

LOWER TRENT TRAIL

FINAL REPORT

PRELIMINARY VISIONING FOR THE

BATAWA WATERFRONT SECTION



Batawa Development Corporation
Friends of the Trail Inc.

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Heartland Environmental Design
Stirling, Ontario

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Executive Summary

The natural attraction that water holds for wildlife also applies to our species. We are drawn to the river for many reasons including swimming, boating, fishing, beauty, and contemplation. The ceaseless flow of water, in all its seasonal variations, is endlessly fascinating, especially combined with a world class heritage canal system and state of the art micro-hydro generation. All this and more is available within this small study area, literally minutes from four exits on the country's busiest highway. The potential for tourism and community development is enormous.

The Waterfront Trail and Open Space System as described in this study and envisioned by the two client groups and the consultant will transform the recreational landscape of the Batawa community and add a unique feature to the Lower Trent Trail at this reach of the Trent River. The following summarizes the observations and recommendations of the report.

- 1) It is important to maintain an obvious and logical continuation of the Lower Trent Trail through the Batawa area.
- 2) This continuity will be provided along the approximate alignment shown on the Concept Map #2 as PDC (Preliminary Design Concept). The main trail will be sited and integrated within the re-development to facilitate non-motorized circulation both within the village as well as regionally, within the Trent River Valley.
- 3) The redevelopment plans and projects for Batawa should be designed and constructed to maintain regional trail continuity at all times.
- 4) This study examined the potential to provide main trail continuity right along the riverfront. It concludes that this is not practical given the rather extreme methods (boardwalk or cantilevered, pedestrian underpass) which would be required. These structures would be very expensive, both initially and in the long run, requiring vigilant inspection and maintenance. However, these options could be re-visited in the future if greatly increased population and tourist visits warranted their construction as stand-alone attractions.
- 5) A land based pathway system is possible along much of the central and southern portions of the study area. It could be largely built using normal construction practices with a premium for impact assessment, environmental protection, traffic control, and restricted access.
- 6) Several extremely narrow sections along the river terrace (the land between the shoreline and the highway) may require filling and construction which would widen the available footprint for trail passage. This potential solution (Figure 8) would require much more detailed design based on site specific inventory and analysis. Even so, the required approvals will be contentious and cannot be assumed.
- 7) All reviewing agencies must be approached early in the next design phase if the river edge loops/sections are to become a reality. An instrumental exploratory discussion regarding the prospect of this type of construction is imperative as it will determine the viability of adjacent trail segments.

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- 9) The only current pedestrian river crossing point within the study area is the Johnstown Bridge via a single sidewalk. If this proves to be the only option for continuity and connection to the east bank then the following actions are essential:
 - Discussions and negotiation for use of the abandoned railway alignment through the Sonoco property.
 - Discussions in support of the trail development initiative within the Bleasdel Boulder Conservation area.
 - Determination of a way to allow a safe road crossing at the west end of the Johnstown Bridge.
- 10) Discussions must be initiated with those responsible for the flood Control Dam in zone K as this appears to be the only viable river crossing option after the Johnstown road bridge.
- 11) Generally, discussions must be initiated with all the development partners and stakeholders as well as the public.
- 12) Although the focus of this study was trail placement and connection, there was also consideration for park placement and recreation uses and the requisite parking. A summary of sub-recommendations for this aspect are as follows:
 - While the Trent River has potential for many water related recreational activities, the inclusion or restriction of each activity must be carefully considered in light of the characteristics of the river and its existing uses.
 - Limited parking could be provided within the Zones E and I along the waterfront. Other parking would have to be provided on the west side of the Hwy, proportional to the proposed facilities. Safe and convenient pedestrian connection and crossings will be required.
 - Washrooms facilities would most logically be associated with the existing building in Zone E.
 - Fencing and signage will be required to restrict access to dangerous sections of the riverfront.
 - There are lots of opportunities to enrich the existing range and quality of the riverside habitat for human and wildlife alike.
 - The possibilities of an east bank nature trail within Parks Canada lands (PCNT on Map 2) would provide the opportunities for large and small sub-loops, most probably as winter trails.
- 13) There is potential for an alternative trail connection along the west edge of the Hwy 33 right-of-way or within the Bata frontage along the Hwy. This possibility exists as a fall-back option only and was deemed by the client groups to be greatly inferior to a river terrace trail. Subsequently, and for the sake of plan clarity, it has not been shown as part of the proffered concept on Map 2.
 - 1) The unique opportunity to redirect the Lower Trent Trail onto the river front;
 - 2) The river front stretch at Batawa can be linked to the Lower Trent Trail and other trails in the Batawa Community;
 - 3) There are possibilities to enhance the trail experience on this section of the Lower Trent Trail through the development of boardwalks, water sport activities as well as walking and cycling;
 - 4) Market analysis, and trail standards have been addressed in the Friends of the Trail Inc. "Lower Trent Trail Management Report" produced by Heartland Environmental Design.

1.0 Background and Purpose of the Study

Batawa is unique in that it is essentially a "New-Town" community, developed and settled as a unit in the late 1930s, when Thomas Bata relocated his shoe manufacturing facility here from Czechoslovakia in order to escape political repression and begin a new life in Canada. Not only did Mr. Bata relocate his industrial equipment, but he brought along hundreds of his loyal workers and their families as well. The community thrived for many decades, and eventually was home to two schools, two churches, a bank, a post office, and sports facilities for the workers. The shoe factory and the associated machinery plant was truly the central piece in the global Bata Corporation, eventually employing over 1500 people. The Bata name in due course became known as "Shoemaker to the World".

This little community was developed with a strong theme towards fitness and recreation with a focus on athletics, calisthenics, and gymnastics. Women were trained in the elements of rhythmic dance, children in games and plays and men in calisthenics and gymnastics. The tradition of fitness and community life persisted over the years, and today, many kilometres of trail and the area's only ski hill facility are lasting testament to the work of community residents who built them over the years.

A swimming hole and picnic ground near Parry Drive provided hours of summer fun for children and parents alike. The remainder of the waterfront presented several challenges for recreational development mainly because of its narrowness and often steep banks. Regardless of its limitations, it was an important feature of community life. In other suitable areas, such as near the main Community entrance at Plant Street, the Czech community would get together after work and gather around campfires on the bank of the Trent River. They would sing folk songs, love songs, marching songs, ballads and drinking songs, well into the night to remember their homeland.

Recently, the Batawa Development Corporation has been exploring the potential of the entire Bata land bank and is working towards forming a vision of what the community could become as we move into the 21st Century. The emerging image is very exciting. It projects a vibrant, revitalized community which incorporates all the building stock, roads network, infrastructure and wealth of natural resources which currently exist. The plans call for a very progressive program of sustainable development and green initiatives which will ultimately result in a model community with a strong, healthy, balanced approach to life and work.

Spearheading the development of the Lower Trent Trail (a former rail trail bed) is the Friends of the Trail Inc. (FOTT) a Quinte West and area group of citizens dedicated to the promotion and preservation of the Lower Trent Trail as a recreational, non-motorized ribbon of parkland. The objectives of the group are to:

The Friends of the Trail Inc. was organized in 2004, incorporated in 2005 and received a charitable registration number in June 2008. The mandate of the Friends of the Trail Inc. is to work with the landowners of the rail bed to develop the trail as a tourist destination and asset for the City of Quinte West. In April 2008, the Friends of the Trail Inc. signed an Access Agreement for five (5) years with the Government of Ontario giving the corporation sole right and responsibility to develop the Government owned section of the Lower Trent Trail.

The objectives of the Friends of the Trail Inc. are to:

- 1) maintain, safeguard, and promote the trail as a public, non –motorized, year-round recreational trail;

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- 2) work with the Ontario Government and other land owners to manage the trail;
- 3) enhance and beautify the trail to preserve and conserve the natural habitat; and,
- 4) develop the trail as a tourist destination and an economic asset to the City of Quinte West.

The Lower Trent Trail follows 17 km. of the former Canadian National railway north-south from Glen Ross to Trenton, runs parallel to the Trent-Severn Waterway and unites all four wards of the City of Quinte West.

The trail when developed and managed will:

- Reduce risks for users,
- Provide citizens with an easily accessible, four season recreation trail,
- Preserve a natural, linear green space,
- Provide links with the Quinte West Waterfront Trail; Kiwanis Riverfront Trail; Parks Canada Riverside Trail; the proposed Eco Centre; the Bleasdel Boulder; Batawa Ski Trails; the Frankford Canal Loop and Tourist Park; the Bata Island trails, the Glen Ross Lock and the Hastings Heritage Trail,
- Contribute to tourism and economic development for the City of Quinte West,
- Preserve the railway corridor as part of our Canadian heritage.

The purpose of the study was to determine if a diversion from the existing Lower Trent Trail to the river on the Batawa section of the trail was feasible. The continuity of the Lower Trent Trail and connectivity to a river front trail will complement the Lower Trent Trail and enhance the overall trail experience for all users of this ribbon of parkland. Thus, this study is focused on the potential for the development of a trail and waterfront open space system linked to the Lower Trent Trail which would re-connect the revitalized community and the waterfront lands, largely owned by Parks Canada. Ideally, it will produce a framework which will foster the incorporation and continuance of the existing Lower Trent Trail within the new development. It will identify ways to create a stronger connection between the riverfront, the community at large, and the Lower Trent Trail.

The study will look at these lands and assess their inherent suitability and challenges with respect to open space and trail development. The Conceptual Plan (Map #2) will determine where connection to the community is feasible and desirable, and where it is problematic and awkward. Guided by the client group (Batawa Development Corporation and Friends of the Trail Inc.) a preferred concept will be formulated and taken forward to the other Stakeholders for discussion, modification, and refinement.

This is the first step of an exciting and intricate exercise, essential in determining to what extent this reach of the lower Trent River waterfront can become an integral part of the developing regional trail system, and the Batawa renaissance.

2.0 The Study Area

The extent of this study is illustrated on the Location Map, Figure No. 1. It runs from the Ontario Power Generating Station/Lock 5 complex southward (downstream) to the Johnstown Road bridge and Glen Miller Conservation Area. The prime focus is on the actual riverfront opposite the Bata holdings, possible Hwy 33 (Frankford-Trenton Road) crossing points, and potential river crossing points. Naturally, a key objective is to identify safe and convenient crossing points along Highway 33, and the integration of suitable waterfront lands (Owned primarily by Parks Canada) into the fabric of the existing and proposed Batawa community trails and the Lower Trent Trail.

3.0 Methodology

The budget available for this initial study determined that a simple and efficient process be employed. The following points highlight the main actions.

- Correspondence with the Batawa Development Corporation / Friends of the Trail Inc. client group to set the direction, responsibilities, and outcome of the study.
- Consultant review of the background literature supplied by the Client. A very important component of this information is the 2007 submission to the Trent Severn Review Panel entitled *Batawa: A Sustainable Rural Community Development Opportunity on the Trent*. It sets the vision for the recreational rejuvenation of the riverfront.
- The preparation of suitable base maps evolved from the Ontario Ministry of Natural Resources 1998 (1996 Air photography) complemented by satellite imagery. The full size originals for Maps 1 and 2 are at a scale of 1:2500, or four times larger than the original government mapping. It was decided that this scale was a good fit for the study area: It allows the entire length of the study area to be included on one sheet, and it allows good resolution for conceptual planning and preliminary design. On the original plans, suitable for public information meetings, 25 metres on the ground is 1 centimetre on the plan.
- The study was started in August of 2008 and completed February 2009. This allowed for observation of the site under various conditions from fully warm and dry to wet/ flooded to fully frozen and snow covered. The Hwy 33 corridor, a key element in the open space and trail considerations was viewed during bright and fair weather, with light and heavy traffic, as well as during winter weather, with light and heavy traffic. A photo record was taken of all key areas of the site during summer and winter conditions.
- The format of the study, regarding site descriptions and discussions, is as follows.
 - The centre of the Parry Drive/Hwy 33 intersection was designated as station 00. The centerline of Hwy 33 was then stationed at 100 metre intervals northward for about 800m.
 - The highway was also stationed southward from Parry Drive at 100m intervals, ending just south of the Johnstown Road bridge at 4000m making the overall length of the study area about 4800m.
- These 100m intervals have not been formally ground-truthed but have been checked using a vehicular odometer and appear to be sufficiently accurate for the purposes of this study. It should greatly assist in the process of visioning the beginning and end of the various trail types and park areas proposed along the riverfront.
- An analysis of the existing landscape character was conducted based upon the "ABC" framework for site analysis in order to distil and clarify the Abiotic, Biotic, and Cultural aspects of the landscape with respect to trail and open space development. This information was presented at meeting No. 1 with the client group.
- At meeting No. 2, the consultant presented the implications of situating the proposed recreational activities within the existing landscape. The initial version of the Issues and Opportunities Map (Map 1) was discussed, using a framework of landscape units or zones. Zones 'A' and 'B' are north of Parry Drive while the zones 'C' through 'J' cover the Parks Canada lands adjacent to the Batawa section. Zones 'K' to 'Q' cover the areas and potential crossings at the south end of the study area.

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- At meeting No. 3, an initial version of the proposed Waterfront Trail and Park Concept was discussed (the terms waterfront and riverfront are used interchangeably within this study). The zoned format was continued from the earlier analysis stage. Each area was discussed regarding its problems and potentials for trail and open space development including where and how connections could be made back to the main (Lower Trent) trail and generally into the community. Several alternate arrangements were shown in sketch form for key areas. The meeting concluded with a general consensus for the arrangement of the trails and their phasing as well as for the most probable crossing points (road and river) and for park locations.
- The last meeting (No. 4) with the client group formalized the acceptance of the preferred concept, from their point of view, so that it can then be circulated to all the other stakeholders for their input. The purpose of the study was re-iterated as a catalyst for discussions. It is a preliminary investigation for the feasibility of a waterfront trail/open space system using the various methods illustrated in the cross-sections, Figures 2 through 8 inclusive.
- The next steps required for the continuance of the planning and design exercise were also discussed at meeting No. 4 including:
 - The process of Stakeholder contact to be initiated by the client group.
 - The production of preliminary cost estimates and phasing strategies.
 - The identification and pursuit of funding in order to further the process.

4.0 Existing Landscape Character

4.1 *ABIOTIC (non-living components)*

Fractured limestone bedrock lies close to the surface throughout the study area. The deepest areas of overburden are actually earth berms which have been placed between the road and the river where width has permitted, probably during past road construction activities. These afford a raised view of the river in several locations. They also serve to buffer the negative effects of the highway, providing a more comfortable zone along the river.

The height of the land along the river varies from almost at water level at the hydro corridor boat launch, to several meters in height, just south of Parry Drive. The higher sections pose a real challenge for trail development since they are also very narrow (+ - 2m). Active erosion is evident including the shedding of rock pieces from the vertical cliff face. If a trail connection is required along these areas it will have to be a mechanical or heavily constructed solution such as a seasonal floating system or cantilevered boardwalk. (See figures 5 and 6)

There is a large culvert just north of the Batawa community entrance. The outlet from the end of this culvert is a fairly well defined channel, about 2 meters wide with cattails on either side. To the south of this outlet is a section of the riverfront where large rock (.5 to 1m size) has been placed in order to stabilize the shoreline and protect the adjacent roadway from erosion. The distance between the top of the rock protection and the guide rail is only about 3 to 4 metres. If a trail is desired here for continuity, the existing armour rock may have to be extended into the river in order to gain enough space for a trail (see Figure 8) Another option would be to have a floating seasonal trail section around this area; however, winter access would be precluded.

The culvert described above is the outlet for a wetland zone west of the highway. There is a small pond as part of this complex immediately north of the entrance road. It could be an important element in the design of the entrance, both aesthetically and for storm water management purposes.

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At the north end of the study area, opposite the Parry Drive intersection, the abiotic conditions are somewhat different. There exists a steep slope down from the edge of the road about 3-4 metres in height, however it appears to have fairly good soil cover, is vegetated with trees, shrubs, and under storey and is in a stable condition. At the base of the slope there is an elongated terrace varying in width from a couple of metres at each end to a maximum of 15-20 metres at its widest. The area is suitable for picnicking and swimming and there is evidence of informal use in the form of campfires and water access. This is the old Batawa "swimming hole" seen in many photos from earlier times. The area would be a nice location on the river however the problem is with access to it. This issue is discussed further under "cultural factors".

4.2 BIOTIC (living components)

The tree cover along the river edge is variable depending on the opportunity for establishment. On the steep cliff areas there is evidence of past white cedar growth, however what remains of the roots and stumps that have been tilted over and the trees have been cut off so there is virtually no existing tree cover along these sections. There is some shrub vegetation along the bottom of the scree slope at the base of the cliff and grasses have established where there is sufficient soil in and among the rock layers. On the terrace area near the swimming hole, there is fairly consistent tree cover both on the slope down from the road and along the river edge. The open areas are grassed, giving an already park-like appearance. The riverside vegetation consists of grey dogwood, red cedar (juniper) trees 5 to 6 metres tall, white cedar trees (20 to 30cm trunk diameter) as well as deciduous trees including ash, oak, and red maple in moderate sizes up to about 30cm trunk diameter. Also included in the shrub mix are exotic species such as European buckthorn and honeysuckle with some occasional lilac.

Further south, the berms along the highway are covered in grasses which have established as an un-mown meadow cover, including a mixture of weedy growth. It doesn't appear that any tree planting was attempted in association with the construction of the berms or along the highway in general over the years.

As one proceeds further south to where the land widens opposite the main Batawa entrance, the tree vegetation along the river's edge becomes somewhat more mature and includes a couple of burr oaks in the 20 to 30 cm trunk diameter range as well as young ash, elm, and black willow. There is a large black willow of about 80 cm trunk diameter which is the largest tree within the study area. Its large crown branches out over the water and creates a welcoming shaded area. This greatly increases the attraction of this area for creating a main focal point on the water. Currently, the area around the base of the tree is covered by prickly ash, buckthorn, grey dogwood, honeysuckle and a dense tangle of dead branches broken from the willow and surrounding trees. Although this cover provides some habitat value within this localized area, it is compromised by the presence of the highway and the associated noise and visual intrusion of the traffic.

In terms of aquatic habitat the small embayment just downstream from the willow tree is unique along this stretch of the river. All the other reaches of the shoreline have a steady current flowing by and are therefore devoid of much in-water vegetation...the bottom being rock rubble with a coating of algae. The exception to this general condition occurs in this small bay area opposite the main entrance. Here, the protrusion of the land out into the river serves to divert the current off-shore and therefore creates a relatively calm area downstream in the cove south of the point. Consequently, there is a good deal of aquatic vegetation, primarily water lilies. Due to the slower current in this area, there appears to be more siltation on the river bottom. This layer of soil and organic debris, combined with the static waters of the cove has given rise to the increased

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richness of the aquatic habitat and has sponsored the establishment of cat tails along the outlet channel from the culvert draining the inland wetland area. It is important to maintain this habitat link via the culvert between the interior wetland and the river.

4.3 CULTURAL (human activities)

There are numerous cultural factors in and around the study area which will influence the trail planning and design. One of the main factors is the presence of Highway 33 and the challenge it presents in terms of connecting the village of Batawa with the adjacent riverfront.

At the north end of the study area, near Parry Drive, sight lines are problematic for pedestrians crossing the highway. There is only about 8 seconds from the time a southbound vehicle is apparent until the time it passes the Parry Drive intersection. This time is based on the average of several cars observed; probably traveling at about 90 Km an hour, or 10 km over the actual speed limit. As one moves southward from Parry Drive and the curvature of Hwy 33, this elapsed time increases, however a crosswalk placed where there is acceptable perception time would not be aligned with the intersection.

The main reason for a potential crosswalk south of Parry Drive is to access the traditional Batawa "swimming hole" and the terrace area associated with it. The highway elevation appears to be approximately 5 metres above the riverbank along the terrace however this elevation remains to be confirmed. It is uncertain as to whether or not a below-grade crossing for pedestrians and cyclists would be possible in order to access the swimming hole area from the west side of the road. Although the engineering and design of such an endeavor is beyond the scope of this study, it is safe to say that it would be prohibitively expensive considering the current demand and the available land base for park area along the river.

Because the swimming hole terrace is already below the road by a significant factor, an overhead crossing would have to make up a substantial vertical difference from the bridge deck down to the terrace. Again, the cost of an overhead bridge structure would be prohibitive considering the limited land area associated with the swimming hole. The numbers of people that could be accommodated at this site would simply not warrant such an elaborate structure.

South of the Parry Drive, the river terrace narrows to a point where a pathway is not possible. This occurs at the north end of the high cliff zone, about 200m south of Parry Drive. Again, this study looks at options for alternate types of trail connection such as seasonal floating docks or a cantilevered trail structure. This should likely be associated with a more substantial vehicular barrier along the edge of the road such as a concrete 'Jersey' type barrier rather than the existing "three-wires on posts" safety barrier.

Continuing southward we come to another section of river terrace which gradually increases in width past the water supply pump house and further southward to become the widest section of river terrace within the study area; opposite and slightly north of the main entrance. In this area there is good of opportunity for trail placement. It could be aligned to undulate up and down along the berms in order to give a variety of trail experiences and views out to the river. However, a trail along the ridge of the berms would be exposed to traffic noise and movement even though there would be sufficient physical separation between the pathway and the traffic. This would be a greatly improved situation as opposed to having cyclists and pedestrians using the shoulders of this very busy highway where many vehicles are traveling at speeds up to 100 km/hour.

The writer has observed and talked to several cyclists using the narrow shoulder area between the edge of pavement and the guide wires or the ditch. All agreed that the existing situation was not enjoyable and even quite stressful. There was unanimous agreement that a separated multi-use trail would be much preferable.

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Another option would be to site the trail on the terrace lands on the river side of the berms. This would afford an even greater degree of physical and psychological separation and the berms could be planted and/or increased in height through additional grading to create a greater degree of buffering from the traffic.

The flat roofed brick pump house is a rather utilitarian structure perched on the side of the river where the bank is approximately 2.5 metres above the current water level (mid September of 2008). One of the great advantages of this site is that there is an existing vehicular access point currently secured by a double wide swinging yellow gate. The detailed design process should examine options for vehicular access here and parking for several cars so that people from outside the Batawa community can access the riverside trail.

On the south side of the pump house there is a concrete pad with retaining walls toward the river. This would be an ideal deck location from which to view up and down the river or for fishing. There could be steps or ramps down the bank in order to provide a platform to secure small boats, for fishing or possibly an enclosed swimming area. The pump house itself could have a roof or shade/deck structure constructed in order to appear more as a park building and to provide sitting area to view the river and related activities.

Proceeding southward from the existing main entrance zone there appears to be enough width between the highway and the river edge to construct the proposed pathway, There are a couple of narrower sections which would require alternate construction methods as illustrated in the cross-sections.

For the purposes of this planning and design exercise, the southern terminus of the Batawa riverfront trail has been identified as the power line boat launch within the hydro corridor. Here there is a fairly well developed vehicular access and enough room for some parking if deemed to be desirable. Development of the area as a linear park would help to address the illegal dumping now taking place up a small lane which leads northward from the boat launch area

Sight lines are favorable for an at-grade crossing of Hwy 33, which would allow access to the existing informal trail sections associated with the hydro corridor. These in turn could be readily connected to the extensive existing trail system associated with the ski hill zone and indeed throughout the Batawa lands.

5.0 Issues and Opportunities

See Map #1

This section of the report summarizes the existing site conditions pertinent to trail and open space development. It begins at the north end of the study area and proceeds southward.

Zone A: LOCK 5/ FRANKFORD GENERATING STATION (OPG)

- A1 Crossing not recommended due to road curvature/sight lines and travel speed (80km/hr)
- A2 Dam spillway is exciting but potentially dangerous
- A3 Potential river crossing on the power dam (subject to approval)
- A4 Linkage along this island is possible if the crossing at A1 can be resolved through signage and reduced speed etc.
- A5 Potential canal crossing at Lock 5 with connection to service road

Zone B: NORTH OF PARRY DRIVE

- B1 This section could accommodate a trail, however, it would be short with no potential for connection southward

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- B2 This very narrow section would require expensive constructed solution
- B3 The west side of the Hwy 33 right-of-way could accommodate a trail

Zone C: PARRY DRIVE INTERSECTION

- C1 Crossing not recommended due to road curvature/sight lines and travel speed (80km/hr)
- C2 This section could accommodate a trail with grading and low retaining walls or stabilized side slopes
- C3 Traditional Batawa community river swimming area
- C4 Existing minor trail sections lead up to road as the terrace narrows towards the south
- C5 Lone cedar tree at guide rail indicates the end of potential trail alignment southward
- C6 High profile signage area for future industrial park
- C7 The west side of the Hwy 33 right-of-way could accommodate a trail as an alternate to the riverfront.

Zone D: THE SHORE CLIFF

- D1 Available trail space gets narrower and steeper southward from here
- D2 With a combination of a very narrow alignment behind the guiderail, maximum traffic exposure, maximum shore cliff elevation, and crumbling bedrock, this section presents the greatest challenge to trail continuity along the riverbank.
- D3 The west side of the Hwy 33 right-of-way could accommodate a trail as an alternate to the riverfront.

Zone E: WATER STATION and COMMUNITY ENTRANCE AREA

- E1 Shore cliff elevation diminishes southward as road gradually drops to river level
- E2 Berms have been added to this area during past road construction. They provide trail interest and improve views and buffer the riverside from traffic noise. They also offer sufficient soil depth for shade tree planting yet allow views of the river.
- E3 An operational pumping station provides water for snow-making and is the current water supply for Batawa. It could retain its function yet be refurbished with an attractive roof to shade a porch/deck constructed over an existing concrete platform. Hydro is available for lighting, etc.
- E4 An existing service entrance will remain in operation. The existing graded access area could easily park several cars and could be expanded. A trail crossing on Hwy 33 would be possible at this location. There is an established entrance on the riverside as noted above, and the landward side would align with the proposed internal trail system. A boardwalk system would be required for the trail section on the west side of the road due to wetland conditions.
- E5 This area has the best potential for park development due to; low height of the river bank, sufficient soil depth, a level area with the greatest physical dimensions along the river, attractive mature tree vegetation offering shade.
- E6 Existing informal picnic and campfire area.
- E7 Existing large multi-stem willow tree adds a sense of maturity and scale
- E8 A major pedestrian crossing would be ideal in this location, connecting a riverside park with the core of the community, only a short walk away. Sight lines are good, and it's a well known entrance along Hwy 33.
- E9 Proposed double parkway entrance style as shown in the Batawa Preliminary Development Concept.
- E10 Conceptual Development Area pending review of ANSI extent.
- E11 Hwy 33 west right-of-way could accommodate a trail.

Zone F: SOUTH OF MAIN ENTRANCE AREA

- F1 A very narrow section exists along a stretch of cubic rock fill placed as erosion protection. Options to construct a trail by adding to this rock terrace are illustrated in the cross-sections. A combination of enrichment and protection from the current has produced a large area of interesting aquatic vegetation in this area.

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- F2 Proposed storm water management ponds should be worked into the overall landscaping strategy for the entrance area, as recommended in other reports.
- F3 Waterfront trail alignment feasible.
- F4 Waterfront trail alignment feasible.
- F5 Hwy 33 west right-of-way could accommodate a trail.

Zone G: LOCK FOUR and POWER DAM

- G1 A trail crossing Hwy 33 would be possible at this point. Sight lines are good and there is an existing maintenance access.
- G2 Very direct possible connection into the proposed Batawa community and to the existing Lower Trent Trail
- G3 Recently redeveloped gravel access area
- G4 Potential use of the hydro dam for trail use to be determined during discussion with stakeholders. Currently open to foot traffic
- G5 Existing pedestrian canal crossing at lock 4 via the swing gates
- G6 Gravel access road across lowland area leads out to Glen Miller Rd.
- G7 Hwy 33 west right-of-way could accommodate a trail

Zone H: SOUTH OF LOCK FOUR

- H1 There is sufficient space for a trail alignment adjacent to the generator tailrace. Dramatic views but safety precautions required.
- H2 Narrow area requires a constructed solution for a short distance
- H3 Available land base increases southward along with soil depth and vegetation
- H4 Hwy 33 west right-of-way could accommodate a trail
- H5 Area of proposed sports fields within the Preliminary Development Concept plan for Batawa. ANSI review required
- H6 Potential highway crossing at the entrance to Batawa waste water treatment site

Zone I: BOAT LAUNCH AT HYDRO CROSSING

- I1 Existing informal boat launch below Hydro right-of-way. Existing entrance has good sight lines, serving a gravel turnaround with enough parking for several cars.
- I2 This rough trail leads northward to recent garbage dumping
- I3 Potential highway crossing point has good sight lines and connects to the Hydro Corridor trail.
- I4 Existing informal connection
- I5 Potential connection to Lower Trent Trail

Zone J: SOUTH OF HYDRO CROSSING

- J1 This severe constriction will require a constructed solution to allow trail continuity along the riverbank.
- J2 Good width and low elevation allow for trail development here.
- J3 Intake area for the dam requires safety considerations.
- J4 Hwy 33 west right-of-way could accommodate a trail

Zone K: CONTROL DAM

- K1 Potential highway crossing at existing maintenance entrance for this dam. Good sight lines and level gradient.
- K2 Potential connection to the rail bed is only about 80 metres long.
- K3 Potential connection to Lower Trent Trail
- K4 Control dam with existing pedestrian passage
- K5 Potential connection along this island from the dam at K4 to the Lock 3 area at Zone N

Zone L: SOUTH OF CONTROL DAM

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- L1 This area is wide enough to support trail alignment and enjoys an overview of the dam tail race.
- L2 This narrow section would require a constructed solution for a trail placement. A concrete road barrier exists along Zone L.
- L3 This very narrow area would require an extensive constructed solution and would not be an enjoyable trail section due to the close proximity to traffic
- L4 Potential highway crossing point is not recommended due to road curvature, resulting in poor sight lines.
- L5 Existing informal trail connecting Hwy 33 with the rail bed.
- L6 Hwy 33 west right-of-way could accommodate a trail.

Zone M: SONOCO FRONTAGE

- M1 This wide terrace is currently a mown lawn area with views up stream. It is part of the privately held Sonoco property.
- M2 The roadside character becomes semi-urban/industrial throughout the Sonoco frontage. This affords a new experience to trail users and illustrates one of the many green (recycling) industries in the area. The speed limit drops to 60km/hr.
- M3 This existing intersection would be suitable for a pedestrian crossing since the sight lines are good and the close proximity of the buildings to the road naturally help slow the traffic through this zone,
- M4 The crossing at the end of this existing lane does not provide good sight lines.
- M5 Although trail alignment is possible within the Hwy 33 right-of-way. Alterations to the road edge and shoulder would be required.
- M6 A trail alignment on the river side would require expensive changes to the existing culvert/bridge

Zone N: LOCK THREE

- N1 Potential connection along this linear island to K5 if a river crossing is proposed at K4.
- N2 Potential canal crossing at Lock 3
- N3 Short access road out to Glen Miller Road

Zone O: SOUTH OF SONOCO

- O1 This very narrow section cannot accommodate a trail alignment.
- O2 A trail alignment within the Hwy 33 right-of-way would go by several residential properties.

Zone P: JOHNSTOWN BRIDGE at Glen Miller

- P1 Good potential crossing point for the trail over Hwy 33 and onto the Johnstown Bridge.
- P2 This bridge has very narrow sidewalk width on only one side and poor potential for designated bike-lanes.
- P3 A connection from Johnstown road into the Glen Miller Conservation Area would require circuitous alignment to allow for appropriate gradients but appears to be possible.
- P4 Potential connection with existing trails within the Glen Miller Conservation Area.
- P5 This 200m Parks Canada frontage would be a key component for linkage between Lock 3 and the Glen Miller Conservation Area.

Zone Q: BLEASDELL BOULDER CONSERVATION AREA

- Q1 Informal connection to off-road trails encircling a large wetland area.
- Q2 Potential roadside trail within Hwy 33 right-of-way
- Q3 Very narrow strip of land between roadway and river not suitable for trail development
- Q4 Connection to the Lower Trent trail from Bleasdell Boulder
- Q5 Possible staging area for Bleasdell Boulder and Lower Trent Trail link

6.0 Proposed Waterfront Trail and Park Concept
Refer to Map # 1 & 2

This section of the report summarizes the proposed conceptual layout of the preferred trail alignment and open space areas along the waterfront and the connection of these facilities to the Batawa community. This arrangement has been developed with the client group over the course of meetings as outlined in section 3.0 Methodology. It begins at the north end of the study area and proceeds southward.

Zone A: LOCK 5/ FRANKFORD GENERATING STATION (OPG)

- While the OPG generating station is of interest, this area has poor sightlines for a trail crossing Hwy. 33.
- A connection across the dam A3 and along an existing trail through A4, could provide linkage to lock 5 (A5). However, the dam crossing could be traumatic for some people.
- Although Zone A represents a microcosm of the industrial heritage of the Trent River its problematic situation would require a great deal of stakeholder cooperation to ensure these features could be experienced in a safe and comfortable environment. Inclusion of Zone A within the trail and open space concept is not recommended at this time.

Zone B: NORTH OF PARRY DRIVE

- There are plans in the near future (2010) to shift this section of Hwy 33 westward in order to avoid the river bank instability at B2. This work has been designed without consideration for the accommodation for a riverfront trail since it preceded the start of this study. In any event, the restrictions noted within Zone A preclude waterfront trail development in Zone B at this time.

Zone C: PARRY DIVE INTERSECTION

- This area was the traditional Batawa swimming hole. Although there is no beach, the swimmers either climbed down over the rock ledges at the shore, or swung out over the river from a tree that used to be here. Although the river access could be greatly improved, care would have to be taken before encouraging swimming or non-power boating in this reach of the Trent River and canal given the number of locks, dams, and power boat traffic.
- Off-stream wading pools, a mini splash pad, or fully enclosed swimming areas should be considered as an option to open river swimming.
- The poor crossing conditions for Hwy 33 at Parry Drive could be addressed in the following ways:
 - Initial observation indicates that a trail underpass could feasibly be constructed below Hwy 33. This would provide safe access to the river side terrace but would be very costly to construct and disruptive to highway traffic.
 - A pedestrian overpass would provide less accessibility at a similar high cost.
 - The limited area of level terrain provides for some recreational potential but does not warrant the capital cost of constructed crossings.
 - If the road speed was reduced, the sight-times would improve. A surface pedestrian crossing with ample signage and warning road ripples might be possible.
 - A stoplight crossing may evolve at Parry Drive as the Batawa community develops. This would best facilitate waterfront access in this location.
 - Any and all options for road crossings will require full analysis and design by transportation planners and engineers.

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- At the south limit of Zone C, the path would terminate in a loop or connect with the 'Constructed Solution' in Zone D if that section proved feasible.

Zone D: THE SHORE CLIFF

- Trail passage at the top of the bank is very challenging along the riverfront throughout this zone. There is only 2 to 3 metres from the back of the guide rail to the top of the cliff.
- Hwy 33 would have to be shifted westward in order to continue a trail between Zone C and Zone E
- The above scenario could occur if the unstable shore cliff becomes sufficiently compromised to require the realignment of the road away from the river as is being done north of Parry Drive, in Zone B.
- The new road design could accommodate a trail near the river with sufficient room for a traffic barrier, shrub buffer, and fencing at the cliff as illustrated in Figures 3 and 4.
- Without the road shift, the options for trail linkage would have to be expensive structural solutions as illustrated in Figures 5 and 6. As such, they are not thought to be feasible, however, the possibilities are included for discussion or in the event that Batawa becomes a prime tourist destination in its own right and the floating or suspended trail would become an additional attraction.
- Creating a fill terrace along the base of the cliff is not presented as an option for this zone due to the length required and therefore the degree of river bed covered. A modified version of this method, using massive boulders to allow voids and only partial substrate coverage, is proposed for shorter constrictions as shown on the plan and as illustrated in Figure 8.

Zone E: THE PUMPING STATION and COMMUNITY ENTRANCE AREA

- This area offers by far the best opportunity for trail, and especially park development within the study area. It has the advantages of:
 - A reasonable land base ; about 480m long by 15m wide at the north end (from the highway right-of-way) to about 25m wide at the south end near the Batawa main entrance. The total site area for this zone is approximately 1 hectare or about 2.5 acres.
 - There is an existing building with the ability to provide water and electrical service to the park. It could be retrofitted with decks and a roof / shade structure to be attractive and useful. Washrooms could be provided with pump-out tanks or alternative treatment systems.
 - Existing berms along the highway edge offer some degree of separation. Lacking existing vegetation, they could be augmented with additional material and reshaped to provide an interesting trail alignment with elevated views. This is illustrated in Figure 7.
 - The area north of the water station could provide a passive, more naturalized, park setting in keeping with its present character.
 - A more active park type is envisioned south of the water station. There could be a broad lawn for sunning, sand volleyball, a land based beach, picnic sites, a mini splash pad and perhaps contained and supervised zones for tubing, paddle boats and swimming.
- At the widest area where there is some natural tree cover, the existing vegetation could be managed to create excellent recreational and social habitat with shade, views, and good access. New tree plantings would increase the amount of shelter and provide the next generation of shade trees. A pier or wharf look-out could be the connection point for seasonal fishing docks or a floating boardwalk as a sub-loop of the main trail.
- Park development should be based upon further detailed planning and design accounting for access from the rail trail and within the Batawa community as the population increases with new development.

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- The full compliment of possible park features, as noted above, should only be constructed if conveniently parking can be provided for an appropriate percentage of the anticipated users. This could be accomplished by having a parking area on the west side of Hwy 33, near the proposed cross-walk, somewhere within the entrance zone.
- Parking could also be provided using the existing vehicular entrance at the water station and incorporating the existing gravelled area. This would allow more convenient and direct access for park users but would use up limited area. Walk-in or bicycle parking areas should be strongly encouraged since the on-site parking potential is only about 10-15 cars, with limited circulation. If this parking area is provided it should be as a drop off and for emergency/service vehicles. If actual parking spaces are provided they should be only for people with impaired mobility.
- On-road parking and random crossing along Hwy 33 would be problematic and should therefore be avoided by developing parking on the west side of the highway with convenient and fenced connections to developed crossing points.
- 'Soft' parking surfaces employing reinforced turf could be positioned along the proposed entrance boulevard as the community re-develops.

Zone F: SOUTH OF MAIN ENTRANCE AREA

- The construction identified at F1, (25m length) could be resolved by the Rock Terrace or Floating Boardwalk options. This would provide trail continuity to the wider river terrace to the south where more traditional trail construction methods could be used. This situation would then continue a distance of about 650m southward to the construction at H2.
-

Zone G: LOCK FOUR and POWER DAM

- A trail through zone G would take the trail past the Lock 4/ Innergex dam and generating station. Although a pedestrian river crossing exists here, it is not very productive with respect to overall trail development since the east bank connection is the service road for Lock 4, which simply leads out to Glen Miller Road.
- Nevertheless, this dam crossing is one of the newer ones on the river and has a reassuringly modern and secure feel to it. It would allow boaters using Lock 4 to the west bank and connect with the Lower Trent and Batawa's internal trail system.

Zone H: SOUTH OF LOCK FOUR AND THE POWER DAM

- The trail would continue southward from the dam for about 230m using basically traditional trail construction methods, modified as illustrated in Figure 2 to accommodate for side slope. With a Rock Terrace Option constructed at H2 for about 100m, the trail could continue southward for about 200 m using traditional construction where it would arrive at the zone boundary between H and I.
- The crossing at H6 enjoys good sight lines and would lead through or around the new waste water treatment site. It would not provide a direct connection to the hydro corridor trails as crossing points I3 or I6 would.

Zone I: BOAT LAUNCH AT HYDRO CROSSING

- About 100 metres of trail could be easily constructed by improvements to an existing lane. This would bring the trail out to the informal boat launch area which exists within the hydro corridor. Although this launch area only directly serves a limited section of river between the Lock 4 dam and the Control dam in Zone K, it does provide fishing access to the long backwater channel associated with Lock 3.
- Hwy 33 crossing points at either I3 or I6 would provide connection to the Lower Trent Trail. It would be a viable crossing point since it would lead to the main trail via an existing trail connection and enjoys good sight lines. Further, this option would provide connection to the existing hydro corridor trail via an existing spur.
- Crossing point I6 is arguably the best candidate since it is directly across from the boat launch area which has parking potential as a minor staging area for both the waterfront and the Lower Trent trail.

Zone J: SOUTH OF HYDRO CROSSING

- Just south of the Hydro Corridor at J1 another constriction occurs within the river terrace which would preclude the use of traditional trail construction methods.
- A 60 metre section of Rock Terrace type construction would be required to allow trail passage. Once south of this constriction, the trail can continue for about 300m using traditional construction methods, arriving at the flood control dam in Zone K.

Zone K: CONTROL DAM

- A crossing over the river at this location is quite beneficial for trail continuity. On the island at K5, the trail could be constructed southward for a long distance about 1200m to arrive at Lock 3. The ease or difficulty of construction within K5 will have to be further examined as site conditions permit in the spring. Although the limited access might prove to be a challenge regarding the supply of a granular base for the trail, this section could be designed with a softer approach, relying more on good drainage for trail integrity during wet conditions.

Zones L and M SOUTH OF CONTROL DAM and the SONOCO FRONTAGE

These two zones are not regarded as viable or necessary for trail continuation. Zone M (due to its heavy industrial use) and Zone L (due to a constriction at about station 2,700). Zone M can be taken out of consideration due to the fact that there is no potential for productive southward connection.

Zone N: LOCK THREE

- The pedestrian crossing at Lock 3 could provide continuity for a trail coming southward from the crossing at K4 and K5, thereby linking the east and west river banks.
- If a trail alignment can be sited through Parks Canada land between Lock 3 and Johnstown Road, then connection with the Glen Miller Conservation Area is viable. There appears to be sufficient clearance below the Johnstown Bridge on the east bank to accommodate a trail.
- The potential trail alignments on the west bank of the river from Johnstown Bridge southward are beyond the scope of this study, but have been discussed in the Quinte West Route Options Study.

Zone O: SOUTH OF SONOCO

- Site conditions are very hostile for a waterfront trail location within these zones. Very narrow constrictions, steep banks, and an active industrial plant preclude any trail alignment.
- Trail passage along the west side of Hwy 33 would be the better option if it was the only possibility for connection south to Trenton.
- One possible option to get by this area and therefore achieve southward connection on the west bank would involve arrangements to use the rail bed through the Sonoco property. This would gain access to the numerous existing trails associated with the Bleasdell Boulder, a very interesting geological phenomenon in a recently dedicated conservation area.

Zone P: JOHNSTOWN BRIDGE

- If the preferred route, via Zones K and N, cannot be realized, then the Johnstown Bidge (accessed via the rail trail through the Sonoco lands and the Bleasdell Boulder Conservation Area) would provide a river crossing point to the Glen Miller Conservation Area and associated trails southward to the 401 along the east bank of the Trent. There appears to be sufficient room below the Hwy 401 bridge to provide passage into the north end of Trenton Ward on the east bank.

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- The main obstacle to riverside trail continuity further south is the Norampac Site. Optional routes for an east side alignment are discussed in the Trail Route Options Study completed in 2006 for the city of Quinte West.

Zone O: BLEASDELL BOULDER CONSERVATION AREA

- A main trail could be created through this area to circumvent the Sonoco Plant. It would contact Hwy 33 very near the Johnstown Road Bridge, where road crossing conditions are as good as can be expected along Hwy 33. A traffic light is not yet warranted for this intersection but should be considered as part of a potential trail crossing review. The Lower Trent Conservation Authority plans to develop an existing informal link from the Bleasdell Boulder to the Lower Trent Trail.

7.0 Connection of the Waterfront to the Batawa Community

Historically, there has always been a close connection between the Trent River Waterfront and the adjacent Community as it runs along Batawa. Stories abound regarding the swimming hole described at the intersection with Parry Drive and accounts of parties which included music and singing around bonfires along the shore. These activities have declined over the decades since the heyday of Batawa in the 50's and 60's. This decline was likely due to an increase of other entertainment options such as TV and radio, perhaps combined with a steady increase in the traffic volume and speed on Hwy 33. Although statistics are not available, it is generally recognized that the riverfront along Batawa was more much more centrally a part of living in Batawa than it is now. Despite this decline, vestiges of waterfront recreation remain. During site visits it was noticed that the riverfront is still used in a casual way for fishing, swimming, and picnicking as witnessed by the several fire pits and numerous minor trails.

There are basically two sections of sufficient land area along the riverfront where a connection would be warranted in order to access a park.

The first is in the north at zone 'C', the area recognized as the traditional swimming hole. The ideal connection to this area would be via a cross walk associated with the future installation of traffic control lights at Parry Drive if traffic volumes dictate. A trail from that future crossing would connect this area to the Lower Trent trail, village core, and to the residential areas of the revitalized community.

The second opportunity for waterfront activity within the Batawa reach of the Trent River occurs opposite and just upstream of the current main entrance off Hwy 33 at Plant Street. Sufficient area and suitability level land offers the potential to develop a linear park which could be developed to provide passive to light-active recreational pursuits such as a walking trail, picnic area, bocce, sand volleyball, small playground, etc.

The preparation of the Preliminary Development Concept for Batawa in spring 2009 focussed largely on the village at large as well as its proposed Town Square. It is the intent to make a double road entrance in a parkway style which would facilitate pedestrian and cycle connection towards the waterfront. This study proposes to extend that feeling out towards the river and once again connect the core of the community with its waterfront.

Map #2, The Conceptual Plan indicates the favoured locations for physical connection of the waterfront back to the Lower Trent Trail and into the community using three check marks. There are also several other potential connection points which are indicated by question marks. These should be further investigated during subsequent planning and design, as indicated in the accompanying text. It may be that traffic planners and reviewing officials would approve more connections so that the bond between the community and the waterfront can be realized in many locations.

8.0 Integration of the Waterfront with the Regional Trail System

The study area, particularly the Parks Canada waterfront combined with the Batawa Core, has the potential to become the focus and main staging area for the numerous trails and walkways which already exist in the area. Within the Lower Trent Trail corridor, along the canal system, in the two conservation areas, and all throughout the Batawa holdings, there are many kilometres of beautiful and interesting pathways currently being enjoyed by those seeking healthful recreation.

It is not so much how the study area will become integrated with the local and regional trails system, but more how it will be developed as the logical centre to provide connectivity and continuity to the Lower Trent Trail and its many potential links to the north and south of Batawa.

With planning for the Batawa rejuvenation well underway and a commitment by all levels of government to the development of the tourism industry, to active living, and to environmental health, the timing is very good for the realization of the potential of this important cultural resource. Over the foreseeable future there could be an unprecedented influx of funding for community recreational initiatives such as the one tentatively proposed in this study: projects which build on and complete a positive process already well under way.

9.0 Development Partners and Stakeholders

There are several identified stakeholders who will be contacted by the two client groups in order to communicate the vision of trail and park development embodied in this report. More Stakeholders may be recognized as the consultation and communication process evolves. The entities identified to date are listed below in alphabetical order.

- **City of Quinte West:**
The city of Quinte West will be a main participant in the development and review of the municipal trail system.
 - City of Quinte West Map- Recreation was used to delineate Parks Canada ownership, conservation area lands, city parkland and the trail system to date.
 - City of Quinte West Route Option Study expands on trail continuity south of the 401
 - The city owns the road corridors within the study area including Parry Drive, Hwy 33 (also known as the Trenton/Frankford road) ,the Johnstown Bridge and Road. McCauley Road.
- **County of Hastings**
The economic development office should be invited to comment.
- **Innergex Corporation:**
The new hydro generating station at Zone G (Lock #4) has been recently developed by Innergex of Quebec. The proposed trail would traverse that frontage along Hwy 33 and there is an opportunity for an overlook and interpretive feature at this site. They will be consulted and involved as the planning and design exercise proceeds.
- **Local Communication Utilities:**
Regarding construction planning and activities.
- **Local Gas Utility:**
Regarding construction planning and activities.

- **Local Hydro Utilities:**
Regarding construction planning and activities
- **Lower Trent Conversation Authority:**
The Glen Miller conservation area at the south end of the study area and the Bleasdel Boulder Conservation Area are both under the control of the Lower Trent River Conservation Authority.
- **Local Residents and the Public at large:**
Communication with the public will be the key to a successful and well supported plan.
- **Ontario Government:**
There will likely be several areas of interest
 - Interested in Sustainable Development
 - Specific concern regarding the Batawa ANSI
 - Concerns regarding fish habitat protection and enhancement
 - Ministry of transportation input regarding the 401 underpass
 - Ontario Realty Corporation
- **Ontario Hydro:**
This public entity controls the right of way for the hydro corridor which crosses the study area at zone 'I'. The existing informal boat launch and the extensive trails along the corridor could be an important component of the plan as it develops.
- **Ontario Power Generating Corporation:**
The hydro electric dam within zone A is operated by OPG. Even though the study does not recommend extending trail or park access into this area, they will be consulted and involved in the process so that their input can be gathered regarding the proposed trail and open space development within the region. OPG has demonstrated a keen interest and a willingness to support local trail initiatives.
- **Parks Canada :**
The majority of the land parcels along the Trent River and Canal system, within this study area, are owned and managed by the Federal government through Parks Canada and the Trent Severn Waterway. Their regional office responsible for these areas is in the relatively local city of Peterborough. Quite obviously, this federal government will be a central participant going forward.
- **Sonoco:**
Although the Sonoco land holdings along the waterfront and along Hwy 33 are avoided in the eventual concept, the company does control a key portion of the abandoned rail alignment immediately to the south of the Batawa holdings. They must be engaged in the conversation and offered creative solutions regarding their concerns for safety and security.
- **TransCanada Pipelines:**
Comments should be invited during subsequent consultation process
- **Trenval Business Development Corporation:**
This organization is active in the Quinte Area promoting business development including the tourism sector. They are currently promoting the concept of an Eco-Centre which could be connected to the Lower Trent Trail.

10.0 Costing, Phasing, and Approvals

In order to make informed decisions it is necessary for those involved to have a fairly accurate idea of the cost for the various components and options. It should be noted that the quantification and cost estimating for this project, at this phase, has been carried out without the benefit of detailed site survey information. However, the consultant has recently prepared designs for, and carried out the tender and project management for several recreational trail and municipal park construction projects throughout eastern Ontario. The cost estimate for this study has been calculated using averages of bid unit prices for the various components of trail construction. This degree of accuracy is more than adequate for capital budget planning and to engage funding partners. Specific structures and non traditional engineered components within the concept (i.e. the floating boardwalk and cantilevered sections) will require further costing effort if they are elected to be a part of the plan.

The cost estimating has been organized to co-ordinate with the tentative phasing and has been included in Excel format as Appendix 1.

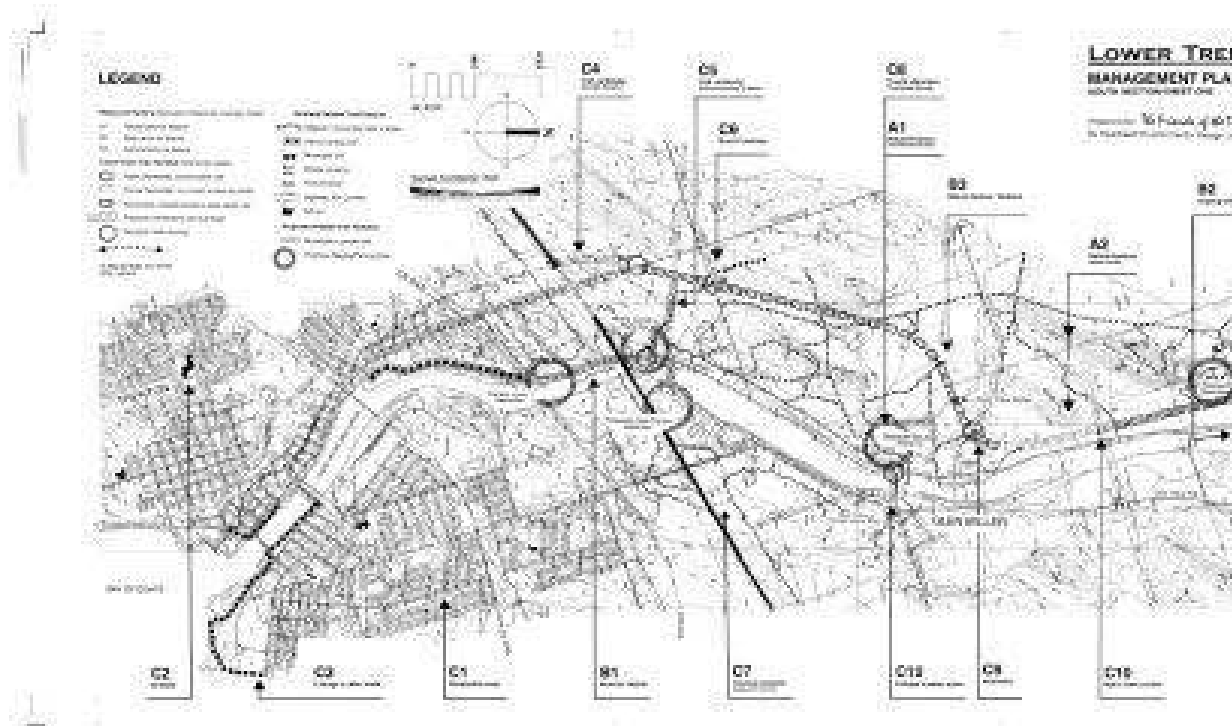
The actual phasing of construction cannot be fully known until after input and negotiations with the other stakeholders, except where the trail occurs solely on Batawa Development Corporation (BDC) holdings. Consequently, the BDC sections of trail will be considered as priorities. Trail development within these areas could occur in short order (Summer/Fall 2009) or as related development occurs within the BDC master plan.

Numerous applications will be required during the detailed planning and design stages in order to obtain approvals for any work along the water. Specific studies (fisheries, vegetation, traffic, drainage, soil, risk assessment, marketing etc.) will be required in order to assess the impact of proposed alterations for many aspects of the work. While it is premature to judge the scope and level of detail required for these studies, or who will be responsible for their assignment and completion, they will be a major component of the overall process, and may require significant timelines as part of the application and approval process.

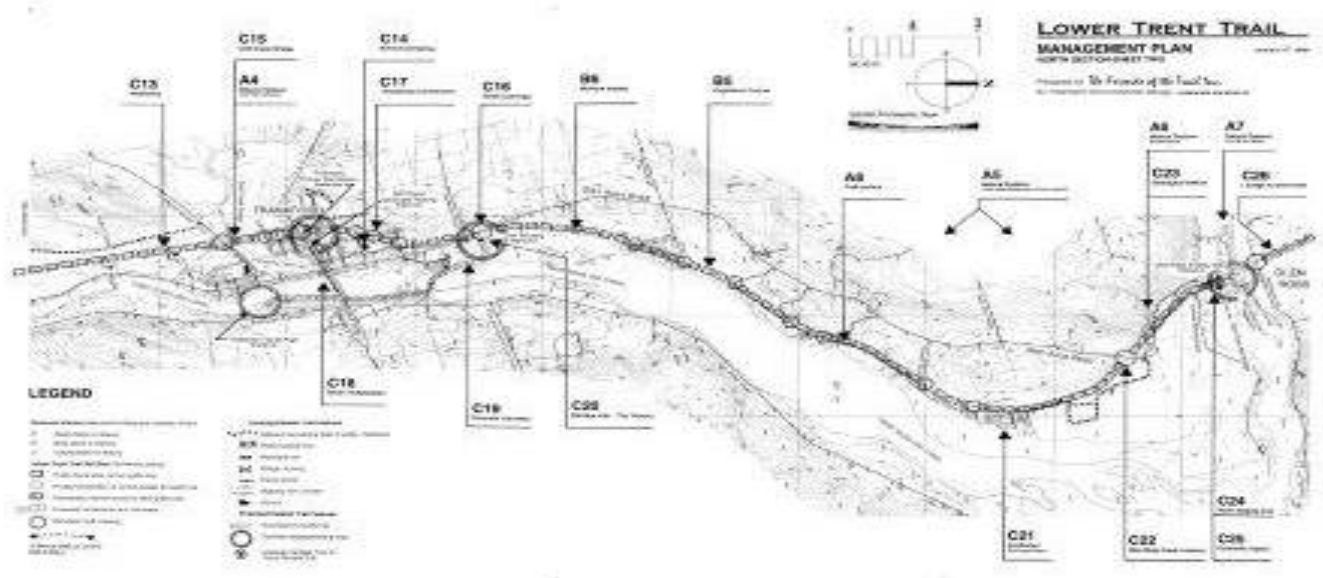
APPENDIX 1 – COST ESTIMATE

APPENDIX 2 – LOWER TRENT TRAIL MANAGEMENT STUDY – PLANS 1 & 2

Plan 1



Plan 2



APPENDIX 3

QUINTE WEST ROUTE OPTIONS STUDY – Executive Summary. Prepared for City of Quinte West, November 2007

Executive Summary

Quinte West enjoys the unique position in Ontario of having a waterfront location connected to an extensive riverfront, which includes both a canal system and hydroelectric power generation. The presence of these two activities both adds to the

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attractiveness (tourist potential) and to the complexity of a waterfront trail system.

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This route option study serves to identify the alignments that will eventually coalesce to form a continuous looped trail system along the waterfront(s) of the Trent River and the Bay of Quinte.

We believe that the objectives of the trail development process should be to:

- Identify the eventual optimal routes for the waterfront trail system
- Locate these trails as much along the waterfront zone as much as possible (with appropriate buffers and setbacks for environmental and safety considerations)
- Provide for waterfront alignments on both the east and west sides of the river in order to provide for a looped system from City Hall to Lock One and back .
- Identify tie-in connections to the adjacent residential areas, as much as possible through existing public lands .
- Identify river crossing points and the design and physical work required to make those a reality .
- Identify initial/interim trail routes that will provide continuity while the eventual alignments are secured and developed.
- Identify the appropriate level of development for these initial/interim routes.
- Provide estimates for budget purposes for both the initial and eventual routes.
- Identify a project list in a generalized order of priority for the continued development of the trail system. This list should be viewed as sufficiently flexible to respond to funding opportunities and stakeholder cooperation.

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