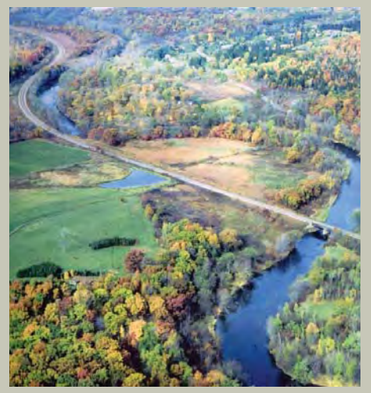
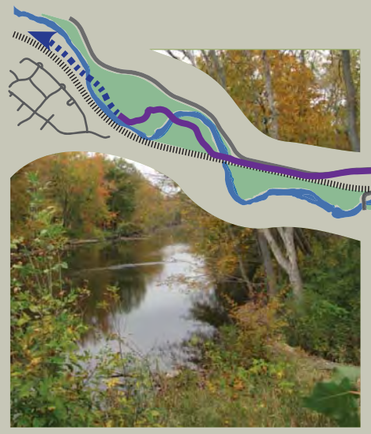
Segment D2-G Border-to-Border Nonmotorized Trail ~ Summary Report

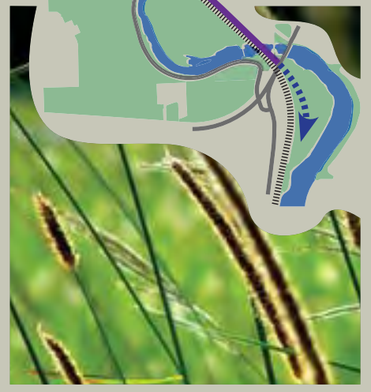
Washtenaw County, Michigan

Trail Master Plan from Dexter-Huron Metropark to Bandemer Park ~ Dexter to Ann Arbor

2016







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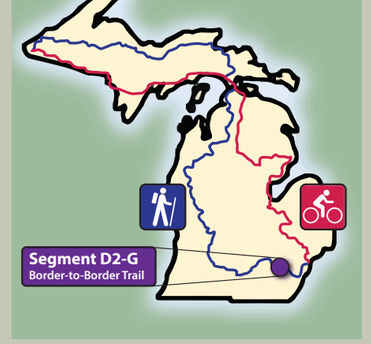

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The Trail

The trail has taught me much.
I know the varied voices of the coyote - the wizard of the mesa.
I know the solemn call of herons and the mocking cry of the loon.
I remember a hundred lovely lakes and recall the fragrant breath
of pine and fir and cedar and poplar trees.

It has given me blessed release from care and worry and
the troubled thinking of our modern day.
It has been a return to the primitive and the peaceful.

Whenever the pressure of our complex city life thins my blood and
numbs my brain, I seek relief on the trail.
And when I hear the coyote wailing to the yellow dawn,
My cares fall from me - I am happy.

by Hamiln Garland, 1899
American novelist, poet, essayist, and short story writer
(September 14, 1860 – March 4, 1940)

"Bridge Over the Huron River" by Artist Rachel VanWylen

Table of Contents

Lists of Figures

List of Terminology

AASHTO	American Association of State Highway and Transportation Officials
ADA	American Disabilities Act
B2B	Border-to-Border Trail
DSTR	Diagnostic Safety Team Review
HCMA	Huron-Clinton Metropolitan Authority
HRWC	Huron River Watershed Council
MDOT	Michigan Department of Transportation
MDNR	Michigan Department of Natural Resources
MDEQ	Michigan Department of Environmental Quality
MNFI	Michigan Natural Features Inventory
NAPP	Natural Areas Preservation Program
ROW	Right-Of-Way
TAP	Transportation Alternatives Program
WATS	Washtenaw Area Transportation Study
WCRC	Washtenaw County Road Commission
WCPARC	Washtenaw County Parks and Recreation Commission
WCWRC	Office of the Washtenaw County Water Resources Commissioner

Plan Adopted by the Washtenaw County Parks & Recreation June 14, 2016

Executive Summary

FORWARD

By Robert Tetens, Director
Washtenaw County Parks & Recreation Commission

The scenic Huron River Valley is a special place in Washtenaw County, deeply cherished by residents and visitors alike. The river is the most prominent natural feature in the County and is an important resource from ecological, cultural, recreational and transportation perspectives. There is no section of the Huron River where these aspects are more dramatically displayed than the eight-mile stretch between the cities of Dexter and Ann Arbor. A long standing vision held by the residents of Washtenaw County is to preserve and enhance this delicate riverine environment through the establishment of a greenway system of protected public lands tied together by a multi-use trail, the Border-to-Border Trail (B2B). This plan represents the embodiment of that public vision.

The B2B represents an ongoing collaboration of communities and organizations to implement a shared-use path that will link the open spaces of the Huron River Greenway. Once complete, the 35-mile trail will enhance the livability of the County's main urbanized areas where approximately 70% of our residents live in river-linked communities. Over 24 miles of paved trail exist as part of the B2B today. It was recently incorporated into the Iron Belle Trail, a statewide trail network, further raising the profile of the B2B from an important local amenity to one with regional reach.

The B2B is much more than a physical connection of communities – it is about placemaking. Placemaking is an approach to the planning, design and management of public spaces that capitalizes on a community's assets, inspiration, and potential, with the intention of creating public spaces that promote people's health, happiness, and well-being. Educated young people, creative individuals, and well-financed entrepreneurs choose to live in places that are engaging, welcoming, diverse and offer a wide range of cultural and natural amenities. From this perspective, economic development today requires a focus on creating vibrant communities that are amenity-rich and attractive places. Several recent studies support the idea that the most attractive communities are those with generous park systems, easy access to natural areas, heritage landscapes, and extensive trail networks. The Huron River Greenway features all of these valued public placemaking amenities.

Over 30 years ago, the Ann Arbor-Ypsilanti Urban Area Transportation Study (UATS) led a planning effort to promote the concept of developing a multi-use trail system between Dexter and Ann Arbor. The final report, titled the *Huron River Bikeway Study*, was adopted in October of 1984. In 2004, the Washtenaw County Parks & Recreation Commission adopted the *Segment D B2B Non-motorized Trail Summary Report* that focused on the implementation of the first segment of the trail from the City of Dexter to Delhi Metropark. In 2013 the first phase was constructed, a trail connecting the City of Dexter to Dexter-Huron Metropark. This wildly popular new trail segment, the River Terrace Trail, has helped to raise public support for continued development of the B2B between Dexter and Ann Arbor.

A common thread tying these planning efforts together is the vision and leadership of Peter Pollack, the lead author on both reports. Peter, a nationally renowned Landscape Architect, established Pollack Design Associates in Ann Arbor in the early 1980's. The firm grew out of Peter's passion for creating places for people. He enjoyed the design process, from walking a site to understanding how the land wanted to be used. He believed that good design would create places that people were drawn to use. Peter often said that the hand of the designer should not be felt, that once designed and built, a place for people should seem as if it had always been there. Peter's inspirational words have guided the authors of this report. It is our sincere hope that his unique creative vision will be reflected in the continued development of the B2B trail through the Huron River Valley.

Remembering Peter Pollack, FASLA, 1939-2010

Acknowlegements

The participation and cooperation of stakeholders, municipalities and organizations in the preparation of this Summary Report for the Border-to-Border ~ Segments D2 - G is greatly appreciated. In particular, we acknowledge the efforts of the following:

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Washtenaw County Road Commission

Washtenaw Area Transportation Study

Washtenaw County Office of the Water Resources Commissioner

City of Ann Arbor

City of Dexter

Scio Township

Ann Arbor Township

Barton Hills Village

Huron River Watershed Council

RiverUp!

Introduction

The purpose of this study is to develop and evaluate the various alignment options for the Border-to-Border Trail (B2B) between the cities of Ann Arbor and Dexter along the Huron River. The study area roughly follows the Huron River corridor between existing segments of the B2B in Bandemer Park (Ann Arbor) and Dexter-Huron Metropark (east of Dexter) for a total distance of approximately 7.25 miles. Once this project is fully constructed, the B2B will be nearly 90% complete (31 of 35 total miles) - refer to Figure 1. For design, funding, and implementation purposes, the B2B has been divided into segments A-M; this study covers:

"The River Terrace Trail"
- Segment D2: Dexter-Huron Metropark to Delhi Metropark

"Barton Pond Trail"
- Segment E: Delhi Metropark to Wagner Road
- Segment F: Wagner Road to Maple Road
- Segment G: Maple Road to Bandemer Park

PROJECT OVERVIEW

The Border-to-Border Trail (B2B) in Washtenaw County is the result of the Washtenaw County Parks and Recreation Commission (WCPARC) leading a multi-agency effort to implement a non-motorized, multi-use trail through the scenic Huron River valley, to link the open spaces of the Huron River Greenway. The B2B Trail generally follows the river for 35 miles from the border of Livingston County to Wayne County. In January 2015, the B2B was incorporated into the Iron Belle Trail, a statewide trail network that extends from Belle Isle (Detroit) to Ironwood (on the Wisconsin border of the Upper Peninsula). Although Washtenaw County is on the "hiking route" of the Iron Belle Trail, the B2B's goals remain unchanged:

- Completion of +/- 35 miles of a universally accessible, paved, shared-use pathway across Washtenaw County
- Conservation of the Huron River corridor
- Provide opportunities for non-motorized transportation, recreation, river access, environmental and local cultural education, and links to neighboring counties
- To the maximum extent possible, the trail is routed off-road (away from roads) to create a safe and fun experience for a wide range of users

A vision for this section of trail has been in the minds of many people and agencies in the community for a very long time. One of the earlier studies was completed in 1984: *The Huron River Bikeway Study, Ann Arbor-Dexter,* undertaken by the Washtenaw Area Transportation Study (then known as Ann Arbor-Ypsilanti Urban Area Transportation Study). Additionally, over 60% of County residents have identified non-motorized trails as their "highest priority" for recreation according to WCPARC's recent Parks and Recreation Master Plan survey (2015). This continues to reinforce the results of previous surveys which indicate that trails are a top priority for county residents. Natural areas preservation and environmental conservation are the second highest priority.

This Master Plan details a preferred route for the B2B between Dexter and Ann Arbor (Segments D2 through G), a distance of approximately 7.25 miles or 21% of the total B2B - refer to Figure 2. It also outlines the process that was used to derive these conclusions (stakeholder engagement, alternative route analysis, public meetings, etc.). Once completed, this trail segment will link two large, finished sections of B2B, completing nearly 90% of the total trail within the county. The project area is the largest remaining gap in the B2B and is also the most complex to construct. Some of the challenges faced by these trail segments include: The Huron River, MDOT/Amtrak's Wolverine Line (Dearborn to Chicago), Huron River Drive, The Natural Rivers Act (MDNR), steep topography, wetlands, floodplains, necessity for multiple bridges, and avoidance of private property. Many of the challenges in this corridor also present the opportunity to make this part of the B2B the most beautiful on the entire trail.

Historically, Huron River Drive has served as a shared vehicular and recreational bicyclist corridor between the City of Dexter, Dexter-Huron Metropark, Delhi Metropark and Ann Arbor. Currently there are no designated bike lanes or sidewalks, but it remains one of the most popular routes for road bicyclists. According to recent traffic counts, bikes accounted for up to 13% of total average daily traffic.

Ultimately, the plan is to link all of the B2B's segments together to form a non-motorized "spine" through Washtenaw County. This spine will form the basis to a larger network of pathways. As part of the Iron Belle Trail, the B2B will eventually connect to the Lakelands Trail to the north and to the Downriver Linked Greenways Initiative to the southeast—making the B2B a local trail with regional reach.

There are numerous public benefits to the B2B; one of the most significant being greater access to Washtenaw County's most distinctive natural feature: the Huron River. The Huron River offers exceptional opportunities for education/interpretation, resource conservation, non-motorized

County Border-to-Border Trail

The Border-to-Border trail runs across Washtenaw County, generally following the Huron River. Two large segments of the Border-to-Border Trail are complete; the Dexter area and the Ann Arbor/Ypsilanti area.

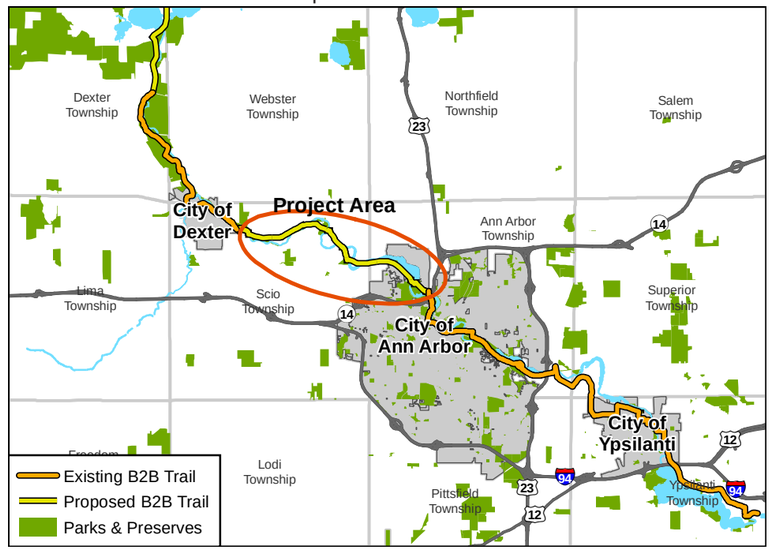
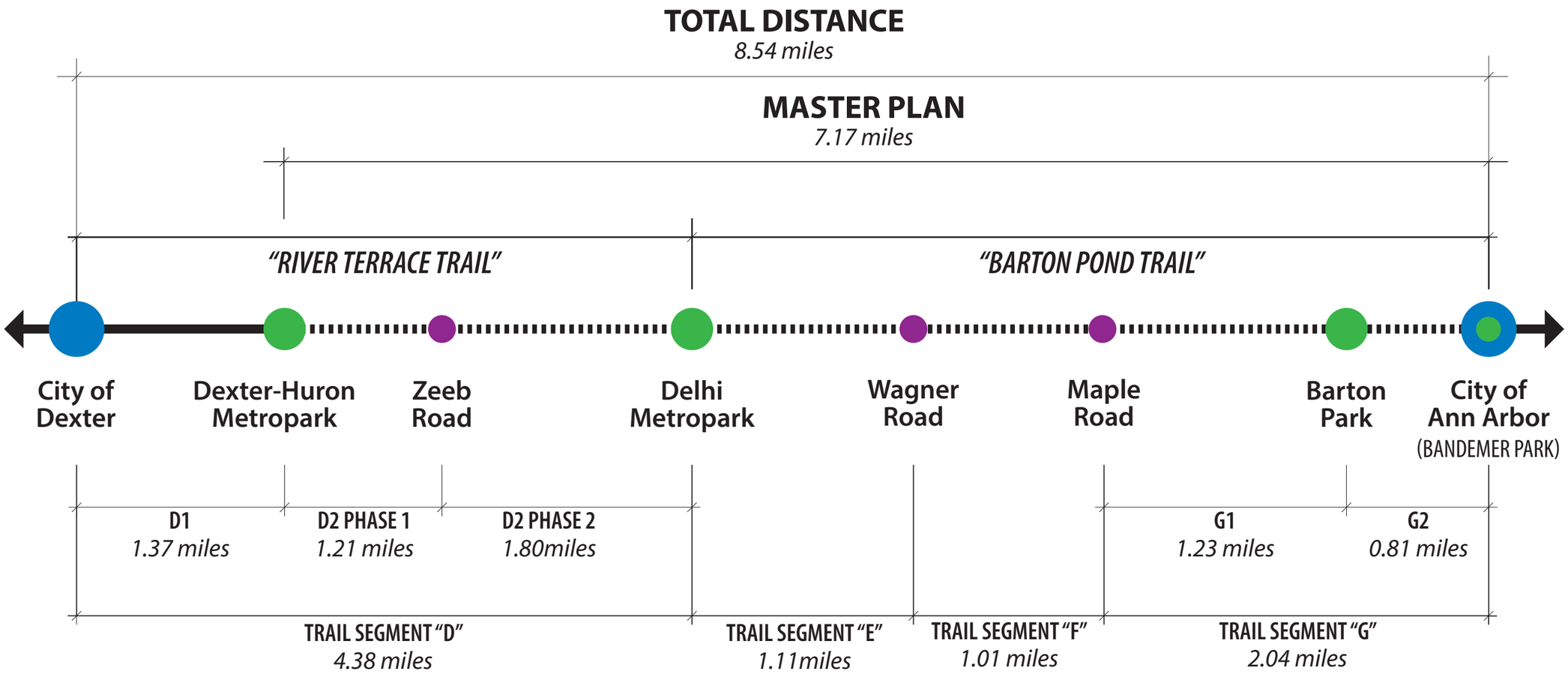


Figure 1: *Existing and Future Border-to-Border Trail Segments*

River Terrace Trail near Dexter - Huron Metropark - Photo Credit: CDF



LEGEND

- Completed Trail
- Planned Trail (Current Project)
- City
- Park
- Road Junction

DISTANCES ARE APPROXIMATE AND WILL BE ADJUSTED DURING DETAILED DESIGN AND ENGINEERING

Figure 2: Master Planning of Segments - Source : WCPARC

transportation,and the individual and community health benefits associated with an active lifestyle. Non-motorized trails have also been shown to stimulate economic development and investment along their alignments. To further support this, MDOT completed a bicycling economic study for FY 2014 which used Ann Arbor as a case study. This case study found the bicycling's economic impact in Ann Arbor alone was over $25 million for 2014.

Ann Arbor economic breakdown found the following:

- $9.1 million - Household spending on bike related items
- $3.4 million – Event/Tourism spending
- $7.2 million – Avoided healthcare costs
- $5.7 million – Reduced absenteeism

For the State of Michigan the following was identified:

- $175 million - Household spending on bike related items
- $38 million – Event/Tourism spending
- $256 million – Avoided healthcare costs
- $187 million – Reduced absenteeism
- $11 million - Manufacturing related

When completed, the B2B Trail will facilitate safe non-motorized travel between green spaces and urban areas; connecting three cities, one village, six townships, two universities, two colleges, and eighteen parks along the Huron River within Washtenaw County alone. This segment of trail is also located within Michigan's population center and will see a great deal of use. The B2B has over 120,000 residents living within two miles of the trail; over 240,000 residents in the municipalities it traverses; and over 4,000,000 Michigan residents within a one hour drive. Approximately 24 miles, or 68%, of paved and shared-use pathways exist as a part of the B2B today.

OBJECTIVES

As stated by WCPARC, the purpose of this study is to gather and further detailed information regarding a preferred location of a non-motorized trail along the Huron River corridor between Dexter-Huron Metropark and Delhi Metropark (Segment D2); continuing from Delhi Metropark to Wagner Road (Segment E); then from Wagner Road to Maple Road (Segment F); and finally from Maple Road connecting to the existing B2B Trail at Bandemer Park in Ann Arbor (Segment G).

In order to achieve the broader goals outlined in the previous section, the following objectives have been identified:

- Create a general consensus between stakeholder groups regarding the preferred trail alignment
- Explore all potential route alternatives
- Seek public input on the preferred alignment
- Identify the most cost effective and feasible route option that achieves all other objectives
- Maximize the use of available public land
- Minimize the need for private easements
- Connect to parks and natural areas
- Protect additional land along the river (where possible)
- Minimize construction costs while building a durable trail
- Respect the aesthetic and scenic qualities of the corridor
- Minimize environmental/ecological disturbance and restore areas disturbed as part of construction
- Meet all safety criteria as required by MDOT, Amtrak and WCRC
- Employ principles of barrier free/universal design

Due to the multi-jurisdictional and complex nature of the study corridor, one of the most important objectives of this report is to represent the general consensus amongst stakeholders regarding the approximate trail alignment. The "Preferred Alignment" will guide detailed design, eventually leading to implementation. Additionally, this report will be used to support grant applications that assist with construction funding.

PROJECT TEAM

The *Segment D2 through G Non-motorized Trail Study* is an effort initiated by the Washtenaw County Parks and Recreation Commission. It is supported in partnership by the Huron-Clinton Metropolitan Authority and RiverUp!. The administration and staff of these two agencies and representatives of RiverUp!, along with Conservation Design Forum and Stantec Consulting Michigan, form the working group and are the primary authors of this study.

Washtenaw County Parks and Recreation Commission

The Washtenaw County Parks and Recreation Commission (WCPARC) was formed in 1973 under Michigan Public Act 261 of 1965; with the mission:

> "… to enhance the quality of life in the County by promoting a healthy lifestyle, efficiently providing high quality facilities and programs reflective of current and anticipated recreational needs of County residents and visitors—with particular emphasis on preserving fragile lands, water quality, wildlife habitat, creating pedestrian and greenway connections, and providing high quality services to those of all backgrounds."

Since its inception, the WCPARC has provided public access to 7,426 acres of active parks and passive nature preserves containing rivers, lakes,

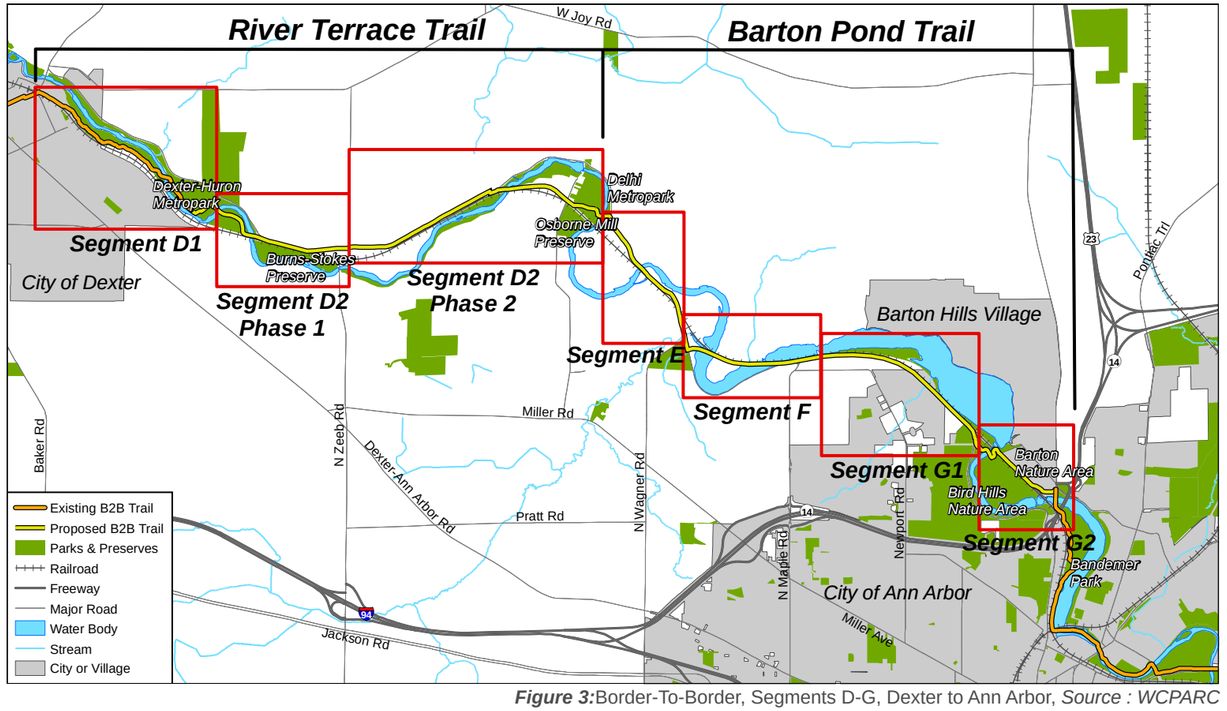


Figure 3: Border-To-Border, Segments D-G, Dexter to Ann Arbor, *Source : WCPARC*

and biologically rich ecosystems. WCPARC has strategically planned, developed and enhanced a park system that consists of 2,094 acres of parkland and 4,626 acres of unique natural areas. WCPARC has also worked in partnership with many other organizations and communities to protect an additional 706 acres of land, and develop many miles of non-motorized trails through the "Connecting Communities" grant program.

The Commission consists of 10 members, including a representative from the County Road Commission, the County Water Resources Commissioner, and other members appointed by the elected County Board of Commissioners, of which at least one but not more than three are members of the County Board of Commissioners. The Washtenaw County Parks system is headed by a Director, Robert Tetens and assisted by a Deputy Director, Coy Vaughn.

WCPARC is committed to providing high-quality non-motorized trails throughout the County. This commitment is reflected by the B2B trail which was initiated by WCPARC in direct response to a county-wide recreation survey in the late 1990s. This preference for non-motorized facilities has been consistently reinforced through additional surveys of County residents every five years.

Huron-Clinton Metropolitan Authority

The Huron-Clinton Metropolitan Authority (HCMA) is governed by a seven-member Board of Commissioners that administers the Huron-Clinton Metroparks system and is supported by staff to carry out the mission. Two members are selected by the State governor and the other five members are selected by location, one from each of the five member counties.

The Huron-Clinton Metroparks are a regional park system in Metro Detroit Michigan located along the Huron and Clinton rivers. The Metropark system exists independent from other park systems in Southeast Michigan which include city, township, county and state parks.

The Metroparks consist of 13 parks covering 25,000 acres in Southeast Michigan forming, a partial ring around the metro area. The parks encompassing Wayne, Oakland, Macomb, Washtenaw and Livingston counties are in the planning stages for development to finish the ring by building hike/bike trails to connect all the parks. Within Washtenaw County, HCMA manages three Metroparks along the Huron River totaling more than 1,600 acres: Hudson Mills, Dexter-Huron, and Delhi. To date, two of the Metroparks, Hudson Mills and Dexter-Huron, are connected by the Border-to-Border Trail. This study provides a plan to connect to the third Metropark: Delhi.

RiverUP!

RiverUp! is part of a community movement to embrace and celebrate the assets of the Huron River for the benefit of local economies and residents. The group also promotes conservation of our shared natural heritage. It is a partnership between the Huron River Watershed Council (HRWC), the National Wildlife Federation's Great Lakes Office (NWF), the Michigan League of Conservation Voters and citizen groups to spark a river renaissance. The organization is the foremost placemaking initiative for the Huron River and its communities. Through this effort, they are working to assist communities to maximize the Huron River as a signature community asset to attract residents, visitors, and businesses.

RiverUp! is the answer to former Congressman John D. Dingell's call for the development and implementation of a substantive plan for the Huron River's future. HRWC, along with a core group of community and business leaders recently began to formulate a strategy to realize the goal of a vibrant, robust and fully restored river – a destination for residents and tourists. Additionally, they have the benefit of partnering with action-oriented, outcome-focused groups and individuals to advance the considerable work that's already being done for the Huron River.
RiverUp! has three long-term objectives:

- FixUp! by investing in recreation infrastructure
- CleanUp! by improving the ecological health of the river
- BuildUp! by facing our communities toward the river and transform the river corridor into a premier destination

PLANNING PROCESS

This Master plan is intended to build upon the *2004 Segment D Border-to-Border Nonmotorized Trail Summary Report*, the *Huron River Bikeway Study [1984 - Pollack Design Associates]* and other efforts as discussed in the Project Overview section. The planning process was structured to catalogue, document and summarize previous activities and plans, assess current conditions, and identify or re-confirm planning priorities and objectives through an open, inclusive stakeholder and community engagement process. The process benefited from the passionate involvement of a wide range of recreation enthusiasts, local and state officials, non-profit organizations, and the public. This provided a comprehensive foundation upon which a series of recommended strategies are articulated in this document.

The master plan includes a site plan of the preferred trail alignment and design standard details that illustrate a series of physical improvements to achieve the planning priorities. It also includes a set of long-term management strategies informed by, and supportive of, ongoing landscape restoration and stewardship activities. The plan uses trail segments (D2-G) to make recommendations on strategies for implementation and phasing of the project. These recommendations include construction cost estimates, material's lifecycle costs and maintenance, and potential construction funding sources.

From the beginning of the project it was clear that broad stakeholder and public support would be vital to the success of these segments of the B2B. In order to achieve this, the Washtenaw County Parks and Recreation Commission and the consultant team:

1. Hosted bi-weekly meetings with a working group composed of staff from WCPARC, HCMA and representatives from RiverUp!
2. Facilitated initial discovery meetings (and update meetings, thereafter) with the following stakeholders;
   - Michigan Department of Transportation [Rail Division and Non-Motorized Division]
   - Michigan Department of Natural Resources [Natural Rivers Program and Recreational Trails Program]
   - Washtenaw County Road Commission
   - Washtenaw County Water Resources Commissioner
   - Huron River Watershed Council
   - City of Ann Arbor
   - City of Dexter
   - Scio Township
   - Ann Arbor Township
   - Barton Hills Village
   - Southeast Michigan Council of Governments (SEMCOG)
   - Washtenaw County's Greenway Advisory Committee (which includes members of local bicycling and transportation groups)
   - Michigan Trails and Greenway Alliance
   - Friends of the Border-to-Border Trail
3. Engaged the public at three workshops.

The working group and stakeholder meetings guided the development of the master plan. They provided input on issues and concerns, as related to the development of the trail, which needed to be addressed along the study corridor, such as: visual and ecological impacts, public safety, types of users and activities, regulations and permit requirements, identifying additional stakeholders, and the desired final product. The working group re-affirmed the previous set of Planning Principles from the 2004 Summary Report to continue guiding the planning process and reviewed drafts of the master plan as it evolved.

PUBLIC PARTICIPATION

Three public meetings were held to inform citizens that the plan was being developed, to discuss the planning process, to describe the rationale behind the preferred trail alignment and to solicit feedback. A draft of the plan was also posted on WCPARC's website for over one month to gather additional feedback. WCPARC advertised these meetings through various standard channels, including sending letters sent to all landowners whose property is near of one of the alternative trail alignments. The letter also provided them with contact information of the project manager if they were unable to make the meeting or had questions. At the first public meeting on February 24th, 2016 at the Ann Arbor Senior Center in Ann Arbor, 16 participants provided feedback on the preferred route alignment, expressed desires, priorities and voiced concerns that could be addressed in the master plan. At the second public meeting on March 2, 2016, held at the Dexter District Library, 38 participants provided additional feedback on the project. Based on feedback received during the on-line comment period, a third meeting was held on April 20th at Scio Township Hall which had 43 attendees and constructive dialogue focused around Segment "F".

Comments and feedback received at the public meetings or on-line can be found in Appendix C. Stakeholder feedback was also a critical component of public input (as described in the planning process). Appendix A contains the meeting minutes from the working groups and stakeholder meetings; it summarizes changes that were made to the master plan based on comments from stakeholders.

Public Workshop #1

Public Workshop #2

PLANNING PRINCIPLES

The following planning principles are presented to guide the design, engineering, implementation, and management/operations of the Border-to-Border Trail over time; to ensure respect for the characteristics and qualities of the Huron River; and to foster and heighten environmental stewardship through access, education, and interpretation.

These principles helped to guide the working committee comprised of staff from WCPARC, RiverUp!, HCMA, WCRC, MDOT, DNR and the CDF/ Stantec Team to make informed decisions about Segment D2 through Segment G's design, engineering and implementation. Ultimately, WCPARC, with support from the broadest possible coalition of individuals, groups and agencies, has taken the responsibility of implementing these four Segments of the Border-to-Border Trail.

Environmental Considerations

There is a desire to maintain, restore, steward, and where possible, to enhance the condition of the diverse landscape within this river valley. This must be undertaken with the recognition that the trail is a major recreation arterial. Planning, design, engineering and management affecting the adjacent landscapes must seek to achieve a balance between the functioning of ecological systems and the human activities necessary to achieve the mission of the County by;

1. preservation, protection and management/stewardship of existing natural systems and open space along the river through state and inter-agency cooperation among municipal authorities;
2. planning for and managing ecosystems consistent with the Natural Rivers Plan, i.e., maintain vegetation buffer along river, removal of invasive plant species, fire management, etc.;
3. protecting rare, threatened and endangered plant and animal species including the fisheries, and;
4. whether site planning or managing viewsheds for trail users, canoeists, kayakers, and drivers—retaining the scenic beauty of the corridor is paramount. The visual quality of the river corridor is a cherished community asset which requires careful attention to detail.

Interpretation and Education Opportunities

The importance of interpretation and education has risen as user and visitor demand has increasingly focused on experiences rather than products. The interpretation of attractions, stories, and history is an important part of providing a positive experience as well as an education tool. Interpretation and education can be achieved through a range of methods including informative brochures, guided or self-guided tours, interactive displays, signage, media displays, audio information or interpretive information boards. Education and interpretation programs can highlight;

1. the Huron River's Natural Rivers designation;
2. ecosystems including prairie remnants, floodplains, wet meadows, and oak barrens in settings that range from the high bluffs to lowlands, and in urban areas and villages to parkland and natural areas;
3. historical and cultural features including past Native American and European settlements, villages, the railroad, river commerce, mill sites, glaciation/geology of the region; and,
4. river corridor protection, stewardship and management.

Recreational Considerations

Children on Education Natural Walk at Osborne Mill

Changing lifestyles and the desire for increased leisure activities from younger generations, together with a growing retirement-age population, have placed increased demands on existing parks, recreational lands, and open spaces. These trends are both local and national. By developing integrated greenway and trail system as a part of the fabric of the community, people have convenient access to recreation, nature, commercial areas, and other destinations at their doorstep;

1. Create trail connections and link existing parks: Completion of the B2B will eventually link the Lakelands Trail in Livingston County to the north and the Downriver Linked Greenways Initiative in Wayne County to the southeast. In Washtenaw County, the B2B will connect to many existing local trails, parks and nature areas.
2. Connect communities and provide access to the greatest number of county residents: Completion of this section of the B2B will realize the connection between three cities, one village, and six townships in the heart of Washtenaw County's population center. The combine total population of all of these municipalities is over 240,000 with approximately 120,000 living within two miles of the trail. There are approximately 354,000 people in Washtenaw County;
3. Facilitate access to all residents: Provide a safe, off-road alternative to Huron River Drive and accommodate a broad range of recreation users with varying skills and physical capabilities.
4. Identify and meet local recreational needs: Accommodate active and passive activities in locations appropriate for such uses. Provide a non-motorized recreational corridor which facilitates access to the river and that addresses the public's desire for a quality environment in which to exercise, relax, enjoy scenic beauty, fish, canoe/kayak, and experience the ecological characteristics of the riverine environment.

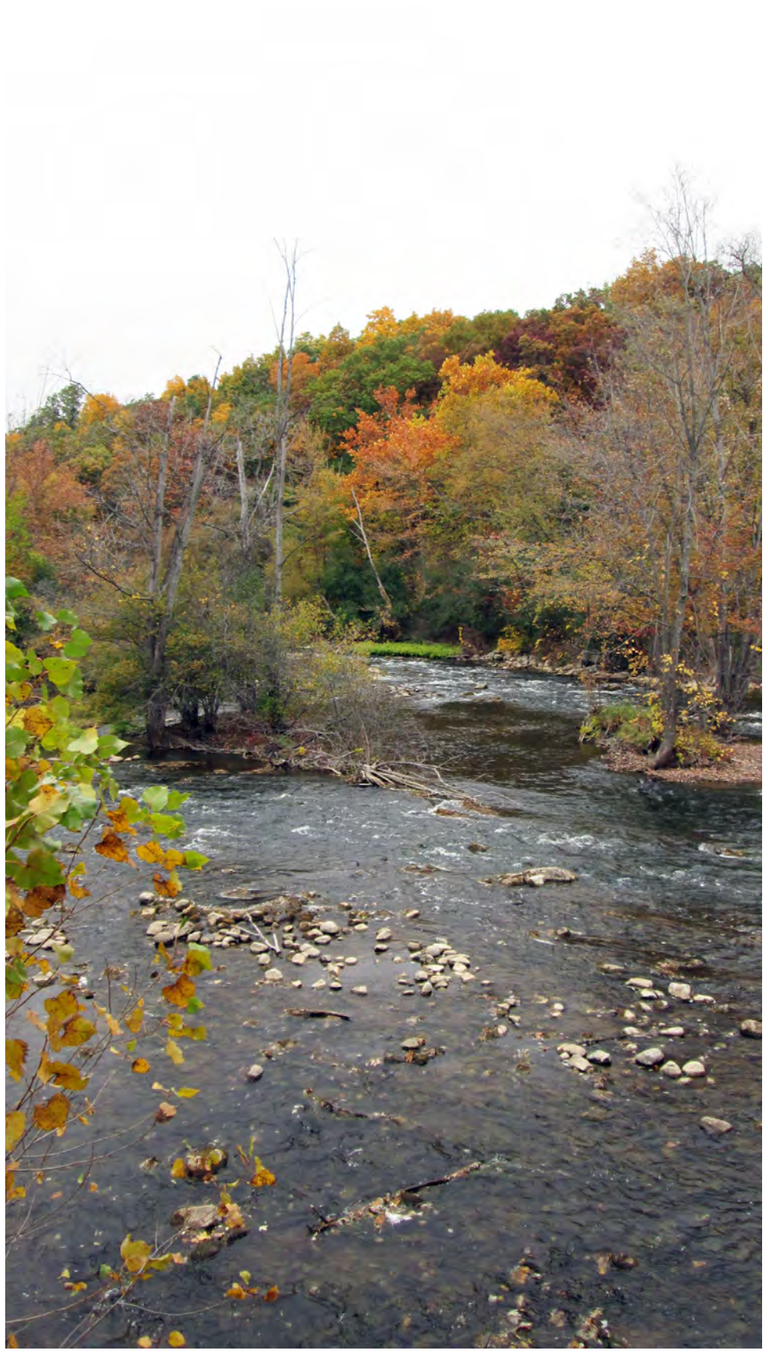
Trail Design Criteria

1. Provide a multi-use non-motorized trail that respects the natural environment by minimizing the impact from its permanent position on the landscape and during construction activities. Account for plant and animal species throughout the process.
2. Meet or exceed AASHTO and ADA Design standards.
3. Design using local materials to "fit" the trail into its setting, i.e., native stone walls, native plant materials from local sources.
4. Design and locate river and wetland crossings to limit the natural sight line disruption from the trail, roads and river.
5. Design river and wetland crossing structures that minimize environmental impacts.
6. Provide opportunities for emergency vehicle access.
7. Utilize design and engineering standards able to withstand the long term effects of the riverine setting as the best approach to the use of public funds, and to minimize the need for continued maintenance over time.
8. Consider life-cycle costs for durable and eco-friendly products and materials to reduce environmental impacts and operations and maintenance expenses over a life span.

River Terrace Trail at Dexter-Huron Metropark - Photo Credit: CDF

Artist Painting on River Terrace Trail - Photo Credit: Huron-Clinton Metroparks

Photo Credit: UL to UR, Small-mouth Bass, Dirk Fishbach; Horned Owl chick, CharlieScott
LL to LR Sensitive Fern, WCPARC,: Snail Shells, WCPARC



Delhi Rapids on Huron River - Photo Credit: CDF

SCHEDULE

	2015 Summer	Fall	2016 Winter	Spring
Phase One − Site Evaluation				
Project Initiation (June 30th)				
Review Available Data				
Working Group Meetings (Active through Project ~ 7 Meetings)				
Stakeholder Meetings (Active through Project ~ 23 Meetings)				
On-site Evaluation				
Draft Summary Report				
Phase Two − Master Plan Development				
Working Group Meetings (Active through Project ~ 4 Meetings)				
On-line Comment and Feedback (February 24th - May 5th)				
Public Meetings #1 (February 24th)				
Public Meetings #2 (March 2nd)				
Public Meetings #3 (April 20th)				
Final Summary Report and WCPARC Adoption (June 14)				

Refer to Appendix A for working group minutes, information on stakeholder input, feedback public involvement, and correspondence from local and state agencies.

Figure 4: *Master Planning Tasks and Schedule*

Floodplain Forest along Huron River at Burn-Stokes Preserve

Existing Conditions

EXISTING CONDITIONS

Geographic Information Systems (GIS) data, reports from major landowners (WCPARC, HCMA , MDOT, etc.), aerial/satellite photography and over ten years of on-site visits were used to inventory and analyze the study corridor. The data, and subsequent analysis of the river corridor, can be divided into two main categories: human/built conditions, or natural features/resources. The following is a brief summary of each.

HUMAN/BUILT CONDITIONS

Natural Rivers Program

The Natural Rivers Act, administered by the MDNR, authorized the Natural Resources Commission to establish a system of "natural rivers" in the state to provide for their preservation, protection and enhancement. Since 1970, Michigan's Natural River System has designated 2,091 miles on sixteen rivers or segments of rivers. Section 30502 of the Natural Rivers Act states, in part, that:

> "The Commission, in the interests of the people of the State and future generations, may designate a river or portion thereof, as a natural river area for the purpose of preserving and enhancing its values for water conservation, its free flowing condition and its fish, wildlife, boating, aesthetic, floodplain, ecologic, historic and recreational values and uses."

Barton Pond near Wagner Road - Photo Credit: CDF

The Huron River, from Kent Lake in Livingston County to Barton Pond [Fosters Bridge at Maple Road] in Washtenaw County, is the only river in southeast Michigan designated as a "country-scenic river" under The Natural Rivers Act. The Huron River was designated under this act for the purpose of "preserving and enhancing its values for water conservation, its free flowing condition and its fish, wildlife, boating, aesthetic, flood plain, ecologic, historic and recreational values and uses" (Huron River Plan, 2002, p. 1).

The Huron River Watershed Council (HRWC) works closely with the MDNR and local government jurisdictions to develop the Huron River's Natural Rivers Plan and Guidelines to further help protect the river, promote education initiatives, and support recreation. The Huron River Natural Rivers District includes an area 400 feet wide on each side of, and parallel to, the designated portion of the river. Within the 400 foot district is a 125 foot structure setback (with some exceptions - WCPARC falls into the Publicly Provided Facilities and Utilities permit category which allows some flexibility on development projects while maintaining a 100 foot wide minimum vegetation strip along the river). The MDNR Huron River Plan states:

> "The use of non-motorized modes of transportation as a means of reaching and enjoying the Huron River is strongly encouraged. Developed trails for non-motorized traffic within the Natural Rivers District should be planned and constructed in a manner which preserves the natural character of the district to the greatest extent possible" (Huron River Plan, 2002, p. 31).

An on-site meeting in early September, 2015 with the MDNR Natural River Program Coordinator indicated a willingness to work with getting the trail developed. The B2B would increase recreational value and the public's ecological awareness in a beautiful river valley environment.

Huron–Clinton Metroparks

As part of the previously mentioned Metroparks' trail development and the State's Iron Belle Trail, the completion of Segment D of the Border-to-Border Trail will connect two Metroparks: Delhi Metropark and Dexter-Huron Metropark, which are located nearly four miles apart. Dexter-Huron Metropark is already connected to the City of Dexter by the completed first phase Segment D (also known as the River Terrace Trail). The B2B winds through the city for a short distance to Mill Creek Park where it connects to

Entrance to Dexter - Huron Metropark

Huron River Drive at Delhi Metropark - Photo Credit: CDF

Amtrak crosses Maple Road - Photo Credit: CDF

MDOT Rail Line at Barton Dam - Photo Credit: CDF

4.9 miles of existing B2B along Mill Creek and the Huron River to Hudson Mills Metropark. The completion of the second portion of segment D will result in all three Metroparks in Washtenaw County being linked by the B2B.

Huron River Drive

Considered one of the most scenic roads in Washtenaw County, if not in southeast Michigan, Huron River Drive is very popular with many motorists, road bicyclists and joggers. It is used for commuting, recreation, access for fishing, kayaking and canoing. The recreational value of the road is well known to locals; in fact, the road is closed for the annual Dexter-Ann Arbor Run. The event takes runners on a course, as its name suggests, from the town of Dexter via an eastward route along the Huron River to the finish in downtown Ann Arbor.

As a county road maintained by the Washtenaw County Road Commission, there are safety considerations that need to be addressed and design engineered to alleviate vehicle and non-motorized user conflicts. Currently, there are no designated bike lanes, sidewalks, or other non-motorized infrastructure on this meandering roadway from Ann Arbor to Dexter. Some sections are very close to the river bank, the shoulders are very narrow, making it infeasible to simply add designated bike lanes along the entire road.

MDOT Rail & Amtrak/Norfolk Southern

The Michigan Department of Transportation (MDOT) is the designated track owner of the railroad corridor from the state line at Portage to Pontiac under the current agreements with Amtrak and Norfolk Southern Railroad. In 2011, the MDOT used a $140 million grant from the Federal Railway Administration (FRA) to purchase 135 miles of Norfolk Southern (NS) rail. As a result of the purchase, nearly 80 percent of the Amtrak route between Detroit and Chicago is now publicly owned, allowing MDOT to maintain the tracks for high-speed passenger rail. Since 2013, MDOT has been making track improvements along this line in preparation for increased train speeds and frequency. The portion of the rail in this corridor is used by Amtrak's Wolverine service line originating out of Pontiac and ending in Chicago with a stop in Ann Arbor. According to MDOT, the high-speed track upgrades are scheduled to be completed by the end of 2016.

Because safety is of the utmost importance to MDOT, Amtrak, and WCPARC, any proposed trail alignment along this rail line has been scrutinized very carefully. The proposed B2B Trail minimizes direct interface with the railroad. However, where a crossing is required, MDOT will perform a Diagnostic Safety Team Review (DSTR) prior to construction. Because of the corridor's Federal High-Speed Rail designation, no new at-grade crossings are allowed. In certain locations, even though there is an existing at-grade crossing for the road, the lack of existing pedestrian infrastructure may make the trail crossing classified as an entirely new, separate crossing.

Ultimately, MDOT thinks that a mutually agreeable solution could be achieved through the permitting process. MDOT, while working with Amtrak, will make the final decision on how the pathway is constructed in their ROW; although the FRA will be consulted as needed.

CenturyLink Fiber Optic Line

CenturyLink is a worldwide communications company headquartered in Monroe, Louisiana. It provides communications and data services to residential, business, governmental and wholesale customers in 36 states. It is the third-largest telecommunications company in the United States, behind AT&T and Verizon, and operates as a local exchange carrier and Internet Service Provider in 36 states.

CenturyLink owns the fiber optic line that runs parallel to the railroad within the rail bed or ballast stone, mainly routed on the north side of the tracks. The fiber optic line is their Core Network through Michigan connecting Detroit and Chicago. Since the preferred trail alignment from the start of Segment D2 through the end of Segment E is proposed on the north side of the tracks, the pathway will not be built over or near this fiber optic line. Additionally, extra precautionary construction practices will respect this sensitive utility.

DTE Energy Company

DTE Energy Company is a Detroit, Michigan-based utility, incorporated in 1995, providing electric utility to serve 2.1 million customers in Southeast Michigan; and a natural gas utility serving 1.2 million customers in Michigan.

The company currently operates and maintains both electrical transmission and natural gas pipelines through the project area. An overhead electrical transmission line crosses perpendicular to West Huron River Drive at Loch Alpine residential neighborhood. Two natural gas lines cross also perpendicular to West Huron River Drive; one just off Dexter-Huron Metropark' s southeastern-most boundary, while the second line bisects privately owned property east of Delhi Metropark heading northeast across West Huron River Drive. All three crossings will require a permit and may require an easement agreement with DTE prior to the construction of the B2B Trail.

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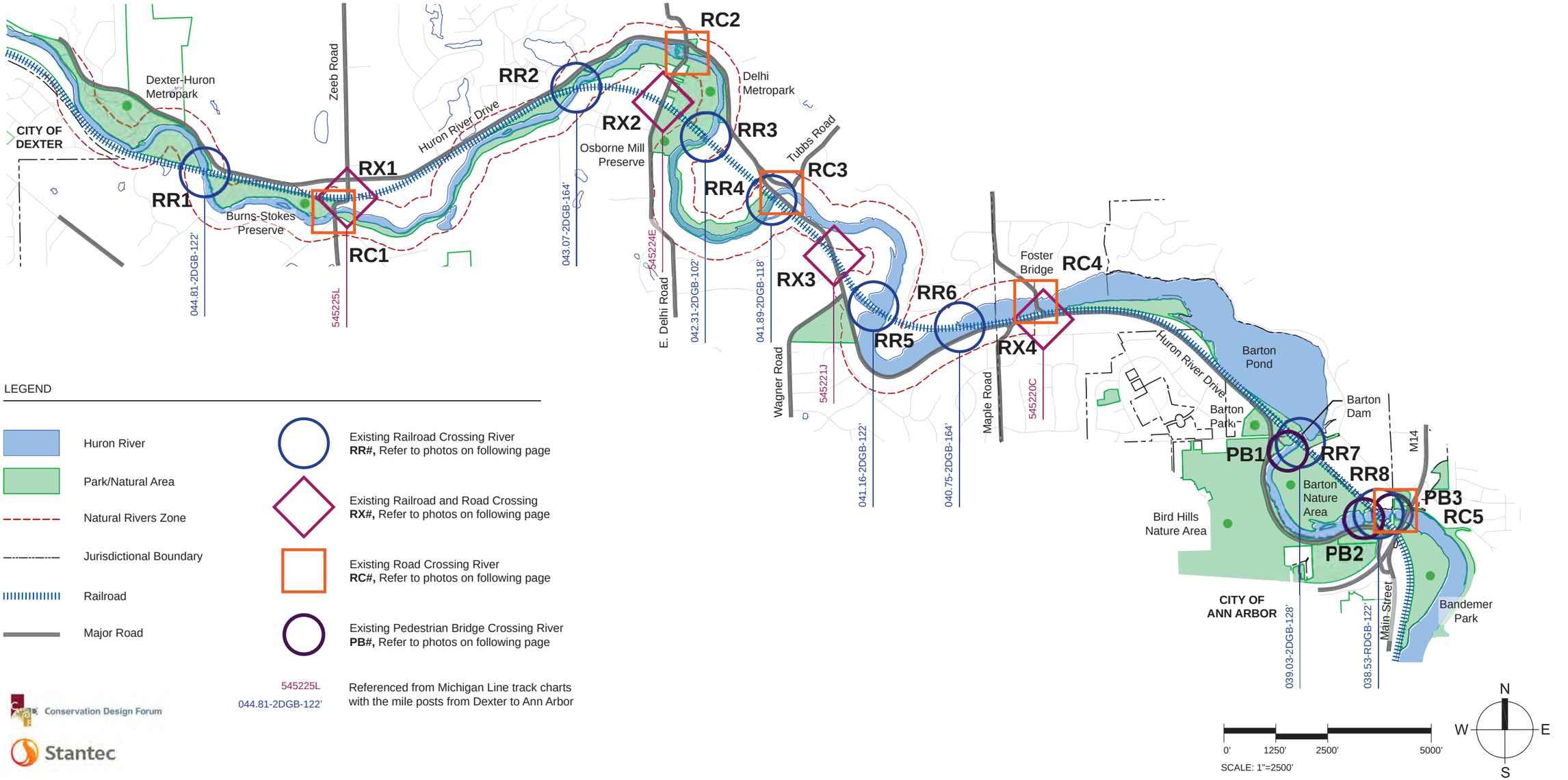
BORDER TO BORDER TRAIL ALIGNMENT STUDY

SEGMENTS D2-G

EXISTING RIVER AND ROAD CROSSINGS



LEGEND

- Huron River
- Park/Natural Area
- Natural Rivers Zone
- Jurisdictional Boundary
- Railroad
- Major Road

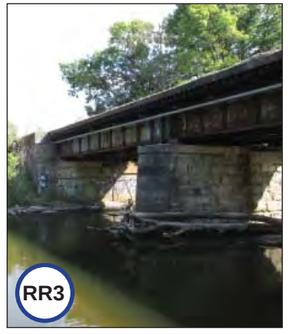
- Existing Railroad Crossing River **RR#,** Refer to photos on following page
- Existing Railroad and Road Crossing **RX#,** Refer to photos on following page
- Existing Road Crossing River **RC#,** Refer to photos on following page
- Existing Pedestrian Bridge Crossing River **PB#,** Refer to photos on following page

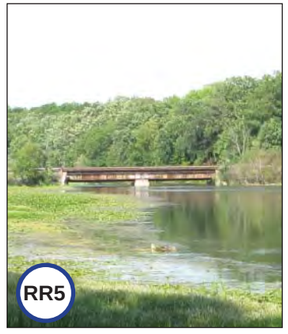
545225L
044.81-2DGB-122' — Referenced from Michigan Line track charts with the mile posts from Dexter to Ann Arbor

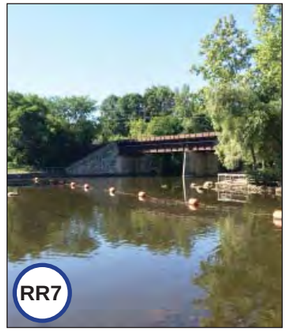
Conservation Design Forum

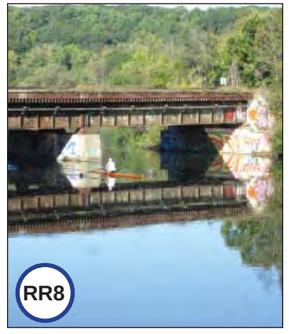
Stantec

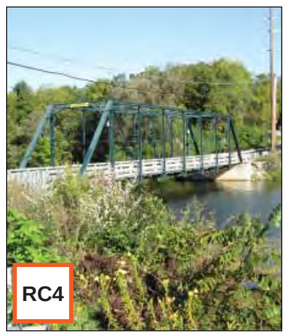
Figure 5: *Existing River and Road Crossings*







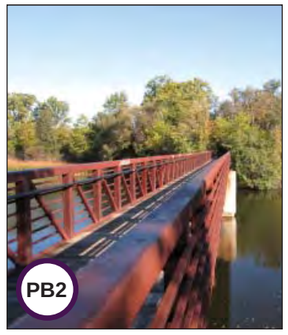




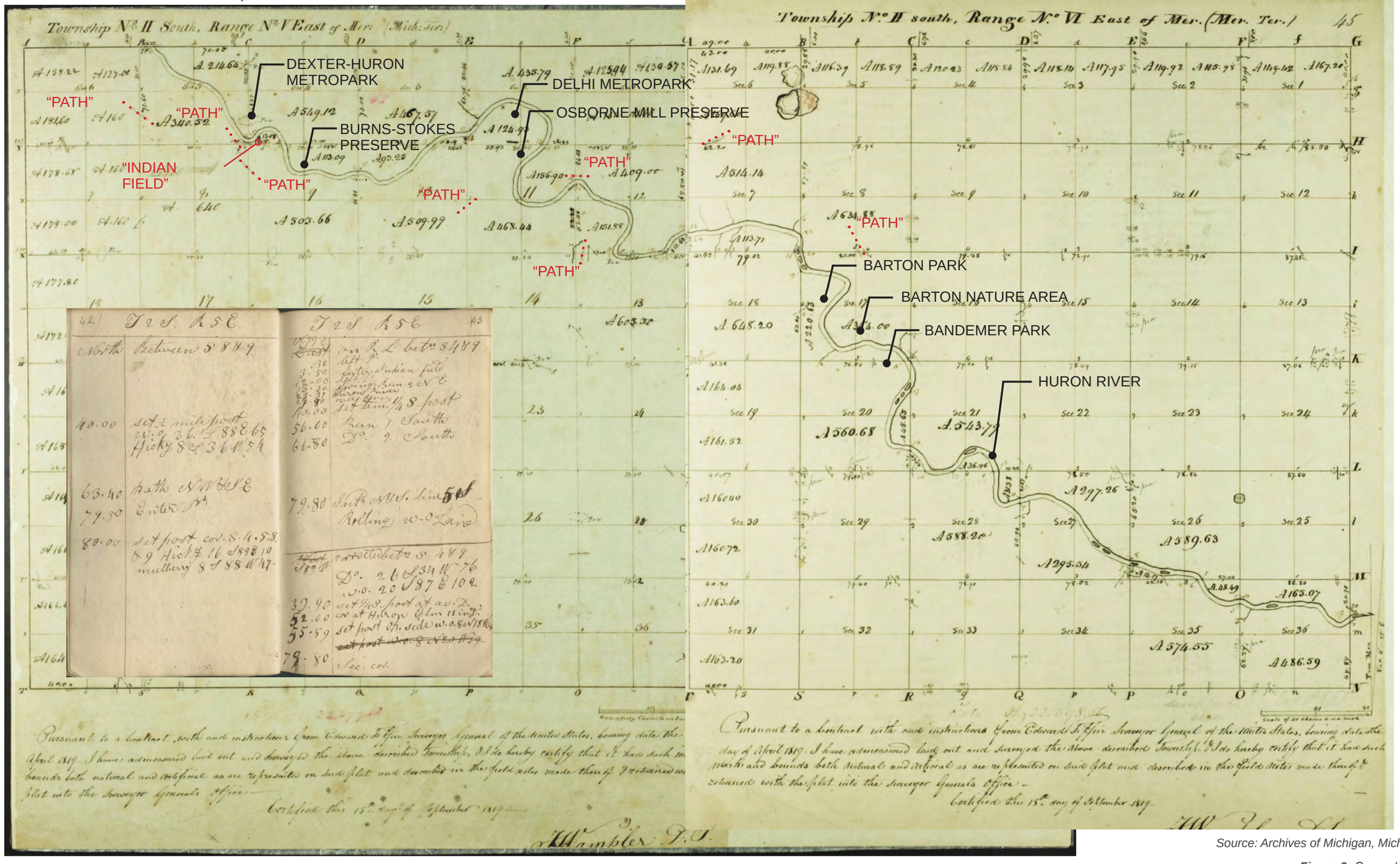
Existing River and Road Crossings

During the early settlement of the area in the late 1800s and early 1900s, transportation infrastructure followed the route of least resistance to keep railroad and roadway grades at a minimum reducing construction costs. This included utilizing the naturally level topography of the river terrace and avoiding the floodplain, wet soils, and steep glacial landforms. The result was a route that required many river crossings, but was the most practical and cost effective.

In the study area there are fifteen existing bridges over the Huron River; eight railroad, five road, and two pedestrian. Additionally, there are six road intersections and four at-grade road/railroad crossings. The study worked to find the path of least resistance for the trail by considering use of existing infrastructure, rehabilitating un-used infrastructure, following level topography and avoiding floodplains, wetlands, and steep slopes. Doing this minimizes environmental disturbances, limits visual impacts, and keeps implementation costs reasonable.



General Land Office Plat Maps from 1819



Source: Archives of Michigan, Michigan Historical Center

Figure 6: *General Land Office Plat Maps*

Archaeological Sites & Early Land Surveys

There are several possible Native American sites, mainly mounds, nearby the Huron River or its tributaries according to the Archaeological Atlas of Michigan [1851-1944] by Wilbert B. Hinsdale. Their exact locations are not known, but appear far enough from the project area to be out of the zone of influence. According to the atlas, “Indian” trails were located along and crossing the Huron River within the project area; the General Land Office survey notes from 1819 further support this.

The surveyor Joseph Wampler, recorded an “Indian Field” located in the oxbow prairie of Dexter-Huron Metropark as he surveyed east on the section line between sections 9 and 4 in Scio Township. Additionally, the surveyor observed several “Indian Paths” throughout the area.

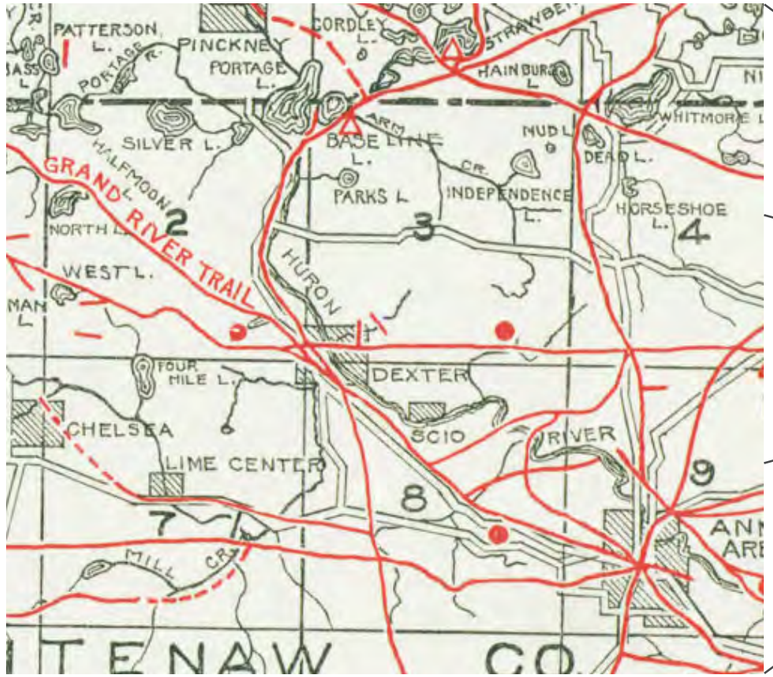
Joseph Wampler (1783-1842) conducted early land surveys of Washtenaw County and other counties in southern Michigan while working out of the survey office in Chillicothe, Ohio. His work was known to be appreciably more accurate than some of his contemporaries, and in some cases he was sent out to resurvey land which the original surveyor had miscalculated. He surveyed Scio and Ann Arbor Townships in 1819 and Edward Tiffin, Surveyor General, approved and certified the work later that year.

The surveyor’s notes on the two townships indicate the quality of the land along survey lines bisecting the Huron River valley as, *“Rolling W[hite] O[ak] Land”* along the section line between sections 4 and 9 in Scio Township, and, “*First ½ mile level good land, no timber. W[hite] & B[lack] Oak the whole. Hickory with undergrowth hazel vegetatio*n” describes the section line between sections 7 and 18 near Huron River Drive in Ann Arbor Township from Fosters Bridge to Fosters Prairie.

Trail Tree

During the site investigation, it was noted that a deformed tree along the south side of Huron River Drive just west of Maple had the characteristic form of a Native American Trail Tree. Throughout the Great Lakes region, Native Americans would intentionally shape hardwood trees along known trails. The shapes were to convey that the tree was shaped by man rather than deformed by nature or disease.

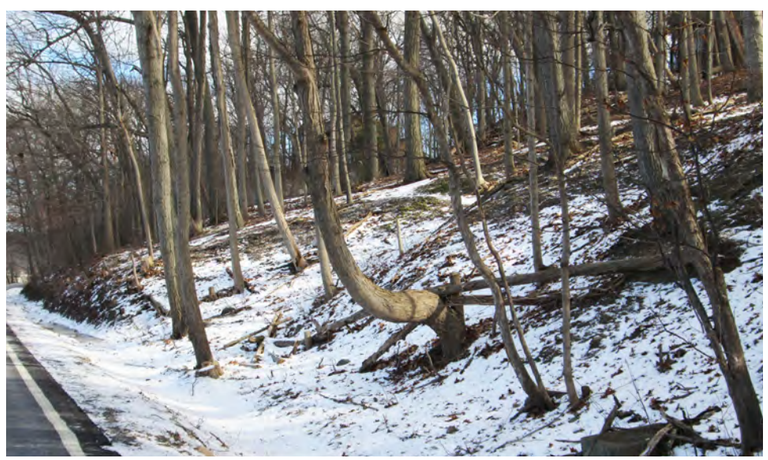
The oak tree itself, is located south of the Huron River where early pioneers reported a Native American village and “planting field” located nearly opposite the mouth of the Honey Creek. Additionally, European surveyors have recorded four trails converging at this point in Scio Township. The village and planting field are beneath Barton Pond because they were flooded by the construction of the Barton Dam. The size of the tree suggests that it would be younger than most other documented trail trees, therefore further investigation needs to be conducted to validate its authenticity.



Red lines indicate “Indian Trails” and red dots are burial mounds as described and interpolated from the General Land survey notes of the early 1800s.

Figure 7: *Archaeological Atlas of Michigan - Ann Arbor*

Source: Archaeological Atlas of Michigan (Southeast Michigan) - Wilbert B. Hinsdale

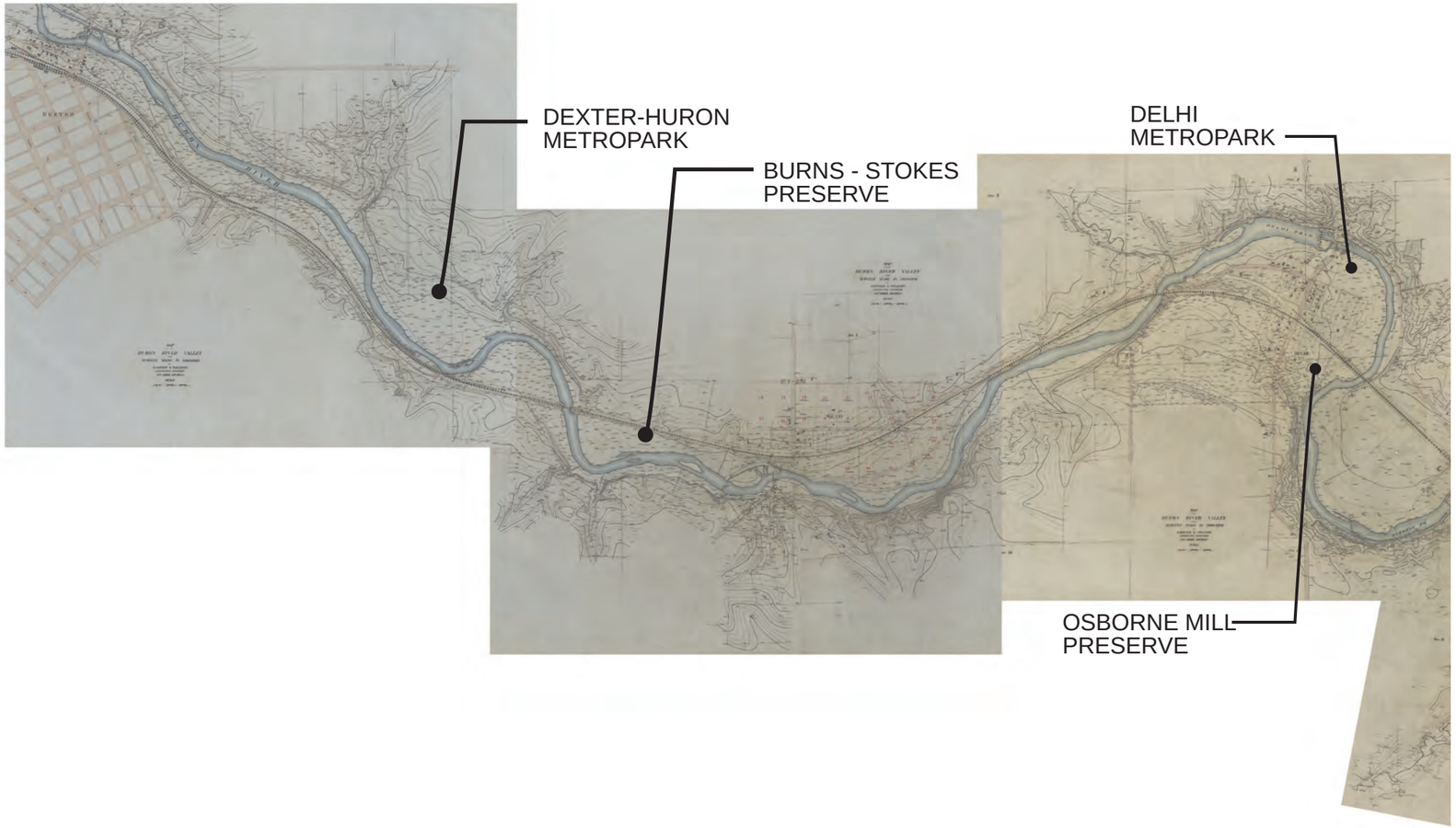


Possible Early Trail Tree - Photo Credit: CDF

Figure 8: *Native American Trails of Washtenaw County - Source: U of M*

Grave Marker at Scio Cemetery - Photo Credit: CDF

Historic Marker for Delhi Bridge Photo Credit: CDF



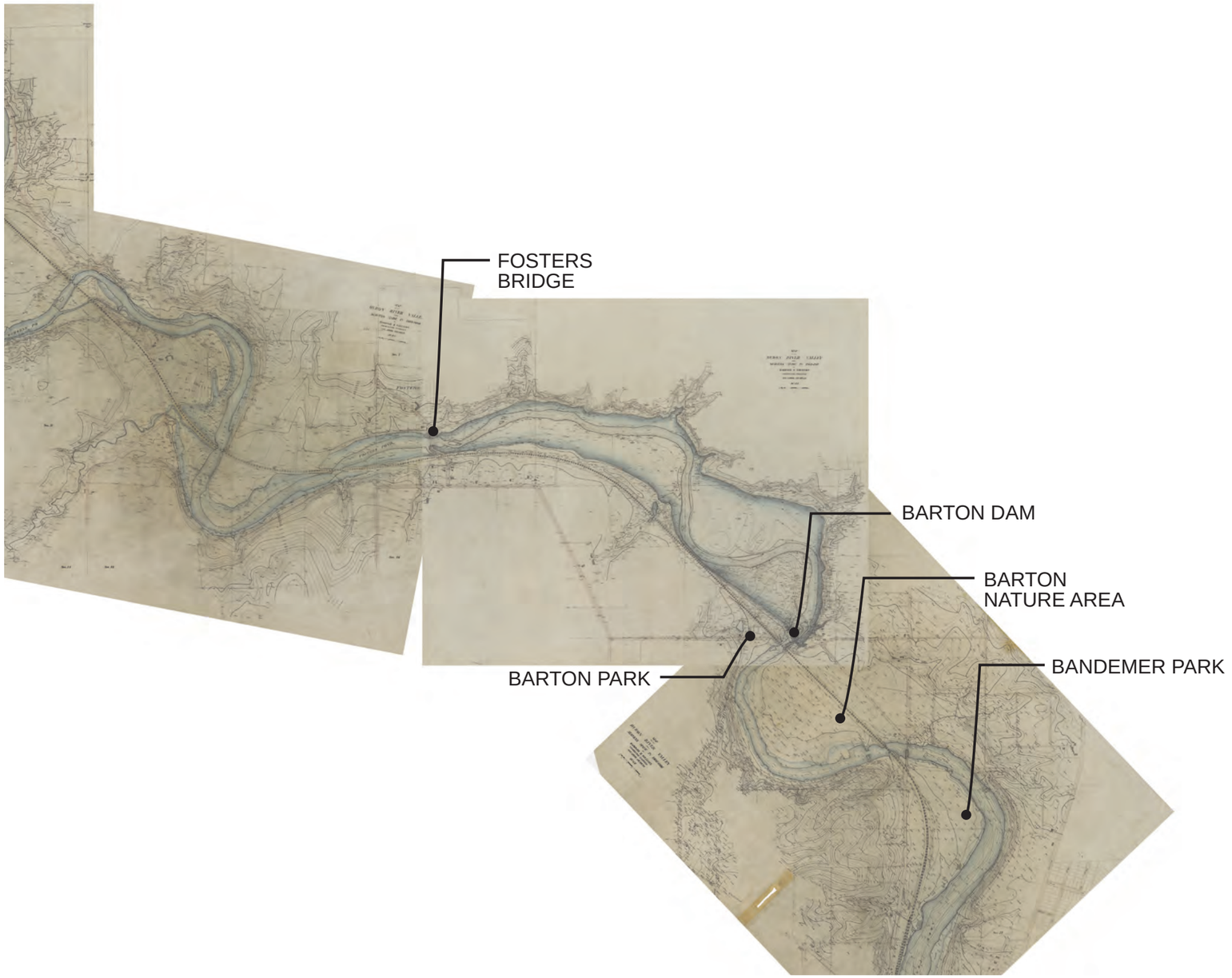


Figure: 9 *Gardener S. Williams' Huron River Survey Maps circa 1905-1908 - Source: Stantec*

Foster Bridge - Photo Credit: CDF

Construction of Barton Dam in 1912 - Source: Ann Arbor News

NATURAL FEATURES/RESOURCES

It is WCPARC's intent to minimize impacts and disturbances to sensitive species and communities in the construction of these B2B segments. The following pages detail the communities and features that may be found in the study area so that impacts can be properly considered during final planning design and engineering. Natural features are briefly summarized as geology, topography, hydrology and surface drainage, soils, plant communities, and animal life.

Geology

The region is generally comprised of end moraines, with associated till plains and outwash deposits formed during the recession of the glaciers during the last Ice Age. In the upper Huron River watershed, moraines were formed by the Wisconsin Glacier being pushed forward while, at the same time its front was melting resulting in the buildup of deposits into ridges or moraines. This occurred during the period of the glacier's final retreat approximately 10,000 years ago which today is now Michigan. The Huron River formerly drained to the Mississippi and eventually to the Gulf of Mexico, but as the glaciers melted during this final retreat, its drainage patterns changed and began flowing east toward Lake Erie; essentially to its present day alignment. Outwash plains formed during this same time with the deposition of coarse sand and gravel materials from water originating from the melting glacier. The area today contains extensive permeable deposits of this type capable of retaining large amounts of water. Refer to Figure 11.

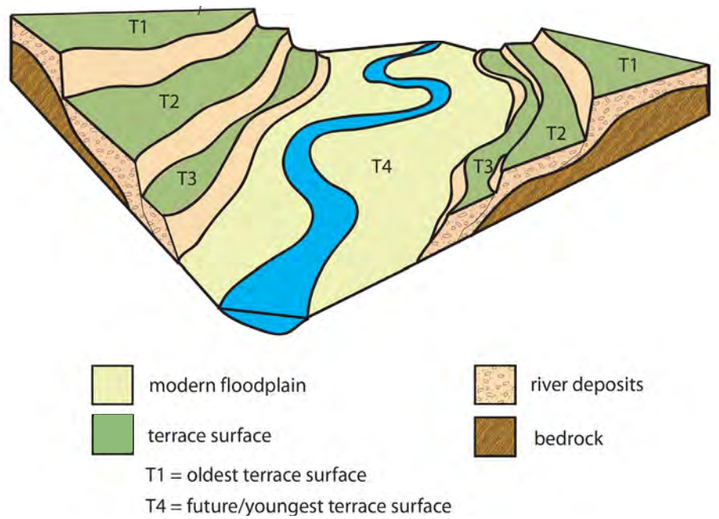


Figure 10: *Sequence of Terracing on a River, Source: Terranova 274*

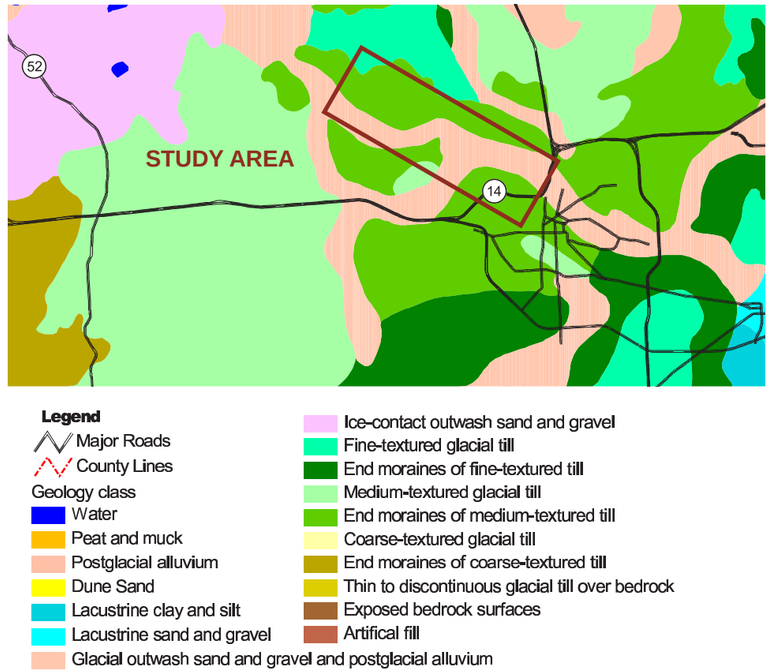


Figure 11: *Glacial Geology of Washtenaw County, Source: MSU Extension, MNFI*

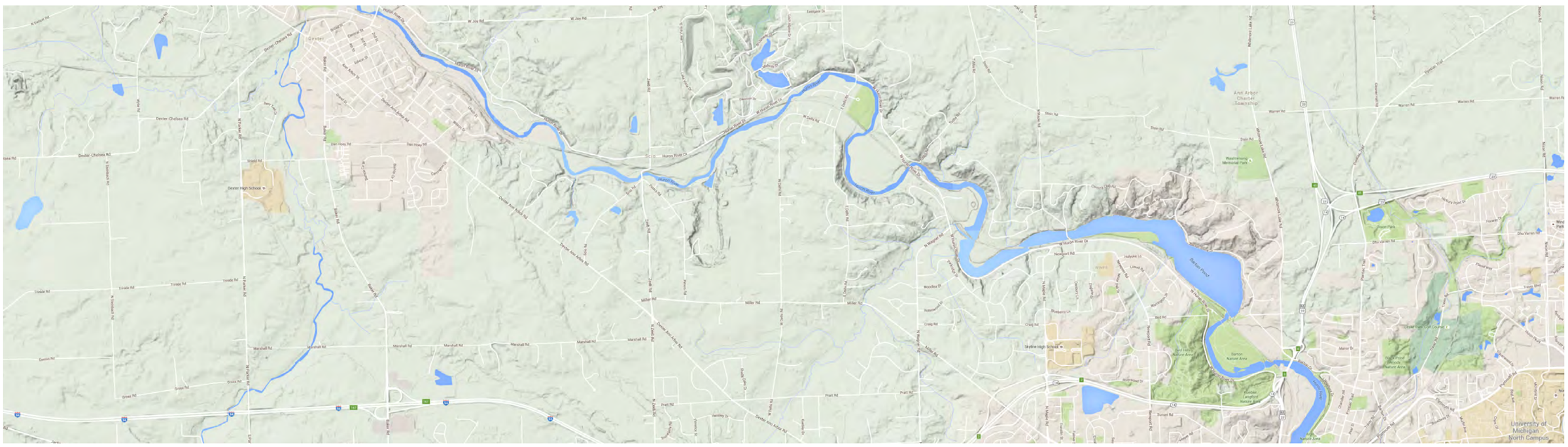


Figure 12: *Topography Map of the Study Area - Source: Google*

Topography

Typified by these large, distinct weather-worn end-moraine ridges and rolling ground moraines, the Huron River was one of the major outwash channels that carved the adjacent land, forming the bluffs and terraces seen today. Refer to Figure 10 & 12. Steep slopes are typical of these bluffs adjacent to the floodplains and upland terraces of the river valley between Dexter and Ann Arbor. The remaining dominant landform is the floodplain at the foot of the steep banks along both sides of the Huron River. Some upland terrace areas could support the trail minimizing the amount of boardwalk required through the floodplain, but much of these areas are occupied by either private property, West Huron River Drive and/or the rail line, limiting the number of alternate off-road trail routes.

Hydrology, Floodplain and Surface Drainage

The floodplains of the Huron River collect overflow after rain events and then slowly releases water back to the river or infiltrates to groundwater aquifers. These natural cycles create areas that are critical to plant, animal and aquatic life. They serve as feeding, breeding and living grounds with nutrient rich soils populated by many microorganisms. Over the life of the river, deposition of sediments and decomposition of organic matter have created deep soft soils supporting a variety of palustrine ecosystems requiring careful design engineering to support trail construction to experience these beautiful ecosystems.

Feeding into the Huron River in this project area there are several smaller streams and numerous seeps at the base of the surrounding bluffs along with a few stormwater discharge outlets.

Huron River – The HRWC describes this section of the Huron River in Washtenaw County from Portage Lake Dam to Superior Road Bridge (Ypsilanti) having a length of 26.7 miles, drains approximately 277 square miles, and descends from 869 to 711 feet (158 vertical feet) above sea level. The northern stretches include woodlots, farms, pastures, and steeply wooded slopes. The southern stretches are intensely commercial and residential in their development, and increasingly urban in character. This portion of the river is renowned for recreational opportunities. It is a destination for world class fishing (Blue Ribbon Bass fishery), canoing, and kayaking, with notable rapids at Hudson Mills and Delhi Metroparks. In the study area, the river is wider and deeper, with major impoundments at Barton, Argo, and Geddes Ponds.

Honey Creek - Honey Creek flows through Scio and Lodi Townships and the northwestern edge of the City of Ann Arbor. The creekshed has residential and commercial centers developed along the major road arteries. Approximately a third of the land is used for agriculture or pasture. The creek got its name from the abundant beehives in the trees along its banks. The creekshed is comprised of 26 miles of branching stream channels, and drains 23 square miles of land. The creek's average slope is 30 feet per mile, which is steep for a system in the Huron River Watershed. There are a series of mini-rapids in the section of the creek from Miller Road to the Huron River due to the rapid drop in elevation. Typically, an undisturbed stream of this morphology with a high gradient will have well established riffle-pool sequences and excellent diversity in fish habitat. However, channelization and urbanization have reduced this habitat diversity.

Boyden Creek – The Boyden Creek watershed receives rainwater from approximately eight square miles of land which is comprised mostly of agriculture followed by urban development, wetlands and forest. Boyden Creek headwaters begin in Ann Arbor Township and flow west through Webster Township, before it heads south through Scio Township where it empties into the Huron River at Delhi Metropark. Slightly upstream of the Creek's confluence, a dam was built above Huron River Drive, creating two impoundments lakes as an amenity for the Loch Alpine subdivision.

Barton Pond - Barton Pond is a 315 acre impoundment pond behind Barton Dam provides many active and passive recreational opportunities. It is habitat to a diverse population of species of plants and animals, and serves as flood control along the Huron River. The dam was built in 1912-13 as part of the development of hydroelectric power and a source of drinking water on the Huron River. It was designed by engineer Gardner Stewart Williams and architect Emil Lorch, a former University of Michigan dean.

Honey Creek - Photo Credit: HRWC

Boyden Creek - Photo Credit: CDF

Kayakers on Barton Pond - Photo Credit: CDF

Soils

The majority of the soils within the study area are indicative of a river valley formed from meltwaters and deposition following the Wisconsin glacial period. The majority of soils are generally sandy loams of the Spinks-Boyer-Wasepi association typical of outwash plains, terraces, lake plains, and deltas.

SYMBOL	NAME	DESCRIPTION
MAJOR		
FoA, FoB, FoC, FoD	Fox Sandy Loam (0-18% Slopes)	Fox series consists of very deep, well drained soils which are moderately deep to stratified calcareous sandy outwash. Native vegetation is hardwood forest. Common trees are northern red oak, white oak, sugar maple, black cherry, and white ash.
FpB	Fox Cobbly Sandy Loam (2-6% Slopes)	Fox series consists of very deep, well drained soils which are moderately deep to stratified calcareous sandy outwash. Native vegetation is hardwood forest. Common trees are northern red oak, white oak, sugar maple, black cherry, and white ash.
BnB, BnF	Blount Loam (2-6% Slopes, and 25%-40% Slopes)	Blount series consists of very deep, somewhat poorly drained soils that are moderately deep or deep to dense till. Native vegetation is hardwood forest.
Gf	Gilford Sandy Loam	Gilford series consists of very deep, poorly drained or very poorly drained soils formed in loamy over sandy sediments on outwash plains, near-shore zones (relict), and flood-plain steps. A few areas are forested. Native vegetation is domi-nantly herbaceous wetland
MODERATE		
MmF, MmE	Miami Loam (18%-35% Slopes)	Miami series consists of very deep, moderately well drained soils that are moderately deep to dense till. Much of the more sloping part is in permanent pasture or forest. Native vegetation is deciduous forest.
WaA	Wasepi Sandy Loam (0%-4% Slopes)	Wasepi series consists of very deep, somewhat poorly drained soils formed in loamy and sandy glaciofluvial deposits underlain by sand and gravel at 51 to 102 cm (20 to 40 inches). Wasepi soils are on outwash plains, deltas, valley trains, glacial drainage ways, and lake plains. Slope ranges from 0 to 6 percent. Native vegetation is hardwoods, principally American elm, white ash, hickory, and swamp white oak.
Sb	Sebewa Loam	Sebewa series consists of very deep, poorly drained or very poorly drained soils formed in loamy outwash and the under-lying gravelly and sandy outwash on outwash plains, valley trains, and stream terraces on terrace landscapes. They are moderately deep to the gravelly and sandy outwash. Slope ranges from 0 to 3 percent. Native vegetation is hardwood forest of American elm, white ash, red maple, swamp white oak, and hickory.
MdA	Matherton Sandy Loam (0%-4% Slopes)	The Matherton series consists of very deep, somewhat poorly drained soils formed in loamy glaciofluvial material over gravelly or sandy outwash on outwash plains, valley trains, and stream terraces on terrace landscapes. Native vegetation is forest of red maple, American elm, white ash, swamp white oak, American basswood, and hickory.
Cc	Cohoctah Fine Sandy Loam, Frequently Flooded	Cohoctah series consists of very deep, poorly drained or very poorly drained soils formed in loamy alluvial deposits on flood plains. Native vegetation is red maple, white ash, swamp white oak, American elm, alder, and quaking aspen.
MINOR		
Hn	Houghton Muck	Houghton series consists of very deep, very poorly drained soils formed in herbaceous organic materials more than 130 cm (51 inches) thick in depressions on lake plains, outwash plains, ground moraines, end moraines, and floodplains. Native vegetation is primarily of marsh grasses, sedges, reeds, buttonbrush, and cattails, with some water-tolerant trees near the margins of the bogs.
So	Sloan Silt Loam, Wet	The Sloan series consists of very deep, very poorly drained soils formed in loamy alluvium on flood plains. Native vege-tation is deciduous forest, chiefly elm, ash, sycamore, silver maple, and willow.

Figure 13: *Soil Groups, Source: USDA, Natural Resources Conservation Services*

Sand Bar Deposition at Dexter-Huron Metropark, Photo Credit: CDF

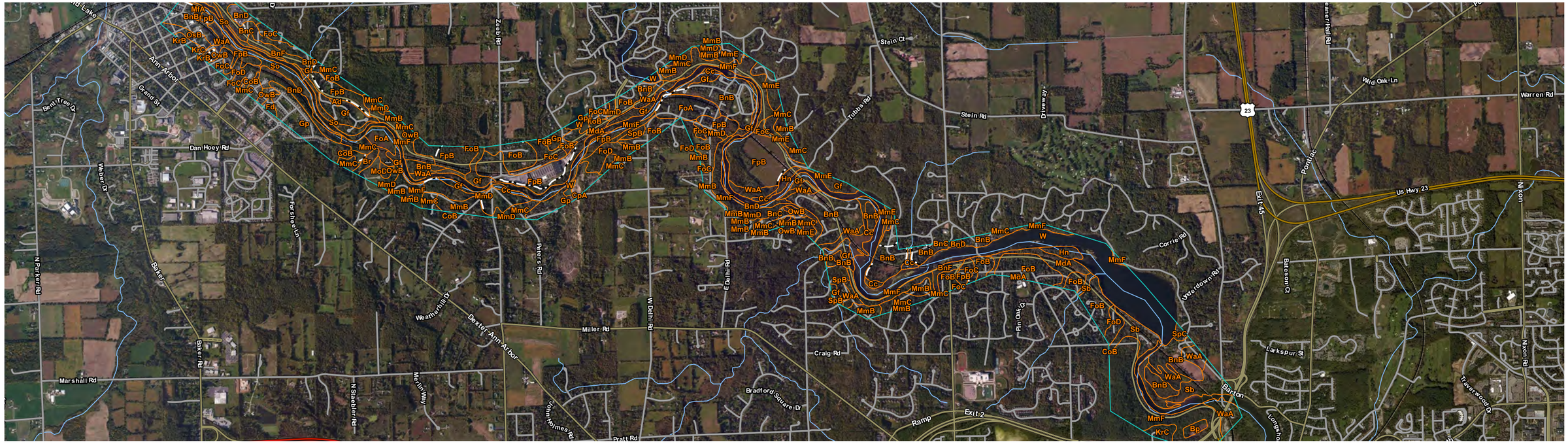


Figure 14: *Soil Map of Study Area, Source: USDA, Natural Resources Conservation Services*

PLANT COMMUNITIES

Pre-European Settlement Vegetation circa 1800

Between 1816 and 1856, Michigan was systematically surveyed by the General Land Office (GLO), which had been established by the federal government in 1785. The detailed notes taken by the land surveyors have proven to be a useful source of information on Michigan's landscape as it appeared prior to wide-spread European settlement. Surveyors took detailed notes on the location, species, and diameter of each tree used to mark section lines and section corners. They commented on the locations of rivers, lakes, wetlands, the agricultural potential of soils and the general quality of timber along each section line as they were measured out. Biologists from the Michigan Natural Features Inventory developed a methodology to translate the notes of the GLO surveys into a digital map that can be used by researchers, land managers, and the general public.

Four major landscape communities occur within the project area, Beech-Sugar Maple Forest, Black Oak Barren, Mixed Hardwood Swamp, and Wet Prairies which were interpolated from the GLO survey notes and digitally recorded by the MNFI program. The history of what our local landscape was prior to agricultural and town development may help current and future generations understand the importance of protecting and stewarding our native landscapes in decision-making. The following are MNFI's description of the natural communities which occur within the study area.

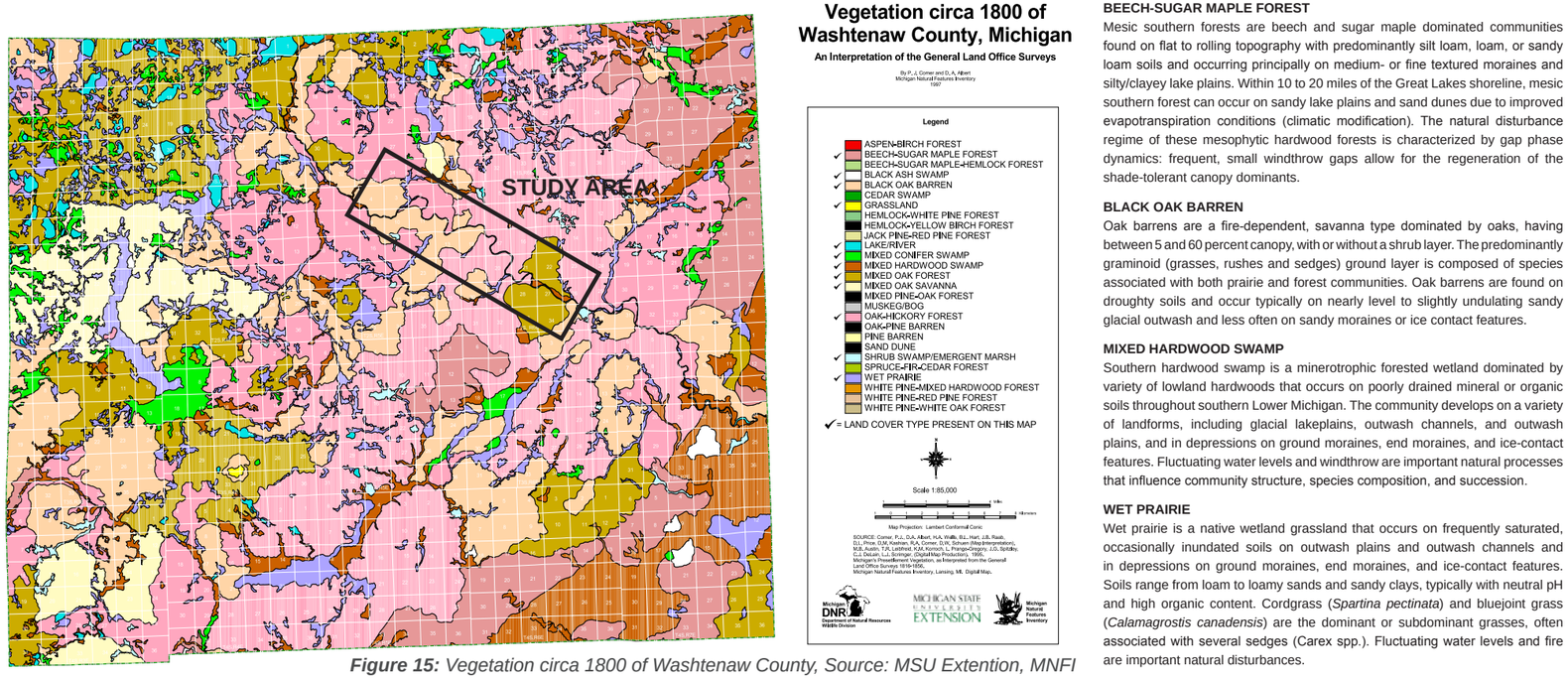


Figure 15: *Vegetation circa 1800 of Washtenaw County, Source: MSU Extention, MNFI*

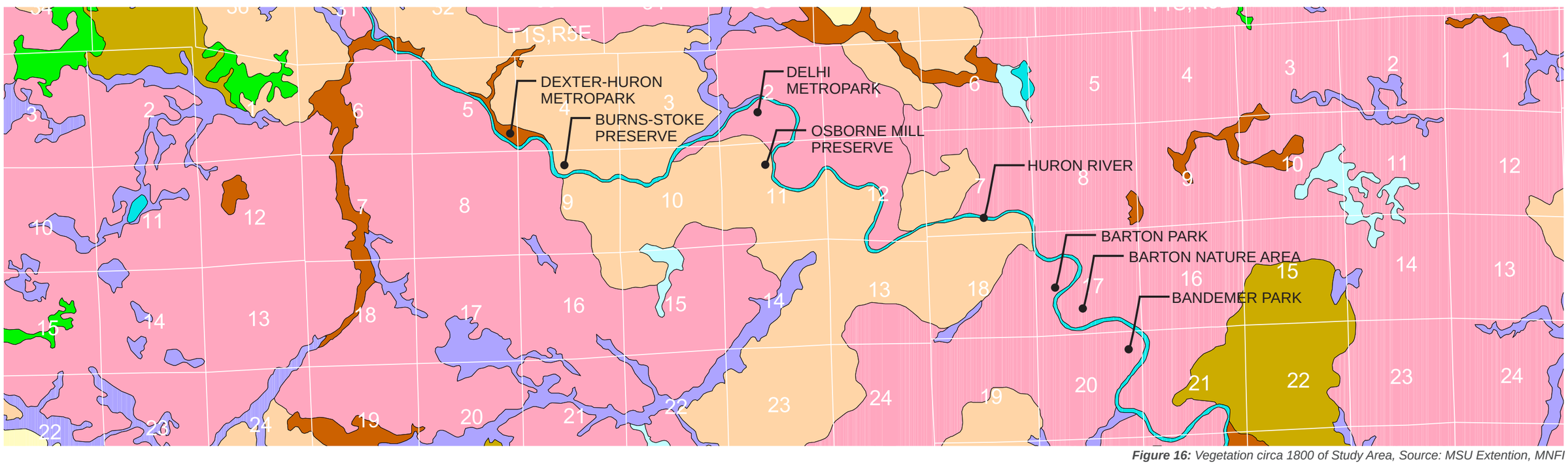


Figure 16: *Vegetation circa 1800 of Study Area, Source: MSU Extention, MNFI*

BEECH-SUGAR MAPLE FOREST

Mesic southern forests are beech and sugar maple dominated communities found on flat to rolling topography with predominantly silt loam, loam, or sandy loam soils and occurring principally on medium- or fine textured moraines and silty/clayey lake plains. Within 10 to 20 miles of the Great Lakes shoreline, mesic southern forest can occur on sandy lake plains and sand dunes due to improved evapotranspiration conditions (climatic modification). The natural disturbance regime of these mesophytic hardwood forests is characterized by gap phase dynamics: frequent, small windthrow gaps allow for the regeneration of the shade-tolerant canopy dominants.

BLACK OAK BARREN

Oak barrens are a fire-dependent, savanna type dominated by oaks, having between 5 and 60 percent canopy, with or without a shrub layer. The predominantly graminoid (grasses, rushes and sedges) ground layer is composed of species associated with both prairie and forest communities. Oak barrens are found on droughty soils and occur typically on nearly level to slightly undulating sandy glacial outwash and less often on sandy moraines or ice contact features.

MIXED HARDWOOD SWAMP

Southern hardwood swamp is a minerotrophic forested wetland dominated by variety of lowland hardwoods that occurs on poorly drained mineral or organic soils throughout southern Lower Michigan. The community develops on a variety of landforms, including glacial lakeplains, outwash channels, and outwash plains, and in depressions on ground moraines, end moraines, and ice-contact features. Fluctuating water levels and windthrow are important natural processes that influence community structure, species composition, and succession.

WET PRAIRIE

Wet prairie is a native wetland grassland that occurs on frequently saturated, occasionally inundated soils on outwash plains and outwash channels and in depressions on ground moraines, end moraines, and ice-contact features. Soils range from loam to loamy sands and sandy clays, typically with neutral pH and high organic content. Cordgrass (*Spartina pectinata*) and bluejoint grass (*Calamagrostis canadensis*) are the dominant or subdominant grasses, often associated with several sedges (Carex spp.). Fluctuating water levels and fire are important natural disturbances.

Present-Day Plant Communities

From field inventories, site visits and documentation from various sources including the Michigan Natural Features Inventory operating under the Michigan State University Extension services, the team was able to collect valuable abstracts, reports and publications of the known plant communities that may occur in the project area. General descriptions of the broader communities within this river valley environment are listed in the following pages.

Huron-Clinton Metroparks -- HCMA botanists have performed vegetation inventories at Dexter-Huron and Delhi Metroparks to understand the plant communities and relevant management issues. The vegetation inventory was assessed using Floristic Quality Assessment (FQA) methods. Refer to the field report included in Appendix F for a list of the plant species recorded from the parks. Well over 230 plant species have been recorded from the site, nearly 154 of which are native to the region. A brief summary of the landscapes that comprise the Metroparks is presented in the following pages.

Of special interest is the remnant prairie at the Dexter-Huron Metropark's Oxbow Prairie east of the main park and south of the Huron River. Currently, this relatively untouched Michigan native landscape can only be accessed by wading or boating the river, or trespassing on railroad property which is illegal and highly discouraged. This important natural resource could be accessed from Dexter-Huron Metropark via a proposed new pedestrian bridge allowing opportunities for interpretation, education and long term management.

Typical Metropark Landscape - Photo Credit: CDF

Emergent Marsh

Overview: Emergent marsh is a shallow-water wetland along the shores of lakes and streams characterized by emergent narrow and broad-leaved herbs and grass-like plants as well as floating-leaved herbs. Common plants include water plantain (*Alisma plantago- aquatica*), sedges (*Carex spp.*), spike-rushes (*Eleocharis spp.*), pond-lilies (*Nuphar spp.*), pickerel weed (*Pontederia cordata*), arrowheads (*Sagittaria spp.*), bulrushes (*Schoenoplectus spp*.), and cat-tails (*Typha spp.*). The community occurs on both mineral and organic soils.

Current Conditions, Conservation and Biodiversity Management: The decline of Michigan's wetland function and diversity are due to many factors influenced by human activity. The trail passing near these wetlands can provide opportunities for education and stewardship of these critical habitats. *Source: Michigan Natural Features Inventory (MNFI)*

Emergent Marsh at Barton Pond - Photo Credit: CDF

Southern Wet Meadow

Overview: Southern wet meadow is an open, groundwater-influenced (minerotrophic), sedge dominated wetland that occurs in mid and southern Lower Michigan. Sedges in the genus Carex, in particular Carex stricta, dominate the community.

Current Conditions, Conservation and Biodiversity Management: Southern wet meadows contribute significantly to the overall biodiversity of southern Michigan by providing habitat to a wide variety of plant and animal species including many rare species.

Protecting the hydrology of southern wet meadows is imperative for the community's continued existence. This may include avoiding surface water inputs to the meadow from drainage ditches and agricultural fields, and protecting groundwater recharge areas by maintaining native vegetation types in the uplands around the community.

Management for southern wet meadow should include the use of prescribed fire (Curtis 1959). Prescribed fire can help reduce plant litter, stimulate seed germination, promote seedling establishment, and bolster grass, sedge, and perennial and annual forb cover (Bowles et al. 1996, Warners 1997, Kost and De Steven 2000). *Source: Michigan Natural Features Inventory (MNFI)*

The wet prairies found in the two Metroparks and County preserves are actively managed and stewarded though invasive species removal and prescription burning. A few of the remaining wet prairies nearby are on private land, but beyond the influences of the trail's development. Should the private owners allow public access to these rare plant communities, active management and stewardship could be aided by volunteers working closely with the landowner's site supervisors.

Southern Wet Meadow - Photo Credit: HCMA

Floodplain Forest [Southern Lower Michigan]

Overview: Floodplain forests occupy the low-lying areas adjacent to streams and rivers which are third order or greater and subject to periodic over-the-bank flooding and cycles of erosion and deposition. The floodplain forest is a broadly defined community type, where species composition and community structure vary regionally along with changing flooding frequency and duration. Silver Maple *(Acer saccharinum*) and Red Ash (*Fraxinus pennsylvanica*) are the major overstory dominants. These dynamic forested systems represent an interface between terrestrial and aquatic ecosystems.

Current Conditions, Conservation and Biodiversity Management: Floodplain forests are unusually susceptible to invasions by exotic species (Planty-Tabbachi, et al. 1996). Because of their linear shape and location between aquatic and terrestrial environments, floodplain forests have a high ratio of edge to interior that may facilitate the movement of opportunistic species. Rivers and streams provide a route of transport that may encourage the spread of species across the landscape. Floodplain forests are highly and frequently disturbed systems that contain extensive areas of exposed mineral soil and have high nutrient availability; these are characteristics that also facilitate invasion by exotics.
Source: Michigan Natural Features Inventory (MNFI)

Preemptive measures to minimize impacts of invasive species include maintaining mature floodplain forest, minimizing impacts from trail construction through floodplains, and buffering riparian areas with mature, continuous uplands. *Source: Michigan Natural Features Inventory (MNFI)*

Floodplain Forest at Burn-Stokes Preserve - Photo Credit: WCPARC

Dry-mesic Prairie

Overview: Dry-mesic prairie is a native grassland community dominated by big bluestem (*Andropogon gerardii*), little bluestem (*Andropogon scoparius*), and Indian grass (*Sorghastrum nutans*) that occurs on sandy loam or loamy sand on level to slightly sloping sites of glacial outwash, coarse textured end moraines, and glacial till plain. The community represents the stands of open grassland that occurred within the historic oak openings. Areas dominated by native grasses with less than one mature tree per acre (0.4 ha) are considered prairie (Curtis 1959). This natural community type was known as woodland prairie in previous versions of the natural community classification (see Kost et al. 2007).

Current Conditions, Conservation and Biodiversity Management: Efforts should be made to identify, protect, and manage remnants of dry-mesic prairie where they occur. Several studies to identify prairie remnants in Michigan have been undertaken and most remnants are very small and/or occur as narrow strips adjacent to railroads (Scharrer 1972, Thompson 1970, 1975 and 1983, Chapman 1984). The small size and poor landscape context of most remnant dry-mesic prairies makes large-scale restoration of existing prairies nearly impossible. Prairie plantings located in areas of former dry-mesic prairie in southwestern Lower Michigan are particularly needed to increase native pollinator populations, which have experienced a sharp decline.

Dry-mesic Prairie [GLO described "Indian Field"] at Dexter-Huron Metropark Photo Credit: CDF

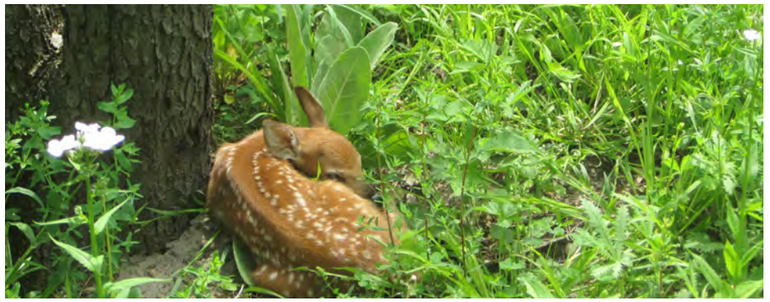
Managing dry-mesic prairie requires frequent burning, from annual to every two to three years. Longer burn intervals will result in tree and tall shrub encroachment. Prescribed burning is required to protect and enhance plant species diversity and prevent encroachment of trees and tall shrubs, which out-compete light-demanding prairie plants. In prairie remnants where fire has been excluded for long periods (i.e., decades), local extinctions of plant species are common (Leach and Givnish 1996).
Source: Michigan Natural Features Inventory (MNFI)

There are remnant dry-mesic prairies in Dexter-Huron Metropark and along the railroad, but because of maintenance practices for safety of train operations, most of those areas lack diversity and abundance. The Oxbow Prairie at Dexter-Huron Metropark has greater diversity and stability due in part to regular prescription burns. Past agricultural land practices in this prairie, though limited, and channelization of natural swales affecting the hydrology have likely impacted plant diversity over time. Of interest, the General Land Survey Field Notes from 1891 describes an "Indian Field" at this location.

Dry-mesic Prairie in MDOT ROW south of Dexter-Huron Metropark - Photo Credit: CDF

Animal Life

Consistent with the trail's southeastern Michigan setting, movements and sightings of mammals, reptiles, amphibians, birds, and insects were observed. Animal and plant communities are ecologically linked together, and therefore, WCPARC will obtain and follow all necessary permits to minimize impacts to them.



Fawn - Photo Credit: Huron-Clinton Metroparks

Leopard Frog

Photo Credit: Upper Left & Lower Left / Right - WCPARC, Upper Right: MNFI

Bluebird - Photo Credit: Paul Keller

Barred-Owl - Photo Credit: WCPARC

Asclepias purpurascens - Puple Milkweed (T)
Photo Credit: CDF

Chelone obliqua - Purple Turtlehead (E)
Photo Credit: Huron-Clinton Metroparks

Rare Species

There are historical occurrences of a variety of plant and animal species, and communities along the proposed trail alignment that are listed by Federal or State agencies as Threatened and Endangered (T&E). WCPARC is responsible for determining if T&E, and species of special concern (SC) will be impacted by the trail. Therefore, the intent is to avoid and minimize disturbance to these species and habitats. WCPARC intends to address this by having a biological inventory completed along the proposed alignment prior to beginning construction and working with the appropriate authorities to comply with all requirements of permits.

There is also potential habitat for T&E vertebrate mammals. WCPARC will work closely with MDEQ/MDNR to determine the best course of action, which will likely involve ensuring that construction does not occur during specific times. The work is not anticipated to impact invertebrate animals because of limited direct impacts within the river itself. However, WCPARC will work closely with MDEQ and MDNR to ensure compliance with all requirements. Refer to Appendix F for MNFI's lists of sensitive species that might occur in or near the project corridor.

Updated plant inventories provided by HCMA in 2015 for both Metroparks include threatened and endangered plant species. A review of the documentation provided by their botanist indicated the location of known T&E plant species. It was determined that the preferred trail alignment would not impact sensitive areas.

Additionally, during the acquisition period of the Norfolk Southern Railroad, MDOT botanists performed a field survey of T&E plant species for the Kalamazoo to Dearborn high-speed rail corridor in 2011. Approximate locations of each species' sighting was recorded with a GPS coordinate and in detailed field notes, which included: the plant's common and scientific name, listing status, number of individuals, typical habitat where they are found, and location with respect to the railroad. Included in the report were recommendations to avoid impacts to the plants as the tracks are upgraded. Of the twelve (12) sightings recorded, only one (Site 8 in the report) was located just beyond the west end of our study area in the River Terrace Trail Segment (D1).

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Findings and Recommendations

FINDINGS AND RECOMMENDATIONS

Because this report is an update to the 2004 Segment D Border-to-Border Non-motorized Trail Summary Report, the context of the Planning Principles endure, but are updated to reflect recent public attitudes toward healthy living and recreation; deeper concerns for protecting and stewarding the local ecology; protection of water quality; and advancement in technologies, materials, and construction methods.

Planning Principles

As stated in the introduction, this non-motorized trail system must respect the riverine environment, lay lightly on the land, and create recreational opportunities that allow trail users to learn about our natural and cultural resources by experiencing them.

Overview

The synthesis of findings about the river corridor's built and natural features along with the principles guiding design of the trail has led to a specific preferred alignment for Segments D2 through Segment G of the proposed Border-to-Border Trail. Environmental and safety considerations dominate the list of key placement factors and the riverine environment presents pragmatic challenges for how construction should occur in a sensitive setting with limited access. Design standards should also reflect permit requirements and the trail's durability, stability and maintenance considerations over time.

The following pages outline the key considerations that drove the alternative alignments that were explored. The alignments and considerations were synthesized through discussions with stakeholder groups and the project team.

- D2 Phase 1 begins in Dexter-Huron Metropark, where D1 was completed in 2013, to Zeeb Road for approximately 1.21 miles.
- D2 Phase 2 picks up from Zeeb Road heading east to Delhi Metropark, a distance of 1.80 miles.
- E picks up the eastern most edge of Delhi Metropark and continues southeasterly to Wagner Road, a distance of 1.11 miles.
- F from Wagner Road travels east, crossing the river twice to Maple Road for another 1.01 miles.
- G1 is the 1.23 mile leg from Maple Road through to Barton Nature Park.
- G2 ends in Bandemer Park, a distance of 0.81 miles.

In total, these Segments make up a length of 7.17 miles of the 35 miles of the Border-to-Border Trail which is over 21% of the entire length.

Opportunities and Constraints

Completing this section of the B2B is critical to the support of leisure pursuits by engaging users in the outdoors, in natural or semi-natural settings, through recreational activities outside the Cities of Ann Arbor and Dexter and the surrounding communities. Outdoor recreation for beneficial use and pleasurable appreciation are two main purposes of a successful project. Beneficial use is related to goal-directed activities that encourage an individual or groups toward physical and social rewards. Pleasurable appreciation encourages experiences of life's existence.

Some physical activities that the trail will support and expand opportunities are: walking, running, hiking, bicycling; access to fishing, canoing, kayaking, and rafting. Emotional or spiritual reward may be experienced through: nature study, bird watching, meditation, painting, photography, and archaeological or historical research. These activities may also be physically rewarding.

Hudson Mills Metropark

The B2B Trail as a physical and social setting will meet the needs of many physical, mental, emotional, and spiritual health attributes. The outdoor activities connected to this trail are mostly physical, but also contribute to well-being through a rewarding experience.

To meet and expand many of these recreational activities, the project team solicited the input and advice of several local, regional and state agencies. The result is a collaborative solution for a preferred trail alignment that is safe and meets state and federal guidelines, while being exciting, at a practical cost to implement and maintain.

Kayakers on the Huron River at Burns-Stokes Preserve

SUMMARY OF PUBLIC WORKSHOPS

To solicit public feedback on the plan, two initial public workshops were conducted where 54 citizens participated in the planning process and 23 comment sheets were submitted (refer to Appendix C for results). Overall, there was broad support and enthusiasm for the project, coupled with the desire to implement it soon. An area of minor disagreement from the public was with regards to the specific connection through Barton Nature Area into Bandemer Park. The public desires a crossing near the existing illegal railroad crossing, which would likely take the form of a pedestrian tunnel underneath the railroad berm (see description in Preferred Alignment section). WCPARC is supportive of this idea but it is estimated to be approximately three times as expensive as the proposed, preferred alignment. The project team recommends that a more detailed, engineering study be completed to compare the two leading alternative routes for the connection into Ann Arbor (Segment G).

Additionally, a draft of the plan was posted to WCPARC's website for over one month to acquire additional feedback from those who were unable to attend the public meetings. During the on-line feedback period, 22 comments sheets and 7 letters were received. Much of the feedback was concerned with the most challenging part of the trail: Segment F. Many commenters were supportive of the overall project but disagreed with the preferred alignment for Segment F, expressing desire to route the trail adjacent to Huron River Drive (refer to Appendix C for results). Based on feedback, WCPARC scheduled a third public meeting, specifically focused on Segment F, to ensure that all interested persons understood the planning process, regulatory requirements, construction challenges, and other reasons behind the selection of the Preferred Alignment. Two alternative route options were suggested by members of the public, which were then explored by the project team (see Alternative Alignments Section). At the final public meeting, which was attended by 43 people, five comment sheets were received.

Public Workshop #2

PEDESTRIAN NEEDS

The B2B trail will provide a safe and secure route for the causal walker and for those looking for fitness activities and training such as joggers, runners, and walkers that is separated from vehicle traffic to avoid conflicts.

The trail should also provide observation and seating areas for experiential learning an/or rest in the riverine setting. Inclement weather shelters should be considered and placed along the trail between the parks to provide a safe and secure place during storm events.

BICYCLIST NEEDS

In every community there are several types of bicycle users with each having a varying degree of needs and conditions. A successful trail takes all user groups needs into consideration. The city of Portland, Oregon, breaks down the general population into four categories of bicyclist - Figure: 17.

- < 1% "Strong & Fearless"
- 7 % "Enthused & Confident"
- 60% "Interested but Concerned"
- 33% "No Way No How" (Physically can't ride or no interest)

Bicyclists who ride for recreation or commuter transportation can be further grouped into the following:

*Advanced or experienced riders (*Strong & Fearless): These riders generally ride for speed, ease of movement and want direct access to destinations with minimum delay or conflict. Typically, these users are comfortable sharing the roadway with motor vehicle traffic, but desire sufficient operating space on the drive lanes or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position.

Basic or novice riders (Enthused & Confident/Interested but Concerned): These bicyclists ride on a more casual basis, such as for occasional exercise, trips to parks, stores and markets, but prefer to avoid roads with motor vehicle traffic. Novice riders are comfortable riding on shared use paths or neighborhood streets and prefer designated accommodations such as bike lanes, wide shoulder lanes on busier streets, or non-motorized trails.

Children (Enthused & Confident/Interested but Concerned): Riding on their own or with their parents, children may not travel as fast as their adult counterparts, but still require access to key destinations in their community, especially schools, playgrounds, and other recreational facilities. Off-street paths and residential streets with low motor vehicle speeds are ideal for children. Busier streets with well-defined pavement markings between bicycles and motor vehicles can accommodate children without encouraging them to ride in the travel lane of major arterials.

Biker on Huron River Drive west of Zeeb Road - Photo Credit: CDF

*Commuter (*Strong & Fearless/Enthused & Confident/Interested but Concerned): Similar to either of the needs of an advanced or novice rider, these bicyclists want safe, direct and convenient routes from the home to the work place, and/or to stores.

Using Portland's bicyclist classification, the project area's municipalities contain 240,000 people, which translates to the following annual potential ridership:

"Strong & Fearless"	1,200
"Enthused & Confident"	15,600
"Interested but Concerned"	144,000
"No Way No How"	74,200

As identified in MDOT's *Bicycling Economic Impact Study (2014),* safety, weather, and lack of bicycling infrastructure are the key limiting factors to increased bicycling among the general population.

This project will add safe, non-motorized infrastructure, decreasing barriers to bicycling amongst the potential 60% of the population categorized as "*Interested but Concerned*". It also provides an inter-city connection for commuting.

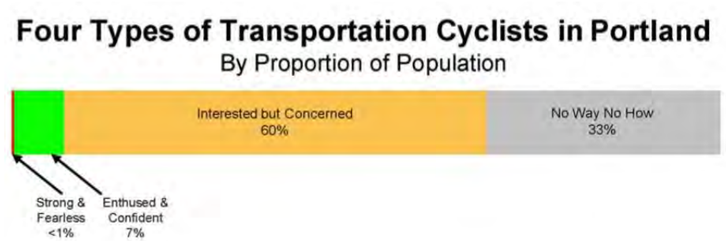


***Figure 17**: Types of Cyclists, Source: City of Portland*

BICYCLE AND PEDESTRIAN SAFETY AND ACCIDENT ANALYSIS

Several bicycle/vehicle incidents have occurred along Huron River Drive over the past few years, some causing minor to major injuries to the person on the bicycle, but no deaths have been reported. Incidents accounts were from police reports dating back to 2005.

The Washtenaw Area Transportation Study (WATS) and the WCRC set up two counters for bikes for two one week periods at the same locations as the 2011 study. One week covered the Labor Day weekend and the week prior. The intent was to understand the number of bicyclist along Huron River Drive between Mast Road in Dexter and Wagner Road near Delhi Metropark. Unfortunately, data over the Labor Day weekend didn't register due to equipment being damaged. The usable count data indicated that bicycles compose up to 13% of all traffic on the road. This data and future data counts will help to support the anecdotal evidence of Huron River Drive as a major cyclist corridor. This could also help to statistically inform about potential vehicle and bicyclist conflicts.

RAILROAD and ROAD CROSSINGS SAFETY

Safety is the most important measure when developing any trail along a railroad, whether along an active railroad or not. Across the country, thousands of people safely use existing rails-with-trails every day. Many surveys, studies and supporting documents of rails-with-trails have been shown to be just as safe as other types of trails. Much of this documentation has shown that concerns of more trail users being severely injured due to proximity to moving trains is unfounded.

Safety is of utmost importance to the MDOT, Amtrak, and the County within their respective R.O.W.s. There are two required "at-grade" crossings of the railroad for this trail project -- both are adjacent to existing road crossings. The first is along Huron River Drive, west of Wagner Road. The second is on Zeeb Road just north of Burns-Stokes Preserve where a non-motorized trail project, driven by Scio Township, is headed north on Zeeb Road with the intent of connecting to the B2B. After several meetings and conversations with the MDOT Rail team, the department is supportive of this trail project.

MDOT will be conducting a review of the existing rail alignment along this corridor starting in the spring of 2016 to assess its compliance for High Speed traffic. This review will determine if some sections of the track need shifting to meet the High-Speed Rail guidelines, which may affect where the B2B Trail alignment is located within some R.O.W. locations. The final results of this may not be known until spring 2017 when the corridor review is completed. However, MDOT has indicated that preliminary findings may be available sooner.

The following are some broad recommendations from MDOT for the two proposed crossings. A Diagnostic Safety Team Review (DSTR) study at the Zeeb Road railroad crossings and at the Huron River Road railroad crossing will need to be completed prior to the final design. However, MDOT will assist the County in the design engineering of the crossings to ensure safety compliance. MDOT will likely recommend a "maze" configuration and require fencing to extend approximately 50' – 100' parallel to the tracks at each crossing location to "channel" people to the intended crossing. This will reduce instances of trespassing and provide a safe environment for trail users.

In cases where the trail enters the railroad R.O.W., MDOT and Amtrak require a minimum 16' separation from center of rail to a structure or, in this case, the trail edge and an 8' height fence regardless of distance from the track. This is intended to keep a clear delineation between railway corridor and trail use. MDOT suggested that since a second future rail location isn't yet determined, but is likely, anticipating the second track should be accounted for in the design. MDOT is also developing guidelines for trail design and maintenance within an active railroad R.O.W. which are anticipated to be completed in 2016.

Amtrak crossing at Huron River Drive

Amtrak crossing at Maple Road

Key safety and design factors include:

- Provide adequate distance between track and trail with a minimum of 16' from the centerline of the track (anticipated future track) to the nearest edge of the trail. The separation between track and trail within the ROW varied widely, but averaged 35 feet. To the maximum extent possible, the trail planners maximized the distance between the trail and the track, but in some cases topography and Huron River Drive limited the available space.
- Provide safety fencing along the entire trail length within the railroad ROW. Additional barriers between track and trail include vegetation, grade separation, drainage ditches, retaining walls and railing on proposed boardwalks.
- Design safe at-grade crossings at existing road crossings. Install safety fencing to channel trail users by directing them to appropriate crossing locations.
- Installing adequate trail-user warning signs and pavement markings.

MDOT will require a lease for use of the ROW. leases are typically a 25 – 50 year agreements. Easements or agreements in perpetuity are not permissible.

The five road/trail crossings will require additional non-motorized signage and pavement markings in accordance with the Michigan Manual of Uniform Traffic Control Devices to clearly delineate the trail location for added safety from vehicles. Of the five, there are two mid-road crossings (not at an intersection) on Huron River Drive. One is located just east of Loch Alpine Drive and the other is slightly south of Wagner Road. Coordination with the WCRC will determine the exact location of each.

WATER RECREATION NEEDS

Every year over 103,000 visitors come to the Ann Arbor area to paddle, float, and fish. Last year, the Huron River was one of only 18 designated National Water Trails across the country. Currently, there are 32 access sites along the 104-mile water trail with several in the Metroparks. The Huron River is also considered a Blue-Ribbon Small-mouth bass fishery with some of the finest fishing occurring from Bell Road just north of Hudson Mills Metropark downriver to Barton Pond.

With some of these most scenic and pleasurable stretches along the Huron River, additional safe access points from the trail would alleviate trespassing on railroad property. Currently, people use the informal turn-outs created along Huron River Drive, and walk across the railroad tracks to get to the river.

CRITICAL FOCUS AREAS

Several areas were identified and explored in greater detail in coordination with MDOT and WCRC. Routing through these areas required careful analysis to find the safest alternatives. The Critical Focus Area documents (Figure 18) identifies locations along the potential route where the trail may enter MDOT R.O.W.s, pass over gas lines, within utility easements or under utility lines/poles, proposed bridge crossings over the river adjacent to existing railroad bridges, potential conflict with fiber optic lines, and areas within the Natural Rivers designation. Resolving these issues and concerns early in the process resulted in a preferred alignment that satisfied the conditions of all stakeholders involved. Additional cross sections were studied to better understand relationships of existing conditions to the trail - refer to Appendix D.

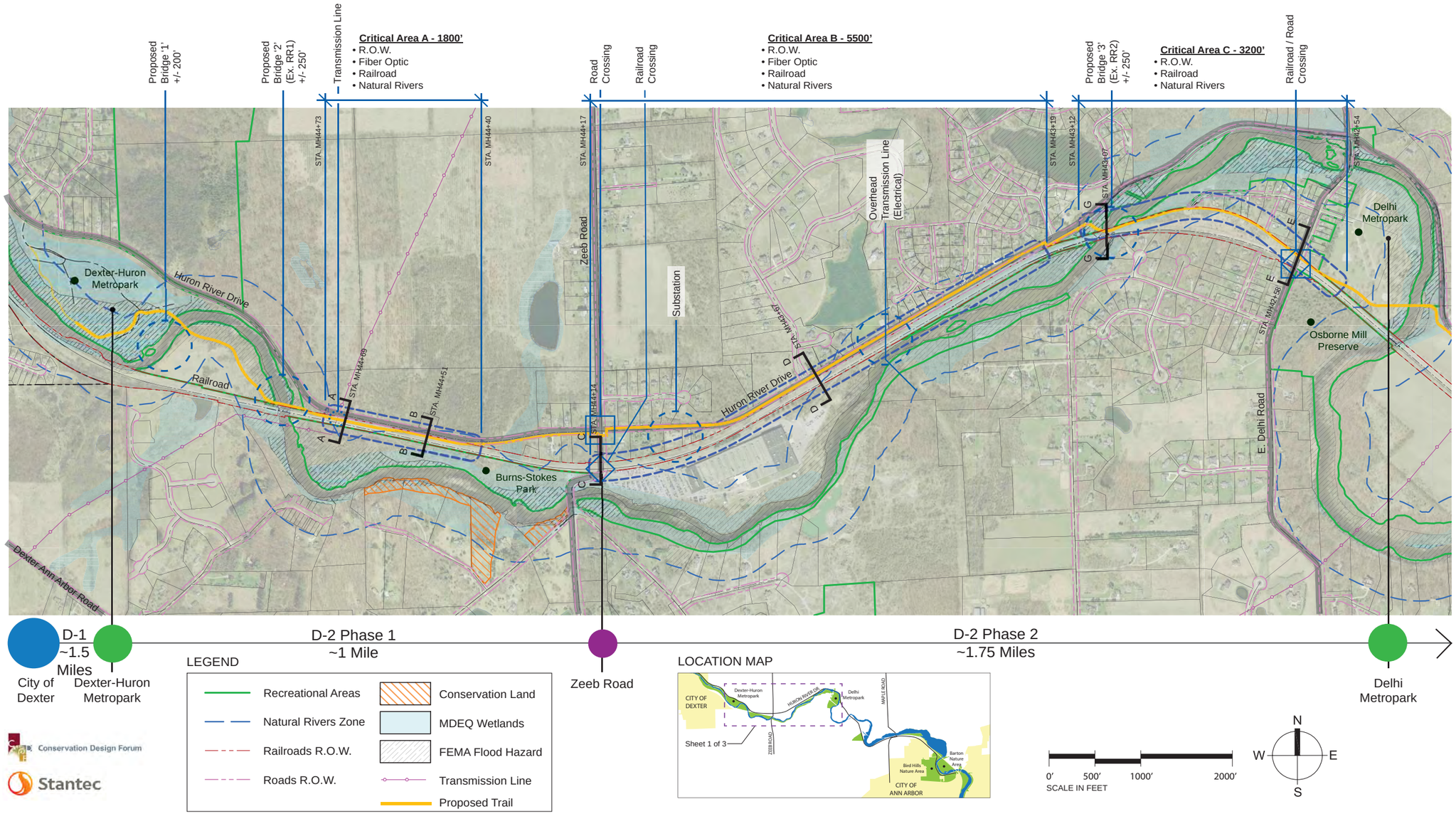
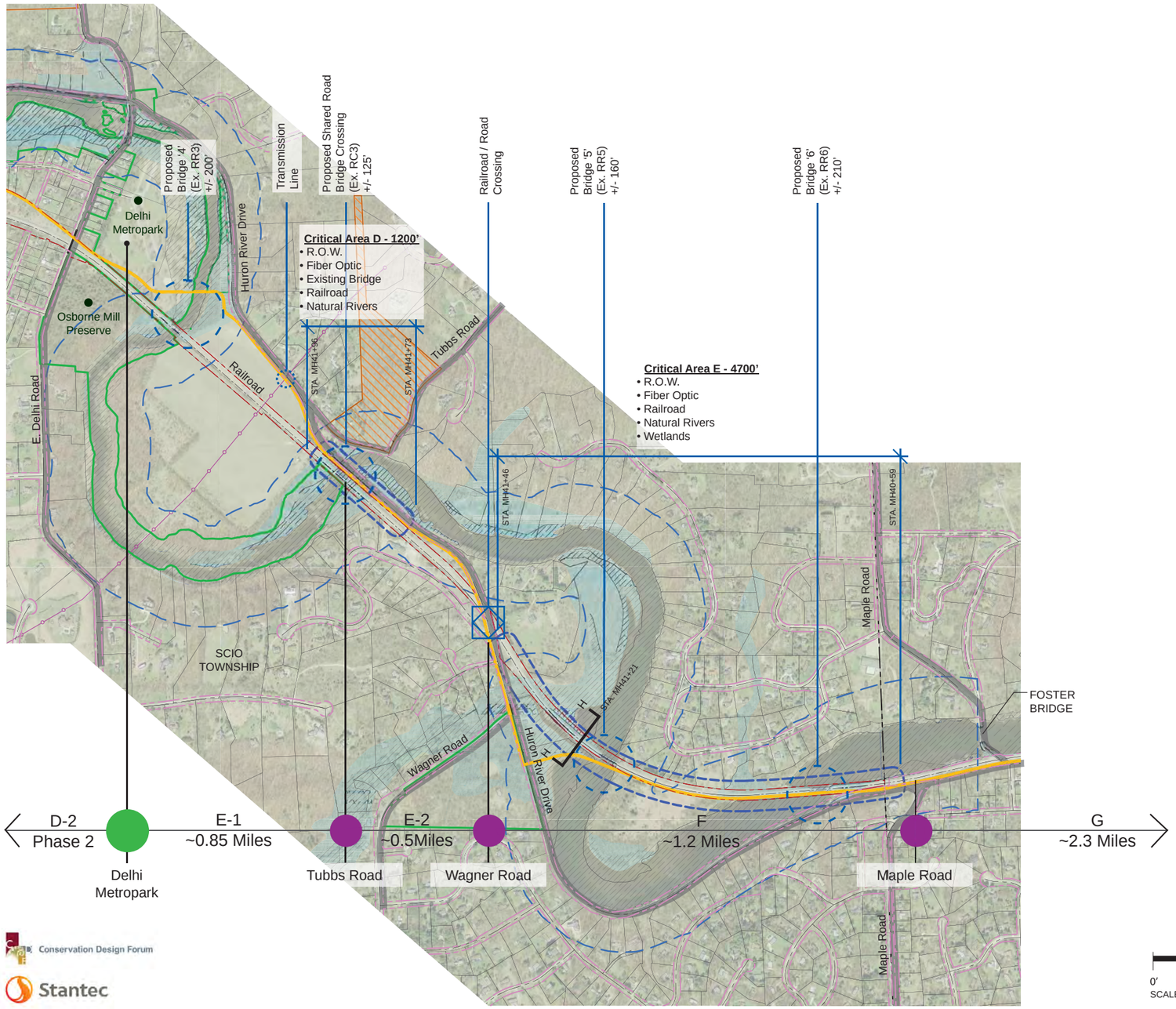
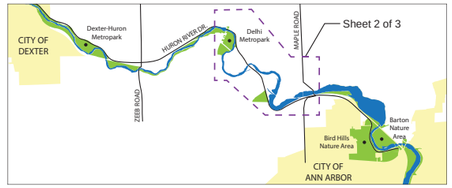


***Figure 18**: Critical Focus Areas*



LOCATION MAP



LEGEND

- Recreational Areas
- Natural Rivers Zone
- Railroads R.O.W.
- Roads R.O.W.
- Transmission Line
- Conservation Land
- MDEQ Wetlands
- FEMA Flood Hazard
- Proposed Trail

0' 500' 1000' 2000'
SCALE IN FEET

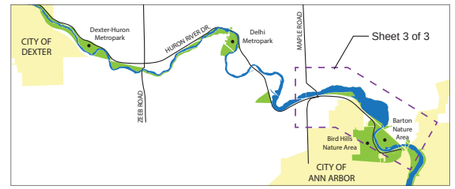
N W E S

Conservation Design Forum

Stantec

***Figure 18**: Critical Focus Areas continued*

LOCATION MAP



LEGEND

- Recreational Areas
- Natural Rivers Zone
- Railroads R.O.W.
- Roads R.O.W.
- Transmission Line
- Conservation Land
- MDEQ Wetlands
- FEMA Flood Hazard
- Proposed Trail

0′ 500′ 1000′ 2000′
SCALE IN FEET

N W E S

Conservation Design Forum

Stantec

***Figure 18**: Critical Focus Areas continued*

TRAIL ALIGNMENT STUDY

The realization of the Dexter to Ann Arbor connection will complete nearly 90% of the B2B, connect all three Metroparks within Washtenaw County, and further support the “Trail Town” designations of Dexter, Ann Arbor, and Ypsilanti. These cities and the parks between them are nodes of economic and recreational activity, which will be connected by an arterial non-motorized trail along a natural river. This trail will be easily accessed from densely populated areas, desirable destinations, natural spaces, and minor trails in other communities, promoting connectivity and creating a piece of infrastructure that is a community asset and regional amenity that can generate tourism, facilitate economic growth, and make Washtenaw County a more desirable place to live.

River Terrace Trail at Dexter-Huron Metropark - Photo Credit: CDF

ALTERNATIVE ALIGNMENTS

A series of alternative route options for the trail were developed in coordination with stakeholder groups (HCMA, WCRC, MDOT, etc.). Because of the complex nature of the trail corridor, the project team identified and explored as many alternative alignments as possible. Each option was then critically analyzed based on the goals, objectives, and criteria as previously described in this document. These alternative alignments form the basis for the “preferred alignment” which is described in the next section of this document.

In general, there were a number of primary factors that were used to develop the preferred alignment. Alternative routes were eliminated if they did not meet the majority of the following considerations (this is not a prioritized or all-inclusive list). The trail should:

- have direct access to Dexter-Huron Metropark, Delhi Metropark, Barton Nature Area, and Bandemer Park. They could be considered “trailheads” because these locations contain existing parking and restroom facilities. The Metroparks also offer general recreation amenities such as fishing, picnicking and open areas for play.
- pass as close as possible to nature preserves such as Osborne Mill, Burns-Stokes, and Bird Hills. Each of these facilities has existing bike racks and provides additional public access to natural areas.
- maximize the use of available public land (parks and nature areas). To connect areas of available public land, it should maximize the use of existing Rights-of-Way (ROWs) and minimize the necessity to purchase easements on private property.
- minimize placement in which residents may feel that trail users are “in their yard”, even if the trail is placed within a ROW.
- conform to the Natural Rivers Act. Any new pedestrian bridges should be placed parallel and adjacent to other existing bridges if possible. If not possible to be near an existing bridge, minimize the visual and ecological impacts on the landscape.
- avoid extensive boardwalks on the steep slopes between Huron River Drive and the Huron River, which would require extensive vegetation clearing, resulting in larger ecological and aesthetic impacts than a new pedestrian bridge. Having a boardwalk adjacent to the road also means that it will have a reduced life span from road salt spray and it increases potential repair costs in the event of a car damaging the structure (whereas a bridge is too far away from the road to be damaged by a car). In addition, the costs associated with such substantial lengths of boardwalk (for both initial construction and maintenance) will likely make the boardwalk option more expensive than a new bridge.
- avoid placement between the road and the steep slopes that lead to higher, drier ground because these areas typically require large retaining walls. The extent of these walls would require significant vegetation and soil removal, which would drastically alter the aesthetic qualities of these areas. Maintaining existing stormwater drainage patterns is also a large challenge for implementing retaining walls. Additionally, the scope of these walls in certain locations (i.e., the alternatives in Segment F) makes their construction costs comparable to or greater than to new pedestrian bridges.
- re-use existing infrastructure, if possible.
- Minimize crossings of the railroad and surface roads; however, where they are necessary, create safe and formalized crossings.
- Minimize required earthwork, vegetation removal, and the amount of trail structures.

Segment F Alternatives: Wagner Road to Maple Road

Segment F is the most challenging section of trail to construct because of narrow corridors, steep slopes, the road and the river; maintaining existing hydrology in drainage ditches and ground seeps; and the regulatory requirements of the Natural Rivers Act, WCRC and MDOT/Amtrak. The preferred alignment is described in a later section of this document. Starting at, or prior to, reaching Wagner Road, several alternative routes were reviewed and eliminated:

Option 1: Follow the railroad ROW on the south side, directly over the mouth of Honey Creek, and cross the river twice (Bridges 5 and 6). This option is similar to the preferred alignment.

Justification for Elimination: To avoid direct impacts to the high quality creek.

Option 2: Similar to Option 1 but instead, follow the railroad ROW on the north side of the tracks, through the wetland to Bridge #5, where the trail would have to be placed very close to, and in direct view of, multiple homes and crossing the river at Bridge #6. After that bridge, there is no land on which to build the trail so it would end into 1,600 foot long boardwalk to the Foster Bridge.

Justification for Elimination: To avoid direct impacts to private property, greater distances of trail in wetlands and the river, and increased costs from extra boardwalk.

Option 3: Construct a boardwalk on the north side of Huron River Drive in between the road and the river. This option requires approximately 5,000 linear feet (0.95 miles) of boardwalk and would remove all vegetation along the river bank.

Justification for Elimination: It would not be permitted by the Natural Rivers Act. Removal of all vegetation along the cut-bank of the river could also expedite the river’s undercutting of the road and destabilize the bank. Additionally, initial construction costs would be high and so would the long-term maintenance costs: salt spray from the road deteriorates wood and hardware at an accelerated rate.

Option 4: Construct the trail parallel and adjacent to the south side of Huron River Drive using a combination of asphalt and boardwalk. This option would require a substantial cut into the steep slopes of the bluffs and a retaining wall that is approximately 4,800 linear feet long (0.9 miles) ranging between 2 and 14 feet tall.

Justification for Elimination: Construction of such a large retaining wall (approximately 48,000 face feet) drastically alter the visual character and quality of the road, substantially increases project costs, and would require the removal of nearly 20,000 cubic yards of soil and 300-400 trees (going against the intent of the Natural Rivers Act). It is also likely that due to

the extent of the wall, construction and permanent easements would be required from many property owners on the top of the bluffs. Additionally, maintaining the natural ground seeps and drainages that occur on the bluff and along the roadway would add significant engineering, construction, and maintenance costs.

Option 5 (suggested by the public during the on-line comment period): In a similar location to Option 4, on south of Huron River Drive, construct an elevated boardwalk/bikeway to minimize the need for extensive grading, retaining walls, and to maintain drainage patterns.

Justification for Elimination: Analysis reveals that the rapid changes in elevation and undulations of the bluffs (often in excess of 50% grade) would still require significant retaining walls and grading in order to comply with ADA and AASHTO requirements. In order to eliminate the need for grading and walls, much of elevated structure would likely greater than 15 feet tall. Additionally, this option would still require the removal of 300-400 trees and necessitate easements from many property owners on the top of the bluffs.

Option 6 (suggested by the public during the third public meeting): In a similar location to Option 3, on the north side of Huron River Drive, use a combination of rip-rap and fill to permanently stabilize the road and simultaneously create land on which to pave the trail with asphalt. The new bank could then be re-vegetated since this would necessitate removal of all existing plant material on the existing bank.

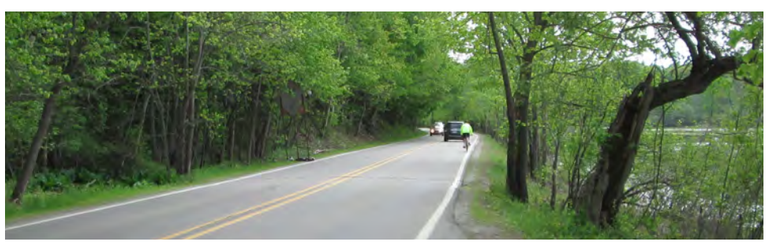
Justification for Elimination: It is cost prohibitive and very unlikely to be permitted by the Natural Rivers Act and the MDEQ. Preliminary analysis indicates that Barton Pond is between 8 and 14 feet deep in this location and would require more than 1.5 million cubic feet of fill to create the nearly 3 acres of new land in Barton Pond. For perspective, this is an equivalent volume to a 20 story building with a footprint the size of a football field. Additionally, according to a City of Ann Arbor Floodplain Manager, this volume would have to be mitigated in vicinity of the project (at a greater than 1:1 ratio), which would cause significant impacts to private landowners and property values.

Preliminary Estimated Costs for Segment F:

Preferred Alignment: $4.5 million
Option 1: $4.5 million
Option 2: $5.7 million
Option 3: $4.6 million
Option 4: $6 million
Option 5: $7-10 million
Option 6: Cost prohibitive

Amtrak Signal Box/Tower east of Dexter-Huron Metropark - Photo Credit: CDF

Huron River Drive at Dexter-Huron Metropark - Photo Credit: CDF



Huron River Drive west of Maple Road - Photo Credit: CDF

Illegal Crossing at Bandemer Park - Photo Credit: CDF

The following series of map graphics show the alternative alignments that were explored in greater detail.

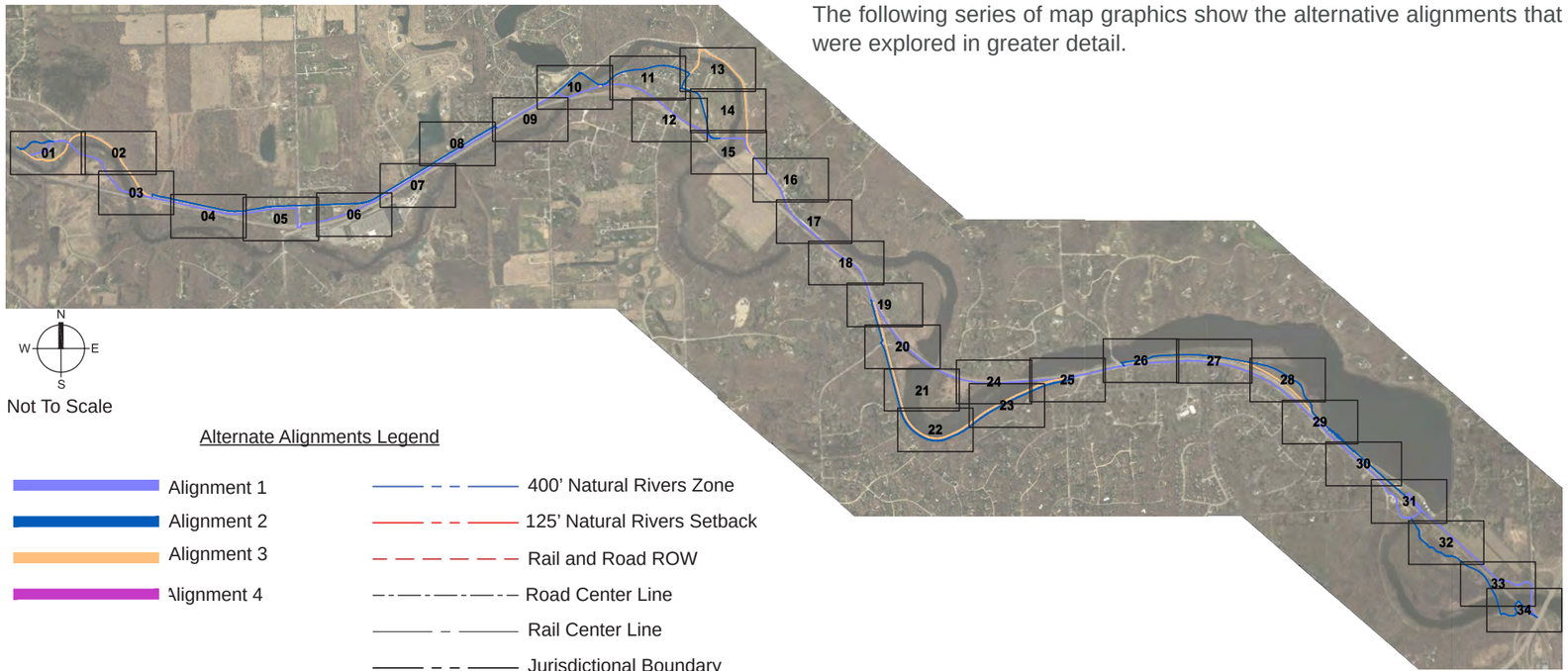
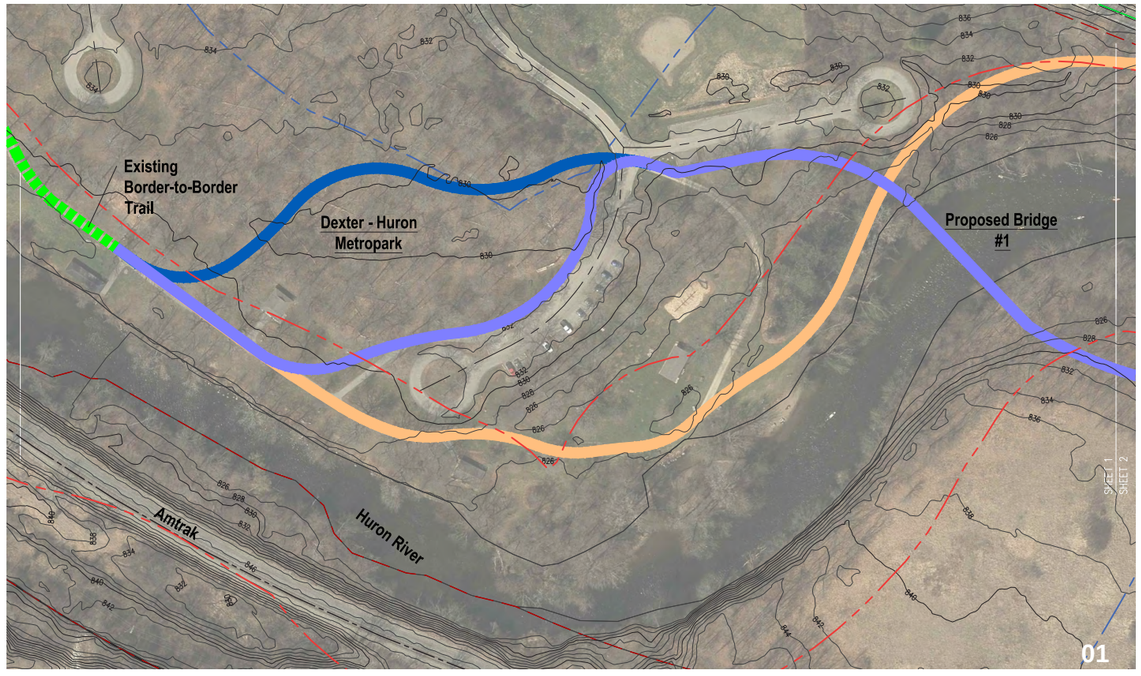
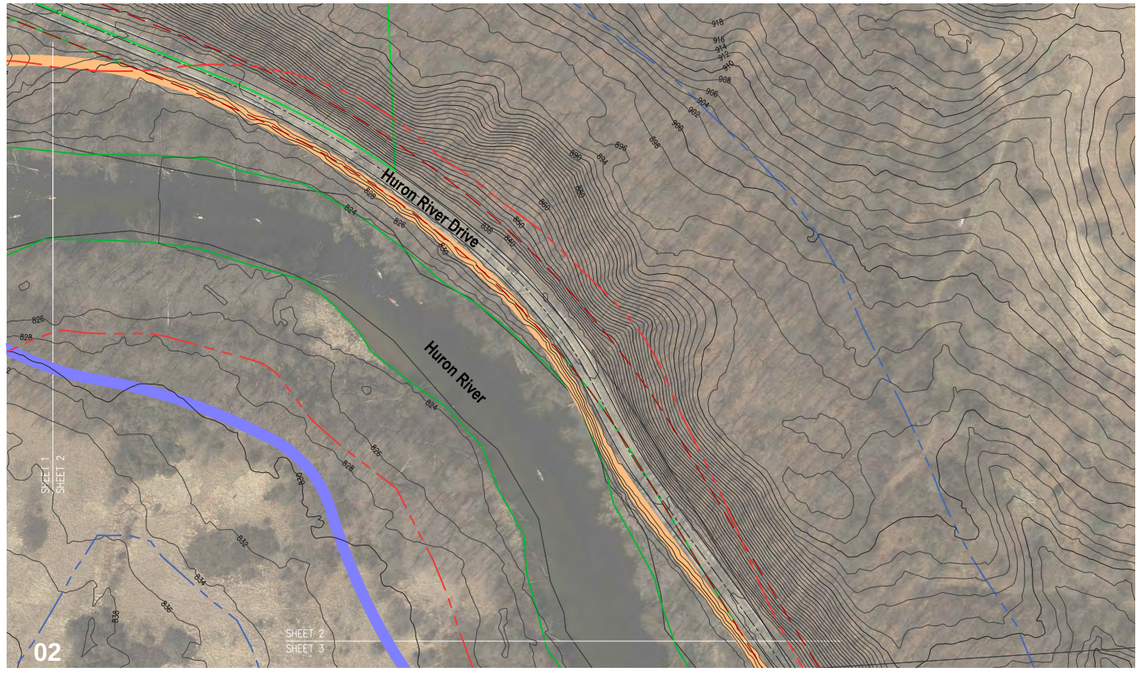
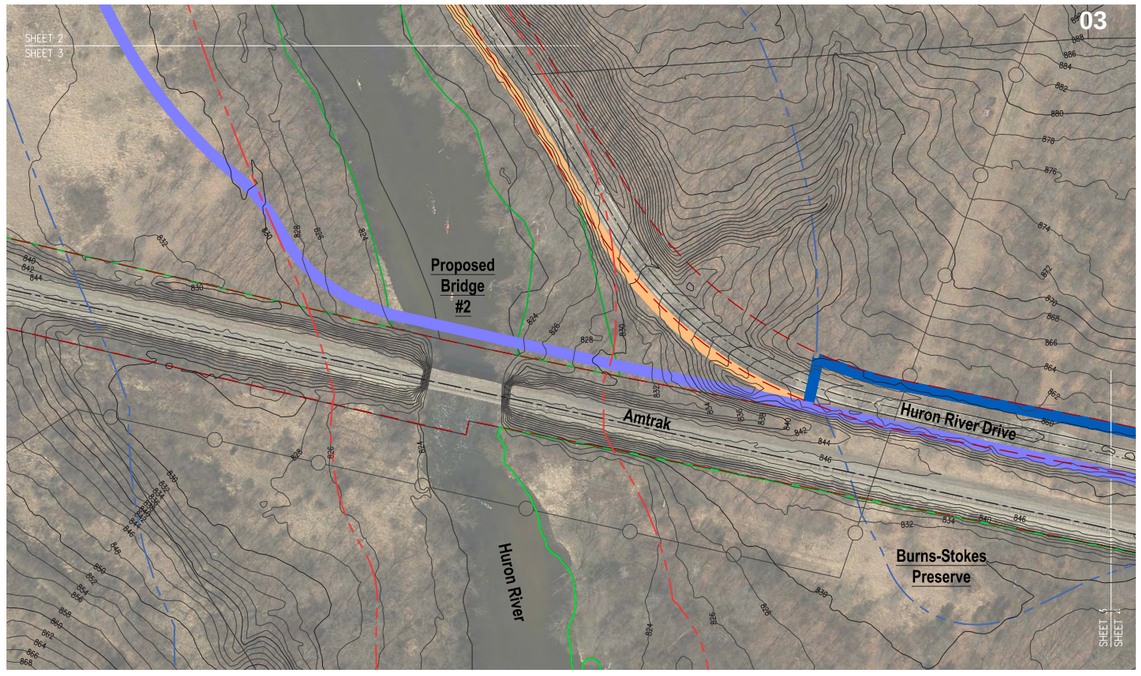


***Figure 19**: Alternatives Trail Alignments Sheet Key*


Existing
Border-to-Border
Trail
Dexter - Huron
Metropark
Proposed Bridge
#1
Amtrak
Huron River
01


Huron River Drive
Huron River
02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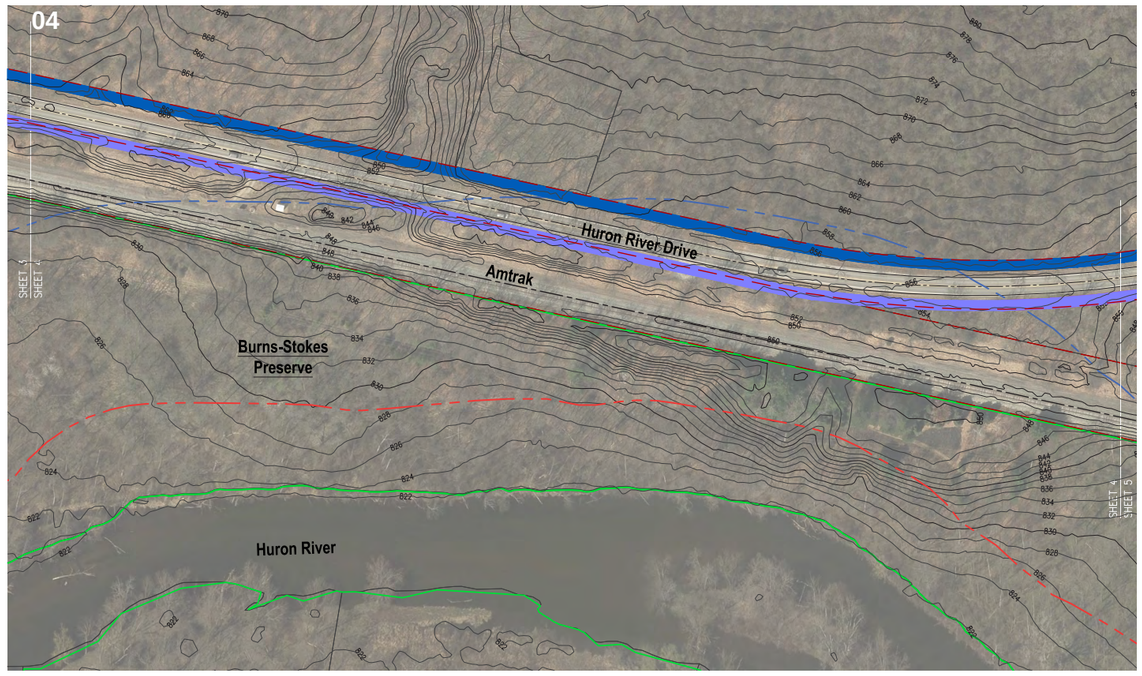
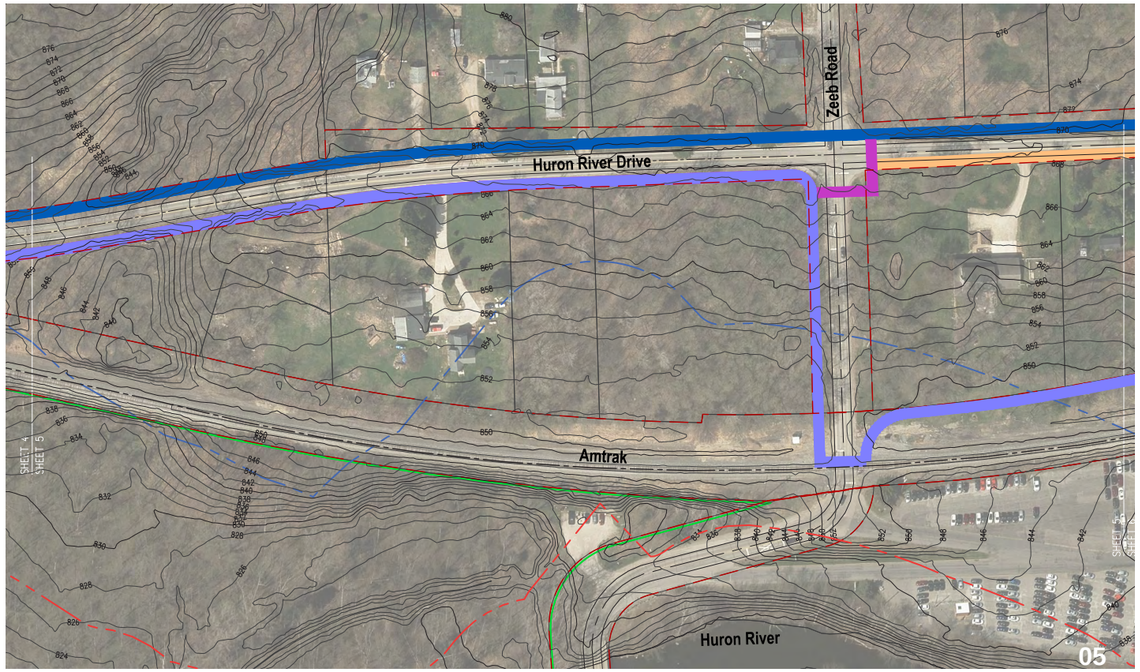
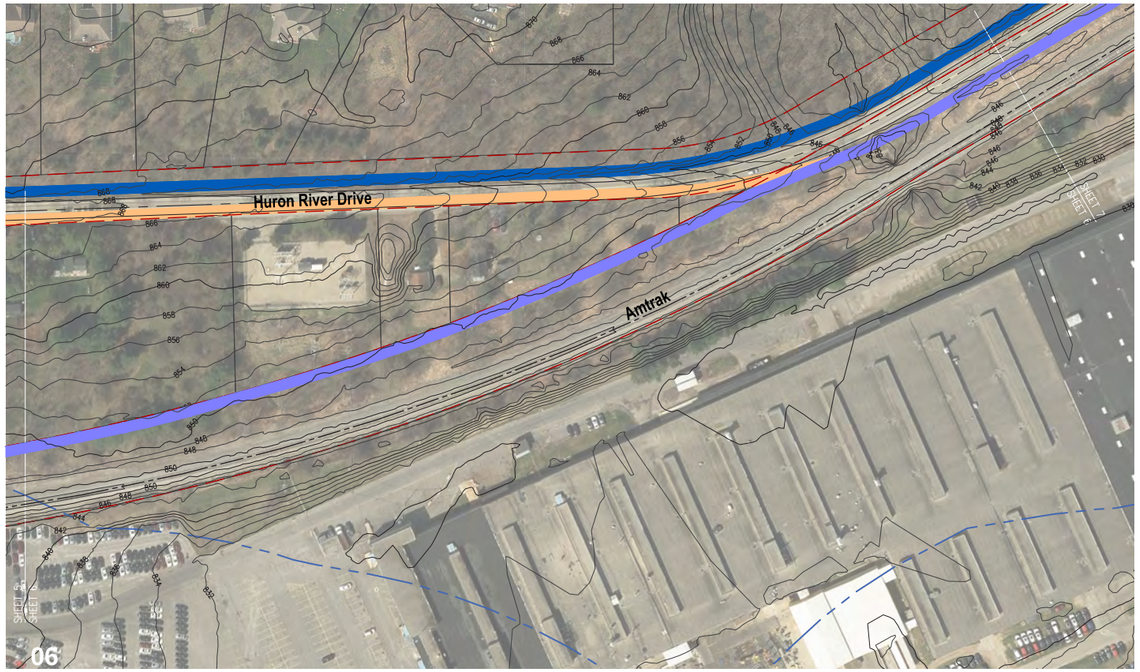
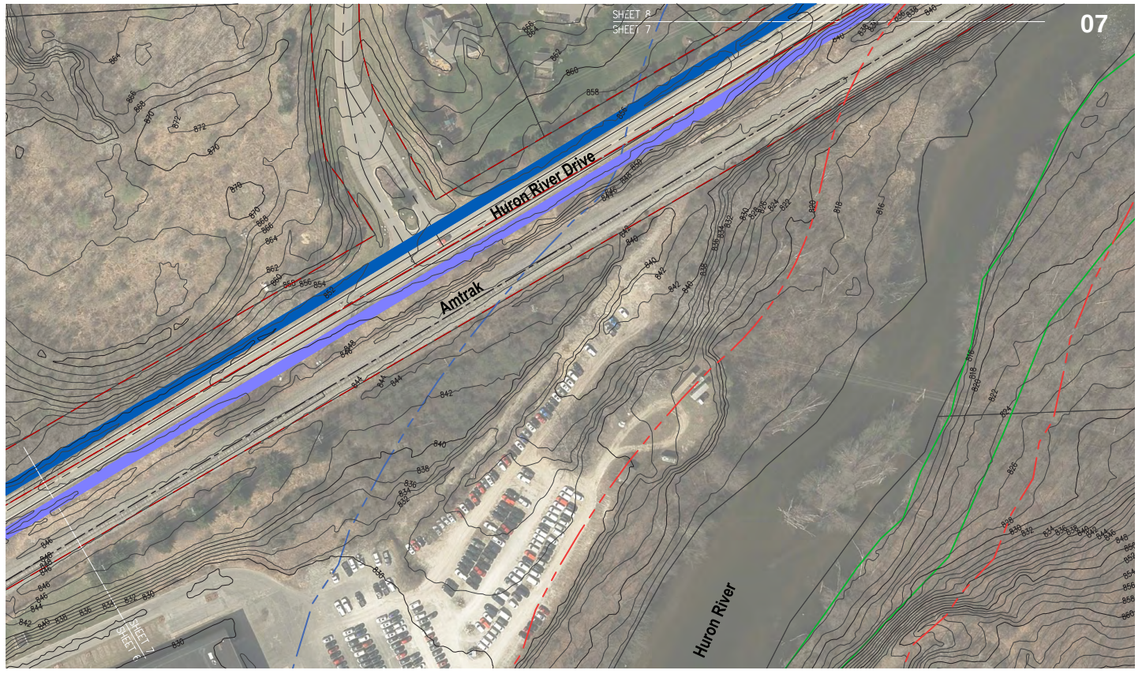
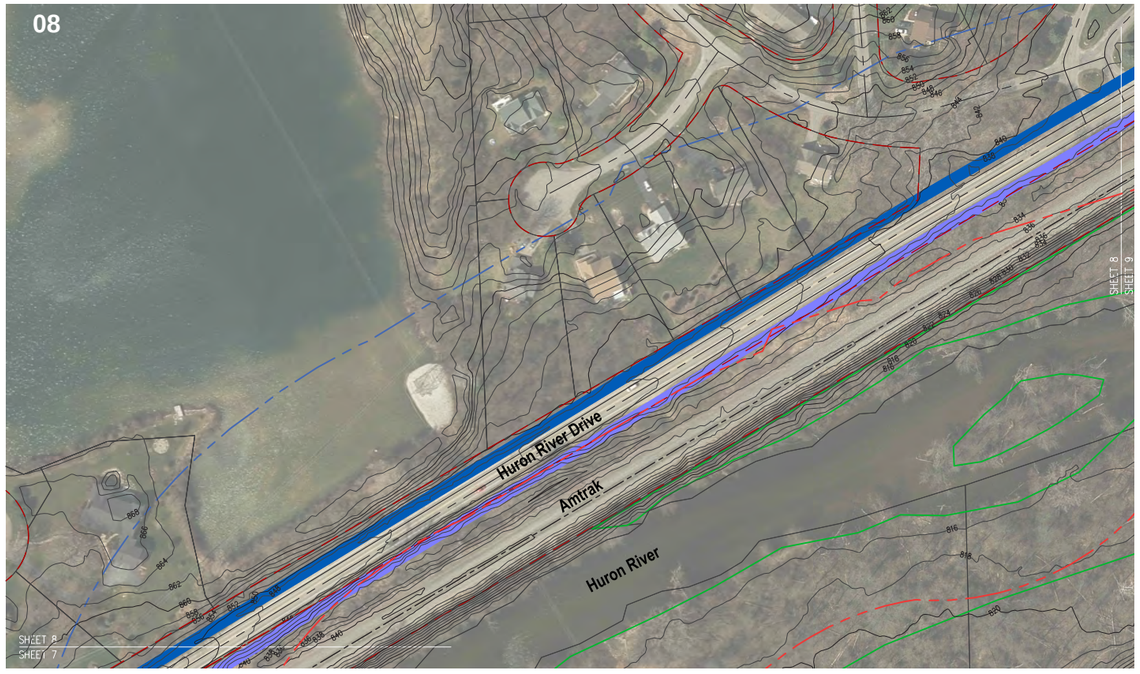
Proposed
Bridge
#2
Amtrak
Huron River Drive
Huron River
Burns-Stokes
Preserve


04
Huron River Drive
Amtrak
Burns-Stokes
Preserve
Huron River


Zeeb Road
Huron River Drive
Amtrak
Huron River
SHEET 4
SHEET 5
05


Huron River Drive
Amtrak
SHEET 8
SHEET 9
06


SHEET 8
SHEET 7
07
Huron River Drive
Amtrak
Huron River
SHEET 6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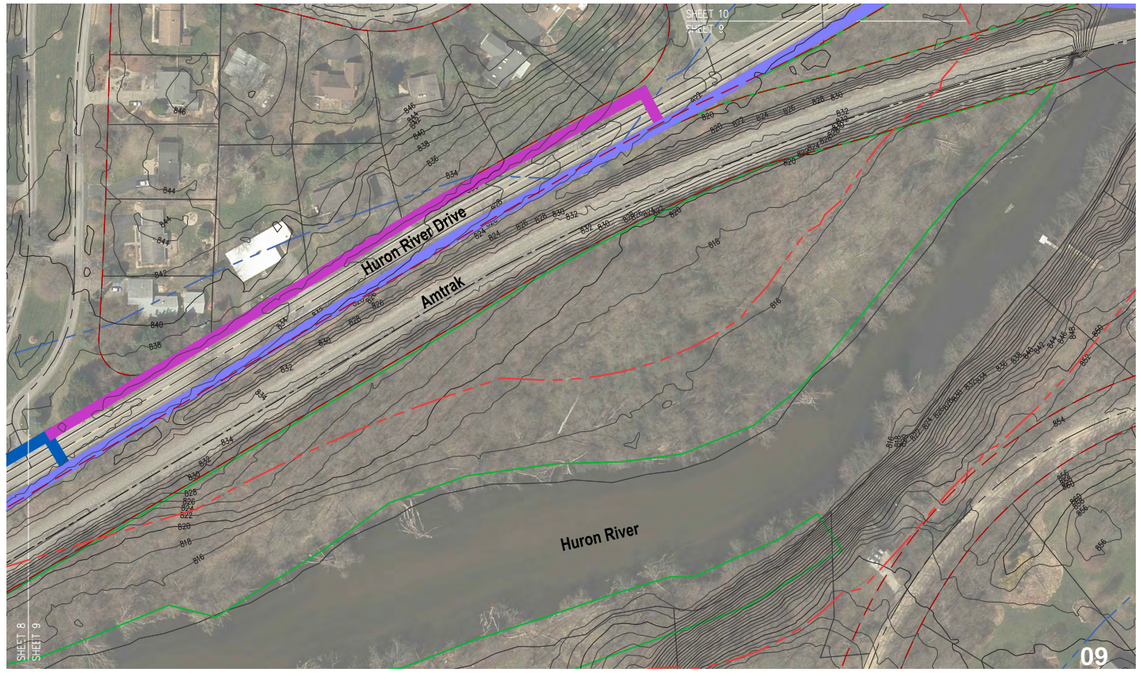
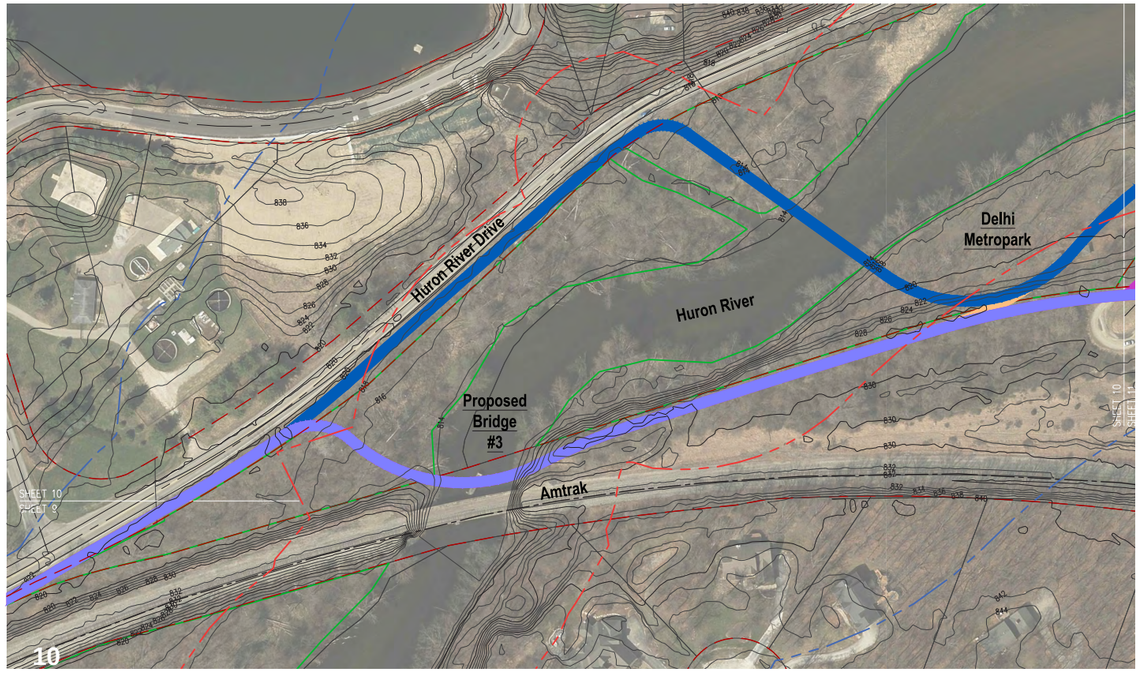
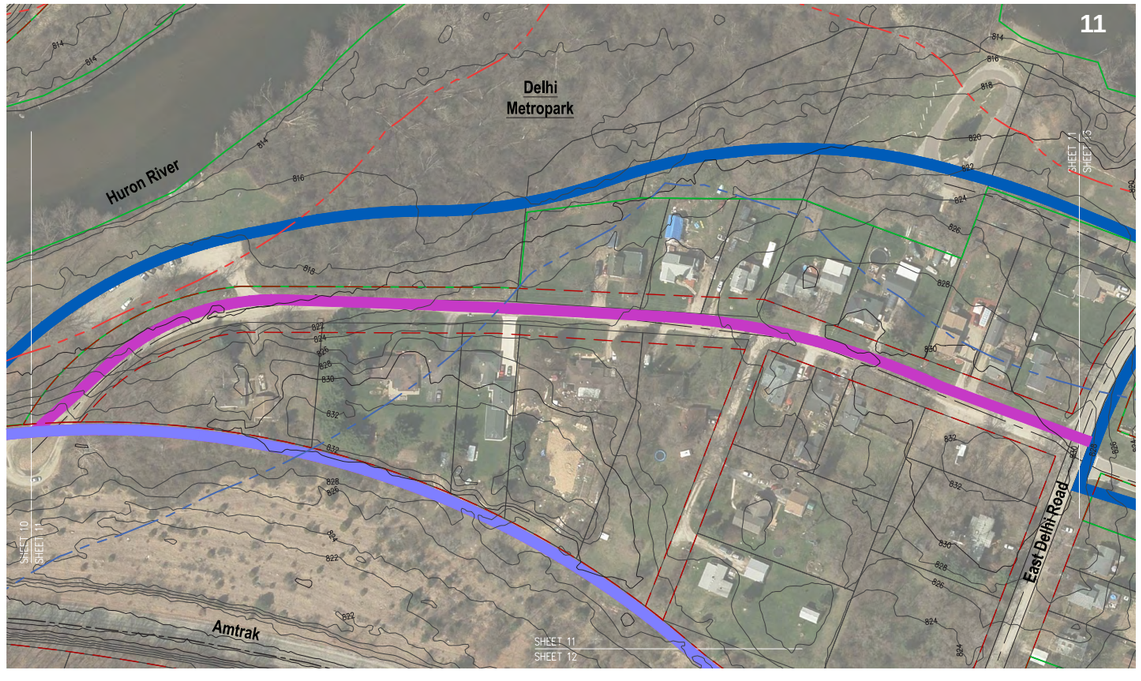
Huron River Drive
Amtrak
Huron River
SHEET 8
SHEET 9
SHEET 7


Huron River Drive
Amtrak
Huron River
09


Huron River Drive
Huron River
Delhi
Metropark
Proposed
Bridge
#3
Amtrak
10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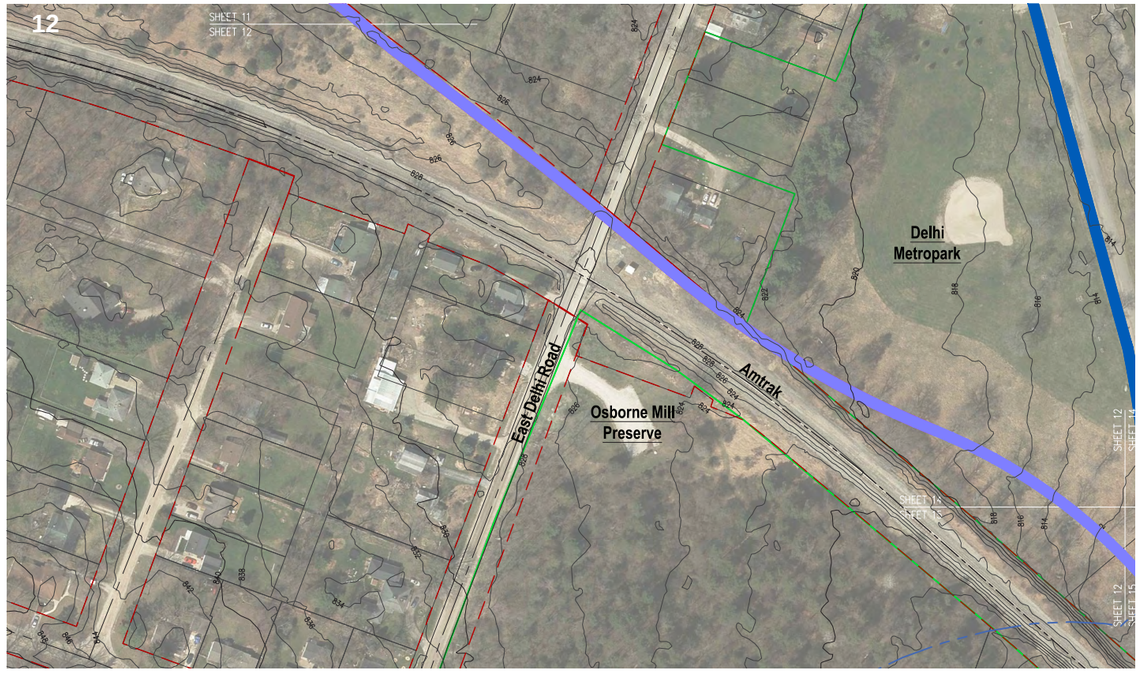
Delhi
Metropark
Huron River
East Delhi Road
Amtrak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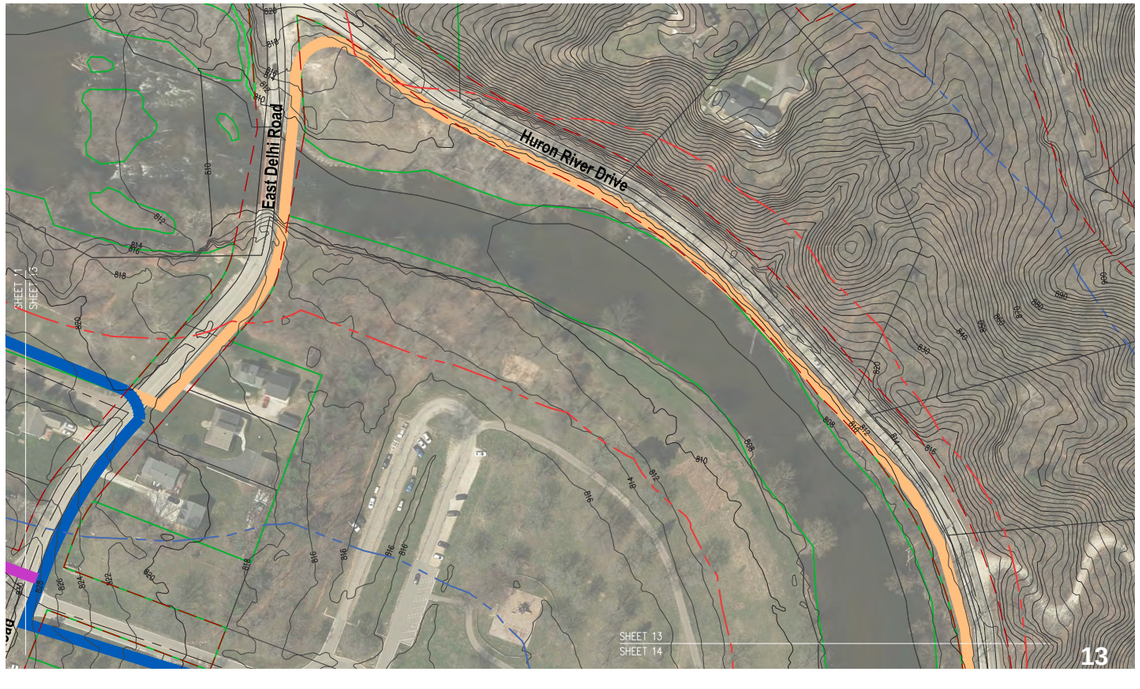
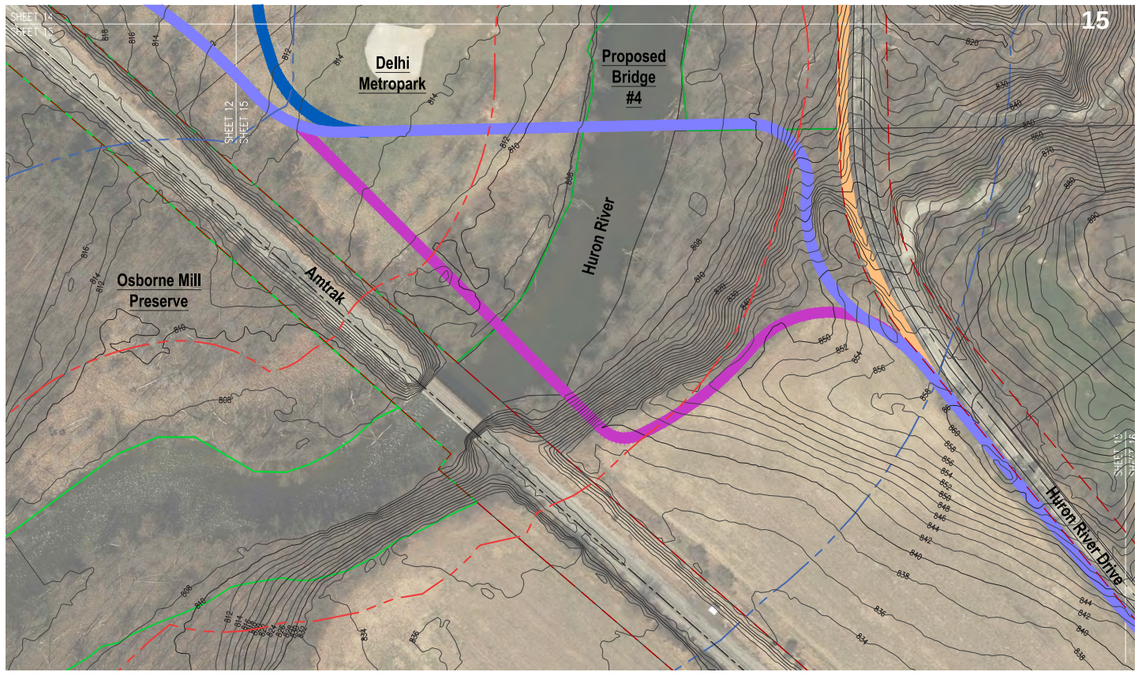
Delhi
Metropark
East Delhi Road
Amtrak
Osborne Mill
Preserve


East Delhi Road
Huron River Drive
SHEET 13
SHEET 14
13


SHEET 13
SHEET 14
Delhi
Metropark
Huron River Drive
SHEET 12
SHEET 14
14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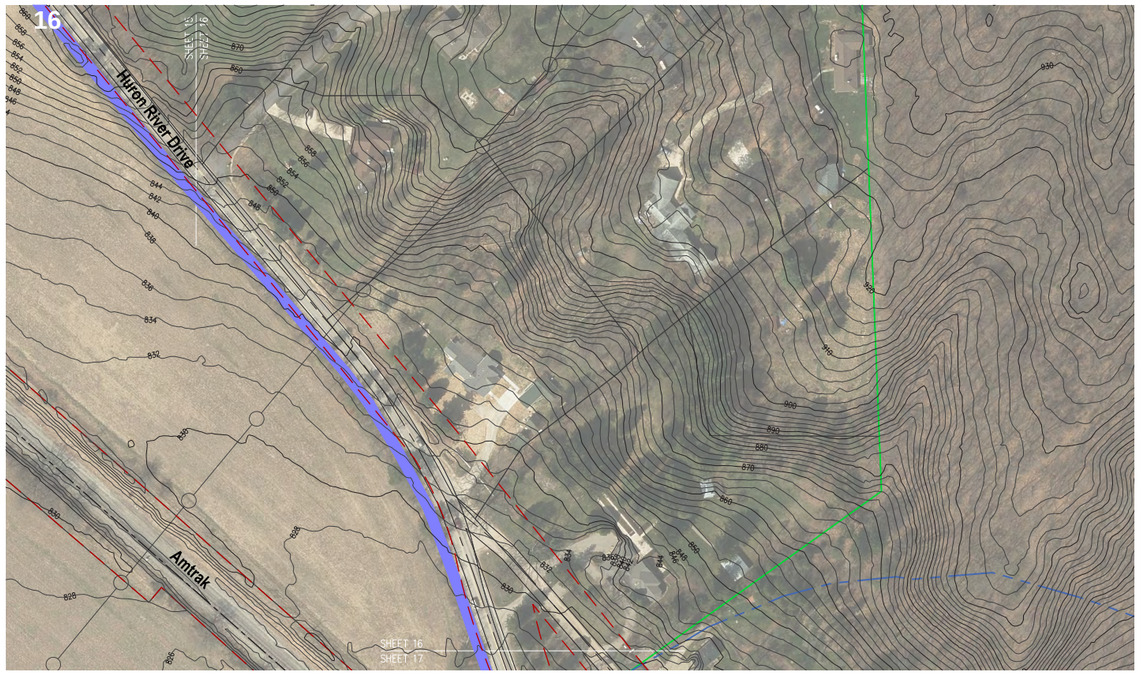
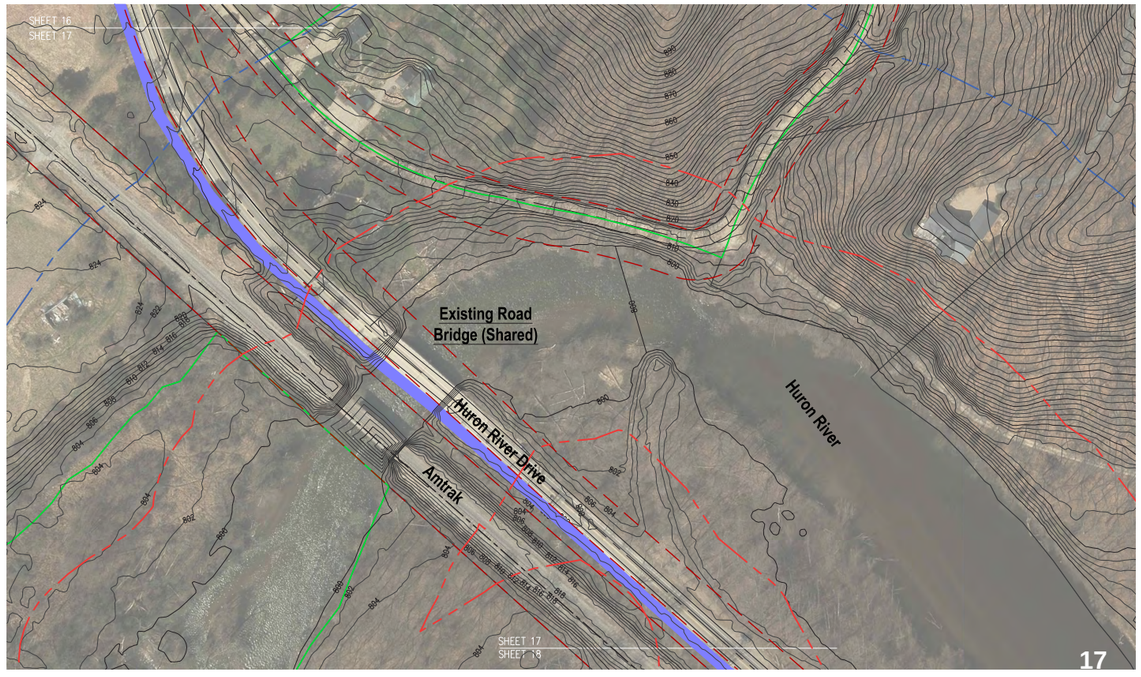
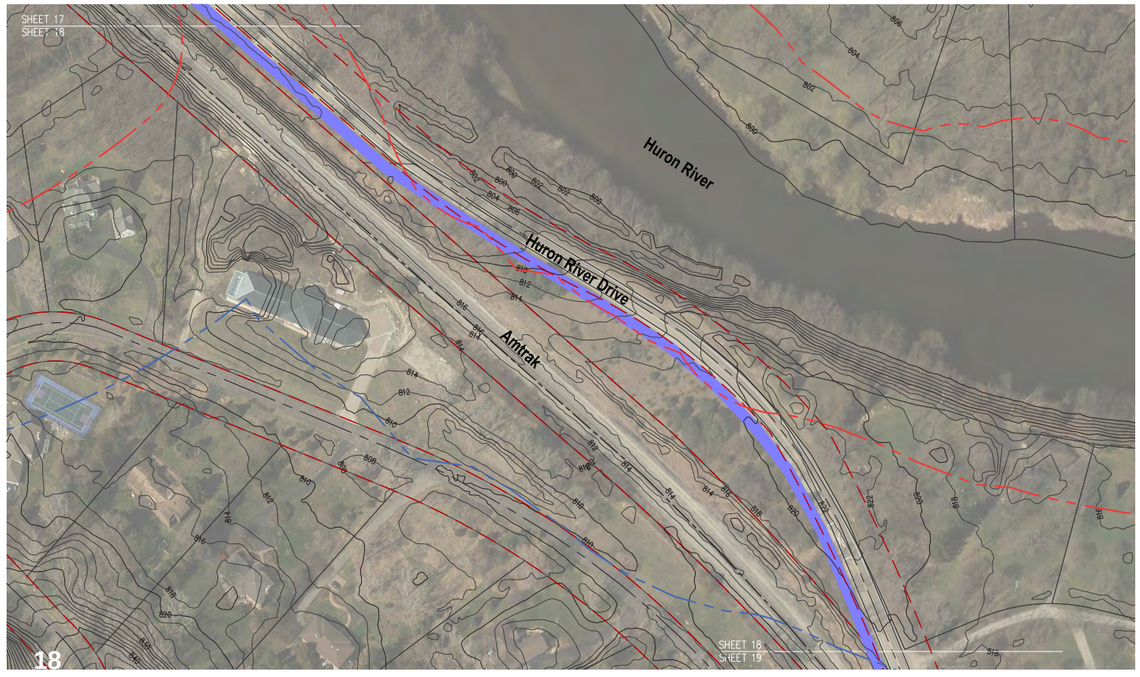
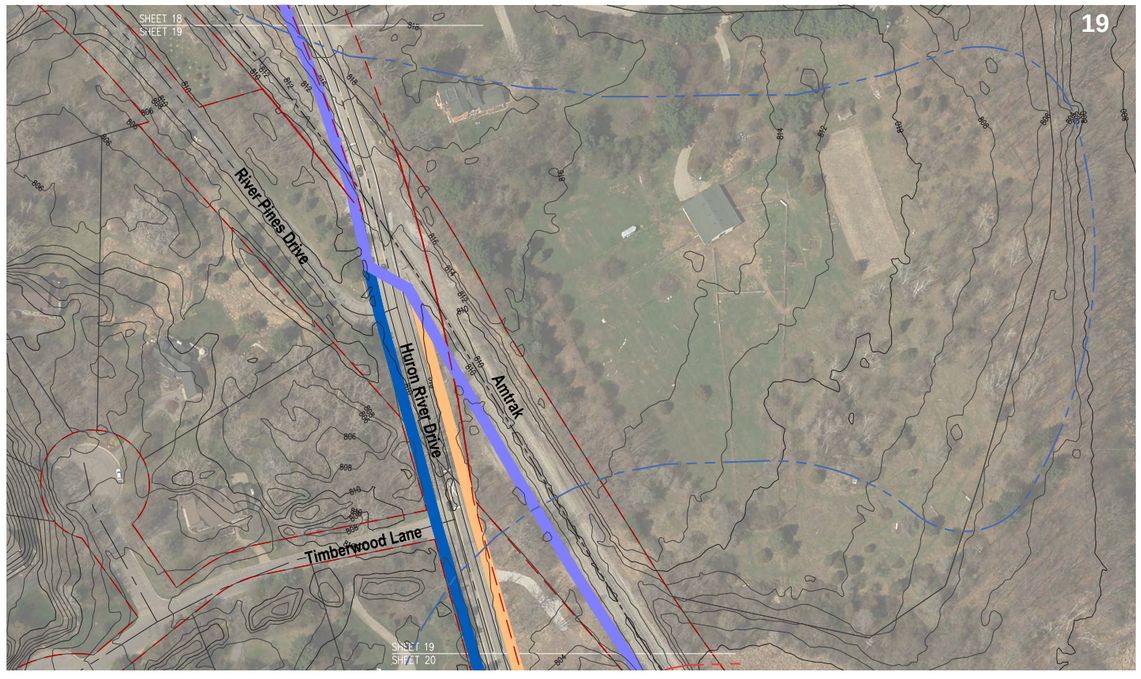
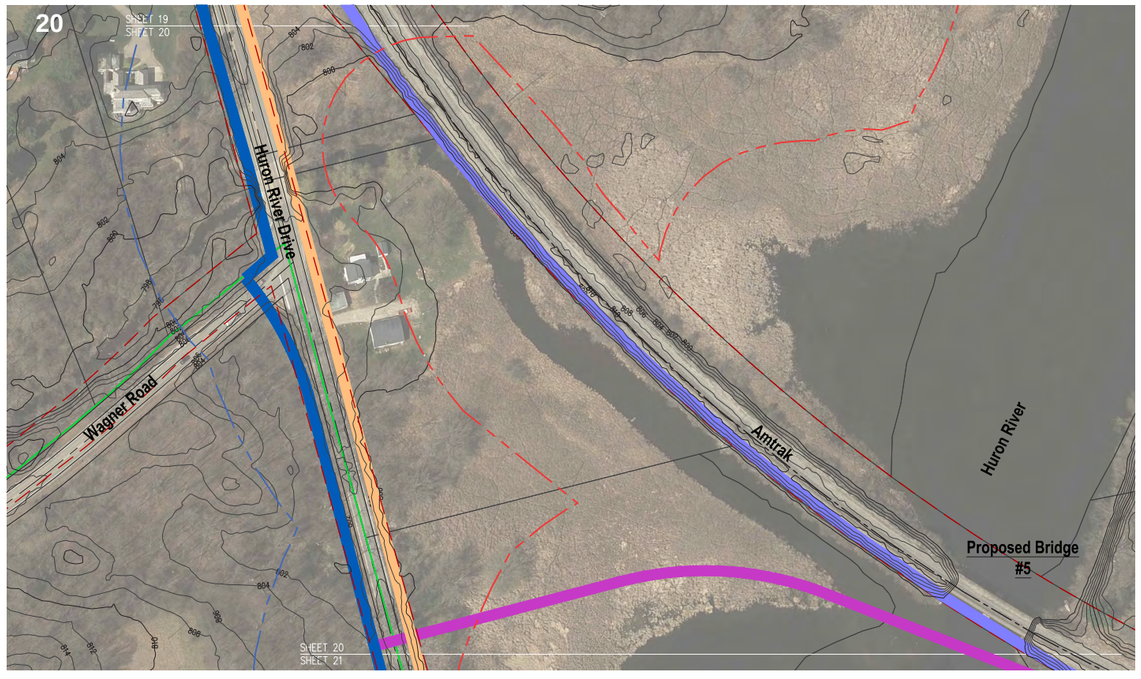
Delhi
Metropark
Proposed
Bridge
#4
Huron River
Osborne Mill
Preserve
Amtrak
Huron River Drive
SHEET 12
SHEET 15

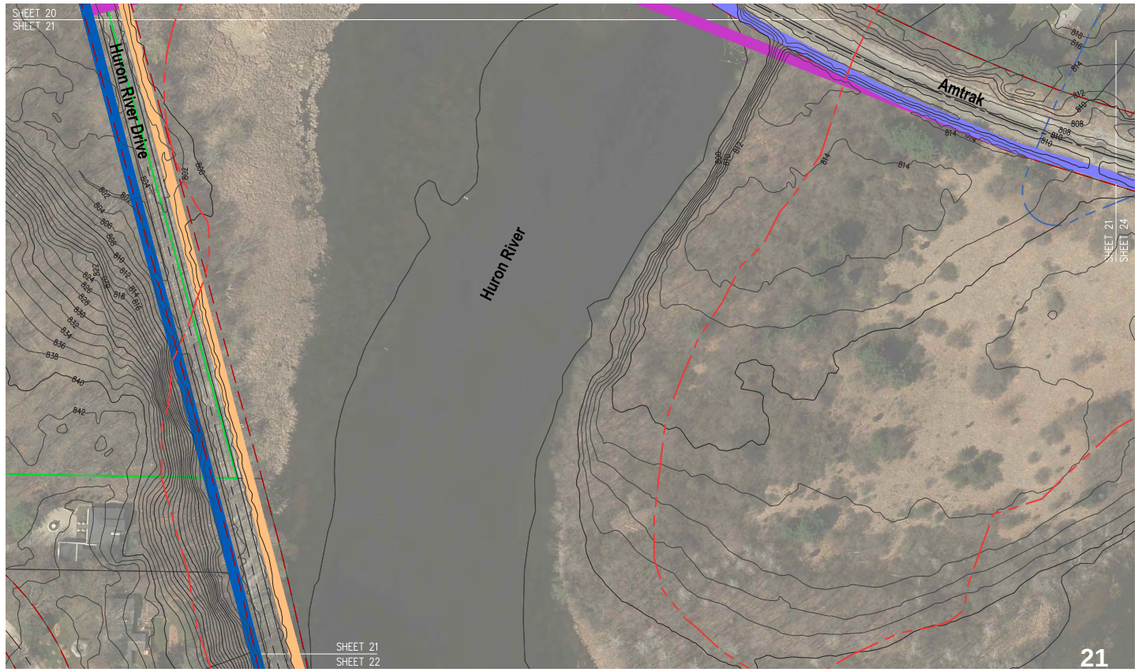

16
Huron River Drive
Amtrak
SHEET 16
SHEET 17

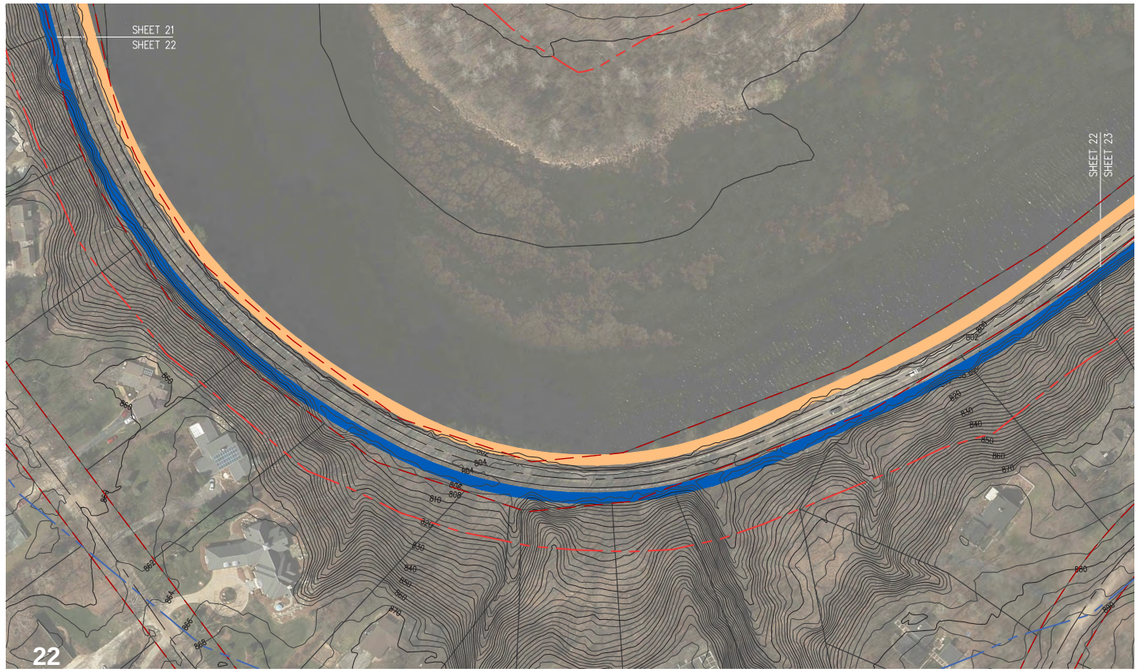

SHEET 16
SHEET 17
Existing Road
Bridge (Shared)
Huron River Drive
Amtrak
Huron River
SHEET 17
SHEET 18
17


SHEET 17
SHEET 18
Huron River
Huron River Drive
Amtrak
18
SHEET 18
SHEET 19


SHEET 18
SHEET 19
19
River Pines Drive
Huron River Drive
Amtrak
Timberwood Lane
SHEET 19
SHEET 20


20
SHEET 19
SHEET 20
Huron River Drive
Wagner Road
Amtrak
Huron River
Proposed Bridge
#5
SHEET 20
SHEET 21


SHEET 20
SHEET 21
Huron River Drive
Amtrak
Huron River
SHEET 21
SHEET 24
SHEET 21
SHEET 22
21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SHEET 22
SHEET 22
SHEET 23
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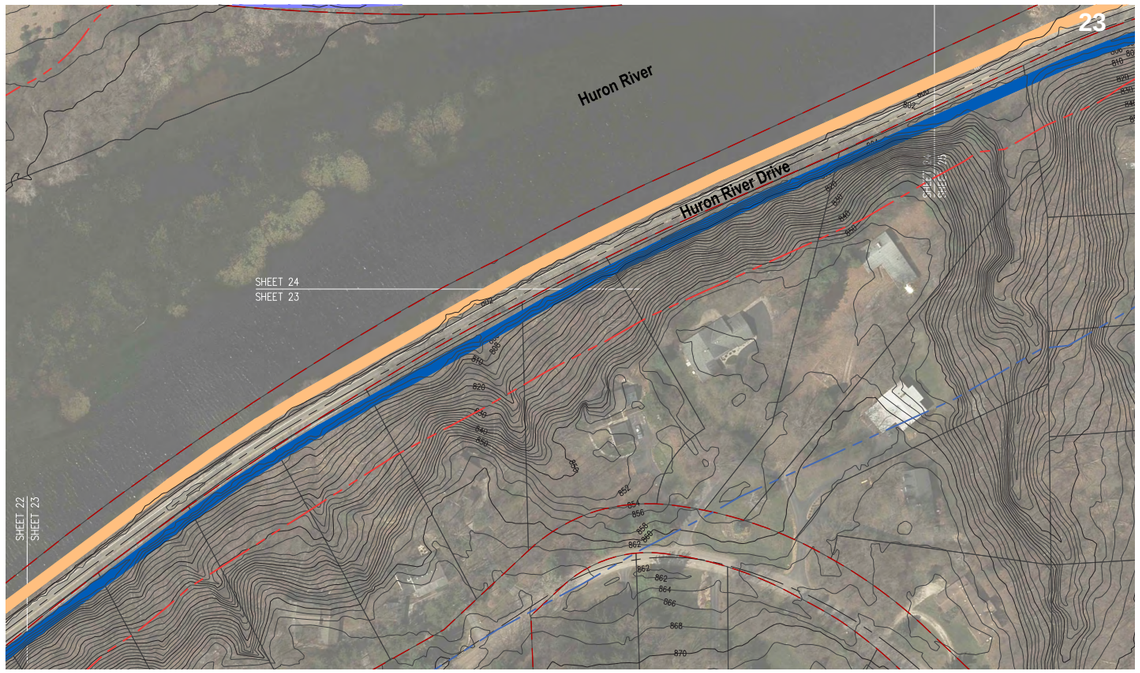
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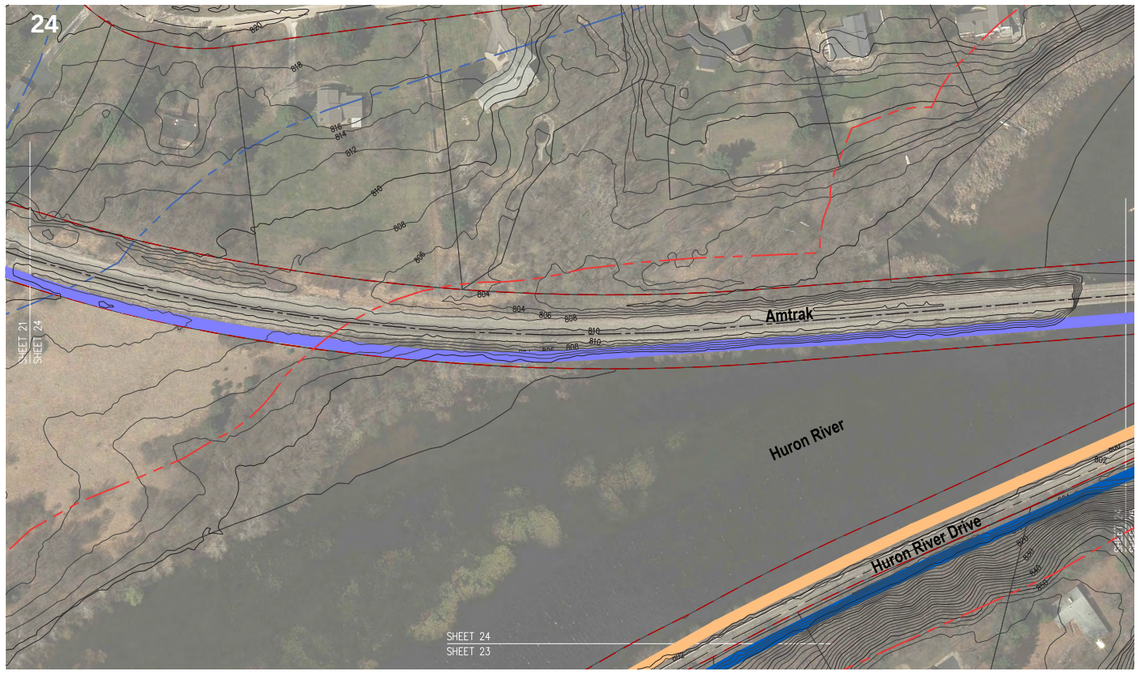
Huron River Drive
SHEET 24
SHEET 23
SHEET 22
SHEET 23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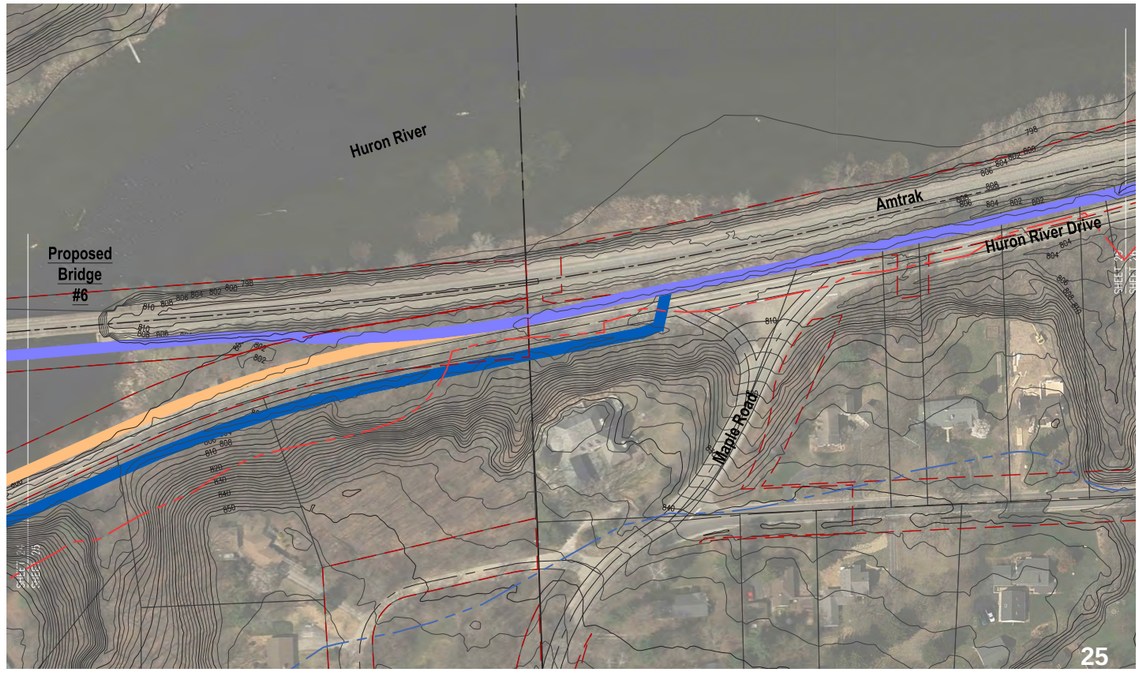
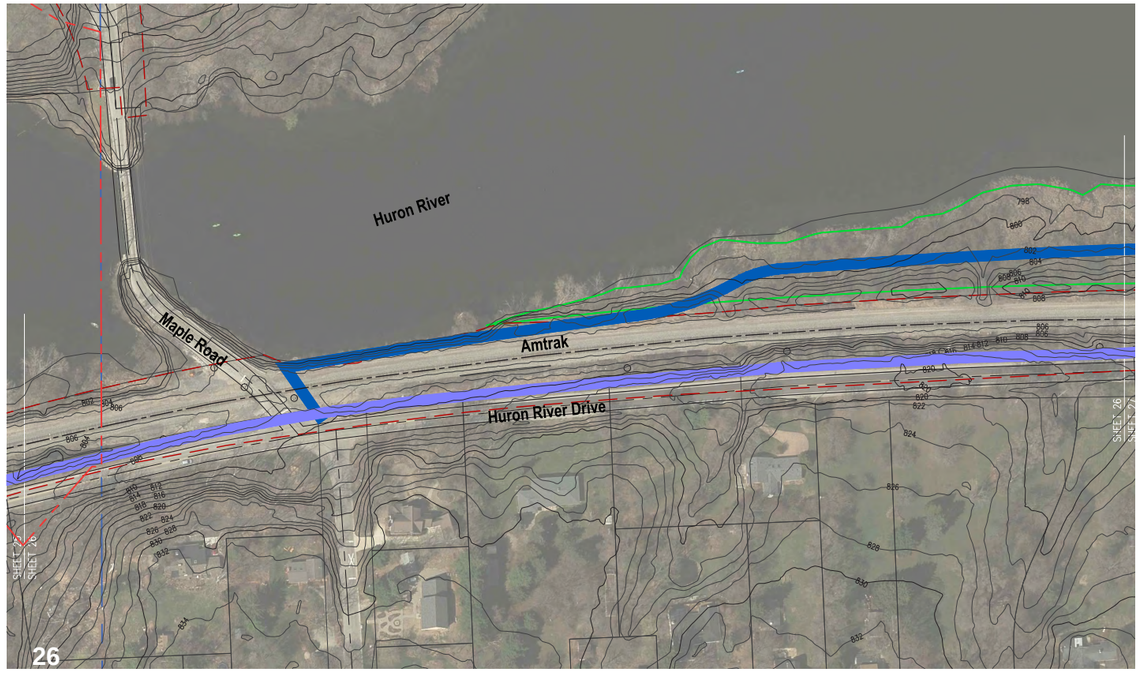
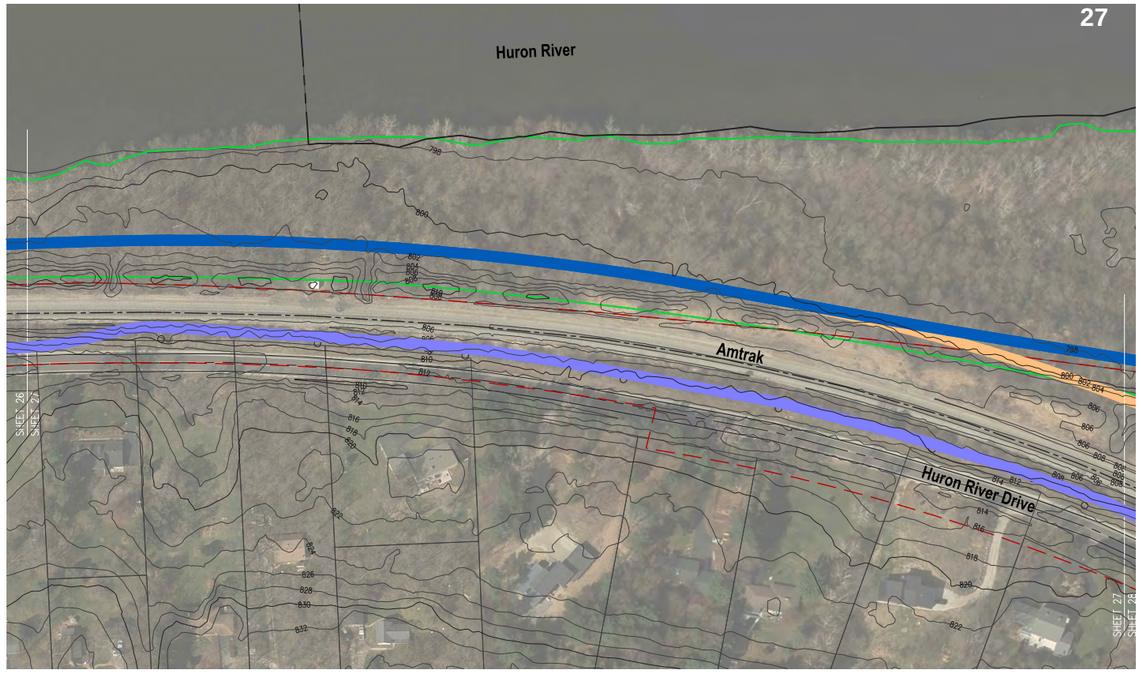
SHEET 21
SHEET 24
Huron River
Huron River Drive
SHEET 24
SHEET 23


Huron River
Amtrak
Huron River Drive
Proposed
Bridge
#6
Maple Road
25


Huron River
Maple Road
Amtrak
Huron River Drive
26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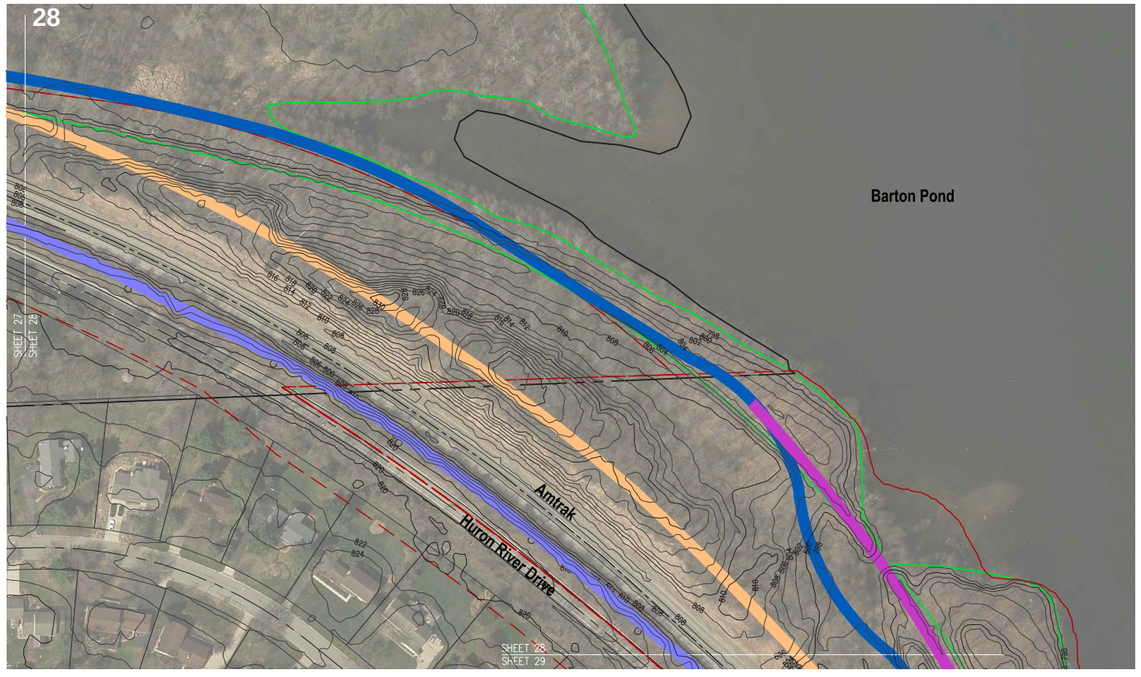
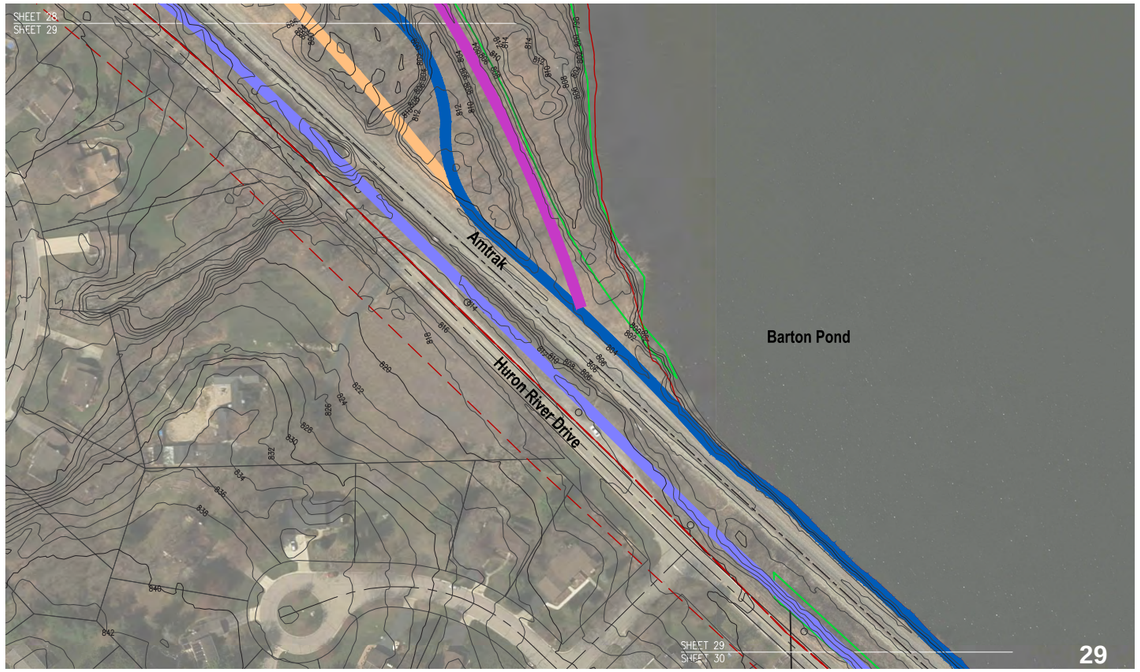
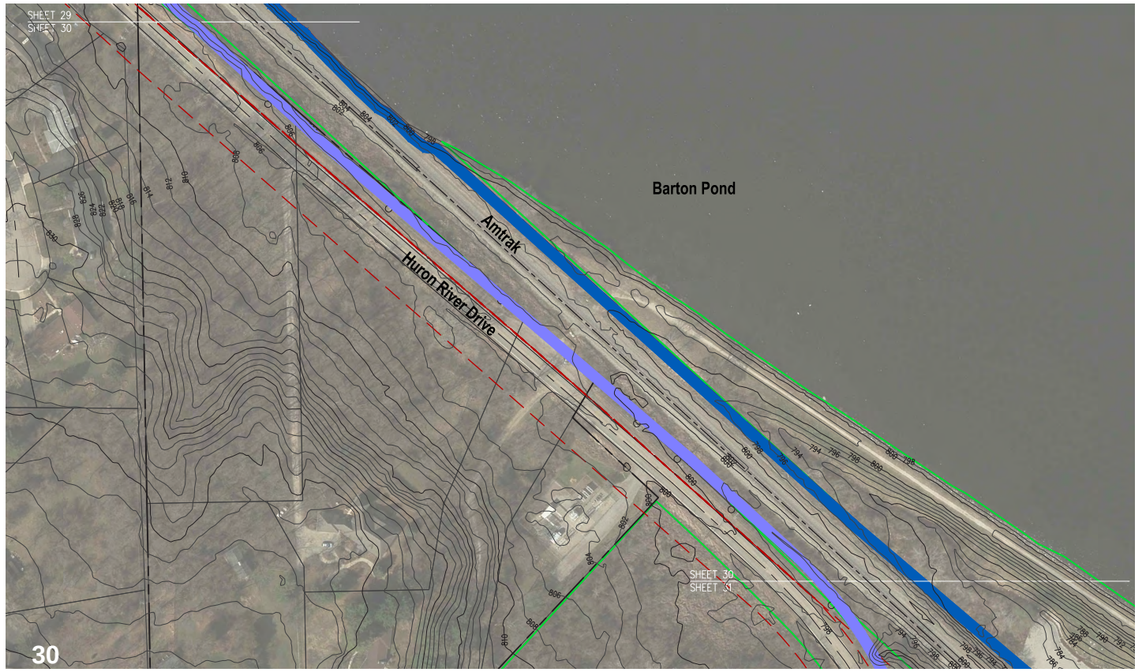
Huron River
Amtrak
Huron River Drive


28
Barton Pond
Amtrak
Huron River Drive


SHEET 28
SHEET 29
Amtrak
Huron River Drive
Barton Pond
SHEET 29
SHEET 30
29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SHEET 30
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Amtrak
Huron River Drive
SHEET 30
SHEET 31
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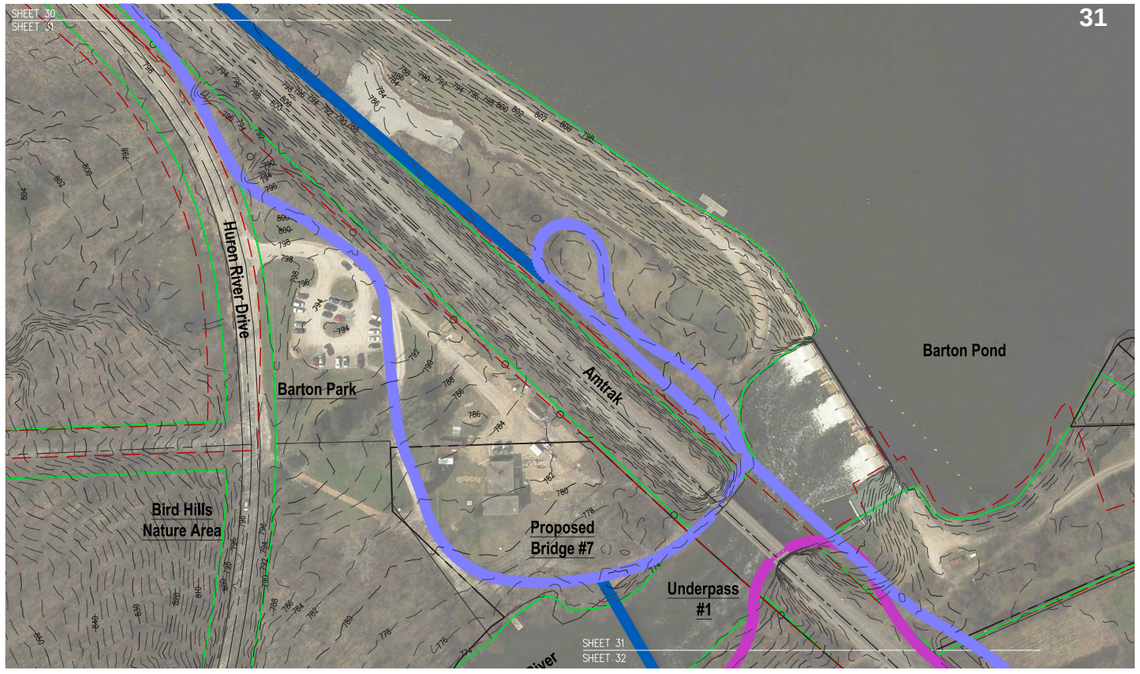
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Bridge #7
Underpass
#1
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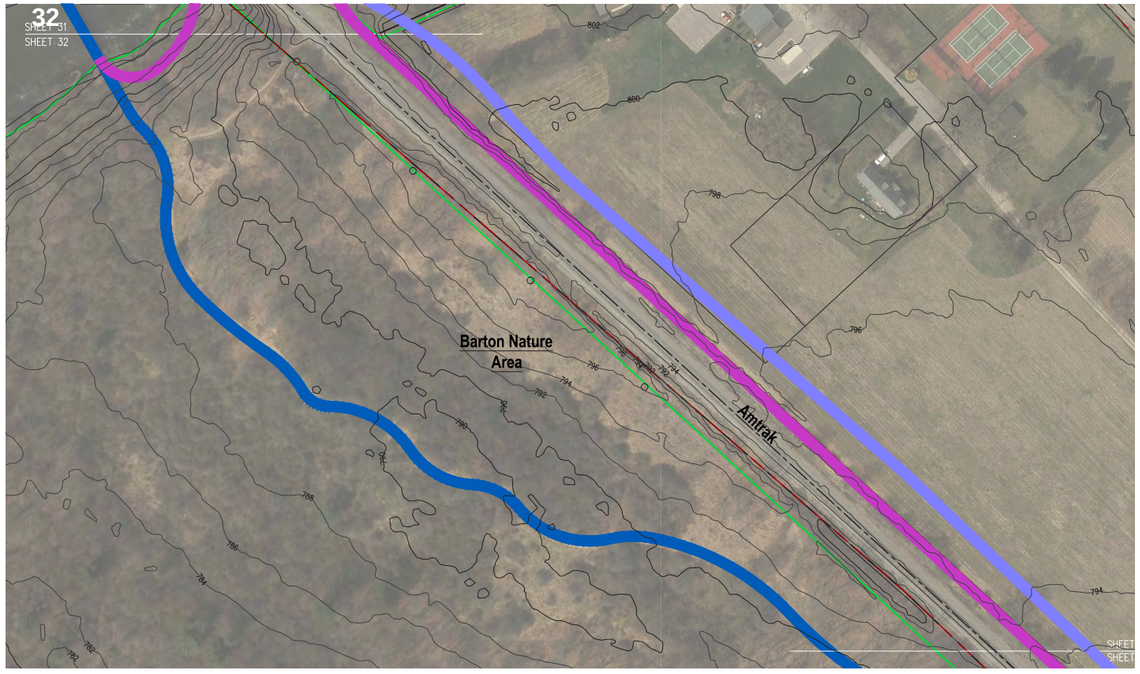
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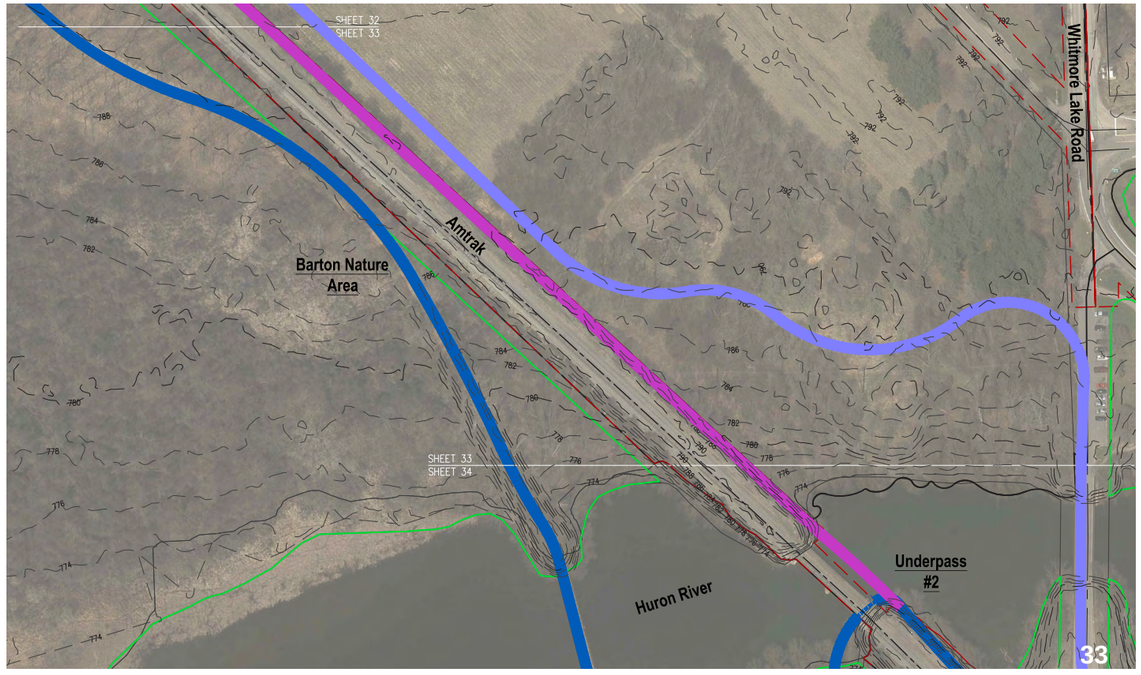
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Whitmore Lake Road
Barton Nature Area
Amtrak
SHEET 33
SHEET 34
Underpass #2
Huron River
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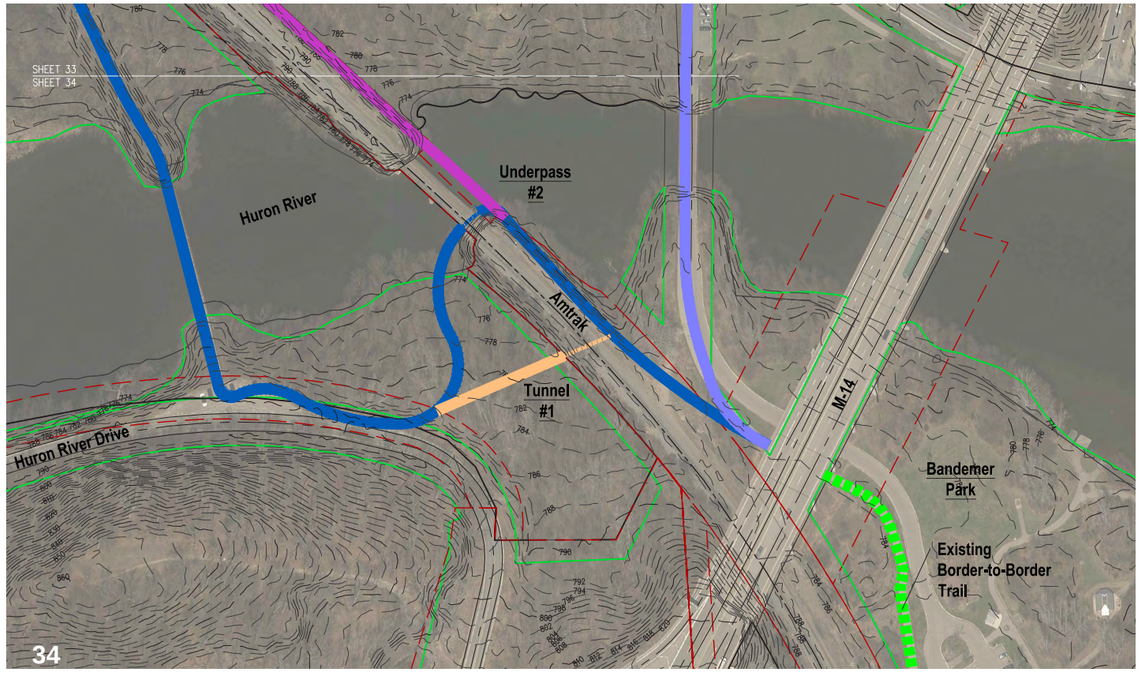
SHEET 33
SHEET 34
Underpass #2
Huron River
Amtrak
Tunnel #1
M-14
Huron River Drive
Bandemer Park
Existing Border-to-Border Trail
34

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PREFERRED ALIGNMENT

The “preferred alignment” was developed in coordination with stakeholder groups (HCMA, WCRC, MDOT, etc.) and includes public feedback from three meetings. It represents the general consensus regarding the approximate location of the trail, which should guide detailed design and engineering. This alignment was developed through in-depth investigation of the alternative route options, which were systematically eliminated or combined to form a single route. The preferred alignment meets the maximum number of the goals, objectives, and criteria as previously described in this document. The following is a written description of the general location of the preferred alignment, critical considerations, and some of the required structures. Following the written description are a series of map graphics that show the alignment in detail, generally from west to east.

This section of the Border-to-Border Trail is composed of Segments ‘D’ through ‘G’ and will be commonly known as “The River Terrace Trail” (Segment D), and the “Barton Pond Trail” (Segments E, F, & G).

“RIVER TERRACE TRAIL” – City of Dexter to Delhi Metropark

Segment D

Segment D1 (1.37 miles) has already been constructed. It begins in the City of Dexter and travels east into Dexter-Huron Metropark where this plan begins its description of the preferred alignment.

Segment D2, Phase 1, begins in Dexter-Huron Metropark, which will serve as a trailhead. On the southeast side of the main park, the preferred alignment begins with a pedestrian bridge (#1), in order to access additional HCMA property that is landlocked by the river and the railroad. Bridge #1 will span the Huron River at a narrow point (120’ across) north of the beach where it angles up the slope on the opposite side to parallel the edge of the woods and prairie. Approximately, 120’ boardwalk is required at both ends of the bridge to achieve the required clearance. These approaches will be effectively screened with vegetation and the bridge itself will only be visible for a short time to paddlers. Bridge #1 is the only bridge that is not parallel and adjacent to an existing bridge and therefore may be a potential conflict with the Natural Rivers Act. This option was selected as the preferred alignment because the alternative (900 linear feet of boardwalk in the floodplain between the road and the river) would necessitate the removal of dozens of trees and could result in increased erosion of the riverbank, resulting in significant visual and ecological impacts, while presenting comparable construction costs (equal to Bridge #1 and Bridge #2 combined) and requiring greater long-term maintenance costs.

The currently inaccessible HCMA property is referred to as the “Oxbow Prairie”, which contains several different types of habitat, including: a large area of dry-mesic prairie, a small patch of wet-mesic prairie in the northern portion of the site, floodplain forest, and a small area of oak savanna in the southwestern corner near the railroad tracks. This prairie is an example of pre-European settlement vegetation and presents a significant opportunity for education, interpretation and management of this natural and cultural asset.

The majority of the trail within the Oxbow Prairie is within upland areas suitable for bituminous trail construction. At the eastern end of the Oxbow Prairie, proposed Bridge #2 is north of, and parallel to, the existing railroad bridge. This bridge crosses back over the river, landing on the edge of HCMA property. Then the trail continues into a combination of the Huron River Drive and MDOT railroad Rights-of-Way (ROW), which abut one another and should provide the flexibility to avoid the removal of many trees. As one continues eastward and the road and railroad diverge, the trail is proposed to follow the Huron River Drive ROW to Zeeb Road.

Segment D2, Phase 2, of the trail begins at the intersection of Huron River Drive and Zeeb Road and it is proposed on the north side of the road within the ROW, separated by a minimum of 5-7 feet from the edge of the road. The intersection of Huron River Drive and Zeeb Road is important because it will soon be a connection to a Scio Township-lead initiative to develop a non-motorized trail that runs north-south on Zeeb Road, eventually connecting to existing bike lanes on Jackson Road. Additionally, with the recent addition of a four-way stop sign, the preferred alignment for the trail is able to safely cross to the north side of Huron River Drive. The north side of the road was selected to avoid trail placement in very close proximity to a few homes and to avoid a steep road/railroad drainage swale further to the east on the south side of the road. The trail within the road ROW does pass near the backyards of several of homes; however, many of these homes have existing vegetation screens in place to visually obstruct the road from their properties. WCPARC would be willing to provide fencing to create a barrier between the trail and private property if requested by the homeowners.

Prior to Boyden Creek, near the entrance to the Loch Alpine subdivision, the trail will need to cross back across Huron River Drive to the south. WCPARC will work with the WCRC to determine the exact location of the crossing. The trail will then pass through a wetland, requiring boardwalk, on the approach to a river crossing at Bridge #3. MDOT owns the old railroad piers and abutments that have been decommissioned at Bridge 3’s location; they have indicated that re-use of this existing infrastructure might be an option. If this option is feasible (determination will require a structural engineer’s evaluation), it could potentially reduce project costs and re-use existing, historic infrastructure. Once across the river (to the southeast), existing conditions support bituminous trail construction through the railroad ROW along the historic alignment of the tracks (north side of ROW). This is an expanded area of ROW where the tracks have been steadily getting moved south (increasing the radius of the curve) as train speeds have increased over the past 100 years. The trail stays in this expanded ROW until it crosses East Delhi Road, parallel with the tracks. From there, the trail would enter the eastern portion of Delhi Metropark from the south.

“BARTON POND TRAIL” – Delhi Metropark to Bandemer Park

Segments E - G

The Barton Pond Trail begins with Segment E in Delhi Metropark, another trailhead for the B2B. The trail is proposed just south of an existing baseball diamond and heads east to cross over the Huron River with a 200’ span pedestrian bridge (#4), which lands on HCMA property on the east side of the river. Bridge #4’s alignment with regards to its compliance with the Natural Rivers Act has not been officially determined; new bridges that are parallel and adjacent to existing bridges are preferred. There is a possibility to adjust the alignment of Bridge #4 to be in greater compliance with the Natural Rivers Act if an agreement with the owner of the agricultural parcel to the southeast can be reached (PIN H -08-11-100-018).

From the landing of Bridge #4, the preferred trail alignment merges into the Huron River Drive ROW on the south side of the road, where it remains until the next point where the road crosses the river. Here, the trail is proposed to go “on-road” for a few hundred feet in order to share a road bridge that has extra wide shoulders. The WCRC has indicated that it is likely that this bridge could accommodate the trail with some re-striping of the vehicle lanes and additional signage. Normal road separation (5-7’ from the edge) will be regained after crossing this bridge. The trail remains in the road ROW and is proposed to cross the railroad adjacent to the existing, signalized road crossing. Safety is a priority at this location, and all necessary measures, as determined by MDOT and Amtrak, will be met, or exceeded, to ensure a safe crossing and reduce a locomotive operator’s concerns in this high-speed rail corridor.

Segment F begins when the trail reaches Wagner Road, still in the road ROW. Even though Segment F is the shortest segment, it is the most difficult to find the best alignment (see discussion in the Alternative Alignments section). Ultimately, the primary factors behind the preferred alignment for Segment F are: initial construction cost, long term maintenance costs, compliance with regulatory and permit requirements, and aesthetic and ecological impacts

After careful analysis of the available information, the preferred alignment takes the trail about 500’ south of Wagner Road where it will cross Huron

River Drive and head northeasterly into a wetland complex that is part of the Brokaw Nature Preserve owned by the City of Ann Arbor. The portion through the wetland will be boardwalk and efforts will be made to keep it to a low visual profile. At the confluence of Honey Creek, a 130' span boardwalk or bridge will cross over before spanning a 160' bridge (#5) over the Huron River. The trail will continue across the peninsula (PIN H -08-12-400-001) south and parallel to the railroad, either in the ROW or on private property. Prior to the next river crossing, there will be 600 linear feet of elevated boardwalk adjacent to the steep railroad bed, before reaching the next bridge (#6). Bridge #6's 210' single span will terminate on the land between the road and railroad. A small portion of asphalt trail makes up the last leg of Segment F, ending at Maple Road.

Segment G of the Barton Pond Trail had fewer challenging alternative routes than Segment F. An alternate option was explored to cross to the north side of the railroad at the Foster Bridge; however, this option would require at least 1,700 linear feet of additional boardwalk and requires a direct interface with the Barton Dam embankment. Acceptance of this alternative by Federal Energy Regulatory Commission (FERC) is unlikely and would be costly; it would also require an extensive engineering study and a lengthy permitting review from federal and state agencies (see Appendix A). Ultimately, the least disruptive alignment for Segment G1 is to route the trail between the railroad and Huron River Drive until entering into Barton Nature Area at the parking lot. This option avoids disturbance to the high quality ecology on the north side of the railroad.

The last part of the trail, Segment G2, begins in the Barton Nature Area parking lot and will serve as a "gateway" into the City of Ann Arbor. Currently, this area receives heavy non-motorized traffic, which is likely to increase with the completion of this project. Additionally, the there are multiple existing, informal (illegal) crossings of the railroad, which are substantial safety concerns to MDOT and Amtrak. MDOT has indicated that it will be pursuing more aggressive deterrents to these illegal, at-grade crossings in the near future. Facilitating one or more safe, formalized railroad crossings is imperative, especially because of anticipated increases in train speed and frequency.

There are two locations on Segment G2 that currently receive the highest volumes of illegal pedestrian and non-motorized crossings of the railroad: the first is on the southeast side of Barton Dam and the second is at MDOT's access road in Bandemer Park. Based on demonstrated public demand for crossings in these locations, which was supported by feedback at public meetings and stakeholder working groups (including MDOT and the City of Ann Arbor), the project team has come to the conclusion that both of these places should eventually have safe, formalized crossings. The project team recommends commissioning an engineering-level "alternatives analysis" to compare the two options in a detailed study. However, for the purposes of this report, a single, preferred alignment is described.

The selected preferred route to connect from Barton Nature Area's parking lot to the existing B2B in Bandemer Park is currently the most heavily used of the two locations. It is proposed to use the existing pedestrian bridge (#7) downriver of Barton Dam to cross the river to the southeast. From the pedestrian bridge, the trail would convert an existing natural surface trail in Barton Nature Area to an asphalt trail, which ends at another existing pedestrian bridge (#8). If federal funding are used, then it is possible that the existing bridges (#7 & #8) would have to be replaced to meet current AASHTO standards. From bridge 8, the trail would curve east towards Bandemer Park where it would cross under the railroad tracks and join with the existing B2B Trail (underpass #1). In 2005, The City of Ann Arbor completed an engineering study to determine the best way to formalize a pedestrian crossing of the railroad in this location. According to MDOT, the existing, informal crossing generates hundreds of illegal trips per day. It would be safe to assume that this number would increase upon completion of additional, contiguous B2B trail segments to the west. The 2005 study

River Terrace Trail at Dexter-Huron Metropark - Photo Credit: CDF

indicated that a pedestrian tunnel under the railroad berm, although very expensive, is the most cost effective, direct and safest method for crossing the railroad in this location that would be accepted by the railroad engineers. WCPARC is supportive of the pedestrian tunnel option and may be willing to partner with the City of Ann Arbor and other organizations to complete this project.

The following series of map graphics show the alternative alignments that were explored in greater detail.

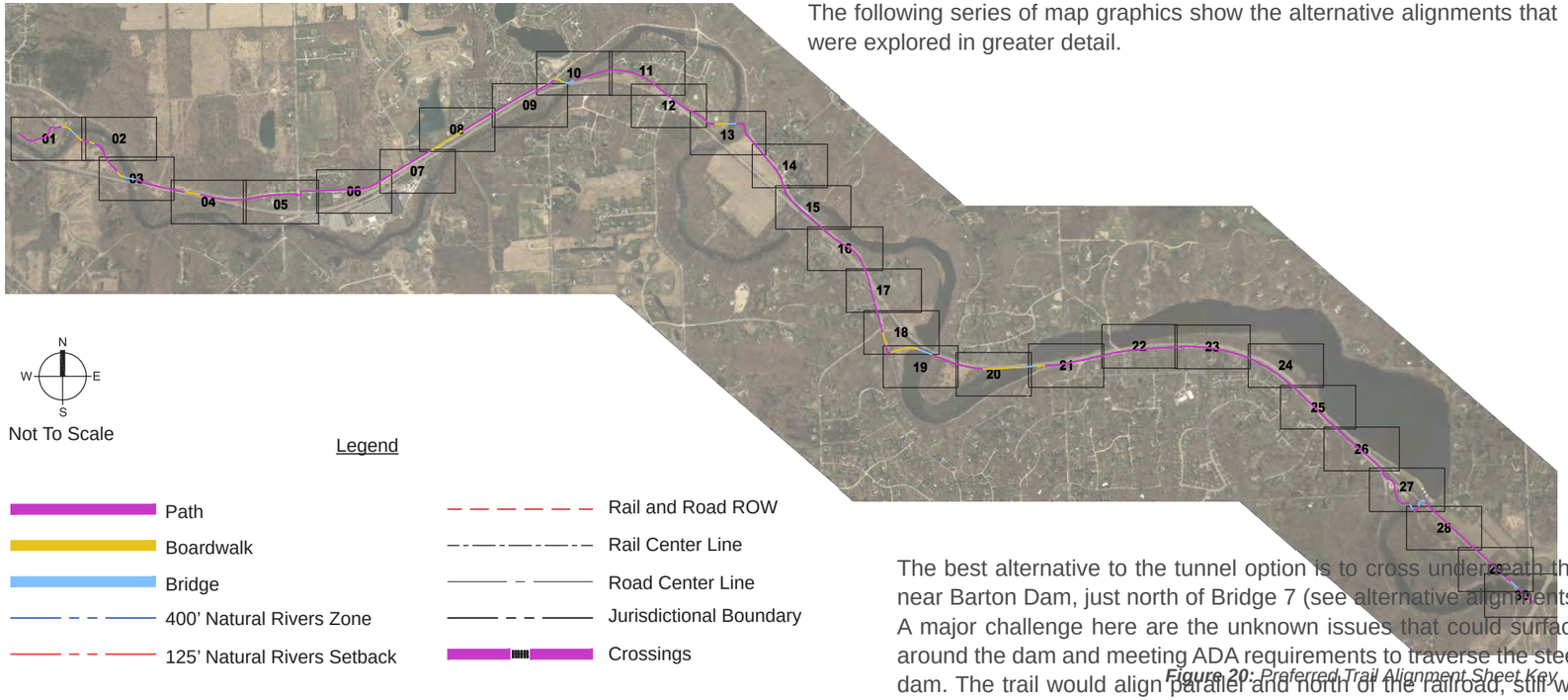
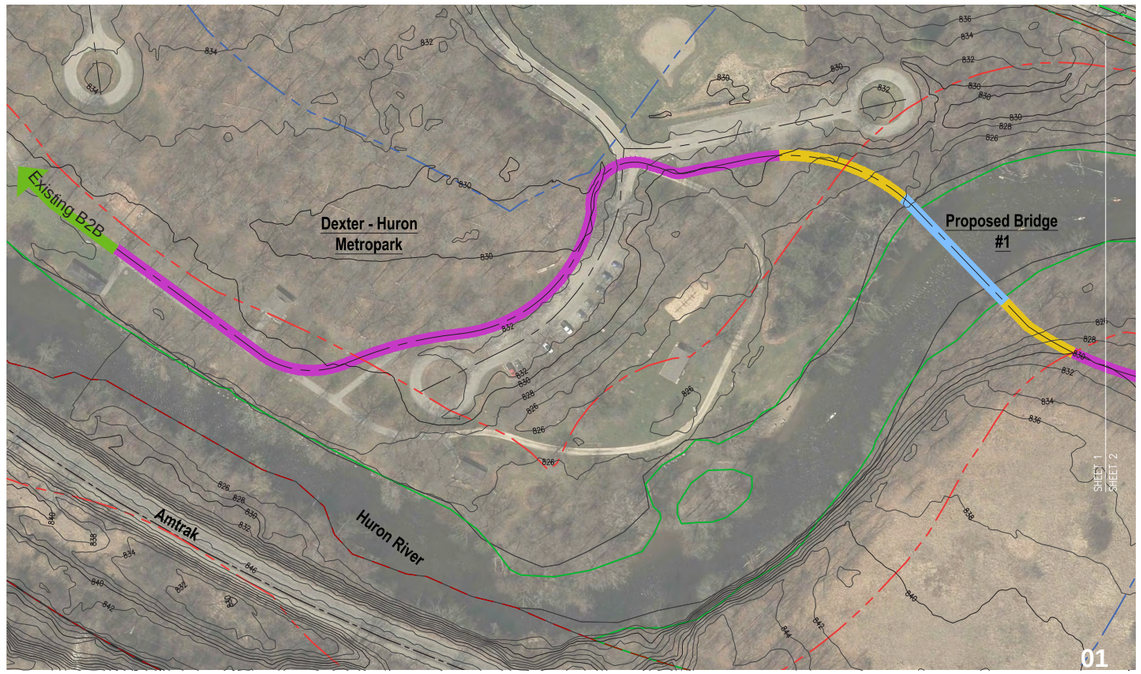
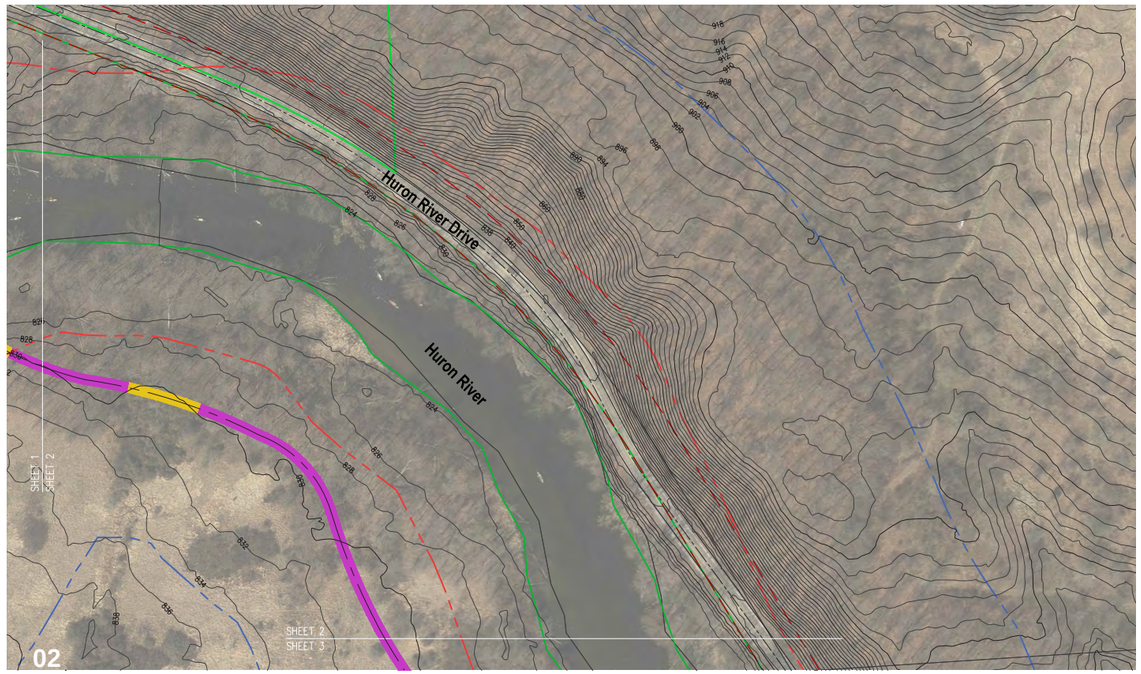
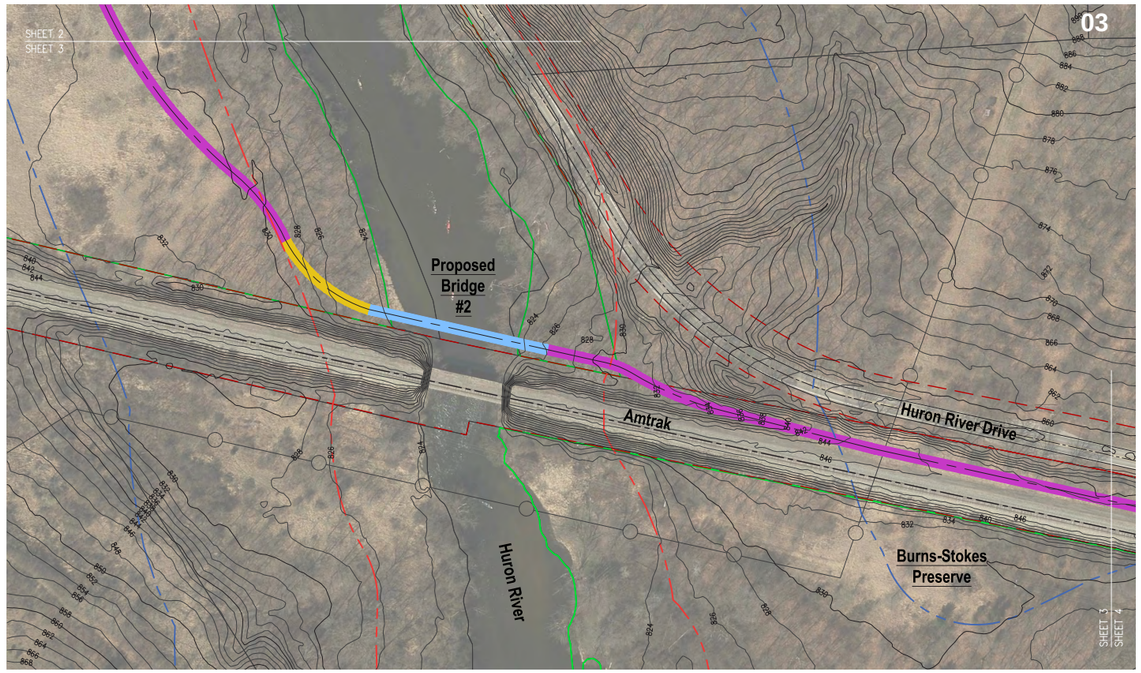


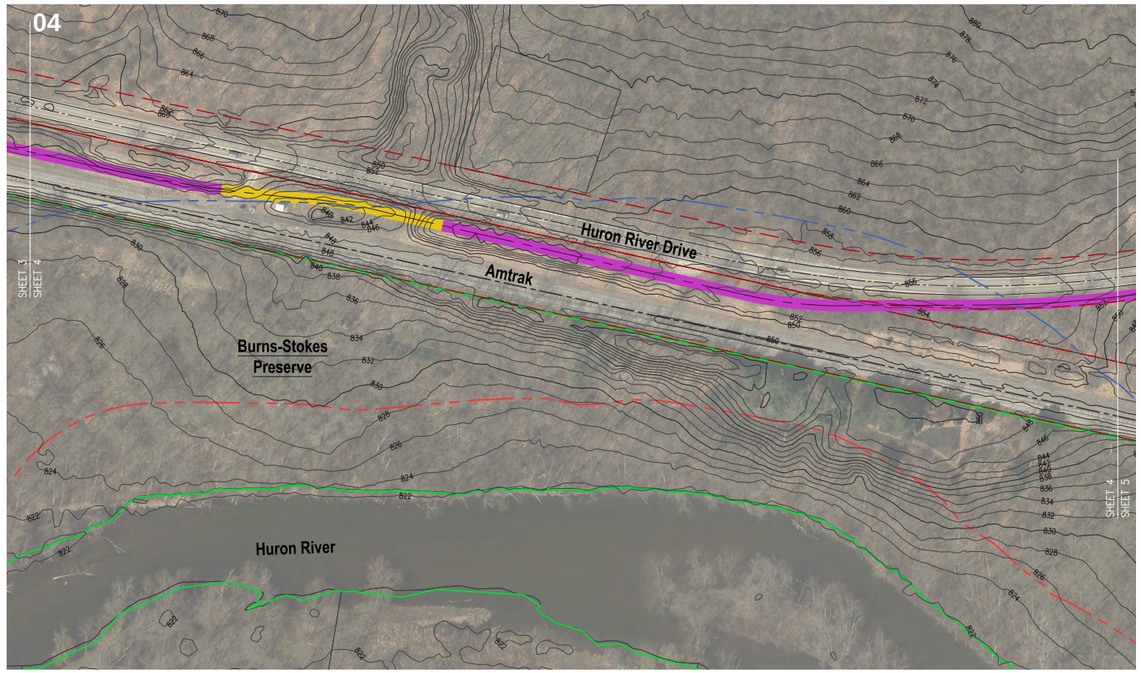
Figure 20: *Preferred Trail Alignment Sheet Key*

The best alternative to the tunnel option is to cross underneath the railroad near Barton Dam, just north of Bridge 7 (see alternative alignments, sheets 3 A major challenge here are the unknown issues that could surface when w around the dam and meeting ADA requirements to traverse the steep hill next dam. The trail would align parallel and north of the railroad, still within the ra ROW, or ideally in the field to the north if an agreement can be reached with th owner. Then, the trail continues along the railroad ROW to the final river cro which would be a 150' single span bridge between the existing Bandeme entrance and the railroad bridge. The need to build the final pedestrian bridge be avoided by routing the trail east-northeast through a woodlot where it cou









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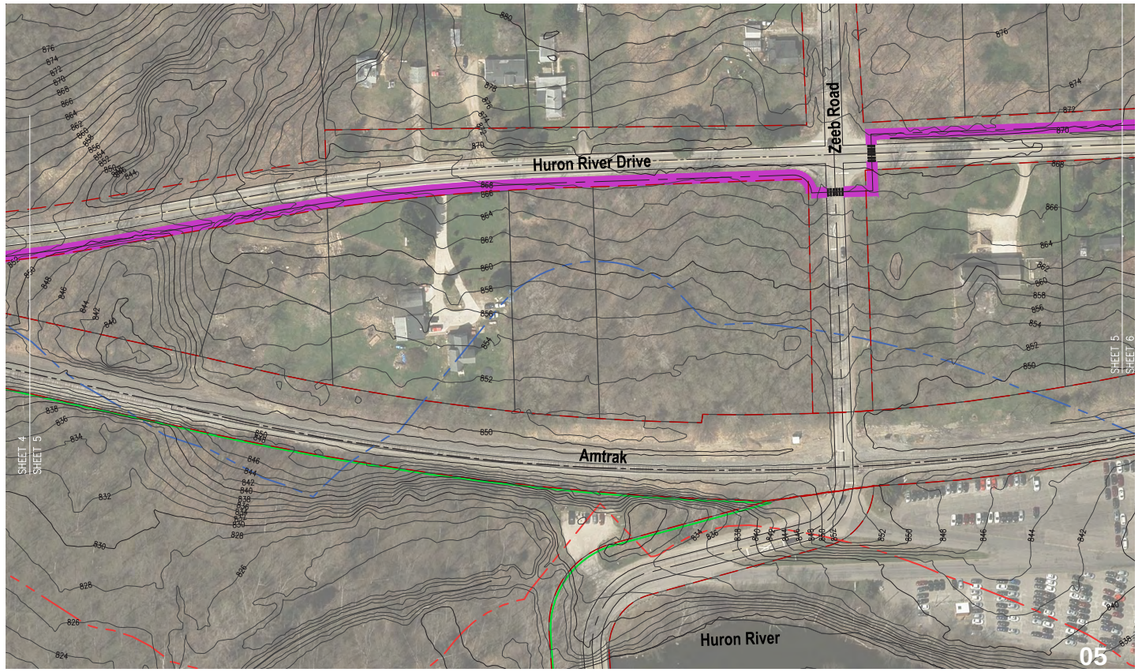
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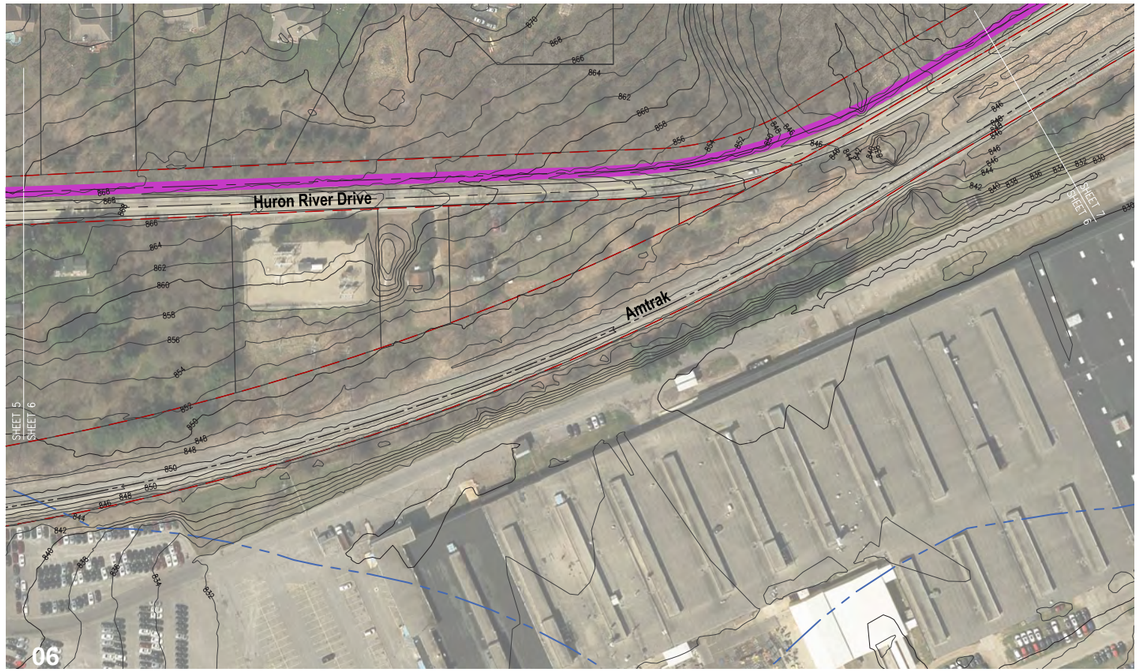
Huron River
SHEET 4
SHEET 5
SHEET 5
SHEET 6
05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SHEET 5
SHEET 6
SHEET 6
SHEET 7
06


SHEET 8
SHEET 7
07
Huron River Drive
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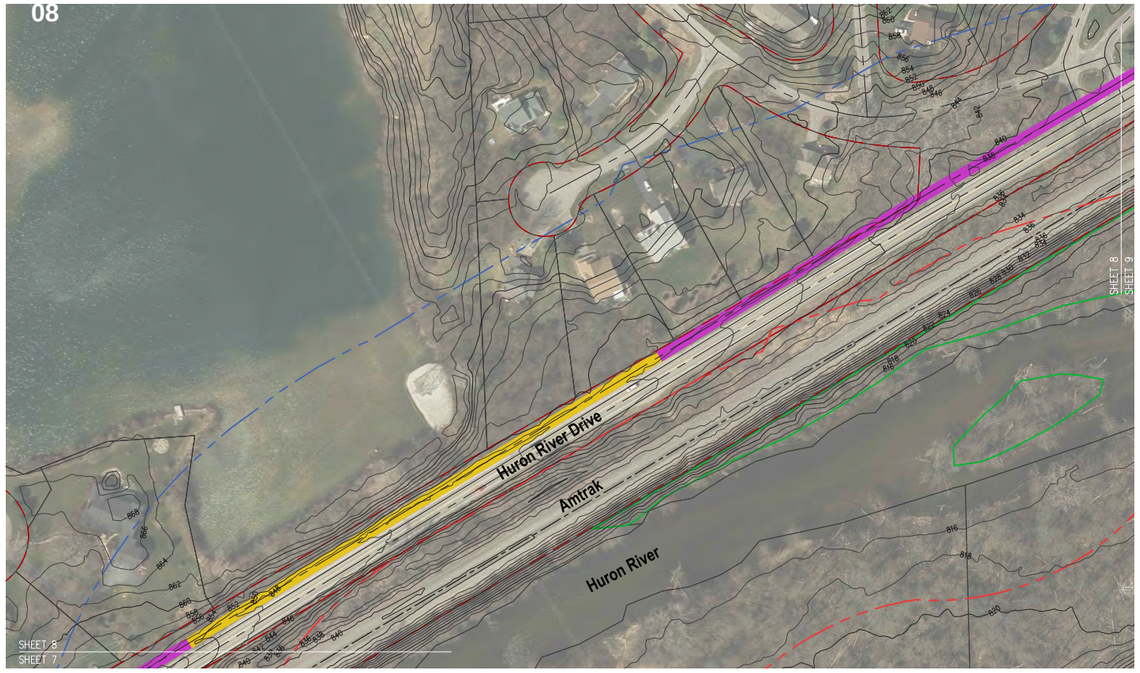
SHEET 6
SHEET 7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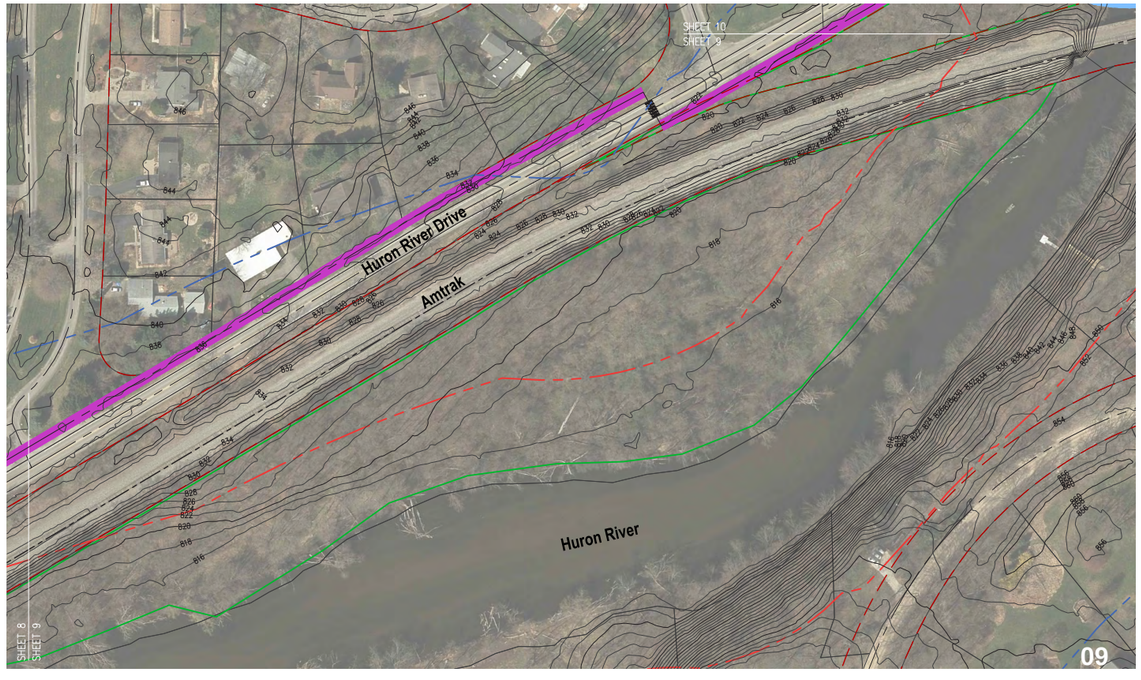
SHEET 9
SHEET 8
SHEET 7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Huron River
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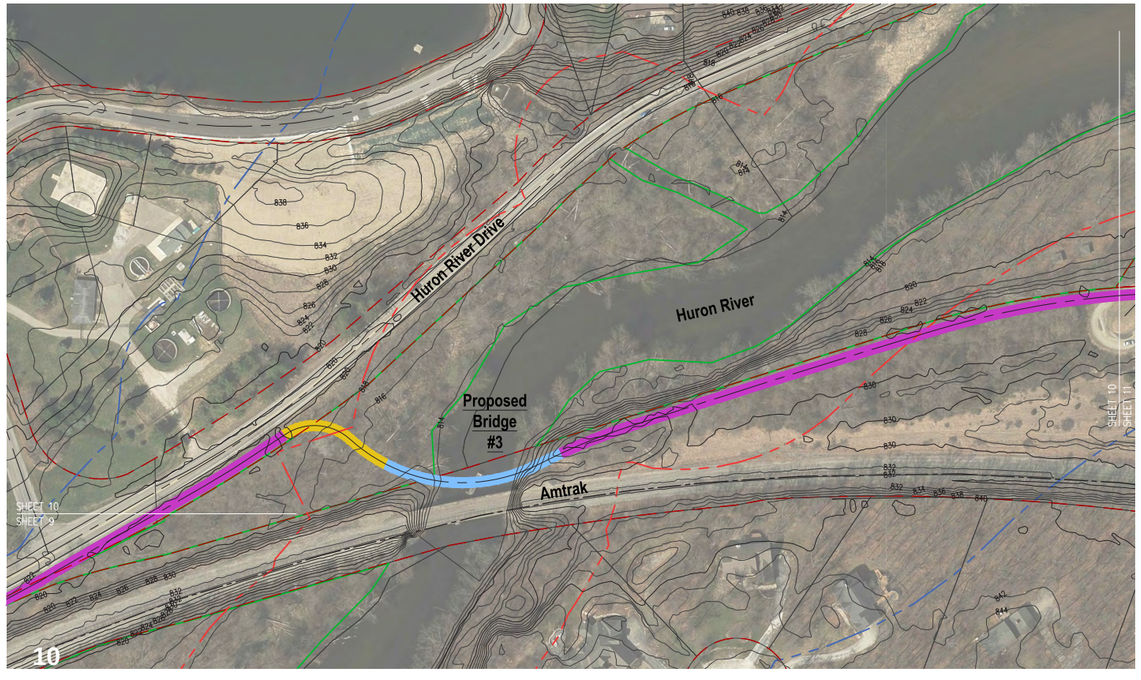
09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Bridge
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Amtrak
SHEET 10
SHEET 9
SHEET 10
SHEET 11
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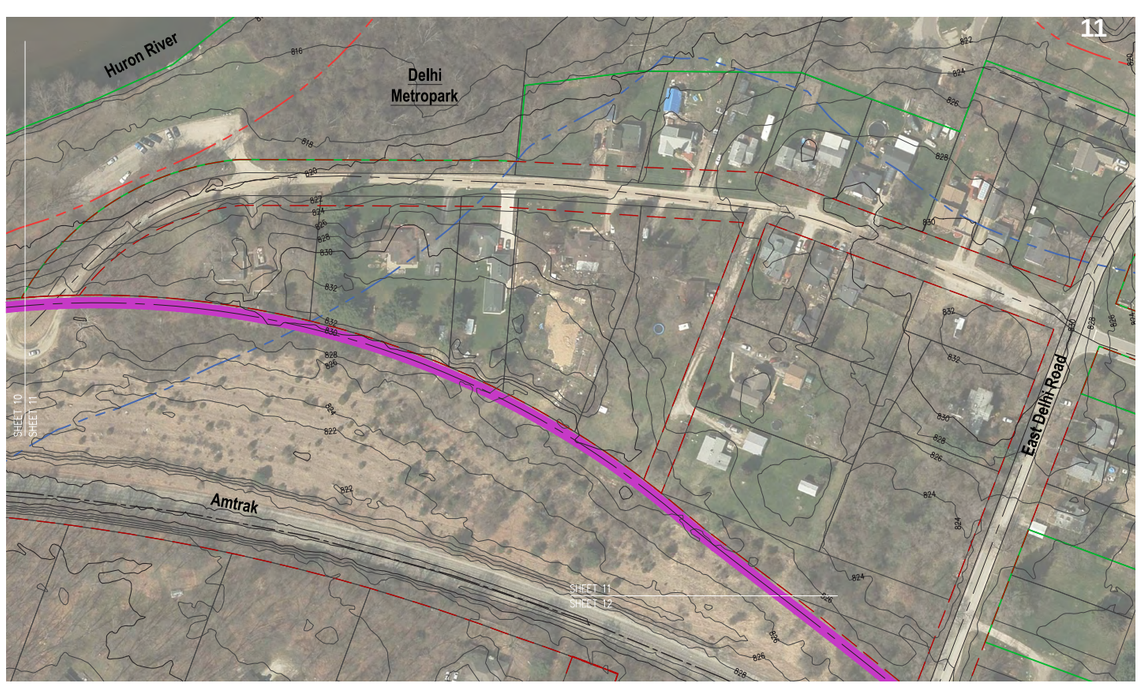
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Metropark
East Delhi Road
Amtrak
SHEET 11
SHEET 12
SHEET 10
SHEET 11
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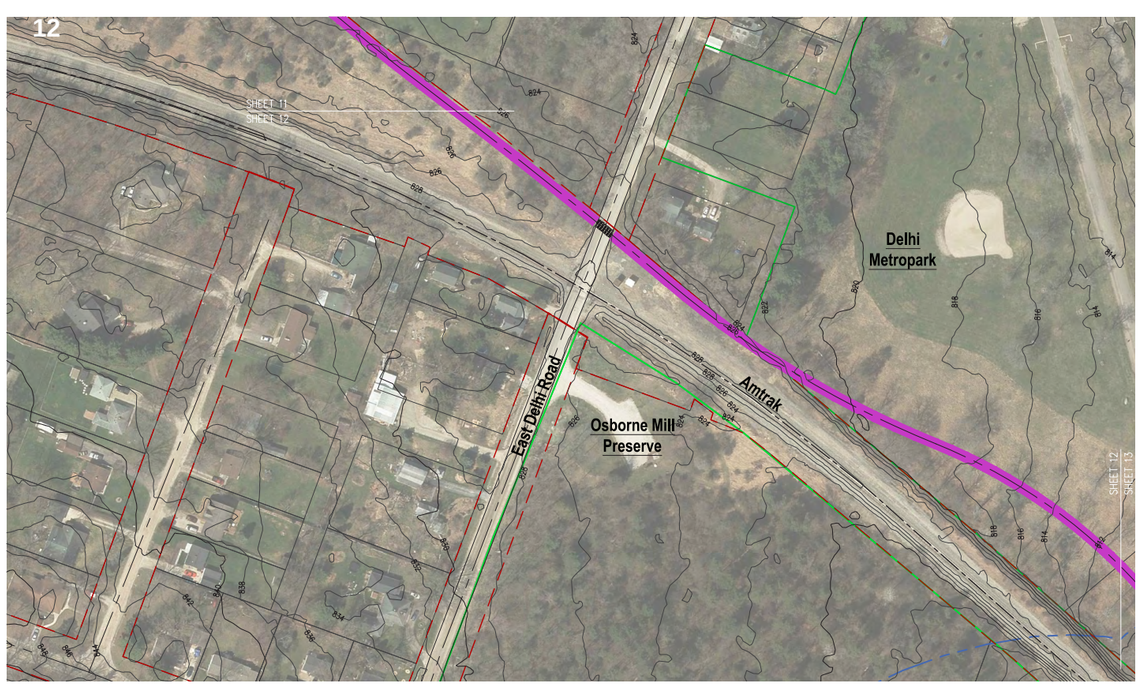
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East Delhi Road
Amtrak
Osborne Mill
Preserve
SHEET 11
SHEET 12
SHEET 12
SHEET 13
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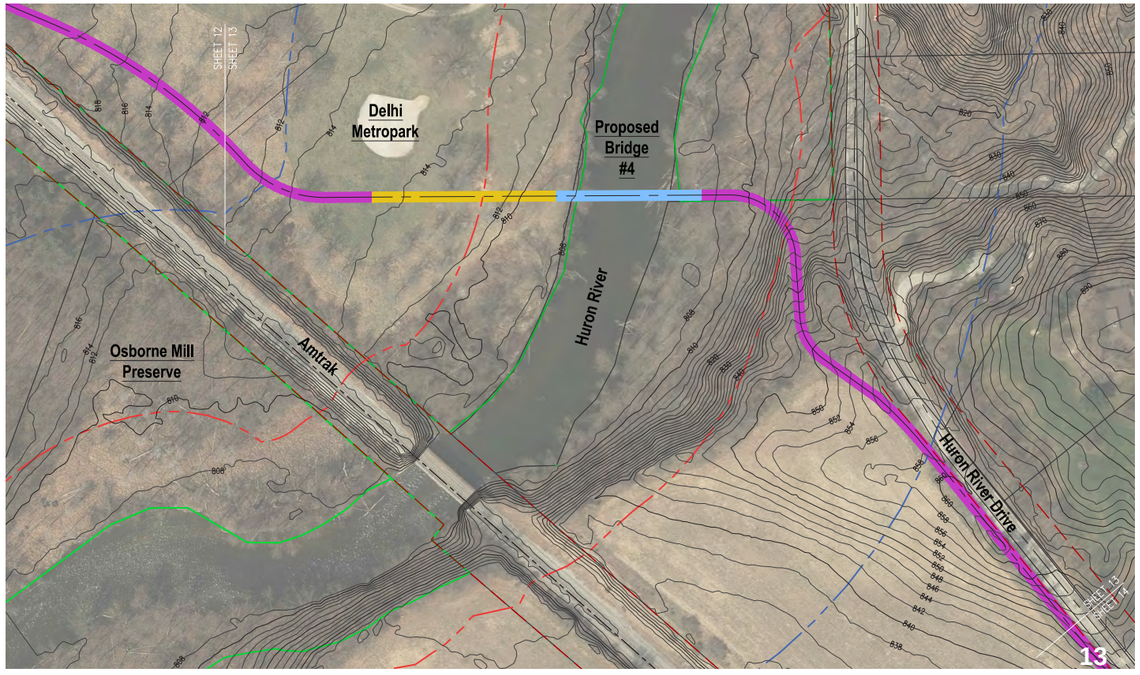
Delhi
Metropark
Proposed
Bridge
#4
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Osborne Mill
Preserve
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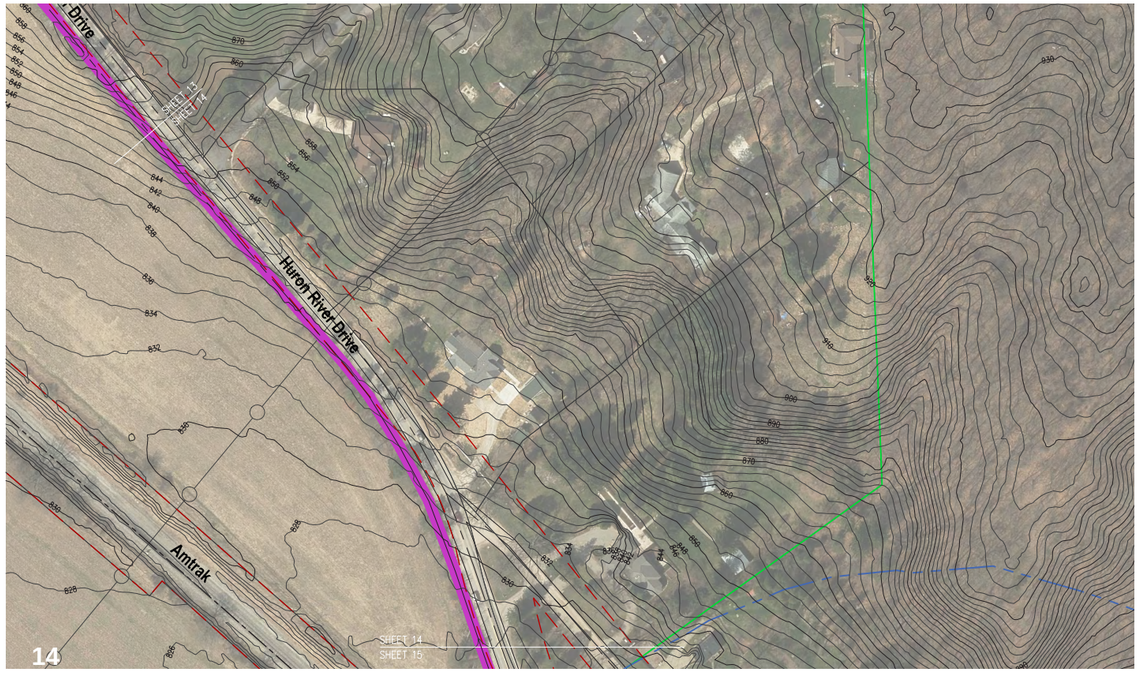
SHEET 13
SHEET 13
SHEET 14
13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SHEET 14
SHEET 15
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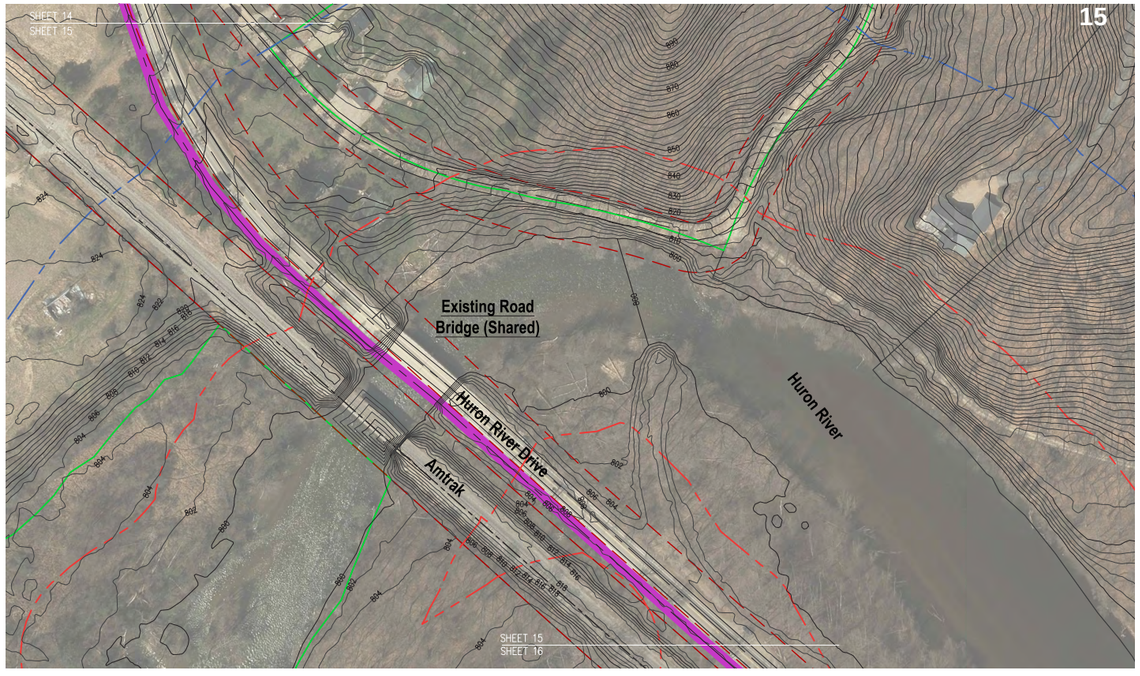
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SHEET 15
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Existing Road
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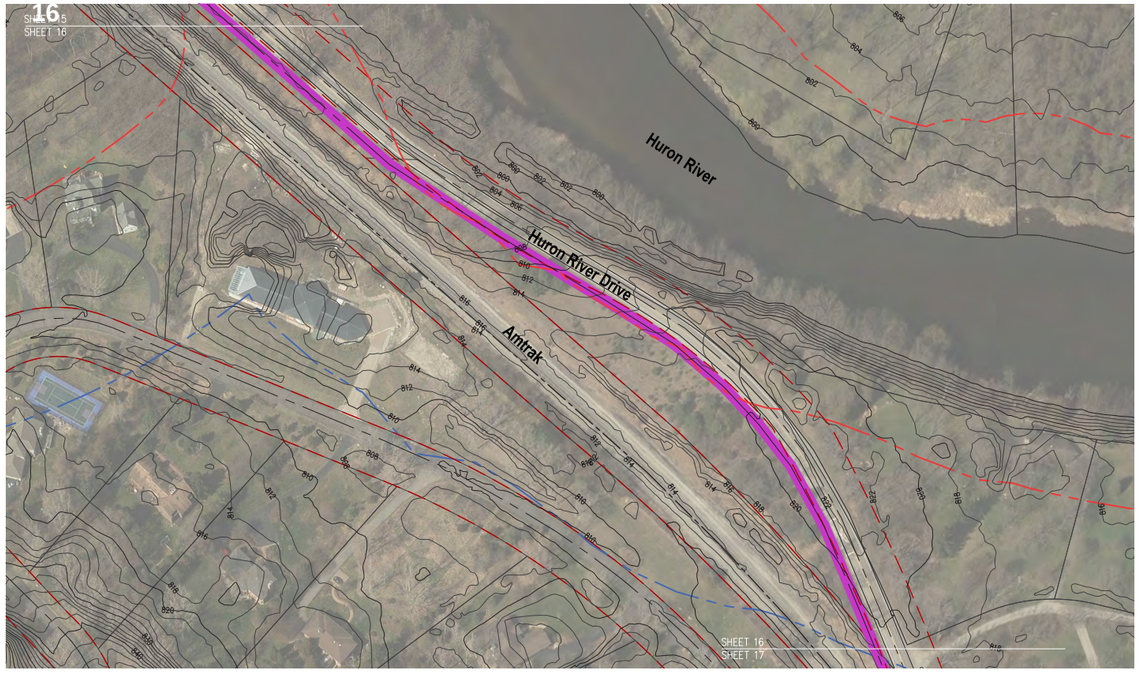
Amtrak
Huron River
SHEET 15
SHEET 16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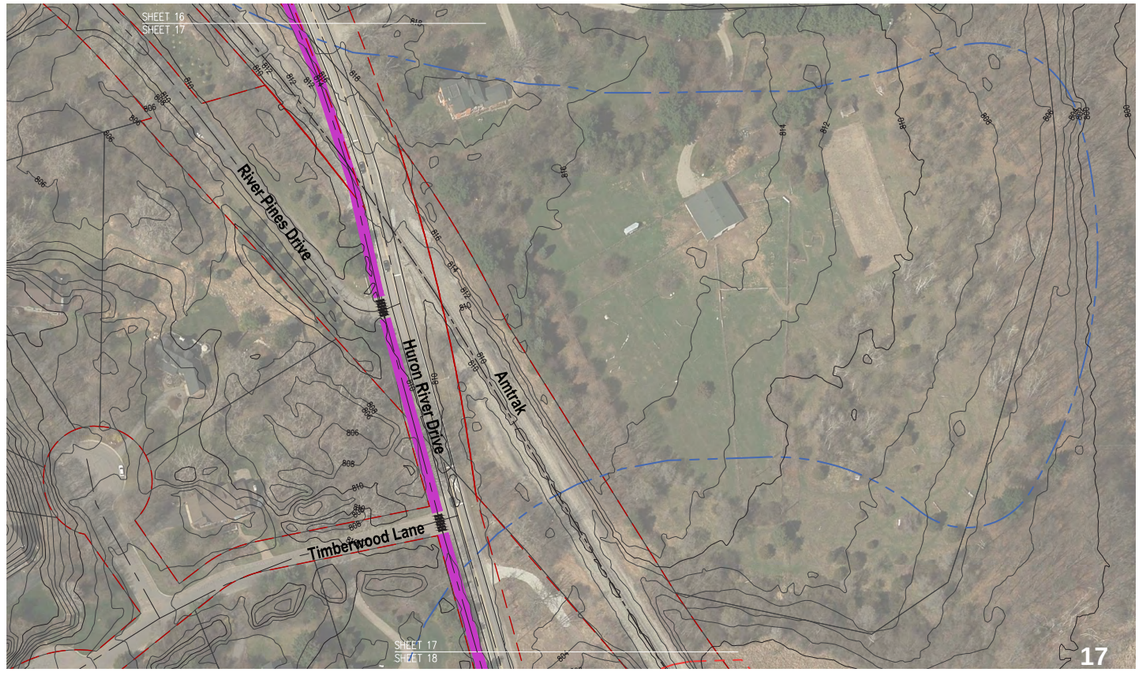
SHEET 17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SHEET 18
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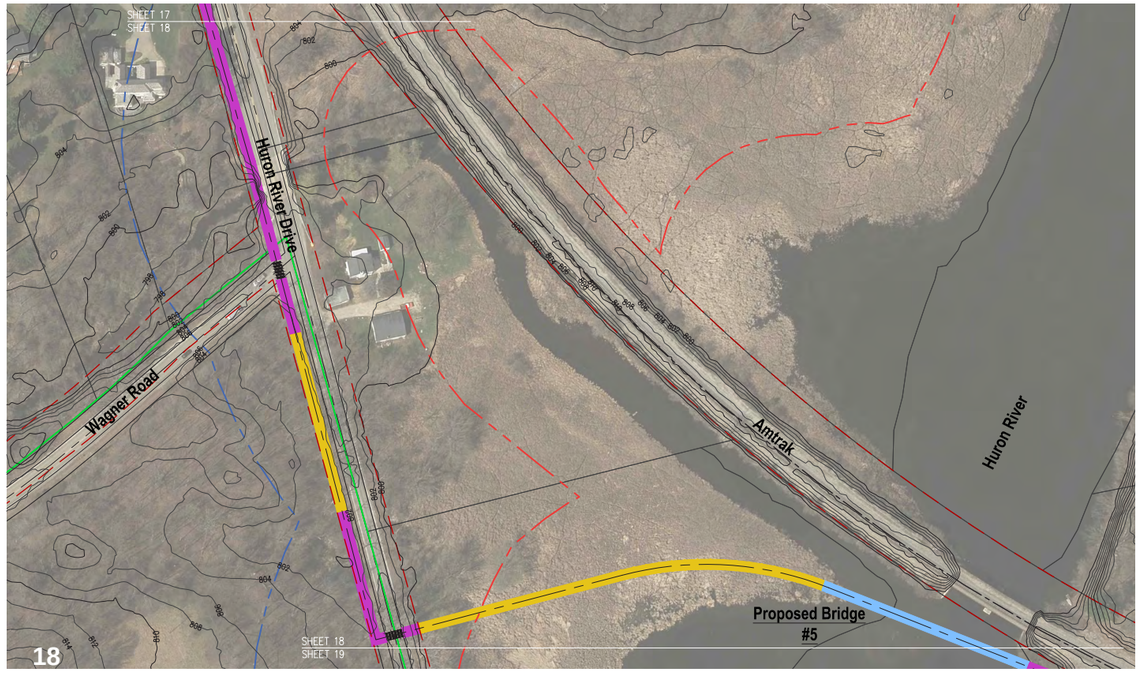
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Proposed Bridge
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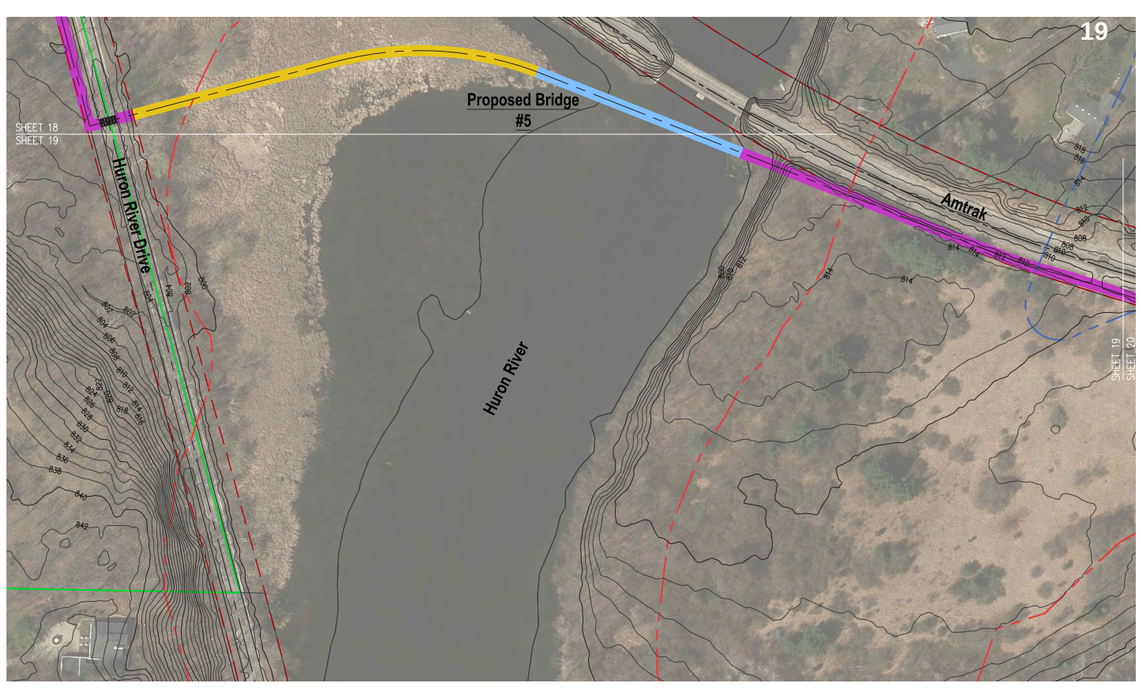
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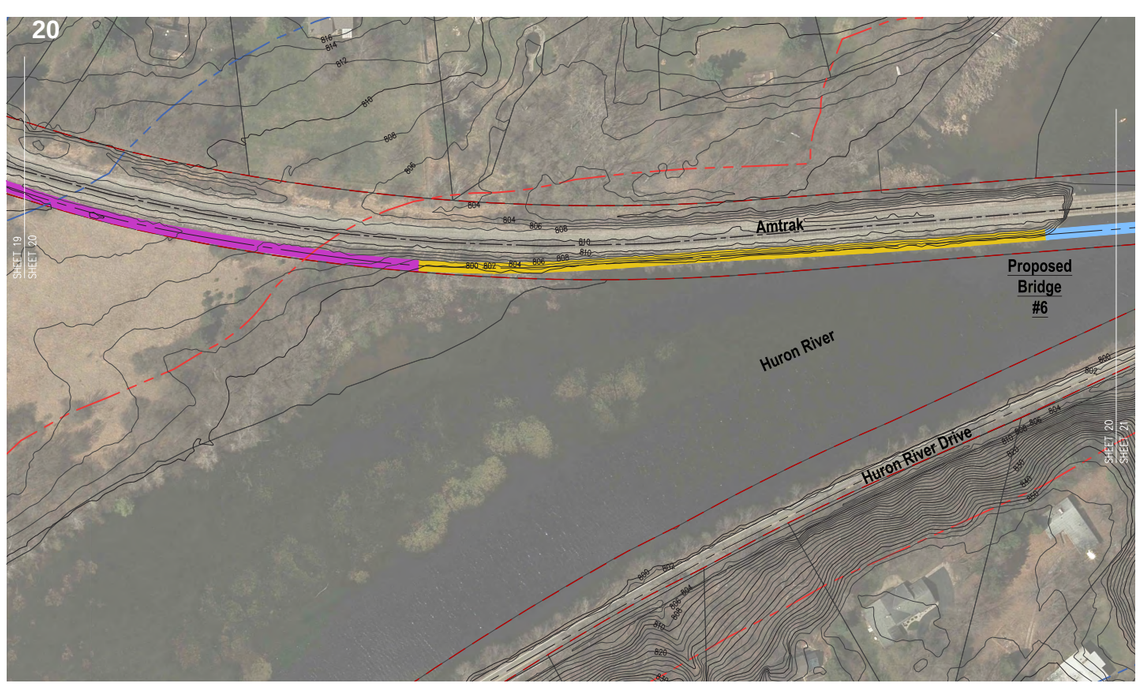
Huron River
SHEET 19
SHEET 20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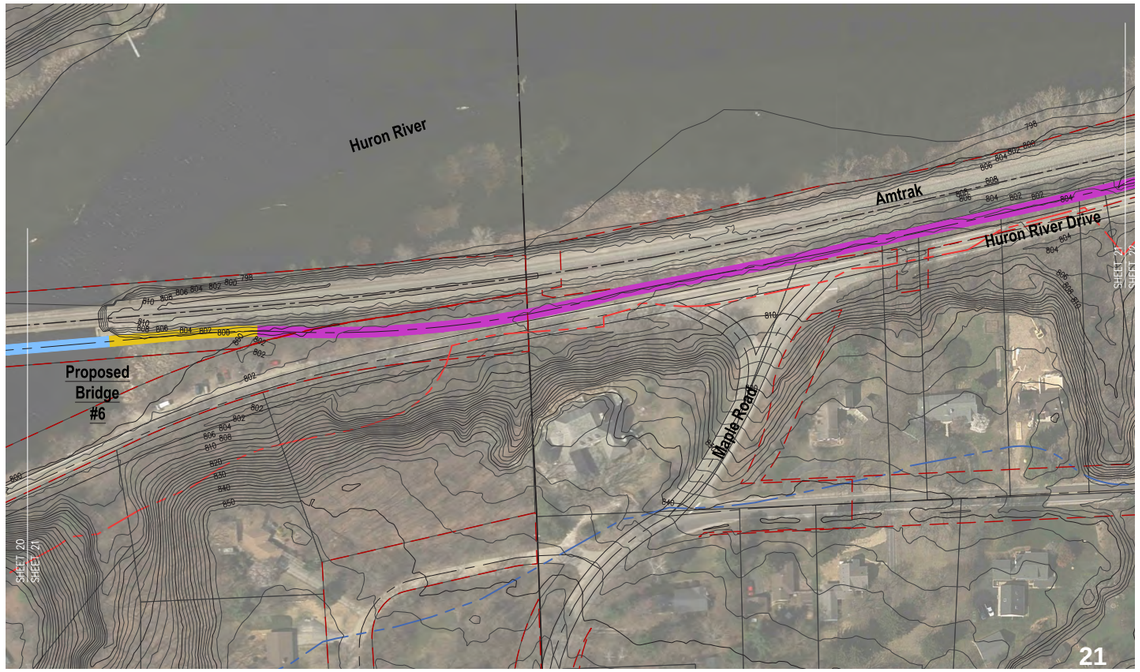
SHEET 21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Bridge
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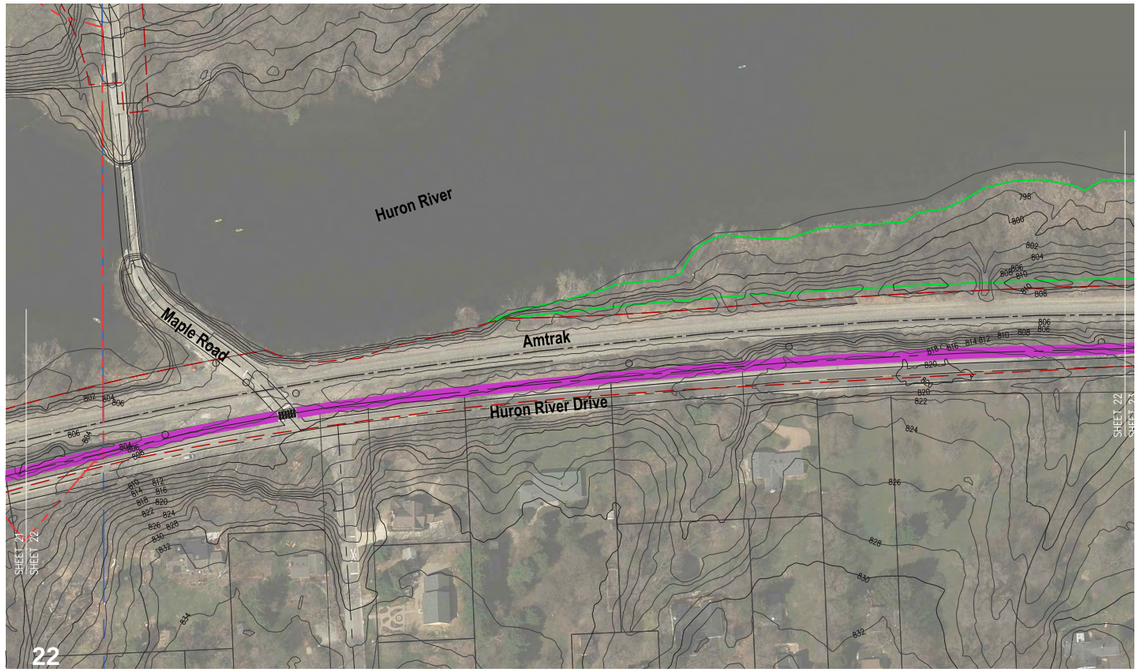
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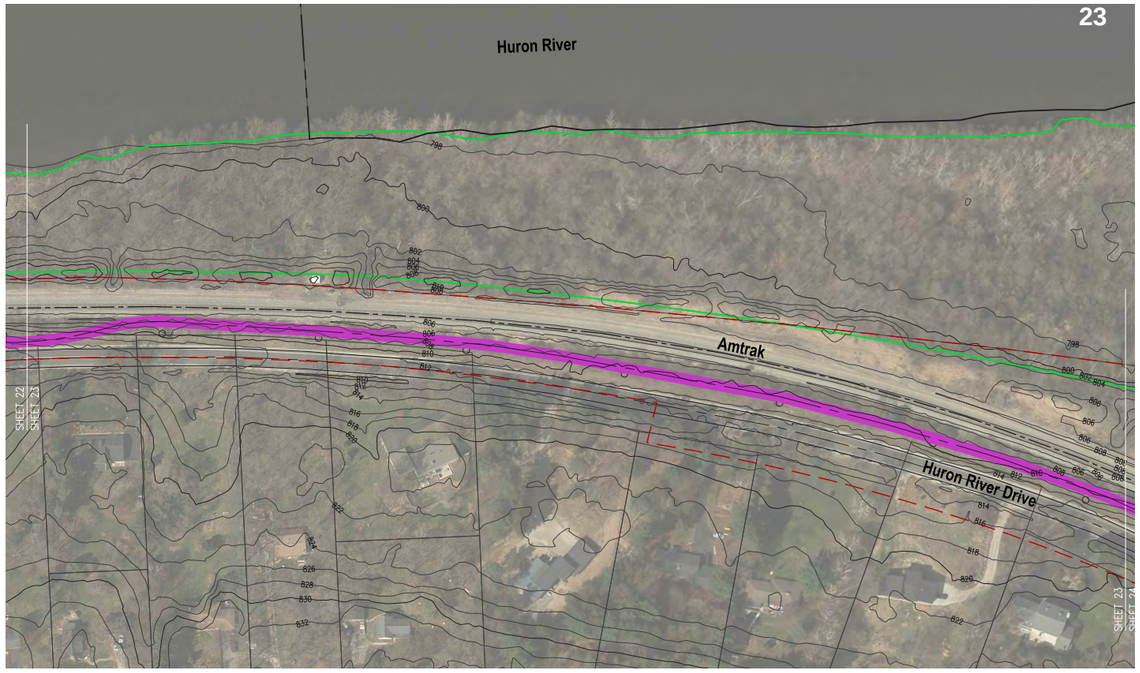
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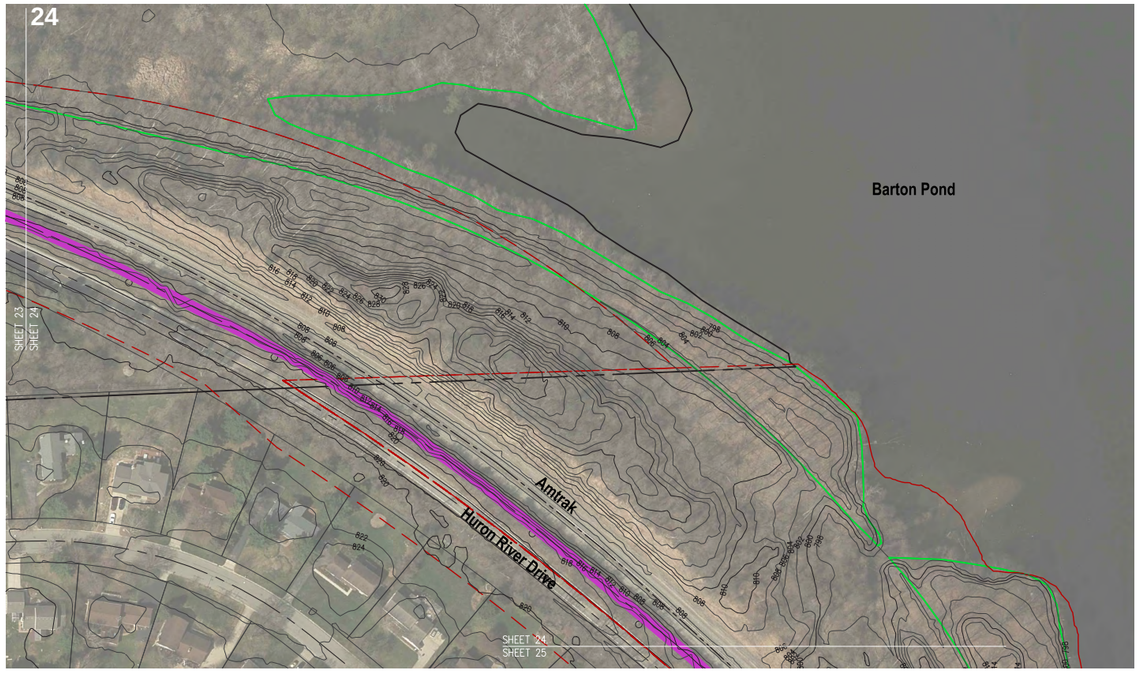
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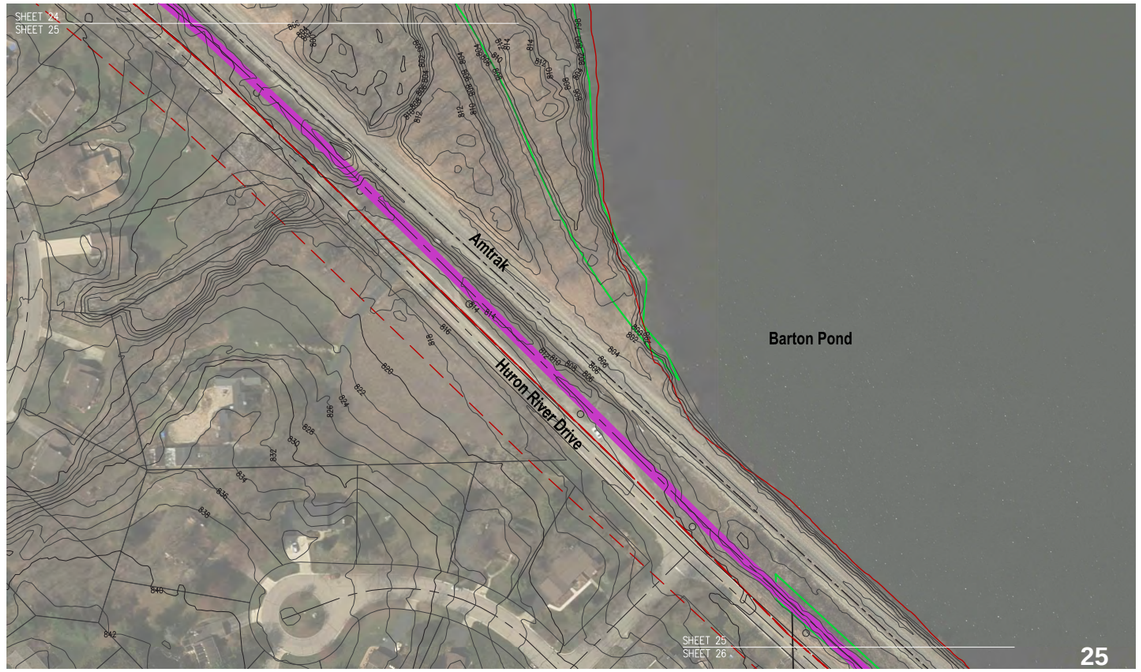
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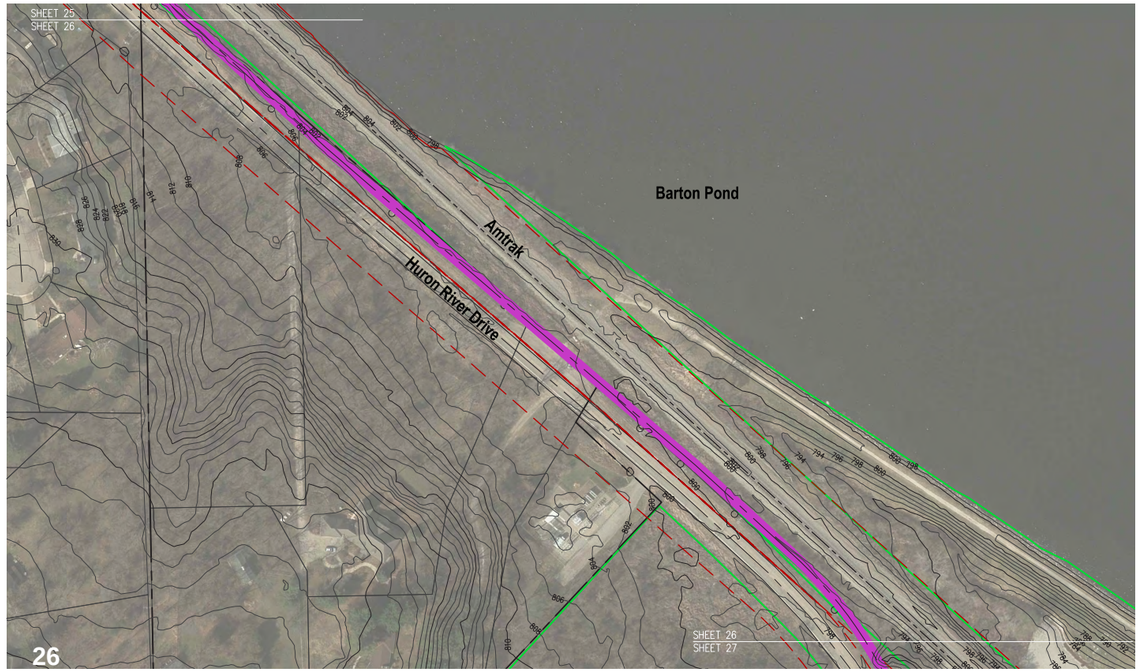
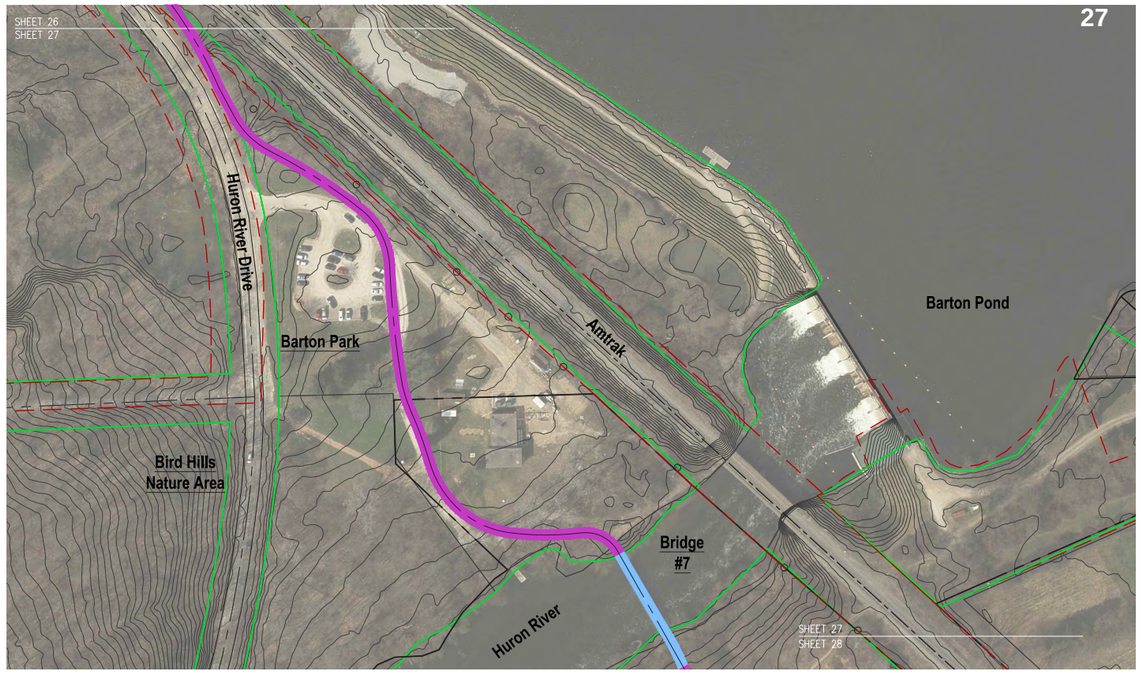
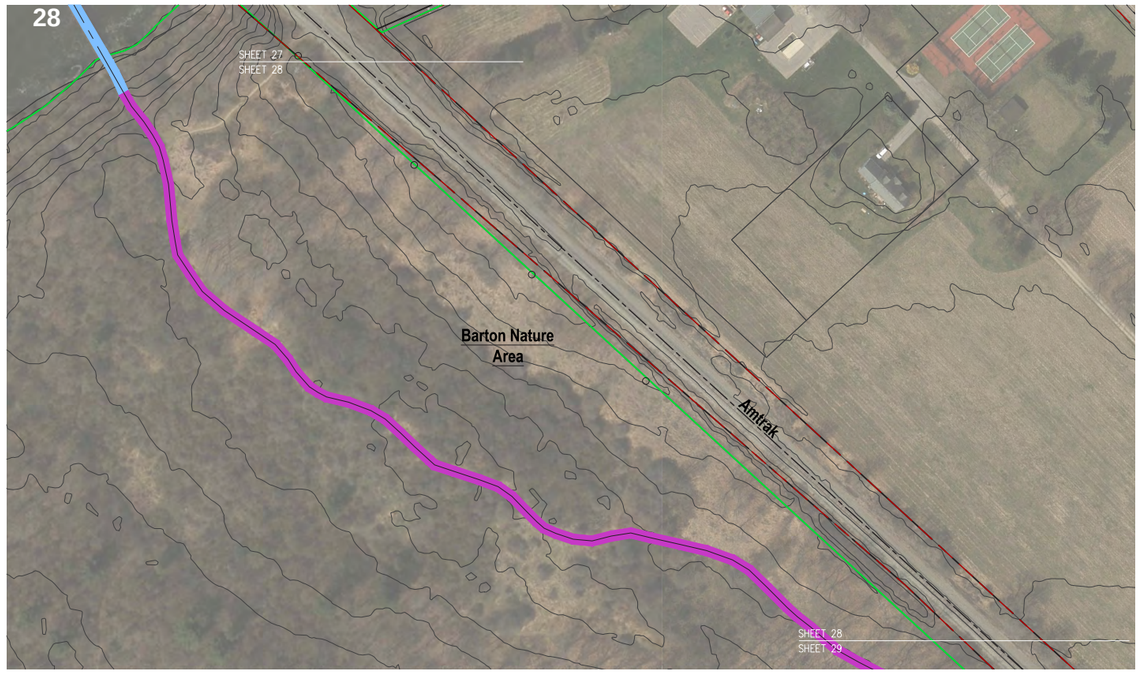
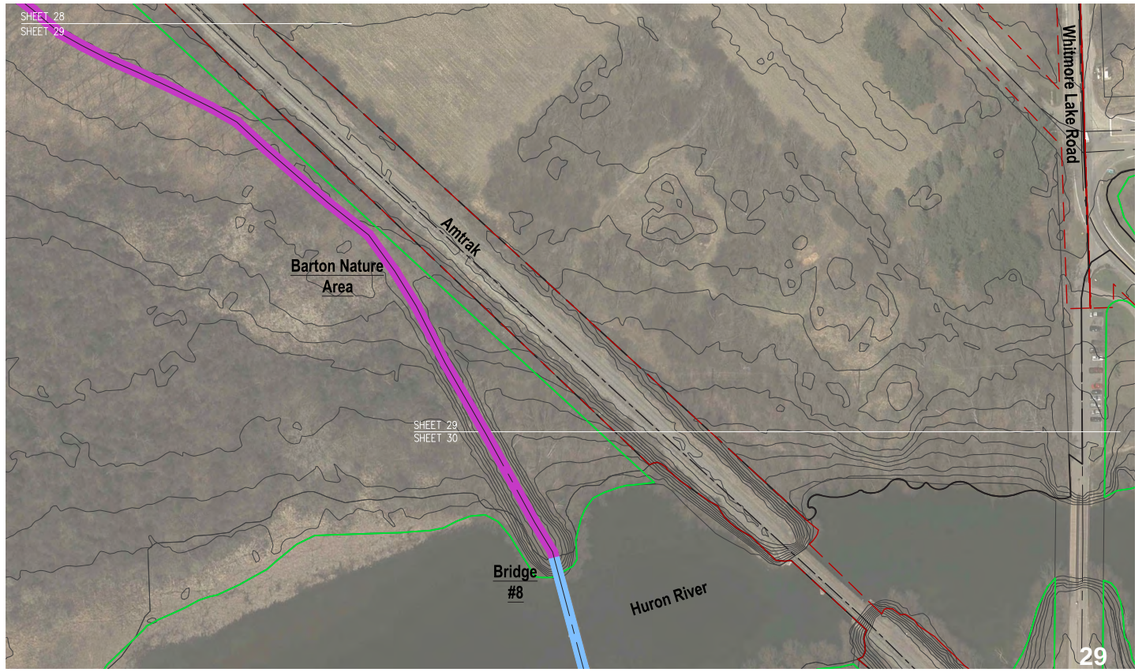
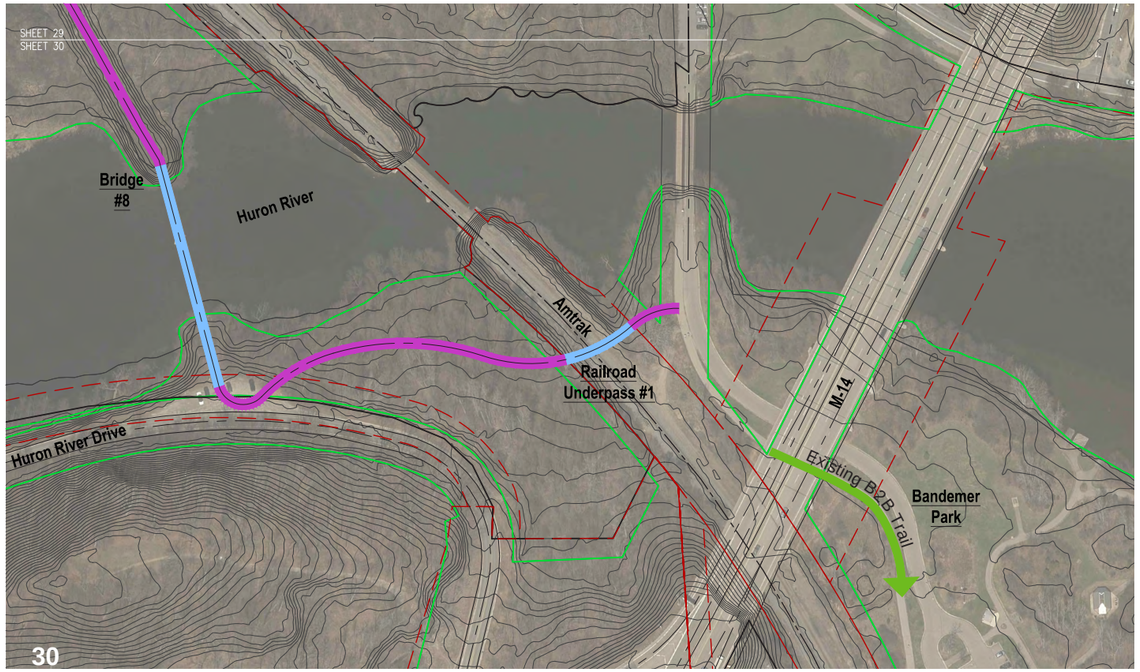
SHEET 26
25


SHEET 25
SHEET 26
Barton Pond
Amtrak
Huron River Drive
SHEET 26
SHEET 27
26


27
SHEET 26
SHEET 27
Huron River Drive
Barton Park
Amtrak
Barton Pond
Bird Hills
Nature Area
Bridge
#7
Huron River
SHEET 27
SHEET 28


28
SHEET 27
SHEET 28
Barton Nature
Area
Amtrak
SHEET 28
SHEET 29





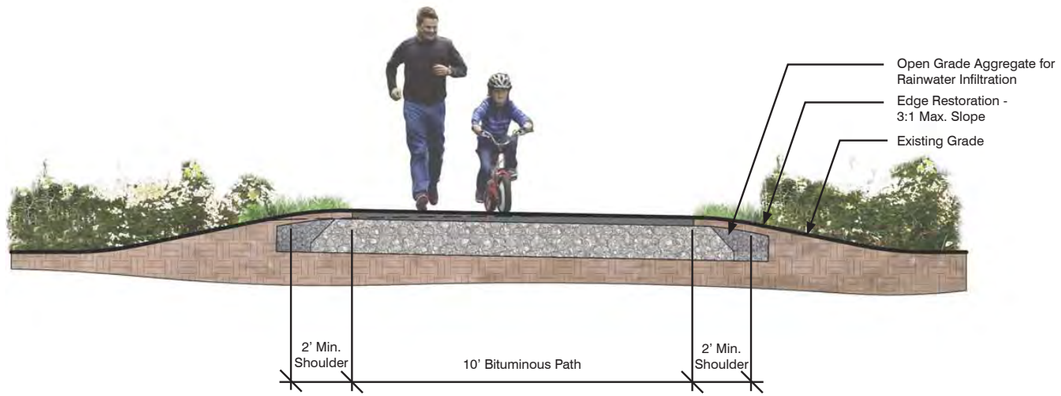
The preferred option for the final connection into the City of Ann Arbor at Bandemer Park is to use a tunnel under the railroad tracks. A well-worn footpath and visual observations demonstrate a great deal of existing demand for a crossing in this location. The primary advantage of the tunnel option, although more expensive than the alternative, is that it is a direct connection between destinations. Additionally, it is very close to the current, illegal crossing, making it convenient to use without going out of one's way. Finally, from MDOT and Amtrak's point of view, this area is a major safety concern that should be addressed.

The best alternative to the tunnel option is to cross underneath the railroad tracks near Barton Dam, just north of Bridge 7 (see alternative alignments, sheets 31-34). A major challenge here are the unknown issues that could surface when working around the dam and meeting ADA requirements to traverse the steep hill next to the dam. After crossing under the railroad, the trail would align parallel and north of the railroad, still within the railroad ROW, or ideally in the field to the north if an agreement can be reached with the land owner. Then, the trail continues along the railroad ROW to the final river crossing, which would be a 150' single span bridge between the existing Bandemer Park entrance and the railroad bridge. The need to build the final pedestrian bridge could be avoided by routing the trail east-northeast through a woodlot where it could use the existing shared vehicle/pedestrian bridge at the entrance to Bandemer Park. Using Bandemer's existing entrance will require an agreement with the owner of PIN IB-09-17-430-006.

PROPOSED TRAIL CROSS SECTIONS - TYPICALS

Trail cross sections have evolved in response to both contextual and site specific conditions. Providing critical guidance to the design are: respect for the riverine environment, principles of universal access (ADA), AASHTO standards, eligibility for state grant funding, and creating opportunities for interpretation of natural systems, and multi-use non-motorized trail recreation. Detailed site conditions that drive the design include: soil types, slopes, water resources, existing vegetation, methods of construction and continued maintenance of the trail. “Typical” trail cross sections have been developed using the site specific criteria for some of the common trail profiles along the alignment. They are generally representative of the site conditions and will guide construction documentation, but will require further investigation in the field for precise engineering. AASHTO compliance is necessary for grant funding eligibility.

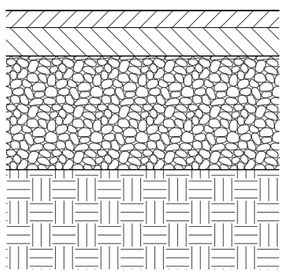
The following pages illustrate some of the “typical” configurations for the trail fitted to the variety of environments through which the proposed alignment passes



TYPICAL TRAIL CROSS SECTION
Typical cross section with 10’ wide path and 2’ minimum shoulders (AASHTO Standard), blending into existing topography with the least distribution to adjacent native vegetation.

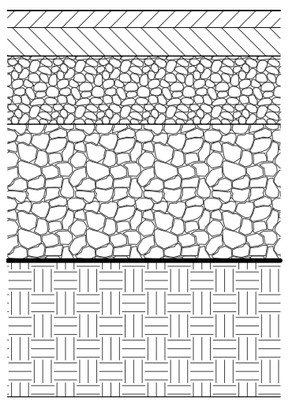
TRAIL PAVING - TYPE A

This paving section is the dominant recommendation for establishing a new trail in these segments of the B2B Trail. Its use is in locations where soil and water conditions are relatively stable, but exact depths will be determined with full detailed geotechnical analysis/soil borings during the design and engineering process. An open grade aggregate base provides for a longer lasting, stronger surface by allowing quicker infiltration of rainwater and seasonal melt waters



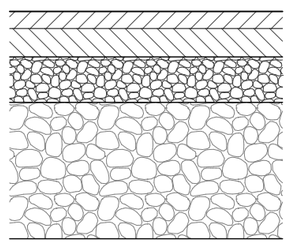
TRAIL PAVING - TYPE B

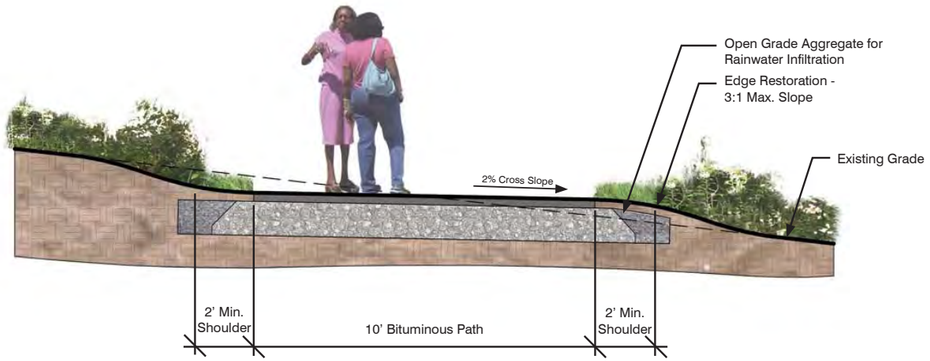
This paving section is proposed in non-wetland or floodplain locations with unstable soils but yet not requiring use of a boardwalk, i.e., where soils may be either organic or very silty. The goal to construct a stable path is accomplished with structural depth of [open grade] aggregate base so as to minimize the frequency of needed repair and repaving.

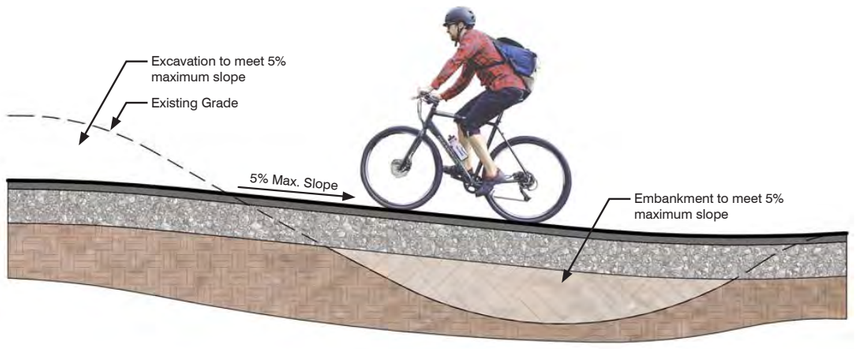


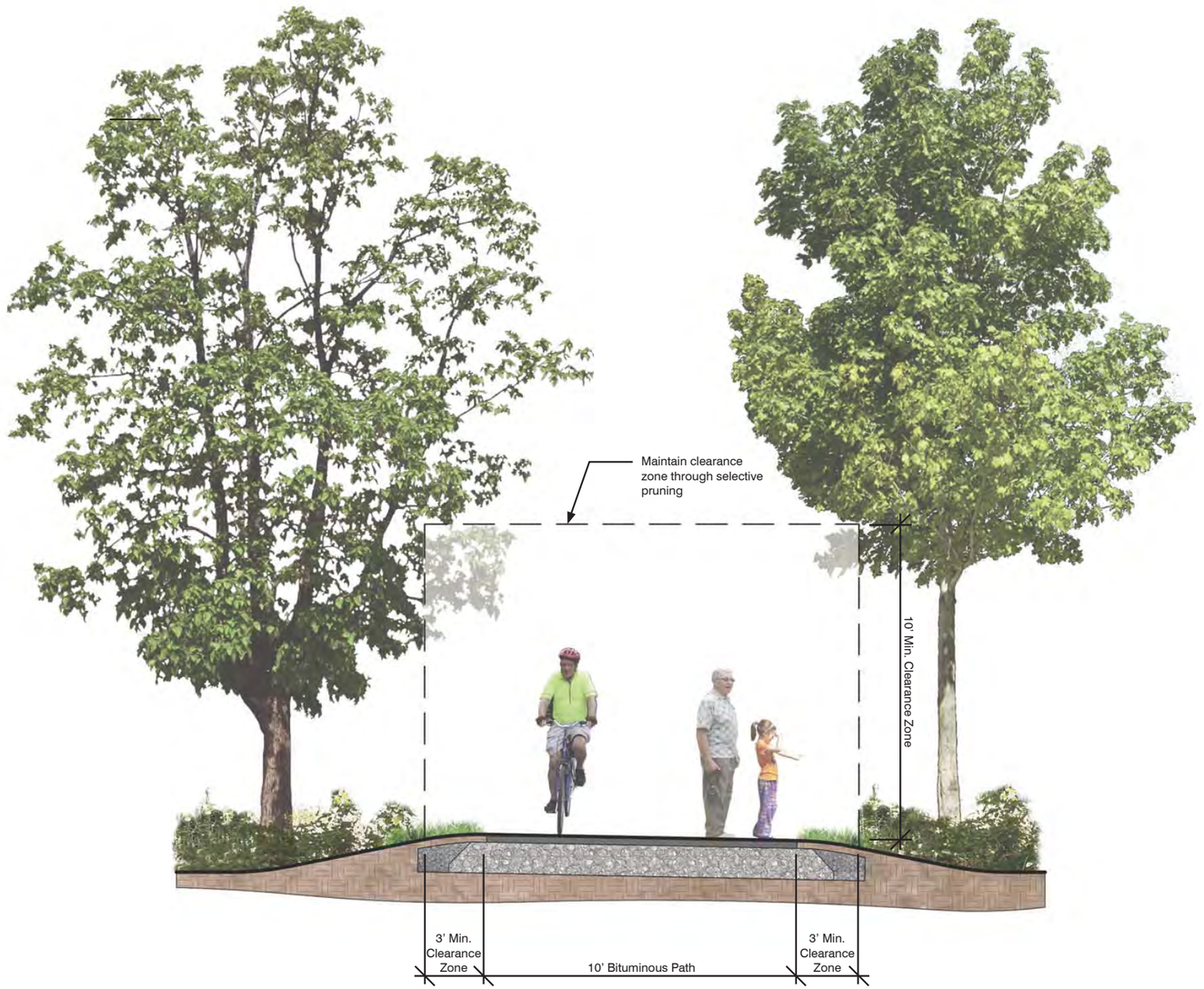
TRAIL PAVING - TYPE C

Where the path is placed on top of an existing gravel surface (ex. path or service drive in Dexter-Huron Metropark), additional granular base and bituminous paving are both cost effective and minimally disruptive.







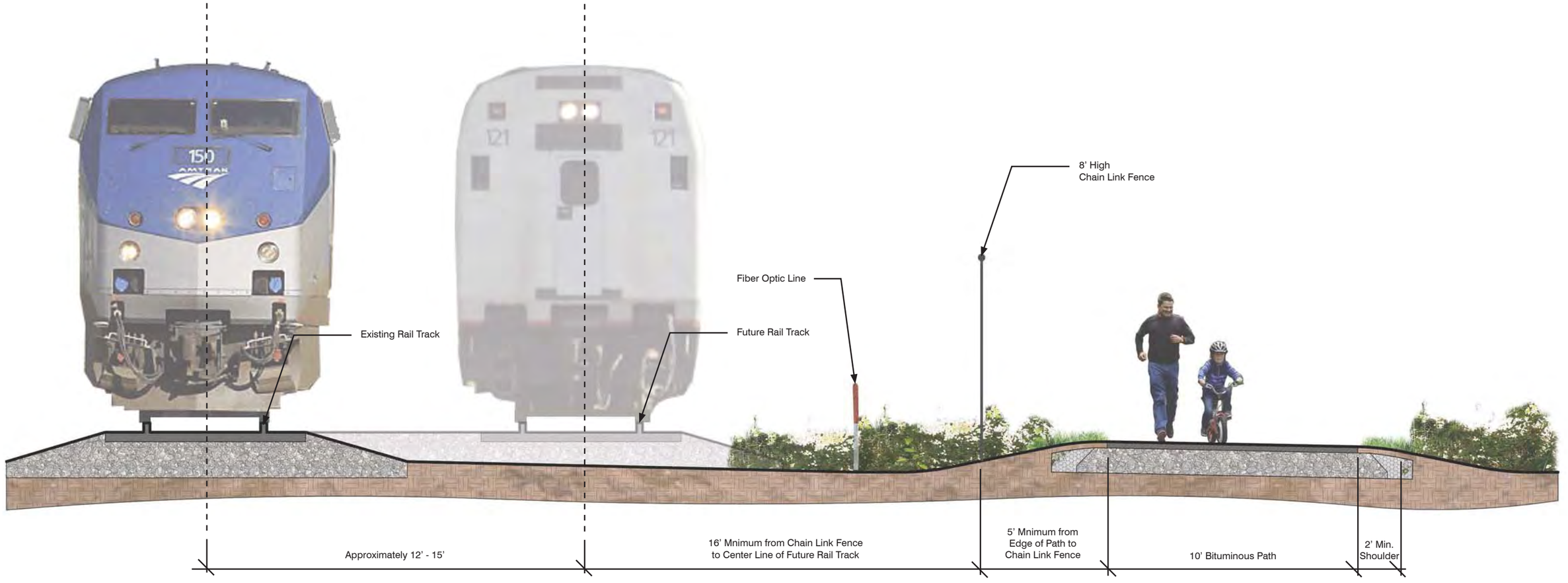


MAXIMUM GRADIENT ALONG TRAIL

The trail will have a recommended 1.0% cross slope; 2% maximum. 1:6 maximum cross slope on shoulder. Centerline gradient of 5% to meet requirements of the Americans with Disabilities Act (ADA) and AASHTO, and to meet the goals of the trail to be universally designed. 8.3% maximum centerline gradient is allowable up to 200 feet, however, anything over 5% has additional requirements that includes railings, landings, etc.

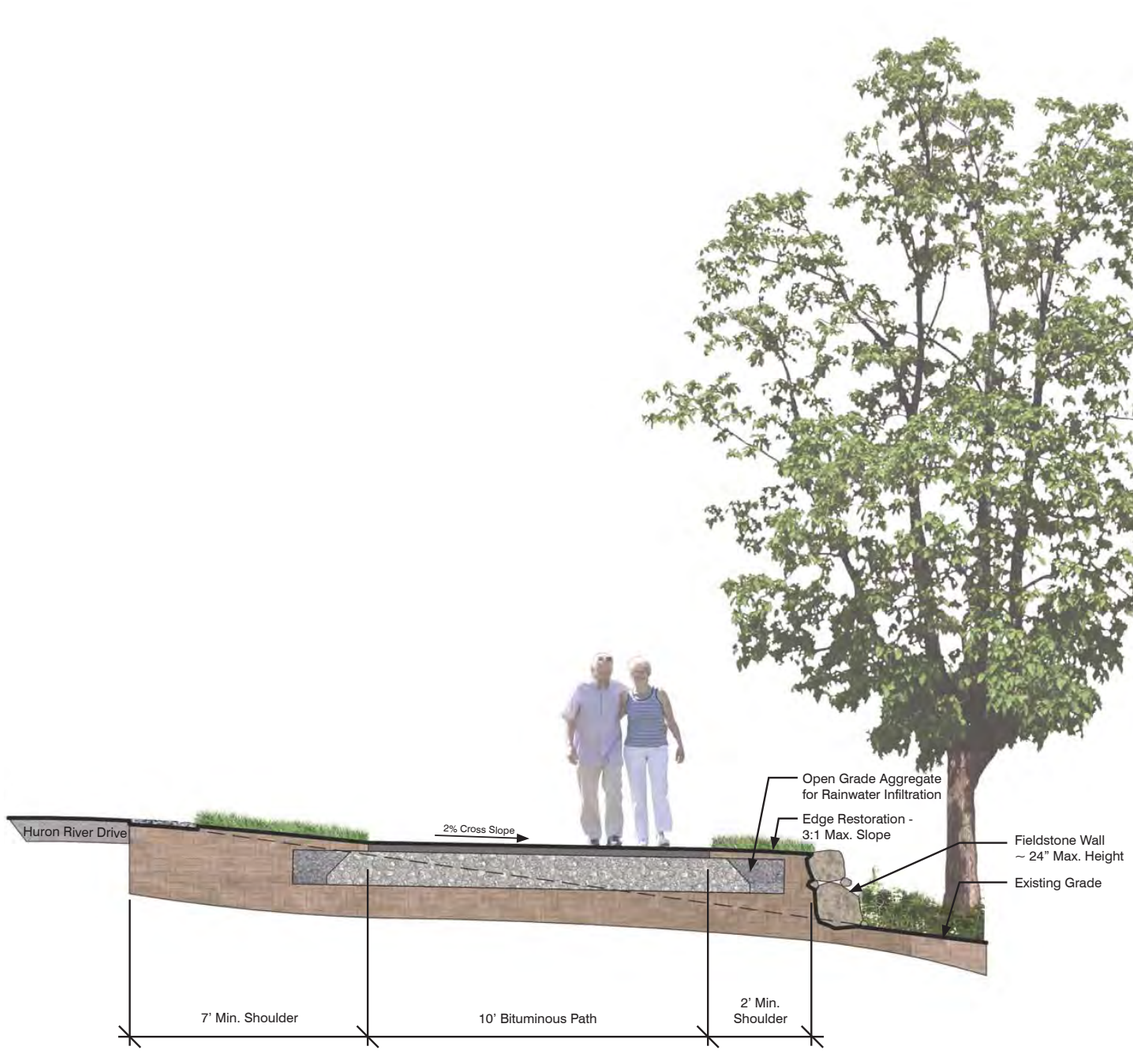
BITUMINOUS TRAIL AT GRADE WITH CLEARANCE ZONE

Typical cross section where trail is placed at grade with only minimal grading required to achieve a maximum cross slope of 2% and maximum trail gradient of 5%. For the length of the trail, selective pruning and removal will be used to maintain a clearance zone which is 10' high and extends 3' within the Metroparks and 2' elsewhere beyond the edge of pavement on both sides of the trail.



TRAIL SEPARATION WITHIN MDOT R.O.W.

Typical cross section of the required safety separation distances and barriers when the trail parallels the active rail line. This section accommodates a future second set of tracks.

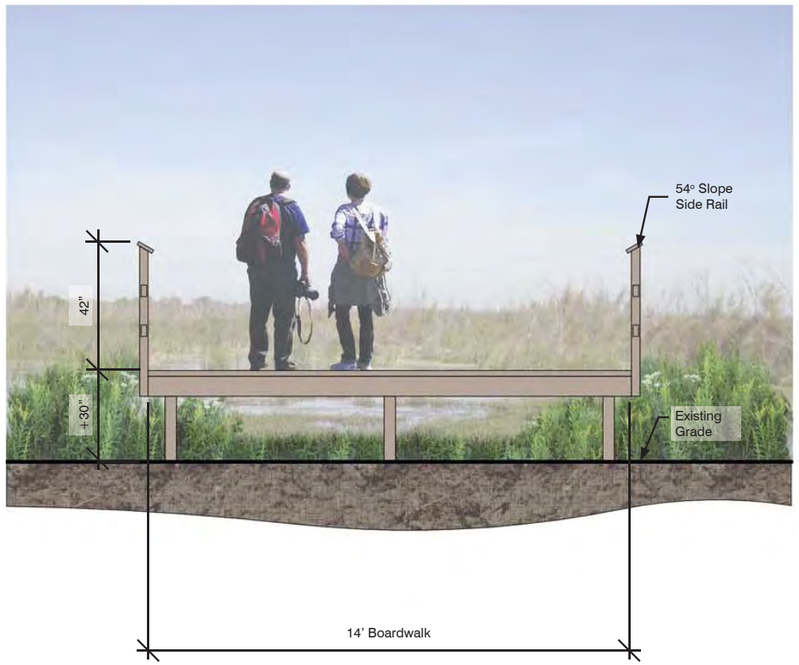


BITUMINOUS TRAIL ALONG HURON RIVER DRIVE

The bituminous trail will be placed on slight to moderate cross slopes adjacent to Huron River Drive through a combination of shoulder grading and use of fieldstone walls where the maximum side slope is greater than 3:1. Although the trail will be separated from Huron River Drive to the maximum degree possible, a minimum 7' separation is required by WCRC while AASHTO only requires 5' and as a literal and perceptual measure of safety.

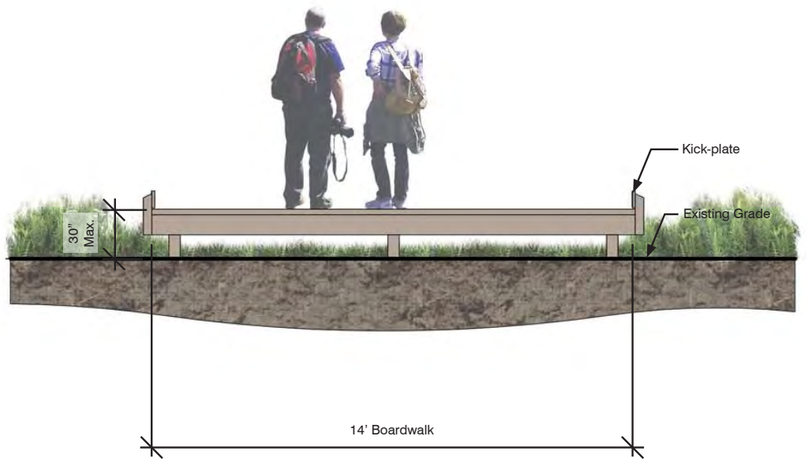
BOARDWALK ALONG HURON RIVER DRIVE

The trail will take the form of a raised boardwalk in areas where the existing grade slopes severely from the edge of Huron River Drive down to the river or railroad. A 42" minimum bicycle guardrail will be provided on the raised (river) side of the boardwalk along with a minimum 7' (5' is minimum allowed by AASHTO) shoulder, required by the WCRC, between the boardwalk and Huron River Drive.



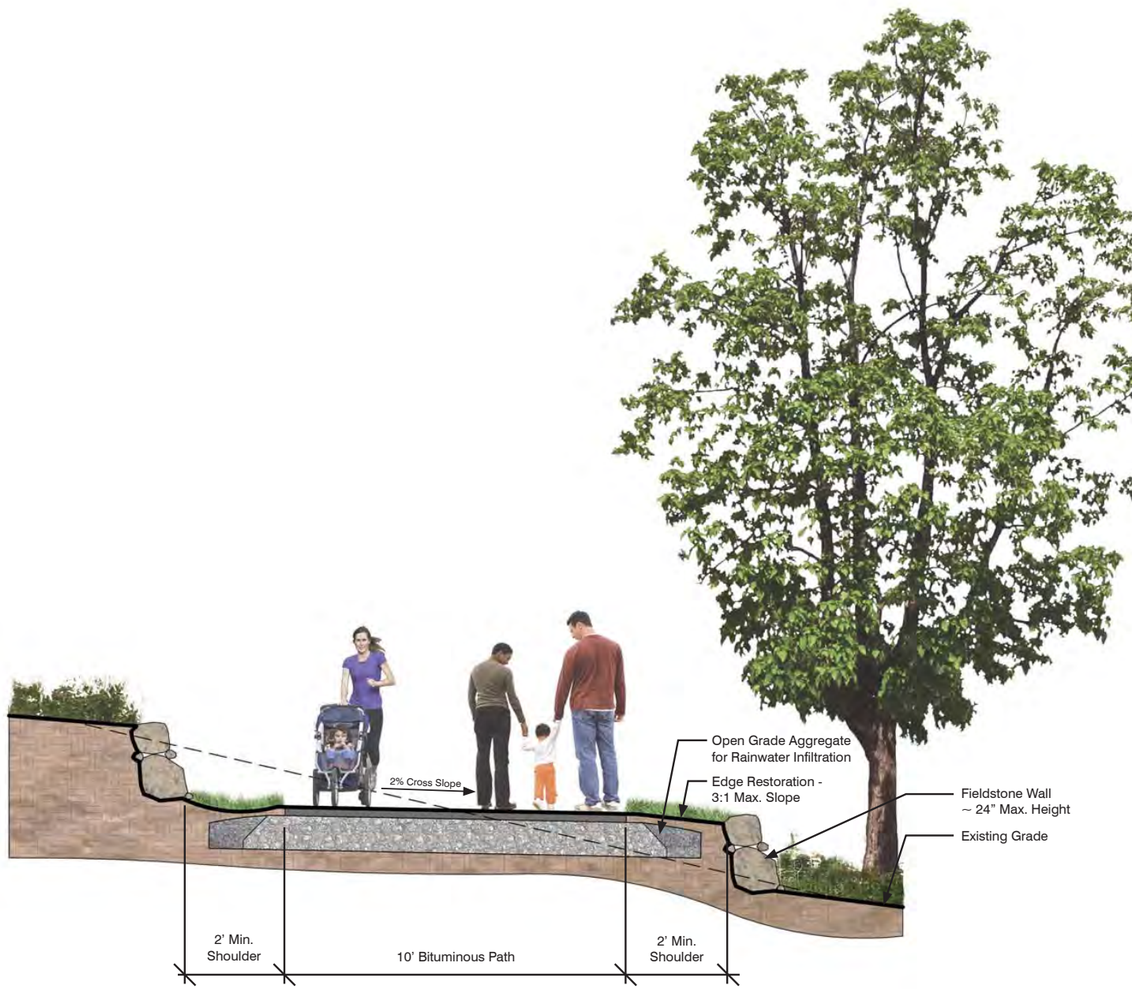
BOARDWALK THROUGH WETLANDS WITH RAILING

14’ width is required by AASHTO to maintain the same trail dimensions as the paved portions plus each shoulder (2’ shoulder + 10’ trail + 2’ shoulder = 14’). Trail surface heights greater than 30” above existing grade will require a minimum 42” handrail to meet AASHTO requirements; if adjacent slopes are too steep, the condition may require a 48” height. At designated points along the trail (25% of the railing), the handrail will be lowered to 34” to allow better unobstructed viewing from wheelchairs and for children.



BOARDWALK THROUGH WETLANDS WITH KICK RAIL

A boardwalk will be used in selected locations in order to allow surface drainage to continue unimpeded under the structure and in locations where soils do not provide the stability needed for a bituminous trail. They will also be used in wetland and floodplain locations to minimize the environmental impact. The height of the boardwalk will vary between 0” and 30” from existing grade in order to eliminate railing where possible. A kick rail is recommended to provide a safety barrier for young bicyclists and wheelchair users.



BITUMINOUS TRAIL WITH RETAINING WALLS

Cross sections for use on existing grades with moderate to severe cross slopes. The trail will be placed into the slope by grading 2' shoulders to a maximum 3:1 slope as required by AASHTO and then can grade 6:1 beyond to meet existing grade. On more severe slopes, fieldstone walls (24" maximum height above grade) will be used above and/or below the trail as needed to provide adequate soil retainage and trail shoulders.

Seating Concepts by Rizzolo Brown Studio

Painter at Dexter Plein Air Festival

"Flow" by artist Joshua Weiner

"Canoe Fan" by artist: Victoria Fuller

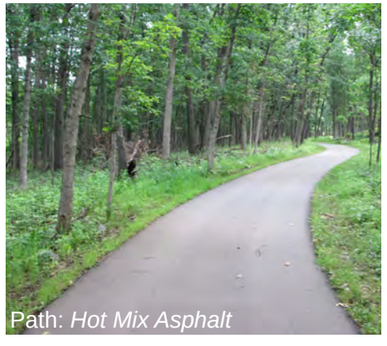
ART AND DESIGN

Where possible, art should be integrated into trail elements and features. Art could also be strategically placed within the context of the cultural and/or ecological surroundings to highlight certain features. The trail itself can also be art. Site amenities such as benches, shade shelters or sculptures should be encouraged as element of art. Designing the trail alignment to lay lightly on the landscape by following the natural topography and features is one of the best ways to achieve this. Events such as the Dexter Plein Air Festival held in August, should be promoted through a collaboration with the City of Dexter and the WCPARC.

Path

Hot Mix Asphalt – This surface material should consider a low-energy, low-emission and low-environmental impact asphalt. This class of asphalt uses sustainable practices during the manufacturing process and materials supply chain.

Concrete – As the trail approaches a road crossing, the surface material should change from the asphalt to concrete which further reinforces and signifies to be alert to the crossing.


Path: *Hot Mix Asphalt*

Path: *Concrete*

Boardwalks

Railing/Kick-rail - The use of a composite lumber provides a durable, weather resistant and long-life material that is composed of post-consumer recycled plastics.

Incorporating a black vinyl coated woven wire mesh as the panels between rail posts provides opacity which minimizes visual impacts on the landscape viewed from off the trail, but allows the landscape to come through when on the trail.


Railing: *Wire Mesh*


Boardwalk: *Kick-rail*

Boardwalk Deck Material – Use of either thick dimensional wood or pre-cast concrete as planks will provide a long lasting durable material. The pre-cast concrete planks are a relatively new product so the lifespan cannot be verified


Boardwalk: *Wood*


Boardwalk: *Pre-cast Concrete*

Bridges

Bridge Structure – Using a weathering steel or corten provides a durable material with less maintenance than paint. The darker color tones also blend well into the surrounding landscape.

Deck/Railing Material – Wood is a durable material with a moderate lifespan and is easier to maintain than other materials such as metal or concrete, especially when it's over water.


Bridge: *Corten*


Bridge: *Wood Decking*

Helical Piers – This technology uses an installation process that lessens the impact to the environment within the project area due to smaller construction equipment, a smaller footprint in ground disturbance, resulting in short re-establishment time for vegetation.


Piers: *Helical*


Piers: *Helical*

Retaining Walls

Natural Granite Boulders – This material is a remnant of the post-glacial melt. It is a local product giving context to geological history and readily available.

Massive Wall Units – Prefabricated concrete retaining wall units are an alternative to poured-in-place concrete where site conditions create difficult access.

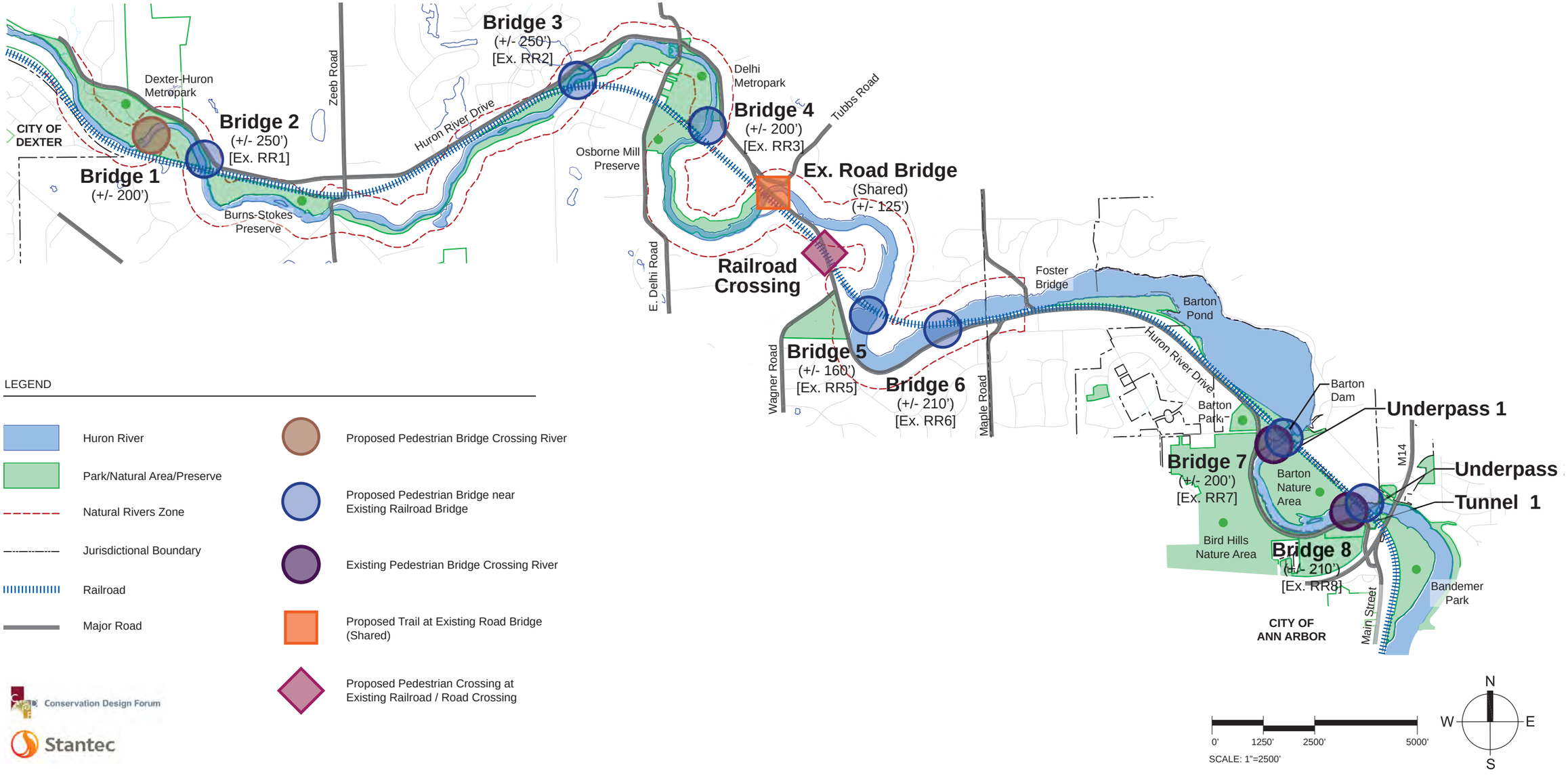

Retaining Wall: *Granite Boulders*


Retaining Wall: *Pre-cast Concrete*

BORDER TO BORDER TRAIL ALIGNMENT STUDY

SEGMENTS D2-G

PROPOSED PEDESTRIAN BRIDGES



LEGEND

- Huron River
- Park/Natural Area/Preserve
- Natural Rivers Zone
- Jurisdictional Boundary
- Railroad
- Major Road
- Proposed Pedestrian Bridge Crossing River
- Proposed Pedestrian Bridge near Existing Railroad Bridge
- Existing Pedestrian Bridge Crossing River
- Proposed Trail at Existing Road Bridge (Shared)
- Proposed Pedestrian Crossing at Existing Railroad / Road Crossing

Conservation Design Forum

Stantec

***Figure 21**: Proposed Pedestrian Bridge Locations*

PROPOSED BRIDGES – TYPICALS

Prefabricated truss bridges of single spans from 160’ to 250’ will be used in up to eight (8) proposed locations where crossing the Huron River is required. The bridge superstructures are to set on cast-in-place concrete abutments. The bridges will meet AASHTO standards.

Bridge #1 (±200’ span) - Only new bridge not adjacent to an existing bridge, but sighted on a short stretch of the Huron River to minimize viewing time from watercraft.

Bridge #2 (±250’ span) - New pedestrian bridge parallel and adjacent to existing railroad bridges.

Bridge #3 (±250’ span)- Presents the opportunity to reuse the existing decommissioned historic railroad piers and abutments. Additionally, there is the potential to reuse the historic Bell Road truss bridge at this location.

Shared Bridge #4 - Re-stripe existing Huron River Drive in coordination with WCRC. Existing 8.5’ shoulders on each side.


Existing


Proposed

Bridge #5 (±160’ span) - New pedestrian bridges parallel and adjacent to existing railroad bridge.


Existing


Proposed

Bridge #6 (±210’span) - New pedestrian bridges parallel and adjacent to existing railroad bridge.


Existing


Proposed

A full hydraulic analysis has not been completed at this phase of the planning process. But, during final design engineering, scour and geotechnical investigations shall be performed to determine sizing of substructures and scour protection.

Bridger #7 (±200’ span) - Existing pedestrian bridge may have to be replaced to meet current AASHTO standards depending on funding source.

Underpass #1 - Proposed pedestrian underpass safely crosses underneath the existing railroad bridge - similar to what exists on the opposite side of the river.

Bridge #8 (±210’ span) - New pedestrian bridge parallel and adjacent to existing railroad bridge.

Construction Access & Constructibility

Construction access along the railroad right-of-way, Huron River Drive and from parkland is essential to build the Segments from Dexter-Huron Metropark to Ann Arbor. It is imperative to work with the contractors very early in the process prior to groundbreaking to establish construction operations and logistics that will not damage or impair adjacent natural systems. This includes operations such as designating staging areas, work zones, restricted areas (from construction equipment), turn-arounds and temporary crossings for haul and delivery trucks, and temporary bridges and/or barges for installing the permanent pedestrian bridges. If not planned early and properly it will increase costs and may damage the adjacent environment.

The area around Barton Dam is a significant concern due to both access constraints and the stability of the embankment, which is part of the dam. The dam is under the ownership of the City of Ann Arbor and is regulated by the Federal Energy Regulatory Commission (FERC).

Safety & Security

Trail System:

The trail shall be designed and engineered to facilitate security inspection/ patrol and to allow an effective response to emergency calls. The pathway (including boardwalks and bridges) will be designed to accommodate emergency vehicle loads of 5 - 10 tons.

Fencing:

The fencing, required by MDOT Rail, will provide a physical separation barrier from the high-speed rail corridor. This barrier will block errant debris from passing trains, prevent illegal dumping and vandalism, reduce illegal track crossings, and improve safety by channelizing trail users to designated crossings. An 8' high black vinyl-coated chain-link fence is recommended. The coating provides added durability and the black color diminishes the presence of the fence within the surrounding landscape.

Signage:

The B2B already has a distinctive signage system in place throughout other completed sections of the trail—this signage package will be implemented on all new construction. Typically B2B signage is for wayfinding purposes; however, rules signs can be incorporated into trailheads when the trail passes through parks and nature areas. At trailheads, B2B trail maps will be placed to show one's current location on a detailed, localized map, and also the position on the entire B2B trail system. Once on the trail, wayfinding blazes reassure trail users that they are on the B2B and help to navigate at intersections.

Emergency Response Coordination:

It is recommended to establish a district-wide system of maps, markers, and coordinates that will make it much easier to pinpoint locations when emergencies or issues occur.

Rule Enforcement & Trail Guidelines:

WCPARC, the Washtenaw County Sheriff, HCMA, Ann Arbor City Police should coordinate regular security patrols along the trail. The Friends of the B2B group, volunteer site stewards, contractors, and regular trail users will be encouraged to alert the appropriate authorities about any observed inappropriate or illegal activities. Since the B2B does not have a formal set of rules, the following is a list of potential guidelines that could be incorporated into signs:

- Use safe speeds: be courteous to all trail users.
- Keep right, pass left: yield to slower and on-coming traffic. Use hand signals to alert those behind you of your moves. Look ahead and back to make sure the lane is clear before you pull out and pass. Pass with ample separation and do not move back to the right until safely past. REMEMBER: KIDS AND PETS CAN BE UNPREDICTABLE.
- Be predictable and aware of your surroundings: travel in a consistent and predictable manner and be aware of other user's on the trail.
- Take breaks off the trail: when stopping, ensure that you are not obstructing the path.
- Pets must be on leash and under control. Please clean up after them.
- Leave no trace: respect wildlife, stay on the trail, leave no trash.
- Know and follow the rules: rules may vary because the trail traverses many parks and jurisdictions.
- Obey all signs and traffic signals.

Landscape Character:

As described in the operations & maintenance section later in this master plan, certain (non-native/invasive/aggressive) trees, shrubs, and other plants will be selectively thinned and cleared within 3' of the path edge and a 10' minimum above with overhanging branches. The optimal tree/shrub structure will be replaced with non-invasive native plants that are part of the natural ecology and are better suited for long-term site stability and improved biodiversity/habitat quality. This management practice will result in improved visibility through portions of the corridor. An added ecological benefit of managing trees and shrubs, is that it allows more sunlight to reach the ground's surface, helping to foster a healthy vegetative ground-layer that enhances habitat quality and a natural aesthetic along the trail.








APPROACH TO STORMWATER MANAGEMENT

A non-motorized trail in an ecologically sensitive setting brings with it the responsibility to manage and mitigate any potential short and long-term environmental impacts stemming from adding the path in close proximity to the river. Soil erosion and sedimentation control and stormwater management are some of the primary considerations for mitigating these impacts. They are also required because of the added impervious surface and soil disturbance from new construction where none now exists.

The B2B Trail is designed as a paved surface to facilitate a wide variety of activities by people of all abilities, i.e., recreational activities, commuting, and interpretive/educational uses. The use of a hard surface pavement, although impervious to water, provides the best level of service for wheeled-vehicles, whether for recreation, mobility, trail maintenance or emergencies. The negative, in this instance, is that the rain that lands on the trail will "run off" the pavement and into the adjacent landscape. Managing that runoff is a design and maintenance requirement. The approach recommended herein is three-fold in response to the four general conditions within which the path is being placed: 1) wooded setting; 2) open field setting; 3) park setting; and, 4) roadside setting.

These different landscape settings all have one item in common: because this is a non-motorized trail, stormwater runoff will be unburdened by typical urban contaminants such as "vehicle droppings" (oils, coolants, rubber, etc.). Stormwater should not require an extensive pre-treatment in this situation. There is the slow degradation or wearing of the pavements or surfaces and depending on the material (asphalt, concrete, wood, etc.), there will still be trace amounts of residue in the runoff which has negligible toxicity to the landscape.

Wooded Setting

A tree-covered, wooded environment minimizes the amount of rain that actually reaches the ground. The canopy, even in a dormant state, dissipates and absorbs much of the rainfall. Research (Zinke, 1967) has shown that a natural forest canopy will intercept between 10% and 40% of annual precipitation. Healthier woodlands, (meaning greater plant diversity at the ground-layer due to healthy active soils), have more efficient absorption, infiltration and evapotranspiration occurring. As a result, stormwater basins are not being recommended in the trail's wooded settings because of effective, existing natural processes and to maximize protection of existing vegetation by minimizing earthwork in the woods.

Open Field/Prairie Remnants

Similar to a wooded setting, healthy systems with high plant diversity have more efficient absorption, infiltration and evapotranspiration supported by healthy active soils. Therefore, basins are also not recommended in these settings to minimize disturbance to effective natural processes.

Park Setting

The two Metroparks in the project area are primarily composed of pervious surfaces. The trail's location allows for runoff to slowly migrate across existing vegetation and infiltrate as soil conditions allow. In addition, HCMA typically does not apply salt or other deicing agents on paths in the parks. The recommended stormwater approach is to gently shape areas adjacent to the path into shallow swales that can direct runoff across lawns, open fields, or into nearby woods. Another option if conditions require, is to use open aggregate trench drains adjacent to, and running parallel with, the trail to increase infiltration. Given the small amount of runoff generated by the trail in proportion to the park's naturally vegetated areas, the impact of the added stormwater should be negligible.

Roadside Setting

In this setting, stormwater runoff from the non-motorized path, while relatively "clean" as previously discussed, will likely be infused with contaminants that were splashed or wind-blown from the adjacent Huron River Drive pavement. In response, the suggested approach is to develop pre-treatment basins in the form of long and narrow infiltration swales or trenches in the area available between the road and the trail. This setting occurs throughout each segment and during the design engineering of the trail. Opportunities can be explored to refine these approaches in coordination with the Washtenaw County Road Commission and Washtenaw County Office of the Water Resources Commissioner.

Soil Erosion and Sedimentation Control

Soil erosion and sedimentation control during construction begin with the trail being out of the floodplain and away from the river's edge. Existing vegetation will remain undisturbed to the maximum extent possible and planning, design, and construction will comply with the Natural Rivers District guidelines. Vegetation will only be removed where necessary within the 16'-18' wide trail construction zone and along limited construction access points. Silt fencing will parallel all zones of work on the downhill sides of the required construction activity.

In summary, these suggestions for stormwater management have evolved from an analysis of the relationship between various existing conditions of this portion of the Huron River, the carefully planned addition of the new trail, and evaluation of the likely long term land and water management practices in a riverine environment. The proposed approach is guided by the mindset of stepping lightly and less frequently, and limiting disturbance to the smallest area possible.

Heavy sediment build-up along Huron River Drive - Photo Credit: CDF

Rip Rap and Silt Fence In Place Prior to Construction - Photo Credit: CDF

Summary of Cost

The following is a summary of Engineer's opinion of construction costs for each of the five segments with Segment D2 broken into two phases. These include construction costs, contingencies, design/engineering, survey, geotechnical investigation, and project administration during construction. Actual implementation may be different due to new funding opportunities, scheduling, discovery of new conditions during detailed site investigation, construction bids, permitting, and/or plan goals within the trail itself which may change over time.

River Terrace Trail

Segment D2 – PHASE 1	**[1.21 Miles]**
Site Preparation	$286,580
Trail Construction	$810,854
Bridges #1 & #2	$2,530,000
Trail Amenities	$10,000
Restoration	$110,496
Construction Costs	$3,747,930
Contingencies (10%)	$374,793
Project Construction Subtotal	**$4,122,723**
Design & Engineering (10%)	$412,272
Survey/Geotechnical	$19,260
Construction Administration (15%)	$618,408
Construction Support Subtotal	**$1,049,940**
CONSTRUCTION/SUPPORT TOTAL	**$5,172,663**

Segment D2 – PHASE 2	**[1.80 Miles]**
Site Preparation	$322,925
Trail Construction	$1,281,775
Bridge #3	$1,425,000
Trail Amenities	$20,000
Restoration	$184,512
Construction Costs	$3,234,212
Contingencies (10%)	$323,421
Project Construction Subtotal	**$3,557,633**
Design & Engineering (10%)	$355,763
Survey/Geotechnical	$32,795
Construction Administration (15%)	$533,644
Construction Support Subtotal	**$922,202**
CONSTRUCTION/SUPPORT TOTAL	**$4,479,835**

***Figure 22**: Summary of Costs - River Terrace Trail*

Barton Pond Trail

Segment E	**[1.11 Miles]**
Site Preparation	$188,387
Trail Construction	$348,097
Bridge #4	$1,240,000
Trail Amenities	$8,000
Restoration	$110,426
Construction Costs	$1,894,910
Contingencies (10%)	$189,490
Project Construction Subtotal	**$2,084,400**
Design & Engineering (10%)	$208,440
Survey/Geotechnical	$29,760
Construction Administration (15%)	$312,660
Construction Support Subtotal	**$550,860**
CONSTRUCTION/SUPPORT TOTAL	**$2,635,260**

Segment F	**[1.01 Miles]**
Site Preparation	$468,978
Trail Construction	$1,432,889
Bridges #5 & #6	$2,098,000
Trail Amenities	$8,000
Restoration	$74,112
Construction Subtotal	$4,081,979
Contingencies (10%)	$408,197
Project Construction Subtotal	**$4,490,176**
Design & Engineering (10%)	$449,017
Survey/Geotechnical	$28,500
Construction Administration (15%)	$673,526
Construction Support Subtotal	**$1,151,043**
CONSTRUCTION/SUPPORT TOTAL	**$5,641,219**

Segment G	**[2.04 Miles]**
Site Preparation	$353,068
Trail Construction	$694,824
Bridges #7 & #8	$2,476,000
Trail Amenities	$10,000
Restoration	$217,218
Construction Costs	$3,751,110
Contingencies (10%)	$375,111
Project Construction	**$4,126,221**
Design & Engineering (10%)	$412,622
Survey/Geotechnical	$54,260
Construction Administration (15%)	$618,933
Construction Support Subtotal	**$1,085,815**
CONSTRUCTION/SUPPORT TOTAL	**$5,212,036**

Note: Bridge #7 will only need replacement if federal funds are used.

***Figure 23:** Summary of Costs - Barton Pond Trail*

TOTAL CONSTRUCTION/SUPPORT for RIVER TERRACE TRAIL & BARTON POND TRAIL	**$23,141,013**

Life-cycle Cost Analysis

Life-cycle cost analysis (LCCA) can be defined as the cost to the owner of a product or material over its full life span, including costs to purchase, own, construct, operate, maintain and, finally, dispose. LCCA typically results in higher initial costs of construction, but the costs balance out over time because of the use of more durable, less maintenance intensive materials.

It is a tool to determine the most cost-effective option among different competing alternatives of a product or process when each is equally appropriate to be implemented on technical grounds. For example, for asphalt pavement, in addition to the initial construction cost, LCCA takes into account all costs related to future activities including periodic maintenance, rehabilitation, and/or replacement. All the costs are usually discounted and totaled to a present day value known as net present value (NPV). This example can be generalized on any type of material, product, or system.

Typical costs for a project may include:

Design and Engineering
- Acquisition costs
- Construction costs

Operating costs:
- Cost of failures
- Cost of repairs
- Cost for spares
- Downtime costs
- Loss of production

Maintenance costs:
- Cost of corrective maintenance
- Cost of preventive maintenance
- Cost for predictive maintenance

Disposal costs:
- Cost of disposal at a landfill

Materials Comparison Over Time for Boardwalk Structures

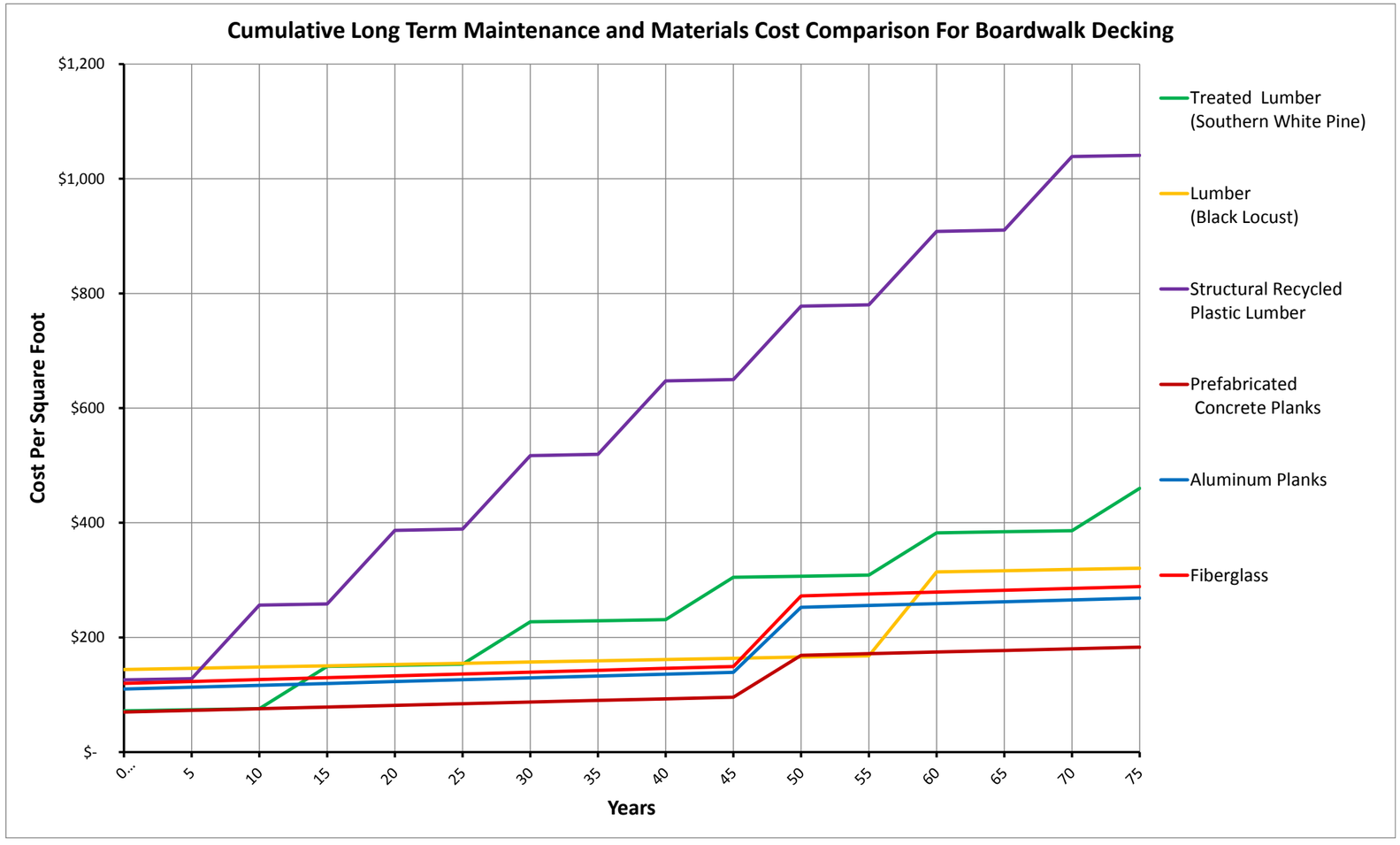
Material	Materials & Labor Costs per square foot (SF) for initial installation	Decay resistantance 1 very resistant 2 - resistant 3 - moderately resistant	Durability	Life Expectancy	Availability	Maintenance Cost per square foot	Maintenance Cost Duration (years)	Maintenance Cost per year	Years → 0 (Initial Construction)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
Treated Lumber (Southern White Pine)	$ 72	3	Medium natural durability	15-25 years	Readily	$ 1.50	4	$ 0.38	$ 72	$ 74	$ 76	$ 150	$ 152	$ 153	$ 227	$ 229	$ 231	$ 305	$ 307	$ 309	$ 383	$ 384	$ 386	$ 460
Lumber (Black Locust)	$ 144	1 & 2	High natural durability	60 - 80+ years	Not Readily	$ 1.75	4	$ 0.44	$ 144	$ 146	$ 148	$ 151	$ 153	$ 155	$ 157	$ 159	$ 162	$ 164	$ 166	$ 168	$ 314	$ 316	$ 319	$ 321
Structural Recycled Plastic Lumber	$ 126	1 & 2	Medium - High Durability	10 - 25 years	Readily	$ 1.75	4	$ 0.44	$ 126	$ 128	$ 256	$ 259	$ 387	$ 389	$ 517	$ 519	$ 648	$ 650	$ 778	$ 780	$ 908	$ 910	$ 1,039	$ 1,041
Prefabricated Concrete Planks	$ 70	1	Medium - High durability	50 -75 years	Readily	$ 5.75	10	$ 0.58	$ 70	$ 73	$ 76	$ 79	$ 82	$ 84	$ 87	$ 90	$ 93	$ 96	$ 169	$ 172	$ 175	$ 177	$ 180	$ 183
Aluminum Planks	$ 110	1	High durability	50-75 years	Readily	$ 6.50	10	$ 0.65	$ 110	$ 113	$ 117	$ 120	$ 123	$ 126	$ 130	$ 133	$ 136	$ 139	$ 253	$ 256	$ 259	$ 262	$ 266	$ 269
Fiberglass	$ 120	1	High durability	50-75 years	Moderately	$ 6.50	10	$ 0.65	$ 120	$ 123	$ 127	$ 130	$ 133	$ 136	$ 140	$ 143	$ 146	$ 149	$ 273	$ 276	$ 279	$ 282	$ 286	$ 289

Total costs over time per square foot at 5 year intervals. Includes initial installation, regular maintenance, and replacement at minimum life expectancy intervals.

Indicates replacement at minimum life expectancy o

Costs based on 14' wide planks for an elevated boardwalk

Note: Life expectancy varies with usage, weather, installation, maintenance and quality of materials. This list should be used only as a general guideline and not as a guarantee or warranty regarding the performance or life expectancy of any product, system or component.



Next Steps

IMPLEMENTATION STRATEGIES

Implementation Strategies – The following steps are listed in a somewhat sequential order, though some can proceed in parallel.

1. *Acquire Easements and/or Lease Agreements*

WCPARC will need to obtain easements and/or agreements with local, state and federal agencies along with local utilities where the trail is proposed within a ROW. Additional easements or purchases will be required from private land owners where permission has been granted to build. Title work should be completed on all existing ROWs and proposed easements to ensure full site control. Easements and leases will need to be acquired from:

- MDOT/Amtrak
- FERC [Barton Dam]/City of Ann Arbor
- Barton Hills Maintenance Corporation
- Property H-08-11-100-018 (Scio Township)
- Property H-08-12-400-001 (Scio Township)
- WCRC

2. *Funding sources for design engineering and implementation*

The recognized benefits of a walkable and bikeable community (economic, health, recreation, mobility, transit, etc.) open up opportunities for cost-sharing with state and local government agencies, thereby reducing the financial burden on one entity. Additionally, financing maintenance and operations of the trail should be considered early on because it is essential to sustaining the system over time. Listed below are several opportunities to fund the development, and if necessary, land acquisition of the B2B Trail. Some sources may be able to allow use of funds for design engineering or maintenance. Consult each program individually for details.

Public Funding

a) Michigan Natural Resources Trust Fund (MNRTF)
[Land Acquisition and Development]
http://michigan.gov/dnr/0,4570,7-153-58225_58301---,00.html

b) Transportation Alternatives Program (TAP)
[Development]
http://www.fhwa.dot.gov/environment/transportation alternatives/

c) U.S. Department of Transportation's (DOT) Transportation Investment Generating Economic Recovery (TIGER)
[Development]
http://www.transportation.gov/tiger

d) Congestion Mitigation and Air Quality Improvement (CMAQ) Program
[Development]
http://www.fhwa.dot.gov/environment/air_quality/cmaq/

e) Surface Transportation Program (STP)
[Development]
http://www.fhwa.dot.gov/map21/guidance/guidestprev.cfm

f) Highway Safety Improvement Program (HSIP)
[Development]
http://safety.fhwa.dot.gov/hsip/

g) National Highway Performance Program (NHPP)
[Development]
http://www.fhwa.dot.gov/map21/guidance/guidenhpp.cfm

f) Federal Transit Administration (FTA)
[Development]
http://www.fta.dot.gov/13747_14399.html

Private Funding Sources

There are many examples of trail projects in other communities which have pursued private funds (Community/Private Foundations, Health and Wellness Organizations, etc.) for trail implementation. It is recommended to make contact early during this planning process with these private sources to pursue partnerships.

Additionally, WCPARC could consider a Public-Private Partnership (P3) model as an alternative to financing the trail project. The use of a P3 financing structure marks a shift away from traditional ways of procuring and financing projects. Under the P3 model, a private partner may participate in some combination of design, construction, financing, operations, and maintenance. Early involvement of the private sector can bring creativity, efficiency, and capital to address complex project development problems facing state and local governments. Refer to the Federal Highway Administration's website: http://www.fhwa.dot.gov/ipd/p3/

3. *Joint Maintenance and Operating Agreement - TBD*

Establish cohesive maintenance responsibilities and agreements for all sections of trail. This is an important step because of the multi-jurisdictional nature of the project. Agreements should be established with WCPARC, WCRC, MDOT, HCMA, Scio Township, Ann Arbor Township, City of Ann Arbor.

4. *Permit Applications prior to Construction*

a. Michigan Department of Natural Resources (Natural River Program -- Part 305, Natural Rivers of PA 451 of 1994)

b. Michigan Department of Environmental Quality (Part 303) Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).
   - Wetlands
   - Rivers/Streams
   - Floodplain

c. MDOT Rail/Amtrak Permit to enter R.O.W.
   - Survey work
   - Geotechnical Investigation

d. Washtenaw County
   - Road Right-of-Way permits
   - Stormwater/SESC permit

e. City of Ann Arbor
   - Road Right-of-Way permits
   - Tree/Landmark Tree removal permits

f. Scio Township
   - Tree/Landmark Tree removal permits

g. Ann Arbor Township
   - Tree/Landmark Tree removal permits

8. *State Historic Preservation Office*

In 1966, in response to growing public interest in historic preservation, Congress passed the National Historic Preservation Act (NHPA of 1996, amended 1980, 1992 [USC Sec. 470-470t]). The act required that each state establish a State Historic Preservation Office (SHPO) and that the governor of each state appoint an officer to oversee preservation activities. Each year, Michigan receives a Historic Preservation Fund grant from the National Park Service to operate its program. The Michigan SHPO identifies, evaluates, registers, interprets and protects the state's historic properties.

Michigan's SHPO was established in the late 1960s. Its main function

is to provide technical assistance to local communities in their efforts to identify, evaluate, designate, and protect Michigan's historic above- and below- ground resources. The SHPO also administers an incentives program that includes state and federal tax credits and pass-through grants available to Certified Local Governments. The SHPO's programs are funded through a Historic Preservation Fund grant, an annual federal matching grant administered by the National Park Service.

Because of the "Indian Field" and Native American "Paths" noted in the General Land Survey notes near the Trail alignment and due to requirements for securing Federal funds provided through the TAP program, a SHPO archaeology survey will likely be required. In the instance of these sites being of Native American origin, the Tribal Historic Preservation Officer (THPO) may be notified.
http://www.michigan.gov/mshda/0,1607,7-141-54317---,00.html

9. *Construction Documents*

Finalize design and engineering to prepare bid documents.

10. *MDOT Rail & Amtrak requirements for work in Right-of-Way*

MDOT Rail Permit

- A temporary permit to enter state-owned accelerated rail property (line between Kalamazoo and Dearborn) is required. A strategy to reduce costs and the permitting process is to install the 8' high separation fence as the first task of construction. By initially installing the 8' height separation fence. This reduces the need for certain safety requirements by MDOT and Amtrak such as full time flag crews during trail construction.
- Contractors who require access to railroad property must submit a letter to Amtrak requesting a Temporary Permit to Enter Upon Property. The letter should include the contact name and mailing address of the prime contractor responsible for all work, and outline the location, nature, scope and estimated duration of work. If any subsurface work is required, the letter should clearly specify whether the work is geotechnical or environmental in nature.
- Prior to any work on or access to the Right of Way, the contractor must first execute Amtrak's Temporary Permit to Enter Upon Amtrak Property. The Temporary Permit will include a force account estimate based on the contractor's scope of work and projected duration of work. Amtrak will provide engineering, flag protection and/or other protection services at the sole cost and expense of the contractor. Advance payment for these services is required. After Amtrak receives a fully executed permit, payment for applicable fees, approval of the proposed work plans and/or access requirements, and verify that all insurance requirements have been met, Amtrak notifies the appropriate Division Engineer's representative.

Amtrak Permit

- Requests for Temporary Permits to Enter Upon Amtrak Property (PTEs) must be submitted to Amtrak Engineering Construction Department.
- Temporary Permits for performing any environmental or geotechnical tests or studies (e.g., air, soil or water sampling) may be issued subsequent to completion of Amtrak's environmental review and approval process. Requests are reviewed on a case-by-case basis. Depending on the site specific circumstances, a separate Site Access Agreement that addresses environmental liability issues may be required prior to any Temporary Permit.
- Requests for Temporary Permits to Enter Upon Amtrak Property, may take up to 30 business days processing time for initial Permit requests.
- All contractor employees who will work on the property are required to complete Amtrak's Contractor Safety Orientation Training prior to entry. The training is online and takes about one hour to complete.
- Amtrak requires that all contractors and their employees comply with all safety regulations found in "Specifications Regarding Safety and Protection of the Railroad Traffic Property".
- The contractor must coordinate all access with Amtrak's Division representative.
- All contractors must notify the Amtrak Project Manager or Engineer assigned to a project before entering onto railroad property and before coming within twenty-five (25) feet of the centerline of the track or energized wire. Amtrak's Project Manager or Engineer assigned to a project will assist in obtaining a temporary "Permit to Enter upon Property" and will arrange for protection if needed. Safety violations will result in the immediate suspension of work within the railroad's property limits.
- Contractor will also be required to purchase additional liability insurance.

Note: Fiber Optic rights along the Michigan Line east corridor were retained by Norfolk Southern Railway Corporation (NS). Separate authorization from NS must be obtained prior to Amtrak being able to process PTE requests.

11. *Maintenance and Operations*

Maintenance, repair and replacement will be an on-going cost throughout the life of the trail and should be planned for accordingly. Proper trail maintenance is just as important as using appropriate design and construction techniques. The trail should be accessible, safe and convenient to all maintenance and emergency personnel,their vehicles and equipment. Additionally, if improper design provisions are used and construction quality is poor, inadequate maintenance may take place due to undesirable conditions along the trail.

WCPARC does not have a routine maintenance program in place for checking and inspecting the B2B Trail on a regular basis. Currently, the local jurisdiction or agency (HCMA/City of Ann Arbor/Ypsilanti/St. Joe's Hospital) does the maintenance and inspections. The Friends of the B2B, a 501(c)3 organization, on a volunteer basis, performs basic cleanup of litter and debris, trimming vegetation that obstructs the safety of the trail and notifies the jurisdiction of serious problems such as potholes, down branches and trees, missing signage and vandalism. Volunteers are asked to patrol their adopted trail section at least 2 – 4 times a month.

A trail maintenance program should include a framework of activities and performance tasks such as:

- Perform regular scheduled preventative maintenance and operations activities on a weekly, monthly and yearly basis.
- Frequent inspection of the Trail's surfaces and structures for hazards and irregularities.
- Response to citizen complaints in a timely manner.
- Vegetation control to prevent encroachment in the Trail's clear zone.

As mentioned, it is recommended to have a process in place to quickly respond to citizen reports of unsafe conditions, particularly along popular or heavily used routes. Users, especially those with mobility impairments, may seek unsafe alternative routes. It is recommended to establish a single point person at the WCPARC Administrative Offices.

Overgrown vegetation along trails can quickly become a safety issue; having a program in place to prevent it from encroaching into the trail's clear vision zones will improve safety. There should be adequate clearances and sight distances around turns and at intersections so that bicyclists and pedestrians are visible to each other and approaching motorists. Roots should be controlled to prevent break-up of surfaces. Dead and declining trees adjacent to

the trail should be removed immediately.

To increase safe use during winter months, it is recommended that snow removal and deicing practices be established. For snow removal, a brush attachment to a vehicle is less damaging than a plow, and is a preferred method over deicing agents. However, if a deicing agent is necessary, an ecologically safe one, such as calcium magnesium acetate (CMA) is recommended. CMA is a water-soluble natural acid, similar to vinegar, that has been the most widely tested and used deicer in the acetates category. Alternatively, sugar beet extract, which is less harmful to surrounding land and water may be used and is typically mixed with standard road salt. When mixed for use on roads it can reduce the amount of salt needed by 30 percent.

12. Phasing Plan, Funding, and Schedule

Project Name	Project Cost	Grant Funding $	Local Match $	Submission Date	Notification Date	Project Start Date	Project End Date
River Terrace Trail							
Segment D2 Phase 1A	**$1,832,000**	**$1,582,000**	**$ 250,000**	**Spring 2016**	**Fall 2016**	**Fall 2017**	**Fall 2018**
Segment D2 Phase 1B	**$2,290,723**	**$1,790,723**	**$ 500,000**	**Spring 2017**	**Fall 2017**	**Fall 2018**	**Fall 2019**
Segment D2 Phase 2	**$3,557,633**	**$2,057,633**	**$1,500,000**	**Spring 2018**	**Fall 2018**	**Fall 2019**	**Fall 2020**
Barton Pond Trail							
Segment E	**$2,084,401**	**$1,759,401**	**$ 325,000**	**Spring 2021**	**Fall 2021**	**Fall 2022**	**Fall 2023**
Segment F	**$4,490,177**	**$2,240,177**	**$2,250,000**	**Spring 2020**	**Fall 2020**	**Fall 2021**	**Fall 2022**
Segment G	**$4,126,221**	**$2,026,221**	**$2,100,000**	**Spring 2019**	**Fall 2019**	**Fall 2020**	**Fall 2021**

***Figure 24**: Phasing Plan, Funding and Schedule*

See previous pages for potential grant funding sources.

The above sequencing plan and funding schedule is preliminary and is subject to change. The intent is to provide an approximation of sequencing, identify financial goals and strategy for implementation based on some of the traditional grant funding sources available for non-motorized transportation and recreation projects. The costs do not include design, engineering, or construction administration costs. Additionally, the chart does not represent a financial commitment from WCPARC to provide the entire “local match” as identified. In addition to funding from other local units of government and WCPARC, local match could be provided from a variety of sources, such as: non-profit groups, private citizen or business donations, and other sources.

Appendices

Appendices

Appendix A ~ Meeting Notes & Letters of Support

Appendix B ~ Property Ownership

Appendix C ~ Public Working Sessions

Appendix D ~ MDOT/Amtrak Cross Section Study

Appendix E ~ General Land Survey Notes

Appendix F ~ Engineer’s Opinion of Construction Costs

Appendix G ~ MNFI Species List

Bibliography

PROGRESS MEETINGS

JUNE 25, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

MEETING #1 MINUTES

Report Date:	June 30, 2015
Meeting Date:	June 25th, 2015
Meeting Place:	WCPARC HQ
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	[Click **here** and type name]
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-007	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Nina Kelly	HCMA	810-494-6046	nina.kelly@metroparks.com
Jan Tanner	WolfPack	734-761-5796	janethtanner@aol.com
Ray Pittman	WolfPack	313-942-1944	rbpittman2@aol.com
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com

Minutes

KICK – OFF

1. Introductions and role

Everyone introduced themselves and their roles:
- Patrick Judd – CDF, Project Manager
- Mark Pascoe – Stantec Project Engineer
- Peter Sanderson – WCPARC, Project Manager
- Ray Pittman – WolfPack (RiverUp), Barrier Buster
- Nina Kelly – HCMA, Manager of Planning
- Jan Tanner - WolfPack (RiverUp), Barrier Buster
- Coy Vaughn – WCPARC, Super

The Wolfpack will assist in breaking any barriers on the hardest issues with their network and access to the lead decision makers at state government and/or local agencies.

C. Vaughn mention the importance of this section of the B2B Trail as part of the Iron/Belle Trail and a priority with the governor.

Funding will likely come from Transportation Alternatives Program (TAP) through the state.

C. Vaughn also clarified for N. Kelly the maintenance agreement between WCPARC and HCMA – WCPARC will pay for Trail development and the landowner will maintain. The Letter of Intent was approved by HCMA for developing a Memorandum of Understanding with WCPARC to maintain the Trails at their Metro Parks. The MOU still needs to be finalized.

2. Define Project Area and Scope of Services – Master Plan

CDF/Stantec will generate a Master Plan Report that updates past efforts and looks at one preferred route from D1 in Dexter-Huron Metro Park to the railroad just west of Bandemer Park. The City will connect form there.

The document will be an 11 x 17 format and will include detailed maps of the preferred trail alignment. This detailed level will help WCPARC with securing TAP funding and other grant opportunities.

3. Base Information

Current GIS received. P. Sanderson will continue looking into getting information on utility service lines DTE & ITC) for gas and electrical, and water/sewage/storm from the City. This will include easement requirements/agreements and any future permitting information that may be required prior to construction of the Trail.

4. Confirm Schedule

The schedule for completing the Master Plan Document schedule from the RFP still holds.

Part A 95%	November 20, 2015
Part A completion	December 18, 2015
Part B completion	May 27, 2016

The Team has tentatively set a biweekly meeting day/time with the next schedule for 3:00 on July 9th (P. Sanderson to confirm w/ B. Tetens) at WCPARC HQ.

It was discussed that or first stakeholder meeting would be with a Tier 1 group to discuss the critical areas along the intended routes. This would include bridge locations, routes along the Huron River, the Trail inside MDOT R.O.W., restrictions and/or concerns by the WCPRC. CDF/Stantec will create a map with critical and focus areas identified for discussion regarding the

Tier 1 Group
MDOT Rail
Amtrak
DNR - Natural Rivers Program
DEQ – MDEQ/USACE Permit
Washtenaw County Road Commission
Huron – Clinton Metropark Authority
City of Ann Arbor
WCPARC

Tier 2 Group
Huron River Watershed Council

DNR – MNFI
Scio Township
Ann Arbor Township
Washtenaw Water Resources Commissioner
Public
Other organizations/groups

5. Other

A.) Stantec to look into creating a website for the project.

B.) P. Judd mentioned the Arts Program the HRWC has initiated by engaging a consultant to provide potential opportunities of integrated art and design in along the B2B Trail. It was agreed that art and design in some form or shape should be considered, but not as a priority.

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

JULY 09, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting #2 Minutes

Report Date:	July 14, 2015
Meeting Date:	July 09, 2015
Meeting Place:	WCPARC HQ
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	[Click **here** and type name]
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Nina Kelly	HCMA (unable to attend)	810-494-6046	nina.kelly@metroparks.com
Jan Turner	WolfPack	734-761-5796	janethturner@aol.com
Ray Pittman	WolfPack	313-942-1944	rbpittman2@aol.com
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com

Minutes – Meeting #2

1. Confirm Stakeholders

A. The Team reviewed the lists below to confirm the stakeholders, organizations, decision-makers critical to the success of the trail being implemented. It's critical that the project is transparent to everyone involved and no one agency or organization feels cornered in any decision making. The tier designation is only for internal use and that all are equal to the success of the B2B trail's implementation.

B. J. Turner suggested framing the B2B Trail implementation effort as a now or never scenario.

C. R. Pittman and J. Turner will be meeting with the HRHC on Friday (July 10th) to discuss being a strong advocate to supporting the B2B Trail.

D. C. Vaughn suggested a kickoff meeting for stakeholders, organizations, agencies and local governing authorities to announce and introduce them to WCPARC's intent and process in getting the B2B Trail built from Dexter-Huron Metropark to Bandemer, Ann Arbor. It was suggested a mid-August meeting would be best, giving enough time to arrange and organize the meeting. It was also suggested a pre-kickoff meeting prior to the kickoff meeting with the most critical players, those from DNR's Natural Rivers Program, MDOT Rail/Amtrak/Northfolk Southern and the County Road Commission, would help better understanding each other's position as to the constraints and opportunities of the Trail's final alignment. WCPARC has been in contact with the Natural Rivers Program coordinator up in Gaylord

f) DNR — Natural Features Inventory (T & E Species Permits)
g) Kloian Property — Future Use
h) WCPARC — Trail Development
j) Wolfpack — RiverUp!

2. Website Update
a) M. Pascoe

3. Base Information
a. Disclosure Agreement

4. Schedule

a. Confirm Milestones

Part A 95%	November 20, 2015
Part A completion	December 18, 2015
Part B completion	May 27, 2016

5. Other

JULY 23, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting #3 Minutes

Report Date:	July 24, 2015
Meeting Date:	July 23, 2015
Meeting Place:	WCPARC HQ
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	A. Fercho
cc:	[Click **here** and type name]
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
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Adam Fercho	CDF	734-663-0722	afercho@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com

Minutes – Meeting #3

1. Updates

A. R. Pittman and J. Turner met with the HRWC to gauge interest in the B2B Trail. They were very positive and supportive. They have a large constituency, and it would be a good thing to have them feel like they are a part of this project. P.Judd has set up a meeting with Laura at HRWC on August 3, 2015.

B. P. Sanderson looked into the Washtenaw Area Transportation Study (WATS) to investigate Pedestrian/ Bicycle Crash data along Huron River Drive and 2 parallel routes. The Data shows that the routes are relatively safe, and not a catalyst for pushing the trail forward based on past experience. However, with future development of the area and increased traffic due to Skyline High School, increased traffic is expected on Huron River Drive. Thus building this segment of the B2B trail can be seen as a preventative action to provide a safe alternative to biking on Huron River Drive.

C. P. Sanderson has received utility GIS data from the City of Ann Arbor. He is still waiting on a response from DTE Energy on their GIS Data.

D. P. Sanderson met with the City of Ann Arbor to review a study from the City on crossing the railroad at Bandamer Park. Two options have been put forward. Option 1, proposes the construction of a tunnel

underneath of the Railroad track. This option could be approximately $4 Million. Option 2 had two alternatives, but would leave the surface crossing of the track at Lake Shore Drive, improve pedestrian crossing signage, make existing sidewalk improvements, and construct a new sidewalk that goes under M-14 to link up with the new segment of B2B Trail. Both of these options would be done under the auspices of the City of Ann Arbor.

E. P. Sanderson is looking into future road resurfacing projects planned by the commission. The county website only shows projects going through 2016. There is currently no work slated to be done on Huron River Drive. North Delhi Road will be turned into a paved road in fall 2015. P. Sanderson to contact the road commission and see if there is anything on the books further out than 2016 for Huron River Drive.

2. Review Schedule / Milestones

A. Natural Rivers Program Coordinator (Patrick) will only be able to meet between Saturday August 22, 2015 and Monday August 24th. The Proposed Stakeholder meeting, will be set the following day since Patrick is working out of Gaylord.

B. Graphics produced for the Stakeholder meeting need to be simple, concise, and clear to the lay person. We need to provide multiple options with opportunities and constraints for each concept, in order to engage the stakeholders.

C. WCPARC, CDF, and Stantec will meet Wednesday (7/29) or Thursday (7/30) to brainstorm and generate ideas. These ideas will be presented to the team on the next regularly scheduled August 6th meeting.

D. HCMA Staff will come to WCPARC HQ at 2:00pm on August 6th before the regular 3:00PM meeting in order to talk about the B2B Trail routing through the Metroparks.

E. After the Stakeholder meeting is held, the team should refine solutions, and send back to the stakeholders for more feedback, in order to have successful Stakeholder Negotiations on preferred route.

3. Website Update / Media:

A. P. Sanderson said that B2B Trail has a link on the Washtenaw County's website, but due to strict policies regarding content and layout, it may not be the best media outlet to generate interest. The website could possibly have a Social Media presence with Twitter and Youtube. M.Pascoe will look into cost of creating a privately run webpage exclusively for the B2B Trail.

B. The Community wants to know what's going on with the B2B Trail. To generate excitement about it, P. Sanderson will look into creating a link or article about the B2B trail in the WCPARC's Fall Newsletter.

4. Base Information

A. P. Judd gave copies of revised Critical Focus Area Maps and reviewed changes.

B. It would be beneficial to know the number of people who currently bike in the area along the B2B route. This will help when looking for funding. If WATS does not have this data, traffic counters can be used. Would ideally like placed over the Labor Day weekend. Pete Sanderson will contact WATS, and look into finding some traffic counters. HCMA is doing their own investigation into the Metroparks.

5. Private Property Ownerships

A. Huron River Drive East and West of Zeeb Road, there are a few private property owners that will need to be engaged soon. Due to the placement of their homes and the narrow Road ROW, the trail could potentially be within 15' of their front door. If the trail is placed behind their homes, then the trail will need to be in the Railroad R.O.W. The team needs to look into potential options. C. Vaughn is going to reach out to Scio Township to see if they know the property owners and reach out to them.

B. Prior to the stakeholder meeting, there needs to be a Land Owner's Meeting, for those owners of property where the trail will be going through their land in a R.O.W. (approximately 7-8 parcels). These Landowners should hear the news directly and not from a second source.

6. Other

A. There is another round of funding for the Iron Belle Trail project coming this October.

B. R. Pittman suggested that the B2B Team get in contact with two other stakeholder groups that the Wolfpack works with. The first is the National Wildlife Federation (Mike Shriberg). The second is Michigan League of Conservation Voters (Lisa Wozniak). Having these groups as active supporters will be looked at as a positive thing. R. Pittman will put C. Vaugh in touch with these groups.

Action Items:

1) WCPARC will begin the preparations for a general kickoff meeting in mid-August for the stakeholders.
ONGOING

2) WCPARC to setup a pre-kickoff meeting with DNR, Natural Rivers Program Manager (Patrick Ertel). That following afternoon or next day, a second pre-kickoff meeting with be setup with DNR Natural Rivers Program, MDOT Rail/Amtrak and the Washtenaw County Road Commission (WCRC) to discuss critical focus areas.
ONGOING

3) WCPARC will inform Eli Cooper about the status of the B2B Trail and pre-kickoff meeting when they meet Friday, July 10.
UPDATE PROVIDED – JULY 10th

4) P. Sanderson will follow with the City of Ann Arbor and WCRC on any future road resurfacing for Huron River Drive.
ONGOING

4b) P. Sanderson to contact the Road Commission and see if there is anything on the books further out than 2016 for Huron River Drive.

ONGOING

5) P. Sanderson will contact media regarding kickoff meeting. Possible feature article in the AA Observer.
ONGOING

5b) P. Sanderson will look into creating a link or article about the B2B trail in the Fall Newsletter produced by the county, with a link to the new website.
ONGOING

5c) M.Pascoe will look into cost of creating a privately run webpage exclusively for the B2B Trail
ONGOING

6) P. Sanderson will contact WATS to understand bicycle/vehicle conflicts (crash data) reporting and who determines needed level of safety along roadways.
DATA PROVIDED

6b) P. Sanderson will look into finding data, or methods to find the number of people who currently bike in the area.
ONGOING

7) P. Judd & P. Sanderson will put together a schedule identifying milestones so that the Team can measure against and confirm achievements.
- P. Judd will provide an outline for the Master Trail Alignment Site Plan for review at the July 23rd progress meeting.

COMPLETED

7b) P.Judd will update the Project Schedule and Milestones based on dates set at today's meeting.
ONGOING

8) P.Judd to meet with Laura from HRWC on August 3rd, 2015.
ONGOING

9) P. Sanderson will send DTE Utility Maps to CDF/Stantec when he receives them from DTE.
ONGOING

10) P. Sanderson to coordinate with C. Vaughn and figure out a time that works best for the CDF/Stantec/WCPARC Design meeting on the week of July 27, 2015
COMPLETED

11) C. Vaughn is going to reach out to Scio Township to see if they know the property owners near Zeeb Road and Huron River Drive that have the narrow setbacks, and possibly have the township try and contact the owners.
ONGOING

12) R. Pittman to introduce C. Vaughn to M. Shriberg of the National Wildlife Federation, and L. Wozniak of the Michigan League of Conservation Voters.

ONGOING

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

AUGUST 06, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting #4 Minutes

Report Date:	August 11, 2015
Meeting Date:	August 06, 2015
Meeting Place:	WCPARC HQ
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Nina Kelly	HCMA	810-494-6046	nina.kelly@metroparks.com
Jan Turner	WolfPack	734-761-5796	janethturner@aol.com
Ray Pittman	WolfPack	313-942-1944	rbpittman2@aol.com
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Adam Fercho	CDF	734-663-0722	afercho@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com

Minutes – Meeting #4

1. Updates

a) *Stakeholder meeting set for August 26, 2015* -- P. Sanderson suggested a stakeholder meeting in October after the team has meet individually with each of the top tier stakeholder. C. Vaughn felt this stakeholder meeting would be a "our findings" to date with no preferred route yet established. It won't be a project "kickoff" as originally discussed, but getting all the critical players together to determine from each their concerns and opportunities.

b) *Meeting with HRWC this past Monday with L. Rubin* – The meeting went quit well with Laura supporting this section of the B2B and felt it was a recreation resource to bring people to the river. She did have concerns with the first bridge crossing in Dexter-Huron Metropark that was proposed on a short stretch of the river that would reach over to HCMA's property. She would rather see a boardwalk along Huron River Drive.

c) *Internal coordination meeting w/ CDF & WCPARC* – We meet last Thursday to start putting pencil-to-paper on potential opportunities and constraints for each of the Segments. It was discussed in greater detail the alternatives to avoid the greatest impacts to the land (earth moving), vegetation (prairie, wetlands, mature native trees) the ROWs (MDOT & WCRC) and private land; while keeping safety in mind, construction costs in check with a pragmatic

approach, and user experiences. We did look at a potential 8th (7th) bridge between Barton Dam and the existing railroad bridge that would bring the trail to the north of the railroad tracks through Barton Village and then connecting up with Bandemer Park. This would eliminate a tunnel beneath the railroad tracks if the B2B trail were to go through Barton Nature Area south of the railroad tracks.

d) *HCMA – discussion on preliminary alignments* – They meeting with HCMA staff (Nina Kelly, Paul Mueller, and Mike Brahm-Henkel) was to gather their insights and knowledge of potential alignment opportunities and concerns through the two Metroparks, Dexter-Huron and Delhi (both West and East). Generally, they preferred the two bridge crossings to their property at Dexter-Huron Metropark. A concern for them on the boardwalk along Huron River Drive had to do with maintenance and operations. They are worried that salt and snow-removal buildup on the boardwalk could lessen the longevity of the material. Snow piling up along and on the boardwalk could potentially be a hazard to both vehicle and trail users. We also discussed moving Skip's Canoe rental over to the main park where canoeist/kayakers could use the park's amenities, i.e., grills, picnic tables, larger parking lot, etc. There was concern over getting those users through the rapids. An idea to have a "chute" bypassing the rapids could be looked at. This would involve the MDEQ because excavation in the river would have to be done requiring a permit.

e) *Iron Belle Trail Funding – C. Vaughn and P. Sanderson attended a meeting this past Monday that was to discuss available funding through the Federal/State TAP program. C. Vaughn mentioned it wasn't clear to them what money, how much and when funds would be released. But, that the B2B is a priority trail on the Iron-Belle route and funds would be made available.*

2. Review Schedule / Milestones

a) *P. Judd/P. Sanderson* – the schedule continues to be updated as each new stakeholder confirms meeting dates. Schedule is attached.

3. Website Update / Media:

a) *M. Pascoe* (not present) – Stantec provided a fee proposal to do B2B Communications and Media Relations Services. Proposal is attached.

4. Base Information

a) *DTE Utilities Mapping* – DTE still owes WCPARC mapping information on the location of their utilities.

5. Private Property Ownerships

a) *Trail alignment through Front yards* -- C. Vaughn will continue working on contacting the private landowners that may have the greatest impact to their property.

6. Other

a) *B2B Information Flyer* -- P. Sanderson provided the updated B2B trail flyer to be sent out to the public soon. He requested comments before finalizing.

Action Items:

1) WCPARC will begin the preparations for a general kickoff meeting in ~~mid-August~~ **early October** for the stakeholders. ONGOING

2) WCPARC to setup a pre-kickoff meeting with DNR, Natural Rivers Program Manager (Patrick Ertel). That following afternoon or next day, a second pre-kickoff meeting will be setup with DNR Natural Rivers Program, MDOT Rail/Amtrak and the Washtenaw County Road Commission (WCRC) to discuss critical focus areas.
ONGOING – Meeting with WCRC is set for Wednesday August 12, at 2:00 PM.

~~3) WCPARC will inform Eli Cooper about the status of the B2B Trail and pre-kickoff meeting when they meet Friday, July 10.~~
COMPLETED

4) P. Sanderson will follow with the City of Ann Arbor and WCRC on any future road resurfacing for Huron River Drive.
ONGOING

4b) P. Sanderson to contact the Road Commission and see if there is anything on the books further out than 2016 for Huron River Drive.
UPDATE – Meeting set for Wednesday August 12, at 2:00 PM.

5) P. Sanderson will contact media regarding kickoff meeting. Possible feature article in the AA Observer.
ONGOING

5b) P. Sanderson will look into creating a link or article about the B2B trail in the Fall Newsletter produced by the county, with a link to the new website.
COMPLETED – A short announcement will be in the FALL Newsletter.

5c) M.Pascoe will look into cost of creating a privately run webpage exclusively for the B2B Trail
ONGOING – Fee proposal provided by Stantec for media and communications services.
Proposal sent to WCPARC Aug 11th.

~~6) P. Sanderson will contact WATS to understand bicycle/vehicle conflicts (crash data) reporting and who determines needed level of safety along roadways.~~
DATA PROVIDED

6b) P. Sanderson will look into finding data, or methods to find the number of people who currently bike in the area.
ONGOING – WATS to set up counters for bikes for two one week periods. One week will cover the Labor Day weekend.

7) P. Judd & P. Sanderson will put together a schedule identifying milestones so that the Team can measure against and confirm achievements.
- P. Judd will provide an outline for the Master Trail Alignment Site Plan for review at the July 23rd progress meeting.

COMPLETED – Will be updated as events and meetings are confirmed.

7b) P.Judd will update the Project Schedule and Milestones based on dates set at today's meeting.
ONGOING

~~8) P. Judd to meet with Laura from HRWC on August 3rd, 2015.~~
COMPLETED

9) P. Sanderson will send DTE Utility Maps to CDF/Stantec when he receives them from DTE.
ONGOING

~~10) P. Sanderson to coordinate with C. Vaughn and figure out a time that works best for the CDF/Stantec/WCPARC Design meeting on the week of July 27, 2015~~
COMPLETED

11) C. Vaughn is going to reach out to Scio Township to see if they know the property owners near Zeeb Road and Huron River Drive that have the narrow setbacks, and possibly have the township try and contact the owners.
ONGOING

12) R. Pittman to introduce C. Vaughn to M. Shriberg of the National Wildlife Federation, and L. Wozniak of the Michigan League of Conservation Voters.
ONGOING – C. Vaughn meet with M. Shriberg and Mark was very positive and supportive of the B2B project. They may be able to provide financial assistance for areas along the trail that will support a pollinator program (due to the decline, in part, of the Monarch Butterfly).

13) R. Pittman suggested to WCPARC a meeting with Lisa Wozniak of the Michigan League of Conservation Voters. R. Pittman will forward her contact information.

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

SEPTEMBER 18, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting #5 Minutes

Report Date:	September 28th, 2015
Meeting Date:	September 18th, 2015 from 3:00 – 4:15 PM
Meeting Place:	WCPARC HQ
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Jan Turner	WolfPack	734-761-5796	janethturner@aol.com
Ray Pittman	WolfPack	313-942-1944	rbpittman2@aol.com
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com
Claire Gottliebsen	Stantec	734-	Claire.Gottliebsen@stantec.com

Minutes – Meeting #7

1. Updates

a) *Meeting with MDOT* – C. Vaughn has set up a meeting for the 30th of September. The group discuss the materials to present and what Critical Areas to Focus on from a priorities stand. This will help set up a means to compromising. Peter Josefchak from Stantec was on the phone providing rail information such as **[safety]** considerations, distances from rail [25' from center of rail]. If a second rail is going in, assume 15' from the existing rail centerline. An agenda, existing rail bridges and road crossing map and the Critical Areas maps will be forward to MDOT early next week. Safety should be emphasized throughout the meeting.
Priority Areas (refer to existing bridge/crossings map);
(1) RX3 (2) B5 (3) B6 (4) B3 (5) RX2 (6) B2 to Zeeb Road (7) RX4 – PB1

b) *Meeting with MDNR, Natural Rivers Program* – C. Vaughn received a letter from P. Ertel encouraging use of MDOT Rail resources and structures to allow a trail and non-motorized bridges adjacent to existing bridges

c) *Materials (lifecycle costs -- replacement, maintenance, etc. vs. the upfront costs)* – The Team will continue to discuss in more detail the materials.

d) *Bridge Designs* – WCPARC requested M. Pascoe to update bridge costs and to find out more on costs for artful designs.

e) *Master Plan Booklet* – P. Judd provided a brief summary of the Master Plan booklet, but until the preferred alignment is finalized, the Master Plan is a working document.

f) *Kloian Property* – No further discussion

g) *Canoe/Kayak Group & others* – WCPARC mentioned engaging them early and will follow up at next progress meeting.

2. Review Schedule / Milestones

a) *P. Judd/P. Sanderson* – the schedule continues to be updated as each new stakeholder confirms meeting dates. Schedule is attached.

3. Website Update / Media:

a)

4. Base Information

a) *DTE Utilities Mapping* – Base information was provided by DTE through P. Sanderson on August 26th. CF/Stantec reviewing base information.

5. Private Property Ownerships:

a) *Trail alignment through Front yards* – Once a final alignment is confirmed, WCPARC will meet with the residence most affected by the Trail. Though it is anticipated that the trail will be in public R.O.W.'s.

6. Other:

a) R. Pittman discussed letter from bicyclist regarding their concerns for safety. The area the bicyclist were most focused on was in the Ann Arbor and Ypsilanti area. P.

Action Items:

1) WCPARC will begin the preparations for a general kickoff meeting in ~~mid-August~~ **early October** for the stakeholders. ONGOING – After meetings ~~with DNR and~~ MDOT, a date will be set for this stakeholder meeting.

2) WCPARC to setup a pre-kickoff meeting with DNR, Natural Rivers Program Manager (Patrick Ertel). That following afternoon or next day, a second pre-kickoff meeting will be setup with DNR Natural Rivers Program, MDOT Rail/Amtrak and the Washtenaw County Road Commission (WCRC) to discuss critical focus areas.
~~COMPLETED – DNR Natural River Programs meeting has been scheduled for September 3rd. C. Vaughn, P. Sanderson and P. Judd meet with Patrick Ertil on September 3rd.~~
ONGOING – Meeting with MDOT (Rail)

~~3) WCPARC will inform Eli Cooper about the status of the B2B Trail and pre-kickoff meeting when they meet Friday, July 10.~~
COMPLETED

~~4) P. Sanderson will follow with the City of Ann Arbor and WCRC on any future road resurfacing for Huron River Drive.~~
COMPLETED

~~4b) P. Sanderson to contact the Road Commission and see if there is anything on the books further out than 2016 for Huron River Drive.~~
~~UPDATE – Meeting set for Wednesday August 12, at 2:00 PM.~~ COMPLETED

5) P. Sanderson will contact media regarding kickoff meeting. Possible feature article in the AA Observer.
ONGOING

~~5b) P. Sanderson will look into creating a link or article about the B2B trail in the Fall Newsletter produced by the county, with a link to the new website.~~
~~COMPLETED – A short announcement will be in the FALL Newsletter.~~

~~6) P. Sanderson will contact WATS to understand bicycle/vehicle conflicts (crash data) reporting and who determines needed level of safety along roadways.~~
DATA PROVIDED

6b) P. Sanderson will look into finding data, or methods to find the number of people who currently bike in the area.
~~ONGOING – WATS to set up counters for bikes for two one week periods. One week will cover the Labor Day weekend.~~ P. Sanderson provided data collected at the two sites, but data over the Labor Day weekend didn't register.

7) P. Judd & P. Sanderson will put together a schedule identifying milestones so that the Team can measure against and confirm achievements.
~~- P. Judd will provide an outline for the Master Trail Alignment Site Plan for review at the July 23rd progress meeting.~~
COMPLETED

7b) P.Judd will update the Project Schedule and Milestones based on dates set at today's meeting.
ONGOING – The schedule will be updated as events and meetings are confirmed.

~~8) P. Judd to meet with Laura from HRWC on August 3rd, 2015.~~
COMPLETED

~~9) P. Sanderson will send DTE Utility Maps to CDF/Stantec when he receives them from DTE.~~
COMPLETED

~~10) P. Sanderson to coordinate with C. Vaughn and figure out a time that works best for the CDF/Stantec/WCPARC Design meeting on the week of July 27, 2015~~
COMPLETED

~~11) C. Vaughn is going to reach out to Scio Township to see if they know the property owners near Zeeb Road and Huron River Drive that have the narrow setbacks, and possibly have the township try and contact the owners.~~
ONGOING – WCPARC will need to contact landowners, though WCRC suggested north side of Huron River Drive which would avoid going through the front yards on some of the homes.

~~12) R. Pittman to introduce C. Vaughn to M. Shriberg of the National Wildlife Federation.~~
COMPLETED ~~– C. Vaughn meet with M. Shriberg and Mark was very positive and supportive of the B2B project. They may be able to provide financial assistance for areas along the trail that will support a pollinator program (due to the decline, in part, of the Monarch Butterfly).~~

13) R. Pittman suggested to WCPARC a meeting with Lisa Wozniak of the Michigan League of Conservation Voters. R. Pittman will forward her contact information.
ONGOING – C. Vaughn to set up meeting.

14) P. Sanderson to set up meeting with the City regarding Barton Park Bridge at Barton Dam.
ONGOING - P. Sanderson and J. Dehring meet with the City on September 14th to discuss bridge and route options. An additional option includes a tunnel further north of exiting railroad bridge (RR8). Further discussions will take place after MDOT meeting.

ONGOING - Requires acquisition and/or easement of Barton Hills Main Corporation property.

15) ~~Barton Dam Bridge #7 – P. Judd/M. Pascoe to verifying the 100-year flood location with MDEQ based on either tail side or pond elevation. No issues.~~
COMPLETED

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

OCTOBER 01, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Agenda

Event Date:	October 01, 2015
Event Location:	WCPARC HQ 3:00 – 5:00
Project Name:	B2B: Segment D2 – F Master Plan Update
From:	Patrick Judd
To:	Peter Sanderson & Coy Vaughn, WCPARC
cc:	Mark Pascoe, Stantec
Ref. #:	Project #15010.00 Washtenaw Segment D2 & E1

Invitee/Scheduled Participant	Company/Organization
Peter Sanderson, Park Planner/Landscape Architect	WCPARC
Coy Vaughn, Deputy Director	WCPARC
Bob Tetens	WCPARC
Nina Kelly, Manager of Planning	HCMA
Mark Pascoe, Lead Engineer	Stantec
Claire Gottliebsen	Stantec
Janeth Turner	River Up! (WolfPack)
Ray Pittman	River Up! (WolfPack)

Agenda Items

1. Updates
- a) Meeting with MDOT update
- b) Meeting with City bridge/tunnel update
- c) Media strategy
- d) Public meeting schedule/strategy
- e) Bridge Designs w/ Contech – M. Pascoe
- f) Materials (lifecycle costs -- replacement, maintenance, etc. vs. the upfront costs
- g) Master Plan Booklet
- h) Canoe/Kayak Group & others

2. Review Schedule/Milestones
- a)

3. Website Update

185 S York Street
Elmhurst, IL 60126
(630) 559 2000 general
(630) 559 2030 fax

www.cdfinc.com

220 South Main Street
Ann Arbor, MI 48104
(734) 663 2751 general
(734) 663 0722 fax

a)

4. Base Information
a)

5. Private Property Ownerships
a) Trail alignment through Front yards
b) Easements
c) Alternate route north side of Huron River Drive
- Trail alignment in backyards/frontyards

6. Other
a) R. Pittman – Bicyclist letter

b)

c)

Action Items:

1) WCPARC will begin the preparations for a general kickoff meeting in ~~mid-August~~ **early October** for the stakeholders.
ONGOING – After meetings with DNR and MDOT, a date will be set for this stakeholder meeting.

2) WCPARC to setup a pre-kickoff meeting ~~with DNR, Natural Rivers Program Manager (Patrick Ertel). That following afternoon or next day, a second pre-kickoff meeting will be setup with DNR Natural Rivers Program,~~ MDOT Rail/Amtrak ~~and the Washtenaw County Road Commission (WCRC)~~ to discuss critical focus areas.
~~COMPLETED – DNR Natural River Programs meeting has been scheduled for September 3rd.~~ C. Vaughn, P. Sanderson and P. Judd meet with Patrick Ertel on September 3rd.
ONGOING – Meeting with MDOT (Rail)

~~3) WCPARC will inform Eli Cooper about the status of the B2B Trail and pre-kickoff meeting when they meet Friday, July 10.~~
COMPLETED

~~4) P. Sanderson will follow with the City of Ann Arbor and WCRC on any future road resurfacing for Huron River Drive.~~
COMPLETED

4b) ~~P. Sanderson to contact the Road Commission and see if there is anything on the books further out than 2016 for Huron River Drive.~~
~~UPDATE – Meeting set for Wednesday August 12, at 2:00 PM.~~ COMPLETED

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ONGOING

5b) ~~P. Sanderson will look into creating a link or article about the B2B trail in the Fall Newsletter produced by the county, with a link to the new website.~~
COMPLETED ~~– A short announcement will be in the FALL Newsletter.~~

5c) M.Pascoe will look into cost of creating a privately run webpage exclusively for the B2B Trail
COMPLETED ~~– Fee proposal provided by Stantec for media and communications services. Proposal sent to WCPARC Aug 11th.~~

6) ~~P. Sanderson will contact WATS to understand bicycle/vehicle conflicts (crash data) reporting and who determines needed level of safety along roadways.~~ ~~DATA PROVIDED~~
COMPLETED

6b) ~~P. Sanderson will look into finding data, or methods to find the number of people who currently bike in the area.~~
~~ONGOING – WATS to set up counters for bikes for two one week periods. One week will cover the Labor Day weekend.~~
COMPLETED

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COMPLETED

~~9) P. Sanderson will send DTE Utility Maps to CDF/Stantec when he receives them from DTE.~~
COMPLETED

~~10) P. Sanderson to coordinate with C. Vaughn and figure out a time that works best for the CDF/Stantec/WCPARC Design meeting on the week of July 27, 2015~~
COMPLETED

~~11) C. Vaughn is going to reach out to Scio Township to see if they know the property owners near Zeeb Road and Huron River Drive that have the narrow setbacks, and possibly have the township try and contact the owners.~~
ONGOING – WCPARC will need to contact landowners, though WCRC suggested north side of Huron River Drive which would avoid going through the front yards on some of the homes.

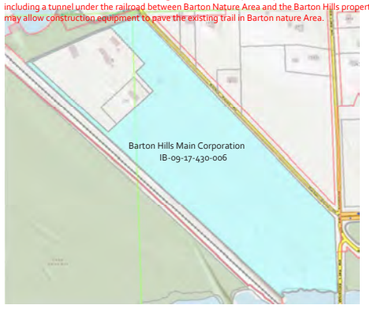
12) R. Pittman to introduce C. Vaughn to M. Shriberg of the National Wildlife Federation, and L. Wozniak of the Michigan League of Conservation Voters.

COMPLETED – ~~C. Vaughn meet with M. Shriberg and Mark was very positive and supportive of the B2B project. They may be able to provide financial assistance for areas along the trail that will support a pollinator program (due to the decline, in part, of the Monarch Butterfly).~~

13) R. Pittman suggested to WCPARC a meeting with Lisa Wozniak of the Michigan League of Conservation Voters. R. Pittman will forward her contact information.
ONGOING

14) P. Sanderson to set up meeting with the City regarding Barton Park Bridge at Barton Dam.
- a. Requires acquisition and/or easement of Barton Hills Main Corporation property.
- b. P. Judd/M. Pascoe – To verifying the 100-year flood location with MDEQ – based on either tail side or pond elevation.

COMPLETED: P. Sanderson and J. Dehring meet with the City and explore several additional options; including a tunnel under the railroad between Barton Nature Area and the Barton Hills property. This may allow construction equipment to pave the existing trail in Barton nature Area.



The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

STAKEHOLDER MEETINGS

CITY OF ANN ARBOR / HRWC - JULY 10, 2015

Washtenaw County Parks and Recreation Commission

MEETING MINUTES

Date: July 10, 2015 at 10:00 am

Location: WCPARC Administrative Offices

Subject: North Main Street Border-to-Border Trail Connection

Attendees: Coy Vaughn (WCPARC), Peter Sanderson (WCPARC), Eli Cooper (City of Ann Arbor), Amy Kuras (City of Ann Arbor); Elizabeth Riggs (HRWC)

Minutes:

1. Sanderson and Vaughn described the scope of the current RFP to develop a Master Plan for the B2B between Dexter and Ann Arbor. They also talked about the stakeholder engagement process that is being implemented to seek input early on in the planning process.
2. Sanderson and Vaughn used a map to briefly describe the various route options that were developed to date for the entire alignment. Next, they focused the discussion around the route options that directly involved the City of Ann Arbor.
3. Cooper and Kuras expressed their general support for the project and were glad to see that it was gaining momentum again. Kuras described the process that they went through in 2005 to determine a safe location for a non-motorized underpass of the railroad in Bandemer Park. A copy of the 2005 report was provided to WCPARC.
4. The underpass project is currently listed on the City's CIP but is not funded; nor are there immediate plans to fund it. Cooper and Kuras expressed that they would be very supportive of making a recommendation to City Council to fund the project; however there are a few projects that may be competing for the same funds: The Allen Creek Greenway, the Allen Creek flood relief tunnel (potential FEMA funding), and other potential railroad/pedestrian crossing projects.
5. Cooper explained that the City has gone on record (Tier 1 EIS for the Wolverine Line – copy provided to WCPARC) to state some of the challenges that need to be addressed between the City and the railroad (formerly Norfolk-Southern, now MDOT):
   a. The rail bisects the city and forms a significant barrier to non-motorized connectivity for recreation and commuting
   b. Informal crossings by pedestrians reduce safety. These safety concerns will be exacerbated as MDOT increases train speed and frequency over the coming years.
   c. Mutually agreeable and beneficial solutions exist, but they are expensive
6. Riggs provided an update on her involvement with the North Main Street Task Force. The Task Force recognized that North Main Street, the Rail Road, and M-14, combine to form a major barrier to non-motorized connectivity to the west.
7. The group discussed many potential connection options including, improvements to the Longshore Drive crossing (crew docks) and North Main sidewalk system, a conceptual roundabout at the M-14/Main/Huron River Drive intersection, an underpass under M-14 and others. A map was sketched at the meeting and was later formalized by Sanderson (see attached).
8. Sanderson and Vaughn agreed to keep the City in the loop as the Master Planning process evolves.

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HRWC - AUGUST 03, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	August 13, 2015
Meeting Date:	August 03, 2015
Meeting Place:	Conservation Design Forum
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Laura Rubin	HRWC	734-769-5123 x606,	lrubin@hrwc.org
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Patrick Judd	CDF	734-663-3751	pjudd@cdfinc.com

Minutes – Meeting w/ HRWC

1) P. Judd gave an overview of the B2B Trail's progress beginning with Segment D2 and proceeded through to Segment G ending at Bandemer Park. The large 1"=400' Potential Trail Alignments map was shown with the several options being explored. The intent was to get feedback from HRWC on concerns, issues and opportunities.

   a) Starting with Segment D2 at Huron-Dexter Metropark where we have two alternate routes; one crossing the river (Bridge #1) at the east end of the park between the two short bends. The second route would be parallel to Huron River Drive with most of the Trail being boardwalk. Bridge #1 would cross over and connect to Metropark land before crossing back over (Bridge #2) the Huron River adjacent to an existing railroad bridge. The two alternate routes would meet up again as both leave the Metropark and continue along Huron River Drive in its R.O.W. and/or in MDOT's (Rail) R.O.W. until reaching Zeeb Road.

   b) From Zeeb Road, the Trail would follow Huron River Drive in either its R.O.W. or MDOT's depending on specific site conditions (steep slopes, large trees, drainage swales) and then cross the river (Bridge #3) either at an existing railroad pier (MDOT R.O.W.) or east of Boyden Creek to reach West Delhi Metropark. The Trail could then take one of three alternative routes to reach the east side of East Delhi Metropark where it would cross the river (Bridge #4) near another existing railroad bridge, ending Segment D2 and the start of Segment E. One alternate route could also parallel Huron River Drive to avoiding a bridge (#4), but would require much of it being boardwalk.

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   c) Segment E begins near the Kloian property, continues along Huron River Drive until it reaches Tubbs Road where it crosses the Huron River either on the existing Huron River Drive bridge or a new bridge immediately south of it. Segment E would end at Wagner Road.

   d) The Trail at Wagner Road starts Segment F and has three alternate routes; adjacent to and in the MDOT (Rail) R.O.W. and crosses the river twice (Bridge #5 & Bridge #6) until reaching Maple Road; from Wagner Road south along Huron River Drive requiring extensive retaining walls and boardwalks until reaching Maple Road; or, crossing Huron River Drive near Wagner Road and then parallels north of Huron River Drive on a cantilevered boardwalk the full length until reaching Maple Road.

   e) Maple Road begins Segment G and continues to Barton Nature Park and depending on the preferred alignment, one additional bridge (Bridge #7) may be placed between Barton Dam and the existing railroad bridge. The Trail would then continue either through Barton Nature Park or on the north of the railroad Tracks through Barton Village property.

2) P. Judd also mentioned that the project would likely incorporate art and well-designed elements into the Trail such as artful bridges, railings, seating and observation areas. L. Rubin was pleased to hear that and mentioned HRWC is currently working with Connie Rizzlo-Brown on art elements very similar in nature along the Huron River corridor.

3) L. Rubin did have concerns with the first bridge (Bridge #1) crossing in Dexter-Huron Metropark that was proposed because it is in the Natural Rivers section and would not be near an existing river crossing which is a requirement under program restrictions. She would rather see a boardwalk along Huron River Drive. She felt the visual quality and experience would be better with the boardwalk option as opposed to the bridge alternative.

4) There was no concern or objections to the placement of Bridges #2 through #4 in both Dexter-Huron and Dehi Metroparks where the placement would be near existing railroad bridges.

   L. Rubin did reiterate that the HRWC took no stance on the bridge that was recently placed at Dexter-Huron Metropark though it was not near an existing crossing.

5) For Bridges #5 & #6, L. Rubin pointed out the waterfowl and wildlife habitat in the area of the river bend is very diverse and would be pretty spectacular when viewed from those bridges. Others agreed, but P. Judd pointed out, it would require an easement agreement with MDOT (Rail) to allow both trail and bridges in their R.O.W. Additionally, construction would be challenging both from in river construction (potential access from private property owners & placement of barges for cranes lifing bridges) and coordination with MDOT/Amtrak timetables.

   The other options along Huron River Drive would be just as challenging requiring extensive retaining wall systems on the south side of Huron River Drive due to steep slopes; on the north side may require a cantilevered boardwalk. L. Rubin felt that option would change the visual quality of the river's shoreline/bank. Everyone did agree it would alter the visual appearance, but it was an option needing to be explored.

6) The meeting concluded with C. Vaughn informing L. Rubin that they (WCPARC) will continue to keep HRWC informed as things progress and that a stakeholder meeting later this month or next would take place with the major players involved for the purpose of a collaborative consensus on a preferred alignment.

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

HCMA - AUGUST 06, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	August 13, 2015
Meeting Date:	August 06, 2015
Meeting Place:	WCPARC HQ – 2:00 PM
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	Refer to participants
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Nina Kelly	HCMA	810-494-6046	nina.kelly@metroparks.com
Paul Muelle	HCMA	810-494-6052	paul.mueller@metroparks.com
Mike Brahm-Henkel	HCMA	810-494-6057	mike.brahm.henkel@metroparks.com
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com

Minutes – Huron-Clinton Metropark Authority Meeting

1) P. Judd reviewed with HCMA staff (Nina Kelly, Paul Mueller, and Mike Brahm-Henkel) the alternative alignments from Dexter-Huron Metropark to Ann Arbor being explored and that we needed to gather their insights and knowledge of potential alignment opportunities and concerns through the two Metroparks, Dexter-Huron and Delhi (both West and East).

   P. Judd did acknowledge receiving the plant inventories and maps from HCMA and will carefully review in order to place the trail away from areas of special concern due to threatened or endangered plants.

2) *Dexter-Huron Metropark* -- One of the concerns at Dexter-Huron Metropark expressed by P. Judd was the approach to Bridge #1 on the west due to the existing topography being well below where the bridge deck elevation is set. The difficulty comes from having the bridge deck elevation sloped (8.33%) to meet ADA requirements and because of that, the length of this west approach needed would require an "elevated" support structure system or earthen fill. The east approach to Bridge #1 would have little difficulty meeting the bridge deck elevation due to the bluff being close to the same height.

3) *Dexter-Huron Metropark* -- P. Judd went through the three different trail alignments on the west side of the park once it departed from the bridge approach and where all three would connect to the current trail recently completed near the picnic shelter. The one option through the woods would need to be carefully looked at due to the abundance of native flora. The option running adjacent the existing parking lot would be preferred because it could as a collector trail when vehicle users parked next to the trail.

4) *Dexter-Huron Metropark* - Generally, they preferred the two bridge crossings at Dexter-Huron Metropark to their property south of the Huron River. A concern for them on the boardwalk along Huron River Drive had to do with maintenance and operations. They are worried that salt and snow-removal buildup on the boardwalk could lessen the longevity of the material. Snow piling up along and on the boardwalk could potentially be a hazard to both vehicle and trail users.

5) *Delhi Metropark* – P. Judd described the various constraints and opportunities of the trail coming from Huron River Drive into West Delhi either crossing the river (Bridge #3) near Boyden Creek or crossing at an existing railroad stone pier. Once crossed into West Delhi, one option would follow inside a wide MDOT (Rail) R.O.W. until it reached East Delhi, another heading east behind existing homes in the floodplain and cutting through Skip's canoe launch; or, down Delhi Court, possibly requiring the street to be paved with asphalt from the current stone aggregate surface.

6) *Delhi Metropark* – There was discussion on moving Skip's Canoe rental from the current location over to the main park where canoeist/kayakers could use the park's amenities, i.e., grills, picnic tables, larger parking lot, etc. Though, there is concern over getting those users through the rapids. An idea to have a "chute" bypassing the rapids could be explored or a portage ladder. This would involve the MDEQ because excavation in the river would have to be done requiring a permit.

7) *Delhi Metropark* – Once in the Metropark, preferably entering from the main gate and heading south along the existing south parking lot, the trail could be aligned however works best to cross the river at Bridge #4. There was the feeling by HCMA that the existing ball diamond, to the south, wasn't used much and that the trail could go through it, if necessary.

8) C. Vaughn/P. Sanderson explained these are alignments are options being explored, but WCPARC will be setting up meetings with MDNR Natural Rivers Program coordinator and MDOT Rail Division, because a lot depends on their input and feedback regarding placement and location of bridges, boardwalks and the trail within the Natural Rivers Program zone and MDOT's R.O.W.. After these individual tier one stakeholder meetings [HRWC, MDNR, MDOT, WCRC, and HCMA] there will be a larger gathering of stakeholders, meeting to look for consensus on a preferred alignment. We are looking at later this month for this meeting, but may happen in October now.

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WCRC - AUGUST 12, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	August 21st, 2015
Meeting Date:	August 12, 2015
Meeting Place:	WCRC HQ – 3:00 PM
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	Refer to Participants List
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Roy Townsend	WCRC	734-327-6662	townsendr@wcroads.org
Sheryl Siddall	WCRC	734.327.6687	siddalls@wcroads.org
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com

Minutes – Meeting with Washtenaw County Road Commission

1. P. Judd went through the current status of the B2B Trail from Dexter-Huron Metro Park to Ann Arbor and by showing the potential alignments on the 1" – 400' scale working map. P. Judd has explained the reason for the meeting was to get input and feedback from WCRC and to get insight on their thoughts related to future work, safety, coordination and funding. P. Sanderson provided updates to the status of the overall B2B Trail and areas yet to be completed and indicated with this section being the most difficult, once completed, WCPARC will have 89% of the overall trail project done.
2. Each segment was explained by P. Judd and within each, the constraints pointed out due to R.O.W. ownership between MDOT Rail and the Road Commission, topography, large mature trees and private properties. We wanted input from the WCRC on their thoughts of having an asphalt trail and boardwalk along Huron River Drive. Both R. Townsend and S. Siddall express concern over having the trail along Huron River Drive if it's any closer than 5'-7' from the road edge. ASHTO requires 5' of separation, but the wider the better. As for boardwalks, it would be difficult to maintain and concern for snow removal on Huron River Drive if snow piles up too close to the road if the boardwalk acts as a barrier. Additionally, snow piled on the boardwalk may not melt until later in the spring season, causing a potential hazard for trail users.
3. P. Judd asked if guardrails could be used for separation were the road and trail need to be closer than the 5'. S. Siddall explained that the WCRC considers guardrails as a hazard to vehicles because there is a danger if a vehicle crashing into them may deflect back into oncoming traffic.

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4. C. Vaughn and P. Sanderson mentioned they attended a meeting regarding future Iron/Belle Trail funding through the State. They came away with the funding really isn't in place, but the State is working to secure public and private funds that are dedicated to the IBT. However, it is not clear as to how much funding will be available or what the distribution process will be like. P. Sanderson did say since the B2B Trail is on the Iron/Belle Trail route, they would receive a priority.
5. P. Judd noted one area of concern is the stretch between Wagner Road to Maple Road where three options are being explored. The route requiring two bridge (Bridge #5 & #6) crossings would need to be within MDOT's R.O.W. along the railroad and heavy construction equipment may need to have access through private property; the second option would be an alignment along the south side of Huron River Drive, but requires extensive retaining walls and removal of large mature trees which will reduce the visual quality dramatically; the third option would be installing a cantilevered boardwalk on the north side of Huron River Drive which would have a greater visual impact on the river side. A final option would be to look at a shared bike/vehicle system similar to one being proposed in Grand Rapids -- P. Judd will forward reference material.
6. C. Vaughn explained there will be a larger stakeholder meeting in early to mid-October to discuss the trail and to get a consensus on the preferred alignment. WCPARC still need to meet with MDNR Natural Rivers Program coordinator and MDOT Rail Division to get their input and feedback which is the most critical. Since avoidance of the more difficult challenges could be reduced if the Trail could fall within MDOT's R.O.W. and placement of the bridges are outside the 100' proximity to existing crossings required by Natural Rivers.

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DNR NATURAL RIVERS PROGRAM - SEPTEMBER 03, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	September 14, 2015
Meeting Date:	September 03, 2015
Meeting Place:	WCRC HQ – 10:00 AM/B2B Trail Segments D2 - G
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	Refer to Participants List
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Patrick Ertel	MDNR – Natural Rivers Program	989-732-3541 x-5047	ErtelP@michigan.gov
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-971-6337	sandersonp@ewashtenaw.org
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com

Minutes – Meeting with MDNR Natural Rivers Program Coordinator

1. P. Sanderson went through the current status of the B2B Trail segments from Dexter-Huron Metro Park to Ann Arbor with P. Ertel. He discussed the overall project description including being a part of the Iron Belle Trail, its progress on generating a Master Site Plan report, the anticipated schedule and meetings with shareholders which included HRWC, WCRC and HCMA. P. Sanderson provided a packet for P. Ertel with much of the background material generated to date, i.e. B2B brochure, WCPARC's maps of completed trail sections and yet to be constructed sections, Critical Focus Area maps, etc. P. Sanderson will provide meeting notes from the shareholders other stake holder meetings as well.

   P. Ertel appreciated the invitation to walk the site and informing him early in the process prior to submitting an application to the Natural Rivers Program for the bridge crossings and trail portions within the 400' (125' setback for structures) buffer zone.

2. We then went out to Dexter-Huron Metropark to visit the recently completed River Terrace Trail to show him an example of the trail design and layout, the construction aspects including contractor restrictions, techniques and restoration.

   We drove to the east side of the Metropark to the location where the one proposed bridge (#1) crossing on the Huron River that isn't adjacent to any existing bridge crossings within its proximity (as suggested in the Natural Rivers Program Plan for locating new bridge crossings). We described its setting at the proposed location being on a short run of the river, its visual qualities and impacts compared to the Trail/Boardwalk alternative along Huron River Drive. Additionally, a benefit to HCMA to their land-locked parkland would allow public access to the natural areas which includes a high-quality dry-mesic

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prairie managed by HCMA. P. Judd then showed on the 11x17 maps the remaining six potential river crossings near existing railroad bridges and critical areas adjacent to the Huron River where boardwalks and the hard-surfaced trail is being explored within the Natural Rivers Area.

3. The group stopped and walked along Huron River Drive to review the site conditions for the alternative boardwalk route along Huron River as opposed to the new bridge within Dexter-Huron Metropark. P. Judd explained some of the difficulties with the steep side slopes immediately off Huron River Drive, the proximity of the floodplain, the number of trees to be removed in order to get a 12' wide boardwalk with the 5' safe clear zone requested by the WCRC. This boardwalk would be entirely within the 125' structure setback as outlined by the Natural River's Act.

4. From Dexter-Huron Metropark, we next drove through the section along Huron River Drive, where the trail could be placed either south of the road or to the north as suggested by the WCRC, before arriving at West Dehli Metropark. The southern route would take the trail to within 15' of a residence's front yard or further south into the railroad R.O.W. The north alignment section is still being explored – slopes, vegetation and proximity to any residential homes.

5. Once in West Delhi, we took P. Ertel on the old railroad siding to the granite pier where we are proposing a bridge (#3). The pier is believed to be nearly 100 years old and once used for rail to cross when coming to the mill at Delhi. We showed P. Ertel where we would like to proceed into MDOT's extensive R.O.W. to the south, cross Delhi Road just north of the railroad tracks before proceeding into the southern portion of East Delhi. Once there, the trail would cross the river and enter in to HCMA property and then possibly over into the "Kloian" parcel which is in the conceptual phase of a residential layout but is bisected by the railroad.

6. The trail would cross then Huron River again, this can potentially be achieved by re-striping the road to widen the existing shoulder on one side of the existing road bridge near Tubbs Road. The trail would then proceed to the existing at-grade railroad crossing near Wagner Road. It is at this point the trail either runs along Huron River Drive on the north or south side – each has its own challenges in a lengthy boardwalk on the north side or significant retaining walls on the south side of Huron River Drive. The third option would have two significant bridges (#5 & #6) and very long boardwalks and/or approaches to the bridges. The trail would then continue south of the tracks past Foster Bridge at Maple Road (the western extent of the Natural Rivers boundary) to Barton Park, a City of Ann Arbor passive park and natural area.

7. P. Ertel said he would write a letter to MDOT's Office of Rail regarding the Natural Rivers Program's preference for using the existing granite pier at East Delhi for bridge (#3) and also for the remaining bridge crossings being as close as safely possible to the existing railroad bridges.

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CITY OF ANN ARBOR - SEPTEMBER 21, 2015

Washtenaw County Parks and Recreation Commission

MEETING MINUTES

Date: September 21, 2015 at 1:00 pm

Location: Ann Arbor City Hall

Subject: North Main Street Border-to-Border Trail Connection

Attendees: Coy Vaughn (WCPARC), Peter Sanderson (WCPARC), Eli Cooper (City of Ann Arbor), Amy Kuras (City of Ann Arbor)

Minutes:

1. Sanderson and Vaughn provided a general update on the B2B Master Plan. They stated that there through the master planning process, WCPARC and the design team discovered some alternate options to the 2005 tunnel proposal. These alternatives explore potential use of land in Barton Hills Village.
2. Kuras stated that they had not considered these options during the 2005 study process because they were not within the jurisdiction of the City of Ann Arbor.
3. Cooper and Kuras were supportive of the exploration of these options and encouraged WCPARC to commission a more detailed alternatives analysis. They offered to potentially split costs with WCPARC for the analysis since it is very highly related to priority projects for the City of Ann Arbor.
4. Vaughn and Sanderson agreed with the City Staff that a more detailed analysis was warranted because this connection is critical to the success of the B2B.
5. Cooper suggested that WCPARC explore the TIGER Grant program to fund the construction of the area being master planned.

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WASHTENAW COUNTY GREENWAYS ADVISORY COMMITTEE - SEPTEMBER 24, 2015

Washtenaw County
Greenways Advisory Committee (GAC)

GAC Minutes, Sept 24, 2015

Attendees

Larry Deck	WBWC
Nancy Hedberg	Scio Twp
Mark Ferrall	WATS
Tim Phillips	HCMA
Peter Sanderson	WCPARC
Richard Kent	WCPARC

Meeting called to order at 8:39 am.

1. **Minutes** of **May 28, 2015** were adopted. Comments to be incorporated.
2. **B2B Update**

   WCPARC and its consultant team have been meeting with the stakeholders for the route for the B2B from Dexter to Ann Arbor: HCMA, HRWC, WCRC, MDNR, City of Ann Arbor, etc. A meeting is scheduled with MDOT for next week. The team has examined several alternatives and is close to proposing a preferred route for the trail. These routes will be presented to the public this fall with the goal of adopting a final preferred route by the end of this year.
   A budget for the project is in preparation. The cost of the project is a significant challenge. The construction cost is probably in the 10-20 million dollar range which would make it eligible for funding through the federal TIGER program (Transportation Investments Generating Economic Recovery). Other sources of funding include the state Iron Bell grants, MNRTF, TAP and private foundations. Mark indicated that the TAP funding in the SEMCOG region could be doubled in 2017. All these and others to be identified probably need to be tapped.

   GAC members offered several comments on the proposed route: Larry said that he would like to see the route closer to the water where possible and further away from the RR tracks. The building of needed bridges should be coordinated with the expected addition of track to upgrade the route for higher speed train travel.

   The project adjacent to the Dexter DPW is scheduled for fall construction.

2. **Agency Reports**

   WCPARC

   The B2B project in Ypsilanti started in August and is moving forward. County acquisition of the Trolz property in Manchester Township is in progress (405 acres). Staff has been talking to Sharon Mills Park neighbors about extension of trails in the park into the Nan Weston Preserve and the Sharonville State Game Area.

Scio Twp

Construction of the trail on Zeeb Road is complete except for signage and other finishing touches. The township has acquired a private parcel along the route. The former Bell Road bridge is still being evaluated for possible use to cross the Huron River. Peter suggested liaison with Legacy Land Conservancy who owns the land on the possible southern terminus of bridge placement.

HCMA

Tim suggested that WCPARC and HCMA staff meet on site to investigate trail routes north of Hudson Mills and take pictures for a possible grant submission in spring 2016.

WCRC

No report

WATS

The Huron/I-94 crossing study is in progress.

WBWC

No report

Friends of the B2B

Bob Krzewinski submitted a report by email:
Friends actively seeking persuing Federal 501(c)3 non-profit status and soliciting paid memberships. They have a completely redesigned web page:
www.bordertoborder.org
Adopt A Trail Section volunteers are being asked to do a final fall vegetation trim-back. The Annual membership meeting on November 3, 2015 and the next Friends Board meeting is October 7, 2015

Other Business

Several members requested additional copies of the new B2B map. Pete will investigate.

Meeting Adjourned at 10:15 am

Next Meetings

November 19 – one week early (Thanksgiving)
January 28, 2016, March 24, 2016

MDOT RAIL DIVISION - SEPTEMBER 30, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	October 01st, 2015
Meeting Date:	September 30th, 2015 from 2:30 – 4:15 PM
Meeting Place:	MDOT (Van Wagoner Bldg – 4th flr)
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Robert Lippert	MDOT Rail Division	517-373-7709	lippertr@michigan.gov
Shaun Bates	MDOT Rail Division	517-335-3573	batess2@michigan.gov
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-761-5796	sandersonp@ewashtenaw.org
Patrick Judd	CDF	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com
Peter Josefchak	Stantec	(312) 369-9326	Peter.Josefchak@stantec.com

Minutes – Meeting

1. **Introductions**
   a) C. Vaughn and P. Sanderson introduced the team. Robert Lippert introduced himself from MDOT and that Tim Hoeffner would not be able to join the meeting. Bates joined the meeting via phone.

2. **Border-To-Border Overview & Current Master Plan**
   a) C. Vaughn provided an overview of the B2B trail starting with the County's accomplishments to date and the anticipated completion of the missing links. He informed about recent surveys for increased demand and support for non-motorized county-wide. Sanderson discussed the B2B's recent incorporation into the Iron Belle Trail and how it forms a critical link in the state-wide plan. Sanderson also mentioned that the Huron River is now the 18th designated National Water Trail.

   b) Vaughn and Sanderson re-capped the meeting with MDOT in 2014 where it was understood that MDOT was willing to work with WCPARC but needed more specific requests; it was this meeting that lead WCPARC to initiate the Master Planning process. Vaughn explained the stakeholder engagement process that WCPARC has been using to develop this master plan and how it has allowed the team to focus requests for the use of the MDOT Rail ROW to the necessary locations only.

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   c) C. Vaughn explained how this Segment of the B2B, D2 through G, is the most challenging to construct due to physical constraints adjacent to the railroad ROW, fiber optics, the Huron River, Huron River Drive, steep slopes, floodplains all the while maintaining a safe setting for all users and transportation modes. It was stressed by all parties that providing safe infrastructure (rail and non-motorized) was critical to the success of this project.

   d) P. Sanderson briefly discussed the anticipated schedule, and funding and grant sources; MNRTF, TAP and TIGER along with private funds. R. Lippert suggested looking at CMAQ (Congestion Mitigation and Air Quality)
   http://www.fhwa.dot.gov/environment/air_quality/cmaq/

   e) S. Bates pointed out that MDOT owns the land, but Amtrak is a Host operator and Northfolk Southern still has freight rights and each will have their own safety concerns. Additionally, the fiber optic line in this area is Category 3 and is owned by Century Link.

3. **Critical Focus Areas along Preferred Route:**
   a) P. Judd and M. Pascoe went through the preferred route with a visual flight-path from *Google* starting with Mast Road in Dexter and "flying" east toward Bandemer Park in Ann Arbor.

   b) P. Judd and M. Pascoe pointed out each Critical Focus Areas along the preferred route explaining each area constraints and reasons for entering the ROW.

   c) S. Bates was concerned about any trail paving over the fiber optic which would not be allowed. S. Bates said the fiber optic operator wants only gravel above the cable for ease of maintenance. If the trail is paved on top of the fiber optic cable, they would maintain the right to remove the trail for cable maintenance and it would up to the County to replace the trail.

   d) S. Bates mentioned that if any portion of the trail is in the ROW, MDOT will want to maintain existing access points and service drives to access the tracks with equipment.

   e) The proposed non-motorized crossing of the railroad where the existing road, Huron River Drive between Tubbs and Wagner Roads, will require a DSTR (Diagnostic Safety Team Review - - Contact: Tina Hissong, Manager Office of Rail - Rail Safety Section) review. Currently, there are no new at-grade crossings allowed because of the corridor's High-Speed Rail designation. It is possible that even if there is an existing at-grade road crossing, because the road currently lacks any pedestrian infrastructure, the new pedestrian crossing may be classified as an entirely new, separate crossing.

   f) P. Sanderson discussed how this project could provide designated, safe pedestrian crossings which would significantly reduce the amount of trespassing at one or more known problem locations. Sanderson also mentioned coordination of this project and meetings with the City of Ann Arbor, specifically regarding the crossing at Bandemer Park. Rather than a tunnel as recently proposed by the City near the trespass crossing, P. Sanderson suggested a tunnel crossing further up near Barton Nature Park. WCPARC is currently preparing to conduct an alternatives analysis study to determine the best way to achieve this connection that meets the

goals of all stakeholders. S. Bates said it would be a better if a Jack-and-Bore be done rather than a Sho-fly which in itself will cost $1 million. The concern with a Jack-and-Bore would be the fiber optic cable running along the tracks.

4. **Next Steps:**
   a) S. Bates suggested a *letter of justification* of why the trail needs to use MDOT Rail ROW. Include information at each critical focus area using our mile-marker stationing designations which starts from the east and heads west. Bates said that justification does not include "ease of construction" or "cost savings".

   b) S. Bates and C. Vaughn will check to see if *MDOT's Environmental Report* along this section was ever sent to WCPARC. Information within that will also determine a trail alignment placement.

   c) S. Bates will see if he can get a hold of any as-built drawings or maps of the fiber optic locations. P. Judd mentioned if the current location of the fiber optic cable is in the gravel portion of the railroad bed, we didn't anticipate being anywhere near that.

   d) MDOT was asked if they support the Trail and S. Bates' response was generally we do support the trail, but want to have it safe for everyone, allows for future expansion and flexibility and have in place easement agreements. S. Bates said this will be a give and take for all involved.

   e) MDOT Real Estate will need to get involved to review fee holders of property where the Trail is in the MDOT ROW. He said some areas in the ROW may not be clear as to the landowner since the taking to build the railroad.

   f) S. Bates will review the packet WCPARC send last Tuesday by email with the Critical Focus Area and existing/proposed bridge maps. He will then make a site visit with his track engineer and others to walk the preferred trail route to familiarize himself of the conditions and constraints. This is likely to happen within 3-4 weeks. Soon after his walk through with internal staff, he will set up a meeting with the master plan team to go over their thoughts, suggestions, and the next steps for the process.

   g) S. Bates did say MDOT is the ultimate decision maker, while working with Amtrak, on whether the Trail is allowed in the ROW, although the FRA will have to be consulted as needed.

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

BARTON HILLS VILLAGE - OCTOBER 15, 2015

Washtenaw County Parks and Recreation Commission

MEETING MINUTES

Date: October 15, 2015 at 11:00 am

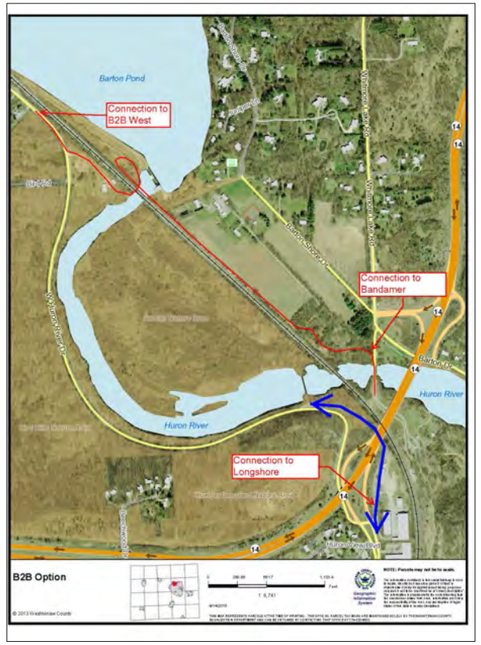
Location: WCPARC Administrative Offices

Subject: Border-to-Border Trail and Barton Hills Village

Attendees: Coy Vaughn (WCPARC), Peter Sanderson (WCPARC), Will Boddie (President, Barton Hills Village)

Minutes:

1. Sanderson and Vaughn described the scope of the current RFP to develop a Master Plan for the B2B between Dexter and Ann Arbor. They also talked about the stakeholder engagement process that is being implemented to seek input early on in the planning process.
2. Sanderson and Vaughn used a map to briefly describe the various route options that were developed for the entire alignment. Next, they focused the discussion around the route options that directly involved Barton Hills Village.
3. Sanderson and Vaughn stated that WCPARC intends to perform a more detailed analysis of the connection into Ann Arbor which includes the potential options that use Barton Hills Village. They detailed the reasons why more in-depth analysis was needed, which generally include: the complexity of the connection, the potential for high use by pedestrians, ensuring that circulation patterns are maintained and improved, safety factors involving the railroad, and the high costs associated with engineering and construction. This analysis is intended to be completed before formally asking Barton Hills Village for their official stance on the trail and the granting of an easement. It is possible that the analysis may conclude that use of Barton Hills Village Land is unnecessary.
4. Boddie stated that the land that was being looked at was not under the ownership of the Barton Hills Village Government, but was controlled by the Barton Hills Maintenance Corporation. The President of the Maintenance Corporation is John Mackrell. The Maintenance Corporation is essentially a Home Owner's Association.
5. Boddie said that it was unlikely that a project of this type would see a lot of support from the citizens of Barton Hills Village. Since the Maintenance Corporation controls the land, this project would require a formal vote and would need over 50% support of all landowners.
6. Boddie stated that many residents are nervous/concerned about the many bicyclists that train on the hills within Barton Hills Village. He described resident's comments that are particularly focused on the speed with which they ride and the potential for collision with a vehicle or pedestrian.
7. Sanderson and Vaughn stated that the B2B tends to be more geared towards family friendly riding, walking, and jogging; the people training on the hills tend to be a different user group. However, WCPARC would be glad to provide a fence along the proposed alignment to ensure that trail users do not deviate from the path. They also noted that the proposed trail would not be in close proximity to anyone's home and that it would, in fact, pass nearby the existing recreation area within Barton Hills Village.
8. Boddie took some maps and literature with him when the meeting adjourned and agreed to speak with John Mackrell about the concept.



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ANN ARBOR TOWNSHIP - NOVEMBER 13, 2015

Washtenaw County Parks and Recreation Commission

MEETING MINUTES

Date: November 13, 2015 at 10:00 am

Location: WCPARC Administrative Offices

Subject: Border-to-Border Trail – Dexter to Ann Arbor Master Plan

Attendees: Coy Vaughn (WCPARC), Peter Sanderson (WCPARC), Mike Moran (Ann Arbor Township Supervisor), Sally Elmiger (Carlisle Wortman, Ann Arbor Township Planning Consultant)

Minutes:

1. Sanderson and Vaughn described the big picture vision of the B2B including the gaps that still remain in the trail. They discussed the scope of the current RFP and the consensus building goals of the Master Plan for the B2B between Dexter and Ann Arbor. They also talked about the stakeholder engagement process that is being implemented to seek input early on in the planning process.
2. Sanderson explained that the entire B2B route has been incorporated into the Iron Belle Trail (IBT) initiative. This makes it eligible for future funding for the IBT.
3. Sanderson and Vaughn used a map to describe the various route options that were developed for the entire alignment. They talked about some of the challenges involved with determining a feasible trail alignment (ecological and aesthetic sensitivity, privately owned land, and other geophysical constraints). Next, they focused the discussion around the route options that directly involved Ann Arbor Township.
4. Vaughn discussed some of the potential funding sources for the project, which include: Michigan Natural Resources Trust Fund, MDOT & SEMCOG Transportation Alternatives Program (TAP), Iron Belle Trail Funding, the federal TIGER grant program, and potential private donations.
5. Moran and Elmiger felt that there would likely be strong support for the concept of the trail amongst officials and residents within the Township.
6. Moran and Elmiger recommended that WCPARC discuss this project with the Planning Commission while still at an early stage. A recommendation from the Planning Commission to approve this Master Plan could potentially result in a

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SCIO TOWNSHIP - DECEMBER 03, 2015

Washtenaw County Parks and Recreation Commission

MEETING MINUTES

Date: December 3, 2015 at 11:00 am

Location: Scio Township Offices

Subject: Border-to-Border Trail – Dexter to Ann Arbor Master Plan

Attendees: Coy Vaughn (WCPARC), Peter Sanderson (WCPARC), Spaulding Clark (Scio Township, Supervisor), Nancy Hedberg (Scio Township, Clerk), Jack Knowles (Scio Township, Trustee), David Read (Scio Township, Trustee), Doug Lewan (Carlisle Wortman, Scio Township Planning Consultant)

Minutes:

1. Sanderson and Vaughn described the big picture vision of the B2B including the gaps that still remain in the trail. They discussed the scope of the current RFP and the consensus building goals of the Master Plan for the B2B between Dexter and Ann Arbor. They also talked about the stakeholder engagement process that is being implemented to seek input early on in the planning process.
2. Vaughn discussed some of the history of this project. WCPARC submitted a portion of this as a TAP application, which scored highly, but was ultimately turned down for funding due to the large amount of unknowns. It is for this reason that WCPARC decided to undertake a comprehensive Master Planning process.
3. Sanderson and Vaughn used a map to describe the all of the various route options that were developed for the entire alignment. They talked about some of the challenges involved with determining a feasible trail alignment (ecological and aesthetic sensitivity, privately owned land, and other geophysical constraints). As they described the alignments, the current preferred route was pointed out.
4. Sanderson explained that WCPARC has been keeping ecological and aesthetic considerations at the top of the priority list throughout the process. He discussed that this was one of the reasons for the selection of the CDF/Stantec design team. Sanderson described that it was CDF that was the lead on Segment D-1 (River Terrace Trail - Dexter-Huron Metropark to the City of Dexter), which is currently in the final phase of construction. Ecological design was a key consideration in that trail segment.
5. Scio Township staff felt that making this B2B Master Plan more public would improve support for the current Zeeb Road Path effort since it would make the big picture vision easier to visualize for township residents. Township staff said that it is critical that the Zeeb Road Path connect to the B2B near Huron River Drive. Hedberg mentioned that she has had conversations with Township and County staff (in the nearby buildings) who expressed interest in being able to safely commute by bicycle to work from the Dexter area—the completion of these two projects would facilitate that.
6. Lewan and Scio Township staff discussed what, if any, formal review for this project needed to take place since the alignment is within existing ROWs or on park land. It was determined that staff would look into this further. Vaughn stated that while no formal review may be required, WCPARC would still like to have input from the township since they are a major stakeholder.
7. Sanderson recommended that WCPARC discuss this project with the Planning Commission. A recommendation from the Planning Commission to approve this Master Plan could potentially result in a resolution from the Township Board which would formalize the Township's support for the project. Vaughn agreed and said that this could take place once MDOT's position is better understood; likely in early 2016. Hedberg agreed and suggested that perhaps a joint presentation to the Township Board and Planning Commission could be a good idea.
8. Lewan stated that the Zeeb Road pathway is in the township's Recreation Master Plan but was unsure if the B2B between Dexter and Ann Arbor was included. He agreed to look into that and said that if it was not, the B2B could be amended into the township's plan.
9. Lewan discussed the previous B2B segment (D-1) regarding the Natural River's Act and thought that facilities built on existing recreation land may be exempt from the act. He said that he would look for the source of this information.

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in WCPARC's office within seven calendar days of the report date.

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MDOT RAIL DIVISION - DECEMBER 11, 2015

Conservation Design Forum
Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering
Sustainable Urbanism • Ecosystem Sciences

Meeting Minutes

Report Date:	December 15th, 2015
Meeting Date:	December 11th, 2015 from 9:00 – 11:00 PM
Meeting Place:	MDOT (Van Wagoner Bldg – 4th flr)
Project Name:	WCPARC: B2B Trail Segment D2 – F Master Plan Update
Recorded By:	P. Judd
cc:	
Ref. #:	Project #15010.00

Participant	Company / Affiliation	Phone #	E-mail
Robert Lippert	MDOT, Office of Rail	517-373-7709	lippertr@michigan.gov
Shaun Bates	MDOT, Office of Rail	517-335-3573	batess2@michigan.gov
Nikki Johnson	MDOT, Office of Rail	517-335-0930	johnsonN1x@michigan.gov
Coy Vaughn	WCPARC	734-368-0073	vaughnc@ewashtenaw.org
Peter Sanderson	WCPARC	734-761-5796	sandersonp@ewashtenaw.org
Patrick Judd	Conservation Design Forum	734-353-9091	pjudd@cdfinc.com
Mark Pascoe	Stantec	734-214-1865	mark.pascoe@stantec.com
Steve Pierce	Stantec	651-976-4659	steve.pierce@stantec.com

Minutes – Meeting

1. **Introductions & Project Overview**
   a) *MDOT is currently unsure of the final geometry for the High-Speed Rail. Anywhere within the ROW the B2B trail is placed will be subject to removal with future plans; and at the cost to the WCPARC. MDOT will be conducting a review of the alignment along this corridor to assess its compliance for High Speed traffic. Work on this is expected to begin in the Spring 2016.*
   b) *The assessment of the corridor could see sections of the track shifted to meet High Speed Rail guidelines. The final results of this may not be known until spring 2017 when the corridor review is done; however indications of the areas that will be affected should be available sooner. MDOT will schedule surveying soon -- WCPARC felt there could be an opportunity to partner on survey.*
   c) *MDOT (Amtrak) requires a minimum 16' from center of rail to a structure (trail edge). MDOT suggested since a second rail location isn't yet identified, working from that that future centerline should be taken into consideration.*
   d) *Location of the trail west of Zeeb Road north of the railroad tracks needs a closer look and/or should be push back as far as possible because of a new signal box that was just installed.*

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   e) *MDOT does not want to add any new crossings to the area because it is labeled as a High Speed Corridor. This means that the trail will need to make use of existing crossing or find another crossing that can be eliminated in kind.*
   f) *MDOT suggested initiating a DSTR study at Zeeb and Wagner Roads soon. The study will take a few weeks and they assist in the design engineering of the crossing. The study recommendations are good for two years. MDOT will likely see a "maze" configuration and not a separate pedestrian gate. MDOT will be looking for fences at crossing locations to "channel" people to the intended crossing and reduce instances of trespassing. No definite length of fence was identified but 50'-100' were through to be appropriate.*
   g) *In cases there the trail enters the railway ROW fencing will be require regardless of distance from the track; an 8' fence was indicated as generally suitable. This is intended to keep a clear delineation between railway corridor and trail use. MDOT suggested installing the fence first prior to any trail work. This would also eliminate the need of a PTE (Permit-To-Enter the ROW) for future work. There is a required online training session on safety for contractors to become approved for PTEs. WCPARC will bear the costs of installing fences. There was a brief discussion on the Gallop Park Trail where fences have been cut at illegal crossings. MDOT is developing a policy to repair fences within a specified time period once it's reported. Final Guidelines for maintenance plans developed by MDOT are nearly completed and will share with WCPARC.*
   h) *MDOT expects the track from Ann Arbor to Dexter to be double tracked at some point. But, more likely to occur between Ann Arbor and Ypsilanti.*
   i) *MDOT had no issues with the proposed Bridge #3 using the existing old stone bridge pier at west Delhi Metropark. It was recommended a structural engineer evaluate its condition. It appeared timber piles or cribbing were used below the waterline. Amtrak may still need to review the proposed bridge crossing using this pier.*
   j) *It was noted that there are utilities in the ROW such as fiber optics on both sides of track (operated by Century Link and Level 3, but Northfolk Southern reviews and issues permits) that will need to be located. MDOT has As-Built drawings and will forward to WCPARC. The intent of WCPARC is to have a trail alignment that will not impact the fiber optics.*
   k) *MDOT has concerns with Trail and Bridge #5 & #6 with their proximity along the railroad tracks. They trail and bridges will require a 16' clear zone and the current ROW width doesn't allow enough room for the required safety separation for both tail and tracks. The team informed MDOT they are currently investigating an alternative route which will take the trail further south of the railroad past Wagner Road on property owned by the City of Ann Arbor. The trail would then approach Bridge #5 from the southeast through a wetland rather than parallel the railroad along Honey Creek. WCPARC will approach the property owner (John Russell) who owns the land between Bridge #5 and #6 regarding an easement outside the ROW. It was mentioned that the land is accessed by crossing the railroad from the north. MDOT will further investigate this crossing.*

   l) *Funding sources were briefly discussed -- TAP program and the FAST Act (Fixing America's Surface Transportation) which was recently signed into law and this portion of the B2B Trail may qualify. Further research is needed to understand requirements.*
   m) *MDOT described the process for leases and permits for use of the ROW and the review for MDOT Real Estate may take up to a year. Easements are not permissible or agreements in perpetuity. The drawings will need to be at Detailed Design level for Real Estate to review. MDOT encouraged submitting all phases at once to expedite the overall review process and provide consistency. The MDOT Rail will work with Real Estate on a 25 – 50 year lease agreement. Lease rates are nominal and are on a per square foot basis of area occupied. MDOT agreed to send rates to WCPARC.*
   n) *In whole MDOT team was very supportive of having the project completed and went so far as to make suggestions for construction or routing in areas that were labeled as critical. WCPARC will work with MDOT to ensure proper access drives to signal/utility boxes and rail. Access points crossing the trail will engineered to accommodate rail maintenance vehicles and to a degree, heavy equipment.*
   o) *WCPARC requested a letter of support from MDOT Rail for the purpose of grant applications. MDOT felt it shouldn't be a problem and understood the importance of this portion of trail as a part of the Iron Belle's development.*

2. **Next Steps:**
   a)

The foregoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.

DNR NATURAL RIVERS PROGRAM - 2015

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
LANSING

RICK SNYDER, GOVERNOR — KEITH CREAGH, DIRECTOR

September 16, 2015

Mr. Tim Hoeffner
Michigan Department of Transportation
State Transportation Building
425 West Ottawa Street
P.O. Box 30050
Lansing, Michigan 48909

Dear Mr. Hoeffner:

I recently had the pleasure of touring the Huron River with staff from the Washtenaw County Parks & Recreation Commission. They invited me to visit the areas of existing trail and the locations of proposed additions to the trail system as they strive to complete their Border to Border trail project.

The Huron River is designated as a Natural River under the authority of Part 305 of the Natural Resource and Environmental Protection Act, Act 451 of the Public Acts of 1994, being Sections 324.30501 to 324.30515 of the Michigan Compiled Laws Annotated. The Natural Rivers Rules for Utilities & Publicly Provided Facilities, as well as the Huron River Natural Rivers Plan and private land zoning standards, guide development within the Huron River Natural Rivers District.

The Natural Rivers Program works to guide project design to minimize the need for new bridges that cross designated portions of the river. In the case of the Border to Border trail, I agree with the project planners that site conditions will require new river crossings in certain areas.

In those cases, it is our goal to concentrate structures with existing bridges to minimize the spread of impacts into the undisturbed sections of the river. Along this project area there are several existing railroad crossings. I have strongly encouraged the Washtenaw County Parks & Recreation Commission to pursue their plan of working collaboratively with Michigan Department of Transportation to locate the new crossings as close to existing railroad bridges as possible, including the possibility of utilizing existing infrastructure such as the bridge support just west of Delhi Metro Park. Additionally, to help protect the natural character of this stretch of the Huron River, I have also asked them to further explore options of locating portions of the trail in the terrestrial areas of the railroad right-of-way.

Please do not hesitate to call me and discuss the project. I look forward to helping evolve a common plan that meets the goals of each interested party.

Sincerely,

Patrick Ertel
Natural Rivers Administrator
Fisheries Division
989-733-3541 Extension 5047

cc: Mr. Peter Sanderson, Washtenaw County Parks & Recreation Commission

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MDOT RAIL DIVISION - 2016

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

RICK SNYDER, GOVERNOR — KIRK T. STEUDLE, DIRECTOR

January 6, 2016

Coy Vaughn, AICP
Deputy Director
Washtenaw County Parks & Recreation Commission
2230 Platt Road
Ann Arbor, Michigan 48107

Dear Mr. Vaughn:

Thank you for including the Michigan Department of Transportation's Office of Rail in the Border to Border alignment study. The Office of Rail is prepared to work with Washtenaw County Parks and Recreation in the event portions of the trail need to be placed in the state-owned rail corridor. As options of last resort, we're generally supportive of most portions of the proposed trail alignment when placed as far as possible from the track with the protective measures that we discussed. As you know, there were a few specific locations that we had some concerns with, and we appreciate your willingness to address them. We plan to work with our Real Estate office to develop the appropriate tool for long-term occupancy as soon as the alignment on the rail corridor is finalized.

We look forward to working with you on developing a safe rail-with-trail corridor. Please feel free to contact me at 517-335-0939 with any questions.

Sincerely,

Nikkie Johnson
Rail Economic Development & Operations
Office of Rail

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SCIO TOWNSHIP - 2016

E. Spaulding Clark, Supervisor
Nancy C. Hoiberg, Clerk
Donna E. Palmer, Treasurer

Township of Scio

Trustees: Richard A. DeLong, Christine A. Green, M. Jack Kinsella, David S. Read

29 March, 2016

Robert Tetens, Director
Washtenaw County Parks and Recreation Commission
PO Box 8645
Ann Arbor, MI 48107

Re: **Master Plan for the Border-to-Border Trail: Dexter to Ann Arbor**

Dear Mr. Tetens:

The Board of Trustees at Scio Township would like to express its support for the plan titled the "*Segment D2-G Border-to-Border Nonmotorized Trail Summary Report, 2016*" that was prepared for the Washtenaw County Parks and Recreation Commission. We support the "preferred alignment" for the Border-to-Border Trail as outlined in the summary report, which details a plan to connect the cities of Dexter and Ann Arbor. This 7.2 mile corridor is a critical connection in the Border-to-Border Trail, and ultimately the Iron Belle Trail. Not only does it link two population centers in Washtenaw County with safe, non-motorized infrastructure where currently none exists, but it also will provide an opportunity for the citizens of our Township to access the Border to Border Trail. The B2B Trail is an important end point for the non-motorized pathway that our community is currently working toward with our Zeeb Road Pathway.

As you know from discussions with representatives of our community throughout the planning process, it is imperative that environmental and aesthetic considerations be placed at the forefront of the project. We feel that these considerations have been sufficiently accounted for at the planning level and that the same attention to detail should continue as the project moves into the design and engineering phase.

The B2B is more than a recreational amenity that caters to a broad range of users; it is green infrastructure along a commuter corridor and an economic engine that stimulates job growth, redevelopment, and recreational tourism in our local communities. We believe that completion of this trail is important, valuable, and timely. Scio Township supports the Washtenaw County Parks and Recreation Commission's efforts to complete this vital trail link that enhances non-motorized connectivity southeast Michigan and beyond.

Yours sincerely,

Nancy J.C. Hoiberg
Clerk

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ANN ARBOR TOWNSHIP - 2016

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Michael Moran, Supervisor
Rena Basch, Clerk
Debi DiPietro, Treasurer

John Allison, Trustee
Randolph Perry, Trustee
Claudia Sedmak, Trustee
Kenneth Kohrs, Trustee

March 24, 2016

Robert Tetens, Director
Washtenaw County Parks and Recreation Commission
PO Box 8645
Ann Arbor, MI 48107

Re: **Master Plan for the Border-to-Border Trail: Dexter to Ann Arbor**

Dear Mr. Tetens:

Ann Arbor Township would like to express its support for the plan titled the "*Segment D2-G Border-to-Border Nonmotorized Trail Summary Report, 2016*" that was prepared for the Washtenaw County Parks and Recreation Commission. We support the "preferred alignment" for the Border-to-Border Trail as outlined in the summary report, which details a plan to connect the cities of Dexter and Ann Arbor. This 7.2 mile corridor is a critical connection in the Border-to-Border Trail, and thereby the Iron Belle Trail. It links two population centers in Washtenaw County with safe, non-motorized infrastructure where currently, none exists.

As you know from discussions with us during the planning process, it is imperative that environmental and aesthetic considerations be placed at the forefront of the project. We feel that these considerations have been sufficiently accounted for at the planning level and that the same attention to detail should continue as the project moves into the design and engineering phase.

The B2B is more than a recreational amenity that caters to a broad range of users; it is green infrastructure along a commuter corridor and an economic engine that stimulates job growth, redevelopment, and recreational tourism in our local communities. We believe that completion of this trail is important, valuable, and timely. Ann Arbor Township supports the Washtenaw County Parks and Recreation Commission's efforts to complete this vital trail link.

Regards,

Michael Moran
Ann Arbor Township Supervisor

HURON RIVER WATERSHED COUNCIL - 2016

Huron River Watershed Council

April 29, 2016

Robert Tetens, Director
Washtenaw County Parks and Recreation Commission
PO Box 8645
Ann Arbor, MI 48107

Re: **Master Plan for the Border-to-Border Trail: Dexter to Ann Arbor**

Dear Mr. Tetens:

The Huron River Watershed Council (HRWC) would like to express our hearty support for the plan titled the "*Segment D2-G Border-to-Border Nonmotorized Trail Summary Report, 2016*" that was prepared for the Washtenaw County Parks and Recreation Commission. We support the "preferred alignment" for the Border-to-Border Trail as outlined in the summary report, which details a plan to connect the cities of Dexter and Ann Arbor. This 7.2 mile corridor is a critical connection in the Border-to-Border Trail, and thereby the Iron Belle Trail. It links two population centers in Washtenaw County with safe, non-motorized infrastructure where currently, none exists.

THE HRWC has worked with your staff throughout the planning process to ensure that environmental and aesthetic considerations be placed at the forefront of the project. We feel that these considerations have been sufficiently balanced and accounted for at the planning level and that the same attention to detail should continue as the project moves into the design and engineering phase.

The B2B is more than a recreational amenity that caters to a broad range of users; it is green infrastructure along a commuter corridor and an economic engine that stimulates job growth, redevelopment, and recreational tourism in our local communities. We believe that completion of this trail is important, valuable, and timely. HRWC supports the Washtenaw County Parks and Recreation Commission's efforts to complete this vital trail link that enhances non-motorized connectivity southeast Michigan and beyond.

Yours sincerely,

Laura Rubin
Executive Director
1100 N. Main Street, Suite 210
Ann Arbor, MI 48104
lrubin@hrwc.org
734.769.5123

WASHTENAW COUNTY ROAD COMMISSION - 2016

WASHTENAW COUNTY ROAD COMMISSION
RESOLUTION CERTIFICATION

County Parks Resolution – Border to Border Trail
Resolution No. RC16-129

Moved ...

WHEREAS, the Washtenaw County Board of Road Commissioners has been in discussion with the Washtenaw County Parks and Recreation Commission regarding the various phases of the Border to Border non-motorized trail network for the last 10 plus years with various segments being jointly constructed during this period; and

WHEREAS, the Washtenaw County Parks and Recreation Commission presented their current Master Plan for the B2B segment between Dexter and Ann Arbor to the Road Commission Board at a Working Session on February 16th; and

WHEREAS, the Board of Road Commissioners has determined the proposed B2B

non-motorized trail along the Huron River from Dexter to Ann Arbor will be beneficial to the cyclists, walkers and vehicles along this route by improving the safety to all users and will enhance the quality of life for all the residents of Washtenaw County; and

NOW, THEREFORE, BE IT RESOLVED the Washtenaw County Board of Road Commissioners support the Washtenaw County Parks and Recreation Commission's 2016 Master Plan for the Dexter to Ann Arbor Border to Border non-motorized trail along the Huron River.

I hereby certify that the foregoing is a true copy of a resolution duly adopted at a meeting of the Board of Washtenaw County Road Commissioners held on March 14, 2016, and is on file at the Office of the Washtenaw County Road Commission, 555 North Zeeb Road, Ann Arbor, Michigan 48103.

Roy D. Townsend, Deputy Clerk

Dated: 3/14/16

All Private Parcels Near Preferred Alignment

Note that this list does not necessarily mean that the listed property will be impacted by the trail. This list denotes that a portion of the listed parcel is within close proximity to the preferred trail alignment.

PIN	Address	City	Property Class
H -08-09-100-001	W HURON RIVER DR VCNT	DEXTER	AGRICULTURAL
H -08-09-108-001	W HURON RIVER DR VCNT	DEXTER	RESIDENTIAL
H -08-09-108-002	5591 W HURON RIVER DR	DEXTER	RESIDENTIAL
H -08-09-109-001	W HURON RIVER DR VCNT	DEXTER	RESIDENTIAL
H -08-03-350-073	5031 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-350-074	5023 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-477-001	4889 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-002	4867 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-003	4845 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-004	4823 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-005	3609 W GREENOOK DR	ANN ARBOR	RESIDENTIAL
H -08-03-350-072	5045 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-350-072	5045 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-350-073	5031 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-350-074	5023 SANDSTONE CT	DEXTER	RESIDENTIAL
H -08-03-477-001	4889 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-002	4867 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-003	4845 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-004	4823 GREENOOK CT	ANN ARBOR	RESIDENTIAL
H -08-03-477-005	3609 W GREENOOK DR	ANN ARBOR	RESIDENTIAL
H -08-10-240-001	5337 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-240-002	5375 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-240-003	5429 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-240-004	5435 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-240-005	5463 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-246-007	5449 W HURON RIVER DR	DEXTER	RESIDENTIAL
H -08-02-381-001	3788 E DELHI RD	ANN ARBOR	RESIDENTIAL
H -08-03-481-003	4759 DAWSON DR	ANN ARBOR	RESIDENTIAL
H -08-03-481-004	4773 DAWSON DR	ANN ARBOR	RESIDENTIAL
H -08-03-481-005	4787 DAWSON DR	ANN ARBOR	RESIDENTIAL
H -08-03-481-012	3620 GREENOOK BLVD	ANN ARBOR	RESIDENTIAL
H -08-03-481-013	4760 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-03-481-014	4744 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-10-240-006	5481 RIVER WOODS CT	DEXTER	RESIDENTIAL
H -08-10-240-017	5188 W HURON RIVER DR	DEXTER	RESIDENTIAL
H -08-11-100-007	3554 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-11-100-017	3680 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-11-100-018	W HURON RIVER DR VCNT	ANN ARBOR	DEVELOPMENTAL
H -08-12-300-022	3096 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-12-300-029	3100 W HURON RIVER DR VCNT	ANN ARBOR	RESIDENTIAL
H -08-12-300-035	3220 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
H -08-12-345-001	3301 TIMBERWOOD	ANN ARBOR	RESIDENTIAL

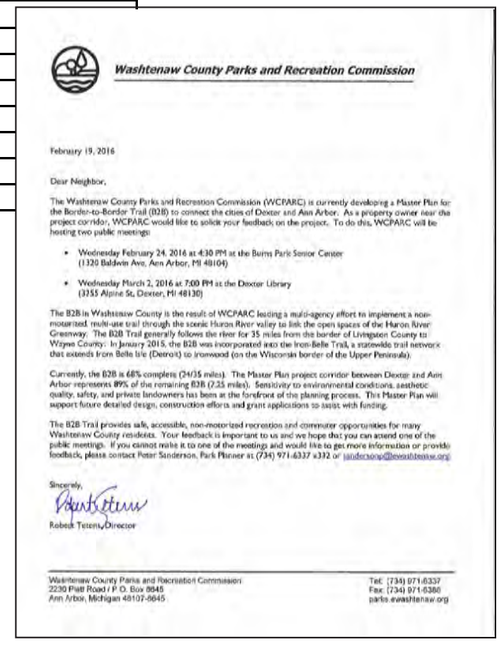
Parcels continued

H -08-12-345-015	3318 TIMBERWOOD LN	ANN ARBOR	RESIDENTIAL
H -08-12-400-001	LDLK	ANN ARBOR	RESIDENTIAL
I -09-07-361-001	NEWPORT RD	ANN ARBOR	RESIDENTIAL VACANT
I -09-07-361-002	2766 NEWPORT RD	ANN ARBOR	RESIDENTIAL
I -09-07-361-003	1885 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-361-008	2277 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-361-010	2289 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-361-012	2325 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-361-019	2385 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-361-021	2938 NEWPORT RD	ANN ARBOR	RESIDENTIAL
I -09-07-361-022	2950 NEWPORT RD	ANN ARBOR	RESIDENTIAL
I -09-07-361-023	NEWPORT ROAD	ANN ARBOR	RESIDENTIAL
I -09-07-361-024	3020 N MAPLE RD	ANN ARBOR	RESIDENTIAL
I -09-07-361-025	3019 N MAPLE RD	ANN ARBOR	RESIDENTIAL
I -09-07-361-026	2896 NEWPORT RD	ANN ARBOR	RESIDENTIAL
I -09-07-460-002	1701 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-07-460-008	1873 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-17-250-006	1133 W HURON RIVER DR	ANN ARBOR	RESIDENTIAL
I -09-17-250-010	HURON RIVER DR	ANN ARBOR	RESIDENTIAL VACANT
I -09-17-250-014	1155 HURON RIVER DR	ANN ARBOR	RESIDENTIAL
IB-09-17-430-006	BARTON SHORE DR	ANN ARBOR	COMMERCIAL

Grey Highlight Denotes Vacant Parcel

Public Land and Rights of Way:

Huron Clinton Metropolitan Authority	Dexter-Huron Metropark	Public Land
Huron Clinton Metropolitan Authority	Delhi Metropark	Public Land
City of Ann Arbor	Barton Nature Area	Public Land
City of Ann Arbor	Bandemer Park	Public Land
City of Ann Arbor	Brokaw Nature Area	Public Land
MDOT Railroad Division	Wolverine Line Right of Way	Public Land
Washtenaw County Road Commission	Huron River Drive Right of Way	Public Land



Washtenaw County Parks and Recreation Commission

February 19, 2016

Dear Neighbor,

The Washtenaw County Parks and Recreation Commission (WCPARC) is currently developing a Master Plan for the Border-to-Border Trail (B2B) to connect the cities of Dexter and Ann Arbor. As a property owner near the project corridor, WCPARC would like to solicit your feedback on the project. To do this, WCPARC will be hosting two public meetings:

- Wednesday February 24, 2016 at 4:30 PM at the Burns Park Senior Center (1320 Baldwin Ave, Ann Arbor, MI 48104)
- Wednesday March 2, 2016 at 7:00 PM at the Dexter Library (3255 Alpine St, Dexter, MI 48130)

The B2B in Washtenaw County is the result of WCPARC leading a multi-agency effort to implement a non-motorized, multi-use trail through the scenic Huron River valley to link the open spaces of the Huron River Greenway. The B2B Trail generally follows the river for 35 miles from the border of Livingston County to Wayne County. In January 2015, the B2B was incorporated into the Iron Belle Trail, a statewide trail network that extends from Belle Isle (Detroit) to Ironwood (on the Wisconsin border of the Upper Peninsula).

Currently, the B2B is 68% complete (24/35 miles). The Master Plan project corridor between Dexter and Ann Arbor represents 89% of the remaining B2B (2.35 miles). Sensitivity to environmental conditions, aesthetic quality, safety, and private landowners has been at the forefront of the planning process. This Master Plan will support future detailed design, construction efforts and grant applications to assist with funding.

The B2B Trail provides safe, accessible, non-motorized recreation and commuter opportunities for many Washtenaw County residents. Your feedback is important to us and we hope that you can attend one of the public meetings. If you cannot make it to one of the meetings and would like to get more information or provide feedback, please contact Peter Sanderson, Park Planner at (734) 971-6337 x332 or psanderson@ewashtenaw.org

Sincerely,

Robert Tetens, Director

Washtenaw County Parks and Recreation Commission
2230 Platt Road / P.O. Box 8645
Ann Arbor, Michigan 48107-8645

Tel: (734) 971-6337
Fax: (734) 971-6380
parks.ewashtenaw.org

This appendix is a summary of public comments that were received as part of the planning process. Nearly 120 people participated in the process and more than 50 written comments were received (124 pages, in total). Many of the comments were similar and had duplicated themes; therefore, this appendix is a summary of those comments. To review all public comments received, visit:
visit ***b2b.ewashtenaw.org*** and click on "*B2B Trail Planning and Active Projects*"
or scan the code to the right.

Alternatively, visit
http://www.ewashtenaw.org/government/departments/parks_recreation/greenways/b2b_masterplan_allcomments_dextertoannarbor.pdf

PUBLIC MEETING #1 (ANN ARBOR) SURVEY & FEEDBACK - FEBRUARY 24, 2016

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

Sign in Sheet Attendence:	16
Comment Sheets Completed:	6

Do you feel that you have a better understanding of Washtenaw County Park and Recreation Commission's intentions regarding the Border-to-Border Trail connection between Dexter and Ann Arbor after having attended this meeting?

6	Yes	0	No

Please indicate your thoughts on following as related to the Border-to-Border Trail Master Plan between Dexter and Ann Arbor. Check the appropriate response below.

	Agree	Neutral	Disagree
I support the concept of a Border-to-Border Trail connection between Dexter and Ann Arbor	6	0	0
I support the proposed "preferred alignment" of the trail	2	4	0
Once implemented, I will use this segment of trail	6	0	0
Ecological/environmental considerations have been sufficiently accounted for (at the planning level)	5	1	0
Aesthetic considerations have been sufficiently accounted for (at the planning level)	5	1	0
WCPARC should preserve additional natural areas in this corridor as a part of this project (if possible)	6	0	0
My feedback has been heard and taken into consideration	5	1	0

Optional Questions:

How do you use the B2B Trail (Check all that apply)?

5	Walking	1	Running/Jogging
4	Bicycling	1	Rollerblading
0	Other:		

I use the B2B Trail for (Check all that apply):

5	Recreation/Fun	0	Commuting
5	Exercise	5	Nature Observation
2	Other: Work (1)	Transportaion (1)	

I typically use the B2B Trail…

0	Daily	1	Once/week
0	4-5 times/week	1	A few times per month
2	3-4 times/week	0	Hardly ever

How do you get information about the B2B Trail (Check all that apply)?

2	County Park's Website	1	Newsletter
2	Social Media	1	Word of mouth
1	Other: Meetings (1)		

Demographics

2	Male	3	Female

0	21 and Under	0	45-54
0	22-34	3	55-64
1	35-44	1	65 and Over

PUBLIC MEETING #2 (DEXTER, MI) SURVEY & FEEDBACK - MARCH 02, 2016

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

Sign in Sheet Attendence:	38
Comment Sheets Completed:	18

Do you feel that you have a better understanding of Washtenaw County Park and Recreation Commission's intentions regarding the Border-to-Border Trail connection between Dexter and Ann Arbor after having attended this meeting?

17	Yes	0	No

Please indicate your thoughts on following as related to the Border-to-Border Trail Master Plan between Dexter and Ann Arbor. Check the appropriate response below.

	Agree	Neutral	Disagree
I support the concept of a Border-to-Border Trail connection between Dexter and Ann Arbor	18	0	0
I support the proposed "preferred alignment" of the trail	13	5	1
Once implemented, I will use this segment of trail	13	0	0
Ecological/environmental considerations have been sufficiently accounted for (at the planning level)	18	0	0
Aesthetic considerations have been sufficiently accounted for (at the planning level)	14	4	0
WCPARC should preserve additional natural areas in this corridor as a	15	2	0
My feedback has been heard and taken into consideration	9	6	0

Optional Questions:

How do you use the B2B Trail (Check all that apply)?

14	Walking	2	Running/Jogging
16	Bicycling	1	Rollerblading
4	Other:	X-C Skiing (2), Dog Walking (1), Canoeing to minimize user shuttles (1)	

I use the B2B Trail for (Check all that apply):

17	Recreation/Fun	4	Commuting
17	Exercise	15	Nature Observation
1	Other:	Going out to dinner (commerce)	

I typically use the B2B Trail…

2	Daily	5	Once/week
2	4-5 times/week	6	A few times per month
2	3-4 times/week	1	Hardly ever

How do you get information about the B2B Trail (Check all that apply)?

6	County Park's Website	4	Newsletter
6	Social Media	9	Word of mouth
2	Other:	Friends of the B2B (1), Live near the trail (1)	

Demographics

10	Male	7	Female

0	21 and Under	6	45-54
0	22-34	4	55-64
1	35-44	4	65 and Over

PUBLIC MEETING #3 (SCIO TOWNSHIP, MI) SURVEY & FEEDBACK - APRIL 20, 2016

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

Sign in Sheet Attendence:	43
Comment Sheets Completed:	5

Do you feel that you have a better understanding of Washtenaw County Park and Recreation Commission's intentions regarding the Border-to-Border Trail connection between Dexter and Ann Arbor after having attended this meeting?

5	Yes	0	No

Please indicate your thoughts on following as related to the Border-to-Border Trail Master Plan between Dexter and Ann Arbor. Check the appropriate response below.

	Agree	Neutral	Disagree
I support the concept of a Border-to-Border Trail connection between Dexter and Ann Arbor	4	0	1
I support the proposed "preferred alignment" of the trail	2	1	1
Once implemented, I will use this segment of trail	4	0	1
Ecological/environmental considerations have been sufficiently accounted for (at the planning level)	2	0	3
Aesthetic considerations have been sufficiently accounted for (at the planning level)	2	0	3
WCPARC should preserve additional natural areas in this corridor as a	4	1	0
My feedback has been heard and taken into consideration	3	0	2

Optional Questions:

How do you use the B2B Trail (Check all that apply)?

4	Walking	1	Running/Jogging
3	Bicycling	0	Rollerblading
1	Other:	Dog Walking	

I use the B2B Trail for (Check all that apply):

3	Recreation/Fun	0	Commuting
3	Exercise	1	Nature Observation
0	Other:		

I typically use the B2B Trail…

0	Daily	0	Once/week
0	4-5 times/week	1	A few times per month
1	3-4 times/week	1	Hardly ever

How do you get information about the B2B Trail (Check all that apply)?

0	County Park's Website	0	Newsletter
1	Social Media	1	Word of mouth
2	Other:	(1) Scio Township, (1) Ann Arbor News	

Demographics

3	Male	2	Female

0	21 and Under	0	45-54
1	22-34	1	55-64
0	35-44	3	65 and Over

ONLINE SURVEY & FEEDBACK - FEBRUARY 24 - MAY 05, 2016

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY (on-line feedback)

Sign in Sheet Attendence:	n/a
Comment Sheets Completed:	22

Do you feel that you have a better understanding of Washtenaw County Park and Recreation Commission's intentions regarding the Border-to-Border Trail connection between Dexter and Ann Arbor after having attended this meeting?

21	Yes	0	No

Please indicate your thoughts on following as related to the Border-to-Border Trail Master Plan between Dexter and Ann Arbor. Check the appropriate response below.

	Agree	Neutral	Disagree
I support the concept of a Border-to-Border Trail connection between Dexter and Ann Arbor	19	1	2
I support the proposed "preferred alignment" of the trail	4	0	18
Once implemented, I will use this segment of trail	6	15	1
Ecological/environmental considerations have been sufficiently accounted for (at the planning level)	4	0	18
Aesthetic considerations have been sufficiently accounted for (at the planning level)	4	0	18
WCPARC should preserve additional natural areas in this corridor as a	20	1	0
My feedback has been heard and taken into consideration	2	5	14

***Most of the "disagrees" only disagree with 'Segment F'** (see comments)*

Optional Questions:

How do you use the B2B Trail (Check all that apply)?

8	Walking	1	Running/Jogging
5	Bicycling	2	Rollerblading
4	Other:	(1) Not yet, (1) Ride my Amigo, I am handicapped, (1) Never, (1) Dog Walking	

I use the B2B Trail for (Check all that apply):

6	Recreation/Fun	1	Commuting
5	Exercise	5	Nature Observation
1	Other:	(1) Never	

I typically use the B2B Trail…

0	Daily	0	Once/week
0	4-5 times/week	3	A few times per month
2	3-4 times/week	5	Hardly ever

How do you get information about the B2B Trail (Check all that apply)?

0	County Park's Website	1	Newsletter
1	Social Media	12	Word of mouth
6	Other:	(6) Letter from neighbor, in this case	

Demographics

11	Male	10	Female

0	21 and Under	4	45-54
0	22-34	8	55-64
1	35-44	11	65 and Over

TOTAL SURVEY & FEEDBACK - FEBRUARY 24 - MAY 05, 2016

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

Sign in Sheet Attendence (inc. on-line):	119
Comment Sheets Completed:	51

Do you feel that you have a better understanding of Washtenaw County Park and Recreation Commission's intentions regarding the Border-to-Border Trail connection between Dexter and Ann Arbor after having attended this meeting?

49	Yes	0	No

Please indicate your thoughts on following as related to the Border-to-Border Trail Master Plan between Dexter and Ann Arbor. Check the appropriate response below.

	Agree	Neutral	Disagree
I support the concept of a Border-to-Border Trail connection between Dexter and Ann Arbor	47	1	3
I support the proposed "preferred alignment" of the trail	21	10	20
Once implemented, I will use this segment of trail	29	15	2
Ecological/environmental considerations have been sufficiently accounted for (at the planning level)	29	1	21
Aesthetic considerations have been sufficiently accounted for (at the planning level)	25	5	21
WCPARC should preserve additional natural areas in this corridor as a	45	4	0
My feedback has been heard and taken into consideration	19	12	16

***Most of the "disagrees" only disagree with 'Segment F'** (see comments)*

Optional Questions:

How do you use the B2B Trail (Check all that apply)?

31	Walking	5	Running/Jogging
28	Bicycling	4	Rollerblading
9	Other:	X-C Skiing (2), Dog Walking (2), Canoeing to minimize user shuttles (1), Not yet (1), Ride my Amigo - I am handicapped (1), Never (1)	

I use the B2B Trail for (Check all that apply):

31	Recreation/Fun	5	Commuting
30	Exercise	26	Nature Observation
4	Other:	Work (1), Transportation (1), Going out to dinner (commerce) (1), Never (1)	

I typically use the B2B Trail…

2	Daily	6	Once/week
2	4-5 times/week	11	A few times per month
7	3-4 times/week	7	Hardly ever

How do you get information about the B2B Trail (Check all that apply)?

8	County Park's Website	6	Newsletter
10	Social Media	23	Word of mouth
11	Other:	Meetings (1), Friends of the B2B (1), Live near the trail (1), (6) Letter from neighbor in this case	

Demographics

26	Male	22	Female

0	21 and Under	10	45-54
1	22-34	16	55-64
3	35-44	19	65 and Over

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

ANN ARBOR PRESENTATION (2/24/2016)

Presentation and Master Plan Comments:

1. Very clear graphics. Thorough presentation and Q&A by the team
2. The time line was addressed in some form. That gives us a good idea of how long of a project this will be: 2-5 years?
3. Good presentation
4. The trail would be better between Barton Pond and the railroad than between the road and railroad. Consider closing a lane of Huron River Drive between Wagner and Maple occasionally for two-way biking, walking, or running.

What changes and improvements would you like to see at trailheads (in existing parks)?

1. Coordinate signage and trail information with the Huron River Water Trail
2. Signage to remind bicyclists of speed restrictions and etiquette to alert when passing
3. Signage, restrooms, water (in season)

What changes and improvements would you like to see along the trail?

1. Limit statuary and other defilements and distractions to the quiet enjoyment of nature
2. Snow removal

Is there anything else you would like to let us know?

1. No responses.

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

DEXTER PRESENTATION (3/2/2016)

Presentation and Master Plan Comments:

1. I would like to see Huron River Drive shut down from Wagner Road to North Main Street/M-14 on weekends. Weekdays, make it a one way (one lane) for motorized vehicles and the other lane shut down for non-motorized.
2. Presentation was great. Disappointed with crosswalk at Zeeb Road and mid-block to the east. Would much prefer the south side of Huron River Drive east of Zeeb.
3. Great job, thanks for providing a good vision and plan to get this important asset completed. I disagree with the preferred alignment in Barton Nature Area.
4. I thought it was further along, time wise.
5. Post speed limit signs on Huron River Drive – <u>for bikers.</u>
6. Good information – good visual material. Questions were addressed fully and completely.
7. Wonderful to get this information. Presentation was great. I am very positive about this project.
8. Love the B2B. Wonderful how it will run past our property on Huron River Drive.
9. I like seeing all of the effort going into communicating with the public.
10. Please explore connection for hikers on the west end of Burns-Stokes Preserve as well as alternative, hiking-only routes where feasible (e.g. Barton Park). There must eventually be a connection between Bandemer Park and Huron River Drive.
11. Very clear, well prepared. Very competent in response to questions.
12. Communities south of the B2B need to have a connection. Ex: Saline via Wagner or Zeeb Road north.

What changes and improvements would you like to see at trailheads (in existing parks)?

1. More bathrooms and bike repair stations
2. More/better/improved signage
3. Existing port-a-pots (especially behind Dexter Fire Station emptied!)

What changes and improvements would you like to see along the trail?

1. More bathrooms and benches (possibly funded with donations)
2. Better marking of the B2B (mileage, directions, etc.)
3. Better signage. Bike repair stations.
4. Work with the City of Ann Arbor to find solution to final link between Bandemer and Barton Parks, keep trail in Barton Nature Area.
5. Signs for cyclists – speed limits on riders. Great concept for “all types” of usage, but there needs to be “respect” for all users.
6. Just love the trails so far. I also canoe quite a bit and the river is lovely – pleased that consideration is given to align bridges with existing bridges as much as possible.
7. Trail access at Flemming and Dexter-Pinckney Road.

Is there anything else you would like to let us know?

1. Explore the option of making Huron River Drive from Main Street to Wagner Road, a one way street permanently and closed to cars all together on weekends.
2. Please stay as close to the river as possible. Would prefer to avoid crosswalks and road crossings.
3. The sooner the better! :)
4. Please maintain year-round for walking.
5. Need to do more publicity.
6. I understand the complexity of this project – all the pros and cons, and feel that this seems well thought out.
7. City of Saline is <u>very</u> interested in working the county in creating a connection to the B2B.

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

SCIO TOWNSHIP PRESENTATION (4/20/2016)

Presentation and Master Plan Comments:

1. Excellent presentation. Was against proposal and now I am <u>for</u>.
2. Walk along Huron River road is a large concern. Overall, plan seems to be well thought out. Please get input from Ann Arbor Center for Independent Living.
3. Master Plan design basically ignored public input- “representatives” by way of boards/commissions is not the same. This meeting process occurred way too late in the design process. Funding issues had more priority in determining design rather than aesthetics / ecological priorities.
4. They were excellent. The presentation went over all the plans regarding coordination with other effective entities, costs, and impacts to the environment, property owners and the community.

What changes and improvements would you like to see at trailheads (in existing parks)?

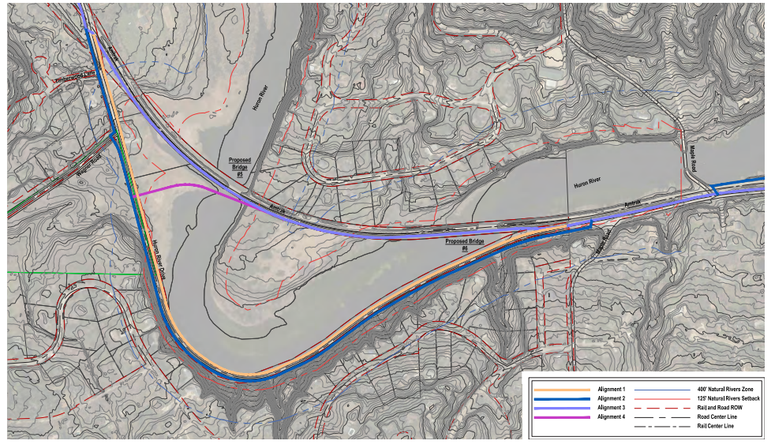
1. Mileage signs from point to point

What changes and improvements would you like to see along the trail?

1. Restrooms (some of us need them more than others)
2. Need more dedicated parking especially at Foster Bridge – Maple crossing- will definitely have on-the-road overflow with current set up

Is there anything else you would like to let us know?

1. Try not to cut 100 to 150 trees at Barton Pond
2. I really think the best solution for [Segment] “F” is to make Huron River Dr. one-way or close the road to traffic or make that section of road the trail.



Segment F - Alternative Alignments Study

BORDER-TO-BORDER TRAIL MASTER PLAN: DEXTER TO ANN ARBOR
PUBLIC MEETING FEEDBACK SURVEY

ON-LINE FEEDBACK (2/24/2016 – 4/3/2016)
Based on the comments received on-line, a third public meeting was held, specifically focused on Segment F

Presentation and Master Plan Comments:

1. If possible, route the trail along the south side of Huron River Drive.
2. I wish this project would have been considered twenty years ago; however, better late than never. Keep up the good work, as I'll use this trail frequently!
3. Document is more-than-a-bit complex. After about 45 minutes it made sense. It is unclear how the road crossing will be controlled (if at all). Will HAWK beacons or something similar be in use? What is the timeframe for completing this project?
4. Agree with Master Plan except for preferred alignment for Segment F.
5. See attached letter(s).
6. We would like an opportunity to comment on this plan at another meeting.
7. The primary appeal of purchasing a home in this secluded location (away from Huron River Drive) was the river with its tranquility, bird life, and unspoiled views. I fail to see the necessity of suddenly adding urban structures, jumping across the river with bridges, boardwalks, and fences (topped with barbed wire). Common sense dictates that this segment should continue along the existing roadway. I did not know about this project or the public meetings, communication should be improved. I propose that another meeting be held in the near future.
8. We agree with the response sent to you by our neighbor (a letter). We currently have an unobstructed view over the railroad tracks and down the river. Our backyard is private and quiet. These are the reasons we purchased our home and have invested significant money into it. We are concerned with the preferred alignment and its negative impacts on our neighborhood. A pedestrian super highway looking into our home will destroy our peace and quiet. Huron River Drive is very popular and scenic for bikers, joggers, and walkers, why alter and invade this sensitive, natural area in our backyard when there is an existing road on the other side of the river? Adding a biking/walking lane to Huron River Drive is a great idea. We recognize that this is a tight space and altering the existing river bank is not a good option. It does appear that there is some room to move the roadway slightly toward the river to increase space on the south side. We trust the ingenuity of your designers to come up with a far less invasive and no more costly solution to create these pedestrian lanes along the existing roadway.
9. [The plan] looks great, carry on!
10. Disagree with Segment F as it will negatively impact our neighborhood. It seems to be the only section that chooses to align the path on private property and with close proximity to a neighborhood. My property value will decrease and this is unacceptable.
11. Use the 25 acre property at the corner of Wagner and Huron River Drive that is owned by the City of Ann Arbor as a partial solution instead of crossing the river.
12. I feel that options [for Segment F] on the south side of Huron River Drive were not adequately explored. I have driven the road multiple times and think that the amount of retaining wall needed is significantly overstated. Why not elevate the trail above road grade to deal with uneven terrain? Doing this would solve most of the cited problems, including expansive containment walls, salt impact, substantial tree removal, and so forth. It is clear to me that alternatives for this route were not exhausted.
13. The view from Huron River Drive, looking at the peninsula, is one of the defining visual moments of the road's experience. Adding bridges and boardwalks with railings would dramatically impact the scenery.
14. Noise pollution from bicyclists and runners has not been considered. It is true that trains pass by in close proximity, but it happens with a low and fixed frequency and therefore cannot be compared to the levels of noise from the non-motorized traffic that would stop for rests next to our neighborhood.
15. I feel that I know the Huron River and Huron River Drive well, and it strikes me that the people involved in assessing the impact of the alternative routes are not as in-tune with the significance and rarity of some of the areas they are proposing to disturb with noncritical human traffic.
16. I am not in favor of the "preferred" plan of routing the walkway along the back of our neighborhood and across the natural peninsula. These properties were purchased for their privacy and seclusion. The occasional train was understood at the time of purchase. Security issues, human noise and traffic, and the disturbance to wildlife are all unwelcome. Huron River Drive would be a better alternative.
17. I don't see how a plan that uses two bridges can be more economical or efficient than a design that parallels other routes in the area. I look forward to more discussion of this project. The B2B is an important asset to the county and I look forward to seeing it extended.

What changes and improvements would you like to see at trailheads (in existing parks)?

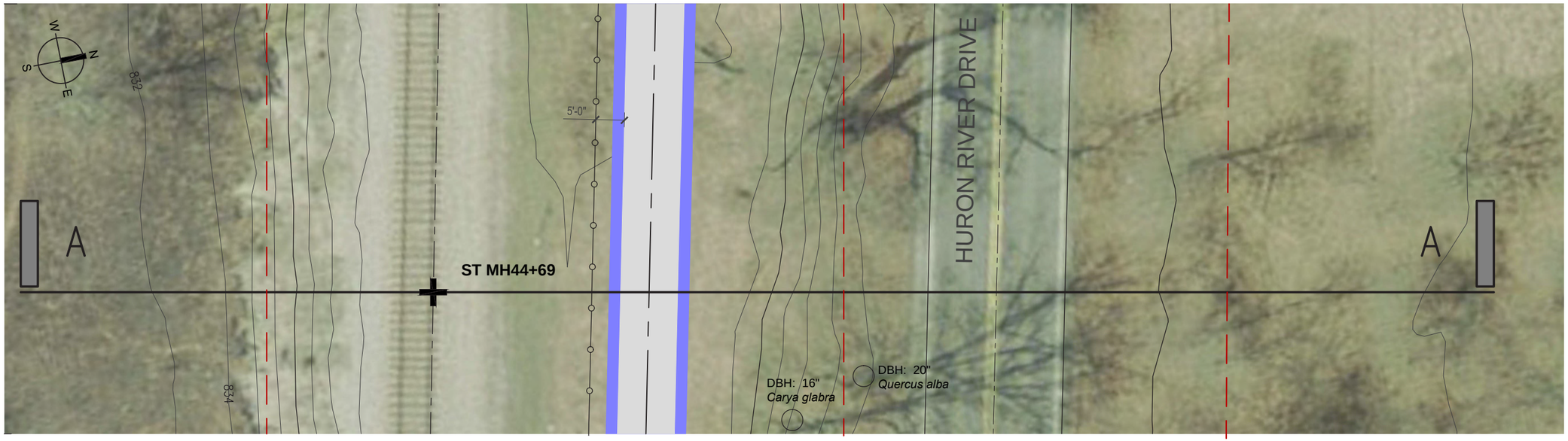
1. See attached letter(s).

What changes and improvements would you like to see along the trail?

1. Changes to Segment F
2. Keep the trail out of our backyards. Please don't destroy the "aesthetic and scenic qualities of the corridor" by erecting an 8' fence topped with barbed wire (MDOT regulation, I looked it up).
3. No bridges in Segment F
4. Study the impact on wildlife, especially deer and coyotes that are in growing numbers in my neighborhood. Will there be unintended consequences of a fence along the path? Will it limit wildlife travel?

Is there anything else you would like to let us know?

1. Did not know about the public meetings. Communication can be improved.
2. All for it - proceed!
3. Stay off the peninsula!
4. Please keep those you directly impact informed of your proposed plans. I'm hearing about this from concerned neighbors, who hear it from other concerned neighbors. Just because my house isn't close to the trail, do not assume that my family and I will not be impacted by your absurd proposal.
5. Introduction of foot traffic in our backyards will introduce graffiti, litter, noise, and visual blights. This project will create considerable noise from bicycle users, destroying the peace and quiet of our neighborhood.
6. Myself and other in our sub-division are very concerned and opposed to bridges and trail between bridges [for Segment F].



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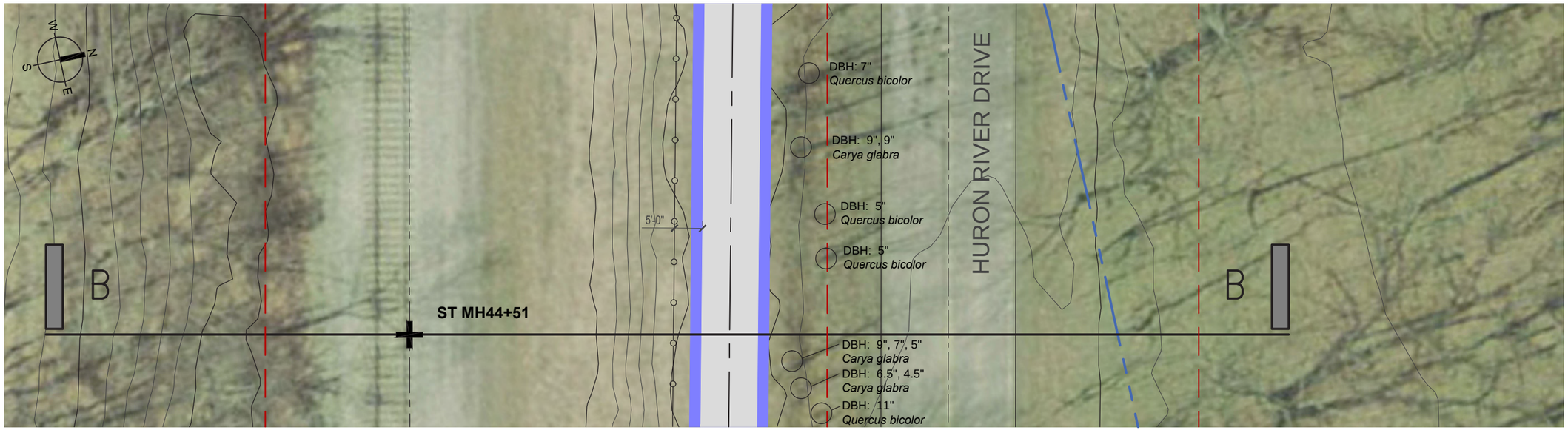
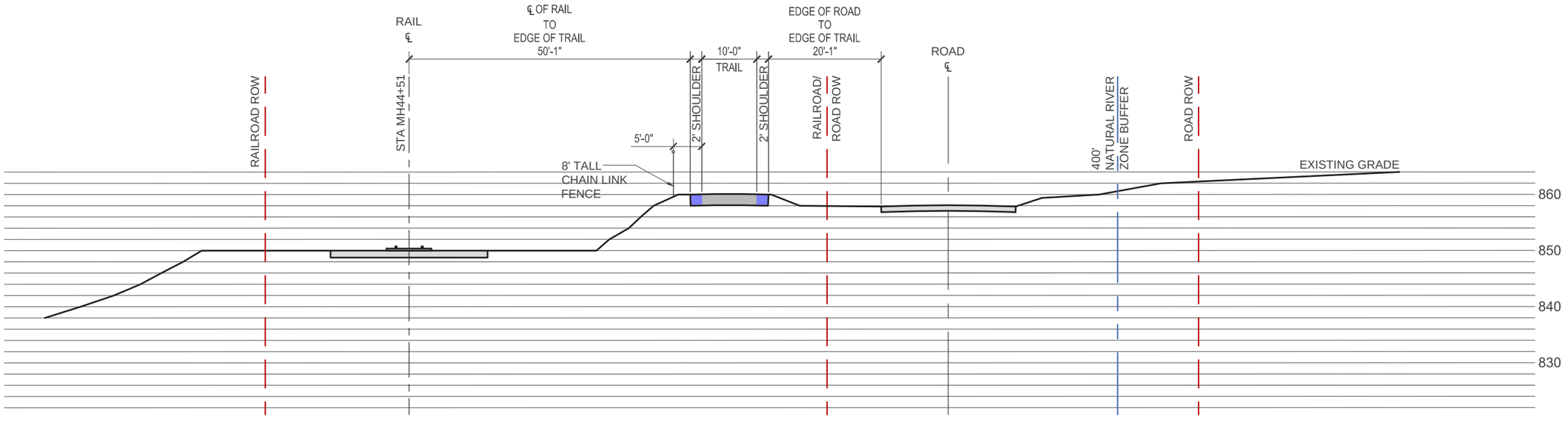
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section A-A

Station: MH44+69
Huron River Drive





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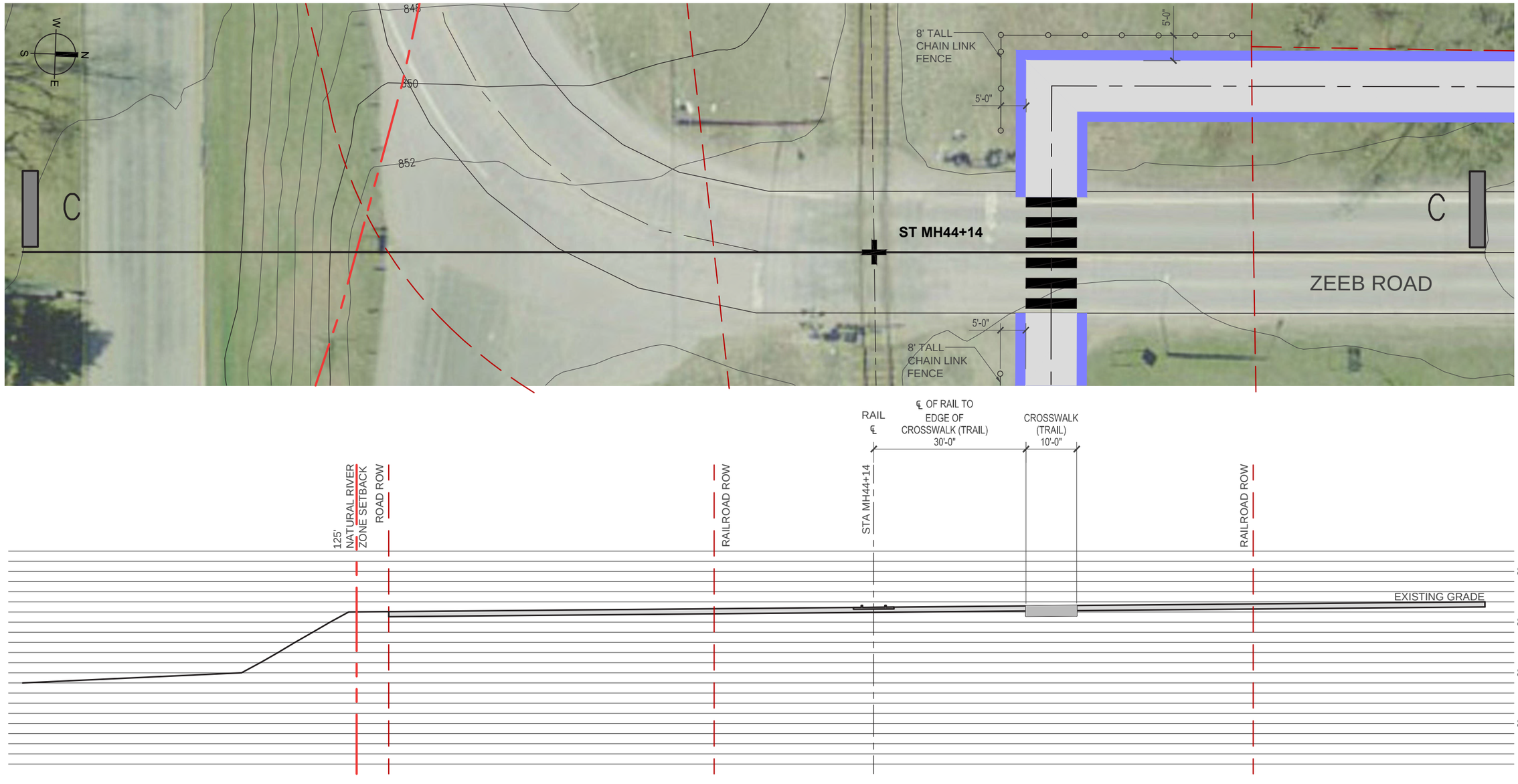
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section B-B

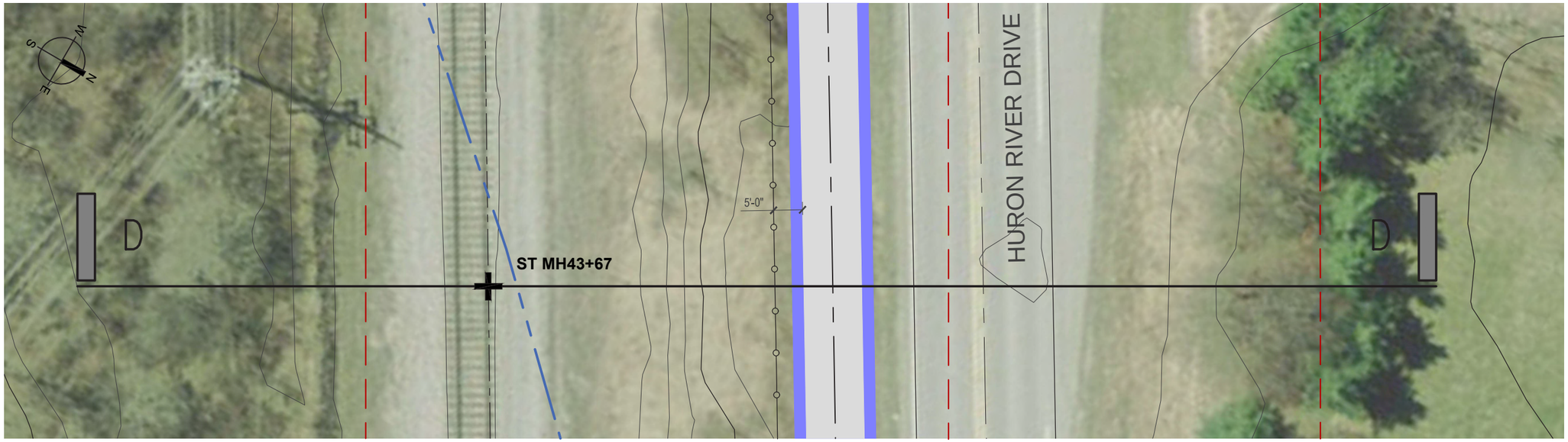
Station: MH44+51
Huron River Drive

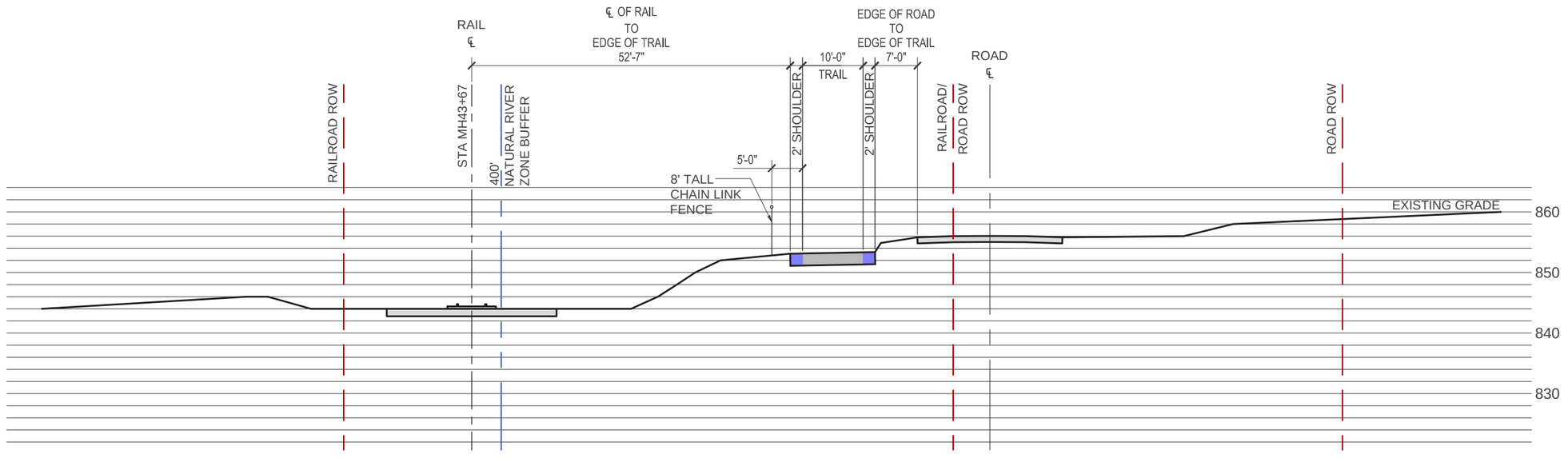


Section C-C

Station: MH44+14

Zeeb Road





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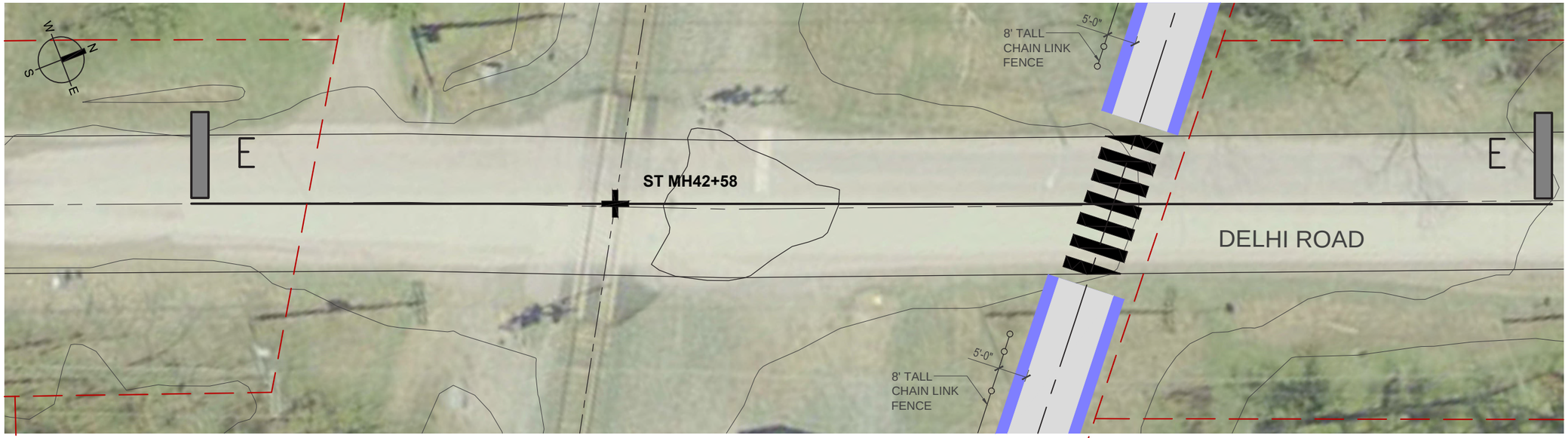
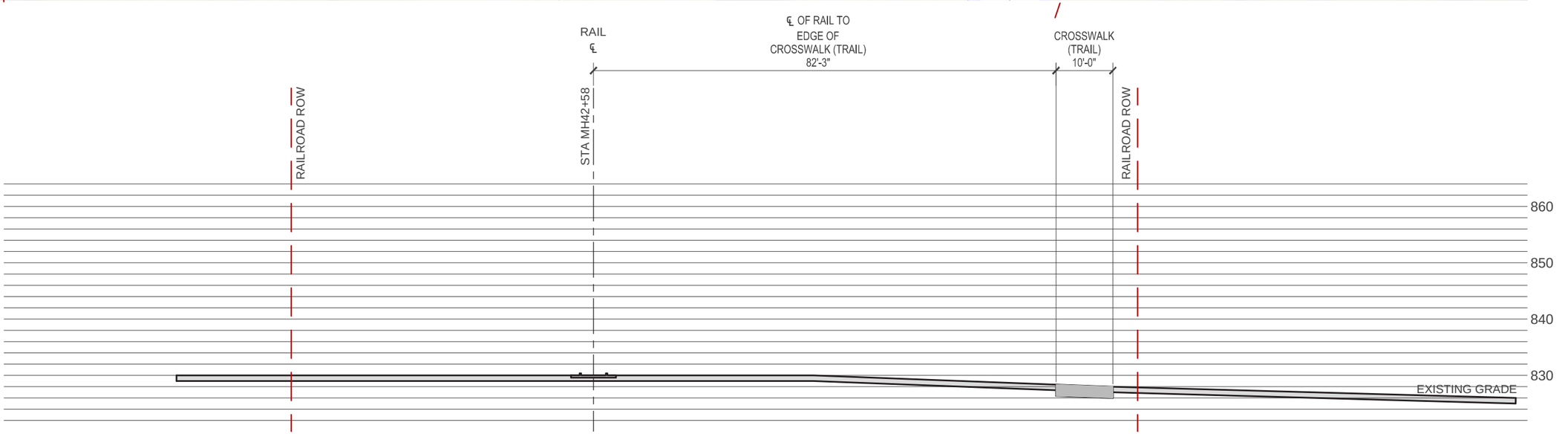
Vertical Scale 1"=20'-0"
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section D-D

Station: MH43+67
Huron River Drive





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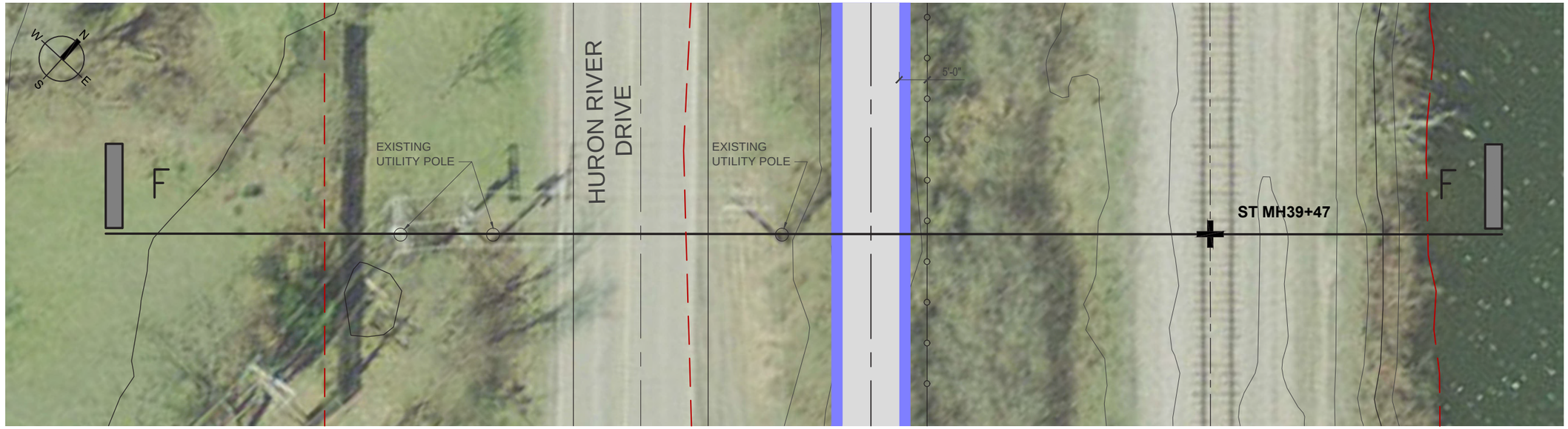
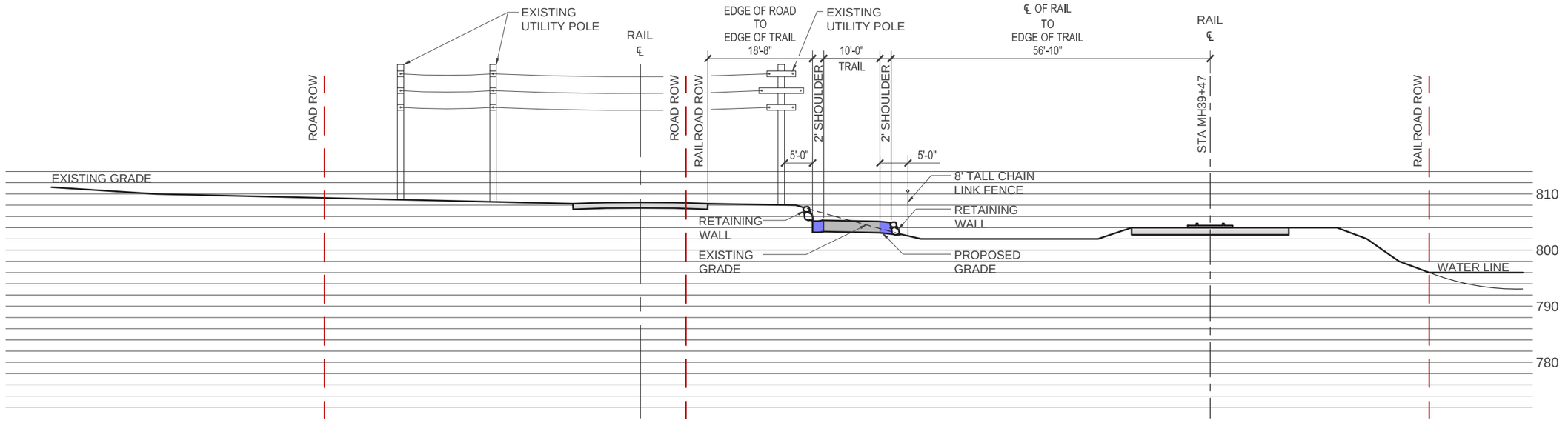
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section E-E

Station: MH42+58
Delhi Road





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Horizontal Scale 1"=20'-0"
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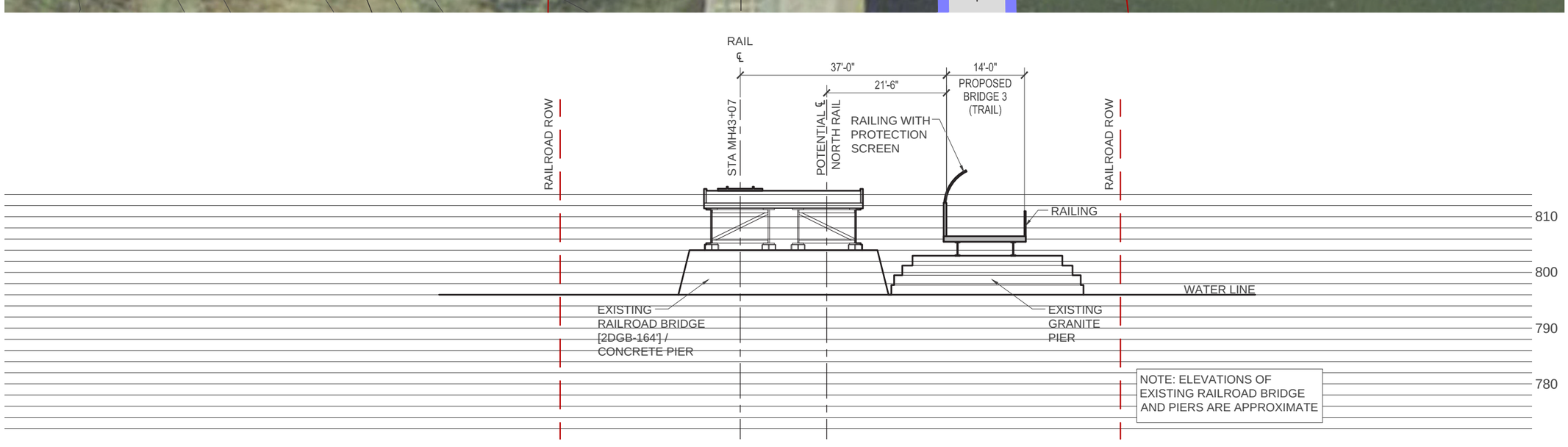
Section F-F

Station: MH39+47
Huron River Drive



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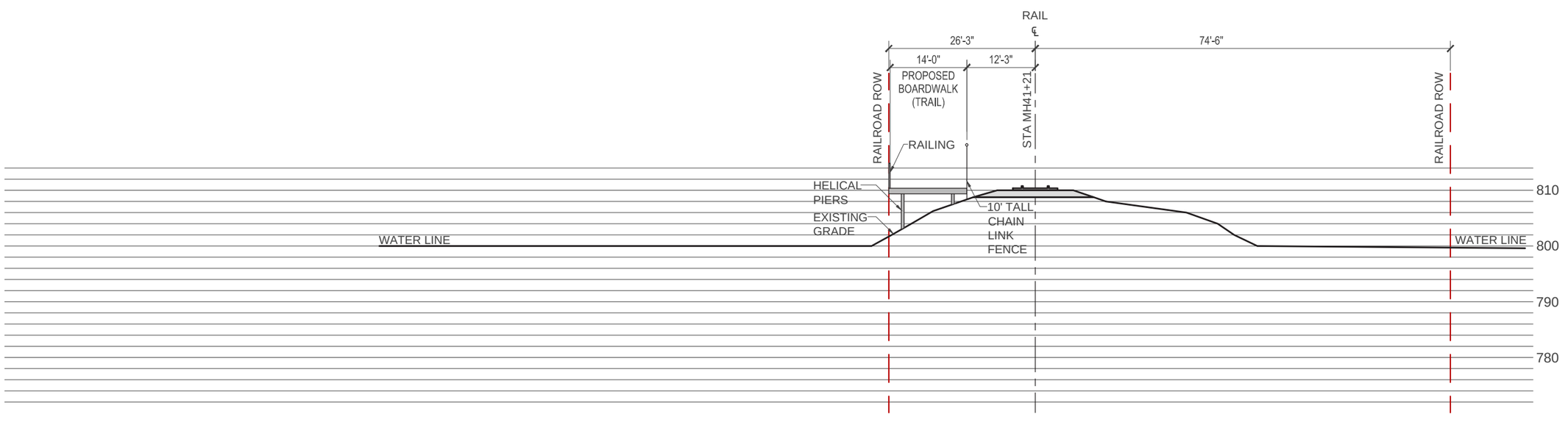
Vertical Scale 1"=20'-0"
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section G-G

Station: MH43+07
Huron River



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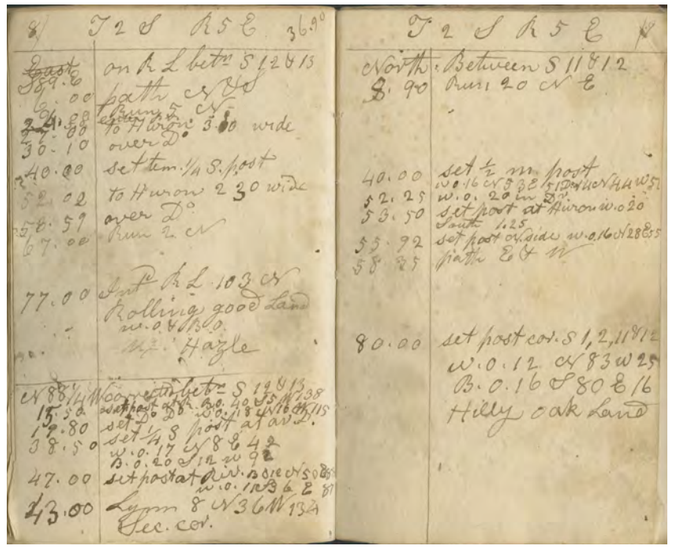
Horizontal Scale 1"=20'-0"
Contour Interval = 2'

Section H-H

Station: MH41+21
Huron River



Section 12 & 13

T02S R05E Scio Township
(Completed September 15th, 1819)

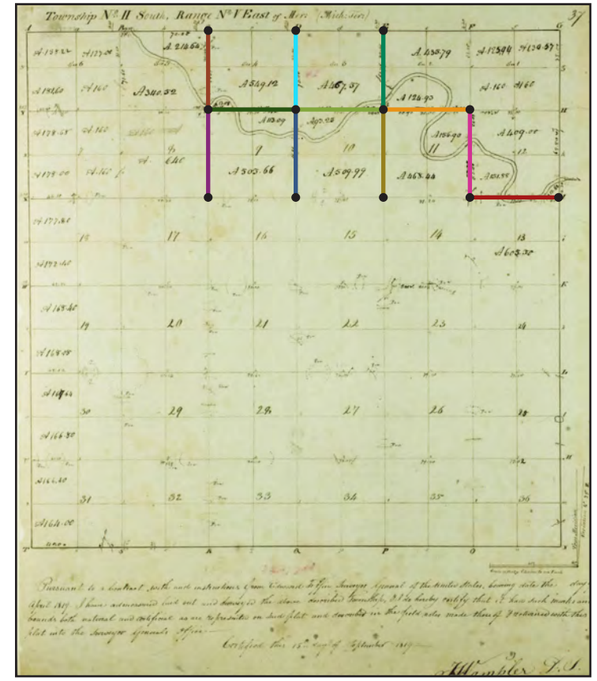
Volume 34, Page 8
South 89 East on Boundary Line Between Section 12 & 13

Chains	Feet	
6.00	**396**	**Path North & South**
9.00	594	Run 5 North
24.50	1617	Enter prairie
27.00	1782	to Huron 3.0 wide
30.10	1986	over Huron
40.00	2640	Set terminal ¼ Section post
52.02	3433	to Huron [River] 230 links wide
58.59	3866	over Huron [River]
67.00	4442	Run 2 North
77.00	5082	Intersected Boundary Line 103 N.

Rolling good Land, White Oak & Black Oak, Hazle

North 88¼ West corrected between Section 12 & 13

15.50	1023	Set post at x Black Oak 40" S5°W 138 links White Oak 18" N16°W 115 links
19.80	1306	Set post at x
38.50	2534	Set ¼ Section post at av D. White Oak 17" N8°E 42 links Black Oak 20" S12°W 92 links
47.00	3102	Set post at river Black Oak 12" N50°E 88 links White Oak 11" N36°E 87 links
43.00	2838	Lym 8" N36°W 134 links Section corner



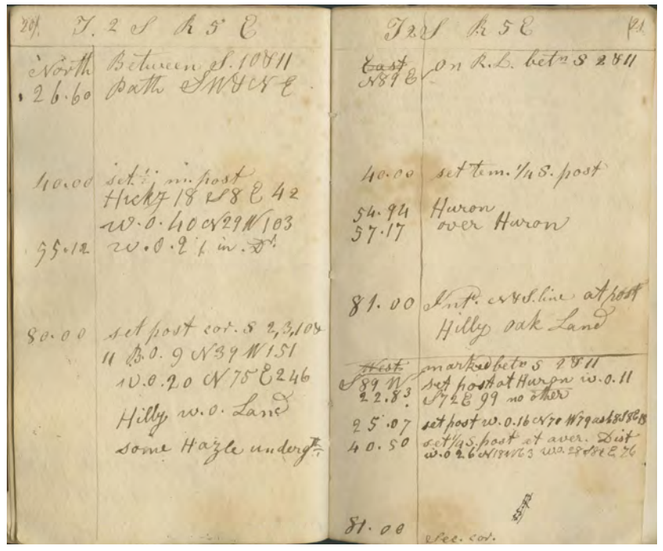
Section 11 & 12

T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 9
North Between Section 11 & 12

Chains	Feet	
8.90	587	Run 20 North East
40.00	2640	Set ½ m post White Oak 16" N53°E 51 links White Oak 14" N44°W 51 links
52.25	3448	White Oak 20" Dv.
53.50	3531	Set post at Huron White Oak 20" South 1.25
55.92	3690	Set post North side White Oak 16" N28°E 55 links
58.35	**3851**	**Path East & West**
80.00	5280	Set post corner Section 1, 2, 11 & 12 White Oak 12" N83°W 25 links Black Oak 16" S80°E 16 links

Hilly oak Land



Section 10 & 11

T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 20
North Between Section 10 & 11

Chains	Feet	
26.60	**1756**	**Path Southwest & Northeast**
40.00	2640	Set ½ mile post Hickory 18" S8°E 42 links White Oak 40" N29°W 103 links
55.12	3638	White Oak 21" Dv.
80.00	5280	Set post corner Section 2, 3, 10 & 11 Black Oak 9" N39°W 151 links White Oak 20" N75°E 246 links

Hilly White Oak Land some Hazle undergrowth

Section 2 & 11

T02S R05E Scio Township
(Completed September 15th, 1819)

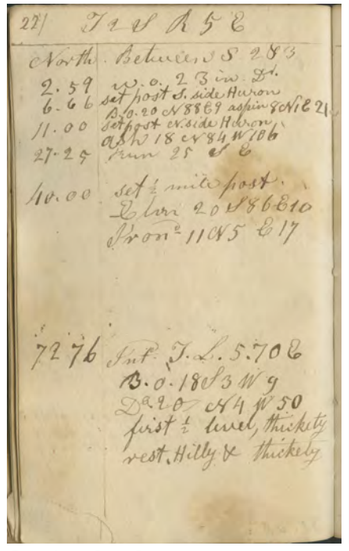
Volume 34, Page 21
North 89 East on boundary Line Between Section 2 & 11

Chains	Feet	
40.00	2640	Set terminal ¼ section post
54.94	3626	Huron [River]
57.17	3773	Over Huron [River]
81.00	5346	Intersect North & South line at post

Hilly oak Land

South 89 West marked Between Section 2 & 11

Chains	Feet	
22.83	1507	Set post at Huron River White Oak 11" S72°E 99 links No other
25.07	1654	Set post White Oak 16" N70°W 79 links Ash 8" S86°E 15 links
40.50	2673	Set ¼ section post average distance White Oak 26" N18°W 63 links White Oak 28" S81°E 26 links
81.00	5346	Section corner



Section 2 & 3

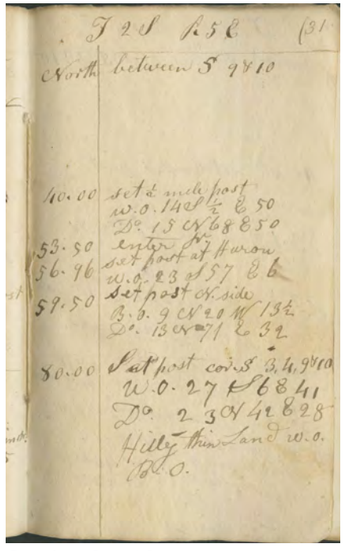
T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 22
North Between Section 2 & 3

Chains	Feet	
2.59	171	White Oak 23 in. Dv.
6.66	440	Set post South side Huron [River] Black Oak 20" N88°E 9 links Aspen 8" N1°E 21 links
11.00	726	Set post North side Huron [River]
27.25	1799	Run 25 links Southeast
40.00	2640	Set ½ mile post Elm 20" S86°E 10 links Ironwood 11" N5°E 17 links
72.76	4802	Intersection Traverse Line 5. 70 E Black Oak 18" S3°W 9 links Black Oak 20" N4°W 50 links

First ½ level, thicket
Rest, Hilly & thickety

FROM GENERAL LAND SURVEY OFFICE - MICHIGAN TERRITORY - SCIO TOWNSHIP



T02S R05E Scio Township
(Completed September 15th, 1819)

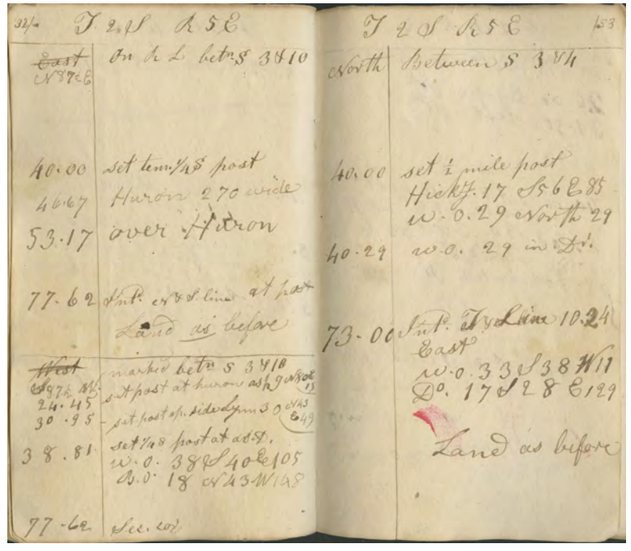
Volume 34, Page 31
North Between Section 9 & 10

Chains	Feet	
40.00	2640	Set ½ post White Oak 14" S ½ °E 50 links White Oak 15" N68°E 50 links
53.50	3531	Enter prairie
56.96	3759	Set post at Huron River White Oak 23" S57°E 6 links
59.50	3927	Set post North side Black Oak 9" N20°W 13½ links Black Oak 13" N71°E 32 links
80.00	5280	Set post corner Section 3, 4, 9 & 10 White Oak 27" S6°W 41 links White Oak 23" N42°E 28 links

Hilly thin Land White Oak, Black Oak

Section 9 & 10

FROM GENERAL LAND SURVEY OFFICE - MICHIGAN TERRITORY - SCIO TOWNSHIP



T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 32
North 87 ½ East on Boundary Line Between Section 3 & 10

Chains	Feet	
40.00	2640	Set terminal ¼ section post
46.67	3080	Huron [River] 270 links wide
53.17	3509	Over Huron [River]
77.62	5123	Intersect North & South line at post

Land as before [page 31 - *Hilly thin Land White Oak, Black Oak*]

80.00	5280	Set post corner Section 3, 4, 9 & 10 White Oak 27" S6°W 41 links White Oak 23" N42°E 28 links

South 87 ½ West marked Between Section 3 & 10

24.45	1614	Set post at Huron [River] Ash 9" N80°E 15 links
30.95	2043	Set post opposite side Lym 30" N43°E 49 links
38.81	2561	Set ¼ section post at Da. White Oak 38" S40°E 105 links Black Oak 18" N43°W 148 links
77.62	5123	Section corner

Section 3 & 10

T02S R05E Scio Township
(Completed September 15th, 1819)

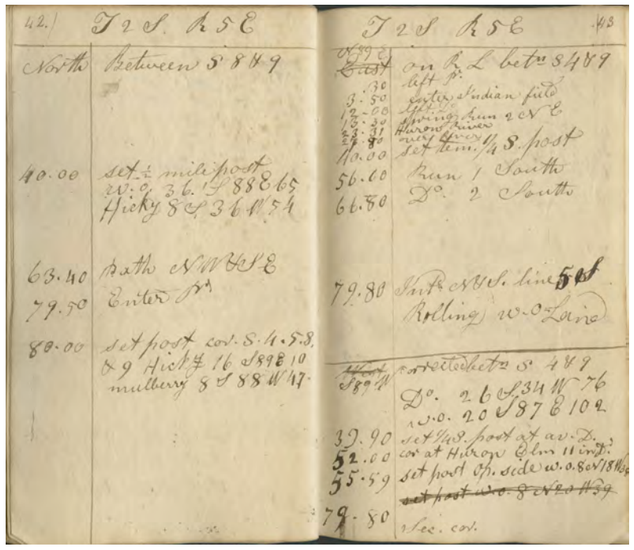
Volume 34, Page 33
North Between Section 3 & 4

Chains	Feet	
40.00	2640	Set ½ mile post Hickory 17" S56°E 85 links White Oak 29" North 29 links
40.29	3080	White Oak 29 in. North 29 links
73.00	5123	Intersect Traverse Line at 10.24 East White Oak 33" S38°W 11 links White Oak 17" S28°E 129 links

Land as before [page 31 - *Hilly thin Land White Oak, Black Oak*]

Section 3 & 4

FROM GENERAL LAND SURVEY OFFICE - MICHIGAN TERRITORY - SCIO TOWNSHIP



T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 42
North Between Section 8 & 9

Chains	Feet	
40.00	2640	Set ½ mile post White Oak 36" S88°E 65 links Hickory 8" S36°W 54 links
63.40	**4184**	**Path Northwest & Southeast**
79.50	5247	Enter prairie
80.00	5280	Set post corner at Section 4, 5, 8 & 9 Hickory 16" S89°E 10 links Mulberry 8" S88°W 47 links

Land as before [page 31 - *Hilly thin Land White Oak, Black Oak*]

Section 8 & 9

T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 43
North 89 E on Boundary Line Between Section 4 & 9

Chains	Feet	
00.30	20	Left Huron [River]
3.50	231	enter **Indian Field**
12.00	792	left [**Indian Field**]
13.30	878	spring run 2 links Northeast
23.31	1538	Huron River
27.80	1835	over [Huron] River
40.00	2640	Set terminal ¼ section post
56.00	3696	Run 1 link South
66.80	4409	Run 2 links South
79.80	5267	Intersect North & South Line 5 S

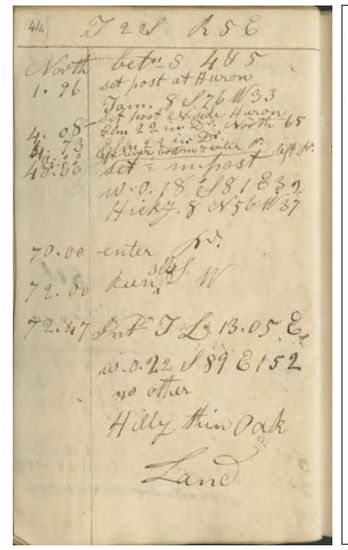
Rolling White Oak Land

South 89 West corrected between Sectio0n 4 & 9

		White Oak 16" S34°W 76 links White Oak 20" S87°E 102 links
33.90	2237	set ¼ Section post at average distance
52.00	3432	cor at Huron [River] Elm 11 in D.
55.59	3669	Set post opposite side [Huron River] White Oak 8" N18°W 38 links
79.80	5267	Section corner

Section 4 & 9

FROM GENERAL LAND SURVEY OFFICE - MICHIGAN TERRITORY - SCIO TOWNSHIP



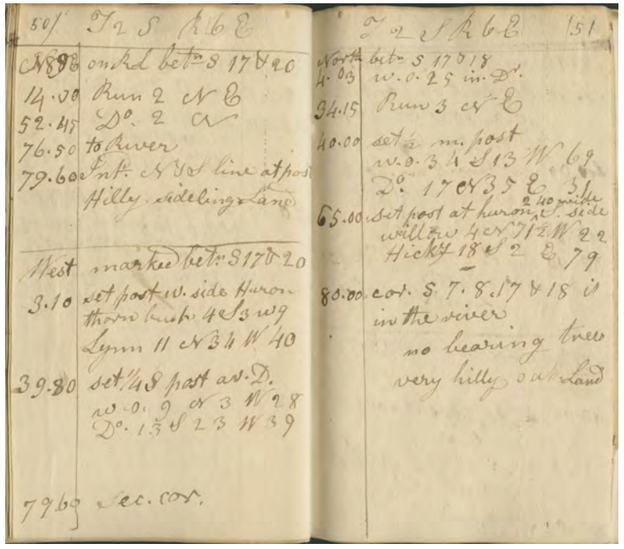
T02S R05E Scio Township
(Completed September 15th, 1819)

Volume 34, Page 44
North Between Section 4 & 5

Chains	Feet	
1.96	129	Set post Huron [River] Tamarack 8" S76°W 33 links
4.08	269	Set post North Side Huron [River] Elm 22 in. Dv. North 65
4.73	312	Elm 22 in. Dv.
19.00	1254	Left River bottom & enter prairie
23.50	1551	Left prairie
40.00	2640	Set ½ mile post White Oak 18" S81°E 32 links Hickory 8" N56°W 37 links
70.00	4620	Enter prairie
72.00	4752	Run 3 links Southwest
72.47	4783	Intersection traverse Line 13.05 E White Oak 22" S89°E 152 links No other

Hilly thin Oak Land

Section 4 & 5



Section 17 & 20

T02S R06E (Completed September 15th, 1819)
Ann Arbor Township

Volume 42, Page 50
N89E on Boundary Line between Section 17 & 20

Chains	Feet	
14.00	924	Run 2 Northeast"
52.45	3461	Run 2 North
76.50	5049	To [Huron] River
76.60	5055	Intersected North & South at Post

Hilly sideling Land

West marker between Section 17 & 20

3.10	204	Set post west side Huron Thorn bush 4" S3°W 9 links Lym 11" N34°W 40 links
39.80	2626	S¼ Sec. Post xx. D. White Oak 9" N03° W 28 links White Oak 13" S23° W 39 links
76.60	5055	Section corner

Section 17 & 18

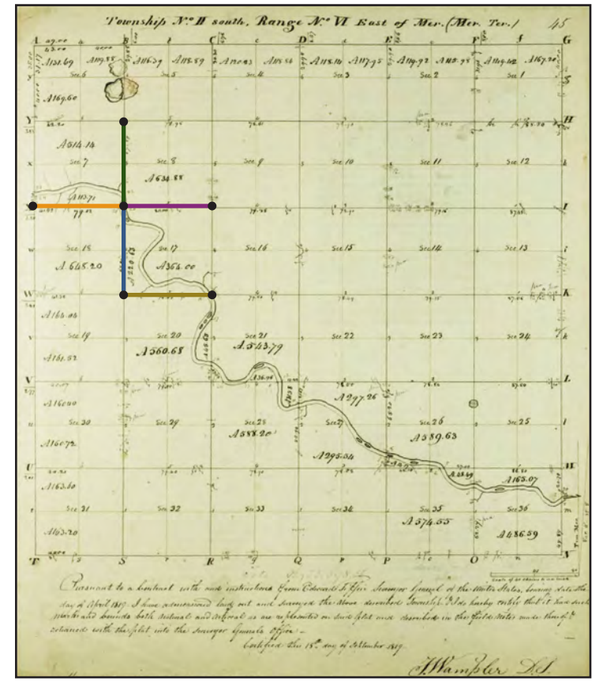
T02S R06E (Completed September 15th, 1819)
Ann Arbor Township

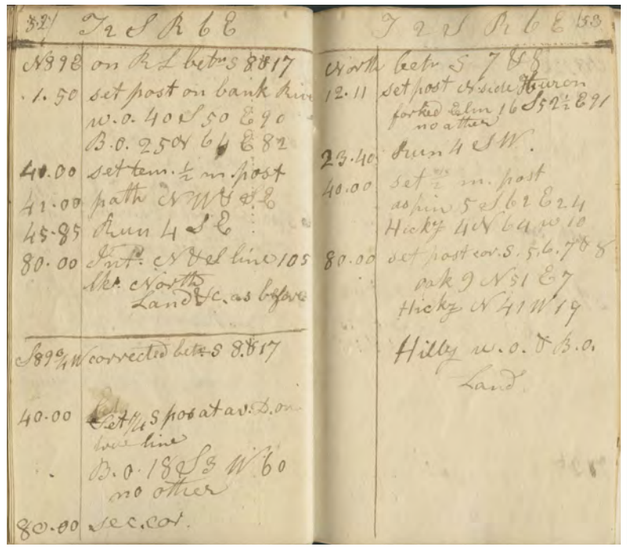
Volume 42, Page 51
North between Section 17 & 18

Chains	Feet	
4.03	266	White Oak 25" dia.
34.15	2254	Run 3 cv East
40.00	2640	Set ½ sec post White Oak 34" S13°W 69 links White Oak 17" N82° E 31 links 240 wide
65.00	4290	Set post at Huron South side Willow 4" N71½°W 22 links Hickory 18" S02°E 79 links
80.00	5280	Corner sections 7, 8, 17 & 18 is In the [Huron] River. No bearing trees

Very hilly oak land

Surveyed in 1819 by Joseph Wampler





Section 8 & 17

T02S R06E (Completed September 15th, 1819)
Ann Arbor Township

Volume 42, Page 52
North 89 East on Boundary Line between Section 8 & 17

Chains	Feet	
1.50	99	Set post on bank of river White Oak 40" S50°E 90 links Black Oak 25" N53°W 82 links
40.00	2640	Set terminal post ½ mile post
41.00	2706	**Path Northwest to Southeast**
45.85	3026	Run 4 SE
80.00	5280	Intersect North & South line 105 links North

Land & c as before (pg. 51 Very hilly oak land)

S89¾W corrected between Section 8 & 17

Chains	Feet	
40.00	2640	Set ¼ sec post Black Oak 18" S03°W 60 links No other
80.00	5280	Section corner

Section 7 & 8

T02S R06E (Completed September 15th, 1819)
Ann Arbor Township

Volume 42, Page 53
North between Section 7 & 8

Chains	Feet	
12.11	799	Set post on south side of Huron Forked Elm 16" S52½ °E 91 links No other
23.40	1544	Run 4 SW
40.00	2640	Set ½ mile post Aspen 5" S62°E 24 links Hickory 4" N54°W 10 links
80.00	5280	Set post corner Sections 5, 6, 7 & 8 Oak 9" N51°E 7 links Hickory N41°W 19 links

Hilly white Oak & Black Oak Land

Section 7 & 18

T02S R06E (Completed September 15th, 1819)
Ann Arbor Township

Volume 42, Page 59
West between Section 7 & 18

Chains	Feet	
0.75	49	Island
1.50	99	Over Island
2.50	165	Over [Huron] River post Black Oak 16" N15°W 43 links
40.00	2626	Set ½ m post White Oak 20" N36°W 99 links No other
50.65	3343	Run 2 N
51.50	3399	Run 3 N E
60.90	4019	Run 3 N
72.37	4776	White Oak 20" D.
81.52	5380	Intersected Boundary Line 3.80 N

** First ½ mile level good Land, no timber*
Next level good Land, white oak, black oak the whole, thickets with undergrowth hazel vegetation

* Black Oak 30" S76°E 167 links
White Oak 34" N34°W 89 links

Surveyed in 1819 by Joseph Wampler

Emergent Marsh

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Acris crepitans blanchardi	Blanchard's cricket frog	Amphibians	T		S2S3
Botaurus lentiginosus	American bittern	Birds	SC		S3S4
Calephelis mutica	Swamp metalmark	Insects	SC		S1S2
Carex trichocarpa	Hairy-fruited sedge	Flowering Plants	SC		S2
Catinella protracta	A land snail (no common name)	Snails	E		SNR
Cistothorus palustris	Marsh wren	Birds	SC		S3S4
Clemmys guttata	Spotted turtle	Reptiles	T		S2
Clonophis kirtlandii	Kirtland's snake	Reptiles	E		S1
Cygnus buccinator	Trumpeter swan	Birds	T		S3
Eleocharis equisetoides	Horsetail spike rush	Flowering Plants	SC		S3
Eleocharis geniculata	Spike-rush	Flowering Plants	X		SX
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Gallinula chloropus	Common moorhen	Birds	T		S3
Ixobrychus exilis	Least bittern	Birds	T		S2
Justicia americana	Water willow	Flowering Plants	T		S2
Oxyloma peoriense	Depressed ambersnail	Snails	SC		SNR
Pantherophis spiloides	Gray ratsnake	Reptiles	SC		S3
Rallus elegans	King rail	Birds	E		S1
Sabatia angularis	Rosepink	Flowering Plants	T		S2
Sistrurus catenatus catenatus	Eastern massasauga	Reptiles	SC	C	S3S4
Strophostyles helvula	Trailing wild Bean	Flowering Plants	SC		S3
Zizania aquatica var. aquatica	Wild rice	Flowering Plants	T		S2S3

Floodplain Forest

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Acronicta falcula	Corylus dagger moth	Insects	SC		S2S3
Ambystoma texanum	Smallmouth salamander	Amphibians	E		S1
Anguispira kochi	Banded globe	Snails	SC		SU
Aristolochia serpentaria	Virginia snakeroot	Flowering Plants	T		S2
Astragalus canadensis	Canadian milk vetch	Flowering Plants	T		S1S2
Battus philenor	Pipevine swallowtail	Insects	SC		S1S2
Bromus nottowayanus	Satin brome	Flowering Plants	SC		S3

Floodplain Forest - continued

Buteo lineatus	Red-shouldered hawk	Birds	T		S3S4
Carex davisii	Davis's sedge	Flowering Plants	SC		S3
Carex lupuliformis	False hop sedge	Flowering Plants	T		S2
Carex seorsa	Sedge	Flowering Plants	T		S2
Carex squarrosa	Sedge	Flowering Plants	SC		S1
Carex trichocarpa	Hairy-fruited sedge	Flowering Plants	SC		S2
Catinella protracta	A land snail (no common name)	Snails	E		SNR
Chelone obliqua	Purple turtlehead	Flowering Plants	E		S1
Clonophis kirtlandii	Kirtland's snake	Reptiles	E		S1
Dendroica cerulea	Cerulean warbler	Birds	T		S3
Discus patulus	Domed disc	Snails	SC		SU
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Euonymus atropurpurea	Wahoo	Flowering Plants	SC		S3
Galearis spectabilis	Showy orchis	Flowering Plants	T		S2
Gentianella quinquefolia	Stiff gentian	Flowering Plants	T		S2
Haliaeetus leucocephalus	Bald eagle	Birds	SC		S4
Hybanthus concolor	Green violet	Flowering Plants	SC		S3
Hydrastis canadensis	Goldenseal	Flowering Plants	T		S2
Jeffersonia diphylla	Twinleaf	Flowering Plants	SC		S3
Justicia americana	Water willow	Flowering Plants	T		S2
Lithospermum latifolium	Broad-leaved puccoon	Flowering Plants	SC		S2
Mesomphix cupreus	Copper button	Snails	SC		SU

Southern Wet Meadow

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Acris crepitans blanchardi	Blanchard's cricket frog	Amphibians	T		S2S3
Ambystoma texanum	Smallmouth salamander	Amphibians	E		S1
Asclepias purpurascens	Purple milkweed	Flowering Plants	T		S2
Botaurus lentiginosus	American bittern	Birds	SC		S3S4
Calephelis mutica	Swamp metalmark	Insects	SC		S1S2
Carex squarrosa	Sedge	Flowering Plants	SC		S1
Carex trichocarpa	Hairy-fruited sedge	Flowering Plants	SC		S2
Catinella protracta	A land snail (no common name)	Snails	E		SNR
Clemmys guttata	Spotted turtle	Reptiles	T		S2
Clonophis kirtlandii	Kirtland's snake	Reptiles	E		S1
Cypripedium candidum	White lady slipper	Flowering Plants	T		S2
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Euphyes dukesi	Dukes' skipper	Insects	T		S1
Gentianella quinquefolia	Stiff gentian	Flowering Plants	T		S2
Neonympha mitchellii mitchellii	Mitchell's satyr	Insects	E	LE	S1
Platanthera leucophaea	Prairie white-fringed orchid	Flowering Plants	E	LT	S1
Polemonium reptans	Jacob's ladder	Flowering Plants	T		S2
Rallus elegans	King rail	Birds	E		S1
Silphium integrifolium	Rosinweed	Flowering Plants	T		S2
Sistrurus catenatus catenatus	Eastern massasauga	Reptiles	SC	C	S3S4
Speyeria idalia	Regal fritillary	Insects	E		SH
Strophostyles helvula	Trailing wild Bean	Flowering Plants	SC		S3

Southern Hardwood Swamp

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Acronicta falcula	Corylus dagger moth	Insects	SC		S2S3
Ambystoma texanum	Smallmouth salamander	Amphibians	E		S1
Asclepias purpurascens	Purple milkweed	Flowering Plants	T		S2
Betula murrayana	Murray birch	Flowering Plants	SC		S1
Buteo lineatus	Red-shouldered hawk	Birds	T		S3S4
Carex festucacea	Fescue sedge	Flowering Plants	SC		S1
Carex lupuliformis	False hop sedge	Flowering Plants	T		S2
Carex seorsa	Sedge	Flowering Plants	T		S2
Carex squarrosa	Sedge	Flowering Plants	SC		S1
Carex trichocarpa	Hairy-fruited sedge	Flowering Plants	SC		S2
Clemmys guttata	Spotted turtle	Reptiles	T		S2
Clonophis kirtlandii	Kirtland's snake	Reptiles	E		S1
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Euonymus atropurpurea	Wahoo	Flowering Plants	SC		S3
Euphyes dukesi	Dukes' skipper	Insects	T		S1
Galearis spectabilis	Showy orchis	Flowering Plants	T		S2
Gentianella quinquefolia	Stiff gentian	Flowering Plants	T		S2
Haliaeetus leucocephalus	Bald eagle	Birds	SC		S4
Hybanthus concolor	Green violet	Flowering Plants	SC		S3
Hydrastis canadensis	Goldenseal	Flowering Plants	T		S2
Isotria verticillata	Whorled pogonia	Flowering Plants	T		S2
Morus rubra	Red mulberry	Flowering Plants	T		S2
Myotis sodalis	Indiana bat	Mammals	E	LE	S1
Panax quinquefolius	Ginseng	Flowering Plants	T		S2S3
Poa paludigena	Bog bluegrass	Flowering Plants	T		S2
Polemonium reptans	Jacob's ladder	Flowering Plants	T		S2
Populus heterophylla	Swamp or Black cottonwood	Flowering Plants	E		S1
Seiurus motacilla	Louisiana waterthrush	Birds	T		S2S3
Sistrurus catenatus catenatus	Eastern massasauga	Reptiles	SC	C	S3S4
Terrapene carolina carolina	Eastern box turtle	Reptiles	SC		S2S3

Mesic Southern Forest

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Acronicta falcula	Corylus dagger moth	Insects	SC		S2S3
Adlumia fungosa	Climbing fumitory	Flowering Plants	SC		S3
Agrimonia rostellata	Beaked agrimony	Flowering Plants	T		S2
Ambystoma texanum	Smallmouth salamander	Amphibians	E		S1
Anguispira kochi	Banded globe	Snails	SC		SU
Aristolochia serpentaria	Virginia snakeroot	Flowering Plants	T		S2
Battus philenor	Pipevine swallowtail	Insects	SC		S1S2
Bromus nottowayanus	Satin brome	Flowering Plants	SC		S3
Buteo lineatus	Red-shouldered hawk	Birds	T		S3S4
Carex lupuliformis	False hop sedge	Flowering Plants	T		S2
Clemmys guttata	Spotted turtle	Reptiles	T		S2
Dendroica cerulea	Cerulean warbler	Birds	T		S3
Discus patulus	Domed disc	Snails	SC		SU
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Galearis spectabilis	Showy orchis	Flowering Plants	T		S2
Gentianella quinquefolia	Stiff gentian	Flowering Plants	T		S2
Hybanthus concolor	Green violet	Flowering Plants	SC		S3
Hydrastis canadensis	Goldenseal	Flowering Plants	T		S2
Jeffersonia diphylla	Twinleaf	Flowering Plants	SC		S3
Liparis liliifolia	Purple twayblade	Flowering Plants	SC		S3
Lithospermum latifolium	Broad-leaved puccoon	Flowering Plants	SC		S2
Mesomphix cupreus	Copper button	Snails	SC		SU
Microtus pinetorum	Woodland vole	Mammals	SC		S3S4
Morus rubra	Red mulberry	Flowering Plants	T		S2
Nicrophorus americanus	American burying beetle	Insects	X	LE	SH

Mesic Southern Forest - continued

Microtus pinetorum	Woodland vole	Mammals	SC		S3S4
Morus rubra	Red mulberry	Flowering Plants	T		S2
Nicrophorus americanus	American burying beetle	Insects	X	LE	SH
Panax quinquefolius	Ginseng	Flowering Plants	T		S2S3
Pantherophis spiloides	Gray ratsnake	Reptiles	SC		S3
Polemonium reptans	Jacob's ladder	Flowering Plants	T		S2
Populus heterophylla	Swamp or Black cottonwood	Flowering Plants	E		S1
Seiurus motacilla	Louisiana waterthrush	Birds	T		S2S3
Sistrurus catenatus catenatus	Eastern massasauga	Reptiles	SC	C	S3S4
Terrapene carolina carolina	Eastern box turtle	Reptiles	SC		S2S3
Trillium sessile	Toadshade	Flowering Plants	T		S2S3
Ventridens suppressus	Flat dome	Snails	SC		SNR
Viburnum prunifolium	Black haw	Flowering Plants	SC		S3
Wilsonia citrina	Hooded warbler	Birds	SC		S3

Dry-mesic Prairie

Scientific Name	Common Name	Taxonomic Group	State Status	Federal Status	State Rank
Angelica venenosa	Hairy angelica	Flowering Plants	SC		S3
Asclepias purpurascens	Purple milkweed	Flowering Plants	T		S2
Aster praealtus	Willow aster	Flowering Plants	SC		S3
Astragalus canadensis	Canadian milk vetch	Flowering Plants	T		S1S2
Baptisia lactea	White or prairie false indigo	Flowering Plants	SC		S3
Clemmys guttata	Spotted turtle	Reptiles	T		S2
Cryptotis parva	Least shrew	Mammals	T		S1S2
Dichanthelium leibergii	Leiberg's panic grass	Flowering Plants	T		S2
Draba reptans	Creeping whitlow grass	Flowering Plants	T		S1
Echinacea purpurea	Purple coneflower	Flowering Plants	X		SX
Emydoidea blandingii	Blanding's turtle	Reptiles	SC		S3
Gentiana flavida	White gentian	Flowering Plants	E		S1
Nicrophorus americanus	American burying beetle	Insects	X	LE	SH
Pantherophis spiloides	Gray ratsnake	Reptiles	SC		S3
Ruellia humilis	Hairy wild petunia	Flowering Plants	T		S1
Silphium integrifolium	Rosinweed	Flowering Plants	T		S2
Silphium laciniatum	Compass plant	Flowering Plants	T		S1S2
Sistrurus catenatus catenatus	Eastern massasauga	Reptiles	SC	C	S3S4

CONSERVATION DESIGN FORUM - ENGINEER'S OPINION OF CONSTRUCTION COST

"River Terrace Trail" [Segment D2 - Phase 1] ~ Border-to-Border Nonmotorized Trail
Dexter-Huron Metropark to Zeeb Road
Washtenaw County, Michigan

Conceptual	X	2/8/2015
90% Design		
Bid Set		

Project Number: 15010
Prepared By: AF
Checked By: PJ
Date: May 17, 2016

	DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL COST
General Conditions					
1	General Conditions/Mobilization/Permits/Bonds(5% Max)	1	LS	$180,000	$180,000
2	Contractor Construction Layout & Staking	1	LS	$25,000	$25,000
3	Construction Fencing, Natural Areas Fencing, and Tree Protection Fencing	1,000	LF	$4	$4,000
4	Franchise Utilities Coordination/Relocation	1	LS	$5,000	$5,000
5	Traffic Control & Maintenance	1	LS	$8,000	$8,000
6	SESC/Proposed Silt Fence/Rip-Rap/Check Dams	1	LS	$10,000	$10,000
7	Demolition and Removals (trees, debris, sawcutting, existing walk, etc.)	1	LS	$22,000	$22,000
8	Chain Link Fence (8' Height, black vinyl coated)	1,810	LF	$18	$32,580
9	Machine Grading	5,150	LF	$20	$103,000
10	Retaining Walls (Allowance)	1	LS	$25,000	$25,000
11	Aggregate Base (6"-21AA) - approx 5150 lf x 12' wide = 61,800SF = 6867 SYD	6,867	SYD	$9	$61,803
12	10' Wide Pathway Pavement (4" Asphalt) - approx 5150 lf x 10' w = 51,500SF = 5722 SYD	5,722	SYD	$25	$143,050
13	12' Wide Boardwalk on helical peirs (≥ 30" height, railings)	305	LF	$650	$198,250
14	12' Wide Boardwalk on helical peirs (< 30" height & no railings)	545	LF	$450	$245,250
15	Install Massive Wall Unit Retaining Wall at Pavement Path Terminus	7	EA	$3,500	$24,500
16	Bridge Abutments (Bridge #1 & #2)	4	EA	$150,000	$600,000
17	Install / Remove Temporary Shoring, Gravel Crane Pad, and Access Drive (1 per bridge location)	2	EA	$50,000	$100,000
18	Proposed Bridge #1 (+/- 200') Capstone Bridge (Includes Delivery and Installation)	1	EA	$780,000	$780,000
19	Proposed Bridge #2 (+/- 250') Connector Standard (Includes Delivery and Installation)	1	EA	$1,050,000	$1,050,000
20	Fine Grading, Restoration Seeding, and Straw Blankets for sides of Trail (5' Both Sides Pvmt)	5,722	SYD	$18	$102,996
22	Proposed Pathway Amenities (benches, bike racks, etc.)	1	LS	$10,000	$10,000
23	Signage (MUTCD and AASHTO)	1	LS	$10,000	$10,000
26	Project Clean-Up	1	LS	$7,500	$7,500
	CONSTRUCTION SUBTOTAL AT BID				**$3,747,930**
	CONSTRUCTION CONTINGENCIES			10%	**$374,793**
	TOTAL ESTIMATED FINAL CONSTRUCTION COST				**$4,122,723**
	TOTAL ESTIMATED PROJECT COST				**$4,122,723**

Excludes: Lighting, Road Work, anything not listed above.

NOTE: The ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the CONTRACTOR's method of determining prices, or over competitive bidding or market conditions. Opinions of probable project costs and construction costs provided herin are made on the basis of the ENGINEER'S professional judgement and experience. The ENGINEER cannot and does not guarantee that proposals, bids or actual project or construction costs will not vary from the prepared opinion of probable cost.

CONSERVATION DESIGN FORUM - ENGINEER'S OPINION OF CONSTRUCTION COST

"River Terrace Trail" [Segment D2 - Phase 2] ~ Border-to-Border Nonmotorized Trail
Zeeb Road to East Delhi Metropark
Washtenaw County, Michigan

Conceptual	X	2/8/2015
90% Design		
Bid Set		

Project Number: 15010
Prepared By: AF
Checked By: PJ
Date: May 17, 2016

	DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL COST
General Conditions					
1	General Conditions/Mobilization/Permits/Bonds(5% Max)	1	LS	$212,145	$212,145
2	Contractor Construction Layout & Staking	1	LS	$15,000	$15,000
3	Construction Fencing, Natural Areas Fencing, and Tree Protection Fencing	1,000	LF	$4	$4,000
4	Franchise Utilities Coordination/Relocation	1	LS	$5,000	$5,000
5	Traffic Control & Maintenance	1	LS	$12,000	$12,000
6	SESC/Proposed Silt Fence/Rip-Rap/Check Dams	1	LS	$10,000	$10,000
7	Demolition and Removals (trees, debris, sawcutting, existing walk, etc.)	1	LS	$25,000	$25,000
8	Chain Link Fence (8' Height, black vinyl coated)	2,210	LF	$18	$39,780
9	Machine Grading	8,450	LF	$20	$169,000
10	Retaining Walls (Allowance)	1	LS	$15,000	$15,000
11	Aggregate Base (6"-21AA) - approx 8850 lf x 12' wide = 106,200SF = 11,800 SYD	11,800	SYD	$9	$106,200
12	10' Wide Pathway Pavement (4" Asphalt) - approx 8850 lf x 10' w = 88,500SF = 9833 SYD	9,833	SYD	$25	$245,825
13	12' Wide Boardwalk on helical peirs (≥ 30" height, railings)	750	LF	$650	$487,500
14	12' Wide Boardwalk on helical peirs (< 30" height & no railings)	405	LF	$450	$182,250
15	Install Massive Wall Unit Retaining Wall at Pavement Path Terminus	4	EA	$3,500	$14,000
16	Bridge Abutments (Bridge #3)	2	EA	$150,000	$300,000
17	Ex. Bridge Pier Restoration (Bridge #3)	1	EA	$75,000	$75,000
18	Proposed Bridge #3 (+/- 250') Connector Standard (Includes Delivery and Installation)	1	EA	$1,050,000	$1,050,000
19	Fine Grading, Restoration Seeding, and Straw Blankets for sides of Trail (5' Both Sides Pvmt)	9,834	SYD	$18	$177,012
20	Proposed Pathway Amenities (benches, bike racks, etc.)	1	LS	$20,000	$20,000
21	Zeeb Road Crossing	1	LS	$20,500	$20,500
22	Huron River Drive Crossing (at Zeeb Road & Loch Alpine Drive)	2	LS	$4,500	$9,000
23	East Delhi Road Crossing	1	LS	$20,500	$20,500
24	Signage (MUTCD and AASHTO)	1	LS	$12,000	$12,000
25	Project Clean-Up	1	LS	$7,500	$7,500
	CONSTRUCTION SUBTOTAL AT BID				**$3,234,212**
	CONSTRUCTION CONTINGENCIES			10%	**$323,421**
	TOTAL ESTIMATED FINAL CONSTRUCTION COST				**$3,557,633**
	TOTAL ESTIMATED PROJECT COST				**$3,557,633**

Excludes: Lighting, Road Work, anything not listed above.

NOTE: The ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the CONTRACTOR's method of determining prices, or over competitive bidding or market conditions. Opinions of probable project costs and construction costs provided herin are made on the basis of the ENGINEER'S professional judgement and experience. The ENGINEER cannot and does not guarantee that proposals, bids or actual project or construction costs will not vary from the prepared opinion of probable cost.

CONSERVATION DESIGN FORUM - ENGINEER'S OPINION OF CONSTRUCTION COST

"Barton Pond Trail" [Segment E] ~ Border-to-Border Nonmotorized Trail
East Delhi Metropark to Wagner Road
Washtenaw County, Michigan

Conceptual	X	2/8/2015
90% Design		
Bid Set		

Project Number: 15010
Prepared By: AF
Checked By: PJ
Date: February 12, 2016

	DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL COST
General Conditions					
1	General Conditions/Mobilization/Permits/Bonds(5% Max)	1	LS	$98,786	$98,787
2	Contractor Construction Layout & Staking	1	LS	$15,000	$15,000
3	Construction Fencing, Natural Areas Fencing, and Tree Protection Fencing	800	LF	$4	$3,200
4	Franchise Utilities Coordination/Relocation	1	LS	$5,000	$5,000
5	Traffic Control & Maintenance	1	LS	$8,000	$8,000
6	SESC/Proposed Silt Fence/Rip-Rap/Check Dams	1	LS	$8,000	$8,000
7	Demolition and Removals (trees, debris, sawcutting, existing walk, etc.)	1	LS	$18,000	$18,000
8	Chain Link Fence (8' Height, black vinyl coated)	1,800	LF	$18	$32,400
9	Machine Grading	5,271	LF	$20	$105,420
10	Retaining Walls (Allowance)	1	LS	$12,000	$12,000
11	Aggregate Base (6"-21AA) - approx 5271 lf x 12' wide = 63,252SF = 7,028 SYD	7,028	SYD	$9	$63,252
12	10' Wide Pathway Pavement (4" Asphalt) - approx 5271 lf x 10' w = 52,710SF = 5857 SYD	5,857	SYD	$25	$146,425
13	Bridge Abutments (Bridge #4)	2	EA	$150,000	$300,000
14	Install / Remove Temporary Shoring, Gravel Crane Pad, and Access Drive (1 per bridge location)	1	EA	$50,000	$50,000
15	Proposed Bridge #4 (+/- 200') Keystone Bridge (Includes Delivery and Installation)	1	EA	$890,000	$890,000
16	Fine Grading, Restoration Seeding, and Straw Blankets for sides of Trail (5' Both Sides Pvmt)	5,857	SYD	$18	$105,426
17	Proposed Pathway Amenities (benches, bike racks, etc.)	1	LS	$8,000	$8,000
18	Railroad Crossing at Wagner Road	1	EA	$15,000	$15,000
19	Signage and Pavement Markings (MUTCD and AASHTO)	1	LS	$6,000	$6,000
20	Project Clean-Up	1	LS	$5,000	$5,000
	CONSTRUCTION SUBTOTAL AT BID				**$1,894,910**
	CONSTRUCTION CONTINGENCIES			10%	**$189,490**
	TOTAL ESTIMATED FINAL CONSTRUCTION COST				**$2,084,400**
	TOTAL ESTIMATED PROJECT COST				**$2,084,400**

Excludes: Lighting, Road Work, anything not listed above.

NOTE: The ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the CONTRACTOR's method of determining prices, or over competitive bidding or market conditions. Opinions of probable project costs and construction costs provided herin are made on the basis of the ENGINEER'S professional judgement and experience. The ENGINEER cannot and does not guarantee that proposals, bids or actual project or construction costs will not vary from the prepared opinion of probable cost.

CONSERVATION DESIGN FORUM - ENGINEER'S OPINION OF CONSTRUCTION COST

"Barton Pond Trail" [Segment F] ~ Border-to-Border Nonmotorized Trail
Wagner Road to Maple Road
Washtenaw County, Michigan

Conceptual	X	12/17/2015
90% Design		
Bid Set		

Project Number: 15010
Prepared By: AF
Checked By: PJ
Date: May 17, 2016

	DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL COST
General Conditions					
1	General Conditions/Mobilization/Permits/Bonds(5% Max)	1	LS	$199,078	$199,078
2	Contractor Construction Layout & Staking	1	LS	$25,000	$25,000
3	Construction Fencing, Natural Areas Fencing, and Tree Protection Fencing	500	LF	$4	$2,000
4	Franchise Utilities Coordination/Relocation	1	LS	$5,000	$5,000
5	Bury Existing Utility Line (Allowance)	1	LS	$100,000	$100,000
6	Traffic Control & Maintenance	1	LS	$20,000	$20,000
7	SESC/Proposed Silt Fence/Rip-Rap/Check Dams	1	LS	$23,000	$23,000
8	Demolition and Removals (trees, debris, sawcutting, existing walk, etc.)	1	LS	$31,000	$31,000
9	Chain Link Fence (8' Height, black vinyl coated)	3,550	LF	$18	$63,900
10	Machine Grading	2,956	LF	$20	$59,120
11	Retaining Walls (Allowance)	1	LS	$25,000	$25,000
12	Aggregate Base (6"-21AA) - approx 2956 LF x 12' wide = 35,472 SF = 3941 SYD	3,941	SYD	$9	$35,469
13	10' Wide Pathway Pavement (4" Asphalt) - approx 2956 LF x 10' W = 29,560 SF = 3,284 SYD	3,284	SYD	$25	$82,100
14	12' Wide Boardwalk on helical peirs (≥ 30" height, railings)	1,778	LF	$650	$1,155,700
15	12' Wide Boardwalk on helical peirs (< 30" height & no railings)	100	LF	$450	$45,000
16	Install Massive Wall Unit Retaining Wall at Pavement Path Terminus	3	EA	$3,500	$10,500
17	Bridge Abutments (Bridge #5 & #6)	4	EA	$150,000	$600,000
18	Install / RemoveTemporary Shoring, Gravel Crane Pad, and Access Drive (1 per bridge location)	2	EA	$50,000	$100,000
19	Proposed Bridge #5 (+/- 160') Capstone Standard (Includes Delivery and Installation)	1	EA	$510,000	$510,000
20	Proposed Bridge #6 (+/- 210') Keystone Bridge (Includes Delivery and Installation)	1	EA	$888,000	$888,000
21	Fine Grading, Restoration Seeding, and Straw Blankets for sides of Trail	3,284	SYD	$18	$59,112
22	Proposed Pathway Amenities (benches, tables, bike racks, etc.)	1	LS	$8,000	$8,000
23	Signage and Pavement Marking (MUTCD and AASHTO)	1	LS	$12,000	$12,000
24	Wagner Road Crossing	1	LS	$8,000	$8,000
25	Project Clean-Up	1	LS	$15,000	$15,000
	CONSTRUCTION SUBTOTAL AT BID				**$4,081,979**
	CONSTRUCTION CONTINGENCIES			10%	**$408,198**
	TOTAL ESTIMATED FINAL CONSTRUCTION COST				**$4,490,177**
	TOTAL ESTIMATED PROJECT COST				**$4,490,177**

Excludes: Lighting, Road Work, anything not listed above.

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CONSERVATION DESIGN FORUM - ENGINEER'S OPINION OF CONSTRUCTION COST

"Barton Pond Trail" [Segment G] ~ Border-to-Border Nonmotorized Trail
Barton Park to Bandemer Park
Washtenaw County, Michigan

Conceptual	X	12/17/2015
90% Design		
Bid Set		

Project Number: 15010
Prepared By: AF
Checked By: PJ
Date: May 17, 2016

	DESCRIPTION	QUANT.	UNIT	UNIT COST	TOTAL COST
General Conditions					
1	General Conditions/Mobilization/Permits/Bonds(5% Max)	1	LS	$175,306	$175,306
2	Contractor Construction Layout & Staking	1	LS	$15,000	$15,000
3	Construction Fencing, Natural Areas Fencing, and Tree Protection Fencing	750	LF	$4	$3,000
4	Franchise Utilities Coordination/Relocation	1	LS	$8,000	$8,000
5	Traffic Control & Maintenance	1	LS	$5,000	$5,000
6	SESC/Proposed Silt Fence/Rip-Rap/Check Dams	1	LS	$8,500	$8,500
7	Demolition and Removals (trees, debris, sawcutting, existing walk, etc.)	1	LS	$15,500	$15,500
8	Chain Link Fence (8' Height, black vinyl coated)	6,820	LF	$18	$122,760
9	Machine Grading	10,486	LF	$20	$209,720
10	Retaining Walls (Allowance)	1	LS	$50,000	$50,000
11	Aggregate Base (6"-21AA) - approx 10,486 LF x 12' W = 125,832 SF = 13,981 SYD	13,981	SYD	$9	$125,829
12	10' Wide Pathway Pavement (4" Asphalt) - approx 10,486 LF x 10' W = 104,860 SF = 11,165 SYD	11,651	SYD	$25	$291,275
13	Bridge Abutments	4	EA	$150,000	$600,000
14	Install / Remove Temporary Shoring, Gravel Crane Pad, and Access Drive (1 per bridge location)	2	EA	$50,000	$100,000
15	Proposed Bridge #7 (+/- 210') Keystone Bridge (Includes Delivery and Installation)	1	EA	$888,000	$888,000
16	Proposed Bridge #8 (+/- 210') Keystone Bridge (Includes Delivery and Installation)	1	EA	$888,000	$888,000
17	Maple Road Crossing	1	LS	$8,000	$8,000
18	Fine Grading, Restoration Seeding, and Straw Blankets for sides of Trail	11,651	SYD	$18	$209,718
19	Proposed Pathway Amenities (benches, tables, bike racks, etc.)	1	LS	$10,000	$10,000
20	Signage (MUTCD and AASHTO)	1	LS	$10,000	$10,000
21	Project Clean-Up	1	LS	$7,500	$7,500
	CONSTRUCTION SUBTOTAL AT BID				**$3,751,110**
	CONSTRUCTION CONTINGENCIES			10%	**$375,111**
	TOTAL ESTIMATED FINAL CONSTRUCTION COST				**$4,126,221**
	TOTAL ESTIMATED PROJECT COST				**$4,126,221**

Excludes: Lighting, Road Work, anything not listed above.

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Community and Economic
Benefits of Bicycling in Michigan

Prepared for:
Michigan Department of Transportation
425 West Ottawa Street
Lansing, Michigan

Prepared by:

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March 2015

MDOT University Region:
Regional Non-Motorized Plan

Prepared by:
Michigan Department of Transportation
425 West Ottawa Street
Lansing, Michigan

July 2015

Pedestrian Tunnel Feasibility Study
Ann Arbor, Michigan

Prepared by:
City of Ann Arbor, Michigan
The University of Michigan
Washtenaw County Parks and Recreation

With the Assistance of:
Carter & Burgess
Soil & Materials Engineers
Giffels-Webster Engineers

July 22, 2005

Dexter-Huron Metropark
NRD Management Areas

Huron-Clinton Metropolitan Authority
Sources: HCMA, MNFI, SEMCOG

January, 2012

Delhi Metropark
NRD Management Areas

Huron-Clinton Metropolitan Authority
Sources: HCMA, MNFI, SEMCOG

March, 2013

GIS Data Sources:

Michigan Natural Features Inventory. 2016. Biotics 5 - Michigan's Natural Heritage Database. Lansing, MI. Accessed January 22, 2016.

Washtenaw County GIS
2015 Aerial Imagery
Elevations based on 2009 LIDAR Data