



**THE CITY OF WINNIPEG**

# **REQUEST FOR PROPOSAL**

**RFP NO. 682-2012**

**REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR  
SEWPCC UPGRADING/EXPANSION PROJECT**

**Proposals shall be submitted to:**

**The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1**

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## **PART B - BIDDING PROCEDURES**

### **B1. CONTRACT TITLE**

B1.1 REQUEST FOR PROPOSAL FOR PROFESSIONAL CONSULTING SERVICES FOR SEWPCC UPGRADING/EXPANSION PROJECT

### **B2. SUBMISSION DEADLINE**

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, January 8, 2013.

B2.2 Proposals determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.

B2.3 The Project Manager or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

### **B3. SITE INVESTIGATION**

B3.1 The Project Manager or an authorized representative will conduct a Site Investigation tour of the SEWPCC on:

(a) November 20, 2012.

B3.1.1 Proponents are requested to register for the Site Investigation by emailing the Project Manager identified in D2.

B3.1.2 Registration requests shall identify the Proponent, their contact information, names of intended attendees. Subconsultants shall also be identified along with their intended attendees, when applicable.

B3.1.3 The City, at their discretion, may impose a limit to the number of Proponent personnel, including Subconsultant(s) from each Proponent that may attend.

B3.1.4 Attendees are required to wear;

(a) CSA approved footwear with protective toe and safety glasses;

(b) hearing protection in identified areas of the facility;

(c) hard hats in any areas with ongoing construction activities.

B3.2 Although attendance at the Site Investigations is not mandatory, the City strongly suggests that Proponents attend.

B3.3 The Proponent shall not be entitled to rely on any information or interpretation received at the Site Investigation unless that information or interpretation is the Proponent's direct observation, or is provided by the Project Manager in writing.

### **B4. ENQUIRIES**

B4.1 All enquiries shall be directed to the Project Manager identified in D2.

B4.2 If the Proponent finds errors, discrepancies or omissions in the Request for Proposal (RFP), or is unsure of the meaning or intent of any provision therein, the Proponent shall promptly notify the Project Manager of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B4.3 If the Proponent is unsure of the meaning or intent of any provision therein, the Proponent should request clarification as to the meaning or intent prior to the Submission Deadline.

- B4.4 Responses to enquiries which, in the sole judgment of the Project Manager, require a correction to or a clarification of the RFP will be provided by the Project Manager to all Proponents by issuing an addendum.
- B4.5 Responses to enquiries which, in the sole judgment of the Project Manager, do not require a correction to or a clarification of the RFP will be provided by the Project Manager only to the Proponent who made the enquiry.
- B4.6 The Proponent shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Project Manager in writing.

## **B5. CONFIDENTIALITY**

- B5.1 Information provided to a Proponent by the City or acquired by a Proponent by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Project Manager. The use and disclosure of the confidential information shall not apply to information which:
- (a) was known to the Proponent before receipt hereof; or
  - (b) becomes publicly known other than through the Proponent; or
  - (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.
- B5.2 The Proponent shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals to the media or any member of the public without the prior written authorization of the Project Manager.

## **B6. ADDENDA**

- B6.1 The Project Manager may, at any time prior to the Submission Deadline, issue Addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.
- B6.2 The Project Manager will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B6.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B6.2.2 The Bidder is responsible for ensuring that it has received all Addenda and is advised to check the Materials Management Division website for Addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

## **B7. PROPOSAL SUBMISSION**

- B7.1 The Proposal shall consist of the following components:
- (a) Form A: Proposal (Section A) in accordance with B8;
  - (b) Fees (Section B) in accordance with B9;
- B7.2 The Proposal should also consist of the following components:
- (a) Experience of Proponent and Subconsultants (Section C) in accordance with B10;
  - (b) Experience of Key Personnel Assigned to the Project (Section D), in accordance with B11;
  - (c) Project Understanding, Methodology and Schedule (Section E) in accordance with B12.

- B7.3 Further to B7.1, all components of the Proposal shall be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B7.4 Further to B7.2, all components of the Proposal should be fully completed or provided in the order indicated, and submitted by the Proponent no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.
- B7.5 Proponents should submit one (1) unbound 8.5" x 11" original (marked "original") including drawings and ten (10) copies (copies can be in any size format) for sections identified in B7.1 and B7.2.
- B7.6 Proponents should additionally submit the following electronic files on a standard compact disk;
- (a) a duly completed Form B: Fees together with the detail requested in B9 in Microsoft Excel format (.xls);
  - (b) the Proposed Project Schedule in Microsoft Project (2003) format (.mpp).
- B7.7 Proposal submissions should generally employ a minimum printed text font size of 10 point.
- B7.8 Except as otherwise specifically noted, proposal format, including type of binding, size of pages and, font, etc., will not be regulated, except that the Proposal should be presented in the Sections identified above. Proponents are encouraged to use their creativity to submit a Proposal which provides the requested information for evaluation and other information which illustrates the strength of their team.
- B7.9 Proponents are advised that inclusion of terms and conditions inconsistent with the Request for Proposal, will be evaluated in accordance with B20.1(a).
- B7.10 The Proposal shall be submitted enclosed and sealed in an envelope/package clearly marked with the RFP number and the Proponent's name and address.
- B7.11 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B7.12 Proposals shall be submitted to:
- The City of Winnipeg  
Corporate Finance Department  
Materials Management Division  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1
- B7.13 Any cost or expense incurred by the Proponent that is associated with the preparation of the Proposal shall be borne solely by the Proponent.

**B8. PROPOSAL (SECTION A)**

- B8.1 The Proponent shall complete Form A: Proposal, making all required entries.
- B8.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:
- (a) if the Proponent is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
  - (b) if the Proponent is a partnership, the full name of the partnership shall be inserted;
  - (c) if the Proponent is a corporation, the full name of the corporation shall be inserted;
  - (d) if the Proponent is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

- B8.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.
- B8.3 In Paragraph 3 of Form A: Proposal, the Proponent shall identify a contact person who is authorized to represent the Proponent for purposes of the Proposal.
- B8.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:
- (a) if the Proponent is a sole proprietor carrying on business in his/her own name, it shall be signed by the Proponent;
  - (b) if the Proponent is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
  - (c) if the Proponent is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
  - (d) if the Proponent is carrying on business under a name other than its own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.
- B8.4.1 The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.
- B8.5 If a Proposal is submitted jointly by two or more persons, the word "Proponent" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Proponents in the Proposal and the Contract, when awarded, shall be both joint and several.

## **B9. FEES (SECTION B)**

- B9.1 The Proponent shall utilize and submit Form B: Fees, making all required entries to summarize their Fee proposal for the proposed Services. The Proponent shall be responsible to verify and ensure the correctness of the associated submittals.
- B9.2 The Fee Proposal shall also provide detail of the Fees provided and summarized on Form B: Fees.
- B9.3 Details shall include as minimum
- (a) the work activities of the proposed Services;
  - (b) the respective number of hours by work activity for each proposed individual;
  - (c) their name and role;
  - (d) the respective engineering discipline or management function as applicable;
  - (e) the applicable hourly rates;
  - (f) the associated disbursements;
  - (g) the association to the detail provided under B12.2;
  - (h) information relating to points a) to g) above shall be presented in a Matrix form that allows easy understanding of their connections, and the associated Form B: Fees summaries shall be issued from a direct traceable compilation of the Matrix input.
- B9.4 The Proposal shall include a Fixed Fee schedule where identified in the "Fee Basis" column on Form B: Fees for the associated proposed Services relevant to D6.
- B9.5 The Proposal shall include a Time Based Fee schedule calculated on a time basis where identified under the "Fee Basis" column on Form B: Fees for the associated proposed Services relevant to D6.
- B9.6 The Proposal shall include a Cost Plus Fee schedule where identified under the "Fee Basis" column on Form B: Fees for the associated proposed services relevant to D6.

- B9.6.1 Consultant percentage profit in addition to Subconsultant percentage profit will not be reimbursable.
- B9.7 Proposals shall identify and detail all rate escalations, including salary adjustments. The total fees provided in the proposal are to include all escalations.
- B9.8 Adjustments to Fees will only be considered based on increases to the Scope of Services.
- B9.8.1 The City will not consider an adjustment to the Fees based on changes in the Project budget or the Final Total Construction Cost.
- B9.9 The Fee Proposal shall also include an allowance for Allowable Disbursements as defined in C1.1(b) and as modified by D6.6.5(i).
- B9.10 Notwithstanding C10.1, Fees submitted shall not include Goods and Services Tax (GST) or Manitoba Retail Sales Tax (MRST, also known as PST) which shall be extra where applicable.
- B9.11 Payments to Non-Resident Consultants are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

**B10. EXPERIENCE OF PROPONENT AND SUBCONSULTANTS (SECTION C)**

- B10.1 Proposals should include:
- (a) details demonstrating the history and experience of the Proponent and any proposed Subconsultants within the last ten (10) years in providing;
    - (i) cold temperature (influent temperature  $\leq 10^{\circ}\text{C}$ ) Biological Nutrient Removal (BNR) including phosphorus removal design;
    - (ii) design of Nutrient Removal treatment of wet weather flows;
    - (iii) wastewater or water facility programming, design, management of construction, contract administration and plant commissioning related Services on up to five projects of similar size and complexity.
    - (iv) For evaluation purposes, projects of similar size will be those identified with average day flows > 50 million liters per day or have a final construction cost > \$100 million.
- B10.2 For each project experience the Proponent shall provide;
- (a) description of the project;
  - (b) role of the Consultant;
  - (c) project's original contracted construction cost and final construction cost;
  - (d) design and construction schedule (anticipated Project schedule and actual Project delivery schedule, showing design and construction separately);
  - (e) project owner;
  - (f) reference information (two current names with telephone numbers per project);
  - (g) other required information as may be identified on Form C: Project Experience Reference.
- B10.3 Proponent shall utilize and submit the requested information on Form C: Project Experience Reference, for each project experience submittal.
- B10.4 Separate forms shall be utilized for each Proponent, Proponent Partner and/or Subconsultant, as applicable.
- B10.5 The Proposal should include general firm profile information, including years in business, average volume of work, number of employees and other pertinent information for the Proponent and all Subconsultants.
- B10.5.1 Submittal information relative to B10.5 shall be submitted as a subsection of Section C and shall be limited to a maximum of 15 pages.

**B11. EXPERIENCE OF KEY PERSONNEL ASSIGNED TO THE PROJECT (SECTION D)**

B11.1 Describe your approach to overall team formation, team member commitment and coordination of team members.

B11.1.1 Include an organizational chart for the Project.

B11.2 Submit the experience and qualifications of the Key Personnel assigned to the Project for projects of comparable nature, size and complexity, including the principals-in-charge, the Consultants Representative, managers of the key disciplines and lead designers. Include educational background and degrees, professional recognition, job title, years of experience in current position, years of experience in design and construction, and years of experience with existing employer. Roles of each of the Key Personnel together with their expected dedicated percent time in the Project should be identified in the organizational chart referred to in B11.1.1.

(a) For evaluation purposes, projects of similar size will be those identified with average day flows > 50 million liters per day or have a final construction cost > \$100 million.

B11.3 For each person identified, list at least two comparable projects in which they have played similar primary roles. For each project provide the following:

(a) Description of project;

(b) Role of the person;

(c) Project Owner;

(d) Reference information (two current names with telephone numbers per project).

(e) Other required information as may be identified on Form D:Key Personnel Experience.

B11.4 For each applicable team member the Proponent shall utilize and submit the requested information as per Form D:Key Personnel Experience.

B11.5 The Consultant shall not substitute key personnel without the written permission from the Project Manager.

**B12. PROJECT UNDERSTANDING, METHODOLOGY AND SCHEDULE (SECTION E)**

B12.1 Describe your firm's project management approach and team organization during the performance of Services, so that the evaluation committee has a clear understanding of the methods the Proponent will use in the delivery of this Project. The methods should include:

(a) job function for each person or group of people identified;

(b) activities to be performed outside the City of Winnipeg either by the Proponent's staff or by Subconsultants. Identify proposed arrangements and methods involving out-of-town staff to;

(i) ensure effective communication, quality control and dissemination of information;

(ii) participate in coordination and review functions;

(c) describe the collaborative process/method to be used by the Key Personnel of the team in the various phases of the Project; and

(d) Proponents are encouraged to identify any programs, procedures, systems, or techniques used to demonstrate sophisticated levels of management, cost control or quality control normally used or proposed to be used for the Project.

B12.2 Proposals should address:

(a) the Methodology that the Proponent intends to use to carry out the Scope of Services;

(i) Methodology should be presented in accordance with the Scope of Services identified in D6 and provide the following information with respect to each work activity of the proposed Services;

◆ Description



- ◆ Itemization of Deliverable(s)
  - ◆ Key Person in Charge
  - ◆ Key Personnel involved
  - ◆ Itemization of associated workshop(s)/presentation meeting(s) etc. with purpose
  - ◆ the number of hours assigned to each work activity per personnel
- (b) the team's understanding of the broad functional and technical requirements by
- (i) clearly identifying and explaining work activities;
  - (ii) stating assumptions and interpretations of the Scope of Services;
  - (iii) stating the Proponents' understanding of the constraints that will affect the work;
  - (iv) indicating any activities and Services to be provided by the City; and
  - (v) stating other information that conveys the Proponent's understanding of the Project requirements.

B12.3 Proponents should present a carefully considered Critical Path Method schedule using Microsoft Project 2003 or compatible project management software, complete with resource assignments (key designers), durations (weekly timescale) and milestone dates or events. The schedule should address the requirements of D6 and reflect the Proponent's methodology identified under B12.2.

B12.4 The Proponent's schedule should include critical dates for review and approval processes by the City and other organizations anticipated during the design and tendering phases of the Project. Reasonable and/or the identified timeframes should be allowed for completion of these processes.

### **B13. QUALIFICATION**

B13.1 The Proponent shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Proponent does not carry on business in Manitoba, in the jurisdiction where the Proponent does carry on business; and
- (b) be financially capable of carrying out the terms of the Contract;
- (c) have all the necessary experience, capital, organization, and equipment to perform the Services in strict accordance with the terms and provisions of the Contract;
- (d) have or establish and staff an office in Winnipeg for the duration of the Project.

B13.2 The Proponent and any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:

- (a) be responsible and not be suspended, debarred or in default of any obligations to the City. A list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/debar.stm>

B13.3 The Proponent and/or any proposed Subconsultant (for the portion of the Services proposed to be subcontracted to them) shall:

- (a) have successfully carried out Services for the programming; design, management of construction and contract administration for architectural and/or engineering projects of similar complexity, scope and value; and to those required for this Project; and
- (b) be fully capable of performing the Services required to be in strict accordance with the terms and provisions of the Contract; and

- (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);
- (d) have the knowledge and resources to administer the requirements of The Workplace Safety and Health Act (Manitoba) during the construction works associated with this Contract; and
- (e) undertake to meet all licensing and regulatory requirements of the appropriate governing authorities and associations in the Province of Manitoba.

B13.4 The Proponent shall submit, within three (3) Business Days of a request by the Project Manager, further proof satisfactory to the Project Manager of the qualifications of the Proponent and of any proposed Subconsultant.

B13.5 The Proponent shall provide, on the request of the Project Manager, full access to any of the Proponent's equipment and facilities to confirm, to the Project Manager's satisfaction, that the Proponent's equipment and facilities are adequate to perform the Services.

#### **B14. ELIGIBILITY**

B14.1 Various organizations provided investigative Services with respect to this Project. In the City's opinion, this relationship or association does not create a conflict of interest or will not likely create a perception of conflict of interest because of this full disclosure and related information. The organizations are:

- (a) Stantec Consulting Ltd.
- (b) TetrEs Consultants Inc.
- (c) EMA Services Inc.
- (d) SNC-Lavalin Inc.
- (e) VVNA Winnipeg Inc. (Veolia)

#### **B15. OPENING OF PROPOSALS AND RELEASE OF INFORMATION**

B15.1 Proposals will not be opened publicly.

B15.2 After award of Contract, the name(s) of the successful Proponent and the Contract amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

B15.3 To the extent permitted, the City shall treat all Proposal Submissions as confidential. However, the Proponent is advised that any information contained in any Proposal may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B15.4 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its submission upon written request to the Project Manager.

#### **B16. IRREVOCABLE OFFER**

B16.1 The Proposal(s) submitted by the Proponent shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B16.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Proponents and these Proponents shall be bound by their offers on such Services until a Contract for the Services has been duly executed as herein provided, but any offer shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 10 of Form A: Proposal.

## **B17. WITHDRAWAL OF OFFERS**

B17.1 A Proponent may withdraw its Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B17.1.1 The time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.

B17.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.

B17.1.3 If a Proponent gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:

- (a) retain the Proposal until after the Submission Deadline has elapsed;
- (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Proponent's authorized representatives named in Paragraph 11 of Form A: Proposal; and
- (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Proposal withdrawn.

B17.2 A Proponent who withdraws its Proposal after the Submission Deadline but before its offer has been released or has lapsed as provided for in B16.2 shall be liable for such damages as are imposed upon the Proponent by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

## **B18. INTERVIEWS**

B18.1 The Project Manager may, in his/her sole discretion, interview Proponents during the evaluation process.

## **B19. NEGOTIATIONS**

B19.1 The City reserves the right to negotiate details of the Contract with any Proponent. Proponents are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.

B19.2 The City may negotiate with the Proponents submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Proponents without being obligated to offer the same opportunity to any other Proponents. Negotiations may be concurrent and will involve each Proponent individually. The City shall incur no liability to any Proponent as a result of such negotiations.

B19.3 If, in the course of negotiations pursuant to B19.2 or otherwise, the Proponent amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Proponent from the Proposal as originally submitted.

## **B20. EVALUATION OF PROPOSALS**

B20.1 Award of the Contract shall be based on the following evaluation criteria:

- (a) compliance by the Proponent with the requirements of the Request for Proposal or acceptable deviation therefrom: (pass/fail)
- (b) qualifications of the Proponent and the Subconsultants, if any, pursuant to B13: (pass/fail)
- (c) Fees; (Section B) 40%
- (d) Experience of Proponent and Subconsultants; (Section C) 15%

- (e) Experience of Key Personnel Assigned to the Project; (Section D) 15%
- (f) Project Understanding, Methodology and Schedule (Section E) 30%

- B20.2 Further to B20.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.
- B20.3 Further to B20.1(b), the Award Authority shall reject any Proposal submitted by a Proponent who does not demonstrate, in its Proposal or in other information required to be submitted, that it is responsible and qualified.
- B20.4 Further to B20.1(c), Fees will be evaluated based on Fees submitted in accordance with B9.
- B20.5 Further to B20.1(d), Experience of Proponent and Subconsultants will be evaluated considering the experience of the organization on projects of similar size and complexity as well as other information requested.
- B20.6 Further to B20.1(e), Experience of Key Personnel Assigned to the Project will be evaluated considering the experience and qualifications of the Key Personnel and Subconsultant personnel on Projects of comparable size and complexity.
- B20.7 Further to B20.1(f), Project Understanding, Methodology and Schedule will be evaluated considering the information provided in response to B12 including, but not limited to the following criteria:
- (a) the appropriateness of the Project Management and Team Organization approach;
  - (b) the consistency and completeness of the Methodology;
  - (c) appropriateness of hours assigned to individual tasks and per person;
  - (d) the Proponent's understanding of the project and its constraints;
  - (e) the completeness and consistency of the project schedule;
  - (f) the appropriateness of the timelines provided; and
  - (g) demonstration of insight beyond the information that was presented in this Request for Proposal.
- B20.8 Notwithstanding B20.1(d) to B20.1(f), where Proponents fail to provide complete responses to B7.2(a) to B7.2(c), the score of zero will be assigned to the incomplete part of the response.

## **B21. AWARD OF CONTRACT**

- B21.1 The City will give notice of the award of the Contract, or will give notice that no award will be made.
- B21.2 The City will have no obligation to award a Contract to a Proponent, even though one or all of the Proponents are determined to be responsible and qualified, and the Proposals are determined to be responsive.
- B21.2.1 Without limiting the generality of B21.2, the City will have no obligation to award a Contract where:
- (a) the prices exceed the available City funds for the Services;
  - (b) the prices are materially in excess of the prices received for similar Services in the past;
  - (c) the prices are materially in excess of the City's cost to perform the Services, or a significant portion thereof, with its own forces;
  - (d) only one Proposal is received; or

(e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

- B21.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Proponent submitting the most advantageous offer.
- B21.4 The City may, at its discretion, award the Contract in phases.
- B21.5 The form of Contract with the City of Winnipeg will be based on the Contract as defined in C1.1(n).
- B21.6 Further to Paragraph 6 of Form A: Proposal and C4, the successful Bidder will be provided with Contract documents for execution following issuance of a Letter of Intent.
- B21.7 Following the award of Contract, a Proponent will be provided with information related to the evaluation of its Proposal upon written request to the Project Manager.
- B21.8 If, after the award of Contract, the Project is cancelled, the City reserves the right to terminate the Contract. The Consultant will be paid for all Services rendered up to time of termination.

## PART C - GENERAL CONDITIONS

### C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Consultant Services* (Revision 2010-10-01) are applicable to the Services of the Contract.
- C0.1.1 The *General Conditions for Consultant Services* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at [http://www.winnipeg.ca/matmgt/gen\\_cond.stm](http://www.winnipeg.ca/matmgt/gen_cond.stm).
- C0.2 A reference in the Request for Proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Consultant Services*.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

- D1.1 In addition to the *General Conditions for Consultant Services*, these Supplemental Conditions are applicable to the Services of the Contract.
- D1.2 If there is any conflict or inconsistency between the Proposal and the *General Conditions for Consultant Services*, the *General Conditions for Consultant Services* shall take precedence.
- D1.3 Further to C.1. (b) and C10, the following is applicable to Allowable Disbursements;
- (a) booking of transportation and accommodations are expected to take place well in advance to obtain optimal discounted rates;
  - (b) the acceptable standard for air travel shall be economy class;
  - (c) air travel premium fees, such as seat selection premiums etc., will not be reimbursable unless specifically approved by the Project Manager;
  - (d) the acceptable standard for accommodation will be a single room in a safe environment, conveniently located and comfortably equipped;
  - (e) the acceptable standard for rental vehicles shall be mid-size;
  - (f) car rental premium fees, such as prepaid fuel or re-fuelling surcharges etc. will not be reimbursable unless specifically approved by the Project Manager;
  - (g) meal expenses shall be reasonable and within generally accepted guidelines, costs for alcoholic beverages will not be reimbursable and shall not be claimed;
  - (h) copies of originating merchant/vendor detail receipts shall be provided as backup documentation when invoicing Allowable Disbursements, credit/debit card receipts or statements are not acceptable as backup;
  - (i) GST is to be removed from the reimbursable value of merchant/vendor invoices.
- D1.4 Notwithstanding C10, five percent (5%) of the assignment value of each phase will be retained until all deliverables have been submitted and accepted for that phase.

#### **D2. PROJECT MANAGER**

- D2.1 The Project Manager is:  
Neil Harrington P. Eng.  
Email: nharrington@winnipeg.ca  
Telephone No. 204 986-3266  
Facsimile No. 204 224-3022
- D2.2 All correspondence or contact by Proponents with the City in respect of this RFP must be directly and only with the City's Project Manager. Failure to restrict correspondence and contact to the Project Manager may result in the rejection of the Proponents Proposal Submission.
- D2.3 At the pre-commencement meeting, the Project Manager will identify additional personnel representing the Project Manager and their respective roles and responsibilities for the Services.
- D2.4 Proposal Submissions must be submitted to the address in B7.12

#### **D3. DEFINITIONS**

- D3.1 When used in this Request for Proposal:

- (a) "SEWPCC" means South End Water Pollution Control Center
- (b) "Program Team" means the Program Team consisting of both City of Winnipeg and Veolia personnel.
- (c) "WSTP" means Winnipeg Sewage Treatment Program
- (d) "BNR" means Biological Nutrient Removal.
- (e) "IFAS" means Integrated Fixed Film Activated Sludge.
- (f) "LEED" means Leadership in Energy and Environmental Design

#### **D4. BACKGROUND**

- D4.1 The City of Winnipeg (City) is expanding and upgrading the South End Water Pollution Control Centre (SEWPCC) to accommodate increasing wastewater loadings to the plant and to provide enhanced treatment capability to address environmental and public health concerns.
- D4.2 The associated Project is referred to as the SEWPCC Upgrading/Expansion Project.
- D4.3 In 2006 the City retained Stantec Consulting Ltd. (Stantec) to investigate means to expand and upgrade the SEWPCC. Stantec delivered the SEWPCC Upgrading / Expansion Preliminary Design Report (Stantec, 2008) and SEWPCC Upgrading Expansion Conceptual Design Report (Stantec, 2009).
- D4.4 Subsequent to these studies, in 2011 the City formalized an agreement with Veolia Water (Veolia) wherein both entities will work collaboratively together as a Program Team with Veolia providing advice and recommendations to the City in respect to the management and operation of the City's three wastewater facilities.
- D4.5 Veolia produced a document entitled Winnipeg Sewage Treatment Program South End Plant - Process Selection Report (PSR, 2011) which recommended the process to be used to upgrade and expand the SEWPCC.
- D4.6 In May 2012 Stantec delivered the SEWPCC Project Definition/Validation Report (PDR), the purpose of which was to confirm the design criteria, validate that the process proposed in the PSR has the capability to meet the design criteria, and identify any information gaps that must be addressed in subsequent design phases.
- D4.7 More recently, in response to other considerations, the Program Team has determined that it would be in the best interest of the City to modify the PSR and PDR selected treatment processes by incorporating a Biological Nutrient Removal (BNR) process with Integrated Fixed Film Activated Sludge (IFAS) in lieu of the Biologically Active Filtration process.

#### **D5. PROJECT OBJECTIVES**

The Project objective is to upgrade and expand the SEWPCC to meet Manitoba Regulatory License 2716RR while accommodating year 2031 forecasted influent flows and loads. The Project design is to consider future regulatory trends and long term planning to year 2061 to facilitate effective process or facility modifications should they become needed in the future. During performance of the Project works impacts to the current facility treatment capability is to be minimized to the greatest extent possible. The expanded and upgraded facility is to have an economical whole life cost and be an efficient and safe workplace for operational personnel. The Project is to be designed and constructed within the constraints of City approved cost estimates and timelines.

#### **D6. SCOPE OF SERVICES**

- D6.1 General Requirements
  - D6.1.1 The Services required under this Contract shall consist of Professional Consulting Engineering Services for the Project definition, preliminary design, detailed design, contract



administration and additional services as required for the design, construction, commissioning, decommissioning and turn-over of the Project and as further detailed in this Scope of Services and as required to meet the Project Objectives of D5.

- D6.1.2 The Project shall generally conform to the latest codes, standards, regulations and legislative requirements in effect. Without limitation to the preceding, the Consultant shall take into consideration the Manitoba Workplace Health and Safety Legislation and the National Fire Protection Association Code NFPA 820-Standard for Fire Protection in Wastewater Treatment and Collection Facilities. The Consultant shall liaise with the City on the application of codes and standards.
- D6.1.3 Unless otherwise stated, Appendix B – Definition of Professional Consultant Services (Consulting Engineering Services) shall be applicable to the provision of Professional Engineering services for this project.
- D6.1.4 The Consultant and any Project related Subconsultants and Contractors shall be made aware of the Environmental Preservation and Compliance obligations as per the Wastewater Services Environmental Preservation and Compliance Statement - Appendix C.
- D6.1.5 The Consultant shall co-ordinate with Outside Agencies as required to perform the Services.
- D6.1.6 The Consultant shall liaise with the City throughout the provision of the Services and provide ample opportunity for input and review by the various City stakeholders with advice from the Program Team as applicable. The Proponent shall clearly identify and quantify the processes that will be used to achieve this outcome.
- D6.1.7 The Consultant shall where necessary conduct field surveys and investigations to verify existing conditions and to supplement available information.
- D6.1.8 The Consultant shall identify existing SEWPCC facility components that become redundant due to the Project and shall provide the associated Consultant Engineering Services for their decommissioning and removal.
- D6.1.9 In general the Consultant shall directly perform the required Professional Consulting Engineering Services including the preparation of associated design, layout, loop, diagram and schematic drawings for the Project. Delegation of this responsibility to others, e.g. contractors or suppliers, shall be subject to prior City approval.
- D6.1.10 The Consultant shall identify all permits necessary for construction.
- D6.1.11 The Consultant shall be responsible to record minutes of all formal meetings and workshops related to this scope of Services and distribute same.
- D6.1.12 The Consultant shall, as minimum, utilize most current industry standard sustainable practices in the performance of the Services. The Project will not be required to meet any formal LEED Certification requirements.
- D6.1.13 City Standards
- (a) The City is developing a Water and Waste Equipment Identification Standard. A draft of the document is provided in Appendix D. The Consultant shall follow the requirements of the most current Water and Waste Identification Standard when performing assigned Services. The Consultant shall request clarification from the Project Manager should undefined identification requirements be encountered.
  - (b) The City is developing a Water and Waste Electrical Design Guide. An outline of the scope and deliverables of this development is provided in Appendix E. The Electrical Design Guide will be provided to the Consultant when it becomes available, but not later than the start of Preliminary Design. The Consultant shall develop their associated designs and documents in conformance with the most current Water and Waste Electrical Design Guide.
  - (c) The City has developed a Wastewater Treatment Plants Automation Master Plan. The plan provides general direction for the automation and control systems and is

provided in Appendix F. The Consultant shall develop the Project automation and controls in conformance with this Wastewater Treatment Plants Automation Master Plan. As an early part of the automation design development the Consultant shall provide a Project specific Automation Design and Implementation Plan that identifies the Consultant's proposed design concepts, architectures and implementation strategy together with a detailed verification process that will be used to ensure adherence of the design with the Automation Master Plan.

D6.1.14 Key Reference Documents

The following documents are appended to this RFP;

- (a) Appendix G- SEWPCC Upgrading/Expansion Conceptual Design Report, June 1, 2009. This report is provided for the Proponent's information and contains previously developed information relative to biological nutrient removal utilizing IFAS in addition to other significant Project related informational content.
- (b) Appendix H - WSTP South End Plant Process Selection Report Rev Final July 12, 2011(PSR), provided for information.
- (c) Appendix I - SEWPCC Project Definition/Validation Report, May 2012 (PDR), provided for use.
- (d) Appendix J - Manitoba Regulatory License 2716RR, Revised April 18, 2012, provided for use.
- (e) Appendix K - A listing of currently available drawings associated with the SEWPCC facility. Included in the listing are the available formats. Proponents may request to be provided with an electronic pdf file of a drawing(s) upon emailed written request to the Project Manager. Such requests are to be made at least two weeks prior to the RFP closing date.

D6.1.15 Estimated Project Construction Cost

- (a) The most current Project construction cost estimate is that identified in the SEWPCC Upgrading/Expansion Conceptual Design Report, June 1, 2009.

D6.1.16 Project Delivery Methodology

- (a) The City's intended Project delivery methodology applicable to the scope of this RFP is Construction Management. Personnel from the Program Team will act as the Construction Manager and undertake lead Contract Administration duties.

D6.1.17 Proponents are encouraged to use their expertise, initiative and innovation when developing their proposals to refine the scope of work activities and amend/propose additional or alternative activities which they consider beneficial to the City.

D6.2 Consultant Services Management

D6.2.1 Upon assignment award, the Consultant shall prepare and submit a Consultant Services Management Plan (CSMP) detailing the processes that will be employed during the provision of the assigned Services. Minimum requirements for this plan are outlined in the WSTP Consultant Services Management Plan Minimum Requirements – Appendix L. Requirements of the document form a part of the scope of Services.

D6.2.2 As refined planning for some Services may require preceding Services to be underway or completed a phased submission for those plan components may be acceptable.

D6.2.3 As minimum, the initial Consultant Services Management Plan submission is expected to cover the Project Definition, preliminary design and detailed design phases in detail and provide initial planning for the remaining Services. As applicable, the Consultant shall update the CSMP at the end of each the Project Definition, Preliminary Design and Detailed Design phases to reflect their most current planning for the upcoming phases.

D6.2.4 Further to B12 the Proponent shall provide a comprehensive overview of their proposed Consultant Services Management Plan and provide a schedule detailing the proposed submittal timeframe for any applicable phased submission.

### D6.3 Project Definition

- D6.3.1 The Program Team has determined that it would be in the best interest of the City to adjust the PSR and PDR selected treatment processes by the incorporation of a BNR process with Integrated Fixed Film Activated Sludge (IFAS) in lieu of the Biologically Active Filtration process. This BNR process shall consist of preanoxic zone, anaerobic zone, anoxic zone and aerobic zone, in series. In normal condition, primary effluent is split into preanoxic zone and anoxic zone. Aerobic zone shall contain IFAS media (free floating plastic media).
- D6.3.2 During this Project Definition phase the Consultant is to define and validate that the selected treatment processes, with the adjustment noted above, have the capability to meet the Project Objectives outlined in D5.
- D6.3.3 The Consultant shall utilize the most current BioWin™ simulation software for the Project process design. The Consultant shall provide the associated BioWin™ electronic files to the City when so requested.
- D6.3.4 At completion of the Project Definition phase the Consultant shall be in a position to enter into the Preliminary Design for the Project with a clear understanding of scope, constraints and risk associated with the assignment going forward.
- D6.3.5 The Consultant shall take into consideration the following;
- (a) Biosolids
    - (i) The City envisions that a biosolids handling facility consisting of anaerobic digestion, dewatering and centrate treatment will be constructed at the SEWPCC to solely handle SEWPCC generated biosolids. The biosolids facility does not directly form part of this scope of Services. The City will decide during the course of this Project's design development on the biosolids facilities that will be implemented in SEWPCC facility.
    - (ii) This Project's scope shall include any required sludge blend tanks to handle sludge from the various processes, sludge thickening and pumping to downstream processes. The sludge blend tanks are to accommodate truck hauling of all sludge from SEWPCC until such time as the Biosolids Handling Facility is operational. The sludge blend tanks shall also be capable of feeding the Biosolids Handling Facility
    - (iii) The Consultant, based on their expertise, available current industry standards and best practises, shall proceed by making the necessary allowances for the envisioned biosolids facilities with respect to;
      - ◆ site layouts both current and for future site development;
      - ◆ Project process flow contributions, both to and from;
      - ◆ overall site power requirements and distribution;
      - ◆ tie-ins requirements including process, utilities, automation, electrical, HVAC etc.
    - (iv) The City may choose to deliver the Biosolids Handling Facility by a Design Build methodology.
  - (b) Leachate and Hauled Liquid Waste Strategy
    - (i) The Consultant shall assume that leachate and hauled liquid waste (HLW) will not be accepted or treated at the upgraded / expanded SEWPCC facility.
  - (c) Regulatory Requirements
    - (i) Contrary to the SEWPCC Project Definition/Validation Report, May 2012 (PDR), all requirements, including effluent criteria, of Manitoba Regulatory License 2716RR, Revised April 18, 2012 are to be met by the Project.
    - (ii) The Consultant shall consider the future regulatory trends identified in the PDR and shall consider them during the design development.
  - (d) Design Flows and Loads

- (i) The design flows and loads for the Project shall be those identified as applicable to year 2031 in the SEWPCC Project Definition/Validation Report, May 2012 (PDR). Future considerations shall be to year 2061.

#### D6.3.6 Conceptual Design Development

- (a) The Consultant shall develop a Project concept design incorporating the selected processes which will effectively accommodate and treat the facility influent, up to and including the identified design flows and loads, and produce final effluent that meets the Regulatory Requirements. The conceptual design shall consider as minimum;

- (i) cold weather implications and requirements;
- (ii) process flows and mass balance
- (iii) preliminary process unit sizing
- (iv) operation philosophy including wet weather flow management
- (v) effluent disinfection
- (vi) solids handling and biosolids implications;
- (vii) site development for both Project and future;
- (viii) preliminary plant hydraulic profiles and tie-in requirements
- (ix) flood protection requirements

D6.3.7 The Consultant shall develop a business case evaluation between the incorporation of either High Rate Clarification or expansion of secondary clarifier facilities to treat high flow events and make recommendation to the City. Upon consideration the City will make a final selection for inclusion in the conceptual design.

D6.3.8 As applicable, the Consultant shall develop a business case evaluation between any potential elevation options for UV disinfection and potential Outfall twinning modifications and make recommendation to the City. Upon consideration the City will make a final selection for inclusion in the conceptual design.

D6.3.9 As part of the Project Definition phase it is required that a selection of the most Project beneficial vendor for IFAS media be made. To this end the Consultant shall develop and issue through the City's Materials Management a Request for Proposal or Bid Opportunity (as applicable) for the equipment/Services, evaluate the responses based on predefined criteria including life cycle costing and provide an award recommendation to the City. Associated Consultant Services shall be provided as per D6.5 and D6.6.

D6.3.10 Subject to selection of High Rate Clarification in D6.3.7, as part of the Project Definition phase it is required that a selection of the most Project beneficial vendor for High Rate Clarification be made. To this end the Consultant shall develop and issue through the City's Materials Management a Request for Proposal or Bid Opportunity (as applicable) for the equipment/Services, evaluate the responses based on predefined criteria including life cycle costing and provide an award recommendation to the City. Associated Consultant Services shall be provided as per D6.5 and D6.6.

D6.3.11 The Consultant shall review the available information and recommend any further geotechnical, topographical or other investigation requirements to be performed during preliminary design.

D6.3.12 The Consultant shall develop a conceptual level Project implementation plan outlining the concepts of how the Project will be delivered and identifying any areas of risk that need to be addressed to achieve the Project objectives. The plan shall include a construction sequencing plan with associated implementation schedule that takes into consideration seasonal work, potential tie-ins to the existing system, ability to accelerate construction of key process components that could provide early treatment benefits, construction staging opportunities and commissioning.

D6.3.13 The Consultant shall conduct a Risk and Opportunity Assessment near conclusion of the Project Definition phase with the Program Team and other City selected stakeholders. The Consultant shall prepare and submit a resulting risk register using the required City format. The risk register shall identify the opportunities, risks and associated mitigation strategies for the Project with emphasis on those with implication to the next preliminary design phase.

D6.3.14 The Consultant shall prepare and submit a report and appropriate drawings to the City, fully documenting data gathered, explaining adequately the assessments made, stating with clarity the resulting conclusions, and containing all recommendations and information which are relevant to this stage of Project implementation

#### D6.4 Preliminary Design

##### D6.4.1 General

(a) The preliminary design shall define in more detail the configurations (general arrangement, layouts, requirements and equipment types) of the various treatment processes and associated facilities. It shall also consider and provide detail for such requirements such as odour control, flood protection, facility security, asbestos abatement, decommissioning etc.. The significant details of the structural, electrical, instrumentation and control, HVAC, site works and architectural etc. shall be developed.

(b) The preliminary design shall be consistent with identified requirements in D6.5.

D6.4.2 A current copy of the SEWPCC Hazardous Material Inventory System (HMIS) Report is provided in Appendix M for information.

D6.4.3 The City has planned to perform the PDR recommended stress testing of a primary clarifier. The details and results will be provided to the Consultant when available, but not later than at commencement of Preliminary design.

##### D6.4.4 Specific Consultant Services Requirements

(a) This section identifies certain specific Consultant Services to be performed as part of the Project and is not intended to limit the overall Consultant Services scope.

(b) The existing sludge piping and transfer pumps are considered to be near end of usable life. With consideration for any Project driven modifications or redundancy, these components are to be replaced as part of the Project scope.

(c) The existing Secondary Clarifiers 1 & 2 mechanisms and interior structure surfaces are felt to be reaching near end of usable life. If needed for long term functionality of these existing components within the Project the Consultant shall investigate and assess the existing condition and upgrade as needed.

(d) With consideration for any Project driven modifications or redundancy

(i) the existing primary sludge pumps are to be upgraded by the incorporation of variable frequency drives;

(ii) the existing primary sludge nuclear density meter is to be replaced with a microwave density meter; and

(iii) the existing grit air blowers are to be upgraded by the incorporation of variable frequency drives.

(e) The existing scum systems on existing Primary Clarifiers 1 & 2 collect co-current with the direction of wastewater flow through these clarifiers. SEWPCC Operations advises that as a result there is evidence of detrimental carryover of fats, oil and grease into the secondary process. The Consultant shall review, provide recommendations and implement as directed a method to eliminate detrimental carryover into the upgraded processes.

(f) The Consultant shall review potential flooding risks near the west end of the Secondary Clarifier gallery. Review the potential for installation of submersible

flood/dewatering pumps to be utilized during abnormal events. Provide a design and implement the upgrades as directed.

- (g) City has experienced poor ventilation quality in the existing Grit Tank Room. Make recommendations to the City regarding potential ventilation upgrades for the Screen and Grit Tank Room ventilation systems. Consider alternatives that utilize common system components with any required Grit area expansion. Review NFPA 820 requirements, and propose upgrades that will improve NFPA 820 compliance. Ensure that the design includes improved odour control. At minimum, the proposed upgrades are to include a bio-filter for the G688-EF exhaust stream. Review the recommendations with the City and implement the upgrades as directed.
- (h) The location of the existing Grit Electrical Room is below grade, with significant flood risks due to wastewater channels above. In addition to potential flooding concerns, the City has noted that given the location of the electrical room, that there are limited cable routing options and space available for future expansion. In conjunction with any required Grit Expansion review options for installation of a new Grit electrical room at grade level. Review the recommendations with the City and implement the upgrades as directed.
  - (i) Options to evaluate include:
    - ◆ Relocation of the entire Grit Electrical Room to grade level.
    - ◆ Relocation of approximately half of the Grit Electrical Room to grade level, in a manner to provide additional redundancy for the Raw Sewage Pumps and other Grit equipment.
    - ◆ Potential revision of the power source for one of the Raw Sewage Pump MCCs (MCC-M3G or MCC-4G), such that it is not dependent upon the same route for power as the other MCC.
- (i) The Primary Clarifier electrical and control rooms have a potential flood risk due to being located within a low area of the facility. In addition, both rooms are at capacity, and have very limited physical space available for installation of new equipment. It is proposed that the existing discontinued Chlorine Room, which is currently allocated as a storage room, will be allocated as an Electrical and Automation Room. Provide an appropriate dedicated ventilation system with cooling for the new Electrical / Automation room. Where appropriate, install any new electrical equipment for the Primary Clarifier Area in this space. It is not required to relocate equipment from the existing Electrical and Control Rooms to the new space unless specifically required under the scope of this Project, however provisions should be made for the future allocation of electrical and automation equipment, including the relocation of equipment from the existing rooms. Make recommendations to the City regarding other potential upgrades for this area, with respect to the proposed work under this Project. Review the recommendations with the City and implement the upgrades as directed.
- (j) As part of the plant expansion, provide additional storage space that, at minimum, replaces the existing storage capacity within the discontinued Chlorine Room.
- (k) The existing main control room in the Administration Building is inadequately sized to serve as both the control room and the server room for the new Automation System. Review the space requirements and provide additional building space for the control room and server room. Review options where the existing control room would be retrofitted to serve as either the main control room or server room, but not both. Review with the City and implement the building upgrades as directed.

#### D6.4.5 Development of General Design Criteria and Specifications

- (a) To facilitate commonality and consistency within the overall WSTP it is desired that standardized design basis criteria and discipline specifications be developed that may be used effectively for this Project and in other WSTP Projects, such as the Biosolids Handling Facility.
- (b) The Consultant, in consultation with the City, shall identify and develop such general design criteria and specifications incorporating NMS outline format as applicable.

- (c) The Proponent shall provide details of their anticipated methodology and deliverables for this work.

#### D6.4.6 Preliminary Design Cost Development Documents

- (a) The Consultant shall advance the design and provide sufficient information to permit the City to quantify and assess the Project components enabling an estimate of the overall construction cost to an accuracy level of  $\pm 20\%$ . The costing will be done by a third party cost estimator engaged by the City using the Preliminary Design Cost Development Documents.
- (b) The Consultant shall provide Preliminary Design Cost Development Documents in a single report format representative of the preliminary design and consisting of, as a minimum, the drawings and documents as identified below. Formats of the individual documentation shall be as agreed with the City.
- (c) Site Development Drawings
  - (i) Site development design drawings shall be provided that highlight the preliminary concepts related to yard piping, roads, and other major civil works.
  - (ii) The drawings shall show pipes and appurtenances, above and underground, greater than or equal to 100 mm in diameter, on plan and to scale.
  - (iii) The Consultant shall provide an estimating allowance for smaller pipes and appurtenances and minor items not detailed at this stage.
  - (iv) Associated specifications shall be provided as required to convey quality information.
- (d) Structural Design
  - (i) The Project's structural requirements shall be provided and conveyed in such a manner that a quantitative take-off of required components, piling, reinforced concrete and structural steel etc. can be performed.
  - (ii) Associated specifications shall be provided as required to convey quality information.
- (e) Building / Architectural Design
  - (i) Based on process and operational requirements and equipment layout, the design of any new building/room envelopes and interior details shall be developed.
  - (ii) The drawings shall provide preliminary architectural plans and building elevations. Typical wall sections shall also be shown.
  - (iii) Associated specifications shall be provided as required to convey quality information.
- (f) HVAC
  - (i) Heating, ventilation and air conditioning design layouts and criteria including schedule of equipment shall be prepared to convey the requirements.
  - (ii) Associated specifications shall be provided as required to convey quality information.
- (g) Process Mechanical Design
  - (i) Plant process flow diagrams shall be provided.
  - (ii) Area process mechanical design drawings shall be provided which show plans and key sections to highlight major equipment layouts, arrangement and interconnection of key process components, hydraulic profile and standard mechanical details such as pipe and valve supports, backflow prevention, etc.
  - (iii) Associated specifications shall be provided as required to convey quality information.
- (h) Electrical

- (i) A preliminary electrical site plan, single line diagrams and area electrical plans identifying all major equipment and building services loads and requirements shall be developed.
  - (ii) Standby power requirements for critical plant operations shall also be assessed and identified.
  - (iii) Other electrical requirements such as plant lighting, low voltage power distribution, security system, telephone/communication systems, HVAC power, detection and alarm systems, electrical decommissioning and other miscellaneous electrical systems, etc., shall be identified on electrical plans.
  - (iv) Associated specifications shall be provided as required to convey quality information.
- (i) Instrumentation / Controls / Automation
- (i) Preliminary area process and instrumentation drawings (P & ID) together with a preliminary process control narrative for the Project shall be provided.
  - (ii) A preliminary instrument list defining all process sensing equipment including level, flow, pressure and on-line monitoring instrumentation shall be provided.
  - (iii) Associated specifications shall be provided as required to convey quality information.
- (j) Summary of Major Equipment
- (i) A detailed listings of major equipment and associated information (major equipment being defined as equipment with significant electrical loads, process implications or capital/operational cost contribution) shall be provided. The listings shall include all major process equipment, major valves and key instruments.
  - (ii) Preliminary equipment data sheets shall be provided for major process equipment. The data sheets shall include general process / mechanical data, service conditions, performance requirements, materials of construction, electrical data, environmental controls etc.
- (k) Preliminary Project Commissioning Plan
- (i) The Consultant shall develop a Preliminary Project Commissioning Plan.
  - (ii) The plan shall provide the concept and preliminary details as to how the Project components can be brought on-line relative to the overall plant construction and ongoing operations.
  - (iii) The plan shall address all key Project components.
  - (iv) The plan shall minimize impact to the facility's capability to meet its regulatory obligations and provide detail of any planned impacts.
  - (v) The plan shall encompass the various aspects of commissioning including training, inspection, quality, start-up, testing, verification and handover to operations. The plan shall identify roles and responsibilities, procedures and processes, quantified anticipated resources, equipment, utilities and consumables, including start-up chemicals.
  - (vi) The level of detail shall be such as to enable the needed level of costing of the commissioning efforts.
  - (vii) The plan shall be in conformance with the Consultant Services Commissioning Requirements - Appendix N.
- (l) Project Schedule
- (i) The Consultant shall develop and provide a detailed critical path schedule for the Project covering activities from commencement of detailed design until turnover to operations.
  - (ii) The level of detail shall be such that it clearly conveys the significant activities related to the various Project components with their inter-dependencies and anticipated contract packages.



(iii) The schedule shall be configured suitable for use by Microsoft® Office Project 2003.

(m) Risk And Opportunity Assessment

(i) The Consultant shall conduct a Risk and Opportunity Assessment near conclusion of the Preliminary Design phase with the Program Team and other City selected stakeholders. The Consultant shall prepare and submit a resulting risk register using the required City format. The risk register shall identify the opportunities, risks and associated mitigation strategies for the Project with emphasis on those with implication to the next detailed design phase.

(n) Operational Data

(i) The Consultant shall develop and provide the deliverables identified in the following table;

Opex Adjustment Model Requirements	Consultant Deliverables	Comments
Power / Load schedule	Equipment Electrical load list.	Format to be as per Opex Cost Model Elec Schedule rev0 120606.xls
Residuals Schedule	Data required; Provide for new assets: Grit: Annual average Tonnes of grit produced / MLD influent All sludge and biosolids streams: % dry solids Screenings: Annual average tonnes of screenings produced / MLD influent	To estimate impact of new streams on existing streams.
Chemicals Requirements schedule	Data required; For each chemical used, provide guaranteed annual average chemical usage per respective process parameter (e.g. flow; TSS; BOD etc..)	
Asset Data Schedule	<ul style="list-style-type: none"> <li>• Equipment and instrumentation lists</li> <li>• Equipment data sheets</li> </ul>	Must include all maintainable equipment. Will require data to be provided by the Consultant in the required format for uploading to OWAM. Template will be provided. This is not necessarily the same as the equipment list.
Gas & Heating schedule	Provide gas usage impact (difference between existing demand and future demand). Including assumptions supply source.	
Water demand	Provide potable water usage requirements. Including any guarantees if applicable.	
De-commissioned assets schedule	Data required Provide a list of assets to be decommissioned as a result of the Project. Must be based on data held within the City OWAM system.	Will require data to be provided by the designer in the required format for uploading to OWAM. Template will be provided. This is not

		necessarily the same as the equipment list.
Other consumables	Data required Provide a list and quantities of any other consumables required for the operation of the works.	
Spares	Data required Provide a list of recommended spares	

- (o) The Proponent shall provide example representative drawings/diagrams for the Preliminary Design Costing Documents as a part of B12.
- (p) Preliminary Project Implementation Plan
  - (i) The Consultant shall develop a preliminary level Project implementation plan further detailing the concepts of how the Project will be delivered, providing recommendation on procurement packages for equipment and components and identifying any areas of risk, including impacts to current facility treatment capability that need to be addressed to achieve the Project objectives. The plan shall include construction sequencing with associated implementation schedule that takes into consideration seasonal work, potential tie-ins to the existing system, ability to accelerate construction of key process components that could provide early treatment benefits, construction staging opportunities and commissioning.

D6.4.7 Cost Consultant Workshop

- (a) The Consultant shall conduct a one day workshop with members of the Program Team together with the City engaged cost consultant. The workshop is to facilitate a forum to present the Preliminary Design Cost Development Documents and provide clarification as needed.

D6.4.8 Preliminary HAZOP Assessment

- (a) As part of the design stage the Consultant shall conduct a preliminary Hazard and Operability Analysis (HAZOP) with select Program Team members and recommended City Operations/Maintenance or other personnel.

D6.5 Detailed Design

- D6.5.1 The Consultant shall further develop the preliminary design as required to provide the detailed design.
- D6.5.2 The detailed design shall include all requirements including but not limited to, site development, structural, architectural, process, HVAC, plumbing, mechanical, electrical, detection and alarm, instrumentation, controls, automation, security, flood protection, odour control, asbestos abatement, temporary facilities and operational consumables.
- D6.5.3 As an initial step of the detailed design the Consultant shall conduct a Value Engineering workshop on the Project Preliminary Design with the Program Team and other selected City personnel.
- D6.5.4 The detailed design Services involve preparation of detailed designs, cost estimates, tender documents, analysis of bids and recommendations for contract award, and include, but are not limited to:
  - (a) Addressing alternative methods of accommodating; relocating; avoiding, and/or avoiding injury to existing facilities and services; proposing alternative methods of solution, reviewing same with the appropriate approval agencies and stakeholders;
  - (b) Application to public agencies for necessary authorizations (e.g. permits), preparation and submission of reports and drawings thereto, and appearance before same in support of the application;

- (c) Preparation and submission of detailed engineering calculations, drawings, and criteria employed in the design(s), securing review of and an acceptance by the City;
- (d) Preparation of detailed engineering drawings, specifications and tender documents consistent with the standards and guidelines of the City, securing review of and acceptance by the City;
- (e) Preparation and provision to the City in written form, a fully detailed formal cost estimate to an accuracy level of +/- 10% for;
  - (i) the overall Project construction, commissioning and turnover to operations;
  - (ii) the annual plant operation and maintenance including but not limited to labour, consumables, utilities, repairs and maintenance;
  - (iii) each individual tender package prior to tender.
- (f) Arrange for and attend bidder's site visit(s).
- (g) Provision of appropriate response to bidders and advice to the City during the bid period and, subject to acceptance by the City, issuing addenda to the tender documents;
- (h) Submission of a review, analysis, comparison, tabulation, calculation, and evaluation of the bids received, to the City;
- (i) Preparation of a report including revised contract estimate, identifying and explaining variations from the earlier formal estimate, and containing recommendation regarding contract award identifying the reasons therefore.

#### D6.5.5 Specific Automation Requirements

- (a) This section identifies certain specific Consultant Service requirements associated with automation, controls and instrumentation and is not intended as a limit to the overall general requirements for related Consultant Services.
- (b) The Automation Master Plan has been provided as a guiding document for the implementation of the automation systems at the SEWPCC facility. The Consultant shall completely implement the recommendations in the document for all new facilities, process areas, and equipment. The document is also applicable to existing facilities that are to be modified.
- (c) The Automation scope of work within the existing facilities includes, but is not necessarily limited to:
  - (i) Replacement of the existing DCS and HMI systems with a new PLC-based system and HMI.
  - (ii) The DCS hardware shall be completely removed and replaced with PLC hardware. The Consultant will evaluate and make a recommendation regarding various options to allow for an efficient replacement process, that include, but are not limited to:
    - ◆ Custom cordsets from the existing termination units to the new PLC I/O modules.
    - ◆ Replacement of the termination units with terminals.
    - ◆ Alternative solutions as proposed by the PLC vendor.
  - (iii) Provide a comprehensive fibre-based Ethernet network for the entire facility. The network should generally be configured in a ring configuration, however alternate redundant configurations may be proposed. The network shall, at minimum, include:
    - ◆ Two fibres for the Process Network.
    - ◆ One fibre for the Security System
    - ◆ One fibre for the Admin Network
    - ◆ Spares as determined by the City of Winnipeg.

- (iv) Provide networking cabinets for the Ethernet networking in each process area, that enclose the fibre patch panels, as well as the Process Network managed switches.
  - (v) All new HVAC equipment are to utilize PLC based controls, designed by the Consultant, that are integrated with the main plant control system. Commercial-grade HVAC controls will not be accepted.
  - (vi) Upgrade the existing pneumatic HVAC controls with PLC based controls for the following systems:
    - ◆ Any systems where the air handling system is upgraded in any way.
  - (vii) The existing fire alarm system has a Modbus TCP communication interface that is established, but was never connected to the DCS. Establish and commission communications between the Fire Alarm System and the new HMI system.
  - (viii) Ventilation
    - ◆ Ventilation of all control rooms is to include installation of a media scrubber, unless specifically approved otherwise by the City.
  - (ix) The PSA Room has existing Oxygen sensors and alarms that are nearing end of life. Evaluate if gas detection upgrades are required as part of the proposed plant upgrades, and if so, upgrade as required.
  - (x) Ensure that gas detection sensors are provided for the new standby power generators.
  - (xi) Review the requirement for gas detection and alarming near the Secondary Clarifier Thermal Oxidizer and implement the installation of gas detection as required.
  - (xii) Provide new networking diagrams, including Networking Overview drawings, Networking Details drawings, and Network Cable Routing Diagrams for the entire new and existing facility.
  - (xiii) Provide a detailed Construction Work Plan for the implementation of the DCS replacement within the constraints of an operational facility. Provide details regarding manual operation requirements during the upgrade. Provide drawings to detail the construction phases as required.
- (d) The deliverables provided by the Consultant for all new and existing process areas within the SEWPCC facility, shall include, but are not limited to the following:
- (i) Unless otherwise stated, the indicated deliverables shall be prepared by the Consultant. Delegation of the identified deliverables to the Contractor will not be accepted.
  - (ii) Provide a comprehensive set of P&ID drawings for the entire facility. In addition to all new P&D drawings, update all the existing P&ID drawings to reflect the DCS to PLC replacement. All updates shall be consistent with the Identification Standard and the Automation Design Guide. All P&IDs are to be prepared using "smart" P&ID software. All new P&ID drawings are to be set up as new drawings with a drawing number in the P (rather than the A) discipline.
    - ◆ Supersede all existing P&ID drawings.
    - ◆ All instruments and equipment (new and existing) will be retagged under the new Identification Standard. Clearly indicate the previous identification tag identifier in parenthesis adjacent to the new identification tag identifier. Use 2mm text to identify the previous identifier. Replace all lamacoids and field identification for any equipment modified under this Project.
  - (iii) Provide system architecture / block diagrams for the entire automation system. Indicate all PLC controllers, remote I/O notes, and major networked equipment such as intelligent MCCs.
  - (iv) Prepare I/O list documents for all PLCs, including DCS replacements.
  - (v) Prepare PLC module lists for all PLCs, including DCS replacements.

- (vi) Prepare PLC I/O module wiring diagrams for all PLCs, including for all DCS I/O replacements.
  - (vii) Prepare new loop diagrams for all new and existing instrumentation loops. All existing instrumentation loops that have DCS I/O must be revised. All loop drawings with a SEP style drawing number must be superseded by a new W&W Dept. standard drawing with a an appropriate drawing number.
  - (viii) Prepare control panel interior and exterior layouts for all DCS Cabinets and new PLC cabinets.
  - (ix) Prepare drawings to show revisions to the existing Field Device Panels. The standard of acceptance shall be 1-0102G-A0085 and 1-0102G-A0086.
  - (x) Prepare a detailed Functional Requirements Specification for the entire SEWPCC facility, including all new and existing processes controlled by the DCS. The specification shall be prepared in a manner that is consistent with the reference Functional Requirements Specification document provided in Appendix O, and shall replicate all existing DCS logic and functionality. A control narrative shall be provided for each system. The City will provide the following reference documents after award:
    - ◆ Existing Area Manuals
    - ◆ Existing P&ID Drawings
    - ◆ Existing DCS Configuration Logic.
  - (xi) Review the Functional Requirements Specification for the existing process areas, and make comprehensive recommendations regarding improvements to the control logic and methodology. Review the proposed modifications with the City, and incorporate all approved modifications into the Functional Requirements Specification.
    - ◆ Known issues to be reviewed and modified include, but are not limited to:
      - ◆ Raw sewage pump sequencing strategy
      - ◆ Flushing water pump control logic
      - ◆ Document and rationalize all alarms, and review with the City. Make changes to the Functional Requirements Specification as required.
- (e) The deliverables provided by the Consultant for all new and modified equipment within the SEWPCC facility, shall include, but are not limited to the following:
- (i) Unless otherwise stated, the indicated deliverables shall be prepared by the Consultant. Delegation of the identified deliverables to the Contractor will not be accepted.
  - (ii) Provide interior and exterior panel layout drawings for all control panels, automation device panels, and junction boxes.
  - (iii) Provide instrument location plans.
  - (iv) Provide instrument datasheets for all new and modified process instrumentation. Review the format of the datasheets with the City for approval prior to creation.
  - (v) Completely document all Safety Instrumented Systems in accordance with good design practice. Reference the ISA 84 series of standards.
  - (vi) Provide instrument commissioning and testing forms for the contractor to complete during commissioning.
  - (vii) Provide automation power distribution schematics. A dedicated drawing is to be provided for each control panel.
  - (viii) Provide grounding riser diagrams.
  - (ix) Provide conduit riser diagrams.
  - (x) Provide cable tray layout plan and section drawings. These may be common with the electrical cable tray drawings provided the automation and electrical cable trays are clearly identified.

- (xi) Provide plan location drawings of all automation equipment.
- (xii) Provide control room equipment layout drawings for all new and existing control rooms.
- (xiii) Provide fieldbus network diagrams for all fieldbus networks.
- (xiv) Provide a cable schedule of all new automation cables.

#### D6.5.6 Specific Electrical Requirements

- (a) This section identifies certain specific Consultant Service requirements associated with electrical work and is not intended as a limit to the overall general requirements for related Consultant Services.
- (b) Unless otherwise stated, detailed design drawings shall be prepared by the Consultant. Delegation of the detailed design drawings to the Contractor will not be accepted. Refer to the Automation Master Plan as a reference to the detailed design drawings required.
- (c) Ensure that all equipment identification is consistent with the City of Winnipeg Water and Waste Identification Standard.
- (d) Ensure that the design and deliverables are consistent with the City of Winnipeg Water and Waste Electrical Design Guide.
- (e) The deliverables are to include, but are not limited to:
  - (i) Unless otherwise stated, the indicated deliverables shall be prepared by the Consultant. Delegation of the identified deliverables to the Contractor will not be accepted.
  - (ii) Provide design calculations for all electrical design.
  - (iii) Provide an overview single line drawing of the entire facility on an A1 or A0 drawing. Refer to drawing 1-0102A-E0014 for reference.
  - (iv) Provide comprehensive detailed single line drawings of each process area. Indicate the arc flash category next to each piece of equipment.
  - (v) Provide MCC elevations for all new and modified MCCs.
  - (vi) Provide three line schematics for all switchgear, and specific details within electrical distribution equipment, such as power meters and voltage monitors.
  - (vii) Provide detailed panel schedules for all new and revised panels. Indicate loads, wire sizes, breaker details, etc.
  - (viii) Provide hazardous location plan drawings for the entire facility, including required equipment temperature codes. Note that hazardous location drawings are available for the existing facility.
  - (ix) Provide arc flash labels for all electrical equipment based upon the arc flash study, revised to as-constructed. Arc flash labels are to be consistent with City standards.
  - (x) Provide generator installation details, including structural support and ventilation.
  - (xi) Provide electrical plan layouts of all equipment and components. Typical standard of acceptance for the scale is 1:50.
  - (xii) Provide detailed plan layouts for all electrical rooms. Typical standard of acceptance for the scale is 1:30.
  - (xiii) Provide cable tray layout plan and section drawings.
  - (xiv) Provide detailed concrete ductbank routing and section drawings as required.
  - (xv) Provide motor starter schematics and connection diagrams for all new and modified motors starters.
  - (xvi) Provide loop diagrams for all automation monitoring of the normal and essential power distribution systems. Monitoring is to include all major busses, the generator and all transfer switches.

- (xvii) Provide connection diagrams for all interconnections between the generator, transfer switch(es), and other equipment.
- (xviii) Provide dedicated fire alarm system drawings in the format and in an equivalent level of detail to the original fire alarm installation (Bid Opportunity 209-2011)
- (xix) Provide a detailed construction work plan, with detailed phase drawings as required, to implement the transition from the existing electrical distribution system to the new system.
- (xx) Provide grounding plan and riser diagrams as required to clearly indicate all new dedicated grounding conductors within the facility.
- (xxi) Provide interior and exterior panel layouts for all custom electrical panels.
- (xxii) Provide a cable schedule of all new electrical cables.
- (xxiii) Provide settings sheets in Word and pdf format, for all critical equipment such as:
  - ◆ Protection relays
  - ◆ Electronic trip breakers (if settings not shown on the drawings)
  - ◆ VFDs or soft starters for major equipment.
  - ◆ Other critical equipment.
- (xxiv) Provide electrical commissioning and testing forms for the contractor to complete during commissioning.

D6.5.7 The Consultant shall conduct Risk and Opportunity Assessments, at the milestones noted below, with the Program Team and other City selected stakeholders. The Consultant shall prepare and submit the resulting risk registers using the required City format. The risk register shall identify the opportunities, risks and associated mitigation strategies for the Project with emphasis on those with implication to the next Project phase.

- (a) at 60% and 90% detailed design levels,
- (b) prior to commencement of construction activity;
- (c) quarterly during construction;
- (d) prior to start of commissioning;
- (e) at conclusion of commissioning.

D6.5.8 The Consultant shall refine the Project Schedule developed during Preliminary Design and provide a detailed Project Schedule for all remaining phases of the Project. The schedule shall, be updated, maintained and submitted on a monthly basis.

D6.5.9 After the 60% detailed design review the Consultant shall conduct a Hazard and Operability Analysis (HAZOP) with select Program Team members and selected City Operations/Maintenance or other personnel.

D6.5.10 As part of the 90% detailed design review the Consultant shall conduct a Construction Hazard Assessment Implication Review (CHAIR) or equivalent with select Program Team members and selected City Operations/Maintenance or other personnel.

D6.5.11 All documents, including drawings, are to be delivered with a documentation lifecycle approach. Existing drawings shall be modified (or superseded) rather than creating a new drawing specific to the construction at hand. The documents are to be prepared in a manner that is useful for maintenance purposes. For example, partial electrical single line drawings are not acceptable, but rather the existing single line drawings are to be updated.

D6.5.12 The Consultant shall identify to the City all existing SEWPCC facility drawings made obsolete by the Project. The intent being that together with D6.5.11 the City will realize an identified comprehensive set of drawings that accurately reflect the upgraded and expanded SEWPCC facility at Project completion.

D6.5.13 Operational Data

- (a) The Consultant shall develop and provide the deliverables identified in the following table;

<b>Opex Adjustment Model Requirements</b>	<b>Consultant Deliverables</b>	<b>Comments</b>
Asset Data Schedule	<ul style="list-style-type: none"> <li>• Equipment and instrumentation lists</li> <li>• Equipment data sheets</li> </ul> <p>Format to be agreed by Ops</p>	<p>Must include all maintainable equipment.</p> <p>Will require data to be provided by the Consultant in the required format for uploading to OWAM. Template will be provided. This is not necessarily the same as the equipment list.</p>
De-commissioned assets schedule	<p>Data required</p> <p>Provide a list of assets to be decommissioned as a result of the Project. Must be based on data held within the City OWAM system.</p>	<p>Will require data to be provided by the designer in the required format for uploading to OWAM. Template will be provided. This is not necessarily the same as the equipment list.</p>
Capital replacement plan	<p>Data required</p> <p>Provide a schedule of asset refurbishment or replacement over 25 years</p>	
Spares	<p>Data required</p> <p>Provide a list of recommended spares</p>	

- (b) As applicable, the Consultant shall update the information to reflect the as-built status.

D6.5.14 Project Commissioning

D6.5.15 The Consultant shall provide the Services for Project Commissioning as outlined in the Consultant Services Commissioning Requirements - Appendix N.

D6.6 Contract Administration Services

D6.6.1 The intended delivery methodology for the Project is Design, Bid, Build with Construction Management (CM).

D6.6.2 Personnel from the Program Team will act as Construction Managers and undertake lead Contract Administration duties.

D6.6.3 The Consultant shall provide certain Services related to Contract Administration. The intent of these consultant Services is to effectively oversee the overall facility functionality and quality of the incorporated components by providing the appropriate consultant Services support to the Construction Manager.

D6.6.4 Required Non Resident Services

- (a) The Consultant shall liaise with the Construction Manager in the provision of the required Services.
- (b) Review and acceptance of shop drawings supplied by the contractor or supplier to ensure that the drawings are in conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;



- (c) Review and report to the City upon laboratory, shop and other tests conducted upon materials and/or equipment placed or installed by the contractor to ensure to the City conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (d) Acceptance of alternate materials and methods, subject to prior acceptance by the City, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (e) Furnishing the City with a copy of all significant correspondence relating directly or indirectly to the contract, originating from or distributed to, parties external to the consulting Engineer, immediately following receipt or dispatch of same by the consulting Engineer;
- (f) Provision of adequate and timely direction of field personnel by senior officers of the Consultant;
- (g) As requested by the City, attending pre-construction meetings and on-site or off-site review meetings, which meetings shall include representatives of the contractor, the Construction Manager and the City;
- (h) The preparation and submission of:
  - (i) a detailed design notes package including items such as structural, geotechnical, hydraulic and heating, air-conditioning and ventilation design calculations; mechanical and electrical design calculations related to process equipment and building services; process design calculations; and instrumentation and process control design calculations;
  - (ii) approved related shop drawings with summary list and final Operation & Maintenance Manuals all within one (1) month of Total Performance of each contract associated with the Project.
- (i) Review acceptability of inspection and test plans from contractors, vendors or manufacturers;
- (j) As required, provide specifications and drawings for proposed contractor scope changes;
- (k) Review and respond to contractor RFI's;
- (l) Prepare as required contractor Site instructions / clarifications / directives;
- (m) Interpretation of technical aspects of contract as requested by the City;
- (n) Technical assistance in development of tie-in protocols and inspections;

#### D6.6.5 Required Resident Services

- (a) The Consultant shall liaise with the Construction Manager in the provision of the required Services.
- (b) Provision of qualified resident personnel acceptable to the City present at the contract site to carry out the Services as specified immediately below and as requested by the City, without relieving the contractor of his contractual and other legal obligations in respect thereof:
- (c) inspection and acceptance of excavation for, and inspection at the time of bedding placement, component laying and backfilling in respect of installation of buried services and foundations. inspection of installation of all connections to watermains, sewers, manholes, valves, hydrants, and excavation and/or exposing of underground services, structures, or facilities;
- (d) inspection of excavations to determine soil adequacy prior to installation of base and subbase courses for buried services, buried structures, foundations, roads and sidewalks.
- (e) inspection of formwork, reinforcing, foundations and piling;
- (f) witness hydrostatic and pressure testing of tanks , pipes and other specified equipment;

- (g) Without relieving the contractor of his contractual and other legal obligations in respect thereof, conduct inspection of construction sufficient to ensure that the construction carried out by the contractor is in conformance with the drawings and specifications, provide report thereof;
- (h) provision of reference line and elevation control points for the works and checking upon the contractor's adherence thereto, without relieving the contractor of his contractual and other legal obligations in respect thereof;
- (i) arranging for and carrying out of testing of materials utilized by the contractor to ensure conformance with the drawings and specifications, without relieving the contractor of his contractual and other legal obligations in respect thereof;
  - ◆ Notwithstanding C1.1(b), the cost to the Consultant for the provision of third party testing, as authorized by the Project Manager, will be reimbursed on a Cost Plus Fee basis.
  - ◆ The Consultant shall ensure that selected third party services are provided at competitive market rates,
  - ◆ Costs shall be substantiated by the provision of suitable documentation. correlated with the applicable submitted daily Consultant report log.
  - ◆ The Proponent shall identify the associated percentage for profit on Form B and in addition provide a total fee estimate for the provision of the third party testing.
- (j) promptly reporting to the City upon any significant and unusual circumstances;
- (k) take part in inspection of the contracts with the contractor and the City as necessary to establish Substantial Performance, Total Performance and Warranty Inspection, and provide to the City in written form associated itemized deficiency lists or appropriate recommendation of acceptance of the contract work;
- (l) preparation and submission to the City of "As-Built" drawings in required formats within one (1) month of Total Performance of each contract associated with the Project.
- (m) attend and contribute to weekly contractor progress meetings;
- (n) verification of contractor progress estimate quantities;
- (o) provision to the City of reports logs for inspections performed the previous day;
- (p) provision to City of daily timesheets detailing the Resident Services provided the previous day.

## D6.7 Additional Services

### D6.7.1 Provision of Area Manuals

- (a) The Consultant shall develop and provide new Area Manuals for the entire upgraded and expanded facility to support commissioning and operational requirements.
- (b) The SEWPCC Operations team utilizes Area Manuals (previously referred to as Operating Manuals) as reference documents for the operation of the facility. The Area Manuals provide detailed documentation of the area process and its components, monitoring and control, operational requirements and equipment data etc.
- (c) The City's existing Area Manuals, available in paper or scanned PDF copy only, may be utilized for reference, these are namely;
  - (i) Headworks
  - (ii) Primary Clarifiers
  - (iii) Secondary Clarifiers
  - (iv) Oxygen Reactors PSA
  - (v) Thermal Oxidizer Odour Control Strategy
  - (vi) UV Disinfection

- (d) A copy of the existing SEWPCC Secondary Clarifiers Operating Manual is provided in Appendix P for reference.
- (e) To standardize formatting the Consultant shall utilize as template the Area Manual Template provided in Appendix Q in the development of the required documentation.
- (f) In general each manual shall:
  - (i) Be organized according to section area;
  - (ii) Include, as an additional section, all drawings referenced in the manuals;
  - (iii) Include tag number with equipment name i.e. DAF tank (Tag ID);
  - (iv) Submit three (3) hard copies as final copies;
  - (v) If a manual requires several volumes, each volume will have a complete index of the entire manual;
  - (vi) Submit a final copy as a searchable portable document format (PDF) file and the native MS Word files;
  - (vii) Each electronic manual should have referenced drawings hyperlinked to electronically connect to drawing files;
  - (viii) Where other manuals are referenced (i.e. refer to SOP Manual) each reference should be hyperlinked to provide an electronic path to the file.

#### D6.7.2 Standard Operating Procedures (SOP)

- (a) The Consultant shall develop and issue Project related Standard Operating Procedures (SOP) as required to support commissioning and operational requirements.
- (b) The SEWPCC Operations team utilizes Standard Operating Procedures as reference documents for the operation of the facility. The SOP provide standardized documented guidance to plant operators for undertaking key operational and maintenance procedures.
- (c) Current SEWPCC SOP exist in Microsoft Word .doc file format for the following;
  - (i) 1000 KW Standby Generator Power Test;
  - (ii) Essential Services Emergency Power Test;
  - (iii) Main Breakers;
  - (iv) Plant Entry After Power Failure;
  - (v) For each Primary Clarifiers 1, 2 and 3;
  - (vi) For each Secondary Clarifiers 1, 2 and 3;
  - (vii) Thermal Oxidizer.
- (d) A copy of the existing SEWPCC Secondary Clarifier 1 SOP is provided in Appendix R for reference.
- (e) The Project will modify existing and add new components for which the Consultant shall develop and provide new Standard Operating Procedures and their related procedures such as job hazard analysis (JHA), safe work procedure (SWP) and lockout/tag out procedure (LOTO).
- (f) To standardize formatting the Consultant shall utilize the SOP Template provided in Appendix S in the development of the required documentation.
- (g) In general each procedure shall:
  - (i) Include, as applicable, all drawings referenced in the procedures;
  - (ii) Include tag number with equipment name i.e. DAF tank (Tag ID);
  - (iii) Submit three (3) hard copies as final copies;
  - (iv) Submit a final copy as a searchable portable document format (PDF) file and the native MS Word files;
  - (v) Each electronic procedure should have referenced drawings hyperlinked to electronically connect to drawing files;

- (vi) Where other procedures are referenced (i.e. SWP, JHA, LOTO) each reference should be hyperlinked to provide an electronic path to the file.
- (vii) Reference SWP, JHA and LOTO documents are provided in Appendix T.

#### D6.7.3 Provision of Printing Services

- (a) As part of the overall provision of Services the Consultant is required to submit to the City a variety of documents, drawings, specifications, manuals, plans etc. in both hard copy and electronic versions.
- (b) The cost to the Consultant for the provision of hard copies as requested by the Project Manager and issued solely to the City or its authorized recipient will be reimbursed on a Cost Plus Fee basis.
- (c) The reimbursable cost shall be applicable only to the provision of the paper stock, binders, dividers, cover pages, printing and third party messenger delivery to the recipient, if so requested.
- (d) Costs shall be substantiated by the provision of suitable documentation correlated with the applicable document transmittal and provided no later than three weeks from document issuance.
- (e) The proponent shall identify their associated percentage for profit on Form B and in addition provide a fee estimate for the provision of the hard copies including the percentage profit.

#### D6.8 Optional Services

##### D6.8.1 Optional Contract Administration

- (a) At the option of the City, the Consultant shall provide the following additional Contract Administration Services. The intent being that together with the above Required Non Resident and Required Resident Services the Consultant would be engaged to provide the entire scope of Contract Administration for office and field Services required to ensure the conduct of the Project construction and commissioning in accordance with the intent of the City and in conformance with the particulars of the drawings and specifications.
  - (i) Optional Non-Resident Services
    - ◆ Consultation with and advice to the City during the course of construction and commissioning;
    - ◆ Provision to the City of a complete current report on the Project status on a monthly basis;
    - ◆ Provision to the City a current update of revised contract-end cost estimate on a monthly basis, or more frequently if found necessary, with explanation and justification of any significant variation from the preceding contract-end cost estimate;
    - ◆ Administer contract changes and make recommendation to the City;
    - ◆ Coordinate with responsible parties in resolution of issues;
    - ◆ Definition and justification of and estimate of costs for additions to or deletions from the contract for authorization by the City;
    - ◆ Establishment prior to construction and submission to the City of written and photographic records of, and assessment of the physical condition of adjacent buildings, facilities, and structures sufficient to equip the consulting Engineer to provide valid evidence and relevant testimony in settlement of any claim involving the City by any court of law, or by any other party for damages thereto arising from the Project;
    - ◆ Arranging and attending pre-construction meetings and weekly on-site or off-site review meetings, which meetings shall include representatives of the contractor(s), and the City;

- ◆ Determine and monitor construction and commissioning schedules and budget;
  - ◆ Coordinate all Project related activities.
- (ii) Optional Resident Services
- ◆ Preparation, certification, and prompt submission of progress estimates to the City for payment to the contractor(s) for construction performed in accordance with the drawings and specifications;
  - ◆ Arrange, attend and prepare and distribute records of and minutes for, regularly held on-site or offsite Project review meetings including representatives of the contractor(s) and the City;
  - ◆ Promptly arranging for and taking part in a detailed final inspection of the Project with the contractor(s) and the City prior to commencement of the period of contractor maintenance guarantee specified in the contract(s) for the Project and providing to the City in written form an appropriate recommendation of acceptance of the constructed or partially constructed Project;
  - ◆ Act as Payment Certifier and administer all contracts as required under the Builder's Liens Act of Manitoba;
  - ◆ Prepare a Certificate(s) of Substantial Performance;
  - ◆ Prepare a Certificate(s) of Total Performance;
  - ◆ Provision of inspection Services during the maintenance guarantee period(s) of the contract(s);
  - ◆ Undertake detailed inspections of the Project with the contractor(s) and the City prior to the end of the period of contractor(s) maintenance guarantee specified in the contract(s) for the Project;
  - ◆ Keep a continuous record of work events including working days and days lost due to inclement weather during the course of contract(s) works;
  - ◆ Maintain a photographic record of the work progress;
  - ◆ Prepare a Certificate(s) of Acceptance.

D6.8.2 Optional Additional Services

- (a) At the option of the City the Consultant shall provide two (2) years of operational advice commencing upon the successful completion of commissioning and performance validation of the Project.

D6.9 City Responsibility

- (a) The Department will provide the Consultant with copies of all available relevant drawings, specifications, reports, designs notes and correspondence regarding the construction, operation and maintenance of the existing SEWPCC and all available relevant copies of all studies and reports for ongoing concurrent works.

**D7. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE**

D7.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D7.2 The Consultant shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Project Manager.

D7.3 The following shall be confidential and shall not be disclosed by the Consultant to the media or any member of the public without the prior written authorization of the Project Manager;

- (a) information provided to the Consultant by the City or acquired by the Consultant during the course of the Work;

- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D7.4 A Consultant who violates any provision of D7 may be determined to be in breach of Contract.

## **SUBMISSIONS PRIOR TO START OF SERVICES**

### **D8. AUTHORITY TO CARRY ON BUSINESS**

D8.1 The Consultant shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Consultant does not carry on business in Manitoba, in the jurisdiction where the Consultant does carry on business, throughout the term of the Contract, and shall provide the Project Manager with evidence thereof upon request.

### **D9. INSURANCE**

D9.1 The Consultant shall procure and maintain, at its own expense and cost, insurance policies with limits no less than those shown below.

D9.2 As a minimum, the Consultant shall, without limiting its obligations or liabilities under any other contract with the City, procure and maintain, at its own expense and cost, the following insurance policies:

- (a) Comprehensive or Commercial General Liability Insurance including:
  - (i) an inclusive limit of not less than \$2,000,000 for each occurrence or accident with a minimum \$2,000,000 Products and Completed Operations aggregate and \$5,000,000 general aggregate;
  - (ii) all sums which the Consultant shall become legally obligated to pay for damages because of bodily injury (including death at any time resulting therefrom) sustained by any person or persons or because of damage to or destruction of property caused by an occurrence or accident arising out of or related to the Services or any operations carried on in connection with this Contract;
  - (iii) coverage for Products/Completed Operations, Blanket Contractual, Contractor's Protective, Personal Injury, Contingent Employer's Liability, Broad Form Property Damage, Employees as Additional Insureds, and Non-Owned Automobile Liability;
  - (iv) a Cross Liability clause and/or Severability of Interest Clause providing that the inclusion of more than one Insured shall not in any way affect the rights of any other Insured hereunder in respect to any claim, demand, suit or judgment made against any other Insured;
  - (v) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Consultant directly or indirectly in the performance of the Services. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Consultant directly or indirectly in the performance of the Service. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.
- (c) Professional Errors and Omissions Liability Insurance including:
  - (i) an amount not less than \$5,000,000 per claim and \$5,000,000 in the aggregate.

D9.2.1 The Consultant's Professional Errors and Omissions Liability Insurance shall remain in force for the duration of the Project and for twelve (12) months after total performance.

- D9.3 The policies required in D9.2(a) shall provide that the City is named as an Additional Insured thereunder and that said policies are primary without any right of contribution from any insurance otherwise maintained by the City.
- D9.4 The Consultant shall require each of its Subconsultants to provide comparable insurance to that set forth under D9.2(a).
- D9.5 The Consultant shall provide the Project Manager with a certificate(s) of insurance for itself and for all of its Subconsultants, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Services, but in no event later than the date specified in C4.1 for the return of the executed Contract. Such Certificates shall state the exact description of the Services and provide for written notice in accordance with D9.10.
- D9.6 The Consultant may take out such additional insurance as it may consider necessary and desirable. All such additional insurance shall be at no expense to the City.
- D9.7 All insurance, which the Consultant is required to obtain with respect to this Contract, shall be with insurance companies registered in and licensed to underwrite such insurance in the Province of Manitoba.
- D9.8 If the Consultant fails to do all or anything which is required of it with regard to insurance, the City may do all that is necessary to affect and maintain such insurance, and any monies expended by the City shall be repayable by and recovered from the Consultant.
- D9.9 The failure or refusal to pay losses by any insurance company providing insurance on behalf of the Consultant or any Subconsultants shall not be held to waive or release the Consultant or Subconsultants from any of the provisions of the insurance requirements or this Contract. Any insurance deductible maintained by the Consultant or any Subconsultants under any of the insurance policies is solely for their account and any such amount incurred by the City will be recovered from the Consultant as stated in D9.8.
- D9.10 The Consultant shall not cancel, materially alter, or cause any policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the City.

## **SCHEDULE OF SERVICES**

### **D10. COMMENCEMENT**

- D10.1 The Consultant shall not commence any Services until it is in receipt of a notice of award from the City authorizing the commencement of the Services.
- D10.2 The Consultant shall not commence any Services until:
- (a) the Project Manager has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D8;
    - (ii) evidence of the insurance specified in D9;
  - (b) the Consultant has attended a meeting with the Project Manager, or the Project Manager has waived the requirement for a meeting.
- D10.3 The City intends to award this Contract by February 28, 2013.

### **D11. PROJECT MILESTONES**

- D11.1 It is desired that the Consultant achieve the following Project milestones in the provision of the Services for this Contract;
- (a) Provision of initial Consultant Services Management Plan within one (1) month of assignment award.

- (b) Completion of Project Definition Phase (including award of tendered contracts for IFAS Media and High Rate Clarification (as applicable), within six (6) months of assignment award;
- (c) Completion of Preliminary Design Phase within twelve (12) months of assignment award;
- (d) Project Commissioning complete within fifty (50) months of assignment award.



## APPENDIX A – LIST OF APPENDED DOCUMENTS

The following documents are appended to this Request for Proposal;

	Document Description
Appendix B	Definition of Professional Consultant Services (Consulting Engineering Services)
Appendix C	Wastewater Services Environmental Preservation and Compliance Statement
Appendix D	Water and Waste Equipment Identification Standard
Appendix E	Water and Waste Electrical Design Guide Outline
Appendix F	Wastewater Treatment Plants Automation Master Plan Sept. 2012 Rev PA
Appendix G	SEWPCC Upgrading/Expansion Conceptual Design Report, June 1, 2009.
Appendix H	WSTP South End Plant Process Selection Report Rev Final July 12, 2011(PSR)
Appendix I	SEWPCC Project Definition/Validation Report, May 2012 (PDR)
Appendix J	Manitoba Regulatory License 2716RR, Revised April 18, 2012
Appendix K	SEWPCC Current Drawing List
Appendix L	Consultant Services Management Plan (Minimum Requirements)
Appendix M	SEWPCC Hazardous Material Inventory System (HMIS) Report,
Appendix N	Consultant Services Commissioning Requirements
Appendix O	Reference Functional Requirements Specification
Appendix P	SEWPCC Secondary Clarifiers Operating Manual
Appendix Q	Area Manual Template
Appendix R	SEWPCC Secondary Clarifier #1 SOP
Appendix S	SOP Template
Appendix T	Reference SWP, JHA and LOTO Documents