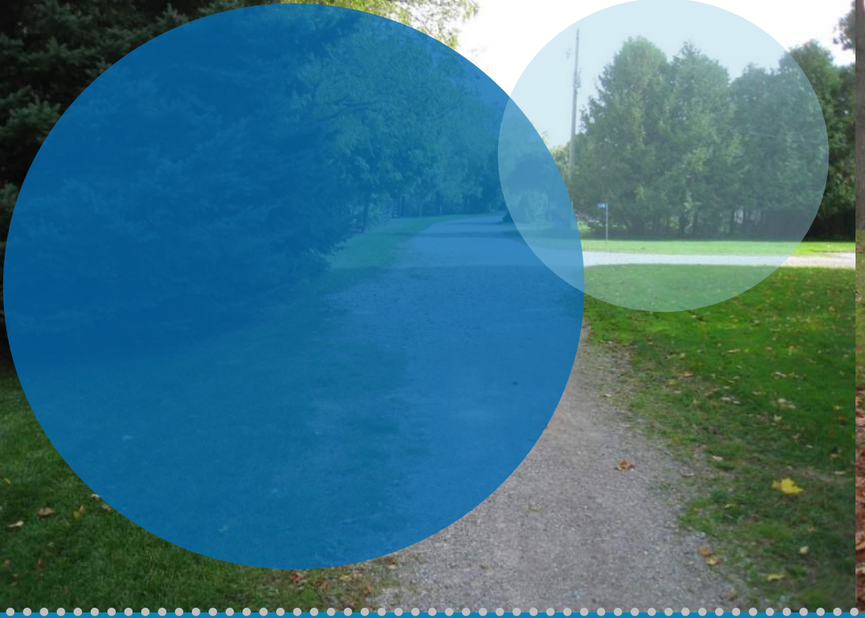

Municipality of Central Elgin

10 Year Trails Master Plan & Implementation Strategy

Final Report | April 2017

WSP | MMM GROUP

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1.0 SHAPING

The Municipality of Central Elgin is located within the County of Elgin within Southwestern Ontario. It surrounds the City of St. Thomas, however, the City is not politically affiliated with the Municipality and is independent in its decision making.

As a municipality, Central Elgin takes pride in establishing quality communities that increase the quality of life of its citizens. Staff, stakeholders and partners are consistently looking for opportunities to diversify and innovate to maintain a strong, active and vibrant community.

A strong, active and vibrant community must be achieved in a comprehensive, collaborative and well communicated way. It does not happen overnight and can help to establish connections, networks and long lasting success and sustainability. The development of trails and improvements to walking, cycling and rolling have long been identified as an opportunity to achieve complete and active communities.

In 2014, the Municipality updated their Parks and Recreation Master Plan. Within this policy document there is a specific recommendation for the Municipality of Central Elgin to prepare a Community Trails Master Plan to guide the future development of trail infrastructure, policies and initiatives throughout the Municipality. In 2016, the Municipality initiated the development of the Trails Master Plan and Implementation Strategy in collaboration with trail specialists from the firm WSP | MMM Group.

The following sections of the report provide the background and rationale for the development of the Master Plan and lay the foundation for the improvement of trails throughout the Municipality of Central Elgin connecting communities, natural areas, destinations, tourism access points, employment areas and other key destinations in an enjoyable, environmentally friendly and effective manner.

Did you know that…*Active transportation is a priority for the residents and community builders of Elgin County. Active Elgin is a community organization that encourages and educates residents and visitors of the active opportunities within the various communities*

Port Stanley Pier Redevelopment Site including new bridge and park space; Source: MMM Group

Making Central Elgin more active…

1.1 What is a Trails Strategy?

A Trails Strategy can be many different things to different municipalities. Any long-term strategic plan should be tailored to reflect the wants, needs and priorities of the municipality for which it is being developed. Before presenting a strategy it is important to define what is intended to achieve and who it is intended to be developed for. There are things that a trails strategy should be and things that they should not be in order to achieve the desired outcomes. These assumptions are defined below and should be clearly understood before the information contained within the strategy are used.

A trails strategy…

SHOULD

- Provide recreational opportunities for a range of users of all ages and abilities in various areas of the Municipality
- Identify a blueprint and guide for future planning and community building
- Establish a flexible tool for decision makers as well as being a communication tool for staff and the community
- Provide guidance on the design of trail facilities and other amenities that address user preferences and standards

As noted above, one of the important aspects of developing an effective trails strategy is planning for, designing and implementing infrastructure and programs that address the preferences, interests and differing levels of comfort. Defining these audiences and understanding their design preferences is a key step in the development of a trails strategy. For the Central Elgin Trails Master Plan there were two primary audiences.

Including people who walk, hike or jog– travel by foot – to be active for recreation or day to day travel purposes.

Including people who use a bicycle for various trip types and purposes with varying levels of experience.

In addition to pedestrians and cyclists, the trails strategy also took into consideration other users including those who require additional assistance due to accessibility limitations as well as seasonal users such as cross country skiing and snow shoeing, geo-cashing, etc.. Additional user specific design considerations are included in **section 3.0**.

1.2 Why develop the Trails Strategy?

Developing a comprehensive trails master plan requires a collaborative and coordinated process that builds on what has been done previously within the Municipality, the surrounding municipalities and throughout the County of Elgin, the experience and expertise of those who live, work and play throughout Central Elgin and is founded on best practices and lessons learned from municipalities of a similar scope and scale.

The following sections provide an overview of the rationale as to why the development of a Trails Strategy which help to achieve the intended outcomes and objectives of Central Elgin including the supportive policies, the potential benefits which could be realized with additional investments in trails as well as internal process changes which could help to improve decision making.

1.2.1 Policy Support

In the past 10 years there has been growing support for active transportation and recreation at all levels of government including Federal, Provincial, County and local municipal. These supportive policies have created alignment between all levels of government in support of partnerships, collaborations and investments that improve the quality of life of the residents of Canada, the Province of Ontario, Elgin County and the Municipality of Central Elgin. A more detailed summary of background policies and plans reviewed to inform the development of the strategy is provided in Technical Appendix A (under separate cover).

Ontario

- Ontario Trails Strategy
- Ontario Cycling Strategy: #CycleON
- Ontario Traffic Manual Book 18: Cycling Facilities
- Ontario's Climate Change Action Plan

ElginCounty

- Official Plan
- Active Transportation Initiative
- Cycling Strategy
- Multi-year Accessibility Plan

MUNICIPALITY OF CENTRAL ELGIN

- Official Plan
- Recreation Master Plan
- Asset Management Plan
- Multi-year Accessibility Plan

At a high level, each of these policies provides support for trail development as a strategic priority within the Municipality; however few of these documents provide specific policy support or direction to guide future planning and design. The information contained within the Municipality's Trails Master Plan provides suggested policy improvements for the Municipality's consideration – see **chapter 3.0**.

Making Central Elgin more active…

1.2.2 Trail Benefits

There are a number of benefits which can be realized as a result of developing and implementing a strategic trails master plan. Benefits can be realized at a very individual level as well as at a wider community level. Trail benefits will be unique to each community, however, some of the common potential outcomes have been identified based on past work completed for municipalities of a similar scope and scale.

Trail benefits are important to define and promote. They can be used to help support future Council decisions as well as funding and partnership applications with the County and / or Province. Central Elgin should consider using these benefits as part of a communication package to promote trails in the future.

Health & Safety

- Trails can provide opportunities for improved physical activity
- They can help to enable healthy active lifestyles
- There is the potential to make communities more desirable
- There is the potential for a reduction in health care costs

Environment

- Trails allow for the identification, protection and appreciation of natural heritage areas and sensitive environmental features
- They can promote active transportation and resource conservation

Asset Management

- Trails can assist with the management of a Municipality's assets i.e. land development
- A strategy to implement trails can help to identify and establish priorities for future investment and resource allocation

Economic

- There is the potential for increased local investment in business and community development as well as property value increases
- Trails can help to improve the desirability of communities for localized tourism and seasonal use

Tourism

- Trails can help to improve the desirability of communities for localized tourism and seasonal use
- Supports the local tourism initiatives as well as greater regional tourism initiatives

Social

- Trails can help to bring communities together by working on a common goal / outcome
- In some cases they can help to build community spirit and foster stewardship and ownership of local initiatives
- Trail development can provide opportunities for local involvement in Municipal projects and issues

1.2.3 Establishing a Guide

In order for a strategic master plan to be considered an effective and implementable tool the emphasis should be on developing a guide for future planning, decision making, resource allocation, and management. Master planning makes good sense when the document that is developed contains a number of key elements:

1

Who does what…

It is important to clearly articulate who will be responsible for the various elements of master plan implementation and the coordination of future initiatives. Defining the individual staff members and partners that will be involved and their specific roles i.e. planning, maintenance, management, etc. will help to facilitate the coordination of efforts. A reporting structure as well as a committee to support these initiatives can help to achieve this.

2

Coordinating involvement…

The implementation of a master plan requires ongoing coordination. In addition to understanding who will be responsible for what, it is also important to acknowledge the importance and facilitate the development of partnerships with key stakeholders – both internally and externally. The networks generated as a result of the master planning process can be used as a foundation to achieve this.

3

Defining and scheduling improvements…

A master plan should not only provide suggested infrastructure and policy improvements but should be clear about the expectations regarding timeline for implementation. There should be a long-term outcome and a phased approach to achieve these outcomes based on priority projects and policy improvements and revisions.

4

Creating tools…

A master plan should be a document that is used on a frequent basis as opposed to something that is placed on a shelf. Including tools and that help to coordinate implementation and promotion can help to ensure that a plan becomes an effective resource that is used by all Municipal staff and its partners. Tools should build on current structures and processes while also helping to improve the way in which trails are planned, design and implemented.

Making Central Elgin more active…

1.2.3 Trail Opportunities and Challenges

The development of a long-term planning strategy to improve trails throughout the Municipality of Central Elgin should build on the significant opportunities that currently exist as well as the challenges that are being experienced – by residents, visitors, staff and decision makers. The following section provides an overview of the trail related opportunities and challenges that were identified over the course of the study. The opportunities and challenges that were used as the foundation for the development of the trails strategy were identified based on input from members of the public, the Technical Advisory Committee (TAC), staff and decision makers. An overview of the various opportunities and challenges identified in Central Elgin are provided below.

Opportunities

- Desired Connections: There are a number of beaten paths and foot trails found throughout both the built up and natural areas of the Municipality indicating desired routes.
- Community Support: The residents as well as visitors of the Municipality want to see trail improvements made and have expressed support for future initiatives and identified opportunities for partnerships.
- Future Development: The Municipality is working with a number of developers to expand municipal growth. There are opportunities to partner with those developers to integrate future trail development into large scale residential areas.
- Natural Areas & Destinations: There are significant natural areas in the form of forests, green spaces and conservation areas. They provide opportunities
- Existing Partnerships: There are already strong partnerships between the Municipality and local stakeholders such as Active Elgin, Elgin St. Thomas Health Unit, Elgin Hiking Club, etc.
- Tourism Draws: Central Elgin's Tourism draws mean there is a captive audience and potential market for greater demand for recreation.

Challenges

- Resources: The implementation of a master plan takes both time and budget. It can be challenging to balance the need for additional budget while managing the budget for existing services and infrastructure.
- Coordination: Integrating a new planning process and procedure requires strategic coordination between the Municipality and its partners which will require more clarity on expectations, roles and responsibilities.
- Geography: The municipality is made up of a range of land uses meaning that the design solutions will be varied and may need to be tailored to the context in specific location.
- Seasonal Populations: The demand for trails and active transportation / recreation can vary depending on the time of year leading to seasonal peaks and significant changes in operation and maintenance practices.
- Policies: The policies that are in place acknowledge trails and AT at a high-level but do not integrate the planning and design of trail infrastructure into day to day decision making or policy directives.
- Guidelines: There are not a common set of design guidelines to guide the design of trail infrastructure causing some inconsistencies of application.

1.3 Overview of the Plan Content

The Central Elgin Trails Strategy is made up of strategies, policies, processes, resources and tools that are intended to help those involved in the day to day planning, design, funding, implementation, operation and maintenance of trail infrastructure and programs. A description of what each of these items include is provided below. Icons are used throughout the report to indicate where the various components are identified.

Strategies

Strategies include proposed initiatives and / or programs related to the design and implementation of trails throughout Central Elgin which are intended to be action oriented and to help the Municipality move forward with promoting, educating and encouraging people to become more active.

Resources

Resources include references, standards and guidelines that are recommended for the considerations and use by the Municipality of Central Elgin as they proceed with the design, implementation and maintenance of trail infrastructure as well as complementary features.

Policies

Policies include
incorporated into
Plan and Zoning By-
and priorities

proposed policy considerations which could be existing or future planning documents i.e. the Official law when they are next updated to reflect the principles identified within the Trails Strategy.

Tools

Tools include
other outcomes of
by Municipal staff to
to planning and

proposed templates, formats, tracking mechanisms and the development of the Trails Strategy which can be used ensure that there is a common and coordinated method implementing trails.

Processes

Processes are suggested revisions, improvements or additions to existing inter or intra-municipal communication and coordination which could help to facilitate the planning, management and implementation of the trails strategy by staff and their partners.

2.0 DEVELOPING & INTEGRATING

The primary focus of the Central Elgin 10 year Trails Master Plan and Implementation Strategy is the development and design of trail infrastructure and supportive programming that accommodates and encourages a range of trail users.

The development of a comprehensive master plan requires collaborative approach between the consulting team that is providing the technical expertise and the local knowledge and experience of staff, stakeholders, members of the public and decision makers. Between March 2016 and March 2017, the consulting team from WSP | MMM Group worked with the Technical Advisory Committee for Central Elgin's Trails Strategy to ensure that the process used and the outcomes / deliverables generated met the desired outcomes and expectations of the Municipality and its partners.

The master plan focuses on the development of a Trails System – a network of active transportation and recreation linkages - that connect the various communities and destinations throughout the Municipality of Central Elgin. Developing a system of trails linkages requires an iterative network development process which builds on the work previously completed by the Municipality and its partners and the input generated through consultation and engagement activities undertaken over the course of the study.

The processes used to develop the overall master plan and implementation strategy as well as the trail network are documented in the following sections along with suggested opportunities for integration with other municipal partners and stakeholders.

Did you know that…Within Central Elgin and throughout Elgin County there are over 21km of hiking trails for all abilities. Some of the trails have self-guided trail guides and allow visitors to explore the scenic beauty of Carolinian Canada

One step, pedal and roll at a time

2.1 Developing the trails master plan

The Central Elgin 10 year Trails Master Plan and Implementation Strategy was developed between June 2016 and March 2017. To develop the strategy, a three phase process was executed by members of the consulting team in collaboration with the Municipality's Technical Advisory Committee. The process used to develop the master plan was developed to be consistent with the master planning requirements of a Municipal Class Environmental Assessment (MCEA) process. An overview of the MCEA requirements, the Central Elgin Trails Master Plan study process and the consultation and engagement activities and outcomes are provided in the following sections.

2.1.1 Following the municipal class environmental assessment process

#1

The Municipal Class Environmental Assessment Process is a guide for planners and engineers when undertaking major infrastructure and master planning projects. The process is made up of five (5) phases which are designed to engage the public, consider and assess alternative solutions and costs and apply sound engineering judgment to develop the most appropriate solutions.

For master planning projects, there are specific requirements outlined in **section A.2.7** of the Municipal Class Environmental Assessment Guide. There are a total of five (5) approaches that could be used to prepare a master plan. When developing the Central Elgin Trails Master Plan the study team applied Approach #1 which included the following activities:

- Follow Phases 1 and 2 of the MCEA process;
- Prepare a master plan document at the conclusion of Phase 1 and 2 of the process;
- Make the master plan document available to the public for comment prior to approval by the Municipality;
- Identify projects which require more detailed investigations at the project-specific level; and
- Prepare a master plan with sufficient information to inform future investigations for specific projects identified.

Central Elgin's Trails Master Plan identifies a proposed system of trail facilities for which preliminary assessments have been completed. Due to the environmental nature of these projects, a number of the proposed routes will require future site specific assessment and investigation as the Municipality proceeds with Environmental Assessments and Detailed Design Assignments. The requirements of Phase 1 and 2 of the MCEA process which were used to inform the Central Elgin Trails Master Plan study process are illustrated in Figure 1.

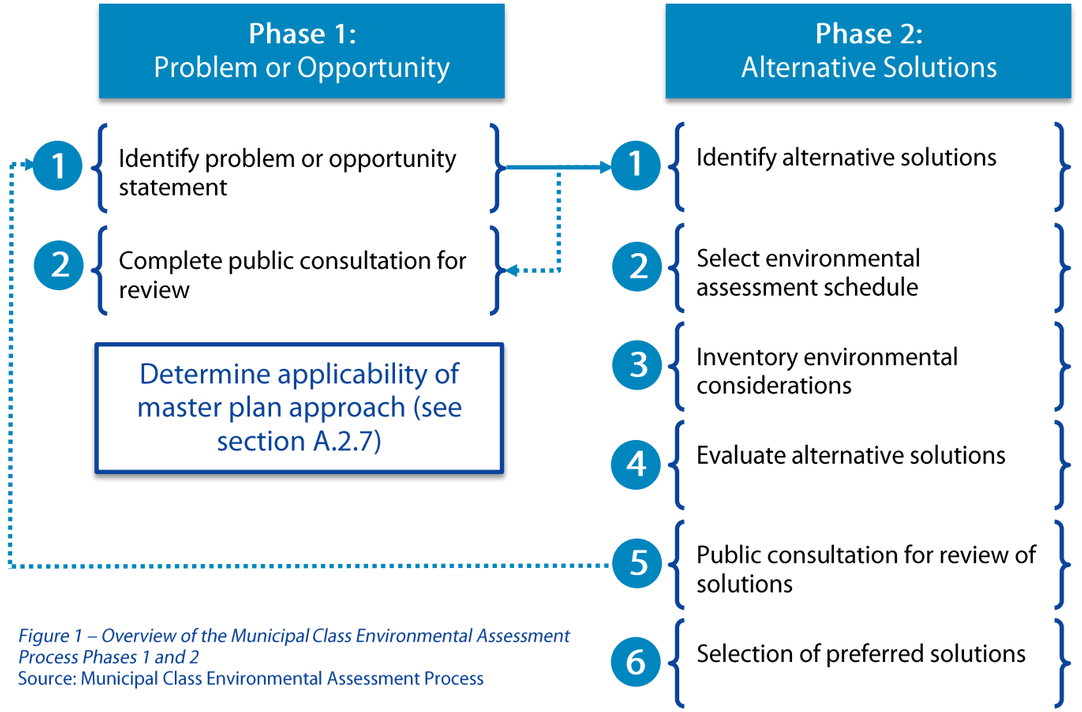


Figure 1 – Overview of the Municipal Class Environmental Assessment Process Phases 1 and 2
Source: Municipal Class Environmental Assessment Process

#2

2.1.2 Developing the Trails Master Plan

As noted above, the Central Elgin Trails Master Plan and Implementation Strategy was developed using a three phase process that followed the required Municipal Class Environmental Assessment stages. As noted in the MCEA requirements and consistent with the Planning Act, a key component of any master planning process is consultation and engagement with members of the public, stakeholders, decision makers and staff. It is their input and their insights that help to generate and ultimately select realistic and achievable solutions. The process that was used to develop the Central Elgin Trails Strategy and the consultation and engagement activities that informed its development are illustrated in **Figure 2.**

1 Understanding the resources

- Review relevant background information
- Develop a vision, objectives and route selection criteria
- Identify and map candidate trail connections

2 Developing the plan

- Develop Central Elgin trails network
- Finalize the trails network and develop trail design guidelines
- Identify trail costing and phasing
- Prepare the ten (10) year master plan report

3 Finalizing the plan

- Refine and submit final report to staff
- Present report to Council

June 2016 → **MARCH 2017**

Online Questionnaire
Held: July 2016 – January 2017
Number of Responses: 118
Format: 24 survey questions

Public Open House
Held: October 15, 2016
Number of Attendees: 40+
Format: Two open houses were held on a Saturday at community centres in Belmont and Port Stanley where the project was promoted and input was gathered on potential routes

Council Presentation
Held: TBD
Number of Attendees: TBD
Format: The consultant team provided a presentation to Council of the highlights from the Trails Master Plan and Implementation Strategy, responded to questions and gathered feedback

Stakeholder Workshop
Held: August 10, 2016
Number of Attendees: 15
Format: interactive workshop style session including a presentation and open-ended discussion

Stakeholder Presentation
Held: December 7, 2016
Number of Attendees: approx. 30
Format: The consultant team provided a project overview presentation to the Belmont Lions Club and gathered ideas and input from attendees

Figure 2 – Overview of the Central Elgin Trails Master Plan & Implementation Strategy Development Process

2.1.3 What we heard from the Community

As noted above, one of the key components and a requirement of the Municipal Class EA process is consultation and engagement with members of the public, stakeholders, decision makers and staff. The consultation and engagement activities that were undertaken as part of the development of the Central Elgin Trails Master Plan aimed to provide residents of Central Elgin with an opportunity to provide their input, thoughts and preferences for trails in an accessible, creative and informative manner.

As shown in Figure 2, consultations and engagement activities were undertaken as part of each phase of the master plan development process. Technical Appendix B (under separate cover) –provides a summary of the key findings from the consultation activities. Some of the key themes heard over the course of the engagement process are provided below.

Online Questionnaire

Held: July 2016 – January 2017
Number of Responses: 118
Format: 24 survey questions
Purpose: To gather input from public members on current trail practices and priorities and preferences for future trail development.

- Trail Access: There is potential to increase accessibility and walkability by adding more connections to key destinations.
- Improving Trail Links: There is much support for expanding the trails network through improving wayfinding / signage and promotion.
- Local Amenities: Respondents would feel more comfortable using trails if they were surrounded by resting areas, parks, and / or open spaces.
- Common Facilities: Sidewalks and natural surface single-track trails are the most commonly used and safe trail facilities.

Stakeholder Workshop

Held: August 10, 2016
Number of Attendees: 15
Format: Interactive workshop style session (presentation and open-ended discussion)
Purpose: To discuss the study vision and objectives and identify key principles.

- Trail Destinations: There is a need to add trails outside of urban areas (e.g. Conservation Areas).
- Trail Links to Neighbourhoods: There is potential to increase trail linkages in new neighbourhoods for greater accessibility.
- Trail connections to Urban Areas: The support for the increase in trail connections provides an opportunity to expand to more urban areas.
- Connection Challenges: This includes developing connections to rural areas, St. Thomas to Lynhurst, and throughout Port Stanley.

Public Information Centre

Held: October 15, 2016
Number of Attendees: 40+
Format: Two open house style sessions located in Belmont and Port Stanley
Purpose: To engage with the public, promote the project and gather direct input.

- Recreation and Healthy Lifestyle: Most trail users are in support for recreation, fitness, and enjoyment.
- Trail Links Through Hydro Corridors: There is a need for greater connections throughout trails with access to water (scenery and enjoyment).
- Public vs. Private Lands: There is potential conflict regarding the development of trails onto private land.
- New Trail Networks: Trail users are in support of improving and expanding sidewalks to increase accessibility and connectivity.

2.2 Shaping the plan

A master plan typically developed around three (3) key statements which reflect the priorities, interests and needs of Municipal staff and decision makers. These founding principles include the **opportunity statement** – as required by the municipal class EA process; the **vision statement** – which identifies the long-term goal that is intended to be achieved through the implementation of the plan; and the **master plan objectives** – which help to shape the approach and outcomes of the project. The Central Elgin Trails Master Plan opportunity and vision statement and master plan objectives are documented in the following sections.

2.2.1 Opportunity Statement

As part of developing a plan that is consistent with the Municipal Class EA process, a problem or opportunity statement needs to be developed. For the Trails within Central Elgin the statement that was selected and developed was an opportunity statement which reflects the numerous opportunities associated with trail planning, design and implementation City-wide.

Central Elgin is located within the heart of Elgin County along the shores of Lake Erie. It is a desirable community for seasonal visitors, recreational enthusiasts and individuals looking for a community oriented quality of life.

The municipality is progressive and proactive about creating an active and healthy community that provides opportunities for tourism and economic growth. People want to live, work and play in Central Elgin and want to be part of the making the various parts of the Municipality shine.

2.2.2 Vision Statement

The vision is an aspirational statement that reflects the outcomes that are desired or intended to occur as a result of the implementation of the Trails Master Plan and Implementation Strategy. The vision statement prepared for Trails within the Municipality of Central Elgin was shaped by input from the Municipality's Technical Advisory Committee as well as key stakeholders. It reflects a number of community objectives and policies including but not limited to healthy and vibrant community development, tourism and economic growth and a variation of transportation and recreation options and alternatives.

Central Elgin has a continuous and connected system of trails in its urban, rural and natural areas that provide access to key community destinations for recreational experiences or as a transportation option.

Trails in Central Elgin are developed and maintained through collaboration with all community stakeholders.

The Municipality of Central Elgin is an important destination for trails within Elgin County and southern Ontario."

2.2.3 Objectives for AT Master Plan

The development of the Central Elgin Trails Master Plan – including proposed recommendations, strategies and initiatives - was shaped by a set of objectives. The objectives are more tangible outcomes of the plan that are intended to help achieve the overall study vision. The objectives were developed and refined based on input from Municipal staff, decision makers, stakeholders and members of the public. They are intended to be action oriented and reflect the priorities and interests of Central Elgin's existing and potential trail users.

1. **Develop a System of Connected Trails** – Identify a formal system of trail routes and facilities which establishes a continuous and connected trails network in the Municipality and to surrounding municipalities on public lands as well as private lands – where appropriate.
2. **Integrate with Existing & Planned Routes** – A trail system will be identified which provides linkages to existing and previously proposed routes identified through planning documents as well as other regional trail systems to develop a connected system of on and off-road routes.
3. **Design for a Range of Uses** – Trails will be developed for a range of purposes including recreation and transportation (day to day trips). Trails will be provided within the Municipality's urban and rural areas to provide connections to key destinations.
4. **Design for Access by Various Users** – A system of trails will be established which are designed taking into consideration the needs of different trail users, their preferences and interest. Where feasible and appropriate trails will also be designed to meet the requirements of the Ontarians with Disabilities Act (AODA, 2005)
5. **Design for Comfort & Convenience** – The trail network will be complemented by appropriate amenities including but not limited to washrooms, waste receptacles, rest areas, change rooms, parking, trail signage and wayfinding.
6. **Facilitate Short & Long-term Implementation** – The master plan provides a strategy to facilitate implementation of the master plan including short and long-term actions guiding decision making for 10 years and beyond.
7. **Establish Maintenance & Funding Tools** – The master plan provides clear direction, references and guidance on trail operation and maintenance and also outlines the anticipated cost to implement, operate and maintain the system and how it could be funded.

2.3 Developing the trails network

Planning and developing a trails network requires a unique approach that considers a number of context specific elements and aspects. Trails cannot be developed anywhere and the design of those trails is very dependent on the user, use and surrounding environment. The approach used to develop trail networks and connections requires an iterative approach which builds on what is already existing, the interests and preferences of the communities and their residents and the available and appropriate conditions. The following sections provide an overview of the steps used to develop Central Elgin's trails network, the results of those steps and how the findings can be integrated into the overall planning process undertaken by the Municipality, Elgin County and the City of St. Thomas.

2.2.1 Overview of the Network Development Steps

#3

The Trails Network for Central Elgin was developed using a seven step approach. The seven step approach is illustrated in Figure 3 and was founded on three key elements:

- **Existing and Previously Proposed Conditions:** The existing and previously proposed trails and on-road cycling facilities currently identified in other planning documents such as the Municipality's Official Plan and the County's Active Transportation Initiative / Cycling Master Plan.
- **Route and Facility Selection Criteria**: A common set of considerations and principles that reflect the objectives of the plan and the vision for trails for the community that are "applied" when identifying, assessing and selecting preferred routes and trail types.
- **Public / stakeholder input**: The input and ideas generated as a result of the consultation and engagement undertaken over the course of the study reflecting the ideas and interests of the residents, staff and decision makers in Central Elgin.

A description of steps 1 through 5 as well as the outcomes of their completion is documented in the following sections. The approach and outcomes to step 6 and 7 are documented and summarized in **section 4.0**.

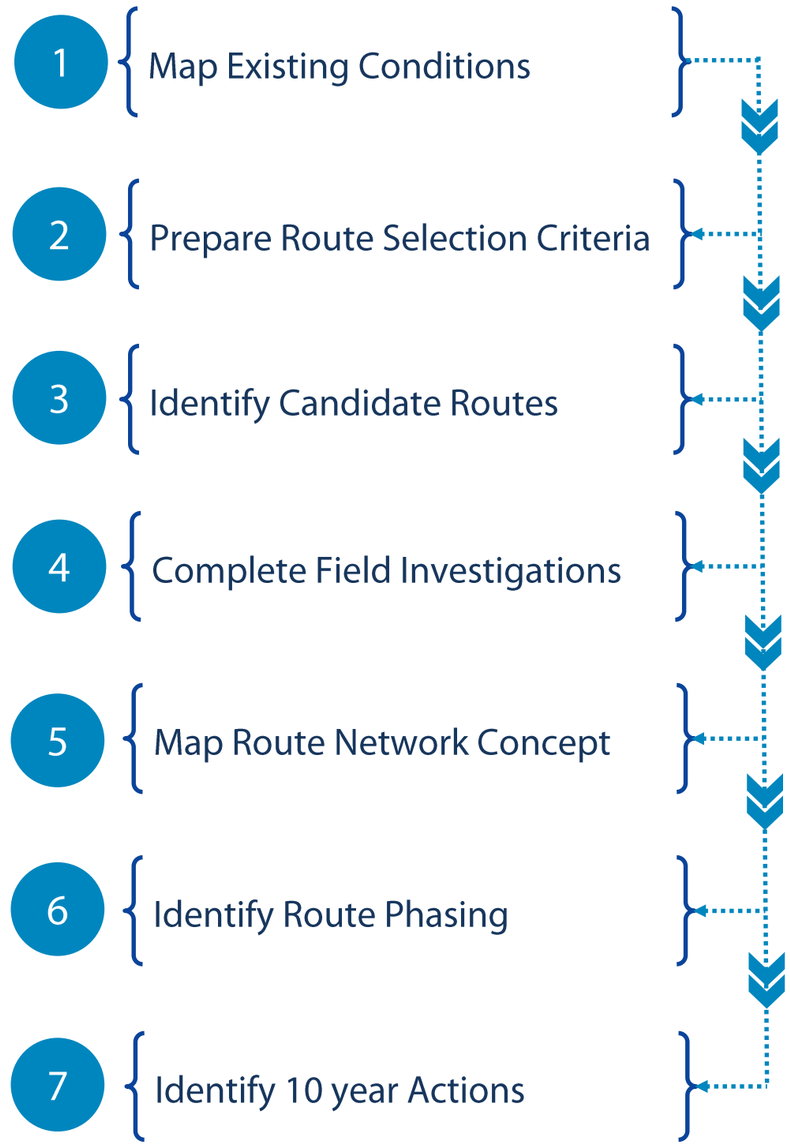


Figure 3 – Central Elgin Trails Network Development Process

2.2.2 Details of the Process

The following sections provide a more detailed description of each of the steps used to develop Central Elgin's Trails Network. The process was heavily influenced by input and ideas generated through the consultation and engagement process and was considered a collaborative effort with municipal staff, key partners e.g. the conservation authority, Elgin-St. Thomas Public Health, the City of St. Thomas, etc. as well as decision makers. With their input, a realistic and feasible network that has been developed which reflects the priorities and interest of those who will be involved in its implementation.

Step 1: Map existing conditions

The intent of the trails network is not to undo or revisit any of the trail or active transportation routes previously implemented within the Municipality of Central Elgin. The intent is to build on what has already been implemented and to enhance and complement the routes and facility types to generate a more comprehensive system of trail facilities and opportunities throughout the Municipality.

#1

At the point of project commencement, the consultant team was provided with Geographic Information System (GIS) information representing the existing trail conditions and other key features throughout the Municipality that influence trail conditions and experiences.

When reviewing the existing conditions mapping, there are a number of key features and elements that influence trail development within the Municipality of Central Elgin. They include:

Regional Trails

There are two (2) regionally significant trail systems which connect through Central Elgin. The Trans Canada Trail and Waterfront Trail are long-distance walking and cycling routes providing access to major destinations throughout Ontario and Canada. Both "trail" connections utilize signage to highlight the route connections and are made up of a combination of on and off-road facility types.

Localized Trails

The municipal contains a number of localized trails that are both formally identified as well as informally acknowledged and used by residents. The Elgin Hiking Trail is a long-distance foot trail that links various areas of Elgin County highlighting areas of natural and cultural significance. In many of the local communities, there are minor footpaths and beaten trails which complemented by trail linkages in the various conservation areas and forests.

County-wide Cycling Routes

In 2014, Elgin County, in collaboration with Elgin-St. Thomas Public Health developed a cycling strategy which identified a County-wide network of potential cycling facilities. Proposed on-road cycling routes were identified within Central Elgin along major north-south and east-west connections linking major communities and destinations.

Trip Generators

There are a number of key community destinations throughout Central Elgin which generate walking and cycling trips. Key community destinations include schools, residential areas, community centres, recreational facilities, churches, etc. In some locations, these trips have the potential to be undertaken using trail connections and can be major community draws and trip end points.

Parks & Open Spaces

Parks and open spaces provide opportunities for additional recreation which could include active transportation and recreation along trails. The natural features within these parks and open spaces are a significant draw not only for residents of the Municipality but tourists from surrounding areas.

Connections to Surrounding Areas

Connections with bordering municipalities provide opportunities for a greater amount of connectivity between various geographic areas. There are a number of inter-county and inter-municipal connections based on the linkages identified in the County's Active Transportation Initiative and the Cycling Master Plan.

Step 2: Prepare route selection principles

As noted above, the network development process used to identify the trails system for Central Elgin was based on a number of key principles including the development and use of a set of selection criteria. The criteria reflect the core values and vision for trails in Central Elgin as well as common best practices from comparable municipalities. Central Elgin's criteria were used in the identification of potential trail connections, the selection of preferred trail linkages and the identification of trail design considerations. They were shaped by input from the project steering committee as well as local stakeholders and interest groups. The trail criteria for Central Elgin are presented below, they were all considered equally and not presented in any particular order.

Connected / Linked
The trail network should provide residents and visitors with connections to all destinations and land uses and should link to the County's cycling network.

Comfort & Safety
Reducing risk to users and providing routes and facilities that make people feel comfortable based on user interests and preferences.

Accessible
Where practical and feasible, trails will be designed to be accessible and meet the requirements of the Ontarians with Disabilities Act.

Easy to Access
Routes should be easy to find and accessible from various locations throughout the Municipality specifically major destinations and residential areas.

Visible
Trail connections should be a visible component of the Municipality's transportation system

Attractive & Interesting
Routes should take advantage of attractive and scenic areas, views and vistas. They should encourage participation in local tourism and highlight destinations.

Cost Effective
The cost to implement and maintain the network should be affordable and appropriate in scale and coordinated with other infrastructure opportunities.

Context Sensitive
Routes and facilities will be designed to be consistent with best practices but may be adjusted for locations with unique features or site-specific constraints.

Sustainable
Sustainability will be an important consideration for route location, alignment and design, materials, operation and maintenance.

Diverse
The network should appeal to a range of users with varying abilities and interests by providing a balance of facility types and route conditions

Step 3: Identify candidate routes

Candidate routes are also known as potential routes. They represent connections which could form part of the trails network but require additional investigation and consideration by the project team to confirm whether they are appropriate i.e. reflect key community objectives, goals and outcomes. The candidate trail connections identified in Central Elgin were shaped by six (6) key considerations which priorities and principles identified by Municipal staff and stakeholders.

1

Tourism Draws

» Routes that provide access to major features within the various communities that have been identified as a significant point of interest for tourists i.e. the beach, recreational complexes, conservation areas, etc.

2

Access to Destinations

» Routes provide access to both major and minor community destinations including but not limited to schools, community centres, libraries, employment areas, residential communities, and areas of natural significance.

3

Desired Connections

» Routes that have been previously identified by individuals i.e. beaten paths which individual preferred routes within the community already being used but not formalized

4

Missing Links

» Gaps in the existing system of trails or active recreation facilities which when completed achieve greater connectivity and continuity in the system

5

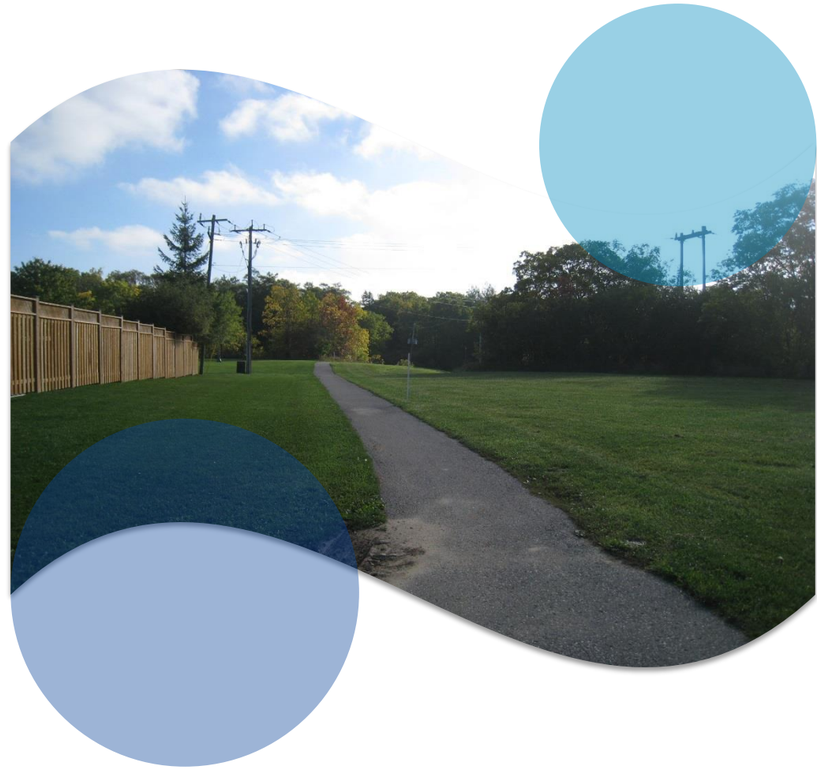
Improvements

» Existing trails and trail connections that require improvements to formalize the connection i.e. surface improvements, alignment clarification, signage, etc.

6

Stakeholder Input

» Trail linkages or connections identified through consultation and engagement activities with Municipal Staff, stakeholders and members of the public.



Step 4: Complete field investigation

In order to understand and appropriately select the trails that make up the Municipality's network the consultant team needed to undertake a thorough review of the existing conditions and context for future improvements. Field investigations were completed by the project team on four separate occasions over the course of the study to document the context for trail improvements. Information was gathered using two sources – photographs and Geographic Position System (GPS) waypoints.

Together, these tools help to understand not only the conditions that are being documented but their specific location within the Municipality. They can be used as a tool as the Municipality moves forward with the implementation of the proposed trail connections, providing additional context which will influence the final design, implementation and construction of the routes. The following images represent the location of the GPS waypoints and photos gathered throughout the Municipality.

122 405

#1

In addition to the waypoints and photos, during the field investigations the consultant team also documented contextual information and implementation consideration directly on the mapping. These considerations were incorporated into the Geographic Information System (GIS) network tracking database (described in more detail in section 4.0). Together, these pieces of information provide Municipal staff with additional physical implications which helped to inform the trail priorities and could influence future implementation and decision making.

Belmont

Lynhurst

Port Stanley

One step, pedal and roll at a time

Step 5: Map route network concept & select preferred trail types

Using the information gathered in the field and documented through discussions with Municipal staff, stakeholders and the public, the proposed trail linkages that make-up the Central Elgin Trails Network were confirmed. The proposed trail network concept is illustrated on **Maps 1** through **5**. What is identified is a preliminary proposed alignment for future trails which will need to be confirmed and assessed in further detail by the Municipality as they proceed with trail planning, design and development.

#2

Also illustrated on this map are the trail types which have been identified for each proposed trail. There are three categories of trail types identified for Central Elgin – primary routes, secondary connections and tertiary linkages. The trail types help to define a number of key elements including the intent and purpose of the connection, the preferred width and design considerations, types of users, potential amenities and anticipated level of use and maintenance. The trail types were identified based on:

- The application and review of route selection criteria;
- Conditions and considerations highlighted through the field work and investigations completed;
- Input from key stakeholders and interest groups; and
- Project objectives and outcomes.

Primary

- Main trail inks, provides access to key destinations, main routes or loops in a park
- May include destination trail loops
- 3.0m preferred; 2.4m minimum
- Generally hard surface
- Suitable for a broad spectrum of users
- Easy or moderate trail rating
- Highest density of trail amenities
- Anticipated high level of use and maintenance

Secondary

- Generally provide connections to the primary trail system
- 2.3 – 3.0m preferred; 2.0m minimum
- Generally granular surfaced (compacted stone dust)
- Moderate trail rating
- Moderate density of trail amenities
- Moderate level of use and level of maintenance are anticipated

Tertiary

- "Backcountry / Wilderness" style trails; with a challenging trail rating
- Connects to secondary trails, may have destination trails in sensitive natural areas
- 1.5 – 2.0m preferred; 0.75m minimum
- Generally natural or woodchip surface with compacted granular in select locations
- Suitable for a narrower range of users
- Trail structures may be necessary
- Moderate – low density of amenities and maintenance

2.4 Central Elgin's Trails Network

The proposed trail network is the foundation of the Central Elgin Trails Master Plan and 10 year Implementation Strategy. Trails are identified throughout the various communities within the Municipality with the intent of providing a range of recreational opportunities for various trail users engaging in active and sustainable transportation. The proposed AT network is made up of a number of trails and active transportation routes which are presented on Maps 1 through 5. The proposed Trails Network is made up of two components – proposed trail routes and proposed on-road cycling routes.

Figure 4 illustrates the types of trails and on-road cycling facilities that are proposed to make-up Central Elgin's trails network. There are a total of **30.1km** proposed facilities identified within the Municipality of Central Elgin. This includes 22.6km of trails, 1.8km of new sidewalks and 5.2km of on-road cycling facilities considered critical to the connectivity of the trail network. In addition to the 30.1km of proposed routes, there are also approximately 21km of trails owned and managed within Central Elgin by Kettle Creek Conservation Authority (12km approx.) and Catfish Creek Conservation Authority (9km approx.). A more detailed description of the types of trails and cycling facility types that are proposed is provided in **Chapter 3.0**.

Proposed Trail Routes and Key Sidewalk Links

24.9km

Proposed on-road Cycling Routes

5.2km

Proposed Trail Routes

Primary Trail

Secondary Trail

Tertiary Trail

Proposed on-road Cycling Routes

Bike Lane

Paved Shoulder

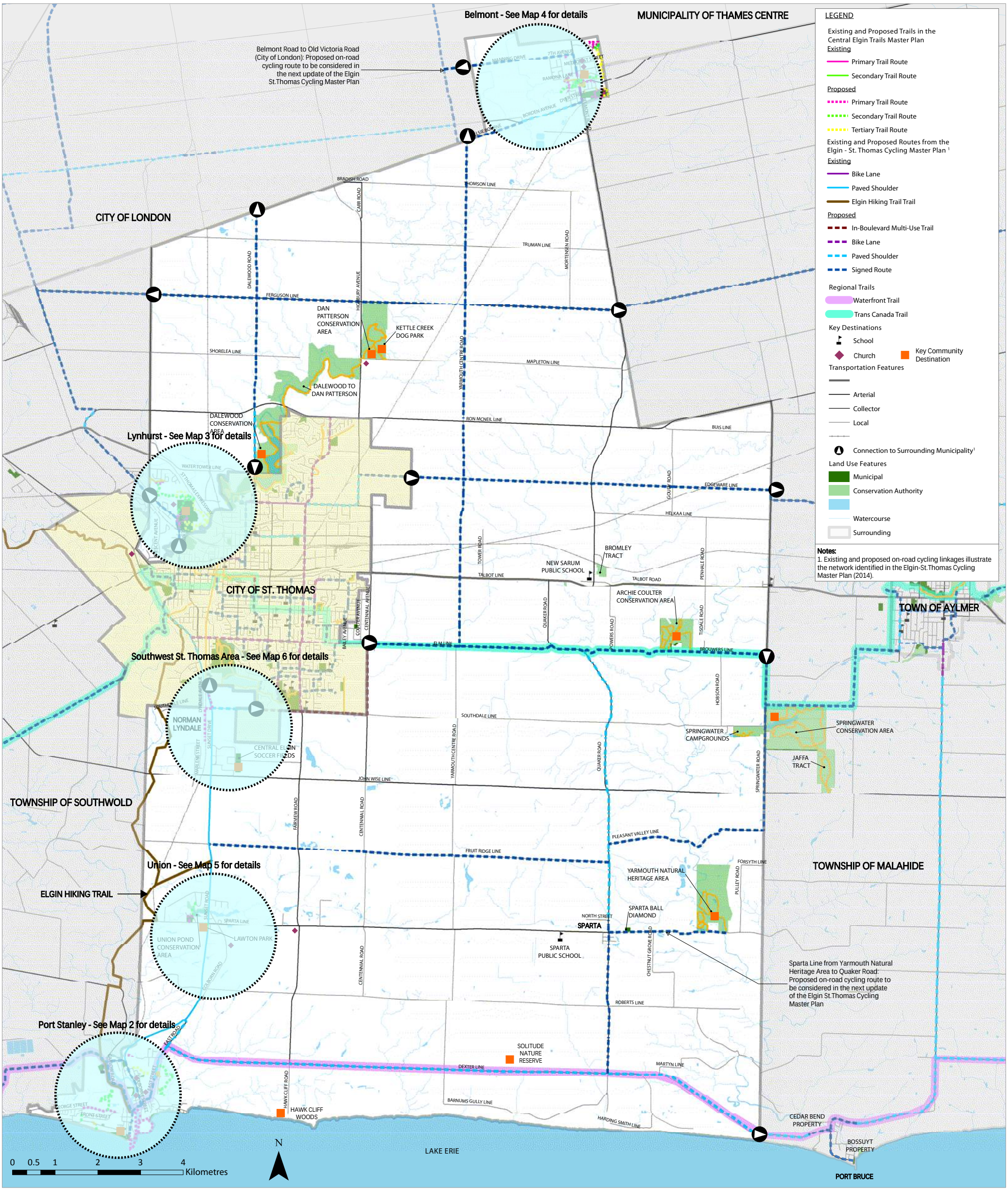
In Boulevard Multi-use Trail

Signed Bike Route

Sharrow

Urban Shoulder

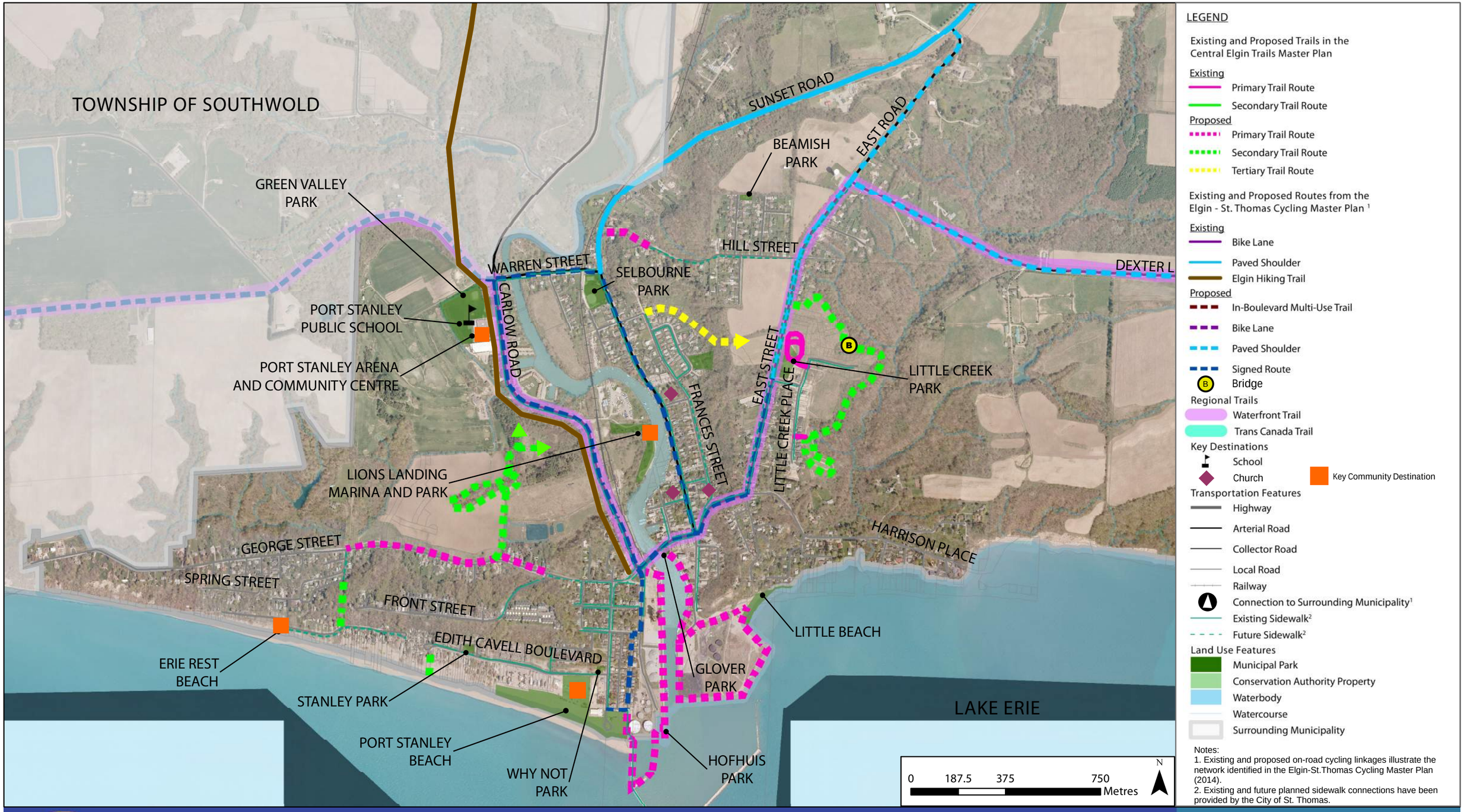
Figure 4 – Overview of Proposed Trail Routes and On-Road Cycling Routes that make-up the Central Elgin Trails Network



Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

MAP 1



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- Bike Lane
- Paved Shoulder
- Elgin Hiking Trail

Proposed
- In-Boulevard Multi-Use Trail
- Bike Lane
- Paved Shoulder
- Signed Route
- B Bridge

Regional Trails
- Waterfront Trail
- Trans Canada Trail

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

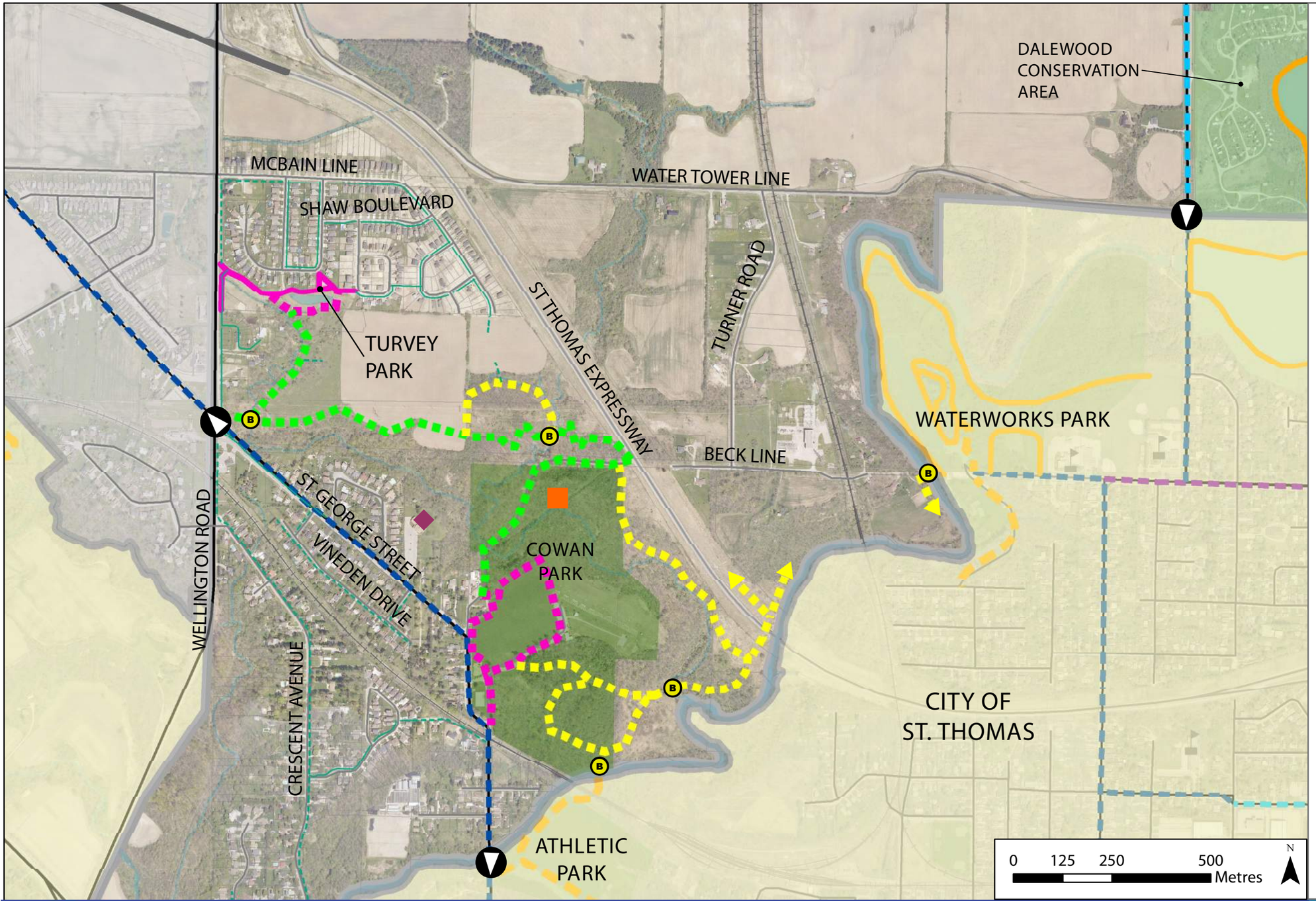
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

Port Stanley

MAP 2



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

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Proposed
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- Bike Lane
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Key Destinations
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Transportation Features
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- Connection to Surrounding Municipality[1]
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- Future Sidewalk[2]

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
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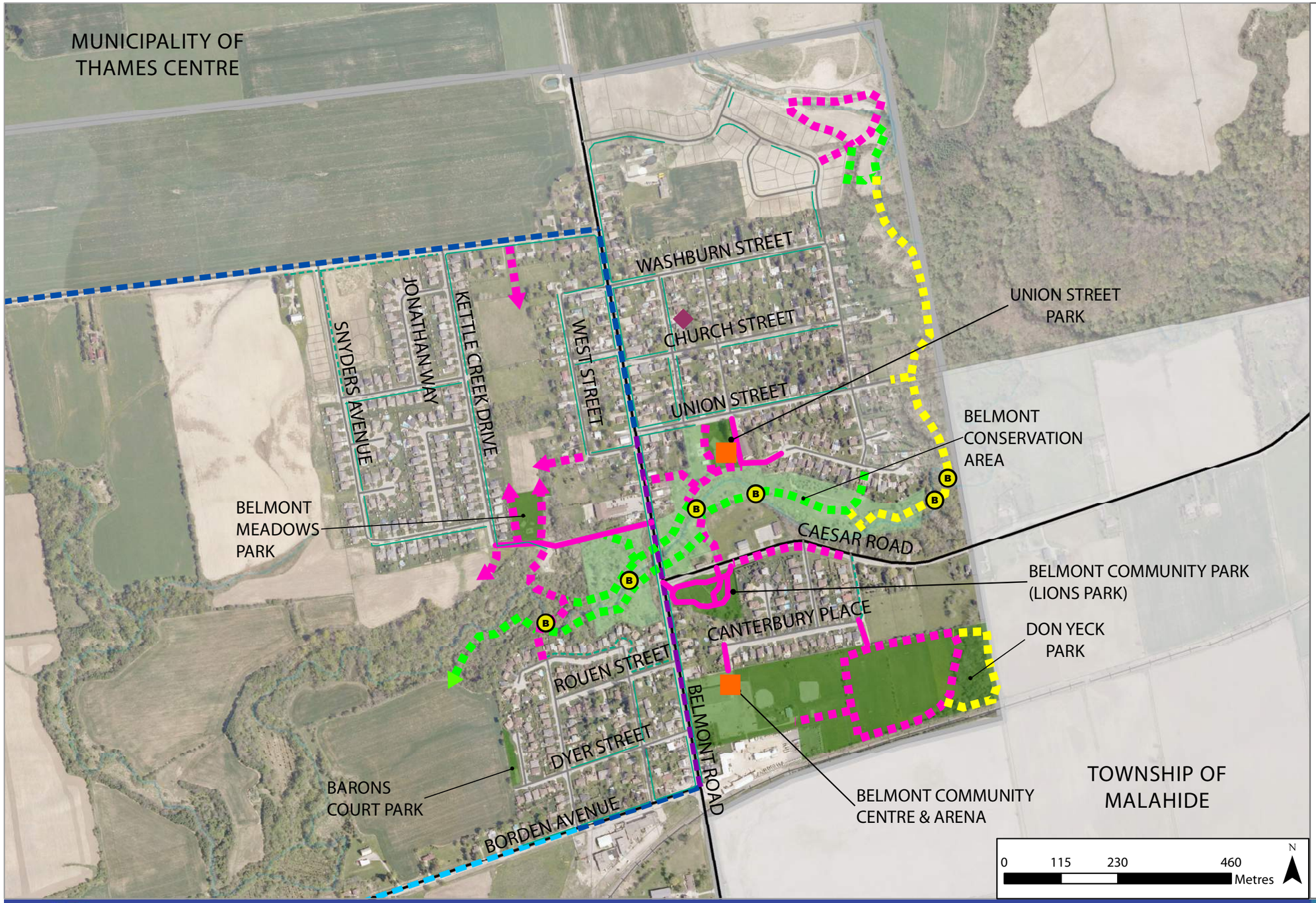
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

Lynhurst

MAP 3



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- Bike Lane
- Paved Shoulder
- Elgin Hiking Trail

Proposed
- In-Boulevard Multi-Use Trail
- Bike Lane
- Paved Shoulder
- Signed Route
- Bridge

Regional Trails
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2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

Belmont

MAP 4

BOSTWICK ROAD
OAKVIEW CRESCENT
SUNSET ROAD
HIGHLAND STREET
MEADOW WOOD LANE
MILL POND LANE
UNION POND CONSERVATION AREA
PINE GROVE ROAD
MILL ROAD
STONE CHURCH STREET
HINDLEY CRESCENT
DRAKE STREET
SPARTA LINE
COLBORN ROAD
UNION PARK
LAWTON PARK

0 50 100 200 Metres

N

LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- Bike Lane
- Paved Shoulder
- Elgin Hiking Trail

Proposed
- In-Boulevard Multi-Use Trail
- Bike Lane
- Paved Shoulder
- Signed Route
- (B) Bridge

Regional Trails
- Waterfront Trail
- Trans Canada Trail

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
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- Surrounding Municipality

Notes:
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2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

MUNICIPALITY OF CENTRAL ELGIN

Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

Union

MAP 5

2.5 Network Integration

The proposed routes that make-up the Central Elgin Trails network are not only found on lands and along roadways that are the responsibility of the Municipality. Some of the proposed routes and linkages are found under the jurisdiction of Elgin County, the City of St. Thomas as well as the Kettle Creek and Catfish Creek Conservation Authority. Chapter 4.0 describes the coordination and partnerships that are needed to facilitate the implementation, however a more detailed description of the infrastructure integration that is needed to achieve the Municipality's Trails Network is described in the following sections.

2.5.1 Elgin County

In 2014 Elgin County and the local municipalities completed the Elgin St. Thomas Cycling Master Plan. The Cycling Master Plan builds on the work previously completed by the County to develop a comprehensive Active Transportation Initiative and identifies a network of on-road cycling linkages which could form a cycling network spanning the entire County. As part of the network, a set of on-road cycling linkages were identified throughout the various local area municipalities connecting major communities and destinations. Due to the nature and design of trail infrastructure, it can be hard to create a continuous and connected system of trail linkages across a wide area. Because of this, it is important to identify active and sustainable transportation connections which link the existing and proposed trail linkages. The proposed on-road cycling routes identified in the County's Cycling Master Plan help to achieve this connectivity and provide complementary on-road cycling linkages which provide access to the trail connections.

As part of the development of the Trails Master Plan for Central Elgin, consideration was given, not only for recreational routes but also for "transportation" i.e. day to day travel routes. Trail linkages are not always the most direct connections. The on-road cycling routes that were identified along County and local municipal roads help to enhance the trail system providing better access to local community destinations i.e. schools, community centres, employment areas, etc. The on-road cycling routes found along County roadways will be the responsibility of the County to implement while the Municipality of Central Elgin would be responsible for the maintenance of the routes. For additional considerations on the maintenance of cycling infrastructure please see **section 4.0**.

2.5.2 City of St. Thomas

Administratively the City of St. Thomas is a separate municipality within Elgin County and is surrounded almost entirely by Central Elgin, and therefore operates independently of County policies and plans. The City of St. Thomas recently undertook the development of a Walkability Study and is in the process of improving community access and connectivity through a number of localized projects and programs.

Though the political boundaries are clear, the physical boundaries are not always clear to active transportation users. Most people who want to use trails or walk, cycling and roll within their community just want to be able to get to their destination in an enjoyable, easy and comfortable / safe manner.

As such, consideration for the connections into the Municipality of Central Elgin from the City of St. Thomas and vice versa was important to define. Utilizing the proposed improvements identified as part of the City's Walkability Study and working with City staff helped to identify the improvements that need to be made by the City and the Municipality as well as those elements that require future coordination and management. The creation of a continuous system that seamlessly passes from one municipality to the next will need to continue to be coordinated as the proposed trail and active transportation infrastructure improvements are made.

2.5.3 Conservation Authorities

The Kettle Creek and Catfish Creek Conservation Authorities are strong partners to the County and Central Elgin. They are community stewards who strongly support trail development, operation and maintenance. The lands owned by the conservation authorities within Central Elgin and the surrounding areas are considered areas of natural and cultural significance. Many are considered as recreational destinations. In the past, conservation authorities have developed predominantly hiking trails within their conservation areas. Central Elgin is no exception.

There is a strong set of natural recreation trails already found within the Municipality's conservation areas. Finding additional opportunities to enhance those trail linkages as well as connections to localized trail connections as well as on-road cycling routes. Local as well as regional tourism is enhanced by providing more recreational opportunities and greater access to conservation area trail connections and partnership with the conservation authorities helps to enhance coordination of infrastructure management, maintenance and promotion.

3.0 DESIGNING

There are many aspects and elements to consider when designing trail infrastructure. The proposed network identified in **Chapter 2.0** of the report represents the potential alignment i.e. location of the proposed routes and some preliminary design considerations. Following the completion of the master plan and as the Municipality proceeds with the implementation of various proposed trail linkages, additional consideration will need to be given to the specific design of the trails as well the planning processes that will need to be followed that will influence and guide the design of proposed connections.

The design of trail infrastructure within the Municipality of Central Elgin should be founded on best practices and lessons learned from comparable municipalities. Unlike OTM Book 18 for cycling, there is not a set of overarching trail design guidelines for the province of Ontario. The nature of trail design and the various considerations and components that need to be addressed require context specific consideration and design solutions. The information contained within **Chapter 3.0** provides context for the planning and design of trail infrastructure within Central Elgin – who the trails are being designed for, design principles and foundations, trail guidelines based on best practices and lessons learned from comparable municipalities throughout Ontario and Canada and planning practices to help improve and influence trail supportive development.

The intent is for the information contained within this chapter to be used as a resource by Municipal staff to guide the design of trail infrastructure but also as a planning and communication tool which can be used with the Municipality's partners i.e. the City of St. Thomas, Elgin County, Conservation Authorities, etc. It is important to note that the information included is based on current best practices. The Municipality is encouraged to continue to explore and adapt trail planning and design practices to reflect trail planning and design trends as they emerge and should continue to share experiences and information with their partners.

Beaten Path possible Future Trail Connection in Central Elgin

3.1 Trail Network Design Guidelines

#3

The guidelines contained within this report should be treated as a reference for the development and construction of trails in Central Elgin. Although they are meant to provide guidance for a range of typical municipal-wide conditions, they are not intended to address every condition encountered.

The guidelines include general information on different trail users and their needs, and the guidelines represent current and accepted design practices in North America. They incorporate ongoing research and experience by the consulting team and other trail design professionals.

The information in this chapter is not meant to be prescriptive nor is it intended to replace "sound engineering judgment". The intent is to have regard for the individual guidelines while considering the context of individual site conditions to arrive at the most appropriate solution. In some cases an interim solution may be appropriate where the desired long-term solution cannot be achieved in the short or mid-term. However, the interim solution should meet users' needs to the greatest extent possible without compromising user safety

3.1.1 Design Principles

The design of trails is influenced by a number of factors and are founded on a set of core design principles. The following sections provide some additional context on the different design principles that shape how and why trails are designed the way they are.

Who will be using the trail network?

In **Chapter 1.0**, the primary user groups that the trails within Central Elgin are being designed for were presented. Pedestrians and cyclists are the primary user groups that were considered when identifying and selecting preferred trail connections and design concepts. Within these two user groups there are sub-groups which have their own unique interests and preferences.

Users with Mobility Aids

Walkers and users with mobility aids (e.g. wheelchairs and power chairs) have a wide range of interests and motives (i.e. leisure, relaxation, socializing, exploring, making contact with nature, meditation, fitness, or dog walking). Walkers can be defined by their trip type including recreational or utilitarian (to work, school or most frequent activity). Utilitarian Walkers typically walk within urban areas and tend to use sidewalks, parking lots and plazas as well as trails where they are convenient, well designed and properly maintained. Trails can sometimes provide a convenient "short cut" to traveling the side walk network to get to their destination.

Hikers

Hikers are often considered the elite of the recreational walking group and may challenge themselves to cover long distances and be willing to walk on sections of a rural roadway shoulder considered less safe or less interesting by occasional leisure walkers. They take trips that may range between 5 and 30 km in length, may be more keenly interested in natural features, are often more adept at map reading, are more self-sufficient than leisure walkers, may expect fewer amenities and are often attracted to challenging terrain and rural areas.

Runners & Joggers

Although the primary motivation for joggers and runner may be fitness, they may share more in terms of profile characteristics with distance hikers than they do with leisure walkers. This group typically is accomplishment oriented, enjoy travelling on trails at higher speeds for distances between 3 and 15 km or more, often avoiding hard surfaces such as asphalt and concrete and many prefer to run on granular, natural (earth) and turf surfaces which can provide a more cushioning effect.

Other Wheeled Users

This group includes in-line skaters, skateboarders and other trail users with small-wheeled devices. They have characteristics of both the pedestrian group as they are sometimes traveling at a walking pace, yet sometimes traveling at higher speeds. They use trails for recreation, exercise and transportation purposes. A key requirement of this group is that they must have a hard surfaced trail, and cannot operate on natural surfaces or granular/stonedust surfaces.

Cyclists

The average travel speed for a cyclist on a trail is in the range of 15-20 km/h, although they may reach speeds in excess of 30 km/h traveling downhill on some trails. Where higher speeds are a potential issue on trails, speed limits and warnings should be posted to discourage fast riding and aggressive behaviour. Some bicycles are designed to travel easily over stone dust and gravel surfaces (e.g. all-terrain, hybrid or mountain bikes), whereas, narrow-tired touring and racing bicycles require very compacted granular surfaces or hard surface pavements such as asphalt. The mechanical efficiency of the bicycle allows users of all ages to travel greater distances at a higher rate of speed than pedestrians, and distances covered vary widely from a few kilometers to over a hundred depending on the fitness level and motivation on the individual cyclist.

When designing trails, consideration should be made for the appropriate user in order to determine how the facility should be designed, the amenities to complement and enhance the route and other key features. Though there are a number of unique users, typically trails accommodate a range of user groups. It's important to consider and balance the various users and their interests and preferences when determining the appropriate design.

Accessibility & AODA

The Accessibility for Ontarians with Disabilities Act, (AODA, 2005) states that "The people of Ontario support the right of persons of all ages with disabilities to enjoy equal opportunity and to participate fully in the life of the province." The stated goal of the AODA is "to make Ontario accessible for people with disabilities by 2025." Ontario Regulation 413/12 (O.Reg 413/12) made under the Accessibility for Ontarians with Disabilities Act, 2005 is the built environment standard, and compliance with the requirements will help remove barriers in outdoor spaces for people with disabilities. The guidelines and criteria contained in the document apply to new construction and extensive renovation of trails and exterior paths of travel. They do not apply to on-road cycling facilities. O.Reg 413/12 groups outdoor pedestrian routes into one of three categories as follows:

- Paths of Exterior Travel; which includes sidewalks and exterior walkways that connect directly to buildings and facilities. Examples include walkways that connect parking lots to buildings, main walkways in parks that connect to park pavilions, playgrounds and washroom buildings etc.
- Beach Access Routes; which are defined as the main connecting walkway(s) and beaches intended for public use.
- Recreational Trails; which encompass a range of facility types ranging from hard surface multi-use trails in major urban parks to natural surface walking trails in more remote areas.

Sections 80.8 and 80.10 in O.Reg. 413/12 provides the technical requirements for Recreational Trails. Some of the key requirements include:

- A minimum 1.0m wide tread free from obstructions
- A minimum of 2.1m clear head room above trail
- Trail surfaces that are firm and stable
- Any openings in a trail's surface must not allow passage of an object that has a diameter of greater than 20mm, and elongated openings must be oriented perpendicular to the direction of travel
- Where trails are constructed adjacent to water or a drop-off the trail must have edge protection that prevents users from slipping over the edge. The top of the edge protection must be at least 50mm above the trail surface and it must be designed so as to not impede the drainage of the trail surface. Edge protection adjacent to water or a drop-off is not required where there is a protective barrier / railing that runs along the edge of the trail
- Where there are gates / barriers at trail entrances they must have an opening of between 850 mm and 1000mm
- Trailhead signage must be provided that indicates the length of the trail; type of surface; average and minimum trail width; average maximum running/longitudinal and cross slope; and the location of amenities (where provided). Signage must have text that has a high tonal contrast with background colours to facilitate visual recognition, and text must use a sans serif font
- Brochures and media used to describe the trail must convey the same information in the same manner as required for trailhead signs
- Factual information on trailhead signs and brochures (e.g. slope, width etc.), as opposed to than subjective information (e.g. level of difficulty rating) about the trail's characteristics allows the user to make an informed decision whether or not to use the trail before they set out, based on their personal level of ability

This section of O.Reg. 413/12 also recognizes exceptions where accessibility requirements can be waived. These include one or more of the following:

- The requirements, or some of them, would likely affect the cultural heritage value or interest of a property identified, designated or otherwise protected under the Ontario Heritage Act, places designated as National Historic Sites, or historic places marked or commemorated under the Historic Sites and Monuments Act.
- The requirements, or some of them, might damage, directly or indirectly, the cultural heritage or natural heritage resources on a property included in the list of United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage sites.
- There is a significant risk that the requirements, or some of them, would adversely affect water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values, whether the adverse effects are direct or indirect.
- It is not practicable to comply with the requirements, or some of them, because existing physical or site constraints prohibit modification or addition of elements, spaces or features that would be required to meet accessibility requirements.

Organizations that provide trails are obligated to consult with the accessibility community before they construct new or redevelop existing trails. This consultation can take place as part of consultations with the general public or through a local accessibility advisory committee. The Joint Accessibility Advisory Committee (JAAC) provides vision and direction to staff and Council regarding the removal of barriers that exist within Municipal services. Engaging JAAC early in the design process during one of their regularly scheduled meetings is an effective method of sharing information and receiving feedback. Consultations typically would focus on elements of the design including trail slope, the need for and location of ramps on the trail and the need for, location and design of rest areas, passing areas, viewing areas, amenities along the trail and other pertinent trail features.

Security and CPTED

To the extent possible, trails and multi-use pathways should be designed to allow users to feel comfortable, safe, and secure. Personal safety can be an issue for many individuals. They typically arise more frequently with; women, the elderly and children, are among the most vulnerable groups.

Principles of Crime Prevention Through Environmental Design (CPTED) provide guidance on how to consider and appropriately design with comfort and safety in mind. With the design and implementation of a trails network in Central Elgin, the CPTED should be considered and appropriately applied to help address security issues concerning the use of these facilities, particularly in locations where trails are infrequently used, isolated or in areas where security problems have occurred in the past.

There are four core CTPED principles which include:

1. **Natural Access Control**
   - Deters access to a target and creates a perception of risk to the offender
2. **Natural Surveillance**
   - The placement of physical features and/or activities that provides for natural visibility or observation
3. **Territorial Reinforcement**
   - Defines clear borders of controlled space from public to semi-private to private, so that users of an area develop a sense of proprietorship over it
4. **Maintenance**
   - Allows for the continued use of space for its intended purpose

Understanding how these principles translate to Municipal planning and design is important to help inform future next steps. Some specific design considerations that have been employed by municipalities include:

- Providing good visibility by others by having routes pass through well-used public spaces;
- Provide the ability to find and obtain help: Signage that tells users where they are along the trail system;
- Provide “escape” routes from isolated areas at regular intervals;
- Maintain sight lines and sight distances that are appropriately open to allow good visibility by users;
- Provide trailhead parking in highly visible areas;
- Minimize routing close to features that create hiding places such as breaks in building facades, stairwells, dense shrubs and fences;
- Design underpasses and bridges so that users can see the end of the feature as well as the area beyond
- Signs near entrances to isolated areas can be used to inform users that the area is isolated and suggest alternative routes.

3.1.2 Trail Design Guidelines

In **Chapter 2.0**, the proposed trail hierarchy was identified for the Municipality of Central Elgin which identified three trail types - Primary, Secondary and Tertiary Trail types. Within these three trail types there are more specific and detailed trail design considerations. A set of technical design guidelines have been prepared for the various trail types described in the Trails Master Plan, as well as a number of important design elements related to the trail network, including road crossings, and trail signage. These have been grouped together at the end of this chapter of the Master Plan. These technical design guidelines are intended to form the foundation for trail design throughout the Central Elgin, for use by the municipality when creating trails, and to communicate trail design expectations/requirements to developers and others designing and implementing trails in the community. In addition there are other design elements and considerations which help to enhance the overall experience of the trail user, and these are highlighted in the following sections.

General Design Considerations

- Existing narrow asphalt trails should be widened at the time the asphalt has reached the end of its service life and requires replacement. At this time the base should be reviewed to ensure it is appropriate and up to the current standard, and the additional base width should be added to support the widened asphalt
- A minimum trail radius of 10m is recommended, based on an average travel speed of 20km/hr. This radius should be increased on downhill sections (preferred) or trail widening should be added to the curve to give users some additional space to maintain control of their bicycles. The minimum trail radius for an average travel speed of 30km/hr. is 20m.
- A minimum horizontal clear zone of 0.6m is recommended from the edge of the trail to obstructions (e.g. sign posts, utility poles, gates, fences, steep slopes etc.). Where this cannot be achieved the clear zone can be reduced as low as 0.3m. Where only the minimum clear zone can be achieved consideration should be given to adding Object Marker signs or reflective tape on, or immediately in front of the obstruction. This applies to both sides of obstruction so trail users coming from either direction are alerted to the narrow condition. This may be supplemented with a 100mm wide white edge line on asphalt trail surfaces to alert users (applies to asphalt trails only).

Surface Type

The surface type of a trail linkage can have a strong impact on how the trail is experienced by its users. There are three typical surface types used when designing trail infrastructure – natural or woodchip, granular surfaces such as stone-dust and asphalt. There are a number of factors that influence the type of surface that is implemented. The selection of a preferred surface type is dependent on a number of different factors.

Setting

Wooded areas involve more tree roots which result in higher frequency of surface buckling of the asphalt. Granular surfaces are easily “topped-up” and repaired in wooded areas than asphalt surface trails. Wet leaves and fallen branches / twigs on asphalt surface trails are more likely to result in traction issues than on granular surfaced trails. Asphalt surface trails are used by small-wheeled users such as in-line skaters and skateboarders, and these users are more susceptible to slip and fall incidents than walkers or even cyclists when traveling over leaves and sticks.

Relationship to Natural Heritage

Consideration for whether or not the trail link is located within or immediately adjacent to a designated Natural Heritage Area, and the potential impact of asphalt trail construction and lifecycle maintenance as compared to that of a granular surfaced trail. The base preparation required for asphalt trails typically involves a deeper excavation to remove all organic matter and roots as compared to granular surfaced trails. Asphalt trails require a full removal and replacement of the surface once it has reached the end of its service life. Both the initial installation and renewal can potentially result in more significant impacts to the surrounding natural area.

Cost of Repairs

Repairing asphalt surfaces requires cutting and patching whereas granular trails simply require "topping-up" of the surface to add more material. Should the need arise to excavate below the trail base; the repaired granular surfaced trail can be easily blended with the surrounding trail giving it the look of a new trail. Over time asphalt surface trails can take on the appearance of a patchwork quilt of repairs that may not be consistent with the surrounding trail. Furthermore it is not possible to blend patches with the surrounding surface and each cut line from a patch represents a potential surface failure point down the road.

Longitudinal Slope

Where longitudinal slopes exceed 12% erosion of a granular surfaced trail is imminent, and becomes a perennial maintenance issue. Realigning the trail to achieve a shallower slope and incorporating grade reversals, grade dips and culverts below the trail will assist with diverting water from the trail surface, thereby reducing erosion. Hard surfacing trails on slopes over 8% will help to reduce erosion.

Surrounding Topography & Soil Type

Wet / moist soil environments are more affected by freeze-thaw cycles because of higher moisture content and greater expansion during freezing. Asphalt trails in these environments may be more susceptible to buckling. Tree, shrub and herbaceous plants tend to have shallower root systems in wetter soil areas as compared to dry areas. A higher percentage of shallow-rooted plants in the vicinity of the trails increase the likelihood that the surface will be compromised by plants growing through the surface.

Trail Crossings & Structures

Inevitably the trail network will need to cross roads, natural features such as waterways and other physical barriers. In these cases, a design feature would be needed to guide users from one part of a trail to another. By implementing crossings and structures that reflect the design of the trail and the conditions that are being crossed a greater sense of connectivity can be achieved. The following are design guidelines and considerations related to types and conditions of trail crossings. The implementation of these types of trail enhancements can be costly. Where possible, the Multi-use pathway network should make use of existing bridges, including pedestrian bridges, vehicular bridges and abandoned railway bridges in appropriate locations. In cases where this is not possible a new structure will be needed and the type and design of a structure needs to be assessed on an individual basis.

The following are some general considerations for the implementation of trail structures.

- Bridge designs require approval from the conservation authorities;
- All bridges need to be designed to withstand annual flooding, and to prevent them from becoming a barrier to flood flows;
- Bridge maintenance needs to include removal of accumulated debris as required – on an annual basis as a minimum;
- In most situations the prefabricated steel truss bridge is a practical, cost effective solution;
- In locations where crossing distances are short, a wooden structure constructed on site may be suitable;
- Railings should be considered if the height of the bridge deck exceeds 60cm above the surrounding grade, and should be designed with a "rub rail" to prevent bicycle pedals and handlebars from becoming entangled in the pickets;
- When considering barrier free access to bridges, an appropriate hardened surface should be employed on the trail approaches and bridge decking should be spaced sufficiently close to allow easy passage by a person using a mobility-assisted device; and
- Decking running perpendicular to the path of travel is preferred over decking running parallel, as the latter is more difficult for use by wheelchairs, strollers, in-line skates and narrow tired bicycles.

When designing trails it is likely that at some point the trail connection will intersect with a roadway. At each of these locations there should be a distinct or clearly delineated access point where pedestrian, cyclist and vehicle traffic will need to be managed. Trail crossings or terminus points should be designed to clearly articulate the way in which users are meant to cross the roadway or how they should transition to the next portion of the trail. The following are some of the basic elements which should be considered when a trail approaches or crosses a major or minor roadway.

- Creating and maintaining an open sight triangle at the crossing point to allow trail users to see approaching vehicles and for trail users to be seen by drivers in approaching vehicles
- Access barriers on the trail which serve to:
  - Prevent unauthorized users from entering the trail, and
  - Act as a visual cue to trail users that they are approaching an intersection with the road
- Caution signs along the roadway in advance of the crossing point to alert motorists to the upcoming crossing
- Caution signs along the trail to alert users of the upcoming roadway crossing
- Aligning the crossing point to achieve as close to possible a perpendicular crossing of the roadway to minimize the time that users are in the traveled portion of the roadway
- A concrete ramp with tactile warning plates in the boulevard and curb ramps on both sides of the road to allow users to enter and cross the roadway efficiently and quickly
- Pavement markings where appropriate:
  - Pavement markings, to delineate a crossing should only be considered at crossings where there is some form of vehicle control in place (e.g. stop sign, or traffic signal or pedestrian crossover).
  - Pavement markings should not be used at uncontrolled trail intersections with roads (i.e. free flowing vehicular traffic that is not controlled by a stop sign or traffic signal). Trail users are required to stop and wait for a gap in traffic at uncontrolled intersections. Pavement markings at uncontrolled crossings may give trail users the false sense that they have the right-of-way over motor vehicles, which is contrary to the Highway Traffic Act.

In some locations signing on the trail may not be enough to get trail users to stop before crossing the road. Under these circumstances or in situations where the sight lines for motorists are reduced and/or where there is a tendency for motorists to travel faster than desirable, the addition of other elements into the trail crossing may be necessary. Changing the trail alignment may help to get trail users to slow and stop prior to crossing. Changes to the streetscape may also provide a visual cue and traffic calming effect for vehicles.

In addition to the general design guidelines and the roadway crossing considerations outlined above, there are other specific crossing features and design considerations that may need to be addressed as the Municipality proceeds with the implementation of the master plan. These unique crossing conditions and crossing types are outlined on the following pages.

Crossing Details

The type of crossing treatment selected generally depends on the type of road being crossed (e.g., low volume local street vs. urban arterial); number of lanes being crossed (e.g., 2-lane vs. multi-lane); traffic volume and vehicle operating speeds; sight lines (e.g., horizontal and vertical road alignment); and the anticipated volume of trail users. As the proposed trail network is implemented, the Municipality should identify locations where proposed trails cross roadways and should assess the roadway conditions and determine the most appropriate design treatment to facilitate the crossing of trail users. The following are some of the typical design treatments for potential trail crossings which should be reviewed and considered when designing these points in the trail network.

Advance Warning Sign

- 2-lane road cross-section
- Good sight lines (no horizontal or vertical curves in road that obstruct visibility of trail users or oncoming vehicles)
- Low motor vehicle traffic volume
- Low to moderate pedestrian volume (consider existing conditions and potential future demand)
- Residential neighbourhood in urban setting or collector road on the urban fringe
- Low cost to install

Advanced Warning Sign – Elora, ON (Source: MMM Group)

Centre Median Refuge

- 2-lane or multi-lane cross-section
- Generally good sight lines (no horizontal or vertical curves in road that obstruct visibility of trail users or oncoming vehicles), though could be used on 2-lane roads where there are minor sight line limitations
- Low motor vehicle traffic volume
- Low to moderate pedestrian volume (consider existing conditions and potential future demand)
- Rural, urban fringe or urban setting (e.g., collector or minor arterial road in urban setting)
- Low to moderate cost to install

Centre Median Refuge Island – Guelph, ON (Source: MMM Group)

Pedestrian Crossover

- 2-lane or multi-lane cross-section
- Type 'A', 'B' 'C' or 'D' as per Ontario Traffic Manual Book 15
- Good or slightly obstructed sight lines
- Moderate motor vehicle traffic volume
- Low to moderate pedestrian volume (consider existing conditions and potential future demand)
- Urban or urban fringe setting (e.g., collector or minor arterial road in urban setting)
- Moderate cost to install

Pedestrian Crossing – St. Thomas, ON (Source: MMM Group)

Mid-block Pedestrian Signal (With or Without Centre Median)

- Multi-lane cross-section
- Applied in conditions with good sight lines or compromised sight lines (other factors have greater influence on decision than sight lines)
- Moderate to high motor vehicle traffic volume
- Moderate to high pedestrian volume (consider existing conditions and potential future demand)
- Urban or urban fringe setting (e.g., arterial road in urban setting)
- No signal-controlled nearby (e.g. within 200 m of trail crossing point)
- Moderate to high cost to install

Mid-block Pedestrian Signal – Guelph, ON (Source: MMM Group)

Intersection Pedestrian Signal

- Multi-lane cross-section
- Applied in conditions with good sight lines or compromised sight lines (other factors have greater influence on decision than sight lines)
- Moderate to high motor vehicle traffic volume
- Moderate to high pedestrian volume (consider existing conditions and potential future demand)
- Urban setting (e.g., arterial road)
- Trail crossing cannot be routed to a nearby stop-controlled intersection (e.g. within 200 m of trail crossing point)
- Note that signal control can also assist motor vehicles entering the arterial from the side street
- Moderate to high cost to install

Intersection Pedestrian Signal – Guelph, ON (Source: MMM Group)

Cross Ride

- 2-lane or multi-lane cross-section
- Applied in conditions with good sight lines or compromised sight lines (other factors have greater influence on decision than sight lines)
- Moderate to high motor vehicle traffic volume
- Moderate to high pedestrian and cyclist volume (consider existing conditions and potential future demand)
- Urban or urban fringe setting (e.g., arterial road in urban setting)
- Designed as per Ontario Traffic Manual Book 18
- Bicycle crossing signal head (additional to pedestrian crossing signal head) which permits cyclists to ride through the pedestrian crossover area without contravening the Highway Traffic Act
- Moderate cost to install when retrofitting an existing signalized crossing, moderate to high cost to install for locations where no signals exist

Cross Ride Caledon East, ON – Trans Canada Trail (Source: MMM Group)

Grade Separated Crossing

- Controlled access highway, multi-lane road cross-section
- Can be applied in conditions with good or compromised sight lines (other factors have greater influence on decision than sight lines)
- High to very high motor vehicle traffic volume
- High pedestrian volume (consider existing conditions and potential future demand)
- Urban, urban fringe or rural setting (e.g., arterial road or controlled access highway in the urban setting)
- Trail crossing cannot be routed to a nearby signal controlled intersection, underpass or overpass
- Surrounding grades facilitate the design of a seamless crossing for trail users and the use of stairs or steep ramps can be avoided. Stairs or steep ramps on approach may discourage use of the grade separation
- High to very high cost to install

Prefabricated Self Weathering Pedestrian Bridge – Guelph, ON (Source: MMM Group)

Waterways

Bridges are required for crossings of creeks and rivers. Prefabricated self-weathering steel truss bridges are typically the most cost effective form of bridge crossing. Though costly elements to design and implement their long service life makes them a worthwhile investment where a bridge is needed.

- Bridge decking must be oriented perpendicular to the path of travel and be slip resistant.
- Slopes on bridges should not exceed 5%.
- Bridge railings should be designed to a minimum height of 1.37m. This minimum height is important where cyclists are using the bridge as the 1.37m height provides the necessary protection due to a cyclist's higher centre of gravity on their bicycle.

Boardwalk Rondeau Provincial Park (Source: MMM Group)

Boardwalks

Where trails pass through sensitive environments such as marshes, swamps, or woodlands with a large number of exposed roots, an elevated trailbed or boardwalk is usually required to minimize impacts on the natural feature. If these areas are left untreated, trail users tend to walk around obstacles such as wet spots, gradually creating a wider or multiple meandering footpaths through the surrounding vegetation, resulting in vegetation trampling and damage.

On tertiary and some secondary trails a low profile boardwalk may be appropriate and requires modest engineering to develop an appropriate design. For primary and most secondary trails a more sophisticated design and installation is necessary. This is likely to include engineered footings, abutments, structural elements and railings.

Helical piles are an alternative foundation methodology that is cost effective and a low impact installation compared to concrete footings. Piles are drilled into the ground with a small skidsteer or mini-excavator then left in place to serve as the foundation. Helical piles allow for a narrower disturbance area and reduced numbers of trips to haul in concrete and haul out fill generated by pier excavations. Where finished boardwalk surfaces are less than 60cm above the surrounding grade a curb along the edge of the boardwalk will prevent users from rolling off the edge. Where the difference in grade exceeds 60cm, a railing should be provided.

Railways

Where the trail network crosses active railway lines crossing designs / design upgrades must follow Transport Canada Grade Crossing Standards (2014).

https://www.tc.gc.ca/media/documents/railsafety/grade-crossing-standards.pdf

Trail Signage

The use of trails requires clear information on how to use the trail infrastructure, where to go and how to interact with other users, among other things. When designing a trail system, every effort should be made to provide users with sufficient information to feel both safe and comfortable. This can be achieved through the design and implementation of trail signage. The design and construction of the network should incorporate a "family" of signs each with a different purpose and message. This family" contains unifying design and graphic elements and materials. The unified system becomes immediately recognizable by the user and can become a branding element. Consistent with this approach is the correct use of signage, which in-turn reinforces the trail's identity. A family of signs typically includes:

Trailhead signs to orient users upon arrival.

Typically located at key destination points and major network junctions, these provide orientation to the network through mapping, other appropriate network information as well as trail etiquette. Where network nodes are visible from a distance, these can be a useful landmark. In some municipalities, orientation signing has also been used as an opportunity to sell advertising space. This not only provides information about local services that may be of interest to trail users, but it may also help to offset the cost of signs and trails.

Etiquette or "Rules of the Trail" signs.

Should be posted at public access points to clearly articulate which trail uses are permitted, regulations and laws that apply, as well as trail etiquette, safety and emergency contact information. Reminder signs may be needed at some locations such as "Please stay on the Trail". At trailheads, the user etiquette information can be incorporated into trailhead signs. In other areas, this information can be integrated with access barriers

Trail gateway signs.

May be considered where trails cross the municipal boundary from surrounding municipalities. The gateway sign is a smaller version of the trailhead sign and includes elements such as route mapping, "Welcome to Central Elgin", trail branding/logos, and user etiquette and emergency contact information.

Virginia River Walk Trailhead (Source: MMM Group)

Trail Etiquette Signage – Guelph, ON (Source: MMM Group)

Rideau Canal Trailhead Signage (Source MMM Group)

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Warning signs to alert users to potential risks.

Warning or cautionary signage should be used throughout the trail system on an as-needed basis. Where traffic control signs are needed (stop, yield, curve ahead etc.), it is recommended that scaled-down versions of recognizable road traffic control signs be used.

These caution signs may be location or purpose specific and will need to be customized. For example the trail system will provide access to destination features in parks including playgrounds. Children will be playing and not always paying attention to their surroundings while actively using playgrounds, and portions of trails surrounding playgrounds may also be promoted as tricycle / bicycle loops for very young riders. Caution signage should be placed at the approaches to these areas to alert faster moving trail users such as cyclists they are approaching a playground area and remind them to slow to 10km/hr. and be aware of children playing and possibly crossing the trail.

Another example is the temporary closure sign. Some locations along the trail network will also be used by festivals and events that attract large numbers of users, some of whom use the trails to travel to the event which may result in congestion on the trails themselves. Additionally, within the event space some activities may overflow onto trails, and depending on the event and number of participants it may be appropriate to temporarily close the trail to through cycling traffic, and require cyclists to dismount and walk their bicycles through the event area.

Directional signs for key decision points along trail routes.

Directional signs should be located at pathway intersections and at regular intervals along long, uninterrupted sections of trail. The purpose of route marker signs is to provide a simple visual message to users that they are travelling on the designated trail network. Where the trail network must use an on-street connecting link, clear direction to the next available segment of the off-street pathway network should be provided. This includes directional markers and a small map board (i.e. 60cm x 60cm) clearly illustrating the location of the next available off-street segment.

Trail Directional Signage (Source: MMM Group)

Interpretive signs.

These inform users about points of interest such as key natural and cultural heritage features and points of interest. They should be located carefully in highly visible locations to minimize the potential for vandalism.

Trail Directional Signage (Source: MMM Group)

3.1.4 End of Trip Facilities

Network continuity, connectivity and feasibility are further enhanced through the implementation of network amenities. In some cases, amenities can be a determining factor for trail users and cyclists. Network amenities can reinforce Central Elgin's commitment to promoting active transportation and recreation and may include lighting, seating / rest areas, parking areas, signage, bicycle parking, loading or unloading areas, garbage receptacles, washroom and amenity buildings and gates / access barriers.

Network amenities can be implemented individually or as a grouping of amenities commonly referred to as a staging area. They meet a critical need trail users and are also significant opportunities for the Municipality and those responsible for the network's implementation to engage in partnerships with local organizations, services and businesses.

In the urban areas of Central Elgin, staging areas could be integrated into many of the existing park spaces and tourist destinations. In the rural areas, staging areas play a key role in the marketing package for trail use and cycling tourism. Once the master plan has been adopted the Municipality should undertake and identify a set of strategic priorities for future staging areas.

Staging Area Amenities	Level 1		Level 2		Level 3		Level 4	
	Yes	No	Yes	No	Yes	No	Yes	No
Parking	●		●		●		●	
Rest Area	●		●		●		●	
Lighting	●		●		●		●	
Signage	●		●		●		●	
Drop Off Area		●		●		●	●	
Garbage		●		●	●		●	
Washrooms		●		●	●		●	
Gates / Barriers		●		●	●		●	
Loading Zones		●		●		●	●	
Shelter		●		●		●	●	
Potable Water		●		●			●	

Table 1 – Program Elements in the Staging Area Hierarchy

Suggested locations for major (i.e. Level 3 and 4) trail staging areas include:

- Cowan Park – Lynhurst (in cooperation with the City of St. Thomas)
- Belmont Community Centre
- Port Stanley Community Arena and Community Centre
- Hofhuis Park (Port Stanley)
- Little Beach (Port Stanley)
- Dalewood Conservation Area and Dan Patterson Conservation Area (in cooperation with Kettle Creek Conservation Authority)
- Springwater Conservation Area (in cooperation with Catfish Creek Conservation Authority and the Township of Malahide

Some potential locations for minor (i.e. Level 1 and 2) trail staging areas include:

- Archie Coulter Conservation Area (in cooperation with Catfish Creek Conservation Authority)
- Yarmouth Natural Heritage Area (in cooperation with Catfish Creek Conservation Authority)
- Erie Rest Beach (Port Stanley)
- Little Creek Park (Port Stanley)
- Belmont Lions Park
- Union Street Park (Belmont)
- Union Park (Union)
- Lawton Park (Union)

Should the Municipality select to move forward with the selection and design of future staging areas, a standardized approach should be used. A four level hierarchy has been developed.

Table 1 provides additional details regarding the amenities which could be included at each of the levels in the hierarchy.

3.1.5 Cycling Design Guidelines

As noted in **chapter 2.0** trails are not the only type of facility that are being proposed as part of the Central Elgin Trails Network. In addition to the proposed trail connections there are also a number of on-road cycling linkages which have been identified which provide connections between the proposed trails. The majority of the proposed cycling routes identified in the Central Elgin Trails Master Plan are found on roads that are the County's responsibility. The design of those proposed cycling linkages are guided by the design considerations identified in the Cycling Master Plan (2014).

Section

2.4.2

#3

As is the case with all active transportation facilities – trails, on-road cycling routes, in-boulevard multi-use trail, etc. consistency is important. In addition to the proposed on-road cycling routes identified by the County there are a few additional on-road cycling links identified along local roads to facilitate greater connectivity between exiting, planned and previously planned routes.

As the Municipality moves forward with the implementation of the master plan, they should continue to coordinate with Elgin County to ensure that the cycling facilities that are being implemented are consistent with current best practices and based on sound engineering judgment.

The design guidance included in the County's Cycling Master Plan and the Active Transportation Initiative should be reviewed and used to ensure that there is consistency when designing on-road cycling facilities throughout the County and specifically within Central Elgin.

In addition to the references and resources included in the County's Cycling Master Plan, the Municipality of Central Elgin should also utilize and apply, where appropriate, provincially significant cycling and active transportation design guidelines. The following are a list of the current active transportation design guidelines that the Municipality is can use as a resource:

- OTM Book 18: Cycling Facilities
- OTM Book 15: Pedestrian Crossing Treatments
- Ministry of Transportation Ontario (MTO) Bikeways Design Guidelines.
- National Association of City Transportation Officials Urban Bikeways Design Guide and Urban Street Design Guide.
- American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities.
- Transportation Association of Canada (TAC) Bikeway Traffic Control Guideline for Canada.

Municipal staff should also endeavor to remain up to date and knowledgeable of other emerging trends and guidelines should information sharing platforms such as webinars to ensure that what is being designed is consistent with provincial standards and guidelines.

3.2 Trails and the planning process

The way in which trails are planned is driven by the policies that are in place. Without a strong foundation of supportive planning policies it can be difficult to integrate or justify trail development as part of future Municipal projects and initiatives. The Municipality of Central Elgin has a strong foundation of local, county and provincial policies from which they can draw support for trail development. That said, within the Municipality's Official Plan, zoning-bylaw and development approvals processes there should be stronger language and integration of trail policies and guidelines.

The following sections provide some suggested planning principles that should be reviewed and considered by the Municipality when they next update their Official Plan, as secondary plans are developed and as part of site plan guidelines and urban design standards.

3.2.1 New development areas

#1

Trails are an integral part of the community fabric and an important part of the land development process. Developers should be expected to work through an iterative process with municipal staff, beginning early in the planning stages to create an appropriate pathway network within their development area that reflects the intent of the Trails Master Plan.

Many Land Developers recognize the value of integrating trails into their projects and often use them as a selling feature. Providing the development industry with information about the trail network, desired connections and design expectations will help to improve communication among all parties involved. It is expected that proposals for new development will contain trails that reflect the density, variety, hierarchy and character consistent with the Trails Master Plan. Proposed networks should provide trails that overcome physical barriers, make appropriate connections to important destinations and enhance connectivity with the existing and planned system surrounding the development area; and trails that are sensitive to, and take advantage of natural and cultural landscape features.

A careful examination of a variety of factors including topography and drainage, slopes, soil conditions, plant and animal communities, microclimate and human comfort, historic/cultural resources, public education opportunities, significant views and vistas should be part of the process to integrate trails in new developments.

Ideally, in new development areas trails should be constructed prior to or concurrently with the construction of other infrastructure and homes. When pathway construction / implementation is deferred until homes are built there can be conflict when residents adjacent to planned trail corridors claiming that they were not aware of plans for construction even if this intention has been clearly indicated in municipal planning documents. Developers and Builders are encouraged to be proactive about notifying prospective buyers where trails are to be located at the time they are selling lots. Providing information at sales offices, including information in sales packages and erecting signs in locations where trails are to be constructed will alleviate challenges at a later date.

3.2.2 Established neighbourhoods

It can be very challenging to upgrade existing pathways and implement new trails in established neighbourhoods, even if the intent to do so has been clearly documented in strategic plans like the Trails Master Plan and the proposed link is on public land behind or beside private properties.

Even with extensive consultation efforts at the master plan stage it can be difficult to obtain public opinion related to specific trail segments until a project reaches the implementation stage when adjacent land owners who perceive themselves as being directly affected become more concerned and involved. Real and perceived concerns over increased pedestrian traffic, access to rear yards, invasion of privacy, and a perception that there may be an increased potential for vandalism and theft are often cited as key concerns.

It is important to engage adjacent residents in an open, public consultation process at the earliest possible stages of the project. Sometimes the most vocal opponent can become the greatest supporter if the process provides an effective avenue to address concerns. Some keys to success include:

- Notifying adjacent landowners early in the process and taking the time to understand and respond to their concerns;
- Encouraging their participation in the design process through events such as local design workshops to determine trail layout, design, materials and privacy features, as well as site meetings to examine and refine proposed layouts;
- Emphasizing the benefits of multi-use pathways for their neighbourhood and community, including themselves and their children; and
- Emphasizing successful examples and effective solutions where similar problems were overcome.

3.2.3 Trails in rural areas

Central Elgin is characterized by expansive rural areas interspersed with small and medium sized urban areas. The rural area is dominated by agricultural land uses and natural areas with creek/river valleys, the majority of which is privately owned.

Three regional trails pass through Central Elgin, two of which are located mainly within Municipal or County road rights-of-way; namely the Trans Canada Trail and the Waterfront Trail. The Elgin Hiking Trail generally follows the Kettle Creek from Port Stanley to St. Thomas and then west along Dodds Creek to Paynes Mills to link up with the Thames Valley Trail near Southwold. The Elgin Hiking Trail was established by the Elgin Hiking Club by entering into access agreements with owners of the private lands through which the trail passes. Although the Municipality may enter into private access agreements to complete short missing trail links within urban areas where land acquisition for the trail link is not an option, it is unlikely that the Municipality would establish extensive trails in the rural area using this arrangement. Therefore, the potential to develop additional long distance trails in rural valley and wooded lands would be limited to organizations such as the Elgin Hiking Trail Clubs.

The Kettle Creek and Catfish Creek Conservation Authorities are owners of significant tracts of forested and valley lands in the rural part of the municipality, and a number of these contain very popular trail networks. Key locations include Yarmouth Natural Heritage Area, Springwater Forest (Malahide Township, bordering on Central Elgin), Archie Coulter Conservation Area, Dalewood Conservation Area and Dan Patterson Conservation Area.

All of these locations are destinations on their own, with Dalewood and Dan Patterson Conservation Areas also providing an outstanding opportunity to connect directly with trails in the Lynhurst and northwest St. Thomas area. Trail planning, design, implementation and management of trails on Conservation Authority owned lands would take place according to the strategies and processes of the Conservation Authorities. The Municipality's role in the development of trails on Conservation Authority lands is that of a partner by allowing access to the properties from municipally-owned roads, and ensuring connectivity to municipal trails on the edge of urban areas.

3.2.4 Natural areas

#4

Natural areas provide opportunities to enjoy and interpret nature, and to pursue some trail activities that are not possible in more traditional parks. Striking the balance between providing public access and the need to conserve and/or protect the resource itself can be a difficult goal, especially in situations where there is a large population of residents nearby or surrounding the feature.

Where this is the case, this increases the pressure on the very resource that users seek and enjoy. Where trails are located in natural areas it is important that they be properly aligned and designed, and that the area be monitored for the effects of inappropriate use and/or overuse. For example a boardwalk with railings can be an effective design treatment in areas with seasonally wet or prolonged moist soils. The elevated tread eliminates foot contact with the moist soils and railings encourage users to stay on the designated route. Regular monitoring will alert trail managers to locations where users may be straying off the trail or taking short cuts so that mitigation strategies can be developed before significant damage to soils and vegetation occurs. If trails are not carefully planned, designed, constructed and maintained in these areas, users will create their own desire line foot trails, sometimes in sensitive locations where it would be preferable not to have trails at all. Proper planning, design and construction of trails, coupled with public education can assist with creating the balance between use and protection.

In some cases trails and people should not be in sensitive natural areas. Vegetation communities that are highly sensitive to disturbance and narrow, constrained wildlife corridors are two examples where trails may not be appropriate. In these cases, it is advisable to provide alternative trail routes and information (e.g. signing, public information campaigns, etc.) explaining the management decision to exclude trails from the area. When designing trails through sensitive natural heritage features the following general considerations should include:

- Route or reroute to avoid the most sensitive and/or critical habitats
- Interpret sensitive species away from their location
- Consider and evaluate alternative routes and design treatments
- Use previously disturbed areas where possible and appropriate;
- Maintain natural process
- Limit accessibility
- Incorporate habitat enhancements
- Complement and highlight natural features through interpretation.

Where proposed trail route passes an Environmentally Sensitive Area(s), an Environmental Impact Study should be completed to assess the potential impact of the trail and to identify design and construction requirements prior to approval.

Planning for trails early in the development process ensures that linkages are in the best locations and that they are implemented outside of sensitive and protected environmental features. One solution to the challenge of trails within environmental buffers is to dedicated linear blocks parallel to environmental buffers that are established specifically for trails. This eliminates the challenge of construction within sensitive areas as the limit of the trail block coincides with the limit of construction/grading, enabling construction of the trail as part of the development of the neighbourhood when area grading is taking place. Dedicated blocks also enable prospective homebuyers to clearly see planned trail locations and think about implications the trail may have on the use/enjoyment of their property prior to making a purchase.

3.2.5 Utility corridors

#5

Pipeline and hydro corridors, are examples of linear corridors that provide excellent opportunities for trail development and should be considered for the development of trails in Central Elgin's urban centres. Utility lines in urban areas often have a substantial easement, and in many cases are used informally as trail routes as they tend to provide direct connections to a variety of destinations over and long distance.

When the alignment and design details are properly considered trails can also serve as emergency and service access routes to assets within the corridor. For example, some municipalities have adopted policies and practices to make emergency service access to manholes mandatory along sanitary sewer lines in river valleys in the event of an emergency such as a sewer line blockage.

3.2.6 Geotechnical Setbacks

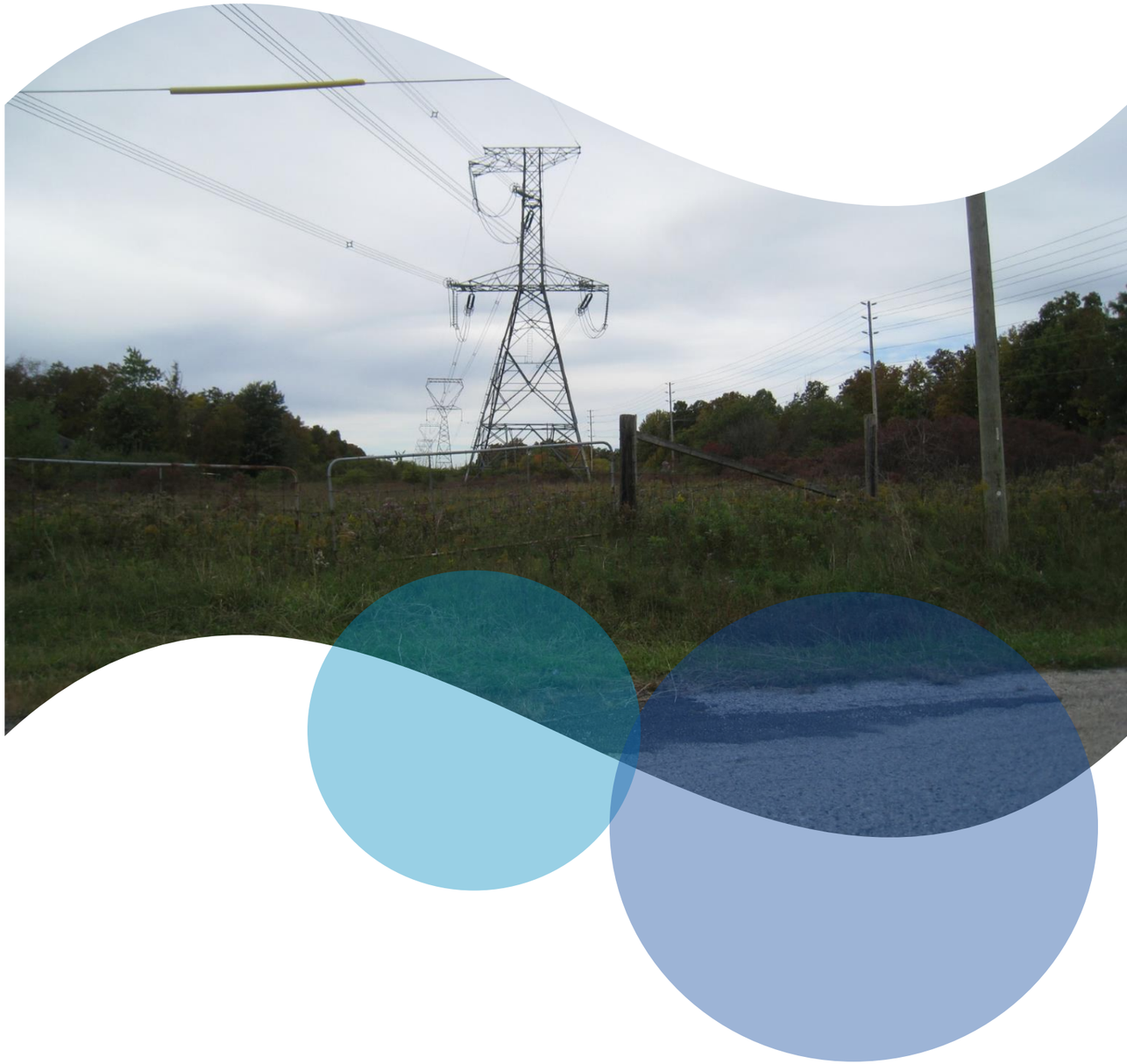
#6

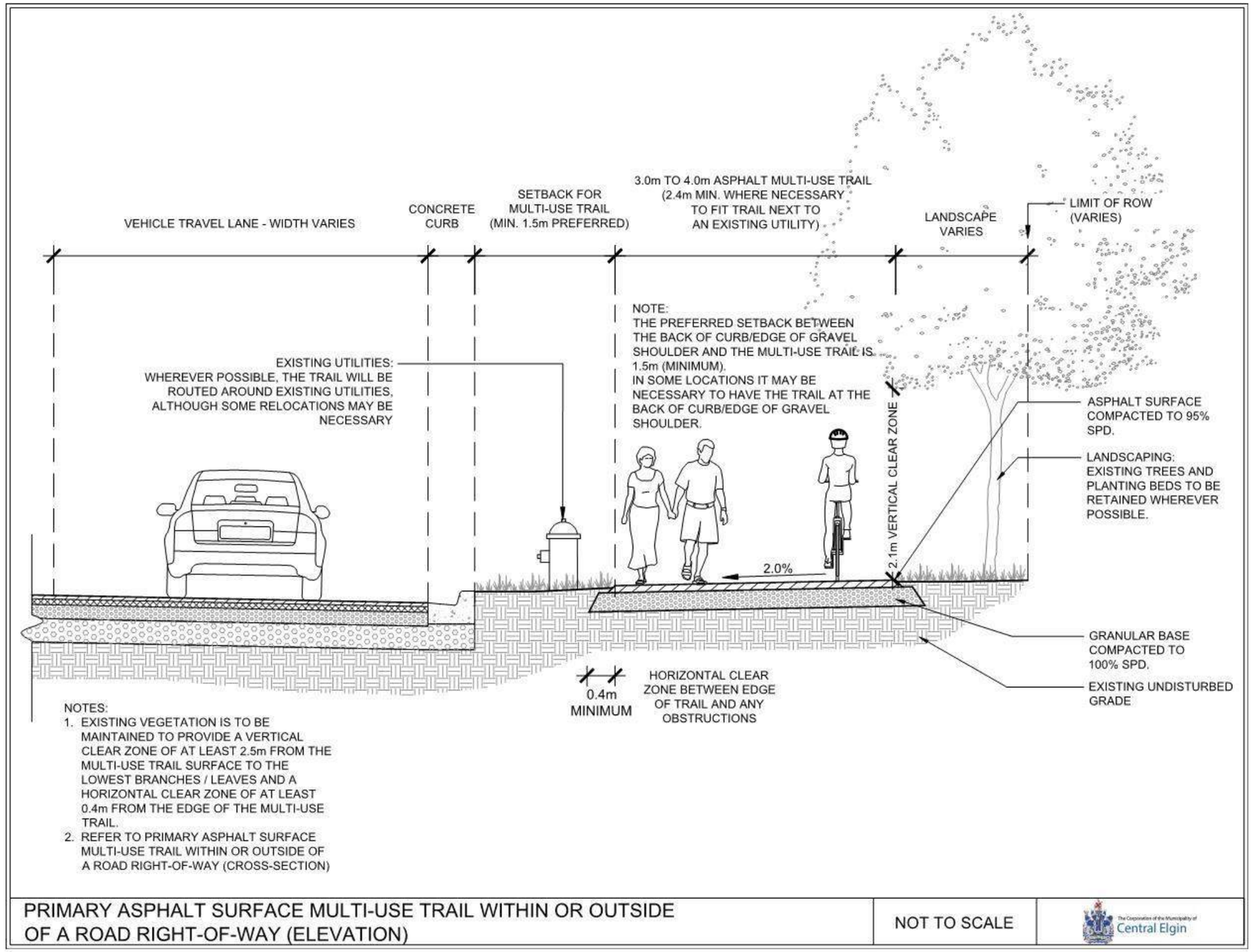
Geotechnical setbacks are established through the land development process in Central Elgin where new neighbourhoods are being planned adjacent to valley lands. Setbacks provide separation distance between the top of slope and rear property lines as a measure to protect the long term stability of the slope; and the width of an individual setback is determined through engineering studies.

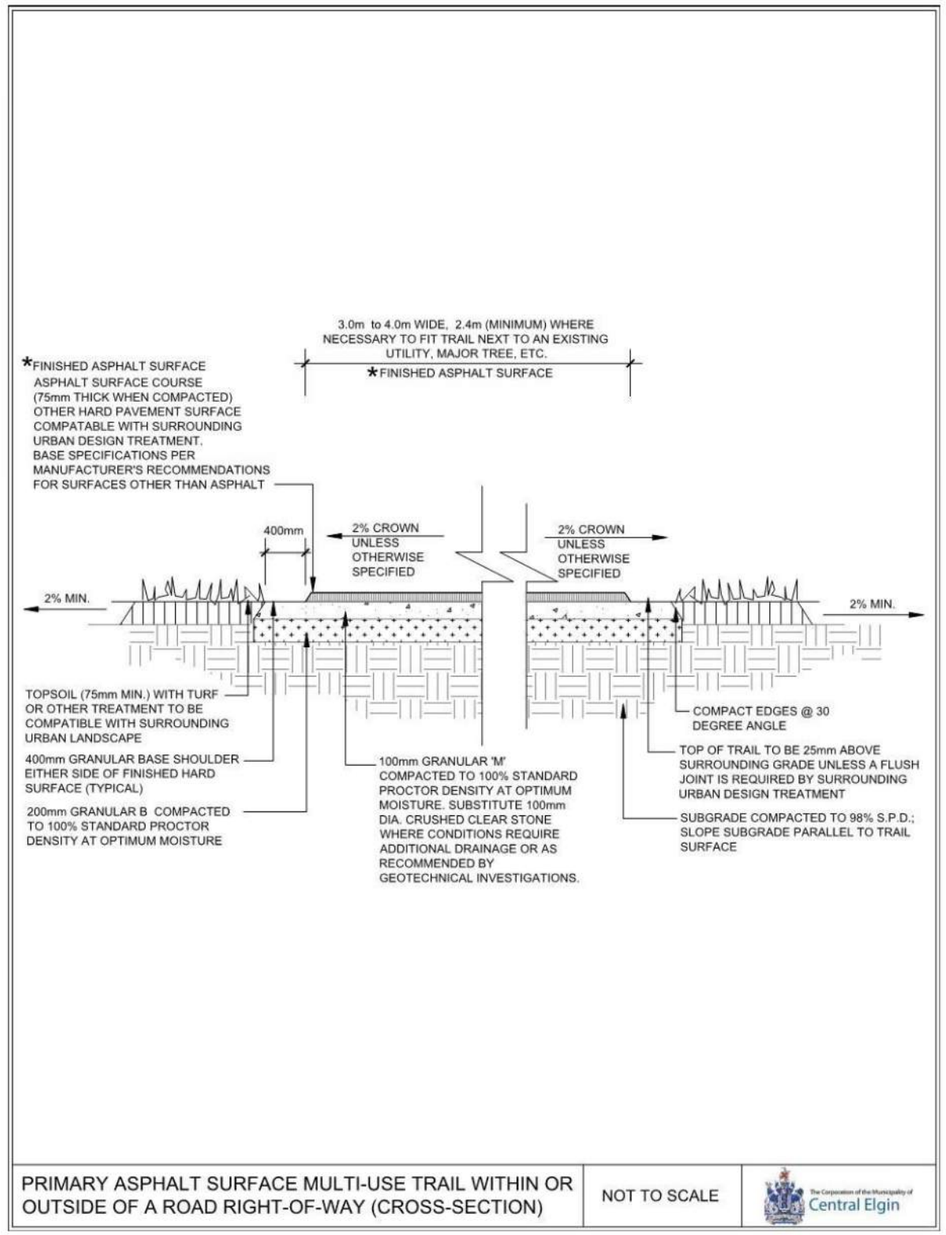
The width of setbacks can vary depending on the characteristics of the slope, and in some locations setbacks may be able to support a recreational trail.

The opportunity to provide a trail would be determined on a location by location basis, subject to the results of engineering studies. Consideration should also be given to the location's context within the overall trail network.

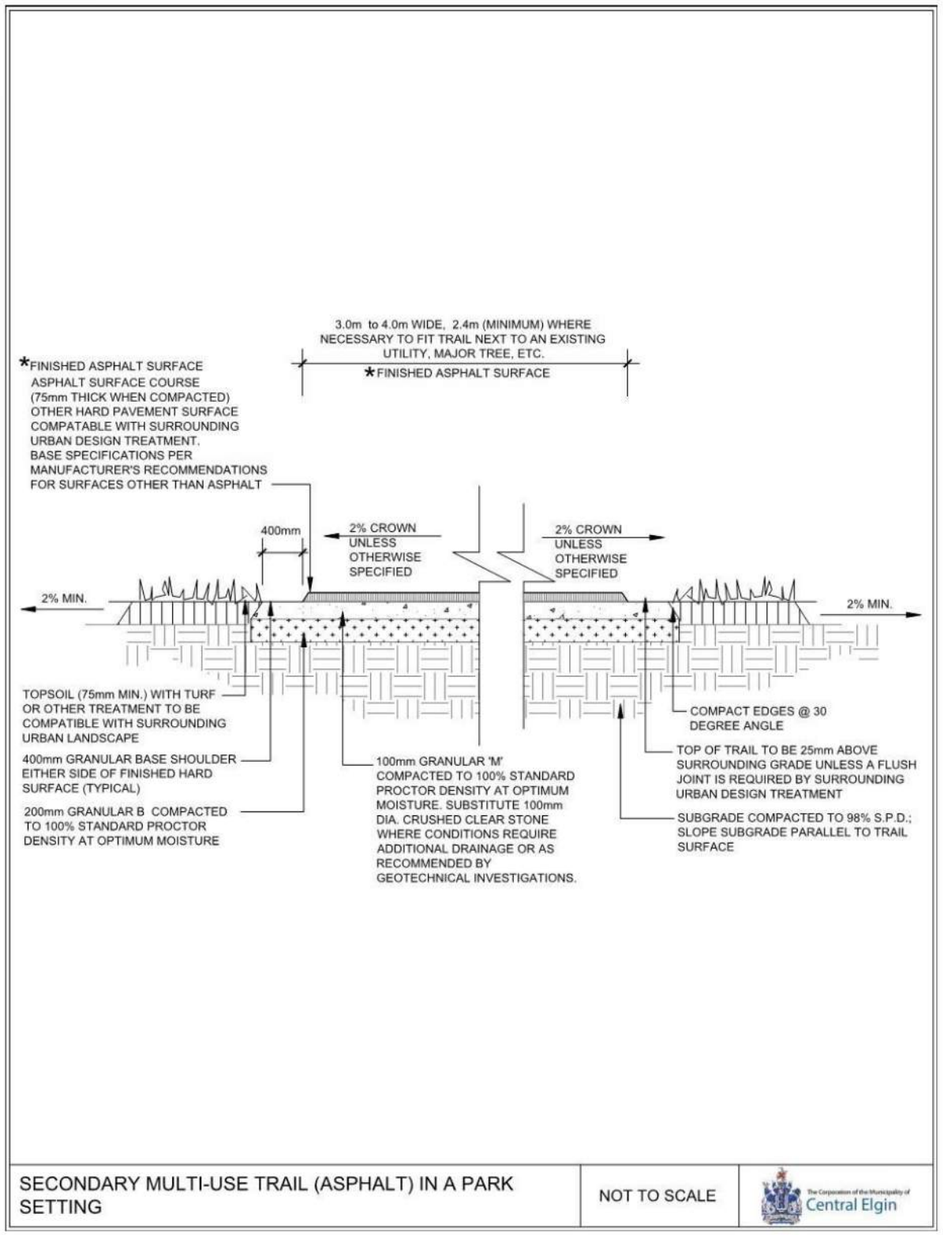
Locations where a trail within the setback provides an important link and improves the overall connectivity of the trail network in Central Elgin would be considered a higher priority than isolated locations where a potential link does not achieve greater connectivity.



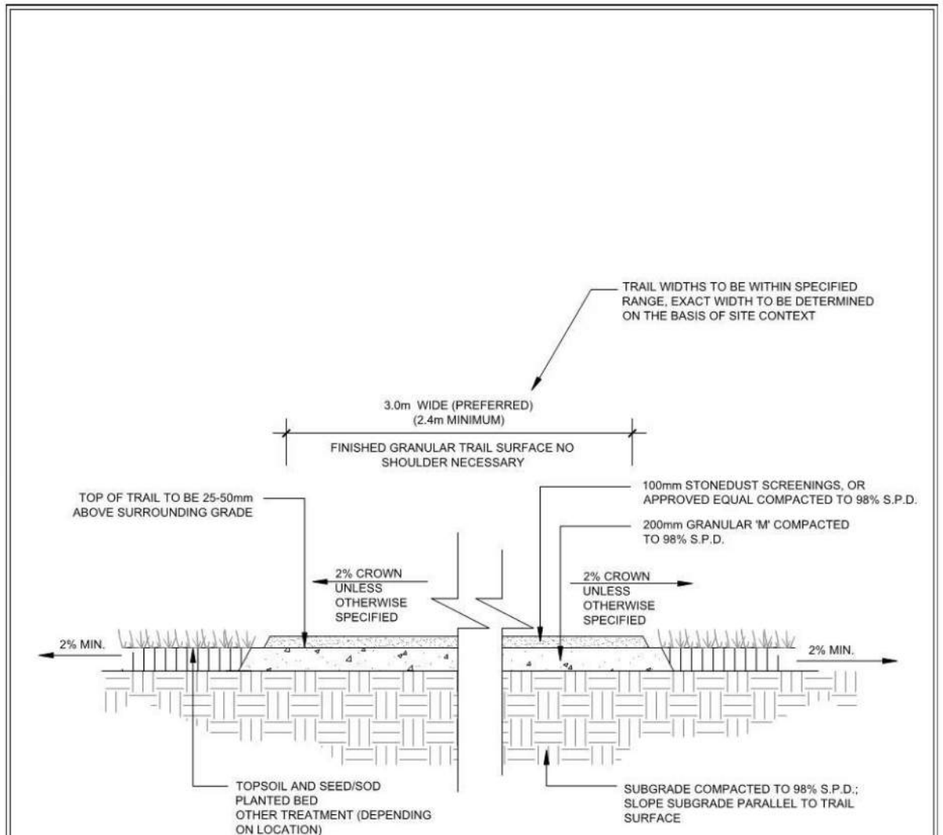

VEHICLE TRAVEL LANE - WIDTH VARIES
CONCRETE CURB
SETBACK FOR MULTI-USE TRAIL (MIN. 1.5m PREFERRED)
3.0m TO 4.0m ASPHALT MULTI-USE TRAIL (2.4m MIN. WHERE NECESSARY TO FIT TRAIL NEXT TO AN EXISTING UTILITY)
LANDSCAPE VARIES
LIMIT OF ROW (VARIES)
EXISTING UTILITIES: WHEREVER POSSIBLE, THE TRAIL WILL BE ROUTED AROUND EXISTING UTILITIES, ALTHOUGH SOME RELOCATIONS MAY BE NECESSARY
NOTE: THE PREFERRED SETBACK BETWEEN THE BACK OF CURB/EDGE OF GRAVEL SHOULDER AND THE MULTI-USE TRAIL IS 1.5m (MINIMUM). IN SOME LOCATIONS IT MAY BE NECESSARY TO HAVE THE TRAIL AT THE BACK OF CURB/EDGE OF GRAVEL SHOULDER.
2.1m VERTICAL CLEAR ZONE
ASPHALT SURFACE COMPACTED TO 95% SPD.
LANDSCAPING: EXISTING TREES AND PLANTING BEDS TO BE RETAINED WHEREVER POSSIBLE.
2.0%
GRANULAR BASE COMPACTED TO 100% SPD.
EXISTING UNDISTURBED GRADE
0.4m MINIMUM
HORIZONTAL CLEAR ZONE BETWEEN EDGE OF TRAIL AND ANY OBSTRUCTIONS
NOTES:
1. EXISTING VEGETATION IS TO BE MAINTAINED TO PROVIDE A VERTICAL CLEAR ZONE OF AT LEAST 2.5m FROM THE MULTI-USE TRAIL SURFACE TO THE LOWEST BRANCHES / LEAVES AND A HORIZONTAL CLEAR ZONE OF AT LEAST 0.4m FROM THE EDGE OF THE MULTI-USE TRAIL.
2. REFER TO PRIMARY ASPHALT SURFACE MULTI-USE TRAIL WITHIN OR OUTSIDE OF A ROAD RIGHT-OF-WAY (CROSS-SECTION)
PRIMARY ASPHALT SURFACE MULTI-USE TRAIL WITHIN OR OUTSIDE OF A ROAD RIGHT-OF-WAY (ELEVATION)
NOT TO SCALE
The Corporation of the Municipality of Central Elgin



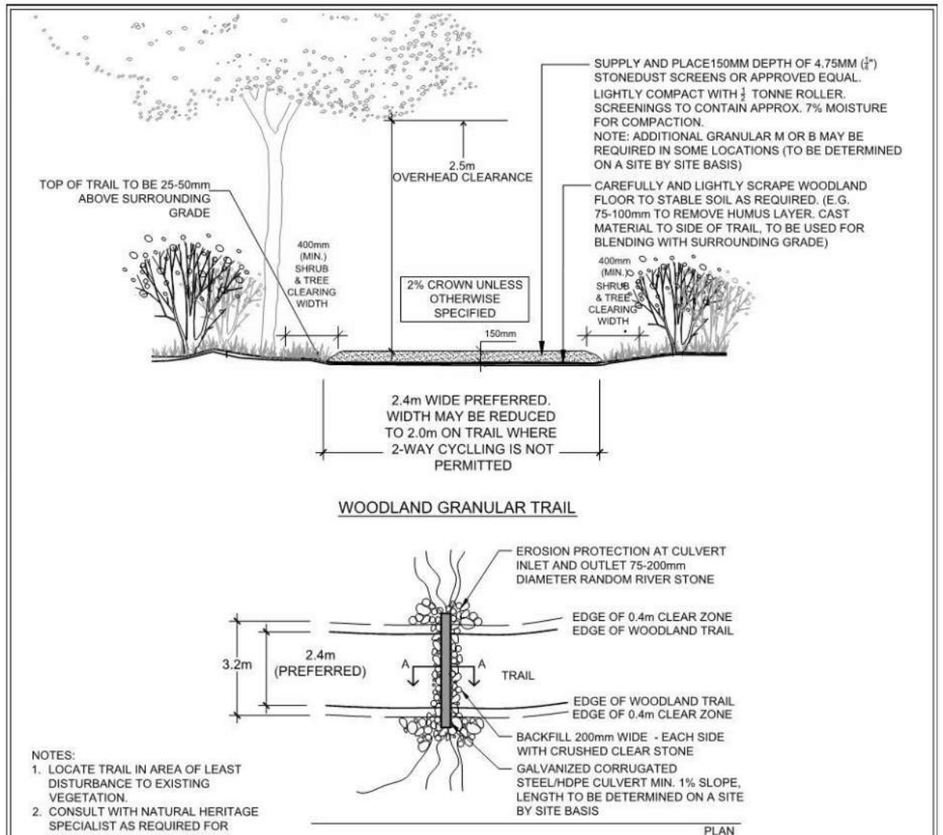
PRIMARY ASPHALT SURFACE MULTI-USE TRAIL WITHIN OR OUTSIDE OF A ROAD RIGHT-OF-WAY (CROSS-SECTION) | NOT TO SCALE | The Corporation of the Municipality of Central Elgin



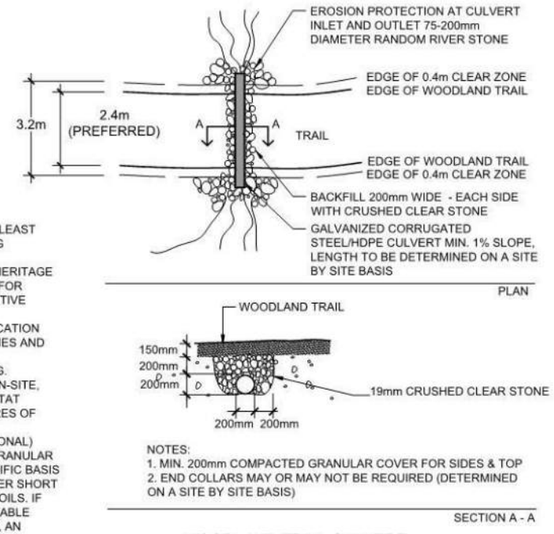
SECONDARY MULTI-USE TRAIL (ASPHALT) IN A PARK SETTING | NOT TO SCALE | The Corporation of the Municipality of Central Elgin



SECONDARY MULTI-USE TRAIL (GRANULAR) IN A PARK SETTING | NOT TO SCALE | The Corporation of the Municipality of Central Elgin



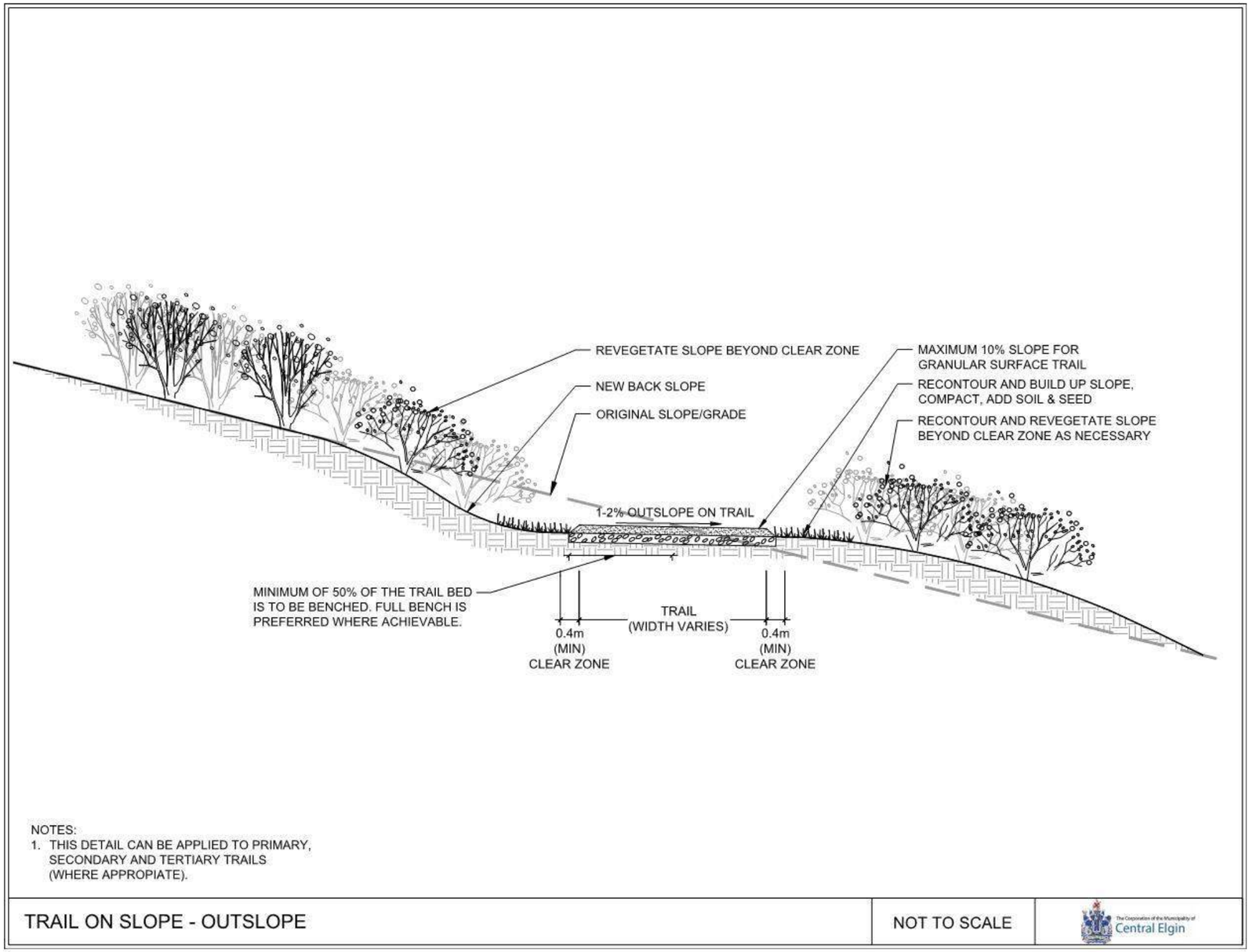
WOODLAND GRANULAR TRAIL



NOTES:
1. LOCATE TRAIL IN AREA OF LEAST DISTURBANCE TO EXISTING VEGETATION.
2. CONSULT WITH NATURAL HERITAGE SPECIALIST AS REQUIRED FOR LOCATING TRAILS IN SENSITIVE NATURAL AREAS.
3. DISCUSS METHOD AND LOCATION FOR DISPOSAL OF BRANCHES AND TREES REMOVED TO ACCOMMODATE TRAIL. (E.G. DISPOSE OFF-SITE, CHIP ON-SITE, USE FOR BRUSH PILE HABITAT ON-SITE, USE FOR CLOSURES OF UNAUTHORIZED TRAILS)
4. GEOTEXTILE FABRIC (OPTIONAL) MAY BE APPLIED BELOW GRANULAR TRAIL BED ON A SITE SPECIFIC BASIS TO PROVIDE STABILITY OVER SHORT SECTIONS OF UNSTABLE SOILS. IF LARGE SECTIONS OF UNSTABLE SOILS ARE ENCOUNTERED, AN ALTERNATE DESIGN (E.G. BOARDWALK) OR AN ALTERNATE TRAIL ALIGNMENT SHOULD BE CONSIDERED.

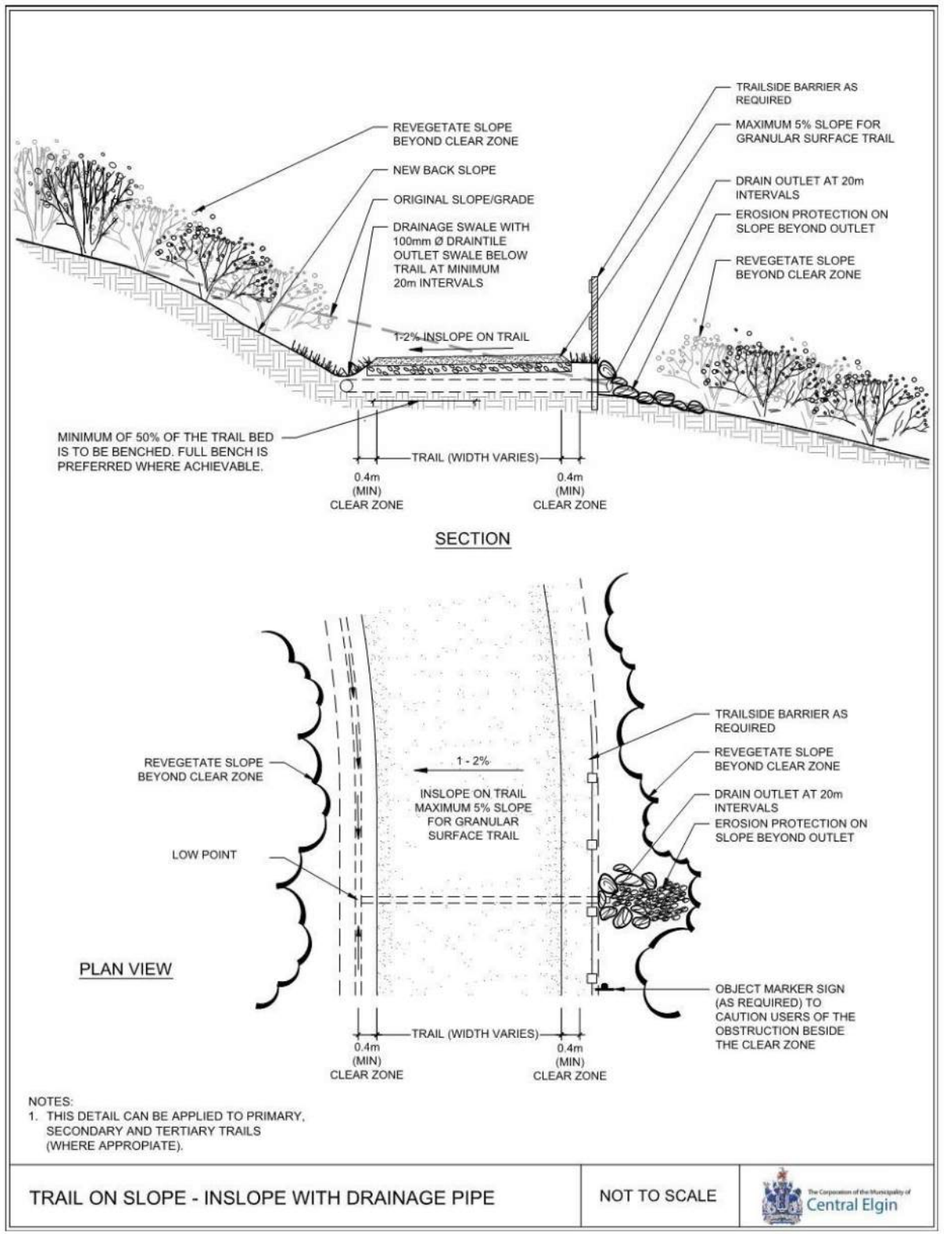
WOODLAND TRAIL CULVERT

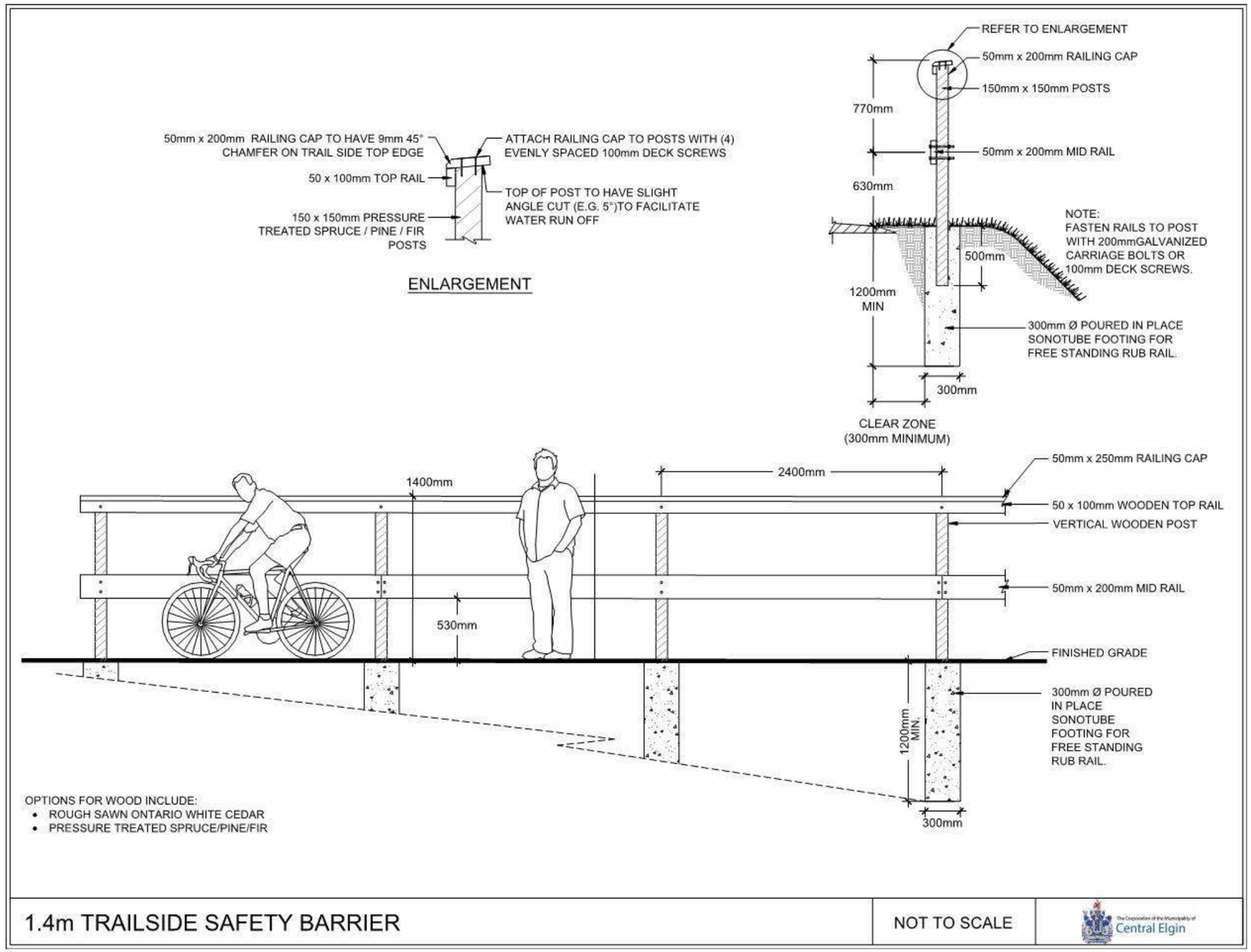
SECONDARY GRANULAR MULTI-USE TRAIL IN A WOODLAND SETTING | NOT TO SCALE | The Corporation of the Municipality of Central Elgin

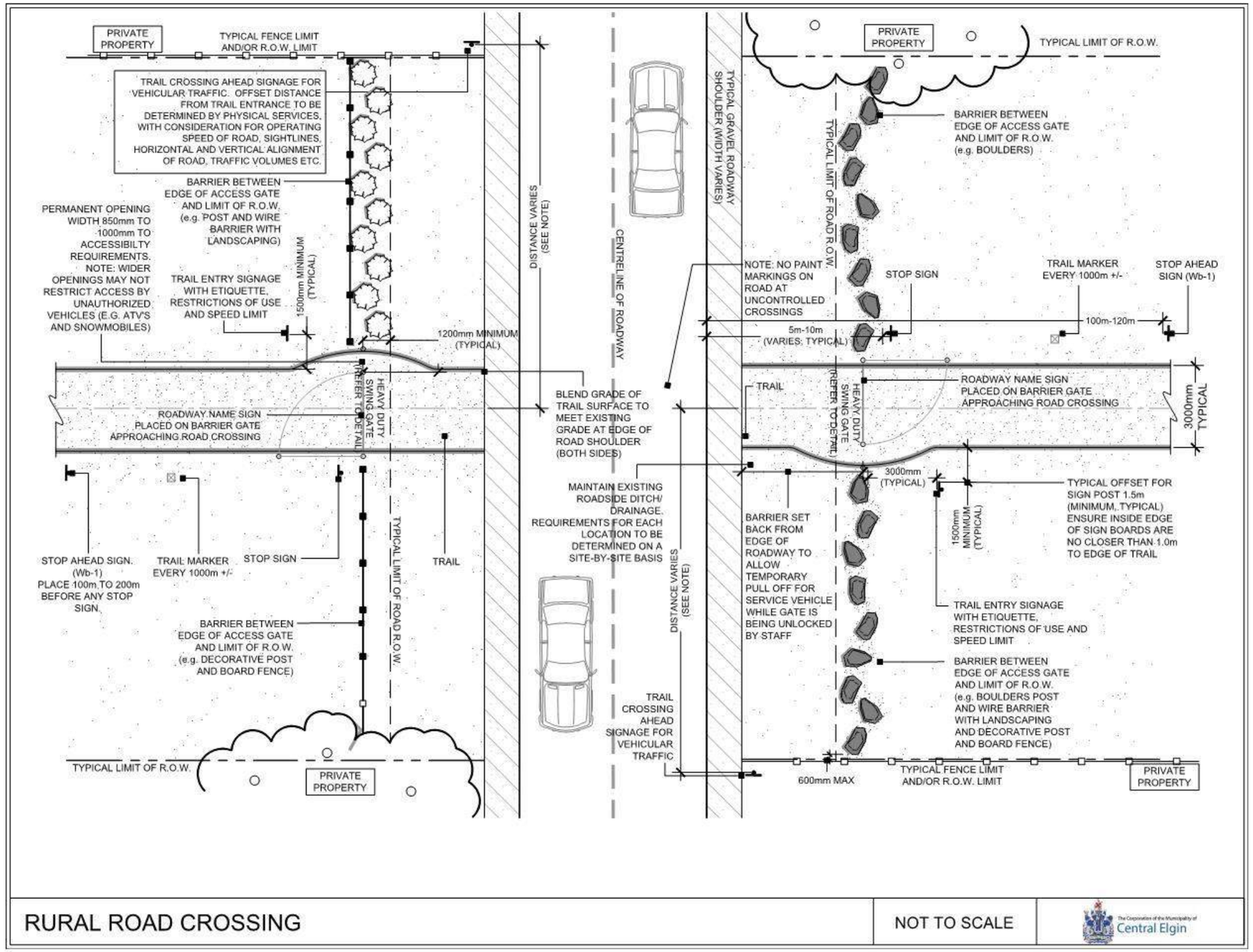


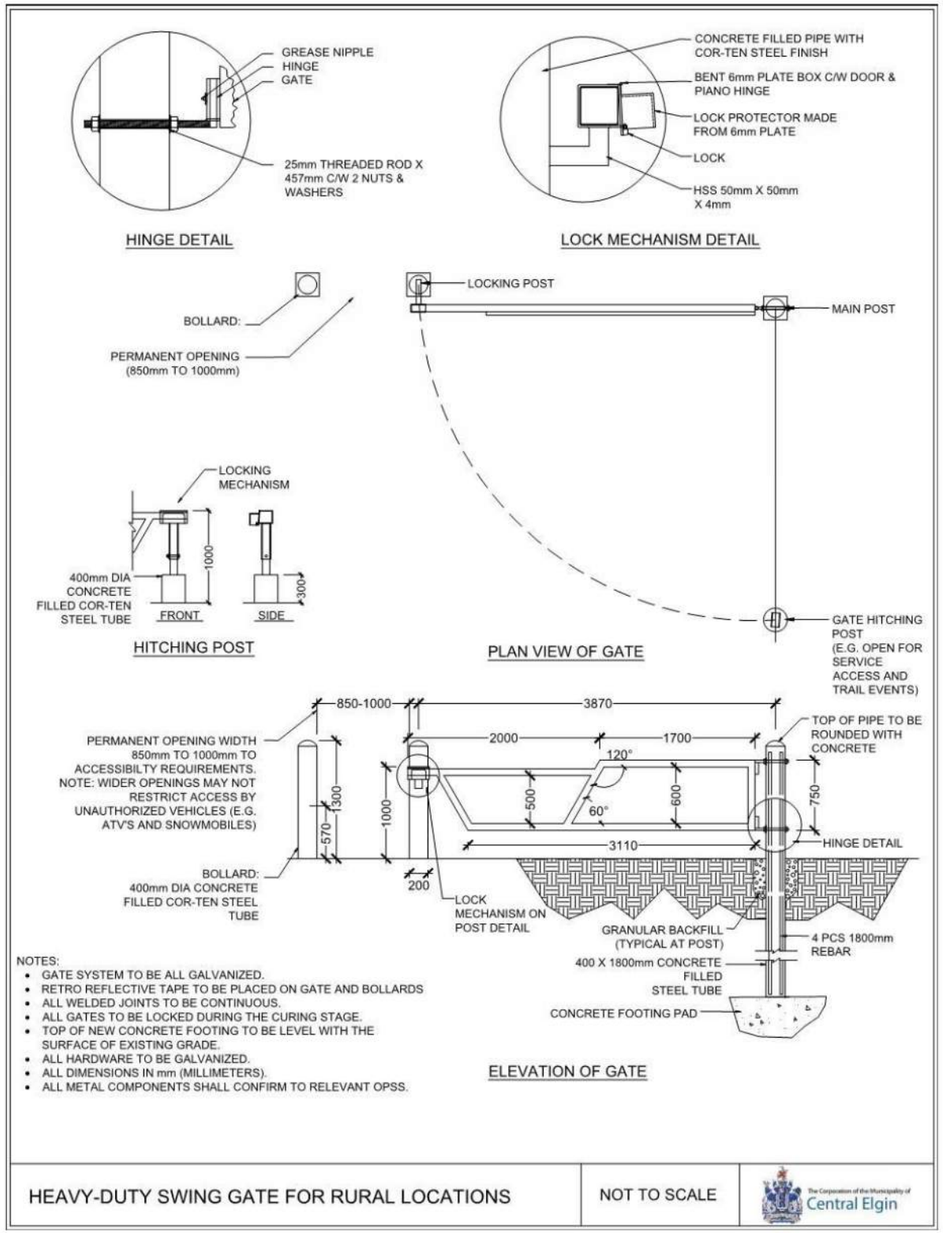
NOTES:
1. THIS DETAIL CAN BE APPLIED TO PRIMARY, SECONDARY AND TERTIARY TRAILS (WHERE APPROPIATE).

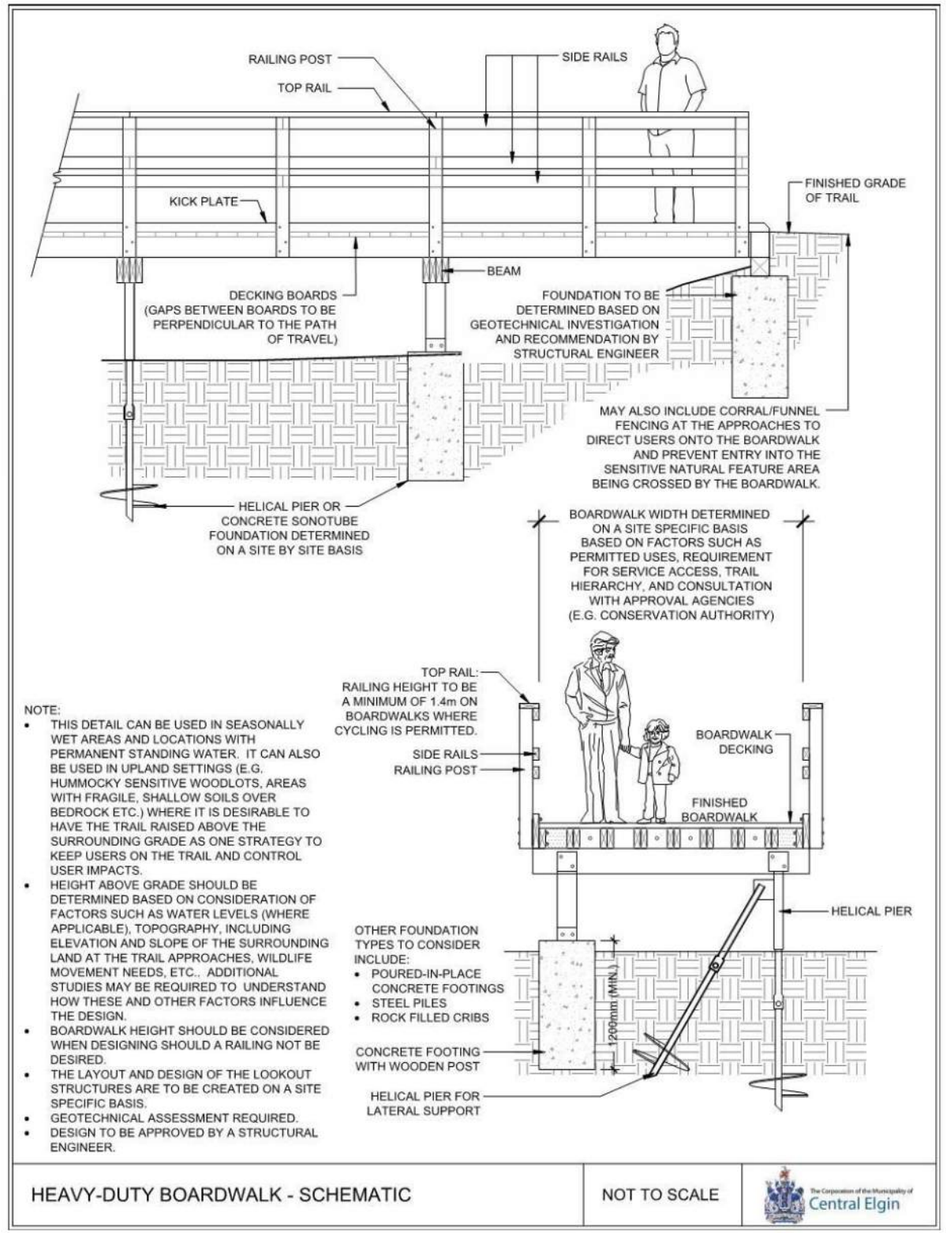
TRAIL ON SLOPE - OUTSLOPE	NOT TO SCALE	The Corporation of the Municipality of Central Elgin

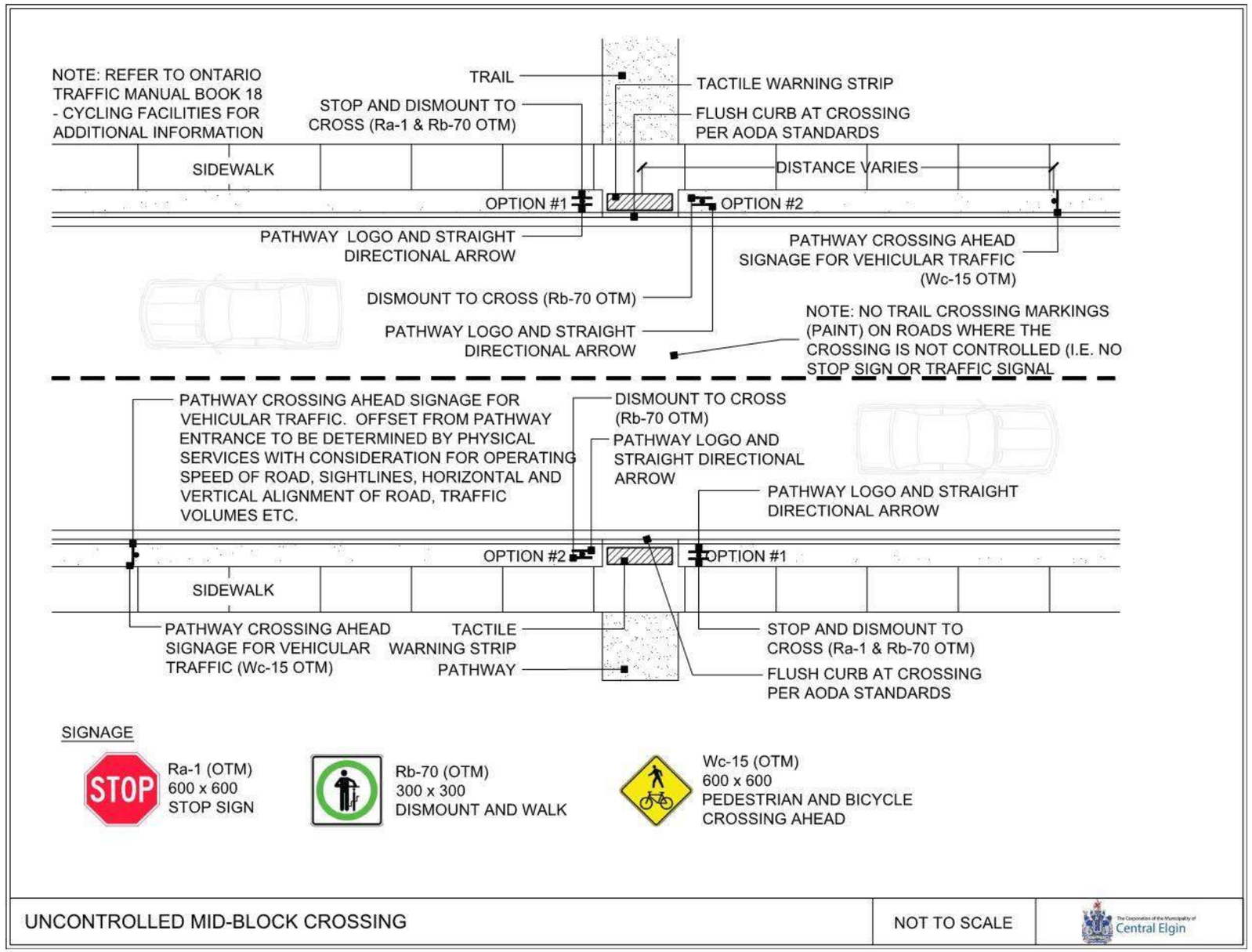

REVEGETATE SLOPE BEYOND CLEAR ZONE
NEW BACK SLOPE
ORIGINAL SLOPE/GRADE
DRAINAGE SWALE WITH 100mm Ø DRAINTILE OUTLET SWALE BELOW TRAIL AT MINIMUM 20m INTERVALS
1-2% INSLOPE ON TRAIL
TRAILSIDE BARRIER AS REQUIRED
MAXIMUM 5% SLOPE FOR GRANULAR SURFACE TRAIL
DRAIN OUTLET AT 20m INTERVALS
EROSION PROTECTION ON SLOPE BEYOND OUTLET
REVEGETATE SLOPE BEYOND CLEAR ZONE
MINIMUM OF 50% OF THE TRAIL BED IS TO BE BENCHED. FULL BENCH IS PREFERRED WHERE ACHIEVABLE.
TRAIL (WIDTH VARIES)
0.4m (MIN) CLEAR ZONE
0.4m (MIN) CLEAR ZONE
SECTION
REVEGETATE SLOPE BEYOND CLEAR ZONE
1 - 2%
INSLOPE ON TRAIL MAXIMUM 5% SLOPE FOR GRANULAR SURFACE TRAIL
LOW POINT
TRAILSIDE BARRIER AS REQUIRED
REVEGETATE SLOPE BEYOND CLEAR ZONE
DRAIN OUTLET AT 20m INTERVALS
EROSION PROTECTION ON SLOPE BEYOND OUTLET
OBJECT MARKER SIGN (AS REQUIRED) TO CAUTION USERS OF THE OBSTRUCTION BESIDE THE CLEAR ZONE
PLAN VIEW
TRAIL (WIDTH VARIES)
0.4m (MIN) CLEAR ZONE
0.4m (MIN) CLEAR ZONE
NOTES:
1. THIS DETAIL CAN BE APPLIED TO PRIMARY, SECONDARY AND TERTIARY TRAILS (WHERE APPROPIATE).
TRAIL ON SLOPE - INSLOPE WITH DRAINAGE PIPE
NOT TO SCALE
The Corporation of the Municipality of Central Elgin

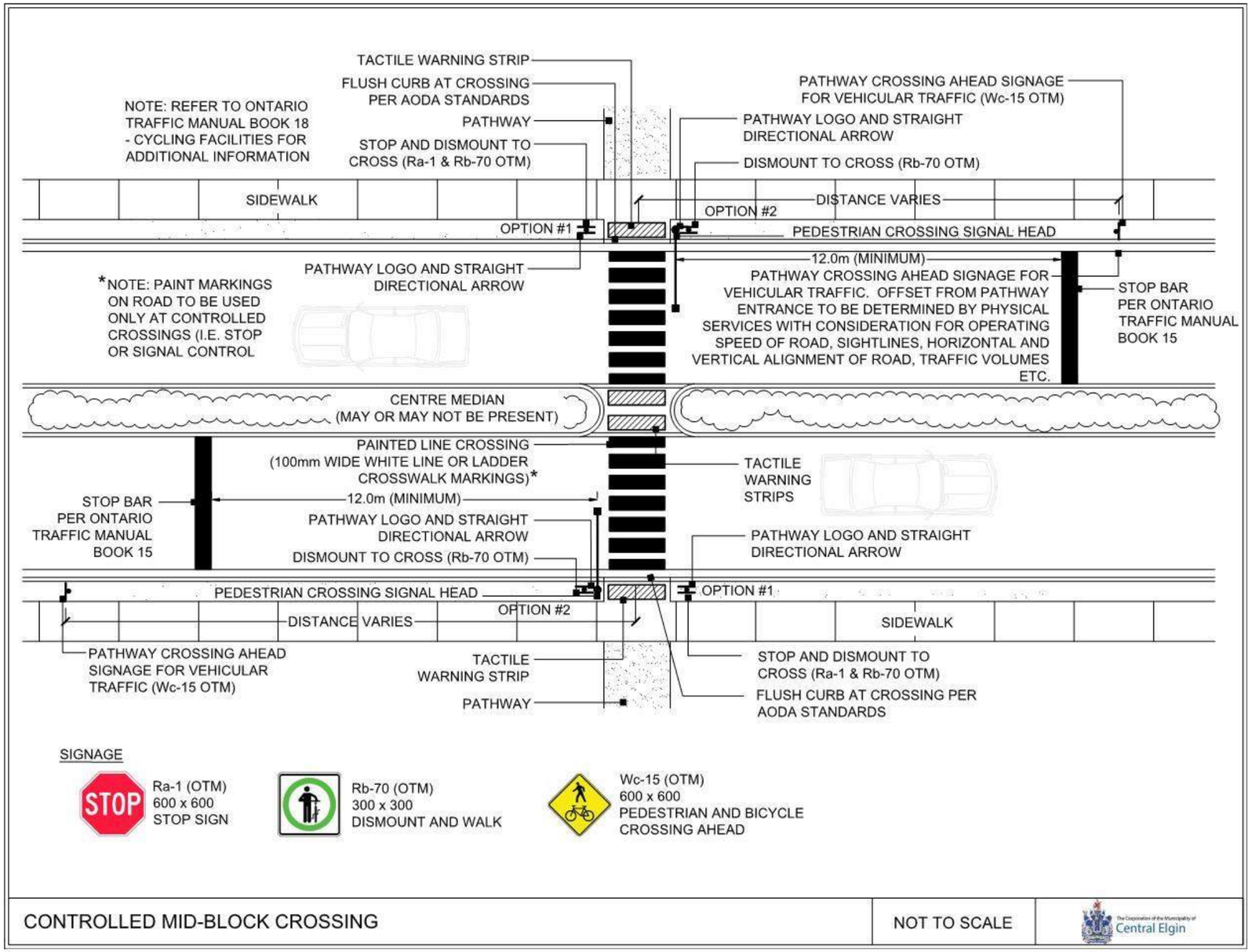

50mm x 200mm RAILING CAP TO HAVE 9mm 45° CHAMFER ON TRAIL SIDE TOP EDGE
ATTACH RAILING CAP TO POSTS WITH (4) EVENLY SPACED 100mm DECK SCREWS
50 x 100mm TOP RAIL
TOP OF POST TO HAVE SLIGHT ANGLE CUT (E.G. 5°)TO FACILITATE WATER RUN OFF
150 x 150mm PRESSURE TREATED SPRUCE / PINE / FIR POSTS
ENLARGEMENT
REFER TO ENLARGEMENT
50mm x 200mm RAILING CAP
150mm x 150mm POSTS
770mm
50mm x 200mm MID RAIL
630mm
NOTE:
FASTEN RAILS TO POST WITH 200mmGALVANIZED CARRIAGE BOLTS OR 100mm DECK SCREWS.
500mm
1200mm MIN
300mm Ø POURED IN PLACE SONOTUBE FOOTING FOR FREE STANDING RUB RAIL.
300mm
CLEAR ZONE (300mm MINIMUM)
1400mm
2400mm
50mm x 250mm RAILING CAP
50 x 100mm WOODEN TOP RAIL
VERTICAL WOODEN POST
50mm x 200mm MID RAIL
530mm
FINISHED GRADE
300mm Ø POURED IN PLACE SONOTUBE FOOTING FOR FREE STANDING RUB RAIL.
1200mm MIN.
300mm
OPTIONS FOR WOOD INCLUDE:
ROUGH SAWN ONTARIO WHITE CEDAR
PRESSURE TREATED SPRUCE/PINE/FIR
1.4m TRAILSIDE SAFETY BARRIER
NOT TO SCALE
The Corporation of the Municipality of Central Elgin

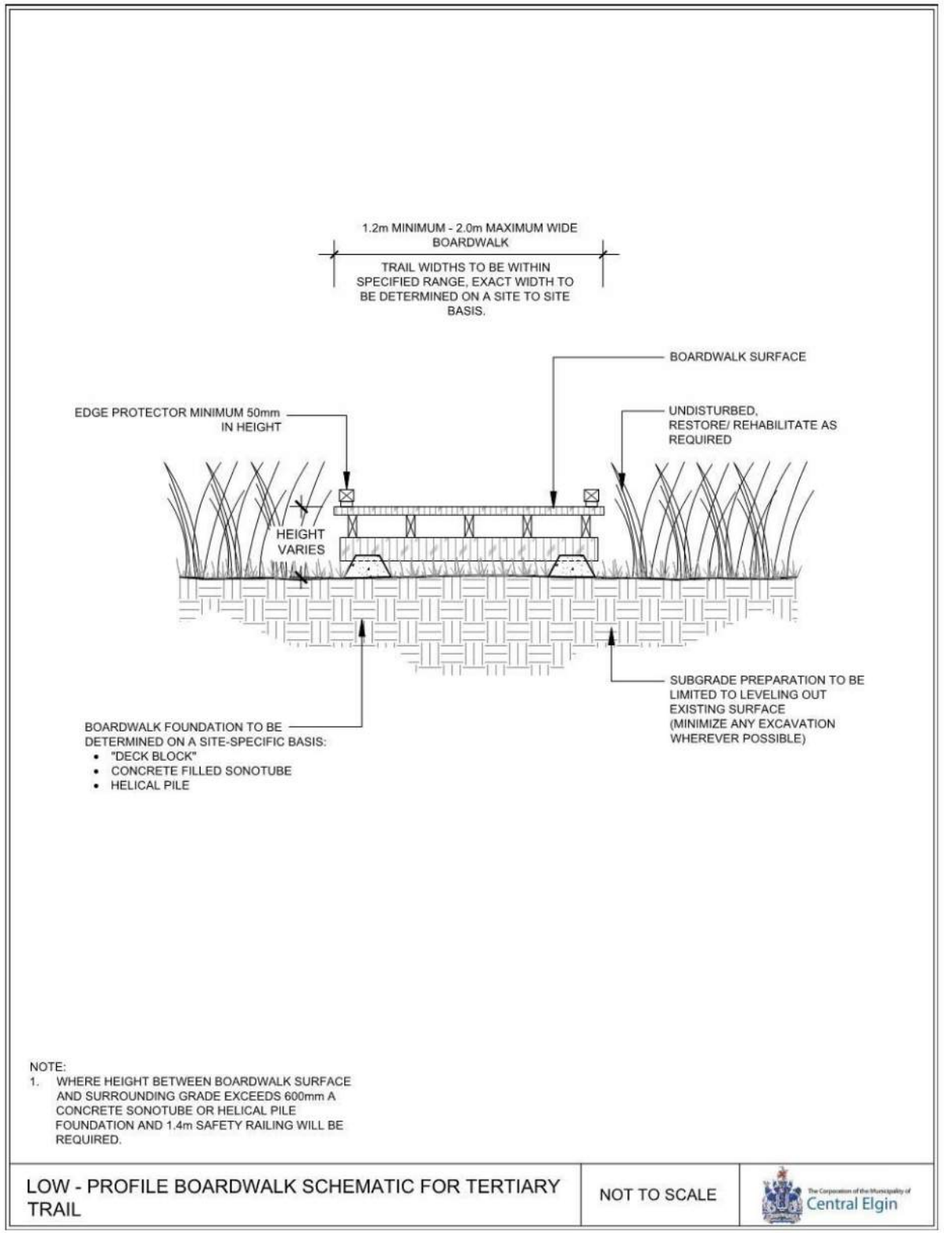

PRIVATE PROPERTY
TYPICAL FENCE LIMIT AND/OR R.O.W. LIMIT
TRAIL CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC. OFFSET DISTANCE FROM TRAIL ENTRANCE TO BE DETERMINED BY PHYSICAL SERVICES, WITH CONSIDERATION FOR OPERATING SPEED OF ROAD, SIGHTLINES, HORIZONTAL AND VERTICAL ALIGNMENT OF ROAD, TRAFFIC VOLUMES ETC.
BARRIER BETWEEN EDGE OF ACCESS GATE AND LIMIT OF R.O.W. (e.g. POST AND WIRE BARRIER WITH LANDSCAPING)
PERMANENT OPENING WIDTH 850mm TO 1000mm TO ACCESSIBILTY REQUIREMENTS. NOTE: WIDER OPENINGS MAY NOT RESTRICT ACCESS BY UNAUTHORIZED VEHICLES (E.G. ATV'S AND SNOWMOBILES)
TRAIL ENTRY SIGNAGE WITH ETIQUETTE, RESTRICTIONS OF USE AND SPEED LIMIT
1500mm MINIMUM (TYPICAL)
1200mm MINIMUM (TYPICAL)
DISTANCE VARIES (SEE NOTE)
CENTRELINE OF ROADWAY
TYPICAL GRAVEL ROADWAY SHOULDER (WIDTH VARIES)
BLEND GRADE OF TRAIL SURFACE TO MEET EXISTING GRADE AT EDGE OF ROAD SHOULDER (BOTH SIDES)
ROADWAY NAME SIGN PLACED ON BARRIER GATE APPROACHING ROAD CROSSING
HEAVY DUTY SWING GATE (REFER TO DETAIL)
TRAIL
TYPICAL LIMIT OF ROAD R.O.W.
STOP AHEAD SIGN. (Wb-1) PLACE 100m TO 200m BEFORE ANY STOP SIGN
TRAIL MARKER EVERY 1000m +/-
STOP SIGN
BARRIER BETWEEN EDGE OF ACCESS GATE AND LIMIT OF R.O.W. (e.g. DECORATIVE POST AND BOARD FENCE)
TYPICAL LIMIT OF R.O.W.
PRIVATE PROPERTY
MAINTAIN EXISTING ROADSIDE DITCH/ DRAINAGE. REQUIREMENTS FOR EACH LOCATION TO BE DETERMINED ON A SITE-BY-SITE BASIS
DISTANCE VARIES (SEE NOTE)
TRAIL CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC
PRIVATE PROPERTY
TYPICAL LIMIT OF R.O.W.
BARRIER BETWEEN EDGE OF ACCESS GATE AND LIMIT OF R.O.W. (e.g. BOULDERS)
NOTE: NO PAINT MARKINGS ON ROAD AT UNCONTROLLED CROSSINGS
STOP SIGN
TRAIL MARKER EVERY 1000m +/-
STOP AHEAD SIGN (Wb-1)
5m-10m (VARIES: TYPICAL)
100m-120m
ROADWAY NAME SIGN PLACED ON BARRIER GATE APPROACHING ROAD CROSSING
3000mm TYPICAL
TRAIL
HEAVY DUTY SWING GATE (REFER TO DETAIL)
3000mm (TYPICAL)
TYPICAL OFFSET FOR SIGN POST 1.5m (MINIMUM, TYPICAL) ENSURE INSIDE EDGE OF SIGN BOARDS ARE NO CLOSER THAN 1.0m TO EDGE OF TRAIL
1500mm MINIMUM (TYPICAL)
BARRIER SET BACK FROM EDGE OF ROADWAY TO ALLOW TEMPORARY PULL OFF FOR SERVICE VEHICLE WHILE GATE IS BEING UNLOCKED BY STAFF
TRAIL ENTRY SIGNAGE WITH ETIQUETTE, RESTRICTIONS OF USE AND SPEED LIMIT
BARRIER BETWEEN EDGE OF ACCESS GATE AND LIMIT OF R.O.W. (e.g. BOULDERS POST AND WIRE BARRIER WITH LANDSCAPING AND DECORATIVE POST AND BOARD FENCE)
600mm MAX
TYPICAL FENCE LIMIT AND/OR R.O.W. LIMIT
PRIVATE PROPERTY
RURAL ROAD CROSSING
NOT TO SCALE
The Corporation of the Municipality of Central Elgin

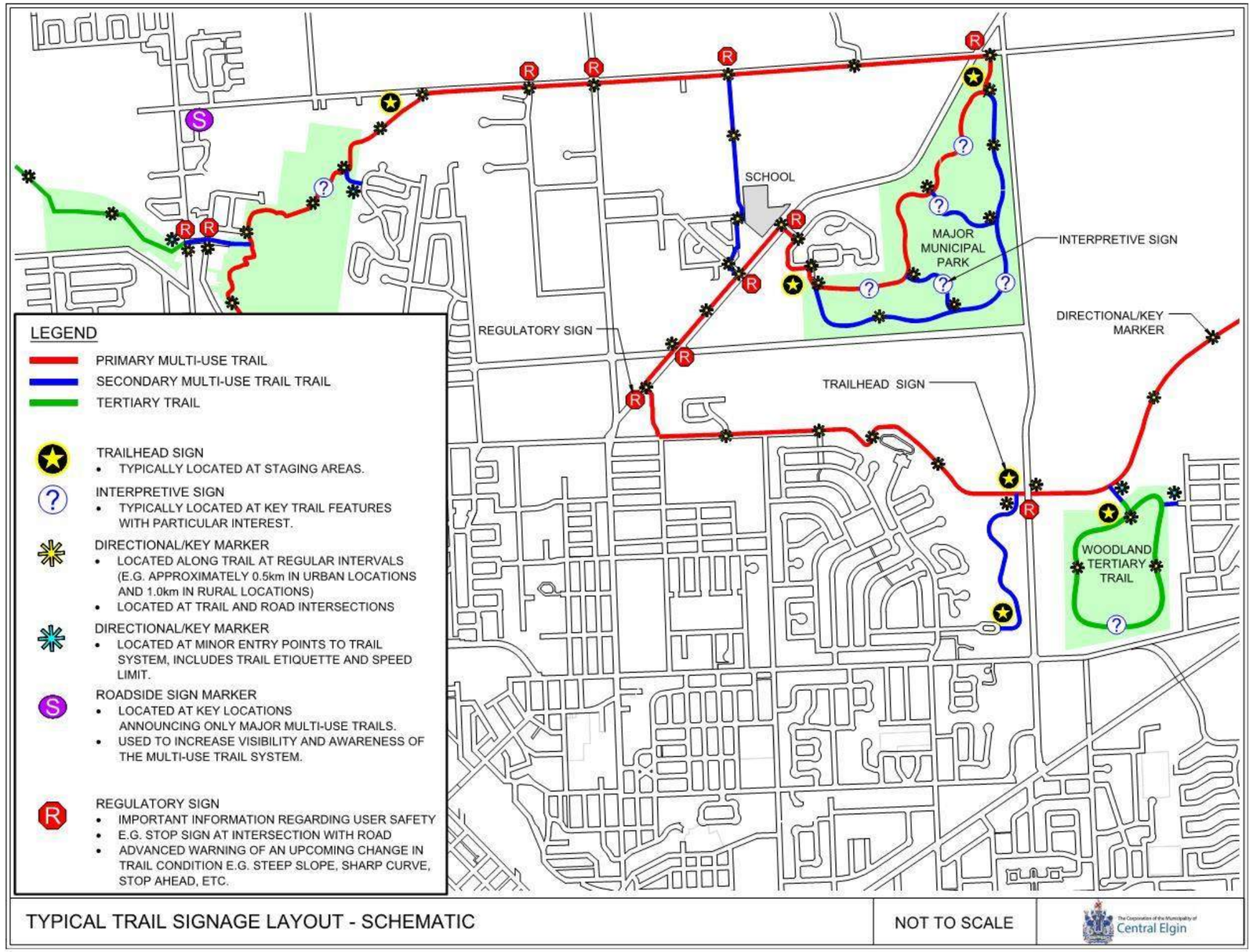

GREASE NIPPLE
HINGE
GATE
25mm THREADED ROD X 457mm C/W 2 NUTS & WASHERS
HINGE DETAIL
CONCRETE FILLED PIPE WITH COR-TEN STEEL FINISH
BENT 6mm PLATE BOX C/W DOOR & PIANO HINGE
LOCK PROTECTOR MADE FROM 6mm PLATE
LOCK
HSS 50mm X 50mm X 4mm
LOCK MECHANISM DETAIL
BOLLARD:
PERMANENT OPENING (850mm TO 1000mm)
LOCKING POST
MAIN POST
LOCKING MECHANISM
400mm DIA CONCRETE FILLED COR-TEN STEEL TUBE
1000
300
FRONT
SIDE
HITCHING POST
PLAN VIEW OF GATE
GATE HITCHING POST (E.G. OPEN FOR SERVICE ACCESS AND TRAIL EVENTS)
850-1000
3870
2000
1700
120°
60°
500
600
750
1000
300
570
200
3110
PERMANENT OPENING WIDTH 850mm TO 1000mm TO ACCESSIBILTY REQUIREMENTS. NOTE: WIDER OPENINGS MAY NOT RESTRICT ACCESS BY UNAUTHORIZED VEHICLES (E.G. ATV'S AND SNOWMOBILES)
BOLLARD: 400mm DIA CONCRETE FILLED COR-TEN STEEL TUBE
TOP OF PIPE TO BE ROUNDED WITH CONCRETE
HINGE DETAIL
LOCK MECHANISM ON POST DETAIL
GRANULAR BACKFILL (TYPICAL AT POST)
4 PCS 1800mm REBAR
400 X 1800mm CONCRETE FILLED STEEL TUBE
CONCRETE FOOTING PAD
ELEVATION OF GATE
NOTES:
• GATE SYSTEM TO BE ALL GALVANIZED.
• RETRO REFLECTIVE TAPE TO BE PLACED ON GATE AND BOLLARDS
• ALL WELDED JOINTS TO BE CONTINUOUS.
• ALL GATES TO BE LOCKED DURING THE CURING STAGE.
• TOP OF NEW CONCRETE FOOTING TO BE LEVEL WITH THE SURFACE OF EXISTING GRADE.
• ALL HARDWARE TO BE GALVANIZED.
• ALL DIMENSIONS IN mm (MILLIMETERS).
• ALL METAL COMPONENTS SHALL CONFIRM TO RELEVANT OPSS.
HEAVY-DUTY SWING GATE FOR RURAL LOCATIONS
NOT TO SCALE
The Corporation of the Municipality of Central Elgin

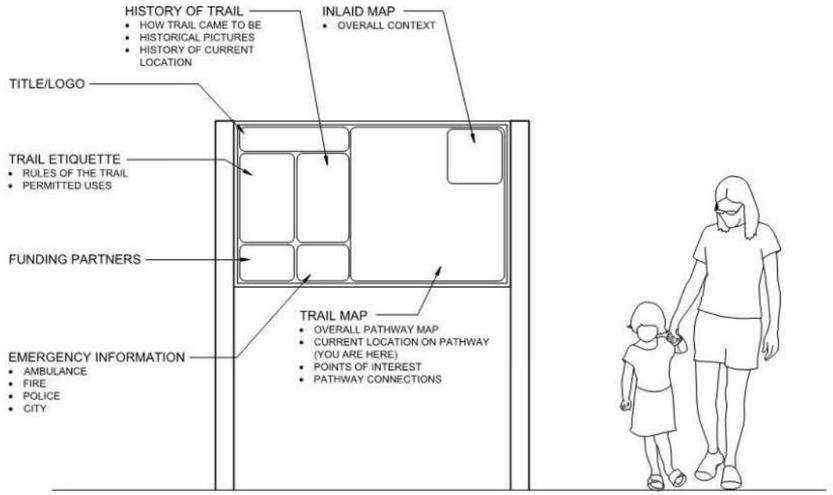

RAILING POST
TOP RAIL
SIDE RAILS
KICK PLATE
FINISHED GRADE OF TRAIL
BEAM
DECKING BOARDS (GAPS BETWEEN BOARDS TO BE PERPENDICULAR TO THE PATH OF TRAVEL)
FOUNDATION TO BE DETERMINED BASED ON GEOTECHNICAL INVESTIGATION AND RECOMMENDATION BY STRUCTURAL ENGINEER
MAY ALSO INCLUDE CORRAL/FUNNEL FENCING AT THE APPROACHES TO DIRECT USERS ONTO THE BOARDWALK AND PREVENT ENTRY INTO THE SENSITIVE NATURAL FEATURE AREA BEING CROSSED BY THE BOARDWALK.
HELICAL PIER OR CONCRETE SONOTUBE FOUNDATION DETERMINED ON A SITE BY SITE BASIS
BOARDWALK WIDTH DETERMINED ON A SITE SPECIFIC BASIS BASED ON FACTORS SUCH AS PERMITTED USES, REQUIREMENT FOR SERVICE ACCESS, TRAIL HIERARCHY, AND CONSULTATION WITH APPROVAL AGENCIES (E.G. CONSERVATION AUTHORITY)
TOP RAIL: RAILING HEIGHT TO BE A MINIMUM OF 1.4m ON BOARDWALKS WHERE CYCLING IS PERMITTED.
SIDE RAILS
RAILING POST
BOARDWALK DECKING
FINISHED BOARDWALK
HELICAL PIER
OTHER FOUNDATION TYPES TO CONSIDER INCLUDE:
• POURED-IN-PLACE CONCRETE FOOTINGS
• STEEL PILES
• ROCK FILLED CRIBS
1200mm (MIN.)
CONCRETE FOOTING WITH WOODEN POST
HELICAL PIER FOR LATERAL SUPPORT
NOTE:
• THIS DETAIL CAN BE USED IN SEASONALLY WET AREAS AND LOCATIONS WITH PERMANENT STANDING WATER. IT CAN ALSO BE USED IN UPLAND SETTINGS (E.G. HUMMOCKY SENSITIVE WOODLOTS, AREAS WITH FRAGILE, SHALLOW SOILS OVER BEDROCK ETC.) WHERE IT IS DESIRABLE TO HAVE THE TRAIL RAISED ABOVE THE SURROUNDING GRADE AS ONE STRATEGY TO KEEP USERS ON THE TRAIL AND CONTROL USER IMPACTS.
• HEIGHT ABOVE GRADE SHOULD BE DETERMINED BASED ON CONSIDERATION OF FACTORS SUCH AS WATER LEVELS (WHERE APPLICABLE), TOPOGRAPHY, INCLUDING ELEVATION AND SLOPE OF THE SURROUNDING LAND AT THE TRAIL APPROACHES, WILDLIFE MOVEMENT NEEDS, ETC.. ADDITIONAL STUDIES MAY BE REQUIRED TO UNDERSTAND HOW THESE AND OTHER FACTORS INFLUENCE THE DESIGN.
• BOARDWALK HEIGHT SHOULD BE CONSIDERED WHEN DESIGNING SHOULD A RAILING NOT BE DESIRED.
• THE LAYOUT AND DESIGN OF THE LOOKOUT STRUCTURES ARE TO BE CREATED ON A SITE SPECIFIC BASIS.
• GEOTECHNICAL ASSESSMENT REQUIRED.
• DESIGN TO BE APPROVED BY A STRUCTURAL ENGINEER.
HEAVY-DUTY BOARDWALK - SCHEMATIC
NOT TO SCALE
The Corporation of the Municipality of Central Elgin


NOTE: REFER TO ONTARIO TRAFFIC MANUAL BOOK 18 - CYCLING FACILITIES FOR ADDITIONAL INFORMATION
TRAIL
STOP AND DISMOUNT TO CROSS (Ra-1 & Rb-70 OTM)
TACTILE WARNING STRIP
FLUSH CURB AT CROSSING PER AODA STANDARDS
SIDEWALK
DISTANCE VARIES
OPTION #1
OPTION #2
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC (Wc-15 OTM)
DISMOUNT TO CROSS (Rb-70 OTM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
NOTE: NO TRAIL CROSSING MARKINGS (PAINT) ON ROADS WHERE THE CROSSING IS NOT CONTROLLED (I.E. NO STOP SIGN OR TRAFFIC SIGNAL
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC. OFFSET FROM PATHWAY ENTRANCE TO BE DETERMINED BY PHYSICAL SERVICES WITH CONSIDERATION FOR OPERATING SPEED OF ROAD, SIGHTLINES, HORIZONTAL AND VERTICAL ALIGNMENT OF ROAD, TRAFFIC VOLUMES ETC.
DISMOUNT TO CROSS (Rb-70 OTM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
OPTION #2
OPTION #1
SIDEWALK
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC (Wc-15 OTM)
TACTILE WARNING STRIP
PATHWAY
STOP AND DISMOUNT TO CROSS (Ra-1 & Rb-70 OTM)
FLUSH CURB AT CROSSING PER AODA STANDARDS
SIGNAGE
STOP
Ra-1 (OTM)
600 x 600
STOP SIGN
Rb-70 (OTM)
300 x 300
DISMOUNT AND WALK
Wc-15 (OTM)
600 x 600
PEDESTRIAN AND BICYCLE CROSSING AHEAD
UNCONTROLLED MID-BLOCK CROSSING
NOT TO SCALE
The Corporation of the Municipality of Central Elgin


TACTILE WARNING STRIP
FLUSH CURB AT CROSSING PER AODA STANDARDS
PATHWAY
STOP AND DISMOUNT TO CROSS (Ra-1 & Rb-70 OTM)
NOTE: REFER TO ONTARIO TRAFFIC MANUAL BOOK 18 - CYCLING FACILITIES FOR ADDITIONAL INFORMATION
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC (Wc-15 OTM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
DISMOUNT TO CROSS (Rb-70 OTM)
SIDEWALK
DISTANCE VARIES
OPTION #2
OPTION #1
PEDESTRIAN CROSSING SIGNAL HEAD
12.0m (MINIMUM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
*NOTE: PAINT MARKINGS ON ROAD TO BE USED ONLY AT CONTROLLED CROSSINGS (I.E. STOP OR SIGNAL CONTROL
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC. OFFSET FROM PATHWAY ENTRANCE TO BE DETERMINED BY PHYSICAL SERVICES WITH CONSIDERATION FOR OPERATING SPEED OF ROAD, SIGHTLINES, HORIZONTAL AND VERTICAL ALIGNMENT OF ROAD, TRAFFIC VOLUMES ETC.
STOP BAR PER ONTARIO TRAFFIC MANUAL BOOK 15
CENTRE MEDIAN (MAY OR MAY NOT BE PRESENT)
PAINTED LINE CROSSING (100mm WIDE WHITE LINE OR LADDER CROSSWALK MARKINGS)*
TACTILE WARNING STRIPS
STOP BAR PER ONTARIO TRAFFIC MANUAL BOOK 15
12.0m (MINIMUM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
DISMOUNT TO CROSS (Rb-70 OTM)
PATHWAY LOGO AND STRAIGHT DIRECTIONAL ARROW
PEDESTRIAN CROSSING SIGNAL HEAD
OPTION #1
OPTION #2
DISTANCE VARIES
SIDEWALK
PATHWAY CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC (Wc-15 OTM)
TACTILE WARNING STRIP
STOP AND DISMOUNT TO CROSS (Ra-1 & Rb-70 OTM)
PATHWAY
FLUSH CURB AT CROSSING PER AODA STANDARDS
SIGNAGE
STOP
Ra-1 (OTM) 600 x 600 STOP SIGN
Rb-70 (OTM) 300 x 300 DISMOUNT AND WALK
Wc-15 (OTM) 600 x 600 PEDESTRIAN AND BICYCLE CROSSING AHEAD
CONTROLLED MID-BLOCK CROSSING
NOT TO SCALE
The Corporation of the Municipality of Central Elgin


1.2m MINIMUM - 2.0m MAXIMUM WIDE BOARDWALK
TRAIL WIDTHS TO BE WITHIN SPECIFIED RANGE, EXACT WIDTH TO BE DETERMINED ON A SITE TO SITE BASIS.
BOARDWALK SURFACE
EDGE PROTECTOR MINIMUM 50mm IN HEIGHT
UNDISTURBED, RESTORE/ REHABILITATE AS REQUIRED
HEIGHT VARIES
SUBGRADE PREPARATION TO BE LIMITED TO LEVELING OUT EXISTING SURFACE (MINIMIZE ANY EXCAVATION WHEREVER POSSIBLE)
BOARDWALK FOUNDATION TO BE DETERMINED ON A SITE-SPECIFIC BASIS:
"DECK BLOCK"
CONCRETE FILLED SONOTUBE
HELICAL PILE
NOTE:
1. WHERE HEIGHT BETWEEN BOARDWALK SURFACE AND SURROUNDING GRADE EXCEEDS 600mm A CONCRETE SONOTUBE OR HELICAL PILE FOUNDATION AND 1.4m SAFETY RAILING WILL BE REQUIRED.
LOW - PROFILE BOARDWALK SCHEMATIC FOR TERTIARY TRAIL
NOT TO SCALE
The Corporation of the Municipality of Central Elgin


LEGEND
PRIMARY MULTI-USE TRAIL
SECONDARY MULTI-USE TRAIL TRAIL
TERTIARY TRAIL
TRAILHEAD SIGN
• TYPICALLY LOCATED AT STAGING AREAS.
INTERPRETIVE SIGN
• TYPICALLY LOCATED AT KEY TRAIL FEATURES WITH PARTICULAR INTEREST.
DIRECTIONAL/KEY MARKER
• LOCATED ALONG TRAIL AT REGULAR INTERVALS (E.G. APPROXIMATELY 0.5km IN URBAN LOCATIONS AND 1.0km IN RURAL LOCATIONS)
• LOCATED AT TRAIL AND ROAD INTERSECTIONS
DIRECTIONAL/KEY MARKER
• LOCATED AT MINOR ENTRY POINTS TO TRAIL SYSTEM, INCLUDES TRAIL ETIQUETTE AND SPEED LIMIT.
ROADSIDE SIGN MARKER
• LOCATED AT KEY LOCATIONS ANNOUNCING ONLY MAJOR MULTI-USE TRAILS.
• USED TO INCREASE VISIBILITY AND AWARENESS OF THE MULTI-USE TRAIL SYSTEM.
REGULATORY SIGN
• IMPORTANT INFORMATION REGARDING USER SAFETY
• E.G. STOP SIGN AT INTERSECTION WITH ROAD
• ADVANCED WARNING OF AN UPCOMING CHANGE IN TRAIL CONDITION E.G. STEEP SLOPE, SHARP CURVE, STOP AHEAD, ETC.
SCHOOL
MAJOR MUNICIPAL PARK
INTERPRETIVE SIGN
REGULATORY SIGN
DIRECTIONAL/KEY MARKER
TRAILHEAD SIGN
WOODLAND TERTIARY TRAIL
TYPICAL TRAIL SIGNAGE LAYOUT - SCHEMATIC
NOT TO SCALE
The Corporation of the Municipality of Central Elgin



TRAILHEAD SIGN

FUNCTION:
- PROVIDES ORIENTATION TO OVERALL TRAIL SYSTEM BY WAY OF MAPPING AND IMPORTANT INFORMATION.
- LISTS THE PERMITTED USES OF THE TRAIL AND EMERGENCY CONTACT INFORMATION.
- MAY ALSO PROVIDE THE HISTORY BEHIND THE TRAIL OR REGION.
- SIZE AND CAN ALSO ACT AS AN IDENTIFIER TO PASSING PEDESTRIANS AND VEHICLES.

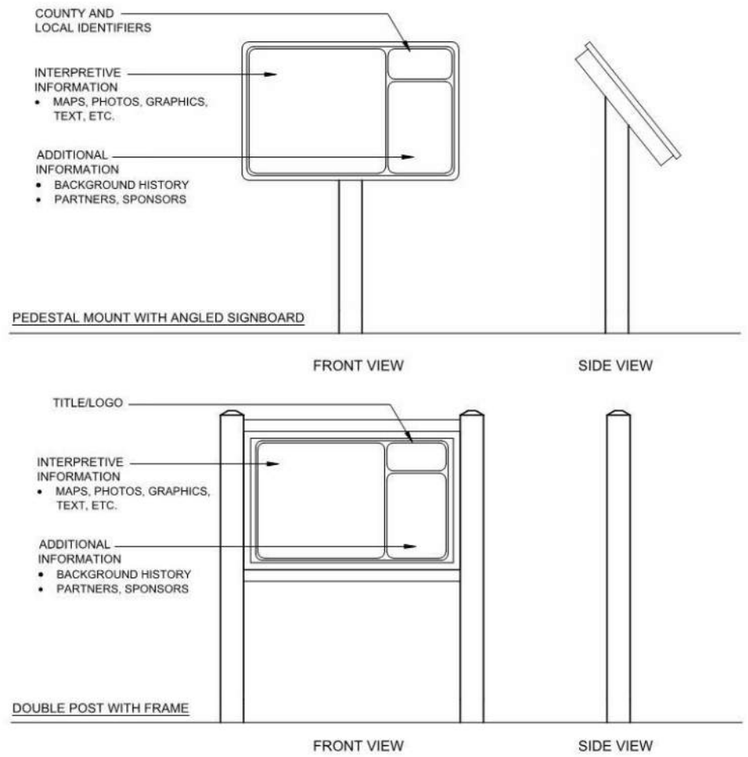
TYPICAL LOCATION:
- TYPICALLY LOCATED AT STAGING AREAS.
- IN CASES WHERE IT IS ASSOCIATED WITH A PARKING AREA THE TRAILHEAD SIGN IS USUALLY IN THE TRANSITION AREA BETWEEN THE PARKING LOT AND TRAIL.

TYPICAL SIGN ELEMENTS:
- MAY OR MAY NOT HAVE A ROOF STRUCTURE.
- TRAIL ETIQUETTE DENOTING GUIDELINES FOR TRAIL USERS.
- EMERGENCY CONTACT INFORMATION (IE. 911 OR MAINTENANCE ISSUES).
- IMAGERY OF DESTINATION POINTS ALONG TRAIL.
- QUICK RESPONSE CODES CAN BE SCANNED BY MOBILE PHONE DEVICES THAT WILL PROVIDE INSTANT ACCESS TO A DESIGNATED WEBSITE. WEBSITES CAN BE EASILY MODIFIED SO THAT INFORMATION (MAPPING, EVENTS, PROGRAMS, ETC.) ARE CURRENT.

IMPORTANT NOTES FOR AODA COMPLIANCE:
- CHARACTERS THAT USE A SANS SERIF FONT
- HIGH CONTRAST BETWEEN BACKGROUND AND TEXT FOR EASY READABILITY. A MINIMUM LIGHT REFLECTIVE VALUE OF 70% IS RECOMMENDED TO MEET AODA REQUIREMENTS.
- SIGN TO BE PLACED ON AN ACCESSIBLE SURFACE.

KEY TYPICAL INFORMATION
- TOTAL LENGTH OF TRAIL (APPLIES TO LINEAR TRAILS OR TRAIL LOOPS)
- AVERAGE AND MAXIMUM LONGITUDINAL SLOPE
- AVERAGE AND MAXIMUM CROSS SLOPE
- TRAIL WIDTH, AND LOCATION AND WIDTH FOR ANY NARROW "PINCH" POINTS
- TRAIL SURFACE MATERIAL
- LOCATION OF AMENITIES (E.G. REST AREAS, WASHROOMS, ETC.)

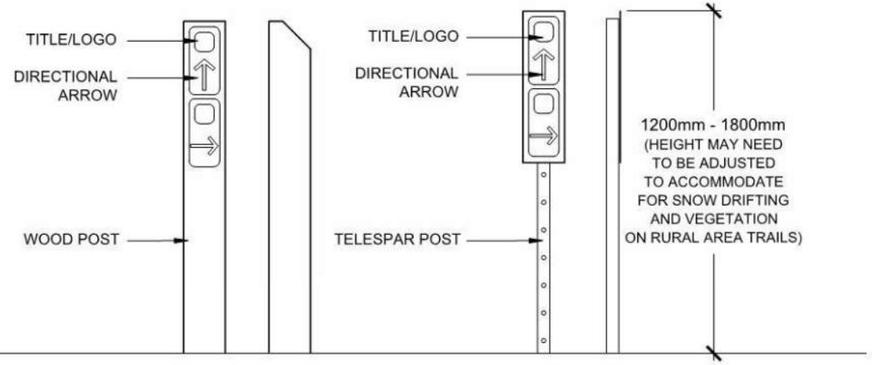
TRAILHEAD SIGN - DETAILS | NOT TO SCALE | The Corporation of the Municipality of Central Elgin



FUNCTION:
- PROVIDES TRAIL USERS WITH INFORMATION ABOUT A KEY TRAIL FEATURE WHICH MAY BE CULTURAL, HISTORICAL OR NATURAL.
- INTERPRETIVE SIGNS SHOULD BE HIGHLY GRAPHIC AND EASY TO READ.
- SIGNS CAN INCLUDE A SIGNIFICANT AMOUNT OF INFORMATION AND DETAIL WHERE APPROPRIATE.
- OFFER THE POTENTIAL TO PARTNER WITH LOCAL GROUPS FOR THE DEVELOPMENT OF TEXT AND GRAPHICS.

TYPICAL LOCATION:
- TYPICALLY LOCATED AT KEY TRAIL FEATURES WHICH HAVE PARTICULAR INTEREST.
- SHOULD BE PLACED IN A HIGHLY VISIBLE OR HIGH TRAFFIC LOCATION TO DISCOURAGE VANDALISM.
- WHERE THE SIGN IS INTERPRETING A SENSITIVE FEATURE OR RARE SPECIES, DO NOT PLACE THE SIGN DIRECTLY BESIDE KNOWN LOCATION OF THE FEATURE/SPECIES TO AVOID POTENTIAL DAMAGE OR LOSS.

INTERPRETIVE SIGN | NOT TO SCALE | The Corporation of the Municipality of Central Elgin



MARKER SIGNAGE ALONG TRAIL

FUNCTION:
- ROUTE MARKER: PROVIDES A SIMPLE VISUAL MESSAGE TO TRAIL USERS THAT THEY ARE ON THE DESIGNATED ROUTE.

TYPICAL LOCATION:
- ALSO PLACED AT REGULAR INTERVALS ALONG LONG, UNINTERRUPTED SECTIONS OF TRAIL.

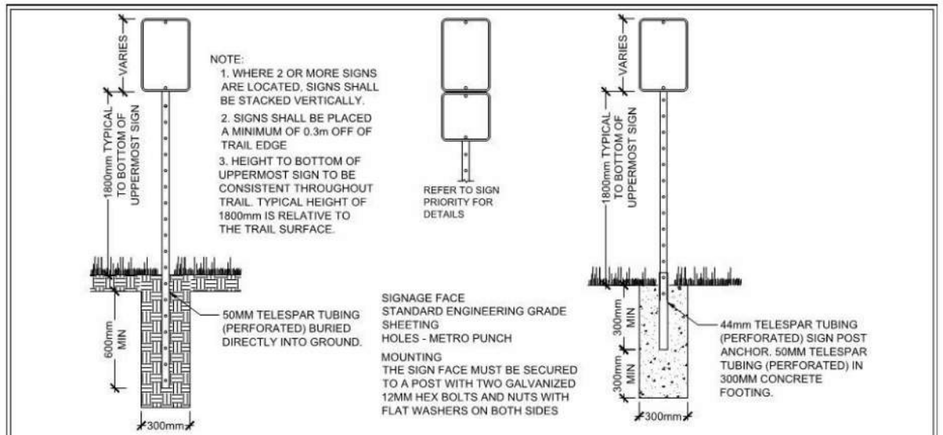
SIGN STRUCTURE:
- UTILIZE POST FROM MASTER SIGNAGE STRATEGY.
- FOUR SIDED SIGN WITH NAME OF TRAIL AND FUTURE TRAIL LOGO/BRAND MOUNTS TO POST.

TRAIL DIRECTIONAL SIGNAGE

FUNCTION:
- DIRECTIONAL SIGN: USED TO CUE TRAIL USERS FOR GIVEN DESTINATIONS ALONG THE TRAIL AND DISTANCES TO GIVEN DESTINATIONS.

TYPICAL LOCATION:
- TYPICALLY LOCATED AT TRAIL INTERSECTIONS WHERE THE TRAIL IS LOCATED IN PARKS AND OPEN SPACES (I.E. OUTSIDE OF THE ROAD RIGHT-OF-WAY)

TRAIL DIRECTIONAL AND MARKER SIGNS	NOT TO SCALE	The Corporation of the Municipality of Central Elgin



SIGN MOUNTING DIRECTLY INTO GROUND

SIGN MOUNT WITH CONCRETE FOOTING

SIGN MOUNT DOWN SLOPE OF TRAIL

FUNCTION:
- USED TO ALERT TRAIL USERS ABOUT UPCOMING OBSTACLES OR CHANGES ALONG THE TRAIL.
- REGULATORY AND WARNING SIGNS FOLLOW THE SAME CONVENTIONS AS ROADWAY SIGNS RECOMMENDED BY THE TRANSPORTATION ASSOCIATION OF CANADA (TAC).

OTHER NOTES:
- MOUNT ON EXISTING POLES. ALSO CONSIDER SIMPLE MOUNTING SYSTEMS (E.G. TELESPAR POST)
- SIMPLER MOUNTING SYSTEMS CAN HELP WITH KEEPING COSTS DOWN.
- ANY LETTERING ON REGULATORY SIGNAGE SHOULD BE A MINIMUM HEIGHT OF 100mm. (LETTERING CAN BE SMALLER ON CUSTOM INFORMATION SIGNS)

SIGN PRIORITY

TYPICAL LOCATION:
- PLACED IN ADVANCE OF AN UPCOMING HAZARD.
- USED TO MARK THE ACTUAL LOCATION OF THE HAZARD.
- CONSULT WITH LOCAL PHYSICAL SERVICES FOR THE PLACEMENT OF ANY SIGNS ALONG ROADWAYS. (E.G. ADVANCED WARNING FOR MOTORISTS APPROACHING TRAIL CROSSING AHEAD)
- TRAIL CROSSING AHEAD SIGNAGE FOR VEHICULAR TRAFFIC. OFFSET DISTANCE FROM TRAIL ENTRANCE TO BE DETERMINED BY TRANSPORTATION SERVICES, WITH CONSIDERATION FOR OPERATING SPEED OF ROAD, SIGHTLINES, HORIZONTAL AND VERTICAL ALIGNMENT OF ROAD, TRAFFIC VOLUMES ETC.

REGULATORY, WARNING AND CUSTOM INFORMATION SIGNS	NOT TO SCALE	The Corporation of the Municipality of Central Elgin

4.0 IMPLEMENTING & MAINTAINING

The Central Elgin Trails Master Plan is intended to be used as a long-term guide and blueprint for trail improvements – infrastructure as well as programming and promotion - throughout the Municipality of Central Elgin. Maintaining the momentum that was generated throughout the master plan development process can be difficult and at times complex and unclear. The document is meant to support Municipal staff and its partners by providing resources, tools, recommendations and strategies that support the work that will need to be undertaken following the completion of the master plan.

Trail Linkages through Park Lands in Central Elgin

The full implementation of a strategy of this scale will not be achieved in 5 years. There are significant infrastructure improvements and programming considerations that are recommended. The network and recommendations contained within this master plan represent a 10 year and beyond planning horizon which is intended to be adopted and integrated into the Municipality's current planning and budgeting processes in a seamless manner.

Chapter 4.0 presents a comprehensive and flexible strategy which addresses and provides guidance on the following aspects of implementation which are intended to be considered and utilized by Municipal staff, decision makers and their partners. The content of the strategy covers:

- The anticipated timeline for implementation of proposed projects;
- Strategies to encourage, educate, enforce and evaluate trail improvements Municipality-wide;
- Next steps associated with the planning, design and implementation of trails;
- Roles and responsibilities for those involved in various aspects of implementation;
- The anticipated costs for proposed infrastructure and programming improvements; and
- Strategies to address future funding and partnership opportunities to facilitate implementation.

Making Central Elgin more active…

4.1 A phased approach to implementation

The implementation of the trails network for Central Elgin is intended to be a long-term undertaking by Municipal staff and their partners. There are routes identified as part of the network which can be easily implemented with minor improvements, while others will require more time to complete the necessary next steps and approvals to move forward with the proposed improvements. As part of the implementation strategy, a proposed timeline for implementation has been identified for each of the proposed routs that make-up the trail network – this is known as a phasing plan. The following sections outline the approach used to develop the phasing plan for the Trails Master Plan.

4.1.1 Establishing the phasing

The implementation of the trails network will take a considerable amount of budget, time and effort to undertake. Effective implementation should be based on a flexible schedule / timeline which can be integrated into day to day decision making of municipal staff and its partners. The implementation of the proposed trails network for the Municipality of Central Elgin is intended to take 10+ years.

The proposed implementation timeline is made up of two phases – the first 10 years (phase #1) and 10+ years (phase #2). Individual projects are identified for implementation within each of these phases; however, the specific timing for implementation will need to be determined by municipal staff based on six core considerations. The considerations are described in more detail to the right.

Short term
Phase #1(years 0 – 10)
12.1km

Long term
Phase #2 (years 10+)
12.8km

The proposed route phasing is illustrated on **Maps 6** through **11** and should be used as a reference and guide to help determine the order in which proposed trails will be implemented as the Municipality proceeds with the implementation of the trails network. The focus of the implementation strategy, will be first 10 years i.e. Phase #1. A number has been included on each of the individual links to better understand / communicate the link parameters and locations.

A Available Capital Budgets
- Budgets that have been identified which can be used to implement the proposed project and the timeline for those budgets in annual reports

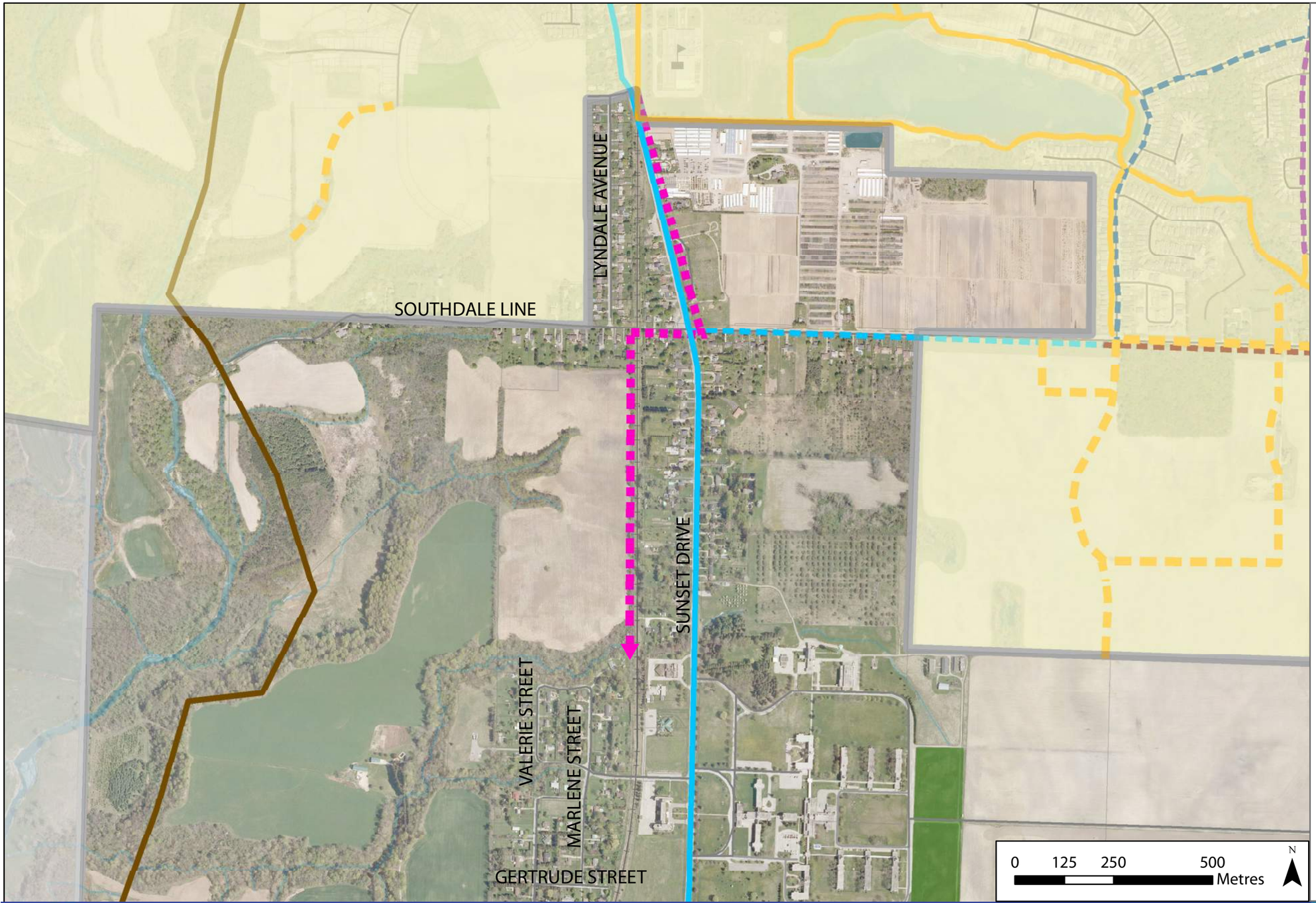
B Timing of Municipal Projects
- Projects can be coordinated with larger municipal projects and the timing of those projects would dictate the timing of those trails

C Potential Partnerships
- Proposed trails under the jurisdiction of municipal partners. Timing of those projects will need to be coordinated with other work.

D Required Next Steps
- Next steps i.e. planning and engineering which need to be completed in advance of the of construction and completion

E Local Input
- Priorities and preferences expressed by community residents through consultation and engagement activities

F Political & Staff Support
- Priorities and preferences expressed by Municipal staff as well as members of Council through and beyond the study process.



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- Bike Lane
- Paved Shoulder
- Elgin Hiking Trail

Proposed
- In-Boulevard Multi-Use Trail
- Bike Lane
- Paved Shoulder
- Signed Route
- B Bridge

Regional Trails
- Waterfront Trail
- Trans Canada Trail

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

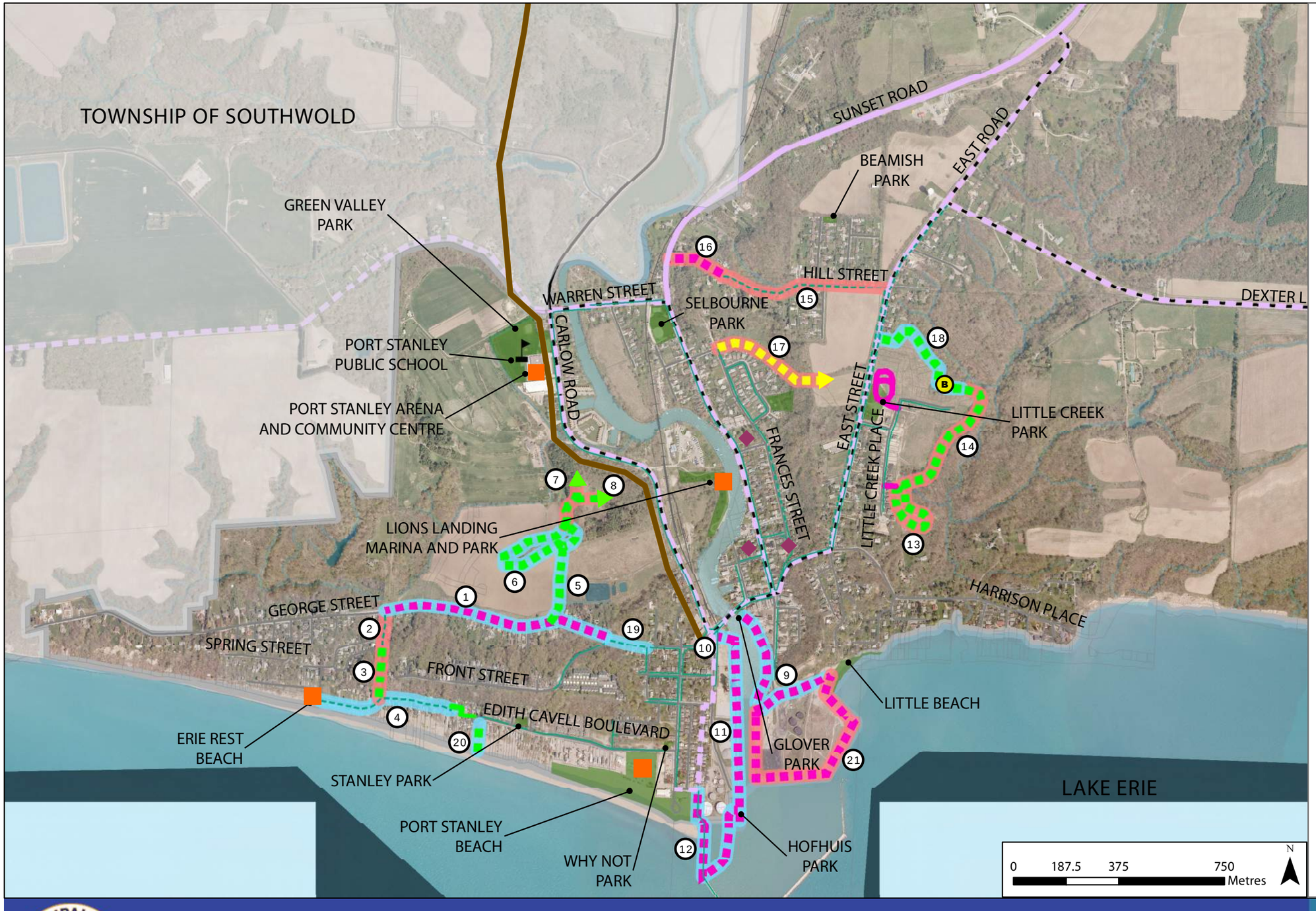
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Proposed Trail Network

Central Elgin 10 Year Trails Master Plan

Norman-Lyndale

MAP 6



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- On-Road Route
- Elgin Hiking Trail

Proposed
- On-Road Route

Implementation
- 0-10 Years
- Beyond 10 Years

(14) Project Sheet Number (Refer to individual project sheets for additional details)

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]
- (B) Bridge

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

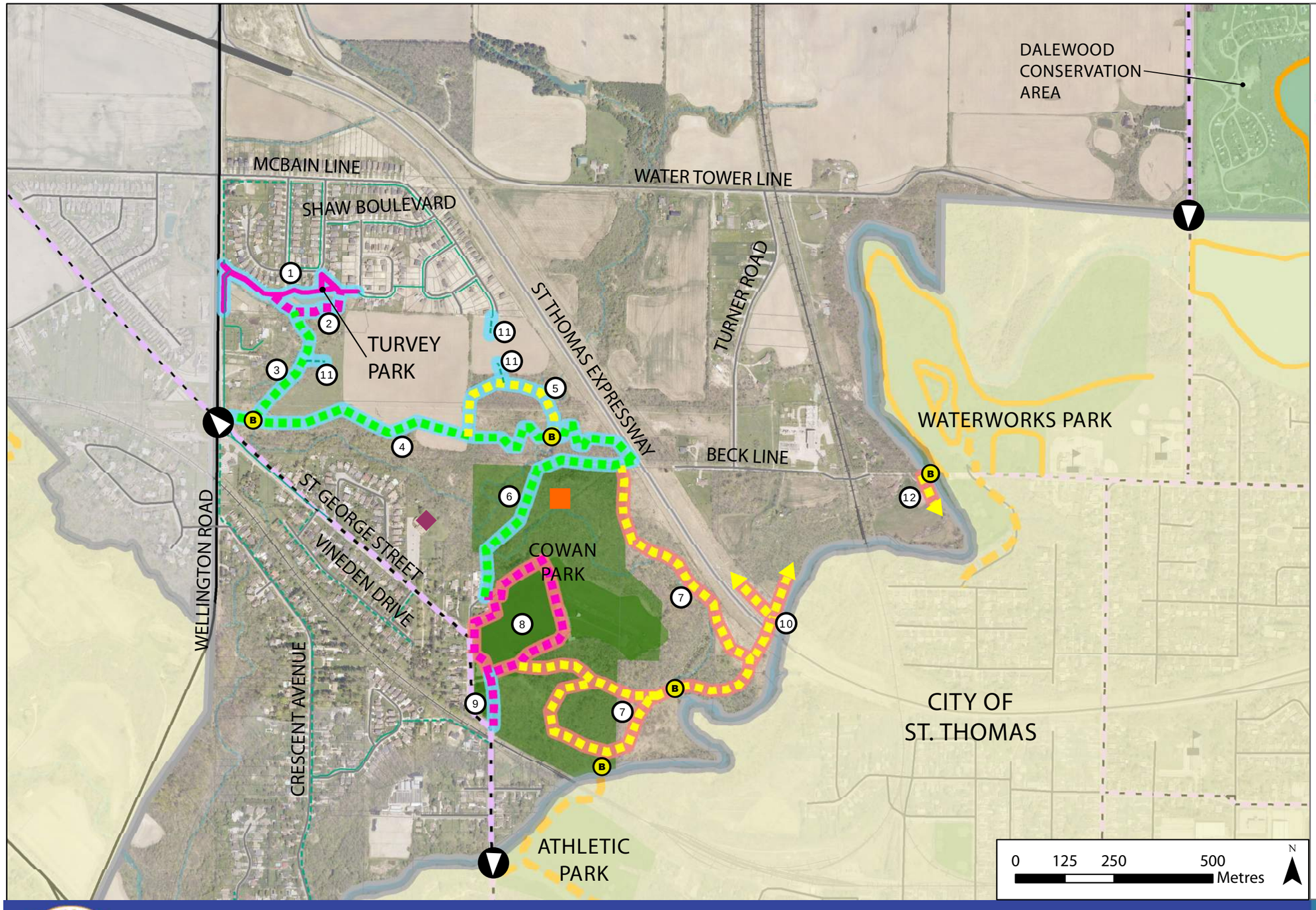
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Implementation

Central Elgin 10 Year Trails Master Plan

Port Stanley

MAP 7



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- On-Road Route
- Elgin Hiking Trail

Proposed
- On-Road Route

Implementation
- 0-10 Years
- Beyond 10 Years

(14) Project Sheet Number (Refer to individual project sheets for additional details)

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]
- (B) Bridge

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

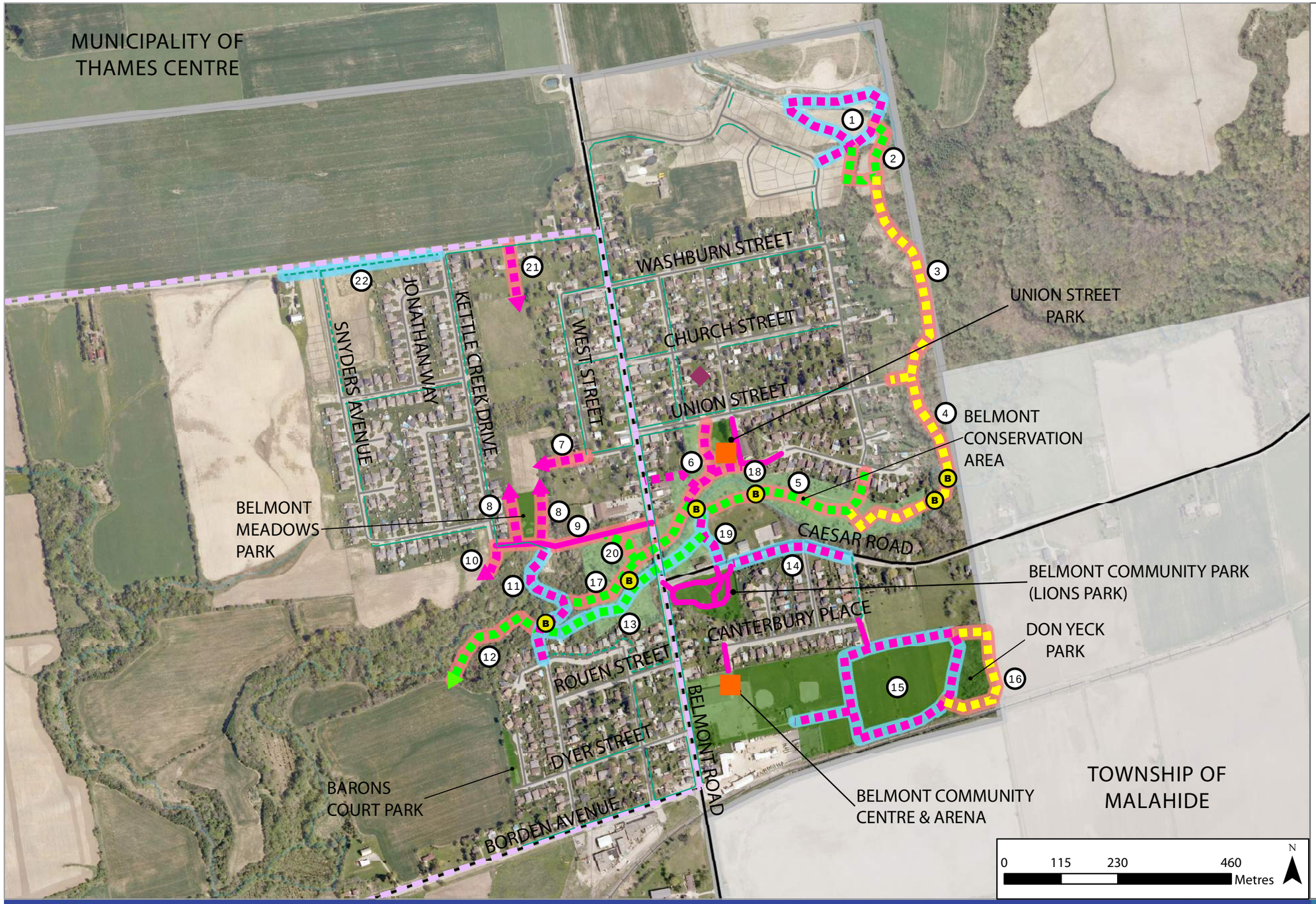
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Implementation

Central Elgin 10 Year Trails Master Plan

Lynhurst

MAP 8



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- On-Road Route
- Elgin Hiking Trail

Proposed
- On-Road Route

Implementation
- 0-10 Years
- Beyond 10 Years

14 Project Sheet Number (Refer to individual project sheets for additional details)

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]
- B Bridge

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

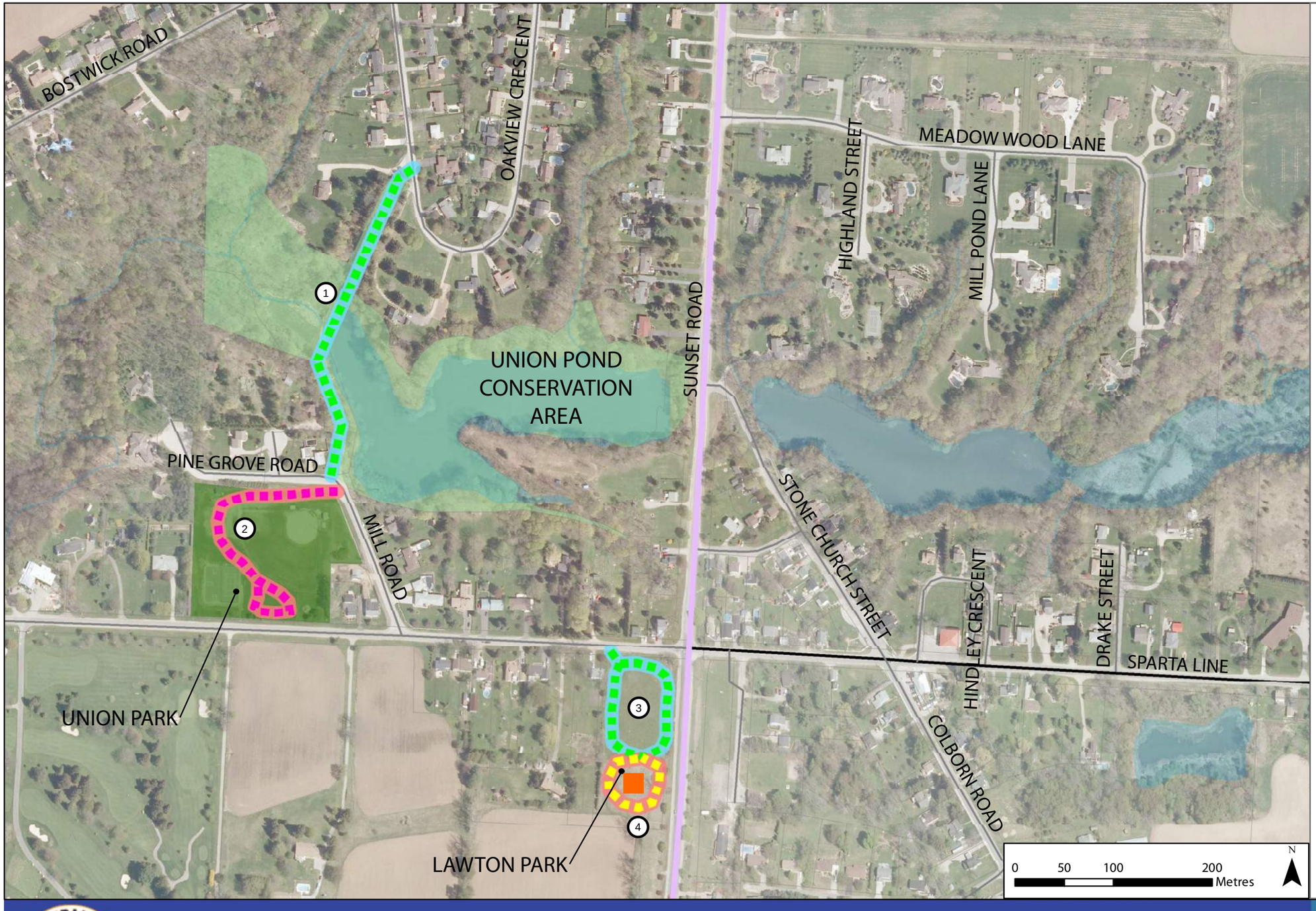
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Implementation

Central Elgin 10 Year Trails Master Plan

Belmont

MAP 9



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- On-Road Route
- Elgin Hiking Trail

Proposed
- On-Road Route

Implementation
- 0-10 Years
- Beyond 10 Years

(14) Project Sheet Number (Refer to individual project sheets for additional details)

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]
- (B) Bridge

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

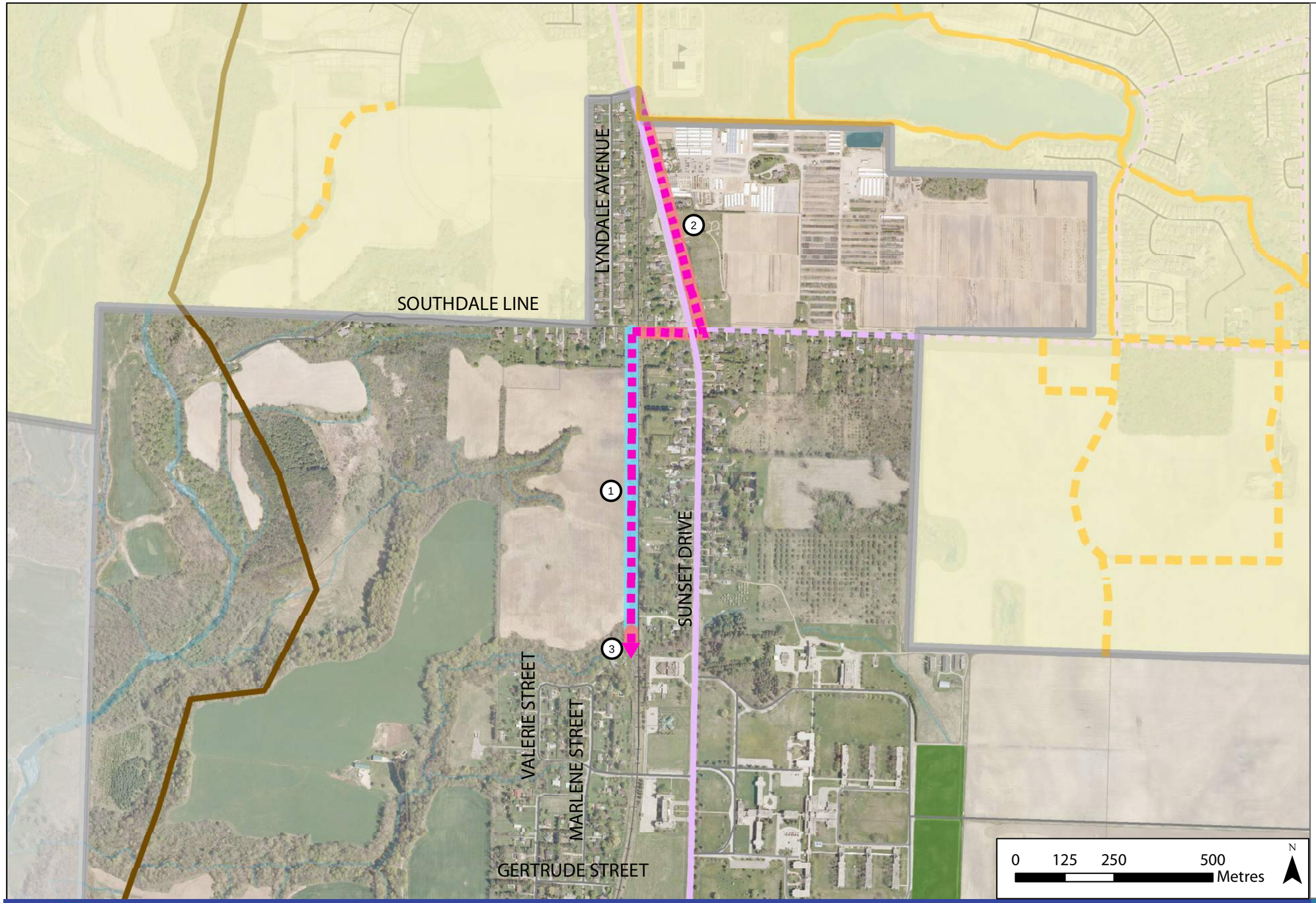
Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Implementation

Central Elgin 10 Year Trails Master Plan

Union

MAP 10



LEGEND

Existing and Proposed Trails in the Central Elgin Trails Master Plan

Existing
- Primary Trail Route
- Secondary Trail Route

Proposed
- Primary Trail Route
- Secondary Trail Route
- Tertiary Trail Route

Existing and Proposed Routes from the Elgin - St. Thomas Cycling Master Plan [1]

Existing
- On-Road Route
- Elgin Hiking Trail

Proposed
- On-Road Route

Implementation
- 0-10 Years
- Beyond 10 Years

(14) Project Sheet Number (Refer to individual project sheets for additional details)

Key Destinations
- School
- Church
- Key Community Destination

Transportation Features
- Highway
- Arterial Road
- Collector Road
- Local Road
- Railway
- Connection to Surrounding Municipality[1]
- Existing Sidewalk[2]
- Future Sidewalk[2]
- (B) Bridge

Land Use Features
- Municipal Park
- Conservation Authority Property
- Waterbody
- Watercourse
- Surrounding Municipality

Notes:
1. Existing and proposed on-road cycling linkages illustrate the network identified in the Elgin-St.Thomas Cycling Master Plan (2014).
2. Existing and future planned sidewalk connections have been provided by the City of St. Thomas.

Implementation

Central Elgin 10 Year Trails Master Plan

Norman-Lyndale

MAP 11

Based on the results of the phasing considerations, the proposed trails network was further organized into a set of five (5) trail project types. These project types help to provide additional clarification on some of the planning, design and implementation considerations for each of the proposed trail projects. Each of the project types also have their own unique implementation timelines and considerations. They are described in more detail below.

New Development Areas

- Trails identified within areas of the Municipality that are currently undergoing a process to approve and build new developments i.e. residential areas
- Timing of implementation for these projects will be consistent with the planning horizon and timeline for the development project.

New Trail Linkages

- New trail linkages represent projects that need further investigation to address context specific constraints
- Timing has been determined based on input from staff and stakeholders taking into consideration the next steps needed and available budgets as well as coordination with large capital projects

Sidewalks

- Sidewalk linkages that have been identified outside of the Municipality's existing sidewalks implementation strategy
- Timing of implementation should be integrated into the Municipality's prioritization structure on an annual basis but also coordinated with the wider connectivity of trails

Trail Improvements

- Formal trail connections that can be achieved through improvements to existing trail linkages
- Timing has been determined based on similar considerations and inputs as were identified for the new trail linkages

On-road Cycling Routes

- Proposed on-road cycling linkages which provide cycling access to proposed trail linkages building on the County's cycling network
- Timing of implementation for the on-road cycling routes should be addressed when the County next updates their plan

#4

Understanding the trail types and their location within the various communities will help to facilitate the implementation of the trails strategy. Table 2 provides of overview of the proposed trail connections that make-up the Central Elgin Trails network, their proposed phase and the trail type in which they fall. Together, this table and the mapping are intended to be used as tools to help facilitate the implementation of the Trails Master Plan. For each of the proposed trail links the table describes the start and end point, trail type (hierarchy), suggested phasing, and the trail type category (i.e. associated with new neighbourhood development; a critical sidewalk or on-road cycling link; and whether the project is a new link or repair/upgrade of an existing link).

Table 2 – Summary of Proposed Trail Routes

Proj. #	Project Description: To	From	Type	Phase: Short (0-10 years)	Phase: Long (10+ years)	Trail Type Category				
Union										
1	Oakview Cr	Mill / Pinegrove Road	Secondary	●		●				
2	Mill / Pinegrove Rd	Union Park	Primary		●					
3	Lawton Park	Lawton Park	Secondary	●						
4	Lawton Park	Lawton Park	Tertiary		●					
Port Stanley										
1	River Rd	630m east of River Rd	Primary	●					●	
2	George St	Lower Spring St	Sidewalk		●		●			
3	Lower Spring St	Edith Cavell Blvd	Secondary		●				●	
4	Edith Cavell Blvd ROW	Erie Rest Beach	Sidewalk	●			●			
5	George St	Woodlot	Secondary	●		●			●	
6	Woodlot Loop	Woodlot loop	Secondary	●		●			●	
7	Link north of woodlot loop	Port Stanley Community Centre via Carlow Rd	Secondary		●				●	
8	Link east of woodlot loop in unopened road allowance	Sidewalk on Carlow Rd	Secondary		●				●	
9	Bridge Street at east side of Lift Bridge	Little Beach	Primary	●					●	●
10	Bridge Street at west side of Lift Bridge	Existing promenade on west side of harbour	Primary	●					●	

Proj. #	Project Description: To	Project Description: From	Project Description: Type	Phase: Short (0-10 years)	Phase: Long (10+ years)	Trail Type Category				
11	Existing promenade on west side of harbour	Hofhuis Park	Primary	●						●
12	Hofhuis Park	Lotus/Maud St	Primary	●					●	
13	Existing walkway off Little Creek Pl	Junction with proposed trail link to East St via future development north side of Little Park	Secondary		●				●	
14	North limit of stormwater management facility off Little Creek Place	South limit of future develop on north side of Little Park	Secondary		●				●	
15	Intersection of Hill and East St	West terminus of Hill St	Sidewalk		●		●			
16	West terminus of Hill St	Colborne St	Primary		●				●	
17	Municipal easement at intersection of Stanley and Francis St	Future development in southwest quadrant of Hill - East St intersection	Tertiary		●	●			●	
18	East St south of Hill St and East St intersection	South limit of future develop on north side of Little Park	Secondary	●		●			●	
19	Intersection of Front St and George St	80m (approx.) east of intersection of Front St and George St	Sidewalk	●			●			
20	Easement at Edith Cavell Blvd	Beach	Secondary	●					●	
21	East Harbour Promenade at Main St. curve to East Beach	East Beach	Primary		●				●	
Lynhurst										
1	Wellington Rd	James Turvey Pl., Owen Ct	Primary	●						●
2	Existing trail north side of stormwater management facility south of James Turvey Pl.	Trail junction at Turvey Park	Primary	●					●	
3	Proposed trail on south side of stormwater facility south of James Turvey Pl.	Hydro corridor	Secondary	●		●			●	
4	Wellington Rd.	East end of hydro corridor at St. Thomas Expressway	Secondary	●		●			●	
5	Proposed trail in hydro corridor	Proposed trail in hydro corridor	Tertiary	●		●			●	
6	Hydro corridor at St. Thomas Expressway	Hydro Road at Cowan Park	Secondary	●					●	
7	Hydro corridor at St. Thomas Expressway	Cowan Park	Tertiary		●				●	
8	Cowan Park	Cowan Park	Primary		●				●	

Proj. #	Project Description: To	Project Description: From	Project Description: Type	Phase: Short (0-10 years)	Phase: Long (10+ years)	Trail Type Category				
9	St. George St.	Entrance to Cowan Park	Primary	●					●	
10	Proposed trail route #7	Below St. Thomas Expressway bridge	Tertiary		●				●	
11	McBain Line, proposed trail route #5, proposed trail route #3	Future neighbourhood	Sidewalk	●			●			
12	Waterworks Park	Proposed trail route #12 under St. Thomas Expressway	Tertiary		●				●	
Belmont										
1	Existing Walkway off Dufferin St at stormwater management facility service access	End of existing walkway off Dufferin St	Primary	●					●	
2	End of existing walkway Dufferin St.	Proposed loop around stormwater management facility	Secondary		●				●	
3	South end of secondary loop east of Dufferin St	North terminus of proposed tertiary route east of Dufferin St	Tertiary		●				●	
4	East terminus of Union St	Proposed secondary trail south of Dufferin St/Brentwood Cr.	Tertiary		●				●	
5	Service access south of Dufferin St. at Brentwood Cr	Proposed Primary trail between Firehall and Union Park	Secondary		●				●	
6	Proposed Bridge north of firehall	Union St., and Belmont Rd (2 separate legs)	Primary		●				●	
7	West St/Copeland St	Proposed primary trail loop in Belmont Meadows Park	Primary		●				●	
8	Existing trail on south side of Belmont Meadows Park	Existing trail on south side of Belmont Meadows Park	Primary		●				●	
9	Service access west side of Belmont Rd. , 160 m south of Copeland St	Terminus of existing asphalt trail at pumping station	Primary		●					●
10	South terminus of Kettle Creek Dr	Westerly into future development area	Primary		●				●	
11	Hazelwood Cr at Louis St.	Terminus of existing asphalt trail at pumping station	Primary	●					●	
12	Proposed primary trail on south side of creek, approx. 75m north of Hazelwood Cr. at Louis St.	Westerly into future development area	Secondary		●				●	
13	Proposed Primary trail north of Fire hall	Proposed Primary trail between Hazelwood / Louis and Pumping	Secondary	●					●	

Proj. #	Project Description			Phase		Trail Type Category				
	To	From	Type	Short (0-10 years)	Long (10+ years)					
		Station								
14	Canterbury Pl.	Existing Trail in Lions Park	Primary	●					●	
15	East limit of main path into ball diamond at Belmont Community Centre	Existing walkway off Canterbury Pl	Primary	●					●	
16	Proposed Primary loop in Belmont Community Centre	Proposed Primary loop in Belmont Community Centre	Tertiary		●				●	
17	Junction with proposed Primary Trail from south of Union Street Park	Proposed Primary trail between Hazelwood / Louis and Pumping Station	Secondary		●				●	
18	Junction with proposed Primary Trail in Union Street Park	Existing Laneway/pathway adjacent to Bel Parc Seniors' residence	Primary		●				●	
19	Caesar Road at Lions Park	Proposed bridge over creek north of fire hall	Primary	●					●	
20	Proposed trail route #17, west side of Belmont Road	Service access lane on west side of Belmont Road	Secondary		●				●	
21	Seventh Ave approx. 200m west of Belmont Road	Future neighbourhood	Primary		●	●			●	
22	Kettle Creek Drive	West of Snyders Avenue	Sidewalk	●			●			
Norman-Lyndale										
1	Southdale Line	Woodlot area approx. 750m south of Southdale Line	Primary	●		●			●	
2	Southdale Line at north terminus of proposed trail route #1	South end of L&PS rail trail (St. Thomas)	Primary		●				●	
3	Woodlot area approx. 750m south of Southdale Line	Southerly towards Central Elgin/County of Elgin Administration Centre	Primary		●				●	
Other Trails										
1	Dalewood Conservation Area (KCCA)	Trails in Dalewood Conservation Area	Secondary and Tertiary							●
2	Dalewood to Dan Patterson Conservation Area (KCCA)	Trails connecting Dalewood Conservation Area to Dan Patterson Conservation Area	Tertiary							●

Proj. #	Project Description: To	Project Description: From	Project Description: Type	Phase: Short (0-10 years)	Phase: Long (10+ years)	Trail Type Category				
3	Dan Patterson Conservation Area (KCCA)	Trails in Dan Patterson Conservation Area	Primary, Secondary and Tertiary							●
4	Archie Coulter Conservation Area (CCA)	Trails in Archie Coulter Conservation Area	Secondary and Tertiary							●
5	Springwater Forest Campground (CCA)	Trails in Springwater Forest Campground	Secondary and Tertiary							●
6	Yarmouth Natural Heritage Area (CCA)	Trails in Yarmouth Natural Heritage Area	Secondary and Tertiary							●
On-road Cycling Route										
1	Belmont Rd	Old Victoria Rd (City of London)	On-road Signed Cycling Route					●		
2	Quaker Rd	Yarmouth Natural Heritage Area	On-road Signed Cycling Route					●		

#5

For each of the proposed projects noted above, additional information has been gathered and documented to help guide implementation as the Municipality proceeds. The results are a set of project sheets which consolidate relevant information related to each of the proposed routes that make-up the Central Elgin Trails network. Understanding and interpreting the information contained within these project sheets is necessary to ensure that they are being used consistently and accurately. The following figure provides a sample project sheet and provides explanation on how to use the various pieces of information contained within it. Each of the project sheets prepared for the proposed trails has been included in in Technical Appendix C under separate cover)

Project #	**Port Stanley – 9**	**Description**	Development of a waterfront promenade along the east side of the harbour to echo improvements being made on the west side and create a easily recognizable connection between the harbour area and Little Beach.
From:	**To:**	**Site Photos:**	
Bridge Street at east side of Lift Bridge	Little Beach		
Length (m)	620m	**Proposed Trail Class:** Primary	
Unit Cost ($/m)	$300.00		
Additional Cost Considerations	See design notes		
Estimated Cost	**$186,000**		
Proposed Phasing:	0 – 10 years	**Considerations:**	**Design:** • Estimated cost is for a typical primary trail only and does not include costs that would be associated with a comprehensive design for the waterfront and harbour promenade (e.g. more expensive paving treatments, benches, lighting, landscape plantings, public art etc.) • Consider design treatments and elements reflective of the design for the west side of the harbour • Would ultimately become part of an east harbour loop when combined with proposed route #21
Rationale:	Improves overall walkability of the downtown/harbour area A key part of harbourfront revitalization that adds to the Port Stanley experience for residents and visitors alike.		**Implementation:** • Requires considerable consultation with residents and adjacent landowners, which could be part of a broad scale visioning and design for the east side of the harbour • May require easements or acquisition of portions of the trail corridor. • Could be implemented in phases and may be a strong candidate for external funding grants and partnerships

The corresponding project number on the key maps

A description of the proposed trail connection including the start and end point

The proposed length of the trail connection in metres

A preliminary unit cost of the proposed facility type taking into consideration average cost for the proposed facility as well as the cost to implement additional design features

The proposed phasing for the trail identified as well as the rationale for the proposed phasing i.e. how it fulfills the phasing considerations

Site considerations that have a direct impact on how the trail will need to be designed i.e. environmental features that require crossings

Site photos gathered from the field investigation providing additional site context and understanding

An image of the proposed route alignment as illustrated on mapping and an example of the proposed trail classification that has been identified for that location

The context specific considerations that have an impact on the implementation of the trail for example the presence of utilities which would need to be move or the acquisition of land

4.1.2 Trail Priorities

Within the first 10 years of implementation there are a set of trail priorities that have been identified within the various geographic areas of the Municipality. The priorities have been selected to provide the Municipality with some suggested direction on which projects to proceed with following the completion and adoption of the strategy. There is no specific timing associated with these priorities; however, additional investigation and consideration has been given to these projects to allow for the Municipality to move forward in an efficient and effective manner.

Table 3 illustrates how each of the projects relate to the implementation criteria. For each of the trail priorities identified, the project sheets have been included on the following pages.

Table 3 – Overview of Trail Priority Rationale

Proj. #	Project Description	Phasing Considerations					
		Available Capital Budgets	Timing of Projects	Potential Partnerships	Required Next Steps	Local Input	Politicial & Staff Support
Union							
#1	Completion of trail link between Oakview Crescent and Mill Road / Pinegrove Rd to upgrade an existing access used to service the Union Pond Dam.			●		●	●
#3	A proposed secondary loop connection within Lawton Park providing access to the various arboretum features in Lawton Park		●	●	●		
Norman-Lyndale							
#1	A proposed primary trail connection parallel to the L&PS railway corridor between Southdale Line and the woodlot at the southerly limit of this future neighbourhood		●		●	●	●
Lynhurst							
#1	An existing asphalt and granular surfaced trail in Northwest Lynhurst which requires improvements to meet current standards	●	●		●		●
#6	New secondary trail following the old 'Hydro Road' a route that has been used informally for trails as evidenced by the worn footpath	●	●		●		●
Belmont							
#11	New primary level trail connection linking neighbourhoods on the south side of the creek with neighbourhoods on the north side of the creek			●	●	●	●
#14	Primary level in-boulevard trail on the south side of Caesar Rd. from Sherwood Ave. to Belmont Lions Park		●	●		●	●
Port Stanley							
#9	Development of a waterfront promenade along the east side of the harbour and create an easily recognizable connection between the harbour area and Little Beach.	●		●	●	●	●
#10	Primary level trail connection to close the short gap between work that is currently underway on link #11 west harbour promenade and Bridge St.	●	●			●	●

Both the project sheets as well as the implementation table should be used by the Municipality as they pursue the implementation of the proposed priorities. The Municipality should work with their partners when pursuing the implementation of the proposed trail improvements and should integrate the use of the proposed implementation tools identified in **section 4.3** of the report.

Project #	**Union – #1**	**Description**	Completion of this trail link involves formalizing and upgrading an existing access that is used to service the Union Pond dam. The link provides a trail route connecting residents on Oakview Cr. with Union Park.
From:	**To:**	**Site Photos:**	  
Oakview Cr.	Mill Rd. / Pinegrove Rd.		
Length (m):	350m	**Proposed Trail Class:** Secondary	 
Unit Cost	$75.00		
Additional Cost Considerations	Cost includes $5,000 allocation for improvements to the access barrier at the dam		
Total Cost	**$31,250**		
Phasing:	0 – 10 years	**Considerations:**	**Design:**
Rationale:	» Improves walkability in the hamlet area of Union and provides residents with improved ability to access Union Park » Much of the trail base is already in place, therefore trail improvements should be relatively easy to achieve		» Design should consider opportunities to reduce / consolidate the gates / barriers. Currently there are 3 barriers on the south (KCCA side of the pond); at the dam, at the base of the southern entrance; at the main entrance off Pine Grove/ Mill Rd. » The opening in the barrier on the dam is narrow and difficult to navigate » Further discussion with KCCA is required to develop a solution that meets trail user needs yet maintains the KCCA objective to control unauthorized vehicle access.

Implementation:

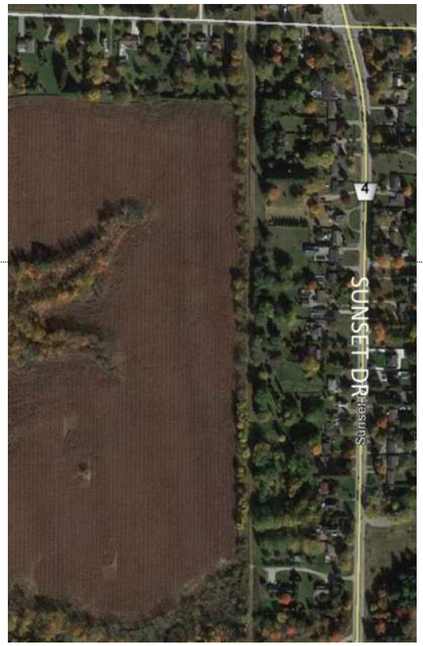
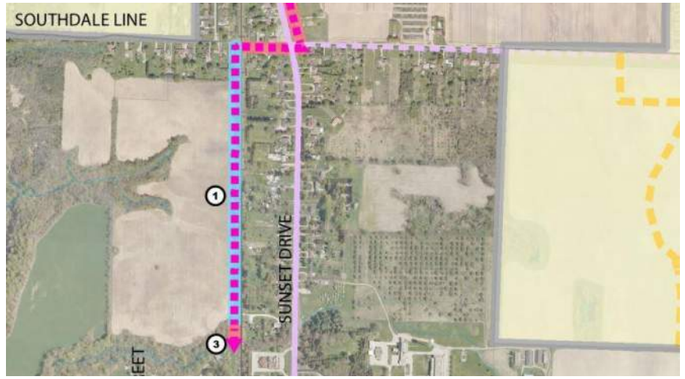
» Improvements will require collaboration with Kettle Creek Conservation Authority

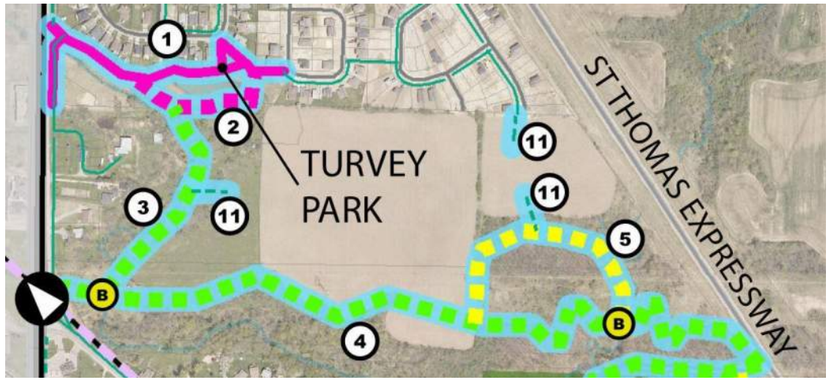
» The existing access road base on the south side of the pond is stable, requiring only minor levelling of the base prior to topping with stonedust

» Areas around the south side of the dam are used for emergency overflow in the event of flooding. Erosion fabric directly below existing vegetation will preclude site grading activities

» The section of trail on the north side will require base improvement and some remedial drainage work to ensure surface water does not run along the trail surface resulting in erosion

Project #	**Union – #3**	**Description**	A secondary trail loop in the arboretum improves access to the various specimens in Lawton Park
From:	**To:**	**Site Photos:**	 
Lawton Park	Lawton Park		
Length (m):	275m	**Proposed Trail Class:** Secondary	 
Unit Cost	$140.00		
Additional Cost Considerations	N/A		
Total Cost	$38,500		
Phasing:	0 – 10 years	**Considerations:**	**Design:** » The trail loop could be laid out as part of an overall plan for the park / arboretum, the alignment of the loop could be planned around future planting areas and beds containing different collections of trees and shrubs » Trail loop provides additional locations along its length for donor benches **Implementation:** » Potential partnership with local service club(s)
Rationale:	» Improves access to the plant specimens on the site and may encourage more visitors to come to the park and learn about the collection » Provides a short trail loop opportunity for residents living on the east side of Sunset Dr.		

Project #	**Norman-Lyndale - #1**	**Description**	Primary trail connection parallel to the L&PS train corridor, implemented as part of a new neighbourhood
From:	**To:**	**Site Photos:**	  
Southdale Line	Woodlot area approx. 750m south of Southdale Line		
Length (m):	**750m**	**Proposed Trail Class:** Primary	
Unit Cost	$250.00		
Additional Cost Considerations	N/A		
Total Cost	**$187,000**		
Phasing:	0-10 years	**Considerations:**	**Design:**
Rationale:	» Trail would be implemented as part of the new neighbourhood development » When connected to the L&PS trail in St. Thomas and the new South Path trail routes being developed by St. Thomas this route adds to excellent trail opportunities in the vicinity		» Primary asphalt surface trail to follow the same design as the L&PS rail trail in St. Thomas » This trail should be connected to other park and open space blocks in this new neighbourhood » Consideration should also be given to ensuring connection(s) to the Elgin Hiking Trail which passes in the vicinity of the western side of the development block
			Implementation:
			» To be coordinated with new development and provided by the developer » Municipality will work with the developer during the application process

Project #	**Lynhurst - #1**	**Description**	Existing asphalt and granular surfaced trails in the northwest part of Lynhurst which require improvements to bring them to the same standard being recommended for new trails in Central Elgin.
From:	**To:**	**Site Photos:**	  
Wellington Rd	James Turvey Pl, Owen Ct		
Length (m):	**600m**	**Proposed Trail Class:** Secondary	
Unit Cost	$200.00		
Additional Cost Considerations	N/A		
Total Cost	**$120,000**		
Phasing:	0 – 10 years	**Considerations:**	
Rationale:	» Trails that are part of Project #1 are older and narrow with surface defects in much of the asphalt portions of the trail » Improvements should be made to these trails at the same time as new neighbourhood development takes place so that trails are a common standard		

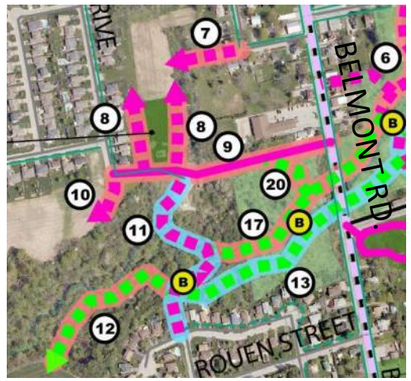
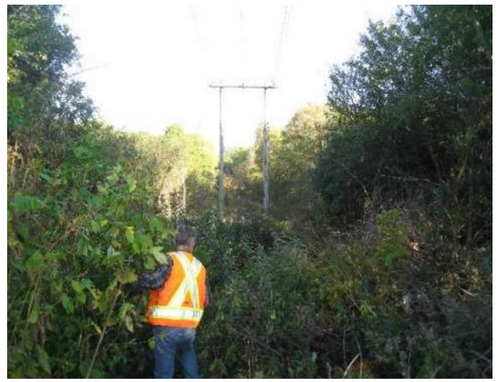
Design:

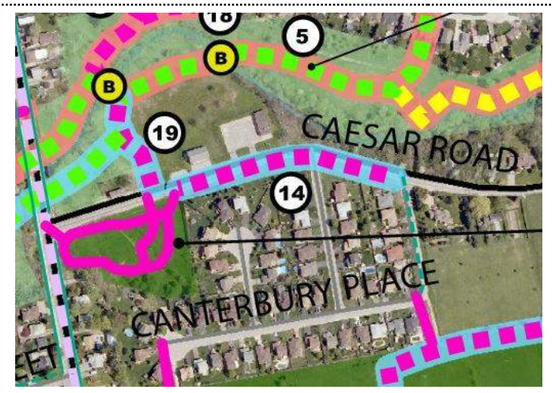
- Recommend primary asphalt surface trails
- Remove existing asphalt, widen base and add new asphalt assumes some of existing base can be reused

Implementation:

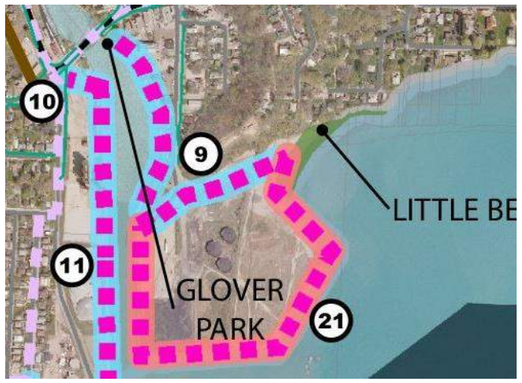
- Timing should be coordinated with the implementation of proposed route #2 and other trails in the immediate vicinity that are part of this new neighbourhood that is being developed

Project #	**Lynhurst - #6**	**Description**	New secondary trail following the old 'Hydro Road' a route that has been used informally for trails as evidenced by the worn footpath
From:	**To:**	**Site Photos:**	  
Hydro corridor at St. Thomas Expressway	Hydro Road at Cowan Park		
Length (m):	**580m**	**Proposed Trail Class:** Secondary	 
Unit Cost	$140.00		
Additional Cost Considerations	N/A		
Total Cost	**$81,200**		
Phasing:	0 – 10 years	**Considerations:**	**Design:** » Secondary trail developed on existing granular base of old 'Hydro Road' » Clearing and grubbing of old road bed, assumes old road bed can be used as trail base
Rationale:	» Implement at the same time as trails are installed in the new neighbourhood on the north side of the hydro corridor, to connect northwest Lynhurst and its new neighbourhood with Cowan Park		**Implementation:**

Project #	**Belmont - #11**	**Description**	New primary level trail connection linking neighbourhoods on the south side of the creek with neighbourhoods on the north side of the creek
From:	**To:**	**Site Photos:**	  
Hazelwood Cr at Louis St	Terminus of existing asphalt trail at pumping station		
Length (m):	**300m**	**Proposed Trail Class:** Primary	 
Unit Cost	$250.00		
Additional Cost Considerations	Includes allowance of $75,000 (for pedestrian bridge over creek)		
Total Cost	**$150,000**		
Phasing:	0 – 10 years	**Considerations:**	**Design:** » Primary level trail with an asphalt surface so it can be considered for 4-season maintenance as a route to the future school » A switchback may be required on the south side (from Hazelwood Cr. / Louis St. access point » Requires a pedestrian bridge over the creek » Further feasibility completed as part of pre-design project scoping should include examination of potential creek crossing points and trail alignment; in an effort to reduce the number of potential trail bridge crossings **Implementation:** » Requires collaboration with Kettle Creek Conservation Authority, including a change in their policy related to access and use in the valleyland area » Pedestrian / trail bridges will require approval from Kettle Creek Conservation Authority
Rationale:	» This route has been used informally for a number of years by residents » It is anticipated to become an important walking link to the future school in the north part of town		

Project #	**Belmont - #14**	**Description**	Primary level in-boulevard trail on the south side of Caesar Rd. from Sherwood Ave. to Belmont Lions Park
From:	**To:**	**Site Photos:**	  
Canterbury Pl	Existing Trail in Lions Park		
Length (m):	**240m**	**Proposed Trail Class:** Primary	 
Unit Cost	$300.00		
Additional Cost Considerations	N/A		
Total Cost	**$72,000**		
Phasing:	0 – 10 years	**Considerations:**	**Design:** » Primary level boulevard multi-use trail with an asphalt surface » Connection to proposed trail route #19 will also require a designed trail crossing of Caesar Rd. » Ample right-of-way on the south side of Caesar Rd. will facilitate a trail alignment that minimizes conflicts with utilities **Implementation:** » Will require consultation and coordination with utility owners (e.g. hydro, water, communications) early in the design process to determine potential conflicts and eliminate or minimize the need for relocations
Rationale:	» Completion of this route in the short term improves walkability in Belmont and prevents the need for residents to walk along the shoulder of Caesar Rd. » This improvement is also part of a connecting set of trail routes that will cross below Belmont Rd.		

Project #	**Port Stanley - #9**	**Description**	Development of a waterfront promenade along the east side of the harbour to echo improvements being made on the west side and create an easily recognizable connection between the harbour area and Little Beach.
From:	**To:**	**Site Photos:**	  
Bridge Street at east side of Lift Bridge	Little Beach		
Length (m):	**620m**	**Proposed Trail Class:** Primary	 
Unit Cost	$300.00		
Additional Cost Considerations	See design notes		
Total Cost	**$186,000**		
Phasing:	0 – 10 years	**Considerations:**	**Design:**
Rationale:	» Improves overall walkability of the downtown/harbour area » A key part of harbourfront revitalization that adds to the Port Stanley experience for residents and visitors alike.		» Estimated cost is for a typical primary trail only and does not include costs that would be associated with a comprehensive design for the waterfront and harbour promenade (e.g. more expensive paving treatments, benches, lighting, landscape plantings, public art etc.) » Consider design treatments and elements reflective of the design for the west side of the harbour » Would ultimately become part of an east harbour loop when combined with proposed route #21
			Implementation: » Requires considerable consultation with residents and adjacent landowners, which could be part of a broad scale visioning and design for the east side of the harbour » May require easements or acquisition of portions of the trail corridor. » Could be implemented in phases and may be a strong candidate for external funding grants and partnerships

Project #	**Port Stanley - #10**	**Description**	Primary level trail connection to close the short gap between work that is currently underway on link #11 west harbour promenade and Bridge St.
From:	**To:**	**Site Photos:**	 
Bridge Street at west side of Lift Bridge	Existing promenade on west side of harbour		
Length (m):	**90m**	**Proposed Trail Class:** Primary	 
Unit Cost	$300.00		
Additional Cost Considerations	N/A		
Total Cost	***$27,000**		
Phasing:	0 – 10 years	**Considerations:**	**Design:** » A short primary level connection through the existing parkette at the corner of Bridge St. and Carlow St. to follow similar design standards already established for pedestrian improvements along the harbourfront **Implementation:** » Estimated cost is for a typical primary trail only and does not include costs that would be associated with a comprehensive design for the waterfront and harbour promenade (e.g. more expensive paving treatments, benches, lighting, landscape plantings, public art etc.) » Public and agency consultation for the design of this link can be part of other consultations regarding harbourfront improvements.
Rationale:	» Completing this short connection between Bridge St and work that is currently underway on the waterfront promenade will draw pedestrians around the west harbour to Hofhuis Park and Port Stanley beach, adding to the 'Port Stanley' experience for residents and visitors		

4.2 Supportive Strategies: The Four E's

Changing community habits and influencing community behavior to create more active and complete communities is not solely achieved by implementing trails and other walking, cycling and rolling routes and facilities. In addition to building the infrastructure there should also be significant consideration and implementation of strategies that increase levels of active transportation and recreation. A 'successful' implementation program is typically founded on Five E's which cover the various aspects and components of behavior change including encouragement, education, enforcement and evaluation.

4.2.1 Encouragement

Description

Encouragement speaks to methods and tactics which influence people's behavior resulting in people becoming more involved in active forms of transportation or to utilize trails and active transportation more frequently. Encouragement tactics should be tailored to various target audiences i.e. youth versus seniors and should have a specific outcome in mind i.e. more people on a trail or more students walking and biking to and from school.

Best Practices

- Prior to creating initiatives, identify desired behavior change, identify barriers and then pilot the program
- Creating incentive programs and contests to challenge participants
- Ensure amenities and access points are designed to accommodate users
- Work with local employers and businesses to pilot programs and partner

Previously Proposed

- **Page 52 (CS)** – Identification and proposal of four new programs for consideration County-wide
- **Page 53 (CS)** – Acquire bicycle friendly community designation
- **REC 4-15 (ATI)** – utilize community based social marketing techniques to deliver marketing and promotional events

#1

Create Trail Signage Concept

- A cohesive, comprehensive and branded set of signs to identify trails throughout the Municipality
- Municipality to either develop or retain someone to develop a sign concept for each trail signs identified in the "family of signs"
- Work with local stakeholders to identify relevant information for inclusion on key signs including but not limited to AODA notes, natural features, tourism draws, etc.
- Identify specific locations throughout the Municipality where signage could be implemented

#2

Establish a Winter Trail

- The maintenance of trail facilities within the Municipality throughout the winter months to provide seasonal recreation opportunities
- Municipality to identify two trail systems to utilize as winter skating trails (e.g. Belmont Lions Trail and another location in Port Stanley)
- Municipality to work with maintenance crews to determine an approach to maintaining a winter skating trail (i.e. Hanna Park Skating Trail in Port Carling)
- Develop a promotional strategy around the opening of the trail once initiated

4.2.2 Education

Description

Education is the increase of knowledge and understanding around the opportunities, practices and processes around active transportation routes, facilities and programs. Similar to encouragement, there are a number of education tactics including but not limited to online resources, media outreach, hard copy promotional tools, etc. They should also be tailored to the preferred audiences and desired outcomes.

Best Practices

- Making information easily accessible
- Partnerships with not for profit organizations and other local agencies
- Utilize existing materials and tailor to local needs i.e. Healthy Living, MTO, MTCS, Ontario Trails Council, etc.
- Utilize existing platforms such as parent newsletters, webpages, etc.
- Target centralized locations

Previously Proposed

- **SEC 4-12 (ATI)** – consider the implementation of education programs
- **REC 4-13 (ATI)** – Utilize design guidelines as a potential resource when developing educational materials to increase awareness of facility types
- **REC 4-14 (ATI)** – prepare and distribute transportation guides including educational information

#3

Distribute Information Locally

- To provide relevant active transportation and trail information throughout the Municipality
- Identify specific locations within various communities where information can be distributed
- Work with Elgin-St. Thomas Public Health to print and distribute supportive information
- Work with Citizens 4 Active Transportation to promote the distribution of information and to gather input on potential revisions or additions to existing promotional materials

#4

Partner with Schools for Trail Events

- Working with school representatives and school aged children to promote the safe use to trails
- Identify potential pilot schools which have an interest in trails or active transportation in the community
- Work with Citizens 4 Active Transportation to develop a trail walking event in the major communities followed by some educational opportunities
- Survey students and attendees event successes and improvements and provide promotional tools and information to local schools to encouraged greater activities

4.2.4 Enforcement

Description

The safe use of walking, cycling and rolling infrastructure is a significant influence on user behavior. Working with partners as well as local enforcement – the application of safe practices – to assess and apply the appropriate use. Typically enforcement is driven by local by-laws and provincial guidelines and regulations and undertaken by by-law enforcement officers and police officers but can also be undertaken in partnership with local stakeholders.

Best Practices

- Enforcement is typically geared towards sidewalks, roads and trail for all users
- Make regulations available and clearly communicated
- Establishing partnership between key delivery agencies
- Patrols and safety blitzes as well as share the road campaigns implemented by the municipality and its partners

Previously Proposed

- **REC 4-16 (ATI)** – work with police services to develop safety campaigns modeled after best practices e.g. Halton
- **REC 4-17 (ATI)** – supplement police activities with local by-law enforcement
- **Page 46 (CS)** – the use of regulatory signage messaging to communicate enforcement tactics

#5

Work with Partners to Monitor Trails

- Establish local champions within the community to enforce the safe use of trails and other active transportation opportunities
- Engage Citizens 4 Active Transportation and Active Elgin and hold preliminary discussions about trail enforcement
- Bring in local by-law enforcement officers and police to explain rules and regulations
- Provide a formalized identifier for the trail ambassadors
- Hold pilot exercise to test enforcement protocols

#6

Create a Process to Enforce Trail Safety

- Establish a process and protocol to enforce trail safety throughout the Municipality
- Establish a working group made up of trail representatives from the conservation authority, police, by-law enforcement and other municipal staff
- Work together to create an enforcement approach, process and mechanism – building on partnerships in the community
- Pilot the program in partnership with the community representatives noted in strategy #5

4.2.5 Evaluation

Description

Evaluation includes tools and techniques to help gain a better understanding of how infrastructure and programs are used and how well they achieve their desired outcomes. They can be an effective tool to gauge the success of a master plan or strategy and to help inform future selection of programs, infrastructure and improvements.

Best Practices

- Ongoing and continuous application of evaluation tactics to gauge potential change and influence
- Partnerships with local agencies i.e. Active Elgin to support information gathering
- Development and use of a range of measures including planning, engineering and design considerations
- Integration of technology and manual documentation

Previously Proposed

- **Section 4.6 (ATI)** – performance measures and data collection tactics including specific performance measures for consideration in **Table 4.2**
- **Page 65 (CS)** – more detailed performance monitoring measures

#7

Implement Trail Tracking Technology

- To track and monitor the use of trail infrastructure throughout the Municipality
- Research potential trail counters and select preferred technology – preference for technology which can be temporarily installed and moved
- Select a preferred location and pilot the counter for one season and identify alternate locations and a timeline for implementation and monitoring.
- Investigate opportunities for investment in additional technology

#8

Create User Surveys

- To establish a greater understanding of the interests and preferences of community residents and gather input on new priorities
- Review and update the survey created for the Trails Master Plan to reflect preferred survey questions
- Distribute survey after two years of master plan implementation to reflect progress made
- Work with local partners to distribute and promote the survey
- Adapt survey as needed

4.3 Implementing the Strategy

The implementation of the Central Elgin Trails Master Plan will require a coordinated and collaborative effort between the Municipality of Central Elgin and its partners including but not limited to both Conservation Authorities, the City of St. Thomas, Elgin-St. Thomas Public Health and local agencies such as Active Elgin. Though a phased approach to implementation has been identified the implementation of Central Elgin's trails network is meant to be a flexible process that is integrated into the day-to-day decision making of staff, members of Council and partners. The following sections outline potential processes, tools and implementation considerations which are to be used to support the implementation of the trails master plan.

4.3.1 The implementation process

#4

The Central Elgin Trails Master Plan is not a static document. The trail alignment and phasing will and should evolve through future environmental assessments, planning, design, construction and budgeting processes. Typically master plans are updated every 5 – 10 years; the Central Elgin Trails Master Plan should follow this process and should make necessary updates / amendments when updated.

There are certain steps that are required when a municipality selects to move beyond the master planning process to design and implementation. A five-step implementation process has been identified for the Municipality of Central Elgin to help guide the process of confirming trail route feasibility. It encourages coordination and collaboration between affected agencies and takes into consideration context specific conditions. The Municipality of Central Elgin should consider adopting or at least using this tools as a reference as they move forward with the implementation of proposed trail linkages.

When doing so, the Municipality should also consider the following:

- There may be municipal policies / plans e.g. the Official Plan which may need to be updated to reflect the information included in the trails master plan.
- Some segments may fall under the jurisdiction of the City of St. Thomas and conservation authorities. The Municipality should continue to work with these stakeholders integrate implementation processes, practices and timelines.
- When municipal or county roads and other capital infrastructure projects are identified and scheduled the master plan should be reviewed (e.g. the use and / or sale of abandoned rail and utility corridors).

1

Preliminary Review

- When a project moves to the planning stage or a new opportunity arises a preliminary review should be completed to consider responsibility, timeline, cost effectiveness and feasibility.

2

Feasibility Assessment

- Feasibility should consider route selection criteria, design principles, characteristics and context specific considerations.
- Prepare preliminary functional design – could be at the same time as a MCEA or functional design

3

Detailed Design, Tender & Implement

- Proceed with construction – explore partnerships for cost sharing and update the GIS database to reflect the status of the project
- Design should be completed based on best practices and guidelines / standards and phasing should be consistent with the plan

4

Monitor & Evaluate

- Following construction and use the facility should be monitored to ensure functionality
- Facility should be properly maintained and upgraded when necessary.

5

Official Plan & Policy Updates

- When appropriate, policies should be updated to reflect the status of the trails network i.e. the Official Plan

#4

4.3.2 Network Management Tool

The management of implementation, operation and maintenance of the trails network and the master plan will require ongoing coordination and tools to support and facilitate future work. A network management tool has been prepared for the Municipality of Central Elgin which combines three tools which together can be used beyond the lifespan of the master plan by Municipal staff and its partners. The three components are described in further detail below.

GIS Database

The development of the trail network mapping and the management of trail related information is contained within a Geographic Information System (GIS) database. The database was developed based on information provided by the Municipality of Central Elgin, the City of St. Thomas and its partners and now contains updated information reflecting the routes and facility types that make-up the trails network.

Following the completion of the trails master plan the Municipality is encouraged to share the GIS database with the City of St. Thomas and the Conservation Authorities and for all agencies to utilize the information contained within it to effectively communicate project outcomes and plan / manage municipal assets.

Waypoints & Photos

As noted in **section 2.0** of the report, during field investigation, GPS waypoints and photographs were taken identifying the location of context specific considerations and characteristics. Together with the GIS database, these photos and waypoints can be used to develop a KML file which geographically positions the photos and waypoints in Google Earth to more clearly highlight their location.

The tool can be used as a communication tool for staff when proceeding with the assessment of feasibility of select routes and can also help to better understand community questions or concerns which may arise as they proceed with detailed design and construction.

Spreadsheet

The reality is not all staff and decision makers have GIS. Many do not have access to the program or the resources to support it. As such, an alternate format which can be used containing all of the same information has been developed. An excel based network management spreadsheet has been generated mimicking the content of the GIS database and acting as an additional tool for those who do not have access to the software.

As the GIS database is managed and updated so should the network management spreadsheet. It also contains additional information related to costing for each of the proposed routes and can be used as an additional implementation resource.

In addition to managing the implementation of the trails master plan, the tools noted above could also be used by the Municipality and its partners in the following ways:

- As a communication tool with members of the public, stakeholders and interest groups as well as members of Council when communicating future priorities and next steps;
- A tracking tool to confirm the feasibility of facilities as well as future network priorities and incorporated into capital budgeting and decision making;
- A tracking tool to document the implementation of segments by updating the “trail type” segment of the database helping to decrease the need for future master plan updates; and
- Develop network mapping and associated promotional tools through partnerships with Citizens 4 Active Transportation, Elgin-St. Thomas Public Health and other partners.

4.3.3 Roles, Responsibilities & Partnership

Roles & Responsibilities

In understanding the current structure / organization of roles and responsibilities the consultant team was able to identify a realistic and feasible approach to reporting and management. Specific roles and responsibilities for those who will be directly involved in trail implementation will help to ensure that the decision-making process is both efficient and well managed. A proposed reporting structure and roles have been proposed. The reporting structure, once confirmed, should be adopted by the Municipality and communicated to its partners – please see a more detailed description of the community partners and their potential involvement in future implementation in the following section.

The suggested reporting structure identifies the groups and agencies that are proposed to have a key role in the plan's implementation. The groups, once confirmed, will be responsible for "championing" the implementation of the Master Plan and build on the successes through the development of the plan and other Municipal projects and initiatives. A reporting structure has been developed and is recommended to be used by the Municipality to guide future decision making related to the trails master plan. The structure should be reviewed, revised and ultimately adopted as the preferred approach for communication. When developing the structure the following assumptions were made:

- Staff from the Physical Services department will lead the implementation of the Trails Master Plan and will be responsible for coordinating involvement with other municipal staff from corporate services, community planning and development and recreation, culture and wellness.
- Public works should identify a staff point person to coordinate the implementation of the Trails Master Plan. The individual would be responsible for tracking elements of implementation and coordinating with other departments as well as external stakeholders.
- The Municipality's planning department will be responsible for any planning policy updates that need to be made to support the trails master plan i.e. updates to the Official Plan and will also be responsible for reviewing and approving site plan applications to ensure that they support the proposed trails network and highlight opportunities for additional enhancements.
- After 2 – 3 years of implementation the Municipality should re-evaluate the coordination of implementation and should consider establishing a more formal staff role to lead the implementation of the Trails Master Plan and to manage planning, design and construction.
- The Municipality should work with the Elgin-St. Thomas Public Health and organizations such as the Citizens 4 Active Transportation and the Elgin Hiking Club to promote the use of local trails and to support future trail supportive initiatives.
- Residents and stakeholders should be engaged on a continuous basis as the master plan is implemented.

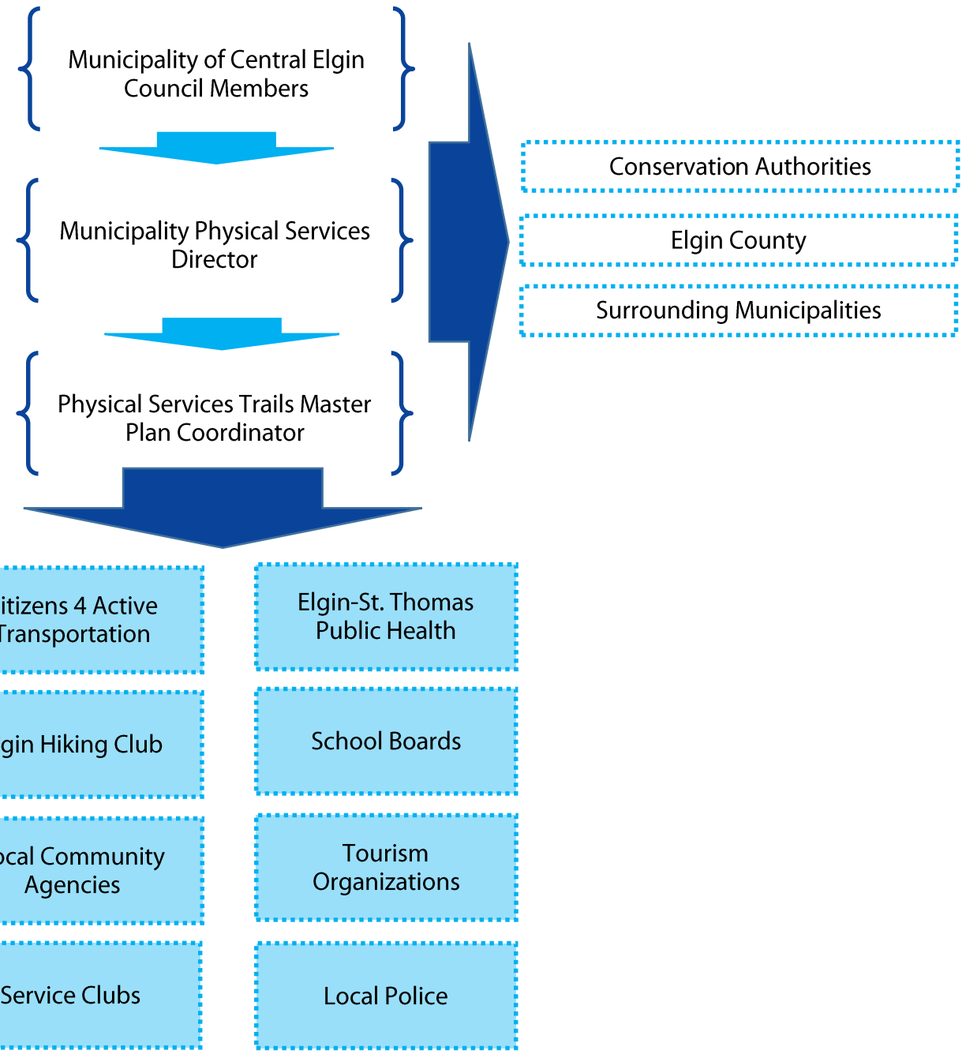


Figure 5 – Proposed Reporting Structure for Central Elgin Trails Master Plan

Partnership Opportunities

As noted above, the implementation of a long-range master plan requires considerable coordination and collaboration. Successful implementation requires strong partnerships which build on existing community support and efforts. The Municipality of Central Elgin should continue to work with their partners as they proceed with the next steps when implementing the Trails Master Plan and should expand their network of partners to support future programs and initiatives. The following is a list of the partners that are either currently engaged or should be engaged as part of the implementation process:

Political Agencies

- Elgin County
- Bordering Municipalities
- Conservation Authorities
- School Boards
- Ministry of Transportation Ontario
- Ministry of Natural Resources
- Ministry of the Environment & Climate Change
- Provincial Parks
- Ontario Provincial Police

Local Interest Groups

- Committees to Council
- Local Businesses
- Lions Club & Service Clubs
- Citizens 4 Active Transportation
- Port Stanley Community Policing Committee

Trail Organizations

- Trans Canada Trail Association
- Waterfront Trail Association
- Ontario Trails Association
- Elgin Hiking Club

Each partner that works with the Municipality will likely have a unique role and will be involved in various aspects of master plan implementation. Depending on the type of initiative, the intended outcomes or its timing there may be various groups involved. Typically there are two types of involvement that partners could contribute to including: infrastructure and programs / initiatives. Within these two categories there are subcomponents specifically address the key elements that would need to be considered. An overview of the involvement of each of the agencies related to these categories is presented in Table 4 below.

Table 4 – Potential Partner Roles & Responibilities

Partner	Infrastructure				Programs		
	Planning	Design	Construction	Maintenance	Development	Promotion	Hosting
Elgin County	●	●	●	●			
Bordering Municipalities	●	●	●	●			
Conservation Authority	●	●	●	●	●	●	●
School Boards	●				●	●	●
Ministry of Transportation Ontario	●	●					
Ministry of Natural Resources	●	●					
Ministry of Environment & Climate Change	●	●					
Provincial Parks	●	●	●	●			
Ontario Provincial Police					●	●	●
Committees to Council	●				●	●	●
Local Businesses					●	●	●
Lions Club & Service Clubs		●		●	●	●	●
Citizens 4 Active Transportation				●	●	●	●
Port Stanley Community Policing					●	●	
Trans Canada Trail Association	●	●	●			●	
Waterfront Regeneration Trust	●	●	●			●	
Ontario Trails Council	●	●				●	
Elgin Hiking Trail Club					●	●	●

4.3.4 Funding the Master Plan

A master plan that identifies recommended infrastructure and programming will require investment – not only for start-up but the operation and maintenance of those components. The following sections provide an overview of the anticipated costs to implement the proposed trails network as well as other cost considerations which would need to be addressed as the plan is implemented by the Municipality.

The Central Elgin Trails Master Plan will take a significant amount of resources to implement. Not only will it require staffing resources from Municipal staff, Councillors and its partners; but it will require ongoing financial commitment to move forward with future planning, design and implementation. A set of preliminary costs have been identified for the draft trials network. The costs have been established based on a set of unit costs for typical trail improvements as well as anticipated costs for additional trail features. The typical unit costs have been gathered based on work completed for comparable municipalities throughout Southern Ontario but do not reflect an actual cost for the necessary next steps that will need to be completed including the cost of property acquisition, utility relocation, driveway / entrance restorations, permits or approvals for construction; annual inflation, which includes increased cost of labour, materials, fuel, etc.; professional services and / or staff time for detailed design; and applicable taxes. The costing also does not reflect potential cost savings that could be realized through the implementation process including but not limited to:

- External funding such as federal and provincial infrastructure programming;
- Routes that are developed with funding or partial funding available through various subsidies and grant programs;
- Partnerships with outside organizations and agencies;
- Routes developed by others that could be used as trail facilities e.g. service accesses, utility corridors, etc.;
- Facilities that are built by developers through the land development approval process and the use of development charges; and
- Routes that have already been identified as part of future capital improvements.

When a proposed link moves forward to the construction phase, a more detailed design assignment will be required at which point specific cost estimates will be refined and developed. Table 5 outlines the preliminary costs prepared for proposed infrastructure based on the various communities within the Municipality. A more detailed set of costs is provided in Technical Appendix D (under separate cover).

Table 5 – Overview of Preliminary Trails Costing

Facility Type	Short-term 0 – 10 years)		Long-term 10+ years		Total Cost
	Total Length	Total Cost	Total Length	Total Cost	
Union					
Primary	0	$0.00	330	$82,500	$82,500
Secondary	625	$69,750	0	$0.00	$69,750
Tertiary	0	$0.00	175	$12,000	$12,000
Sidewalk	0	$0.00	0	$0.00	$0.00
Total	**625**	**$69,750**	**505**	**$94,500**	**$164,250**
Port Stanley					
Primary	2570	$621,000	1140	$381,000	$1,002,000
Secondary	1340	$227,600	1810	$370,300	$597,900
Tertiary	0	$0.00	415	$12,450	$12,450
Sidewalk	570	$85,500	750	$112,500	$198,000
Total	**4480**	**$934,100**	**4115**	**$876,250**	**$1,810,350**
Lynhurst					
Primary	960	$210,000	850	$212,500	$422,500
Secondary	1890	$344,600	0	$0.00	$344,600
Tertiary	410	$12,300	2550	$426,500	$438,800
Sidewalk	240	$36,000	0	$0.00	$36,000
Total	**3500**	**$602,900**	**3400**	**$639,000**	**$1,241,900**
Belmont					
Primary	2050	$599,500	1345	$414,250	$1,013,750
Secondary	400	$131,000	1390	$324,600	$455,600
Tertiary	0	$0.00	1310	$139,300	$139,300
Sidewalk	300	$45,000	0	$0.00	$45,000
Total	**2750**	**$775,500**	**4045**	**$878,150**	**$1,653,650**
Norman-Lyndale					
Primary	750	$187,500	820	$205,000	$392,500
Secondary	0	$0.00	0	$0.00	$0.00
Tertiary	0	$0.00	0	$0.00	$0.00
Sidewalk	0	$0.00	0	$0.00	$0.00
Total	**750**	**$187,500**	**820**	**$205,000**	**$392,500**
On-road Cycling Routes					
Signed Route	5230	$10,460			$10,460
Total Proposed Trail Linkages					
Total	**17,335**	**$2,580,210**	**12,885**	**$2,692,900**	**$5,274,760**

Other cost considerations

Maintenance and monitoring of facilities once constructed is a critical aspect of any plans to move forward with implementation of the off-road trails and on-road routes. The general objectives are to:

- Provide safe, dependable and affordable levels of service;
- Preserve infrastructure assets;
- Protect the natural environment;
- Enhance the appearance and health of the community;
- Provide a reference framework against which to measure performance;
- Periodically measure facility performance so that adjustments and improvements can be made in the design and delivery of trails;
- Provide the basis of a peer review that is comparable with other municipalities; and
- Provide citizens and Council with a point of reference for expectations.

Maintenance of 'mature' off-road multi-use trails in greenways and parks can range from $4,000 to $6,000 per linear kilometre of trail (e.g. 3.0 m wide), depending on the level of service standard. Annual maintenance typically includes drainage and storm channel maintenance, sweeping, topping-up and grading of granular surface trails clearing of debris, trash removal, vegetation management, mowing of grass along shoulders, minor surface repairs, repairs to trail fixtures (benches, signs) and other general repairs.

Costs for the replacement or repair of major items such as bridges, removal and replacement of asphalt are usually allocated through capital budgets. Although the unit price for trail maintenance may vary it is critically important that a budget is established for maintenance, and this budget needs to increase in an incremental fashion along with the incremental growth of the network of facilities. Therefore, as each new network segment is added the impact to the operations budget should be calculated by staff so that it can be added into the annual maintenance budget request. Best practice research suggests that in the past most municipalities do not maintain (plough) their trails in winter for a variety of reasons.

Those that provide winter maintenance typically restricted it to key links in the trail system such as school routes, links to major employment areas and short off-road connectors between designated on-road bike lanes. Additionally winter maintenance is typically restricted to trails that are hard surfaced with asphalt or concrete as ploughs can dig into softer granular surfaces, displacing material on to adjacent turf areas, resulting in extra spring cleanup. A few municipalities have adapted their maintenance equipment to plough granular surface trails.

Funding Opportunities

Implementing the proposed trails network and the supportive strategies and initiatives as well as the respective operations and maintenance will require an allocation of funds and resources from the Municipality and other partners on an annual basis. Funding should be identified on an annual basis utilizing the Municipality's budgeting process to implement the network over the short and long-term horizon. The reality is that the implementation of the proposed network will require funding beyond what is available from the Municipality. External funding opportunities will need to be explored. An overview of potential internal and external funding opportunities are outlined below:

- **Approved Capital Budgets:** Proposed trail connections may be funded through previously planned and budgeted large-scale projects. The Municipality's capital budget is updated on an annual basis and identifies a 5-year forecast. When the capital plan is being updated, municipal staff should investigate opportunities to coordinate the implementation of trail infrastructure as part of other larger-scale projects. The last capital budget was approved in 2017.
- **Operating Budget:** The Municipality also develops an annual operating budget which allocates funds for day to day operations of the municipality. As the trail network is built, consideration for trail maintenance and operation should be included in the operations budget an updated on an annual basis.
- **Development Charges By-Law:** Future planned infrastructure is funded through budgets based on the Municipality's Development Charges By-law (#1880) and subsequent amendments (2015). Specifically, the development of trail infrastructure is considered part of funded parks and recreation projects and is eligible for funding.
- **Sidewalk Implementation Program:** Funding for sidewalk implementation and repairs are identified in the Municipality's capital budget. The budget is based on an annual inspection and could include improvements to address spalling, cracks, heaves and other hazards.
- **External Local Funding Sources:** There are a number of proposed routes that are identified outside of the Municipality's jurisdiction. Specifically routes identified within conservation authority areas, along county roads and within the City of St. Thomas. Implementation of the proposed on-road cycling linkages will require coordination with on-going and future planned County projects. Implementation of trails found within conservation areas will need to be coordinated with the conservation authorities and trail connections into the City of St. Thomas will require coordination with City staff. The Municipality, County, conservation authorities and the City of St. Thomas should work together to identify funding opportunities for implementation of routes located on lands under their jurisdiction.

Beyond the local internal and external funding opportunities, in recent years both the Federal and Provincial government have started to invest in active transportation infrastructure including trails. The following is a list of potential provincial and federal funding opportunities which could be explored by the Municipality of Central Elgin to support the implementation of the trails network as well as suggested strategies and initiatives.

Table 6 – Summary of Potential Federal & Provincial Funding Sources

Source	Sources
Federal / Provincial Gas Tax	Provincial: http://www.infrastructure.gc.ca/plan/gtf-fte-eng.html Federal: http://www.mto.gov.on.ca/english/service-commitment/gas-tax-programs.html
ecoMobility (TDM) Grant Program	http://data.tc.gc.ca/archive/eng/programs/environment-ecomobility-menu-eng-144.htm
Federation of Canadian Municipalities Green Municipal Fund	http://www.fcm.ca/home/programs/green-municipal-fund.htm
Federal and Provincial Infrastructure / Stimulus Programs	Federal: http://www.bcfontario.ca/english/isf/guide.html Provincial: http://www.moi.gov.on.ca/en/infrastructure/stimulus.asp
Corporate Environmental Funds (Shell and MEC)	MEC fund to preserve recreationally significant landscapes: http://www.mec.ca/AST/ContentPrimary/Community/CommunityContributions/LandAcquisition.jsp
Corporate Donations	Money or service in kind and have been contributed by a number of large and small corporations over the years
Connecting Links Funding	http://www.mto.gov.on.ca/english/highway-bridges/connecting-links.shtml
Trans Canada Trail Funding and Federal Fund Matching	http://old1.tctrail.ca/trail_funding.php

4.4 Conclusion & Next Steps

The Central Elgin Trails Master Plan is meant to be a community asset, communication tool and blueprint for future community change and growth. The information contained within the document has been developed with the Municipality's wants and needs in mind.

A comprehensive master plan addresses and provides recommendations beyond proposed infrastructure. The Central Elgin Trails Master Plan is no different. Recommendations found throughout the Central Elgin Trails Master Plan cover a range of key topics including:

- Strategies: which help to guide actions and initiatives that support trail use and overall active transportation;
- Policies: which help to guide future changes to municipal policies and plans to support future trail planning, design and implementation;
- Processes: which are meant to be integrated into day to day practice of Municipal staff and its partners;
- Resources: including key references and guidelines which help to support future decision making; and
- Tools: which, similar to processes, are meant to be used by Municipal staff to support the management of plan implementation.

Table 7 summarizes the recommendations found within these five (5) categories which are found throughout the master plan.

Table 7 – Central Elgin Trails Master Plan Summary of Recommendations

Strategies	Policies	Processes	Resources	Tools
» Create a Trail Signage Concept (p. 74) » Establish a Winter Trail (p. 74) » Distribute information locally (p. 75) » Partner with schools for trail events (p. 75) » Work with partners to monitor trails (p.76) » Create a process to enforcement (p. 76) » Implement trail tracking tools (p. 77) » Create user surveys (p. 77)	» New Development areas (p. 37) » Established neighbourhoods (p. 38) » Rural areas (p. 38) » Natural areas (p. 39) » Utility corridors (p. 40) » Geotechnical setbacks (p. 40)	» Municipal Class Environmental Assessment process (p. 9) » Trails strategy development process (p. 10) » Network development process (p. 14) » Implementation process (p. 78)	» Existing conditions mapping (p. 15) » Proposed trail network mapping (p. 19) » Trail design guidelines (p. 23) » Cycling design guidelines (p. 36)	» Field investigation results (p. 18) » Proposed trail network overview table (p. 58) » Trail project sheets (p. 63) » Technical Appendix C (under separate cover) » Network management tools (p. 79)

The development of the Central Elgin Trails Master Plan was a collaborative effort between the Municipality of Central Elgin – staff and decision makers, the City of St. Thomas, Elgin-St. Thomas Public Health, Catfish Creek Conservation Authority, Kettle Creek Conservation Authority, key stakeholder groups i.e. Citizens 4 Active Transportation, Elgin Hiking Club, and the residents of the Municipality. The recommendations and content of this plan has been generated to meet the needs of the Municipality and its partners and to help achieve the goals, objectives and desired outcomes. The implementation of the trails master plan is intended to help achieve a diverse, desirable, environmentally sustainable, active and healthy municipality, community and population.