

October 11, 2024 GEI File: 2406518

Attn: Jason Marr Town of Pelham 20 Pelham Town Square Pelham, ON L0S 1E0

#### RE: Town of Pelham Asset Management Plan Update - 2025

GEI Consultants Canada Inc. (GEI), formerly GM BluePlan, is pleased to submit this proposal to support the Town of Pelham (Town) for the update of their 2025 Asset Management Plan (AMP) in support of enhancing the Town's asset management practices and to comply with Ontario Regulation 588/17.

We believe GEI is ideally positioned to deliver this project because of our vast experience in asset management and the development of asset management plans, as well as our current involvement with the Town on numerous assignments that will contribute to the updated AMP. We are excited to have this opportunity to engage with additional Town staff and demonstrate our capabilities in this area. This project will be delivered from our Hamilton Office. We are prepared to start this assignment immediately.

#### **Statement of Understanding**

On January 1, 2018, Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure came into effect. The regulation sets out requirements for municipal asset management planning to help municipalities more consistently identify asset management needs and inform asset management planning and investment decisions. We believe that through this assignment the Town will meet the requirements of the legislation related to the assets you own and which allow you to deliver high quality infrastructure services to your community.

GEI's approach will align with requirements of O. Reg 588/17. Overall, this project will accomplish the following key objectives:

- Meet the O. Reg 588/17 regulatory timeframes for municipal asset management planning.
   Specifically, this project will result in a compliant Asset Management Plan for 2025 legislative requirements.
- Review and update the current State of the Local Infrastructure including asset inventory, cost and condition, identifying and filling gaps where required.
- Review and update the current Levels of Service, targets, and Key Performance Indicators (KPIs)
  to enable the Town to understand the services that it provides and measure them to support
  service-centric decision-making. Incorporate proposed levels of service, strategies and costs to
  meet these targets.



- Develop proposed Levels of Service for the 2025 AMP, that are financially tolerable, balance risk and are implementable in the long term.
- Review and update asset lifecycle management strategies that enable prediction of intervention requirements based on condition, asset performance, cost, level of service and risks. GEI is unique in the industry as we understand that asset maintenance plays a capital role in LOS and asset sustainability and not simplistic models that are asset replacement centric.
- Review and update the risk strategy to allow for risk-based prioritization of capital projects and evaluation of the risks that come with different intervention options.
- Identify the funding requirements to support levels of service and the lifecycle management strategy. Provide financial statements and projects for the next 10 years in support of the strategy.
- Assess growth and climate change to determine the future demands and impacts to the Town's asset management strategies.
- Development of the updated 2025 AMP, and the delivery of a presentations to Town Council.



#### Work Plan

The following work plan leverages the Town's Asset Management accomplishments over the past years and follows a streamlined version of the tasks to meet the 2025 O. Reg 588/17 requirements. A provisional AMP development phase and provisional workshops have been highlighted within the workplan below for context.

#### Phase 1 – Project Initiation, Project Management and Administration

GEI will coordinate a project initiation meeting with the Town's project manager and project team. In this meeting, we will review the project scope, objective and timelines in detail. Any potential challenges, timelines and risks will be discussed and further documented at this meeting. Resource requirements will also be clearly outlined at this meeting. An immediate step following this meeting, GEI will prepare a Request for Information (RFI) for the Town to provide any relevant information.

This task includes an allowance for overall project management and administration including ongoing communications, weekly project status calls/meetings, schedule management and scope management.

#### Final Deliverables

- Kickoff Meeting
- Monthly Progress Update Meetings & Meeting Minutes

#### Phase 2 - Background Data and Gap Analysis & State of Assets

GEI will guide the Town through the process of collecting the necessary information required for the AMP. GEI will collect, review, and identify any missing requirements of O.Reg. 588/17. GEI will provide recommendations, determine where existing information can be leveraged to enhance the AMP to be provided for the Town to compile any missing required data. Using the information provided, a draft inventory will be developed.

The draft overview of the data and what will be included for the State of the Infrastructure will be sent to Town staff for review and comment. It is important to ensure that this inventory covers the full replacement cost, and includes condition, age and estimated service life. Any assumptions made in the absence of data will be established with Town staff and documented in the AMP. Any required gaps that cannot be worked through between GEI and the Town will be documented for recommendations for future initiatives.



#### Final Deliverables

- Gap Assessment
- Draft Inventory
- Data Review Workshop Provisional (1hr x 8 Workshops)
- Finalized Inventory

#### Phase 3 & 4 - Levels of Service (Current and Proposed) & Lifecycle Management Strategy

#### Level of Service

GEI will develop a level of service framework for the assessment of the current levels of service to determine the current performance, and the proposed performance of the Town. The level of service framework will be developed based on GEI's extensive experience with municipalities within the Niagara Region, best practices and in accordance with O.Reg. 588/17.

All assumptions and methodology will be documented within the AMP document to ensure repeatable processes for the Town to follow for future iterations of the AMP.

#### Lifecycle Management Strategy

The lifecycle management strategy will be developed that addresses the Town's assets are managed throughout their lifecycle. The lifecycle management strategy is the set of planned activities to ensure that the infrastructure can achieve the level of service goals. The strategy is related to optimizing decisions with respect to replacement, rehabilitation, maintenance, disposals, and any asset strategies for renewal.

These lifecycle strategies and their costs, provide the basis for the financial strategy and the infrastructure gap.

GEI has provided provisional items, should the Town wish to include stakeholders in the development of the levels of service and lifecycle strategies that will be used within the AMP.

#### Deliverables

- SOTI/LOS/LCM Workshops Provisional (1hr x 8 Workshops)
- Proposed Levels of Service Workshops Provisional (2hr x 8 Workshops)
- Summary Report of Proposed Levels of Service
- Updated Lifecycle Management Scenario



#### Phase 5 - Financial Strategy

The financial strategy of an AMP sets out the approach to ensuring that the appropriate funds are available to support the delivery of infrastructure services. The financing strategy will provide commentary on the current planned financial expenditures, infrastructure spending needs, the funding shortfall, and financial strategies to overcome the infrastructure spending shortfall. This phase of the project will begin during the initial data request and review phase to ensure all data requirements are received and align for desired outputs. A workshop will be held to outline the key needs for this data.

The financial strategy will be finalized in a report from the outcomes of the two workshops that will be held for the review of the financial and LCM strategies.

If the Town wishes to draft the AMP document themselves, all deliverables will be provided to the Town in electronic format in excel.

#### **Deliverables**

- Financial Strategy Data Requirements Workshop (2hr Workshop)
- Financial Calibration Workshops Provisional (1hr x 4 Workshops)
- Financial & LCM Review Workshop
- Summary Report of Financial Strategy

#### Provisional P1 - Draft and Final Asset Management Plan

Provided as a provisional item, the final task of the project will be to develop the draft and final version of the AMP document. Based on the regulations and the prior AMP, the key sections of the plan are proposed to include the prior phases:

- Introduction: Why we need a plan and the overall scope (including summary and updates) and methodology of the AMP.
- State of the Infrastructure: Inventory overview and condition (including condition, replacement value and average age, and all assumptions made for the development of the plan).
- Levels of Service: Performance of current levels of service and proposed levels of service.
- Lifecycle Management Strategy: The costs and activities associated with the management of Town assets throughout their lifecycle. Including Current Budget Scenario, Cost to Maintain Current LOS, Unconstrainted Scenario and Proposed LOS.
- Financing Strategy: How much it will cost and how it will be paid for.



Improvement Monitoring: Action items for improvement.

The asset management plan will incorporate key components of the project that have been previously completed.

Following receipt of comments on the draft AMP, GEI will develop the final AMP. The report will tie together all analysis completed under each project task, and clearly illustrate the integration and linkages of all strategies. All tools, templates and presentations will be provided to the Town to serve as the one-stop reference in the future.

Finally, GEI will coordinate to present the AMP to Council. Additional provisional workshops for Council include an introduction to the asset management plan and regulatory requirements and the development of proposed levels of service.

#### **Deliverables**

- Draft & Final Asset Management Plan
- Presentation for Council
- Council Workshop (Intro to AMP) Provisional
- Council Workshop (Proposed LOS) Provisional

#### **Project Team and Qualifications**

Our project team is ready to deliver the AMP. This team understands the O.Reg.588/17 2025 regulatory requirements for municipal asset management planning and the Town's current asset management principles and practices.

The project team identified in this quotation have completed, or are currently working on, the following AMPs in the Niagara Region:

- City of Welland AMP Update (2024 and 2025)
- City of Port Colborne Core AMP (2024 & 2025)
- City of St. Catharines Core AMP (2022); Remaining Asset AMP (2023)
- City of London AMP (2018-2019, 2022-2023)
- Town of Fort Erie Core and Facilities AMP (2019, 2024)

Please find below, the team organizational chart. For detailed resumes of each member of the proposed project team, please refer to Appendix A.



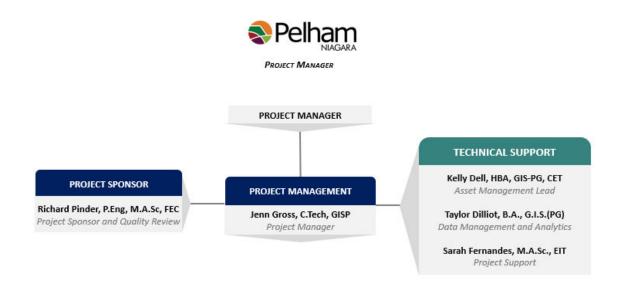


Figure 1. Project Team Organizational Chart

#### Project Manager

Jenn Gross, C. Tech, GIS (PG)

Jenn is an asset management and GIS professional with 17 years of diverse consulting and municipal experience. Within her time at GEI, she has led numerous asset management project for other municipalities within the Niagara Region, including Town of Fort Erie, City of Welland, and City of Port Colborne. She also has assisted with the development of The City of St. Catharines, City of London, and the City of Cambridge. She previously also led the Asset Management Program and GIS for the Town of Grimsby. This involved the creation and development of the asset management program, AM policy, AM Strategic Plan, governance structure, level of service frameworks, and Asset Management Plans for core infrastructure and facilities. She will serve as the Project Manager for the 2025 AMP.

### Project Sponsor and Quality Review Richard Pinder, M.A.Sc., P. Eng., FEC

Rich is Senior Project Manager at GEI with over 25 years of experience in providing solutions to client's asset management challenges covering a broad range of infrastructure, facility assessments and AMPs. This includes providing consulting services related to the development of Asset Management Plans, including the City of St. Catharines Remaining Assets AMP in 2023, City of Windsor 2024 and 2025 AMPs, and the City of Cambridge 2025 AMP. Rich will bring this experience to this assignment and will support the project team in providing QA/QC oversight for all deliverables.



#### Asset Management Lead

#### Kelly Dell, HBA, GIS (PG), C.E.T.

Kelly is an asset management professional with prior experience in municipal asset management, engineering, GIS, data management, and urban planning settings. She works with diverse municipal teams developing and implementing asset management strategies with enhanced data management and information systems strategies. Kelly's proficiency in data management ensures quality and consistency across asset inventories and helps her lead and support Asset Management projects throughout the project lifecycle. She has liaised effectively with consultants, finance departments, and operational teams to integrate data into municipal systems, contributing to the overall success of asset management initiatives. Kelly has demonstrated her commitment to organizational capacity through her roles and skills and will be the Asset Management Lead on this team.

#### Data and Analytical Support Taylor Dilliot, B.A., GIS (PG)

Taylor brings expertise in data analysis, data modelling, programming, and machine learning to all aspects of asset management. He has experience performing data analytics, systems optimization, and the development of in-house tools. Additionally, Taylor has experience with Levels of Service framework development and risk assessments. Taylor will support the project team with all facets of data management and analysis required to develop the AMP.

#### **Technical Support**

#### Sarah Fernandes, M.A.Sc., E.I.T.

Sarah brings diverse experience with a focus in asset management projects. Her technical and interpersonal skills along with her varied engineering experience in process, operations, and infrastructure management allow her to support these projects throughout the entire lifecycle of the project. Her strong coordination skills with multi-disciplinary teams enables her to support asset management projects with project coordination, data management, and technical writing. Sarah will serve as technical support for developing the AMP.

#### **Project Assumptions**

We have made the following assumptions in the development of this proposal:

- The Town will provide all relevant information requested in a timely manner.
- The Town's Project Manager will manage the Town's feedback on provided deliverables by reviewing, approving, and collating edits and comments before submitting them to GEI. This will ensure deliverables appropriately reflect staff feedback and are finalized in a timely and efficient manner.



#### **Project Budget**

The total proposed project budget is \$39,240 excluding HST and provisional items including the development of the asset management plan (\$23,320) and additional workshops with departments (\$23,025). The base budget and both provisional items come to a total project cost of \$85,585, excluding HST.

The detailed time-task breakdown is provided in **Appendix B**.

#### **Project Schedule**

We understand that the Town's requires the Asset Management Plan to be approved by Town Council prior to the July 1, 2025 O.Reg. 588/17 deadline, and we have allocated 34 weeks to complete the assignment. We will work with the Town's project team to adhere to the schedule detailed in **Appendix C**.



#### Closing

We trust the above proposal meets your needs and illustrates the strengths of the GEI team to support the Town with this assignment. Upon written approval, our team is available to commence work in November of 2024; with an anticipated project closure of June 2025. GEI will meet with the Town's project manager to review final deliverables for project sign off. Please do not hesitate to contact us should you have any questions regarding this proposal and or require additional information. Thank you for the opportunity to provide this quotation for services.

Yours truly,

Per:

Jenn Gross, C. Tech, GISP Senior Project Manager

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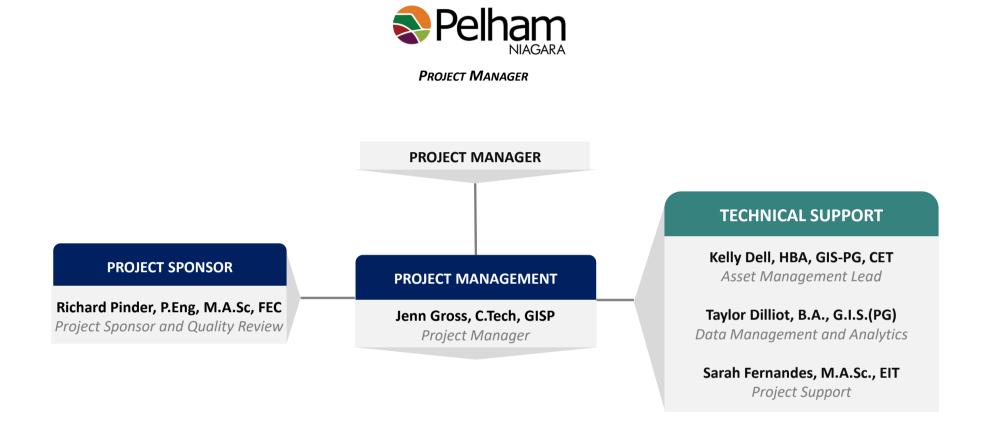
Richard Pinder, M.A.Sc., P.Eng., FEC Hamilton Branch Manager



## Appendix A Team Resumes



## TOWN OF PELHAM 2025 ASSET MANAGEMENT PLAN UPDATE



Contact Information for Senior
Management Outside of Project Team:
CHRIS HAMEL, P.ENG.

EMAIL: CHAMEL@GEICONSULTANTS.COM

CELL: 416-577-2500

#### Jenn Gross, HBA, C.Tech., GISP

Asset Management Project Manager

Jennifer is an experienced asset management and GIS professional with a diverse background in consulting and municipal settings. She has accumulated 16 years of expertise in this field. Her recent work has involved project management and asset management advisory, collaborating with various municipalities such as the City of London, City of St. Catharines, Town of Fort Erie, City of Port Colborne and City of Welland, to develop their Asset Management Plans.

In her role, Jennifer is responsible for the facilitation of project teams, identifying necessary resources, and setting project objectives, timelines, and milestones. She also assists with the development, implementation, and enhancement of asset management programs. This includes designing condition assessment protocols, risk and criticality models, lifecycle management strategies, and level of service frameworks. Jennifer engages with her clients to review business processes, asset management and corporate systems, including GIS applications, to provide needs assessments and recommendations on how to manage assets more efficiently and effectively. This is accomplished by building an environment of collaboration and teamwork to address challenges and assist clients in modernizing their services.

#### PROJECT EXPERIENCE

#### Corporate Asset Management Plan, City of Windsor, ON

Project Coordinator. GEI was retained to develop the municipality's Asset Management Plan that is compliant with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management and risk management across the full spectrum of asset classes. (2023-Ongoing)

Asset Management Plan, City of Welland, ON. Project Manager. GEI was retained to develop the municipality's Asset Management Plan that is compliant with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management and risk management across the full spectrum of asset classes. (2023-Ongoing)

Asset Management Plan, City of Port Colborne, ON. Project Manager. GEI was retained to develop the municipality's Asset Management Plan that is compliant with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management and risk management across the full spectrum of asset classes. (2023-Ongoing)

GIS and Asset Management Resource Review, Implementation Plan and Roadmap, City of Port Colborne, ON. Project Manager. The City of Port Colborne, with the goal of modernizing GIS and AM within the Corporation, retained GEI to conduct a resource review, a GIS data gap analysis, a stakeholder engagement workshop and to develop an Implementation and Roadmap for GIS and AM. All



#### **EDUCATION**

B.A., Bachelor of Arts (Hons), Geography with a Concentration in GIS, Brock University Graduate Certificate, Geographic Information Systems, Niagara College

EXPERIENCE IN THE INDUSTRY 17 years

EXPERIENCE WITH GEI 1 year

REGISTRATIONS AND LICENSES
Certified Technician (C.Tech), OACETT
No. #850164
Geographic Information Systems
Professional (GISP), GISCI

TRAINING AND CERTIFICATIONS
Professional Certificate in Asset
Management Planning, IPWEA



recommendations were outlined and prioritized in an implementation and road map outlining recommended resources for the tasks. (2023)

#### Asset Management

**Transit Asset Management Plan, York Region, ON.** Asset Management Support. GEI was retained to develop an AMP for all transit assets. Provided asset management support to ensure compliance with O.Reg. 588/17. (2023)

**Asset Management Plan, City of St. Catharines Library, ON**. Asset Management Support. GEI was retained to develop an AMP for all library assets. Provided asset management support to ensure compliance with O.Reg. 588/17, project coordination and assisted in the development of the AMP. (2023)

State of Good Repair Backlog Analysis of Linear Infrastructure (Water & Sewer), City of Toronto, ON. Asset Management Advisor. The purpose of the project is to assess the condition and long-term investment requirements to sustain the watermains and sewer system infrastructure in a State of Good Repair. The project includes analysis of the backlog of linear infrastructure. (2023)

Infrastructure Needs Study, City of Port Colborne, ON. Asset and Data Management Advisor. There are multiple engagements being completed with the City on their infrastructure. Jennifer is responsible for packaging and presenting the data for the multiple projects to the client in a user-friendly dashboard. (2023)

#### PREVIOUS PROJECT EXPERIENCE

Corporate Asset Management Plan, City of St. Catharines, ON. Asset Management Support. GEI was retained to develop a Corporate AMP for core and non-core assets for a total estimated value of \$4.7 billion. Involved in the development of the non-core assets to meet O.Reg.588/17 requirements. Project tasks included reviewing the City's asset data and developing an asset hierarchy and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models, and established intervention types, triggers, and costs. (2022-2023)

Corporate Asset Management Plan, City of London, ON. Advisor/Project Manager. The City of London retained GEI to provide consulting services to support the City in the development of their Corporate Asset Management Plan (CAM Plan) for the 2025 O.Reg. 588/17 requirements, including proposed levels of service. The project consisted of supporting the City to complete the asset lifecycle analysis, deliver workshops to staff, and prepare other components of the CAM Plan. (2022-2023)

Asset Management Plan for Core Infrastructure, Town of Grimsby, ON. Project Manager. The objective of this assignment was to develop an AMP for core infrastructure as per O.Reg. 588/17, including state of the infrastructure, levels of service and performance, lifecycle management strategy, and financing strategy. (2022)

**Asset Management Program, Town of Grimsby, ON.** Coordinator, Project Manager. Established the Asset Management Program for the Town of Grimsby, including the creation of the Asset Management Team, the development of the Asset Management Policy, Strategic Plan, and governance structure. (2017-2023)

Asset Management Team, Town of Grimsby, ON. Coordinator, Project Manager. Developed, implemented and grew the Town's asset management program, including condition assessment protocols, risk and criticality models, lifecycle management, and level of service framework. Provided awareness training to the Team and Council to expand Asset Management capacity within the Town. (2017-2023)



#### Richard Pinder, P.Eng, M.A.Sc, FEC

**Project Sponsor** 

Richard Pinder is a professional engineer with over 20 years of project management experience. Mr. Pinder is experienced in leveraging business processes, engineering and data to help organizations maximize the value of their assets, programs and projects. During his career, Richard has successfully led several corporation-wide asset management implementations. Most recently, he led the successful implementation of the Regional Municipality of Niagara Water-Wastewater asset management program. As part of this program, he established asset management within the division, which included enhancing the asset management system, policy and strategy development, governance structure, level of service frameworks, risk frameworks, capital budget process, condition assessments, and decision support system implementations. Richard was also a member of the corporate asset management team.

Before the Regional Municipality of Niagara, Richard led the asset management program development at the Regional Municipality of Waterloo. This included the Asset Management Systems
Implementation Program – Included the implementation of a Regionwide Work Management and Decision Support System (Development of RFP, Selection, Purchase and Implementation), developed the Corporate Asset Management Policy, Framework and Strategy, coordinated and delivered the Corporate Asset Management Plan enabling the Region to apply for Federal and Provincial Funding (100 yr. plan). Richard was also the Communication/Change Management Lead for Water Services for the Asset Management Program. He was



#### **EDUCATION**

 M.A.Sc., Environmental Engineering, University of Guelph
 B.SC., Environmental Engineering, University of Guelph

EXPERIENCE IN THE INDUSTRY 20 years

EXPERIENCE WITH GEI 1 year

REGISTRATIONS AND LICENSES Professional Engineer, Ontario

#### PROFESSIONAL AFFILIATIONS

Institute of Asset Management, Member (MIAM)

Institute of Asset Management, Advanced Asset Management Certificate Institute of Asset Management, Advanced Asset Management Diploma (In progress)

PEMAC Asset Management Professional Certification Program (In progress)

responsible for delivering and implementing the initial Transportation and Environmental Services Asset Management Implementation Project (\$3M Consultant Assignment).

Richard's experience includes strategic and operations management in water and wastewater; however has been involved in stormwater, transportation, airports, facilities, social housing, information technology, parks, recreation, and fleet.

Richard is a professional engineer, has been recognized by engineering peers, and has been made a Fellow of Engineers Canada (FEC).



Corporate Asset Management Plan, City of Cambridge. Project Manager. GEI was retained to develop the municipality's Asset Management Plan, which is compliant with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management, and risk management across the full spectrum of asset classes.

Corporate Asset Management Plan, City of Windsor. Project Manager. GEI was retained to develop the municipality's Asset Management Plan to comply with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management, and risk management across the full spectrum of asset classes.

**Transit Asset Management Plan, Region of York.** Project Manager. This project is to produce the Asset Management Plan for the Region of York Transit Division. This will be compliant for 2024 and 2025 O.Reg. 588/17.

Corporate Asset Management Plan, City of Windsor. Project Manager. GEI was retained to develop the municipality's Asset Management Plan to comply with the 2024 and 2025 O.Reg.588/17 requirements, including proposed levels of service, lifecycle management, and risk management across the full spectrum of asset classes.

Asset Management Plan, City of St. Catharines Library, ON. Asset Management Support. GEI was retained to develop an AMP for all library assets. Provided asset management support to ensure compliance with O.Reg. 588/17, project coordination and assisted in the development of the AMP. (2023)

Asset Management Plan, City of St. Catharines Library, ON. Project Manager. GEI was retained to develop an AMP for all library assets. Provided asset management support to ensure compliance with O.Reg. 588/17, project coordination and assisted in the development of the AMP. (2023)

Corporate Asset Management Plan, City of St. Catharines, ON. Project Manager. GEI was retained to develop a Corporate AMP for core and non-core assets for a total estimated value of \$4.7 billion. Involved in the development of the non-core assets to meet O.Reg.588/17 requirements. Project tasks included reviewing the City's asset data and developing an asset hierarchy and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models, and established intervention types, triggers, and costs. (2022-2023)

Corporate Asset Management Plan, City of London, ON. Advisor/Project Manager. The City of London retained GEI to provide consulting services to support the City in the development of their Corporate Asset Management Plan (CAM Plan) for the 2025 O.Reg. 588/17 requirements, including proposed levels of service. The project consisted of supporting the City to complete the asset lifecycle analysis, deliver workshops to staff, and prepare other components of the CAM Plan. (2022-2023)

#### **Condition Assessments**

Waste Management Facility Baseline Building Condition Assessment, Region of Peel, ON. Asset Management Support. Asset management support for the project to provide a baseline condition for the Region of Peel's Waste Management Facility. GEI developed a high-level condition assessment report based on the results of the inventory and condition assessment. (2023)

**St. Andrews Booster Station Condition Assessment, Region of Waterloo, ON.** Data Management Lead. Data management lead for the project to provide a condition assessment in accordance with the Region's Inventory, Condition, and Capital Planning Assessment (ICC) Protocol and corresponding templates. GEI developed a 10-year capital project plan based on the results of the inventory and condition assessment. (2023)



#### Kelly Dell, HBA, GIS(pg), C.E.T.

Asset Management

Kelly is a highly skilled professional with over 20 years of experience in municipal government, asset management, engineering, GIS, data management, and urban planning. Her extensive background includes developing and implementing asset management strategies, overseeing municipal asset maintenance and optimization, and leading teams of technologists and analysts to improve asset performance. She excels in monitoring and reporting on municipal assets including but not limited to: roads, drinking water systems, sewage collection, and stormwater drainage, while also being proficient in GIS and data management tools

Kelly's proficiency in data collection, mapping, and analysis ensures data quality and consistency across asset inventories. She has developed protocols for asset data management, utilizing software like Safe Software's FME for data conversion. Her expertise extends to capital planning and infrastructure assessments, advising on RFP creation and conducting condition assessments for municipal networks.

A proven team leader, Kelly has trained and supervised asset management technologists and analysts, playing a key role in the development of asset management plans. She has liaised effectively with consultants, finance departments, and operational teams to integrate data into municipal systems, contributing to the overall success of asset management initiatives. Additionally, Kelly has demonstrated her commitment to organizational capacity by creating training materials, technical memorandums, and metadata standards for asset management planning.



EDUCATION
B.A., Bachelor of Arts (Hons), Geography
& History
Brock University
Geospatial Management Post-Graduate
Diploma, Geographic Information

EXPERIENCE IN THE INDUSTRY 21 years

Systems, Niagara College

EXPERIENCE WITH GEI <1 year

REGISTRATIONS AND LICENSES Certified Engineering Technologist (C.E.T.), OACETT No. #903859

TRAINING AND CERTIFICATIONS
Professional Certificate in Asset
Management Planning, IPWEA

#### PROJECT EXPERIENCE

Asset Management Registry, City of Niagara Falls, ON. Supervisor. Train and supervise all aspects of GIS activities associated with collecting, creating, managing, mapping, editing and analyzing asset data sets including but not limited to storm network, water network, sanitary network, and road network.

**Data Conversion for TCA Financial Reporting, City of Niagara Falls, ON.** Project Lead. Developed business process and data conversion process using Safe Software's FME for reporting assets from GIS to Citywide.

Corridor Planning Tool Development, City of Niagara Falls, ON. Project Manager. Implement and lead the integration of a tool to pull data from various City sources and formats to query based on criteria e.g. condition and risk factors to allow the AM team to complete comprehensive asset management planning and analysis at the corridor level and aide in the creation of the 10 year capital forecast. (2023-2024)

Capital Planning Database, City of Niagara Falls, ON. Project Manager. Lead the implementation of a capital planning database to house: budget allocations; funding sources; and resulting capital projects identified from planned interdepartmental consultations, workshops and concurrent implementation of the corridor management tool to aide in the creation of the 10 year capital forecast. (2023-2024)

Capital Project Mapping, City of Niagara Falls, ON. Project Manager. Complete and publish the Capital Project mapping layer for the 2022, 2023, 2024 capital programs. This project increases information sharing



across departments and to aid in capital planning and budgeting efforts (corridor alignment, construction conflicts, project bundling). (2022 - 2024)

**TCA Process Review & Optimization, City of Niagara Falls, ON.** Project Manager. Facilitate the TCA Process Review & Optimization Project with Finance and Project Managers from across the city, to optimize/improve over current processes to minimize manual processes. (2022-2024)

Asset Management Plan for Non-Core Infrastructure, City of Niagara Falls, ON. Project Advisor. The objective of this assignment was to develop an AMP for core infrastructure as per O.Reg. 588/17, including state of the infrastructure, levels of service and performance, lifecycle management strategy, and financing strategy. (2022-2024)

Asset Management Program, City of Niagara Falls, ON. Project Lead & Program Supervisor. Establish Asset Management Program for the City, leverages data management tools like GIS for tracking and decision-making, ensures regulatory compliance, and engages stakeholders. Continuous improvement processes ensure that the program evolves with new data and community growth, maintaining infrastructure efficiency and service quality over time. (2022-2024)

Asset Management Team, City of Niagara Falls, ON. Project Lead. Developed, implemented and grew the City's asset management program, including condition assessment protocols, data standards, and operational frameworks. Provided awareness training to the Team and Operations to expand Asset Management capacity within the City. (2022-2023)

Asset Management Registry and Maintenance, Niagara Region, ON. Asset Management Support. Collaborated with internal and external teams to support the creation and maintenance of an Asset registry. Analyzed and provided comments to internal departments to identify potential conflicts or opportunities for capital projects (2021-2022)

Asset Management Plan for Core Infrastructure, City of Niagara Falls, ON. Asset Management Analyst and cross-functional Asset Management Team member. The objective of this assignment was to complete the asset management readiness scale and develop an AMP and policy for core infrastructure as per O.Reg. 588/17, including state of the infrastructure, levels of service and performance, lifecycle management strategy, and financing strategy. (2019-2021)

**Asset Management Plan, Town of Fort Erie, ON.** Asset Management Support. In support of the Asset Management Plan development specifically the Asset Registry to centralize the asset inventory and integration with several existing IT systems in place at the Town. Responsible for developing and providing GIS Training to Town Staff (2014-2015).

Collection Contract Data Management (CCDM), Regional Municipality of Niagara. Asset Management Support. Utilizing Safe Software's FME desktop to read and join ownership data from the Municipal Property Assessment Corporation (MPAC) in a SQL Server database, to the Region's GIS layers to create a single database repository for a web interface solution. Deliverable included a Configuration Manual that outlines the parameters of conversion (2014-2015).

GeoSpatial Database Model, City of Brantford, ON. Asset Management Support. Preformed data conversion of City's existing GIS database and non-spatial LADR data to a single repository. The majority of these conversions and consolidations were completed using Safe Software's FME desktop. The project resulted in the consolidation of two key data sources for GIS and infrastructure information into a single asset repository (2015).



#### Taylor Dilliott, BA, PG-GIS

Senior Technical Specialist, Data Management & GIS

Taylor has gained valuable experience working in the field conducting various surveys with a variety of technologies including UAV. This experience is complemented by strong technical skills using a variety of GIS and DBMS software such as ESRI, AutoCAD, SQL Server, Microsoft Office Suite, QGIS and FME. Additionally, Taylor has experience with a variety of programming and scripting languages such as HTML, VBA, CSS, SQL and Python. Taylor holds certification from NASSCO in the PACP, MACP and LACP disciplines.

Taylor brings technical, analytical and problem-solving skills together to improve work quality and flow. Taylors background in the humanities provides a strong set of communication skills when writing reports or technical memoranda.

#### PROJECT EXPERIENCE

#### **Asset Management Plans**

Corporate Asset Management Plan, City of St. Catharines, ON. Data Management, Data Cleanup, GIS Mapping. GEI was retained by the City of St. Catharines to develop the City's Corporate AMP for core and non-core assets for a total estimated value of \$ 4.7 billion. The plan included capital requirements and customer levels of services expectations, as well as the identification of technology requirements and the development of asset risk frameworks. In his role as Data Manager/Cleanup and GIS Taylor was responsible for ensuring data consistency and accuracy across all asset classes and the implementation of GEI's internal DSS to predict the condition of the asset groups over the next 25 years. (2020-2021)

Corporate Asset Management Framework and Core Asset Management Plan, City of Kingston, ON. Data Management. The purpose of this project was the development of an asset management plan and asset management policy for the City of Kingston core asset groups. The project scope included development of the plan in alignment with O. Reg 588/17, development of current and target levels of service, customer consultation on levels of service, and the development of risk management frameworks. Taylor was primarily responsible for the implementation of GEI's internal DSS to help predict budgetary requirements for the core assets moving forward to maintain levels of service. (2020-Ongoing)

Asset Management Systems Enhancement and CMMS Implementation, County of Oxford, ON. Data Management. GEI was retained by the County of Oxford to assist with the full implementation of the Cartegraph work management system for all major asset categories. In order to facilitate the transition of existing County data into Cartegraph, GEI was responsible for defining data management business processes, developing asset hierarchies, developing and implementing asset registers, developing level of service and lifecycle strategies, developing condition and capacity protocols,



EDUCATION

Post Graduate Certificate
GIS – Geospatial Management
Niagara College (2018)

B. A., Classical Archaeology
Brock University

EXPERIENCE IN THE INDUSTRY 11 years

EXPERIENCE WITH GEI 6 years

TRAINING AND CERTIFICATIONS
LACP/MACP/PACP
No. U-1219-70307951
Confined Space Awareness/Entry
Working at Heights/Fall Protection



capturing missing asset information, developing risk frameworks, and supporting ongoing data capture and information updates. As data management, Taylor was responsible for the translation of existing county data into cleaned, usable formats for upload into Cartegraph. (2020-2023)

Asset Management Program Update, Region of Halton, ON. Data Management, Data Cleanup. The Region of Halton retained GEI to oversee the development of an updated asset management strategy and asset management program & plan in compliance with upcoming O. Reg 588/17 deadlines. The scope of the project includes water and wastewater, waste management, transportation, stormwater, corporate facilities, long term care facilities, Halton Community Housing Corporation, Police, Fleet and Information Technology. As data manager Taylor assisted with the development of asset hierarchies and the implementation of a DSS to predict future budgetary needs to maintain level of service. (2020-2022)

Enhanced Lifecycle Modelling, Region of Halton, ON. Project Manager, Data Management. Following the successful implementation of Haltons Asset Management Plan, GEI was retained to continue to enhance their existing lifecycle models for use in capital planning and financial tracking. In-scope assets for this project included all core assets as well as public works equipment and fleets. As Project Manager Taylor is responsible for planning and leading meetings, tracking project budget, meeting deadlines and answering any client questions about asset lifecycle modelling. (2022-Ongoing)

#### **Condition Assessments and Inventories**

Cambridge Park Sports Light Inventory & Assessment, City of Cambridge, ON. Project Manager, Database Management. GEI was retained by the City of Cambridge to conduct a visual assessment of 137 light structures and provide a technical report detailing observations and recommendations for repairs. Daytime inspections assessed the condition of both the utility pole and luminaire. A database and related GIS contained all observations and recommendations and were provided as a final deliverable. For "high-mast" pole structures an aerial drone (RPA) was used to photograph and record issues flagged during the visual inspection. As Project Manager Taylor was responsible for coordination of field crews, client communication and budgetary monitoring. As database manager Taylor was responsible for ensuring the data collected in the field was complete and accurate. (2019)

Condition Assessment and Inventory Updates for Noise Walls and Acoustic Fences, Region of Halton, ON. Data Management, Database Programmer, Data Visualization. The Region of Halton owns and maintains an estimated 30 km of noise walls and acoustic fences abutting regional roadways and wishes to obtain an updated condition assessment and inventory for these fences to aid in the management and scheduled update of these assets. Taylor designed and maintained an MS Access based portable inspection database that allowed field staff to quickly assess and update the acoustic fence data for further analysis and recommendation. (2018)

#### **CCTV Database Programming and Program Management**

Zoom Camera Inspections, City of St. Catharines, ON. Data Management, Data Analytics, GIS and Mapping. The purpose of this project was to have zoom camera inspections completed for all manholes and pipes for both the sanitary and storm sewer systems for the City of St. Catharines. Taylor was responsible for the management, mapping and analysis of all inspection data being received as well as conducting video review spot checks to ensure quality of video. Using this information, Taylor assisted with the development of a proactive full-scale CCTV inspection program and rehabilitation model. (2018-2019)

Niagara Falls CCTV Sanitary Sewer Network Condition Assessment, Niagara Falls, ON. Data Management and Visualization, CCTV Review, GIS and Mapping. The City of Niagara Falls is undertaking a comprehensive State of Good Repair Program of the wastewater systems, gravity mains, across the entire City over the next 3 years. The intent of this project is to better understand the condition, both operating and structural, of the system through a comprehensive CCTV condition assessment. Using advanced data analysis, GEI Engineering staff will be better able to assist City employees with informed decision making regarding the creation of system rehabilitation and replacement program to ensure the system(s) continued operation and to decrease, where applicable, extraneous flow sources. (2018 – 2021)



#### Sarah Fernandes, M.A.Sc., E.I.T.

Asset Management

Sarah Fernandes is a detail-oriented worker with a background in civil engineering. She is a registered engineer-in-training with diverse experience in design, research and development, modeling, strategic planning, and assessment projects related to water, wastewater, and waste management infrastructure.

Ms. Fernandes' technical and interpersonal skills along with her varied engineering experience in process, operations, and infrastructure management allow her to lead and support various asset management projects throughout the entire lifecycle of the project. Her strong teamwork and collaboration skills with multi-disciplinary teams enables her to support Asset Management projects with field work, project coordination, data management, and technical writing.

#### PROJECT EXPERIENCE

Library Corporate Asset Management Plan, City of St. Catharines, ON. Asset Management Support. Building on the 2021 Asset Management Plan GEI and 2023 Remaining Assets Asset Management Plan created for the City of St. Catharines, GEI developed the Library Corporate AMP for the 2024 and 2025 terms as two phases to meet the appropriate O.Reg.588/17 requirements for 10 asset categories including core and non-core assets. Project tasks included reviewing the City's asset data, developing an asset hierarchy, and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models, and established intervention types, triggers, and costs. Levels of service were also analyzed for current service provisions and levied for development of proposed service with the needs for the O.Reg. 588/17 requirements. Submission of these plans is in compliance with AODA customer service standards in compliance wit the 2005 Act and all regulations emanating therefrom. (2023–2024)

Corporate Asset Management Plan, City of St. Catharines, ON. Asset Management Support. GEI developed a Corporate AMP for core and non-core assets for a total estimated value of \$4.7 billion. Sarah was involved in the development of the non-core assets to meet O.Reg.588/17 requirements. Project tasks included reviewing the City's asset data and developing an asset hierarchy and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models, and established intervention types, triggers, and costs. (2022–2023)

Asset Management Plan, City of Welland, ON. Asset Management Support. GEI was retained to update the 2021 Asset Management Plan for the City of Welland for the 2024 terms as one phase to meet the appropriate O.Reg.588/17 2024 and 2025 requirements for 13 categories including core and non-core assets. Project tasks included reviewing the City's asset data, developing an asset hierarchy, and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models,



#### **EDUCATION**

 M.A.Sc, Master of Applied Science., Civil Engineering, McMaster University, Ontario, Canada
 B.Eng., Bachelor of Engineering, Civil Engineering, McMaster University, Ontario. Canada

EXPERIENCE IN THE INDUSTRY 4 years

EXPERIENCE WITH GEI 2 years

REGISTRATIONS AND LICENSES Engineer In Training (E.I.T), Civil/Environmental Engineer, No. 100536703



and established intervention types, triggers, and costs. Levels of service were also analyzed for current service provisions and levied for development of proposed service with the needs for the O.Reg.588/17 requirements. Submission of these plans is in compliance with AODA customer service standards in compliance wit the 2005 Act and all regulations emanating therefrom. (2023–ongoing)

Corporate Asset Management Plan, City of Windsor, ON. Asset Management Support. GEI developed a Corporate AMP for the City of Windsor for the 2024 and 2025 terms as two phases to meet the appropriate O.Reg.588/17 requirements for 10 asset categories including core and non-core assets. Project tasks included reviewing the City's asset data and developing an asset hierarchy and compiling a comprehensive asset register. GEI documented the City's existing lifecycle activities and developed lifecycle deterioration models, and established intervention types, triggers, and costs. Levels of service were also analyzed for current service provisions and levied for development of proposed service with the needs for the O.Reg.588/17 requirements. Submission of these plans is in compliance with AODA customer service standards in compliance wit the 2005 Act and all regulations emanating therefrom. (2023–ongoing)

Asset Management Systems Enhancement, CMMS (Cartegraph) Implementation and AMP Development for O.Reg. 588/17 Compliance, Oxford County, ON. Technical Support. An innovative project that involves the full implementation of Cartegraph work management system and integrations between existing systems, Cartegraph and the County's Asset Register. The project involved instituting initiatives to achieve the desired state for the County's asset management program. The initiatives include defining data management business processes, developing an asset hierarchy, implementing the asset register, implementing their computerized maintenance management system, integrating their asset registers, developing level of service and lifecycle strategies, developing a condition and capacity protocol, capturing missing asset information, developing a risk framework, and supporting ongoing data capture and information updates. (2020–2023)

Condition Assessment of Eight Sewage Pumping Stations, Town of Georgina, ON. Technical Support. The Township of Georgina have retained GEI to complete a Condition Assessment for four (4) facilities in Keswick to identify and prioritize immediate, short, intermediate, and long-term needs for the stations. As a pilot, GEI deployed wireless vibration sensors to show the value of removing schedules work with continuous monitoring technology. This project helps define the capital funding envelops required for the future planning and is part of a 3-year process of developing condition assessments for all of the Town's sewage pumping stations, aligned with their developed Asset Management Plan. (2023–2024; 2024 – ongoing)

Inventory, Condition, and Capital Planning Assessment for St. Andrews Booster Station, Region of Waterloo, ON. Technical Support. The Region of Waterloo obtained GEI to complete the inventory, condition assessment and capital planning needs for the St. Andrew's Booster Station in Cambridge. This project required the identification and prioritization of capital projects in alignment with the Region's operational and asset management teams and is to aid in the design of the Region's water distribution system. (2023–2024)

Baseline Building Condition Assessment at the Peel Integrated Waste Management Facility, Region of Peel, ON. Project Coordinator. The Region of Peel retained GEI to develop a baseline building condition assessment for the purposes of completing a baseline Building Condition Assessment (BCA) to identify the current condition of the building system and components and present the required maintenance and repair at the facility. This helped define capital funding for future capital planning exercises conducted by the Region. (2023)

Niagara Water and Wastewater Billing & Compliance Flowmeter Audit, Niagara Region, ON. Technical Support. The result of the project was to review, confirm, and make recommendations for improvements for all processes that contribute to the volumes used for water billing and wastewater compliance and billing. The project involved staff interviews, field data collection, and overall recommendations based on best practices, suitability, and investment needs for 110 meters distributed in water and wastewater treatment plants and pumping stations in all three operational areas at the Region. The scope of this assignment included visual evaluation of the current systems to develop a comprehensive review of the existing state of the Region's water and wastewater billing meters with respect to the physical installations, the hardware and software capabilities, and historical preventative maintenance and calibration reports. GEI and NLS developed various recommendations coupled with cost estimates and suggested replacement schedules. (2021–2022)





# Appendix B Project Time Task Matrix

Client Name: Town of Pelham

Project: 2025 Asset Management Plan Subject: Request for Proposal # 2406518



#### **GEI CONSULTANTS TIME TASK MATRIX**

Description	Jenn Gross Project Manager	Richard Pinder Advisor & QA/QC	Kelly Dell Asset Management Lead	Taylor Dilliot Data Analytics	Sarah Fernandes Asset Management Support	Hours Subtotals	Disbursements	Cost Subtotals
	\$180	\$230	\$155	\$150	\$120			
Phase 1 - Project Initiation, Project Management and Administration								
1.1 Project Initiation Meeting and prep (1x2-hour)	4		2		4	10	\$ 400.00	
1.2 Monthly Progress Update Meetings and prep (10 x 1/2 hour) (Virtual)	10		10			20	\$ -	\$ 3,350.00
Hour Sub		0	12	0	4	30		
Cost Sub	otal \$2,520	\$0	\$1,860	\$0	\$480		\$400	\$5,260
Phase 2 - Background Data, Gap Analysis, State of the Infrastructure								
2.1 Request and Review Background Documentation and Data	2			8			\$ -	\$1,560.00
2.2 Gap Assessment	2			4			\$ -	\$960.00
2.3 Draft Inventory	2			16			\$ -	\$2,760.00
2.4 Finalize Inventory	2			16			\$ -	\$2,760.00
Hour Sub		0	0	44	0	52		
Cost Sub	otal \$1,440	\$0	\$0	\$6,600	\$0		\$0	\$8,040
Phase 3 - Levels of Service (Current & Proposed)								
3.1 Develop Levels of Service Metrics	2	2	8		8	20	\$ -	\$ 3,020.00
3.2 Update Proposed Level of Service & Performance	2		6		8	16	\$ -	\$ 2,250.00
Hour Sub		2	14	0	16	36		
Cost Sub	otal \$720	\$460	\$2,170	\$0	\$1,920		\$0	\$5,270
Phase 4 - Lifecycle Management Strategy								
4.1 Develop Lifecycle Management Strategy	4			8	4	16	\$ -	\$ 2,400.00
4.2 Run Models for Scenarios	4	2	4	24		34	\$ -	\$ 5,400.00
Hour Sub		2	4	32	4	50		
Cost Sub	otal \$1,440	\$460	\$620	\$4,800	\$480		\$0	\$7,800
Phase 5 - Financial Strategy								
5.1 Financial Strategy Data Requirements (1x2-hours) (Virtual)	2		6		4	12	\$ -	\$ 1,770.00
5.2 Develop Financial Strategy	16	2	8		16		\$ -	\$ 6,500.00
5.3 Financial & LCM Review (2x1-hour) (Virtual)	4		8	8		20	\$ -	\$ 3,160.00
5.4 Final Revisions to Financial Strategy	8		16	16		40	\$ -	\$ 6,320.00
Hour Sub		2	22	8	20	82		
Cost Sub	1-7	\$460	\$3,410	\$1,200	\$2,400		\$0	\$12,870
Total Hours Per Posi		6	52	84	44	250		
Total Cost Per Posi	tion \$ 11,520.00	\$ 1,380.00	\$ 8,060.00	\$ 12,600.00	\$ 5,280.00		\$ 400.00	\$ 39,240.00
							HST	\$ 5,101.20

Client Name: Town of Pelham

Project: 2025 Asset Management Plan Subject: Request for Proposal # 2406518



#### **GEI CONSULTANTS TIME TASK MATRIX**

	Description	Jenn Gross Project Manager	Richard Pinder Advisor & QA/QC	Kelly Dell Asset Management Lead	Taylor Dilliot Data Analytics	Sarah Fernandes Asset Management Support	Hours Subtotals	Disbursements	Cost Subtotals
		\$180	\$230	\$155	\$150	\$120			
Provisional Itom	1 - Draft and Final Asset Management Plan								
P1.1	Prepare Draft Asset Management Plan	24	2	16		64	106	\$ -	\$ 14,940.00
P1.1	Meeting to Review Comments (1x2 hours) (Virtual)	4		2		4	100	\$ -	\$ 1,510.00
P1.3	Finalize Asset Management Plan	4	2	4		16		\$ -	\$ 3,720.00
P1.4	Develop Presentation for Council	2	2	2		4		\$ -	\$ 1,610.00
P1.5	Present to Council	4		4		-	8	\$ 200.00	\$ 1,540.00
	Hour Subtotal	38	6	28	0	88	160	,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Cost Subtotal	\$6,840	\$1,380	\$4,340	\$0	\$10,560		\$200	\$23,320
Provisional Item	1 - Workshops with Departments	. ,		. ,		. ,			
P2.1	Data Review Workshops (1hr x 8)	10		10		4	24	\$ -	\$ 3,830.00
P2.2	SOTI/LOS/LCM Workshop (2hr x 8); Workshop Prep; Meeting Minutes	24		24		4	52	\$ -	\$ 8,520.00
P2.3	Proposed Levels of Service (1.5hr x 8); Workshop Prep; Meeting Minutes	15		15		2	32	\$ -	\$ 5,265.00
P2.4	Financial Calibration Workshops (1hr x 4); Workshop Prep; Meeting Minutes	6		6		2	14	\$ -	\$ 2,250.00
P2.5	Council Workshop (Intro to AMP); Workshop Prep; Meeting Minutes	4		4		2	10	\$ -	\$ 1,580.00
P2.6	Council Workshop (Proposed LOS); Workshop Prep; Meeting Minutes	4		4		2	10	\$ -	\$ 1,580.00
	Hour Subtotal	63	0	63	0	16	142		
	Cost Subtotal	\$11,340	\$0	\$9,765	\$0	\$1,920		\$0	\$23,025
	Total Hours Per Position	131	8	113	8	124	384		
	Total Cost Per Position	\$ 18,180.00	\$ 1,380.00	\$ 14,105.00	\$ -	\$ 12,480.00		\$ 200.00	\$ 46,345.00
									6 6024.05
								HST	\$ 6,024.85

TOTAL PROJECT with Provisional Items \$ 85,585.00
TOTAL PROJECT with Provisional Items & HST \$ 96,711.05



## Appendix C Project Schedule

## Town of Pelham Asset Management Plan Update Project Schedule

