



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 627-2015

**SUPPLY, DELIVERY AND INITIAL START-UP INSPECTION OF PUMPING
EQUIPMENT**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY, DELIVERY AND INITIAL START-UP INSPECTION OF PUMPING EQUIPMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, August 4, 2015.

B2.2 Bids 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 Contract Administrator 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 Further to C3.1, the Contract Administrator or an authorized representative will be available at the Site at 10:00 am on July 23, 2015 to provide Bidders access to the Site.

B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

B5. CONFIDENTIALITY

B5.1 Information provided to a Bidder by the City or acquired by a Bidder 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 Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Bid Opportunity to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

- B6.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B6.2 The Contract Administrator 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/>
- B6.2.2 The Bidder is responsible for ensuring that he/she 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.
- B6.2.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B7. SUBSTITUTES

- B7.1 The Work is based on the Plant, Materials and methods specified in the Bid Opportunity.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B7.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
 - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
 - (c) identify any anticipated cost or time savings that may be associated with the substitute;
 - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed Work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
 - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed Work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.

- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.
- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.
- B7.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.
- B7.10 Notwithstanding B7.2 to B7.9, and in accordance with B8.7, deviations inconsistent with the Bid Opportunity document shall be evaluated in accordance with B16.1(a).

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices;
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.2.1.
- B8.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.
- B8.4 The Bid Submission may be submitted by mail, courier or personal delivery, or by facsimile transmission.
- B8.5 If the Bid Submission is submitted by mail, courier or personal delivery, it shall be enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address, and shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg, MB R3B 1J1
- B8.5.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.
- B8.6 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.7 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, will be evaluated in accordance with B16.1(a).
- B8.8 If the Bid Submission is submitted by facsimile transmission, it shall be submitted to 204-949-1178.

- B8.8.1 The Bidder is advised that the City cannot take responsibility for the availability of the facsimile machine at any time.
- B8.8.2 Bids submitted by internet electronic mail (e-mail) will not be accepted.

B9. BID

- B9.1 The Bidder shall complete Form A: Bid, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, his/her name shall be inserted;
 - (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
 - (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
 - (d) if the Bidder 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.
- B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.
- B9.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B9.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in his/her own name, it shall be signed by the Bidder;
 - (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
 - (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
 - (d) if the Bidder is carrying on business under a name other than his/her 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.
- B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.
- B9.4.2 All signatures shall be original.
- B9.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.

B10. PRICES

- B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B10.1.1 Notwithstanding C12.2.3(c), prices on Form B: Prices shall not include the Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable.
- B10.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B10.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B11. DISCLOSURE

B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B11.2 The Persons are:

- (a) SNC-Lavalin Inc.

B12. QUALIFICATION

B12.1 The Bidder 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; and
- (b) be financially capable of carrying out the terms of the Contract; and
- (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.

B12.2 The Bidder and any proposed Subcontractor (for the portion of the Work 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>

B12.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work 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) upon request of the Contract Administrator, obtain Security Clearances in accordance with PART F;

B12.4 Further to B12.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractors has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (c) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information

Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>.

- B12.5 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B12.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

- B13.1 Bids will not be opened publicly.
- B13.2 Following the submission deadline, the names of the Bidders and their Total Bid Prices (unevaluated, and pending review and verification of conformance with requirements) 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/bidopp.asp>
- B13.3 After award of Contract, the name(s) of the successful Bidder(s) 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/>
- B13.4 The Bidder is advised that any information contained in any Bid 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.

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.
- B14.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

B15. WITHDRAWAL OF BIDS

- B15.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B15.1.1 Notwithstanding C23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.
- B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Bid until after the Submission Deadline has elapsed;
 - (b) open the Bid to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Bid withdrawn.

B15.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder 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.

B16. EVALUATION OF BIDS

B16.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity or acceptable deviation there from (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.2.1.

B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities, if the interests of the City so require.

B16.3 Further to B16.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is responsible and qualified.

B16.4 Further to B16.1(c), the Total Bid Price shall be the sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B16.4.1 Further to B16.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B17. AWARD OF CONTRACT

B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B17.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B17.2.1 Without limiting the generality of B17.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid 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.

B17.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.

B17.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

- B17.4 Notwithstanding C4, the City may issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.
- B17.5 The Contract, as defined in C1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.

The *General Conditions for Construction* 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

C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of the supply and delivery of 3 pumps complete with motors, drive shafts, pump discharge gate valves and check-valves, and spare parts and the provision of initial start-up inspection for the pumping equipment, as well as a large gate-valve for the influent to the pumping station.

D2.2 The major components of the Work are as follows:

- (a) Pumps complete with motors and drive shafts; and
- (b) All gate valve and check valves.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is SNC-Lavalin Inc., represented by:

Mr. Ian Parkinson, P.Eng.
Manager, Water Treatment

Telephone No. 204-786-8080

Email ian.parkinson@snclavalin.com

D3.2 At the pre-construction meeting, Ian Parkinson will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D3.3 Bids Submissions must be submitted to the address in B8.5.

D4. CONTRACTOR'S SUPERVISOR

D4.1 At the pre-construction meeting, the Contractor shall identify his/her designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D5.1 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.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

- (a) information provided to the Contractor by the City or acquired by the Contractor 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.

D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

- D6.1 Except as provided for in C23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3, D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the facsimile number identified in D3.1.
- D6.3 Notwithstanding C21., all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following facsimile number:
- The City of Winnipeg
Chief Financial Officer
Facsimile No.: 204 949-1174
- D6.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204-947-9155
- D6.5 Bids Submissions must be submitted to the address in B8.5.**

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

- D7.1 The Contractor 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 Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D8. SAFE WORK PLAN

- D8.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D8.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>

D9. INSURANCE

- D9.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed

operations, to remain in place at all times during the performance of the Work and throughout the warranty period;

- (b) Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. 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) Certificate of Insurance to state that operations include coverage for loading and unloading of Goods.

D9.2 Deductibles shall be borne by the Contractor.

D9.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D9.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D10. PERFORMANCE SECURITY

D10.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D10.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D10.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

D11. SUBCONTRACTOR LIST

D11.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

SCHEDULE OF WORK

D12. COMMENCEMENT

D12.1 The Contractor shall not commence any Work until he/she is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.

- D12.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D7;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D8;
 - (iv) evidence of the insurance specified in D9;
 - (v) the performance security specified in D10;
 - (vi) the Subcontractor list specified in D11; and
 - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.

D12.3 The City intends to award this Contract by August 31, 2015.

D12.3.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages will be adjusted by the difference between the aforementioned intended and actual dates.

D13. DELIVERY

D13.1 Items one (1) thru six (6) on Form B: Pricing shall be delivered by November 30, 2015, f.o.b. destination, freight prepaid to:

Eric Weiske, Supervisor of Collections
Telephone: 204-986-4788

360 McPhillips Street
Winnipeg, MB R3E 2L1

- D13.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.
- D13.3 Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.
- D13.4 The Contractor shall off-load the Goods as directed at the delivery location.
- D13.5 The Contractor shall prepare Goods for delivery as follows:
- (a) Each item shall be clearly tagged and identified;
 - (b) Goods shall be securely covered or openings covered;
 - (c) Goods shall be securely crated or strapped to pallets and covered to prevent movement and damage during transport;
 - (d) No part of the Goods shall extend beyond the crate or pallet; and
 - (e) Suitable lifting hooks shall be provided for handling crates, boxes and heavy pieces.
- D13.6 The Contract Administrator or a representative will inspect and record the condition of all Goods upon delivery and will reject Goods found to be damaged to the extent that it cannot be put to the use for which it was intended.
- D13.7 The Contract Administrator or a representative will check for sphere handling capability by passing a wooden test sphere through each pump. Pumps not passing the required sphere size will be rejected.
- D13.8 The Contractor shall take possession of rejected Goods, make the necessary arrangements and pay the costs for the prompt repair and return or replacement of the Goods to not delay installation to the Contract Administrator's satisfaction.

D13.9 The Contractor shall promptly repair superficially damaged Goods at their own expense and to the Contract Administrator's satisfaction to not delay installation.

D14. CRITICAL STAGES

D14.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Delivery of expedited shop drawings / calculations – September 30, 2015.
- (b) Delivery of shop test results - October 30, 2015.
- (c) Delivery of Goods - November 30, 2015.

D15. LIQUIDATED DAMAGES

D15.1 If the Supplier fails to achieve delivery of the goods within the time specified in D11 Delivery, the Supplier shall pay the City five hundred dollars (\$500.00) per Calendar Day for each and every Calendar Day until the goods have been delivered.

D15.2 The amount specified for liquidated damages in D15.1 is based on a genuine pre-estimate of the City's losses in the event that the Supplier does not achieve Delivery by the day fixed herein for same.

D15.3 The City may reduce any payment to the Supplier by the amount of any liquidated damages assessed.

CONTROL OF WORK

D16. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D16.1 Further to B12.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B12.4.

MEASUREMENT AND PAYMENT

D17. INVOICES

D17.1 Further to C12, the Contractor shall submit an invoice for each order delivered to:

The City of Winnipeg
Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: 204-949-0864
Email: CityWpgAP@winnipeg.ca

D17.2 Invoices must clearly indicate, as a minimum:

- (a) the City's purchase order number;
- (b) date of delivery;
- (c) delivery address;
- (d) type and quantity of work performed;
- (e) the amount payable with GST and MRST shown as separate amounts; and
- (f) the Contractor's GST registration number.

D17.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D17.4 Bids Submissions must be submitted to the address in B8.5.

D18. PAYMENT

D18.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D19. PAYMENT SCHEDULE

D19.1 Further to C12, payment shall be in accordance with the following payment schedule:

- (a) Seventy-five (75) percent upon delivery to the location identified in D13.
- (b) Twenty (20) percent upon successful installation (by others) and commissioning of the Goods.
- (c) Five (5) percent upon delivery and acceptance of Operation and Maintenance manuals.

WARRANTY

D20. WARRANTY

D20.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

D20.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.

D20.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.

D20.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

FORM H1: PERFORMANCE BOND
(See D10)

KNOW ALL MEN BY THESE PRESENTS THAT

_____ ,
(hereinafter called the "Principal"), and

_____ ,
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

_____ dollars (\$_____)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee for

BID OPPORTUNITY NO. 627-2015

SUPPLY, DELIVERY AND INITIAL START-UP INSPECTION OF PUMPING EQUIPMENT

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

_____ day of _____, 20____ .

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT
(PERFORMANCE SECURITY)**
(See D10)

(Date)

The City of Winnipeg
Legal Services Department
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 627-2015

SUPPLY, DELIVERY AND INITIAL START-UP INSPECTION OF PUMPING EQUIPMENT FOR
THE OLIVE WASTEWATER PUMPING STATION

Pursuant to the request of and for the account of our customer,

(Name of Contractor)

(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding
in the aggregate

_____ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (2007 Revision), International Chamber of Commerce Publication Number 600.

(Name of bank or financial institution)

Per: _____
(Authorized Signing Officer)

Per: _____
(Authorized Signing Officer)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.2.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E2. GOODS

- E2.1 The Contractor shall supply and deliver:
- (a) Three (3) pumps complete with motors, drive shafts and all accessories;
 - (b) One (1) inlet and one (1) discharge gate valve per pump;
 - (c) One (1) check-valve per pump;
 - (d) A single large gate valve for the influent to the pumping station;
 - (e) Initial start-up inspection for the pumping equipment, including valves, in accordance with the Specifications;
 - (f) Operations and maintenance manuals;
 - (g) Training; and
 - (h) Spare parts and tools.

E3. EXPEDITED SHOP DRAWINGS

- E3.1 Further to E4, in order to expedite Shop Drawings with critical timeliness, the Lowest Responsive Bidder, as outlined in B13, will be permitted, after receiving written approval from the Contract Administrator, to arrange for the preparation of Shop Drawings for all the items to be purchased through this Bid Opportunity.
- E3.2 If Award is made to the Lowest Responsive Bidder, then as indicated in E5.9, no payment for the preparation of Shop Drawings will be made.
- E3.3 If no contract is awarded, then the City of Winnipeg will pay the requested Bidder up to a maximum of five hundred dollars (\$500.00) for each set of items to be purchased through this Bid Opportunity for the preparation and delivery of Shop Drawings. Delivery of the Shop Drawings to the City and payment for same, will constitute full and final consideration of each party to the other, and neither party will have any further liability to the other with respect to this Bid Opportunity.

E4. SHOP DRAWINGS

- E4.1 Submit shop drawings for all Goods to be supplied and receive a release for construction from the Contract Administrator before Goods are produced for this Contract.

- E4.2 At the time of submission inform the Contract Administrator in writing of any deviation in the shop drawings from the requirements of the Contract documents.
- E4.3 Submit 5 prints on a sheet size appropriate for item and information being depicted or an electronic file in a format acceptable to the Contract Administrator.
- E4.4 Show following information in the lower right hand corner of each shop drawing:
- (a) Name of pumping station;
 - (b) City's Bid Opportunity Number;
 - (c) Manufacturer's name and description or model number of the item;
 - (d) Serial number(s) of Goods; and
 - (e) Date (to be revised per resubmission).
- E4.5 With the shop drawings, the vendor shall submit calculations regarding the thermal expansion of the shaft and coupling connecting the pump and the motor, as well as the calculations regarding the harmonic frequency of the system.
- E4.6 The Contract Administrator will review the shop drawings and will release them for construction with reasonable promptness so as to cause no delays. The review is only for conformance with the design concept of the project and with the information given in the specifications. The Contract Administrator's review of a separate item shall not indicate approval of an assembly in which the item functions.
- E4.7 Make any corrections required by the Contract Administrator and resubmit the specified number of corrected copies of each shop drawing. Direct specific attention in writing or on resubmitted shop drawings for revisions other than the corrections requested by the Contract Administrator on previous submissions.
- E4.8 By approving and submitting shop drawings, the Supplier thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalogue numbers and similar data, or will do so, and that he has checked and coordinated each shop drawing and sample with the requirements of the Work and of the Specifications.
- E4.9 Provision of Shop Drawings will be considered incidental to the price for supply and delivery of Goods and materials.

E5. OPERATING AND MAINTENANCE MANUALS

- E5.1 Provide the Contract Administrator with five (5) copies of the manufacturer's technical literature for each component supplied detailing correct installation procedure and recommended operating and maintenance schedule, grades of lubricants required and assembly/disassembly instructions.
- E5.2 The Supplier shall provide the manuals ten (10) Calendar Days before commencement of equipment start-up and commissioning.
- E5.3 Bind contents in a three (3)-"D-Ring", hard-covered, plastic-jacketed binder with full cover and spine insert. Organize contents into applicable sections of work, parallel to Specifications breakdown.
- E5.4 Provide all required data in electronic format. Text documents shall be Microsoft Word or Adobe format. Drawings, scanned documents, parts lists, test forms shall be in Adobe format. If possible, documents shall be an original electronic format. Documents that require scanning shall be high quality scans and fully legible. Documents shall be submitted on a high quality compact disk. Compact disk and case shall be labelled in type, with the following:
- (a) bid opportunity number;
 - (b) job title; and

(c) description of Goods.

E5.5 In addition to information called for in the Specifications, the following shall be included:

- (a) Title sheet, labelled "Operation and Maintenance Instructions", containing project name and date;
- (b) List of contents;
- (c) Reviewed shop drawings of all Goods;
- (d) Certified factory test results;
- (e) Full description of entire mechanical system, operation, and control;
- (f) Names, addresses, and telephone numbers of all major sub-contractors and suppliers;
- (g) Detailed specification and operating and maintenance instructions for all Goods provided including a preventative maintenance program;
- (h) An itemized list of spare parts recommended for five years of service, particularly those components where failure of which will render the Goods supplied inoperative. Any special tools or other ancillary items necessary for commissioning and/or proper operation and maintenance shall also be listed. These prices shall be available to the City at any time prior to the issuance of the Certificate of Acceptance;
- (i) Part books that illustrate and list all assemblies, sub-assemblies, and components;
- (j) Routine test procedures for all electronic and electrical circuits; and
- (k) Troubleshooting chart covering the complete controls/electrical power systems, showing description of trouble, probable cause, and suggested remedy.

E5.6 The Supplier shall modify and supplement the manual as required by the Contract Administrator. When accepted, five (5) additional copies, including electronic versions, shall be provided by the Supplier for distribution purposes. The City's staff shall be in receipt of these manuals prior to the date set out for installation and commissioning of the Goods.

E6. PUMPS COMPLETE WITH MOTORS, DRIVESHAFTS, AND ACCESSORIES

E6.1 Description

E6.1.1 This Specification shall cover the supply of pumping equipment, spare parts and initial on Site start-up inspection of the Goods after installation in the Olive Wastewater pumping station.

E6.1.2 Pumps will be used to pump raw sewage having a temperature range of 0°C to 30°C and will operate under conditions of flooded suction.

E6.1.3 Each pump shall be a single stage, non-clogging, centrifugal flow, vertical mounted, pump coupled with a drive shaft to an electric motor suitable for dry pit installation.

E6.1.4 Pumps of the same discharge size shall be identical.

E6.1.5 General Requirements – Pumps

- | | |
|--|---------------------|
| (a) Operating points: | See table below |
| (b) Rotation (viewed from above): | CW |
| (c) Type of impeller: | Non-clog |
| (d) Size of sphere impeller shall pass: | 75mm dia. (minimum) |
| (e) Required size of discharge: | 203mm (8") dia. |
| (f) NPSH* available (Net Positive Suction Head)* | 38 feet |

OPERATING POINTS

Flow Rate (usgpm)	Head (feet)
2320	51
2440	49
2740	44

E6.1.6 General Requirements – Motors

- (a) Power Supply: 600V / 3 phase / 60 Hz
- (b) Speed: 1200 RPM maximum
- (c) Motor Service Factor: 1.15
- (d) Motor Efficiency: High efficiency motor
- (e) Full load amps at operating point: 90% of max.
- (f) Motor Speed Torque characteristics: Nema Design B
- (g) Starts per hour capability: 10
- (h) CSA Specification conformance: C 22.2 No.100

E6.1.7 Durable metal nameplates shall be securely attached to each pumping unit supplied. Pump nameplates shall indicate the serial number, capacity, head, rpm, and other pertinent data. Motor nameplates shall indicate the serial number, voltage, phase, hertz, rpm, horsepower, service factor, Nema Design, insulation class and any other pertinent data.

E6.2 Materials

E6.2.1 General

- (a) All unspecified materials shall be selected specifically for their suitability considering their duty.

E6.2.2 Casing

- (a) Pump casing: cast iron conforming to ASTM Specification A48 or A278, for Gray Iron Castings, Class 30 or approved equal.

E6.2.3 Backhead and Stuffing Box

- (a) Backhead: cast iron conforming to ASTM Specification A48 or A278, for Gray Iron Castings, Class 30 or approved equal.

E6.2.4 Bearing Frame

- (a) Bearing Frame: cast iron conforming to ASTM Specification A48 or A278, for Gray Iron Castings, Class 30.

E6.2.5 Impeller

- (a) Impeller: cast iron conforming to ASTM Specification A48 or A278, for Gray Iron Castings, Class 30 or approved equal. The cast iron shall contain not less than 3 percent nickel.
- (b) The impeller to be of the non-clog enclosed channel type.

E6.2.6 Wear Rings

- (a) Wear Rings: fabricated from stainless steel conforming to ASTM Standard A296, for Corrosion-Resistant Iron Chromium, Iron-Chromium-Nickel, and Nickel-Base Alloy Castings for General Application, Grade CA-15 or approved equal.
- (b) Impeller ring hardness to be at least 300 Brinell and shall exceed the front head ring hardness by at least 50 Brinell.

E6.2.7 Impeller Shaft Assembly

- (a) Shaft Assembly: fabricated from steel conforming to ASTM A108, Grade 1141 or approved equal.

E6.2.8 Shaft Sleeve

- (a) Shaft sleeve where shaft passes through stuffing box: fabricated from stainless steel conforming to ASTM A296, Grade CA-15 or approved equal.
- (b) Hardness to be not less than 350 Brinell.

E6.2.9 Bearings

- (a) Bearings: shall be of the heavy duty anti-friction type suitable for oil or grease lubrication. Radial bearings shall be of the self-aligning plain roller or ball type and thrust bearings shall be of the tapered roller or angular contact type.
- (b) Design bearings for a B-10 life of not less than 100,000 hours in accordance with AFBMA.

E6.2.10 Mechanical Seals

- (a) Mechanical Seals: Double mechanical seals.
- (b) Primary and secondary sealing faces shall be carbon to ceramic.
- (c) As manufactured by John Crane, Durametallc or approved equal in accordance with B5.

E6.2.11 Pump Support

- (a) Integrally cast support: cast iron conforming to ASTM Specification A48 or A278, for Gray Iron Castings, Class 30 or approved equal
- (b) Fabricated support: structural steel confirming to ASTM A36 if fabricated.

E6.2.12 Motors

- (a) Vertical shaft, squirrel cage, totally enclosed fan cooled, high efficiency induction motor conforming to CSA Specification C22.2 No. 100 and all other CSA Specifications referenced therein.
- (b) Suitable for full voltage or reduced voltage starting.
- (c) Able to operate, without damage, at full load with voltages from 10% below to 10% above rated volts. Motor horsepower shall not be less than 5% in excess of the maximum power requirement of the pump at any point on the pump characteristic curve. This rating shall be exclusive of the motor service factor.
- (d) Motors will be subject to a maximum of ten (10) start/stop cycles per hour and the stator winding insulation suitable for such operation. In no case shall stator winding insulation be less than Class F.
- (e) Equipped with heavy duty grease-lubricated and anti-friction bearings with an AFBMA B10 rating of 100,000 hours.
- (f) Maximum noise level of 85 dBa at 1.2m distance.
- (g) Acceptable motor manufacturers: Westinghouse, General Electric, Toshiba, Baldor, U.S. Electric, TECO or approved equal.
- (h) Should be suitable for inverter duty.

E6.2.13 Drive Shaft Assembly

- (a) Vertical hollow steel drive shaft with flexible coupling(s) to transmit power from the motor to the pump.
- (b) Drive shaft and coupling(s) shall have a service factor of 2.5 to ensure ample capacity to transmit power continuously for all operating conditions with up to 3 degrees of misalignment which may occur during or develop after installation and should accommodate any thermal expansion based on a temperature differential of 100 degrees Fahrenheit.

E6.2.14 Drive Shaft Guard

- (a) Removable (with tools), minimum 1.6 millimetre thick galvanized expanded metal steel mesh constructed to OSHA standards.
- (b) Fasteners: ASTM A276 Type 316 stainless steel.

E6.2.15 Paint

- (a) One prime coat of a rust inhibitive primer, a second adhesive prime coat and one finish coat of manufacturer's standard enamel.

E6.3 Construction Methods

E6.3.1 General

- (a) Castings to be free from flaws and imperfections and machined surfaces finished true.
- (b) Round off inside and outside corners and edges of all castings.
- (c) Provide means to prevent nuts and bolts from becoming loose (pins, spring or friction washered fasteners).
- (d) Obtain written permission of the Contract Administrator to patch, plug, shim or employ other means of overcoming defects, discrepancies or errors in manufacturing.
- (e) Statically and dynamically balance all rotating components as an assembled unit in accordance with ISO 1940 G6.3.

E6.3.2 Casing

- (a) Centrifugal volute type design of ample thickness and rigidity to withstand stresses due to hydraulic forces, weight of piping, erection loads, operating and testing.
- (b) Inside water passages shall be smooth and free from any significant projections that would hinder the flow of any solid waste.
- (c) Proportion casings so change in energy of the sewage from the kinetic form, as it leaves the impeller, to the pressure form as it leaves the casing will take place gradually with minimum eddy formation or shock.
- (d) Front head to permit equal distribution of sewage to all parts of the impeller without the use of stationary guides or vanes on the suction side of the impeller.
- (e) Design to permit the removal of the rotating assembly without disturbing the suction and discharge piping.
- (f) Provide a hand hole with bolted cover on the volute to permit access to the inside for cleaning and unclogging of the volute.
- (g) Provide a tapped 10 millimetre (3/8") NPT hole on the top of the volute with a suitable length of brass pipe and a shut off ball valve to allow trapped air within the volute to be bled off.
- (h) Shop test and provide certification that the fully assembled casing is successfully able withstand a hydrostatic test pressure of not less than 1.5 times the shut-off head of the largest impeller size as shown by the characteristic curve.
- (i) Equip the casing with a lifting ring(s) capable of lifting the entire pumping unit.

E6.3.3 Suction and Discharge

- (a) Suction and discharge shall be flanged, faced and drilled to conform to ASME Specification B 16.1 Class 125.
- (b) Provide a 90° suction elbow with hand hole and cover plate with bolts straddling centreline, to permit access to the suction side of the impeller for cleaning and inspection. Suction elbows may be of the reducing type in order to meet the required suction size.

- (c) Provide gauge connections tapped for 10 millimetre (3/8") NPT threaded pipe on each suction and discharge nozzle. Locate tapped connection close to flange ends. Provide pipe plugs in tapped holes.
- (d) Orient the suction and discharge horizontally opposite each other on the centreline of the pump.

E6.3.4 Backhead and Stuffing Box

- (a) Backhead shall be a separate piece from the volute casing.
- (b) Backhead shall be designed to rigidly support the bearing frame and be a self-centering and self-indexing fit with the volute casing to ensure proper alignment.
- (c) Provide a minimum of two large openings opposite each other adjacent to the stuffing box to allow access for maintenance.
- (d) Provide for external axial adjustment of the rotating element to maintain proper clearance between the impeller and front head wearing rings.
- (e) Stuffing box shall be integral with the backhead and suitable for the use of a double mechanical seal.
- (f) Provide tapped 10 millimetre NPT inlet and vent holes complete with suitable lengths of brass pipe and shut-off ball valves on opposite sides of the stuffing box for seal water inlet and outlet.
- (g) Provide a tapped drain hole on the stuffing box complete with pipe plug.

E6.3.5 Bearing Frame

- (a) Bearing frame shall rigidly support the motor adapter frame with a self-centering and self-indexing fit with the backhead to ensure proper alignment.
- (b) Machine bearing frame for accurate and permanent bearing alignment.
- (c) Completely enclose the shaft between the bearings.
- (d) Provide lip type seals in contact with the shaft.
- (e) Include grease fittings in the bearing frame for bearing lubrication.

E6.3.6 Impeller

- (a) Design impeller to ensure smooth operation without cavitation in the operating range and with minimum vibration.
- (b) Cast impeller in one piece and balance both statically and dynamically to ISO 1940 G6.3.
- (c) Trim impeller over its full height if the impeller supplied has been trimmed from a larger impeller leaving no lip or protrusion around the bottom edge.
- (d) Balance trimmed impeller after trimming.
- (e) Machine and polish impeller to Ra12 μ inches.
- (f) Securely key the impeller to the tapered shaft and hold in place with an impeller nut.
- (g) The impeller nut shall be dome shaped with a smooth face and blend into the hub so as not to allow any stringy material to accumulate around the nut. Hex shaped nuts shall not be used.
- (h) Design the impeller and retaining nut so that the impeller cannot loosen on the shaft due to torque resulting from rotation.

E6.3.7 Wear Rings

- (a) Provide removable wear rings of the axial or radial type for the front head and impeller.
- (b) Machine the rings for a close fit to minimize the leakage of sewage from the discharge to the suction.

- (c) Attach the rings in such a way as to allow for ready adjustment or replacement and to prevent loosening under normal operation or under reverse pump rotation.

E6.3.8 Impeller Shaft Assembly

- (a) Shaft assembly to be of sufficient diameter to assure rigid support of the impeller and to transmit loads without slip, vibration or undue deflection at all operating speeds and loads.
- (b) Accurately machine the shaft along its entire length and provide keyways at both ends.

E6.3.9 Shaft Sleeve

- (a) Fit and securely fasten the shaft sleeve in place after shaft grinding.
- (b) Seal shaft sleeve to prevent leakage between the sleeve and shaft.
- (c) Extend shaft sleeve at least 2 millimetres above the top of the gland cover.

E6.3.10 Bearings

- (a) Rigidly support bearings to counteract any possible tendency towards vibration.
- (b) Grind and match duplex bearings, if used.
- (c) Adapt lubrication of the bearings to the operation of the units without full-time attendance.

E6.3.11 Mechanical Seals

- (a) Seals will be flushed and lubricated by filtered domestic water.

E6.3.12 Pump Support

- (a) Provide a rigid four legged stand or a support integrally cast with the suction elbow to firmly support the entire weight of the pump.
- (b) The stand or base shall be suitable for mounting to the existing concrete floor or on a concrete base using anchor bolts.

E6.3.13 Motors

- (a) Motors to be suitable for vertical mounting either to the concrete floor or base stand or to a motor adapter frame provided on the pump.

E6.3.14 Drive Shaft Assembly

- (a) The drive shaft assembly coupling arrangement shall permit easy removal of either the pump or motor without disturbing the other. Only one length of shaft shall be used between the pump and motor.
- (b) Statically and dynamically balance the drive shaft to obtain vibration free operation. Design shaft to ensure a separation of 50% between the operating speed and the first harmonic frequency of the system (motor, couplings, shaft and pump).
- (c) The distance from the centreline of pump suction to the motor room floor for each pumping station is shown in Table E13. The Bidder shall use this distance to approximate the drive shaft length for bidding purposes. Bidder shall confirm distances prior to manufacture.
- (d) After award of this Contract, the Supplier shall be responsible to take exact measurements for final sizing of the drive shaft lengths.

E6.3.15 Drive Shaft Guard

- (a) Install drive shaft guards to OSHA standards.

E6.3.16 Paint

- (a) Apply one prime coat of a rust inhibitive primer, a second adhesive prime coat and one finish coat of manufacturer's standard enamel to all exterior metal surfaces, except machined surfaces.

- (b) Do not paint over nameplates.

E7. TOOLS, ACCESSORIES AND SPARE PARTS

E7.1 Tools and Accessories

- (a) Provide special tools or accessories required for maintenance, adjustment, assembly or disassembly of the pumping equipment supplied.

E7.2 Spare Parts

- (a) Provide the following spare parts:
 - (i) 1 set of wear rings per pump;
 - (ii) 1 mechanical seal per pump;
 - (iii) 1 impeller (full size not trimmed); and
 - (iv) 1 set of volute and casing gaskets per pump.
- (b) Properly package spare parts to resist damage.
- (c) Clearly identify package as to its contents.
- (d) Spare parts shall be identical to those supplied in the pumps.

E8. PUMPING EQUIPMENT TESTS

- (a) Conduct pump tests in accordance with Hydraulic Institute Standards - Centrifugal Pumps Test Code. All definitions for the purpose of testing shall be as set forth by Hydraulic Institute Standards - Centrifugal Pumps Ratings.
- (b) Conduct motor tests in accordance with CSA 22.2 No. 100, EEMAC, MG-2. each motor shall be tested for:
 - Running current
 - Locked rotor current
 - Hi-pot test
 - Winding resistance.

E8.2 Shop Tests

- (a) Test each pump in the manufacturer's shops over the range of operation from shut-off to run-out.
- (b) Provide a certified test curve in duplicate showing the head, capacity, pump efficiency and power for each pump to the Contract Administrator for review prior to shipping Goods.
- (c) Test curves to be signed by the pump manufacturer's official responsible for the test.
- (d) Final payment for the Goods will be made only after the Contract Administrator has received the certified test curve for each pump supplied.

E8.3 Field Tests

- (a) Field tests will be performed on each pumping unit as soon as possible after the Supplier has inspected the installation. Field tests will be to determine and check for the following:
 - Capacity
 - Noise (bearing, mechanical seal, cavitation, other)
 - Vibration
 - Electrical energy supplied to the motors from motor control centre.
- (b) The liquid pumped during the field test will be raw sewage with a density taken to be 1.00 kilogram per litre.

- (c) If the field pump tests indicates the Goods supplied does not meet the specified requirements, the Supplier shall promptly correct the problem at his expense to the Contract Administrator's satisfaction.
- (d) If the Supplier is not satisfied with the procedure of the tests or the City's interpretation of the results thereof, the Supplier may have the tests repeated, or their interpretation referred to a referee acceptable to both the City and himself. The cost of the services of such referee shall be borne by the City if the referee rules that the tests as reported by the City were to the detriment of the Supplier, but if otherwise, the Supplier shall pay the cost of the services of the referee and of repeating the tests. The decision of the referee shall be final and binding both on the City and the Supplier.

E8.4 Initial Start-up Inspection

- (a) Goods supplied under this Contract will be installed under a separate Contract. The pumping equipment supplier will not be responsible for the installation work.
- (b) The Contract Administrator will provide 7 calendar days notice of requirement for an initial pump start-up inspection.
- (c) Provide the services of a qualified technical representative to be present at the initial start-up of each pumping unit supplied under this Contract to perform the following:
 - (i) Inspect the pumping equipment to ensure they have been properly installed in accordance with the manufacturer's instructions.
 - (ii) Conduct and document amp draw, rotation and speed tests.
 - (iii) Check for unusual vibration or noises.
 - (iv) Instruct City personnel in the operation and maintenance of the Goods.
- (d) Promptly correct any deficiencies with the pumping equipment at own expense to the Contract Administrator's satisfaction.
- (e) The price provided for "Initial Start-up Inspection" shall cover all costs associated with this item of Work including travel expenses, accommodations, meals, and wages.

E9. PUMP GATE VALVES

- E9.1 Ductile cast iron body with flanged ends; bronze trimmed, cast iron wedge; bronze stem, double O-ring stem seals and fifty (50) millimetre square operating nut.
- E9.2 Three (3) inlet gate valves shall be three hundred (300) millimetre (12") and equipped with non-rising stems and shall be complete with manual pedestal operators and shafts.
 - (a) These gate valves with non-rising stems will be installed by others inside the Olive Wastewater Pumping Station on the motor room floor which has an approx. floor to ceiling height of 3.05 meters (10' - 1/2"). The centerline of the of the forcemain pipes which these valves are to be connected to are approx. 2.24 m (7' - 4") above the motor room floor elevation.
 - (b) The gate valve stems will pass through an intermediate floor above with a thickness of 203 mm (8") into the area of the Station known as the motor room floor and the pedestal mounted operators will be installed on this elevation.
 - (c) The pedestal mounted gate valve operators shall meet the following criteria:
 - (i) Body shall be ductile iron or steel with epoxy coating.
 - (ii) Gate valve operators shall have an indicator gauge with a travelling pointer to show if valve is open, closed or a position in between.
 - (iii) Bushings to be bronze and all bolting hardware to be Type 304 stainless steel.
 - (iv) Supplier to be responsible for confirming all field measurements prior to manufacture to ensure proper function and fit for the pedestal mounted operators.

E9.3 Three (3) discharge gate valves shall be two hundred (200) millimetre (8") and equipped with outside rising stems, screws and yokes and complete with handwheels.

(a) The handwheels shall be a minimum 450 mm (18") in diameter.

E9.4 Flanges shall conform in dimension and drilling to ANSI/ASME B16.1, Class 125 with holes straddling centreline.

E9.5 Direction of opening shall be counter clockwise and shall be clearly stamped or indicated with raised letters and arrow.

E9.6 Manufacturer's nameplate shall be attached to the valve body with stainless steel fasteners.

E9.7 Gate valves shall be as manufactured by Clow Canada, Crane, Mueller Canada or approved equal.

E9.8 Knife gate valves are not acceptable.

E9.9 Submit shop drawings of gate valves in accordance with E4 of this specification.

E10. CHECK VALVES

E10.1 The valves shall be designed, manufactured, tested and certified to American Water Works Association Standard ANSI/AWWA C508.

E10.2 The valves shall have flanges with drilling to ANSI B16.1, Class 125 with holes straddling centreline.

E10.3 The valve body shall be full flow equal to nominal pipe diameter at all points through the valve. A threaded port with pipe plug shall be provided on the bottom of the valve to allow for field installation of a backflow actuator or oil cushion device without the need for special tools or removing the valve from the line.

E10.4 The top access port shall be full size, allowing removal of the disc without removing the valve from the line. The access cover shall be domed in shape to provide flushing action over the disc for operating in lines containing high solids content. A threaded port with pipe plug shall be provided in the access cover to allow for field installation of a mechanical disc position indicator.

E10.5 The disc shall be of one-piece construction, precision molded with an integral O-ring type sealing surface and reinforced with alloy steel.

E10.6 The valve body and cover shall be constructed of ASTM A536 Grade 65-45-12 ductile iron.

E10.7 The disc shall be precision molded Buna-N (NBR), ASTM D2000-BG. Optional disc material includes Viton, EPDM, Hypalon.

E10.8 The exterior and interior of the valve shall be coated with an NSF/ANSI 61 approved fusion bonded epoxy coating.

E10.9 All valves shall be hydrostatically tested and seat tested to demonstrate zero leakage. The manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.

E11. STATION GATE VALVE

E11.1 Cast iron body with flanged ends; bronze trimmed cast iron wedge; bronze stem, double O-ring stem seals and fifty (50) millimetre square operating nut.

E11.2 The gate valve shall be 20" diameter and equipped with a non- rising stem and shall be complete with manual pedestal operator.

- E11.3 The gate valve will be installed in the comminutor chamber with a floor to ceiling height of 2.13 metres (7 feet).
- E11.4 The gate valve stem will pass through an intermediate floor above with a thickness of 203 mm (8"). The pedestal mounted operator will be installed on this elevation.
- E11.5 The pedestal mounted gate valve operators shall meet the following criteria:
 - (a) Body shall be ductile iron or steel with epoxy coating.
 - (b) Gate valve operator shall have an indicator gauge with a travelling pointer to show if valve is open, closed or a position in between.
 - (c) Bushings to be bronze and all bolting hardware to be Type 304 stainless steel.
 - (d) Supplier to be responsible for confirming all field measurements prior to manufacture to ensure proper function and fit for the pedestal mounted operators.
- E11.6 Flanges shall conform in dimension and drilling to ANSI/ASME B16.1, Class 125 with holes straddling centreline.
- E11.7 Direction of opening shall be counter clockwise and shall be clearly stamped or indicated with raised letters and arrow.
- E11.8 Manufacturer's nameplate shall be attached to the valve body with stainless steel fasteners.
- E11.9 Gate valves shall be as manufactured by Clow Canada, Crane, Mueller Canada or approved equal.
- E11.10 Knife gate valves are not acceptable.
- E11.11 Submit shop drawings of gate valves in accordance with E4 of this specification.

E12. APPROXIMATE DIMENSIONS

E12.1

DETAIL	DIMENSIONS (FEET/INCHES)
Pump Room – Floor to Ceiling	10' – 4 ½"
Pump Room – Floor to Centreline Of Pump Intake	1' – 3"
Pump Room – Floor to Centreline Of Pump Discharge	2' – 10 ¼"
Floor Thickness Between Pump And Motor Rooms	8"
Motor Room – Floor to Centreline of Forcemain	5' – 9 ½"

E13. TRAINING

- E13.1 The Supplier shall include costs for providing training to City staff by a factory-trained representative on the operation and maintenance of the Goods.
- E13.2 Training for the pumping equipment shall be conducted on Site, in conjunction with commissioning. The Supplier shall provide a qualified instructor as well as the necessary course materials.
- E13.3 Training shall be provided in one (1) session for operation and maintenance staff, and one (1) session for Electrical and Instrumentation staff.
- E13.4 Training shall be completed in conjunction with commissioning of the Goods. The Contract shall not be considered complete until the training has been provided.

PART F - SECURITY CLEARANCE

F1. SECURITY CLEARANCE

- F1.1 Each individual proposed to perform the following portions of the Work:
- (a) any Work on private property;
 - (b) any Work within City facilities other than:
 - (i) an underground structure such as a manhole;
 - (ii) in areas and at times normally open to the public;
 - (c) communicating with residents and homeowners in person or by telephone;
- F1.1.1 Each Individual shall be required to obtain a Criminal Record Search Certificate from the police service having jurisdiction at his/her place of residence. Or
- (a) BackCheck, forms to be completed can be found on the website at: <http://www.backcheck.net/> ; or
 - (b) Commissionaires (Manitoba Division), forms to be completed can be found on the website at: <http://www.commissionaires.mb.ca/> .
- F1.1.2 The original Criminal Record Search Certificate (Form P-253) will be provided by the Winnipeg Police Service to the individual applicant. The original has a validation sticker from the Winnipeg Police Service in the top right hand corner. The applicant shall:
- (a) Provide the original Criminal Record Search Certificate (Form P-253) to the Contract Administrator.
- F1.2 Prior to the commencement of any Work specified in F1.1, and during the term of the Contract if additional or replacement individuals are proposed to perform Work, the Contractor shall supply the Contract Administrator with a Criminal Record Search Certificate obtained not earlier than one (1) year prior to the Submission Deadline, or a certified true copy thereof, for each individual proposed to perform such Work.
- F1.3 Any individual for whom a Criminal Record Search Certificate is not provided, or for whom a Criminal Record Search Certificate indicates any convictions or pending charges related to property offences or crimes against another person will not be permitted to perform any Work specified in F1.1.
- F1.4 Any Criminal Record Search Certificate obtained thereby will be deemed valid for the duration of the Contract subject to a repeated records search as hereinafter specified.
- F1.5 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated criminal records search. Any individual who fails to provide a satisfactory Criminal Record Search Certificate as a result of a repeated criminal records search will not be permitted to continue to perform any Work specified in F1.1.

