALT (sharrow) Quantity	=	5G ALT (sharrow) Subtotal	5I Quantity	=	5I Subtotal
Traffic Control																			
630	Signing/Pavement Marking	Lump	@	$ 3,000.00	2.6	=	$7,800.00	4.4	=	$13,200.00	3.9	=	$11,700.00	3.9	=	$11,700.00	5.4	=	$16,200.00
644	Shared Lane Marking (every 250')	Each	@	$ 400.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	4	=	$1,600.00	0	=	$0.00
630	Rectangular Rapid Flashing Beacon	Each	@	$ 10,000.00	4	=	$40,000.00	4	=	$40,000.00	2	=	$20,000.00	2	=	$20,000.00	0	=	$0.00
	Traffic Control Total						$47,800.00			$53,200.00			$31,700.00			$33,300.00			$16,200.00
Miscellaneous																			
	Vegetative Filter Strip	LF	@	$ 64.00	3,450.0	=	$220,800.00	5,950	=	$380,800.00	5,240	=	$335,360.00	4,710	=	$301,440.00	7,280	=	$465,920.00
614	Maintaining Traffic	Lump	@	$ 5,000.00	1.0	=	$5,000.00	2.0	=	$10,000.00	1.0	=	$5,000.00	2.0	=	$10,000.00	3.0	=	$15,000.00
623	Construction Layout Stakes	Lump	@	$ 7,000.00	2.6	=	$18,200.00	4.4	=	$30,800.00	3.9	=	$27,300.00	2.0	=	$14,000.00	5.4	=	$37,800.00
624	Mobilization	Lump	@	$ 20,000.00	2.6	=	$52,000.00	4.4	=	$88,000.00	3.9	=	$78,000.00	3.0	=	$60,000.00	5.4	=	$108,000.00
832	Seeding & Mulching (10' both sides, whole length)	SF	@	$ 1.50	69,000.0	=	$103,500.00	119,000.0	=	$178,500.00	104,800.0	=	$157,200.00	94,200.0	=	$141,300.00	145,600.0	=	$218,400.00
832	Erosion Control	Lump	@	$ 6,500.00	2.6	=	$16,900.00	4.4	=	$28,600.00	3.9	=	$25,350.00	3.9	=	$25,350.00	5.4	=	$35,100.00
832	Stormwater Pollution Prevention Plan, Inspection, Softwarre	Lump	@	$ 12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	0.0	=	$0.00	1.0	=	$12,000.00
	Miscellaneous Total						$428,400.00			$728,700.00			$640,210.00			$552,090.00			$892,220.00
Subtotal							$1,040,431.74			$2,731,599.32			$2,810,555.53			$2,528,070.19			$2,032,682.35
Contingency					25%		$260,107.94	25%		$682,899.83	25%		$702,638.88	25%		$632,017.55	25%		$508,170.59
R/W Acquisition/Easements (See Note 2)		Acre	@	$ 35,000.00	0.0	=	$0.00	7.4	=	$259,000.00	6.6	=	$232,000.00	0.0	=	$0.00	7.3	=	$255,000.00
Total							**$1,300,539.68**			**$3,673,499.15**			**$3,745,194.41**			**$3,160,087.73**			**$2,795,852.93**

Notes:

1. Estimate does not include undercut of unsuitable soils, landscape buffer, or environmental permitting or mitigation.

2. R/W Acquisition/ Easement acreages were based on an assumed width of 60' x the length of the trail segment where not donated and a width of 10' x the length of the trail segment where along existing residential R/W.

3. Assumed pavement section for paved trail:
   2" Asphalt Concrete Surface Course, Type 1, (448) PG64-22
   4" Asphalt Concrete Base, PG64-22
   Subgrade Compaction

110 South College Avenue, Suite 101
Oxford, Ohio 45056
p.513.523.4270
www.bayerbecker.com

Engineer's Estimate of Probable Construction Cost

Date: 9/20/2024 Revised: 9/24/2024
Calculated By: TAE File No.: 21-0070
Checked By: EMR

Project: Oxford Area Trail Northwestern Arc

Item Number	Description	Unit	@	Unit Cost	5A Quantity	=	5A Subtotal	5A ALT (sharrow) Quantity	=	5A ALT (sharrow) Subtotal	5BWest Quantity	=	5BWest Subtotal	5BEast Quantity	=	5BEast Subtotal	5C Quantity	=	5C Subtotal
Roadway																			
201	Clearing and Grubbing	Lump	@ $	8,000.00	2	=	$16,000.00	0.5	=	$4,000.00	5	=	$40,000.00	5	=	$40,000.00	7	=	$56,000.00
202	Remove Ex. Walk (~5 ft)	SF	@ $	8.00	23,825	=	$190,600.00	0	=	$0.00	0	=	$0.00	1,250	=	$10,000.00	0	=	$0.00
202	Remove Ex. Curb & Gutter	LF	@ $	18.00	3,605	=	$64,890.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pavement	SY	@ $	32.00	1,895	=	$60,640.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pipe (24" and Under)	LF	@ $	36.00	40	=	$1,440.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Catch Basin	Each	@ $	1,500.00	10	=	$15,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
252	Sawcut Ex. Pavement	LF	@ $	5.00	3,125	=	$15,625.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
638	Remove and Reset Fire Hydrant	Each	@ $	3,000.00	4	=	$12,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
690	Remove and Reset Ex. Mailbox	Each	@ $	300.00	23	=	$6,900.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
203	Excavation	CY	@ $	35.00	1,500	=	$52,500.00	100	=	$3,500.00	2,500	=	$87,500.00	2,500	=	$87,500.00	4,500	=	$157,500.00
203	Embankment	CY	@ $	35.00	1,500	=	$52,500.00	100	=	$3,500.00	2,500	=	$87,500.00	2,500	=	$87,500.00	4,500	=	$157,500.00
204	Subgrade Compaction	SY	@ $	3.00	7,520	=	$22,560.00	533	=	$1,600.00	5,207	=	$15,620.00	5,200	=	$15,600.00	10,693	=	$32,080.00
204	Proof Rolling	Hours	@ $	220.00	3.0	=	$660.00	0.5	=	$110.00	2.0	=	$440.00	2.0	=	$440.00	4.0	=	$880.00
608	Residential Concrete Drive Aprons (~50 SY)	Each	@ $	8,000.00	44	=	$352,000.00	0	=	$0.00	0	=	$0.00	2	=	$16,000.00	1	=	$8,000.00
608	Commercial Concrete Drive Aprons (~150 SY)	Each	@ $	24,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
608	Curb Ramp	Each	@ $	1,820.00	14	=	$25,480.00	2	=	$3,640.00	1	=	$1,820.00	2	=	$3,640.00	2	=	$3,640.00
	Roadway Total						$888,795.00			$16,350.00			$232,880.00			$260,680.00			$415,600.00
Pavement																			
609	Curb & Gutter, Type 2	LF	@ $	32.00	3,605	=	$115,360.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
301	Asphalt Concrete Base, PG64-22	CY	@ $	275.00	856	=	$235,277.78	59	=	$16,296.30	579	=	$159,092.59	578	=	$158,888.89	1,188	=	$326,740.74
441	Asphalt Concrete Surface Course, Type 1, (448) PG64-22	CY	@ $	317.00	393	=	$124,569.26	27	=	$8,609.88	265	=	$84,053.92	265	=	$83,946.30	545	=	$172,628.02
	Pavement Total						$475,207.04			$24,906.17			$243,146.51			$242,835.19			$499,368.77
Drainage																			
511	Headwall	CY	@ $	1,500.00	0	=	$0.00	0	=	$0.00	24	=	$36,000.00	41	=	$61,500.00	222	=	$333,000.00
601	Rock Channel Protection	CY	@ $	200.00	0.0	=	$0.00	0	=	$0.00	11	=	$2,200.00	13	=	$2,600.00	26.0	=	$5,200.00
611	12" Conduit, Type D	LF	@ $	65.00	0	=	$0.00	0	=	$0.00	120	=	$7,800.00	0	=	$0.00	0	=	$0.00
611	15" Conduit, Type D	LF	@ $	70.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	18" Conduit, Type D	LF	@ $	75.00	0	=	$0.00	0	=	$0.00	60	=	$4,500.00	120	=	$9,000.00	0	=	$0.00
611	24" Conduit, Type D	LF	@ $	92.00	0	=	$0.00	0	=	$0.00	60	=	$5,520.00	60	=	$5,520.00	0	=	$0.00
611	30" Conduit, Type D	LF	@ $	126.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	48" Conduit, Type D	LF	@ $	195.00	0	=	$0.00	0	=	$0.00	30	=	$5,850.00	60	=	$11,700.00	0	=	$0.00
611	60" Conduit, Type D	LF	@ $	250.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	30	=	$7,500.00
611	72" Conduit, Type D	LF	@ $	325.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	30	=	$9,750.00
611	84" Conduit, Type D	LF	@ $	400.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	60	=	$24,000.00
611	90" Conduit, Type D	LF	@ $	500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	30	=	$15,000.00
611	38" x 60" Conduit, Type D, 706.04	LF	@ $	1,100.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	Catch Basin	Each	@ $	3,500.00	10	=	$35,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	Manhole	Each	@ $	4,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Drainage Total						$35,000.00			$0.00			$61,870.00			$90,320.00			$394,450.00
Structures																			
607	Fence, Misc.: Bikeway Railing (150' each pipe)	LF	@ $	60.00	0	=	$0.00	0	=	$0.00	750	=	$45,000.00	1,200	=	$72,000.00	750	=	$45,000.00
	Pedestrian Bridge (Waterway)	Lump	@ $	555,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Pedestrian Bridge (Railroad)	Lump	@ $	1,200,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Structure Total						$0.00			$0.00			$45,000.00			$72,000.00			$45,000.00

Item Number	Description	Unit	@	Unit Cost	5A Quantity	=	5A Subtotal	5A ALT (sharrow) Quantity	=	5A ALT (sharrow) Subtotal	5BWest Quantity	=	5BWest Subtotal	5BEast Quantity	=	5BEast Subtotal	5C Quantity	=	5C Subtotal
Traffic Control																			
630	Signing/Pavement Marking	Lump	@ $	3,000.00	4.2	=	$12,600.00	2.1	=	$6,300.00	2.9	=	$8,700.00	2.9	=	$8,700.00	6	=	$18,000.00
644	Shared Lane Marking (every 250')	Each	@ $	400.00	0	=	$0.00	54	=	$21,600.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
630	Rectangular Rapid Flashing Beacon	Each	@ $	10,000.00	4	=	$40,000.00	4	=	$40,000.00	2	=	$20,000.00	2	=	$20,000.00	4	=	$40,000.00
	Traffic Control Total						$52,600.00			$67,900.00			$28,700.00			$28,700.00			$58,000.00
Miscellaneous																			
	Vegetative Filter Strip	LF	@ $	64.00	0	=	$0.00	0.0	=	$0.00	3,905.0	=	$249,920.00	3,900.0	=	$249,600.00	8,020.0	=	$513,280.00
614	Maintaining Traffic	Lump	@ $	5,000.00	4.0	=	$20,000.00	4.0	=	$20,000.00	1.0	=	$5,000.00	1.0	=	$5,000.00	2.0	=	$10,000.00
623	Construction Layout Stakes	Lump	@ $	7,000.00	4.2	=	$29,400.00	0.5	=	$3,500.00	2.9	=	$20,300.00	2.9	=	$20,300.00	6.0	=	$42,000.00
624	Mobilization	Lump	@ $	20,000.00	4.2	=	$84,000.00	1.0	=	$20,000.00	2.9	=	$58,000.00	2.9	=	$58,000.00	6.0	=	$120,000.00
832	Seeding & Mulching (10' both sides, whole length)	SF	@ $	1.50	112,800.0	=	$169,200.00	8,000.0	=	$12,000.00	78,100.0	=	$117,150.00	78,000.0	=	$117,000.00	160,400.0	=	$240,600.00
832	Erosion Control	Lump	@ $	6,500.00	4.2	=	$27,300.00	0.5	=	$3,250.00	2.9	=	$18,850.00	2.9	=	$18,850.00	6.0	=	$39,000.00
832	Stormwater Pollution Prevention Plan, Inspection, Softwarre	Lump	@ $	12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00
	Miscellaneous Total						$341,900.00			$70,750.00			$481,220.00			$480,750.00			$976,880.00
Subtotal							$1,793,502.04			$179,906.17			$1,092,816.51			$1,175,285.19			$2,389,298.77
Contingency					25%		$448,375.51	25%		$44,976.54	25%		$273,204.13	25%		$293,821.30	25%		$597,324.69
R/W Acquisition/Easements (See Note 2)		Acre	@ $	35,000.00	1.3	=	$46,000.00	0.0	=	$0.00	5.4	=	$189,000.00	5.4	=	$189,000.00	11.0	=	$387,000.00
Total							**$2,287,877.55**			**$224,882.72**			**$1,555,020.64**			**$1,658,106.48**			**$3,373,623.46**

Notes:
1. Estimate does not include undercut of unsuitable soils, landscape buffer, or environmental permitting or mitigation.

2. R/W Acquisition/ Easement acreages were based on an assumed width of 60' x the length of the trail segment where not donated and a width of 10' x the length of the trail segment where along existing residential R/W.

3. Assumed pavement section for paved trail:
   2" Asphalt Concrete Surface Course, Type 1, (448) PG64-22
   4" Asphalt Concrete Base, PG64-22
   Subgrade Compaction

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Engineer's Estimate of Probable Construction Cost

Date: 9/20/2024 Revised: 9/24/2024
Calculated By: TAE File No.: 21-0070
Checked By: EMR

Project: Oxford Area Trail Northwestern Arc

Item Number	Description	Unit	@	Unit Cost	4A Quantity	=	4A Subtotal	4B Quantity	=	4B Subtotal	4C Quantity	=	4C Subtotal	4D (sharrow) Quantity	=	4D (sharrow) Subtotal
Roadway																
201	Clearing and Grubbing	Lump	@	$ 8,000.00	2	=	$16,000.00	5	=	$40,000.00	2	=	$16,000.00	0	=	$0.00
202	Remove Ex. Walk (~5 ft)	SF	@	$ 8.00	1,150	=	$9,200.00	2,275	=	$18,200.00	3,100	=	$24,800.00	0	=	$0.00
202	Remove Ex. Curb & Gutter	LF	@	$ 18.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pavement	SY	@	$ 32.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Pipe (24" and Under)	LF	@	$ 36.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
202	Remove Ex. Catch Basin	Each	@	$ 1,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
252	Sawcut Ex. Pavement	LF	@	$ 5.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
638	Remove and Reset Fire Hydrant	Each	@	$ 3,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
690	Remove and Reset Ex. Mailbox	Each	@	$ 300.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
203	Excavation	CY	@	$ 35.00	1,000	=	$35,000.00	3,000	=	$105,000.00	1,000	=	$35,000.00	0	=	$0.00
203	Embankment	CY	@	$ 35.00	1,000	=	$35,000.00	3,000	=	$105,000.00	1,000	=	$35,000.00	0	=	$0.00
204	Subgrade Compaction	SY	@	$ 3.00	1,940	=	$5,820.00	6,753	=	$20,260.00	1,813	=	$5,440.00	0	=	$0.00
204	Proof Rolling	Hours	@	$ 220.00	1.0	=	$220.00	3.0	=	$660.00	1.0	=	$220.00	0	=	$0.00
608	Residential Concrete Drive Aprons (~50 SY)	Each	@	$ 8,000.00	0	=	$0.00	5	=	$40,000.00	0	=	$0.00	0	=	$0.00
608	Commercial Concrete Drive Aprons (~150 SY)	Each	@	$ 24,000.00	0	=	$0.00	0	=	$0.00	1	=	$24,000.00	0	=	$0.00
608	Curb Ramp	Each	@	$ 1,820.00	2	=	$3,640.00	1	=	$1,820.00	5	=	$9,100.00	0	=	$0.00
	Roadway Total						$104,880.00			$330,940.00			$149,560.00			$0.00
Pavement																
609	Curb & Gutter, Type 2	LF	@	$ 32.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
301	Asphalt Concrete Base, PG64-22	CY	@	$ 275.00	216	=	$59,277.78	750	=	$206,351.85	201	=	$55,407.41	0	=	$0.00
441	Asphalt Concrete Surface Course, Type 1, (448) PG64-22	CY	@	$ 317.00	99	=	$31,318.43	344	=	$109,022.56	92	=	$29,273.58	0	=	$0.00
	Pavement Total						$90,596.20			$315,374.41			$84,680.99			$0.00
Drainage																
511	Headwall	CY	@	$ 1,500.00	2	=	$3,000.00	101	=	$151,500.00	44	=	$66,000.00	0	=	$0.00
601	Rock Channel Protection	CY	@	$ 200.00	2	=	$400.00	19.0	=	$3,800.00	8	=	$1,600.00	0	=	$0.00
611	12" Conduit, Type D	LF	@	$ 65.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	15" Conduit, Type D	LF	@	$ 70.00	0	=	$0.00	60	=	$4,200.00	0	=	$0.00	0	=	$0.00
611	18" Conduit, Type D	LF	@	$ 75.00	60	=	$4,500.00	60	=	$4,500.00	0	=	$0.00	0	=	$0.00
611	24" Conduit, Type D	LF	@	$ 92.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	30" Conduit, Type D	LF	@	$ 126.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	48" Conduit, Type D	LF	@	$ 195.00	0	=	$0.00	0	=	$0.00	30	=	$5,850.00	0	=	$0.00
611	60" Conduit, Type D	LF	@	$ 250.00	0	=	$0.00	30	=	$7,500.00	30	=	$7,500.00	0	=	$0.00
611	72" Conduit, Type D	LF	@	$ 325.00	0	=	$0.00	60	=	$19,500.00	0	=	$0.00	0	=	$0.00
611	84" Conduit, Type D	LF	@	$ 400.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	90" Conduit, Type D	LF	@	$ 500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	38" x 60" Conduit, Type D, 706.04	LF	@	$ 1,100.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	Catch Basin	Each	@	$ 3,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
611	Manhole	Each	@	$ 4,500.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Drainage Total						$7,900.00			$191,000.00			$80,950.00			$0.00

Item Number	Description	Unit	@	Unit Cost	4A Quantity	=	4A Subtotal	4B Quantity	=	4B Subtotal	4C Quantity	=	4C Subtotal	4D (sharrow) Quantity	=	4D (sharrow) Subtotal
Structures																
607	Fence, Misc.: Bikeway Railing (150' each pipe)	LF	@ $	60.00	300	=	$18,000.00	1,050	=	$63,000.00	300	=	$18,000.00	0	=	$0.00
	Pedestrian Bridge (Waterway)	Lump	@ $	555,000.00	0	=	$0.00	1	=	$555,000.00	0	=	$0.00	0	=	$0.00
	Pedestrian Bridge (Railroad)	Lump	@ $	1,200,000.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	0	=	$0.00
	Structure Total						$18,000.00			$618,000.00			$18,000.00			$0.00
Traffic Control																
630	Signing/Pavement Marking	Lump	@ $	3,000.00	1.0	=	$3,000.00	3.7	=	$11,100.00	1.0	=	$3,000.00	1.0	=	$3,000.00
644	Shared Lane Marking (every 250')	Each	@ $	400.00	0	=	$0.00	0	=	$0.00	0	=	$0.00	14	=	$5,600.00
630	Rectangular Rapid Flashing Beacon	Each	@ $	10,000.00	2	=	$20,000.00	2	=	$20,000.00	2	=	$20,000.00	2	=	$20,000.00
	Traffic Control Total						$23,000.00			$31,100.00			$23,000.00			$28,600.00
Miscellaneous																
	Vegetative Filter Strip	LF	@ $	64.00	1,455.0	=	$93,120.00	5,065.0	=	$324,160.00	1,360.0	=	$87,040.00	0.0	=	$0.00
614	Maintaining Traffic	Lump	@ $	5,000.00	1.0	=	$5,000.00	4.0	=	$20,000.00	1.0	=	$5,000.00	2.0	=	$10,000.00
623	Construction Layout Stakes	Lump	@ $	7,000.00	1.0	=	$7,000.00	3.7	=	$25,900.00	1.0	=	$7,000.00	0.0	=	$0.00
624	Mobilization	Lump	@ $	20,000.00	1.0	=	$20,000.00	3.7	=	$74,000.00	1.0	=	$20,000.00	1.0	=	$20,000.00
832	Seeding & Mulching (10' both sides, whole length)	SF	@ $	1.50	29,100.0	=	$43,650.00	101,300.0	=	$151,950.00	27,200.0	=	$40,800.00	0.0	=	$0.00
832	Erosion Control	Lump	@ $	6,500.00	1.0	=	$6,500.00	3.7	=	$24,050.00	1.0	=	$6,500.00	0.0	=	$0.00
832	Stormwater Pollution Prevention Plan, Inspection, Softwarre	Lump	@ $	12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	1.0	=	$12,000.00	0.0	=	$0.00
	Miscellaneous Total						$187,270.00			$632,060.00			$178,340.00			$30,000.00
Subtotal							$431,646.20			$2,118,474.41			$534,530.99			$58,600.00
Contingency					25%		$107,911.55	25%		$529,618.60	25%		$133,632.75	25%		$14,650.00
R/W Acquisition/Easements (See Note 2)		Acre	@ $	35,000.00	2.0	=	$71,000.00	7.0	=	$245,000.00	1.9	=	$66,000.00	0.0	=	$0.00
Total							**$610,557.75**			**$2,893,093.02**			**$734,163.73**			**$73,250.00**

Notes:
1. Estimate does not include undercut of unsuitable soils, landscape buffer, or environmental permitting or mitigation.

2. R/W Acquisition/ Easement acreages were based on an assumed width of 60' x the length of the trail segment where not donated and a width of 10' x the length of the trail segment where along existing residential R/W.

3. Assumed pavement section for paved trail:
   2" Asphalt Concrete Surface Course, Type 1, (448) PG64-22
   4" Asphalt Concrete Base, PG64-22
   Subgrade Compaction