KELSO CONSERVATION AREA & GLEN EDEN MASTER PLAN

October 2020

HONOURING THE LAND AND TERRITORY

Halton, as we know it today, is rich in the history and modern traditions of many First Nations. From the lands of the Anishinaabe to the Wendat, Attawandaron/Chonnonton, the Haudenosaunee, and the Métis, these lands surrounding the Great Lakes are steeped in Indigenous history. As we gather today on the Mississaugas of the Credit treaty lands, we are in solidarity with our Indigenous brothers and sisters to honour and respect the four directions, lands, waters, plants, animals and ancestors that walked before us. We acknowledge and thank the Mississaugas of the Credit First Nation for being stewards of this traditional territory.

ACKNOWLEDGEMENTS

The Kelso Conservation Area & Glen Eden Master Plan is the product of collective input from Conservation Halton staff, local residents, visitors, key partners, stakeholders and agencies. This dedicated collaboration addressed important areas of focus surrounding the development of the master plan.

Those who were able to participate in interviews, public meetings, online engagement and assist with the collection and analysis of existing site conditions and programming will have increased sense of community and stewardship as they helped shaped the future at Kelso Conservation Area and Glen Eden.

Special acknowledgment to the Conservation Halton team that participated in the update to the Kelso Conservation Area and Glen Eden Master Plan along with Dillon Consulting Limited and urbanMetrics Incorporated.

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EXECUTIVE SUMMARY

Conservation Halton has completed an exciting three-phased process to update the master plan for its flagship park, Kelso Conservation Area and Glen Eden. The 2002 Master Plan[1] for the Kelso Conservation Area and Glen Eden set foundational elements for the update of the Kelso Conservation Area and Glen Eden Master Plan (Kelso Master Plan), with the recognition that the visitation needs and population growth, programming, infrastructure challenges, best management practices, planning principles and land use directions have evolved in the last 15 years, as well as the economic drivers. This was also an opportune time to assess and update the Niagara Escarpment Parks and Open Space System (NEPOSS) management zoning to ensure sustainable management of the park.

Part 3 of the Niagara Escarpment Plan, 2017[2] (NEP) addresses the function of the NEPOSS and contains policies for the establishment and coordination of a system of publicly owned lands along the escarpment. The NEPOSS is a mechanism to establish a set of parks and recreational spaces along the escarpment that are publicly owned and coordinated. The preparation of a Master/Management Plan is a requirement of the NEP for all NEPOSS parks, to ensure long-term protection, development and management of the parks and open spaces.

Kelso Conservation Area is classified as 'Recreation' in the NEPOSS, recognizing its natural attributes that provide one of the best recreational environments along the escarpment, and plays an important role as a major attraction along the Niagara Escarpment providing unique summer and winter recreation opportunities. Commercial uses along the NEPOSS are identified as being most suited to 'Nodal' or 'Recreation' class parks, as approved in a NEPOSS Master Plan. This master plan was developed with collaborative engagement through Conservation Halton and Dillon Consulting with the Niagara Escarpment Commission (NEC) and Ministry of Natural Resources and Forestry (MNRF) staff to align the process and proposed concepts with the NEPOSS Planning Manual, 2012[3] (NEPOSS Planning Manual) and policies within the NEP.

This document presents the final phase and report of the master planning process, however, its development was structured into three phases as noted and described below.

In Phase 1 – Inventory & Analysis Report, technical investigations, background document review and market research were undertaken in order to comprehensively characterize the features at Kelso. The summary report also presented the economic, environmental and social site contexts to ensure long-term sustainability and identification of key programming areas. To support the existing programming at Kelso Conservation Area and Glen Eden, the following priority focus areas were brought forward through the Phase 2 master planning process: natural and cultural environment protection, site access and circulation,

[1] Conservation Halton. 2002. Master Plan for the Kelso Conservation Area.
[2] Niagara Escarpment Commission. 2017. Niagara Escarpment Plan. Retrieved from: https://escarpment.org/home.
[3] Ministry of Natural Resources (& Forestry). 2012. Niagara Escarpment Parks and Open Space Planning Manual. Retrieved from: http://www.ontla.on.ca/library/repository/mon/26005/316614.pdf.

parking, facilities and infrastructure, and the Kelso Quarry. Extensive public and stakeholder engagement was undertaken in this phase to ensure alignment with visitor needs and applicable agency governance.

The Phase 2 – Concept Development Plan documented the master planning development for the Kelso Conservation Area, including: proposed updates to the 2002 Master Plan NEPOSS Management Zones with distinct comparison and analysis between relative zones; preliminary concepts that included the four priority components discussed above; a summary of the extensive community and stakeholder engagement; evaluation process for the proposed program suitability for each option; draft concepts; a preliminary assessment of environmental, social and economic impacts, and potential mitigation measures; economic feasibility analysis; and management direction. A focus on the active engagement and consultation with visitors, key stakeholders and agency partners was a key component in this phase. Conservation Halton established a new format for increased participation for public engagement through surveys, information sharing and social media, as well as extensive stakeholder collaboration.

In Phase 3 – Master Plan, priorities and phasing of implementation were developed to serve as the principal guiding policy document for the planning, design, development, fiscal and resource management for Kelso Conservation Area and Glen Eden. Critical information from the comprehensive work completed in all three phases, including input from the NEC, MNRF and Halton Region, and the NEPOSS Planning Manual guided the framework and development of the final Kelso Conservation Area and Glen Eden Master Plan.

This master plan involves two distinct concepts; the North Kelso Concept and the Kelso Quarry Concept, which are closely aligned with key service targets, key conservation targets and key objectives identified in Conservation Halton's strategic plan, Metamorphosis 2020[4]. Together, these two concepts support the protection of important natural and cultural assets, enable the necessary upgrades to the facilities and associated infrastructure, envision sustainable growth and visitation needs, celebrate Kelso Conservation Area's unique natural environment on the Niagara Escarpment, and improve the visitor experience and long-term programming for healthy living. These improvements will materialize over a five to 25 year time horizon in three phases, each containing distinct actions as summarized below:

IMPLEMENTATION PHASE ONE:

Kelso North

- Enhancement of the gateway and access points to Kelso and the wayfinding signage to improve the overall arrival and navigation experience;
- Reorganization and rehabilitation of existing parking and entry into arrival area including entry plaza to bridge crossing, parking, arrival roads and circulation toward the Visitor Centre;
- Improvements to Adventure/Discovery area with upgrades to parking, new rental building with washrooms, and expanded programming;
- Development of the Recreation, Sport Rental & Arrival Centre buildings;

[4] Conservation Halton. 2017. Metamorphosis: Conservation Halton Strategic Plan 2020. Retrieved from: https://conservationhalton.ca/metamorphosis.

- Development of the Day Use Operations Access to improve the access and safety for Kelso's visitors and operations staff, including a maintenance area; and,
- Pursuance of the approvals for upgrades to the water and wastewater services through proper processes.

Kelso Quarry

- Formalization of the park entrance, access, gateway and wayfinding to the central building at the Kelso Quarry; and,
- Continued restoration of the meadows, woodlots and lake habitat to strengthen its natural heritage.

IMPLEMENTATION PHASE TWO:

Kelso North

- Expansion of trails, lookouts and access;
- Enhancements to beach programming; and,
- Renovation of the East Lodge building.

Kelso Quarry

- Introduction of both passive and active programs to the park, including circuit trails and lookouts, natural play area, gathering spaces and a mountain biking trails.

IMPLEMENTATION PHASE THREE:

Kelso North

- Investments made to improving the experience, safety and diversity of camping accommodations, with an additional washroom/shower facility;
- Development of support kiosk at the Kelso Lake Centre, including improvements to the boat launch, parking and new volleyball courts;
- Rehabilitation of the shoreline; and,
- Implementation of the Village Centre at North Kelso, celebrating the rich history and heritage on site, while introducing additional levels of service to the site.

Kelso Quarry

- Addition of park programs which include re-imagining the Central Building, its green spaces as well as parking lots;
- Access to the beach, boat rental facility, boat launch and the associated active sport area that form an activity cluster; and,
- Interpretive wetland and education of the site history.

Conservation Halton is also currently seeking approval, outside of this master plan, to permit urban services *outside of the urban boundary, as identified in the Region of Halton Official Plan. An amendment to the NEP* has been approved to allow servicing, following the 2015 Co-ordinated Land Use Planning Review. Ongoing *conversation with the NEC, MNRF, Ministry* of the *Environment, Conservation and Parks (MECP), and the Halton Region are underway to address the existing site servicing needs.*

This master plan was finalized during the COVID-19 pandemic in 2020, which has unknown impacts to market demand and economic feasibility of Kelso Conservation Area and Glen Eden's visitors and Conservation Halton's operations that may affect this master plan implementation.

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1 INTRODUCTION

Kelso Conservation Area and Glen Eden (Kelso) play an important role as a major attraction along the Niagara Escarpment providing unique recreation and tourism opportunities due to its close proximity to the urban boundary of Milton. Over the years, with the growth of the adjacent community, Kelso has been and continues to be an iconic landmark from Highway 401, as well as a leader in providing recreational opportunities close to home on the escarpment. Glen Eden is ranked the third busiest ski and snowboard centre in Ontario and its location within the Greater Toronto and Hamilton Area (GTHA) provides a unique experience that is easily accessible to the local community of recreationalists (see Figure 1 and Figure 4).

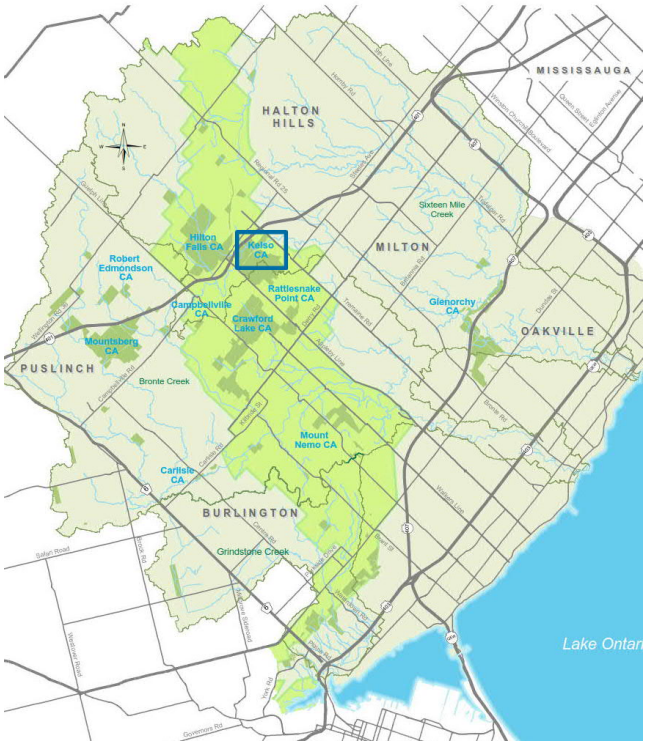


Figure 1 Kelso within Conservation Halton Watershed

With the forecasted regional and GTHA population growth, Kelso will experience increased visitation over the coming years, especially given its adjacency to the urban boundary of one of the fastest growing communities in Canada. User safety and visitor service-level expectations of the park will pose additional stresses to the existing infrastructure capacities, operations, educational and recreational programming, facilities and conservation measures. The anticipated growth in visitors needs to be continuously managed to align with the principles (i.e., collaboration, innovation, sustainability and integrity) set out in Conservation Halton's strategic plan, Metamorphosis 2020. The key themes from the strategic plan are: **creating opportunities to connect with nature, preparing for the effects of climate change, striving for service excellence** and **efficiency and taking care of our growing communities**. With that in mind, the proposed features in the Kelso Master Plan are necessary in ensuring these objectives are met for the sustainable future of Kelso.

All recreational program, facility and infrastructure improvements of this master plan need to align with the objectives of NEPOSS to provide suitable recreational opportunities while sustainably enhancing or conserving the natural and cultural features of the site. The focus is specific to recreational and educational opportunities suitable to provide more value to existing visitors and to prepare for the anticipated increase in visitation that is in response to the planned growth of the surrounding area.

1.1 STUDY PURPOSE

The purpose of this updated Kelso Conservation Area and Glen Eden Master Plan (Kelso Master Plan) is to guide the long term upgrades and improvements of the overall park (including the Kelso Quarry) that meet current visitation needs and balance the market trends with Conservation Halton's stewardship of the land in the Niagara Escarpment Parks and Open Space System (NEPOSS). The Kelso Master Plan needs to also reflect the vision established through Conservation Halton's strategic plan, Metamorphosis 2020, to conserve the natural environment through planning, protection, education and recreation, and support conservation partners in the creation of sustainable communities within the watershed.

The Kelso Master Plan was updated to:

- Reflect current legislation, regulations and policies;
- Refine the vision specific to Kelso's role to Conservation Halton Parks;
- Bring Kelso Quarry into the NEPOSS master planning framework; and,
- Guide the short-term and long-term management, economic feasibility, and master plan implementation.

The Kelso Master Plan sets the goals and objectives, and guides the protection and management of natural heritage features, cultural heritage features and recreational activities that make Kelso a major regional recreational area servicing Halton Region and the GTHA. Ultimately, it is Conservation Halton's principal guiding policy document for the planning, design, development, conservation, and financial and resource management of Kelso Conservation Area and Glen Eden for the next 5 to 25 years.

1.1.1 KEY GOALS AND OBJECTIVES

During Phase 1 of the master planning process, consultation with key stakeholders and community members resulted in the emergence of key goals and objectives, as per Table 1, which guided the update of the 2002 Master Plan directions through the development of this updated Kelso Master Plan.

Table 1 Guiding Principles for Kelso Master Plan Update

Key Goals	Key Objectives
Community Engagement	• Support community's existing and future passive and active recreation needs and enjoyment of the Niagara Escarpment.
Recreational Opportunities	• Enhance and improve existing programs, services and events to provide more value for existing users; • Integrate Kelso Quarry into park programming and events; and, • Enhance trail and pathway network.
Educational Opportunities	• Enhance and improve existing programs, services and events to provide more value for existing users; and, • Integrate Kelso Quarry into park programming and events.
Economic Sustainability (quality park management and visitor experience)	• Enhance and improve existing programs (e.g. skiing, camping, day use areas, beach, etc.), services and events to provide more value for existing users; and, • Plan for 25-year horizon, accommodate current needs through 5 year implementation plan.
Natural & Cultural Heritage Protection & Conservation (environmental protection, conservation and restoration of cultural and natural heritage)	• Protect and conserve significant cultural and natural features; • Integrate watershed and flood management; • Evaluate Priority Protection Areas; and, • Update NEPOSS management zones.
Green Initiatives (water and energy conservation, low impact development and waste reduction)	• Integrate sustainable development; • Accommodate existing/future needs through improvements and upgrades to existing facilities; and, • Replace existing septic systems with municipal servicing to accommodate existing and future needs.

1.2 MASTER PLANNING PROCESS

In completing the Kelso Master Plan update, Conservation Halton led a three phased process which included: Phase 1 – Inventory & Analysis Report; Phase 2 – Concept Development Plan; and Phase 3 – Master Plan, as per Figure 2. Extensive consultation with key stakeholders, partners and the public was well-integrated into the development of the master plan.

The comprehensive inventory and analysis, research, and stakeholder and community engagement, completed in Phase 1 of the master planning process established the baseline conditions, management direction and a list of current challenges and opportunities at Kelso.

Programmatic possibilities were tested with the development of preliminary concepts for North Kelso and Kelso Quarry, and then evaluated and tweaked through the master planning process, with staff from Conservation Halton, Town of Milton, Halton Region, NEC and MNRF, and stakeholder and community input.

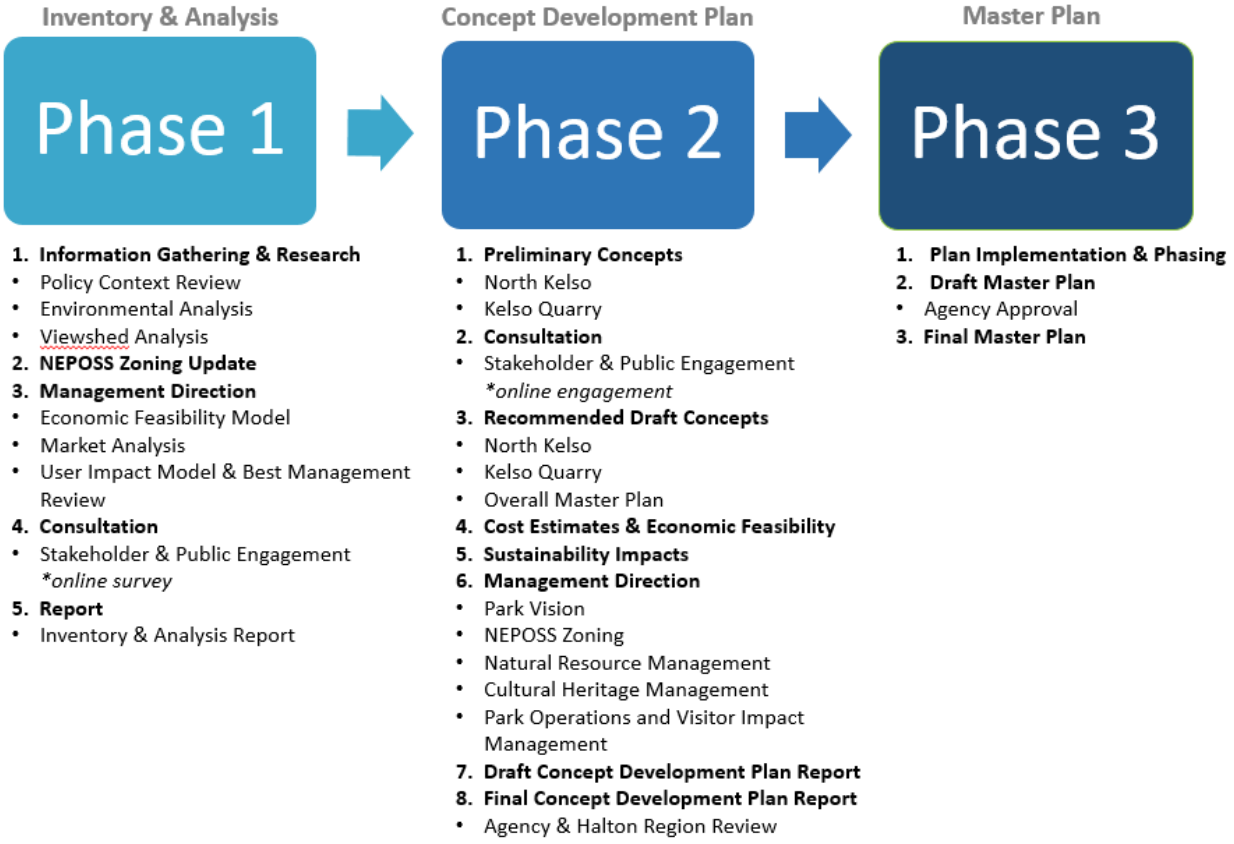


Figure 2 Master Plan Process

Draft master plan concepts of the two areas evolved through the integrated and iterative design process. They were also layered with considerations for access and trails that connect the two distinct areas of the park, initiating the overall conceptual master plan. With refined programs in place, economic feasibility was prepared, as well as an evaluation of the sustainability impacts for each proposed program and management direction for Conservation Halton's valued assets. A draft and final Concept Development Plan Report were prepared, and reviewed by the NEC, MNRF and Halton Region.

Agency and stakeholder input informed the final NEPOSS Management Zones and the preparation of the Draft Master Plan, which included a strategy for the implementation and phasing approach for the Kelso Master Plan. The draft document was reviewed by Conservation Halton staff and Conservation Halton Board of Directors, before final submission for approval to the MNRF through the NEC.

1.2.1 THREE TIER CONSULTATION APPROACH AND RESULTS

The master plan development process included a three-tier consultation approach involving Conservation Halton Staff, key stakeholders including provincial agencies and First Nations, and the community. Greater detail of the consultation process is provided below.

1.2.1.1 CONSERVATION HALTON STAFF

Fall 2016 - In Phase 1 of the master planning process, two stakeholder sessions were held with Conservation Halton representing a variety of experience and knowledge on Conservation Halton's management of Kelso. The first session was held on October 4th, 2016 with senior staff and managers, and the second session was on October 20th, 2016 with five members of Conservation Halton's Administrative team.

One of the main themes from these sessions was that Kelso has two main focuses that are both considered adventurous and interactive: summer activities and winter activities. This sets Kelso Conservation Area apart from other Conservation Halton conservation areas, and result in business-minded decision making that is focused on providing recreational activities and events that are driven by financial profits.

Conservation Halton staff are optimistic about future growth at Kelso Conservation Area and Glen Eden and believe there are a number of key strengths which it can build on in the future. There are a number of existing users of the park, servicing areas such as Burlington, Oakville, Milton, Acton and Georgetown. The popularity of the area is also recognized as a challenge due to overcrowding and limited space.

A number of other internal meetings took place with staff from the Conservation Halton steering committee to initiate the natural heritage evaluation and NEPOSS Management Zone maps, as well as to shape the Visitor Survey.

Winter 2017 – Conservation Halton steering committee received the completed Phase 1: Inventory & Analysis Report and engaged in the presentation by Dillon Consulting and urbanMetrics. Further integrated review by staff led to the completion of the report and set the framework for the development of conceptual design and management directions for the upcoming phases of the master plan process.

Spring 2017 – A comprehensive assessment for the Phase 1: Inventory & Analysis Report was completed by the steering committee. Conservation Halton staff utilized this information to collaborate with Dillon Consulting and urbanMetrics, as well as share information with agencies to inform the concept design for the master plan. Additionally, brainstorming session and information gathering regarding the Kelso Quarry parameters for development and restoration plans was held with a small group of Conservation Halton staff.

Summer 2017 – The Conservation Halton steering committee further revised the NEPOSS Zoning while collaborating with Dillon Consulting on concept design.

Spring 2018 – Discussion and strategic planning around the communications and engagement plan for the Phase 2: Conceptual Design took place with Conservation Halton staff to integrate and communicate the design from Dillon Consulting through Conservation Halton's social media platforms and website to visitors and stakeholders. Members of the steering committee and subject matter experts of parks operations and natural heritage gathered to complete a design charrette for the property to assist and inform the conceptual design. Planning for the management of the trail network at Kelso occurred internally. A collaborative session with Dillon Consulting and project leadership from Conservation Halton took place for the conceptual design development.

Summer 2018 – In early summer, conceptual design for the master plan was completed and presented to Conservation Halton staff. Further discussion and assessment of feasibility was collaboratively completed with in-house expertise from Conservation Halton, Dillon Consulting and urbanMetrics.

The Public Information Centres were held on June 20, 2018, providing an opportunity to gain a better understanding of community and stakeholder concerns and interests for the future planning of the park.

Information was presented to Conservation Halton Board of Directors (BOD) on June 21, 2018 for the Phase 1: Inventory & Analysis Report and the preliminary design concepts. A high-level overview of the information centres was also provided. Overall, the BOD supported the vision for the park and was pleased with the extensive work completed and the engagement approach.

For two weeks following the Public Information Centre, Conservation Halton's marketing and communications team stimulated visitor and public involvement to shape the master plan through the engagement campaign with live interaction over social media platforms. The project team was able to gain greater awareness and understanding of their market and carry forward concerns and interests of their visitors from this engagement campaign. The information is summarized further in this section.

Further Conservation Halton staff meetings were held to internally discuss feedback from both public attendees and agency members to shape the NEPOSS Management Zone approach as well as Conceptual Designs for the long-term planning of the park. Staff continued to correspond with agency representatives and hosted a secondary stakeholder session in July 2018. This session provided the ability to dive deeper into the assessment and characterization process of the master plan, as well to provide further information on needs of the park based on the growth of the visitor base due to local population growth. Further, a site visit with NEC and MNRF staff was held to provide an onsite understanding of the existing and proposed features of the park. These sessions and correspondence have been an invaluable asset to Conservation Halton's relationships with their agencies and neighbours.

Later in July, the Kelso Quarry received the Bronze Plaque award for the ecological restoration. This was also an opportunity for agency and political representatives to gain an understanding of the vision for the future of the quarry as both Chief LaForme of Mississaugas of the Credit First Nation (MCFN) and Mayor Krantz of the Town of Milton spoke on-site at the ceremony.

Fall 2018 – Conservation Halton staff received comments from the NEC, MNRF and Region of Halton staff for the Phase 2: Conceptual Design. Responses were issued by staff and considered for their further input and review of the master plan. Key considerations were for the level of study for environmental impacts at a master plan level as well as further direction for the refinement of the NEPOSS Management Zones. Conservation Halton staff developed a framework to identify potential impacts, benefits and mitigation measures of the proposed features in the master plan.

Figure 3 Preliminary Sketch for North Kelso Concept

Winter 2019 – Operations and programming staff from Kelso Conservation Area and Glen Eden met to discuss the future potential operational needs of the hill and to determine required integration into the master plan. It was determined that the NEPOSS Management Zones permit the replacement of ski lifts, as well as ski hill grading on existing runs, so no action was carried forward.

Discussion with the greater steering committee occurred during this season to determine the appropriate presentation of the natural heritage evaluation, operational management and management plan directions. The outcome of these discussions was to focus on the cultural and natural heritage features mapping and assessment opposed to the Priority Protection Areas to inform the final NEPOSS Management Zones. Further discussion around creating an operational management plan occurred but was not carried forward to reduce duplication with the NEPOSS Management Zones, and will be managed through internal organization processes.

Spring/Summer 2019 – Further development of the costing and design needs for the Recreation, Sport Rental & Arrival Centre began during this time, which has been integrated into the master plan. Internal review of the Phase 3: Master Plan document by Conservation Halton staff occurred. Both Capital and Operational budget discussion took place with internal staff as well as revision to phasing which have been incorporated into the master plan. These numbers will be incorporated into the forecasts for Conservation Halton. Staff received and reviewed the business case by urbanMetrics to support the suitability discussion and justification of investment for the master plan.

Conservation Halton staff presented the master plan concepts and engagement process of the master plan to the NEC meeting on June 20, 2019.

Conservation Halton's Planning & Regulations staff reviewed and provided input on the master plan from the environmental planning and sustainability assessment perspective.

Fall 2019 to Spring 2020 – Together with Dillon Consulting, Conservation Halton staff worked to further refine the final master plan and ensure agencies were up to speed on the process and scheduled relevant presentations and reviews.

1.2.1.2 KEY STAKEHOLDERS & COMMUNITY

Fall 2016 – Key stakeholders were invited to a stakeholder session on October 4th, 2016, and supplementary interviews were conducted with a cross-section of respondents to better understand the user/client side of Kelso's operations, programming, fees and potential growth.

An online survey was prepared and launched from November 2016 to January 2017. Approximately 1,230 users completed the survey. The stakeholder sessions and online community engagement allowed for exploration of the challenges facing the Kelso Conservation Area, particularly as a result of pressures arising from growing visitor numbers and environmental changes resulting from climate change. Survey results are discussed in the Market Analysis Report in Appendix A.

Key stakeholders expressed that Kelso is an asset for the surrounding communities, and residents rely on the area for activities such as skiing, biking, hiking and walking. Its main strength is the diversity of recreational activities offered year-round. Visitation to the area is anchored primarily by ski activities in the winter and camp offerings in the summer. Conservation Halton maintains a positive working relationship with a number of organizations and associations across the region, which helps promote the park as a destination to the community. This includes participation on the Escarpment Country Tourism Committee and the Government Relations Committee. Conservation Halton is recognized as an important service provider for the region, with Kelso Conservation Area and Glen Eden being one of its main attractions.

Neighbouring communities such as the Town of Milton and the Region of Halton benefit from proximity to this amenity and use the park as a tourism draw into the area. However, increased population growth and pressure for more recreational space has presented a number of opportunities as well as challenges to the park system.

A key take away is that all stakeholders shared a concern regarding the ongoing sustainability of the area, both environmentally, socially, but most of all economically. It is important to make sure that all activities can sustain themselves and don't have to rely on other activities to support their use.

Spring/Summer 2018 – On June 20th, 2018, Conservation Halton hosted two Public Information Centres (PICs) for key stakeholders and the general public where key Phase 1 report findings, market analysis and preliminary concepts were presented. The purpose of the event was to gather feedback on the preliminary concepts and potential park programming. Throughout the presentation, the facilitation team asked questions using Mentimeter, an interactive and real-time polling tool. Overall, the concepts and proposed programs were well received, as per the following summaries.

North Kelso Preliminary Concepts

- Ski/snowboarding and adventure/discovery area met need for improved facilities;
- Parking, drop-off and road enhancements met public's need for improved circulation; some welcomed the consideration for new entrance from Appleby Line;
- Need was identified for better amenities and food services; and,
- Hiking trail improvements, better retail experience, wayfinding and winter camping opportunities were raised by the public.

Kelso Quarry Preliminary Concepts

- Enthusiasm was presented for improved trail connections, natural play area, butterfly garden, lookout and gateway formalizing entrance, inclusion of plaza space and boat launch closer to the existing parking;
- Central building area and potential for event space favourable by the stakeholders;
- Wetland boardwalk and opportunities for environmental education favourable by the public;
- Limited recreational activities, more event facility space and education opportunities (including Kelso Quarry conservation efforts) were important to the stakeholders; and,
- Educational opportunities on conservation/environment and ecological activities were important to the public.

Conservation Halton also led an online social media campaign to seek feedback on the preliminary concepts and potential park programming from the broader community, as following:

- The Facebook campaign reached just under 12,500 people with 4 polls to the community, receiving 831 votes, 41 comments and 80 likes. Just over half of the respondents expressed needing help to navigate around Kelso, and there was a slightly higher percentage of votes (57 percent) noting the need for more adult programs, however, 43 percent voted for more kids programs as well. The majority (87 percent) of votes represent the importance of natural heritage at Kelso, and a glamping camping experience (71 percent);
- On Twitter, there were 5 polls to the community, receiving 150 votes, 9 comments and 8 likes. Just over half of the respondents expressed needing help to navigate around Kelso, and there was a slightly higher percentage of votes (54 percent) noting the need for more adult programs, however, 46 percent voted for more children's programs as well. The majority of the respondents presented preferences to pay on their way in (95 percent), and for traditional tent camping (67 percent). The majority of the respondents voted the eating space to be of most importance in the improved Recreation, Sport Rental & Arrival Centre; and,
- On Instagram, the campaign reached just over 8,000 people with 6 stories, receiving 2,706 overall votes. Just over half of the respondents voted they need help navigating around Kelso (53 percent). Natural heritage and ski/snowboarding equipment rental opportunities were noted as important, and the majority of respondents' preferences presented traditional camping opportunities (70 percent).

1.2.1.3 PARTNERS & AGENCY

Fall 2016 – The NEC and MNRF were consulted early in the master plan development process. Conservation Halton staff worked collaboratively with the NEC and MNRF staff throughout the entire master plan process to ensure objectives of the agencies and policy were being met. Conversations were initially based around project scoping, natural heritage evaluation and NEPOSS Management Zones. The agencies confirmed the NEPOSS approach and consultation requirements throughout this process.

Due to the complexity of Kelso Conservation Area and Glen Eden, a higher number of meetings and correspondence with NEC and MNRF staff remained a core component of this project.

Winter 2017 - Kelso is located within treaty lands of the MCFN under the Ajetance purchase. Conservation Halton has not historically developed a partnership with the community in regards to the Kelso Conservation Area and Glen Eden. An initiative to contact and establish a positive relationship between Conservation Halton and the MCFN (Anishinaabe) was an integral part of the master plan process. On January 26th, 2017, Conservation Halton presented a letter to Chief LaForme of the MCFN establishing the mutual intention to build a long-term relationship. Some of the conversation included an overview of the conservation lands Conservation Halton manages, as well as a brief outline of the Kelso Master Plan project scope and overview. This was the initial meeting and the future development of the Kelso Conservation Area and Glen Eden was not discussed. This presentation was a mutual introduction and formal acknowledgment of the lands.

Spring 2017 - Chief LaForme and another representative of the MCFN attended a guided tour of Kelso with senior Conservation Halton staff to discuss the current operations, plans for the future, as well as partnership opportunities and knowledge sharing. Conservation Halton has incorporated the formal acknowledgment of the land in Conservation Halton's strategic Plan, Metamorphosis 2020, and continues to develop the relations. Discussions will continue around potential partnerships and programming opportunities where the community can influence parks visitors through the transfer of traditional ecological knowledge and other educational platforms.

Spring/Summer/Fall 2018 – Conservation Halton held two follow up agency sessions to discuss the preliminary concept and stakeholder interests in more detail; one on July 17th, 2018 with the NEC and Halton Region and the second on September 14th, 2018 with NEC and MNRF staff to discuss NEPOSS Zoning. On September 20th 2018, Conservation Halton's presentation of the preliminary concepts to the NEC was postponed to November 29th, 2018.

Spring/Summer 2019 – The Phase 1: Inventory & Analysis Report and Phase 2: Concept Development Plan were shared with the NEC, MNRF and Halton Region for review and comment on March 4th, 2019; comments received from agencies in April, May and June respectively. Conservation Halton staff presented the master plan concepts to the NEC on June 20th, 2019 and received unanimous support and interest from the commission members. Engaging discussion and questions regarding the existing visitation and recent growth to the parks visitor base as a result of growth of the surrounding region, park servicing and proposed new facilities took place.

1.3 SITE LOCATION

Kelso, approximately 491 hectares in size including the Kelso Quarry, is a key park within Conservation Halton's park system that is well known for its summer and winter programs. It is one of over 160 NEPOSS properties, located in the centre of the Niagara Escarpment and classified as 'Recreation' due to its most suitable NEPOSS properties to support recreational activities.

There are many easements and agreements with other landowners at Kelso Conservation Area and Glen Eden (see mapping in Appendix B): Conservation Halton owns the Alexander Farm buildings, with a 99-year lease agreement with the Region of Halton; Canadian Pacific (CP) Railway has a crossing easement along the east-west rail corridor; Region of Halton owns several water supply system and testing areas and buildings around the reservoir; municipal right-of-way for Bell School Line bisects the southeast from the southwest parcels; a hydro line easement runs northwest to northeast through the site; and a French drain runs west-east near the Kelso Quarry.

The master plan study area is bound by Highway 401 to the north, Steeles Avenue West to the south, Tremaine Road to the east and Appleby Line to the west and bisected by an active CP Railway, as per Figure 4. The study area is surrounded by other public lands such as Country Heritage Park owned by the Agricultural Society to the northwest and Town of Milton lands to the southeast.

Kelso is situated within the Niagara Escarpment which rises to 70 metres above Sixteen Mile Creek providing unique combination of geological and ecological features. The tablelands are predominantly covered in deciduous forests and afforestation fields abutting the wetlands, talus slopes and creeks. Significant environmental features include the presence of ancient cedar old growth forest, exposures of provincially rare geological formations and a diversity of escarpment plant and animal species.

It also has over 29 kilometres of marked trails; beach; camping; ropes course; ski slopes, summer camps and the Kelso Quarry, which is currently not open to the public. Kelso Lake, a reservoir for flood control and stream flow augmentation, is also a major recreation facility for swimming and boating. Proximity of this major water feature to the surrounding regional and urban centres helped Kelso quickly grow in popularity as a summer recreational area for swimming and picnicking with just over 500,000 visitors annually. Glen Eden is also the third busiest ski hill in Ontario with 16 downhill slopes serviced with snowmaking and lifts.

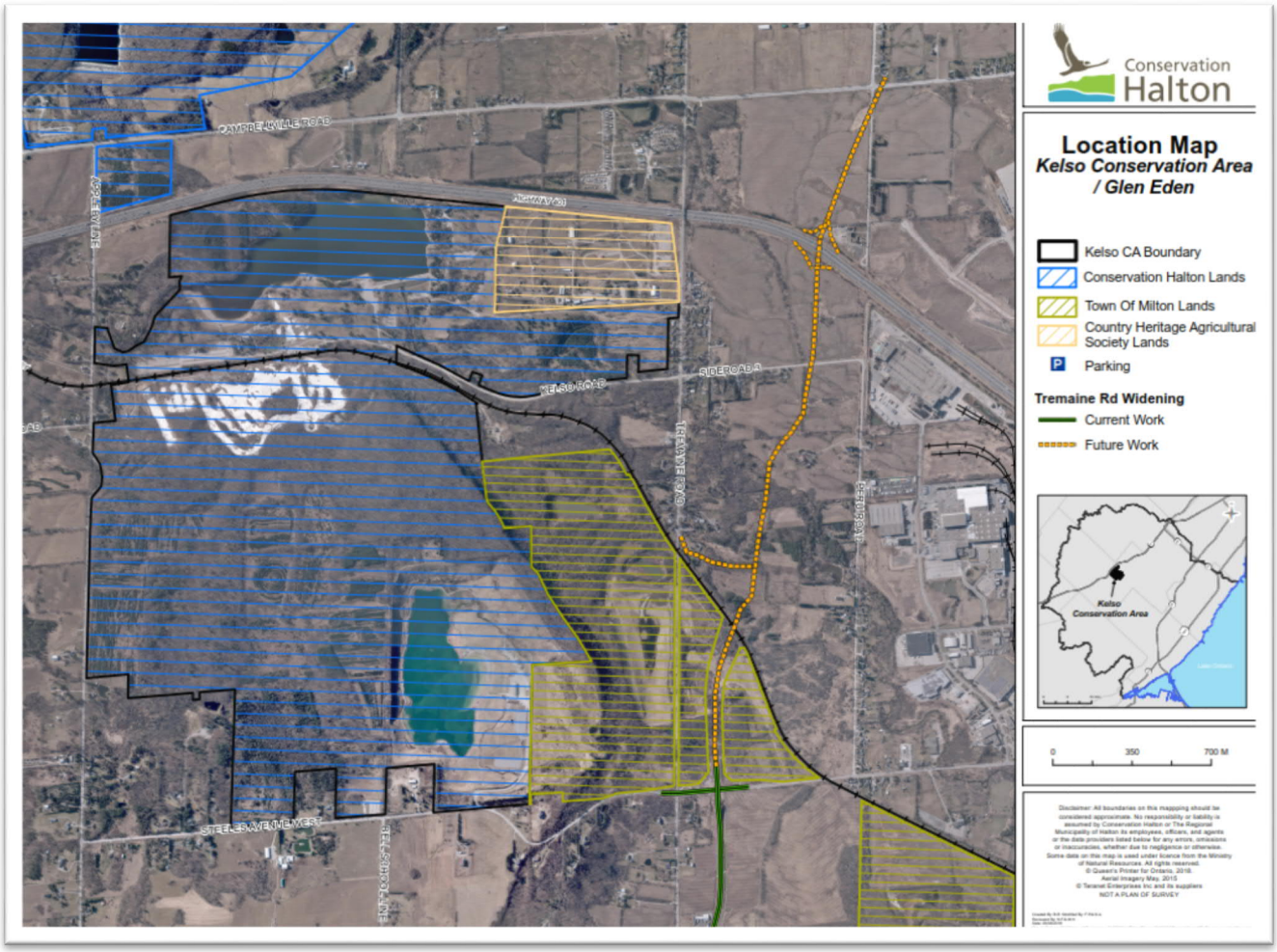


Figure 4 Location Map

1.4 PLANNING FRAMEWORK

The Kelso Master Plan has been prepared with considerations to a number of legislative acts, plans and policies, including:

- Niagara Escarpment Planning and Development Act, 1990;
- Niagara Escarpment Plan, 2017;
- NEPOSS Guidelines, 2012;
- Provincial Policy Statement, 2020;
- Region of Halton Official Plan, 2009;
- Town of Milton Official Plan, 2008;
- Greenbelt Act, 2005, and Greenbelt Plan, 2017;
- Places to Grow Act, 2005, and A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019;
- Conservation Authorities Act, 1990;
- Clean Water Act, 2006;
- Environmental Assessment Act, 1990;
- Ontario Heritage Act, 1990; and,
- Supplementary Acts/Regulations (Drainage Action; Ontario Building Code, 2017; Fisheries Act, 1985).

The Kelso Master Plan also encompasses directions from Conservation Halton's strategic plan, Metamorphosis 2020.

1.4.1 NIAGARA ESCARPMENT PLAN

The NEP, 2017 was created to protect and preserve the Niagara Escarpment, one of 18 UNESCO World Biosphere Reserves in Canada. It was prepared under the authority of the Niagara Escarpment Planning and Development Act, 1990 and includes policies for seven land use designations: 'Escarpment Natural Area', 'Escarpment Protection Area', 'Escarpment Rural Area', 'Minor Urban Centre', 'Urban Area', 'Escarpment

Recreation Area' and 'Mineral Resource Extraction Area'. The Niagara Escarpment Commission is responsible for regulating development in the NEP Area.

As Kelso Conservation Area falls within the NEP Area, any development or site alteration on the land is governed and guided by the policies of the NEP. The purpose of the NEP is to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment. The objectives of the NEP are to protect unique ecological and historic areas, maintain and enhance the Escarpment's watercourses, provide outdoor recreation opportunities, maintain and enhance the Escarpment's open landscape character, ensure compatible developments, provide public access, and support municipalities and conservation authorities in their planning functions. The NEP includes seven land use designations with differing levels of protection corresponding to core, buffer and transition areas. As per Figure 5, the Kelso Conservation Area and Glen Eden falls within two NEP designations: 'Escarpment Natural Area' and 'Escarpment Protection Area'.

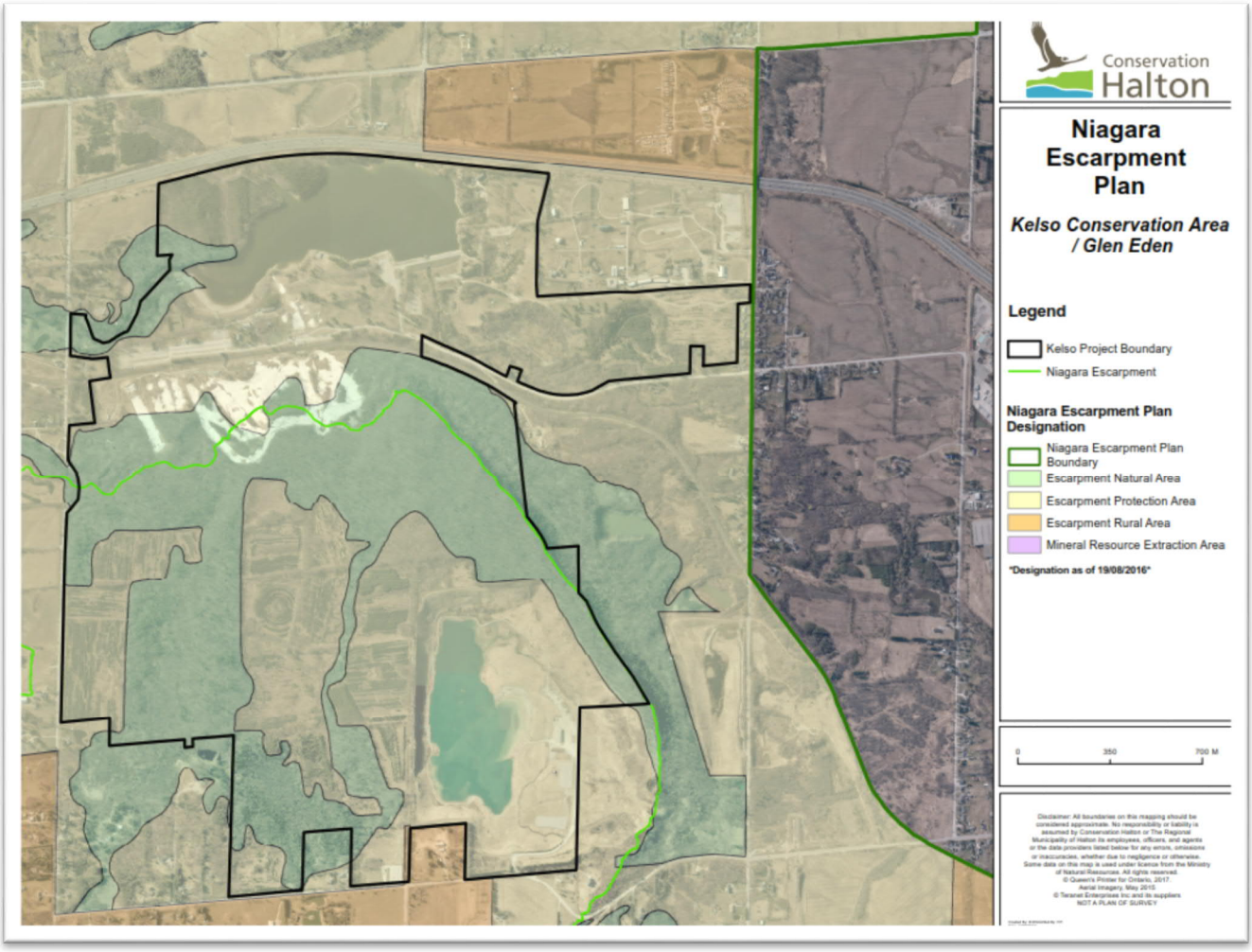


Figure 5 Niagara Escarpment Plan: Land Use Designations

It should be noted that the NEP designations were mapped at a coarse scale prior to detailed ortho-imagery and have not seen significant change with modern technology since the creation of the NEP. As such, portions of the active ski hill are included in the 'Escarpment Natural Area' designation. Also, Kelso Quarry's designation changed from NEP 'Mineral Resource Extraction Area' to 'Escarpment Protection Area' in 2013.

Escarpment Natural Area - A large portion of the study area is designated as 'Escarpment Natural Area' (see Figure 5). Such areas consist of escarpment features that are in a relatively natural state; including associated stream valleys, wetlands and forests that are relatively undisturbed. These areas may contain important plant and wildlife habitats and geological and cultural heritage features, and are the most significant natural and scenic areas of the escarpment. Maintaining these natural areas is the goal, as outlined in the NEP Policy 1.3, with objectives to:

1. Recognize, protect and where possible enhance the natural heritage and hydrological systems associated with the NEP area;
2. Protect the most natural Escarpment features, valley lands, wetlands and related signi*fi*cant natural areas;
3. *Conserve cultural heritage resources, including features and areas of interest to First Nations and Métis communities;*
4. *Encourage compatible recreation, conservation and educational activities; and,*
5. Maintain and enhance the scenic resources and open landscape character of the Escarpment.

As per the NEP, some of the permitted uses in this area include:

- Existing uses (i.e., uses that pre-date the existence of the first edition of the NEP);
- Non-motorized trail activities, outside of prime agricultural areas;
- Unserviced camping on public and institutional land, outside of prime agricultural areas;
- Forest, wildlife and fisheries management;
- Infrastructure and accessory uses (e.g., garage, swimming pools, tennis courts or signs);
- Uses permitted in the Parks and Open Space System Master/Management Plans that are not in conflict with the NEP;
- Essential watershed management and flood and erosion control;
- Projects carried out or supervised by a public body;
- Bruce Trail corridor, including the pedestrian footpath and, where necessary, trail-related constructions (e.g., bridges, boardwalks), overnight rest areas and Bruce Trail access points;
- Bed and breakfast; and,
- Nature preserves owned and managed by an approved conservation organization.

Escarpment Protection Area - Large portions of the Kelso Conservation Area are designated as 'Escarpment Protection Area' (see Figure 5). As per the NEP, such areas are important because of their visual prominence and their environmental significance, including resilience to climate change through the provision of essential ecosystem services. They are often more visually prominent than 'Escarpment Natural Areas' and include Escarpment related landforms, and natural heritage and hydrologic features that have been significantly modified by land use activities, such as agriculture or residential development, land needed to

buffer prominent 'Escarpment Natural Areas' and natural areas of regional significance. As per Policy 1.4, the key objectives are to:

1. Maintain and enhance the scenic resources and open landscape character of the Escarpment;
2. Provide a buffer to prominent Escarpment features;
3. Recognize, protect and where possible enhance the natural heritage system associated with the NEP area and protect natural areas of regional significance;
4. *Conserve cultural heritage resources, including features and areas of interest to First Nation and Métis communities;*
5. *Encourage forest management, compatible recreation, conservation and educational activities;* and,
6. Encourage agriculture, and protect agricultural lands and prime agricultural areas.

As per the NEP, some of the permitted uses in this area include:

- Existing uses;
- Non-motorized trail activities and snowmobiling, outside of prime agricultural areas;
- Unserviced camping on public and institutional land, outside of prime agricultural areas;
- Forest, wildlife and fisheries management;
- Infrastructure;
- Accessory uses (e.g., a garage, swimming pool, tennis court, ponds or signs);
- Institutional uses, outside of prime agricultural areas;
- Uses permitted in the Parks and Open Space System Master/Management Plans that are not in conflict with the NEP;
- Watershed management and flood and erosion control projects carried out or supervised by a public body;
- Bruce Trail corridor, including the pedestrian footpath and, where necessary, trail-related constructions (e.g., bridges, boardwalks), overnight rest areas and Bruce Trail access points;
- Bed and breakfast; and,
- Nature preserves owned and managed by an approved conservation organization.

The Kelso Master Plan conforms to the NEP policies, meets the objectives set for the Escarpment Protection and Escarpment Natural Areas, and is structured to function as a management plan under the NEPOSS. It protects the significant features of the Niagara Escarpment, its scenic qualities, natural and cultural heritage, and recreational and educational opportunities, as a major recreational park under NEPOSS.

1.4.2 NEPOSS

Part 3 of the NEP addresses the function of the NEPOSS and contains policies for the establishment and coordination of a system of publicly owned lands along the escarpment. The NEPOSS is a mechanism to establish a set of parks and recreational spaces along the escarpment that are publicly owned and coordinated. The preparation of a Master/Management Plan is a requirement of the NEP for all NEPOSS parks, to ensure long term protection, development and management of the parks and open spaces.

The NEPOSS is comprised of over 160 parks and open space areas, contributing to the protection of the Escarpment's natural and cultural heritage features. Each park and open space is assigned one of six parks and open space classifications that is based on the predominant characteristics of the site. Classifications include 'Nature Reserve', 'Natural Environment', 'Recreation', 'Cultural Heritage', 'Escarpment Access' and 'Resource Management Area'. The park and open space classification is subject to confirmation with each management plan preparation or revision, and must be developed in consultation with NEC and MNRF, with final NEC endorsement and MNRF approval.

The Kelso Conservation Area is classified as 'Recreation' in the NEPOSS, recognizing its natural attributes that provide one of the best recreational environments along the escarpment. It is in close proximity to other Conservation Halton's NEPOSS parks (i.e., Hilton Falls, Rattlesnake Point and Crawford Lake) and plays an important role as a major attraction along the Niagara Escarpment providing unique summer and winter recreation opportunities.

The definition of a 'Recreation' park provided in the NEP is as follows:

> "These are some of the best recreational environments along the escarpment that occur naturally or can be developed to provide a variety of outdoor recreational opportunities in attractive Escarpment surroundings. Recreation parks or open space may include day-use activities, outdoor recreational activities, which may include hiking, mountain biking, skiing, rock climbing, zip lines and athletic fields, and supporting infrastructure for recreational activities where appropriate. Facilities for overnight camping may also be provided, including campgrounds, temporary yurts, tents, lean-to's and unserviced camper's cabins. Special purpose buildings that include overnight accommodations and meals for guests may also be permitted in accordance with Part 3.1.6.4".

Consideration for allowing accessory commercial uses are described in Section 3.1.6 of the NEP, listed below. In alignment with item 4 below, uses considered commercial that are proposed within this master plan are viewed as suitable due to Kelso's diverse recreational programming, proximity of the park to a large urban area and park visitation, as well as the justification provided in further sections of this master plan, and as such have been proposed within Development Zone.

> ***3.1.6 Recreation and Commercial Uses in Parks and Open Spaces***
> *1. Permitted uses and the recreational experience within a park or open space are closely linked to the area's values and objectives. Where permitted by the park and open space classification, recreational uses and development will be accessory or secondary to the protection of natural heritage resources and to the conservation of cultural heritage resources.*
>
> 2. *Retail and visitor service facilities appropriately scaled for the site may be permitted if identified in* the Development Zone of an approved Master/Management Plan, especially if developed in *conjunction with interpretative displays and information related to the Niagara Escarpment.*

3. *The introduction of recreational and commercial uses, including downhill ski slopes, golf courses,* golf driving ranges, banquet halls, full service restaurants, lodges, hotels, conference centres, *retreats, schools, spas and buildings with provision for fully serviced overnight accommodation, as distinct from camping, are not permitted.*

4. Notwithstanding Part 3.1.6.3, special purpose buildings designed and operated to support environmental, cultural and/or UNESCO World Biosphere Reserve programming that include meals *and overnight accommodations for specific park user groups (e.g., school boards, youth organizations, hiking clubs) may be permitted as an accessory use in Nodal parks or Recreation parks if appropriately scaled for the site and identified in the Development Zone of an approved* Master/Management Plan.

5. *Activities in Recreation parks and open spaces will align with the objectives of the park and open space classification in Part 3.1.4, be situated in an appropriate zone identified in an approved* Master/ Management Plan and must be conducted in an environmentally sustainable manner. *Development of facilities must be designed and undertaken in a way that will minimize the impact on* the Escarpment environment.

6. Rock climbing may only occur where a climbing management plan to address and minimize *environmental impacts is developed by the NEPOSS agency in consultation with the Niagara* Escarpment Commission and the Ministry of Natural Resources and Forestry.

7. *Ropes courses and zip lines are not permitted in Nature Reserves, as defined in Part 3.1.4. Ropes courses and zip lines may be permitted in other park and open space classes, where identified in the* Development Zone of an approved Master/Management Plan.

8. *Where camping is permitted in an approved Master/Management Plan, it is understood that* camping includes campgrounds, temporary yurts, tents, lean-to's and unserviced campers' cabins.

9. The establishment of a new trail within a Nature Reserve or Nature Reserve Zone as de*f*ined in *Parts 3.1.4 and 3.1.5 respectively may be permitted if, in consultation with the Niagara Escarpment* Commission and Ministry of Natural Resources and Forestry:

a) *the use is approved by the landowner after a detailed environmental review; or*
b) the use is required for human safety (e.g., emergency access) where there is no feasible *alternative; or*
c) *the use has been appropriately identified in an approved Master/ Management Plan.*

10. *Off-road vehicles, as defined in the Off-Road Vehicles Act, are not permitted in Nature Reserve or Natural Environment parks or Nature Reserve Zones for recreational purposes. The use of off-road vehicles may be permitted for non-recreation purposes to assist in the parks and open space*

operations and management (e.g., for hazardous tree removal, maintenance or emergency access), provided all other alternatives have been considered.

11. *Off-road vehicles may be permitted in other park classifications if the use has been appropriately identified in an approved Master/ Management Plan.*

12. *Motorized snow vehicles, as defined in the Motorized Snow Vehicles Act, are not permitted in Nature Reserves or Nature Reserve Zones for recreational purposes, as defined in Parts 3.1.4 and 3.1.5 respectively. The use of motorized snow vehicles may be permitted for non- recreation purposes to assist in the parks and open space operations and management (e.g., for hazardous tree removal, maintenance or emergency access), provided all other alternatives have been considered.*

13. *Motorized snow vehicles may be permitted in other park and open space classes and zones in an approved Master/Management Plan, except where the use is restricted to Ontario Federation of* Snowmobile Club trails managed in partnership with the NEPOSS agency to ensure environmentally responsible and sustainable use.

The creation of this master plan also followed the NEPOSS Planning Manual to determine permitted uses and suitable development based on the holistic assessment of proposed features and programming.

1.4.3 REGION OF HALTON OFFICIAL PLAN

The Regional Official Plan (ROP), 2009[5], under official plan review since 2015, identifies Kelso lands under the following two land use designations: 'Regional Natural Heritage System' (RNHS); and, 'Agricultural Area' (see mapping in Appendix B). The objective of the RNHS designation is to preserve and enhance biological diversity and ecological functions within Halton for future generations. Permitted uses within the RNHS and 'Agricultural Area' include: existing uses; non-intensive recreation; forest, fisheries and wildlife management; accessory building or structures; uses permitted in an approved NEPOSS/Management Plan; bed and breakfast establishments; and watershed management and flood and erosion control projects carried out or supervised by a public agency.

The RNHS is defined in the ROP, Section 115.3, as:

(1) Key Features, which include:

- signi*fi*cant habitat of endangered and threatened species,
- signi*fi*cant wetlands,
- signi*fi*cant coastal wetlands,
- signi*fi*cant woodlands,
- signi*fi*cant valleylands,
- signi*fi*cant wildlife habitat,
- *significant areas of natural and scientific* interest, and
- *fi*sh habitat.

[5] Region of Halton. 2009. Regional Official Plan. Retrieved from: https://www.halton.ca/The-Region/Regional-Planning/Regional-Official-Plan-(ROP)-(1)/Regional-Official-Plan-Viewer.

(2) Enhancements to the Key Features including Centres for Biodiversity,
(3) Linkages,
(4) Buffers,
(5) Watercourses that are within a Conservation Authority Regulation Limit or that provide a linkage to a wetland or a significant woodland, and,
(6) Wetlands other than those considered significant under Section 115.3(1)b).

The goal of the RNHS in the ROP is to "increase the certainty that the biological diversity and ecological functions within Halton will be preserved for future generations", with the following key objectives as noted in Section 114.1:

(1) To maintain the most natural Escarpment features, stream valleys, wetlands and related significant natural areas and associated Cultural Heritage Resources;
(2) To maintain and enhance the landscape quality and open space character of Escarpment features;
(3) To provide a buffer to prominent Escarpment features;
(4) To direct developments *to locations outside* hazard lands;
(5) *To protect or enhance the diversity of fauna and flora, ecosystems, plant communities, and* significant landforms of Halton;
(6) To protect or enhance *Key Features, without limiting the ability of existing* agricultural uses to *continue;*
(7) To protect or enhance *fi*sh habitats;
(8) To preserve and enhance the quality and quantity of ground and surface water;
(9) To contribute to a continuous natural open space system to provide visual separation of communities and to provide continuous corridors and inter-connections between the Key Features and their *ecological functions;*
(10) To protect significant scenic and heritage resources;
(11) To protect and enhance the Halton waterfront as a major resource that is part of the Provincially significant Lake Ontario and Burlington Bay shoreline;
(12) To preserve native species and communities that are rare, threatened or endangered based on regional, provincial or national scales of assessment;
(13) To preserve examples of the landscape that display significant earth science features and their associated processes;
(14) To preserve examples of original, characteristic landscapes that contain representative examples of bedrock, surface landforms, soils, *fl*ora and fauna, and their associated processes;
(15) To preserve and enhance air quality;
(16) To provide opportunities for scientific study, education and appropriate recreation;
(17) To preserve the aesthetic character of natural features; and
(18) To provide opportunities, where appropriate, for passive outdoor recreational activities.

Further, the ROP has policies that speak to the role of Conservation Authorities within the Natural Heritage System, as well as the role and uses permitted through an approved NEPOSS Master Plan, as outlined below.

110. It is the policy of the Region to:
(9) Ensure coordination among the Region, Local Municipalities, Ministry of Natural Resources, affected conservations authorities, Niagara Escarpment Commission and other agencies in the review and public consultation of proposals to designate new or expanded Mineral Resources Extraction Areas.

117.1 Subject to other policies of this Plan, applicable policies of the Greenbelt Plan and Niagara Escarpment Plan, and applicable Local O*ffi*cial Plan policies and Zoning By-laws, the following uses *may be permitted:*

(12) uses permitted in an approved Niagara Escarpment Park and Open Space Master/Management Plan, if the subject land is located within the Niagara Escarpment Plan Area.

Cultural and Recreational Services
161. The *objective* of the Region is to support the provision of a diverse range of accessible cultural *and recreational facilities and services.*

162. It is the policy of the Region to:
(1) Recognize the role of the *Conservation Authorities and Local Municipalities in the provision of recreational facilities and services within* Halton.
(2) Encourage the coordination of recreational services in Halton between the *Conservation Authorities and Local Municipalities to avoid duplication and to increase diversity in* programming.
(3) Encourage the *Conservation Authorities and Local Municipalities to consult the public regularly, through surveys or research, regarding the range of and demand for recreational* services in Halton.

The Kelso Master Plan, with uses permitted through this NEPOSS Master Plan, conforms to the ROP policies and meets the objectives set for the RNHS, while also meeting the objectives to provide outdoor recreation opportunities.

It is important to note, although outside of this master planning scope and process, Conservation Halton will be pursuing an amendment to the Region of Halton Official Plan to allow for urban wastewater services outside of the urban boundary. The amendment would allow for the replacement of 15 septic systems with municipal wastewater services and an upgrade to the existing municipal water services, reducing the risk of potential environmental impacts and improving flows within the system. The proposed works are necessary to accommodate existing visitation needs, not to create additional capacity. An amendment to the NEP was approved in 2017 to allow servicing (following the 2015 Co-ordinated Land Use Planning Review). Correlating conversation to address the existing servicing needs of the site are also taking place with the MECP.

1.4.4 TOWN OF MILTON OFFICIAL PLAN

The Town of Milton's Official Plan, 2008[6], currently under review, designates the Kelso Conservation Area under the following four land use designations: 'Escarpment Protection Area', 'Escarpment Natural Area', 'Greenlands A Area'; 'Escarpment Rural Area', 'Environmentally Sensitive Area' and 'Mineral Resource Extraction Area' (see map in Appendix B). The 'Escarpment Protection Area', 'Escarpment Natural Area' and 'Greenlands A Area' policies generally provide a higher level of protection related to the nature of the features they are designed to protect, in comparison to policies for 'Escarpment Rural Area' and 'Environmentally Sensitive Area'. Lands within the 'Escarpment Rural Area' must maintain the scenic value and landscape character, encouraging agriculture and forestry uses.

The 'Mineral Resource Extraction Area' land use designation protects existing pits and quarries and ensures progressive rehabilitation, encouraging rehabilitated after-uses of quarries to be integrated into the NEPOSS or 'Greenlands A or B Area' designations; permitted uses include: recreational uses that are oriented towards lands rather than the building of major structures; watershed management and flood and erosion control projects carried out or supervised by a public agency; incidental uses and site modifications required to accommodate them, provided that the impact of such uses on the natural environment are minimal; uses permitted in Park and Open Space Master or Management Plans which are not in conflict with the NEP; and the Bruce Trail corridor. The Kelso Master Plan conforms to the Town of Milton Official Plan policies.

1.4.5 RELEVANT ONTARIO REGULATIONS

The most relevant regulations on development approval under an approved master plan or activities conducted by Conservation Authority that are exempt under Ontario Regulation 828/5[7] have been listed below for reference in the review and implementation of the Kelso Master Plan.

1.4.5.1 ONTARIO REGULATION 828/5

Ontario Regulation 828/5/17 states:

> *17. The maintenance of lands, buildings and structures under the jurisdiction of a conservation authority, the establishment of hiking or cross-country ski trails and the erection of signs for the purposes of property identification or interpretative or recreational information on lands owned by a conservation authority.*

[6] Town of Milton. 2008. Official Plan. Retrieved from: https://www.milton.ca/en/business-and-development/official-plan.aspx#Official-Plan-schedules.
[7] Government of Ontario. 1990. Niagara Escarpment Planning and Development Act, Regulation 828: Development within the Development Control Area. Retrieved from: https://www.ontario.ca/laws/regulation/900828.

In addition, Ontario Regulation 828/5/41 states:

> *"41. The construction and installation of buildings, structures, facilities and related undertakings identified in a Park and Open Space Plan* as de*f*ined in the Niagara Escarpment Plan for a park or open space area listed in Appendix 1 of the Niagara Escarpment Plan if,
>
> i. The plan has been approved by the Niagara Escarpment Commission and Ministry of Natural *Resources under Part 3 of the Niagara Escarpment Plan after the coming into force of Ontario Regulation 423/12.*
>
> *ii. The plan has specifically identified and detailed the buildings, structures, facilities and related undertakings that are to be exempted under this section.*
>
> *iii. The construction and installation of the buildings, structures, facilities and related undertakings* occurs within 5 years of the approval of the master plan"

2 BACKGROUND & TECHNICAL STUDIES

The Kelso Conservation Area, as the study area, was inventoried and analyzed in Phase 1 of the master planning process to frame the current site conditions, trends, practices, community needs, regulatory and policy requirements, and to evaluate the successes of the 2002 Master Plan. Highlights of this comprehensive work are summarized below.

2.1 HISTORY AND EVOLUTION OF THE SITE

Halton, as we know it today, is rich in the history and modern traditions of many First Nations. From the lands of the Anishinaabe to the Wendat, Attawandaron/Chonnonton, the Haudenosaunee, and the Métis, these lands surrounding the Great Lakes are steeped in Indigenous history. Over many centuries and generations, the rich natural landscape known today as Kelso Conservation Area would have been home to several Indigenous communities with entwined and complex history. We acknowledge and thank the Mississaugas of the Credit First Nation for being stewards of this traditional territory.

Settlement by European immigrants in the surrounding area began in the 1700's with the formal transfer of lands into British Colonial government believed to have occurred through the Ajetance Purchase treaty of 1818[8].

[8] Mississaugas of the Credit First Nation. Unknown. Treaty Lands and Territory. Retrieved from: http://mncfn.ca/about-mncfn/treaty-lands-and-territory/.

In 1822, Kelso lands below the escarpment were purchased from the Crown by Alex Campbell. Later, Adam Alexander purchased this land and established a farmstead. The land located above the escarpment was purchased from the Crown in 1827 and then purchased by a W. Elliot in 1839. The Historical Atlas of Halton County, 1877[9], shows the largest landowners of the current Kelso Conservation Area were Andrew Elliot on top of the escarpment, and Adam Alexander the principal landowner of the lower lands. Smaller parcels of land were owned by the families of Wheelihan, Moffat, Springsteel, Brown, Steward and Hay.

Kelso held a prominent role in the historical development of Milton and Region of Halton known for timber, agriculture and limestone products, having introduced the Credit Valley Railway along the base of the escarpment, according to the Historical Atlas of Halton County, 1877.

The management of Kelso was taken over by Conservation Halton in 1960 with the purchase of lands for the construction of the Kelso Dam in 1962 with an 85 acre reservoir (Kelso Lake) on the Sixteen Mile Creek for flood control and water management purposes.

2.1.1 KELSO QUARRY

The original quarry was opened in 1958 to provide construction materials to build the new provincial Highway 401 and the quarry supplied one million tonnes per year of crushed stone for construction uses for over 40 years until operations ended in 2001. Barrick Gold Corporation donated the 71 hectares of land after the quarry ceased operations, including the rehabilitated quarry and the adjacent 700 metre edge of forest and cliffs that had been protected from extraction.

Conservation Halton recognized the potential value of the site as an expansion of Kelso. An innovative part of the agreement between Conservation Halton and Barrick Gold was set to refine the rehabilitation plan to accommodate a recreational lake as part of the finished complex. The lake design included shallow areas and shoals for fish habitat, and also areas for a potential beach. As a result of the outstanding success of the final rehabilitation, the Ontario Stone, Sand and Gravel Association (OSSGA) awarded Barrick Gold the prestigious Outstanding Achievement in Property Rehabilitation Award in 2007[10]. Barrick Gold transferred ownership in 2006 to Conservation Halton, where continued restoration activities took place and induction of the Kelso Quarry into the NEPOSS occurred in 2008. In 2018, Conservation Halton was awarded the Bronze Plaque Award from the OSSGA for its commitment to the ongoing quarry restoration and stewardship.

After quarry operations ceased, the Kelso Quarry's designation with MECP (formerly MOE) changed from 'Commercial Industrial' to 'Parkland' following the completed risk assessment and issuance of a Certificate of Property Use (CPU). All activities and features occurring at the Kelso Quarry must align with MECP regulations, the approved risk assessment and within the CPU.

[9] Walker & Miles Toronto. 1877. Illustrated Historical Atlas of the County of Halton, Ont. Retrieved from: http://www.miltonhistoricalsociety.ca/halatlas/halatlas.htm.
[10] Lowe, S. & Yundt, S. 2010. Kelso Quarry Park: From Quarry to Public Conservation Area, in Ontario's Greenbelt. Featured in Rock to Road. Retrieved from: https://www.rocktoroad.com/kelso-quarry-park-1032/.

From conversations with MECP staff regarding permitted activities under the CPU, it is understood that the features and activities proposed in this master plan will likely not require any modification to the CPU or risk assessment, however, should be reviewed further in advance of any development. If significant changes in property use are proposed beyond this master plan, legal counsel to provide interpretation would need to be obtained by Conservation Halton and potentially a supplementary risk assessment.

Figure 6 Historic Photo of the Kelso Quarry Operations

2.1.2 2002 KELSO MASTER PLAN IMPLEMENTATION

In the last fifteen years, Conservation Halton has successfully developed over half of the proposed features noted in the 2002 Kelso Master Plan (see Figure 7), including new ski centre facilities, snow tubing centre, parking lot expansion, fishing and swimming lake, and other park improvements, as per Table 2. Its successful implementation has continuously enabled the Kelso to thrive and maintain economic sustainability, primarily through year round visitation and visitor expenditures.

Since the 2002 Master Plan, there have also been notable changes in technology, park management, economic drivers, population growth and profile, sustainable initiatives, infrastructure, programming and visitor experience expectations that need to be integrated into the updated Kelso Master Plan. Incomplete features noted below were assessed and carried through the master planning process, to determine its relevance and adaptability in today's park planning context.

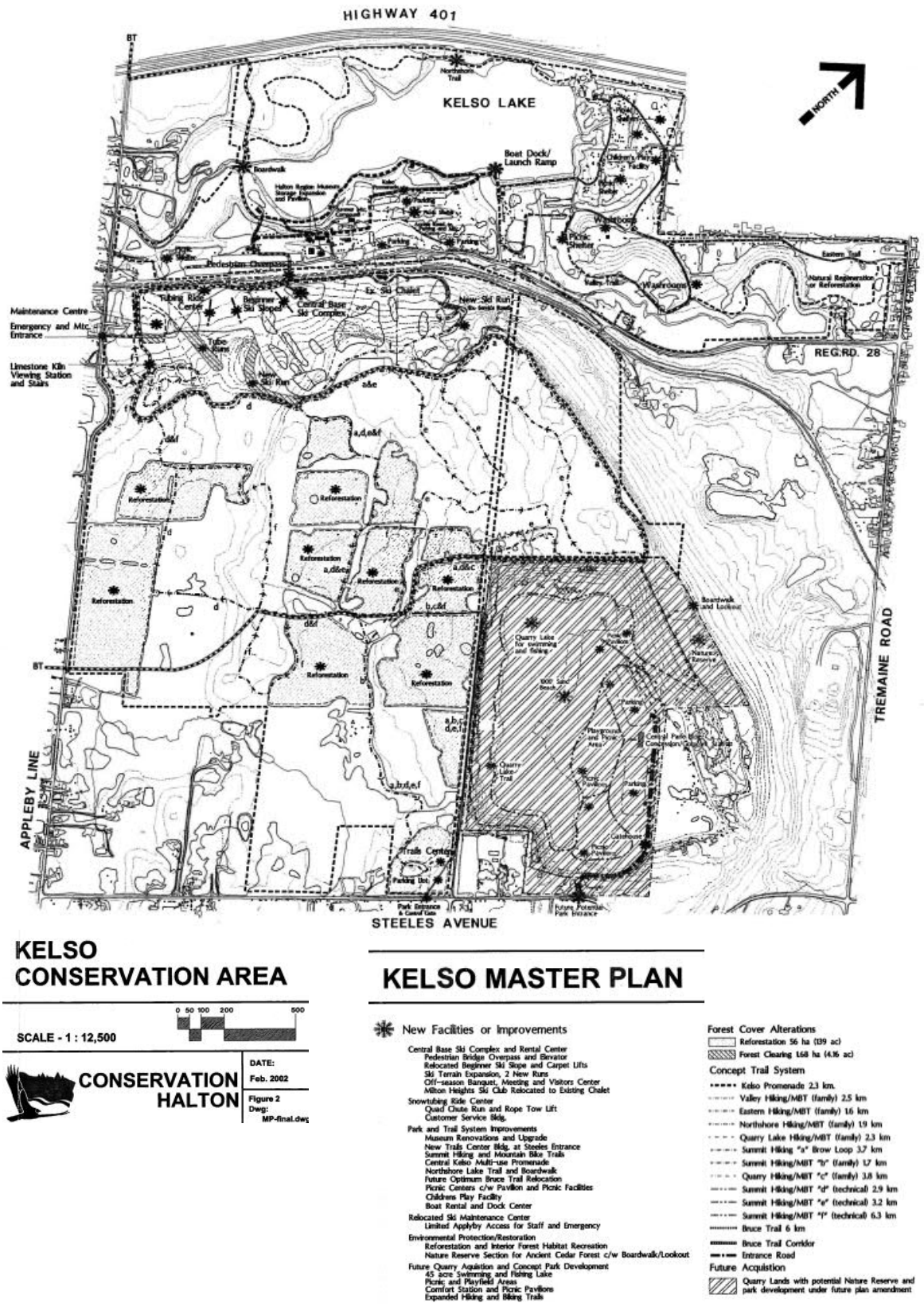


Figure 7 2002 Master Plan, Conservation Halton

Table 2 Review of 2002 Kelso Master Plan Implementation

Master Plan Recreational Features & Programs	Completed
Central Base Ski Centre	
Central Day Lodge (Sunset/West)	Yes – temporary
Arrival & Rental Centre	Yes – temporary, wrong location
Beginner Ski Slopes & Carpet Lifts	Yes
Pedestrian Overpass & Elevator	Yes
Ski Terrain Expansion (2 Runs)	Yes
Snow Tubing Centre	
Quad Chute Run	Yes
Rope Tow Lift	Yes
Relocated Ski Maintenance Centre	
Maintenance Workshop & Staff Room	Yes – north
Emergency & Staff Access off Appleby	Yes
50 Car Staff Parking Lot	No
Off-Season Storage Building (north)	No
Ski Patrol	Yes – temporary
Park improvements	
Summit Trails Centre At Steeles Ave	Yes
Picnic Pavilions (4)	Yes
Comfort Stations (2)	Yes
Boat Rental & Dock Centre	No
Optimum Bruce Trail Corridor	Yes
Central Promenade Trail	Yes
Northshore Hiking & Mountain Bike Trail	No
Northshore Pedestrian Bridges (3)	No
Northshore Creek Boardwalk	Yes
Children's Play Facility	No
Halton Region Museum Improvements	
Select Storage Building	No
Museum Courtyard Pavilion	No
Park Infrastructure	
Central Water Supply & Distribution System	No
Sanitary Collection & Central Treatment System	No
Parking Lot Expansion	Yes
Water Reservoir & Fire Protection for Ski Complex	No
Quarry Acquisition & Park Development	
Nature Reserve Zone including Boardwalk & Lookout	No
Fishing & Swimming Lake	Yes
Picnic & Playfield Areas	No
Comfort Station & Picnic	No
Expanded Hiking & Biking Trails	No

2.2 SITE ACCESS AND CIRCULATION

Access roads, parking lots and their connecting trails are important to the safe and secure movement of visitors and staff at Kelso Conservation Area (see Figure 8 and mapping in Appendix B). The main public entrance to the park is via Kelso Road, off Tremaine Road. The Summit entrance, located on Steeles Avenue West at the top of the escarpment is a popular secondary public entrance, with a small gatehouse that is staffed in the summer months; the peak use occurs in the evenings. Access to the Kelso Quarry is also located on Steeles Avenue West, however, the quarry is only open to the public during approved events.

There are three existing operational access points not currently accessible by visitor vehicles. These include a gate to the north portion of the park off Tremaine Road which primarily provides operational and Region of Halton access to the Water Purification Plant; a gated and locked staff and service vehicle entrance located on Appleby Line, just north of the rail corridor; and an emergency access drive at Appleby Line south of the rail corridor, opposite Limestone Road which is a critical emergency access point, but requires maintenance and improvements to function optimally. This is the only way to gain vehicle access to the south side of the rail corridor, below the escarpment brow, during train movements.

Transit Access - The park is not accessible year round by the Town of Milton's transit system. The Town of Milton's Trail and Cycling Master Plan Update, 2014[11] proposed plans for on-road paved cycle routes along Kelso Road and Steeles Avenue, connecting to the proposed Milton Heights development, and along Bell School Line to connect to Derry Road. Conservation Halton partnered with the Town of Milton to run a pilot shuttle to the ski hill. The uptake was not as successful but it is anticipated that as development is completed at Milton Heights, ridership may increase and transit should be considered to be extended to the park again.

Multi-Use Trail Network - Kelso maintains 43 trails, totaling over 29 kilometres which includes multi-use trails for hiking and mountain biking infrastructure. This trail system has been incorporated into Conservation Halton's current Visitor Impact Management program. See Section 2.4 for more details.

Directional Signage - General park signage is provided along Tremaine Road in close proximity to Kelso, however, it is not consistent with Conservation Halton's identification signage for other parks. Enhanced signage at the access road intersection and an upgrade to external signage along feeder roads would improve vehicle movements and would benefit visitor and local residents. Further, the signage system is not consistent between all seasonal activities or trails and could be improved upon. Additionally, risk management signage currently conflicts with wayfinding and should be a consideration for cohesive improvements.

[11] Town of Milton. 2014. Trails and Cycling Master Plan Update. Retrieved from: https://www.milton.ca/en/business-and-development/resources/TCMP_2014_appendixD.pdf.

Parking - Parking lots are distributed in various locations around Kelso to provide visitor parking for specific programming and comply with objectives found in the NEPOSS Planning Manual regarding Development Zones. Upgrades to the existing parking lots such as paving and drainage improvements, native tree and shrub planting, wayfinding signage and related site development would provide an improved visitor experience.

Railway Crossings – The CP Railway corridor can be traversed in three locations. A narrow tunnel, originally built in 1913 for cattle, leads visitors under the rail bed to a set of stairs that ascend to the East Lodge on the South side of the rail corridor. Built in 2004, as part of the 2002 Master Plan, a stair tower and elevator combination, provide accessible access over the CP rail corridor. Although the access point is more visitor friendly than the tunnel, the elevators experience frequent malfunctions and the location is far away from the Rental Shop and Visitor Centre. Further west, a vehicular crossing is gated and locked. This access point is for emergency use and for operations staff to service the buildings and facilities on the south side of the tracks. These crossings are unique to the park and vital to enable skiing, snowboarding, mountain biking and hiking visitor access.

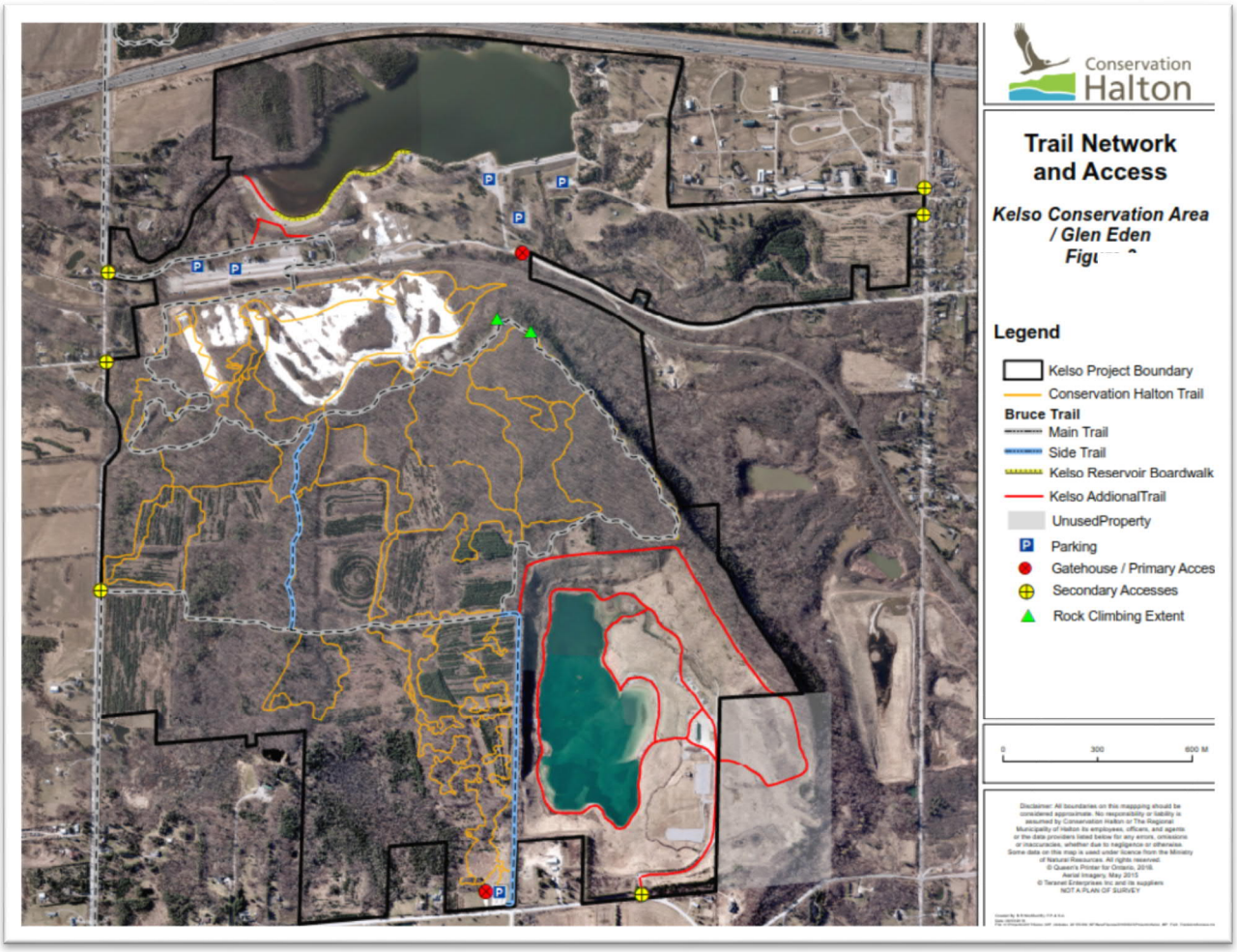


Figure 8 Trail Network and Access

2.3 BUILDINGS AND FACILITIES

The buildings and facilities at Kelso, see Figure 9 and mapping in Appendix B, perform seasonal duty for programming and operational needs. Over 25 buildings and accessory structures (approximately 5,000 square metres in gross floor area) support the multi-seasonal operations and programming, with majority being in fair to poor condition. Six of these structures are modular temporary buildings, intended for immediate solution to operational needs on site. All of the modular structures (rental shop, west lodge, Track 3 and Snow Patrol) and some of the older permanent structures (A-Frame, East Lodge), approximately 1,090 square metres, have exceeded their life span requiring replacement with a new permanent structure, and renovations to the East Lodge.

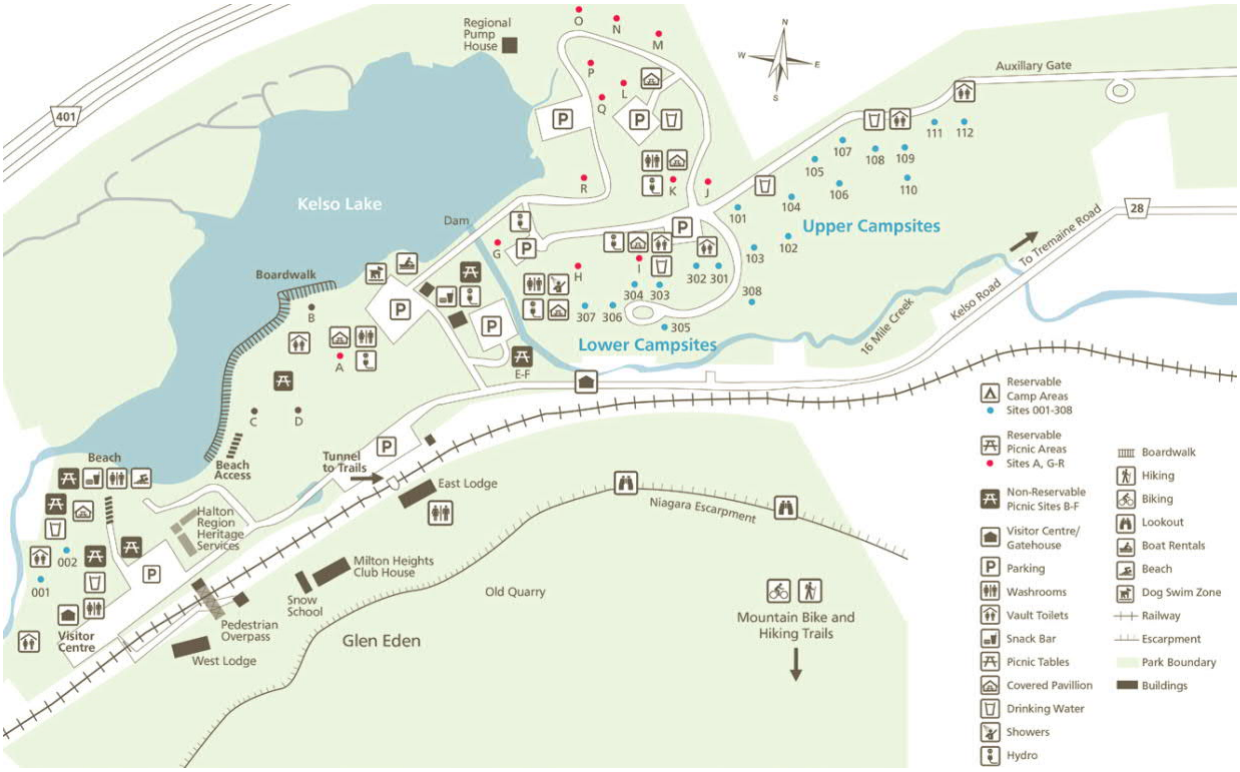


Figure 9 Kelso Buildings, Amenities and Campsites

Facilities for primarily winter use include ski rentals, lesson programming, food services, washroom, storage, snowmaking, ski lifts and other visitor support services. There are buildings dedicated to servicing the management and training of staff, equipment operations, administration functions and ancillary services as part of the general operations of the ski hill. Many of these existing buildings are isolated south of the existing rail line far from the parking areas and inconvenient to some of the winter programming. A cluster of buildings near the lake are used heavily during the summer months for visitor services such as washrooms, picnic pavilions drinking stations, administration and storage. Year-round support facilities, such as food concessions, restrooms, parking and CP Railway crossings, can pose some challenges and limit park enjoyment for some visitors as the aging infrastructure does not meet the current accessibility standards.

2.4 RECREATIONAL AMENITIES

While the lands were originally purchased by Conservation Halton for reservoir purposes, the public predominantly knows the Kelso Conservation Area for its recreational activities, as illustrated in Figure 9 and mapping in Appendix B. Additional activities, allowed by permit, include group camping, horseback riding, group or instructional rock climbing, film production, and special events such as antique fairs. Outdoor movie nights, the Halton Children's Water Festival, Fall into Nature, summer day camps and private events also take place at Kelso. Key recreational amenities are described below.

Beach and Lake Kelso - In the spring, summer and fall, Kelso offers lifeguard supervised swimming and sand beach, dog-swim zones, non-motorized boating (i.e., canoes, kayaks, paddle boats and stand up paddle board rentals), picnic sites, volley-ball, concession stand and fishing. Kelso Lake has seen a dramatic variance in the water levels over the past few years which has resulted in sporadic visitor use of this area due to requirements of the flood control for the Kelso Dam. The site topography makes direct access to the beach difficult and isolated from the parking lot. The beach is accessed by a staircase that leads to the beach not far from the Visitor Centre, a gated asphalt service road that provides emergency access down the steep uneven slope, and a wood 1.5 kilometre boardwalk trail that is AODA (Accessibility for Ontarians with Disabilities Act) compliant.

Skiing and Snowboarding - In the winter, Kelso transforms into a ski hill as Glen Eden. There are 16 downhill slopes, ranging from easy to difficult, a Terrain Park and Learning Centre (see mapping in Appendix B). The ski season typically ranges from mid-December to mid-March. The park offers many types of ski and snowboard lessons for all ages and all skill levels, including an opportunity to learn to ski downhill for children and youth with disabilities through the Ontario Track 3 Association. Conservation Halton offers equipment rental services to their visitors who require them as well as food services, lockers, seating and retail in the lodges.

Trails – Kelso has an extensive network of trails, totaling over 29 kilometres (see Figure 8). Conservation Halton maintains 43 trails on site which range from easy to extremely difficult, and the rankings are based on the trails degree of slope incline, surface material, width and other conditions. All trails are marked as multi-use on the property, allowing for both hiking and mountain biking.

The popularity of the trails and visitation has resulted in management challenges and increased maintenance. Significant effort is spent to manage trail widening, braiding and control unauthorized access trails, as well as promote visitor safety and experience. As a part of risk and visitor impact management, the trails are often maintained by operations staff and require small, low-impact infrastructure to be installed on occasion to enhance the visitor safety and reduce impacts to the environment.

The Bruce Trail passes through the study area providing a pedestrian link northeast to Hilton Falls and southwest to Rattlesnake Point. Management of the trails and signage is done primarily by Conservation Halton staff, however a management agreement is in place with the Bruce Trail Conservancy for all Conservation Halton properties that have the Bruce Trail. Collaboration between parties occurs on the trails, however Conservation Halton is the main decider for types of use, re-routing, trail safety, closures and visitor impact management. Consultation between the parties occurs for any major modifications required. Bruce Trail staff and volunteers communicate with Conservation Halton staff to discuss any time they may be present for or are considering signage or maintenance activities.

Picnic Shelter Areas - There are six picnic shelters at Kelso that are available for group bookings and provide important day-use revenue. Some picnic shelters have water and washrooms included. Most picnic shelters are supplied with electrical receptacles and lighting.

Camping - There are 22 campsites at Kelso in two distinct areas: the majority of sites are located at the east end of the park and there are two large sites at the west end of the park near the beach for large group functions. The camping season typically runs from spring to fall. The variously sized campsites, ranging from small to large (accommodating up to 75 people) are rented for tents only and are alcohol free.

Mountain Biking - Kelso is one of Southern Ontario's premier destinations for mountain biking, designed with diverse infrastructure to suit all abilities and fitness levels. Trails start at the Summit entrance parking lot and riders enjoy escarpment views and varied trail experiences including wide-open double track, fast flowing single track and downhill plunges. The cycling season typically runs from mid-April to mid-November during which the park is a popular venue for regular mountain bike races and Cyclocross events. Mountain bikers utilize any of the trails at Kelso. A course is marked out down the skiable terrain by landscaping and marking.

Climbing Routes - At Kelso there is both traditional and sport climbing available in authorized locations, with 58 designated routes. Top rope climbing is not allowed and care is maintained to avoid any harm to trees and the fragile edge ecosystem.

Ropes Course - In 2015, a Low Ropes Course was installed as part of Picnic Area A which is available for group bookings, school bookings, and for public use through the WOW camp program. In 2017, Conservation Halton installed the Escarpment Walk Aerial Course and Vultures View Climbing Tower between the Learning Centre Ski Hill and the boardwalk. An NEC Development Permit approval was granted in 2017 to allow for a Zip Line to be added to the ropes course. The anticipated installation for this is for 2021 and has been identified in the phasing of this master plan.

2.5 SITE SERVICING AND INFRASTRUCTURE

There is a network of underground and overhead utilities and infrastructure to service the facilities of Kelso Conservation Area and Glen Eden, including water and wastewater services, septic beds, stormwater management, snowmaking pipe, fiber optic lines, phone cable and electrical (see mapping in Appendix B).

Water and Wastewater Services – The water services for Kelso are currently supplied by both municipal and private well water on the property, as well as 15 onsite septic systems. The Kelso Well Field (four wells) and the Kelso Water Purification Plant operated by the Region of Halton are located at the northeast corner of the property (near Tremaine Road and 401 Highway). Water supply to the portion of the park north of the rail utilize the Regional well, while the southern portion of the property sources water from private wells and utilize private purification systems at the main buildings. However, the existing agreement with the Halton Region entitles the entire park to be serviced with water from the Regional well system for park purposes.

Due to the high visitation and large size of the park, many facilities are located across the property with usage varying greatly throughout the year for seasonal programming. The most recent assessment of the existing services in 2015 revealed that the existing water pressure and septic systems are not suitable for managing the influx of usage at peak times. For the interim, regular inspections and peak season pump-outs are required to ensure no malfunction of the septic systems, while low water pressure impacts the user experience. Improvements to the servicing are a key priority to allow the public use of the park, and the planning processes to resolve onsite water and wastewater challenges have been in progress since the early 2000's.

In recent years, Conservation Halton has been working with the Region of Halton, NEC, MNRF, and MECP to support the extension of municipal wastewater services and upgrades to the existing municipal water services outside the urban boundary to the park. As identified in above sections, it is important to note that the approval for servicing upgrades is outside of scope of this master planning process and that Conservation Halton will be pursuing an amendment to the Region of Halton Official Plan to allow for urban wastewater services outside of the urban boundary. The amendment would allow for the replacement of 15 septic systems with municipal wastewater services and an upgrade to the existing municipal water services which would reduce environmental impacts and improve flows within the system.

The proposed works are necessary to accommodate existing visitation needs, not to create additional capacity. An amendment to the NEP was approved in 2017 to allow servicing (following the 2015 Co-ordinated Land Use Planning Review).

Conservation Halton is currently required to submit annual reports to the MECP for their water meter readings and septic inspections/ maintenance for all systems, as well as a special report for pump run timers at the Site H washroom facility as a condition of the Certificates of Approval. This is and continues to be a focus for monitoring at Kelso until septic systems can be replaced by municipal services or reporting discontinued by MECP.

The Kelso Quarry does not currently have functioning water or wastewater services. Both onsite and municipal services will need to be considered for this portion of the property.

Stormwater Management – For the north end of the Kelso site, most of the stormwater and runoff overland flows and infiltrates making its way to the Sixteen Mile Creek or Kelso Reservoir within the development area of Kelso. There is currently minimal controlled stormwater management on site, including a few catch basins, culverts and a small stormwater management pond south of the Alexander House. The natural pervious surfaces of the site allow infiltration of water and are graded towards the creek. Opportunities for improvements to stormwater services are located within the parking lots and around the hardscape around buildings which will be addressed through detailed design of the proposed features. Stormwater management will be improved through the implementation of this master plan within Development Zones by addressing grading issues in parking lots, pathways, driveways and buildings, introduction of bioswales in parking lots, and the use of pervious paving materials where possible.

Kelso Dam and Reservoir - The Kelso Dam was built in 1962 for flood management and low-flow augmentation. Water levels are increased in the summer to provide low-flow augmentation downstream and then decreased through the winter to provide flood management for vulnerable floodplain areas downstream, during the spring freshet. The dam and reservoir are vital for maintaining water levels for all lake activities at the park.

Snowmaking Pipe - The snowmaking pipes begin at the snowmaking building located next to the Kelso Reservoir, where water is taken solely from the reservoir to produce snow on the ski and snowboard hill; no Municipal supply is used. The snowmaking pipes are high pressure air and water lines, ranging in age from 1990 to 2017. The water and air are pumped and pressurized in the building and distributed across all of the ski hill. Recent improvements to the snowmaking system was made to the water line, while the air line remains the same.

Communications - There is a fiber optic loop installed in 2006 to service Kelso's visitor and operational communication needs. This allows for ticket and program sales, as well as on-site communication between buildings staff and the public. The fibre line runs mainly along arterial service roads and crosses the CP Railway in two locations, once near the East Lodge and second near the West Lodge. Maintaining adequate fiber communications utilities is vital to the parks' point of sale and operations. Considerations for improvements of communications infrastructure occur regularly as technological advancements are available.

2.6 ENVIRONMENTAL CONTEXT

The following subsections provide environmental setting highlights for the general region surrounding the Kelso Conservation Area.

2.6.1 WATERSHED AND SUB-WATERSHED

Within the Halton Watershed, the boundaries of Kelso span across two first-order watersheds, in which are nested three second-order subwatersheds (see Figure 1 and mapping in Appendix B). The south part of the Kelso is within the Limestone Creek sub-watershed, which is within the first-order Bronte Creek watershed. The north part of Kelso is located in the first-order Sixteen Mile Creek watershed.

Conservation Halton's 2018 Watershed Report Card[12] provides grades in four categories of ecological health (i.e., surface water quality, forest conditions, impervious land cover and groundwater quality), using a letter grading system: A (excellent), B (good), C (fair), D (poor), and F (very poor). Groundwater quality is affected by natural conditions and human activities, and the nearest groundwater monitoring site to Kelso has a reported grade of D for Chloride and C for Nitrate.

2.6.2 PHYSIOGRAPHY & GEOLOGY

The physiography of the Halton Watershed has been shaped by the Late Wisconsinian glaciation. Within six major physiographic regions is the Niagara Escarpment which is the most prominent feature that spans across the study area. The Milton Outlier, which is a portion of the escarpment that is fragmented from its main body as a result of glacier and melt-water erosion, is located east of the main escarpment, and is separated by the Milton Outlier Valley, also called the Nassagaweya Canyon located west of Kelso.

The geology of the Halton Watershed consists of glacial sediments overlying Paleozoic bedrock from the Silurian and upper Ordovician system, consisting of five different groups or formations that lie on each other including, from top to bottom: Lockport, Clinton, Cataract, Queenston and Georgian Bay. Rivers flowing prior to and during the last glacial period carved a valley into the Queenston Formation shales beneath Kelso and the valley has been filled with sand and gravel. Within the study area, the Niagara Escarpment faces and much of the lands above the escarpment are exposed bedrock or thinly drift-covered bedrock[13]; other surficial geology units include Halton Till located above the escarpment around the former quarry, outwash deposits of predominantly gravel to the north and west of the Kelso Reservoir, ice-contact deposits of to the south of the Kelso Reservoir, and modern alluvium located around Sixteen Mile Creek.

2.6.3 SOILS

Eleven different soil series and types occur in Kelso and surrounding area (see mapping in Appendix B). Note that no data on soil type are provided for the Niagara Escarpment, or for the quarry lands. In general, there

[12] Conservation Halton. 2018. 2018 Watershed Report Card. Retrieved from: https://conservationhalton.ca/media-releases/2018-watershed-report-card-provides-a-look-at-the-environmen.
[13] Karrow, P.F. 2005. Quaternary Geology of the Brampton Area. Ontario Geological Survey Report. Pp. 257-59. Retrieved from: www.geologyontario.mndmf.gov.on.ca/mndmfiles/pub/data/imaging/R257/R257.pdf.

is a high recharge to groundwater above the escarpment that is the main driving force for groundwater flow in the Bronte Creek and Sixteen Mile Creek watersheds. Also of higher permeability is the sand and gravel aquifer that occupies a bedrock valley under Kelso and sustainably supplies a portion of the Town of Milton with drinking water.

2.6.4 CLIMATE

The Halton Watershed is located in the Great Lakes – St. Lawrence Lowlands climatic area, modified by the Great Lakes basin with a "lake-effect" that moderates extreme temperatures and is generally responsible for hotter climatic conditions in the southern part of the watershed. According to ClimateData[14], the annual average temperature between the 1981 to 2010 time periods was 7.5°C, and was 6.9°C between the 1951 to 1980 time periods. The annual average temperatures are projected to be 9.4°C for the 2021 to 2050 period. The average annual precipitation follows a similar trend, being 836 mm for the period between 1951 to 1980 time periods, and is projected to be 7 percent higher for the 2021 to 2050 time periods.

2.6.5 SURFACE WATER HYDROLOGY & GROUNDWATER

Sixteen Mile Creek is a major watercourse in the watershed and originates west of Kelso, generally flowing east and entering the Kelso Lake Reservoir and emptying via a controlled dam at the east end of the reservoir. It continues generally southeast and empties into Lake Ontario approximately 21 kilometres to the southeast. A major surface water feature adjacent to Kelso is the Kelso Quarry Lake.

Both overburden and bedrock aquifers occur in the Halton Watershed. The Kelso buried bedrock valley aquifer is the source water of the Halton Region municipal supply. The escarpment within the conservation area is a regionally significant point for groundwater discharge, while the tablelands above are locally significant for recharge. Groundwater in the area of the escarpment contributes significant flow to the tributaries in the Bronte Creek and Sixteen Mile Creek watersheds.

2.6.6 REGIONAL LAND COVER, FOREST, WETLAND & RIPARIAN

Wide varieties of natural vegetated areas occur in the Halton Watershed including riparian areas, marshes, swamps, meadows, thickets, forests and woodland. The majority of the land area in the Halton Watershed is agricultural, particularly in the northwest portion of the watershed.

There are some large tracts of forests (>1,000 hectares) in the Halton Watershed; however, most forest cover is confined to areas above the escarpment. Mixed deciduous forest is the most common forest community type in the region. Within the watershed, Carolinian species are generally restricted to areas south of the Niagara Escarpment and large forest patches with interior habitat are almost exclusively confined to above the escarpment.

[14] ClimateData. 2020. Annual Values for Milton. Retrieved from: https://climatedata.ca/explore/location/?loc=FDGEM&location-select-temperature=tx_max&location-select-precipitation=rx1day&location-select-other=frost_days.

The majority of wetlands in the Halton Watershed are designated Provincially Significant; there is 6.8 percent cover, representing 65.48 square kilometres. The riparian areas of the Halton Watershed make up a considerable component of the natural heritage system: in total, 4.5 percent (43.0 square kilometres). The majority of the riparian headwater areas in the Halton Watershed are contained within the Niagara Escarpment.

2.7 NATURAL HERITAGE

Kelso's biophysical setting and natural heritage comprises of a broader geographical landscape, as well as specific point features that are located within the NEP's 'Escarpment Natural Area' and 'Escarpment Protection Area' designations, Region of Halton's Natural Heritage System (RNHS) and the Greenbelt Natural Heritage System. These include established natural areas, as well as flora and fauna and their habitats, identified by historic and recent ecological studies, and flora and fauna inventories.

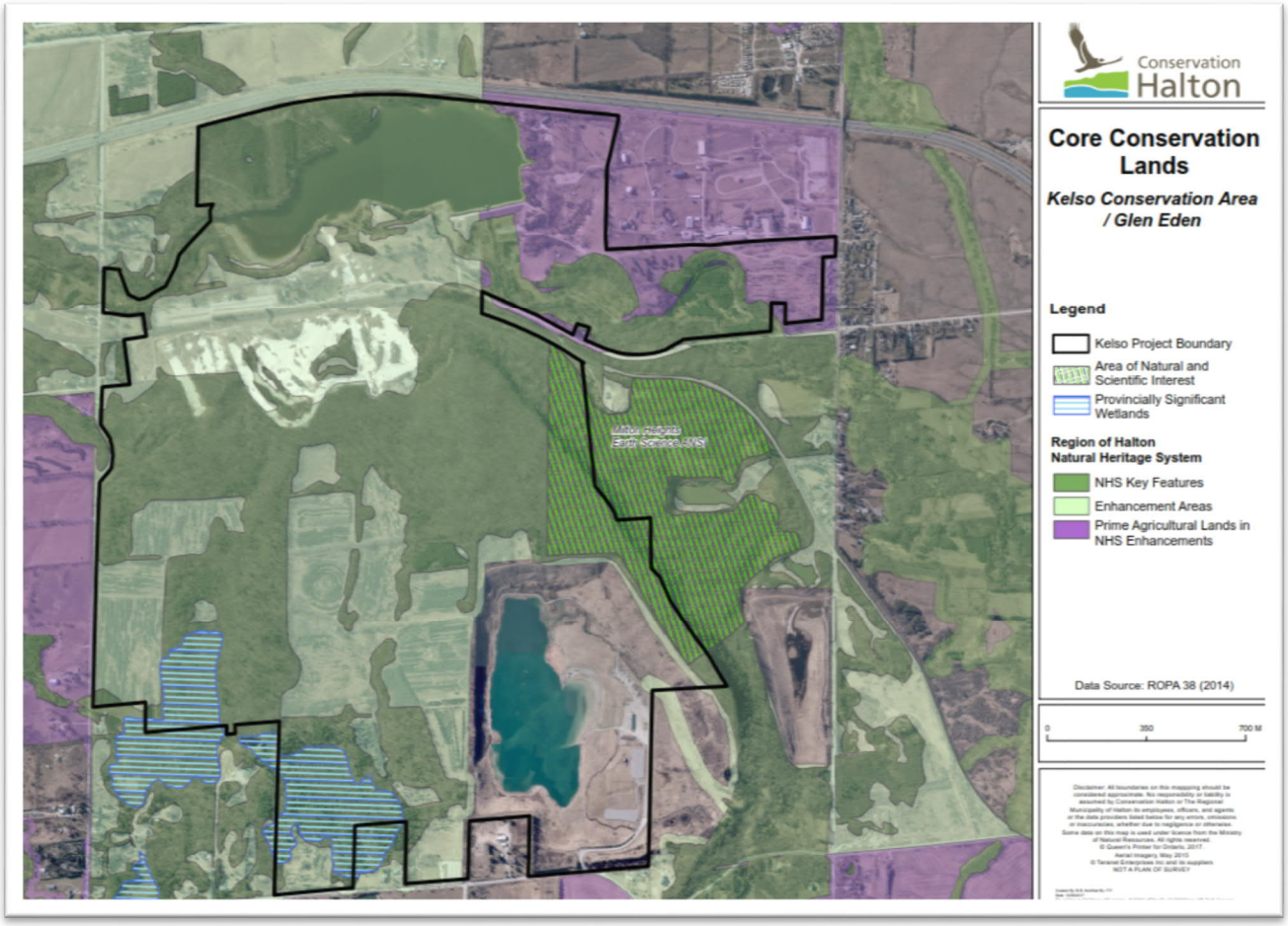


Figure 10 Core Conservation Lands

Many of these natural features are regulated by Conservation Halton, as per Ontario Regulation 162/06, including: wetlands, floodplains, stable top of bank, water features, and regulated watercourses and hydrologic connections (see mapping in Appendix B).

As per Figure 10, Kelso's Core Conservation Lands include: Milton Heights Earth Science Area of Natural and Scientific Interest (ANSI) and the Milton Outlier Provincially Significant Wetland (PSW) Complex, comprised of three wetland units. The RNHS connects the natural areas and open space to preserve and enhance the biological diversity and ecological functions within Halton and across the Greenbelt Natural Heritage System. Natural areas of ecological importance at Kelso are illustrated in Figure 11.

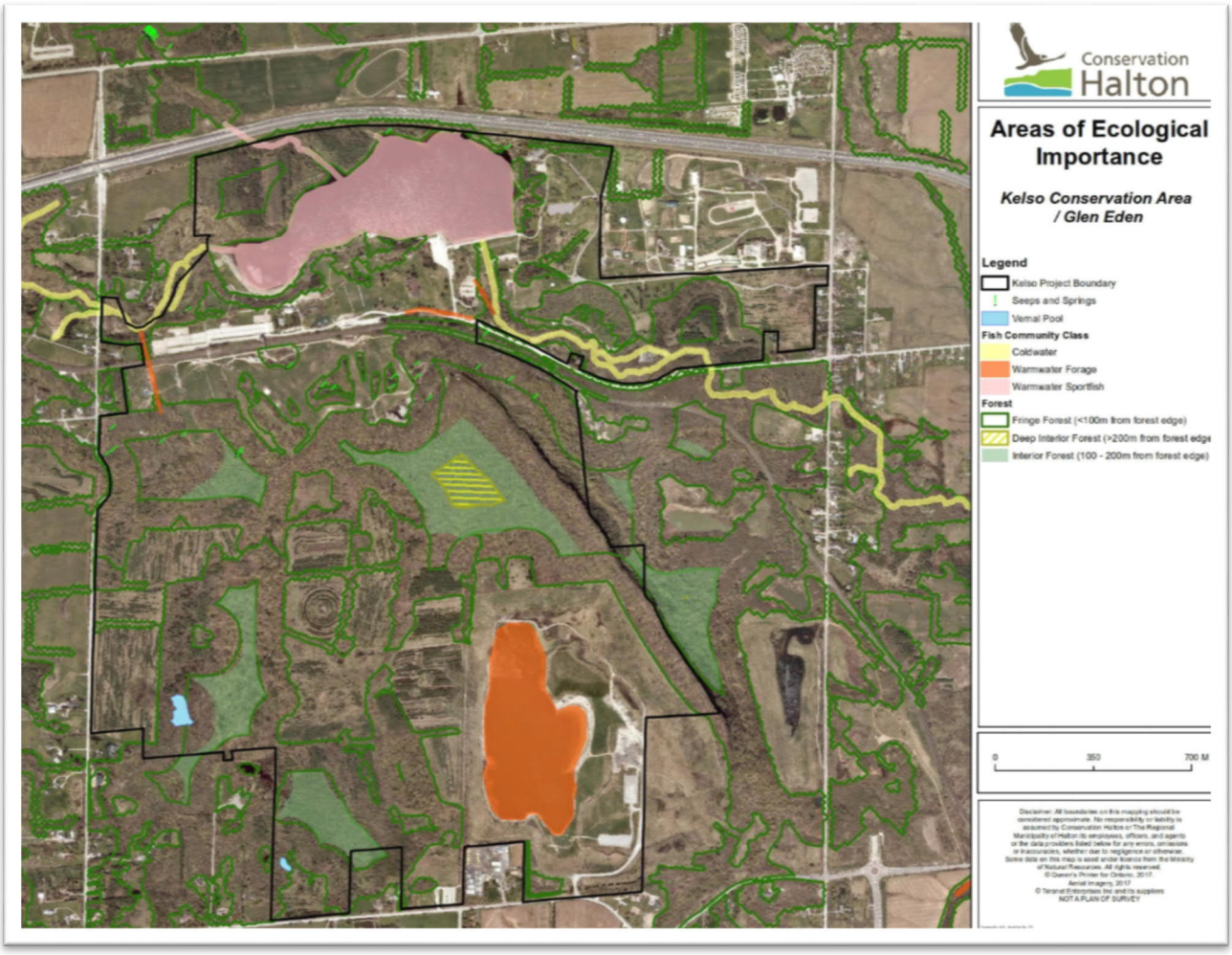


Figure 11 Areas of Ecological Importance

2.7.1 ECOLOGICAL LAND CLASSIFICATION AND VEGETATION COMMUNITIES

Ecological Land Classification (ELC) inventories were updated in 2016 by Conservation Halton staff and results presented in ELC mapping, in Appendix B and Appendix E. A total of 18 different ELC community series were identified, comprised of 76 different vegetation community types. Of the 76 communities, 58 communities (76 percent) have a condition ranking of fair, 10 communities (13 percent) have a condition ranking of good and five (7 percent) have a condition ranking of poor. Three (4 percent) of the 76 communities do not have a ranking listed for their condition. A variety of factors contribute to the condition rankings; the most common factors include severity of and time since human disturbance, extent of invasive vegetation coverage, and degree of edge effects. Of the 76 ELC vegetation community types, several community types have a notable provincial rarity ranking (an S-rank of S3 or lower) or global rarity ranking (a G-rank of G1 – G3) classifying them rare[15]. These rare vegetation communities are listed as follows:

- White Cedar Treed Carbonate Cliff Type (ELC code CLT1-1), with a provincial ranking of vulnerable (S3);
- Dry – Fresh White Cedar Carbonate Treed Talus Type (ELC code TAT1-2), with a ranking of vulnerable (S3);
- Fresh – Moist Black Walnut Lowland Deciduous Forest Type (ELC code FOD7-4), with an intermediate provincial ranking between imperilled and vulnerable (S2S3);
- White Cedar Treed Carbonate Cliff Type (CLT1-1) with a global/provincial ranking G2Q/S3;
- Dry - Fresh Sugar Maple Deciduous Forest Type on Bedrock (FOD1-1) with a global ranking of G3G4;
- Dry - Fresh White Birch Carbonate Treed Talus Type (TAT1-3) with a provincial ranking of S3;
- Dry - Fresh Carbonate Treed Talus Type (TAS1) with a provincial ranking of S3;
- Carbonate Open Cliff Ecosite (CLO1) with a provincial ranking of S3;
- Open Carbonate Cliff Rim Type (CLO1-5) with a provincial ranking of S2;
- Dry - Fresh Carbonate Treed Talus Type (TAS1) with a provincially ranking of S3; and,
- White Cedar Dry Treed Limestone Talus (TAT1-2) with a provincial ranking of S3.

Multiple forests types of deciduous forest, mixed forest, deciduous swamp and mixed swamp exist within Kelso.

Note that the interior forest, although the area applied with the buffer is identified as “seep interior”, does not function ecologically as such, due to the existing and ongoing recreational and operational activity occurring in this location. No removal of this existing activity is supported, however special consideration for the management of this area will be applied through forestry and park operations.

[15] Bakowsky, W.D. 1996. *Natural Heritage Resources of Ontario: S-ranks for Communities in Site Regions 6 and 7*. Ontario Ministry of Natural Resources (and Forestry). Natural Heritage Information Centre.

2.7.2 VEGETATION AND WILDLIFE INVENTORY

A total of 572 species or taxa were listed in the inventory of vegetation species known to occur or to have historically occurred in Kelso. Of the documented species, 12 are provincially rare (S-rank of S1, S2 or S3). Additionally, 106 species are listed as Rare or Uncommon in Halton Region, while seven are listed as requiring further review and 14 have no Halton Region status listed. The remainder are listed as Common in the Region. Seven invasive plant species have been documented in Kelso (see mapping in Appendix B), including: Black Locust, Common Periwinkle, Dog Strangling Vine, Garlic Mustard, Japanese Knotweed, Phragmites, and Yellow Flag-iris. However, this is not a complete list of invasive species that could be present in Kelso; rather, these species have historically been the ones with the highest potential for significant ecological and management concerns. Two of these species, Dog-strangling Vine and Phragmites are classified by regulation in Ontario as restricted species under the Invasive Species Act, 2015[16], which came into force in 2016.

Multiple wildlife inventories of fauna known to occur or to have historically occurred in Kelso have been conducted. Summaries of the inventories for each wildlife taxonomic class are provided below:

- A total of 142 bird species have been documented; 15 listed as Endangered, Threatened, or Special Concern under the Endangered Species Act (ESA), 2007[17] or Species at Risk Act (SARA), 2002[18]; one species is listed as provincially rare; 55 species are listed as Rare or Uncommon in Halton Region.
- A total of 38 mammal species have been documented; four listed as either Endangered, Threatened, or Special Concern under the ESA or SARA; three species are listed as provincially rare; nine species are listed as Rare or Uncommon in Halton Region. Note that bat species have been surveyed within Kelso.
- A total of 24 herpetofauna (amphibian and reptile) species have been documented; five listed as Endangered, Threatened, or Special Concern under the ESA or SARA; three species are listed as provincially rare; and five species are listed as Rare or Uncommon in Halton Region.
- A total of 38 fish species and three genera have been documented; two listed as Endangered, Threatened, or Special Concern under the ESA or SARA; 26 species are listed as Rare or Uncommon in Halton Region, while four species are listed as Exotic. Note that Redside Dace (Clinostomus elongatus; provincially and federally listed as Endangered) have not been documented in Kelso, but MECP Regulated Habitat mapping indicates a reach of Sixteen Mile Creek upstream of the Kelso Lake Reservoir is listed as regulated habitat for this species under the ESA. Further, Fisheries and Oceans Canada (DFO) aquatic SAR mapping[19] also indicates that this reach of Sixteen Mile Creek may be occupied by the Redside Dace.
- In addition, Zebra Mussels (Dreissena polymorpha), an invasive aquatic species, have been documented along the shoreline of the Kelso Lake Reservoir and downstream in Sixteen Mile Creek to the border of the study area at Kelso Road. The species is also noted as occupying open water in the reservoir.

[16] Government of Ontario. 2015. Invasive Species Act. Queen's Printer for Ontario (2012-20). .
[17] Government of Ontario. 2007. Endangered Species Act. Queen's Printer for Ontario (2012-20).
[18] Government of Canada. 2002. Species at Risk Act. Retrieved from: https://laws-lois.justice.gc.ca/eng/acts/S-15.3/FullText.html.
[19] Fisheries and Oceans Canada. 2019. Aquatic SAR mapping (2019): Aquatic Species at Risk Map. Retrieved from: https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html.

- A total of 62 Odonata (dragonfly and damselfly) species and nine genera have been documented; seven are listed as provincially rare; 30 are listed as Rare and 15 are listed as Uncommon in Halton Region, with the remainder listed as Common or not listed.
- A total of 53 Lepidoptera (butterfly) species and seven genera have been documented; two species (Monarch, Danaus plexippus; and West Virginia White, Pieris virginiensis) are listed as Special Concern by Committee on the Status of Endangered Wildlife in Canada[20] (COSEWIC) and as provincially rare; Monarch is also listed as Special Concern on Species at Risk in Ontario[21] (SARO) list; thirteen species are listed as Rare or Uncommon in Halton Region.

From the inventories of vegetation and wildlife collected, species at risk (SAR) and provincially rare species documented in Kelso were identified by Conservation Halton, however, are not represented in this mapping due to sensitivity of publishing these features. This documentation included notes that identify the SAR as fixed (e.g., plants) or mobile, presence or absence of known core habitat in Kelso, as well as recommendations for future impact mitigation and monitoring. For most species, a recommended buffer around estimated habitat and/or species occurrences, and further monitoring and/or other protection measures were identified by Conservation Halton.

The inventory of SAR documented within the study area was updated in 2020 to add species that were documented since the initial Phase 1 – Inventory & Analysis Report completed in 2016, and to review and update the regulatory status of SAR (see Appendix C for the methods and results of the SAR inventory).

A comprehensive understanding of the state of the natural landscape's biodiversity was mapped in the Phase 1: Inventory & Analysis Report. The Priority Protection Areas map was created as a graphic representation of important natural and cultural heritage features and areas including those for special management (see Figure 12). Conservation Halton's Natural Heritage Evaluation has been provided below as a reference tool, as per Table 3.

[20] Government of Canada - COSEWIC. 2020. Species at Risk Registry - Species Search. Retrieved from: https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10.
[21] Government of Ontario. 2007. Ontario Regulation 230/08: Species at Risk in Ontario List under Endangered Species Act. Queen's Printer for Ontario (2012-20).

2.7.3 NATURAL HERITAGE EVALUATION & PRIORITY PROTECTION AREAS

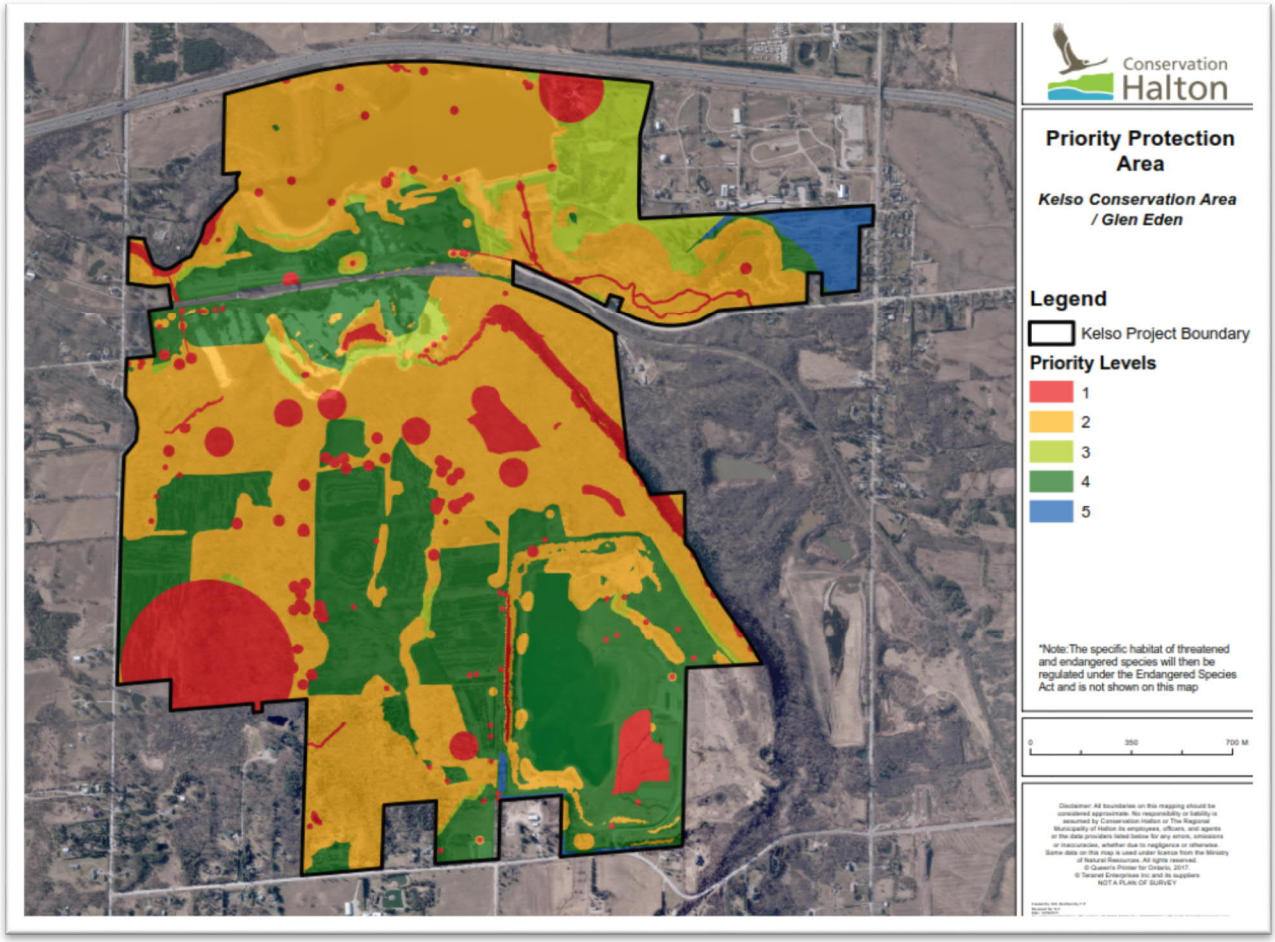


Figure 12 Priority Protection Areas Evaluated by Conservation Halton

Table 3 Natural Heritage Evaluation

Group (refer to maps in the master plan and Appendix B)	Natural Heritage Feature	Evaluation Criteria	Priority Protection Level
Niagara Escarpment Plan	Niagara Escarpment Planning Areas	Escarpment Natural Areas	3
		Escarpment Protection Areas	5
Core Conservation Lands	Areas of Natural and Scientific Interest	Earth Science ANSI	4
	Provincially Significant Wetlands	Within PSW Boundary	1
		30 m Surrounding Buffer	2
		31 – 120 m Surrounding Buffer	4

Group (refer to maps in the master plan and Appendix B)	Natural Heritage Feature	Evaluation Criteria	Priority Protection Level
	Region of Halton Natural Heritage System	Key Features	2
		Enhancement Areas	4
		Prime Agricultural Lands in NHS Enhancements / Buffers	5
Conservation Authority Regulated Features	Wetlands (Non-provincially significant)	Within Wetland Boundary	2
		30 m Surrounding Buffer	2
		31 – 120 m Surrounding Buffer	4
	Floodplains	Hazard Component	2
		15 m Surrounding Buffer	3
	Stable Top of Bank	Hazard Component	3
		15 m Surrounding Buffer	4
Significant Threat Areas for Municipal Groundwater Supply	Drinking Water Source Protection – Municipal Wellhead Protection Area	100 m Radius	1
		Kelso WHPA Q1and Q2 – Water Quantity	3
		Vulnerable Areas	4
Topography and Steep Slopes	Steep Slopes	Scarp Face Slopes (>70.1%)	1
		Talus and Other Slopes (36.5 – 70%)	2
Areas of Ecological Importance	Fish Community Class	Coldwater Sport Fish (30 m from watercourse)	1
		Coldwater / Warmwater Sport Fish (30 m from watercourse)	2
		Warmwater Forage (15 m from watercourse)	4
	Rare Vegetation Communities	G1 – G3 and S1 – S3 Communities	1
	Species at Risk	Species and their Critical Function Zones and Protection Zones	1
	Globally and Provincially Rare Species	Species and their Critical Function Zones and Protection Zones	1
	Halton Region Rare Species	Species and their Critical Function Zones and Protection Zones	2
	Vernal Pools	Vernal Pools	1
		Critical Function Zone (30 m buffer)	2
	Seeps and Springs	Seeps and Springs	1
		30 m Buffer	3
	Forest Cover	Deep Forest Interior (≥ 200 m)	1

Group (refer to maps in the master plan and Appendix B)	Natural Heritage Feature	Evaluation Criteria	Priority Protection Level
		Forest Interior (≥ 100 m)	3
		Fringe Forest (<100 m)	4
		Plantations	5
	Watercourses	Watercourse	2
		15 m buffer	3
	Bat Hibernacula	Not mapped to date	1
Known Significant Natural and Cultural Features	Forest Bird Monitoring Program	Monitoring Station plus 30 m Buffer	1
	Fish Sampling Station	Sampling Station plus 30 m Buffer	1
	Ancient Eastern White Cedars	Ancient Cedar Trees	1
	Natural Features	Raptor Nests, Snags, Snake Hibernacula, Crevices, etc.	3
	Veteran Trees	Tree Location	3
	Cultural Heritage Features	E.g., Historic Foundations, Ruins, Archaeological Sites	3

2.8 CULTURAL HERITAGE

This ecologically diverse region of southern Ontario was traditionally stewarded most prominently by the Anishinaabe, Wendat, Attawandaron, Haudenosaunee and Métis. Most notably, Conservation Halton recognizes that a significant area of land including what we know today as Milton was purchased by the Crown from the Anishinaabe (Mississaugas of the Credit First Nation) via the Ajetance Purchase of 1818 and after many additional transfers became what we know today as the Kelso Conservation Area.

Archaeological - The Region of Halton has found to have an extremely high density of known archaeological sites and extremely high potential for future discovery of these sites. There are six identified archeological sites identified within the study area[22], see Figure 13. Two of these sites, located to the south-west are archaic camp sites with origins from 7,000 to 1,000 B.C., and just beyond the north-east boundary of the study area there are two historic Indigenous archeological sites dating from 1600 to 1650. Along the northern face of the Niagara Escarpment, there are 32 Ancient Eastern White Cedars and three crevice locations within Kelso that have significant natural and cultural value. There are four other archeological sites throughout the area that are of undetermined origins; therefore, the heritage value of these sites cannot be identified based on the data that is currently available.

[22] Conservation Halton. 2010. Parks Master Planning: Archaeological Report for Kelso/Glen Eden Conservation Area.

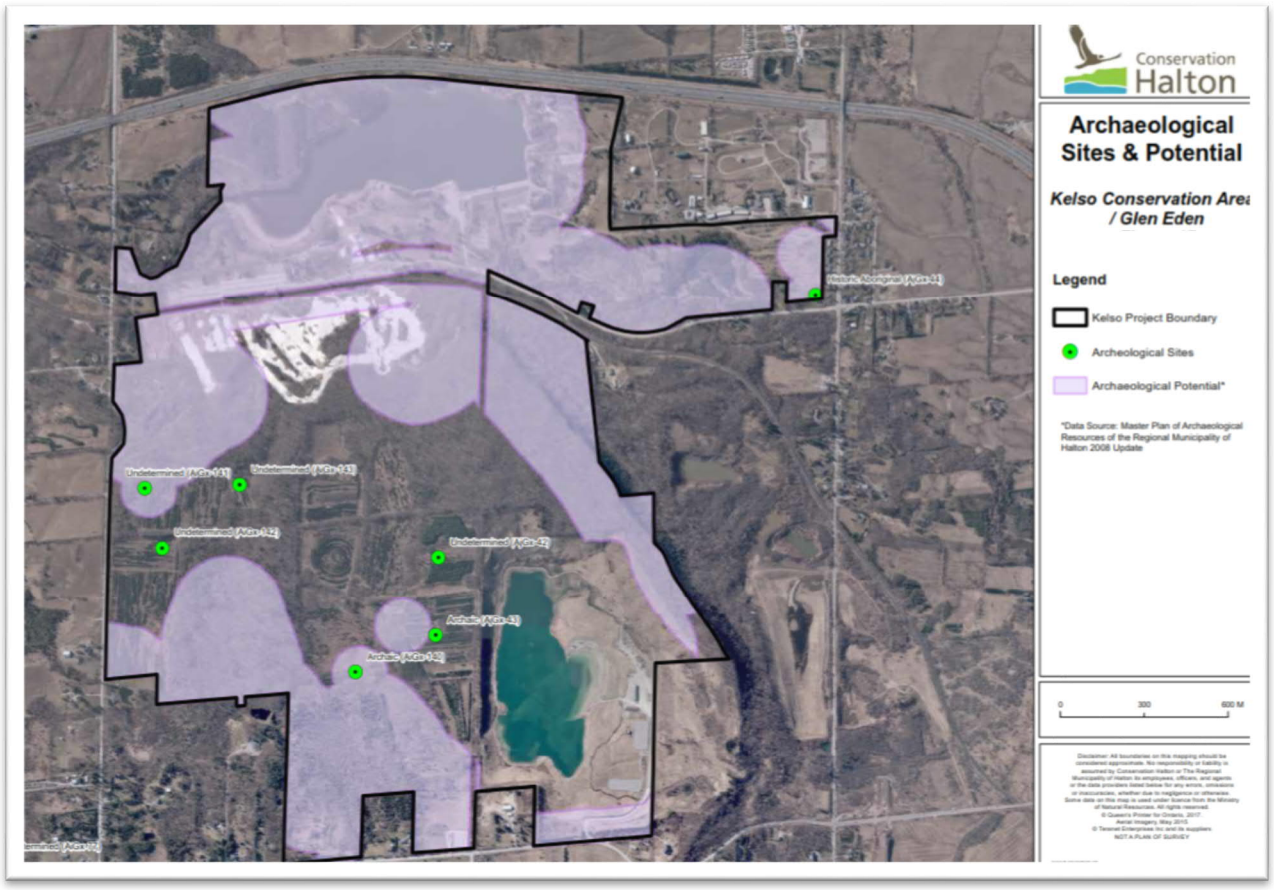


Figure 13 Kelso Conservation Area Archaeological Sites & Archaeological Potential

The escarpment is a distinctive feature of the local geography and is surrounded by several water bodies. Approximately 60 percent of the study area is located in archeological potential areas running predominantly along the escarpment at the northwest extent of Kelso, with some potential at the southern extent as well. Additionally, the 1856 Credit Valley railway crossing the property adds historical value to the site and contributes to this archaeological potential. Any development within this area will require an archaeological assessment, given that it has the potential to have archaeological resources.

2.9 VIEWSHED ANALYSIS

Kelso Conservation Area and Glen Eden is visually memorable, with dominant views presenting a well-recognized images of wooded escarpment backdrop and escarpment bluff and Kelso Lake in the foreground with the ski hills beyond; these are often considered Kelso's major landmarks. In fact, the Niagara Escarpment Commission and the Ministry of Natural Resources (and Forestry)[23] ranked the escarpment for its character and scenic quality using evaluation categories of vegetative cover, landform, land use, special features and views. The landscapes were ranked to provide a relative basis of the area's visual importance, including a viewshed analysis ranking (see mapping in Appendix B):

- the Kelso-Rattlesnake Edge, encompassing the main escarpment brow, talus slopes and the western limit of the existing Glen Eden ski slopes, as 'attractive' due to the "very dominant escarpment landform edge, its predominant tree cover and several vista views";
- the Rattlesnake Apron, including the Kelso Reservoir and most of the lower Kelso area, as 'attractive' for its open lands sloping away from the escarpment with principal features of Kelso Lake and small streams; and,
- the top of the escarpment, the upper secondary escarpment ridge and wooded escarpment slopes west of the ski hill (i.e. Milton Outlier) as 'average' due to its rolling landscape of fields, forests and pleasing farm buildings, including some typical scattered strip development.

At the time of the above evaluation, the Kelso Quarry was still active and deemed a negative land use component along with the adjacent active quarry and estate residential development. This assessment likely differs today due to the change in use and growth of the vegetation around the area. No comments were provided on the existing recreational lands or the ski runs' potential negative impact on the 'attractive' ranking of that area. Another NEC study[24] confirmed the 1976 Landscape Evaluation Study rankings are still valid, as the quality of the landscape had very negligible change in character with the exception of the Kelso Quarry.

Any development or substantial change to the natural heritage within the study area could potentially impact the attractive visual image of Kelso and the landscape character of the Niagara Escarpment. As such, the NEC may require a Visual Impact Assessment to be completed for areas of potential impact as part of the subsequent phase of this Master Plan.

The views analysis has been carried from the 2002 Master Plan, considering very limited change to Kelso's management and programming in the last nearly two decades (see Figure 14 and Figure 15). The three primary and most predominant viewsheds looking into Kelso are framed along Highway 401 and experienced most frequently in a moving vehicle:

[23] Ministry of Natural Resources (and Forestry) & Niagara Escarpment Commission. 1976. Landscape Evaluation Study: Niagara Escarpment Planning Area.
[24] Niagara Escarpment Commission. 1999. Examination of Landscape and Visual Resources: Milton Outlier Study Area.

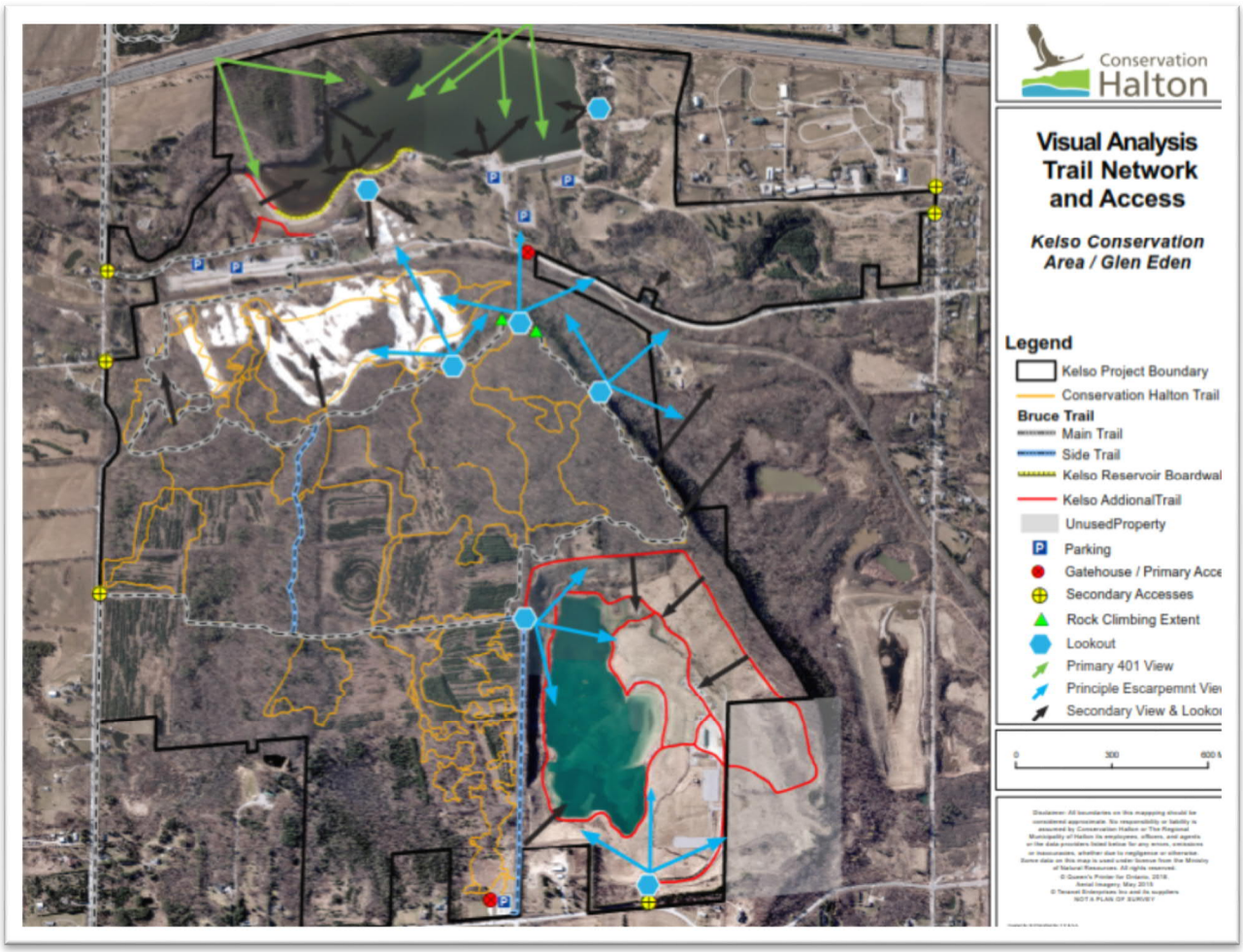


Figure 14 Visual Analysis – Trails and Access

1. Kelso's western forested escarpment slopes and the lower half of the Glen Eden ski runs;
2. Open view to Kelso Lake, beach and surrounding picnic grounds as well as the dam and filtered views into the valley below the dam, with the forested escarpment bluff in the background, along with mid sections of ski runs ; and,
3. Distant views of the escarpment, but most of the foreground including the northern half of the lake and dam are obscured by the solid center traffic median, and the upper half of the lake and beach are visible as well as the picnic pavilion area, the boat rentals, the main escarpment bluff and the upper half of the ski runs.

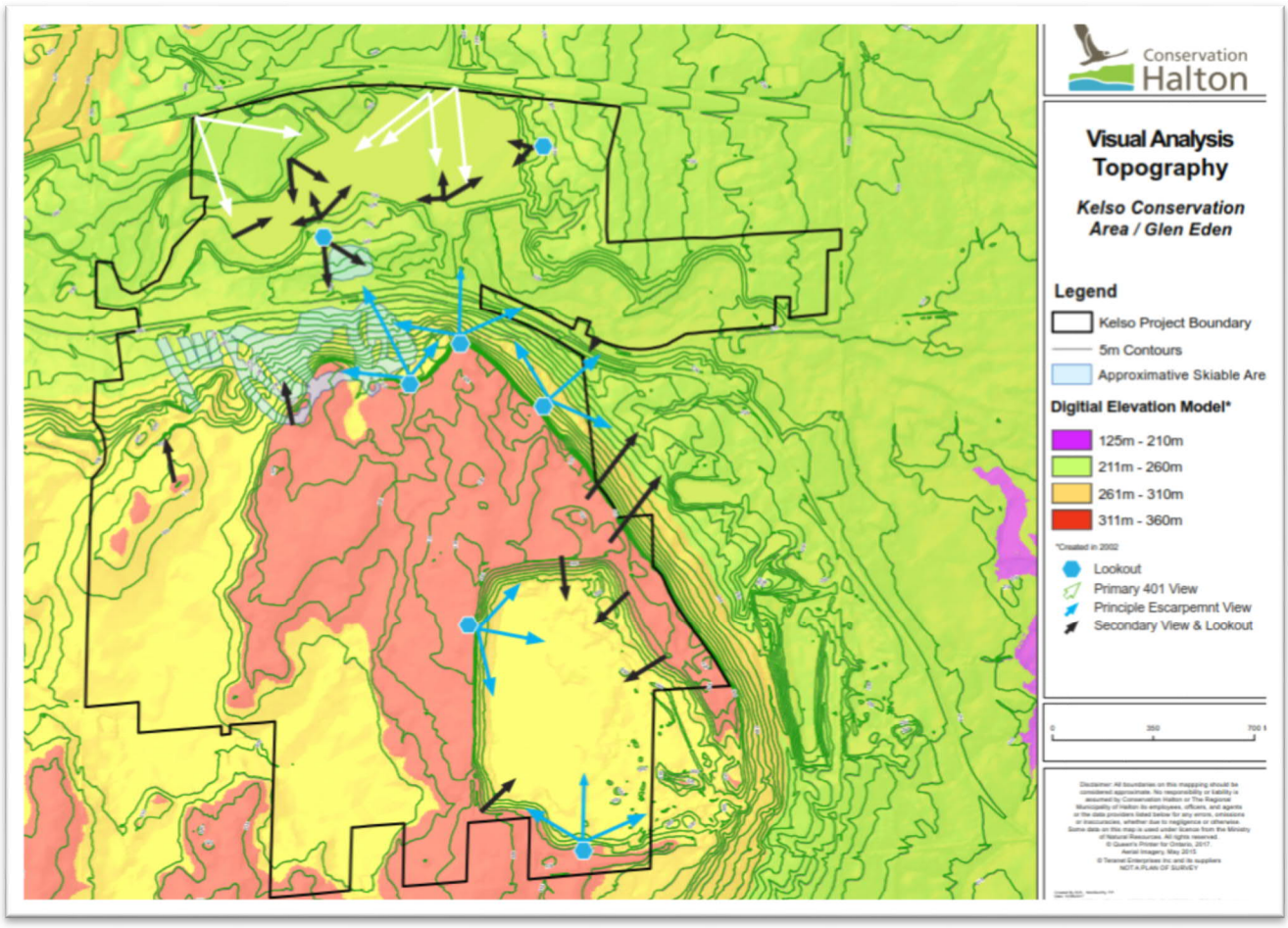


Figure 15 Kelso Conservation Area Viewshed Analysis - Topography

There are currently four principal escarpment lookouts at Kelso which view the surrounding countryside and the urban development of the Town of Milton, as noted:

1. Top of Limestone chairlift overlooking the ski hill and a portion of the lake;
2. North-east point of the escarpment, overlooking the lake and the north Town of Milton edge;
3. East-facing, overlooking the Town of Milton and the park entrance road; and,
4. Southeast-facing, overlooking the Kelso Quarry and providing a long distance views of Toronto.

Within the study area, one of the most prominent viewsheds is a lookout vista on top of the escarpment that is frequented by hikers of the Bruce Trail and many park users. Other small viewing "windows" over the escarpment are provided within the natural wooded canopy along the trail network. The secondary views and lookouts along the Kelso Quarry were also recommended in the 2002 Kelso Master Plan, and carried into this master plan update.

2.10 MARKET ANALYSIS & VISITOR ANALYSIS

The Kelso Conservation Area and Glen Eden is a core park asset, not only for Conservation Halton, but indeed everybody that enters through its park gates. The conservation area is an iconic and signature feature on the landscape. It presents a strong and powerful connection for Halton-area residents (and visitors) to engage with nature, friends and family.

As a near-urban park, with direct visibility and access to Canada's busiest highway, Kelso provides a quick and direct escape from everyday life. More than 90 percent of park users are drawn from within 40 kilometres of the park gate. More than 80 percent are drawn from Halton, Peel and Hamilton. And nearly 60 percent are drawn directly from Halton Region. By every measure, Kelso provides a regional draw for outdoor enthusiasts living with a 1-hour drive time.

The current collection of core park assets at Kelso (i.e., buildings, water and wastewater system, trails, chair lifts and parking) were developed incrementally in accordance with changing market conditions since the park was officially opened in 1961. Rapid population growth in core visitor markets such as Oakville, Burlington, Guelph, Hamilton and especially Milton have resulted in on-going capacity issues that need to be addressed. While population growth over the past fifteen years has been brisk (Milton is currently one of Canada's fastest growing municipality), the pace of growth is expected to continue over the foreseeable future. Moreover, long-term growth trends across the Greater Toronto-Hamilton Horseshoe, continue to support a bias toward municipalities to the West of Toronto, including Halton, Hamilton, Peel, Waterloo and Niagara. Estimates indicate that population growth over the next 25 years will see the introduction of 1.7 million additional people residing with the Kelso Market Catchment Area. Parks and Conservation Areas such as Kelso need to be prepared for future growth pressures. In the absence of new parks coming on-stream to serve growth, existing parks – especially destination parks like Kelso – will need to ensure that existing assets are appropriately scaled.

Based on feedback gathered through stakeholder consultation and user surveys combined with a review of market and park user fees, there is a strong business case to support new investment in Kelso Conservation Area and Glen Eden (see Appendix A for greater detail), as presented below:

- **Population Growth**: The size of the market living within a 1-hour drive of Kelso is expected to grow by an estimate 1.7 million people over the next 25 years.
- Demographics: Aging population will require measures to support and enable access. While youth will continue to be an important dimension of the park users, seniors' needs will need to be addressed in terms of buildings, accessible parking, in-park mobility, and user safety.
- **Loyal User Connections**: Park users indicated a strong and deep connection to the park. The park has very high satisfaction ratings, however certain measures need to undertake to improve the overall user experience. These measures relate to water quality/ levels, building comfort, food services and washrooms.
- Value: Relative to other paid recreation offerings in the marketplace Kelso provides very good value for money. Based on a review of comparable product offerings, there is an opportunity to increase user fees to levels without compromising value and providing undue financial barriers to park user groups.
- Peak Capacity: During busy park days, the existing buildings are unable to meet the needs of users. More indoor space is required to support visitors, operations and key partners (i.e., staff, clubs, ski-patrol, pro-shop, etc.).
- Access: Major changes are underway that will dramatically improve access between Kelso and Highway 401. A new interchange at Highway 401 and Tremaine will provide more direct routing to and from the park. More convenient access provides opportunities that will likely result in more impromptu tips compared to current conditions. This has the potential to mean short, more in-and-out trips (i.e. snacks, picnics, 1-hr experiences) that captures new visitors, potentially increasing visitor demand and visitation. Conservation Halton will stay current with technology to ensure changing visitor interests are met.
- Parking: More than 95 percent of visitation is supported by private vehicle. Over the next 15 years this share is unlikely to be reduced in any significant or meaningful way. User growth, will be accompanied by growing pressure to add parking spaces in locations that are close to core buildings and amenities.
- Mobile Technology: The use of mobile technology should be integrated into the overall park experience. Over the next decade, users will fully expect to seamlessly plan, navigate, pay for and share their park experiences online.
- Safety: The train tracks that run along the base of the escarpment continue to be a major safety concern that needs to be managed. Access over and under the tracks will need to be resolved in accordance with growing usage and changing personal mobility patterns attributed to an aging population base.
- Revenue Upside: Investments in Kelso facilities combined with more visitors will drive revenue growth. Consideration can and should be given to new user fees and new services that will drive financial sustainability. Access fees and charges for ski facilities also demonstrate market capacity to see on-going price escalations that can be used to support investments in new facilities.

2.11 OPPORTUNITIES AND CHALLENGES

To summarize the key opportunities and challenges identified in the Phase 1 of the master planning process, which included background studies, technical investigations, stakeholder interviews and public consultation, Table 4 has been prepared to highlight key observations that informed the design.

Table 4 Opportunities and Challenges

Opportunities	Challenges
Location & Access	
• Proximity to Highway 401, and full-service interchange at Highway 401 and Highway 25 • Future widening of Highway 401 and interchange at new Tremaine Road alignment • Strong visual connection and iconic presence to passing motorists • Park entrance has land potential for additional lanes	• Heavy traffic congestion on Highway 401 through the Milton area • Circuitous access from Highway 401 to park gates • Indirect access to transit for staff and visitors • Inconsistent directional signage
Market Growth & Demographics	
• Market population will grow by 1.7 million over next 25 years • Greater need on natural green spaces and parks due to ongoing urban development • Park planning and recreation programming to provide more prominent role to seniors • Programming to welcome New Canadians into the park • New innovative experience for youth • Children's play facility (carried from 2002 Master Plan)	• Existing building/facilities are insufficiently sized to accommodate additional visitors • An aging population is expected to seek less risky activities • Youth expectations and interests are changing • Park planning and programming needs to adapt to changing youth attitudes about recreation, nature and the environment
Park Infrastructure	
• Central water supply and distribution system (carried from 2002 Master Plan) • Sanitary collection and central treatment system (carried from 2002 Master Plan) • Water reservoir and fire protection for ski complex (carried from 2002 Master Plan)	• Minimal controlled stormwater management on site • Water supply limitation as approximately half of water supply is from private well • Septic system is overtaxed and inadequate to service anticipated market trends in visitation
Facilities & Food Services	
• Opportunity to develop and animate outdoor zones providing shelter and warming/cooling features through the year • Addition of healthier food options and beverage options (e.g., coffee, alcohol)	• Train tracks complicate the integration of new or expanded facilities directly at the base of the hill • Existing building, particularly ski chalets are functionally obsolescent

• Extended hours of operation • Consolidate existing buildings and temporary facilities • Provide off-season storage buildings (carried from 2002 Master Plan) • Halton Region Museum improvements (carried from 2002 Master Plan) • Incorporate full recycling and composting capabilities throughout the park	• Buildings are undersized and lack many of the modern amenities • Limited table and seating, and no liquor license on premise • Limited choice for parents and guardians, while waiting for their children to finish lessons • Pricing of food deliveries. • Availability and costs of waste and recycling services (currently being addressed)
Downhill Skiing/Snowboarding	
• Captive urban market, and one of Ontario's most popular ski facilities • Ability to provide half-day visitor experiences • Well positioned for beginner and youth • Ability to deliver ski-school/learn to ski programs • Ability to deliver after-school and evening use	• Weather, lack of snow, length of operating season • Long lift lines and chair lifts are slow (i.e., low capacity) • Rental/pro shop is too far from the hill • Limited indoor space for partner organizations (e.g., ski schools, racing clubs, ski patrol, staff lounge) • Physical access between parking lot and chair lifts (i.e., tunnel and bridge) • Long-term management and financial planning considerations for potential climate change impacts
Hiking and Cycling Trails	
• Hiking is the single-most popular activity, accessible and celebrated part of the Bruce Trail • As population ages, take up rates for lower intensity activities such as hiking and nature walks are expected to increase • Fall colours are a prime draw • One of GTA's flagship mountain bike destinations, actively promoted to local and regional audiences • Cycling continues to grow in popularity, high satisfaction level, excellent word of mouth • Strong partnership with cycling stakeholders (i.e., event organizers, trail building clubs, etc.) • Northshore hiking and mountain bike trail, and pedestrian bridges (carried from 2002 Master Plan) • Nature reserve zone including boardwalk, lookout, picnic and playfield areas, comfort station and picnic, and expanded hiking and biking trails at the Kelso Quarry (carried from 2002 Master Plan)	• Trail conflicts with hikers and mountain bikers • Accessibility to trails and other areas of interest will present a challenge (AODA compliance) • Limited investment in new trails • Unmanaged visitor use of trails can place added stress on the natural habitats, cultural heritage features and species that inhabit them • Invasive species can pose challenges to visitor use, natural heritage, habitats and ecological function

• Develop sustainable management directions to balance conservation with visitor use	
Swimming/Beach & Boating/Fishing	
• Implement onsite and upstream habitat stewardship projects to reduce phosphorus inputs and improve water quality • Educate boaters and fishers on prevention of zebra mussel spread • Implement actions to control zebra mussel population • Boat rental and dock centre improvements (carried from 2002 Master Plan)	• Stairs from parking lot to the beach are challenging for people with alternate mobility needs • Low water levels, and susceptible to algae related-closure • Perception that waster is unclean, murky • Sharp shells of zebra mussels could pose a safety concern • Limited boat-launch parking
Special Events	
• New arts & culture based programs, adventure based programs and charity-based fundraisers • New programs based around nature interpretation • Continued events that celebrate natural and cultural heritage • Continued recreational and educational events	• Permit fees (cost) • Facilities (outdated, small)
Camping	
• Learn to camp programs • Camping related culture program (e.g., music nights, movie nights, church groups, ethnic groups, clubs, etc.) • Provide diverse camping accommodation mix	• Low level of awareness about camping • Noise from highway • Price (i.e., expensive compared to other grounds) • Prohibition on campfires • Lack of privacy (i.e., sites are too open/exposed)
Parking	
• Provide electric vehicle charging stations • Additional space, especially at the boat launch • Enhance existing parking lots (e.g., planting, drainage, wayfinding, etc.) • Additional staff parking at ski maintenance centre (carried from 2002 Master Plan)	• Crowded on weekends (especially during ski-season) • Distance from facilities and attractions (especially ski and beach areas) • Potholes (especially upper lot) • Price (especially for walkers/hikers)
Natural & Cultural Heritage	
• Provide information and celebrate the park's physiography and geology of park • Permeable soil types enabling the integration of green infrastructure • Provide information on Conservation Halton's core conservation lands and management measures,	• Groundwater quality graded as 'poor' in Conservation Halton 2018 Watershed Report Card • Limit access and development around core conservation lands, provincially rare and species at risk, archaeological sites and cultural heritage features

RNHS, provincially rare and species at risk (i.e., vegetation and wildlife) • Provide information and celebrate the parks' archaeological sites and cultural heritage features • Provide information on Conservation Halton's Stewardship Program throughout the park • Provide information on Conservation Halton's Long-term Environmental Monitoring Program throughout the park, highlighting species information • Promote action from visitors through private land stewardship initiatives through the above listed information • Actively update and monitor the effectiveness of the above	• Risk of information provided becoming outdated
Views	
• Provide views and lookouts into and from the Kelso Quarry • Provide views and lookouts along north end of Kelso Lake	• Limit heights of structures and buildings to maintain the scenic quality of the Niagara Escarpment
Green Infrastructure	
• Permeable pavement • Vegetation drainage networks • Green roofs • Fusion-style landscapes • Water retention and re-use features	• Not fully-supported by regulators • Few engineering standards to follow • Lack of enthusiasm or understanding from operational staff

2.12 KEY MANAGEMENT ISSUES

The process for building a comprehensive understanding of Kelso is reflective of the master plan process itself, striving to gain insights and design considerations from the economic, environmental and social perspectives obtained through research and consultation with a range of stakeholders. It is based on technical, social, historical, policy, and legislative elements impacting Kelso and its surrounding environments. Four key management issues emerged through this master planning process, which informed the development of the Kelso Master Plan:

1. **Natural and Cultural Environment Protection** – All new development and enhancements need to reflect Conservation Halton's principles to conserve and protect the natural and cultural environment. The Priority Protection Areas, derived from the Phase 1 assessment, are used to evaluate conservation opportunities through the master planning process, and need to be incorporated into the development of the NEPOSS Management Zones and park management recommendations.
2. **Site Access and Circulation** – Site connectivity and extension of programming to the Summit and Kelso Quarry need to be reflected in the updated master plan. Existing site access and circulation inclusive of multi-use trails, roadways, transit opportunities, visitor entrances, operational entrances, parking, location of facilities and directional signage need to be a focus for enhancement.
3. **Facilities and Infrastructure** – The majority of buildings and infrastructure are nearing the end of their lifespan, are not in an optimal location or do not have adequate space and functionality to meet the current visitation needs. The current septic and well services do not meet the needs for existing visitation; however, servicing improvements to solve the current needs are being pursued through a separate planning approval process. Any proposed replacements of existing facilities or infrastructure need to be based on an assumption that improvements would first be made to water and wastewater prior to any re-construction. The approach for facilities and infrastructure needs to consolidate existing temporary buildings and structures in poor condition into a centralized location. Consideration for enhancements to existing camping, ski/snowboarding and other recreational infrastructure needs to be explored.
4. Kelso Quarry – After decades of dedication to the rehabilitation of the Kelso Quarry with Barrick Gold and Lac Minerals, Conservation Halton obtained ownership in 2006 and shortly after the Kelso Quarry was brought into the NEPOSS. The Kelso Master Plan needs to incorporate the updated NEPOSS Management Zones and proposed restoration and programming for public use of the Kelso Quarry.

3 NEPOSS MANAGEMENT ZONES

Kelso Conservation Area is classified as a NEPOSS Recreation Park, enabling more intensive recreational and educational programming in suitable areas of the park. The updated Kelso Master Plan provides an opportunity to build upon the framework identified in the 2002 Master Plan and NEPOSS Management Zone classification, ensuring consistency with the NEPOSS Planning Manual and NEP, while also extending the zoning formally to the Kelso Quarry area. Some of these changes and comparisons are identified later in this section. The NEPOSS Management Zones, as illustrated in Figure 16, are an update to those from the 2002 Master Plan, shown in Figure 17.

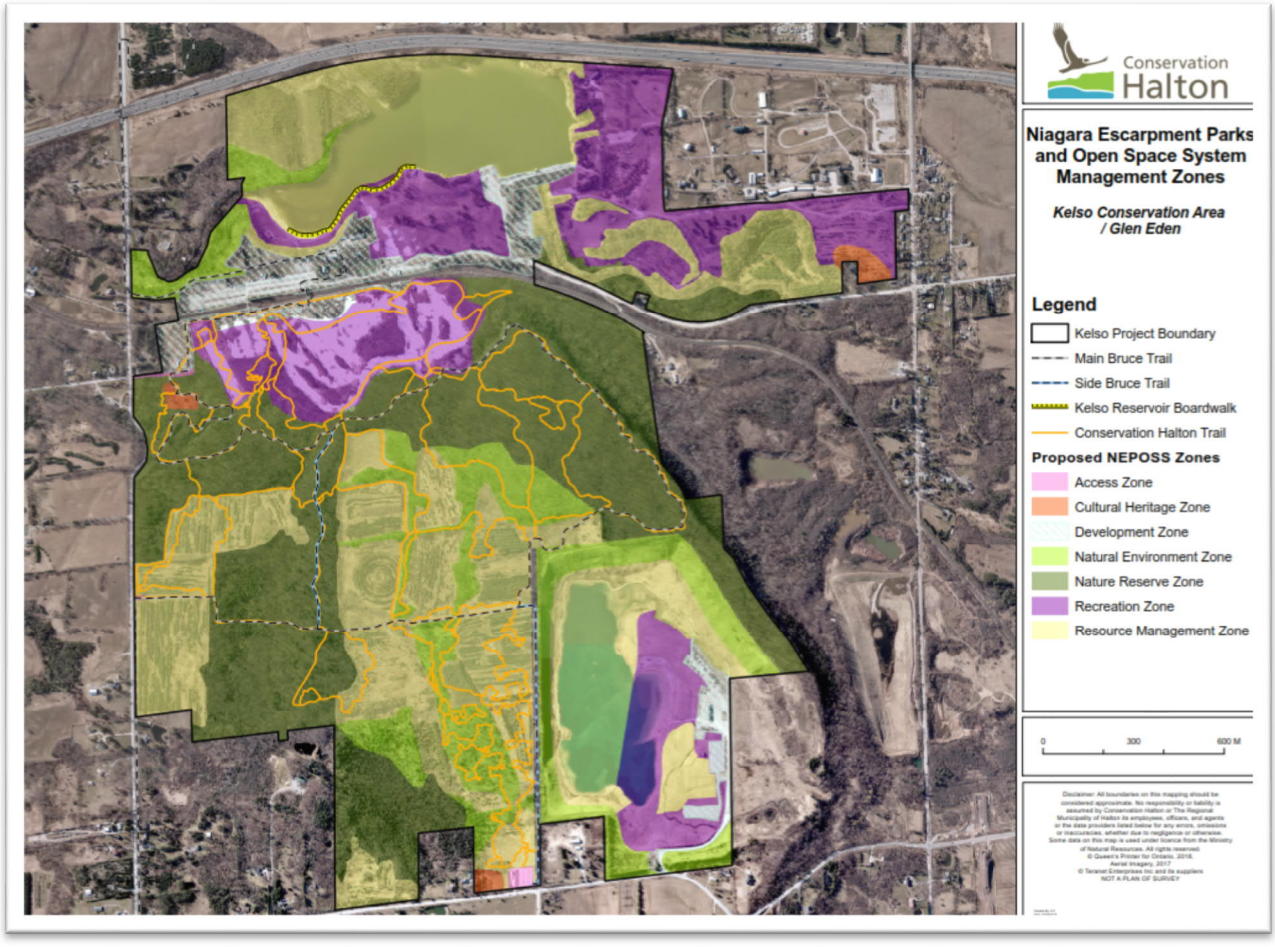


Figure 16 NEPOSS Management Zones - Updated

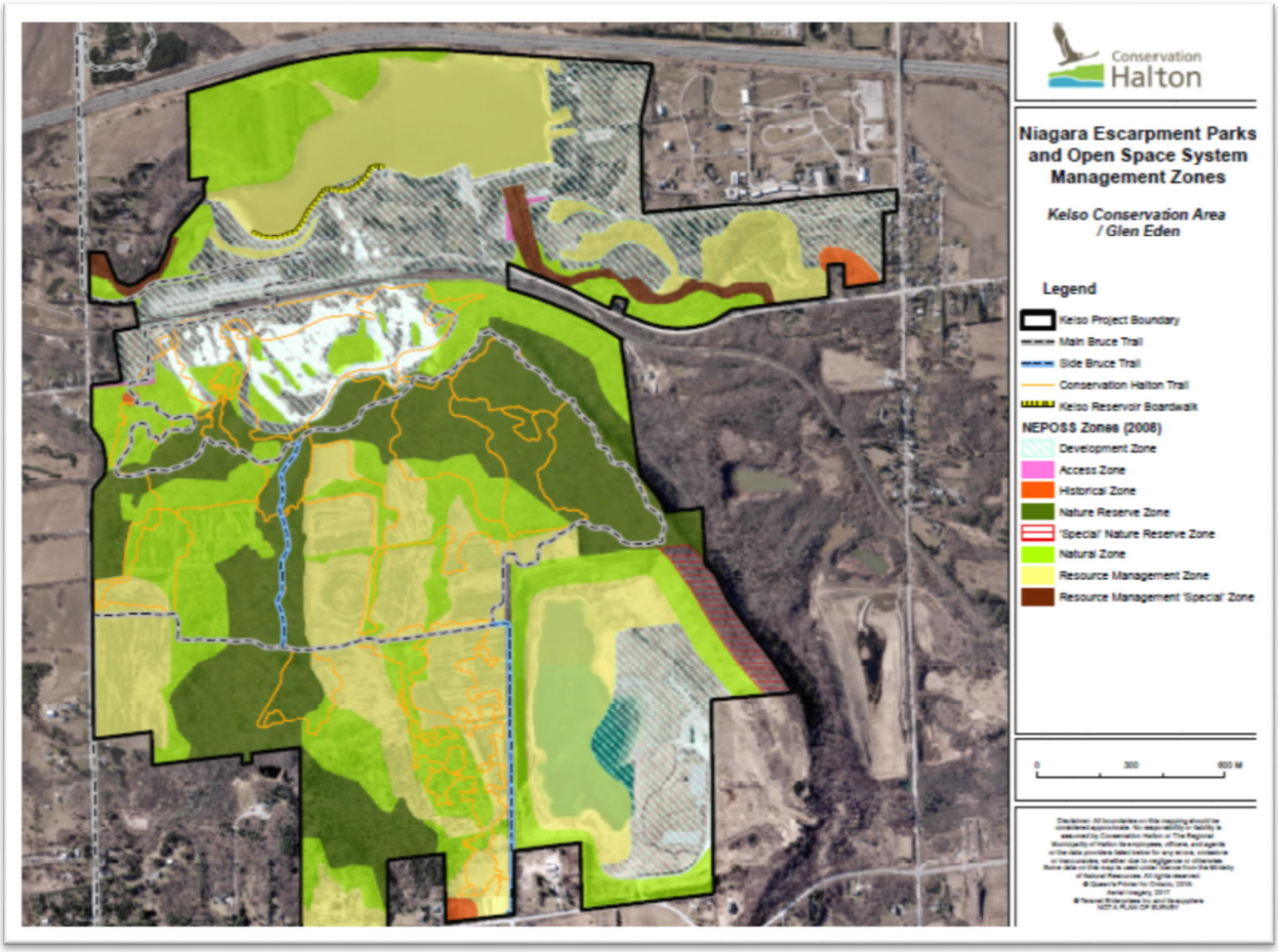


Figure 17 NEPOSS Management Zones - 2002 Master Plan

In section 3.1.6 Recreation and Commercial Uses in Parks and Open Space of the NEP, it states that special purpose buildings to support programming may be permitted as an accessory use in 'Recreation' parks, if appropriately scaled for the site and identified in the Development Zone. As such, all uses that may be considered commercial have been located within the Development zone.

The updated NEPOSS Management Zones were created through comprehensive characterization and analysis of the natural heritage features, core conservation areas of ESAs and ANSIs together with existing recreational and operational use at the park. In many cases, multiple criteria overlapped and based on the sensitivity of the feature and the current use of the area, an appropriate zone for management was established. Conservation Halton uses this metric to sustainably manage the conservation area lands, focusing visitor use and program locations to the least-impactful areas of the Kelso Conservation Area and Glen Eden. Suitable and sustainable activity for the park is guided by the updated NEPOSS Management zones. In general, areas with features of higher protection priority are zoned 'Nature Reserve', 'Resource Management', 'Cultural Heritage' or 'Natural Environment'.

Furthermore, the rationale for the proposed zoning is fourfold:

1. The SAR present is one that breeds during specific times of the year and then migrate; therefore, certain activities may be possible during off-seasons;
2. Conservation Halton's has educated operational staff and documented the location of the habitat to inform operational practices for the habitat, outside of this master planning process, identify times of year when certain activities can/cannot take place;
3. Conservation Halton is still obligated and required to meet any ESA requirements from the MECP (this is not dissimilar to municipal Official Plans in that Species at Risk habitat is not shown on a Schedule rather it is addressed via policy text); and,
4. It is more reflective of the recent changes in the NEP related to endangered and threatened species policies (i.e., development/site alteration must meet Provincial and Federal requirements).

Due to the diverse and seasonal programming of the site, and as noted above, Conservation Halton has developed internal standard operational practices to guide area specific, seasonal operations requirements to balance the protection, restoration, conservation and recreation on or near sensitive areas or features outside of this master plan.

The management direction and permitted uses are specific to each of the six proposed NEPOSS zones, as identified below:

Nature Reserve – identifies the most naturally significant zones of the property to provide for the long-term protection of all Kelso Conservation Area's key natural heritage features, including Core Conservation and Ecological Areas.

2002 Nature Reserve "Special" (Discontinued) - The Nature Reserve "Special" zone was proposed in 2002 for a strip of land within the Kelso Quarry parcel that was undisturbed by human impact. During that time, the zoning was planned to be effective once the property ownership was transferred to Conservation Halton and inducted into the NEPOSS, which occurred in 2008. The identification of the "Special" zone further emphasized the delineation of the feature marked as a Priority 1 Protection Area. This area remains Priority Protection Area 1 and zoned as Nature Reserve in this updated Kelso Master Plan to align with current NEPOSS Planning Manual and NEP. As such, no development or programming in this area have been proposed in the Kelso Master Plan Concepts and the long-term plan for protection of this area remains with no public access to this area.

Natural – to provide for the predominant protection and maintenance of scenic and aesthetic landscapes while allowing for low to moderate intensity recreational activities.

Access – to provide an area of access, staging and/or control facilities for entering an area of limited services or of low intensity recreational activities.

All points of access are already established, however operational management practices for the two newly public access points (e.g., camping and Kelso Quarry) will be determined prior to the implementation of opening them as identified in this Kelso Master Plan.

Cultural Heritage – to provide long-term protection and management of significant archaeological, cultural or historic park resources. This zone was titled "Historical" in the 2002 Master Plan NEPOSS zoning.

Development – to provide the principal development areas for low to intensive recreational and operational activities, required supporting infrastructure and, onsite flood and stream flow control systems. Existing recreational activities within this zone include swimming, overnight camping, ropes course, camps, recreation lessons, picnicking, fishing, non-motorized boating, stand up paddle boarding, group camping, retail, rentals, food services, hiking mountain biking and events. Winter recreation predominantly consists of skiing, snowboarding, other snow sliding activities, retail, sport rentals and food services, but may also include winter camping, mountain biking, hiking and events. Existing buildings and facilities are located within this zone, as well as the proposed buildings to consolidate the existing temporary and inadequately sized recreational facilities. Operational activities such as snowmaking, landscaping and ground maintenance, trail routing or closures, also take place in this zone. Other key infrastructure vital for the park activities and programming are located within this zone. Infrastructure may include but is not limited to gatehouses, snowmaking, water and wastewater systems, parking, roadways, skiable slopes and terrain, lifts, lighting, signage, fuel tanks, hydro, docks, boardwalks, stormwater, drainage, retaining walls, outdoor furniture, fire pits, patios, paving, decks, stages, tents, mountain bike features, campsites, gates, fences, garbage and recycling bins, network, cabins, sheds, fleet vehicles and equipment. Also located within this zone are the Halton Regional Museum, Kelso Flood Control Structure and the Kelso Regional Wells.

Resource Management – to provide areas of intensive resource management in order to restore, complement and/or buffer adjacent nature of Natural Park Zones. Permitted uses will include active resource management practices for forestry, wildlife, fishery or restoration purposes. Secondary uses of low to medium intensity recreational activities may also be permitted.

Trails are multi-use for hiking and mountain biking, existing activity that will go through all zones.

Recreation Zone – City View Park Master Plan in Burlington introduced a new 'Recreation' zone which has set a new precedent for NEPOSS management plans and has been incorporated for the Kelso Master Plan. The areas identified may have natural scenic value and some infrastructure to support the recreational activities, requiring minimal development. This zone has also been applied to areas of the Kelso Quarry due to the designation of "Parkland" under the Certificate of Property Use and the intended management in the future.

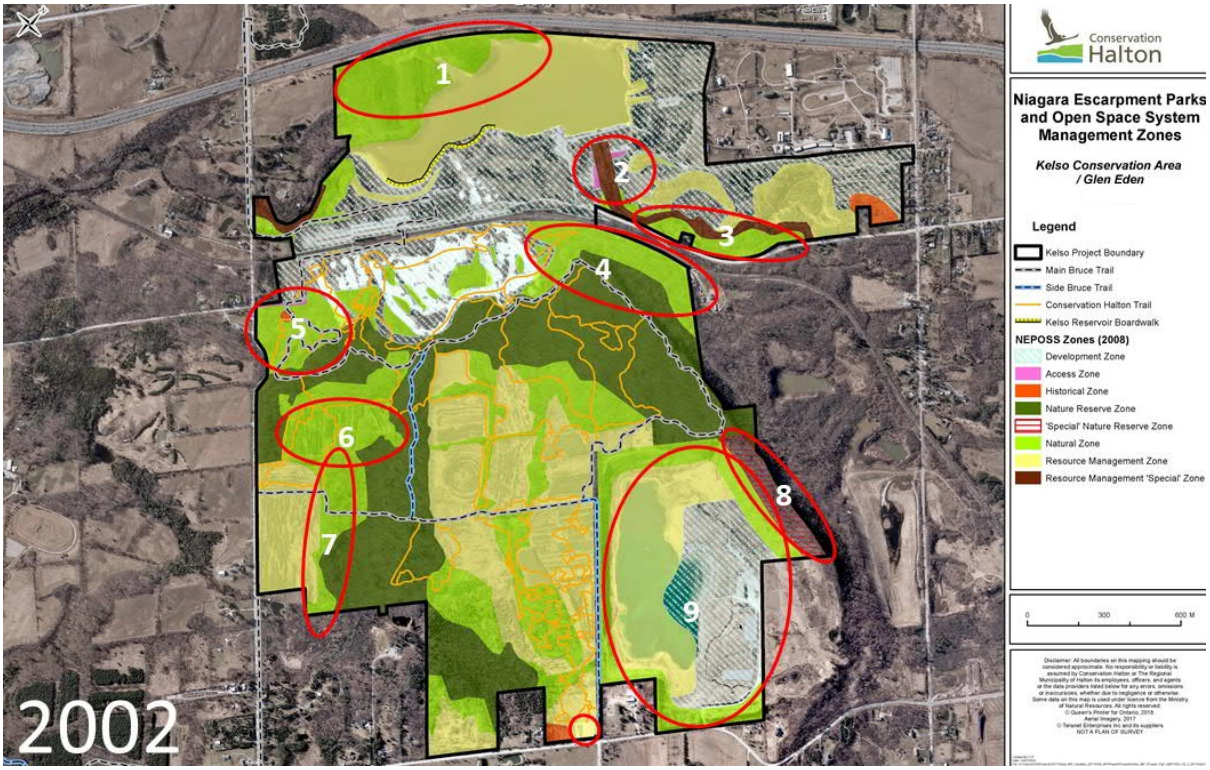
The designation permits the following uses: existing uses, accessory buildings, associated service establishments, events, beach activity, non-motorized boats and toboggan runs for the Kelso Quarry. Other uses permitted under the Recreation zone include: ski centres, facilities, ski runs, ski lifts, snowmobile trails, slide rides, ski chalets and commercial development such as lodges, sports fields and retail stores.

3.1 NEPOSS MANAGEMENT ZONE COMPARISON

A summary chart of Kelso Conservation Area's size (in hectares) included in each NEPOSS Management Zone has been provided in Table 5. A further comparison has been provided to identify locations by park area where the zoning has changed since the 2002 Master Plan (see Figure 18), with a rationale for the changes, as well as the implication for the updated Kelso Master Plan Concept (see Table 6). Note that although the Kelso Quarry was not owned by Conservation Halton at the time the 2002 Master Plan was published, NEPOSS Zoning was proposed for the site in anticipation of the land transfer and the 2002 zoning hectares proposed for the Kelso Quarry have been included in Table 5.

Table 5 NEPOSS Management Zone Area Comparison (2002 vs. 2020)

NEPOSS Management Zone	Hectares	
	2002	2020
Access Zone	0.7	0.9
Development Zone	106.8	26.3
Historical (2002 NEPOSS)/Cultural Heritage Zone (2020 NEPOSS)	2.3	2.8
Natural Environment Zone	115.5	51.3
Nature Reserve Zone	88.3	126.8
'Special' Nature Reserve Zone (2002 NEPOSS)	5.1	-
Resource Management Zone	136.5	168.8
'Special' Resource Management Zone	6.1	-
Recreation Zone (2020 NEPOSS)	-	84.4
TOTAL	461	461



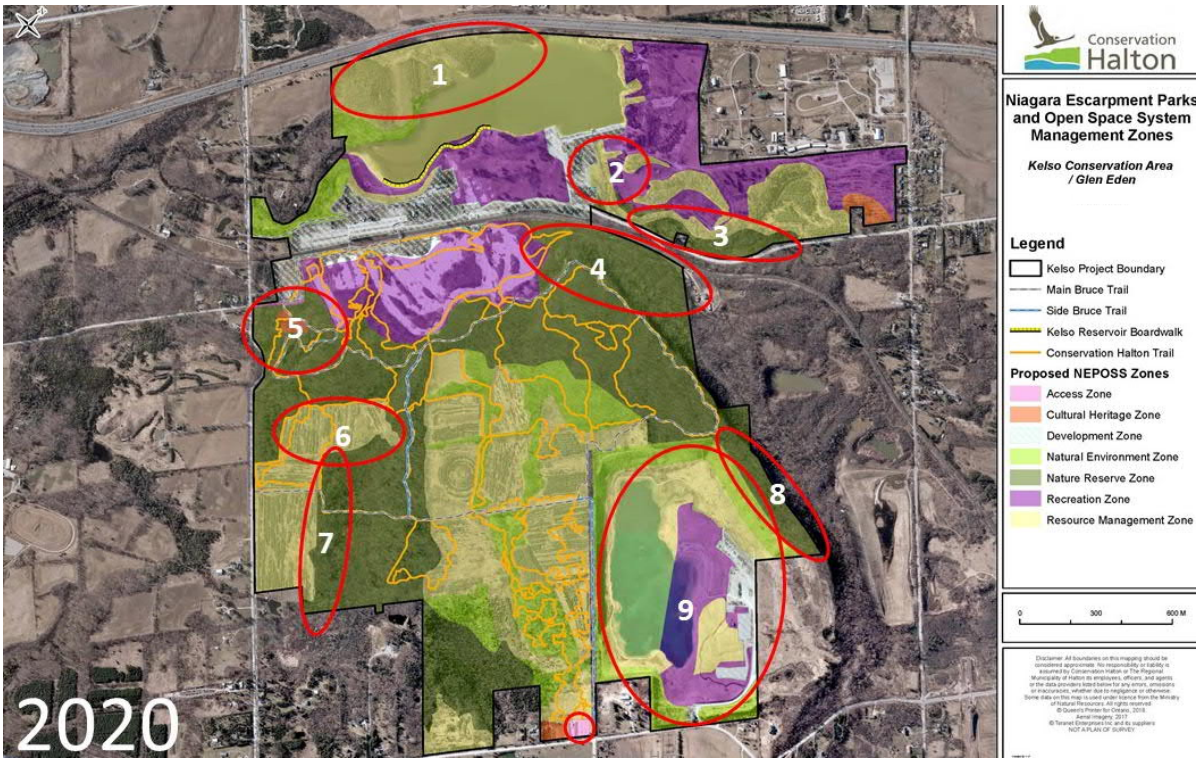


Figure 18 NEPOSS Management Zones (2002 vs. 2020) Comparison

Table 6 NEPOSS Management Zone Classification Change and Kelso Master Plan Concept Implications

NEPOSS Zone **Classification** Areas of Change	**Description and Master Plan Concept Implications**
Area 1	In 2002 NEPOSS Management Zones, this area was identified as 'Natural Environment' zone and has been changed to 'Resource Management' zone due to the active restoration and forestry works that are taking place in this area. Some passive recreation currently occurs in this area, such as hiking. Greater accessibility for hiking and lake access is being proposed in the Kelso Master Plan.
Area 2	This area was identified as 'Access' and ''Special' Resource Management' zones in 2002 NEPOSS Management Zones, but has been redefined to 'Development' zone for the shoreline and 'Resource Management' zone for the creek. The reason for this special zoning was due to the flood control outflow from the Kelso Dam which is managed operationally by departmental plans; zoned as 'Resource Management'. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 3	Identified as 'Natural Environment' and ''Special' Resource Management' zones in 2002 NEPOSS Management Zones, this area has progressed to a 'Nature Reserve' zone while the flood management channel and creek remains 'Resource Management'. Limited access is provided to this area due to the creek location, wetness and slope. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 4	In 2002 NEPOSS Management Zones, this area was identified as 'Natural Environment' zone but natural succession has taken place providing more ecologically significant landscape - it has been changed to 'Nature Reserve' zone. Some limited hiking and rock climbing does occur in this area but no built infrastructure or facilities. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 5	This area was identified as 'Natural Environment' zone and small 'Historic/ Cultural Heritage' zone in the 2002 NEPOSS Management Zones. The 2020 zone has changed to 'Nature Reserve' zone due to the succession of restoration initiatives as well as increased the size of the 'Cultural Heritage' zone. No proposed change in use or programming is identified for this area in the Kelso Master Plan. An 'Access' zone has also been added to this area to more accurately reflect the existing driveway and parking lot area off Appleby Line.
Area 6	The 2020 NEPOSS Management Zones identify an increase to the 'Nature Reserve' zone due to succession of restoration as such a decrease to the 'Natural Environment' zone in this area has occurred. An increase to the 'Resource Management' zone to reflect active restoration operations is proposed in 2020 NEPOSS Management Zones. The continuation of forestry and restoration

NEPOSS Zone **Classification** Areas of Change	**Description and Master Plan Concept Implications**
	initiatives is identified for this area along with passive recreational infrastructure such as trails for hiking and mountain biking. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 7	The 2020 NEPOSS Management Zones show the 'Natural Environment' zone graduating into the 'Nature Reserve' zone. Passive recreational infrastructure such as trails for hiking and mountain biking are located here. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 8	The 2002 NEPOSS Management Zones identified this brow of the escarpment as ''Special' Nature Reserve' zone due to the desire to protect this brow from human access. 'Natural Environment' zone has been applied to this escarpment brow as it regenerates from the former quarry operations and provides existing, limited scenic and ecological values and to ensure continued protection of this area. The main operational trail up to the Kelso tablelands used for trail infrastructure for hiking and biking uses runs parallel to this zone area access is restricted from trail encroachment. No proposed change in use or programming is identified for this area in the Kelso Master Plan.
Area 9	The Kelso Quarry had suggested zoning in 2002 NEPOSS Management Zones, but was not owned by Conservation Halton until 2006 and joined NEPOSS in 2008. Updated NEPOSS Management Zoning has been proposed for the Kelso Quarry to align with existing and new programming and infrastructure required for recreational, educational and conservation initatives planned for the area. In 2002 NEPOSS Management Zones, the Kelso Quarry had the escarpment brow zoned as 'Natural Environment' while the lower elevation areas were split between 'Development' zone (over the parking lots, building and roads) and 'Resource Management' zone (over the Quarry Lake and stream). The 2020 NEPOSS Management Zones proposes are reduction of 'Development' zone by utilizing the new 'Recreation' zone to cover quarry recreation and educational programming and infrastructure as the site will still be programmed in those areas but will not require extensive infrastructure. The 'Resource Management' zone has also been applied to any area slotted for further ecological restoration or forestry as well as the migratory SAR habitat area identified, as per discussions with MNRF and NEC staff. New proposed programming, events and limited infrastructure is identified in the Kelso Master Plan. This master plan area was one of the main focuses for visitor experience, cultural heritage and continued ecological restoration. Development and programming has been seasonally planned to maximize protection of the migratory SAR breeding habitat during times that the species will be present while allowing passive winter activities to take place.

Note: Collaborative planning and discussions are taking place with the Town of Milton regarding their ownership of the adjacent "Jannock" and former "Brickworks" lands.

3.2 KELSO QUARRY- NEW ZONING

Conservation Halton worked with the former quarry operator, Lac Minerals to develop the restoration plan for the decommissioned Kelso Quarry, while proactively planning for these lands to be incorporated into the 2002 NEPOSS Management Zones, prior to it being inducted into the NEPOSS. In 2008, the property was transferred to Conservation Halton to implement restoration initiatives with a focus to restore natural habitat and make provisions for future park programming. The restoration efforts to date are detailed in the Phase 1: Inventory & Analysis Report, with mapping provided in Appendix B. Successful restoration of the meadowlands, wetlands and lake habitat have occurred, as well as tree and shrub plantings. Continued reforestation and other restoration activities are intended for the site in the future while maintaining the trails, roadways and parking lots for programming of the quarry.

Special considerations were collaboratively discussed with relevant provincial staff while developing the NEPOSS Management Zones in the Kelso Quarry. The existing infrastructure (i.e., entrance, parking lots, roadways and quarry building) were zoned as 'Development' as they have been heavily disturbed by previous quarry activities and maintained for current and future operational and visitor access to the quarry. 'Recreation' zone has been applied to areas of the quarry base where recreational activities with minimal development of infrastructure were anticipated (i.e., beach area, trail and toboggan slope).

Through discussions with Conservation Halton, NEC and MNRF staff, it was determined that the meadow area, which has been identified as migratory SAR breeding habitat and zoned as 'Resource Management'. No intensive recreation activities, infrastructure or planned programming will take place in this area; however, the area has been zoned 'Resource Management' so that some seasonal activities such as snowshoeing and interpretive trails may occur in and around this area when the species is not present.

4 MASTER PLAN CONCEPTS

The vision for the Kelso Conservation Area and Glen Eden (Kelso) is to embrace four-season passive and active recreation activities that are supportive and nurturing of diverse visitor age, mobility, experience and skill-level. In embracing healthy living, Kelso will support recreation activities that compliment seasonal cycles and fluctuating weather patterns through adaptive management. It will further reflect the conservation, protection and restoration values through its management and care of natural and cultural assets, which are deeply rooted in the interpretative features/education forums as a celebration of the vast scenic and ecologically diverse Niagara Escarpment. Kelso will illuminate the culture for learning and ***discovery, while continuously showing respect for the natural environment.***

Kelso continues to serve as the natural recreational park adjacent to urban development and the GTHA populations. In tandem with conservation, protection and management of the natural heritage within the NEP Area, its recreational NEPOSS classification denotes the significance in providing recreation and education opportunities to visitors within the NEP lands, while also providing scenic views to and from the escarpment edge, as shown in Figure 19. The trail network is expanded to provide additional hiking and cycling experiences and enjoyment of the Niagara Escarpment, as well as the new public open space, Kelso Quarry. North Kelso area remains the hub for active recreation and learning opportunities (see Figure 20), while the Kelso Quarry extends passive recreation and educational programs (see Figure 21 and Appendix D for larger plan formats). All recommended programming features at Kelso complement seasonal patterns, protect the natural environment and also embrace healthy living.

Kelso, classified as 'Recreation' in the NEPOSS, is recognized for its natural attributes that provide one of the best recreational environments along the escarpment, playing an important role as a major attraction along the Niagara Escarpment that provides unique summer and winter recreation opportunities. Commercial uses along the NEPOSS, identified as being most suited to 'Nodal' or 'Recreation' class parks, are approved in this NEPOSS Master Plan.

The Kelso Master Plan concepts were developed with collaborative engagement through Conservation Halton and Dillon Consulting with the NEC staff, MNRF staff and Halton Region staff to align the process and proposed concepts with the NEPOSS Planning Manual and policies within the NEP.

The Kelso Master Plan concepts support the priority focus areas identified in Phase 1 – Inventory & Analysis Report, including:

- **Natural and Cultural Environment Protection –** Conservation Halton's natural heritage evaluation, archaeological potential and conservation opportunities led the delineation of the updated NEPOSS management zones, directly shaping the permitted uses and master plan concepts.

- **Site Access and Circulation** - Visitor movement and navigation through Kelso was essential to enhanced overall visitor experience. The enhanced road network and wayfinding leading to key buildings, landmarks, parking and programs become the spine of foot and vehicular activity, with linkage to a comprehensive trail system network and associated lookouts. A seasonal pass holder or transient hiker will encounter equal level of service with four access points to Kelso (e.g., main access off Kelso Road, camping access off Tremaine Road, and quarry access and summit access off Steeles Avenue West) with electronic gate technologies to improve the arrival wait times and touchless fee collection system.
- **Facilities and Infrastructure** – Conservation Halton is updating its existing facilities and site services to effectively manage the existing and forecasted visitations. The Kelso Master Plan concepts present the consolidation, revitalization and reconfiguration of many existing temporary or dilapidated structures, replacing them with newly constructed buildings: Recreation, Sport Rental and Arrival Centre, Consolidated Rental Facility at Adventure/Discovery, Lake Centre, camping Washroom Facility, and the Rental/Food Concession Building at the Kelso Quarry. These buildings become the anchor points for accessible, flexible and successful seasonal programming and visitor experience at Kelso.
- Kelso Quarry – Conservation Halton's restoration measures and conservation opportunities, in addition to the mapped natural heritage features, inform the update to the NEPOSS management zones for the Kelso Quarry. This conservation and protection framework permits the use of the quarry area for recreational and educational programs, enabling a unique visitor experience and exposure to the rehabilitated lands. Kelso Quarry received a Bronze Plaque from the Ontario Stone, Sand & Gravel Association for the "diverse ecosystem that has been created in the heart of the Niagara Escarpment"[25].

Two central programmatic areas of opportunity, North Kelso and Kelso Quarry, were studied separately given the unique landforms, history and set of constraints to take into consideration through the design process. They are appropriate for recreational activities through the updated NEPOSS 'Development' and 'Recreation' zones, and build on the framework identified in the 2002 Master Plan, Conservation Halton's vision and strategic direction, NEPOSS Planning Manual and NEP. The Kelso Master Plan concepts, through the implementation of the overall site plan, are grounded with key service targets, key conservation targets and strategic objectives. They integrate the protection of important natural and cultural assets, enable the necessary upgrades to the facilities and associated infrastructure, envision sustainable growth and visitation demands, celebrate Kelso's unique natural environment and the Escarpment, and improve the visitor experience and long-term programming for healthy living.

[25] Conservation Halton. 2018. Media Releases: Rare Honour Goes to Kelso Quarry Park in Milton. Retrieved from: https://www.conservationhalton.ca/media-releases/rare-honour-goes-to-kelso-quarry-park-in-milton.

Consideration for Kelso's existing servicing needs are critical for the continued management of this site. Although outside of this master plan, Conservation Halton will be seeking approval to permit urban services *outside of the urban boundary, as identified in the Region of Halton Official Plan and approved as an* amendment to the Niagara Escarpment Plan (NEP) to allow servicing, following the 2015 Co-ordinated Land *Use Planning Review. Ongoing conversation with the NEC, MNRF, MECP and the Halton Region are underway to address the existing site servicing needs. The Kelso Master Plan concepts were developed under the premise that servicing solutions to address the existing site visitation are available.*

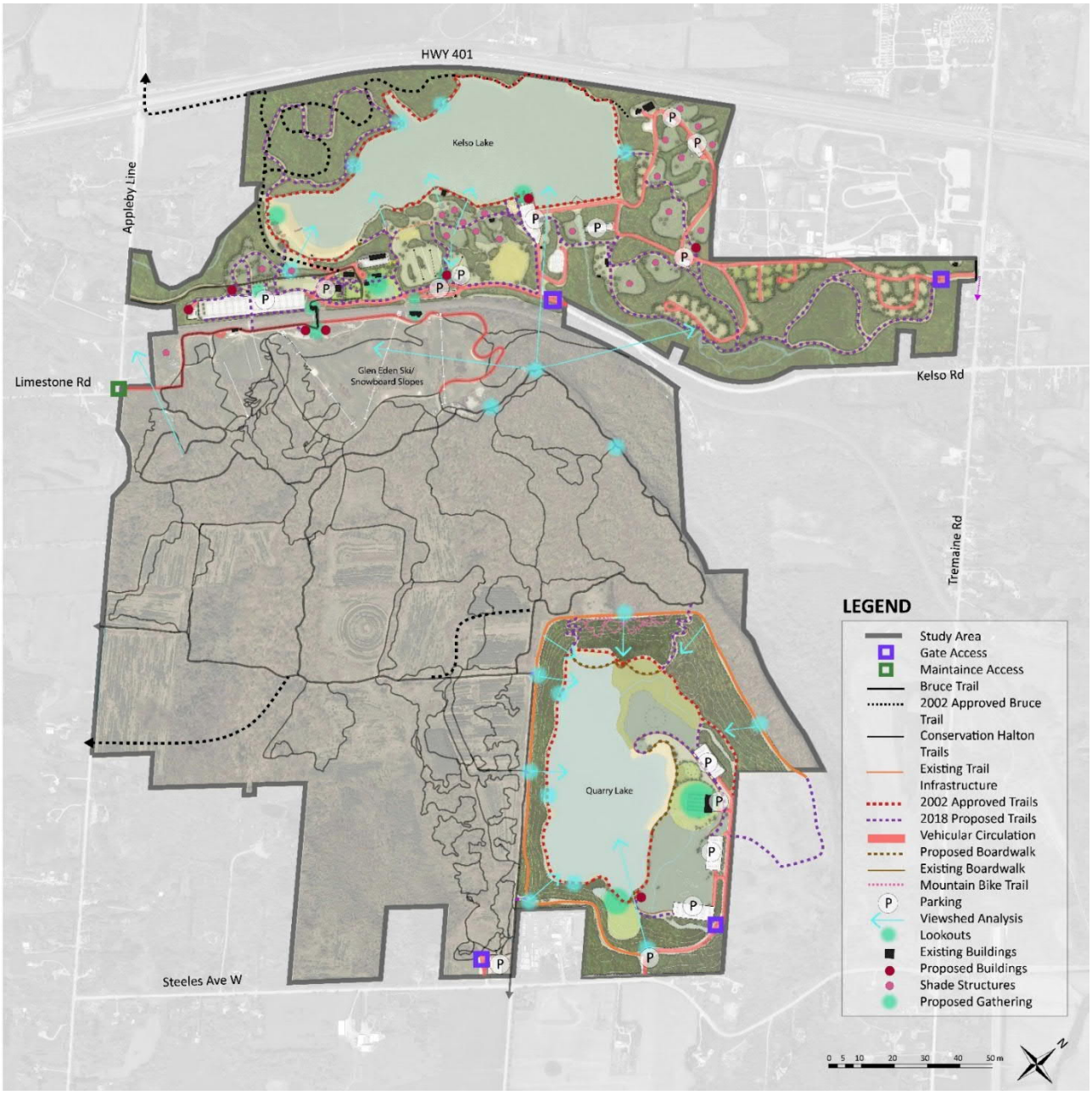


Figure 19: Overall Master Plan Concept

Figure 20: North Kelso Master Plan Concept

Figure 21: Kelso Quarry Master Plan Concept

4.1 SUSTAINABILITY EVALUATION

Key policy and planning considerations (i.e., NEP, Official Plans (Regional and Town), Conservation Halton strategy and regulatory requirements, stakeholder and community input, technical investigations, and economic and market base (i.e., population trends, demographic transitions, and economic feasibility and revenue forecasts) identified in Phase 1 of the master planning process led the initial design direction for the development of the preliminary concepts. In Phase 2, the potential programming features were evaluated with stakeholder and community feedback, cultural and natural heritage conservation alignment and the updated NEPOSS zoning to assess most suitable programming. The master plan directions, informed by this evaluation process, are summarized for each program.

Conservation Halton provides conservation, restoration and responsible management to the water, land and natural habitats within Kelso through initiatives that balance human, environmental and economic need, as well as program opportunities for the public to enjoy, learn from and respect Ontario's natural environment. It is recognised that visitor use of Kelso may pose impacts to programmed and potentially not programmed landscapes, therefore, management techniques need to protect natural areas with special values and balance the impacts to other areas to an acceptable level. This section provides an overview of environmental, social and economic impacts of the Kelso Master Plan concepts' features, as well as potential mitigation measures to avoid or minimize those impacts.

Within each sustainability pillar, Conservation Halton's framework for the sustainability evaluation lists specific criteria to consider, as outlined in Table 7. The impacts and mitigation measures listed should be considered an estimation of the potential impacts that may occur and possible measures to avoid or minimize the impacts.

The NEC is required to provide the first approval based on Ontario Regulation 828/ 90, prior to any other agency for lands within NEP. The approval process for the NEC is identified in Section 7.2. The listed mitigation measures also identify potential agency consultation and approvals that may be required. For environmental impacts, these include, but are not limited to, potential approvals with the following agencies for the associated regulatory requirements:

- MNRF for approvals under the Fish and Wildlife Conservation Act (FWCA);
- MECP for approvals under the ESA and for wastewater servicing approvals;
- DFO for approvals related to fish and fish habitat under the Fisheries Act and/or aquatic SAR under SARA; and/or,
- Environment and Climate Change Canada (ECCC) for approvals related to SARA and/or the Migratory *Birds Convention Act* (MBCA); and,
- Conservation Halton for endorsement under Ontario Regulation 162/06 *Conservation Authorities* Act.

Table 7 Sustainability Evaluation Criteria

ENVIRONMENTAL	SOCIAL	ECONOMIC
• Avoidance of impacts on natural heritage functions, such as the introduction and spread of invasive species and pest/diseases, trampling, loss of natural cover, habitat fragmentation, noise and light disturbances, wildlife incidental take, and increased imperviousness • Potential to restore or improve natural features and natural heritage systems, ecological connectivity, and achieve long-term ecological form and function and native biodiversity • Conformity to national, provincial, regional or local plans with respect to natural heritage objectives	• Accessibility – physical, visual, transportation, affordability • Provision of educational opportunities / facilities • Provision of outdoor recreational opportunities and services • Access to views, quiet spaces, contemplative areas • Conformity to provincial, regional and local recreational plans	• Capital costs (cumulative over 10 year period) • Operating costs • Direct revenue generation potential • Sponsorship or partnership potential • Potential for positive economic impact upon the community

The sustainability evaluation also included a high-level assessment of Kelso Master Plan concepts and their potential interactions with SAR habitat and the RNHS. The assessment methods and results of this SAR and RNHS assessment are presented in Appendix E.

For the SAR assessment, the proposed location and approximate extent of each master plan concept feature was reviewed to identify potential SAR habitat for the species in the SAR inventory update that could be affected by the development of proposed features (see Appendix C). For each master plan feature that has been identified in the assessment as having the potential to impact SAR habitat, this potential for impact has been noted under the environmental pillar of the sustainability evaluation table for that concept feature. The objective of this assessment is to identify features for which further regulatory consultation or permitting and approvals may be required. Features that involve only programming activities and/or minor modifications to existing infrastructure (e.g., signage improvements, minor landscaping/planting, etc.) are generally considered unlikely to impact SAR habitat.

The RNHS assessment was completed through a review of the RNHS mapping from Phase 1 – Inventory & Analysis Report and master plan concept features to determine potential interactions with areas classified and mapped as 'NHS Key Feature', 'Enhancement Areas', and/or 'Prime Agricultural Lands in NHS Enhancements' (referred to as 'Prime Agricultural'). Some parts of Kelso are not mapped within the RNHS. It should be noted that the individual types of natural features in areas mapped as 'Key Feature Areas' were not provided. For each master plan concept feature, the identified RNHS classification(s) that overlap the general extent of the proposed feature have been identified under the environmental pillar of the sustainability evaluation table for that concept feature.

4.2 NORTH KELSO CONCEPT

In achieving long-term sustainability and operational success at North Kelso, it was critical to address improvements to vehicular and pedestrian circulation, servicing and infrastructure, wayfinding, enhanced programming and themed recreational areas, accessibility, operations, facility conditions and conservation measures – all of these features strengthen Kelso's identity in Conservation Halton parks system and the NEPOSS. The concept had room for exploring options – it was not logical to rearrange the existing puzzle pieces, but to focus on the interfaces between activity areas, cohesiveness of amenities and themes, and the forecasted activity types based on visitor needs.

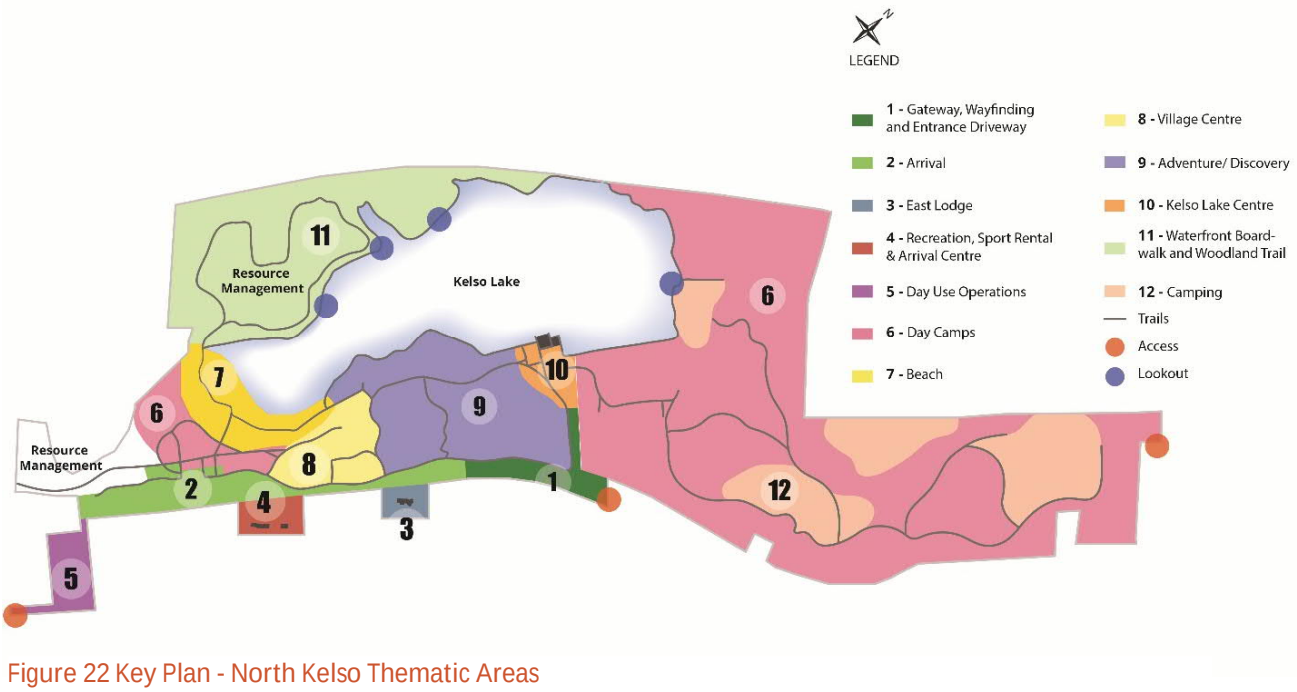


Figure 22 Key Plan - North Kelso Thematic Areas

The North Kelso area continues to illuminate the culture for learning and discovery - biking, skiing, canoeing, camping, bird and nature viewing, fishing, snow shoeing, hiking, rope climbing, volley-ball, and many more activities, while continuously showing respect for the natural environment. It is a place for families, group events, summer camps, couples, elderly, school groups and individuals who wish to retreat to a very natural urban park. Its programs are supported by pedestrian and vehicular infrastructure (i.e., gateway and entrance driveway, waterfront boardwalk and woodland trail), day-use operations access and maintenance/storage areas. The North Kelso master plan has the following thematic areas (see Figure 22):

1. Gateway, Wayfinding & Entrance Driveway
2. Arrival
3. East Lodge
4. Recreation, Sport Rental & Arrival Centre
5. Day Use Operations
6. Day Camps
7. Beach
8. Village Centre
9. Adventure/Discovery
10. Kelso Lake Centre
11. Waterfront Boardwalk & Woodland Trail
12. Camping

4.2.1 THEMATIC AREA 1 - GATEWAY, WAYFINDING & ENTRANCE DRIVEWAY

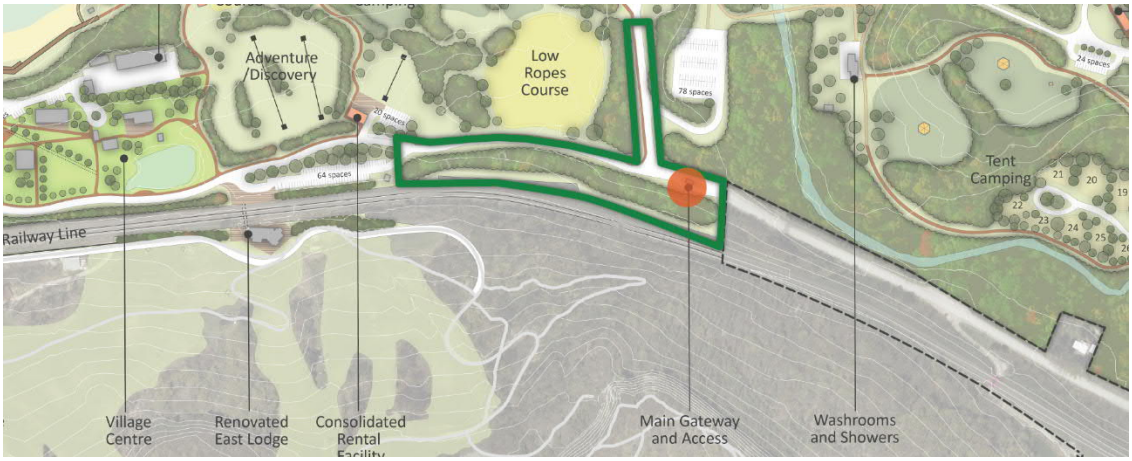


Figure 23 North Kelso Gateway, Wayfinding & Entrance Driveway (dark green outline)

Figure 24 Examples of Gateway and Wayfinding Signage

Entrance into Kelso via Tremaine Road is enhanced with an electronic gateway and a digital admission solution with online reservation system in order to reduce the existing congestion along Kelso Road, and occasionally Tremaine Road. The application of this type of technology will cut down on the visitor wait times to enter the park and improve the existing traffic management measures. Eliminated line-ups improve

visitor experience and allow visitors to spend more time enjoying the recreational opportunities at the park. Further, Kelso's entrance is formalized through unique and site-sensitive signage and landscape features emphasizing the visitors' arrival to the park. Contemporary signage continues throughout the park providing clarity for visitors of all mobility types to efficiently find their way around, especially in the evening as it enhances park use and experience.

Unique banners are used throughout the site to provide markers for significant areas such as the Adventure/Discovery or Lake Centre. In addition, native planting enhances the pedestrian experience along the circulation paths of North Kelso and provides learning opportunities through demonstration gardens. Additional vegetative cover is recommended along the railway edge to buffer views towards the rail line from the North side of the site, and provide enhanced views from the slopes for skiers and snowboarders.

In addition to the visitor experience improvements, the master plan allows for drainage and stormwater management enhancements on site by improving existing drainage infrastructure and incorporating low impact development (LID) features, such as rain gardens, permeable paving, green roofs and bioswales. Obtaining appropriate permit approvals for naturalizing the headwater of the creek and daylighting the creek from the existing pond should be considered during the implementation of this master plan. There is also an opportunity to discuss gravel and ditch enhancements, and potentially partner with the Town of Milton on their capital planning for the Kelso road upgrades.

Table 8 Gateway, Wayfinding & Entrance - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
*East Gate – Tremaine Road *Existing main access* and infrastructure	ENVIRONMENTAL – N/A SOCIAL/ECONOMIC • Reduces traffic impacts on Kelso Road during peak summer use with electronic gate and online reservation technology advancement, and provision of additional public access points into the park; • Automated electronic gate and online reservation reduces costs associated with payment collection and expedites entrance to the park, allowing for longer visit duration and increased potential for revenue; and, • Provides an opportunity for more flexible and dynamic pricing for park access.
*Buffer Planting of Railway Edge Enhancement New planting enhancement	ENVIRONMENTAL- N/A SOCIAL/ ECONOMIC • Improves visitor arrival experience and provides visual buffer coming down the slopes in the winter; may result in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
Signage, Lighting, Banners, Walkways, Edges and Landscape	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction and new lighting; • Reduces runoff from reduction in paved areas through naturalized stormwater management systems and LID; and,

Feature	Potential Impact
New Infrastructure, as needed	• Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and wayfinding, and may result in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for sponsorship/partnerships.

Mitigation Measures

- Features implemented in 'Development' zone;
- Design lighting systems using best practices, reference dark sky design and limit lighting to areas for safety and recreation uses to minimize wildlife disturbance;
- Use existing footprint or disturbed areas, where possible;
- Construction and maintenance during appropriate timing windows to avoid wildlife disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement of native vegetation for impacted areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required Ministry of Heritage, Sports, Tourism and Culture Industries (MHSTCI), MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.2 THEMATIC AREA 2 - ARRIVAL

There is a disconnect between existing circulation patterns and passenger drop-off areas at Glen Eden ski facilities, and visitor needs and experience; this necessitates a new approach to vehicular and pedestrian movement North of the rail tracks, building on the ideas from the 2002 Master Plan. As visitors enter Kelso and travel towards the Visitor's Centre, the pedestrian bridge tower acts as the vertical gateway to the ski slopes, supported by the central plaza. This plaza becomes the central four-season public space, functioning to welcome visitors to the site and as a gathering space. A circular island facilitates vehicular movement for

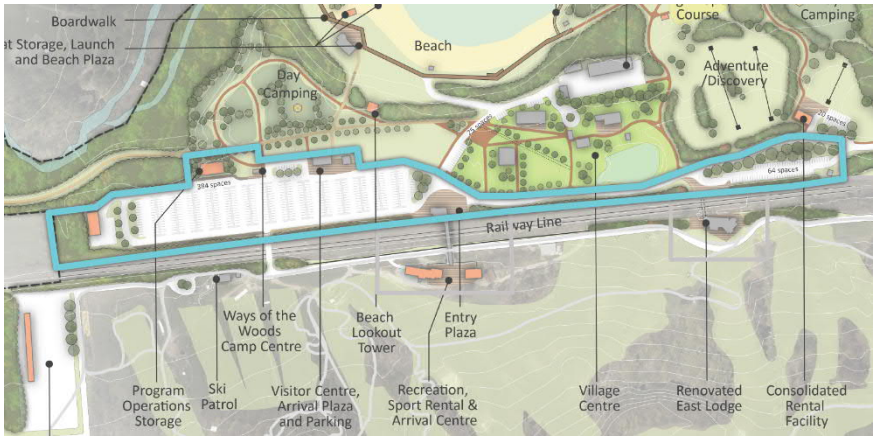


Figure 25 North Kelso Arrival (light blue outline)



Figure 26 Examples of Arrival Plazas and Low Impact Development Features

passenger drop-off at the plaza, and there are additional drop-off areas for busses to the West of the plaza. Further, site parking is consolidated into one organized parking system, with a circulation network to minimize congestion, allow ease of access to the Visitor's Centre and the Arrival plaza, and to organize the waste bins at the west end of the parking lot, out of plain site from visitors. Where possible, LID will be integrated, as well as considerations for additional barn swallow nesting opportunities.

Table 9 Arrival - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Roadway Enhancement *Modification to existing infrastructure* within disturbed areas in Development zone	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction within the existing hardscape footprint; • Improves water quality and controls runoff through roadside planting, buffers and LID; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience, traffic flow on site and along Kelso Road, and creates sense of arrival for visitors at Visitor's Centre; • Creates efficiency and compatibility with programming for drop-offs and parking at strategic locations for access to facilities and infrastructure; and, • Increases capacity to accommodate visitors more efficiently, potentially leading to increased visitation and associated revenues.

Feature	Potential Impact
Re-Organized Parking System and Circulation to Increase Traffic Flow and Visibility of Visitor Centre from Entry Existing infrastructure; enhanced resurfacing and alignment of parking	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction within the existing hardscape footprint; and, • Improves water quality and controls runoff through roadside planting, buffers and LID. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience through wayfinding and accessibility; and, • Provides a potential for increased visitation and/or visit duration, increasing the opportunity for increased revenue generation.
Entry Plaza to Bridge Crossing Enhanced plaza space	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction within the existing hardscape footprint; and, • Provides opportunity for additional Barn Swallow nesting structures. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience, wayfinding and accessibility; and, • Creates gathering space.

Mitigation Measures

- Features implemented in 'Development' zone;
- Use existing footprint or disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction ;
- Transplanting or replacement of native vegetation for impacted areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and
- Obtain required MHSTCI, MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.3 THEMATIC AREA 3 - EAST LODGE

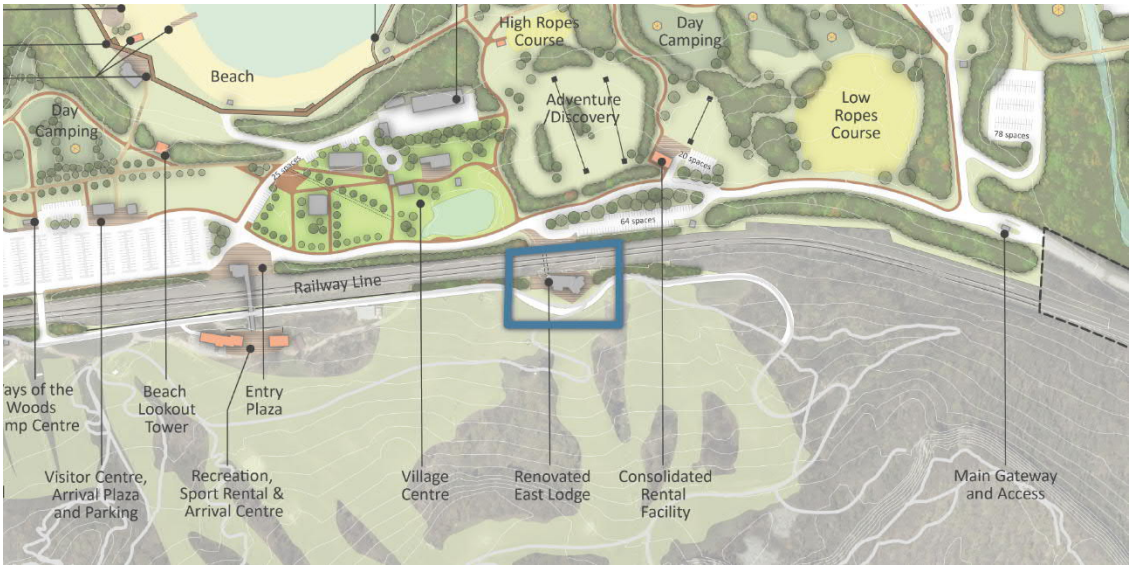


Figure 27 North Kelso East Lodge (dark blue outline)

The East Lodge is renovated to enhance its existing facilities, including lockers, change areas, food services, a fireplace room and a dining area. The exterior of the lodge features an outdoor patio welcoming visitors to dine and enjoy the outdoors while viewing the activities on the slope. The East Lodge is supported by a designated outdoor plaza on the north side of the railway to mark the entrance to the lodge and facilitate movement between the enhanced parking lot and the newly renovated building. Where possible, green technology and LID, as well as creation of additional barn swallow nesting, should be considered during implementation.

Table 10 East Lodge - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Building Renovation, including Food Services and Tables, Equipment Rental, Fireplace Room, Lockers/ Change Room, Parking Enhancement NEW – Patio to front the ski hill	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction within the existing building and hardscape footprint; • Improves water quality and controls runoff through planting, buffers and LID; • Provides opportunity for additional bat, Barn Swallow, and other bird nesting sites; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Enhances function of existing facilities allowing for expansion of customer base and new revenue streams into the future; • Improves visitor experience, wayfinding and accessibility; and,

Feature	Potential Impact
Existing structure with minor interior/ exterior renovations	• Improves offerings and increases capacity, providing an opportunity for increased revenue generation.

Mitigation Measures

- Feature implemented in 'Development' zone;
- Use existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.4 THEMATIC AREA 4 – RECREATION, SPORT RENTAL & ARRIVAL CENTRE

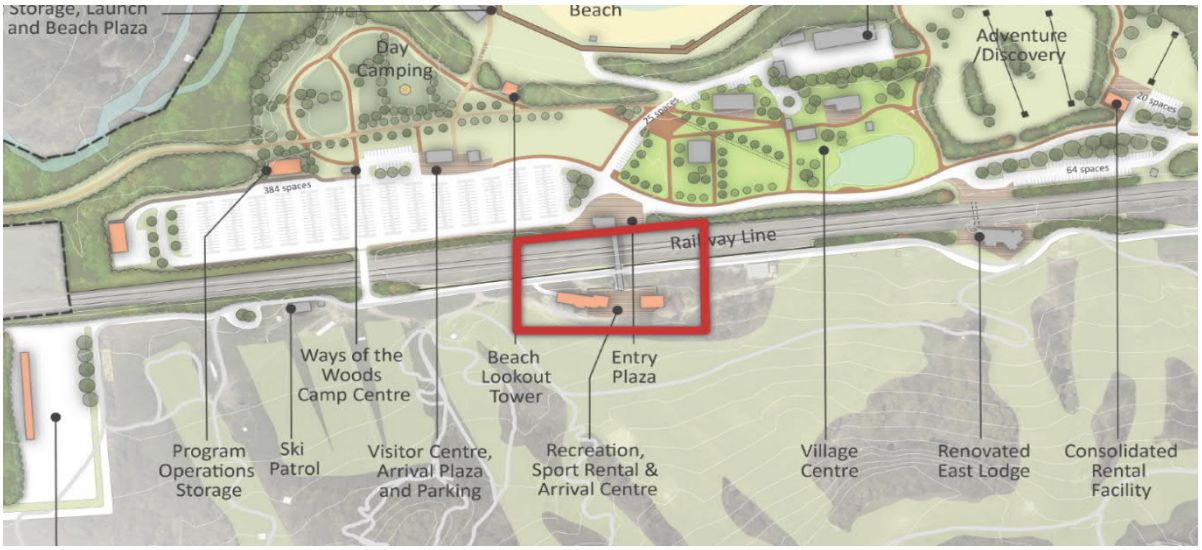


Figure 28 North Kelso Recreation, Sport Rental & Arrival Centre (red outline)

The 2002 Master Plan identified the need for a Central Ski Recreation (Business Case) to accommodate better services for the skiers, snowboarders and visitors. Through the master plan update process, the buildings were identified as the Recreation, Sport Rental & Arrival Centre located in close proximity to support user needs and to provide a gathering space in between them through the central outdoor plaza. Several temporary modular structures were erected on the site in the early 2000's due to budget constraints after the construction of the pedestrian tower over the railway. These temporary structures included West Lodge (formerly Sunset Lodge), Adventure Centre (Rental Shop), Track 3, Snow Patrol and Milton Heights Racing Clubhouse, as well as some auxiliary ticket booth kiosks. Additionally, the A-Frame that houses snow school staff onsite along with a temporary trailer does not provide adequate staff space and is beyond its reasonable life expectancy. The location of the existing structures does not allow for pleasant and clear site

Figure 29 Examples of Ski Lodge and Recreation Facilities

circulation for visitors or staff, and are significantly undersized for the current visitation due to the growth of the surrounding area and subsequent park visitation increases since 2002.

The Recreation, Sport Rental & Arrival Centre will consolidate the following existing structures with a combined footprint of 1,440 square metres: West Lodge, Adventure Centre (Rental Shop), A-Frame (Snow School Building), Milton Heights Racing Clubhouse, Snow Patrol, Track 3, and kiosk buildings.

This new facility will alleviate significant site circulation and visitor wait times, as well as accommodate the existing visitor needs of the site while improving existing carbon footprint through utilization of green building techniques and LID. The existing operational concerns that require the need for the new centralized Recreation, Sport Rental & Arrival Centre include:

- East-West and North-South site movement - onsite shuttle services during peak winter for visitors to access pass/lesson sales and rentals as well as the accessible pedestrian access from the north to south sides of the tracks, rentals and satellite learning centre are present, to the south side where the main ski lifts and base buildings are located; and,
- Wait times and seating - currently during peak visitation, wait times for rentals can be between 2 to 3 hours and indoor space for lunch or washroom breaks isn't adequate space for the existing visitors.

In 2019, Conservation Halton retained an architect, Red Studio, to conceptualize the massing of the Recreation, Sport Rental & Arrival building (see Appendix F and Appendix H). Visual Impact Analysis renderings of the proposed building, see Figure 30, are also included in larger format in Appendix I. It was

determined through this process that the three functions could fit into one building footprint with the following metrics:

- Total paving area including all site and terrace areas: 3,015 square metres;
- Building footprint: 2,640 square metres;
- Highest building elevation at the roof is 12.1 metres (elevation at approximately 251 metres); and,
- Building height at approximately at 263 metres elevation (Escarpment at top of ski hill is 310 to 315 metres).

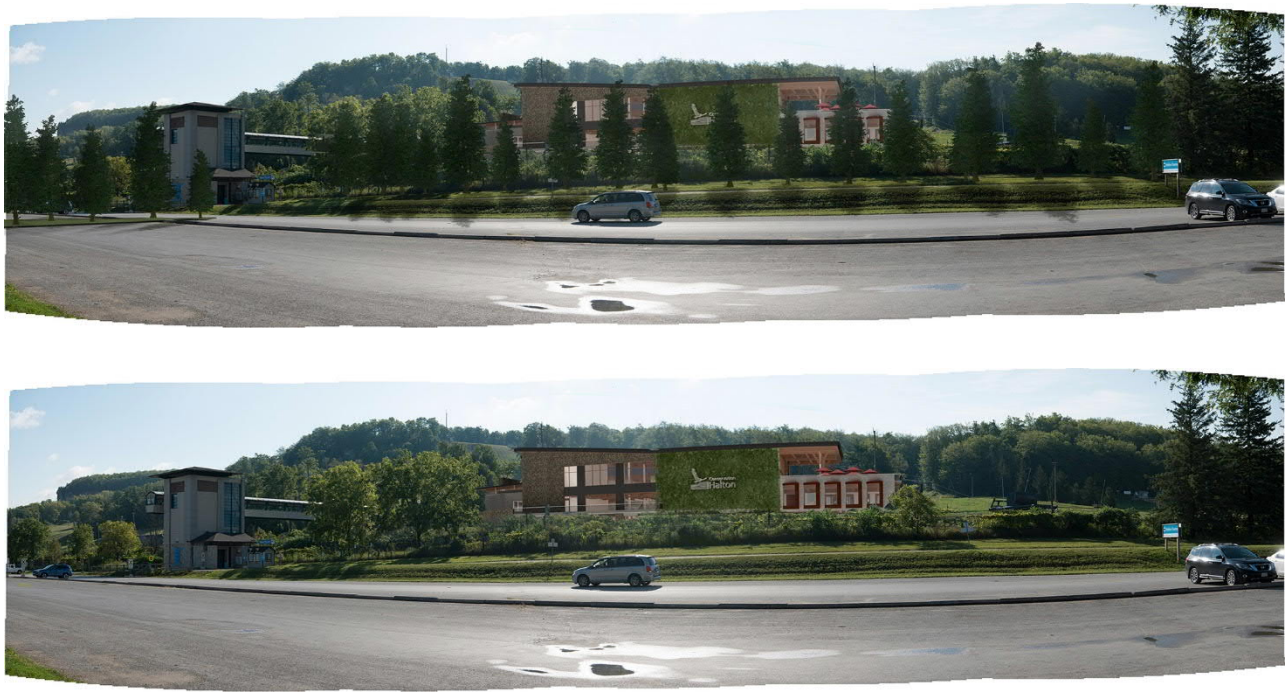


Figure 30 Visual Impact Analysis Renderings of the Proposed Recreation, Sport Rental & Arrival Building (Red Studio)

The new building offers a consolidated space for a one-stop location for services accommodating skiers and snowboarders efficiently. The useable floor area of the building levels will be optimized by the existing grade of the site, allowing the walk-in basement storey for rentals, retail, staff and storage space. The main floor is the visitor services hub for lessons, ticket sales and pass purchases for recreation, as well as food services and places for indoor and outdoor dining (with seating accommodated on the South side of the building, maximizing the view to the slopes, as well as service access). The restaurant and cafeteria provide an elevated experience from the existing food services at Kelso, and are intended for visitors participating in recreation and education activities, but are not a main draw for the site (hours and operational plans for the building will reflect this). Flexible seating and viewing space on the upper level is also provided to accommodate existing visitation during peak use and events. Further to these amenities, it has an outdoor courtyard providing causal outdoor seating, gathering space, organized meeting area, entertainment and

scheduled event space. The indoor and outdoor dining spaces can be used as rental space, entertainment and other appropriate scaled scheduled events.

The rental area provides rental equipment for not only skiers and snowboarders but also for summer activities, as well as a repairs centre and retail shop offering four-season service to visitors. It supports lessons on site, as well as ticket sales and ski/snowboarding lesson information. On the upper level, the building features instructor meeting rooms, offices and storage for equipment. Water and wastewater services will be located within the existing footprint of services. Finally, the building offers inclusive washroom facilities for instructors, visitors and staff.

Table 11 Recreation, Sport Rental & Arrival Centre - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Recreation, Sport Rental & Arrival Centre - Offices, Tickets, Ski School Lesson tickets, Admin, Lockers, Rentals (winter and summer sports), Repairs/Shop, Instructor Meeting Rooms/Offices, Equipment/Ski Patrol, Change Area, Event Space Rentals, Food Services, Service Access, Washrooms, Shared Outdoor Court, Lessons Meeting Area, Seating (south facing), Existing temporary building (West Lodge) to be replaced in same location *Removal of existing temporary Rental* shop to be replaced at the A-Frame *location* Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, potentially beyond the existing buildings, paving and cleared area footprint; • Improves water quality and reduces runoff from consolidation of buildings, planting, buffers and LID; • Provides opportunity for additional bat, Barn Swallow, and other bird nesting sites; • Provides an opportunity for net zero, or better, building design through Living Building Challenge; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience, wayfinding and accessibility; • Creates a gathering space; • Improves offerings and increases capacity, providing an opportunity for increased revenue generation; • Enhances facilities allowing for expansion of customer base and new revenue streams into the future; and, • Feature located within archaeological potential area.

Mitigation Measures

- Feature implemented in' Development' zone;
- Use existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings of native vegetation for impacted areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.5 THEMATIC AREA 5 - DAY USE OPERATIONS

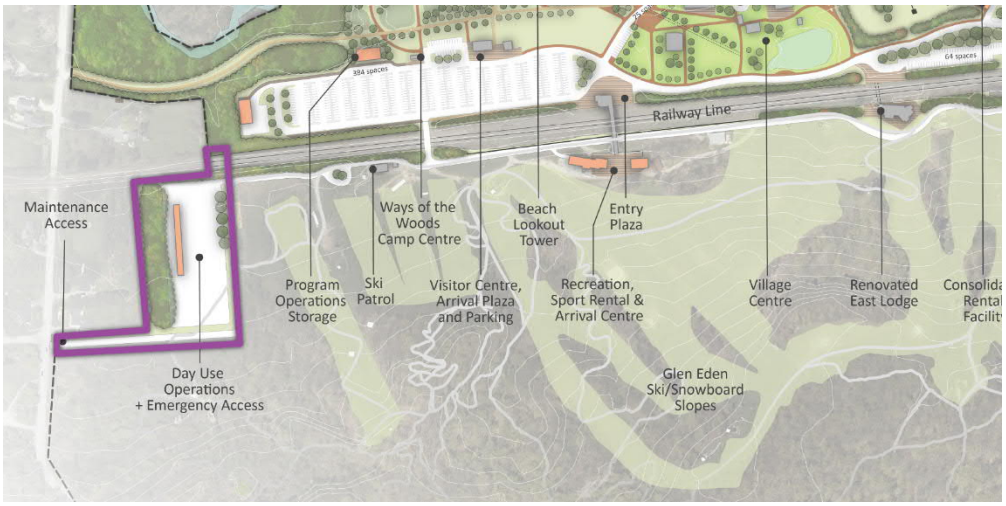


Figure 31 North Kelso Day Use Operations (purple outline)

As per the 2002 Kelso Master Plan, an area has been allocated for specific day use operations south of the rail line on the west side of the North Kelso site. This area has already been cleared of vegetation and graded with an existing gravel driveway and parking lot. The current function is for operational outdoor activities and maintenance to occur as well as open, unprotected storage. This area is intended to remain ski hill operations and is separated from the rest of the site with a vegetation buffer to screen the behind the scenes activities. The location also provides parking for hill operations and an emergency exit location to Appleby Line that will utilize LID and address drainage sustainably utilizing natural systems, where possible. The roofed structure will be operational storage of ski hill amenities such as terrain park features, padding and other summer seasonal operations storage required for the park functions.

Table 12 Day Use Operations - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
West Servicing Access – Appleby Line *Existing service* entrance on West side of park, south side of CP Railway tracks	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within the existing disturbed road, parking lots, railway and cleared areas; and, • Improves water quality and reduces runoff through roadside planting, buffers and LID. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Enhances safety and onsite circulation through reduced entrance and parking lot traffic from the main gate, and reduces frequency of railway crossings; • Improves emergency access route; and, • Allows for more efficient operations of the ski hill facilities, increasing the capacity to accommodate regular visitors and event visitation.

Feature	Potential Impact
Ski Operation Parking on South of Railway and Emergency Access Existing service entrance on West side of park, south side of CP Railway tracks	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within existing ski operations and cleared areas footprint; and, • Improves water quality and reduces runoff through planting, buffers and LID. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Reduces entrance and traffic conflict with the main gate access, as well as railway crossings; • Improves emergency access route; and, • Allows for more efficient operation of the ski hill facilities, providing an opportunity for increased revenue generation.
Separate Maintenance Area Existing infrastructure relocation Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within the existing ski operations and cleared areas; and, • Improves water quality and reduces runoff through planting, buffers and LID. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Isolates and buffers from recreational and educational activities; • Consolidates the maintenance and operational infrastructure to one location in order to reduce disturbance to visitors; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features located in 'Development' zone;
- Use existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings of native vegetation for impacted areas, as necessary;
- Adopt low impact development (LID) practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.6 THEMATIC AREA 6 - DAY CAMPS

Figure 32 North Kelso Day Camps (pink outlines)

The Day Camps area, just north of the Visitor's Centre, accommodates the WOW camp at Kelso with an improved circulation system and re-organization of day camp spaces with additional vegetation. The space allows for a number of groups and day camps to use the space at one time. Further, space for Day Camps has been improved just north of the night camping-area with smaller outdoor spaces buffered with vegetation and featuring a shade structure. The day-camps areas are supported by three adjacent parking areas for improved access and comfort.

Table 13 Day Camps - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Ways of the Woods Camp Enhancement Proposed improvements to day camping areas and programming *opportunities*	ENVIRONMENTAL • Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Enhances visitor experience, group educational and recreational programming, circulation and way finding; and, • Increases revenue through enhanced youth programming opportunities tied to local area population growth.
Day Camping Enhancement	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction of shade structures, within existing programming footprint and cleared areas;

Feature	Potential Impact
Existing programming; modification to existing layout (increased number of sites, decreased disturbed area, more tree plantings, more suitable location) Proposed additional day camping shade structures on rearranged sites	• Improves water quality and reduces runoff from increased tree coverage over lawn areas; and, • Reduces visitor impact due to more functional utilization on camping footprint. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience through privacy between sites and a climatic protection with shade structures; • Improves vehicular access and parking; and • Generates additional revenue with enhanced surrounds and additional campsites, through permit fees, retail concessions and other on-site attractions.
NEW – Clustered Parking and Shade Structures New infrastructure (shade structures) Modification of existing parking Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction of shade structures, beyond the existing programming, parking, paving and cleared areas; • Improves water quality and reduces runoff from tree plantings and LID; • Provides opportunity for additional bat, Barn Swallow, and other bird nesting sites; and, • Feature located within potential SAR habitat, and RNHS Key Feature, Enhancement Area and Prime Agricultural - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience by providing permanent canopies, privacy and accessibility by vehicle; and, • Improves capacity leading to an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Development' and 'Recreation' zones;
- Use existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings of native vegetation for impacted areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, and/or ECCC approvals (as applicable).

4.2.7 THEMATIC AREA 7 - BEACH

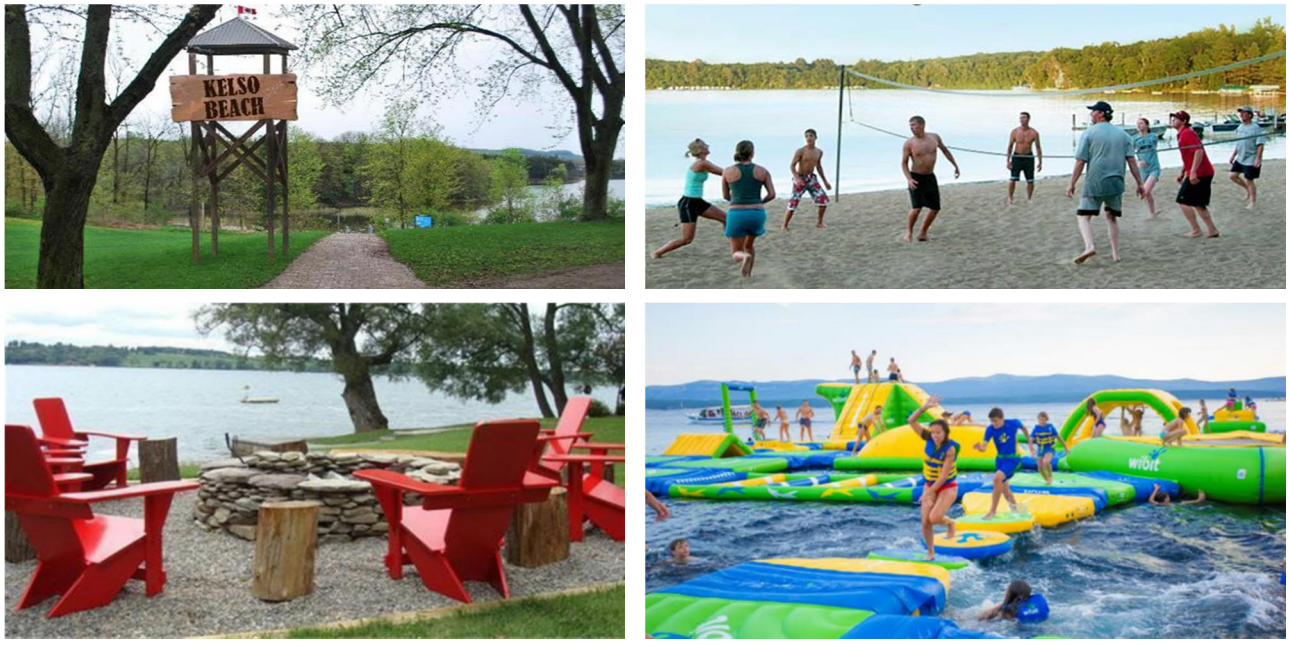


Figure 33 Examples of Beach Enhancements

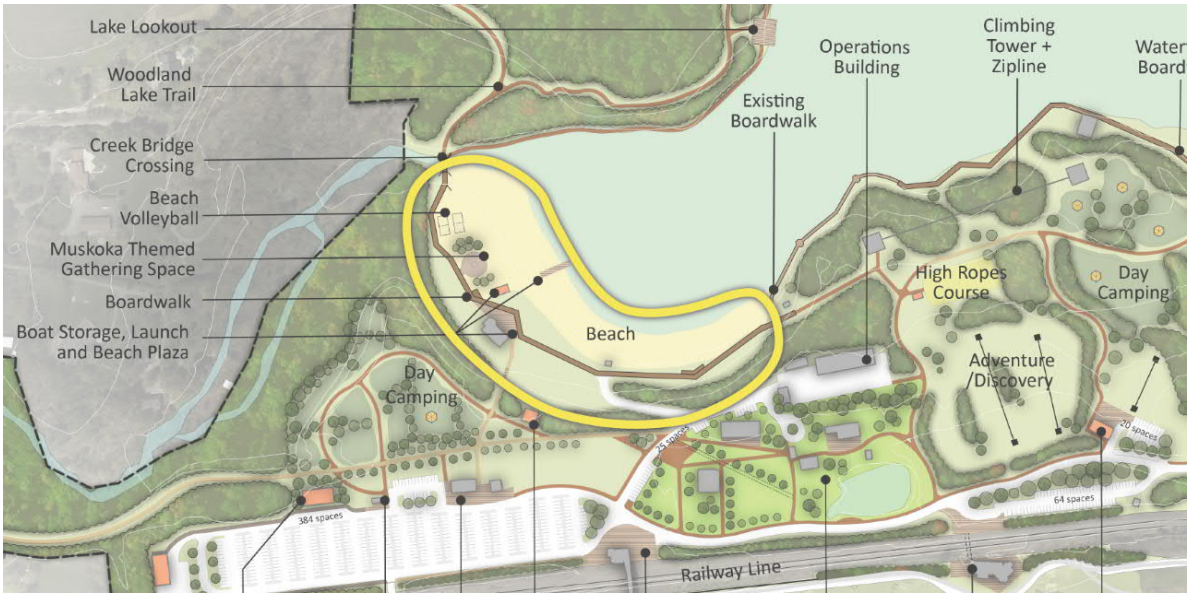


Figure 34 North Kelso Beach (yellow outline)

To better support visitor needs through spatial and programming enhancement, the revitalization of the Beach includes improved facilities, connections, visibility, and additional programming. Upgrades to the existing concessions building façade and interior configuration and aesthetic, fresher food services and

accommodations for additional outdoor seating are proposed, including a plaza and Muskoka gathering offering a unique natural experience around the fire pit.

Opportunities for non-motorized boat rental and drop-off are facilitated by concessions staff and accommodated with a small launching dock on the west end of the beach. This offers improved service and flexibility for the park users, and WOW camp activities. An inflatable water structure in Kelso Lake could offer additional water-play for regular visitors and WOW camp groups.

The Waterfront Boardwalk traversing along the beach provides spatial clarity on the active and passive beach programming, with a barrier-free transition between the North and South ends. It becomes an essential trail connection to the Kelso Lake Centre to the East and the Woodland Trail to the West. A large tower marker within the mid-level landscape of Kelso is necessary to act the Beach gateway and will be shorter than the existing Kelso High Ropes tower due to the height of the structure and lower ground grade. The style will mimic the ropes course tower, providing a complementary vertical aesthetic to the park.

Ecological restoration and educational enhancement opportunities exist in this area for invasive species management (e.g., zebra mussels), enhanced shoreline, naturalization of headwater feature, E. coli reduction and plantings of native species, as well as the use of LID and green building techniques. These opportunities should be incorporated, where possible, during the implementation to improve the ecology and visitor experience.

Table 14 Beach - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Improved Concession Facility Modification of existing building	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within the existing building footprint; • Improves water quality and reduces runoff from use of LID; and, • Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and connection to Kelso Lake; • Improves accessibility and provides additional outdoor recreational opportunity; and, • Improves offerings and increases capacity, providing an opportunity for increased revenue generation.
Beach Expansion and Enhancement	ENVIRONMENTAL • Disturbance to wildlife and vegetation from construction, potentially beyond the existing programming and infrastructure footprints; • Improves water quality and reduces runoff through LID and naturalization of headwaters/shoreline;

Feature	Potential Impact
Modification of existing infrastructure	• Manages invasive species (e.g., zebra mussels); • Inspires environmental stewardship through educational signage; • Enhances water quality through E. coli reduction; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and connection to Kelso Lake; • Provides additional outdoor recreational opportunity; • Improves physical accessibility to beach volleyball courts; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
*NEW - Secondary Non-Motorized Boat Rental Proposed programming	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience and connection to Kelso Lake at the Beach; • Provides additional outdoor recreational opportunity at the Beach; and, • Expands offering of goods and services, providing an opportunity for increased revenue generation.
NEW - Muskoka Fire Pit Area Proposed infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within the existing programming and infrastructure footprints; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and views to Kelso Lake; • Provides additional outdoor passive recreational opportunity and programming at the Beach; • Creates a destination gathering space; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
NEW - Boardwalk Access Along Beach Modification of existing paved pathway	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within the existing programming and infrastructure footprints; • Improves water quality from reduced runoff and use of LID; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart)

Feature	Potential Impact
	SOCIAL • Improves visitor experience and continuous accessibility between Kelso Lake Centre and Beach; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
NEW - Beach Tower Lookout at Kelso New Infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ECONOMIC • Improves visitor experience by identifying the location for beach access, providing consistent vertical wayfinding; • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.

Mitigation Measures

- Features in 'Development' and 'Recreation' zones;
- Use of existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings of native vegetation for impacted areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff;
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable); and,
- *Works required to demonstrate accordance with CH regulated policies (O.Reg. 162/06).

4.2.8 THEMATIC AREA 8 - VILLAGE CENTRE

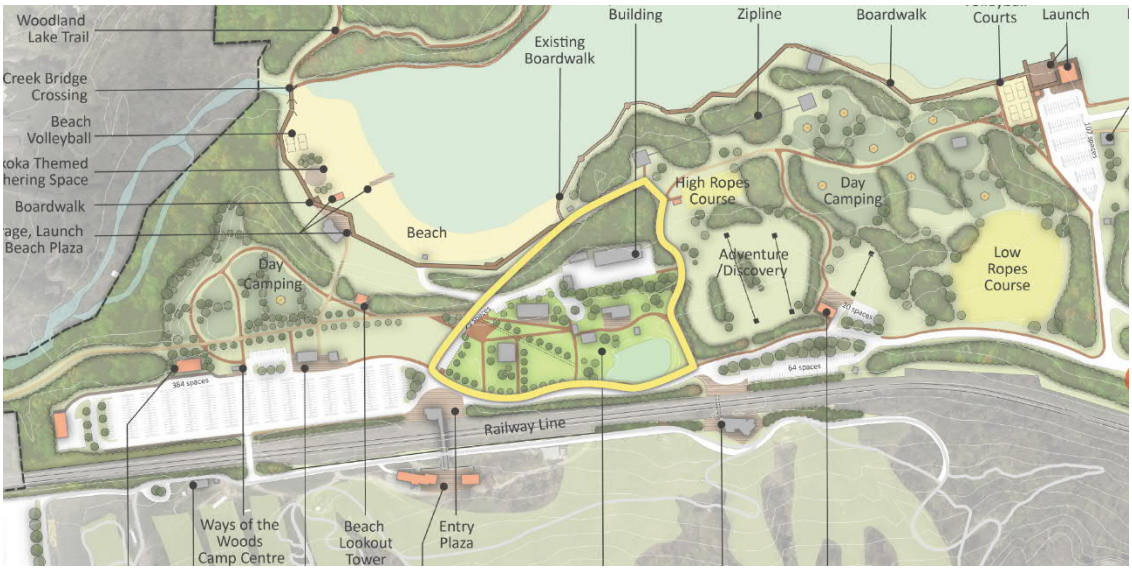


Figure 35 North Kelso Village Centre (yellow outline)

Figure 36 Examples of Heritage Village Programming

The Village Centre consists of the Alexander House, Halton Heritage Services, an operations building and a summer camps building. The aim for the re-design of this space is to reinvent it as a connected and programmed Village Centre. At the centre, the restored historic Alexander House is imagined to support retail and food services at the ground level, or tea house. The character of the landscape and architecture could also provide a setting for scheduled event space. The Alexander House's cultural heritage significance could be celebrated with a story-telling display that is surrounded by gardens that expand the historic theme into the outdoor.

Circulation throughout the Village Centre has been re-organized to provide ease of access for visitors. Specifically allocated parking space for the Village Centre is provided and pedestrian access is improved. The Operations Building is separated from the rest of the Village Centre through a designated driveway and parking. Vegetation is used to mask the view from the Alexander House. The other buildings in the Village Centre are utilized as office space, exhibition and gallery space and equipment repair shop.

Creation of bat and bird nesting will be incorporated where possible during the implementation of this concept. Interpretive native meadows and signage for both cultural and environmental education is an aspect of this feature as well. Consideration for LID should be considered during the implementation.

Table 15 Village Centre - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
*Conservation Halton's Parks and Recreation Administration Office/Regional Museum Offices Existing structure	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Utilizes existing structures and eliminates budget requirement for a new facility; • Offers a space for both existing and new programming; • Improves service operations and ability to generate revenues from the Halton Parks system through centralized administration office; and, • Generates new stream of revenue with opportunities for partnerships and programming in the larger museum building.
NEW – At Grade Retail/Food Shops (Alexander House)	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction; • Provides opportunity for additional bird/ bat nesting and meadow species habitat creation; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience with concession/shop variety; • Opportunity to connect trail system of park into the existing cultural heritage features on site; and,

Feature	Potential Impact
	• Expands offering of goods and services, providing an opportunity for increased revenue generation.
*NEW – Heritage Display *Existing structure*	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience and educational programming; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
*NEW – Small Event Support *Existing structure*	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience and structured programming space; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
NEW – Heritage Garden Proposed landscape improvements	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation, from expanded programmed and landscaped footprint; and, • Improves water quality with use of LID and naturalization. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and structured programming space; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
NEW – Country Garden Space Proposed landscape improvements	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation, from expanded programmed and landscaped footprint. • Improves water quality with use of LID and naturalization; • Creates meadow species habitat; and, • Inspires environmental stewardship through educational signage. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and structured programming space; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation. Mitigation measures to reduce potential impacts (refer to bottom of chart)
NEW – Restore Alexander House *Existing Structure*	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within the existing programming and cleared areas; • Improves water quality and reduces runoff from use of LID; • Opportunity to provide additional bat, Barn Swallow, and other bird nesting sites; and,

Feature	Potential Impact
	• Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and structured programming space; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in the 'Development' zone;
- Use of existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or new plantings of native vegetation for impacted areas, as necessary;
- Adopt low impact development (LID) practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.2.9 THEMATIC AREA 9 - ADVENTURE / DISCOVERY

Figure 37 North Kelso Adventure Discovery (purple outline)

Figure 38: Examples of Adventure/ Discovery Programs

The Adventure/Discovery location builds on Kelso's existing adventure facilities, such as the ropes courses and future zip line; these are attractive to all age and skill levels. There is a growing need to consolidate multi-activity operational services into one building, including rentals, tickets and washrooms, with an adjacent parking lot for direct and safe accessibility. Taking advantage of the existing infrastructure, this area is envisioned as a learning area for young or learning skiers and snowboarders in the winter. Thus, learners can experience the slopes on a smaller scale before they are ready to take on the Glen Eden slopes. The area has the potential to function as a terrain park for skiers and snowboarders, with supplementary winter activities, such as sliding/tobogganing, snowshoeing and hiking.

During the summer months, this area can support the proposed uses of disc-golf, water play area, small scale mountain biking, and a nature play. Disc-golf would aim to accommodate a 9-basket course with platforms for tee-off locations. The warmer month activities would complement the existing ropes courses and zip line on site to create a cohesive activity cluster for summer visitors. The implementation of this features in the master plan should consider the accommodation of LID and educational signage, as well as bat and bird nesting structures.

Table 16 Adventure / Discovery - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Parking Reorganization and Enhancement Existing infrastructure, with resurfacing and new alignment	ENVIRONMENTAL • Disturbance to adjacent wildlife from construction, within existing parking lot, roadway, paths and cleared areas; and, • Improves water quality and reduces runoff through LID and naturalization. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and accessibility; and, • Increases capacity resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue.
NEW – Building with Consolidated Washrooms, Rentals and Tickets *Consolidation of* temporary Ontario Track 3 Ski *Association for the* Disabled building into this building	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, beyond the existing programming, buildings and cleared areas; • Improves water quality and reduces runoff through LID, naturalization and consolidation of buildings; and, • Feature located within potential SAR habitat and RNHS Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and accessibility; • Provides consolidated services specific to the Adventure/ Discovery; • Increase of offerings resulting in an increase in visitation and/or duration, providing an opportunity for increased revenue generation; and, • Located within archaeological potential area.
*Ski/Board, Mountain Bike, Snowshoe *Existing* infrastructure; *additional* programming	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience and accessibility; • Provides consolidated services specific to the Adventure/ Discovery; and, • Additional programming opportunities and increased capacity may increase revenue.
NEW – Nature Play and Water Play New infrastructure	ENVIRONMENTAL • Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart)

Feature	Potential Impact
	SOCIAL • Improves visitor experience with enhanced programming, additional outdoor recreation on Kelso Lake; and, • Increases offerings resulting in an increase in visitation and/or visit duration, providing opportunity for increased revenue generation.
NEW – Frisbee Golf	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, existing programming, parking lots, roadways, paths and cleared areas; • Improves water quality and reduces runoff through LID and naturalization; • Creates meadow species habitat; and, • Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience with enhanced programming; and, • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Feature implemented in 'Development' zone and 'Recreation' zones;
- Use existing disturbed areas, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.2.10 THEMATIC AREA 10 - KELSO LAKE CENTRE

Figure 40 Examples of Modest Boat Docks, Outdoor Cafe and Lake Information Centre/Camping Store

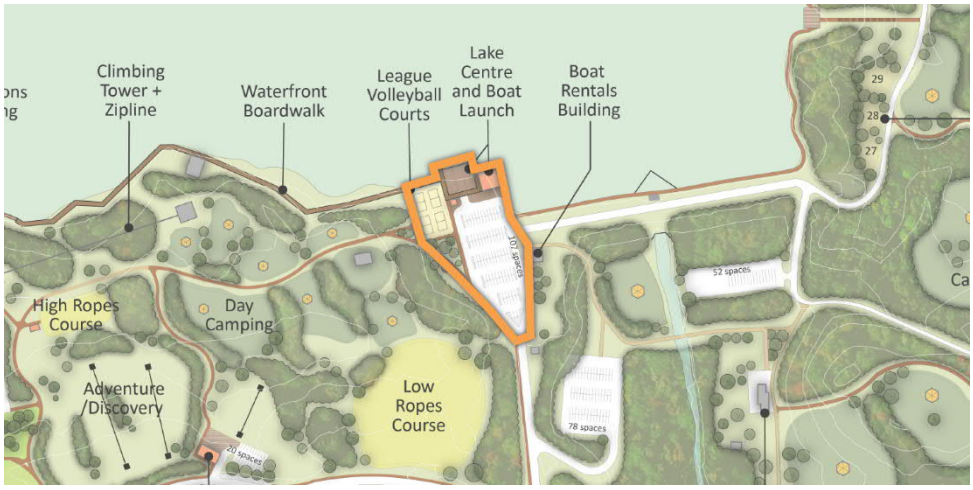


Figure 39 North Kelso - Kelso Lake Centre (orange outline)

In the 2002 Kelso Master Plan, a new boat dock and launch ramp were proposed to centralize lake activities. This is further defined in this master plan with the Kelso Lake Centre, centralizing the existing amenities and the new building at the lake's edge while providing additional services to the visitors (i.e., camp store, information centre and an outdoor café overlooking the lake). Boat launching for non-motorized boats will remain at this location, although upgraded to facilitate easier non-motorized boat docking. Kelso Lake Centre will be the Eastern gateway to the Waterfront Boardwalk connecting the site to the Beach, while also accommodating optimized parking that is better suited to support the enhanced site programs. The implementation of the Kelso Lake Centre will incorporate opportunities where possible to reduce E.coli, improve the riparian shoreline, manage invasive species (e.g., zebra mussels), utilize LID and green building techniques to reduce runoff and increase quality of water.

Table 17 Kelso Lake Centre - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Enhance Boat Dock and Launch Ramp Proposed modified infrastructure Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, beyond existing footprint; • Manages invasive species (e.g., zebra mussels); • Naturalizes headwaters and shoreline; • Enhances water quality through E.coli reduction; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL • Improves visitor experience with accessibility to Kelso Lake and enhanced recreational opportunities; and, • Increases capacity, visitation and/or visit duration, providing an opportunity for increased revenue generation.
Re-Organized Parking Existing infrastructure (minor realignment of existing parking and potential resurfacing) and LID	ENVIRONMENTAL • Disturbance to adjacent wildlife and from construction, within the existing programming and cleared areas; • Reduces runoff and improves water quality through LID, and naturalization of headwaters and shoreline; • Manages invasive species (e.g., zebra mussels); and, • Enhances water quality through E.coli reduction. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves access to water and waterfront activities; and, • Improves capacity and visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
Shoreline Rehabilitation Existing infrastructure improvements, naturalization of shoreline and interpretive signage	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within existing infrastructure footprint; • Reduces runoff and improves water quality through LID, and naturalization of headwaters and shoreline; • Manages invasive species (e.g., zebra mussels); • Water quality enhancement through E-Coli reduction; • Inspires environmental stewardship through educational signage; and, • Feature within potential SAR habitat and NHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart)

Feature	Potential Impact
NEW – Camping Store/Lake Information Centre/ Small Café with Patio Proposed infrastructure and programming	SOCIAL/ ECONOMIC • Improves continuous accessibility along Kelso Lake; • Provides educational opportunities about ecological restoration; and, • Improves visitor experience and/or programming opportunities resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation. ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, beyond the existing programming and cleared areas; • Interference with Kelso dam flood control and emergency spillway; • Improves water quality and reduces runoff from use of LID, and naturalization of headwaters and shoreline; • Manages invasive species (e.g., zebra mussels); • Enhances water quality through E.coli reduction; • Environmental stewardship inspiration through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves level of service, accessibility and visitor experience at the north end of Kelso Conservation Area, while providing important goods and services with an opportunity for increased revenue generation; • Creates a destination gathering space; and, • Features located within archaeological potential area.
NEW - Volleyball (4 courts) Proposed infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within the existing programming and cleared areas; • Enhances to a pervious surface, reducing runoff; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and connection to Kelso Lake, as well as physical accessibility to the beach volleyball courts; • Provides additional outdoor recreational opportunity; and, • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation, including the opportunity to initiate league volleyball.

Mitigation Measures

- Feature implemented in 'Development' zone;
- Works required to demonstrate accordance with CH regulated policies (O.Reg. 162/06);
- Where possible, use existing disturbed areas;

Feature	Potential Impact

- Replanting - transplanting of appropriate existing vegetation and additional restoration plantings for disturbed areas, as necessary;
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable);
- Construction during appropriate timing windows to avoid fish and wildlife disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Sustainable practices, such as capture, store and use of rainwater from roofs.

4.2.11 THEMATIC AREA 11 - WATERFRONT BOARDWALK AND WOODLAND TRAIL

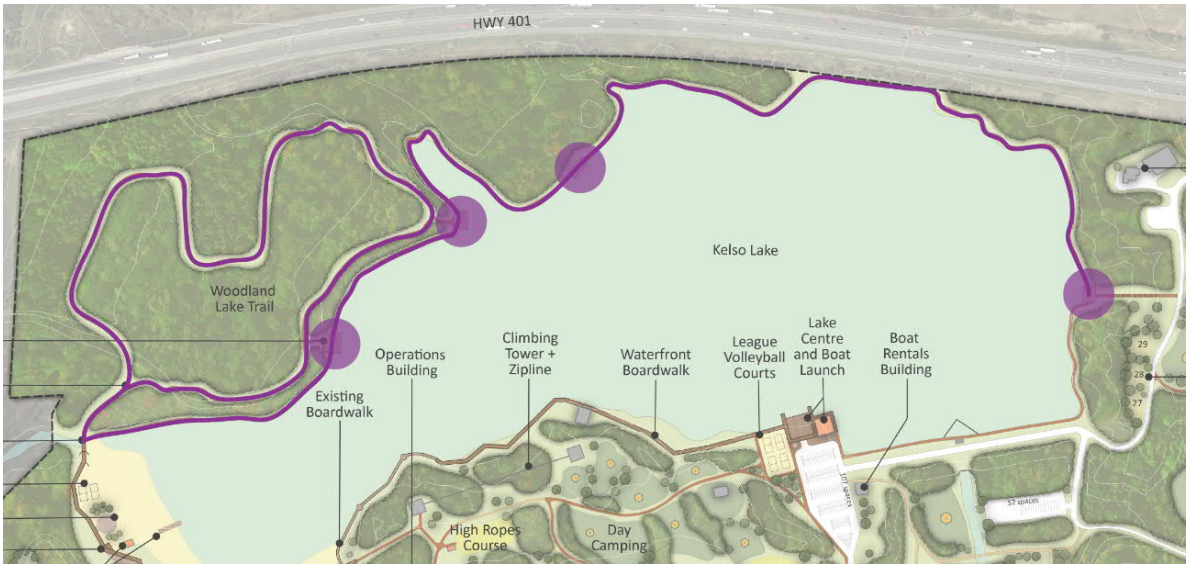


Figure 41 North Kelso Waterfront Boardwalk and Woodland Trail (purple outline)

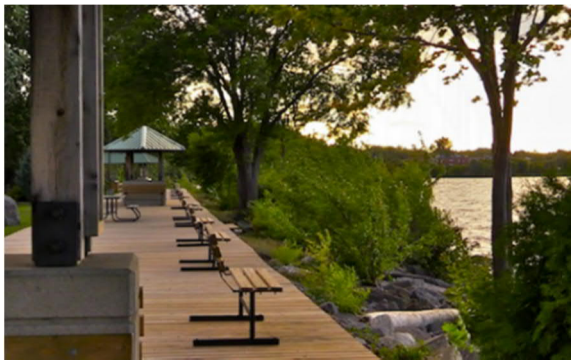


Figure 42 Examples of Boardwalk Trails

The 2002 Kelso Master Plan north trails (i.e., Kelso Promenade and Northshore Trail) have been further refined in location and naming (i.e., Waterfront Boardwalk and Woodland Trail) through the master planning process. The existing stretch of the boardwalk is an actively used amenity and feature that draws visitors to the lake edge – its extension to connect the Lake Centre and Beach further enhances this experience and site connectivity, while also integrating riparian enhancements in the boardwalk design. The boardwalk's extension across the Beach provides barrier-free linkages to many programs along the water's edge.
As the boardwalk extension crosses the creek to the West, it introduces an additional woodlot and waterfront edge trail experience looking back to the beach, ski slopes and the Escarpment via two overlooks onto Kelso Lake; the Woodland Trail. As a long-term strategy, a perimeter trail around Kelso Lake is proposed, extending from the Woodland Trail towards the camping area and its lookout points. This master plan concept also presents a significant opportunity to improve and naturalize the headwater drainage at start of the reservoir, conduct ecological restoration to enhance the shoreline and reduce erosion as well as provide educational opportunities about the conservation and resource management occurring at the park. Additionally, there is opportunity for forest and invasive species management and E.coli reduction through annual operations in this area as well as during the capital investment of these features.

Table 18 Waterfront Boardwalk and Woodland Trail - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Water's Edge Boardwalk Extension Modification of Existing Infrastructure Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within the existing programming and trail; • Improves water quality through naturalization of headwaters and shoreline; • Improves access for healthy forest and invasive species management; • Enhances water quality through E.coli reduction; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor accessibility, experience and recreational opportunity by maintaining continuous trail user access at the water's edge and away from back of house operations; • Reduces visitor impacts by creating defined boardwalk edge for pedestrian circulation; and, • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation.
Woodland Trail and Creek Crossing Proposed Infrastructure and restoration	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming, infrastructure and trails; • Improved water quality through naturalization of headwaters and shoreline; • Improves access for healthy forest and invasive species management; • Enhances water quality through E.coli reduction;

Feature	Potential Impact
Carried forward from approved 2002 Master Plan	• Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and recreational opportunity by providing trail user access and escarpment views on the other side of Kelso Lake; • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Controls visitor impacts by identifying primary trail access and creek crossing to limit unauthorized access and trails.
Kelso Lake Loop Proposed trail routes Carried forward from approved in 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, new trail and existing operations trails; • Improves water quality through naturalization of headwaters and shoreline; • Improves access for healthy forest and invasive species management; • Enhances water quality through E.coli reduction; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience by maintaining trail user access at the water's edge and away from back of house operations, while providing recreational opportunities and escarpment views on the other side of Kelso Lake; • Reduces visitor impacts by creating a defined boardwalk edge for pedestrian circulation; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
Woodland Lake Trail Lookouts (2) (Proposed formalized trails and recreational use) Carried forward from approved 2002 Master Plan	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, new trail and lookouts; • Improves water quality through naturalization of headwaters and shoreline; • Improves access for healthy forest and invasive species management; • Enhances water quality through E.coli reduction; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat and RNHS Key Feature - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart)

Feature	Potential Impact
	SOCIAL/ ECONOMIC • Improves visitor experience with quiet spaces, contemplative areas and views to the escarpment; • Manages visitor impacts by creating a suitable destination for trail users to rest; • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.

Mitigation Measures

- Features implemented in 'Development', 'Natural Environment', and 'Resource Management' zones;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID00 practices to improve water quality and reduce surface runoff;
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable); and,
- *Works required to demonstrate accordance with CH regulated policies (O.Reg. 162/06).

4.2.12 THEMATIC AREA 12 – CAMPING

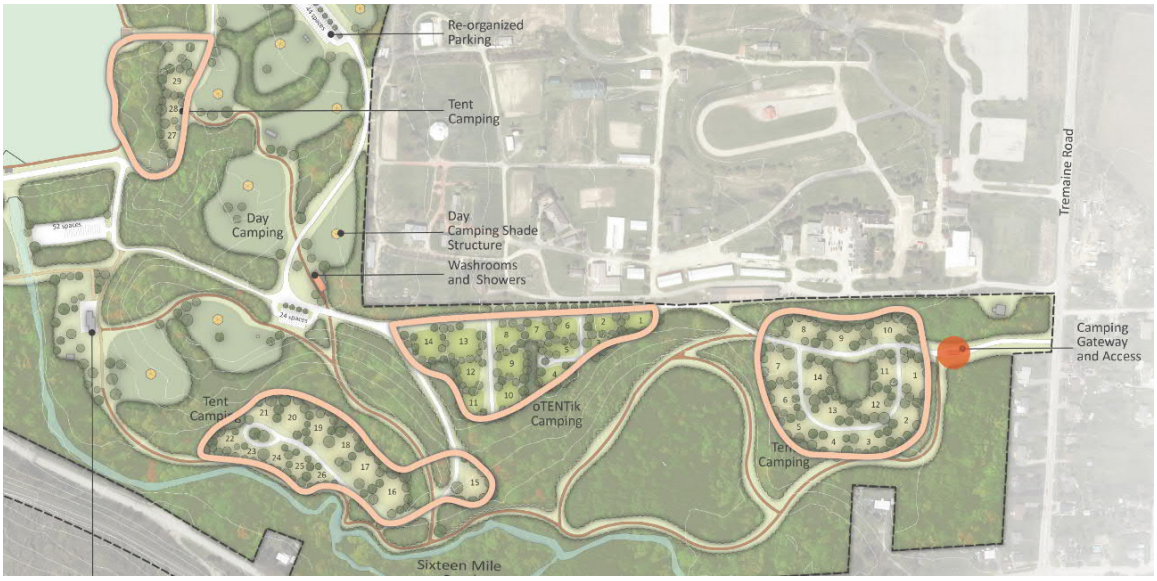


Figure 43 North Kelso Camping (beige outline)

In enhancing the camping area options at Kelso, it was important to consider the spatial distribution and diverse camping sites, while accommodating various landscape settings and accessibility for future visitor needs. Traditional tent sites and oTENTiks, or other non-serviced camping structures are to remain as the camping accommodation mix, directly accessible with the existing park entrance off Tremaine Road.

Traditional sites are located on the upper lands of the valley, with views to the Niagara Escarpment rock face and buffer vegetation for screening and privacy.

OTENTiks are pre-built canvas tent structures on an A-frame that are mounted on a raised wood floor; they are widely used in Canadian National Parks and offer a more comfortable camping experience. They are located in the creek valley, as well as on the near the day-use areas on the table lands. Other non-serviced campsite structures such as yurts or glamping tents, with the same impact and footprint, may also be selected in addition to or in replacement of oTENTiks.

Further to the redevelopment of overnight camping, another shower/washroom facility is introduced to serve the additional camping area functions. The location will provide a closer proximity to many of the camp sites and relieve use on the single existing shower/washroom facility.

A creek trail is a formalized trail to protect the riparian edge along the creek, while offering unique a quaint experience at Kelso. The campground loops improve the existing pedestrian circulation within the campground, enabling greater access to shared campground facilities. Removal of the former pedestrian bridge abutments should take place during the improvements to the camping concept area. Additional opportunities exist to enhance the ecology of the site and species habitat, such as incorporating bird and bat nesting boxes as well operational consideration in the lower campsites to reduce mowing and incorporate wetland restoration activities.

Table 19 Camping - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Secondary East Gate – Tremaine Road North (camping access) *(Existing entrance)* Proposed infrastructure (secondary gatehouse)	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from increased frequency to existing access, roadway, and construction of new gatehouse; • Improves water quality through LID and naturalization; and, • Feature located within potential SAR habitat and RNHS Prime Agricultural - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Reduces traffic impacts on Kelso Road during peak summer use and controls access to the site off old Tremaine Road; • Improves accessibility to the camping area; • Increases efficiency and enhances visitor experience, providing an opportunity for increased visitation and revenue generation; and, • Automated/pre-paid camp permitting systems provides an opportunity for more flexible and efficient check-in/check-out.
NEW - ***Additional*** Washroom/ Shower Facility New infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming, and infrastructure; and,

Feature	Potential Impact
Carried forward from approved 2002 Master Plan	• Feature located within potential SAR habitat, and RNHS Key Feature and Prime Agricultural - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves accessibility to toilet facilities; • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Feature located within area archaeological potential.
Traditional Tent Camping Enhancement Existing programming; modification to existing layout (increased number of camp sites, decreased disturbed area, more tree plantings)	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation during implementation, within existing programming footprint; and, • Increases tree coverage over lawn areas by creating privacy between smaller sites. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Accommodates more campers on same campground footprint through the intensification of existing oversized campsites; • Improves accommodation types, privacy between sites and accessibility by vehicle; and, • Generates additional revenue with enhanced surrounds and additional campsites, through permit fees, retail concessions and other on-site attractions.
NEW – oTENTik Camping Enhancement of existing programming; new structure (outside of Regulated limit)	ENVIRONMENTAL • Potential disturbance to adjacent wildlife and vegetation from construction, within existing programming footprint; and, • Feature located within potential SAR habitat, and RNHS Key Feature and Prime Agricultural - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves accommodation types, privacy between sites and accessibility by vehicle; • Attracts higher income campers, which may lead to additional spending elsewhere at Kelso, through more comfort-focused camping accommodation rentals; and, • Provides opportunity to introduce a new type of roofed accommodation product to the Halton travel market and differentiate Kelso from other campgrounds.
Creek Trail and Campground Loop (Formalizing and modification of existing	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation by construction, new trail and infrastructure; • Reduces visitor impacts from consolidating campsites and circulation; • Increases bird and bat habitat with nesting boxes; • Improves wetland function through restoration; and,

Feature	Potential Impact
infrastructure and restoration)	• Feature located within potential SAR habitat, and RNHS Key Feature and Prime Agricultural - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor and camping experience with improved site circulation and opportunities for passive recreation; • Improves enjoyment of riparian edge; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Recreation' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff;
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable); and,
- *Works required to demonstrate accordance with CH regulated policies (O.Reg. 162/06).

4.3 KELSO QUARRY CONCEPT

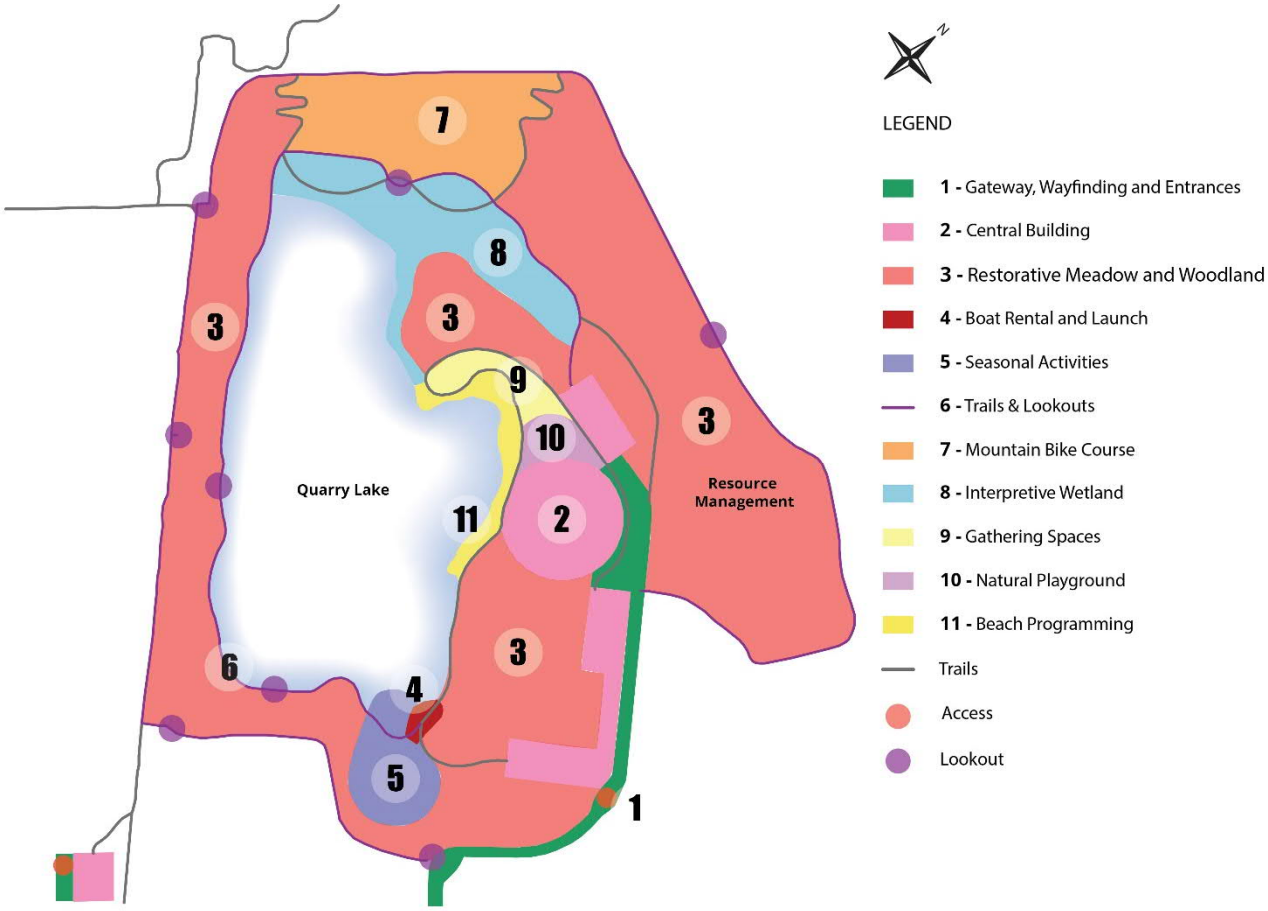


Figure 44 Key Plan - Kelso Quarry Thematic Areas

The Kelso Quarry site exposes the evidence of the evolving and active restoration processes in place, as well as the heritage of the mineral extraction and geological profiles of the Niagara Escarpment. It illuminates the culture for learning and discovery – hiking, bird and nature viewing, interpretive trails, biking, skating, tobogganing, rope climbing, nature play, paddling, fishing, and many more, while continuously showing respect for the natural environment. It is a place for families, group events, summer camps, couples, elderly, school groups and individuals who wish to retrieve to a natural area that is different from adjacent parks.

The Kelso Quarry changed its designated use through the MECP with the Certificate of Property Use in 2006, when the property transitioned from the intensive Mineral Extraction Designation to the more sensitive Parkland designation. Through discussion with MECP staff, development within this area will not be more intensive than the previous commercial use.

The proposed programs were explored through two preliminary options, later curated to represent one comprehensive design concept supported by pedestrian and vehicular infrastructure (i.e., gateway and entrance driveway, and trails and lookouts), and are clustered into the following thematic areas:

1. Gateway, Wayfinding & Entrances
2. Central Building
3. Restorative Meadow & Woodland
4. Boat Rental & Launch
5. Seasonal Activities
6. Trails & Lookouts
7. Mountain Bike Trail
8. Interpretive Wetland
9. Gathering Spaces
10. Natural Playground
11. Beach

4.3.1 THEMATIC AREA 1 - GATEWAY, WAYFINDING & ENTRANCES

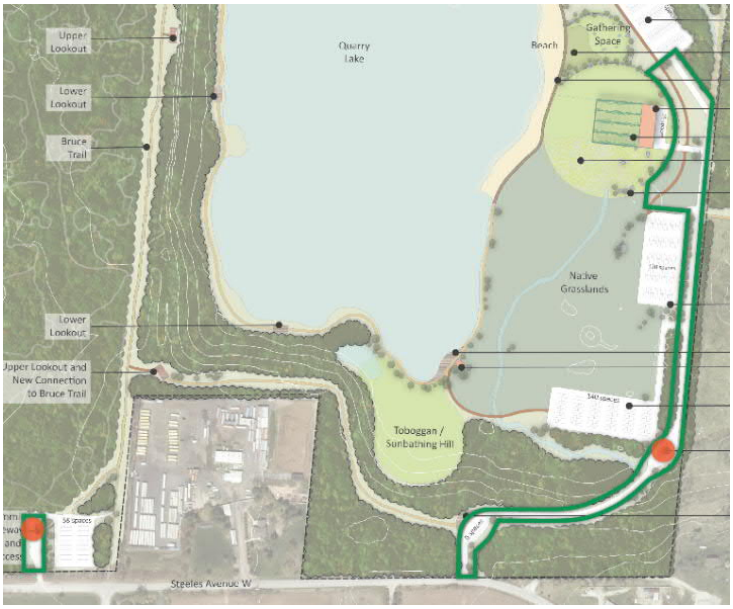


Figure 45 Kelso Quarry Gateway, Wayfinding and Entrances (green outline)

The gateway and entrance to the Kelso Quarry from Steeles Avenue opens up to a large panoramic lookout point to the quarry – the gated entrance is located down the quarry road after the initial lookout. Further, the existing biking trail-head entrance and small parking lot off of Steeles Avenue becomes a secondary entrance enabling direct access to the trails network for cyclists and hikers. The use of LID and enhancements to the infrastructure on site also address sustainable stormwater management and mitigated erosion on the site.

Figure 46 Example of Industrial Landscaped Canopy and Flexible Parking Space

Table 20 Gateway, Wayfinding & Entrances - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Main South Gate Entrance (Steeles Avenue) with Public Lookout, Gate House Setback *Existing entrance* Proposed infrastructure for lookout and gatehouse	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, within the existing clearing; • Reduces visitor impacts at Kelso Summit entrance; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Controls access to the site and direct visitation to appropriate programming areas and facilities; • Reduces traffic impacts from access to Kelso Summit entrance by opening secondary access, and by locating controlled access further into the site; • Improves visitor experience with public lookout to the quarry landscape; and, • Increases capacity and frequency of use of site, unlocking additional revenue potential.
Secondary Entrance (Steeles Avenue) at Summit *Existing* infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from increased frequency to existing access, existing gate, roadway, programming and infrastructure; and, • Inspires environmental stewardship through educational signage. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Maintains designated summit for cycling trail head; • Reduces traffic impacts to Main South Gate by maintaining existing Kelso Summit access for cycling/hiking; and,

Feature	Potential Impact
	• Preserves the existing revenue stream from cycling and hiking during the expansion of other facilities and activities.

Mitigation Measures

- Features implemented in 'Development' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.2 THEMATIC AREA 2 - CENTRAL BUILDING

The Central Building area is anchored by the existing building, which is converted to a contemporary building featuring multipurpose spaces for a potential café, market space, and office space to support future programming. The building extends outdoors with a metal-framed canopy enclosure reflecting the industrial and mineral extraction uses of the quarry site. This canopy park in conjunction with the re-purposed building serves as a central gathering space for the Kelso Quarry.

Figure 47 Kelso Quarry Central Building (pink outline)

A gravel parking lot to the north allows the flexible space to function as a parking lot or a gathering space for events. There are another two existing gravel parking lots on site, providing additional parking support for peak use of the Kelso Quarry. Naturalized open space and native planting surrounds the plaza, providing additional social gathering areas and connections to the naturalized quarry site.

There is an existing well and septic system currently servicing the building that requires maintenance or replacement before use by Conservation Halton staff or visitors. It is assumed that maintenance to the existing systems can be done upon the investment in the existing building, however temporary portable

washrooms will be brought in for any event or scheduled program within the Quarry prior to the implementation of this concept area.

Table 21 Central Building - Preliminary Sustainability Impact Evaluation

Feature	Potential Impact
Existing Building ***Retrofit – Potential*** for Café/Restaurant, ***Interpretive/N***ature Centre, Museum, Event Space, O***ffi***ces *Existing* infrastructure Proposed new programming and use	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, potentially beyond the existing building footprint; • Reduces runoff and improve water quality through LID; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience with educational programming and visitor amenities; • Provides programming that increases capacity and revenue potential; and, • Directs revenue potential through new services provided in the existing building.
Industrial Park Canopy (outdoor extension to building), with Open Space and Circular Seating Proposed infrastructure and programming	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, new programming and infrastructure; • Inspires environmental stewardship through educational signage; • Reduces runoff and improves water quality through LID; and, • Feature within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience with educational programming; • Provides programming that increases capacity and revenue potential; and, • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.
*3 Gravel Parking Lots Existing infrastructure	ENVIRONMENTAL • Reduces runoff and improves water quality through LID. SOCIAL/ ECONOMIC • Provides access to the site with dispersed parking areas to improve accessibility to various programming; and, • Provides capacity to host larger events and programming, with substantial revenue generating potential.

Mitigation Measures

- Features implemented in 'Development' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;

- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.3 THEMATIC AREA 3 - RESTORATION MEADOWS & WOODLOTS

The existing site consists of woodland, native grasses, a wetland and meadows as a result of more than a decade of the restoration efforts by Conservation Halton. These ecosystems are maintained and supported through the Kelso Master Plan and additional programming elements are strategically clustered to minimize impact on the overall quarry site, and to complement the natural serenity of the site. Ecological diversity becomes an essential educational programming tool, with acknowledgement of the restoration processes active on site and its evolution from a heavily disturbed landscape.

Figure 48 Kelso Quarry Restoration Meadows & Woodlots (red outlines)

As these lands are carefully managed and monitored through ongoing restoration efforts by Conservation Halton, no additional mitigation measures are anticipated for these areas. Specific programs within and adjacent to these lands are evaluated separately, including: Seasonal Activities and Mountain Bike Trail thematic areas. Restoration activities in this concept are will include lake enhancements, improvements to the water control structure and considerations for potable water collection, wastewater and stormwater management.

4.3.4 THEMATIC AREA 4 - BOAT RENTAL & LAUNCH

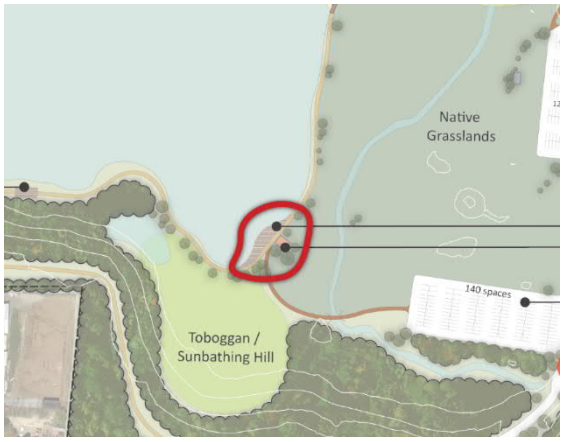


Figure 49 Kelso Quarry Boat Rental & Launch (dark red outline)

A boat rental and launch site is proposed for the Kelso Quarry Lake. This feature allows for additional water programming for non-motorized boats. The boat launch is located on the south-east shoreline of the lake near the Seasonal Activities area, close to other park amenities and parking.

Table 22 Boat Rental & Launch - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Boat Rental Facility Merged with Food Concession/ Sport Rental; Centrally Located Proposed structure and programming	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, new programming and infrastructure; • Inspires environmental stewardship through educational signage; • Reduces runoff and improves water quality through LID; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and accessibility; • Enables equipment rental for winter and summer outdoor recreational activities; and, • Streamlines offering of goods and services and/or additional programming with revenue generating potential.

Mitigation Measures

- Features implemented in 'Development', 'Recreation' and 'Resource Management' zones;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.5 THEMATIC AREA 5 – SEASONAL ACTIVITIES

At the southern edge of the Kelso Quarry Lake, a recreational area is created for seasonal activities including: tobogganing, snowshoeing and ice sports in the winter; and a sunbathing hill, fishing area and a space for other programmed events in the summer. This area seamlessly fits into the quarry landscape, and the activities complement seasonal cycles and weather patterns. This area focuses on giving patrons access to meaningful activities that show respect for the natural environment and embrace healthy living.

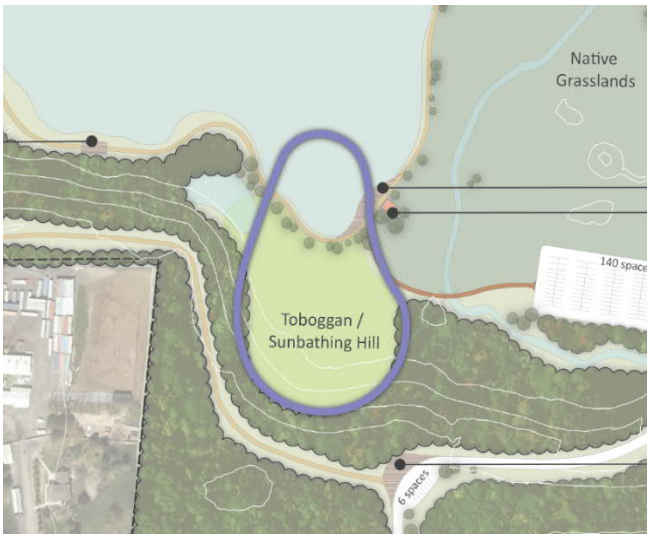


Figure 50 Kelso Quarry Seasonal Activities (purple outline)

Table 23 Seasonal Activities - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Winter Sports on the Lake; Hockey, ***Curling, Skating,*** etc. Proposed programming	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience with winter programming; • Provides new recreational opportunities; and, • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation.
Toboggan/Sunbathing Hill Proposed programming	ENVIRONMENTAL – N/A SOCIAL/ ECONOMIC • Improves visitor experience with both winter and summer programming; • Provides new recreational opportunities; and, • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation.
Adventure Sports Area Proposed programming and infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL / ECONOMIC • Provides new outdoor recreational opportunities; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Feature	Potential Impact
Inflatable Water Play Proposed programming and temporary, seasonal infrastructure	ENVIRONMENTAL – N/A SOCIAL /ECONOMIC • Improves visitor and WOW Camp experience with summer programming; • Provides new recreational opportunities; and, • Offers new services and/or additional programming, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Recreation' and 'Resource Management' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.6 THEMATIC AREA 6 - TRAILS & LOOKOUTS

Figure 51 Kelso Quarry Trails & Lookouts (purple outline)

The lower themes quarry loop extends from the Central Building, west around the lake and southwards towards the boat launch and beach boardwalk; the trail leads the visitors along the Native Grasslands to the rock monument gathering space, prior to continuing on to the boardwalk. Secondary paths link the three parking areas to the boardwalk and existing lower trail circuit allowing visitors ease of access from their vehicles. Seating, rest points and lookouts along the lower trail circuit offer more passive recreational options, such as fishing, bird watching, walking, snow-shoeing, dog-walking and cross-country skiing. The upper and lower themed quarry loops are designed to be fully accessible, and strengthen the cultural and natural heritage features of the site.

Table 24 Trails & Lookouts - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
Lower/Upper Themed Quarry Loops (Potential programming themes: First Nations, active fitness areas, cross-country skiing, snow shoeing, hiking) (Modification of existing infrastructure)	ENVIRONMENTAL • Reduces visitor risk and impacts by combining two parallel trails along Bell School Line right-of-way and upper loop on the west end of the quarry, pulling users away from escarpment face edge and creating designated lookouts for views; • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; and, • Feature located within potential SAR habitat, RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and recreational opportunities with a longer loop trail system; • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.
NEW – Upper Quarry Circuit Trails Lookouts (6) Modification of existing trail, formalization of current natural lookouts - proposed infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Opportunity for additional reforestation, habitat creation and forest management; • Inspires environmental stewardship through educational signage; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; and, • Feature located within potential SAR habitat, and RNHS Key Feature and Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves outdoor passive recreation and access to views; • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.
NEW – Lower Quarry Circuit Trail Lookouts (3) Modification of existing trail, formalization of current natural lookouts - proposed infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Opportunity for additional reforestation, habitat creation and forest management; • Inspires environmental stewardship through educational signage; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart)

Feature	Potential Impact
	SOCIAL/ ECONOMIC • Improves outdoor passive recreation and access to views; • Increases visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.

Mitigation Measures

- Features implemented in 'Recreation', 'Resource Management' and 'Natural Environment' zones;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.7 THEMATIC AREA 7 - MOUNTAIN BIKE TRAIL

Mountain biking is a popular activity within the Kelso Conservation Area. This new trail is intended to build upon the existing Kelso mountain biking trails, extending mountain biking opportunities into the quarry. The mountain biking trails are connected to the upper themed circuit trail and they ultimately connect to the larger Kelso trail network (see Figure 21).

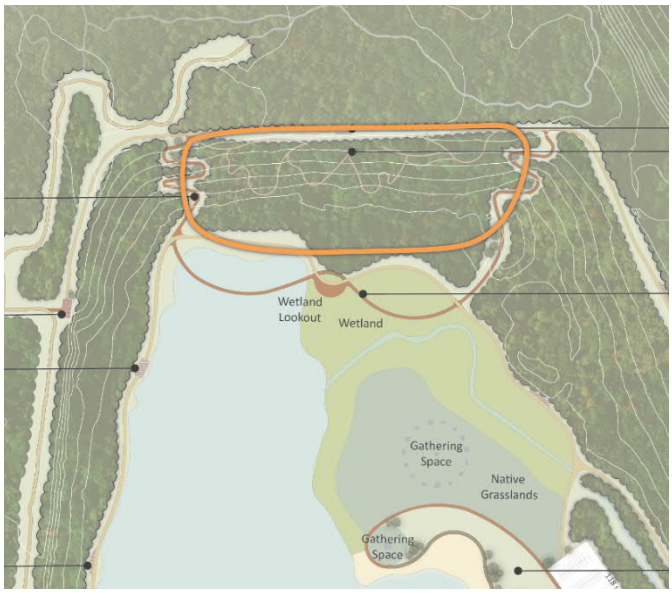


Figure 52 Kelso Quarry Mountain Bike Trail (orange outline)

Figure 53 Example of Wetland Boardwalks

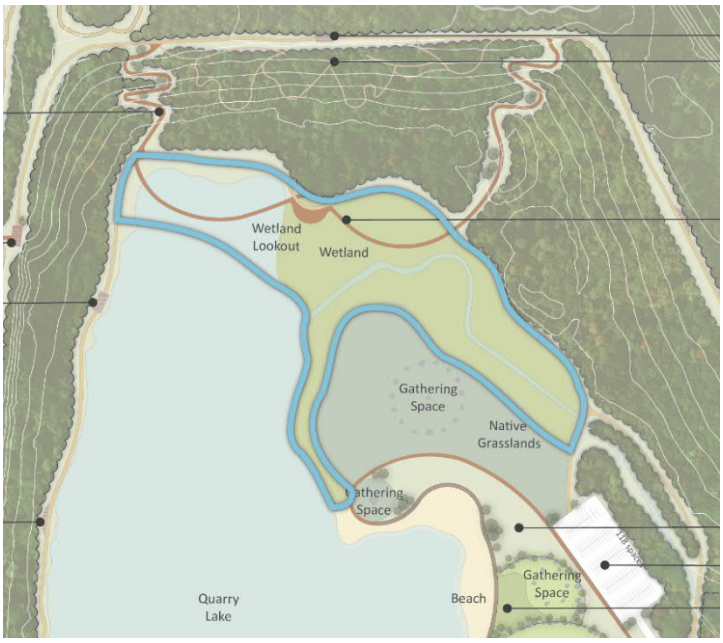
Table 25 Mountain Bike Trail - Preliminary Sustainability Impact Evaluation

Feature	**Potential Impact**
North Face of the Quarry, Integrates with Trails on Upper Lands Proposed programming and minor trail infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Opportunity for additional reforestation, habitat creation and forest management; • Inspires environmental stewardship through educational signage; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; and, • Feature located within potential SAR habitat and NHS Key Feature; Enhancement Area - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Reduces quality of intact forest views from base of quarry; • Improves visitor experience and connectivity to cycling trail network; • Provides outdoor recreation; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Resource Management' and 'Natural Environment' zones;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.8 THEMATIC AREA 8 - INTERPRETIVE WETLAND



This area features an interpretive boardwalk traversing the ecologically significant area with educational information about the wetland and restoration of the Quarry site. The boardwalk connects to the trail around the lake and to the trails on the north face of the quarry. The concept presents a larger boardwalk system with two looping ends that meet at the central lookout point.

Figure 54 Kelso Quarry Interpretive Wetland (blue outline)

Table 26 Interpretive Wetland - Preliminary Sustainability Impact Evaluation

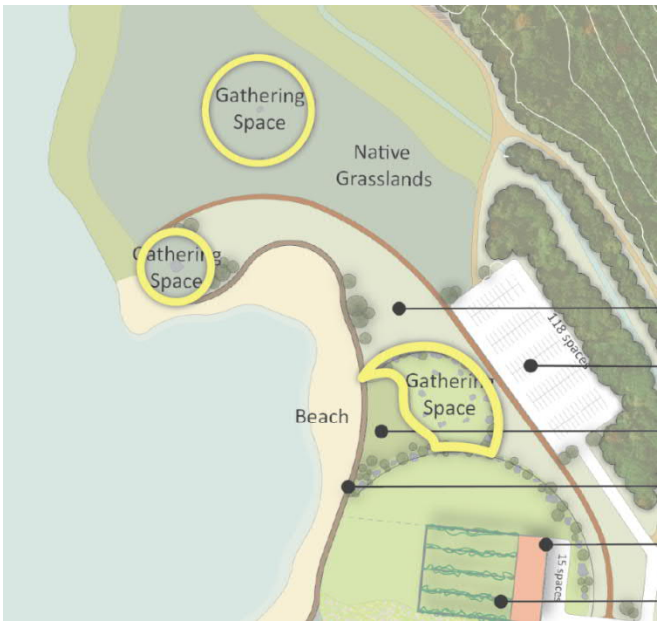
Feature	Potential Impact
Large Boardwalk Overlooking the Wetland, including Lookout Proposed infrastructure and programming	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Opportunity for additional reforestation, habitat creation and forest management; • Inspires environmental stewardship through educational signage; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience and accessibility to Quarry Lake, as a destination; • Provides outdoor passive recreational activities and educational programming; and, • Increase visitation and/or visit duration, providing an opportunity for increased revenue generation.
NEW – Wetland Interpretive Area Lookout	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Opportunity for additional reforestation, habitat creation and forest management;

Feature	Potential Impact
Proposed Infrastructure	• Inspires environmental stewardship through educational signage; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Introduces educational and interpretive opportunities as a distinct destination of natural and cultural features; • Provides access to views of the Quarry Lake and site, and ecological wetland features; • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation; and, • Provides an opportunity for a park landmark.

Mitigation Measures

- Features implemented in 'Recreation' and 'Resource Management' zones;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.9 THEMATIC AREA 9 – GATHERING SPACES



The Kelso Quarry provides many gathering spaces for small and larger crowds, with distinct features and views. The Industrial Building Park, provides shaded seating areas that support activities that animate the Central Building, while the rock formation at the north end of the beach and adjacent open space provide informal gathering spaces with close proximity to the water and beach. The seasonal activities area provides sunbathing opportunities along the slope, with views to the Kelso Quarry Lake, while the lookouts enable small rest points along the trail system. All of these gathering areas are essential for passive enjoyment of the Kelso Quarry.

Figure 55 Kelso Quarry Gathering Spaces (yellow outline)

Table 27 Gathering Spaces - Preliminary Sustainability Impact Evaluation

Feature	Potential Impact
Rock F***ormation*** Space, Gathering Space at North end of Beach, Central Building Area, Sunbathing Hill and Lookouts *Existing gathering* areas; some with infrastructure improvements and *additional* programming	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL / ECONOMIC • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Recreation' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.3.10 THEMATIC AREA 10 – NATURAL PLAYGROUND

Figure 56 Kelso Quarry Natural Playground (purple outline)

The design feature a pollinator garden and natural play area, both adjacent to the central building. The pollinator garden to the south operates as habitat and demonstration gardens, featuring educational opportunities. The layout supports seating surrounding the garden for passive enjoyment of nature and the quarry landscape.

The natural play area to the west, extends further educational outdoor opportunities for children. All play elements draw upon natural materials to enhance the space for outdoor exploration and learning. Both the garden and playground represent organic design elements to reflect the sense of place.

Table 28 Natural Playground - Preliminary Sustainability Impact Evaluation

Feature	Potential Impact
Natural Playground with Butterfly/ Pollinator Gardens Proposed infrastructure and programming	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; • Lower impact to implement now, prior to continuation of restoration works and future visitor impacts through unestablished trails; • Opportunity for additional meadow habitat creation; • Inspires environmental stewardship through educational signage; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL/ ECONOMIC • Improves visitor experience with educational programming; and, • Increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Recreation' zone;
- Works demonstrate accordance with CH regulated policies;
- Where possible, use existing disturbed areas;
- Obtain required MNRF, MECP, and/or ECCC approvals (as applicable);
- Construction during appropriate timing windows to avoid wildlife disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction; and
- Programming at appropriate seasons as to not conflict with adjacent migratory SAR habitat.

4.3.11THEMATIC AREA 11- BEACH

A beach area fronting the Central Building provides passive beach enjoyment on the limestone gravel beach and swimming. A beach boardwalk is proposed along the edge of the beach, extending from the lookout/gathering space with the rock monument to the Seasonal Activities area.

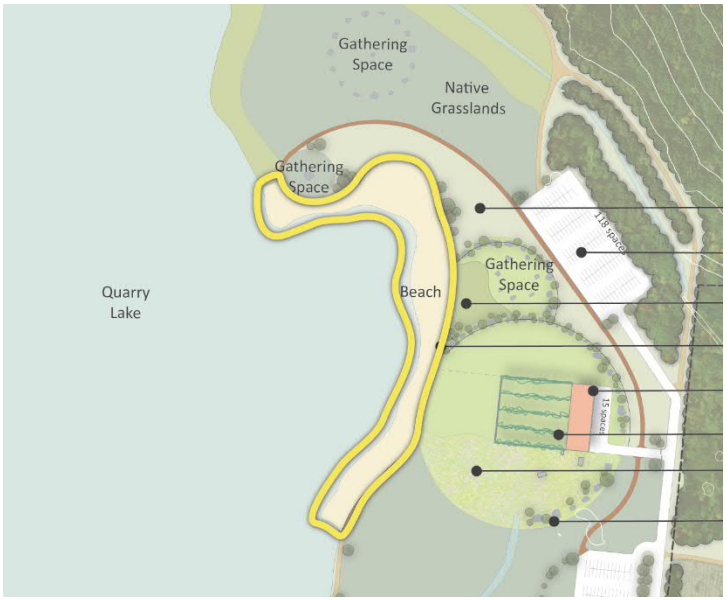


Figure 57 Kelso Quarry Beach (yellow outline)

Figure 58 Example of Beach with Boardwalk

Table 29 Beach - Preliminary Sustainability Impact Evaluation

Feature	Potential Impact
Boardwalk From North Lookout/ Gathering Area to ***Active Sport*** Cluster, at the Edge of the Beach Proposed infrastructure	ENVIRONMENTAL • Disturbance to adjacent wildlife and vegetation from construction, programming and infrastructure; and, • Feature located within potential SAR habitat - refer to Appendix E. Mitigation measures to avoid or reduce impacts (refer to bottom of chart) SOCIAL ECONOMIC • Improves visitor experience with passive outdoor recreation; and, • Improves visitor experience resulting in an increase in visitation and/or visit duration, providing an opportunity for increased revenue generation.

Mitigation Measures

- Features implemented in 'Recreation' zone;
- Use existing disturbed areas or existing operational trail footprint, where possible;
- Construction during appropriate timing windows to avoid wildlife and vegetation disturbance;
- Erosion and sediment control measures, as needed for construction;
- Tree protection measures, as necessary for construction;
- Transplanting or replacement plantings for disturbed areas, as necessary;
- Adopt LID practices to improve water quality and reduce surface runoff; and,
- Obtain required MHSTCI, MNRF, MECP, DFO, and/or ECCC approvals (as applicable).

4.4 CONSERVATION OPPORTUNITIES

In addition to the proposed development to support park visitor experience, sustainable management of visitation, and ongoing resource management practices, there are many opportunities for conservation initiatives at Kelso. Table 29 lists the conservation opportunities for consideration during the implementation of the Kelso Master Plan, along with the master concepts implementation and budget approaches.

Projects listed below align with Conservation Halton's Strategic Plan Metamorphosis 2020 and may be implemented with many of the proposed Kelso Master Plan concept features. If the funding, project objectives or timelines do not align with the Kelso Master Plan implementation, the projects are to be proposed through Conservation Halton's annual Operational and Capital budgeting process. Some opportunities are linked to stewardship on private lands as well as municipal partnerships, and have been identified as such. Permit approval agencies have also been listed in the below chart including the NEC Development Permit or Master Plan Amendment (NEC), Conservation Halton Planning & Regulations (CH) endorsement, as well as municipal approvals including the Halton Region (HR) and Town of Milton (TOM).

Table 30 Kelso Conservation Area and Glen Eden Master Plan Conservation Opportunities

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	Thematic Area
				NEC	CH	HR/ TOM		
1/ HIGH	E.Coli Reduction – Kelso Lake/ Kelso Lake	1) Improve riparian and shoreline vegetation 2) Install innovative visual barrier techniques 3) Restore drainage features that outlet to Kelso CA (private land)	1) Improves water quality 2) Fewer beach closures	□	□	□	Stewardship with private landowners. Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 7. Beach, 11. Waterfront Boardwalk & Woodland Trail.	7, 11
2/ HIGH	Naturalize Headwater Drainage Feature/ 585043E, 4816960N N Appleby Line Entrance, Culvert West of Tube Hill, Kelso Lake	1) Improve channel morphology (110m) 2) Establish shrub riparian buffer 3) If needed, upgrade culverts	1) Improves water quality going into the reservoir 2) Reduction in erosion and culvert 3) Improving function of headwater drainage feature	●	●	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 1. Gateway, Wayfinding & Entrance Driveway, 5. Day Use Operations., 7. Beach, 8. Village Centre, 11. Waterfront	1, 5, 7, 8, 11

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
							Boardwalk & Woodland Trail.	
3/ HIGH	Online Pond – shoreline enhancements/ 585290E, 4817546N Village Centre Pond	1) Remove online pond/realign creek to not flow through pond 2) Retain a pond feature for camp interactive activities	1) Improve coldwater creek inputs 2) Reduce infrastructure replacement needs (current outlet structure)	●	●	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 8. Village Centre, 9. Adventure Discovery.	8, 9
4/ HIGH	Daylighting 'new' creek from pond/ 585523E, 4817862N	1) Identify the feasibility of daylighting a portion of the creek that outlets from the pond – section between the gatehouse and beginner hill. 2) If feasibility and approval is gained, daylight the creek.	1) Improves direct fish habitat 2) Improves riparian habitat and water quality	●	●	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 1. Gateway, Wayfinding & Entrance Driveway, 8. Village Centre.	1, 8
5/ HIGH	Campsites – Floodplain Sites/ 585967E, 488250N	1) Investigate opportunities to increase the function of the floodplain through natural vegetation, small wetland features, less mown grass.	1) Increase natural cover 2) Reduce mowing maintenance	□	○	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept 12. Camping.	12
6/ HIGH	Green Infrastructure – Low Impact Development/ Various	1) Identify impermeable surface cover of paving, roads, parking, buildings, and rooves. 2) Calculate runoff from impermeable surfaces. 2) Identify LID opportunities and feasibility through infrastructure replacements.	1) Reduced stormwater runoff 2) Improved water quality 3) Showcase site	●	○	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 1. Gateway, Wayfinding & Entrance Driveway, 2. Arrival, 3. Recreation Centre, 4. East Lodge, 5. Day Use Operations, 8. Village Centre, 10. Kelso Lake Centre.	1, 2, 3, 4, 5, 8, 10

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
7/ HIGH	Green Infrastructure – Roofs/ Various	1) Create a plan to transition new and repurposed roofs to a green roof or solar roof, where possible.	1) Reduce energy consumption 2) Improve SWM	●	□	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 3. East Lodge, 4. Recreation Centre, 8. Village Centre, 9. Adventure/ Discovery, 10. Kelso Lake Centre, Q2. Central Building.	3, 4, 8, 9, 10, Q2
8/ HIGH	Energy – Carbon Neutral/ Various	1) Develop a plan to work towards carbon neutral park operations 2) Solar - roofs, parking area 3) Electric vehicle charging stations 4) Geothermal 5) Wind turbines (small scale)	1) Reduce carbon footprint and consumption 2) Return on investment	●	O	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 1. Gateway, Wayfinding & Entrance Driveway, 3. East Lodge, 4. Recreation Centre, 8. Village Centre, 9. Adventure Discovery, Q2. Central Building.	1, 3, 4, 8, 9, Q2
9/ HIGH	Partnership – Town of Milton-Kelso Road gravel and erosion/ Kelso Road (East of Main Gatehouse) 585873E, 4818036N	1) Work with the Town of Milton to reduce erosion from the pull off gravel spots on Kelso Road2) Remedy slope erosion on CH lands	1) Erosion and infrastructure stability2) Improves water quality	□	O	●	Annual Operational/ Capital Budget request. Municipal funding request due to Town infrastructure and impacts. Consider with Master Plan Concept 1. Gateway, Wayfinding & Entrance Driveway	1
10/ HIGH	Forest Management/ Various	1) Follow Operations Plan outlined in the Strategic Forest Management Plan	1) Forest Health 2) Species diversity in flora, fauna, and woody plants	●	□	●	Within 5-10 years, Levy budget expense (Regular Forest Technician work).	-
11/ HIGH	Forest Management-Plantation succession planning/ Various	1) Thin plantations to allow succession	1) Ecosystem enhancements	●	□	●	Annual Operational/ Capital Budget request.	-
12/ MEDIUM	Wellhead Protection Areas/ Various	1) Develop a strategy to identify and reduce risks to the municipal	Various	–	–	–	Annual Operational/ Capital Budget request. Municipal funding	-

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
		wellhead protection area.					request due to Regional infrastructure.	
13/ MEDIUM	Former Pedestrian Bridge Abutments/ 586058E, 4818199N Downstream of reservoir	1) Remove bridge abutments 2) Restore slope 3) Establish forested riparian buffer 4) Project proposal is prepared	1) Removing abandoned infrastructure 2) Reducing erosion risk 3) Reducing visitor safety risk 4) Improving hydrologic function	●	●	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept 12. Camping	12
14/ MEDIUM	Kelso Quarry Shoreline Slope/ All shoreline except beach	1) Re-grade and add soil and/or aggregate to quarry lake outside of shoal and beach development areas	1) Reduce public safety risk for steep bank drop off 2) improve littoral habitat	●	□	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept Q8 Interpretive Wetland and Q11 Beach Programming.	Q8, Q11
15/ MEDIUM	Kelso Quarry Lake Naturalization/ All shoreline except beach	1) Further establish shrub riparian buffer 2) Further establish planted wetland 3) Further reforestation activities to establish forest	1) Improved water quality 2) improve fish habitat	●	□	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept Q8 Interpretive Wetland and Q11 Beach Programming.	Q8, Q11
16/ MEDIUM	Pollution Prevention - Drainage ditch for gas tank by former tube/ Gas Tank near Patrol Building, south of CPR	1) Install a drip edge to concrete to prevent any potential leak from leaving the concrete platform 2) Install a barrier between platform and drainage ditch to prevent spillage from draining directly into ditch (which then empties into the creek) 3) Re-align drainage ditch away from gas tank and fuel area, regrade the area	1) Risk management- pollution prevention through containment infrastructure	●	□	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding.	-

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
17/ MEDIUM	Erosion - Ditch enhancements to reduce erosion/ All Ditches	1) Design a sustainable ditch management system with natural techniques to reduce the need for vegetation cutting and erosion 2) Use sediment and erosion controls (coir mats, rolls, etc.)	1) Reduce erosion	●	O	●	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 1. Gateway, Wayfinding & Entrance Driveway, 2. Arrival, 3. Recreation Centre, 4. East Lodge, 5. Day Use Operations, 6. Day Camping, 8. Village Centre, 10. Kelso Lake Centre, Q1. Gateway, Wayfinding & Entrance, Q2. Central Building.	1, 2, 3, 4, 5, 6, 8, 9, 10, Q1, Q2
18/ MEDIUM	Recreation – Trails/ Various	1) Remove duplicated double trails and restore closed trails 2) Trail management/ maintenance through existing VIM program.	1) Sustainable recreational infrastructure 2) Reduce and control visitor impacts	O	O	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept Quarry-7. Trails & Lookouts	Q7
19/ MEDIUM	Removal or replacement of infrastructure within sensitive areas/ Various	1) Remove or replace septic systems within hazards and sensitive areas (floodplain, WHPA) 2) Restore landscape with suitable ecosystem types	1) Risk Management-pollution prevention through removal of infrastructure within WHPA 2) Increase habitat	●	□	□	Annual Operational/ Capital Budget request. Developer Contribution funded project. Grant opportunity, request for matching funding.	-
20/ MEDIUM	Recreation - Increase awareness of impacts, remove and restore hunting target practice club in wetland/ 586410E, 4816272N	1) Build awareness with landowner regarding impacts of activity in wetland. 2) Remove encroachment activity within wetland 3) Install signage and fencing to prevent future encroachment and misuse	1) Reduce recreational impacts to PSW 2) Removes unauthorized activity and encroachment on CA lands.	□	□	□	Stewardship with private landowners. Annual Operational/ Capital Budget request.	-

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
21/ MEDIUM	Invasive Species – Vegetation & Insects/ Various	1) Create and implement management plan for the control and treatment of currently present invasive plant species (Common Periwinkle, Phragmites, Buckthorn and Dog-strangling Vine). 2) Continue invasive species management for insects (Emerald Ash Borer, Gypsy Moth and other) through forest management plans and practices.	1) Ecosystem health 2) Forest health 3) Visitor experience	□	□	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Municipal Funding special project request (EAB and other)	-
22/ LOW	Gatehouse Rain Garden/ 585649E, 4817924N Main gatehouse	1) Retrofit garden bed to rain garden2) Install gutters and downspout to rain garden3) Install small sign	1) Visitor education2) Control runoff	O	□	O	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding.Consider with Master Plan Concepts 1-Gateway, Wayfinding & Entrance Driveway	1
23/ LOW	Invasive Species - Zebra Mussels/ Kelso Lake Reservoir and Sixteen Mile Creek downstream of reservoir	1) Maintain low operating levels over winter to freeze out mussels. 2) Remove mussels by hand on infrastructure (I.e. buoys, boardwalk piers, dam). 3) Investigate feasibility of chemical (potash) treatment for small scale removals (e.g. snowmaking intake pipes). 4) Improved wash station to wash boats coming out of reservoir.	1) Removes/ reduces presence and spread of invasive species 2) Improve fish habitat 3) Reduction in algal growth 4) Improves fish spawning	□	□	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 7. Beach, 10. Kelso Lake Centre, 11. Waterfront Boardwalk & Woodland Trail.	7, 10, 11
24/ LOW	Kelso Lake Reservoir Retrofit/ Kelso Lake Reservoir	1) Discuss the feasibility to reduce size of reservoir to summer 2016 operating levels during the 2026 PTTW renewal.	1) Increases km's of coldwater fish habitat 2) Reduces instream temperatures 3) Reduces	□	□	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 7. Beach.	7, 10, 11

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
		2) Identify the operational impacts of reducing flows and come to an organizational agreement for 2026 renewal.	amount of invasive zebra mussels 4) Increases floodplain connectivity and habitat 5) May address low water levels due to climate change or droughts				10. Kelso Lake Centre, 11. Waterfront Boardwalk & Woodland Trail.	
25/ LOW	Interpretative Signage/ Various	1) Design interpretive signage for elements currently not covered such as dam, flood and erosion, cultural history, natural heritage. 2) Install signage as funding opportunities are available.	1) Educate visitors	☐	☐	☐	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 7. Beach, 8. Village Centre, 9. Adventure Discovery, 10. Kelso Lake Centre, 11. Waterfront Boardwalk & Woodland Trail, Q1. Gateway, Wayfinding & Entrances, Q2. Central Building, Q3. Restorative Meadow & Woodland, Q6. Trails & Lookouts, Q8. Interpretive Trails	7, 8, 9, 10, 11, Q1, Q2, Q3, Q6, Q8
26/ LOW	Floodplain infrastructure reduction & ecosystem restoration/ Various	1) Reduce the amount of infrastructure features located within the floodplain, spillway and erosion hazards. 2) Naturalize the ecosystems within regulated or erosion-prone areas	1) Increases floodplain connectivity and habitat 2) Intended to reduce potential impacts to flows during storm events	O	O	☐	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 7. Beach, 10. Kelso Lake Centre	7, 10
27/ LOW	Native Meadow - Identify areas of mown turf which could be utilized as open native meadow/ Manicured sod	1) Reduce mowing 2) Remove non-native grasses and sow a native meadow flower and grassland mix	1) Lowers maintenance costs 2) Increase meadow habitat	☐	☐	☐	Stewardship Volunteer Opportunity Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 6. Day Camping, 8. Village Centre, 9. Adventure/	6, 8, 9, 12, Q3

Project No./ Watershed Benefit	Project Description/ Location	Recommended Actions	Benefits	Approvals			Implementation & Budget Approach	
							Discovery, 12. Camping, Q3. Restorative Meadow & Woodland	
28/ LOW	Wildlife - Purple Marten Nest Box Program/ All Meadows	1) Install and maintain Purple Marten colony housing operated by volunteer group 2), Volunteers responsible for ongoing maintenance, monitoring	1) Visitor engagement opportunities for birding 2) Provide nesting habitat for declining species	☐	☐	☐	Stewardship Volunteer Opportunity Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 6. Day Camping, 8. Village Centre, 12. Camping, Q3. Restorative Meadow & Woodland.	6, 8, 12, Q3
29/ LOW	Wildlife - Barn Swallow Nesting/ Various	1) Conserve areas where Barn Swallows are currently nesting 2) Consider Barn Swallow nesting opportunities through design of new buildings (away from high traffic) 3) Install educational signage	1) Protects SAR nesting, 2) Provides educational opportunity for visitors	☐	☐	☐	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 2. Arrival, 3. Recreation Centre, 4. East Lodge, 8. Village Centre, 10. Kelso Lake Centre.	2, 3, 4, 8, 10
30/ LOW	Wildlife – Bats/ Various	1) Identify conservation options for existing bat habitat 2) Install bat boxes in proximity to the lake and south facing exposure	1) Mosquito control 2) Conserve and increase SAR breeding habitat	☐	☐	☐	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concepts 3. Recreation Centre, 4. East Lodge, 8. Village Centre, 10. Kelso Lake Centre.	3, 4, 8, 10

31/ LOW	Wildlife - Bird window strike and bird death reduction/ Buildings	1) Retrofit existing windows to reduce window strikes and deaths 2) Ensure new buildings use bird friendly glass that reduces bird strikes	1) Protect bird populations	□	□	□	Annual Operational/ Capital Budget request. Grant opportunity, request for matching funding. Consider with Master Plan Concept 3: East Lodge, 4. Recreation Centre, 8. Village Centre, 10. Kelso Lake Centre, Q2. Central Building	3, 4, 8, 10, Q2

5 ECONOMIC FEASIBILITY

Conservation Halton provides economic strength and resiliency to the economies of Milton, Halton Region, the Greater Toronto Area and the Province of Ontario. As a major employer, and a major landholder, Conservation Halton is an integral part of the local and regional economy. Kelso Conservation Area and Glen Eden is Conservation Halton's most popular park asset. Visitation over the past several years has fluctuated in the order of 500,000 visitors per year range. As settlement areas surrounding Kelso Conservation Area and Glen Eden continue to urbanize, park visitation is expected to increase dramatically over the next 25 years. This section is intended to lay the foundations for market growth and revenue potential and order of magnitude capital costs associated with the Kelso Master Plan.

5.1 COSTING ESTIMATES

The high-level cost estimate and assessment of capital costs (see Table 31) was derived from proposed programs and amenities within the master plan concepts for the Kelso Conservation Area and Glen Eden. The proposed program list, reflective of the thematic areas and key programming features evaluated in Section 4, are based on comparative 2018 prices in site development within the Greater Toronto area, as well as standard contractor pricing. As many of the components could be implemented by Conservation Halton staff, reduced construction costs may be possible. There is an added 10 percent contingency for soft costs for planning, design, approvals, and contract documents, alongside a 20 percent contingency for costs based on the master plan information.

The overall Kelso Master Plan construction costs are estimated at $74,075,950, with $67,032,550 cost estimate for North Kelso concept as per Table 31 and $7,043,400 for the Kelso Quarry master plan concept, as per Table 32.

Table 31 North Kelso Concept Cost Estimate

North Kelso Areas & Programs	2020 Cost Estimate
Trails	$625,000
Access	$455,000
Main Servicing Proposed	$8,000,000
1. Gateway & Wayfinding	$560,000
2. Arrival	$1,880,000
3. East Lodge	$225,000
4. Recreation, Sport Rental & Arrival Centre	$21,000,000
5. Day Use Operations Access	$175,000
6. Day Camps & 12. Camping	$143,500
7. Beach	$245,000
8. Village Centre	$11,420,000
9. Adventure/Discovery	$223,500
10. Kelso Lake Centre	$3,760,000
11. Lookouts	$840,000
Sub-Total	$51,563,500
Soft Costs - Planning Permits/ Contract Documents (10%)	$5,156,350
Contingency (20%) - High Level Cost	$10,312,700
Total	$67,032, 550

Note: Cost estimates are presented in 2018 dollar value.

Table 32 Kelso Quarry Concept Cost Estimate Comparison

Kelso Quarry Areas & Programs	Option 1
Trails	$265,000
Access	$135,000
Miscellaneous	$100,000
General Servicing	$100,000
1. Gateway & Wayfinding	$65,000
1. Park Entrance	$35,000
1. Parking Lots	$928,000
2. Central Building	$1,835,000
3. Restoration Meadows & Woodlot	$260,000
4. Boat Rental & Launch	$410,000
5. Seasonal Activities	$100,000
6. Lookouts	$160,000
7. Mountain Bike Trail	$180,000
8. Interpretive Wetland	$425,000
9. Gathering Spaces	$105,000
10. Natural Playground	$150,000
11. Beach	$165,000
Sub-Total	$5,418,000
Soft Costs - Planning Permits/ Contract Documents (10%)	$541,800
Contingency (20%) - High Level Cost	$1,083,600
Total	$7,043,400

Note: Cost estimates are presented in 2018 dollar value.

6 MANAGEMENT DIRECTION

The management of each conservation area is influenced by its core features and by the visitor experience and activities present within the conservation area. Conservation Halton has developed operational standards that are shared by several of its properties with similar features; however, the Kelso Master Plan update lends an opportunity to design management strategies and policies that address more site-specific factors that are in alignment with its strategic plan, Metamorphosis 2020.

Kelso Conservation Area is classified as a NEPOSS Recreation Park, enabling more intensive recreational and educational programming that will be directed to suitable areas of the park. In Section 3.1.6 Recreation and Commercial Uses in Parks and Open Space of the NEP, it states that special purpose buildings to support programming may be permitted as an accessory use in Recreation parks, if appropriately scaled for the site and identified in the 'Development' zone. As such, all uses that may be considered commercial have been located within the 'Development' zone.

The park provides unique and diverse recreational and educational experiences in the GTHA and the Region of Halton. These unique opportunities differ somewhat from the other Conservation Halton parks due to the proximity to the urban boundary of Milton, visitation demand and active recreational programming. The intention of the Kelso Master Plan update is to focus on continuously adding value to existing visitor base with the understanding the market-base trends (opposed to attracting additional new users and user groups) through high service delivery. In order to achieve this, updates and replacements of the existing aging facilities and infrastructure are required.

Sustainable management of Kelso Conservation Area and Glen Eden requires that Conservation Halton ensure conservation of natural and cultural environment while providing opportunities for recreation and education.

Key focuses for Kelso, on an operational and program management level, is to incorporate considerations in the master plan for day-to-day supporting infrastructure and activities in order to optimize the visitor experience, while protecting the natural and cultural environmental features. This includes the existing and continued program operation activities throughout the park for access, parking, wayfinding, trails, ski hill operations, lifts, food service, snowmaking, camping, beach, mountain biking, ropes course, lessons, camps, events, boating, washrooms, shade structures, minor grading, forestry, restoration and monitoring.

6.1 MASTER PLAN CONCEPT SUITABILITY WITH NEPOSS ZONING

The updated NEPOSS management zones were created through comprehensive characterization and analysis of the natural heritage features, core conservation areas, together with existing recreational and operational use at Kelso. In many cases, multiple criteria overlapped and based on the sensitivity of the feature and the current use of the area, an appropriate zone for management was established. Conservation Halton uses this metric to sustainably manage the conservation area lands, focusing visitor use and program locations to the least-impactful areas of the park.

The updated NEPOSS management zones, discussed in Section 3, align with and build upon the current site management practices and park operations, restoration initiatives, 2012 NEPOSS Planning Manual, Priority Protection Areas, and feedback received through multiple public and stakeholder engagement events and online survey.

Existing facilities and infrastructure are located primarily within the 'Recreation' and 'Development' zones of the park with the exception of trails, utilities and signage, which run through other park zones. The proposed facilities in the Kelso Master Plan concepts are to consolidate, and in some places, replace the existing buildings that may be undersized, inaccessible or pose logistic challenges for current visitor, program and operational needs. Additional, or replacement of, infrastructure will generally occur in 'Development', 'Recreation', 'Access', 'Resource Management' and 'Natural Environment' zones with the exception of some trail infrastructure that may be required to increase wayfinding and trail use occurring minimally in 'Nature Reserve' or 'Cultural Heritage' zones.

The NEPOSS management zone overlay on the master plan concepts (see Figure 59 and Figure 60) and associated proposed programs and improvements align with the NEP policies and management direction, along with permitted uses. An implementation plan is prepared to carry out a 5 to 25 year improvement of the Kelso Conservation Area, with a detailed documentation of the development criteria process and potential exemptions for each park enhancement.

Figure 59: North Kelso Master Plan Concept - NEPOSS Overlay

Figure 60: Kelso Quarry Master Plan Concept - NEPOSS Overlay

6.2 NATURAL RESOURCE MANAGEMENT

The natural resource management approach may involve both active and passive management measures to protect the natural heritage system for the long-term. In some cases, resource management recommendations will require the collection of additional information or the development of guidance material prior to their full implementation.

6.2.1 NATURAL HERITAGE, WATER & NATURAL HAZARDS MANAGEMENT

The landform and landscape character of Kelso, together with the natural heritage and water resource features areas shall be protected while still providing compatible opportunities for recreation. Park maintenance and proposed development will align with the following:

- *any works proposed in areas regulated by Conservation Halton under Ontario Regulation 162/06 will be reviewed to ensure that works comply with Conservation Halton's regulatory policies and requirements*; and
- *any proposed works within or adjacent to natural heritage areas will meet Conservation Halton policies as* well as adhere to any internal guidelines, as well as federal, provincial and municipal policies.

6.2.2 VEGETATION MANAGEMENT

The protection and management of vegetation communities is essential to the health of the Kelso Conservation Area and the larger Conservation Halton watershed and natural heritage system. Efforts shall be taken to conserve and, where possible, enhance viable populations of indigenous plant species, with a focus on protecting SAR and their habitats within the conservation area.

6.2.2.1 STRATEGIC FOREST MANAGEMENT PLAN

In 2018, Conservation Halton approved the Strategic Forest Management Plan to establish the context for Conservation Halton's role as a leader in sustainable forest management for the next 20 years; the plan:

- Identifies a desire to take a landscape approach to forest management, focussing less on individual properties, and more on the landscape scale and management of the forest resource;
- Re-establishes a commitment to sustainable management practices that place forest health as the principle outcome;
- Highlights the key pressures and challenges that the forest faces from both global and local activities and changes, and how these can be addressed through sustainable forest management;
- Supports Conservation Halton re-engaging in active, sustainable forest management, to ensure that the current challenged condition of forests is addressed;
- Takes an accountable approach to of forest management, with Key Performance Indicators built into the Strategic Forest Management Plan.

6.2.2.2 RE-DEFINES A COMMITMENT TO EXCELLENCE AND LEADERSHIP IN FOREST MANAGEMENT FOREST PEST SPECIES

Threats, due to forest pest establishment, exist in the surrounding area. The potential for forest pests to occur in the conservation area is being monitored as part of the forest health monitoring program as well as through other partnerships. Forest pest species of concern, which should be monitored as part of the overall management of Kelso, include:

- Gypsy Moth (Lymantria dispar);
- Asian Long-horned Beetle (Anoplophora glabripennis);
- Emerald Ash Borer (Agrilus planipennis);
- Two-lined Chestnut Borer (Arrilus bilineatus);
- Fall Cankerworm (Alsophila pometaria); and,
- European Wood Wasp (Sirex noctilia).

6.2.2.3 INVASIVE VEGETATION SPECIES

Invasive vegetation species control should be an integral part of maintaining high quality ecological assemblages within Kelso. The complete eradication of invasive species is not always realistic and therefore prioritization of effort is necessary. Introduced species, as identified in Phase 1 – Inventory & Analysis Report, should be evaluated for invasive tendencies based on appropriate federal, provincial or municipal guidance material. Further, a summary of Best Management Practices (BMPs) for the control of the invasive vegetation species present at Kelso is provided in Appendix H, and has been developed based on review of a number of applicable agency documents.

There are several methods for removing exotic invasive species including physical control, chemical control and biological control. Manual or mechanical control includes hand pulling, mowing, and burning. Chemical control of invasive species yields various results depending on the species and the site conditions and regulatory restrictions. Areas left devoid of vegetation should be planted with hardy native species in an effort to prevent re- establishment of invasive species and to improve the floristic quality of the site. Biological control appears to be limited because there are few pests or diseases found in North America that have any significant impact on controlling invasive species. Manual and mechanical methods of invasive species control are generally the preferred management option, where possible.

Chemical herbicides, pesticides and suppressants will not be used for vegetative management purposes, except for the eradication of non-native species, establishment of native plantings where other methods with less residual impacts are not feasible, or for the control of noxious plants in publicly accessible areas. Biological controls will be employed over chemical controls, wherever possible.

Specific vegetation, invasive species, forest and wetland management plans are to be developed through operational departments at Conservation Halton, and have not been detailed in this master plan.

6.2.3 RESTORATION PLAN

In general, habitat restoration should be directed towards improving habitat in key areas for targeted species, improving interior forest areas, advancing the natural succession of plantation forests, and curtailing the spread of invasive species.

The main restoration at Kelso has been focused at the Kelso Quarry (i.e., reforestation, meadows, aquatic fish habitat, rehabilitation of the quarry lake, and riparian enhancements), as well as Kelso flats for forest management, Kelso reservoir and 16 Mile Creek riparian enhancements, and creek improvements downstream of the Kelso Dam. Continuation of the natural rehabilitation, as well as the extension of existing and improved cultural, environmental recreational opportunities from North Kelso into the Kelso Quarry will continue to be a focus for the ongoing management of the conservation area. The restoration efforts of Conservation Halton after taking ownership of the Kelso Quarry are detailed in the Phase 1: Inventory & Analysis Report, with mapping provided in Appendix B. Continued reforestation and other restoration activities are intended for the Kelso Quarry in the future, while maintaining the trails, roadways and parking lots for programming of the quarry.

Site specific restoration initiatives, developed by Conservation Halton, were prioritized for Kelso, aligning with Key Conservation Targets and Objectives of the strategic plan, Metamorphosis 2020, provided in Section 4.4 of this master plan.

6.3 CULTURAL HERITAGE MANAGEMENT

The archaeological potential for Kelso, mapped in the Phase 1: Inventory & Analysis Report, identified some areas as ‘known features’ and others with ‘potential significance’. Although not all designated as cultural resources, there are features such as the Lime Kilns, Kelso Quarry, and the Alexander House and farmstead buildings that begin to show some of the cultural heritage on the site. It is the intention of Conservation Halton to continue to protect these features and sustainably incorporate them into the fabric of the park visitor experience.

Cultural heritage opportunities have been identified with the presence of the Alexander buildings and Regional Museum buildings in the Village Centre concept area, as well as the cultural industrial heritage of the Kelso Quarry through the various features. A significant opportunity exists for incorporation of First Nation cultural education, signage and collaboration through meaningful ongoing partnership with the Mississaugas of the Credit First Nation. Conservation Halton staff should continue to nurture this relationship, at a staff and governance level, and seek opportunities to partner in both cultural and natural heritage activities. It is the hope of Conservation Halton to grow these partnerships and allow for programming that supports awareness, education and initiatives of First Nation communities in addition to the existing colonial heritage present on the site. This approach is supported by Conservation Halton’s strategic plan, Metamorphosis 2020.

6.4 PARK OPERATIONS & VISITOR IMPACT MANAGEMENT

Activities at Kelso are subject to the Conservation Authorities Act (R.R.O. 1990, Regulation 116) and Ontario Regulation 365/88. Recreational or educational activity permitted in the conservation area will be allowed to take place as long as:

- The capacity of proposed facilities is not exceeded;
- No significant environmental degradation of the natural resource base occurs; and
- The Visitor Impact Management (VIM) program is implemented to monitor impacts and provide management with a means to curtail recreational overuse and provide corrective measures.

This master plan identifies accessibility, sustainable facility and site design, trail development, uses and management as significant considerations for VIM, per the section below.

6.4.1 VISITOR IMPACT MANAGEMENT

Conservation Halton has established a VIM program to help monitor trends in visitor impact in some of its key areas and infrastructure assets. The current VIM program focuses on trail and landscape impacts beyond the main development areas of the park systems. Through the identification of representative sections of trails across its parks system, including Kelso, Conservation Halton engaged a pilot VIM project in 2014 and 2015, with a wider role out through 2016, 2017 and 2018. The current VIM program continues to mature through Conservation Halton's proactive management of resources and staff awareness. Current approach includes:

- Park visitation counts;
- Trail monitoring through visual inspections for widening, compaction, wet areas;
- Trail definition, reroutes or closures through lining, restoring, surfacing or construction of minor infrastructure in susceptible areas;
- Facilities and infrastructure monitoring for hazards;
- Entrance and parking monitoring and directing for peak-use (overflow);
- Visitor use of campsites, open spaces, picnic areas through visual inspection;
- Awareness of unscheduled or controlled recreational activities (i.e., soccer, games, frisbee, etc.);
- Adjacent recreational uses and user conflicts;
- Refinement of campsite location and density to mitigate impacts and increase user experience;
- Collecting readings and completing visual inspections of onsite septic systems and water meters;
- Visual monitoring of beach and shoreline erosion;
- Shoreline and beach maintenance through restoring, surfacing or construction of minor infrastructure in susceptible areas; and
- Grow to include VIM on ecology and natural heritage (i.e., invasive species, breeding birds, SAR, erosion, noise, light, and compaction).

Known sections of trails and program/activity features are repeatedly visited and several factors reflective of impact are monitored, including: trail width and depth, invasive species and side vegetation impacts. Additionally, fixed-point photography is used to provide a continuous source of information on trail or program/activity feature impacts. Where trail or program/activity feature impacts (e.g., trail widening) are noted, management measures are implemented through budgeted funding.

Efforts for VIM have been focused on changing the thought of operational staff to include VIM at front of mind (i.e., noticing intersection expansion, trail widening, peak usage of uncontrolled programs and activities) as well as incorporating mitigation of impacts through operational decisions such as post location, fencing, built infrastructure, trail lining, resurfacing or landscape practices.

Wide ranges of tools are used to mitigate impacts: in places, the simple installation of logs from fallen trees has proven very effective at managing trail widening (e.g., Mount Nemo) and in other locations more significant works are planned to develop surfaced narrow trail corridors to limit and manage trail widening (e.g., Rattlesnake Point). In addition, Conservation Halton reviews issues such as trail signage to ensure users are clearly able to identify trails (a new system of trail signage is currently being implemented) and reviews trail suitability; closing trails where multiple trails run parallel or trail braiding is occurring, on an ongoing basis.

Through engaging a systematic approach to VIM, Conservation Halton will be able to identify early signs of unsustainable impacts and manage these to mitigate impacts and address pressures.

6.4.2 MANAGING PEAK USE & INFRASTRUCTURE

Peak visitation experienced on holidays and weekends (assuming weather conditions are favourable) is noted during Christmas, Family Day, Canada Day and around Thanksgiving, which places pressure on available parking and other infrastructure. Extending bus routes into the park has been experimented with the reduce vehicle use. Programming seeks to even out visitation through known peak use weekends and pricing models offering incentives to use facilities ‘off peak’ to reduce peak demands.

Existing sanitary and water systems rely on ‘on site management’ through the use of wells, cisterns, on site small water systems and septic systems. During periods of intensive use (such as the summer and peak winter seasons) these systems are functioning near capacity. Working with the NEC, Region of Halton and Town of Milton, Conservation Halton is actively seeking approval to extend municipal wastewater servicing to Kelso Conservation Area to facilitate proactive management of existing infrastructure bearing in mind age of systems and capacity set against a backdrop of increasing population pressure on the park from a growing urban community. The municipal servicing would be the long-term target for the park servicing, however due to timelines of approval and planning processes and the phased implementation of this master plan, updated onsite systems may need to be considered to address existing use and as a stop-gap measure for any facility improvements proposed.

These projects demonstrate the proactive nature with which Conservation Halton identifies visitor impacts and establishes innovative options to address these in medium and long term financial planning.

6.4.3 GENERAL FACTORS IN DESIGN AND MANAGEMENT PRACTICES

When considering design and management practices for existing or new infrastructure and programming at Kelso Conservation Area and Glen Eden, the approach is to balance the needs of recreation activities and features on trails, campsites, open space with the environmental needs and protection. The areas of focus for our VIM have been the areas of high use by visitors.

GENERAL FACTORS

- New park infrastructure and operations should not negatively affect the natural or cultural environment;
- New park infrastructure and operations should be carried out so as not to adversely affect adjoining private landowners;
- New park infrastructure and operations will be located and designed to avoid known sensitive or ecologically significant features.
- Where existing trails are in locations that cause environmental deterioration, relocations to a less impactful locations or infrastructure (i.e. boardwalks, bridges, decking, staircase etc.) are encouraged;
- Trail design, construction and management should ensure the safety of trail users and balance the needs of the diverse trail uses and the environment;
- Currently Kelso operates all trails for hiking and biking as multi-use trails to align with existing park use, master plans and standard operating procedures. This approach is streamlined with other park operation procedures, while providing experiences targeted to specific user groups of the park;
- To control trail user impacts in areas that are seasonally wet, built boardwalks, bridges or railings will be constructed to reduce impact;
- New park infrastructure in the trail network that is in the Natural Environment, Nature Reserve or Resource Management zones will undergo consultation and seek endorsement from Conservation Halton Planning and Watershed Management staff; and
- Park operations staff will work towards creating a formal trail management plan in collaboration with Planning and Watershed Management staff outside of this master planning process to address trail realignments and closures.

Closure protocols for natural areas (such as trails and camp/picnic sites, etc.) will be created in conjunction with technical Conservation Halton staff to work towards re-establishing the ecological values and allow succession of plantings and habitat. The trail closures will allow restoration of interior portions of the trail to progress naturally. The restoration plan for closed trails and features in more sensitive areas will consist of a limited amount of equipment use to source and install large fallen logs, boulders/armour stone, plantings and gated structures.

If a new trail system is to be implemented, the existing unsanctioned trail should be closed. Trail closures form an important mitigation measure for protecting the natural features of the conservation area, which should reduce unauthorized access and entry to pre-existing trails prior to the implementation of the master plan. Detailed design at the implementation stage will determine the specific design details. Qualified Conservation Halton operations staff will execute trailhead closures, gate installations, fencing and vegetation planting.

6.4.4 MANAGEMENT OF EVENTS, ACTIVITIES AND SCHEDULED PROGRAMMING

Events are defined as any marketed or ticketed occasions to take place at Kelso, including Glen Eden and the Kelso Quarry. This includes any recreation events, such as: bike races, foot races, triathlons, non-motorized boat races, skiing and snowboarding events, cultural heritage events, food and beverage festivals, galas or corporate event space for partners, etc. that may require the use of temporary infrastructure to sustainably support the visitation.

Activities are value-add occasions where temporary additional services or products, above our regular business, will be offered to increase the value for park visitors, such as: food truck, live entertainment professionals, free programming, program trials, free lessons, etc.

Scheduled programming is considered a regular recurring program, activity or service related to our core business that may be pre-booked or advertised (i.e., race series, recreational leagues, multiple food trucks, promotional seasons, etc.) that utilizes existing infrastructure, but may require small amounts of temporary infrastructure such as tents or additional portable washrooms to be in place.

Events, activities and scheduled programming areas will generally be restricted to the 'Development', 'Recreation', 'Natural' and 'Resource Management' zones of the park with the exception of specialized activities that may require utilization of the trails system throughout the 'Nature Reserve' and possibly 'Cultural Heritage' zones (i.e., bird watching). Large-scale events will not to be staged in the 'Natural' zone and only specialized activities should be permitted. Permitted events will only include those that are deemed compatible with the zoning and can be supported by park facilities and infrastructure without negatively affecting park resources or users.

External partner events (e.g., day camps, movie shoots, picnicking, cycling events, or large group camping) will be permitted through an Activity Agreement. Bookings for Activity Agreement may be negotiated and approved by customer service staff under the supervision of the management team at Kelso for standard activities that occur within 'Development' zones. Permitted activities that are complex in nature or are proposed to occur outside of the 'Development' zones, require approval through Corporate Compliance staff with circulation through relevant departments before a permit can be issued.

Kelso has been identified as the most equipped Conservation Halton park to accommodate larger events and programming due to the existing infrastructure, large 'Development' zone and visitor accessibility. The decision to host events or scheduled programming include a sustainable analysis of the impacts and benefits. Events will be targeted to round out seasonal, off-peak programming or to focus visitation to specific times where operational and program staff can actively manage for impacts.

6.4.4.1 FACTORS IN DECISION MAKING

- Environmental impacts of the event to the natural environment of the park (consult with technical staff and look at mapping from master plan for permitted use and sensitive features);
- Opportunity to grow the knowledge and foster stewardship from our visitors;
- Partnership opportunities in order to provide the location and foster partnerships with other public and private organizations;
- Revenue generation - cost benefit analysis (revenue return) for future or improved management of conservation lands and flood mitigation;
- Infrastructure needs - can the existing infrastructure sustain the visitation and event? If not, can temporary infrastructure be brought in to accommodate those needs or build infrastructure in a sustainable manner to support these programs/events? If no to all, then the event does not go forward;
- Alignment of the activity or event with our core mandate, core business and strategic plan;
- Requirement of additional permits for the activities and scheduled events (e.g., vendors licenses, health unit permits, NEC, Provincial and Federal, municipal permits, etc.) and the timeline for obtaining these permits;
- Value added to increase visitor experience (i.e., low or no cost to visitor), to accommodate user request or response to feedback;
- Provide a unique and diverse recreational and educational experience;
- Focus or redirect visitation to locations through activities and events during off-peak times; and,
- Control visitation during on-peak times when there is increased staff availability to manage impacts and visitation.

6.4.5 NEXT STEPS

Conservation Halton remains committed to the principles of VIM and anticipates growing the program over the coming years. In 2017, Conservation Halton committed to an Asset Management Program which is delivered in multiple phases. During 2018, asset management focusses on major built infrastructure such as flood infrastructure (e.g., dams and channels), buildings, and other park infrastructure. The resulting plan will inform the development of long-term budgets to ensure that Conservation Halton buildings continue to serve existing needs and address developing needs of the visitors.

Conservation Halton's Asset Management Program will look at capital infrastructure and trail management, as well as consider the 'value' (i.e., carbon, ecosystem services, etc.) of the lands, ensuring appropriate management of those assets.

Through increasingly advanced membership services, visitor service centres and financial tracking software, Conservation Halton has a comprehensive understanding of the number of visitors and the drivers of use of its main properties. This enables Conservation Halton to proactively identify pressures and manage these pressures through a variety of mechanisms such as development of responsive programming, staffing and on site management to minimize and mitigate any adverse impacts.

Conservation Halton is exploring opportunities to undertake more refined visitor counts, to not only understand visitation to properties, but also to better understand visitation pressures within properties, and on trails, and to better refine its VIM to meet evolving patterns of use.

6.4.5.1 FUTURE EXPANSION OF VIM

- Apply monitoring to climbing spots and initiate a climber ambassador program;
- Enhance monitoring to include areas which we do not currently collect data on usage, such as the number of trail users or specific feature users for recreational and educational programs (e.g., beach, volleyball courts, picnic areas, etc.);
- Accessibility of trails (i.e., width, surface material, slope); and
- Electronic or automated gates and online reservations to control entry during peak visitation times, or times when gate attendants are not present.

In conclusion, the implementation of the updated Kelso Master Plan will enable Conservation Halton to sustainably manage the natural and cultural resources, while also continuing to provide unique and diverse educational and recreational activities that respond to the existing and forecasted demographic trends, and diversified and sustainable economic base. As a NEPOSS recreational park, the Kelso Master Plan provides protection of its unique ecological and historical areas, celebrates the ecological restoration and conservation efforts, enhances public access and enjoyment of outdoor recreation and education activities, while also conserving and enhancing the natural environment of the Niagara Escarpment. The Kelso Master Plan concepts, through the implementation of the overall site plan, are grounded with key service targets, key conservation targets and key objectives identified in Conservation Halton's strategic plan, Metamorphosis 2020.

6.4.6 INNOVATION & DIGITAL TRANSFORMATION

The proliferation of technology has opened new avenues for park management to create behavior interventions, utilize digital platforms and enhance the user experience. Conservation Halton's focus for the implementation of innovative solutions and digital transformation starts with the customer – both internally and externally. Our approach is to apply digital solutions to existing manual problems or pain points with current systems or operations. Although specific solutions have not yet been implemented, Conservation Halton has motioned to focus on the main areas for digital transformation, as discussed in sections below.

6.4.6.1 MONITORING – ENVIRONMENTAL HEALTH

Integrate a real-time system that monitors the environmental health of each park/green space. This system would not only allow Conservation Halton to allocate resources more effectively to particular sites which need the most support, but would also enable visitors to better understand the ecological health of the parks - supplementing their knowledge of the natural environment and encouraging sustainable behavior. Overall, these monitoring processes would help Conservation Halton to:

- Connect field assets - increase visibility and protect the natural environment;

- Collect real-time measurements with remote sensors from Conservation Halton parks – identifying the status and trends of environmental conditions;
- Educate visitors, implement sustainable visitor impact management practices, and share data across municipal departments; and
- Help Conservation Halton to create the 'baseline' / 'set the standard' for ecological health - compare with other parks and communities throughout Ontario.

The parameters which are suggested to be monitored in order to measure the environmental health of each park/green space through the use of Internet of Things (IoT) devices are as follows:

- Water Quality – Chloride, Nitrates, Suspended solids, Phosphorus, Dissolved oxygen;
- Air Quality – Fine Particulate Matter, Ground-level Ozone, Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Volatile Organic Compounds (VOCs);
- Soil Quality – Conductivity, Organic Content (Organic Carbon), Mineralogy, Moisture; and
- Vegetative/Canopy Health – Rate of Photosynthesis (Infrared Cameras).

6.4.6.2 SMART PARKS PROJECT

Move towards innovative and digital solutions that alleviate wait times at the park entrances and allow for more reliable online reservation systems. This master plan proposes the use of automated and electronic gates in addition to the existing gatehouses, as well as a transition or improvement to the online point of sales system to accommodate regular visitation bookings through an online reservation system.

In the initial stages of the COVID-19 pandemic, Conservation Halton required a dynamic, real-time crowd management system to enable sufficient physical distancing in a timely manner in order to ensure that animals and visitors could explore Conservation Halton parks and green spaces safely without hesitation. A partnership with a vendor has allowed for the creation of an online reservation system, which has been successful in enabling members and the public to visit parks and green spaces thus far. In addition, through the analysis of data collected from IoT sensors and other innovative technology, Conservation Halton parks will eventually be able to monitor, track and better understand the movement of people, employees, and vehicles, including:

- Identify which areas of the parks are being used, the number of visitors in each area, and the facilities that are underutilized;
- Identify the number of people on each trail, and how long they spend on each route;
- Allow staff to design, manage, and implement services and operational measures supported by data to improve visitor experience;
- Help to inform decisions such as capital investments in upgrading park amenities, new features that enhance visitor experience, and placement of key facilities.

6.4.6.3 SOCIAL IMPACT RANKING SYSTEM – MENTAL & PHYSICAL HEALTH

Throughout the Conservation Halton parks system, a proposed Social Impact Ranking System to measure mental and physical health has been proposed. Social Impact Ranking System aims to effectively measure specific characteristics and parameters present throughout parks/green spaces and rank each park/green space accordingly. The goal is to enable Conservation Halton to identify and understand how each park or greenspace is able to create a positive effect on the physical and mental health of visitors. It would compare the amount of greenspace available with metrics from studies identifying the positive mental and physical health effects from greenspace and inferred to quantify those improvements by Conservation Halton Parks.

6.4.6.4 SMART PONDS PROJECT

The Smart Ponds Project aims to create a superior solution for the way that water quality can be monitored throughout the natural environment. In the past, traditional water quality monitoring methods have primarily consisted of manual data collection. Not only is this process extremely expensive, but there are many additional disadvantages associated with this method. For example, once data has been manually collected, it must then be processed and formulated into physical and digital reports. This process and the formulation of these reports may take up to six months to complete, and therefore conservation authorities must then make decisions based on outdated information. In addition, when water quality is manually tested there are often not enough sites tested to provide representative values for a water body. Human error, as well as the discrete nature of manual water quality monitoring, may also lead to misinformation and/or a miscommunication of the data collected. As a result, the staff have created a solution which will revolutionize out-dated manual water quality monitoring systems.

Staff plan to replace these out-dated manual water quality monitoring systems with innovative technologies which will allow conservation authorities to access comprehensive, yet easily understood information in real-time. In order to do this, sensors and additional hardware will be deployed throughout Conservation Halton's parks and greenspaces, where they will be used monitor the presence of numerous aquatic parameters (e.g., pH, dissolved oxygen, turbidity, temperature, and water level).

These parameters being measured are predetermined by Conservation Halton's ecologists and subject matter experts, to ensure that the most relevant information is being obtained. The software accompanying these sensors and hardware is then able to receive the data collected in the field in real-time and generate accurate, easy to read graphs and illustrations of current environmental conditions which may be used to make informed decisions. This method of water quality monitoring will also allow for the elimination of human error in data collection, yielding more accurate results, as well as the continuous data collection performed by these sensors will allow for a more accurate depiction of environmental status. The technology will also provide information regarding the hardware's current status in the field, such as battery life, communication effectiveness, and GPS (location).

7 IMPLEMENTATION

Conservation Halton is responsible for delivering sustainable assets and resource management for each of the seven parks within its boundaries. As Conservation Halton's largest and most popular park asset, the health and well-being of Kelso is critically important to organization's mandate for stewardship, resource management, and leadership. Revenues generated at Kelso helps support and strengthen the entire park network, in addition to Halton Region's Development Charges By-law revenue, partnerships (i.e., fundraising, marketing, revenue creation and capital campaigns) and debt-financing.

The Kelso Master Plan builds upon a 50-year legacy of environmental stewardship and successful recreational programming by Conservation Halton; and is the culmination of more than two and a half years of fieldwork, policy research, analysis, and stakeholder consultation. It recognizes the significant impacts that climate change and population growth will have – if left unchecked - on the park's terrestrial, aquatic and built features.

The insights and ideas presented in the Kelso Master Plan support the premise that park officials must make strategic capital investments throughout the park. Changing patterns of activities, including more intensive and frequent use, must be managed in a manner that effectively protects and preserves the park's natural assets for future generations to enjoy.

The updated Kelso Master Plan presents recommended improvements and new programs to meet recreational and education needs of the visitors today and in the future, while respecting and celebrating the natural richness and landscape of the Niagara Escarpment. All aspects of the Kelso Master Plan are honouring the NEP designations and inherent execution of the recreational park classification of the NEPOSS, as well as the objectives of the Regional Natural Heritage system that are aligned with Conservation Halton's Core Conservation Area management practices.

Improvements to Kelso will be phased over the next 5 to 25 years, with social, economic and environmental sustainability in mind (see Figure 61 and Figure 62). It is recommended that the management and development of the programmatic areas for North Kelso and the Kelso Quarry programmatic are implemented simultaneously to ensure that its infrastructure – including buildings, trails, roads, parking lots, entry points, washrooms, restaurants, etc. – are appropriately aligned and scaled to deliver engaging programs and services that fulfil the recreational and educational needs of a changing base of users.

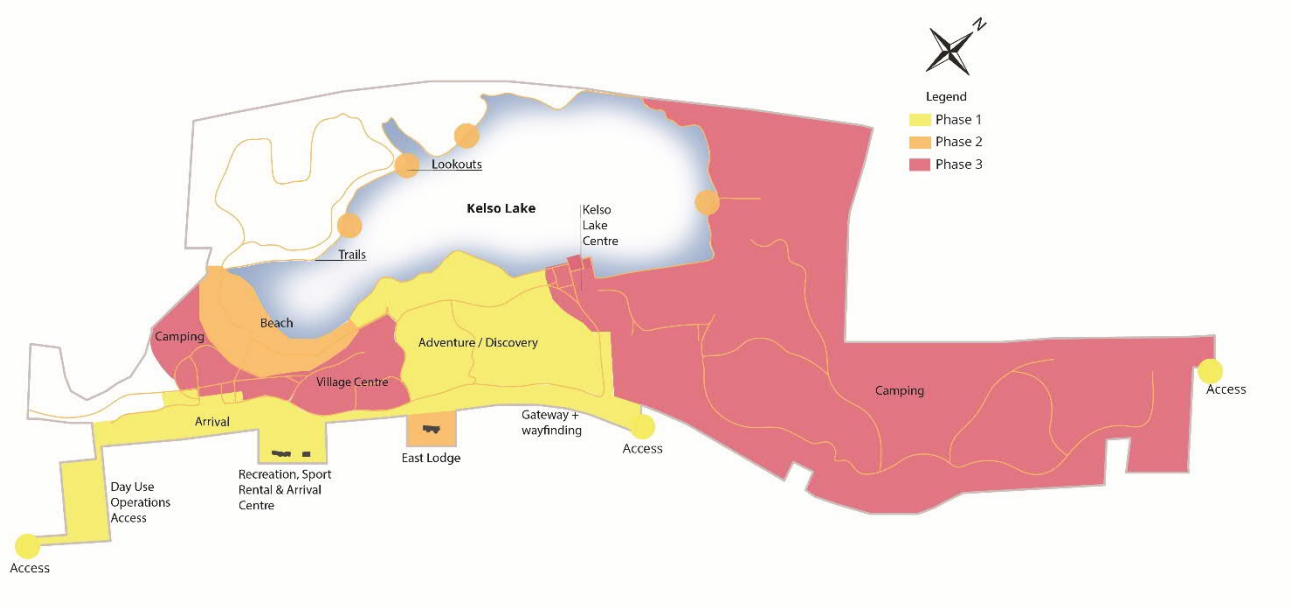


Figure 621 Kelso Master Plan - North Kelso Phasing

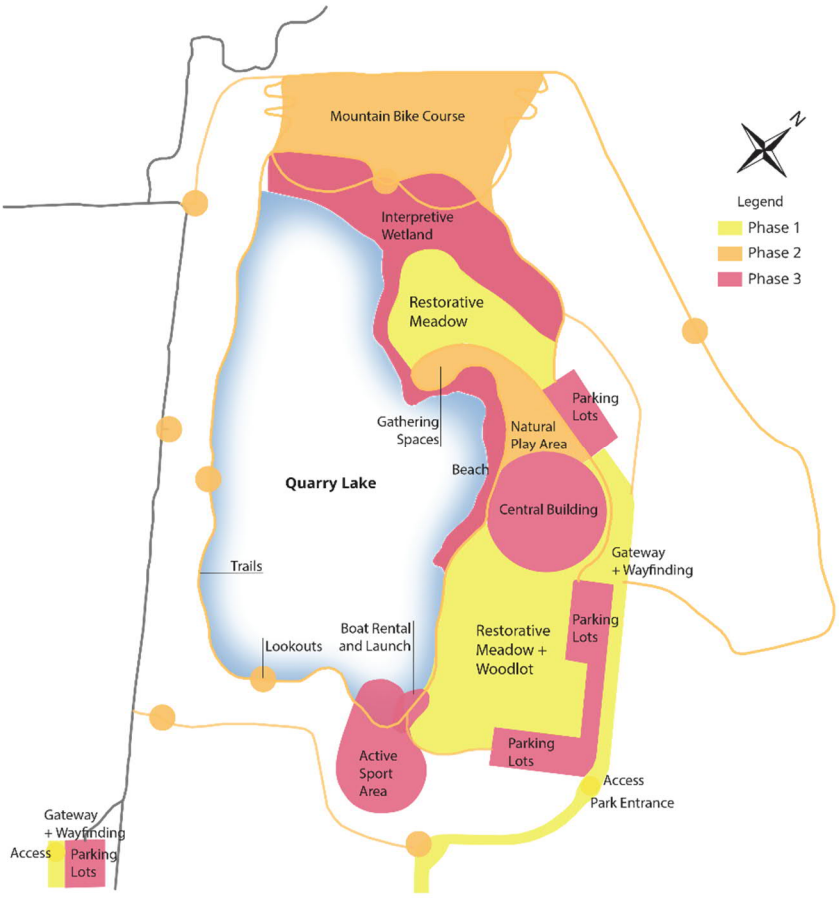


Figure 61 Kelso Master Plan - Kelso Quarry Phasing

7.1.1 PHASE ONE

The first phase of improvements for North Kelso will set the framework to upgrade and reduce environmental impacts of the supporting infrastructure for all programs and facilities on site: the replacement of the existing 15 septic systems with municipal wastewater services and upgrade of the municipal water services will be pursued through the separate NEC and municipal processes.

The next anchor providing improved level of service to the visitors is the development of the Recreation, Sport Rental & Arrival Centre, arrival roads and circulation toward the Visitor Centre. Enhancements to the gateway and access points to Kelso and the wayfinding signage will improve the overall arrival and navigation experience, which was identified as a critical enhancement. The development of the Day Use Operations Access will improve the access and safety for Kelso's visitors and operations staff.

The Adventure/Discovery area is improving seasonal opportunities for play at Kelso, with varying skill-level activities and improved visitor service with consolidated facilities and parking.

At the Kelso Quarry, the first phase of development for opening the park to the public will include formalizing the park entrance, access, gateway and wayfinding to the central building, while continuing to restore the meadows and woodlots to strengthen its natural heritage.

7.1.2 PHASE TWO

In this phase, the implementation focus will be on elevating the existing features and programs to high visitor experience levels, including additional trails and lookouts, beach programming and access, and renovated East Lodge building. These expansions will strengthen Kelso's strong identity, provide universal accessibility features and more varied audience specific programming and improve safety for visitors.

At the Kelso Quarry, the second phase of development will introduce both passive and active programs to the park, including circuit trails and lookouts, natural play area, gathering spaces and a mountain biking trail.

7.1.3 PHASE THREE

In the third phase of improvements, North Kelso will see investments made to improving the experience, safety and diversity of camping accommodations, with a support kiosk at the Kelso Lake Centre. The Kelso Lake Centre will include improvements to the boat launch, parking and new volleyball courts. The Village Centre will be the last feature to implement at North Kelso, celebrating the rich history and heritage on site, while introducing additional levels of service to the site.

At the Kelso Quarry, the third phase of development will involve additional park programs to create a diverse types of activities that are different from North Kelso. This includes re-imagining of the central building, its green spaces and access to the beach, boat rental and launch and the associated active sport area that form an activity cluster at the park, interpretive wetland and interpretation of the site history, as well as parking lots.

7.2 PLAN APPROVALS AND REVIEW

Following approval of this master plan, certain additional approvals will still need to be obtained from the appropriate agencies as shown in Table 33, including NEC Development Permit, and Town of Milton Building Permit, Site Plan Approval and Site Alteration Permit. Conservation Halton is exempt from the requirement of obtaining a Development Permit under Ontario Regulation 828 for maintenance of lands, buildings and structures, renewal or repair of septic systems connected to public utilities, tree plantings and trail development within Kelso. As per the NEP, Section 3.1.5.1 Master/Management Planning Policy states that "undertakings within an approved Master/Management Plan may be exempt from Development Control, in accordance with Regulations established under the Niagara Escarpment Planning and Development Act". Buildings, roads and picnic shelters may be exempt from requiring a NEC Development Permit if the requirement under section 41 of Ontario 829/90 is met.

Table 33 Kelso Master Plan Approvals and Review Requirements

	TOWN OF MILTON/ HALTON REGION	MASTER PLAN APPROVAL ONLY	CH ONTARIO REGULATION 162/06	NEC DEVELOP. PERMIT	2020 NEPOSS ZONE(S)	RELEVANT AGENCY REVIEWS
PHASE 1 – North Kelso						
THEMATIC AREA 1 – GATEWAY, WAYFINDING & ENTRANCE DRIVEWAY (ACCESS)						
East Gate Tremaine Road (existing)	-	-	-	-	-	-
THEMATIC AREA 12 – CAMPING (ACCESS)						
Secondary East Gate Tremaine Road North (camping – new gatehouse)	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Development/ Access/ Recreation Zones	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 5 – DAY USE OPERATIONS (ACCESS)						
West Servicing Access - Appleby Line	-	YES	Applicable	EXEMPTION	Development/ Access/ Recreation Zones	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 2 – ARRIVAL (GATEWAY & WAYFINDING)						
Main Roadway Enhancement	-	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals

	TOWN OF MILTON/ HALTON REGION	MASTER PLAN APPROVAL ONLY	CH ONTARIO REGULATION 162/06	NEC DEVELOP. PERMIT	2020 NEPOSS ZONE(S)	RELEVANT AGENCY REVIEWS
THEMATIC AREA 1 – GATEWAY, WAYFINDING & ENTRANCE DRIVEWAY (GATEWAY & WAYFINDING)						
Signage, Dark Sky Lighting, Banners, Walkways, Edges, Landscape	-	YES	-	EXEMPTION	Development Zone	MNRF / MECP / ECCC approvals
THEMATIC AREA 9 - ADVENTURE/DISCOVERY						
Parking Reorganization and Enhancement NEW – Building and Uses (servicing approval outside of master plan process)	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals
NEW - Nature Play and Water Play NEW - Frisbee Golf	-	YES	-	EXEMPTION	Recreation Zone	MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 2 - ARRIVAL						
Re-organized Parking System and Circulation From Entry Entry Plaza to Bridge Crossing	Site Plan Approval	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 5 – DAY USE OPERATIONS (ARRIVAL)						
Separate Maintenance Area	Site Plan Approval	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals
Ski Operation Parking on South Of Railway and Emergency Access	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals

	TOWN OF MILTON/ HALTON REGION	MASTER PLAN APPROVAL ONLY	CH ONTARIO REGULATION 162/06	NEC DEVELOP. PERMIT	2020 NEPOSS ZONE(S)	RELEVANT AGENCY REVIEWS
THEMATIC AREA 4 – RECREATION, SPORT RENTAL & ARRIVAL CENTRE						
NEW - Recreation, Sport Rental & Arrival Centre – Uses and Building	Building Permit/ Site Plan Approval	YES	-	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals

PHASE 1 – Kelso Quarry

THEMATIC AREA 1 – GATEWAY, WAYFINDING & ENTRANCES (ACCESS)						
Main South Gate Entrance (Steeles Avenue) with Public Lookout, Gate House Setback	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Development/ Access/ Recreation Zones	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 3 – RESTORATION MEADOWS & WOODLAND						
Conservation Halton Restoration Efforts	-	YES	Applicable	EXEMPTION	Resource Management/ Natural Environment Zone	-

PHASE 2 – North Kelso

THEMATIC AREA 11 – WATERFRONT BOARDWALK AND WOODLAND TRAIL						
Water's Edge Boardwalk Extension Woodland Trail and Creek Crossing Kelso Lake Loop	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Recreation/ Natural Environment/ Resource Management Zones	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 12 – CAMPING (TRAILS)						
Creek Trail and Campground Loop	-	YES	Applicable	EXEMPTION	Resource Management / Nature Reserve/ Recreation/ Cultural Heritage Zones	MHSTCI/ MTCS / MNRF / MECP / DFO / ECCC approvals

	TOWN OF MILTON/ HALTON REGION	MASTER PLAN APPROVAL ONLY	CH ONTARIO REGULATION 162/06	NEC DEVELOP. PERMIT	2020 NEPOSS ZONE(S)	RELEVANT AGENCY REVIEWS
THEMATIC AREA 7 – BEACH (LOOKOUT)						
NEW – Beach Tower Lookout at Kelso	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 11 – WATERFRONT BOARDWALK AND WOODLAND TRAIL (LOOKOUT)						
Woodland Lake Trail Lookouts (2)	Site Plan Approval	YES	Applicable	EXEMPTION	Development / Natural Environment/ Resource Management / Recreation Zones	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 7 – BEACH						
Renovated Concession Facility (interior/ exterior) Beach Expansion and Enhancement NEW - Secondary non-motorized boat rental NEW - Muskoka fire pit area NEW - Boardwalk access along beach	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 3 – EAST LODGE						
Building Renovation, including Food Services and Tables, Equipment Rental, Fireplace Room, Lockers/ Change Room, Parking Enhancement NEW – Patio to Front the Ski Hill	Building Permit/ Site Plan Approval	YES	-	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / ECCC approvals

	TOWN OF MILTON/ HALTON REGION	MASTER PLAN APPROVAL ONLY	CH ONTARIO REGULATION 162/06	NEC DEVELOP. PERMIT	2020 NEPOSS ZONE(S)	RELEVANT AGENCY REVIEWS
Phase 2 – Kelso Quarry						
THEMATIC AREA 6 - TRAILS & LOOKOUTS						
Lower/Upper Themed Quarry Loops	-	YES	Applicable	EXEMPTION	Natural Environment/ Nature Reserve/ Resource Management / Recreation Zones	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
Upper Quarry Circuit Trail Lookouts (6) Lower Quarry Circuit Trail Lookouts (3)	Site Plan Approval	YES	Applicable	EXEMPTION	Development / Natural Environment/ Resource Management / Recreation Zones	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 8 – INTERPRETIVE WETLAND (LOOKOUT)						
NEW - Wetland Interpretive Area Lookout	Site Plan Approval	YES	Applicable	EXEMPTION	Development / Natural Environment/ Resource Management / Recreation Zones	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 10 – NATURAL PLAYGROUND						
Natural Playground With Butterfly/ Pollinator Gardens	Site Plan Approval	YES	-	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 7 – MOUNTAIN BIKE TRAIL						
North Face Of The Quarry, Integrates with Trails on Upper Lands	-	YES	-	EXEMPTION	Natural Environment Zone	MHSTCI/ MNRF/ MECP / ECCC approvals

THEMATIC AREA 9 - GATHERING SPACES						
Rock Formation Space, Gathering Space at North end of Beach, Central Building Area	-	YES	Applicable	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
PHASE 3 – North Kelso						
THEMATIC AREA 12 - CAMPING						
Traditional Tent Camping Enhancement	-	YES	Applicable	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 6 – DAY CAMPS						
Way of the Woods & Day Camping Enhancements NEW - Clustered Parking and Shade Structures	Building Permit	YES	Applicable	EXEMPTION	Development / Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
THEMATIC AREA 12 - CAMPING						
NEW - oTENTik Camping	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Recreation Zone	MHSTCI/ MNRF / MECP / ECCC approvals
NEW - Additional Washroom/ Shower Facility (Existing Washroom Building Location)	Building Permit/ Site Plan Approval	YES	-	EXEMPTION	Recreation Zone	MNRF / MECP / ECCC approvals
THEMATIC AREA 10 - KELSO LAKE CENTRE						
Enhance Boat Dock and Launch Ramp	Building Permit/ Site Plan Approval	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
NEW - Camping Store/ Lake Information Centre/ Small Café With Patio	Building Permit/ Site Plan Approval	YES	Applicable	MASTER PLAN AMENDMENT/ DEVELOPMENT PERMIT	Development Zone	MHSTCI/ MNRF / MECP / DFO / ECCC approvals

THEMATIC AREA 9 - GATHERING SPACES						
Re-organized Parking NEW - Volleyball (4 Courts)	-	YES	Applicable	EXEMPTION	Development Zone	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
Shoreline Rehabilitation	-	YES	Applicable	EXEMPTION	Resource Management Zone	MHSTCI/ MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 8 – VILLAGE CENTRE						
Existing Structure NEW Use - Exterior at Grade Retail/Light Food Cafe (Alexander House) EXISTING STRUCTURE- Restore Alexander House (Interior Renovation/ Exterior Maintenance)	Building Permit/ Site Plan Approval	YES	-	EXEMPTION	Development Zone	MHSTCI/ MNRF/ MECP / ECCC approvals

PHASE 3 – Kelso Quarry

THEMATIC AREA 2 - CENTRAL BUILDING (WITH PARKING LOTS)						
3 Existing Parking Lots Resurfacing/ Reorganization at Kelso Quarry	-	YES	Applicable	EXEMPTION	Development Zone	MNRF / MECP / ECCC approvals
NEW USE - Existing Building, Retrofit at Kelso Quarry – Food Services, Nature Centre, Museum, Event Space, Offices (Maintenance of Existing Water and Wastewater)	Building Permit/ Site Plan Approval/ Servicing Approval	YES	-	MASTER PLAN AMENDMENT/ DEVELOPMENT PERMIT	Development Zone	MNRF / MECP / ECCC approvals
Industrial Park Canopy (Outdoor Extension to Building), with Open Space and Circular Seating	Building Permit	YES	-	EXEMPTION	Development /Recreation Zone	MNRF / MECP / ECCC approvals

THEMATIC AREA 9 - GATHERING SPACES						
THEMATIC AREA 11 - BEACH						
Boardwalk- Beach and Active Sport Area	Building Permit	YES	Applicable	EXEMPTION	Recreation Zone	MNRF / MECP / EFO / ECCC approvals
THEMATIC AREA 5 – SEASONAL ACTIVITIES (ACTIVE SPORT)						
NEW- Adventure Sports Area - Dock and Water Activities	Building Permit	YES	Applicable	EXEMPTION	Recreation Zone	MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 4 - BOAT RENTAL AND LAUNCH						
NEW- Boat Rental Dock Facility and Outdoor Sport Rental	Building Permit/ Site Plan Approval	YES	-	MASTER PLAN AMENDMENT/ DEVELOPMENT PERMIT	Recreation Zone	MNRF / MECP / DFO / ECCC approvals
THEMATIC AREA 8 – INTERPRETIVE WETLAND						
NEW- Large Boardwalk Overlooking the Wetland	Building Permit	YES	Applicable	EXEMPTION	Resource Management Zone	MNRF / MECP / DFO / ECCC approvals

7.3 PLAN REVIEW AND AMENDMENT

This master plan shall be the prevailing policy document for the planning and development of the Kelso Conservation Area and Glen Eden for the next 5 to 25 years from signed approval. Periodic review may be undertaken as required with amendments processed under the following means:

- A major amendment would involve any change that would represent a marked departure from the plan's original intent and direction. Such changes could have significant impacts on the conservation area's environment, affect users of adjacent lands or result in significant public reaction. Major amendments will require an application to the MNRF with full public consultation, including 5-year renewals; and,
- A minor amendment would involve administrative or housekeeping changes that would not alter the plan's intent, affect the conservation area's objectives or its ability to meet those objectives, or have any significant impacts on the conservation area's environment. Any minor amendments will be processed simply as a Development Permit under the NEP.