



THE REGIONAL MUNICIPALITY OF NIAGARA

REQUEST FOR PROPOSAL

NATURAL HERITAGE IMPACT ASSESSMENT STUDY

WAINFLEET SERVICING

TECHNICAL REQUIREMENTS

BACKGROUND

i) Class Environmental Assessment Study

In January 2003, Niagara Region Council in collaboration with Wainfleet Township agreed to jointly undertake a Class Environmental Assessment (EA) for the Lakeshore Area of Wainfleet Township. The purpose of the EA was to develop servicing solutions that would address environmental and public health issues related to failing septic systems and contaminated drinking water supplies potentially affecting Wainfleet Lakeshore area residents.

In July 2005, after following the prescribed provincial requirements set out in the Environmental Assessment Act, the Region/Township filed a Notice of Completion for the Wainfleet Water and Wastewater Servicing Project Class EA. The required documentation was submitted to the Ministry of the Environment. The EA servicing solution includes the following:

- Wastewater - Extend a municipal wastewater trunk system from Port Colborne and construct a local sewage collection system in the Lakeshore Area of Wainfleet Township, and
- Water - Extend a municipal water supply from the existing system in Port Colborne and construct a local distribution system in the Lakeshore Area of Wainfleet Township.

This servicing solution is referred to as the “Project” in this Request for Proposal.

In September 2006, the Minister of the Environment, having given careful consideration to issues raised during the Environment Assessment (EA) process, rendered a decision to allow the Region/Township to proceed with the project. This decision was made following a thorough Ministry review of the legislative requirements, technical documentation and public input that took place over a 14-month period.

In rendering the decision, the Minister imposed fifteen conditions on the proponent. These issues relate to the project cost evaluation used to compare alternatives, the social impact of the project, potential effects to the natural environment within the proposed right-of-way, identification of possible areas of archaeological potential within the proposed right of way and consultation with the public. These topics form the basis of the Minister’s conditions on the project, as summarized below:

- Cost Evaluation And Sharing Plan - A cost evaluation/sharing plan must be prepared for the project. The plan will include detailed cost estimates based on the most up-to-date information available; various cost-sharing scenarios between the Province, Region, Township and benefiting property owners; and contingency measures to be followed if external funds are not secured.
- Social Impact Assessment - In addition to information previously provided in the Class EA documents, the Minister requires that a social impact assessment be prepared. This must address the financial impacts of the cost-sharing scenarios and determine if benefiting property owners would be caused long-term hardship as a result of the Project. Natural Resource Impact Assessment - As part of the project’s detailed design, the Minister requires that a site-specific natural resources impact assessment be undertaken that builds upon the ecological investigations completed as part of the Class EA submission. This will focus on the proposed facility alignment and pumping station sites and evaluate potential construction impacts and mitigation. This

condition includes a commitment by the proponent to follow an environmental monitoring program during and after construction.

- Archaeological Assessment - The Minister requires the preparation of a Stage 1 Archaeological Assessment (and a Stage 2, if required) along the proposed infrastructure right-of-way to determine if the project will impact areas of archaeological potential. If evidence of archaeological resources is encountered, further work may be warranted in accordance with provincial regulations.
- Public Consultation - The Minister requires that the public continue to be consulted through to completion of project construction. At a minimum, this includes one public open house to present the findings of the above-noted studies, solicitation of public comment into the findings of these reports, and filing of the reports for public review.
- Report on How Provincial Conditions Were Satisfied – Along with copies of the aforementioned reports, the Region will be required to advise the MOE as to how these conditions were fulfilled.

This assignment is specific to Condition 3, Natural Resources Impact Assessment. The condition reads as follows (in its entirety):

“3. The Region and/or Township shall prepare as part of the Project’s detailed design a natural resources impact assessment that builds upon the ecological investigations completed as part of the ESR. This will include the Environmental Monitoring Program committed to by the Region and Township in the ESR. The natural resources impact assessment will be developed in consultation with the Ministry of Natural Resources and the Niagara Peninsula Conservation Authority and submitted to those agencies for review and comment for a minimum 30-day period. The assessment shall include a comprehensive evaluation of potential impacts to the natural resources and features along the preferred alignment and pumping station sites as refined during detailed design. The assessment will evaluate impacts during construction and any permanent impacts within the study area and identify the specific mitigation measures that will be implemented. The assessment shall be completed in advance of any construction related to the Project.”

A full copy of the Minister’s letter of decision is attached as Appendix “B” to this RFP.

The scope of this assignment is to complete the Natural Heritage Impact Assessment Study to fulfill Condition 3 of the Minister’s Decision. The detailed work program can be found in Section III – Scope of Work.

ii) Post Approval Work

Since the Minister’s endorsement of the Environmental Study Report, Niagara Region and the Township of Wainfleet have completed the following:

- a) Technical Review Workshop, April 2007 – at the direction of Regional Council, this workshop was held to evaluate alternative technologies. This was a follow-up workshop to the Value Analysis Workshop held during the EA process (refer to ESR for details on Value Analysis Workshop). The preferred option of centralized services as determined by the EA process remains the technical solution. Alternative technologies such as small bore gravity sewers or small bore low pressure sewers are being considered as part of the detailed design.

- b) Enhanced Conceptual Design – this report was completed by Hydromantis (November 2007) following the Technical Review Workshop. A copy of this report is available for viewing through Niagara Region. Consultants reviewing this document are advised that this document addresses wastewater collection only; consultants are to refer to the Environmental Study Report for the water distribution solution.
- c) Staff report PWA 147-2007 – Regional Council endorsed the municipal service option as the solution to be carried forward, subject to certain directions to be completed and reported back to Regional Council.
- d) Staff Report PWA173-2007 – Project Development Structure to Manage the Implementation of the Wainfleet Servicing Project.
- e) Township of Wainfleet New Official Plan – The Township is completing a new Official Plan that will address the Lakeshore Area. The following is an extract from the RFP for the new Official Plan:

“All of the Township, including the lakeshore area, is not serviced by municipal water and wastewater services. Historic planning practices and the lack of comprehensive long-range growth strategies have resulted in over development on undersized lots in the lakeshore community that has, in part, led to documented groundwater contamination and pollution problems.

In an effort to address the environmental and health risk issues associated with this problem, the Region of Niagara has initiated a Servicing Plan for the Lakeshore Road area that may result in the installation of municipal sewer and water along Lakeshore Road. However, should municipal services be provided, there is a concern that pressure for significant additional development may occur.

Accordingly, it is important to fashion a proper relationship between protecting the unique character of the area and its natural resources while recognizing that the installation of municipal services will increase the potential for the further development. Accordingly, Township Council has requested the preparation of a Special Policy Area for the Lakeshore Community (to be part of the Official Plan) to guide the overall development of the area.”

PROJECT TASKS

The general approach should follow the tasks outlined below:

STUDY AREA

Appendix “C” identifies the study area for the Wainfleet Servicing Area Study as well as the preferred alignment for sewer and water linear infrastructure, pumping station locations, and water booster station locations. The study area includes the Wainfleet Lakeshore Community which is located along the Lake Erie shoreline that was the focus of the Region/Township’s 2005 Environment Assessment submission. The Wainfleet Lakeshore Community is a developed area of approximately 1,250 permanent and seasonal residences relying on private water and wastewater services (i.e. private water wells and individual on-site septic systems). The Wainfleet Lakeshore Community stretches for approximately 16.5 kilometres from the Township boundary with Port Colborne in the east to the boundary with Haldimand County in the west.

The Natural Resources Impact Assessment Study is to focus on the alignment of servicing per the

Minister's conditions (see maps in Appendix "C" for servicing alignment). Consultants are advised that it is the expectation of the Region, Township and review agencies that impact assessment of linked features and functions (adjacent to the servicing route) will be part of the Impact Assessment Study.

STUDY PURPOSE

The purpose of this consulting agreement is to satisfy the requirements of the Minister of the Environment to undertake a Natural Resources Impact Assessment that builds upon the ecological investigations completed as part of the Region/Township's Environmental Study Report (ESR), which will:

- Include a comprehensive evaluation of potential impacts to natural resources and features along the preferred alignment and interconnected natural resources
- Completing additional inventories for flora and fauna and an assessment of habitat and potential habitat for species
- Evaluate construction-related impacts and any permanent impacts within the study area
- Identify specific mitigation measures that will be implemented

The consultant will also develop an Environmental Monitoring Program to be adopted by the Region/Township and applied during the construction and post-construction phases of the Project, subject to the decision of Region/Township Councils to implement the municipal water and wastewater systems. Both the Natural Resources Impact Assessment and the Environmental Monitoring Program will be developed in consultation with the Natural Resources Advisory Committee for the Wainfleet Project (see Section 4 ii)).

CONSULTANT TEAM EXPERTISE

The proposal is to identify a lead project manager with significant expertise in Natural Heritage Impact Assessment for Water and Wastewater Environmental Assessments. At a minimum, the consultant team must demonstrate competencies and expertise in the following disciplines:

- Terrestrial and avian ecology
- Environmental planning
- Landscape ecology and more specifically the ability to analyze and synthesize linkages and inter-relationships of natural resources at a landscape level
- Fisheries Biology
- Hydrogeology with specific expertise in construction site dewatering
- Drainage
- Water resources including surface water quality and quantity, hydrology, stream morphology, stormwater management, and surface water/ground water interaction
- Geology
- Certification in the Ontario Wetland Evaluation System
- Knowledge of the Ecological Land Classification
- Wetland ecology

- Forestry
- Local (Carolinian) flora and fauna identification
- Environmental monitoring program development and implementation

Consultant teams are to submit the following information as part of their proposal:

- Legal name and address of the company, including legal form of company. This is to be included for any sub-consultants on the project team.
- Name of lead consultant if the project team includes sub-consultants.
- Name of consultant project manager.
- Company profile including number of employees, number of years in business (for lead firm and sub-consultants as appropriate).
- Summary of similar projects previously or currently undertaken and experience and qualification of key employees, including description of the work undertaken, date undertaken, client name and address, references, including address and telephone number and project title (for lead firm and sub-consultants as appropriate).
- Resumes of key personnel including, as a minimum, project manager, together with their qualifications, availability and experience on similar work.
- Project data sheets on similar projects that demonstrate the team's ability to complete the assignment (for lead firm and sub-consultants as appropriate).
- Detailed description of how the consultant project team fulfills the competencies required by Niagara Region (see above).
- Confirmation of availability of firms in RFP and lead personnel for the duration of the project (commencement February 2009 and concluding mid 2010).
- Other pertinent data deemed important by the proponent.

WAINFLEET SERVICING PROJECT – PHASE 2

Through Staff Reports PWA 173-2007 and PWA 174-2007 Regional Council identified the project structure and scope of work for the next components of the Wainfleet Servicing Project. The following is a description of the project elements of Phase 2 together with their status.

i) Work Program Tasks and Responsibilities

Niagara Region and the Township of Wainfleet are in the process of engaging several additional consultants to fulfill the Minister's Conditions. The following is a brief description and status:

Assignment	Description	Project Lead	Status
Township of Wainfleet New Official Plan	Prepare a new Official Plan for the Township	Chuck Miller, Manager of Planning, Township of Wainfleet	Consultant Team Selected (Sorensen Gravely Lowes)
Engineering Design	Preliminary Engineering Design and Detailed Design Assignment	Robin Young, P. Eng. Project Manager Niagara Region	RFPQ Closed RFP To Be Issued
Natural Resources Impact Assessment	Impact Assessment and Environmental Monitoring Program	Mary Lou Tanner, MCIP, RPP Manager of Design and Construction (Wainfleet) Niagara Region	Subject of Current RFP
Archaeological Impact	Impact Assessment	Mary Lou Tanner, MCIP,	Consultant to be

Assessment		RPP Manager of Design and Construction (Wainfleet) Niagara Region	Selected
Geotechnical	Test Boreholes	Robin Young, P. Eng. Project Manager Niagara Region	As needed

Note on Engineering Design Assignment: Niagara Region is undertaking the engineering design in accordance with the Ministry endorsed Environmental Study Report. As part of the detailed design, Niagara Region will be examining alternative technologies to reduce the project’s overall cost. Consultants for the Natural Resources Impact Assessment Study are advised that the location of the pumping stations and booster stations may change as part of the engineering design assignment. Consultants are required to include a **provisional item** in their cost submission for additional field work and impact assessment for two alternative sets of pumping station and booster station locations.

ii) Project Structure

The Wainfleet Servicing Project, Phase 2, is lead by the Manager of Design and Construction (Wainfleet Project). The project is structured to ensure coordination, oversight, and input from senior staff and agency representatives from Niagara Region and the Township of Wainfleet. In addition, a Public Liaison Committee has been established consisting of members of the Wainfleet Community. The following are the key organizational elements:

- a) Joint Advisory Committee – This committee consists of senior Regional staff, three members of Regional Council, and members of Council from Wainfleet and Port Colborne, as well as senior Regional staff.
- b) Project Team – This team is the main working group of the project and is lead by the Project Lead. It includes key members of Regional and Township staff to provide technical input and oversight of the project.
- c) Public Liaison Committee – This Committee is to provide a mechanism for community-wide exchange, communication and collaboration to ensure that the public consultation process provides effective communication on the project.
- d) Natural Resources Advisory Committee – This Committee is set up specifically to provide oversight of the Natural Resources Impact Assessment Study. Members of the Committee are Niagara Region (Public Works, Planning); Township of Wainfleet (Planning); Niagara Peninsula Conservation Authority; Ministry of Natural Resources.

The selected consultant team will be expected to make presentations to each of the above committees. In the proposal, consultants must include in their pricing **six** presentations to each of the above four committees. Consultants are also to include in their pricing two presentations to each of Regional Council and Township of Wainfleet Council (total four presentations).

Consultants are also to include a **provisional item** for an additional eight presentations to the project’s committees.

NATURAL RESOURCES IMPACT ASSESSMENT WORK PLAN TASKS

In response to this Request for Proposal, the consultant will elaborate on how the following study requirements will be addressed.

Task One – Undertake a Background Review

The Natural Resources Impact Assessment will be prepared as part of the Project's detailed design stage and will build upon the ecological investigations completed as part of the ESR. The Consultant will review the database, natural environmental inventories (aquatic, terrestrial, wildlife, species) and findings of the ESR and identify data gaps that must be addressed in the Natural Resources Impact Assessment. The Consultant will also review comments submitted by agencies on the final ESR and incorporate those comments into the work program. The Consultant will describe these gaps and propose an approach to compiling the required published information and/or undertaking the necessary field investigations to assemble this data. This shall include but not be limited to:

- Surface water quality and quantity;
- Provincially Significant Wetlands, Locally Significant Wetlands as well as all other wetlands regulated by the Conservation Authority;
- Significant woodlands;
- Valleylands;
- Areas of Natural and Scientific Interest (ANSI's);
- Significant Wildlife habitat;
- Significant habitat of endangered species and threatened species;
- Species of Concern and their habitat;
- Drainage;
- Watercourses;
- Floodplains;
- Fisheries (fish and fish habitat);
- Hydrology;
- Surface water – groundwater interconnections;
- Groundwater quality, quantity and flow patterns;
- Stream morphology;
- Earth sciences (bedrock geology; overburden);
- Natural hazards; and
- Natural heritage corridors and linkages including ecological function, surface and groundwater features, and hydrological functions..

This review is to be undertaken at a landscape level analysis as well as feature based.

Deliverable: Background report on study area and natural resources.

Task Two – Review of Environmental Policy

The Natural Resources Impact Assessment Study must, at its conclusion, demonstrate conformity with the Provincial Policy Statement, the Regional Policy Plan (Amendment 187 is of specific note), the Niagara Peninsula Conservation Authority's Policy Manual, areas regulated by the NPCA under Section 28 of the Conservation Authorities Act, Species at Risk identified through the Endangered Species Act, Fisheries Act, MNR Wetland Mapping, and other policy/legislation as appropriate. Consultants are specifically to note that the Ministry of Natural Resources is preparing updated mapping of Provincially Significant Wetlands. In this task, the consultant will prepare a background report on the applicable policies and identify specifically how each is proposed to be addressed throughout the remainder of the study as well as during design and construction of the infrastructure works.

Deliverable: Background report on applicable environmental policy.

Task Three – Field Program

Three seasons of field work will be required as part of this assignment. Consultants must incorporate into their price structure, as a separate item, the cost of three seasons of field data collection for the environmental features as identified in Task One. The details and extent of the field work will be delineated by the consultant and confirmed by review agencies (MNR, NPCA, Niagara Region, Township of Wainfleet). Consultants are to note that field work may require both inventory of species and assessment of habitat, ecological function etc.

Deliverables: Report on field program necessary to fulfill requirements of Minister's conditions and review agencies.
Natural Resources Field Study Reports.

NOTE TO CONSULTANTS:

It is the expectation of the Region and Township that field work will commence and be completed in 2009. Consultants are advised that the option of carrying field work into 2010 will not be agreed to by the Region and Township. Therefore, Consultants should build their work program to ensure that field work commences in the spring of 2009. It is understood that this may overlap the timing of Tasks One, Two, and Three. Consultants must be prepared to mobilize for potential field work in early March 2009.

Task Four - Define the Environmental Setting

Based on the results of Tasks One, Two, and Three, the Consultant will define the environmental setting that will potentially be affected by construction of the project. In the proposal, the Consultant will describe the recommended approach to address the following:

- Environmental features and functions to be considered (all potential positive and negative impacts to natural heritage features and functions and water as well as opportunities for enhancement)
- Broader landscape issues and analysis of features
- Identification of receptors
- Delineation of potential areas of stress
- Determination of dewatering volumes and rates
- Definition of the Zone of Influence and impacts on key ecosystem features and functions
- The need for supplementary ground truthing
- Identification of potential discharge sites

- Other important considerations that the Consultant feels should be incorporated into the assessment.

Deliverable: Environmental Setting Report

Task Five – Complete the Impact Assessment

The Consultant will undertake an assessment of potential impacts of construction to the environmental setting described in Task Two. Potential impacts will primarily depend upon the type of ecosystem features that fall within the study area and their relationship to the local ground water system, as well as the direct impacts of construction on natural features.

The impact assessment will provide direction to the development of an environmental monitoring program that will protect these features during future construction and post construction phases of the Project. In the proposal, the Consultant will describe the approach to the impact assessment, providing details related to the following:

- Potential alignment/routing impacts related to construction of the proposed water and wastewater services
- Potential dewatering impacts during construction
- Potential surface and ground water impacts (quality and quantity)
- Potential impacts to stream/stream alignment
- Potential terrestrial, avian, and aquatic impacts (fish and fish habitat)
- Potential surface water/groundwater interactions
- Potential impacts on linkages among natural heritage features and ecological functions, surface and ground water features, and hydrological functions
- Net environmental impacts consistent with best practices utilized in the Environmental Assessment Process in Ontario and consistent with the Municipal Engineers' Association Municipal Class Environmental Assessment
- Recommendations on how to eliminate, mitigate, and/or enhance the features/functions of any of the above effects that could be incorporated into the design phase of the Project and contribute to the long-term protection improvement of local natural systems
- Other potential impacts identified by the Consultant

The consultant is also expected to include in the impact assessment report details on conformity to Niagara Region's Policy Plan (specifically Amendment 187 – Environmental Policies) as well as other relevant policy instruments such as NPCA Policy Requirements and Regulation 155/06.

Deliverable: Draft Impact Assessment Report. The consultant is to include time in the project

schedule and cost for updating the Impact Assessment report based on agency review.

Task Six – Develop an Environmental Monitoring Program

The consequences of invasive construction impacts related to the Project can be both short-term (e.g. disturbance and temporary disruption) and long-term (e.g. alteration of natural ecosystem functions). An environmental monitoring program is needed to ensure that existing natural resources are protected. The environmental monitoring program will involve the collection of suitable baseline data, monitoring of appropriate ecosystem components and mitigation of predicted impacts during and after construction. The Consultant will provide details in the proposal as to how the following elements of the monitoring program will be addressed:

- Identification of appropriate environmental features and functions to be monitored
- Determination of existing “pre-construction” natural conditions within areas of potential stress to be included in the baseline monitoring program
- Identification of environmental triggers that would lead to the implementation of specific mitigation measures by:
 - Development of specific targets, thresholds and objectives
 - Recommendation of a management strategy including measures for the maintenance, enhancement, restoration and monitoring of that component of the ecosystem including particulars on how the Environmental Monitoring Program will be implemented before, during and post-construction
- Describing any proposed database management system that would form a component of the Environmental Monitoring Program and its application to the proposed monitoring program.
- Construction Management Techniques.
- Documentation protocol.
- Corrective Action Protocol.
- QA/QC Program for Environmental Monitoring.
- Duration and scope of the post construction monitoring program.

The Consultant should indicate how the Natural Resource Impact Assessment and Environmental Monitoring Program will satisfy the Minister’s condition including agency review.

Deliverable: Environmental Monitoring Program. The consultant is to include time in the project schedule and cost for updating the Environmental Monitoring Program based on agency review.

Provisional Item:

Consultants are to submit, as a provisional item, a scope of work and cost structure to implement the Environmental Monitoring Program during project construction. Consultants are to develop the

scope of work and costing on the basis of the following:

- Review of construction drawings to ensure consistency with Natural Resources Impact Assessment commitments (note: anticipated time for design is one year. Consultants will not be required to secure permits from environmental agencies).
- Two years of construction environmental monitoring.
- Monthly progress meetings with the design and construction engineering team and the contractor.
- Consultants are to identify an auditing procedure (QA/QC; inspection timing; reporting; record keeping; post construction monitoring) for environmental monitoring during construction and a cost structure for auditing.
- Consultants are to identify appropriate team members who will be part of the implementation team for the Environmental Monitoring Program.
- Consultants are to include, in addition to the above information, documentation on experience and knowledge of construction environmental monitoring. This includes, but is not limited to, matters such as erosion and sediment control, dewatering, drainage, environmental input to design, compliance monitoring, site and habitat restoration, maintenance of wetland function, and construction involving Species at Risk.

Task Seven – Environmental Assessment Process

The Region has completed a Schedule “C” Environmental Assessment (EA) as defined in the Municipal Engineers Association/MOE document for Class Environmental Assessment for Municipal Water and Wastewater projects (Class EA) and is currently satisfying conditions imposed the Minister. Niagara Region and the Township of Wainfleet are examining alternative technologies that may result in changes to the preferred alignment and pumping station locations. The Consultant shall identify in their proposal a **provisional item** to assist in any addendum to the Environmental Assessment.

Deliverable: Natural Resources component of EA Addendum.

PUBLIC CONSULTATION

This project will require the selected consultant to participate in and lead the public consultation program on the Natural Resource Impact Assessment. Bidders must include in their submission the experience of the team members on public consultation and specifically address the following:

- Project experience on similar projects
- Public speaking at large public meetings on controversial projects (include at least three examples for each team member)
- Provide sample public information centre material from three projects that are similar in size, nature, scope and public interest. The information must establish that the selected consultant is able to communicate complex scientific information on engineering projects in a way that is easily understood by the general public.

Within the pricing submission, consultants are to include the cost of material preparation and attendance at two public information centres for the project. Consultants are to include a **provisional item** for an additional one public information centre (material preparation and attendance).

The consultant will be required to make two presentations to Niagara Region's Ecological and Environmental Advisory Committee (EEAC). A **provisional item** is to be included for an additional presentation (one – 1) to EEAC.

Consultants are not to include a public consultation firm or facilitator on the project team; this will be provided by Niagara Region and the Township of Wainfleet.

PROJECT DELIVERABLES

The deliverables for this assignment will include, in addition to the task specific deliverables, the following:

- An updated environmental database for the study area
- The Natural Resource Impact Assessment Report
- The Environmental Monitoring Program

REFERENCES

The following references are available for viewing at Niagara Region – Environmental Centre:

- Wainfleet Water and Wastewater Servicing Plan Environmental Study Report and Wastewater Servicing Plan and Technical Reports
- Lake Erie North Shore Watershed Plan Watershed Characterization and Preliminary Issues Identification (Draft, September 2008) – also available on line from NPCA Web Site
- Compendium of Staff Reports – Niagara Region
- Request for Proposals – Wainfleet Official Plan Study
- Enhanced Conceptual Design (Hydromantis Study)
- Regional Niagara Policy Plan
- Niagara Peninsula Conservation Authority Regulation 155/06 and
- Niagara Peninsula Conservation Authority Policy Manual (December 12, 2007)

Consultants are specifically to note the following: ongoing studies include the following:

- Natural Areas Inventory (Niagara Peninsula Conservation Authority)
- Groundwater Studies (Niagara Peninsula Conservation Authority)
- Updated Provincially Significant Wetland Mapping (Ministry of Natural Resources)
- Fowler's Toad Study (Ministry of Natural Resources)