



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works & Government Services
Canada/Réception des soumissions Travaux publics et
Services gouvernementaux Canada

1713 Bedford Row

Halifax, N.S./Halifax, (N.E.)

Halifax

Nova Scotia

B3J 1T3

Bid Fax: (902) 496-5016

SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise
indicated, all other terms and conditions of the Solicitation
remain the same.

Ce document est par la présente révisé; sauf indication contraire,
les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Atlantic Region Acquisitions/Région de l'Atlantique
Acquisitions

1713 Bedford Row

Halifax, N.S./Halifax, (N.E.)

Halifax

Nova Scot

B3J 1T3

Title - Sujet NAFC - St. John's Pipeline Assessme	
Solicitation No. - N° de l'invitation EA003-183005/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client EA003-18-3005	Date 2018-03-23
GETS Reference No. - N° de référence de SEAG PW-\$PWA-409-5733	
File No. - N° de dossier PWA-7-78144 (409)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-04-04	Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Taylor (PWA), Kathie	Buyer Id - Id de l'acheteur pwa409
Telephone No. - N° de téléphone (902) 403-4837 ()	FAX No. - N° de FAX (902) 496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Solicitation Amendment #01

This document is raised in include the following missing sections:

PROJECT BRIEF

NAFC PIPELINE ASSESSMENT

PR 1 Project Description

PR 1.1 Project Information

PR 1.1.1	PWGSC Project Title:	NAFC Pipeline Assessment
PR 1.1.2	Location of Project:	Northwest Atlantic Fisheries Centre (NAFC), St. John's, NL
PR 1.1.3	PWGSC Project Number:	R.094678.001
PR1.1.4	Client Service Unit :	
PR 1.1.5	Client/User :	PSPC

PR 1.2 PWGSC Project Team

PR 1.2.1	PWGSC Project Manager	TBD	Phone:
PR 1.2.2	Senior Project Manager	TBD	Phone:
PR 1.2.3	Project Leader	TBD	Phone:
PR 1.2.4	Property Manager	TBD	Phone:
PR 1.2.5	COE Design Manager	TBD	Phone:

PR 1.3 Client Mandate

Public Services and Procurement Canada (PSPC) owns and operates the Northwest Atlantic Fisheries Centre (NAFC) on behalf of The Department Fisheries and Oceans Canada (DFO). DFO has the lead federal role in managing Canada's fisheries and safeguarding its waters. Their vision is to advance sustainable aquatic ecosystems and support safe and secure Canadian waters while fostering economic prosperity across maritime sectors and fisheries.

PR 1.4 Project Outline

PR 1.4.1 Purpose of the Project

Overlooking St. John's, Newfoundland, the Northwest Atlantic Fisheries Centre (NAFC) is the regional headquarters for the Newfoundland Region of the Department of Fisheries and Oceans (DFO). It consists of marine and freshwater aquaria, a stream tank, toxicity laboratories, wet labs, an open seawater system, as well as electronic, vessel, computer, oceanographic, diving and library support. Partly belonging to the Science, Oceans and Environment (SOE) branch, its mission is to provide information and advice to support conservation, protection, and sustainable utilization of marine and aquatic resources. Research focuses on biology, life history, and resource evaluations of commercially important fishes and marine mammals, oceanography, ecosystem studies, aquaculture, environmental sciences, and habitat protection.

The purpose of this project is to provide PSPC with information pertaining to the condition of the existing water, wastewater and storm sewer infrastructure at NAFC and the costs and challenges that may be associated with upgrading this infrastructure. This assessment will form part of a larger program for consideration and provide details which will aid in budgeting and prioritizing upgrades, retrofits or replacement.

PR 1.4.2 Required Work

The required work includes field investigations, and Civil and Mechanical Engineering services to report on the water, wastewater and storm piping infrastructure across the NAFC campus.

PR 1.4.3 Project History Synopsis

Part 1 – Site Systems

The NAFC site area / study area is shown on the “119229-C1-Site Servicing Plan”. This plan is dated 2004 and some changes to various site areas have been done over the years, so it is advised that the plan is provided to show the general location and configuration of the site civil systems. However, there have been no major upgrades or refurbishments since the site was constructed in 1978.

Site Water System: Water is supplied to the campus via twin 300mm diameter watermain fed from a 200mm main on Charter Avenue to East White Hills Road. The NAFC system is distributed to the campus in 300mm cast iron watermain which is looped around the buildings. While the 2004 drawing shows a Freshwater pumping station, this was removed following upgrades to the municipal system. From this campus system, five laterals provide service to the buildings. Amec Foster Wheeler completed a water sampling study (Potable Water Sampling NAFC, March 2016) which is attached for reference. The study confirmed water quality issues and suggested remedial options which included coordination with the City of St. John's, campus flushing programs, eliminating dead ends, isolating domestic supply from suspected stagnant fire water. The report suggests that biofilm in the pipe system may be contributing to the poor water quality.

Site Sanitary and Lab Wastewater: The sanitary wastewater collection system includes a 100mm-250mm diameter (assumed PVC material) gravity sewer with five laterals from the buildings to the sewage treatment plant (STP) on East White Hills Road. This system is paralleled with a lab

waste gravity collection system that has two laterals from the buildings. The lab wastewater system also drains to the sewage treatment plant. The STP treats lab waste, while domestic sewage is discharged directly to the municipal system on East White Hills Road.

Storm Sewer. The NAFC site also includes a piped storm sewer system for the westerly perimeter of the campus which collects flow from roof drains and catchbasins. The system of 250-525mm (assumed to be PVC or Concrete) is also generally parallel to the sanitary and lab waste pipe systems and outlets to the combined system in East White Hills Road.

As noted, the site has developed and changed over time and sections of new pipe installed. As well, pipe repairs have been undertaken. However, there has been no significant replacement or rehabilitation and the pipe systems at the facility primarily date back to initial construction in 1978. This project will include site investigation of the above noted systems to establish the condition of pipes, identify problem areas, evaluate options and make recommendations for repair, rehabilitation or replacement. The study is to establish priorities for short, medium and long term projects.

Part 2 – Building Systems

The NAFC building, originally built in 1978, is a three-storey, 33-module building with a total area of approximately 19,750 m². There are 16 main modules comprising office space, laboratories, a cafeteria, storage space, boardrooms and washroom areas. There are 16 smaller modules comprising hallways and stairwells with some office and storage space, and washrooms. An additional module is used to store chemicals and biological specimens.

With respect to interior piping systems, issues that facility maintenance personnel have identified include, but are not limited to: aging water infrastructure, valves seizing open or closed, other signs of degradation of fittings, insulation, etc.

Facility personnel have not had issues with leaks within the building. Hot water tanks have been recently replaced and some washroom fixtures are set scheduled for replacement as part of current washroom renovation project. A building condition report was recently issued and is attached for reference (NAFC – St. John's NL BCR Report 2017). Some areas on the campus are reported to have had the domestic water distribution piping upgraded.

PR 1.4.4 Detailed Scope of Work

This section is to be read in conjunction with the attached Required Services (RS) document, which explains the level of effort required for each section. Both documents represent the total scope of work.

Provide Civil and Mechanical Engineering services to report on the water, wastewater and storm piping infrastructure across the NAFC campus.

The general scope of services that are required for all projects are defined in the attached Required Services (RS) document. Where the Required Services document is intended to show the level of effort required for a 'full service' package, the following are clarifications relevant to project-specific requirements:

RS 1 is required. The consultant is to provide a draft report submission for review prior to submitting the final report. The following clarifications apply:

- **Part 1 – Site Systems:**

The study area for the investigation is shown on “119229-C1-Site Servicing Plan” showing the key components of the systems. The civil site investigation and study will include:

- Review of background information and confirm the current alignment of pipe systems and update the site plan as required for the study. Prepare a detailed plan for site investigations using manhole identifiers / numbering system consistent with DFO site plans and previous work.
- Consultation with maintenance staff. Collect maintenance history and document problems that are identified by staff such as valve operation and problem locations.
- Visual inspection of surface features including valves, hydrants, manhole and catchbasin frames and grates, as well as review of surrounding conditions (i.e surface grading, location, etc) that might contribute to potential damage or inflow in the case of sanitary systems.
- CCTV inspection of gravity pipes, manholes and catchbasins for evaluation of condition. Methodology to be consistent with type of pipe. Provide for clean-out of pipe if required for CCTV.
- Condition Inspection of the water pipe system using current and local best practice methodologies. Identify options for this inspection.
- Coordinate the site investigations with PSPC and DFO with respect to site security, traffic control, and any disruptions in service.
- Based on site work, provide analysis of pipe systems including review of service life with respect to age. Identify installations that do not meet current local Municipal standards.
- Identify additional future condition investigations for the pipe systems that may be required due to unexpected conditions.
- Identify feasible repair and rehabilitation measures including traditional and potential new technologies.
- Based on the data collection and analysis, prepare options (along with Class D cost estimate for each option) to repair, rehabilitate or replace pipes and structures. This may include (but is not limited to) localized repairs, trenchless technologies, possible realignment of pipe, reconstruction of infrastructure or other alternative solutions.
- Prepare overall site plan, diagrams, details as required to show location and recommended actions.

- **Part 2 – Building Systems**

- Perform visual inspection of all interior domestic and sanitary water piping, valves and related fixtures. Interior piping includes main headers and branch lines.
- Report on condition of interior piping systems and provide recommendations for replacement or upgrades, and associated Class D cost estimates. Categorize recommendations based on short, medium and long term requirements.

- RS 2 -11 are not required for this project.

PR 1.4.5 Site Conditions

There are several areas throughout the facility where Asbestos Containing Materials (ACM) have been identified. Asbestos is known to exist in the drywall plaster in various locations and there is a possibility that some enclosed spaces or wall penetrations could contain asbestos. Consultant must be aware this possibility exists and therefore conduct the investigation accordingly.

There is security in place at NAFC and an escort will be required. The study area for the investigation is shown on "Existing Site Services Plan – 102496-602" showing the key components of the systems.

PR 1.4.6 Implementation Strategy

This study will be part of an overall plan for infrastructure improvements at NAFC.

PR1.4.7 Consultant Access to the Site

In order to conduct the investigation, the Consultant will be required to conduct site inspections and investigations, and will have access to the sites during daylight hours by pre-arranging site visit times with the Project Manager. **One week's notice** is required for the initial site visit. A proposed schedule for subsequent site visits should be presented on or before the date of the first site visit in order to ensure access to all necessary areas. The Project Manager will further coordinate with Facility Maintenance staff and confirm meeting times, dates and locations.

PR1.4.8 Issues/Constraints/Challenges/Opportunities

Documentation provided is for reference and may not be completely representative of actual site conditions. Key assumptions taken from the documents provided must be verified on site.

PR 1.5 Budget

N/A

PR 1.6 Schedule

PSPC requires the final report of this investigation to be complete by **May 18, 2018**.

Solicitation No. - N° de l'invitation
EA003-183005/A
Client Ref. No. - N° de réf. du client
EA003-18-3005

Amd. No. - N° de la modif.
01
File No. - N° du dossier

Buyer ID - Id de l'acheteur
pwa409
CCC No./N° CCC - FMS No./N° VME

PR 1.7 Existing Documentation

The following documents are attached for reference:

1. NAFC Waterline As-Builts
2. 119229-C1-Site Servicing Plan
3. Amec Foster Wheeler Potable Water Sampling NAFC, March 2016
4. NAFC Original Site Utilities (Mechanical Site Utility Drawings)
5. NAFC St. John's NL – BCR Report 2017
6. May 2017 site survey plan (WhiteHills1_17) pdf and dwg

REQUIRED SERVICES

PR 1 General Project Objectives

The General Project Objectives are stated in the Annex to this document:

GPO 1 General Project Objectives

GPO 1.1	Design Principles – General	Included
GPO 1.2	Sustainable Development	Included
GPO 1.3	Code Compliance	Included
GPO 1.4	Risk Management	Included
GPO 1.5	Health and Safety	Included
GPO 1.6	PWGSC Standards & Procedures	Included

GPO 2 Issues

GPO 2.1	Major Cost Issues	Included
GPO 2.2	Major Time Issues	Included
GPO 2.3	Major Operational Issues	Included

PR 2 Project Administration – PA

The requirements for Project Administration are stated in the Annex to this document.

PR 3 Required Services – RS

Refer the Annex of this document for detail descriptions of the RS items.

RS 1 Pre-Design Services

RS 1.1	Feasibility Studies/Options Analysis	Required
RS 1.2	Project Approach	Not Required
RS 1.3	Implementation Strategy and Schedule	Not Required
RS 1.4	Site Condition Reports and Performance Audits	Not Required
RS 1.5	Infrastructure Evaluation & Recommendation Reports	Required
RS 1.6	Engineering/Geotechnical or Other Investigations	Required
RS 1.7	Environmental Protection Requirements	Not Required
RS 1.8	Order of Magnitude Class 'D' (indicative) Cost Reports	Required

RS 1.9	Hydrology and Drainage Structure Sizing	Not Required
RS 1.10	Regulator Issues	Not Required
RS 2	Concept Design	Not Required
RS 3	Design Development	Not Required
RS 4	Construction Documents	Not Required
	Bilingual Documents	Not Required
RS 5	Tender Call, Bid Evaluation & Construction Contract Award	Not Required
RS 6	Construction & Contract Administration & Post Construction Warranty Review	Not Required
RS 7	Risk Management (All Stages)	Not Required
RS 8	Support Services	Not Required
RS 8.1	Estimating and Cost Planning	Not Required
RS 8.2	Surveying	Not Required
RS 8.3	Materials Testing	Not Required
RS 8.4	Resident Construction Services	Not Required

PR 4 HEALTH AND SAFETY PLAN

1. Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
2. Health and Safety Plan shall include the following components:
 - a. List of health risks and safety hazards identified by hazard assessment.
 - b. Control measures used to mitigate risks and hazards identified.
 - c. On-site Contingency and Emergency Response Plan as specified below.
 - d. On-site Communication Plan as specified below.
3. On-site Contingency and Emergency Response Plan shall include:
 - a. Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - b. Evacuation Plan: prior to entering the Work Site confirm escape routes, marshalling areas, and location of firefighting equipment.
 - c. Emergency Contacts: name and telephone number of officials from:
 - i. Departmental Representative.
 - ii. Pertinent Federal and Provincial Departments and Authorities having jurisdiction.

iii. Local emergency resource organizations.

- d. Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.

4. On-site Communication Plan:
5. Address all activities of the Work including those of subconsultants.
6. Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever a new subconsultant arrives at Work Site.
7. Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.

GENERAL PROJECT OBJECTIVES

GPO 1 PROJECT OBJECTIVES

Each request for proposal will elaborate on the specific objectives for individual projects, however, the following broader government objectives will apply to all solicitations:

GPO 1.1 Design Principles – General

1. PWGSC expects the Consultant to maintain a high standard of engineering design, based upon recognized industry design principles. All design elements, planning, and engineering, must be fully coordinated and consistent in adherence to good design principles.
2. The level of quality is to be consistent with Government of Canada policies and guidelines as well as all other similar designed works performed for the Government of Canada.
3. The projects are to be implemented in a sustainable environmentally responsible manner.
4. Quality of materials and construction methods shall be commensurate with the type of infrastructure required and the budget. Avoid experimental materials. Take into account the total life-cycle costing of the infrastructure
5. Design for maximum flexibility to meet immediate and future needs.

GPO 1.2 Sustainable Development

The Canadian Federal Government has begun a series of initiatives to ensure that sustainable development principles are built into the policy of all federal organizations. Sustainable development goals will be outlined in each request for proposal.

GPO 1.3 Code Compliance

Codes, regulations, by laws and decisions of “authorities having jurisdiction” will be observed. In cases of overlap, the most stringent will apply. The Consultant shall identify other jurisdictions appropriate to the project.

GPO 1.4 Risk Management

A risk management strategy is crucial for PWGSC Project Management and integrates project planning into procurement planning. All the stakeholders of a project will be an integral part of the risk management strategy, culminating in an integrated product team. Specific services required for project delivery are outlined in Required Services and the level of effort, if required, will be noted in the solicitation.

GPO 1.5 Health and Safety

1. Public Works and Government Services Canada (PWGSC), recognizes the responsibility to ensure the health and safety of all persons on Crown construction projects and the entitlement of both federal employees and private sector workers to the full protection afforded them by occupational health and safety regulations.

2. In keeping with the responsibility and in order to enhance health and safety protection for all individuals on federal construction sites, PWGSC voluntarily complies with the applicable provincial/territorial construction health and safety acts and regulations, in addition to the related Canada Occupational Safety and Health Regulations.

GPO 1.6 PWGSC Standards and Procedures

For standards relating to the service provisions required, please refer to the document, "Doing Business."

GPO 2 ISSUES

GPO 2.1 Major Cost Issues

Issue: Budget Limitations

Effective cost estimating and cost control is of prime importance and shall be provided by qualified personnel. The Class 'C' and Class 'B' cost estimates, where required, shall be submitted in elemental cost analysis format. The standard of acceptance for this format is the current issue of the elemental cost analysis format issued by the Canadian Institute of Quantity Surveyors. The level of effort will be noted in the individual solicitation.

The Class 'A' cost estimate, where required, shall be submitted in trade cost breakdown format. Cost estimates shall have a summary plus full back-up showing items of work, quantities, unit prices and amounts.

GPO 2.2 Major Time Issues

Issue: Out of Service Time Frame

It is imperative that the out of service time frame for the various projects as a result of construction be minimized as much as possible. Where applicable, program operations and time frames will govern the particular allotted time frame for construction through the identified request for proposal.

GPO 2.3 Major Operational Issues

Issue: Adjacent Programs

Minimize impact of any ongoing adjacent programs is mandatory and therefore design decisions must be sensitive to that requirement. Additional factors recognized as affecting adjacent programs are the following: reliability of systems and equipment, redundancy to ensure continued operation and prolonged commissioning issues.

PROJECT ADMINISTRATION

PA 1 INTENT

The following administrative requirements apply during all phases of project delivery and will be stipulated in each request for proposal.

PA 1.1 Coordination

1. The Project Manager assigned to the project is the Departmental Representative.
2. The Project Manager is directly concerned with the project and responsible for its progress. The Project Manager is the liaison between the Consultant, Public Works and Government Services Canada or Other Government Department (OGD) and the Client Departments.
3. Public Works and Government Services Canada or OGD administers the project and exercises continuing control over the Consultant's work during all phases of development. Unless directed otherwise by the Project Manager, the Consultant obtains all Federal requirements and approvals necessary for the work. The consultant shall:
 - a) Carry out services in accordance with approved documents and directions given by the Project Manager;
 - b) Prior to starting any project, obtain the Project Manager's approval of sub-consultant(s). Upon receipt from the Project Manager of written confirmation that the proposed sub-consultant(s) are acceptable, execute the Consultant RFP;
 - c) Ensure all communications carry the PWGSC's or OGD's Project Title, Project Number and File Number, Solicitation Number, WBS Number;
 - d) Advise the Project Manager of any changes that may affect schedule or budget or are inconsistent with instructions or written approvals previously given. The consultant shall detail the extent and reasons for the changes and obtain written approval before proceeding.

PA 1.2 Coordination with Sub-Consultants

The consultant shall:

1. Throughout all stages of the Project, coordinate and assume responsibility for the work of any sub-consultants and specialists retained by the consultant;
2. Ensure clear, accurate and ongoing communication of concept, budget, and scheduling issues (including changes) as they relate to the responsibilities of all sub-consultants and specialists from initial reviews to post construction reports;
3. Ensure Sub-Consultants provide adequate site inspection services and attend all required meetings.

PA 1.3 General Project Deliverables

Where deliverables and submissions include summaries, reports, drawings, plans or schedules, one (1) copy shall be provided in electronic format as follows unless approved otherwise in Appendices. Electronic format shall mean:

1. For written reports and studies: Microsoft Word and PDF;
2. For Spreadsheets, and budgets: Microsoft Excel and PDF;
3. For Presentations: Microsoft Power Point;
4. For Drawings: AutoCad 2015 (*.dwg) refer to Doing Business;
5. For Specifications: Either most recent version NMS Edit or MS Word as specified by the project manager;
6. For Schedules (Time Plans) Microsoft Project;
7. For GIS ARCGIS refer Doing Business.

PA 1.4 Lines of Communication

1. Correspond only with the Project Manager at the times and in the manner dictated by the Project Manager. The consultant shall not communicate with the client department unless so authorized in writing by the Project Manager.
2. During construction tender call, Public Works and Government Services Canada conducts all correspondence with bidders and makes the contract award.
3. After contract award the consultant shall follow communication protocol call as received from PWGSC or OGD.

PA 1.5 Media

The consultant shall not respond to requests for project related information or questions from the media. Such enquiries are to be directed to the Project Manager.

PA 1.6 Meetings

1. The Project Manager shall arrange meetings as required per RFP relative to project scope and phase of work, for members of project team, including representatives from:
 - a) Client Department;
 - b) Public Works and Government Services Canada;
 - c) Consultants.
2. The Consultant shall attend the meetings, record the issues and decisions and prepare and distribute minutes within 48 hours of the meeting.

PA 1.7 Project Response Time

It is a requirement of this Request for Proposal that the prime consultant and their proposed sub-consultants should be personally available to attend meetings **within 48 hours**, in the locality of

the place of the work and to respond to inquiries **within 24 hours** of the Project Manager's request, from the date of the award of the consultant RFP until final inspection and turnover.

PA 1.8 Submissions, Reviews and Approvals

For each RFP, work in progress may be reviewed by the Project Manager as well as a minimum, the following:

PWGSC or OGD in-house resources:

1. Submission Format: drawings and specifications;
2. Submission Schedule: Submissions are reviewed at a time to be arranged with 10 days notice when completed work has been forwarded to the Project Manager;
3. Expected Turnaround Time: 2 weeks;
4. Number of Submissions: until approval has been received.

Design review committee

1. Submission Format: reports, drawings and specifications, and oral presentations;
2. Submission Schedule: Submissions are reviewed at a time to be arranged with **10** days notice;
3. Expected Turnaround Time: 2 weeks;
4. Number of Submissions: until approval has been received.

Reviews and approvals will be established at the time of issuing an RFP and the below table is provided for example purposes only.

Chart of Reviews and Approvals	PWGSC		Client	
	R	A	R	A
RS1 Analysis of Project Brief				
Project Scope of Services Report	x	x	x	
Class 'D' Estimate	x	x	x	
RS2 Design Concept				
Design Options	x	x	x	
Recommended Design Option	x	x	x	
Class 'C' Estimate(s)	x	x	x	
RS3 Design Development				
Design Development Documents	x	x	x	
Class 'B' Estimate(s)	x	x	x	
RS4 Construction Documents / Tender Call				
66% Construction Drawings and Specs	x	x	x	
99% Construction Drawings and Specs	x	x	x	
Class 'A' Estimate(s)	x	x	x	
Final Tender Documents	x	x	x	

R = Review A = Approval

REQUIRED SERVICES - RS

General Scope of Services:

1. Be advised that services provided must be complete in that they identify all major issues that will have a significant impact on the project. This will promote a surprise-free environment which will enhance the success of project implementation.
2. If the project requirements are such that the prime consultant is asked to provide a sub consultant team, the proposed sub consultant names are to be submitted to the project manager for approval, prior to their being engaged for the work.
3. The RS sections following are intended to show the level of effort required for a 'full service' package. Individual solicitations will include a scope of services required for that specific project, which may or may not include all of the services noted in the sections below. Services that are required for a specific RFP are to follow the guidelines as set out herein.

RS 1.0 PRE-DESIGN SERVICES

The purpose of this stage is to develop, as required by the scope of work

1. Feasibility Studies/Options Analysis;
2. Project Approach;
3. Implementation Strategy and Schedule;
4. Site Condition Reports and Performance Audits;
5. Infrastructure Evaluation & Recommendations Report;
6. Engineering/Geotechnical or Other Investigations;
7. Environmental Protection Requirements (limited to services as required to identify the need for further investigation/analysis);
8. Order of Magnitude Class 'D' (Indicative) Cost Reports;
9. Hydrology and Drainage Structure Sizing Design;
10. Regulatory Issues.

RS 1.1 Feasibility Studies / Options Analysis

1.1.1 Intent

A report which outlines the research and subsequent analysis to determine the viability and practicality of a project. A feasibility study analyzes economic, financial, market, regulatory, environmental/sustainable and technical issues. The purpose at this stage is to investigate and analyze site conditions, and provide recommendations.

1.1.2 Scope and Activities

Feasibility study includes as a minimum:

1. Attend project start up meeting:
 - (1) Visit the site, investigate and analyze the needs of the project;
 - (2) Investigate the requirements for the particular site, including existing and new technologies;
 - (3) Analyze the project requirements/program;
 - (4) Review all available existing material related to the site;
 - (5) Investigate and analyze all applicable codes, regulations standards as a minimum: National Building Code, Canada Labour Code, NFPA, Provincial Occupational Health and Safety Act, Medical Research Council; Environmental and DFO acts and regulations.
2. Evaluate existing infrastructure including: municipal, civil, environmental, mechanical, functional adaptability, code compliance, hazardous and non-hazardous waste;
3. Identify and verify all authorities having jurisdiction over the project;
4. Establish a policy for this project to minimize environmental impacts consistent with the project objectives and economic constraints, and the application of the Canadian Environmental Assessment Act (CEAA);
5. Review the proposed project milestones for verification that all dates are achievable;
6. Review the cost plan/budget for verification that the costs are realistic and achievable; and
7. Prepare recommendations on the feasibility of the project.

Options analysis includes as a minimum:

1. Test the feasibility study recommendations using a minimum of three (3) options, schematic (sketch) only;
2. Pro/ Cons of each option;
3. Financial analysis (Class 'D') including life cycle analysis and best value for operation and maintenance;
4. Indication of the preferred option.

1.1.3 Deliverables:

Comprehensive summary of the requirements, conditions, feasibility and options analysis, demonstrating an understanding of the scope of work, including:

1. Report on existing infrastructure including its condition, deficiencies and life expectancy;
2. Report on existing facilities and systems requirements;
3. Report on all applicable codes, regulation, standards and authorities having jurisdiction;
4. Report on potential environmental impact, sustainability and the whether there is a need for further environmental assessment;
5. Report on recommendations and options analysis;
6. Confirmed or adjusted project cost and time plans;
7. Written identification of the problems, conflicts or other perceived information/clarifying assumptions for the acknowledgment of the project manager;
8. Report on Class 'D' Order of Magnitude Cost for each option.

RS 1.2 Project Approach (NOT REQUIRED)

RS 1.3 Implementation Strategy and Schedule (NOT REQUIRED)

RS 1.4 Site Condition Reports and Performance Audits (NOT REQUIRED)

RS 1.5 Infrastructure Evaluation & Recommendations Reports

1.5.1 Intent

The purpose of this stage is to identify and evaluate existing infrastructure including as a minimum civil infrastructure, mechanical, and all other infrastructure which will be utilized in the current and future operation of the site.

1.5.2 Scope and Activities

1. Prepare a detailed inventory of existing infrastructure and equipment found on the site. Include drawings identifying existing location, layout.
2. Based on parameters developed in conjunction with the Project Manager and the client department, prepare an evaluation report that assesses the condition of existing infrastructure and equipment. Assess the current inventory against the client department's functional requirements. Include an examination of the following:
 - (1) Reusing/refurbishing existing infrastructure and equipment; and/or
 - (2) Procuring/ constructing new infrastructure and equipment; and
 - (3) Current technologies and innovative solutions for the site;
 - (4) Prepare a detailed cost analysis that compares the reuse/refurbishment of existing infrastructure and equipment, with the purchase of new . Consideration should be given to cost effectiveness and time frames required for refurbishment of existing infrastructure and equipment and/or the procurement of new.

1.5.3 Deliverables

Submit report for review, revise as required and resubmit for final approval.

RS 1.6 Engineering or Other Investigations

1.6.1 Intent

The purpose of this stage is to research and carry out all Engineering investigations, as a minimum, to complete the requirements of the site or project.

1.6.2 Scope and Activities

1. Conduct investigations to obtain the required information to prepare and carry out the activities necessary to establish the required infrastructure for the site or project.
2. Prepare report on each investigation clearly describing what information was required, why it was required and what the results were.

1.6.3 Deliverables

Submit report for review, revise as required and resubmit for final approval.

RS 1.7 Environmental Protection Requirements (NOT REQUIRED)

RS 1.8 Order of Magnitude Class 'D' (Indicative) Cost Reports

1.8.1 Intent

The purpose of this stage is to provide an indication of the total cost of the project, based on the user's functional requirements to the degree known at the time. It is based on historical cost data for similar work, suitably adjusted for such factors as: effect of inflation, location, risk,

quality, size and time. All related factors affecting cost are considered to the extent possible. Such an estimate is strictly an indication (rough order of magnitude) of the project total cost and completion date. This estimate is used to establish the indicative estimate required by Treasury Board for Preliminary Project Approval. Expected degree of accuracy: 20%.

1.8.2 Scope and Activities:

1. **Cost Planning:** Specific tasks include as a minimum:
 - (1) Prepare cost plans from project briefs, preliminary concepts or other preliminary information;
 - (2) Prepare cost analysis;
 - (3) Prepare option analysis and "what if" scenarios;
 - (4) Provide advice and recommendations on project planning in order to achieve the most cost effective project sequence;
 - (5) Identify and quantify potential risks and make contingency recommendations in order to minimize negative cost impacts;
 - (6) Advise on alternative procurement and construction strategies to create efficiencies wherever possible;
 - (7) Identify, forecast and analyze project-related issues including possible market shortages and potential price fluctuations.
2. **Cost Estimating:** Develop cost estimates of projects:
 - (1) Prepare order of magnitude Class 'D' cost estimates; and be prepared to further develop the cost estimate to level Class 'A' ready for tender.
 - (2) Quantify design and construction costs, contingencies and risks;
 - (3) Prepare and investigate costing alternatives to assist in the identification of the most cost-effective design and/or construction approach; Investigate and report on life-cycle costs;
 - (4) Document all unit pricing, analysis, and valuation.

1.8.3 Deliverables

1. **Cost Planning**
 - (1) Cost plans;
 - (2) Cost analyses and "what if" scenarios;
 - (3) Cash flows; and / or
 - (4) Reports on alternative procurement and construction strategies or other project-related issues.
2. **Cost Estimating**
 - (1) Fully detailed cost estimate. Order of magnitude Class 'D' accuracy; and be prepared to further develop the cost estimate to level "A" ready for tender.
 - (2) Documentation of the methodology of the estimate and any assumptions made;
 - (3) Documentation of all pricing and valuation calculations;
 - (4) Reports on investigation of costing alternatives; and / or
 - (5) Reports on life-cycle costs.

RS 1.9 Hydrology and Drainage Structure Sizing Design (NOT REQUIRED)

RS 1.10 Regulatory Issues (NOT REQUIRED)

RS 2.0 CONCEPT DESIGN (NOT REQUIRED)

RS 3.0 DESIGN DEVELOPMENT (NOT REQUIRED)

RS 4.0 CONSTRUCTION DOCUMENTS (NOT REQUIRED)

RS 5.0 TENDER CALL, BID EVALUATION & CONSTRUCTION CONTRACT AWARD (NOT REQUIRED)

RS 6.0 CONSTRUCTION & CONTRACT ADMINISTRATION & POST CONSTRUCTION WARRANTY REVIEW (NOT REQUIRED)

RS 7.0 RISK MANAGEMENT (ALL STAGES) (NOT REQUIRED)

RS 8.0 SUPPORT SERVICES (NOT REQUIRED)

RS 8.1 ESTIMATING AND COST PLANNING (NOT REQUIRED)

RS 8.2 Surveying (NOT REQUIRED)

RS 8.3 Materials Testing (NOT REQUIRED)

RS 8.4 RESIDENT CONSTRUCTION SERVICES (NOT REQUIRED)

All other terms and conditions remain unchanged.