



THE CITY OF WINNIPEG

TENDER

TENDER NO. 387-2025

SEWPCC & WEWPCC SLUDGE HOLDING TANKS REFURBISHMENT

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SEWPCC & WEWPCC SLUDGE HOLDING TANKS REFURBISHMENT

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 4th, 2025.

B2.2 The Contract Administrator or the Manager of Purchasing 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 Sites at the following dates to provide Bidders access to the Site:

(a) June 12th, 2025

- (i) West End Sewage Treatment Plant (WEWPCC) – 7740 Wilkes Avenue, Headingley (meet in the parking lot) at 9:00 AM
- (ii) South End Sewage Treatment Plant (SEWPCC) – 100 Ed Spencer Drive, Winnipeg (meet in the parking lot) at 10:30 AM

(b) June 17th, 2025

- (i) West End Sewage Treatment Plant (WEWPCC) – 7740 Wilkes Avenue, Headingley (meet in the parking lot) at 9:00 AM
- (ii) South End Sewage Treatment Plant (SEWPCC) – 100 Ed Spencer Drive, Winnipeg (meet in the parking lot) at 10:30 AM

B3.2 The Bidder is advised that there is **significant advantage to attending the site visits:**

- (a) At WEWPCC, for the purposes of understanding plant operations necessary for temporary sludge management such as sludge truck loading paths and implications it will have on rehabilitation work. Slab/tank wall penetrations, access to the tanks, and temporary sludge management will be discussed.
- (b) At SEWPCC, for the purposes of understanding spatial and operational requirements involved in temporary sludge management. This rehabilitation involves complete demolition and replacement of the tanks top slab however this must be completed in a sequenced approach to avoid jeopardize building integrity, and to maintain an adequate volume of sludge storage during construction. The site visit will allow the Bidder to review required sequencing plan in conjunction with the spatial and operational constraints of the facility. Bidder will be able to review equipment in the masonry room above sludge tanks that will need to be temporarily relocated and reinstalled as part of this project. Slab/tank wall penetrations, access to the tanks, and temporary sludge management will be discussed.

B3.3 The Bidder is advised that personal protective equipment (CSA approved footwear, Hard Hat, Safety Glasses, High Visibility Vest) is required to access the site.

B3.4 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.

B3.5 The Bidder is responsible for inspecting the Site, the nature of the Work to be done and all conditions that might affect their Bid or their performance of the Work, and shall assume all risk for conditions existing or arising in the course of the Work which have been or could have been determined through such inspection.

B4. ENQUIRIES

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D6.1.
- B4.2 If the Bidder finds errors, discrepancies or omissions in the Tender, 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 Tender 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 Tender 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.
- B4.6 Any enquiries concerning submitting through MERX should be addressed to:
MERX Customer Support
Phone: 1-800-964-6379
Email: merx@merx.com

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 Tender 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 Tender, 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.
- B6.3 Addenda will be available on the MERX website at www.merx.com.
- B6.4 The Bidder is responsible for ensuring that they have received all addenda and is advised to check the MERX website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.5 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid/Proposal. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

B6.6 Notwithstanding B4, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D6.1.

B7. SUBSTITUTES

B7.1 The Work is based on the Plant, Materials and methods specified in the Tender.

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 their 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 they wish 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 their 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 B18.

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.

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid/Proposal;
 - (b) Form B: Prices;
 - (c) Form G1: Bid Bond and Agreement to Bond.
- B8.2 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.
- B8.3 The Bid shall be submitted electronically through MERX at www.merx.com.
- B8.3.1 Bids will **only** be accepted electronically through MERX.
- B8.4 Bidders are advised that inclusion of terms and conditions inconsistent with the Tender document, including the General Conditions, will be evaluated in accordance with B18.1(a).

B9. BID

- B9.1 The Bidder shall complete Form A: Bid/Proposal, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid/Proposal shall be completed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in their own name, their 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 their 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/Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.
- B9.4 Paragraph 13 of Form A: Bid/Proposal shall be signed in accordance with the following requirements:
- (a) if the Bidder is a sole proprietor carrying on business in their 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 their duly authorized officer or officers;
 - (d) if the Bidder is carrying on business under a name other than their 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/Proposal should be entered below such signatures.
- 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 Prices stated on Form B: Prices shall not include any costs which may be incurred by the Contractor with respect to any applicable funding agreement obligations as outlined in D35. Any such costs shall be determined in accordance with D35.
- 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).
- B10.5 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.
- B10.5.1 Bidders are advised that the calculation indicated in B10.1 will prevail over the Total Bid Price entered in MERX.

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) Corrosion Probe Inc. (CPI).
 - (i) Provided consulting services retained by MPE. CPI provided on site assessment, testing, and contract specifications. CPI will continue to be involved as a subconsultant throughout construction.
 - (b) Badger Inc.
 - (i) Provided hydrovac services during condition assessment phase of project.
 - (c) AlumaSAFWAY Inc.
 - (i) Provided scaffolding services during condition assessment phase of project.
 - (d) Elite Safety Services Inc.
 - (i) Provided safety services during condition assessment phase of project.
 - (e) ClimaSeal Inc.
 - (i) Provided product information for floor lining materials.

B12. CONFLICT OF INTEREST AND GOOD FAITH

- B12.1 Further to C3.2, Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.
- B12.2 Conflict of Interest means any situation or circumstance where a Bidder or employee of the Bidder proposed for the Work has:
- (a) other commitments;
 - (b) relationships;
 - (c) financial interests; or

- (d) involvement in ongoing litigation;
that could or would be seen to:
 - (i) exercise an improper influence over the objective, unbiased and impartial exercise of the independent judgment of the City with respect to the evaluation of Bids or award of the Contract; or
 - (ii) compromise, impair or be incompatible with the effective performance of a Bidder's obligations under the Contract;
- (e) has contractual or other obligations to the City that could or would be seen to have been compromised or impaired as a result of their participation in the Tender process or the Work; or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B12.3 In connection with their Bid, each entity identified in B12.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Work;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the Tender process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Contract Administrator; and
- (c) provide the City with the proposed means to avoid or mitigate, to the greatest extent practicable, any perceived, potential or actual Conflict of Interest and shall submit any additional information to the City that the City considers necessary to properly assess the perceived, potential or actual Conflict of Interest.

B12.4 Without limiting B12.3, the City may, in their sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in their sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Bidder to put into place such policies, procedures, measures and other safeguards as may be required by and be acceptable to the City, in their sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

B12.5 Without limiting B12.3, and in addition to all contractual or other rights or rights at law or in equity or legislation that may be available to the City, the City may, in their sole discretion:

- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of their employees proposed for the Work;
- (b) require the removal or replacement of any employees proposed for the Work that has a perceived, actual or potential Conflict of Interest that the City, in their sole discretion, determines cannot be avoided or mitigated;
- (c) disqualify a Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B12.4 to avoid or mitigate a Conflict of Interest; and
- (d) disqualify a Bidder if the Bidder, or one of their employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

B12.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in their sole discretion.

B13. QUALIFICATION

B13.1 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.

B13.2 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, Purchasing Division website <https://www.winnipeg.ca/matmgt/Templates/files/debar.pdf>

B13.3 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); and
- (d) have completed the Accessible Customer Service online training required by the Accessibility for Manitobans Act (AMA) (see B13.6 and D8); and
- (e) provide AMPP QP 8 Certification for the concrete sludge tank interior liner and floor coating applicator and surface preparer. AMPP QP-1 certification will be acceptable providing the QP-1 contractor can show verifiable proof of performing work successfully on five (5) verifiable concrete projects similar in size and scope as this project. For floor coating applications, if the QP-1 Contractor is not certified applicator for Polyurethane Cement Coating with significant application experience, they shall retain the services of a flooring applicator subcontractor certified by the floor coating manufacturer. The manufacturer-certified floor coating applicator is exempt from QP-1 qualifications.

B13.4 The Bidder shall provide, in their Bid:

- (a) In addition to the standard requirements of B8, the AMPP Certification of the sludge tank liner and floor coating applicator and surface preparation contractor or subcontractor in accordance with B8.1 and B13.3. If AMPP QP-1 certification is provided, it must be provided with verifiable proof of performing work successfully on five (5) verifiable concrete projects similar in size and scope as this project and include reference contact information. The Contract Administrator reserves the right to disqualify a bid should the five (5) verifiably concrete projects fail to be similar in size and scope as this project or the provided references are not satisfactory as determined by the sole discretion of the Contract Administrator.

B13.5 Further to B13.3(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/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) in the form of:
 - (i) 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
- (ii) 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
 - (b) 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, Purchasing Division website at <http://www.winnipeg.ca/matmgt/>).
- B13.6 Further to B13.3(d), the Bidder acknowledges they and all Subcontractors have obtained training required by the Accessibility for Manitobans Act (AMA) available at [Accessibility Training](#) for anyone that may have any interaction with the public on behalf of the City of Winnipeg.
- B13.7 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.
- B13.8 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.
- B14. BID SECURITY**
- B14.1 The Bidder shall include in their Bid Submission bid security in the form of a digital bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in Form G1: Bid Bond and Agreement to Bond, available at: <https://www.winnipeg.ca/media/4929/>
- B14.2 Bid security shall be submitted in a digital format meeting the following criteria:
- (a) The version submitted by the Bidder must have valid digital signatures and seals;
 - (b) The version submitted by the Bidder must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
 - (c) The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
 - (d) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
 - (e) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding B14.2(b).
- B14.3 Bonds failing the verification process will not be considered to be valid and the bid shall be determined to be non-responsive in accordance with B18.1(a).
- B14.4 Bonds passing the verification process will be treated as original and authentic.
- B14.4.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.
- B14.5 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly formed with the successful Bidder and the contract securities are furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

- B14.6 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Tender.

B15. OPENING OF BIDS AND RELEASE OF INFORMATION

- B15.1 Bids will not be opened publicly.
- B15.2 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 MERX website at www.merx.com.
- B15.3 After award of Contract, the name(s) of the successful Bidder(s) and their Contract amount(s) will be available on the MERX website at www.merx.com.
- B15.4 The Bidder is advised that any information contained in any Bid may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).
- B15.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

B16. IRREVOCABLE BID

- B16.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid/Proposal.
- B16.2 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 until a Contract for the Work has been duly formed and the contract securities have been furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid/Proposal.

B17. WITHDRAWAL OF BIDS

- B17.1 A Bidder may withdraw their Bid without penalty at any time prior to the Submission Deadline.

B18. EVALUATION OF BIDS

- B18.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Tender, or acceptable deviation there from (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12.1 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B6.1.
- B18.2 Further to B18.1(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.
- B18.3 Further to B18.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in their Bid or in other information required to be submitted, that they are qualified.

B18.4 Further to B18.1(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.

B18.4.1 Further to B18.1(a), in the event that a unit price is not provided on Form B: Prices, the City may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B18.4.2 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.

B19. AWARD OF CONTRACT

B19.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B19.2 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 qualified, and the Bids are determined to be responsive.

B19.2.1 Without limiting the generality of B19.2, 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 their 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.

B19.3 If funding for the Work is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, Bidders are advised that the terms of D35 shall immediately take effect upon confirmation of such funding, regardless of when funding is confirmed.

B19.4 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B18.

B19.4.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of their Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2020 01 31) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Purchasing Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Tender 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. FORM OF CONTRACT DOCUMENTS

- D2.1 Notwithstanding C4.1(c) and C4.4, the Contract Documents will be provided to the Contractor electronically and there will be no requirement for execution and return to the City by the Contractor. Accordingly, the provisions under C4.4(a) and C4.4(b) are no longer applicable.

D3. SCOPE OF WORK

- D3.1 At WEWPCC, the Work to be done under the Contract shall consist of isolating one (1) of the three (3) sludge holding tanks at a time in coordination with plant staff such that the other two (2) tanks may be used as normal, and then for each tank, one at a time, the work includes:
- (a) Scaffolding and formwork as required to perform the work below.
 - (b) Selective demolition of surface concrete within the tank.
 - (c) Cleaning the tank.
 - (d) Replacing the process pipe penetrations of the tank and adding new 200mm penetrations to be used for temporary tank ventilation requirements during construction.
 - (e) Structural upgrades and concrete and rebar installation and replacement.
 - (f) Instrumentation replacement.
 - (g) Surface preparation of the tank interior and pipe penetrations, and application of a protective liner by a certified applicator.
 - (h) Curing controls for concrete repairs and liner according to manufacturer's requirements.
 - (i) For the middle tank, replacement of steel mud baskets in the truck bay floor drain and installation of a new stainless steel pipe (complete with hangers) connection through the wall of the tank to a rainwater leader drain pipe leading to a sump pit below.
 - (j) Surface preparation and application of a fast-curing polyurethane cement floor coat on the top face (truck driving surface) of the top slab of the tanks such that the delay in truck loading does not cause tanks to over-fill. This must be coordinated with plant staff. This shall be done all at once rather than on a per-tank basis.
 - (k) Coordination with the Contract Administrator, Plant Staff, and Wintec (sludge trucking contractor) as required.
 - (l) Implementation of confined space safety controls and protocols for working within the sludge tanks.
 - (m) Being responsible for the site safety program and accommodating inspections by the Contract Administrator.
 - (n) Redline as-built markups.
- D3.2 At SEWPCC, the Work to be done under the Contract shall consist of isolating two (2) of the three (3) sludge holding tanks at a time in coordination with plant staff and the below sequencing plan. For each tank, the work includes:
- (a) The tank top slab has been delineated into three rehabilitation sections as shown on the drawings. Strategic rehabilitation sequencing of tanks must be followed. **The tank top slab is structurally compromised, and access is currently restricted. Therefore, no equipment will be permitted on the existing slab throughout construction.**

- (b) Scaffolding, shoring, and formwork as required to perform the work below.
- (c) Selective demolition of concrete tanks according to the contract drawings.
- (d) Demolition of the masonry block room above the tanks on the north east corner of the main floor (only south and west walls need to be demolished as long as roof is adequately supported) and salvaging the equipment within for continued use, coordinating new location of equipment with Contract Administrator and plant staff.
- (e) Salvaging other equipment and instrumentation on and in the tank top slab for re-installation including the level sensing instrumentation and transmitters, the Magikist Hot Water Pressure Washer with all ancillary equipment, and the exhaust fan and ducts at the north west corner on the main floor.
- (f) Cleaning the concrete sludge holding tanks.
- (g) Replacing the process pipe penetrations and ventilation duct penetrations of the tanks.
- (h) Replacement hatches and removal of ladders.
- (i) Structural upgrades and concrete and rebar installation and replacement according to contract drawings.
- (j) Surface preparation of the tank interior and pipe penetrations, and application of a protective liner by a certified applicator.
- (k) Curing controls for concrete and liner according to manufacturer's requirements,
- (l) Coordination with the Contract Administrator, Plant Staff, and Wintec (sludge trucking contractor) as required.
- (m) Implementation of confined space controls and protocols for working within the sludge tanks.
- (n) Re-construction and installation of masonry room above the sludge holding tanks and re-installation of all equipment within it.
- (o) Re-installation of salvaged equipment above the tanks and instrumentation within the tanks, including level sensing instrumentation and transmitters, the Magikist Hot Water Pressure Washer with all ancillary equipment, and the exhaust fan and ducts at the north west corner on the main floor.
- (p) Being responsible for the site safety program and accommodating inspections by the Contract Administrator.
- (q) Mechanical HVAC upgrades according to contract drawings. These upgrades may be completed separately from sludge holding tank rehabilitation work.
- (r) Surface preparation and application of a polyurethane cement floor coat on the top face of the top slab of the tanks. This shall be done all at once rather than on a per-tank basis,
- (s) Special Conditions:
 - (i) Contractor must take precautions to control debris and demolish tanks top slab in such a way as to mitigate risks to the tanks, pipework, or transfer pumps connected to the base of the tanks.
 - (ii) Construction sequence on drawing 1-0102-SGAD-DD53 must be followed to avoid compromising structural integrity of the tanks and surround building structural systems.
 - (iii) Interior tank walls are compromised. Contractor must install a protective barrier on Tank 2 north wall during Tank 2 and Tank 3 rehabilitation to prevent water jetting or other rehabilitation work until after Tank 1 is taken out of service.
- (t) Redline as-built markups.

D3.3 The following shall apply to the Services:

- (a) Universal Design Policy

<http://clkapps.winnipeg.ca/DMIS/DocExt/ViewDoc.asp?DocumentTypeId=2&DocId=3604>

D4. SITE INVESTIGATION DUE DILIGENCE AND RISK

D4.1 Notwithstanding C3.1, the Contractor acknowledges that the site investigation reports and other site information included in this Tender have been provided to it and may be relied upon by the Contractor to the extent that the Contractor uses Good Industry Practice in interpreting such report(s) and site information and carries out the Work in accordance with Good Industry Practice based upon such report(s) and the information contained in them and such other site information. In the event that a site condition related to:

- (a) the location of any utility which can be determined from the records or other information available at the offices of any public authority or person, including a municipal corporation and any board or commission thereof, having jurisdiction or control over the utility;
- (b) the Site conditions, including but not limited to subsurface hazardous materials or other concealed physical conditions;
- (c) the location, nature, quality or quantity of the materials to be removed or to be employed in the performance of the Work;
- (d) the nature, quality or quantity of the Plant needed to perform the Work;
- (e) all matters concerning access to the Site, power supplies, location of existing services, utilities or materials necessary for the completion of the Work; and
- (f) all other matters which could in any way affect the performance of the Work;

that could not have been “properly inferable”, “readily apparent” and readily discoverable” using Good Industry Practice by the Contractor, results in additional Work which is a direct result of this newly discovered site condition, such additional Work will be considered by the City under Changes in Work.

D5. DEFINITIONS

D5.1 When used in this Tender:

- (a) **“AMPP”** means Association for Materials Protection and Performance;
- (b) **“As-Built”** means an accurate and complete record of the construction Work undertaken by the Contractor, resulting in adjustments and markups made to the construction set of documents;
- (c) **“C.P.M.”** means critical path method;
- (d) **“CSA”** means Coating System Applicator. A generic reference to the specialty subcontractor or subcontractors retained by the Contractor to install the coating systems. If no specialty subcontractor is retained, the CSA may be the same entity as the Contractor.
- (e) **“H₂S”** means Hydrogen Sulfide;
- (f) **“HMI”** means Human Machine Interface;
- (g) **“HVAC”** means Heating, Ventilation and Air Conditioning;
- (h) **“IO”** means Input / Output;
- (i) **“MCC”** means Motor Control Centre;
- (j) **“O&M”** means Operations & Maintenance;
- (k) **“OSS”** means Operational Shutdown Summary;
- (l) **“P&ID”** means Piping and Instrumentation Diagram;
- (m) **“Payment Certification”** means the Contract Administrator’s statement of the sums certified to be paid by the City to the Contractor with reference to its interim and final progress estimates and/or the Contractor’s Proper Invoice;
- (n) **“PLC”** means Programmable Logic Controller;

- (o) **“Proper Invoice”** means the definition within *The Builders’ Liens Act*, R.S.M. 1987, c. B91 and any subsequent amendments thereto, and also includes the criteria to be included in an invoice, as set out in the Measurement and Payment provisions of the Contract;
- (p) **“Provide”**, when used with reference to Goods or Plant to be supplied by the Contractor, means, without limiting the Contractor’s obligations generally under any other provision of this Contract, to supply, install, and leave in working order all materials and necessary equipment, wiring, supports, access panels, etc., as necessary for the item or system indicated to be supplied by the Contractor under this Contract;
- (q) **“QP-1”** means ‘Quality Procedures’ Program 1 for Field Coating Application;
- (r) **“QP-8”** means ‘Quality Procedures’ Program 8 for Polymer Coatings on Concrete;
- (s) **“Record Drawing”** means an accurate and complete record of the construction Work undertaken by the Contractor, and prepared by the reviewing professional after verifying in detail the actual conditions of the completed project as a result of adjustments and markups made to the construction set of documents. The drawings shall bear the seal of the responsible professional;
- (t) **“SCADA”** means Supervisory Control and Data Acquisition;
- (u) **“SEWPCC”** means the Winnipeg ‘South End Sewage Treatment Plant’;
- (v) **“Supply Chain Disruption”** means an inability by the Contractor to obtain goods or services from third parties necessary to perform the Work of the Contract within the schedule specified therein, despite the Contractor making all reasonable commercial efforts to procure same. Contractors are advised that increased costs do not, in and of themselves, amount to a Supply Chain Disruption;
- (w) **“The Builders’ Liens Act”** or **“the BLA”** means *The Builders’ Liens Act*, R.S.M. 1987, c. B91 and any subsequent amendments thereto.
- (x) **“VFD”** means Variable Frequency Drive;
- (y) **“WEWPCC”** means the Winnipeg ‘West End Sewage Treatment Plant’.

D6. CONTRACT ADMINISTRATOR

D6.1 The Contract Administrator is MPE, a Division of Englobe, represented by:

Curtis Rawsthorne, E.I.T.
Project Engineer

Telephone No. 431-554-2606

Email Address crawsthorne@mpe.ca

D6.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D7. CONTRACTOR'S SUPERVISOR

D7.1 At the pre-construction meeting, the Contractor shall identify their designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

D8. ACCESSIBLE CUSTOMER SERVICE REQUIREMENTS

D8.1 The Accessibility for Manitobans Act (AMA) imposes obligations on The City of Winnipeg to provide accessible customer service to all persons in accordance with the Customer Service Standard Regulation (“CSSR”) to ensure inclusive access and participation for all people who live, work or visit Winnipeg regardless of their abilities.

D8.1.1 The Contractor agrees to comply with the accessible customer service obligations under the CSSR and further agrees that when providing the Goods or Services or otherwise

acting on the City of Winnipeg's behalf, shall comply with all obligations under the AMA applicable to public sector bodies.

D8.1.2 The accessible customer service obligations include, but are not limited to:

- (a) providing barrier-free access to goods and services;
- (b) providing reasonable accommodations;
- (c) reasonably accommodating assistive devices, support persons, and support animals;
- (d) providing accessibility features e.g. ramps, wide aisles, accessible washrooms, power doors and elevators;
- (e) inform the public when accessibility features are not available;
- (f) providing a mechanism or process for receiving and responding to public feedback on the accessibility of all goods and services; and
- (g) providing adequate training of staff and documentation of same.

D9. SUPPLIER CODE OF CONDUCT

D9.1 The Contractor has reviewed and understands the City's Supplier Code of Conduct. This document is located at: <https://www.winnipeg.ca/media/4891>

D9.2 The Contractor agrees to comply with the Supplier Code of Conduct as it may be amended or replaced from time to time. The Contractor is responsible for periodically checking the above link for updates to the Supplier Code of Conduct. Contract signature on Form A: Bid/Proposal from the Contractor signifies agreement to the Supplier Code of Conduct which comes into effect once the Contract starts.

D9.3 If there is a conflict between the Contract and the Supplier Code of Conduct – the Contract will prevail.

D10. UNFAIR LABOUR PRACTICES

D10.1 Further to C3.2, the Contractor declares that in bidding for the Work and in entering into this Contract, the Contractor and any proposed Subcontractor(s) conduct their respective business in accordance with established international codes embodied in United Nations Universal Declaration of Human Rights (UDHR) <https://www.un.org/en/about-us/universal-declaration-of-human-rights> International Labour Organization (ILO) [https://www.ilo.org/global/lang--en/index.htm](https://www.ilo.org/global/lang-en/index.htm) conventions as ratified by Canada.

D10.2 The City of Winnipeg is committed and requires its Contractors and their Subcontractors, to be committed to upholding and promoting international human and labour rights, including fundamental principles and rights at work covered by ILO eight (8) fundamental conventions and the United Nations Universal Declaration of Human Rights which includes child and forced labour.

D10.3 Upon request from the Contract Administrator, the Contractor shall provide disclosure of the sources (by company and country) of the raw materials used in the Work and a description of the manufacturing environment or processes (labour unions, minimum wages, safety, etc.).

D10.4 Failure to provide the evidence required under D10.3, may be determined to be an event of default in accordance with C18.

D10.5 In the event that the City, in its sole discretion, determines the Contractor to have violated the requirements of this section, it will be considered a fundamental breach of the Contract and the Contractor shall pay to the City a sum specified by the Contract Administrator in writing ("Unfair Labour Practice Penalty"). Such a violation shall also be considered an Event of Default, and shall entitle the City to pursue all other remedies it is entitled to in connection with same pursuant to the Contract.

- D10.5.1 The Unfair Labour Practice Penalty shall be such a sum as determined appropriate by the City, having due regard to the gravity of the Contractor's violation of the above requirements, any cost of obtaining replacement goods/ services or rectification of the breach, and the impact upon the City's reputation in the eyes of the public as a result of same.
- D10.5.2 The Contractor shall pay the Unfair Labour Practice Penalty to the City within thirty (30) Calendar Days of receiving a demand for same in accordance with D10.5. The City may also hold back the amount of the Unfair Labour Practice Penalty from payment for any amount it owes the Contractor.
- D10.5.3 The obligations and rights conveyed by this clause survive the expiry or termination of this Contract, and may be exercised by the City following the performance of the Work, should the City determine, that a violation by the Contractor of the above clauses has occurred following same. In no instance shall the Unfair Labour Practice Penalty exceed the total of twice the Contract value.

D11. FURNISHING OF DOCUMENTS

- D11.1 Upon award of the Contract, the Contractor will be provided with 'issued for construction' Contract Documents electronically, including Drawings in PDF format only.

SUBMISSIONS

D12. AUTHORITY TO CARRY ON BUSINESS

- D12.1 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.

D13. SAFE WORK PLAN

- D13.1 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 Documents, if applicable.
- D13.2 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, Purchasing Division website at <http://www.winnipeg.ca/matmgt/Safety/default.stm>
- D13.3 Notwithstanding B13.5 at any time during the term of the Contract, the City may, at their sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

D14. INSURANCE

- D14.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least five million dollars (\$5,000,000.00) 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, sudden and accidental pollution 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) if applicable, 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) all risks course of construction insurance in the amount of one hundred percent (100%) of the total Contract Price, written in the name of the Contractor and The City of Winnipeg, at all times during the performance of the Work and until the date of Total Performance.
- (d) all risks property insurance for equipment, tools, and field office used by the Contractor directly or indirectly in the performance of the Work on the project that may be owned, rented, leased or borrowed

D14.2 Deductibles shall be borne by the Contractor.

D14.3 All policies shall be taken out with insurers licensed to carry on business in the province of Manitoba.

D14.4 The Contractor shall provide the City Solicitor 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 the date specified in C4.1 for the return of the executed Contract Documents, as applicable.

D14.5 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.

D15. CONTRACT SECURITY

D15.1 The Contractor shall provide and maintain the performance bond and the labour and material payment bond 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 amount of fifty percent (50%) of the Contract Price; and
- (b) labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in an amount equal to fifty percent (50%) of the Contract Price.

D15.1.1 Bonds are available at:

- (a) Performance Bond <https://www.winnipeg.ca/media/4928/>
 - (i) Performance Bond – Schedule A - Form of Notice
<https://www.winnipeg.ca/media/4831/>
 - (ii) Performance Bond – Schedule B – Surety's Acknowledgement
<https://www.winnipeg.ca/media/4832/>
 - (iii) Performance Bond – Schedule C – Surety's Position
<https://www.winnipeg.ca/media/4833/>
- (b) Labour & Material Payment Bond <https://www.winnipeg.ca/media/4930/>
 - (i) L&M Bond – Schedule A – Notice of Claim
<https://www.winnipeg.ca/media/4834/>
 - (ii) L&M Bond – Schedule B – Acknowledgement of a Notice
<https://www.winnipeg.ca/media/4835/>
 - (iii) L&M Bond – Schedule C – Surety's Position
<https://www.winnipeg.ca/media/4836/>

D15.1.2 Where the contract security is a performance bond, it may be submitted in hard copy or digital format. If submitted in digital format the contract security must meet the following criteria:

- (a) the version submitted by the Contractor must have valid digital signatures and seals;

- (b) the version submitted by the Contractor must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
- (c) the version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) the verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) the results of the verification must provide a clear, immediate and printable indication of pass or fail regarding D15.1(b).

D15.1.3 Digital bonds failing the verification process will not be considered to be valid and may be determined to be an event of default in accordance with C18.1. If a digital bond fails the verification process, the Contractor may provide a replacement bond (in hard copy or digital format) within seven (7) Calendar Days of the City's request or within such greater period of time as the City in their discretion, exercised reasonably, allows.

D15.1.4 Digital bonds passing the verification process will be treated as original and authentic.

D15.2 The Contractor shall provide the Contract Administrator identified in D5.1 with the required performance and labour and material payment bonds within seven (7) Calendar Days of notification of the award of the Contract by way of an award letter and 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 Documents, if applicable.

D15.3 The Contractor shall, as soon as practicable after entering into a contract with a Subcontractor:

- (a) give the Subcontractor written notice of the existence of the labour and material payment bond in D15.1(b); and
- (b) post a notice of the bond and/or a copy of that bond in a conspicuous location at the Site of the Work.

D16. SUBCONTRACTOR LIST

D16.1 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 the date specified in C4.1 for the return of the executed Contract Documents, if applicable. The list shall also include:

- (a) Major equipment suppliers,
- (b) Protective liner and epoxy coating system providers,
- (c) Certified liner applicators if this work is to be completed by a subcontractor.

D17. EQUIPMENT LIST

D17.1 The Contractor shall provide the Contract Administrator with a complete list of the equipment which the Contractor proposes to utilize (Form K: Equipment List) at least two (2) 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 Documents, if applicable.

D18. DETAILED WORK SCHEDULE

D18.1 The Contractor shall provide the Contract Administrator with a detailed work schedule (Form L: Detailed Work Schedule) at least two (2) 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 Documents if applicable.

- D18.2 The detailed work schedule shall consist of the following:
- (a) a critical path method (C.P.M.) schedule for the Work;
 - (b) a Gantt chart for the Work based on the C.P.M. schedule;
 - (c) a daily manpower schedule for the Work.
- all acceptable to the Contract Administrator.
- D18.3 Further to D18.2(a), the C.P.M. schedule shall clearly identify the start and completion dates of all of the following activities/tasks making up the Work as well as showing those activities/tasks on the critical path.
- (a) Construction commencement,
 - (b) Mobilizations and demobilizations,
 - (c) Civil site work,
 - (d) Demolition of individual elements,
 - (e) Structural work,
 - (f) Mechanical work,
 - (g) Instrumentation work,
 - (h) Sludge holding tank surface preparation and liner application and curing
 - (i) Floor coating preparation, application, and curing,
 - (j) Commissioning;
 - (k) Substantial Performance;
 - (l) Total Performance;
 - (m) Redline as-built markups.
- D18.4 Further to D18.2(b), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.
- D18.5 Further to D18.2(c), the daily manpower schedule shall list the daily number of individuals on the Site for each trade.

SCHEDULE OF WORK

D19. COMMENCEMENT

- D19.1 The Contractor shall not commence any Work until they are in receipt of an award letter from the Award Authority authorizing the commencement of the Work.
- D19.2 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 D12;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D13;
 - (iv) evidence of the insurance specified in D14;
 - (v) the contract security specified in D15;
 - (vi) the Subcontractor list specified in D16;
 - (vii) the equipment list specified in D16.1D17 ;

- (viii) the detailed work schedule specified in D18; and
 - (ix) the direct deposit application form specified in D31.
 - (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.
- D19.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the award letter.
- D19.4 The City intends to award this Contract by August 1st, 2025.
- D19.4.1 If the actual date of award is later than the intended date, the dates specified for Commencement, Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D20. WORK BY OTHERS

- D20.1 Further to C6.25, the Contractor's attention is directed to the fact that other Contractors, the personnel of Utilities and the staff of the City may be working within the project limit, approach roadway, adjacent roadways or right-of-way. The activities of these agencies may coincide with the Contractors execution of Work and it will be the Contractor's responsibility to cooperate to the fullest extent with other personnel working in the area, and such cooperation is an obligation of the Contractor under the terms of Contract.
- D20.2 Work by others on or near the Site will include but not necessarily be limited to:
- (a) At the SEWPCC facility North America Construction (NAC) is expected to be leaving the facility at approximately the same time the successful bidder will mobilize to the facility.
 - (b) Wintec is the contractor provide sludge trucking services for both plants.
 - (c) At both plants, plant staff must be able to freely operate the plant for the duration of the construction.
- D20.3 Further to D20.1 the Contractor shall cooperate and coordinate all activities with all parties performing required Work by Others identified in D20.1 and accommodate the necessary area on Site required for the Work by Others to complete the Work

D21. WORKING DAYS

- D21.1 Further to C1.1(tt), the Contract Administrator's determination of whether or not atmospheric and Site conditions are such that a Working Day is deemed to have elapsed may be based at one time on one type of work while at another time a Working Day may be based on another type of work. When more than one type of major work is involved, the quantity of equipment that must be able to work in order to meet the requirements of a Working Day may vary considerably from that specified in the General Conditions.
- D21.2 In the event that incidental work is behind schedule which, in the opinion of the Contract Administrator, should have been or could have been carried out by the Contractor in conjunction with or immediately following work of a major type, the City hereby reserves the right to charge Working Days on the incidental work until such time as it is up to schedule.
- D21.3 When the major type of work involves restoration of the site to the condition it was prior to rainfall, Working Days shall not be charged.
- D21.4 The Contract Administrator will furnish the Contractor with a daily record for each major type of work showing various information concerning the equipment, the time it worked, could have worked and Working Days charged. This report is to be signed each day by an authorized representative of the Contractor.

D22. CRITICAL STAGES

- D22.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) There are no Critical Stages for this project other than Substantial and Total Performance.

D23. SUBSTANTIAL PERFORMANCE

- D23.1 The Contractor shall achieve Substantial Performance by June 1st, 2026.
- D23.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D23.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.
- D23.4 The following items, at minimum, are required to qualify for Substantial Performance:
- (a) Successful sludge holding tank liner adhesion approved by the Contract Administrator.
 - (b) Top slab floor coating is installed and approved by the Contract Administrator.
 - (c) SEWPCC and WEWPCC sludge tanks and associated systems are returned to normal operation. All ventilation connections and process piping connections to be completed and operational.

D24. TOTAL PERFORMANCE

- D24.1 The Contractor shall achieve Total Performance by June 15th, 2026.
- D24.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D24.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

D25. LIQUIDATED DAMAGES

- D25.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:
- (a) Substantial Performance – Two Thousand dollars (\$2,000);
 - (b) Total Performance – One Thousand dollars (\$1,000).
- D25.2 The amounts specified for liquidated damages in D25.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.
- D25.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D26. SUPPLY CHAIN DISRUPTION SCHEDULE DELAYS

- D26.1 The City acknowledges that the schedule for this Contract may be impacted by Supply Chain Disruption. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the delivery requirements and schedule identified in the Contract, in close consultation with the Contract Administrator.
- D26.2 If the Contractor is delayed in the performance of the Work by reason of Supply Chain Disruption, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.
- D26.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether a Supply Chain Disruption will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to a Supply Chain Disruption, including but not limited to evidence related to availability ordering of Material or Goods, production and/or manufacturing schedules or availability of staff as appropriate.
- D26.4 For any delay related to supply chain disruption and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D26.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D26.5 The Work schedule, including the durations identified in D22 to D23.1 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator. No additional payment will be made for adjustment of schedules except where seasonal work, not previously identified in the Contract, is carried over to the following construction season.
- D26.6 Where Work not previously identified is being carried over solely as a result of delays related to Supply Chain Disruption, as confirmed by the Contract Administrator, the cost of temporary works to maintain the Work in a safe manner until Work recommences, will be considered by the Contract Administrator. Where the Work is carried over only partially due to Supply Chain Disruption, a partial consideration of the cost of temporary works will be considered by the Contract Administrator.
- D26.7 Any time or cost implications as a result of Supply Chain Disruption and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

CONTROL OF WORK

D27. JOB MEETINGS

- D27.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D27.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever they deem it necessary.

D28. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D28.1 Further to C6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D29. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

- D29.1 Further to B13.5, 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 their sole discretion and acting reasonably, require updated proof of compliance, as set out in B13.5.

INVOICES & MEASUREMENT AND PAYMENT

D30. MEASUREMENT AND PAYMENT

- D30.1 C12.2 is deleted and replaced with the following:

C12.2 The amounts to be paid by the City to the Contractor shall be as set out in the Payment Certification. In the event the Payment Certification does not align with the Contractor's Proper Invoice and payment by the City to the Contractor is not made, or not going to be made, for the invoiced amount within 28 Calendar Days of receipt of the Proper Invoice, the City will issue a notice of non-payment to the Contractor in accordance with the BLA.

C12.2.1 For unit price Contracts, such sums shall be determined by the Contract Administrator upon the basis of the unit prices for the various classes of the Work stated on Form B: Prices. The total amount to be paid to the Contractor for the Work will be the amount arrived at by measuring the amount of each class of the Work listed on Form B: Prices and performed in accordance with the Contract, and pricing the same, in accordance with the unit prices stated thereon.

C12.2.2 For lump sum Contracts, such sums shall be determined by the Contract Administrator upon the basis of the lump sum price stated on Form B: Prices, if applicable, but in any event the lump sum price broken down into the percentage completed for each portion of the Work, commonly referred to as detailed prices.

- D30.2 C12.7 to C12.15 are deleted and replaced with the following:

C12.7 By the seventh (7) Calendar Day after the end of each month, the Contract Administrator shall issue to the Contractor a progress estimate indicating its opinion of the quantity and value of Work performed during the previous month. The Contractor may use the progress estimate to form part of its Proper Invoice as support of the type and quantity of Work performed. In the event the Contractor chooses to produce its own documentation of the type and quantity of Work performed to form part of its Proper Invoice, the content shall be in accordance with C12.2 and the format of such documentation should follow that of a typical progress estimate, including all evidence and records of measurement that the Contract Administrator would require to certify payment. In either event the Contractor shall include such supporting documentation as part of its invoice.

C12.8 If the Contractor agrees with the progress estimate provided by the Contract Administrator it should indicate that on its Proper Invoice. If the Contractor does not agree with the progress estimate provided by the Contract Administrator it should attempt to reconcile the discrepancy, which could result in a revised progress estimate to be provided by the Contract Administrator or a revised invoice by the Contractor, so that the progress estimate and the Proper Invoice align. In the event that the discrepancy is not reconciled then the Contractor should detail the items within the progress estimate that it disagrees with in order that the value on the Proper Invoice aligns with and is supported by the progress estimate with noted discrepancies.

C12.9 Any payment made by the City to the Contractor on account of a Proper Invoice shall be less any holdback required to be made by The Builders' Liens Act, and such

holdbacks or other amounts which the City is entitled to withhold pursuant to the Contract.

- C12.10 If in the Contractor's opinion the Work performed during the previous month is minimal or does not warrant an invoice, the Contractor is permitted to not submit an invoice on the condition that the Contractor advises the Contractor Administrator in writing.
- C12.11 Unless agreed to by the Contract Administrator, in writing, on an exception basis, the Contractor shall not submit invoices more frequently than monthly.
- C12.12 Any reference to payment submittals or payment processes in the NMS Sections of the Contract are deleted and replaced with the payment submittals and payment processes within Section C12 of the General Conditions, as amended by the Supplemental Conditions.

FINAL PAYMENT

- C12.13 The Contractor shall indicate on its invoice if it is the final invoice for Work performed under the Contract. Payment Certification, in response to receipt of the final Proper Invoice by the Contractor, shall be subject to the following conditions:
- (a) issuance by the Contract Administrator of a certificate of Total Performance;
 - (b) receipt by the City of a certificate from the Workers Compensation Board stating that full payment has been made to the Board with respect to all assessments owing.
- C12.14 Payment on account of the holdback made by the City pursuant to The Builders' Liens Act, shall be paid to the Contractor when the time for filing liens or trust claims has elapsed, unless the City is in receipt of a lien or trust claim.
- C12.15 Neither the issuance of a certificate of Total Performance nor the payment of the final Proper Invoice shall relieve the Contractor from their responsibilities either under C13 or as a result of any breach of the Contract by the Contractor including, but not limited to, defective or deficient Work appearing after Total Performance, nor shall it conclude or prejudice any of the powers of the Contract Administrator or the Chief Administrative Officer hereunder.
- C12.16 Subject to C12.17, acceptance by the Contractor of payment on account of the final Proper Invoice shall constitute a waiver and release by them of all claims against the City whether for payment for Work done, damages or otherwise arising out of the Contract.
- C12.17 If the Contractor disputes a Payment Certification related to a notice of non-payment by the City to the Contractor in accordance with the BLA, the Contractor may appeal the determination of the Contract Administrator to the Chief Administrative Officer as provided for in C21. If prior to the appeal being concluded, the Contractor gives a notice of adjudication to the City pursuant to the BLA, the appeal process will be discontinued.

INVOICES

D30.3 Further to C12, the Contractor:

- (a) shall submit invoices for Work performed during the previous calendar month in accordance with the instruction on the City's website at:
<https://www.winnipeg.ca/finance/corporate-accounts-payable.stm>; and
- (b) should copy the Contract Administrator on submission of its invoice.

D31. PAYMENT

D31.1 Further to C12, the City shall make payments to the Contractor by direct deposit to the Contractor's banking institution, and by no other means. Payments will not be made until the Contractor has made satisfactory direct deposit arrangements with the City. Direct deposit application forms are at https://winnipeg.ca/finance/files/Direct_Deposit_Form.pdf.

D31.2 Further to E3.1, no payment will be made for Cash Allowances other than as set out in E4.5.

WARRANTY

D32. WARRANTY

D32.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) 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.

D32.1.1 For the purpose of contract security, the warranty period shall be two (2) year.

D32.2 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.

D32.2.1 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.

DISPUTE RESOLUTION

D33. DISPUTE RESOLUTION

D33.1 If the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator, the Contractor shall act in accordance with the Contract Administrator's opinion, determination, or decision unless and until same is modified by the process followed by the parties pursuant to D33.

D33.2 The entire text of C21.4 is deleted, and amended to read: "Intentionally Deleted"

D33.3 The entire text of C21.5 is deleted, and amended to read:

- (a) If Legal Services has determined that the Disputed Matter may proceed in the Appeal Process, the Contractor must, within ten (10) Business Days of the date of the Legal Services Response Letter, submit their written Appeal Form, in the manner and format set out on the City's Purchasing Website, to the Chief Administrative Officer, and to the Contract Administrator. The Contractor may not raise any other disputes other than the Disputed Matter in their Appeal Form.

D33.4 Further to C21, prior to the Contract Administrator's issuance of a Final Determination, the following informal dispute resolution process shall be followed where the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator ("Dispute"):

- (a) In the event of a Dispute, attempts shall be made by the Contract Administrator and the Contractor's equivalent representative to resolve Disputes within the normal course of project dealings between the Contract Administrator and the Contractor's equivalent representative.
- (b) Disputes which in the reasonable opinion of the Contract Administrator or the Contractor's equivalent representative cannot be resolved within the normal course of project dealings as described above shall be referred to a without prejudice escalating negotiation process

consisting of, at a minimum, the position levels as shown below and the equivalent Contractor representative levels:

- (i) The Contract Administrator;
- (ii) Supervisory level between the Contract Administrator and applicable Department Head;
- (iii) Department Head.

- D33.5 Names and positions of Contractor representatives equivalent to the above City position levels shall be determined by the Contractor and communicated to the City at the pre-commencement or kick off meeting.
- D33.6 As these negotiations are not an adjudicative hearing, neither party may have legal counsel present during the negotiations.
- D33.7 Both the City and the Contractor agree to make all reasonable efforts to conduct the above escalating negotiation process within twenty (20) Business Days, unless both parties agree, in writing, to extend that period of time.
- D33.8 If the Dispute is not resolved to the City and Contractor's mutual satisfaction after discussions have occurred at the final escalated level as described above, or the time period set out in D33.7, as extended if applicable, has elapsed, the Contract Administrator will issue a Final Determination as defined in C1.1(v), at which point the parties will be governed by the Dispute Resolution process set out in C21.

INDEMNITY

D34. INDEMNITY

- D34.1 Indemnity shall be as stated in C17.
- D34.2 Notwithstanding C17.1, the Contractor shall save harmless and indemnify the City in the amount of twice the Contract Price or five million dollars (\$5,000,000), whichever is greater, against all costs, damages or expenses arising from actions, claims, demands and proceedings, by whomsoever brought, made or taken as a result of negligent acts or negligent omissions of the Contractor, their Subcontractors, employees or agents in the performance or purported performance of the Work, and more particularly from:
- (a) accidental injury to or death of any person whether retained by or in the employ of the contractor or not, arising directly or indirectly by reason of the performance of the Work, or by reason of any trespass on or damage to property;
 - (b) damage to any property owned in whole or in part by the City, or which the City by duty or custom is obliged, directly or indirectly, in any way or to any degree, to construct, repair or maintain;
 - (c) damage to, or trespass or encroachment upon, property owned by persons other than the City;
 - (d) any claim for lien or trust claim served upon the City pursuant to The Builders' Liens Act;
 - (e) failure to pay a Workers Compensation assessment, or Federal or Provincial taxes;
 - (f) unauthorized use of any design, device, material or process covered by letters patent, copyright, trademark or trade name in connection with the Work;
 - (g) inaccuracies in any information provided to the City by the Contractor.
- D34.3 Further to C17, The City shall save harmless and indemnify the Contractor in the amount of twice the Contract Price or five million dollars (\$5,000,000), whichever is greater, against all costs, damages or expenses arising from actions, claims, demands and proceedings, by whomsoever brought, made or taken as a result of negligent acts or negligent omissions of the City, their employees or agents in the performance of its obligation under the Contract.

THIRD PARTY AGREEMENTS

D35. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D35.1 In the event that funding for the Work of the Contract is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, the following terms and conditions shall apply, as required by the applicable funding agreements.
- D35.2 Further to D35.1, in the event that the obligations in D35 apply, actual costs legitimately incurred by the Contractor as a direct result of these obligations ("Funding Costs") shall be determined by the actual cost to the Contractor and not by the valuation method(s) outlined in C7.4. In all other respects Funding Costs will be processed in accordance with Changes in Work under C7.
- D35.3 For the purposes of D35:
- (a) **"Government of Canada"** includes the authorized officials, auditors, and representatives of the Government of Canada; and
 - (b) **"Government of Manitoba"** includes the authorized officials, auditors, and representatives of the Government of Manitoba.
- D35.4 Modified Insurance Requirements
- D35.4.1 If not already required under the insurance requirements identified in D14, the Contractor will be required to provide wrap-up liability insurance in an amount of no less than two million dollars (\$2,000,000) inclusive per occurrence. Such policy will be written in the joint names of the City, Contractor, Consultants and all sub-contractors and sub-consultants and include twelve (12) months completed operations. The Government of Manitoba and their Ministers, officers, employees, and agents shall be added as additional insureds.
- D35.4.2 If not already required under the insurance requirements identified in D14, the Contractor will be required to provide builders' risk insurance (including boiler and machinery insurance, as applicable) providing all risks coverage at full replacement cost, or such lower level of insurance that the City may identify on a case-by-case basis, such as an installation floater.
- D35.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of two million dollars (\$2,000,000.00) per occurrence on all licensed vehicles operated at the Site. In the event that this requirement conflicts with another licensed vehicle insurance requirement in this Contract, then the requirement that provides the higher level of insurance shall apply.
- D35.4.4 Further to D14.4, insurers shall provide satisfactory Certificates of Insurance to the Government of Manitoba prior to commencement of Work as written evidence of the insurance required. The Certificates of Insurance must provide for a minimum of thirty (30) days' prior written notice to the Government of Manitoba in case of insurance cancellation.
- D35.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.
- D35.5 Indemnification By Contractor
- D35.5.1 In addition to the indemnity obligations outlined in C17 of the General Conditions for Construction, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada's or the Government of Manitoba's Ministers, officers, servants, employees, or agents, as the case may be.

- D35.5.2 The Contractor agrees that in no event will Canada or Manitoba, their respective officers, servants, employees or agents be held liable for any damages in contract, tort (including negligence) or otherwise, for:
- (a) any injury to any person, including, but not limited to, death, economic loss or infringement of rights;
 - (b) any damage to or loss or destruction of property of any person; or
 - (c) any obligation of any person, including, but not limited to, any obligation arising from a loan, capital lease or other long term obligation;
- in relation to this Contract or the Work.
- D35.6 Records Retention and Audits
- D35.6.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.
- D35.6.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Construction, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D35.6.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.
- D35.7 Other Obligations
- D35.7.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.
- D35.7.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.
- D35.7.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.
- D35.7.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.
- D35.7.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.

- D35.7.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

ADJUSTMENTS FOR CHANGES IN LAWS, TAXES, OR TARIFFS

D36. ADJUSTMENTS FOR CHANGES IN LAWS, TAXES, OR TARIFFS

- D36.1 Further to C12.4 and subject to C6.13, the Contract Price shall be adjusted if any change in a law or tax imposed under the Excise Act, the Excise Tax Act, the Customs Act, the Customs Tariff, The Mining Tax Act (Manitoba), or The Retail Sales Tax Act (Manitoba), by an act of the Congress of the United States of America, or by Executive Order by the President of the United States under the International Emergency Economic Powers Act of the United States of America or similar legislation:
- (a) occurs after the Submission Deadline;
 - (b) applies to Material; and
 - (c) affects the cost of that Material to the Contractor.
- D36.2 Further to C12.5, if a change referred to in C12.4 occurs, the Contract Price shall be increased or decreased by an amount equal to the amount that is established, by an examination of the relevant records of the Contractor, to be the increase or decrease in the cost incurred that is directly attributable to that change, and which the Contractor has proven to the Contract Administrator represents the minimum amount of increase necessary in order to obtain necessary Material or Plant. For the avoidance of doubt, the Contractor shall be required to provide satisfactory proof that it has investigated alternative options for obtaining equivalent Material or Plant and reducing or eliminating the increase in Contract Price, up to and including entering into purchase agreements with vendors located in other jurisdictions, in order for Contractor to be able to avail itself of the increase in Contract Price permitted.

[illegible]

FORM K: EQUIPMENT LIST
(See D17)

SEWPCC & WEWPCC SLUDGE HOLDING TANKS REFURBISHMENT

1. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
2. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
3. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	

FORM K: EQUIPMENT LIST
(See D17)

SEWPCC & WEWPCC SLUDGE HOLDING TANKS REFURBISHMENT

4. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
5. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
6. Category/type:	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	
Make/Model/Year: _____	Serial No.: _____
Registered owner: _____	

SEWPCC & WEWPCC SLUDGE HOLDING TANKS REFURBISHMENT

[illegible]

[illegible]

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 their 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, Purchasing 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 Tender shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.1. In every instance where a brand name or design specification is used, the City will also consider approved equals and/or approved alternatives in accordance with B6.1.
- E1.4 The following are applicable to the Work:

NMS SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

013300	Submittal Procedures
013529.06	Health and Safety Requirements
014500	Quality Control
015200	Construction Facilities
015600	Temporary Barriers and Enclosures
017220	Site Surveying
017300	Execution
017400	Cleaning
017419	Waste Management and Disposal
017800	Closeout Submittals

DIVISION 02 – EXISTING CONDITIONS

024119.16	Selective Interior Demolition
025613	Waste Containment
028100	Hazardous Materials

DIVISION 03 – CONCRETE

030137	Concrete restoration
031000	Concrete Forming and Accessories
032000	Concrete Reinforcing
033000	Cast-In-Place Concrete
033500	Concrete Finishing
033713	Shotcrete

DIVISION 04 – MASONRY

040500	Common Work Results for Masonry
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NMS SPECIFICATIONS

040513	Masonry Mortaring and Grouting
040519	Masonry Anchorage and Reinforcing
040523	Masonry Accessories
042200	Concrete Unit Masonry

DIVISION 05 – METALS

051223	Structural Steel for Buildings
051410	Structural Aluminum
055000	Metal Fabrications

DIVISION 05 – THERMAL AND MOISTURE PROTECTION

077233	Hatches
079200	Joint Sealants

DIVISION 09 – FINISHES

098500	Concrete Resurfacing Lining and Coating
098500.01	Lining Inspection Checklist
098500.02	Floor Coating Inspection Checklist

DIVISION 23 – HVAC

230131	Air Duct Cleaning for HVAC Systems
230500	Common Work Results for HVAC
230505	Selective Demolition for Heating, Ventilating, and Air Conditioning (HVAC)
230529	Hangers and Supports for HVAC, Piping, and Equipment
230553	Identification for HVAC Piping and Equipment
230593	Testing, Adjusting and Balancing for HVAC
233113	Ductwork
233130	Ductwork Accessories

DRAWINGS

<u>Facility</u>	<u>Drawing No.</u>	<u>Drawing Name/Title</u>
SEWPCC	1-0102-DAAA-D001	GENERAL – COVER SHEET
SEWPCC	1-0102-SAAA-D001	STRUCTURAL – GENERAL NOTES
SEWPCC	1-0102-SAAA-D002	STRUCTURAL – KEY PLAN
SEWPCC	1-0102-SGAD-DD53	STRUCTURAL – DEMOLITION – PLANS
SEWPCC	1-0102-SGAD-DD54	STRUCTURAL – DEMOLITION – SECTIONS
SEWPCC	1-0102-SGAD-D009	STRUCTURAL – NEW WORK – PLANS
SEWPCC	1-0102-SGAD-D010	STRUCTURAL – NEW WORK – SECTIONS
SEWPCC	1-0102-SDTL-D004	STRUCTURAL – NEW WORK – DETAILS
SEWPCC	1-0103-MGAD-DD51	MECHANICAL – DEMOLITION – PLAN AND SECTION
SEWPCC	1-0103-MGAD-DD52	MECHANICAL – EQUIPMENT REMOVAL & REINSTALLATION
SEWPCC	1-0102-MGAD-D605	MECHANICAL – NEW WORK – VENTILATION – PLAN AND SECTIONS
SEWPCC	1-0102-PGAD-DD52	PROCESS – DEMOLITION – PLAN AND SECTIONS
SEWPCC	1-0102-PGAD-D015	PROCESS – NEW WORK – PLAN AND SECTIONS
SEWPCC	1-0102-PDTL-D001	PROCESS – DETAILS

DRAWINGS

<u>Facility</u>	<u>Drawing No.</u>	<u>Drawing Name/Title</u>
WEWPCC	1-0102-DAAA-H001	GENERAL – COVER SHEET
WEWPCC	1-0103-SAAA-H001	STRUCTURAL – GENERAL NOTES
WEWPCC	1-0103-SAAA-H002	STRUCTURAL – KEY PLAN
WEWPCC	1-0103-SGAD-H001	STRUCTURAL – SLUDGE TRUCK BAY AND SLUDGE HOLDING TANKS – PLANS
WEWPCC	1-0103-SGAD-H002	STRUCTURAL – SLUDGE TRUCK BAY AND SLUDGE HOLDING TANKS – SECTIONS AND DETAILS
WEWPCC	1-0103-PGAD-H001	PROCESS – SLUDGE TRUCK BAY – DEMOLITION AND NEW WORK
WEWPCC	1-0103-PGAD-H002	PROCESS – SLUDGE TRUCK BAY AND SLUDGE HOLDING TANKS – SECTION AND DETAILS

GENERAL REQUIREMENTS

E2. OFFICE FACILITIES

- E2.1 The SEWPCC and WEWPCC Boardrooms may be used for construction meetings, providing that the rooms are properly booked with the plants.
- (a) Maintain in clean condition
 - (b) Plant sanitary facilities are not to be used by contractor or subcontractor personnel. Refer to 01 52 00.
- E2.2 Contractor or subcontractors to provide their own require separate site/field office space as required. The location(s) of these facilities must be made clear on-site layout plan for approval.
- E2.3 The Contractor shall be responsible for installation, maintenance, removal, operating costs, and service installation costs for the office facilities as described herein. Costs are included in the “Site Trailer, Equipment, and Other Site Development and Restoration” line item described in E7.

E3. MOBILIZATION AND DEMOBILIZATION PAYMENT

- E3.1 Description
- (a) This Specification shall govern mobilization and demobilization from site.
 - (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, Materials, equipment, tools, supplies and all things necessary for and incidental to the satisfactory performance and completion of all Works as hereinafter specified.
- E3.2 The Work under this Specification shall include, but not be limited to:
- (a) Meeting bonding and insurance requirements
 - (b) submission of Site layout plan
 - (c) mobilizing and demobilizing on-Site Work facilities;
 - (d) supplying, setting up, laying out and removing any required site office/sanitary facilities other than the SEWPCC and WEWPCC boardrooms;
 - (e) install, maintaining and removing any access roadway; and traffic control and traffic management.
- E3.3 Submittals
- (a) The Contractor shall submit the following to the Contract Administrator fourteen (14) calendar days prior to mobilization on-Site:

- (i) a plan highlighting the Site layout plan which includes laydown area location(s), staging areas, office/sanitary facility location, access road(s), temporary secure fencing limits and gate locations for review and approval.
- (b) Contractor shall refer to the Drawings for limits of construction.

E3.4 Materials and Equipment

- (a) All Materials supplied under this Specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.
- (b) The Contractor shall be responsible for the supply, safe storage, and handling of all Materials as set forth in this Specification. All Materials shall be handled in a careful and workmanlike manner, to the satisfaction of the Contract Administrator.
- (c) All equipment shall be of a type acceptable to the Contract Administrator and shall be kept in good working order.

E3.5 Construction Methods

- (a) Site Inspection:
 - (i) inspect the Site with the Contract Administrator to verify existing conditions prior to mobilizing on-Site; and
 - (ii) inspect the Site with the Contract Administrator soon after demobilizing on-Site, confirming Site has been restored to its original condition prior to initiation of Work;
- (b) Layout of On-Site Work Facilities:
 - (i) the Contractor shall mobilize all on-Site Work and other temporary facilities; and upon completion of construction activities, the Contractor shall remove all on-Site Work and other temporary facilities;
- (c) Cellular Telephone Communication:
 - (i) the Contractor's Site supervisor is required to carry, at all times, a cellular telephone, with voicemail;
- (d) Restoration of Existing Facilities:
 - (i) upon completion of the Work and demobilization, the Contractor shall restore existing facilities to their original condition, including snow removal, to the approval of the Contract Administrator

E3.6 Measurement and Payment

E3.6.1 Mobilization and Demobilization

- (b) Mobilization and demobilization will be measured on a lump sum basis and paid for at the Contract Unit Price for SEWPCC and WEWPCC "Mobilization and Demobilization" as shown in Form B for supplying all Materials and for performing all operations herein described and all other item incidental to the Work included in this Specification and accepted by the Contract Administrator. Payment will be made on the following schedule:
 - (i) 25% payment of the Mobilization and Demobilization lump sum price will be paid once the Contract Administrator is satisfied that construction has commenced;
 - (ii) 25% payment of the Mobilization and Demobilization lump sum price will be paid during construction based on estimated percentage completion of the work at WEWPCC and distributed on a monthly basis at the discretion of the Contract Administrator;
 - (iii) 25% payment of the Mobilization and Demobilization lump sum price will be paid during construction based on estimated percentage completion of the work at SEWPCC and distributed on a monthly basis at the discretion of the Contract Administrator; and.
 - (iv) The final 25% of the Mobilization and Demobilization lump sum price will be paid once both SEWPCC and WEWPCC have been returned to normal operation and the sites have been restored to original condition.

E4. CASH ALLOWANCE FOR ADDITIONAL WORK

- E4.1 Additional Work may be necessitated due to unforeseen circumstances that may arise during the course of the project due to:
- (a) Additions to the scope of Work by the Contract Administrator, beyond that defined herein.
- E4.2 A cash allowance has been included on Form B: Prices.
- E4.3 The City reserves the right to delete any or all of the Cash Allowance from the Contract if the Work intended to be covered by the Cash Allowance is not required, or if the Works intended are found to be more extensive than the provisional Cash Allowance.
- E4.4 A Change Work Order based on the agreed upon costs for performing the additional work shall be signed by both the Contract Administrator and Contractor representative in order to utilize funds under Additional Work Allowance. The Contract Administrator may decide to group additional work items under a single Change Work Order. Only funds approved under signed Change Work Orders will be allowed to be invoiced.
- E4.5 Cost of additional work shall be evaluated by the methods outlined in C7.4, and a Change Order prepared by the Contract Administrator. Cost of the Change Order will be paid on the Progress Estimate and deducted from the Cash Allowance. If the valuation of the authorized work exceeds the Value of the Cash Allowance, the Contract Value will be adjusted by the shortfall.
- E4.6 Additional services and/or Work will not be initiated for:
- (a) Reasons of lack of performance or errors in execution.
 - (b) Scheduling changes initiated by the City, where at least 24 hours' notice is given prior to the Contractors schedule time to be on Site.
- E4.7 Should it be determined that additional material or services are required, the Contract Administrator shall approve the Work, prior to commencement of the additional Work.
- E4.8 Material Mark-Up Factors in accordance with C7:
- (a) The base cost is to be the wholesale cost of the material, regardless of the Contractor or Subcontractor supplying the material.
 - (b) In general, the party (Contractor or Subcontractor) supplying the material is the party that purchases the material from a supplier who does not perform any work on Site, unless otherwise determined by the Contract Administrator.
 - (c) Where the Contractor is supplying the material, the mark-up on the material is limited to fifteen percent (15%).
 - (d) Where the Contractor's immediate Subcontractor is supplying the material the total mark-up on the material including all Subcontractors and the Contractor is limited to twenty-five percent (25%)
 - (i) The Subcontractor's mark-up on the material is limited to fifteen percent (15%);
 - (ii) The Contractor's mark-up on the material is limited to ten percent (10%).
 - (e) A Third-Level Subcontractor is a Subcontractor of a Subcontractor of the Contractor.
 - (i) No Third-Level Subcontractors on this project are approved for additional mark-up.
- E4.9 In the event that a Third-Level Subcontractor is utilized, that is not approved for additional mark-up, the Contractor is responsible for coordinating the split of the maximum approved mark-up between the Contractor and Subcontractors.

E5. SHOP DRAWINGS

- E5.1 Submit shop drawings in accordance with Section 01 33 00. Refer to Appendix A for shop drawings to be submitted on this contract. The shop drawings submitted must not necessarily be limited to the items in this list.

E6. PRE-CONSTRUCTION PHOTOGRAPHS

- E6.1 The Contractor is responsible for taking photographs and/or video of the surrounding structures, houses and landscaping in order to establish the condition of the area around the pumping station prior to commencement of the Work. The pictures and/or video must be submitted to and approved by the Contract Administrator prior to the commencement of the Work.
- E6.2 Pre-Construction Photographs shall be considered incidental to the Works of this Contract and no separate payment will be made for this item.

E7. SITE DEVELOPMENT AND RESTORATION

E7.1 Description

- (a) This Specification shall supplement the requirements of CW1130.
- (b) This Specification shall cover all aspects of the Site Development and Restoration Work, including:
- (i) Erection, maintenance and removal of safety fencing;
 - (ii) Snow clearing;
 - (iii) General access development;
 - (iv) Start-up costs;
 - (v) Equipment setup and removal;
 - (vi) Office/sanitary facilities;
 - (vii) Access maintenance; and
 - (viii) Site restoration.

E7.1.1 Additional Site specific Works included within this Specification are the temporary removal, relocating, and replacing existing site furniture, fencing, and other obstructions within easement right-of-ways or as required for site access.

- (a) Works and permits associated with raising and/or relocating overhead power lines and/or light standards as required to facilitate the Works. Contact the local Manitoba Hydro Office to arrange for Manitoba Hydro Staff to lift power lines, temporarily support utilities, and/or relocate utilities as required. Only Manitoba Hydro staff will be permitted to lift power lines.

E7.1.2 This Specification shall amend and supplement Standard Specification CW 3510.

E7.2 Materials

E7.2.1 Equipment

- (a) All equipment, implements, tools and facilities used shall be of a size and type as required to complete the Work in a reasonable time, approved by the Contract Administrator. The Contractor shall keep all equipment in good working order, and have sufficient standby equipment available at all times, as required.

E7.3 Construction Methods

E7.3.1 Site and Construction Access

- (a) The Contractor shall be responsible to develop suitable Site access. This includes but is not limited to, temporary bridging over structures, temporary removal and reinstallation of safety fencing, any landscaping and grading repairs, restoration of vegetation, etc. necessary to restore any Site and construction access area to their pre-existing condition.

E7.3.2 Open-Top Sludge Tank Security Fence

E7.3.3 Provide a security fence to completely surround any open-top sludge tank when unattended in accordance

E7.3.4 Site Security

- (a) Pedestrian access shall be restricted by maintaining a security fence around the perimeter of the Work site
- (b) At the end of each Work Day, all excavations and underground structure openings shall be secured to prevent access. Safety fence shall also be closed and secured to prevent public access.
- (c) Fence to completely surround the site according to the following requirements:
 - (i) security fence shall be chain link fence or approved equal, a minimum 1.80 metres high with metal support posts embedded far enough into the ground and spaced close enough together so the fence will not sag or collapse;
 - (ii) attach fencing securely to posts;
 - (iii) secure the gate or end of the fencing to a post with chain and a padlock; and
 - (iv) provide alternate security fence proposal to Contract Administrator for approval.

E7.3.5 Environmental Regulations

- (a) The Contractor shall adhere to all relevant Federal and Provincial environmental regulations.
- (b) The Contractor shall supply, in writing, prior to the commencement of Work on-Site to cleanup minor spills, should they occur. The Contractor shall supply the name, address and phone number of a local supplier, where additional kits are available on short notice.

E7.4 Staging and Laydown Areas

- (a) Prior to mobilization to site, the Contractor shall identify and propose to the City for approval, the areas requested for laydown, staging materials, and placement of the site trailer.

E7.5 Washroom Facilities

- (a) Contractor and subcontractor staff are not permitted to use SEWPCC or WEWPCC plant washroom facilities.
- (b) The contractor to provide separate washroom facilities for contractor and subcontractor staff.

E7.6 General Site Cleanup and Restoration

- (a) All areas of the construction Site shall be restored to a condition at least equivalent to its original condition prior to initiation of Work. This may include, but is not necessarily limited to the Contractor's lay down area, and removal of all temporary fencing.

E7.7 Permanent Surface Restorations

- (a) If required, permanently restore all existing surface areas disturbed by construction activities including but not limited to areas disturbed by; construction equipment, placement of equipment trailers and where construction materials were stockpiled, shall be restored as follows:
 - (i) Boulevards, ditches and grassed areas – sodding using imported topsoil in accordance with CW 3510.
 - (ii) Asphalt surfaces – match existing base course and asphalt thickness or a minimum of 150 millimetres of base course and 75 millimetres of Type 1A Asphaltic Concrete, whichever is greater, in accordance with CW 3410.
 - (iii) Miscellaneous concrete slabs, including sidewalk - in accordance with CW 3235.
 - (iv) Concrete curb and gutter – in accordance with CW 3240.

E7.8 Topsoil and Seed

- (a) The primary means of restoration for existing grassy areas will be topsoil and sodding.
- (b) Where exterior grassed areas have been damaged, place sod in accordance with CW-3510 and SD-243.

E7.9 Measurement and Payment

E7.9.1 Site Development and Restoration

- (a) The site development and restoration shall be measured on a lump sum basis and paid for at the Contract Lump Sum Price for items under SEWPCC and WEWPCC "Site Development and Restoration," which prices shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.
 - (i) 50% of the Site Development and Restoration lump sum will be paid for on the first progress payment following commencement of the work on the specific Site being developed.
 - (ii) The remaining 50% of the Site Development and Restoration unit price will be paid subsequent to the completion of the Work and restoration and cleanup of the Sites.

E7.9.2 Surface restorations or any site restoration required to restore laydown areas, or similar temporary work areas, shall be considered incidental to Site Development and Restoration. No separate payment shall be made for these areas.

E8. PLANT OPERATION DURING CONSTRUCTION

E8.1 The SEWPCC and WEWPCC facilities are considered critical infrastructure for the City of Winnipeg. Under no condition shall the any plant system be shut down without prior written permission from the Contract Administrator. Prepare and submit shutdown plans to Contract Administrator a minimum of fifteen (15) Working Days prior to proposed shutdown, with the estimated date included in the plan.

E8.2 Shutdown plans must a minimum include:

- (a) Location and duration of shutdown;
- (b) Purpose/description of the planned shutdown;
- (c) List of all relevant stakeholders;
- (d) Risks and contingency planning;
- (e) Outline of shutdown plan;
- (f) Monitoring requirements;
- (g) Key data and elevations.

E8.3 The Contractor shall cooperate with and provide full access at all times for City personnel to carry out maintenance and operational duties including unrestricted access to the sludge truck loading bays.

- (a) No additional payments will be made for providing access to City forces on the Site or any potential affect City crews might have on the Contractor's Work.

E8.4 Contractor and subcontractors are permitted to work during 7:30 am and 3:30 pm on working days.

- (a) Contractor may work outside of these hours only provided that the contractor and subcontractor personnel will have restricted access any part of the plant other than the rooms directly above the sludge tanks.
- (b) Contractor must follow all precautions set out by Plant Staff regarding site security and avoiding triggering facility alarms.
 - (i) Truck loading bay doors may not be open for more than one hour as this will trigger an alarm.
- (c) Contractor to negotiate main facility gate access with Plant Staff.

E9. SEWPCC SLUDGE MANAGEMENT DURING CONSTRUCTION

- E9.1 Sludge management is necessary for the duration of the sludge tank rehabilitation construction to ensure that the tanks currently being rehabilitated remains empty until it ready to be returned to service. Only two (2) tanks may be taken out of service at any given time.
- (a) Contractor to coordinate the opening and closing of valves and dampers as well as any other process or ventilation changes with SEWPCC operations staff and the Contract Administrator
 - (b) Contractor to submit a temporary sludge management plan to Contract for approval a minimum of two (2) weeks prior to the commencement of any work.
 - (i) Isolating and draining tanks to be coordinated with Plant Staff.
 - (ii) The contractor is not to otherwise interfere with Plant operation.
- E9.2 Temporary Sludge Management Description:
- (a) All sludge and scum from the SEWPCC is transferred to trucks in a truck loading bay adjacent to the room the upper tank room then driven to NEWPCC. Either the north tank or south tank must be in operation at any given time. Therefore, only two tanks may be rehabilitated at any given time. The tank in operation must be able to be used to receive and store thickened waste activated sludge, thickened fermented sludge, and primary scum, transfer it to trucks, and recirculate sludge and scum bottom-to-top for mixing.
- E9.3 Measurement and Payment
- E9.3.1 This work will be considered incidental to the contract. No corresponding line item has been included in Form B.

E10. WEWPCC SLUDGE MANAGEMENT DURING CONSTRUCTION

- E10.1 Sludge management is necessary for the duration of the sludge tank rehabilitation construction to ensure that the tank currently being rehabilitated remains empty until it is ready to be returned to service. Only one (1) tank may be taken out of service at any given time except for a short duration required for coring holes between the tanks, to be agreed upon with the Contract Administrator and Plant Staff.
- (a) Contractor to coordinate the opening and closing of valves and dampers as well as any other process or ventilation changes with WEWPCC operations staff and the Contract Administrator
 - (b) Contractor to submit a temporary sludge management plan to Contract for approval a minimum of two (2) weeks prior to the commencement of any work.
- E10.2 Sludge Bypass Pumping and Temporary Sludge Management Description:
- (a) All sludge and scum from the WEWPCC is transferred to trucks in a truck loading bay over the tanks to be driven to NEWPCC. Two (2) of the three (3) tanks must be in operation at any given time. Therefore, only one (1) tank may be taken out of service at any given time. The two (2) tanks in operation must be able to be used to receive and store thickened waste activated sludge, thickened fermented sludge, and primary scum, transfer it to trucks, and recirculate sludge and scum bottom-to-top for mixing.
 - (b) Contractor to note during the isolation of each tank that the 150mm inter-tank "vent/overflow pipes" must be plugged in order to fully isolate the tanks, and yet they must also be cored to 200mm diameter and chamfered to allow for adequate adhesion of the liner.
 - (i) The tank adjacent to the tank being rehabilitated may be temporarily emptied for the purposes of completing this coring operation. The time and duration of this event is to be approved by the Contract Administrator. These events must be clearly indicated on the temporary sludge management plan.
 - (ii) Contractor to take care to ensure that debris from this operation is removed entirely from the tanks prior to returning the adjacent tank to service, to prevent damage to the sludge transfer pumps connected to the base of the tanks.

- (iii) Once holes are cored to 200mm diameter, they must be plugged to fully isolate the tank from active adjacent tanks. The plug must provide access to at least 50% of the wall width such that the liner may be applied in the core hole from within each tank and may overlap in the middle.

E10.3 Contractor is responsible for the ventilation of any tank taken out of service for rehabilitation.

E10.4 For tanks still in service during construction, temporary ventilation connections will be required to ensure each active tank has a connection to fresh supply air and foul odour air exhaust.

- (a) A new 200mm pipe penetration is to be installed into each of the three (3) tanks, within 1 meter of the western wall. Location is to be coordinated with Contract Administrator and Plant Staff
- (b) The sludge truck tank exhaust system, which conveys foul air from truck tanks to the middle sludge tank, is to be diverted by temporary ductwork to connect to the foul odour air duct in the southeast of the truck bay.
- (c) The orange 150mm PVC pipework along the east wall of the truck bay is not in service and must be demolished above the lowest valves to permit the use of the pipe penetrations below for temporary ventilation connections. These penetrations are to be cored, demolished, and infilled with concrete prior to lining the interior of each tank.
- (d) Care must be taken to maintain the negative relative pressure within the tanks.

E10.4.1 While the northernmost tank is taken out of service,

- (a) Connection to fresh air must be provided to the two (2) active tanks using the new 200mm penetrations or the existing 150mm orange PVC penetrations.
- (b) The active tanks have existing connection to the foul odour air exhaust duct

E10.4.2 While the southernmost tank is taken out of service,

- (a) Connection to foul odour air exhaust must be provided to the two (2) active tanks using the existing 150mm orange PVC penetrations. Connection must be made from 150mm penetrations directly to foul odour air duct.
- (b) The active tanks have existing connection to the fresh air exhaust duct.

E10.4.3 While the centre tank is taken out of service,

- (a) Connection to fresh air must be provided to the two (2) active tanks using the new 200mm penetrations or the existing 150mm orange PVC penetrations.
- (b) Connection to foul odour air exhaust must be provided to the two (2) active tanks using the existing 150mm orange PVC penetrations. Connection must be made from 150mm penetrations directly to foul odour air duct.

E10.5 Measurement and Payment

E10.5.1 This work will be considered incidental to the contract. No corresponding line item has been included in Form B.

E11. SEWPCC CONCRETE SLUDGE HOLDING TANK CLEANING AND DEMOLITION

E11.1 Description of Work

E11.1.1 The Work required under this section shall include, but is not limited to, the following:

- (a) Demolition of masonry room above concrete sludge holding tanks and temporary relocation of the equipment within, to be coordinated with Plant Staff,
- (b) Demolition of the concrete sludge holding tanks top slab and the concrete mechanical pad for the exhaust fan in the room,
- (c) Demolition of process piping penetrations through concrete sludge holding tanks walls,

- (d) Selective demolition of the concrete sludge holding tanks interior in preparation for new finishes.
 - (e) Removal of level sensing instrumentation and transmitters prior to demolition and storage for re-installation prior to returning tanks to service.
- E11.1.2 The Work required under this section shall include, but is not limited to, the following:
 - (a) Removal of all existing electrical, mechanical components as indicated in project drawings; concrete and brick masonry demolition; performing saw cutting; demolition and disposal of existing concrete and brick masonry; and clean-up of work site in anticipation of new work for those demolition areas indicated on the drawings.
- E11.1.3 The work to be done by the Contractor under this section shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as described hereinafter.
- E11.1.4 Contractor is responsible for cleaning and concrete demolition in the concrete sludge holding tanks according to the contract drawings and Specification 09 85 00.
- E11.1.5 The contractor is responsible for following the construction sequence on drawing 1-0102-SGAD-DD53.
- E11.2 References
 - (a) CSA S350-M1980, Code of Practice for Safety in Demolition of Structures.
 - (b) Manitoba Workplace Safety and Health Act, and all applicable National, Provincial and Municipal regulations.
- E11.3 Protection
 - E11.3.1 Prevent damage of existing structure to remain or process equipment. Make good any damage caused by the demolition Work.
 - E11.3.2 Take precautions to support adjacent and affected structures and, if safety of structure being demolished or adjacent structures appears to be endangered, cease operations and notify the Contract Administrator.
 - E11.3.3 The Contractor shall take precautions during demolition works to prevent damage to existing structures and adjacent property. In the event of damage, the Contractor will be held liable and shall be required to provide appropriate restoration at his cost, to the satisfaction of the Contract Administrator.
- E11.4 Inspection
 - (a) Inspect Site with Contract Administrator and verify extent of items for removal, disposal, salvage and items to remain.
 - (b) Notify and obtain approval of Contract Administrator before starting demolition.
- E11.5 Safety Code and Requirements
 - (a) Unless otherwise specified, carry out demolition in accordance with the City of Winnipeg Safety Directives and Guidelines.
- E11.6 General Requirements
 - (a) Demolish structures to permit construction of new work as required.
 - (b) Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as Work progresses.
 - (c) At end of each day's Work, leave Work in safe condition so that no part is in danger of toppling or falling.
 - (d) Do not sell or burn materials on Site.

- (e) Damage to concrete that is to remain shall be minimized. Unless otherwise noted on drawings, concrete shall be demolished by saw cutting and water jetting. Other methods of performing concrete demolition may be submitted for review and approval to the Contract Administrator. The Contractor shall take measures to ensure that the concrete beyond the limits of demolition is not fractured or shattered. The Contractor shall remove concrete using acceptable methods and replace any concrete which is deemed to be fractured as a result of demolition methods employed by the Contractor. This repair Work shall be performed at no additional cost to the City of Winnipeg.

E11.6.1 Demolition Tolerances

- (a) All demolition shall be done using equipment and procedure to prevent over-breakage of the existing structure.
- (b) Final demolition surfaces must remain locally within (25 mm) of the demolition lines, alignments, or limits shown on the drawings. Demolition beyond the limits shown shall be reviewed by the Contract Administrator. The Contractor shall repair excess demolition to the satisfaction of the Contract Administrator, and at no cost to the City where required.
- (c) All protrusions into the defined limits of demolition shall be removed if they interfere with the placement and alignment of embedded components or reinforcing steel.

E11.6.2 Abrasive Wiresaw and Sawcutting

- (a) Areas of demolition shall be delineated from existing concrete that is to remain using either abrasive disc sawcutting, or abrasive wire sawing.
- (b) All sawcuts shall be performed straight and normal to the surface being cut, following the locations shown on the drawings, or as directed by the Contract Administrator.
- (c) Overruns at the junctions of sawcuts, and mis-starts shall be cleaned and filled with dry patching mortar of matching colour, as directed by the Contract Administrator.
- (d) Overruns at the junctions of sawcuts, and mis-starts shall be cleaned and filled with dry patching mortar of matching colour, as directed by the Contract Administrator.

E11.6.3 Disposal of Demolished Material

- (a) The Contractor shall be responsible for removal of debris and waste from the Work area to the location to an appropriate solid waste disposal area approved by the contract administrator.
- (b) Metal debris, which may include reinforcing steel, shall be removed from Site and disposed of by the Contractor.
- (c) Debris from reinforced concrete demolition to be carefully controlled to remove risk of debris damaging the transfer pumps connected to the base of the tanks.
- (d) Waste from cleaning the sludge holding tanks may be collected by vacuum truck. The liquid may be decanted from the trucks to the RV dump site at SEWPCC and the solids must be delivered to landfill.
 - (i) If concrete or construction debris are found in the RV dump site pipework or equipment, the Contractor shall remove the concrete or debris using vacuum trucks at their expense.

E11.7 Salvage

E11.7.1 The masonry room above the tanks is to be demolished and the equipment within salvaged and re-installed elsewhere for continued operation of the plant during construction. Contractor to coordinate the movement of this equipment with the Contract Administrator.

E11.7.2 Equipment on the top slab and instrumentation installed within the slab are to be salvaged for re-installation following construction in original condition and location. Contractor to coordinate with Contract Administrator to arrange for City of Winnipeg Staff to visit site and mark equipment and material for salvage prior to commencement of demolition. Salvaged materials are expected to include, but not necessarily be limited to:

- (ii) Level monitoring instrumentation

- (iii) Pressure Washing equipment
 - (iv) Exhaust fan and ductwork
 - (v) All other equipment on or above top slab that may interfere with construction.
- E11.7.3 All salvaged equipment and materials shall remain property of the City unless specifically noted otherwise. The Contractor shall coordinate storage of the salvaged equipment and materials with plant staff.
- E11.7.4 The Contractor shall remove and haul all rejected salvage from the site and legally dispose of it.
- E11.7.5 Removal and delivery of salvageable and non-salvageable equipment and material shall be considered incidental to the Contract Work and no additional payment will be made for such Work.
- E11.8 Measurement and Payment
 - (a) Demolition will be measured on a lump sum basis and paid for at the Contract Lump Sum Price items under SEWPCC "Concrete Sludge Holding Tank Cleaning and Demolition." All other work described in this section is considered incidental to the line items specified.
 - (i) Payment will be distributed based on progress on a monthly basis at the discretion of the Contract Administrator.
 - (b) No payment shall be made for demolition beyond the limits specified, or those otherwise approved by the Contract Administrator. The separation, as necessary of embedded and structural steel shall be considered incidental to the Work. The installation of temporary supports, scaffolding, shoring or hangers shall also be considered incidental to the Work. Saw cutting of concrete and removal of construction debris shall be considered incidental to the Work.

E12. WEWPCC CONCRETE SLUDGE HOLDING TANK CLEANING AND DEMOLITION

E12.1 Description of Work

- E12.1.1 The Work required under this section shall include, but is not limited to, the following:
 - (a) Demolition of process piping penetrations and ventilation ducts through concrete sludge holding tank slab and walls,
 - (b) Selective demolition of the concrete sludge holding tanks interior in preparation for new finishes,
 - (c) Demolition of level sensing instruments.
- E12.1.2 The Work required under this section shall include, but is not limited to, the following:
 - (a) Removal of all existing electrical, mechanical components as indicated in project drawings; demolition and disposal of existing concrete; and clean-up of work site in anticipation of new work for those demolition areas indicated on the drawings.
- E12.1.3 The work to be done by the Contractor under this section shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Works as described hereinafter.
- E12.1.4 Contractor is responsible for cleaning and concrete demolition in the concrete sludge holding tanks according to the contract drawings and Specification 09 85 00.

E12.2 References

- (a) CSA S350-M1980, Code of Practice for Safety in Demolition of Structures.
- (b) Manitoba Workplace Safety and Health Act, and all applicable National, Provincial and Municipal regulations.

E12.3 Protection

- E12.3.1 Prevent damage of existing structure to remain. Make good any damage caused by the demolition Work.
- E12.3.2 Take precautions to support adjacent and affected structures and, if safety of structure being demolished or adjacent structures appears to be endangered, cease operations and notify the Contract Administrator.
- E12.3.3 The Contractor shall take precautions during demolition works to prevent damage to existing structures and adjacent property. In the event of damage, the Contractor will be held liable and shall be required to provide appropriate restoration at his cost, to the satisfaction of the Contract Administrator.
- E12.4 Inspection
- (a) Inspect Site with Contract Administrator and verify extent of items for removal, disposal, salvage and items to remain.
 - (b) Notify and obtain approval of Contract Administrator before starting demolition.
- E12.5 Safety Code and Requirements
- (a) Unless otherwise specified, carry out demolition in accordance with the City of Winnipeg Safety Directives and Guidelines.
- E12.6 General Requirements
- (a) Demolish structures to permit construction of new work as required.
 - (b) Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as Work progresses.
 - (c) At end of each day's Work, leave Work in safe condition so that no part is in danger of toppling or falling.
 - (d) Do not sell or burn materials on Site.
 - (e) Damage to concrete that is to remain shall be minimized. Unless otherwise noted on drawings, concrete shall be demolished water jetting. Other methods of performing concrete demolition may be submitted for review and approval to the Contract Administrator. The Contractor shall take measures to ensure that the concrete beyond the limits of demolition is not fractured or shattered. The Contractor shall remove concrete using acceptable methods and replace any concrete which is deemed to be fractured as a result of demolition methods employed by the Contractor. This repair Work shall be performed at no additional cost to the City of Winnipeg.
- E12.6.1 Demolition Tolerances
- (a) All demolition shall be done using equipment and procedure to prevent over-breakage of the existing structure.
 - (b) Final demolition surfaces must remain locally within (25 mm) of the demolition lines, alignments, or limits shown on the drawings. Demolition beyond the limits shown shall be reviewed by the Contract Administrator. The Contractor shall repair excess demolition to the satisfaction of the Contract Administrator, and at no cost to the City where required.
 - (c) All protrusions into the defined limits of demolition shall be removed if they interfere with the placement and alignment of embedded components or reinforcing steel.
- E12.6.2 Disposal of Demolished Material
- (a) The Contractor shall be responsible for removal of debris and waste from the Work area to the location to an appropriate solid waste disposal area approved by the contract administrator.
 - (b) Metal debris, which may include reinforcing steel, shall be removed from Site and disposed of by the Contractor.
 - (c) Debris from reinforced concrete demolition to be carefully controlled to remove risk of debris damaging the transfer pumps connected to the base of the tanks.

- (d) Waste from cleaning the sludge holding tanks may be collected by vacuum truck. The liquid may be decanted from the trucks to the Perimeter Road Pumping Station dump site at WEWPCC and the solids must be delivered to landfill.
- (i) If concrete or construction debris are found in the Perimeter Road Pumping Station dump site pipework or equipment, the Contractor shall remove the concrete or debris using vacuum trucks at their expense.

E12.7 Measurement and Payment

- (a) Demolition will be measured on a lump sum basis and paid for at the Contract Lump Sum Price items under WEWPCC "Concrete Sludge Holding Tank Cleaning and Demolition." All other work described in this section is considered incidental to the line items specified.
 - (i) Payment will be distributed based on progress on a monthly basis at the discretion of the Contract Administrator.
- (b) No payment shall be made for demolition beyond the limits specified, or those otherwise approved by the Contract Administrator. The separation, as necessary of embedded and structural steel shall be considered incidental to the Work. The installation of temporary supports, scaffolding, shoring or hangers shall also be considered incidental to the Work. Saw cutting of concrete and removal of construction debris shall be considered incidental to the Work.

E13. CAST-IN-PLACE CONCRETE

E13.1 Description

- E13.1.1 This specification will cover construction of cast-in-place concrete for both the SEWPCC and WEWPCC, and shall supplement, revise and amend CW 2160.

E13.2 Refer to Division 03 of Specifications

E13.3 Materials

- (a) Concrete Mix Design
 - (i) As per contract drawings
 - (ii) Provide a "Mix Design Statement" for each type of concrete to be used certifying constituent materials and mixing proportions to the Contract Administrator at least 2 weeks prior to delivery of Concrete to the Site. Supply reasonable evidence to the Contract Administrator that the mix proportions selected will produce concrete meeting the specified strength, workability and yield.
- (b) Fillers, Grouts, Mortars
 - (i) Concrete Sludge Holding Tank Interior Resurfacing Filler/Mortar – In accordance with 09 85 00 for adhesion of tank liner,
 - (ii) Otherwise grout shall be Sika Grout 212 SR or approved equivalent in accordance with B7,
 - (iii) Hydraulic cement for form hole patching shall be Xypex Patch-n-Plug or approved equivalent in accordance with B7.

E13.4 Measurement and Payment

- (a) Payments will be Lump Sum based on Form B, "SEWPCC Cast-In-Place Concrete" and "WEWPCC Cast-In-Place Concrete". Said price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this specification, accepted and measured by the Contract Administrator.

E14. CONCRETE RESURFACING AND LINING

- E14.1 Refer to 09 85 00. Special conditions outlined below.

- (a) Following the rehabilitation and replacement of sludge holding tank concrete, the interior surfaces shall be prepared and a protective lining applied in accordance with the contract drawings and 09 85 00.
- (b) The concrete sludge tank interior liner and floor coating applicator and surface preparer shall have AMPP QP-8 Certification. AMPP QP-1 certification will be acceptable providing the QP-1 contractor can show verifiable proof of performing work successfully on 5 verifiable concrete projects similar in size and scope as this project.
- (c) Process piping, HVAC ductwork, conduit, or other penetrations into the sludge holding tanks are to be prepared according to 09 85 00 and penetration details in the contract drawings in order to ensure adhesion of the liner at these joints.
- (d) Refer to E10.2 for requirements related to the vent/overflow inter-tank connections.

E14.2 Measurement and Payment

- (a) Payments will be Lump Sum based on items under Form B, "SEWPCC Concrete Resurfacing and Lining" and "WEWPCC Concrete Resurfacing and Lining". Said price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this specification, accepted and measured by the Contract Administrator.

E14.3 Quality Control

- (a) Follow quality control requirements outlined in 09 85 00.
- (b) Contractor must submit "Coating System Inspection Checklist" in 09 85 00 as part of daily inspection reports.
- (c) As part of its overall Quality Control program, the CSA shall conduct Quality Control inspections during the concrete resurfacing and coating system installation and record the results from those inspections. These daily inspection reports shall be provided to the Owner on a daily basis. The CSA shall coordinate such inspections with the Owner's inspector such that the Owner's inspector may observe CSA's inspections or conduct separate independent Quality Assurance inspections on a scheduled basis. The minimum QC milestones shall be as follows:
 - (i) Inspect all materials upon receipt to ensure that all are supplied by the approved manufacturer.
 - (ii) Provide specified storage conditions for all materials, solvents, and abrasives.
 - (iii) Conditions Prior to Surface Preparation - Prior to coating application all surfaces shall be inspected by the CSA and any issues or conditions that would prevent compliance with this Section shall be brought to the attention of the Owner in writing.
 - (iv) Dry abrasive blast cleaning equipment shall be maintained and tested as follows: A paper blotter test in accordance with ASTM D 4285 shall be performed by the CSA on each air compressor being used at the beginning of each workday and again once for every 4 hours worked to determine if the air is sufficiently free of oil to not produce detrimental effects on coating system adhesion.
 - (v) Post Surface Preparation Cementitious Surfaces – Upon completion of the surface preparation, the CSA shall inspect for proper degree of surface preparation as specified in this Section and in the CSM's written instructions. The degree of surface preparation shall be in accordance with this Section and the CSM's requirements regarding surface profile as per ICRI 310.2. This shall include inspecting for the achievement of the CSM's written requirements concerning concrete surface profile in accordance with ICRI 310.2.
 - (vi) Unless stipulated otherwise by the CSM, after application of all cementitious resurfacing materials but prior to application of any polymer-based liners, perform concrete substrate moisture tests per ASTM D 4263 on each different surface (i.e., wall, floor, ceiling, etc.). The plastic sheet test shall be performed to ensure there is no moisture problem with the coating. The test shall be performed over the resurfaced concrete prior to lining to assure proper sealing of the plastic sheet to the substrate. Do not apply coating or lining materials until acceptable results are obtained.

- (vii) pH testing of the concrete by the CSA shall be performed at the minimum rate of one test per every 100 square feet (or any part thereof) of surface area using Hydriion Insta-Check Jumbo 0-13 or equal. The surface of the concrete shall be lightly abraded to expose loose cement paste particles. The paper shall be touched to the surface once using moderate pressure. The surface shall not be wiped or moved laterally to disturb the surface during pH testing. Following the exposure of the paper to the substrate which has been abraded, lift the paper vertically to not "wipe" the surface. Compare the color indicated with the scale provided and record the pH.
- (viii) When a dry substrate is encountered, the surface where the pH test is to be performed shall be abraded as described above and sprayed lightly with distilled, de-ionized water from a commercially available spray bottle that has been properly rinsed to preclude any dissolved solids. The spray shall just wet the surface to a "shiny" appearance and water shall not run. Wait 30 seconds to allow chemical equilibrium to be established and then test the pH of the water on the surface and record the value.
- (ix) Environment and Site Conditions - Prior to commencing an activity associated with coating system installation, the CSA shall measure, record, and confirm acceptability of ambient air temperature, substrate surface temperature and relative humidity as well as other conditions such as proper protective measures for surfaces not to be coated at a minimum of once prior to the start of coating application and thereafter every two hours during coating application. Perform relative humidity measurements in accordance with ASTM E337. The acceptability of the weather and/or environmental conditions within the structure shall be determined by the requirements specified by the CSM of the coating system being used.
- (x) Provide correct mixing of all materials in accordance with the manufacturer instructions.
- (xi) Conduct adhesion testing in accordance with ASTM C1583 in each separate structure that is part of this scope of work at a minimum of 2 locations for each structure on the cementitious resurfacing material applied to concrete substrates. The locations tested shall be equally distributed throughout the structure. Repair of these locations will be the Contractor's responsibility in accordance with the CSM's recommendations at no additional cost to the Owner. Each test location shall consist of three separate adhesion tests within a 300 mm by 300 mm (12 in. by 12 in.) area. The average of the three tests (excluding cohesive failure of the concrete) shall be reported as a single value. The Contractor shall be responsible for resurfacing material removal and replacement in areas demonstrating unacceptable adhesion.
- (xii) Monitoring of Coatings Application – The CSA shall inspect, measure, and record the wet film thickness and general film quality (visual inspection) for lack of runs, sags, pinholes, holidays, etc. as the application work proceeds. Perform WFT measurements in accordance with ASTM D4414 at a minimum rate of one measurement for every 10 SF coated.
- (xiii) Post Application Inspection – The CSA shall identify defects in application work including pinholes, holidays, excessive runs or sags, inadequate or excessive film thickness and other problems as may be observed.
- (xiv) Verify curing of the coating in accordance with the manufacturer's instructions.
- (xv) Post Cure Evaluation – Upon completion of the lining system installation, surfaces shall be cleaned and prepared to permit close visual inspection by the Consultant/Engineer at any given location. Any and all deficiencies or defective work (not in compliance with this section or related sections) will be marked for repair or removal/replacement by the CSA at no additional cost to the Owner. Following cure, coatings and linings shall be measured for dry film thickness by the CSA. The DFT shall be measured:
- (xvi) For carbon steel surfaces, this shall be performed in accordance with SSPC-PA 2.

- (xvii) Method 1 for concrete surface shall be performed in accordance with SSPC-PA 9 using ultrasonic thickness gauges calibrated in accordance with the instrument manufacturer's instructions.
- (xviii) OR
- (xix) Method 2 for concrete surfaces shall utilize either a Tooke Gage or by the removal of small core samples through the lining system
- (xx) Any coating found to be below the specified DFT shall receive additional applications of the coating or lining or shall be removed or reapplied as required to meet the total DFT requirements specified in this Section at no additional cost to the Owner.
- (xxi) Conduct high voltage holiday detection over 100% of coated concrete surfaces in accordance with ASTM D4787 and follow the CSM's recommendations for appropriate voltage settings.
- (xxii) Conduct adhesion testing in accordance with ASTM D7234 in each structure at a minimum of 2 locations on the lining system applied to concrete substrates. The locations tested shall be equally distributed throughout the structure. Repair of these locations will be the Contractor's responsibility in accordance with the CSM's recommendations at no additional cost to the Owner. Each test location shall consist of three separate adhesion tests within a 300 mm by 300 mm (12 in. by 12 in.) area. The Contractor shall be responsible for lining system removal and replacement in areas demonstrating unacceptable adhesion at no additional cost to the Owner.
- (xxiii) Follow-up to corrective actions and Final Inspection. The CSA shall measure and re-inspect corrective coating work performed to repair defects identified at prior Hold Points. This activity also includes final visual inspection along with follow-up tests such as holiday detection, adhesion tests, and DFT surveys.

E14.4 Warranty

- (a) Contractor to provide five (5) year warranty services for the sludge holding tank lining systems.

E15. POLYURETHANE CEMENT FLOOR COATING

E15.1 Refer to 09 85 00. Special conditions outlined below.

- (a) An polyurethane cement floor coating on the Sludge Holding Tank Top Slab (WEWPCC sludge truck bay and driving surface) and the new SEWPCC tank top slab is required.
- (b) At the WEWPCC facility a fast-curing coating is required. The maximum allowable time between sludge trucks using the bay is 48 hours. The coating must be applied and cured in this time.
- (c) Coordinate this work with Contract Administrator, Facility Plant Staff, and Wintec (sludge trucking contractor).
- (d) If the floor coating applicator contractor or subcontractor is not a certified applicator for Polyurethane Cement Coating with significant application experience, they shall retain the services of a flooring applicator subcontractor certified by the floor coating manufacturer. The manufacturer-certified floor coating applicator is exempt from QP-1 qualifications

E15.2 Measurement and Payment

- (a) Payments will be Lump Sum based on Form B, SEWPCC and WEWPCC "Polyurethane Floor Coating". Said price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this specification, accepted and measured by the Contract Administrator.

E15.3 Quality Control

- (a) Follow quality control requirements outlined in 09 85 00.

- (b) Contractor must submit "Floor Coating System Inspection Checklist" in 09 85 00 as part of daily inspection reports.

E16. METAL FABRICATIONS

E16.1 Refer to Section 05 14 10 – Structural Aluminum

E16.2 Refer to Section 05 50 00 – Metal Fabrication

E16.3 This section governs the provision and installation of gas-tight hatches, anchors, pipe supports, WEWPCC sump bucket, and any other miscellaneous metals.

E16.4 Measurement and Payment

- (a) Supply, fabrication, transportation, handling, delivery and placement of metal fabrications will be paid for at the Contract Lump Sum Price for "Miscellaneous Metals." Said price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this specification.

E17. PROCESS MECHANICAL WORK

E17.1 Description

E17.1.1 This Specification covers the process piping, equipment, and materials for the Project.

E17.1.2 The Contractor shall remove the existing piping and equipment as noted in contract drawings and other materials as required and install new piping, equipment, and materials as shown on the drawings or as indicated by the Contract Administrator.

E17.1.3 Mechanical drawings indicate general layout only. The Contractor is responsible for confirming all dimensions prior to manufacture of piping.

E17.1.4 All equipment and material shall be supplied by the Contractor.

E17.2 Materials

E17.2.1 316L Stainless Steel Pipe and Fittings

- (a) Schedule 40S, Type 316L, conforming to ASTM A778, "as-welded" grade, straight-seam welded, conforming to ASME B36.19M;
(b) Pickled and passivated per ASTM A380;

E17.2.2 Duplex 2205 Stainless Steel Pipe and Fittings

- (a) Schedule 80, Type 2205, conforming to ASTM A790, conforming to ASME B36.19M;
(b) Pickled and annealed per ASTM A380;

E17.2.3 Large Diameter Flanges and Adaptor Flanges:

- (a) Forged Stainless Steel: ASTM A182/A182M, Grade F316L, ASME B16.5 or B16.47 Class 150 or Class 300, slip-on or weld neck.
(b) Raised face for Class 150 and Class 300. Flat face for flange connecting to ductile/cast iron Class 125 and Class 250 flanges.
(c) Bolting to be Type 316 stainless steel, ASTM A320/A320M Grade B8M hex head bolts, ASTM A194/A194M Grade 8M hex nuts. Type 316 stainless steel flat washer under all bolt heads and nuts. Apply anti-galling compound to bolt threads.

E17.2.4 Joints & Couplings:

- (a) General:
(i) Couplings shall be rated for working pressure not less than indicated in Piping Schedule for the service and not less than 1035 kPa,
(ii) Couplings shall be lined and coated with fusion-bonded epoxy in accordance with AWWA C213,

- (iii) Unless thrust restraint is provided by other means, couplings shall be harnessed in accordance with requirements of AWWA M11, and restrained with retainer bar or ring welded to pipe end, or as shown on Drawings.
- (iv) Sleeve type couplings shall conform to AWWA C219 and shall be hydraulically expanded beyond minimum yield for accurate sizing and proofing of tensile strength.
- (b) Grooved End Coupling:
 - (i) Rigid, except where joints are used to correct misalignment, to provide flexibility, or where shown, furnish flexible type.
 - (ii) Malleable iron ASTM A47 or ductile iron ASTM A536 housing, 1725 kPa working pressure, enamel coated. Couplings located outside shall be in stainless steel including bolts and nuts.
 - (iii) EPDM gaskets
 - (iv) Manufacturers and Products for Steel and Stainless Steel Pipe:
 - ◆ Victaulic; Style 77 (flexible 300mm and smaller).
 - ◆ Victaulic; Style 07 (rigid 300mm and smaller).
 - ◆ Victaulic; Style LW07 (rigid 350mm and larger).

E17.2.5 Link Seal

- (a) EPDM rubber modular wall penetration seal designed for permanent sealing with all stainless hardware.
- (b) Pressure rating: Up to 12 m head (1.3 bar)
- (c) Sizing: Match manufacturer's recommendations for pipe size / penetration size ratio. Contractor responsible for confirming existing pipe dimensions on site.
- (d) Approved Product: Link Seal by GPT or approved equal in accordance with **Error! Reference source not found..**

E17.2.6 Pipe Supports and Hangers:

- (a) Pipe supports and hangers to be as shown on the Drawings and in accordance with 05 50 00 and 23 05 29.

E17.2.7 Fasteners:

- (a) Flange nuts and bolts shall be ASTM A193-B8M class 2 Type 316 stainless steel bolts, ASTM A194-8M Type 316 stainless steel extra heavy hex nuts coated with anti-galling compound.
- (b) Anchors shall be Kwik-bolt or Rawl Stud ASTM A276, Type 316 stainless steel. Embedment depth and size, where not shown on the Drawings, to be as required for load being carried or resisted.

E17.2.8 Gaskets:

- (a) Flange gaskets shall be full faced rubberized cloth gaskets, 3mm in thickness.
- (b) Rubber gaskets for adaptor flanges shall conform to AWWA C111, Standard for Rubber-gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings.

E17.2.9 Submit shop drawings in accordance with Section 01 33 00.

E17.3 Measurement and Payment:

- E17.3.1 Payment will be Lump Sum based on items under Form B, "SEWPCC Process Mechanical Work" and "WEWPCC Process Mechanical Work", as accepted and measured by the Contract Administrator.

E18. MECHANICAL AND BUILDING SERVICES WORK

E18.1 Scope of Work:

- (a) Provide new ventilation piping in accordance with the drawings and specifications, including but not limited to the following:
 - (i) Selective demolition of existing ventilation piping in phases with tank replacement. See Section 23 05 00 and 23 05 05.
 - (ii) Supply and installation of new ventilation piping and accessories in phases with tank replacement. See Section 23 05 00, 23 31 13, and 23 31 30.
 - (iii) Support new ventilation piping from structure. See Section 23 05 29.
 - (iv) Supply and install new labels and tags for new ventilation piping to match existing building standards. See Section 23 05 53.
 - (v) Complete ventilation system cleaning for new and existing ventilation piping. See Section 23 01 31.
 - (vi) Complete testing, adjusting and air balancing for ventilation systems. See Section 23 05 93.
 - (vii) Upgrade of ventilation system at SEWPCC facility according to contract drawings.
 - (viii) Re-installation of mechanical/HVAC equipment for CMU room above sludge tanks at SEWPCC facility.
 - (ix) New 200mm pipe penetrations through sludge tank top slab at WEWPCC facility complete with flange and a blind flange cap.
 - (x) Temporary ventilation connections/works to maintain adequate ventilation of active tanks during construction.
 - (xi) Temporary ventilation works for out-of-service tanks during construction.

E18.2 Measurement and Payment:

- E18.2.1** Payment will be based on items under Form B, SEWPCC and WEWPCC "Mechanical and Building Services Work", as accepted and measured by the Contract Administrator.

E19. COMMISSIONING

- E19.1** The installation Contractor and Contract Administrator shall jointly commission all mechanical, electrical, automation and instrument equipment in accordance with the written procedure for commissioning. The installation Contractor will provide sufficient manpower for the duration of the commissioning period. The installation Contractor will make necessary adjustments during commissioning to ensure fully cured tank liners prior to filling the tanks with sludge, and functioning equipment.
- (a) The Contract Administrator will request that all equipment associated with the sludge holding tanks be operated to demonstrate that it performs as specified.
 - (i) In the case that the equipment is original to the plant, operation will confirm that it performs consistent with its performance prior to the project.
 - (b) If the Contract Administrator notes deficiencies in the installation, the deficiency will be corrected immediately by the installation Contractor. The installation Contractor will advise the Contract Administrator, in writing, when the deficiencies have been corrected. If the Contract Administrator notes deficiencies in the supplied products, the deficiency shall be corrected immediately by this Contractor.
 - (c) Deficiencies of a serious nature, as determined by the Contract Administrator, shall be corrected by the manufacturer's representative.
- E19.2** The following equipment will be required to include separate completed commissioning forms:
- (a) All new instruments. For common instruments such as level transmitters, it will be acceptable to utilize one (1) commissioning form. Refer to Appendix B.
- E19.3** After the equipment has been installed and prior to final acceptance, protect the equipment from damage. Ensure that protection measures are to the satisfaction of the Contract Administrator.
- E19.4** Measurement and Payment

- (a) The costs associated with testing and initial startup are to be included in the Lump Sum Payment for each respective equipment to be tested. No separate payment shall be made for these tasks.
- (b) The costs associated with Commissioning shall be included in respective Lump Sum bid items in Form B. No separate payment will be made for Commissioning. All costs associated with this item of Work including travel expenses, accommodations, meals and wages shall be inclusive in the lump sums.

E20. ELECTRICAL AND INSTRUMENTATION WORK

E20.1 Scope of Work:

- (a) For each tank at the SEWPCC facility, uninstall existing ultrasonic level transmitter and high level switches for the duration of tank rehabilitation work, then reinstall afterwards. For the purposes of bidding, assume that there are two (2) float switches and one (1) ultrasonic level transmitter per tank.
- (b) For each tank at the WEWPCC facility, remove existing level monitoring equipment in the tanks and replace with the following equipment listed in E20.2.1. Each tank is to have one (1) ultrasonic level transmitter / display and two (2) high level switches.
- (c) Contractor to consider any areas within the Sludge Holding Tank and any areas with a connected air space to be hazardous areas for the purpose of equipment selection in this section.

E20.2 Required Equipment for WEWPCC facility as follows:

E20.2.1 Siemens SITRANS LT500 Multiranger

- (a) Model: 7ML6013-1AC00-1AA3
- (b) Feature Set: Level, Volume and Flow
- (c) Input: Transducer
- (d) Single Point Version
- (e) Relay Output: 6 relays (4 Form A, 2 Form C), 250 V AC
- (f) Mounting: Wall
- (g) Approvals: CSA General Purpose
- (h) Input Voltage: 100 to 230 VAC

E20.2.2 Siemens Echomax® XPS-15

- (a) Model 7ML1118-0EA40
- (b) Measuring range: min. 0.3m, max. 15 m
- (c) Beam angle: 6°
- (d) Frequency: 44 kHz
- (e) Ambient temperature range: -40 to 95°C
- (f) Max pressure: 8 bar g / (120 PSIG)
- (g) Process connection: 1" NPT mounting thread
- (h) Cable: 30m cable
- (i) Approvals: CSA, Class 1, Div. 1

E20.2.3 Siemens XPS-15 Submergence Shield Kit

- (a) Model: 7ML1830-1BJ

E20.2.4 Bestobell Aquatronix Direct Mounting Vertical Level Control

- (a) Part# DS14FSNANA1H41NNN
- (b) 316L Stainless Steel

- (c) Float Switch, 4 in. NB, minimum SG 0.54
- (d) 150mm (fits up to 4 switch mechanisms)
- (e) No Hazardous Locations Certificates
- (f) Aluminum Alloy Base, Drawn Steel Cover
- (g) 1 in NPT
- (h) 4 Contact: 2 x SPST, Hermetically sealed
- (i) 1 in. / 25mm (DN25)
- (j) NPT thread, 316 Stainless Steel

E20.2.5 Level Float Switches

- (a) Match existing equipment being replaced. If unable to match existing, submit the equipment below for review.
- (b) Requirements:
 - (i) Suspended mechanical float switch
 - (ii) Liquid Density Measurement Range 0.95 – 1.10 g/cm³
 - (iii) Temperature Range: 0°C to +50°C
 - (iv) Output: Form C dry contact
 - (v) Protection: IP68
 - (vi) Approvals: CSA or cUL
 - (vii) Materials: Polypropylene body, EPDM rubber bending relief
 - (viii) Voltage: 250 VAC
 - (ix) Cable Length: Confirm prior to ordering
 - (x) Elevation: To match existing. Estimated 500mm below bottom of slab.
- (c) Approved Product: Flygt Model ENM-10

E20.2.6 ACIC/CIC Control Cable

- (a) Cable: to CAN/CSA-C22.2 No. 239, Control and Instrumentation Cables.
- (b) Conductors, copper, size as indicated.
- (c) Insulation: chemically cross-linked thermosetting polyethylene rated type RW90, 600V.
- (d) Shielded.
- (e) A higher level of shielded cable may be substituted for unshielded, or overall shielded cable, unless otherwise specified, provided that all appropriate shield grounding, as required by the Contract Administrator, is performed. All subsequent related changes, such as required conduit size, fittings, etc. are the responsibility of the Contractor.

E20.2.7 Conduit Boxes

- (a) Size boxes in accordance with CSA C22.1.
- (b) 102 mm square or larger outlet boxes as required.
- (c) Gang boxes where wiring devices are grouped.
- (d) Blank cover plates for boxes without wiring devices.
- (e) Cast FS or FD aluminum boxes with factory-threaded hubs and mounting feet for surface wiring of devices in Panels.

E20.2.8 Junction, Pull Boxes and Cabinets

- (a) Welded steel construction with screw-on flat covers for surface mounting.
- (b) Covers with 25 mm minimum extension all around, for flush-mounted pull and junction boxes.

E20.3 Installation Procedures

- (a) Refer to Manufacturer Specifications and Contract Drawings for installation instructions.

E20.3.1 Installation of Control Cables

- (b) Install Cable Tags.
- (c) Ground shields at one end only. Where possible, ground shields at the end where power is supplied to the cable. Utilize shield grounding bar in panels, where present, to ground overall shields. Individual pair shields to be grounded on appropriate terminals.
- (d) Shield drain wires, at the ungrounded end, are to be taped back to the cable. Fully insulate the shield. Do not cut the shield drain wire off.
- (e) ACIC cable may be installed in cable tray, provided that:
 - (i) The cable tray does not contain power cables, unless specifically authorized by the Contract Administrator in writing.
 - (ii) The ACIC cable voltage rating is equal or greater than the highest voltage contained in the cable tray.

E20.3.2 Installation of Conduit, Fastenings, and Fittings

- (f) Use rigid aluminum threaded conduit and flexible metal conduit in indoor non-hazardous areas.
- (g) Use rigid galvanized steel threaded conduit in wet or hazardous areas.
- (h) Install conduits to conserve headroom in exposed locations and cause minimum interference in spaces through which they pass.
- (i) Field threads on rigid conduit must be of sufficient length to draw conduits up tight.
- (j) Remove and replace blocked conduit sections. Do not use liquids to clean out conduits.
- (k) Do not include more than the equivalent of four (4) quarter bends. Provide pull boxes as required.
- (l) Ensure electrical continuity in all conduit systems.
- (m) All conduit shown exposed in finished areas is to be free of unnecessary labels and trade marks.
- (n) Seal conduits with duct seal where conduits are run between heated and unheated areas. Where conduits, cables, or cable trays pierce fire separations, seal openings with Dow Corning 3-6548 sealant. Seal all conduits entering or leaving hazardous classified areas with approved seals.
- (o) EYS seal conduits after explosion-proof boxes towards unclassified areas. Add Chico compound to stop migration of hazardous gases only after all tests and commissioning is successfully done.
- (p) Where conduits pass through walls, group and install through openings. After all conduits shown on the Drawings are installed, close wall openings with material compatible with the wall construction.
- (q) Install fish cord in empty conduits.
- (r) Install ground wire in all conduits. Size ground wire as per CEC Table 17.
- (s) Surface Conduits:
 - (i) Run parallel or perpendicular to building lines.
 - (ii) Group conduits wherever possible on suspended or surface channels.
 - (iii) Provide a minimum space of 12 mm between conduits.
 - (iv) Do not pass conduits through structural members except as indicated.
 - (v) Do not locate conduits less than 75 mm parallel to steam or hot water lines with minimum of 25 mm at crossovers.
 - (vi) Provide a separate ground wire within rigid conduit, bonded to motor frames and system ground.
- (t) Liquid-Tight and Explosion-Proof Flexible Conduit:

- (i) Use as LT raceways at all motors, pipe-mounted control devices, and other devices subject to movement or water when located in non-classified areas.
- (ii) Use as XP raceways at all motors, pipe-mounted control devices, and other devices subject to movement when located in classified areas.
- (iii) At all motors provide a short length before connecting to the motor terminal box. Minimum length shall be 450 mm plus four times the conduit diameter.
- (iv) Provide a separate ground wire within flexible conduit, bonded to motor frames and system ground.
- (u) All boxes for outlets and devices shall suit the environment where they are installed as follows:
 - (i) CSA/ NEMA 1 metal enclosures when installed inside panel
 - (ii) CSA/ NEMA 4 (WP) stainless steel enclosures when installed outdoors
 - (iii) CSA/ NEMA 7 (XP) metal enclosures when installed in hazardous classified areas. Support boxes independently of connecting conduits.
 - (iv) Provide correct size of openings in boxes for conduit, mineral insulated and armoured cable connections. Do not install reducing washers.
 - (v) Vacuum clean interior of outlet boxes before installation of wiring devices.
 - (vi) Provide permanent label or lamacoid for all device boxes indicating the circuit(s) contained within.

E20.3.3 Installation of Junction, Pull Boxes and Cabinets

- (v) Install pull boxes in inconspicuous but accessible locations.
- (w) Mount cabinets with top not higher than 2 m above finished floor except where indicated otherwise.
- (x) Install pull boxes so as not to exceed 30 m of conduit run between pull boxes.
- (y) All enclosures shall suit the environment where they are installed as follows:
 - (i) CSA/ NEMA 1 metal enclosures when installed inside panel
 - (ii) CSA/ NEMA 4 (WP) stainless steel enclosures when installed outdoors
 - (iii) CSA/ NEMA 7 (XP) metal enclosures when installed in hazardous classified areas.

E20.4 Measurement and Payment

- (a) The costs associated with demolition (WEWPCC) / storage (SEWPCC), and installation of equipment and required wiring, conduit, and commissioning will be measured on a lump sum basis and paid for at the Contract Lump Sum Price for "SEWPCC Instrumentation" and "WEWPCC Instrumentation".
 - (i) Payment will be distributed based on progress on a monthly basis at the discretion of the Contract Administrator.

E21. SITE SAFETY

The Contractor act as a Prime Contractor and is therefore responsible for the following:

- (a) Facilitating safety management systems including creation of Safe Work Plan for all Contractor and Subcontractor work.
- (b) Ensure all Subcontractors are in compliance with all required safe work procedures and the Safe Work Plan.
- (c) Be responsible for the safety of all Subcontractors.

E21.2 Confined Space

- (a) Contractor must execute all confined space entry requirements or hire a qualified rescue.
- (b) Any personnel entering a confined space area must:
 - (i) Obtain a permit from the City of Winnipeg or Contract Administrator.
 - (ii) Complete a hazard assessment.

- (iii) Complete a rescue plan.
- (iv) Ensure administrative and personal protective equipment controls are in place at the time of entry.
- (v) Address concerns from the Contract Administrator in a timely manner.
- (vi) Have valid confined space entry training.
- (vii) Have valid fall protection training (when working from heights).

E21.3 Measurement and Payment

E21.3.1 Site Safety

- (a) All aspects of site safety or similar temporary work shall be considered incidental to the Contract. No separate payment shall be made for these areas.