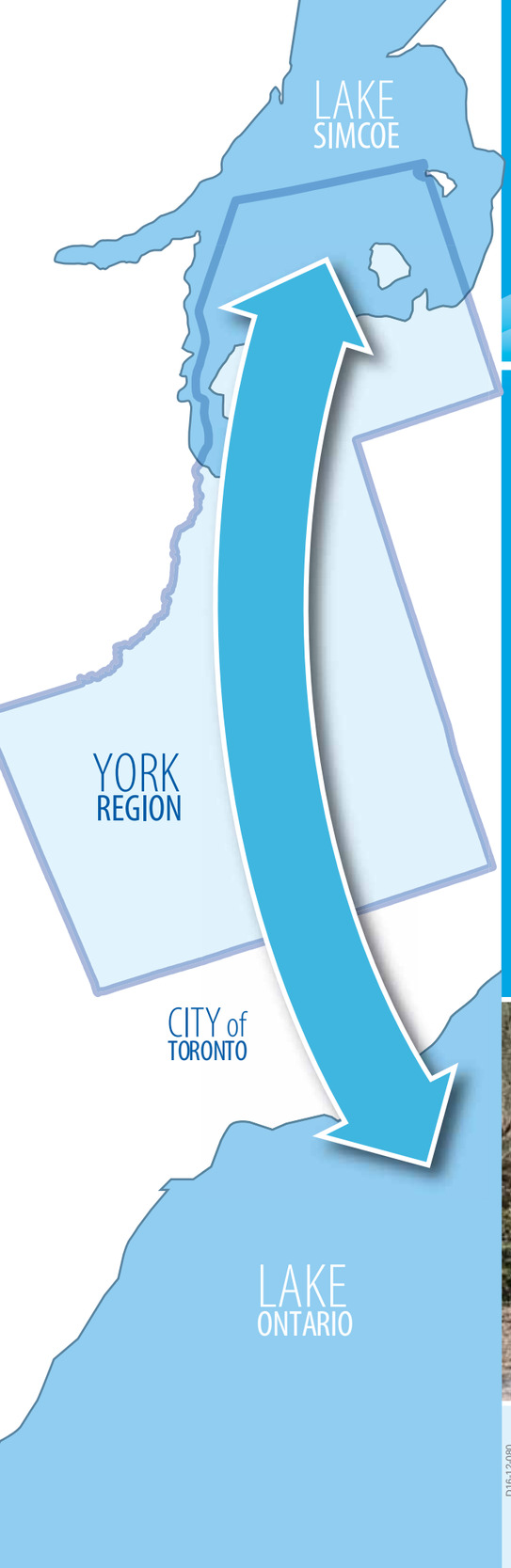


York Region

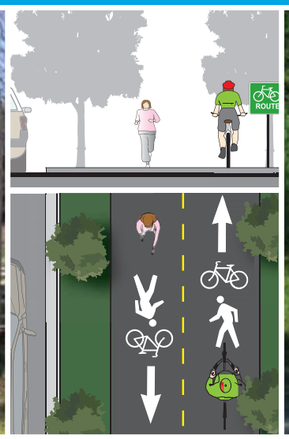
Lake to Lake

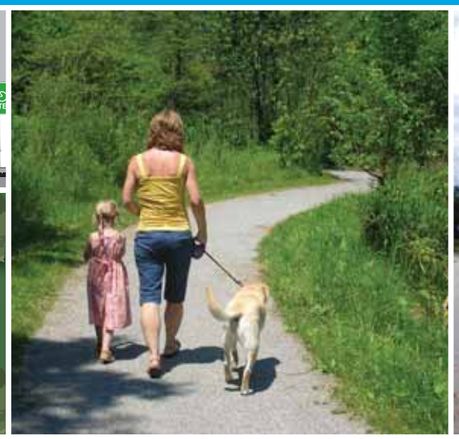
CYCLING ROUTE and WALKING TRAIL

FEASIBILITY and DESIGN STUDY

VOLUME 2

MASTER REPORT JUNE 2013





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This report contains information on the preferred cycling route and walking trail alignment and facility type as well as the route design guidelines developed as part of the Lake to Lake Route Design – Volume 2 Design Feasibility Assessment. This document is intended to guide the Region and its local municipality and conservation authority partners in implementing a Lake Simcoe to Lake Ontario cycling route and walking trail. This report contains information and recommendations regarding typical planning and design solutions for pedestrian and cycling facility planning, design and implementation.

Credit: MMM Group 2012 – Doug Duncan Street and Water Street, Newmarket

1.0 THE LAKE TO LAKE CYCLING ROUTE AND WALKING TRAIL

1.1 Route Selection Approach

The preferred Lake to Lake Cycling Route and Walking Trail was selected based on an iterative approach which included a detailed route evaluation and assessment as well as a set of steps used to refine the route alternatives and proposed facility types. The approach ultimately led to the development of the preferred route, a set of design guidelines and proposed facility types for consideration based on local municipal route segments.

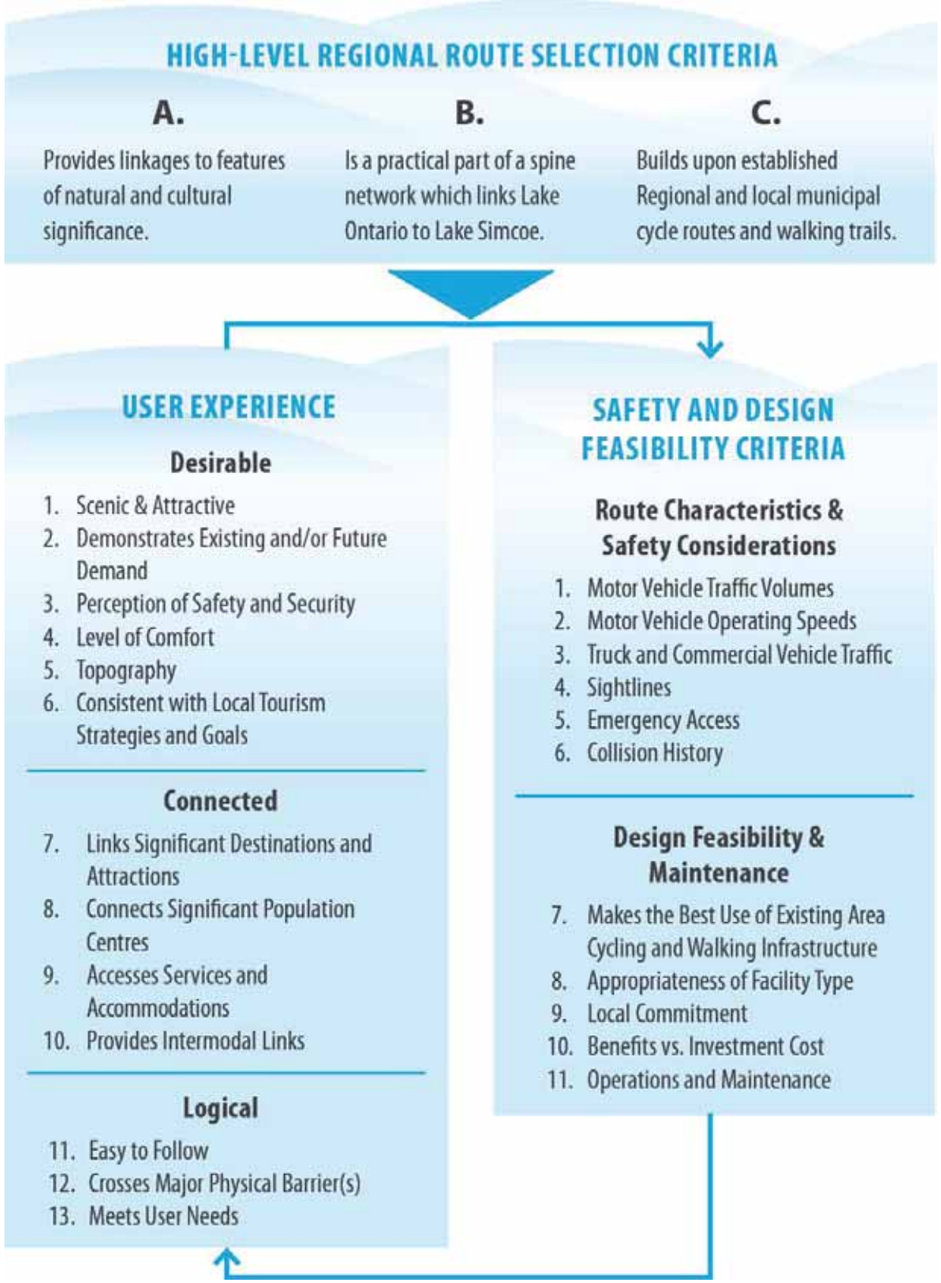
1	**Collect and Assemble Background Information**	Completed as part of Phase 1 of the study process, the previously proposed Lake to Lake Cycling Route and Walking Trail alignment as well as existing active transportation and trail facilities found throughout the Region's local municipalities were consolidated and digitally mapped. In addition, key route destinations and barriers were highlighted based on initial input from the Steering Committee. The information was provided by the Region and select local municipalities based on existing active transportation and trail master plans (e.g. East Gwillimbury Active Transportation and Trails Master Plan etc.).
2	**Review Base Mapping with Project Steering Committee and Local Stakeholders at Stakeholder Working Group Session**	The base mapping was presented and reviewed in detail by members of the study team and a group of key municipal and agency stakeholders. A stakeholder workshop was conducted which allowed attendees to provide their input on alternatives for the preferred route alignment, destinations and points of interest, potential challenges and opportunities and route facility types.
3	**Engage with and Review Base Mapping with Members of the Public**	Members of the public were consulted at open-houses held in the month of June 2012 (June 1st and June 3rd). Attendees were asked to comment on the maps of the proposed route, confirm key destinations and areas of interest and identify potential route barriers and alternatives. Information illustrating potential facility types was presented to further inform attendees. The study team also developed an online questionnaire which was used to gather input from the public. Results from the questionnaire were reviewed by the study team and used to help confirm the proposed Lake to Lake Route including key pedestrian and cycling connections throughout the Region and its local municipalities.

4	**Conduct Field Investigation (Round 1) and Identify Route Alternatives**	The study team conducted the first round of field investigation to scope out route alternatives and evaluate options in key areas of the Region. Using the information gathered, the study team refined the existing base mapping and identified potential route alternatives for future consideration / assessment.
5	**Develop Route Selection / Refinement Criteria**	Quantitative and qualitative criteria were developed to guide the selection / refinement of the preferred Lake to Lake Cycling Route and Walking Trail. The criteria were reviewed with the Steering Committee and Stakeholder Workshop attendees. At a high-level, the route selection criteria included: ▪ Links existing pathway and cycling networks and examine options to develop a route that is off-road wherever possible so that it appeals to the widest range of user skill and confidence levels; ▪ Connects important community destinations and tourist attractions; ▪ Provides connections to intermodal hubs; ▪ Provides access to areas and services needed by route users (e.g. food, lodging, washrooms, equipment parts and repair etc.); ▪ Overcomes / crosses major barriers including major highways and major roads, rivers, and railways; ▪ Is located in close proximity to the largest population areas and creates opportunities for local municipal and neighbourhood routes to link with the spine Lake to Lake Route; ▪ Takes advantage of scenic views and vistas where they exist; and ▪ Provides a meaningful user experience.
6	**Evaluate Route Alternatives and Recommend Preliminary Preferred Route**	Using the criteria outlined above, the route alternatives were assessed in detail by the study team. Using the findings from this assessment, preliminary preferred routes and alternate routes were identified.
7	**Conduct Field Investigation (Round 2) and Review Preliminary Preferred Route with Local and Regional Stakeholders**	The study team conducted a second round of field investigation to further assess the recommended preliminary preferred route. Specific segments were assessed based on discussions with Regional and Local Municipal staff. The study team also conducted a number of individual consultation sessions with local and municipal staff to identify specific opportunities, and challenges as well as proposed solutions.
8	**Identify Preferred Lake to Lake Cycling Route and Walking Trail and Suggest Potential Facility Types**	The information gathered from the second round of field investigation and the input from local and regional stakeholders was consolidated and used to revise the preliminary preferred route to develop the preferred Lake to Lake Cycling Route and Walking Trail. Once confirmed, the study team undertook an exercise to identify the most applicable facility types for each of the proposed segments.
9	**Undertake Detailed Feasibility Assessment**	Based on the preferred route, the study team completed a detailed feasibility assessment of the route. Once complete, the study team recommended the proposed facility types for each segment. For additional details on this approach please refer to **Section 2.1** of the Volume 2 Design Feasibility Report.

As mentioned above, one of the key inputs in the development of the preferred Lake to Lake Cycling Route and Walking Trail was a set of route selection criteria which were reviewed and refined by the study team, stakeholders and members of the public in Phase 1 of the study. Figure 1.1 illustrates the confirmed route selection criteria which were used to guide the initial stages of the study process.

A detailed description for each of the criteria was developed and used to ultimately confirm the preferred Cycling Route and Walking Trail. A full description for each can be found in **Section 2.0** of the study's Phase 1 Working Paper.

Figure 1.1 – Route Selection Criteria Application Process



1.2 Feasibility Assessment Approach

A route feasibility assessment was conducted to confirm the existing conditions and determine the appropriate facility treatments for the Lake to Lake Cycling Route and Walking Trail. The assessment was informed by additional field investigations and route analysis. **Section 2.0** and **Section 3.0** outline general considerations for the design and implementation of the Lake to Lake Route. **Section 2.4** documents the observations, proposes the alternate and preferred route alignment, identifies design elements, and recommends next steps for the implementation of the Lake to Lake Route within each local municipality. The information provided for the Lake to Lake Route segments includes:

- Rationale for the preferred and alternative route alignment within the municipality;
- Route segment location and facility type;
- Key design elements including road crossings (for off-road pathways), municipal infrastructure impacts (utilities, light standards, signals, bus stops), required structures (including culverts, retaining walls and bridge crossings), trailheads (major – with signage, parking and washroom amenities, minor – with signage and parking, orientation nodes – with signage) as well as other design considerations;
- Considerations regarding public consultation and approvals; and

An opinion of probable cost for construction (based on the unit cost schedule included in **Appendix A – Unit Cost Schedule and Detailed Cost Tables**).

A municipal key map illustrating the Lake to Lake Route within the context of each local municipality is provided in **Section 2.4**.Illustrations of the Lake to Lake Route are included for each municipal section. The figures summarize the information outlined for each route segment.

Credit: MMM Group 2012 – Hedge Road, Georgina

2.0 LAKE TO LAKE PREFERRED ROUTE

2.1 Lake to Lake Route Segments

The Study Team identified a preferred Lake to Lake Cycling Route and Walking Trail using the route selection criteria and approach outlined in **Section 1.1**. Figure 2.1 illustrates the Preferred Route of the Lake to Lake Cycling Route and Walking Trail. The route has been divided into sections based on individual local municipal boundaries. A description of these sections is provided below:

Section 1: Georgina

- Starting at the eastern terminus of Black River Road at Virginia Beach, the proposed route will travel on Black River Road to a secondary park entrance of Sibbald Point Provincial Park north of Black River Rd.
- The preferred route will travel within Sibbald Point Provincial Park. The exact route alignment and facility type is under review by Ontario Parks.
- The preferred route will travel west using an on-road route along the Lake Simcoe shoreline following Hedge Road, and Lake Drive East to Bouchier Street. The route will travel south of Bouchier Street using Lake Drive North to Keswick.
- Within Keswick, the preferred route will use several quiet residential streets including Metropolitan Crescent, Cooks Bay Drive, and Ways Bay Drive. A number of off-road connections between these streets are proposed to be upgraded in this section.
- From Ways Bay Drive, the route will use an existing multi-use pathway on the west side of the Queensway to Bayview Avenue.
- The route will travel west on Bayview Avenue and then south on Lake Drive South until Ravenshoe Road.

Section 2: East Gwillimbury

- Starting at the intersection of Lake Drive South and Ravenshoe Road, the route travels west using an existing on-road signed route to 2nd Concession.
- The preferred route between Ravenshoe Road and Queensville Sideroad includes 2nd Concession between Ravenshoe and Holborn, Holborn from 2nd Concession to east of Yonge Street, a proposed off-road connection on existing municipal owned ROW or an adjacent privately owned parcel of land through to Yonge Street (by Silver Lakes Golf Course) and then south on Yonge Street to Queensville Sideroad. Other alternatives considered for this section include the use of Boag Road, Leslie Street, Holborn Road and 2nd Concession to Queensville Sideroad.
- South of Queensville Sideroad towards Doane Road, the preferred route will follow an unopened municipal right-of-way west of Yonge Street to the Maple Street right-of-way, west to Yonge Street along the Maple Street right-of-way, and south on a multi-use pathway on the west side of Yonge Street to Doane Road. An alternative route could follow the unopened municipal right-of-way south to Doane Road consistent with the East Gwillimbury Active

Transportation and Trails Master Plan; however, property constraints immediately north of Doane Road limit the ability for the route to be implemented on this alignment.

- From Doane Road and Yonge Street, the route will travel west using an off-road section following the alignment approved in the East Gwillimbury Active Transportation and Trails Master Plan to Toll Road, approximately 300m north of Bradford Street. The route will use the bridge crossing currently under study in the McKenzie - Oriole Pedestrian Link Scoped Impact Study.
- From Toll Road, the route will travel south to Bradford Street and then south using an off-road section east of Holland Landing Road between Bradford Street and Yonge Street at Mount Albert Road. An alternative would be the use of Holland Landing Road.
- From Yonge Street at Mount Albert Road, the proposed route will follow the proposed Nokiidaa Trail extension to its existing terminus. The proposed route will use the existing Nokiidaa Trail from south of Mount Albert Road to Green Lane.

Section 3: Newmarket

- The route within Newmarket primarily uses the existing multi-use pathway on the Nokiidaa Trail and the Tom Taylor Trail from Green Lane to north of St. John's Sideroad.
- Within George Richardson Park, the preferred route uses the existing Tom Taylor Trail on the west side of Fairy Lake. Alternatives to this route include using the Tom Taylor Trail on the east side of Fairy Lake or Water Street, Eagle Street, William Street, Andrew Street, Lorne Avenue and Cane Parkway around the lake and park.

Section 4: Aurora

- The route within Aurora will primarily use the existing multi-use pathway (Nokiidaa Trail) from north of St. John's Sideroad to south of Vandorf Sideroad at Benville Crescent.
- From the existing southern terminus of the Nokiidaa Trail, the route will travel south using a new off-road section on the west side of Bayview Avenue from Benville Crescent to Bloomington Road.

Section 5: Richmond Hill

- The route south of Bloomington Road is proposed as a multi-use path located on the west side of Bayview Avenue to Snively Street in place of an existing sidewalk. The route shifts to a proposed on-road section of cul-de-sacs (including Bayview Court South, Sunbay Court, and Old Bayview Avenue) with some off-road connections between the streets. The route is proposed to cross North Lake Road at Olde Bayview Avenue and then a multi-use path will follow along the west side of Bayview Avenue.
- The route is proposed to cross Bayview Avenue at the proposed signalized intersection for the community centre into the TRCA lands. The trail in this section follows the alignment identified by the TRCA and returns to Bayview Avenue, where the trail will continue on the east side until Stouffville Road. The portion of the route is an excellent destination for recreational and tourist users. There are connections in this section to the nearby Oak Ridges trail system. Furthermore, the Lake to Lake Route connects to Bayview Avenue, which is proposed as an on-road route within the York Region Pedestrian and Cycling Master Plan, providing a more direct route for commuter cyclists.
- The route travels south of Stouffville Road to 19th Avenue using a proposed multi-use pathway on the east side of Bayview Avenue. The route travels east on 19th Avenue between Bayview Avenue and a proposed trail using the south side of the road. The proposed off-road section will follow an existing watercourse through the North Leslie development lands and will connect to Leslie Street.
- The route will continue on Leslie Street from north of Elgin Mills to Highway 7 on the west side of the road. By locating the route on only one side of the roadway, there is a reduction in the number of users crossing Leslie Street multiple times at major intersections. The west side was chosen as the preferred route as it is located closer to existing residential neighbourhoods. Furthermore, there are fewer property constraints and impacts to municipal infrastructure (e.g. utility poles). The Town of Richmond Hill has indicated that it prefers this route alignment as it provides a direct route for users including a considerable number of commuter cyclists. The Town has also indicated that the trail should be constructed in place of the existing sidewalk. The concrete from the existing sidewalk will be crushed and used as the base for the new trail.

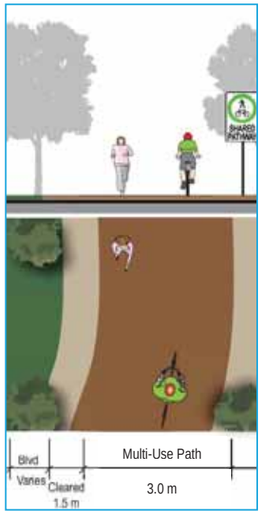
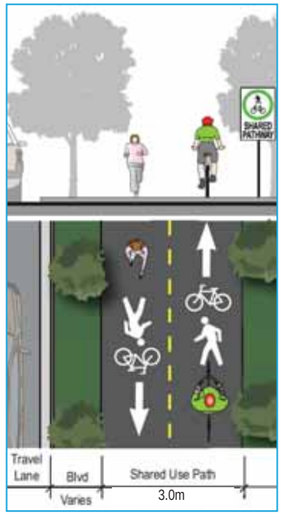
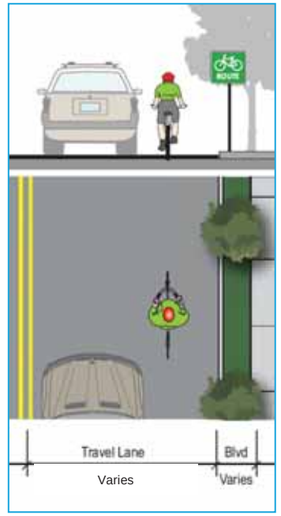
Section 6: Markham

- From Highway 7 to Commerce Valley Drive, the preferred route is a multi-use pathway located on the west side of Leslie Street with an alternative route considered for the east side of Leslie Street. The boulevard on the west side has ample space for a pathway whereas property constraints appear to be an issue on the east side. Furthermore, the anticipated high pedestrian traffic from a proposed commercial development block southeast of Leslie and Highway 7 is not conducive for a multi-use pathway shared by cyclists and pedestrians. The route location should be consistent with the section north of Highway 7 in Richmond Hill.
- The route on Leslie Street between Commerce Valley Drive and Highway 407 is proposed as a multi-use pathway on the east side of the road. The preferred route crossing over Highway 407 is a multi-use path on the east side of the existing road bridge structure. The existing sidewalk on the east side of the bridge would be widened to 2.7m by reducing the northbound travel lane widths. An alternative option is to construct a new pedestrian and cycling bridge east of the current structure.
- South of Highway 407 to John Street, the route is proposed as a multi-use pathway on the east side of Leslie Street. Two bridge crossings are required in this section.
- The route on John Street between Leslie Street and the trail at German Mills Settlers Park will be an in-boulevard multi-use pathway on the south side of John Street.
- The route uses an existing multi-use pathway in German Mills Settlers Park to Leslie Street north of Steeles Avenue. An alternative route uses a trail extension along the same alignment as Leslie Street and desire line to John Street. The route uses the existing on-road route on Leslie Street between German Settlers Park and Steeles Avenue.

FIGURE 2.1
YORK REGION LAKE TO LAKE CYCLING ROUTE AND WALKING TRAIL PREFERRED ROUTE

2.2 Lake to Lake Route Facility Types

The Lake to Lake Cycling Route and Walking Trail was designed primarily as a recreational route for family and tourist activities, but may also serve as a spine route for some commuter cyclists in parts of York Region. Both off and on-road facility types are applied where appropriate, taking into consideration the primary users on the Lake to Lake Route. The following table outlines various facility types considered for the preferred route alignment. Designers should refer to **Section 4.0 – Lake to Lake Route Design Guidelines** for full guidance on the design of the proposed route facilities.

Off-Road Multi-Use Path	In-Boulevard Multi-Use Path	Signed Route
		

2.3 Branding & Signing the Route

2.3.1 Branding the Lake to Lake Route

York Region has built a strong foundation for cycling and active transportation through their Official Plan, Pedestrian and Cycling Master Plan (PCMP) and Transportation Master Plan (TMP). Policies within these plans focus on changing personal travel choices and preferences by providing residents and visitors with a range of sustainable transportation and recreational alternatives. The PCMP in particular, provides the Region and its local municipalities with guidance on the implementation of a comprehensive pedestrian system and a region-wide cycling network. A highlight of the proposed cycling is an on and off-road cycling / trail route concept that extends from Lake Simcoe south to the border with the City of Toronto and continues south to Lake Ontario.

The success of the proposed Lake to Lake Cycling Route and Walking Trail is partly dependent on a strategy that can both brand and promote the route as a visible, recognizable, safe and accessible trail corridor that provides a key north-south regional connection that is valued by both residents and visitors alike.

The basis of a brand for the Lake to Lake Route first emerged in 2008 with the adoption of the Region's Pedestrian and Cycling Master Plan by council and a with the concept of connecting Lake Simcoe to Lake Ontario using a primarily off-road route for both recreational and commuter cyclists and pedestrians. Enthusiasm grew among residents, trail and cycling stakeholders and local municipalities who were inspired with the Lake to Lake Route concept. In 2011 the Region of York selected to proceed with a planning and design feasibility study to confirm the route. The primary focus of the Lake to Lake Route planning and design feasibility study is:

- To identify potential route and alignment options;
- Consult with the public, stakeholders and local municipalities;
- Select a preferred route alignment; and
- Identify expected costs, a phasing strategy and partnerships necessary to implement the entire Lake to Lake Route concept in five years.

The Lake to Lake name and / or brand has continued to be used for all communications and media reports throughout the route planning and feasibility study and has emerged as a widely recognized name associated with the Lake Simcoe to Lake Ontario Cycling Route and Walking Trail in York Region and the City of Toronto in Southern Ontario.

The Lake to Lake name effectively conveys to a user the concept of a trail that extends from Lake Simcoe to Lake Ontario. It also can easily be added to existing local municipal named trails that it follows (e.g. Nokiidaa Trail) through the addition of small regional marker signs without minimizing or overshadowing the existing trail name. In addition, the name has seemed to resonate well with the public and media in York Region and a number of the public who attended public open houses for the study who indicated their support for the name. The study team also consulted with City of Toronto staff who indicated support for the Lake to Lake Trail name, which is important given part of the ultimate route uses trails through the City of Toronto to connect to Lake Ontario. In addition, the study team was approached by County of Simcoe staff that expressed an interest in the Lake to Lake Trail concept and their plans to consider sometime in the future, a potential link and extension of the trail north to the City of Barrie and possibly even extend to the City of Orillia and Lake Couchiching.

The study team then reviewed the Lake to Lake Trail Route name with a Tourism Specialist who assessed its benefits from a tourism development and marketing perspective. These benefits include:

- Among Ontario residents, leverages recognition of Lakes Ontario and Simcoe as popular and desirable recreation and tourism venues;
- Visually evocative of types of experiences and scenery that is encountered along the route – peaceful, tranquil, rural, relaxing, nature, water;

- Effectively identifies the general location of the route for Ontario residents, and provides readily identifiable markers for non-residents to determine its location;
- Provides a clear sense of beginning and end points;
- Attaches a sense of journey to the name;
- Provides a platform for co-naming of segments with locally recognizable names – e.g. Nokiidaa Trail segment of Lake to Lake – to create short excursion experiences;
- Facilitates the promotion of starting and /or ending points within York Region and the City of Toronto;
- Sufficiently generic to accommodate use by tourism businesses and services along the route;
- Easy to pronounce and write facilitating 'word of mouth' promotion through speaking, texting, emailing and commenting on Facebook and other web-based sharing platforms; and
- Good fit with Ontario's "Yours to Discover" and Canada's "Keep Exploring" tourism positioning.

Based on the branding review and a tourism specialist's input, the study selected not to explore any other branding name options and concluded that the "Lake to Lake" name was an excellent choice to brand the proposed Lake Simcoe to Lake Ontario Trail Route (e.g. Lake to Lake Trail). Building upon this decision, a signing strategy was developed that supports the Lake to Lake Trail brand and serves as the basis for future marketing and promotion of the trail once completed.

2.3.2 Lake to Lake Route Signing Strategy

Signage is an important element of corporate communications and branding the Region, its local municipalities and conservation authorities. By developing a trail logo and signing strategy that builds upon the Region's corporate brand while including local municipal names (on signs in their respective trail segments) a number of benefits can be attained. These benefits could include:

- Promoting awareness among all residents of York Region, and the local municipalities / communities in which they reside;
- Communicating the corporate brand, carrying consistency throughout York Region, and promoting region wide tourism;
- Informing residents and visitors that the Lake to Lake Trail is a regional trail that connects communities, naturally and culturally significant areas as well as Lake Simcoe and Lake Ontario;
- A high quality sign can lead to the perception of a high quality trail; as the first impression of the trail, residents and visitors view signs as an indicator of the trail quality;
- Developing a sense of place through the use of signs combined with good urban design, can create unique districts and foster aesthetic development, while also improving way finding for residents and visitors;
- Providing interpretive information that can connect users to destinations and attractions along the trail corridor, which encourages them to take an interest in their surroundings and visit attractions in each of the municipalities the regional trail passes through; and
- A good sign is clear, attractive and designed in context to its surroundings (in this case, parks and road open spaces), which provides information related to identification and direction of the trail but does not detract from the visual quality of overall trail experience.

Recommended Lake to Lake Sign Strategy

The following chart, Table 2.1 outlines the recommended signing strategy including sign types for Lake to Lake. Sign dimensions are identified in **Appendix B – Lake to Lake Cycling Route & Walking Trail Signing**. Further information on regulatory and warning signs for bikeways will reference OTM Book 18 – Bicycle Facilities and TAC Bikeway Traffic Control Guidelines for Canada (2012). Signs at proposed crossrides are not illustrated on the design sheets in **Section 2.4.** Refer to **Section 4.0 – Lake to Lake Route Design Guidelines**, OTM Book 18 – Bicycle Facilities and TAC Bikeway Traffic Control Guidelines for Canada (2012) for the exact sign type and location.

The Lake to Lake Route signs and locations will be confirmed by York Region and local municipalities/conservation authorities as part of the detailed design and implementation phase. It is proposed that York Region will manufacture or purchase the signs and provide them at no cost to each local municipality, conservation authority and agency to ensure consistency across the region. Each respective jurisdiction in turn will be responsible for installing and maintaining the signs along the Lake to Lake Route. There may be some segments of the Lake to Lake Route that require additional time, budget or design approvals by affected agencies. In these situations consideration should be given to installing interim signs along specific segments of the Lake to Lake Route that may be delayed beyond the proposed 4-5 year build-out. For example, the proposed multi-use path along the east side of Leslie Street over Highway 407 may require additional time beyond the recommended 4-5 year phase to confirm the detail design and receive MTO and other agency approvals. In this case the City of Markham should then consider installing interim signs in this location to direct cyclists to dismount and walk their bicycle across the existing bridge.

Emphasis will be placed on using existing poles / posts for the placement and installation of Lake to Lake signs, as a measure to minimize the cost of installing new poles / posts along the route. The Lake to Lake signs will be placed so the near edge of the sign is no less than 1.0m or greater than 4.5m from the near edge of the outer traffic lane. Along segments with a raised curb, a sign will be placed adjacent to the route with its nearest edge 0.3m to 2.0m from the curb face. In addition, signs will be vertically mounted 1.5m above the near edge of the outer traffic lane in rural areas and 2.0m to 3.0m in urban areas. It is recommended to install signs on the far side of the intersecting road or bikeway opposite of approaching cyclists and pedestrians. Signs along multi-use path segments of the Lake to Lake Route are proposed to be double sided to provide guidance to a bi-directional movement of pedestrians and cyclists.

The process undertaken to develop the sign design included a review of the Accessibility for Ontario with Disabilities Act (AODA) and other key guidelines which suggest a Light Reflectance Value of approximately 70%. The study team

utilized an on-line tool that calculated a Light Reflectance Value of 89% for the proposed Lake to Lake Signs. This online tool can be found at the following link: http://asisignage.com/resources/lrvcalculator/tabid/198/default.aspx

Table 2.1 – Recommended Signing Strategy

Sign	Proposed Application
 LL-1 Lake to Lake Brand Sign	The proposed Lake to Lake Route Sign (LL-1) is recommended to be installed along on-road segments of the Lake to Lake Route and will guide users along a signed route or paved shoulder segment of the route. This sign is proposed to be placed on the far side of intersections as well as other decision points to guide users along the Lake to Lake Route.
 LL-1C Lake to Lake Circular Brand Sign	The proposed Lake to Lake Route Circular Brand sign (LL-1C) is recommended to be installed on off-road segments of the Lake to Lake Route and is proposed to be placed along off-road segments and decision points, such as entrances to local trails used on the route (e.g. Tom Taylor Trail and Nokiidaa Trail). This sign is proposed to be installed on both sides of a post / pole to provide guidance to the bi-directional movement of pedestrians and cyclists.
 LL-2 Lake to Lake Kilometre Marker	The proposed Lake to Lake Route Kilometre Marker sign (LL-2) is recommended to be installed at regular one kilometre intervals throughout the entire Lake to Lake Route. It is recommended that this sign be installed as part of the sign assembly below the Lake to Lake Brand signs, LL-1 and LL-1C. Along multi-use path segments of the Lake to Lake Route, this sign is proposed to be installed on both sides of a post / pole to provide guidance to the bi-directional movement of pedestrians and cyclists. It is proposed that the QR code associated with the sign will direct users to a website to access the Lake to Lake Route map or York Region's updated Cycling Map (e.g. York Region 2011 Regional Cycling Map available at http://maps.york.ca/yorkexplorer/pdf/2011_CyclingMap.pdf)

Sign	Proposed Application
 LL-3L (Left Arrow) and LL-3R (Right Arrow) Lake to Lake Directional Arrow Sign	The proposed Lake to Lake Route Directional Left Arrow (LL-3L) and Directional Right Arrow (LL-3R) signs are recommended to be placed in locations where additional directional guidance is required, such as locations where a turn is required at an intersection.
 LL-4L (Left Arrow) and LL-4R (Right Arrow) Lake to Lake Destination Tab Sign	The proposed Lake to Lake Destination Tab Sign highlights local and community attractions that are located in close proximity to the route. The sign would indicate the direction and distance of the destination from the route. The right or left direction sign would be used as appropriate. The location of these signs and the destination is to be determined based on further consultation with the local municipality.
 LL-1T Lake to Lake Brand Sign for the City of Toronto	The proposed Lake to Lake Route Sign (LL-1T) is recommended to be installed along on-road segments of the Lake to Lake Route that are in the City of Toronto and will guide users along a signed route or paved shoulder segment. This sign is proposed to be placed on the far side of intersections as well as other decision points to guide users along the Lake to Lake Route.

Sign	Proposed Application
 LL-1CT Lake to Lake Brand Circular Sign for the City of Toronto	The proposed Lake to Lake Route Circular Brand sign (LL-1CT) is recommended to be installed on off-road segments of the Lake to Lake Route that are in the City of Toronto and is proposed to be placed along off-road segments and decision points, such as entrances to local trails. This sign is proposed to be installed on both sides of a post / pole to provide guidance to the bi-directional movement of pedestrians and cyclists.
 LL-2T Lake to Lake Kilometre Marker Sign for the City of Toronto	The proposed Lake to Lake Route Kilometre Marker sign (LL-2T) is recommended to be installed at regular one kilometre intervals throughout the segments of Lake to Lake Route located in the City of Toronto. It is recommended that this sign be installed as part of the sign assembly below the Lake to Lake Brand signs, LL-1T and LL-1CT. Along multi-use path segments of the Lake to Lake Route, this sign is proposed to be installed on both sides of a post / pole to provide guidance to the bi-directional movement of pedestrians and cyclists
 LL-3LT (Left Arrow) and LL-3RT (Right Arrow) Lake to Lake Directional Arrow Sign for the City of Toronto	The proposed Lake to Lake Route Directional Left Arrow (LL-3LT) and Directional Right Arrow (LL-3RT) signs are recommended to be placed in locations within the City of Toronto, where additional directional guidance is required, such as locations where a turn is required at an intersection.

Sign	Proposed Application
 WC-46 and WC-7S Pedestrian and Bicycle Crossing Ahead Sign	The Pedestrian and Bicycle Crossing Ahead Sign (WC-46) and supplementary tab sign (WC-7S) are proposed to be used combination to warn approaching motorists in advance of a crossing used by pedestrians and cyclists. These signs are recommended to be placed 350 metres in advance of a crossing where segments of the Lake to Lake Route intersect a road (such as Metro Road N in East Gwillimbury). In addition, these signs are proposed to be installed in advance of major intersections that cross segments of the route.
 WA-30S Distance Advisory Tab Sign	The Distance Advisory Tab Sign (WA-30S) is proposed to be used in combination with the Pedestrian and Bicycle Crossing Ahead Sign (WC-46) and supplementary tab sign (WC-7S) to warn motorists of the distance from the approaching pedestrian and bicycle crossing. It is recommended to install the Distance Advisory Tab Sign (WA-30S) 350 metres in advance of the condition on roads with a posted speed of 80 km/h (such as Metro Road N in East Gwillimbury).
 RA-39 Yield to Pedestrians Sign	The Yield to Pedestrians sign (RA-39) is recommended to be used in advance of locations on multi-use path segments that are designated as pedestrian zones (e.g. bus stops). The sign indicates to cyclists that they are required to yield to pedestrians in these areas.
 RB-79 and RB-79T Dismount and Walk Sign	The Dismount and Walk sign (RB-79) and its supplementary tab sign (RB-79T) are proposed to be used in combination and placed on segments of the Lake to Lake route where cyclists are required to dismount and walk their bicycle. This sign is recommended to be installed at crossings that do not have a cross-ride for cyclists, requiring users to dismount and use the pedestrian crosswalk.

Sign	Proposed Application
 ID-20 Signalized Intersection Crossing Sign	The Signalized Intersection Crossing sign (ID-20) is proposed to be placed on segments of the Lake to Lake route where cyclists can only cross the road using the Walking Pedestrian signal indication. It is recommended that this sign be installed below the Dismount and Walk Sign (ID-20) to further guide cyclists to use the pedestrian crosswalk. This sign should be placed directly above the existing pushbutton cyclists are required to use.
 WC-44L , WC-44R and WC-44T Bicycle Trail Crossing Side Street Sign	The Bicycle Trail Crossing Side Street sign (WC-44L and WC-44R) and supplementary tab sign (WC-44T) is proposed to be used at the approach to an intersection with a side street where a parallel multi-use pathway crosses the side street in close proximity to the parallel road (e.g. along Leslie Street). The right or left version of the sign should be used as appropriate. The supplementary Trail Crossing tab sign (WC-44T) may be attached below WC-44L or WC-44R to convey the meaning of the sign.

In addition to the proposed branding, regulatory and warning signage, the study team is recommending that local municipalities provide their trailhead signage at proposed trailheads along the Lake to Lake Route. An example from the Nokiidaa Trail in East Gwillimbury is displayed in Figure 2.1. The trailhead signage should match local municipal signing standards depending on the location of the segment. Signing standards for each local municipality / agency should comply with Regulation 80.9 (1) Technical Requirement for Trails, General in Part IV.1 Design of Public Spaces Standards (Accessibility Standards for the Built Environment) of the Integrated Accessibility Standards, AODA 2005. This legislation as of January 2013 applies to projects being tendered in 2013 or currently in the detailed design phase. As identified in Regulation 80.5 Schedule in Part IV.1 Design of Public Spaces Standards (Accessibility Standards for the Built Environment) of the Integrated Accessibility Standards, AODA 2005, public organizations are obligated to comply with the legalisation as of January 1, 2016. The following are the proposed technical requirements for recreational trailhead signage identified in Regulation 80.9 (1):

"8. A recreational trail must have at each trail head signage that provides the following information:

i. The length of the trail.

ii. The type of surface of which the trail is constructed.

iii. The average and the minimum trail width.

iv. The average and maximum running slope and cross slope.

v. The location of amenities, where provided. O. Reg. 413/12, s. 6."

Pavement markings are proposed for the Lake to Lake Route in order to delineate space for two-way travel along multi-use pathway segments and to help facilitate the organization of users at intersections with cross-rides. On multi-use pathway segments, a 100mm solid yellow centre line is recommended to extend 10m along the trail from the intersection to encourage users to travel on the right-side of the pathway. It should also be used to encourage safe passing when there is a gap in on-coming pathway traffic. White directional arrows may be applied to provide additional guidance.

In urban areas where the trail is paved, consideration should be given, to providing a dashed yellow 100mm centre line to provide guidance to trail users along the corridor. This design treatment is to be determined based on future consultation with local municipalities. Figure 2.2 of the Finch Recreational Trail in the City of Toronto illustrates the application of a dashed yellow centre line on a trail.

Figure 2.1: Example Trailhead Signage from the Nokiidaa Trail in East Gwillimbury

Source: MMM Group, 2010

Figure 2.2: Finch Recreational Trail, City of Toronto

Source: MMM Group, 2012

2.4 Detailed Section by Municipality

As detailed in **Section 1.4**, the results of the feasibility assessment was a section by section description of each municipal segment of the Lake to Lake route. The following are the details of this assessment and its findings:

2.4.1 Section #1: Town of Georgina

1. Introduction and Rationale

- The Lake to Lake Route within Georgina will primarily utilize on-road routes (low volume and low speed (40km/h – 50km/h) residential streets) adjacent to the Lake Simcoe shoreline with some off-road connections as well as an existing multi-use pathway on the Queensway South in Keswick. The Route will connect key destinations within Georgina including the Georgina Island Ferry, Sibbald Point Provincial Park, De La Salle Park / Franklin Beach, Willow Beach, Claredon Beach Park, and Adeleine Park as well as the communities of Virginia, Sutton and Keswick.

Local Municipal Policies

- Sutton / Jackson's Point Secondary Plan, approved by York Region on March 30, 2011 (currently under appeal to the Ontario Municipal Board) Schedule D 'Trails Plan' outlines a proposed route along Lake Drive East between Salvation Army Road and Park Road.
- 2004 Leisure Services Master Plan section 7.10 'Trail System', identifies / recommends a waterfront trail system / linkage as a strategic priority for the municipality.

Regional Policies

- The York Region Pedestrian and Cycling Master Plan (PCMP) identifies a waterfront route in Georgina as part of the Lake to Lake Route.
- The York Region Transportation Master Plan identifies proposed long-term pedestrian and cycling routes which include components of the preferred Lake to Lake Route along the Lake Simcoe waterfront.
- York Greenlands System Trail Study identifies proposed Greenland trails along the Lake Simcoe waterfront / shoreline consistent with the area of the preferred route alignment.
- The Region's Official Plan outlines a Regional Cycling Network which identifies key cycling routes consistent with PCMP. It is recommended that the Region implement routes / facilities which support the development of active transportation routes / facilities. The Lake to Lake Route is consistent with the proposed route and supports the idea of promoting active transportation throughout the Region.

2. Consultation and Approvals

- Consideration should be given to consulting with the following stakeholders for the Lake to Lake Route: Local ward Counsellors, local residents and farmers, local aboriginal communities, Town of Georgina staff, the local snowmobile association, Ontario Parks, and the Lake Simcoe Region Conservation Authority.
- An environmental assessment is currently underway for a pedestrian crossing of the Maskinonge River between The Queensway and Woodbine Avenue. The outcome of this study is not expected to impact the Lake to Lake Route.
- Federal environmental assessments are not required for the proposed route or bridge crossings as they are not identified as a designated project under the new Canadian Environmental Assessment Act (CEAA) (2012).
- The proposed bridge crossing between Shoreline Place and Metropolitan Drive is located in an area that is not considered navigable waters under Schedule 2 of the Navigable Water Protection Act (NWPA) and are therefore not subject to NWPA Approval from Transport Canada. However, local aboriginal communities should be notified of the proposed bridge crossing design.
- No further approvals are anticipated for the implementation of the Lake to Lake Route in Georgina beyond standard local municipal engineering design and local municipal council budget approvals.

3. Design Sheets

- Map 2.1 provides an overview of the Lake to Lake Route in the Town of Georgina.
- Sheet 1-1 to Sheet 1-10 outlines specific design considerations for the route.

York Region
Lake to Lake Route Design

Municipal Section Key Map: Georgina (North)

Map 2.1A

N
W
E
S

Lake Simcoe

Georgina Island

W

E

Sheet 1-5B
Sheet 1-5A
Sheet 1-4B
Sheet 1-4A
Sheet 1-3B
Sheet 1-3A
Sheet 1-2B
Sheet 1-2A
Sheet 1-1B
Sheet 1-1A

Lake Drive North
Metro Road North
Woodbine Avenue
Kennedy Road
Easeline Road
Dalton Road
Park Road
Black River Road
Sibbald Point Provincial Park
Highway 48
Holden Road

Legend

Lake to Lake Route	Multi-Use Path	Paved Shoulder	Signed Route	Trail Connection
Preferred				
Alternative				

Local Cycling Network	On-Road	Off-Road
Existing		
Proposed		

Local Features	
Road	Waterbody
Railway	Provincial Park
Hydro Corridor	Municipal Boundary

0 500 1,000 2,000 Meters

June 2013

Base GIS Data provided by York Region
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York Region
Lake to Lake Route Design

Municipal Section Key Map: Georgina (South)

Map 2.1B

Legend

Lake to Lake Route

	Multi-Use Path	Paved Shoulder	Signed Route	Trail Connection
Preferred				
Alternative				

Local Cycling Network

	On-Road	Off-Road
Existing		
Proposed		

Local Features

- Road
- Railway
- Hydro Corridor
- Waterbody
- Provincial Park
- Municipal Boundary

0 500 1,000 2,000 Meters

June 2013

Base GIS Data provided by York Region
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York Region

Lake to Lake Route Design

Georgina: Black River Rd (Virginia Beach - Park Rd)

Sheet 1-1

[Geo-1]: Black River Rd (Virginia Beach - Park Rd)

Preferred: Pave out shoulders during next road resurfacing, reduce posted speed to 60 km/h, and sign as a bike route.

Interim: Reduce posted speed limit to 60 km/h and sign as a bike route.

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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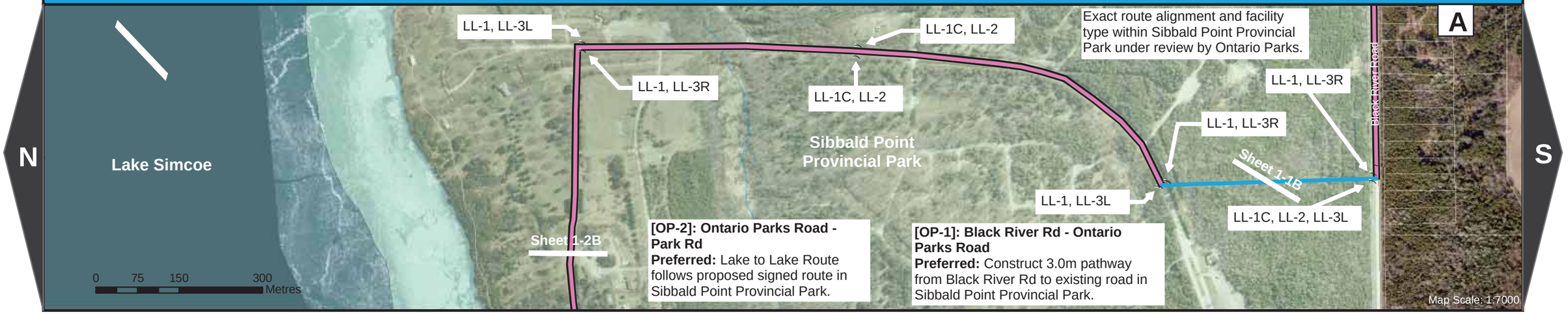
York Region

Lake to Lake Route Design

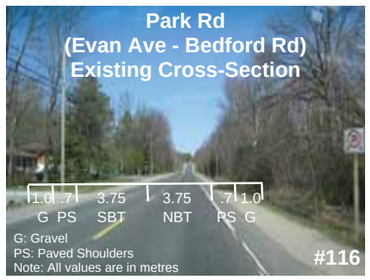
Georgina: Park Rd (Black River Rd - Hedge Rd)
Hedge Rd (Park Rd - Sibbald Cres)

Sheet 1-2




Existing Bridge Structure
Hedge Rd (At River Crossing) #102

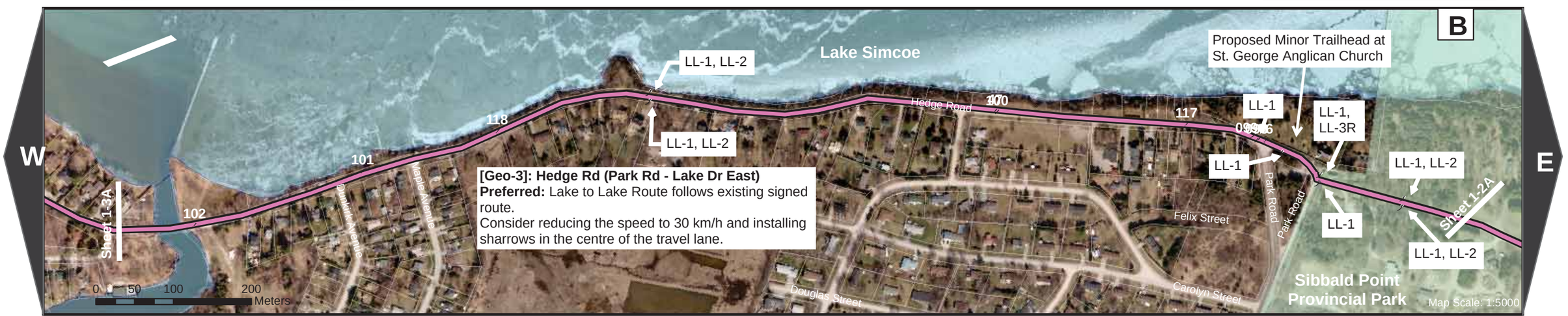
Hedge Road (At Park Rd) #46



#116

#098

#44



Legend

June 2013

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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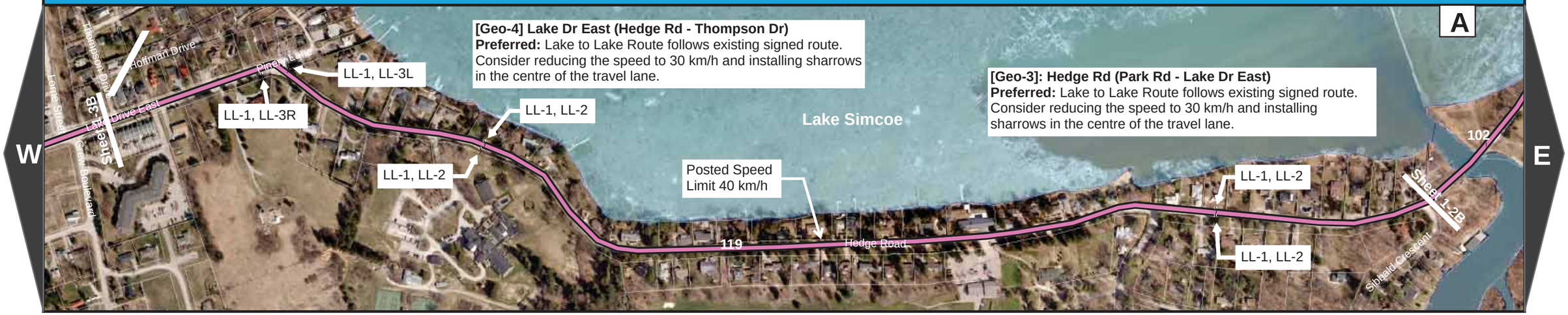
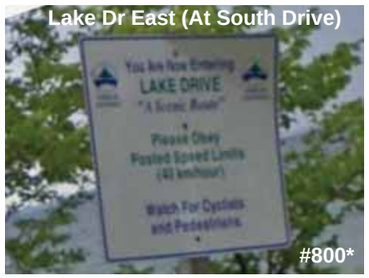
Georgina: Hedge Rd / Lake Drive East (Sibbald Cres - Thompson Dr)
Lake Dr East (Thompson Dr - Franklin Beach Rd)

York Region

Sheet 1-3





Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

York Region

Lake to Lake Route Design

Georgina: Lake Dr East (Franklin Beach Rd - Abbey Rd)

Sheet 1-4


Lake Dr East east of Abbey Rd

#807*

Lake Dr East at Kennedy Rd

#806*


Lake Dr East east of Fairbank Ave

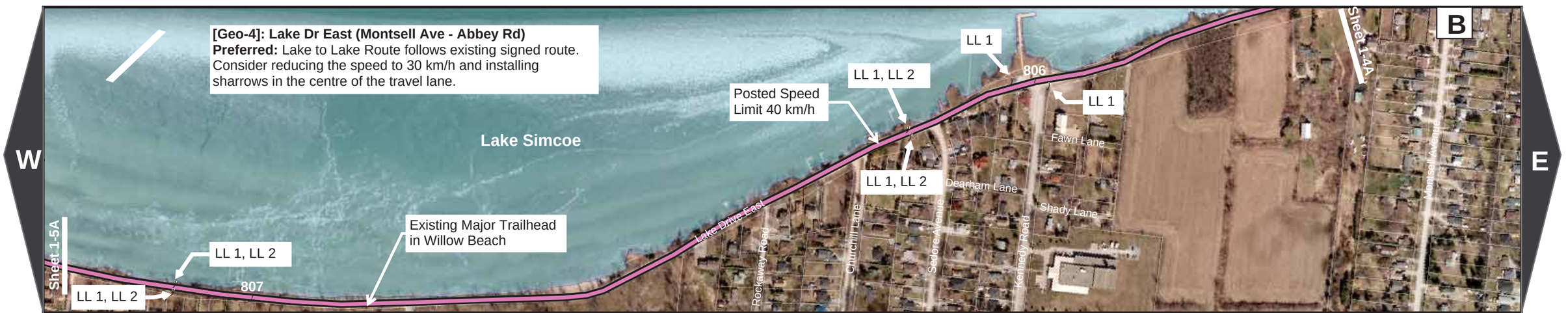
#805*


Lake Dr East west of Salvation Army Rd

#804*


Lake Dr East at Salvation Army Rd

#803*



Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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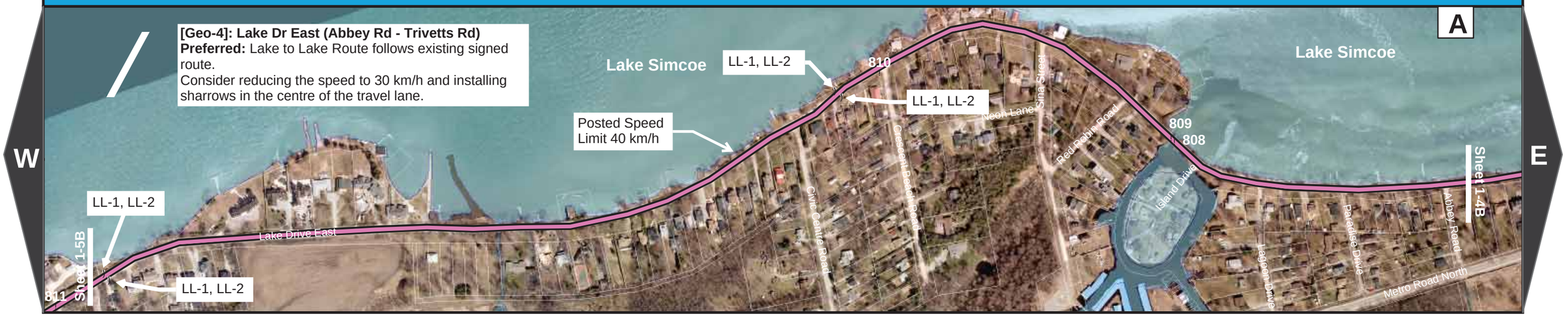
York Region

Lake to Lake Route Design

Georgina: Lake Dr East (Abbey Rd - Woodbine Ave)

Sheet 1-5



Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

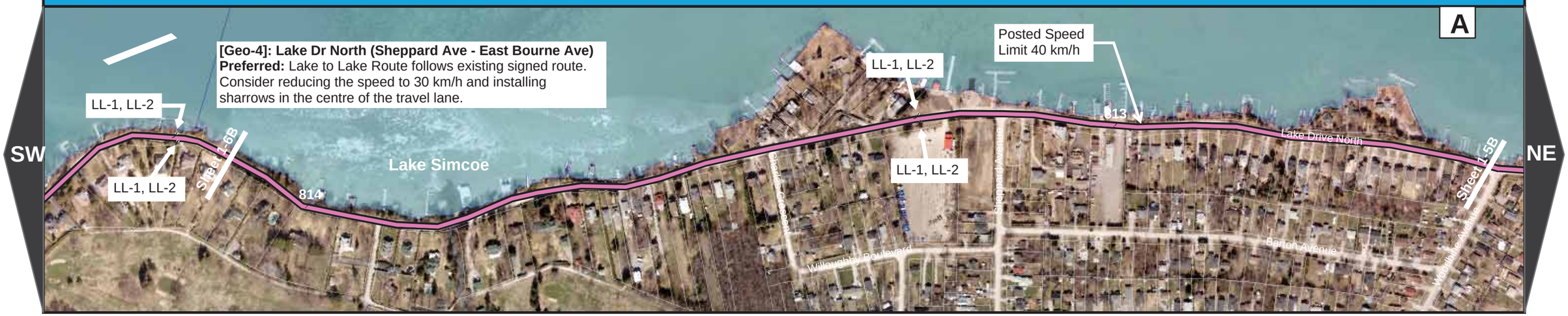
MMM GROUP

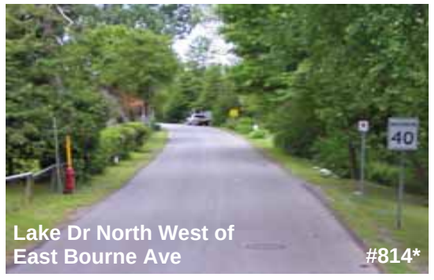
York Region

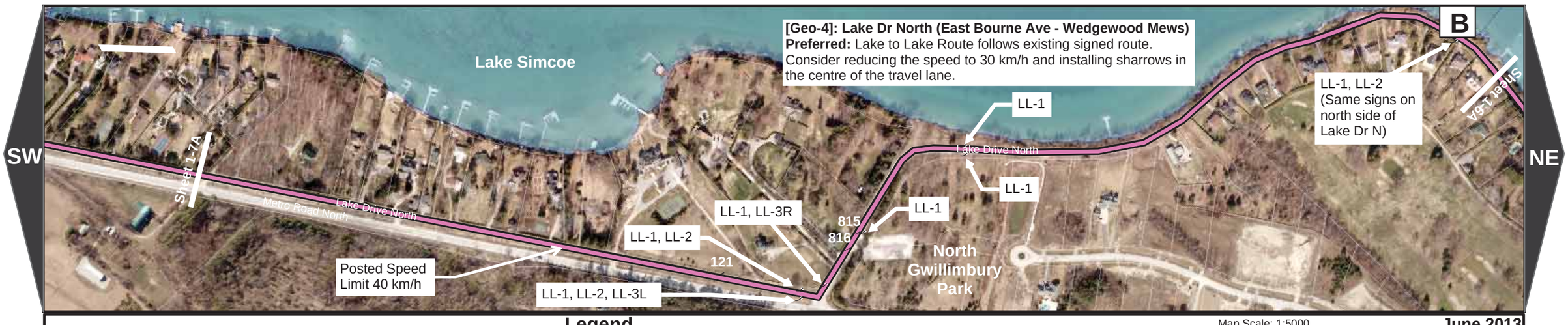
Lake to Lake Route Design

Georgina: Lake Dr North (Sheppard Ave - Wedgewood Mews)

Sheet 1-6







Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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York Region

Lake to Lake Route Design

Georgina: Lake Dr North (Wedgewood Mews - Osbourne St)
Osbourne St (Lake Dr North - Bouchier Dr)
Pine Post R/Lake Dr North (Bouchier Dr - Herbert's Ln)

Sheet 1-7

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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*Image Source: Google, 2009.

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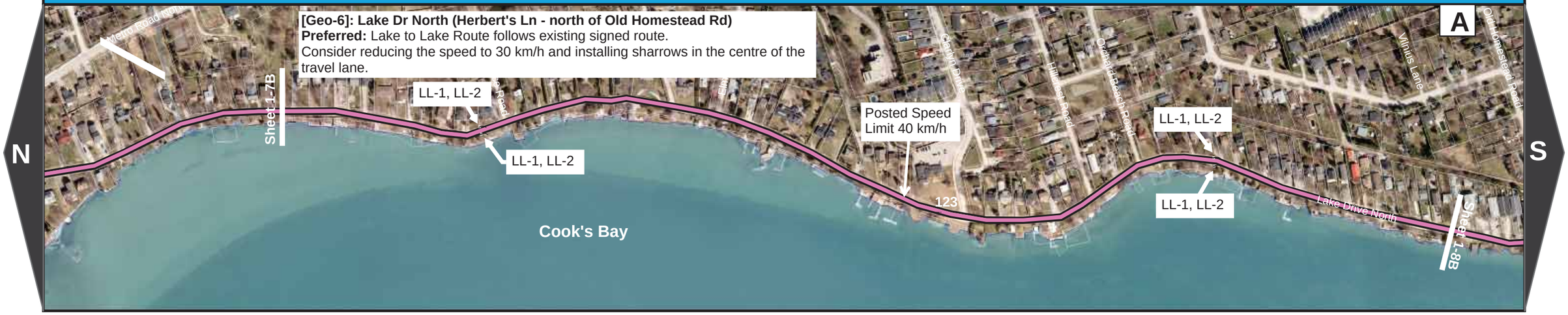
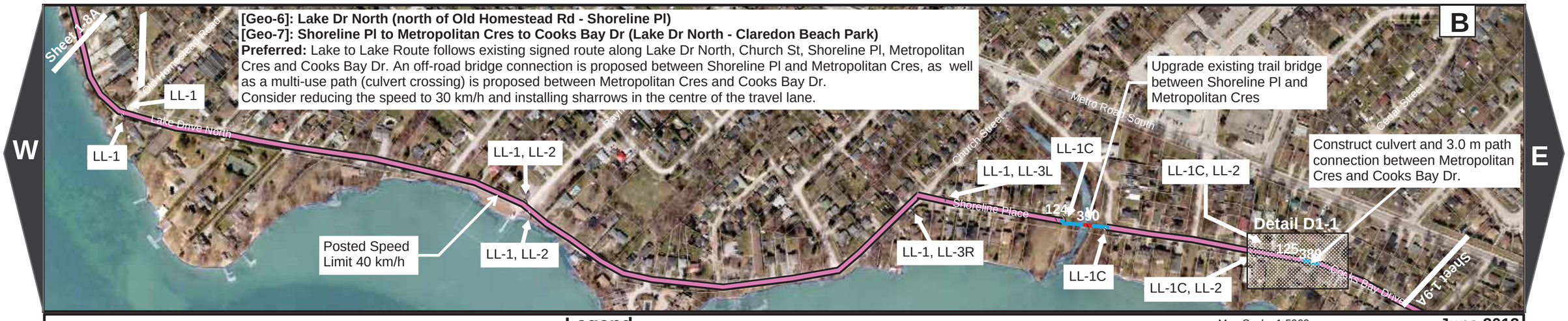
York Region

Lake to Lake Route Design

Georgina: Lake Dr North (Herbert's Ln - Church St)
Shoreline Pl/Cooks Bay Dr (Lake Dr North - Craigmawr Blvd)

Sheet 1-8





Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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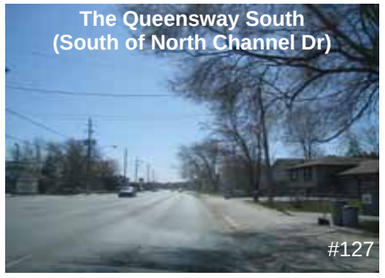
York Region

Lake to Lake Route Design

Georgina: Cook's Bay Dr / Ways Bay Dr
The Queensway South / Bayview Ave

Sheet 1-9



Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road		Route Information				
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route	Photo Location #	Private Entrance	Bus Stop	Move Utility Pole/ Box	Move Light Pole
Preferred															
Alternative															

Move Signal Pole	Move Support Pole	Install Pole for Signage	Use Existing Pole for Signage
New Retaining Wall	Trail Connection	Property Line	Municipal Boundary

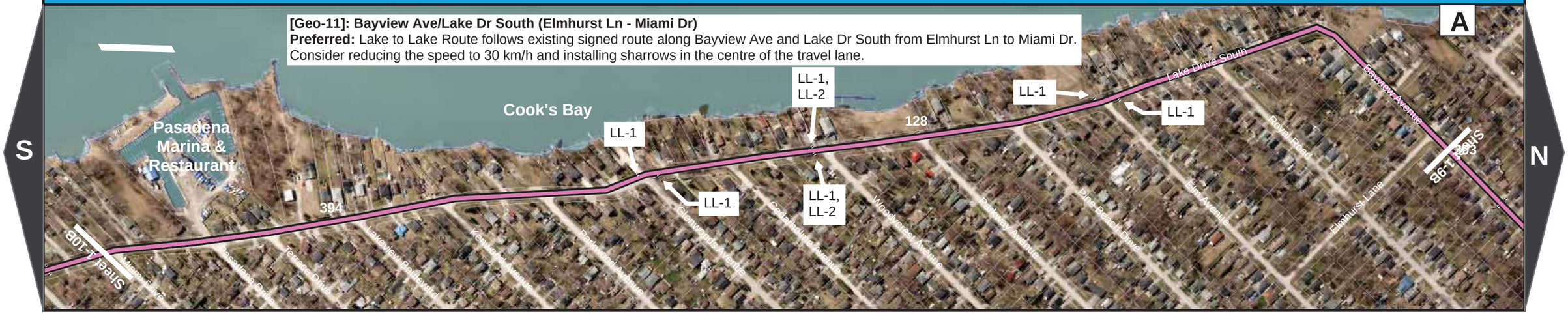
MMM GROUP

York Region

Lake to Lake Route Design

Georgina: Bayview Ave/Lake Dr South (Elmhurst Ln - Ravenshoe Rd)

Sheet 1-10




Lake Dr South North of Ravenshoe Rd

#826*


Lake Dr South at Robert St

#825*


Lake Dr South South of Robert St

#129


Youngs Harbour Park (Lake Dr S and Walter Dr)

#824*


Lake Dr South at Lakeview Blvd

#394


Lake Dr South at Parkway Ave

#128

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

York Region

Lake to Lake Route Design

Georgina: Metropolitan Crescent - Cooks Bay Drive

Sheet D1-1

4. Facility Design Elements

Segment	Road / Path: Black River Road	Start: Virginia Beach	End: Sibbald Point Provincial Park	Ward: 5	Sheet#: 1-1A/B
Geo-1	**Facility Design Considerations**				

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- Currently the posted speed limit for the majority of the segment is 70 km/h. - **Preferred**: Pave out shoulders during next road resurfacing, reduce posted speed limit to 60 km/h and install route signs every 1.0km on Black River Road from Virginia Beach to the potential park entrance to Sibbald Point Provincial Park. - **Interim**: Reduce posted speed limit to 60 km/h and install route signs every 1.0km on Black River Road from Virginia Beach to the potential park entrance to Sibbald Point Provincial Park.

Estimated Cost						Phasing	
Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Signed Bike Route with Paved Shoulder in conjunction with existing road reconstruction / resurfacing	2.97	linear KM	$55,000.00	$163,350.00	$172,475.00	✓	
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Pathway marker sign (Single sign on new post)	6	Each	$250.00	$1,500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	5	Each	$125.00	$625.00			

Segment	Road / Path: Sibbald Point Provincial Park	Start: Black River Road	End: Ontario Parks Road	Ward: 5	Sheet#: 1-2A/B
OP-1	**Facility Design Considerations**				

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Under review by Ontario Parks	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- Ontario Parks is considering an internal park trail that could form part of the Lake to Lake Route along existing park roads. - Exact route alignment and facility type within Sibbald Point Provincial Park under review by Ontario Parks.

Estimated Cost						Phasing	
Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	0.39	linear KM	$250,000.00	$97,500.00	$98,725.00		✓
Pathway marker sign (Single sign on new post)	2	each	$250.00	$500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	1	each	$125.00	$125.00			
Pathway marker sign (Double sided sign on new post)	2	each	$300.00	$600.00			

Segment	Road / Path: Sibbald Point Provincial Park	Start: Ontario Parks Road	End: Hedge Road	Ward: 5	Sheet#: 1-2A/B

OP-2

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Under review by Ontario Parks	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- Ontario Parks is considering an internal park trail that could form part of the Lake to Lake Route along existing park roads. - Exact route alignment and facility type within Sibbald Point Provincial Park under review by Ontario Parks.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Signed Bike Route in Rural Area	1.77	linear KM	$1,000.00	$1,770.00	$4,520.00		✓
Pathway marker sign (Single sign on new post)	7	each	$250.00	$1,750.00			
Pathway marker sign	8	each	$125.00	$1,000.00			

Segment	Road / Path: Hedge Road	Start: Park Road	End: Lake Drive East	Ward: 4	Sheet#: 1-2B. 1-3A

Geo-3

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- Low volume, low speed (40km/h) two-lane roadway with a rural cross-section (no curbs or gutter) and no delineating pavement markings. - **Preferred**: Lake to Lake Route follows existing signed route along Hedge Road from Park Road to Lake Drive East. Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Signed Bike Route with Sharrow Lane Markings	3.18	linear KM	$3,500.00	$11,130.00	$21,505.00	✓	
Staging area kiosk	1.00	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1.00	each	$2,000.00	$2,000.00			
Pathway marker sign (Single sign on new post)	9	each	$250.00	$2,250.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	9	each	$125.00	$1,125.00			

Segment	Road / Path: Lake Drive East / Lake Drive North	Start: Hedge Road	End: Osbourne Street	Ward: 4, 3	Sheet#: 1-3A to 1-7A

Geo-4

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- Low volume, low speed (40km/h) two-lane roadway (rural cross-section with no curbs or gutter except in Jackson's Point). - **Preferred**: Lake to Lake Route follows existing signed route along Lake Drive East/Lake Drive North from Hedge Road to Osbourne Street. Install route signs (at 1.0km intervals). Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane. - Existing Major Trailhead in De La Salle Park includes parking and washroom amenities. Install route information signage at this location. - Existing Major Trailhead in Willow Beach includes parking and washroom amenities. Install route information signage at this location.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Signed Bike Route with Sharrow Lane Markings	13.58	linear KM	$3,500.00	$47,530.00	$73,405.00	✓	
Staging area kiosk	2	each	$5,000.00	$10,000.00			
Signboards for staging area kiosk sign	2	each	$2,000.00	$4,000.00			
Pathway marker sign (Single sign on new post)	30	each	$250.00	$7,500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	35	each	$125.00	$4,375.00			

Segment	Road / Path: Osbourne St, Bouchier St, Pine Post Rd	Start: Lake Drive North	End: Metro Road North	Ward: 3	Sheet#: 1-7A/B

Geo-5

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- Low volume, low speed (40km/h) two-lane roadway along Osbourne Street and Bouchier Street (rural cross-section with no curbs or gutter). Low volume, low speed (40km/h and 50km/h) two-lane roadway along Pine Post Rd (rural cross section with no curbs or gutter). - **Preferred:** Lake to Lake Route follows existing signed route. Install route signs (at 1.0km intervals). Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane. - Lake to Lake Route crosses Metro Road North at the intersection of Bouchier Street and Metro Road North. Consider adding "Trail Crossing" signs on Metro Road North in advance of Bouchier Street to increase awareness of users crossing intersection.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Signed Bike Route with Sharrow Lane Markings	1.38	linear KM	$3,500.00	$4,830.00	$7,330.00	✓	
Pathway marker sign (Single sign on new post)	6	each	$250.00	$1,500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	8	each	$125.00	$1,000.00			

Segment	Road / Path: Lake Drive North	Start: Metro Road	End: Shoreline Place	Ward: 3, 2	Sheet#: 1-7B to 1-8B

Geo-6

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- Low volume, low speed (40km/h) two-lane roadway along Lake Drive North (rural cross-section with no curbs or gutter). - **Preferred:** Lake to Lake Route follows existing signed route. Install additional route signs (at 1.0km intervals). Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane. - Lake to Lake Route crosses Metro Road North at the intersection of Pine Post Road and Metro Road North. Consider adding “Trail Crossing” signs on Metro Road North in advance of Bouchier Street to increase awareness of users crossing intersection.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing (TBD) 0-3 Years	Phasing (TBD) 4-5 Years
Signed Bike Route with Sharrow Lane Markings	3.33	linear KM	$3,500.00	$11,655.00	$14,530.00	✓	
Pathway marker sign (Single sign on new post)	6	each	$250.00	$1,500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	11	each	$125.00	$1,375.00			

Segment	Road / Path: Shoreline Place, Metropolitan Crescent, Cooks Bay Drive, Ways Bay Drive	Start: Church Street	End: The Queensway South	Ward: 2	Sheet#: 1-8B, 1-9A; D1-1

Facility Design Considerations

Facility Types	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route / Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** 1 - Off-Road Connection between Shoreline Place and Metropolitan Crescent **# of Private Entrances:** None	- Low volume, low speed (40km/h) residential two-lane roadways along Shoreline Place, Metropolitan Crescent, Cooks Bay Drive, and Ways Bay Drive with a rural cross-section (no curbs or gutter). - **Preferred:** Lake to Lake Route follows existing signed route along Shoreline Place, Metropolitan Crescent, Cooks Bay Drive and Ways Bay Drive. Install route signs (at 1.0km intervals). Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane. An off-road connection is proposed between Shoreline Place and Metropolitan Crescent, and between Metropolitan Crescent and Cooks Bay Drive. **Required Structure**: Remove existing bridge, construct concrete abutments and erect new prefabricated 10m long, 3.0m clear width single span steel truss bridge with timber deck between Shoreline Place and Metropolitan Crescent. Construct minor culvert and 3.0 metre wide path connection between Metropolitan Crescent and Cooks Bay Drive. (**See Detail D1-1**).

Estimated Cost | **Phasing**

Segment	Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Geo-7	Signed Bike Route in Urban Area	1.55	linear KM	$1,500.00	$2,325.00	$13,700.00	✓	
	Small diameter culvert	20	linear M	$200.00	$4,000.00			
	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	0.02	linear KM	$250,000.00	$5,000.00			
	Pathway marker sign (Single sign on new post)	4	each	$250.00	$1,000.00			
	Pathway marker sign (Single sign on existing post or previously proposed post)	11	each	$125.00	$1,375.00			
	Demolition of existing bridge between Shoreline Place and Metropolitan Crescent	1	allowance	$20,000.00	$20,000.00	$203,100.00		✓
	Self-weathering steel truss bridge with timber deck (32m long, 3m clear width)	30	m²	$2,500.00	$75,000.00			
	Concrete abutments on spread footings	2	each	$30,000.00	$60,000.00			
	Mobilization and erection of bridge	1	allowance	$35,000.00	$35,000.00			
	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	0.05	linear KM	$250,000.00	$12,500.00			
	Pathway marker sign (Double sided sign on new post)	2	each	$300.00	$600.00			

Segment	Road / Path: The Queensway South (west side)	Start: Ways Bay Drive	End: North Side of Maskinonge River	Ward: 2	Sheet#: 1-9A/B

Geo-8

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** 5 New Crossride at Stop Controlled Intersection - The Queensway South @ Woodland Avenue - The Queensway South @ North Channel Drive - The Queensway South @ South Channel Drive - The Queensway South @ Cameron Crescent (north access) - The Queensway South @ Cameron Crescent (south access) **Use Existing Crossing:** 5 **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** 2	- **Preferred:** Construct 3.0m wide off-road path connection from Ways Bay Drive to The Queensway South. Along Queensway South from Ways Bay Drive to the north side of Maskinonge River, the Lake to Lake Route follows the existing multi-use path on the west side of the road. Some utility poles encroach within the trail space, consider signing route as a “Narrow Trail” and install signage warning path users of obstructions.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing: 0-3 Years	Phasing: 4-5 Years
Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	0.03	linear KM	$250,000.00	$7,500.00	$146,040.00	✓	
Pathway / Road transition at existing signalized intersection (crossride)	5	each	$25,000.00	$125,000.00			
Pathway marker signs	0.61	linear KM	$1,500.00	$915.00			
Pathway Crossing of Private Entrance	6	each	$2,000.00	$12,000.00			
Pathway Crossing of Private Entrance	6	each	$2,000.00	$12,000.00			
Pathway marker sign (Single sign on new post)	1	each	$250.00	$250.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	3	each	$125.00	$375.00			

Segment	Road / Path: The Queensway South (west side)		Start: North Side of Maskinonge River		End: South Side of Maskinonge River		Ward: 1	Sheet#: 1-9B; D1-2
Geo-9	**Facility Design Considerations**							
	Facility Type	**Municipal Infrastructure Impacts**	**Road Crossings and Private Entrances**		**Other Considerations**			
	Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** 1 - The Queensway South over the Maskinonge River **# of Private Entrances:** None		- Existing bridge over the Maskinonge River. - **Preferred**: Reduce vehicular lane widths over bridge to 3.5m and widen existing sidewalk to 3.0m on west side of the Queensway South. Scarify existing concrete sidewalk and place asphalt material over concrete base. Install bollards at face of curb. **See Rendering of Design Concept.**			
	Estimated Cost						**Phasing**	
	Description	**Estimated Quantity**	**Units**	**Unit Price**	**Item Cost**	**Segment Cost**	**0-3 Years**	**4-5 Years**
	Place 1.0m wide concrete base adjacent to existing sidewalk on east side of road	57	m^2	$50.00	$2,850.00	$40,110.00		✓
	Place 40mm asphalt surface	20	tonne	$150.00	$3,000.00			
	Flexible Bollards	23	each	$100.00	$2,300.00			
	Traffic Control	1	allowance	$15,000.00	$15,000.00			
	Adjust Catch basins	1	allowance	$10,000.00	$10,000.00			
	Pavement Markings	120	m	$1.00	$120.00			
	Safety Railings/ Rubrail	57	linear M	$120.00	$6,840.00			

Modification of The Queensway South over the Maskinonge River	
Existing	**Proposed**
	

Segment	Road / Path: The Queensway South (west side)		Start: South Side of Maskinonge River		End: Bayview Avenue	Ward: 1	Sheet#: 1-9B
Geo-10	Facility Design Considerations						
	Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances		Other Considerations		
	Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** 4 New Crossride at Stop Controlled Intersection - The Queensway South @ Mac Avenue - The Queensway South @ Wynhurst Road - The Queensway South @ Willow Drive - The Queensway South @ Pleasant Boulevard **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** 18		- **Preferred:** Lake to Lake Route follows existing multi-use path on the west side of Queensway South from Woodland Avenue to Bayview Avenue. Some utility poles encroach within the trail space, consider signing route as a “Narrow Trail” and install signage warning path users of obstructions. No additional modifications necessary for existing multi-use path.		
	Estimated Cost						Phasing
	Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
	Pathway marker signs	0.97	linear KM	$1,500.00	$1,455.00	$137,580.00	✓	
	Pathway / Road transition at existing signalized intersection (crossride)	4	each	$25,000.00	$100,000.00			
	Pathway Crossing of Private Entrance	18	each	$2,000.00	$36,000.00			
	Pathway marker sign (Single sign on existing post or previously proposed post)	1	each	$125.00	$125.00			

Segment	Road / Path: Bayview Avenue/Lake Drive South	Start: The Queensway South	End: Ravenshoe Road	Ward: 1	Sheet#: 1-9B, 1-10A/B

Geo-11

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- **Preferred**: The Lake to Lake Route will follow the existing signed route along Bayview Avenue from The Queensway South to Ravenshoe Road. Install route signs (at 1.0km intervals). Consider reducing the posted speed to 30km/h and installing sharrows in the travel lane. - Proposed Minor Trailhead at the northeast corner of the Lake Drive South and Ravenshoe Road intersection.

Estimated Cost (TBD as part of Phase 3)

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing: 0-3 Years	Phasing: 4-5 Years
Signed Bike Route in Urban Area	3.73	linear KM	$1,500.00	$5,595.00	$17,595.00	✓	
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Pathway marker sign (Single sign on new post)	12	each	$250.00	$3,000.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	16	each	$125.00	$2,000.00			

5. Summary of Preferred Route

- The following table presents a summary of the preferred route by facility type for each phase and outlines the overall capital and maintenance cost for the Lake to Lake Route in Georgina. A more detailed Cost Summary highlighting the estimated capital costs and estimated maintenance costs is found in **Appendix A – Unit Costs Schedule and Detailed Cost Tables**.

	Phase 1 (0-3 Years)		Phase 2 (4-5 Years)		Total Length (km)	Total Estimated Capital Cost for all Phases		Estimated Annual Maintenance Cost	Estimated Maintenance Cost 0-5 Years	Estimated Maintenance Cost Over 20 Years
Facility Type	Length (km)	Estimated Capital Cost	Length (km)	Estimated Capital Cost						
Signed Route	29.74	$320,540.00	1.77	$4,520.00	31.51	$325,060.00		$15,753.53	$39,383.83	$275,686.80
Multi-Use Pathway	1.58	$283,620.00	0.39	$98,725.00	1.97	$382,345.00		$7,880.00	$19,700.00	$137,900.00
Bridges	0.0	$0.00	0.12	$243,210.00	0.12	$243,210.00		$477.83	$1,194.57	$8,361.99
Total Network	31.32	$604,160.00	2.16	$346,455.00	33.48	**$950,615.00**		$24,111.36	$60,278.40	$421,948.79

2.4.2 Section #2: Town of East Gwillimbury

1. Route Alternatives and Rationale

- The Lake to Lake Route within the Town of East Gwillimbury will include both multi-use pathways (off-road and in-boulevard) as well as signed routes on quiet, rural roadways. Starting at the intersection of Lake Drive South and Ravenshoe Road, the route will travel west using an existing on-road signed route to 2nd Concession.
- Between Ravenshoe and Queensville, The route will consist of both on-road and off-road segments following the 2nd Concession, Holborn, and Yonge Street right-of-ways. At the intersection of 2nd Concession and Boag Road, a new bridge will be required as well as replacing an existing bridge (on a snowmobile route).
- Between Queensville Sideroad and Doane Road, the preferred route will follow an unopened municipal right-of-way west of Yonge Street to the Maple Street right-of-way, west to Yonge Street along the Maple Street right-of-way, and south on a multi-use pathway on the west side of Yonge Street to Doane Road. An alternative is to follow the unopened municipal right-of-way south to Doane Road consistent with the East Gwillimbury Active Transportation and Trails Master Plan; however, property constraints immediately north of Doane Road limit the ability for the route to be implemented on this alignment.
- Between Doane Road and Mount Albert Road, the route will travel west into an off-road section, which will follow the alignment approved in the East Gwillimbury Active Transportation and Trails Master Plan and will use the bridge crossing currently under study in the McKenzie - Oriole Pedestrian Link Scoped Impact Study. The route will connect to Toll Road approximately 300m north of Bradford Street. From Toll Road, the route will travel on-road south to Bradford Street and then south using an off-road section east of Holland Landing Road between Bradford Street and Yonge Street. The route will cross the Holland River using a new bridge just west of Yonge Street in the vicinity of a proposed major trailhead at the intersection of Yonge Street and Mount Albert Road.
- South of Mount Albert Road, the Lake to Lake Route will use the proposed Nokiidaa Trail extension located on the north side of the Holland River to the existing terminus of the Nokiidaa Trail. From this point, the route will use the existing Nokiidaa Trail to Green Lane.

Local Municipal Policies

- East Gwillimbury Active Transportation and Trails Master Plan identifies proposed cycling and trail routes consistent with those identified as part of the preferred route including proposed on-road (bike lanes and paved shoulders) and off-road connections.
- East Gwillimbury Transportation Master Plan (2010) identifies on and off-road trail and cycling connections consistent with the preferred route.

Regional Policies

- The York Region Transportation Master Plan identifies cycling linkages along some of the proposed routes such as Yonge Street and 2nd Concession.
- The York Region Pedestrian and Cycling Master Plan (PCMP) identifies proposed paved shoulders on Leslie Street, Queensville Sideroad, 2nd Concession Road, a signed-route along Yonge Street and off-road multi-use trail connections throughout Holland Landing consistent with the preferred route.
- York Greenlands System Trail Study identifies proposed Greenland trails along the Lake Simcoe waterfront / shoreline consistent with the area of the preferred route alignment.
- The Region's Official Plan outlines a Regional Cycling Network which identifies cycling routes consistent with the PCMP. It is recommended that the Region implement routes / facilities which support the development and use of active transportation. The Lake to Lake Route is consistent with the proposed network and supports the idea of promoting active transportation activities Region-wide.

2. Consultation and Approvals

- Consideration should be given to consulting with the following stakeholders for the Lake to Lake Route: Local Counsellors, local residents and farmers, Town of East Gwillimbury staff, the local snowmobile association, Ontario Parks, and the Lake Simcoe Region Conservation Authority.
- A class environmental assessment is currently underway for the proposed Oriole - McKenzie Pedestrian Link Scoped Impact Study which is part of the preferred Lake to Lake Route.
- Federal environmental assessments are not required for the proposed route or bridge crossings as they are not identified as a designated project under the new Canadian Environmental Assessment Act (CEAA) (2012).
- The proposed Holland River bridge crossings are located in sections that are not considered navigable waters under Schedule 2 of the Navigable Water Protection Act (NWPA) and are therefore not subject to NWPA Approval from Transport Canada. However, local aboriginal communities should be notified of the proposed bridge crossing design.
- No other approvals are anticipated for the implementation of the Lake to Lake Route in East Gwillimbury beyond standard local municipal engineering design and local municipal council budget approvals.

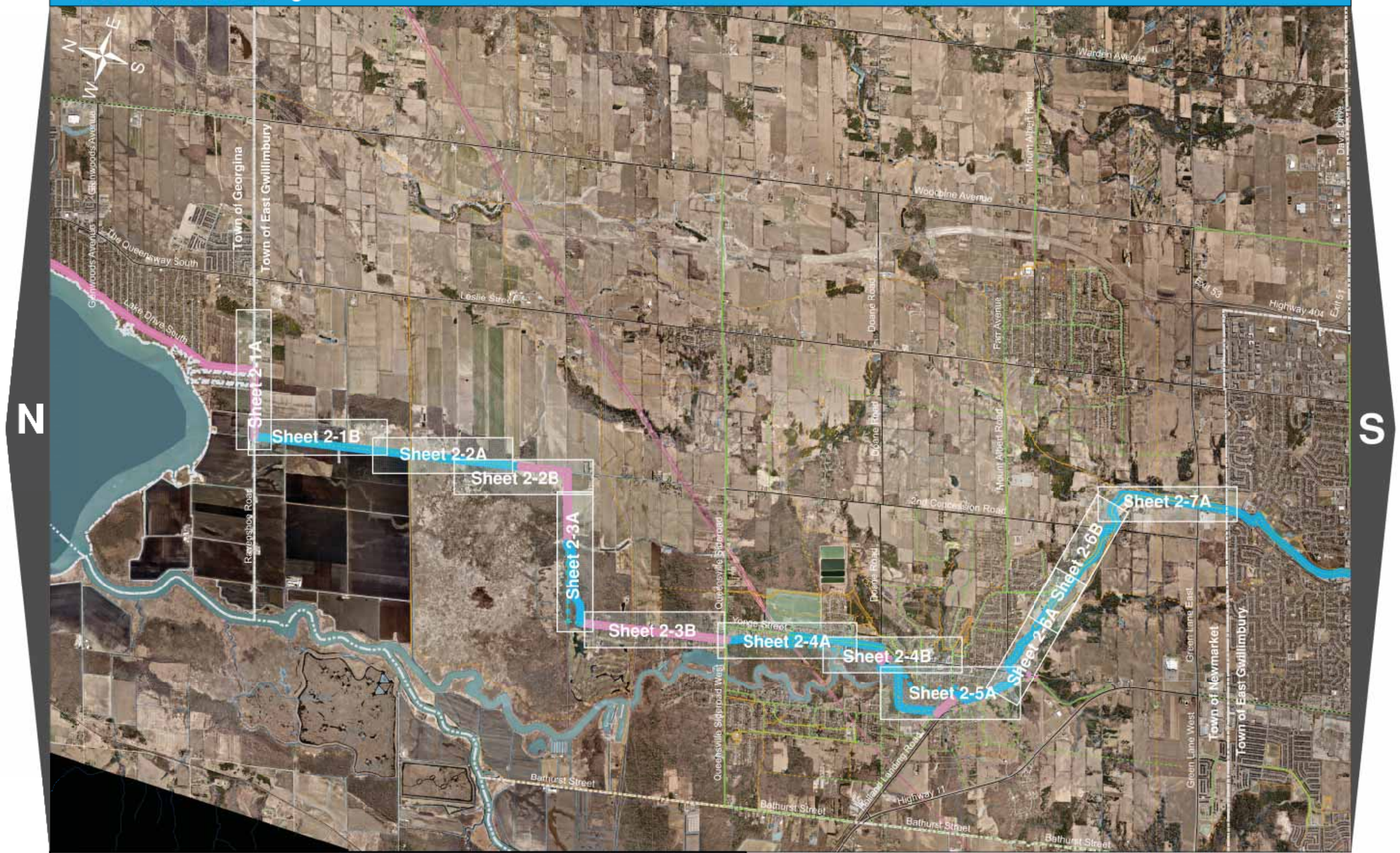
3. Design Sheets

- Map 2.2 provides an overview of the Lake to Lake Route in the Town of East Gwillimbury.
- Sheet 2-1 to Sheet 2-7 outlines specific design considerations for the route.

York Region
Lake to Lake Route Design

Municipal Section Key Map: East Gwillimbury

Map 2.2



Legend

Lake to Lake Route	Multi-Use Path	Paved Shoulder	Signed Route	Trail Connection
Preferred	▬	▬	▬	▬
Alternative	▬ ▬	▬ ▬	▬ ▬	

Local Cycling Network	On-Road	Off-Road
Existing	▬	▬
Proposed	▬ ▬	▬ ▬

Local Features

- Road
- Railway
- Hydro Corridor
- Waterbody
- Provincial Park
- Municipal Boundary

0 500 1,000 2,000 Meters

June 2013

MMM GROUP

York Region

Lake to Lake Route Design

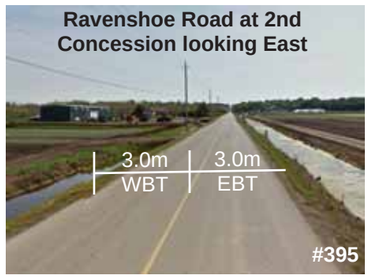
East Gwillimbury: Ravenshoe Rd (Lake Dr - 2nd Concession)
2nd Concession (South of Ravenshoe Rd)

Sheet 2-1

[Eas-1]: Ravenshoe Road (Lake Drive - 2nd Concession)
Preferred: Lake to Lake Route follows proposed signed route. Consider reducing the posted speed to 60 km/h.

[Eas-2]: 2nd Concession (Ravenshoe Road - Boag Rd)
Preferred: Construct a new granular pathway within 2nd Concession right-of-way on west side of drainage ditch to Boag Rd. Erect signs to warn trail users that trail is in an active farming area.

Ravenshoe Road at 2nd Concession looking East



Existing Condition 2nd Concession south of Ravenshoe Rd

Proposed Condition 2nd Concession south of Ravenshoe Rd

Ravenshoe Road west of Lake Drive South

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

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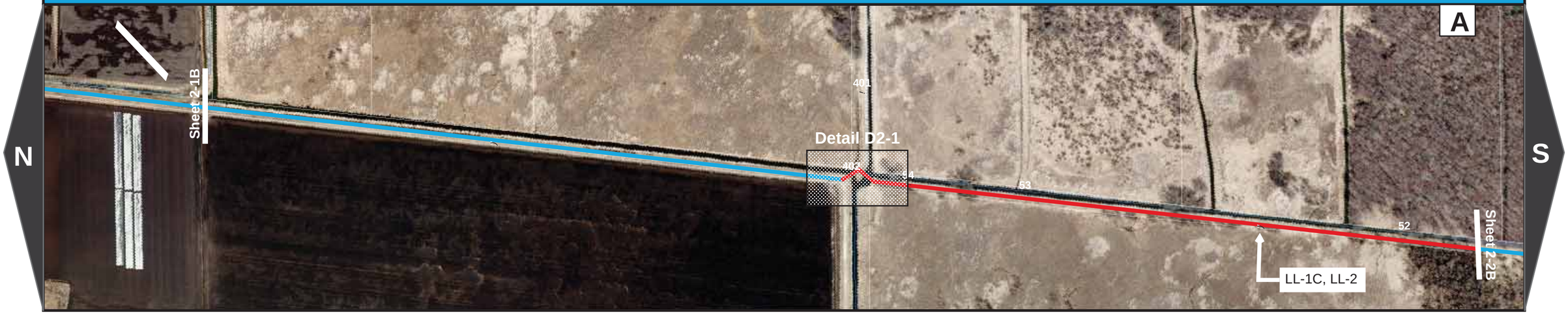
Lake to Lake Route Design

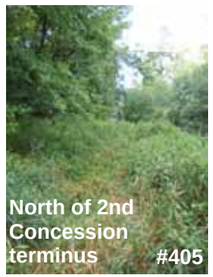
East Gwillimbury: 2nd Concession Right-of-Way (Holborn Rd- Boag Rd)

Sheet 2-2



[Eas-2]: 2nd Concession Right-of-Way (South of Ravenshoe Rd - Boag Rd)
Preferred: Construct new 3.0m multi-use path between Ravenshoe Road and Boag Road within 2nd Concession right-of-way on west side of drainage ditch.

[Eas-3]: 2nd Concession Right-of-Way (Boag Rd - existing terminus of 2nd Concession)
Preferred: Demolish and replace existing bridge. Erect two new prefabricated steel bridges (4.0m clear width) over drainage ditches at 2nd Concession and Boag Rd. Construct new boardwalk for 800m south of Boag Road within 2nd Concession right-of-way on west side of drainage ditch. Construct new 3.0m pathway between boardwalk and existing terminus of 2nd Concession Road north of Holborn Road



[Eas-4] 2nd Concession Right-of-Way (Road terminus - Holborn Rd)
Preferred: Lake to Lake route follows proposed signed route on 2nd Concession Road and Holborn Road.

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

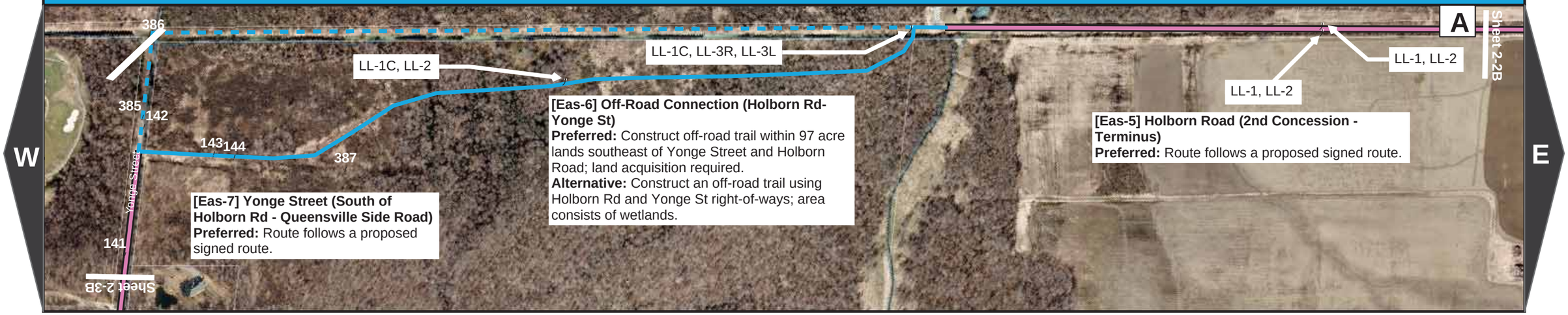
MMM GROUP

York Region

Lake to Lake Route Design

East Gwillimbury: Holborn Road - Queensville Side Road

Sheet 2-3



Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

York Region

Lake to Lake Route Design

East Gwillimbury: Yonge Street (Queensville Side Road - Doane Road)

Sheet 2-4

[Eas-9] Route through Holland Landing (Doane Road - Yonge Street)
Preferred: Signed Route on Doane Road to terminus; Construct 3.0m granular surface pathway from terminus adjacent to the west side of the Landing Court properties on an alignment consistent with the McKenzie - Oriole Pedestrian Link Scoped Impact Study and East Gwillimbury Active Transportation and Trails Master Plan.
Alternative: Signed Route on Doane Road and Landing Court to terminus; Construct 3.0m pathway from terminus to the municipal road right-of-way and connect to the alignment consistent with the McKenzie - Oriole Pedestrian Link Scoped Impact Study.

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

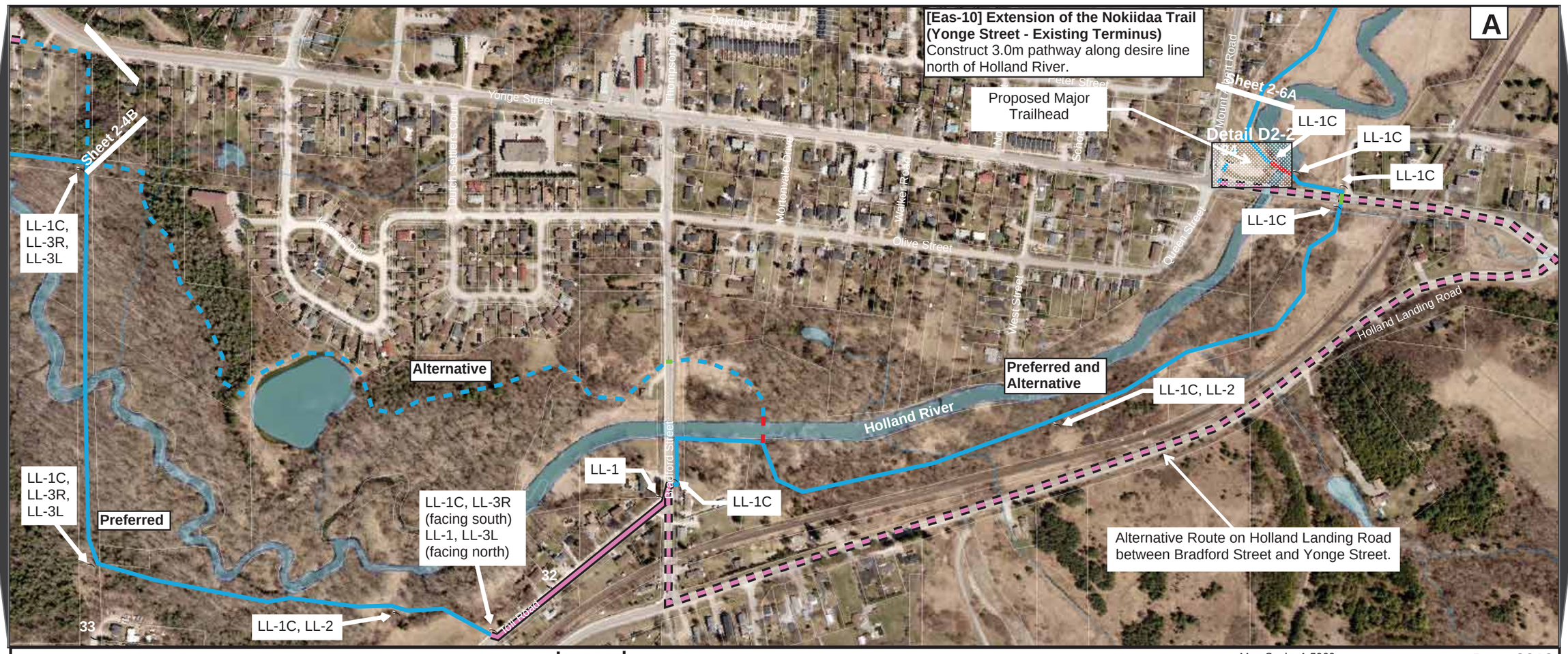
Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

East Gwillimbury: Holland Landing

[Eas-9] Route through Holland Landing (Doane Road - Yonge Street)
Preferred: Construct 3.0m granular surface pathway on an alignment consistent with the McKenzie - Oriole Pedestrian Link Scoped Impact Study to west side of Holland River; Signed Route on Toll Road to Bradford Street; Construct 3.0m granular surface pathway west of Holland River between Bradford Street and Yonge Street.
Alternative: Construct 3.0m pathway on the east side of the Holland River crossing the river south of Bradford Street; Construct 3.0m granular pathway west of Holland River to Yonge Street.



Legend

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

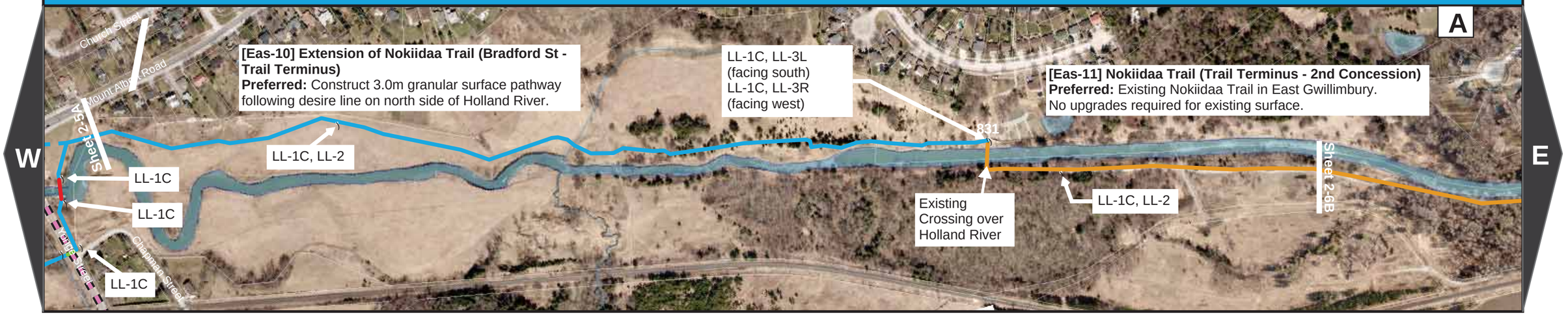
MMM GROUP

York Region

Lake to Lake Route Design

East Gwillimbury: Nokiidaa Trail (Bradford St - 2nd Concession)

Sheet 2-6



Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

East Gwillimbury: Nokiidaa Trail (2nd Concession - South of Green Lane)

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

York Region

Lake to Lake Route Design

East Gwillimbury: 2nd Concession at Boag Road

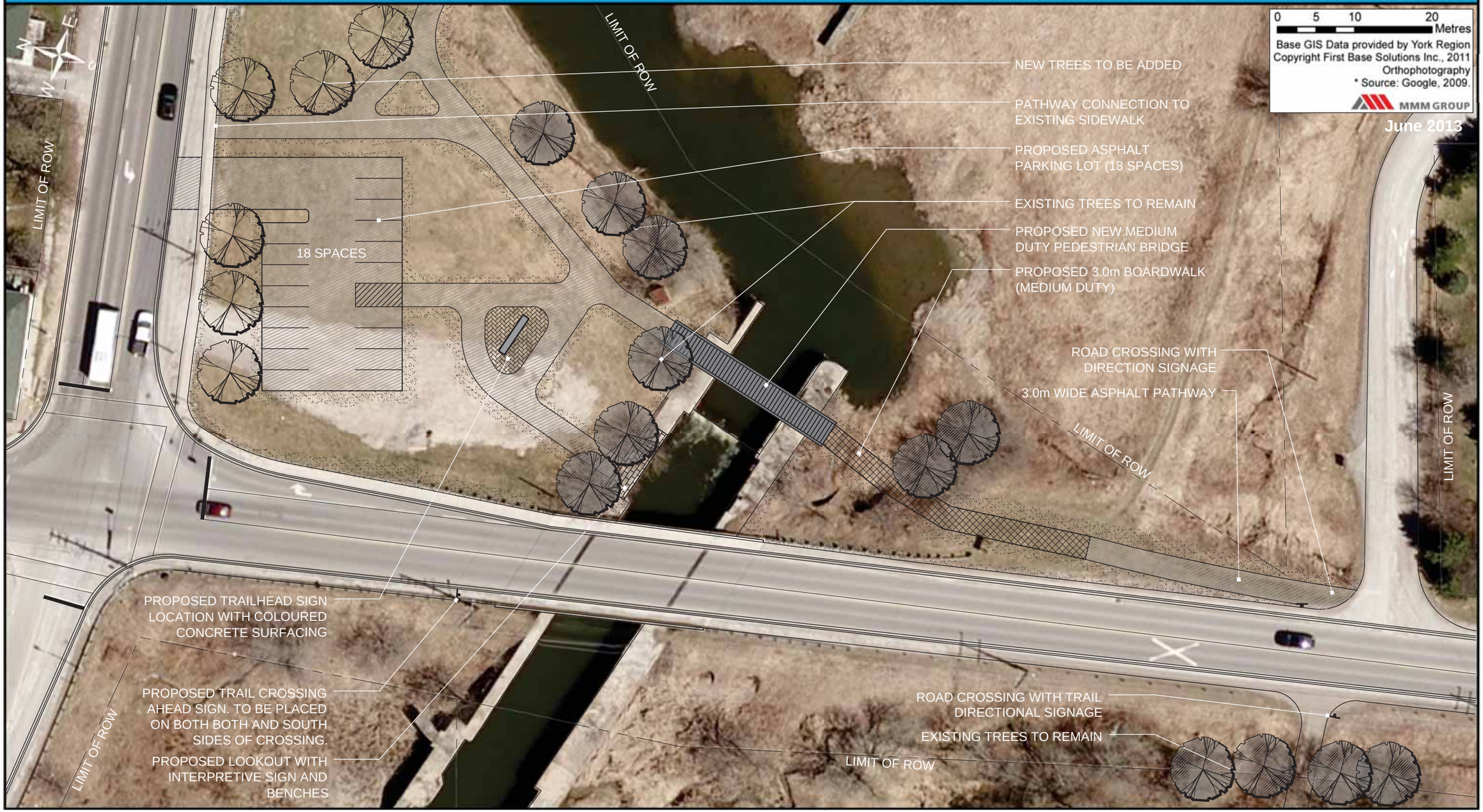
Sheet D2-1

York Region

Lake to Lake Route Design

East Gwillimbury: Yonge Street at Mount Albert Road

Sheet D2-2



4. Facility Design Considerations

Segment	Road / Path: Ravenshoe Road	Start: Lake Drive South	End: 2nd Concession	Ward: N/A	Sheet#: 2-1A

Eas-1

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** None # **of Private Entrances:** None	- A low volume roadway with a posted speed of 80km/h west of Bruce Avenue and 60km/h east of Bruce Avenue. - **Preferred**: Lake to Lake Route follows proposed signed route. Install route signs at 1.0km intervals. Consider reducing the posted speed to 60km/h.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Signed Bike Route with Sharrow Lane Markings	0.87	linear KM	$3,500.00	$3,045.00	$4,975.00	✓	
Pathway marker signs	0.87	linear KM	$1,500.00	$1,305.00			
Pathway marker sign (Single sign on new post)	1	each	$250.00	$250.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	3	each	$125.00	$375.00			

Segment	Road / Path: 2nd Concession Right-of-Way	Start: Ravenshoe Road	End: Boag Road	Ward: N/A	Sheet#: 2-1B / 2-2A

Eas-2

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None # **of Private Entrances:** Not Applicable	- **Preferred**: Construct a new 3.0m granular pathway (use existing vehicle path as base and improve with granular surface) within the 2nd Concession right-of-way on the west side of the drainage ditch. Erect signs to warn trail users that this area is an active farming area. **See Rendering for Design Concept.**

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	2.04	linear KM	$140,000.00	$285,600.00	$287,100.00	✓	
Pathway marker sign (Double sided sign on existing post or previously proposed)	3	each	$200.00	$600.00			
Pathway marker sign (Double sided sign on new post)	3	each	$300.00	$900.00			

New Off-Road Trail on 2nd Concession (Ravenshoe Road – Boag Road)	
Existing	**Proposed**
	

Segment	Road / Path: 2nd Concession Right-of-Way	Start: Boag Road	End: North of Holborn Road	Ward: N/A	Sheet#: 2-2A / 2-2B

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** 1 **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not applicable	- **Preferred**: Remove existing snowmobile crossing and erect two new prefabricated steel bridges (4.0m clear width) over drainage ditches at 2nd Concession and Boag Road. Construct new boardwalk or appropriate trail base for conditions for 800m south of Boag Road within 2nd Concession right-of-way on west side of drainage ditch. Construct new 3.0m pathway between Boardwalk and existing terminus of 2nd Concession Road north of Holborn Road. **Required Structure**: Remove existing snowmobile crossing, construct concrete abutments and erect new prefabricated 10m long, 4.0m clear width (for emergency vehicle / two-way snowmobile access) single span steel truss bridge with timber deck at north drainage ditch at 2nd Concession and Boag Road. **Required Structure**: Construct concrete abutments and erect new prefabricated 20m long, 4.0m clear width (for emergency vehicle access) single span steel truss bridge with timber deck at south drainage ditch at 2nd Concession and Boag Road.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing: 0-3 Years	Phasing: 4-5 Years
Eas-3							
Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Rural Setting (New)	0.66	linear KM	$200,000.00	$132,000.00	$1,317,375.00	✓	
Pedestrian Boardwalk (Light-Duty)	0.79	linear KM	$1,500,000.00	$1,185,000.00			
Pathway marker sign (Single sign on new post)	1	each	$250.00	$250.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	1	each	$125.00	$125.00			
Demolition of existing snowmobile crossing	1	allowance	$20,000.00	$20,000.00	$515,000.00		✓
Self-weathering steel truss bridge with timber deck (10m long, 4m clear width)	40	m²	$2,500.00	$100,000.00			
Concrete abutments on spread footings	2	each	$30,000.00	$60,000.00			
Mobilization and erection of bridge	1	allowance	$35,000.00	$35,000.00			
Self-weathering steel truss bridge with timber deck (20m long, 4m clear width)	80	m²	$2,500.00	$200,000.00			
Concrete abutments on spread footings	2	each	$30,000.00	$60,000.00			
Mobilization and erection of bridge	1	allowance	$40,000.00	$40,000.00			

Segment	Road / Path: 2nd Concession / Holborn Road	Start: 2nd Concession Terminus north of Holborn	End: Holborn Road Terminus east of Yonge	Ward: N/A	Sheet#: 2-2B / 2-3A

Eas-4

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- 2nd Concession: Low volume, low speed (50km/h) two-lane roadway with a rural cross-section (no curbs or gutter) and no delineating pavement markings. - Holborn Road: Low volume two-lane roadway with a rural cross-section (no curbs or gutter), no delineating pavement markings and no posted speed. - **Preferred**: Lake to Lake Route follows proposed signed route on 2nd Concession Road and along Holborn Road East of Yonge Street. Install route signs at 1.0km intervals.

Estimated Cost / **Phasing**

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Signed Bike Route in Rural Area	0.63	linear KM	$1,000.00	$630.00	$1,630.00		✓
Pathway marker sign (Single sign on new post)	2	each	$250.00	$500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	4	each	$125.00	$500.00			

Segment	Road / Path: Off-Road Connection	Start: Holborn Road Terminus east of Yonge	End: Yonge Street	Ward: N/A	Sheet#: 2-3A

Eas-5

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** Not Applicable **Light Poles:** Not Applicable **Signal Poles:** Not Applicable **Support Poles**: Not Applicable **Bus Stops:** Not Applicable	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- **Preferred:** Construct 3.0m granular pathway following existing desire line within lands southeast of Yonge Street and Holborn Road. Land acquisition or easement of 97 acre lands south of Yonge Street and Holborn Road required. - **Alternative:** Construct 3.0m pathway along municipal right-of-way on north side of drainage ditch.

Estimated Cost / **Phasing**

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Signed Bike Route in Rural Area	0.94	linear KM	$1,000.00	$940.00	$2,975.00		✓
Pathway marker signs	0.94	linear KM	$1,500.00	$1,410.00			
Pathway marker sign (Single sign on new post)	1	each	$250.00	$250.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	3	each	$125.00	$375.00			

Segment	Road / Path: Yonge Street	Start: South of Holborn Road	End: Queensville Sideroad	Ward: N/A	Sheet#: 2-3A / 2-3B

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- Low volume, low speed (50km/h) two-lane roadway with a rural cross-section (no curbs or gutter) and no delineating pavement markings. - **Preferred:** Lake to Lake Route follows a proposed signed route. Install route signs at 1.0km intervals.

Eas-6

Estimated Cost | **Phasing**

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Rural Setting (New)	1.09	linear KM	$200,000.00	$218,000.00	$569,200.00		✓
Acquisition of 97 acre lands southeast of Yonge St and Holborn Rd	97.00	acre	-	$300,000.00			
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Granular parking lot at staging area (15 car capacity-gravel)	1	each	$35,000.00	$35,000.00			
Bench	4	each	$2,000.00	$8,000.00			
Pathway marker sign (Double sided sign on existing post or previously proposed)	3	each	$200.00	$600.00			
Pathway marker sign (Double sided sign on new post)	2	each	$300.00	$600.00			

Segment	Road / Path: Old Yonge / Maple Street Right-of-Ways	Start: Queensville Sideroad	End: Yonge Street at Maple Street	Ward: N/A	Sheet#: 2-4A

Facility Design Considerations

Facility Types	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** Not Applicable **Support Poles**: None **Bus Stops:** Not Applicable	**New Crossing:** Not Applicable **Use Existing Crossing:** Not Applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not Applicable	- **Preferred:** Construct 3.0m pathway within unopened Old Yonge Street right-of-way and Maple Street right-of-way west of Yonge Street.

Eas-7

Estimated Cost | **Phasing**

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Signed Bike Route in Rural Area	1.93	linear KM	$1,000.00	$1,930.00	$4,055.00		✓
Pathway marker sign (Single sign on new post)	6	each	$250.00	$1,500.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	5	each	$125.00	$625.00			

Segment	Road / Path: Yonge Street		Start: Maple Street		End: Doane Road		Ward: N/A	Sheet#: 2-4A / 2-4B
Eas-8	**Facility Design Considerations**							
	Facility Type	**Municipal Infrastructure Impacts**	**Road Crossings and Private Entrances**		**Other Considerations**			
	Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** 29		- Significant property constraints exist between Maple and Doane within the Old Yonge Street right-of-way. - **Preferred:** Construct 3.0m granular surface pathway on the west side within the existing boulevard along Yonge Street. Mailboxes along this section will need to be moved 0.6m west of pathway alignment to account for clear zone. - **Alternative:** Construct 3.0m pathway within Old Yonge Street right-of-way consistent with the East Gwillimbury Active Transportation and Trails Master Plan. Significant property constraints will need to be mitigated to facilitate this alignment.		
	Estimated Cost (TBD as part of Phase 3)						**Phasing (TBD)**	
	Description	**Estimated Quantity**	**Units**	**Unit Price**	**Item Cost**	**Segment Cost**	**0-3 Years**	**4-5 Years**
	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	2.16	linear KM	$140,000.00	$302,400.00	$362,500.00	✓	
	Pathway Crossing of Private Entrance	29	each	$2,000.00	$58,000.00			
	Pathway marker sign (Single sign on new post)	2	each	$250.00	$500.00			
	Pathway marker sign (Single sign on existing post or previously proposed post)	4	each	$125.00	$500.00			
	Pathway marker sign (Double sided sign on existing post or previously proposed)	1	each	$200.00	$200.00			
	Pathway marker sign (Double sided sign on new post)	3	each	$300.00	$900.00			

Segment	Road / Path: Route through Holland Landing	Start: Doane Road West of Yonge Street	End: Mount Albert Road	Ward: N/A	Sheet#: 2-4B / 2-5A D2-2

Eas-9

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path & Signed Route	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** None	- Doane Road: Low volume, residential two-lane roadway with rural cross section. - Toll Road: Local two-lane roadway with rural cross-section. (Posted speed: 50km/h). - **Preferred**: Signed Route along Doane Road to road terminus; Construct 3.0m granular surface pathway on the alignment consistent with the McKenzie - Oriole Pedestrian Link Scoped Impact Study to the west side of Holland River; connects to signed route on Toll Road to Bradford Street; Construct 3.0m granular surface pathway on the south side of Bradford Street between Toll Road and Holland River and on the west side of the Holland River (property easement may be required) to Yonge Street and Mount Albert Road. Consider adding "Trail Crossing" signs on Bradford Street in advance of Toll Road to increase awareness of users crossing intersection. **Required Structure**: Construct concrete abutments and erect new prefabricated 10m long, 3.0m clear width single span steel truss bridge with timber deck over Holland River east of Yonge Street. - **Alternative**: Signed Route on Doane Road to road terminus; Construct 3.0m pathway to link on the east side of the Holland River to south of Bradford Street ; Construct new crossing of Holland River south of Bradford Street and continue along preferred alignment to Yonge Street. - Proposed Minor Trailhead on west side of Yonge Street south of Doane Road to include route information signs and parking amenities.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing: 0-3 Years	Phasing: 4-5 Years
Staging area kiosk	1	each	$5,000.00	$5,000.00	$478,470.00	✓	
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Granular parking lot at staging area (15 car capacity-gravel)	1	each	$35,000.00	$35,000.00			
Bench	4	each	$2,000.00	$8,000.00			
Signed Bike Route in Urban Area	0.48	linear KM	$1,500.00	$720.00			
Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	2.48	linear KM	$140,000.00	$347,200.00			
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Granular parking lot at staging area (15 car capacity-gravel)	1	each	$35,000.00	$35,000.00			
Bench	4	each	$2,000.00	$8,000.00			

	Pathway / Road transition at existing signalized intersection (crossride)	1	each	$25,000.00	$25,000.00			
	Pathway marker sign (Single sign on new post)	3	each	$250.00	$750.00			
	Pathway marker sign (Double sided sign on existing post or previously proposed)	4	each	$200.00	$800.00			
	Pathway marker sign (Single sign on existing post or previously proposed post)	8	each	$125.00	$1,000.00			
	Pathway marker sign (Double sided sign on new post)	10	each	$300.00	$3,000.00			
	Self-weathering steel truss bridge with timber deck (20m long, 4m clear width)	30	m²	$2,500.00	$75,000.00	$170,000.00		✓
	Concrete abutments on spread footings	2	each	$30,000.00	$60,000.00			
	Mobilization and erection of bridge	1	allowance	$35,000.00	$35,000.00			

Segment	**Road / Path:** Nokiidaa Trail		**Start:** Yonge Street		**End:** Existing Terminus of the Nokiidaa Trail		**Ward:** N/A	**Sheet#:** 2-6A
Eas-10	**Facility Design Considerations**							
	Facility Type	**Municipal Infrastructure Impacts**	**Road Crossings and Private Entrances**		**Other Considerations**			
	Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not Applicable **Use Existing Crossing:** Not Applicable **Existing Underpass:** None **Existing Bridge:** None **# of Private Entrances:** Not Applicable		- **Preferred:** Construct 3.0m granular surface pathway following desire line on north side of the Holland River to connect to the existing terminus of the Nokiidaa Trail. - Proposed Major Trailhead at southeast corner of Yonge Street and Mount Albert Road to include route information signs, washroom and parking amenities.			
	Estimated Cost						**Phasing**	
	Description	**Estimated Quantity**	**Units**	**Unit Price**	**Item Cost**	**Segment Cost**	**0-3 Years**	**4-5 Years**
	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	1.23	linear KM	$140,000.00	$172,200.00	$222,800.00	✓	
	Staging area kiosk	1	each	$5,000.00	$5,000.00			
	Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
	Granular parking lot at staging area (15 car capacity-gravel)	1	each	$35,000.00	$35,000.00			
	Bench	4	each	$2,000.00	$8,000.00			
	Pathway marker sign (Double sided sign on new post)	2	each	$300.00	$600.00			

Segment	Road / Path: Nokiidaa Trail	Start: Existing Terminus of the Nokiidaa Trail	End: South of Green Lane East	Ward: 1	Sheet#: 1-9B, 1-10A/B
Eas-11	**Facility Design Considerations**				

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** Not applicable **Use Existing Crossing:** Not applicable **Existing Underpass:** None **Existing Bridge:** 1 - Nokiidaa Trail over the Holland River **# of Private Entrances:** Not applicable	- **Preferred:** Route follows existing Nokiidaa Trail; No upgrades required for the existing surface. - Future Road Rail Grade Separation on 2nd Concession may require existing minor trailhead at 2nd Concession to close. - Existing Minor Trailhead on east side of Holland River at Green Lane; install route information signage at this location

Estimated Cost						Phasing	
Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Pathway marker signs	3.14	linear KM	$1,500.00	$4,710.00	$6,760.00	✓	
Pathway marker sign (Double sided sign on existing post or previously proposed)	3	each	$200.00	$600.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	2	each	$125.00	$250.00			
Pathway marker sign (Double sided sign on new post)	4	each	$300.00	$1,200.00			

5. Summary of Preferred Route

- The following table presents a summary of the preferred route by facility type for each phase and outlines the overall capital and maintenance cost for the Lake to Lake Route in East Gwillimbury. A more detailed Cost Summary highlighting the estimated capital costs and estimated maintenance costs is found in **Appendix A – Unit Costs Schedule and Detailed Cost Tables**.

	Phase 1 (0-3 Years)		Phase 2 (4-5 Years)		Total Length (km)	Total Estimated Capital Cost for all Phases		Estimated Annual Maintenance Cost	Estimated Maintenance Cost 0-5 Years	Estimated Maintenance Cost Over 20 Years
Facility Type	Length (km)	Estimated Capital Cost	Length (km)	Estimated Capital Cost						
Signed Route	0.87	$4,975.00	3.50	$8,660.00	4.37	$13,635.00		$2,185.00	$5,462.50	$38,237.50
Multi-Use Pathway	12.98	$2,675,005.00	1.09	$569,200.00	14.07	$3,244,205.00		$56,280.00	$140,700.00	$984,900.00
Bridges	0.00	$0.00	0.06	$685,000.00	0.06	$685,000.00		$220.17	$550.43	$3,853.01
Total Network	13.85	$2,679,980.00	4.65	$1,262,860.00	18.50	**$3,942,840.00**		$58,685.17	$146,712.93	$1,026,990.51

2.4.3 Section #3: Town of Newmarket

1. Route Alternatives and Rationale

- The Lake to Lake Route within the Town of Newmarket will use the existing Nokiidaa and Tom Taylor Trail multi-use pathways. It will connect key destinations such as the Bayview Park, Newmarket GO Station, All Our Kids Play Park, Newmarket Community Centre, Fairy Lake Park, and the Newmarket Municipal Offices.
- The Lake to Lake Route will cross Doug Duncan Drive at Water Street and utilize the Tom Taylor Trail on the west side of Fairy Lake. A route on the east side of Fairy Lake was considered for the Lake to Lake Route, however, this alternative travels within a key event area and is occasionally closed for public and private events. Alternatively, an on-road alternative utilizing Water Street, Eagle Street, William Street, Andrew Street, Lorne was also considered.

Local Municipal Policies

- The Town's Trail Guide (2010) identifies a Rail Trail linkage which connects municipal green space and key destinations such as Fairy Lake.
- Town of Newmarket Parks and Cultural Sites map is consistent with the key destinations which the preferred route will be connecting to and / or using e.g. segments of the Tom Taylor Trail.

Regional Policies

- The route is consistent with the existing multi-use trails (Nokiidaa Trail) identified in the Region's Pedestrian and Cycling Master Plan (PCMP) and provides connections to future pedestrian and cycling linkages.
- The route is also consistent with the pedestrian and cycling routes identified as part of the Region's Transportation Master Plan (TMP).
- The route is consistent with the proposed corridors / connections identified in the Town of Newmarket for the Greenlands System Trail Study and is considered a strategic priority area and north-south connection for the Region.
- The Region's Official Plan outlines a Regional Cycling Network which identifies key cycling routes consistent with the PCMP. It is recommended that the Region implement routes / facilities which support the development and use of active transportation. The Lake to Lake Route is consistent with the proposed network and supports the idea of promoting active transportation Region-wide.

2. Consultation and Approvals

- Consideration should be given to consulting with the following stakeholders for the Lake to Lake Route: Local ward Counsellors and residents, Town of Newmarket staff, Metrolinx and Transport Canada.
- A signalized at-grade crossing of Water Street is currently being proposed by the Town of Newmarket. Approvals from Metrolinx and Transport Canada must be acquired for this crossing due to its proximity to the Metrolinx/GO Transit rail corridor.
- Federal environmental assessments are not required for the proposed route as they are not identified as a designated project under the new Canadian Environmental Assessment Act (CEAA) (2012).
- No further approvals are anticipated for the implementation of the Lake to Lake Route in Newmarket beyond standard local municipal engineering design and local municipal council budget approvals.

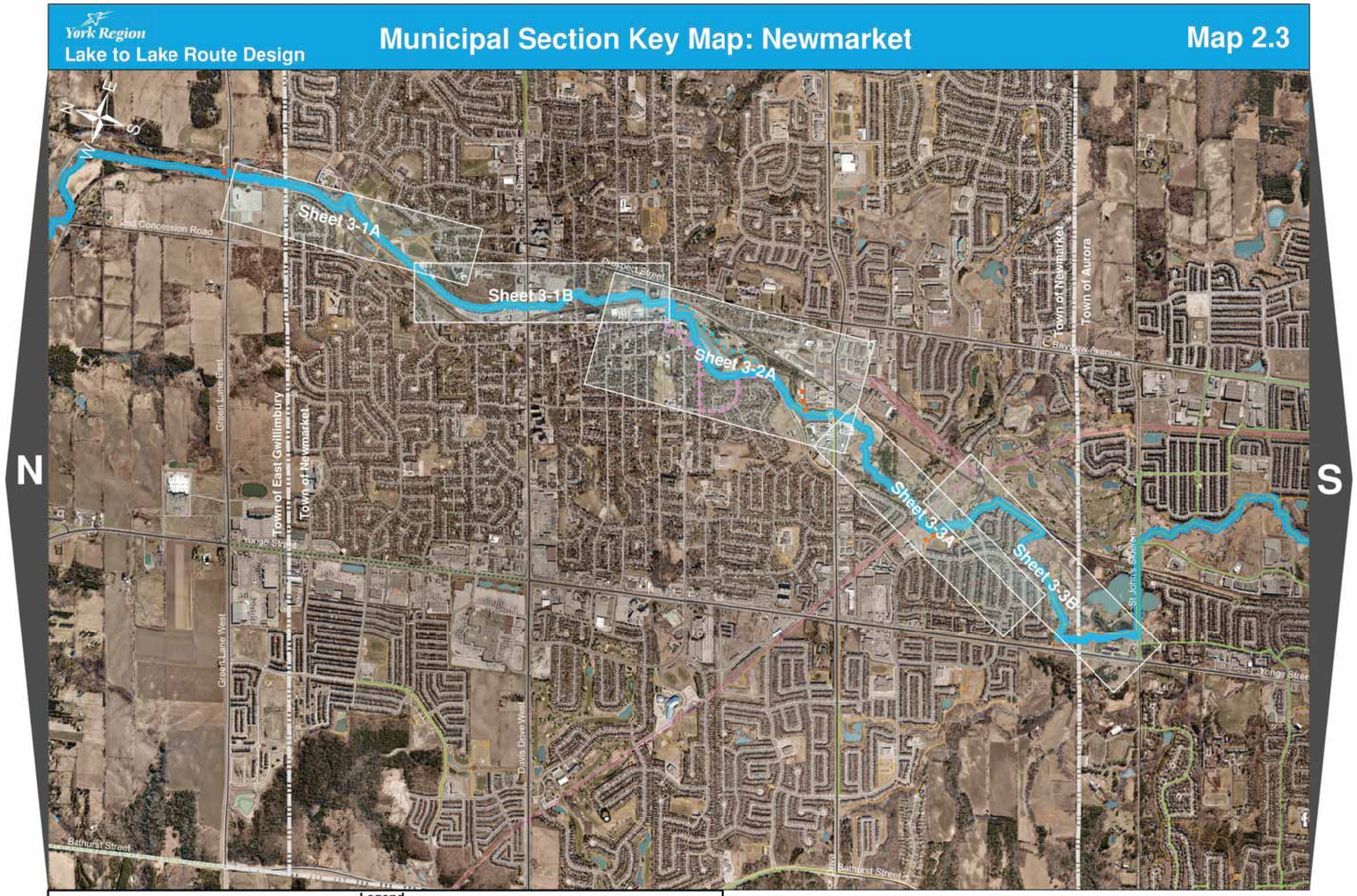
3. Design Sheets

- Map 2.3 provides an overview of the Lake to Lake Route in the Town of Newmarket.
- Sheet 3-1 to Sheet 3-3 outlines specific design considerations for the route.

York Region
Lake to Lake Route Design

Municipal Section Key Map: Newmarket

Map 2.3



Legend

Lake to Lake Route

	Multi-Use Path	Paved Shoulder	Signed Route	Trail Connection
Preferred				
Alternative				

Local Cycling Network

	On-Road	Off-Road
Existing		
Proposed		

Local Features

- Road
- Railway
- Hydro Corridor
- Waterbody
- Provincial Park
- Municipal Boundary

0 250 500 1,000 Meters

June 2013

Base GIS Data provided by York Region
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MMM GROUP

York Region

Lake to Lake Route Design

Newmarket: Tom Taylor Trail (Newmarket/ East Gwillimbury Boundary - Water St)

Sheet 3-1

Tom Taylor Trail across from Bayview Park

Newmarket Community Centre

View from Doug Duncan Drive

Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

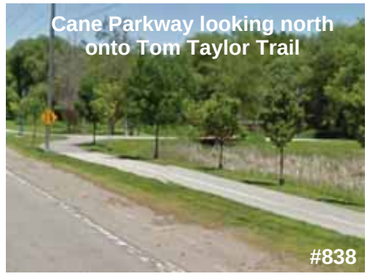
MMM GROUP

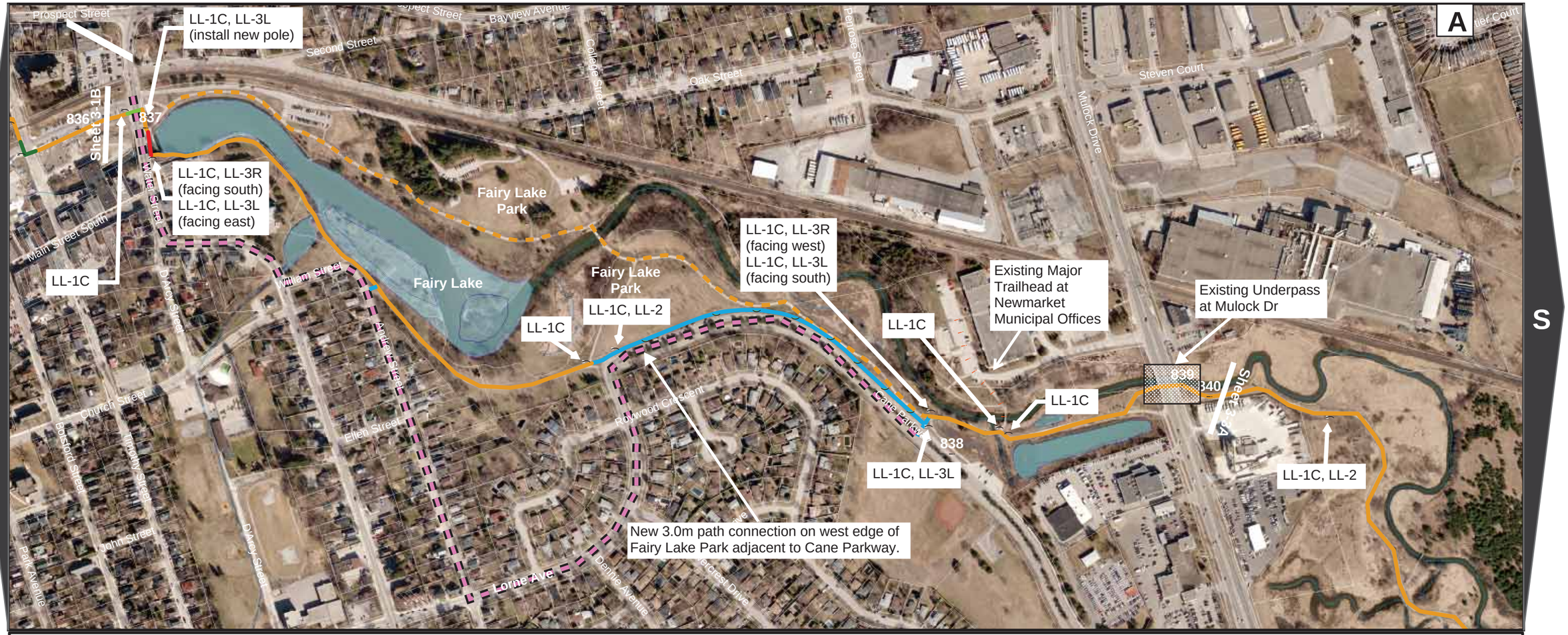
Newmarket: Tom Taylor Trail (Water St - Mulock Dr)

[New-2]: Tom Taylor Trail (Water St - Mulock Dr)

Preferred: Lake to Lake Route follows the existing Tom Taylor Trail west of Fairy Lake.
Recommended improvements include resurfacing of path west of Fairy Lake and a new 3.0m path connection on west edge of parkland adjacent to Cane Parkway.

Alternative: Signed Route on Water St, William St, Andrew St, Lorne Ave, and Cane Parkway around Fairy Lake Park.





Legend

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

MMM GROUP

York Region

Lake to Lake Route Design

Newmarket: Tom Taylor Trail (Mulock Drive - Newmarket/ Aurora Boundary)

Sheet 3-3

[New-3]: Tom Taylor Trail (Mulock Dr - Newmarket/ Aurora Boundary)

Preferred: Lake to Lake Route follows the existing Tom Taylor Trail.
No upgrades to existing path surface required.

Legend

	Multi-Use Path						Crossings		On-Road	
	Existing Path	3.0 m Path	3.0m + Bollards	3.0m + Splashstrip	2.4m Path	Modified Design	Use Ex. Crossing	Prop. New Crossing	Paved Shoulder	Signed Route
Preferred										
Alternative										

Route Information

- Photo Location #
- Private Entrance
- Bus Stop
- Move Utility Pole/ Box
- Move Light Pole
- Move Signal Pole
- Move Support Pole
- Install Pole for Signage
- Use Existing Pole for Signage
- New Retaining Wall
- Trail Connection
- Property Line
- Municipal Boundary

Map Scale: 1:5000

June 2013

0 50 100 200 Metres

MMM GROUP

4. Facility Design Considerations

Segment	Road / Path: Tom Taylor Trail	Start: Newmarket / East Gwillimbury Boundary	End: Water Street	Ward: 3; 5	Sheet#: 3-1A/B

New-1

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road and Driveway Crossings	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** 1 Install Trail Signage in advance of Midblock Crossing - Doug Duncan Drive @ Timothy Street **Existing Underpass:** 2 - Nokiidaa Trail @ Davis Drive - Nokiidaa Trail @ Queen Street **Existing Bridge:** 1 - Nokiidaa Trail over the Holland River north of Bayview Park **# of Private Entrances:** None	- **Preferred**: The proposed Lake to Lake Route uses the existing asphalt pathway; no upgrades are required for the existing path surface. - Existing Minor Trailhead at Bayview Park includes parking facilities; install route information signage at this location.

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing: 0-3 Years	Phasing: 4-5 Years
Pathway marker signs	3.17	linear KM	$1,500.00	$4,755.00	$15,055.00	✓	
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Pathway marker sign (Double sided sign on existing post or previously proposed)	7	each	$200.00	$1,400.00			
Pathway marker sign (Double sided sign on new post)	3	each	$300.00	$900.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	8	each	$125.00	$1,000.00			

Segment	Road / Path: Tom Taylor Trail	Start: Water Street	End: Mulock Drive	Ward: 5	Sheet#: 3-2A/B

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road and Driveway Crossings	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** 1 New Crossride at New Signalized Crossing - Doug Duncan Drive @ Timothy Street (Midblock; install trail crossing signage on Timothy Street in advance of crossing) **Use Existing Crossing:** None **Existing Underpass:** 1 - Nokiidaa Trail @ Mulock Drive **Existing Bridge:** 1 - Water Street north of Fairy Lake **# of Private Entrances:** None	- **Preferred**: The proposed Lake to Lake Route uses the existing asphalt pathway on west side of Fairy Lake; resurface existing asphalt path surface from Water Street to Lorne Avenue / Cane Parkway. Construct new 3.0m asphalt path connection in on west edge of Fairy Lake Park adjacent to Cane Parkway in order to provide a more direct route through park. - **Alternative**: Proposed Signed Route on Water St, Eagle St, William St, Andrew St, Lorne Ave, and Cane Pkwy around Fairy Lake Park. - **New Signalized Crossing** at Doug Duncan Drive and Water Street requires consultation with Metrolinx / GO Transit due to proximity to rail corridor (The Town of Newmarket is currently in discussion with the respective agency). - Existing Major Trailhead at Newmarket Municipal Offices includes parking and washroom facilities; install route information signage at this location.

New-2

Estimated Cost

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	Phasing 0-3 Years	Phasing 4-5 Years
Retrofit / Widen Existing Pedestrian / Trail Bridge (29m long, 3m clear width)	87.00	m²	$2,500.00	$217,500.00	$217,500.00		
Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (Upgrade existing granular surface)	0.74	linear KM	$100,000.00	$74,000.00			
Two Way Active Transportation Multi-use path within road right-of-way	0.50	linear KM	$275,000.00	$137,500.00			
Relocation of Signal Pole / Utility Box	8	each	$8,000.00	$64,000.00			
Pathway / Road transition at existing signalized intersection (crossride). This assumes the implementation of a proposed signalized intersection at Water St and Doug Duncan Dr to be developed by the Town of Newmarket, at the Town's cost in a specific project (not included).	1	each	$25,000.00	$25,000.00	$311,020.00	✓	
Pathway marker signs	0.38	linear KM	$1,500.00	$570.00			
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Pathway marker sign (Double sided sign on existing post or previously proposed)	2	each	$200.00	$400.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	6	each	$125.00	$750.00			
Pathway marker sign (Double sided sign on new post)	6	each	$300.00	$1,800.00			

Segment	Road / Path: Tom Taylor Trail	Start: Mulock Drive	End: Newmarket / Aurora Boundary	Ward: 5	Sheet#: 3-3A/B

New-3

Facility Design Considerations

Facility Type	Municipal Infrastructure Impacts	Road Crossings and Private Entrances	Other Considerations
Multi-Use Path	**Utility Poles:** None **Light Poles:** None **Signal Poles:** None **Support Poles**: None **Bus Stops:** None	**New Crossing:** None **Use Existing Crossing:** None **Existing Underpass:** **Existing Bridge:** **# of Private Entrances:** None	- **Preferred:** The proposed Lake to Lake Route uses the existing asphalt pathway; no upgrades are required for the existing path surface. - Existing Minor Trailhead at Paul Semple Park includes parking facilities; install route information signage at this location.

Estimated Cost / **Phasing**

Description	Estimated Quantity	Units	Unit Price	Item Cost	Segment Cost	0-3 Years	4-5 Years
Pathway marker signs	3.11	linear KM	$1,500.00	$4,665.00	$14,165.00	✓	
Staging area kiosk	1	each	$5,000.00	$5,000.00			
Signboards for staging area kiosk sign	1	each	$2,000.00	$2,000.00			
Pathway marker sign (Double sided sign on existing post or previously proposed)	3	each	$200.00	$600.00			
Pathway marker sign (Single sign on existing post or previously proposed post)	8	each	$125.00	$1,000.00			
Pathway marker sign (Double sided sign on new post)	3	each	$300.00	$900.00			

5. Summary of Preferred Route

- The following table presents a summary of the preferred route by facility type for each phase and outlines the overall capital and maintenance cost for the Lake to Lake Route in Newmarket. A more detailed Cost Summary highlighting the estimated capital costs and estimated maintenance costs is found in **Appendix A – Unit Costs Schedule and Detailed Cost Tables**.

	Phase 1 (0-3 Years)		Phase 2 (4-5 Years)		Total Length (km)	Total Estimated Capital Costs for all Phases		Estimated Annual Maintenance Cost	Estimated Maintenance Cost 0-5 Years	Estimated Maintenance Cost Over 20 Years
Facility Type	Length (km)	Estimated Capital Cost	Length (km)	Estimated Capital Cost						
Signed Route	0.00	$0.00	0.00	$0.00	0.00	$0.00		$0.00	$0.00	$0.00
Multi-Use Pathway	7.88	$340,240.00	0.00	$0.00	7.88	$340,240.00		$31,520.00	$78,800.00	$551,600.00
Bridges	0.03	$217,500.00	0.00	$0.00	0.03	$217,500.00		$120.00	$300.00	$2,100.00
Total Network	7.91	$557,740.00	0.00	$0.00	7.91	**$557,740.00**		$31,640.00	$79,100.00	$553,700.00

2.4.4 Section #4: Town of Aurora

1. Introduction and Rationale

- The Lake to Lake Route within Aurora will use the Nokiidaa Trail's existing multi-use pathway from its northern terminus at the Newmarket / Aurora boundary north of St. John's Sideroad to its southern terminus at Bayview Avenue and Benville Crescent. From the southern terminus of the Nokiidaa Trail, the Lake to Lake Route is proposed to include a multi-use pathway on the west side of Bayview Avenue to Bloomington Road.
- This route alignment is an important north-south spine within the Town providing connections to key destinations including Aurora Town Hall, Aurora Leisure Complex, Aurora Arboretum, as well as a number of local cycling routes such as St. John's Sideroad, Wellington Street, and Vandorf Sideroad as well as the Klaus Wehrenberg Trail.

Local Municipal Policies

- Town of Aurora Trails Master Plan identifies the preferred Lake to Lake route as part of its inter-connected trails network, as well as part of the existing trail conditions (e.g. the Nokiidaa Trail).
- The Town of Aurora's Parks and Recreation Master Plan provides an overview of existing trail facilities. The development of the Lake to Lake Cycling Route and Walking Trail through the Town of Aurora is consistent with their strategic priority of placing a high importance on trail development and maintenance.

Regional Policies

- Both the urban and rural areas of the Town of Aurora are found within the Potential Regional Trail Corridor System identified in the Greenlands System Trail Study.
- The preferred route alignment is consistent with the existing and proposed pedestrian and cycling routes found within the Region's Pedestrian and Cycling Master Plan (PCMP) and the Transportation Master Plan (TMP), specifically, the proposed paved shoulders and sidewalks along Bayview Avenue and St. John's Sideroad.
- The Region's Official Plan outlines a Regional Cycling Network which identifies key cycling routes consistent with the PCMP. It is recommended that the Region implement routes / facilities which support the development and use of active transportation. The Lake to Lake Route is consistent with the proposed network and supports the idea of promoting active transportation Region-wide.

2. Consultation and Approvals

- Consideration should be given to consulting with the following stakeholders for the Lake to Lake Route: Local Town Counsellors and residents, and Town of Aurora staff.
- Future designs of a new multi-use pathway on Bayview Avenue are to be completed and approved in conjunction with the proposed Bayview Avenue widening.
- Federal environmental assessments are not required for they proposed route as they are not identified as a designated project under the new Canadian Environmental Assessment Act (CEAA) (2012).
- No further approvals are anticipated for the implementation of the Lake to Lake Route in Aurora beyond standard local municipal engineering design and local municipal council budget approvals.

3. Design Sheets

- Map 2.4 provides an overview of the Lake to Lake Route in the Town of Aurora.
- Sheet 4-1 to Sheet 4-3 outlines specific design considerations for the route.