



THE CITY OF WINNIPEG

REQUEST FOR PROPOSAL

RFP NO. 266

SUPPLY AND INSTALLATION OF A POINT TO POINT MICROWAVE LINK

TABLE OF CONTENTS

PART A - PROPOSAL SUBMISSION

Form A: Proposal	1
Form B: Prices	3

PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Enquiries	1
B4. Confidentiality	1
B5. Addenda	1
B6. Substitutes	2
B7. Proposal Submission	3
B8. Proposal	3
B9. Technical Suitability	4
B10. flexibility or adaptability	4
B11. Prices	4
B12. Qualification	5
B13. Opening of Proposals and Release of Information	5
B14. Irrevocable Offer	6
B15. Withdrawal of Offers	6
B16. Interviews	6
B17. Negotiations	6
B18. Evaluation of Proposals	7
B19. Award of Contract	8

PART C - GENERAL CONDITIONS

C0. General Conditions	1
------------------------	---

PART D - SUPPLEMENTAL CONDITIONS

General

D1. General Conditions	1
D2. Scope of Work	1
D3. Contract Administrator	1
D4. Notices	2
D5. Confidentiality and Ownership of Information	2

Submissions

D6. Authority to Carry on Business	2
D7. Insurance	2

Schedule of Work

D8. Commencement	3
D9. Delivery	3

Measurement and Payment

D10. Payment	4
D11. Payment Schedule	4

Warranty

D12. Warranty	4
---------------	---

PART E - SPECIFICATIONS

General

E1. Applicable Specifications and Drawings	1
E2. Goods	1
E3. Terminal 1	1
E4. Terminal 2	2
E5. Data	2

E6. Basic Technical Specification	2
E7. Environmental Specification	3
E8. Mechanical Specification	4
E9. Configuration, Alarms and Monitoring	4
E10. Installation and Commissioning	4

PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY AND INSTALLATION OF A POINT TO POINT MICROWAVE LINK

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, May 13, 2009.

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

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

B3. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D3.1. If the Bidder finds errors, discrepancies or omissions in the Request for Proposal, or is unsure of the meaning or intent of any provision therein, the Bidder shall promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.2 If the Bidder is unsure of the meaning or intent of any provision therein, the Bidder should request clarification as to the meaning or intent prior to the Submission Deadline.

B3.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B3.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Request for Proposal will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B4. CONFIDENTIALITY

B4.1 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.

B4.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Request for Proposals to the media or any member of the public without the prior written authorization of the Contract Administrator.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Request for Proposal, or clarifying the meaning or intent of any provision therein.

B5.2 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.

B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>

B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.

B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 9 of Form A: Proposal. Failure to acknowledge receipt of an addendum may render a Proposal non-responsive.

B6. SUBSTITUTES

B6.1 The Work is based on the materials, equipment, methods and products specified in the Request for Proposal.

B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.

B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least seven (7) Business Days prior to the Submission Deadline.

B6.4 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 material, equipment, method or product 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 Contract;
- (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 Contract.

B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his 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.

B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.

B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.

B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an "approved alternative", any Bidder bidding that approved alternative may base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B16.

B6.9 No later claim by the Contractor for an addition to the price(s) because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

B6.10 Notwithstanding B6.2 to B6.9 and in accordance with B7.6, deviations to inconsistent with the Request for Proposal document shall be evaluated in accordance with B18.1(a).

B7. PROPOSAL SUBMISSION

B7.1 The Proposal shall consist of the following components:

- (a) Form A: Proposal;
- (b) Form B: Prices;
- (c) Technical suitability;
- (d) Flexibility and/or adaptability.

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Proposal shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Proposal.

B7.3.1 Bidders should submit one (1) unbound original (marked "original") and three (3) copies.

B7.4 The Proposal Submission shall be submitted enclosed and sealed in an envelope clearly marked with the RFP number and the Bidder's name and address.

B7.4.1 Samples or other components of the Proposal Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the RFP number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Proposal Submission.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Request for Proposal document, including the General Conditions, will be evaluated in accordance with B18.1(a).

B7.7 Proposals submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Proposals shall be submitted to:

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

B8. PROPOSAL

B8.1 The Bidder shall complete Form A: Proposal, making all required entries.

B8.2 Paragraph 2 of Form A: Proposal shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;

- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Proposal is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Proposal, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Proposal.

B8.4 Paragraph 11 of Form A: Proposal shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers and the corporate seal, if the corporation has one, should be affixed;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Proposal should be printed below such signatures.

B8.5 If a Proposal is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Proposal and the Contract, when awarded, shall be both joint and several.

B9. TECHNICAL SUITABILITY

B9.1 The Bidder shall include, in their submission, the technical specifications of proposed point to point microwave link.

B10. FLEXIBILITY OR ADAPTABILITY

B10.1 The Bidder shall include, in their submission, information regarding the proposed point to point microwave link's flexibility and/or how it will adapt to future data needs.

B11. PRICES

B11.1 The Bidder shall state the lump sum price in Canadian funds for the Work on Form B: Prices.

B11.1.1 The price on Form B: Prices shall include:

- (a) duty;
- (b) freight and cartage;
- (c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;
- (d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.

B11.1.2 The price on Form B: Prices shall not include the Manitoba Association for Resource Recovery Corporation (MARRC) Environmental Handling Charge (EHC) which shall be extra where applicable.

B12. QUALIFICATION

B12.1 The Bidder shall:

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

B12.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:

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

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

- (a) have successfully carried out work similar in nature, scope and value to the Work; and
- (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and
- (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);

B12.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B12.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

B13. OPENING OF PROPOSALS AND RELEASE OF INFORMATION

B13.1 Proposals will not be opened publicly.

B13.2 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt>

B13.3 To the extent permitted, the City shall treat all Proposal as confidential, however the Bidder is advised that any information contained in any Proposal Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

B14. IRREVOCABLE OFFER

B14.1 The Proposal(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 10 of Form A: Proposal.

B14.2 The acceptance by the City of any Proposal shall not release the Proposals of the other responsive Bidders and these Bidders shall be bound by their offers on such Work for the time period specified in Paragraph 10 of Form A: Proposal.

B15. WITHDRAWAL OF OFFERS

- B15.1 A Bidder may withdraw his Proposal without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B15.1.1 Notwithstanding C21, the time and date of receipt of any notice withdrawing a Proposal shall be the time and date of receipt as determined by the Manager of Materials.
- B15.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Proposal or the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal, and only such person, has authority to give notice of withdrawal.
- B15.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials will:
- (a) retain the Proposal until after the Submission Deadline has elapsed;
 - (b) open the Proposal to identify the contact person named in Paragraph 3 of Form A: Proposal and the Bidder's authorized representatives named in Paragraph 11 of Form A: Proposal; and
 - (c) if the notice has been given by any one of the persons specified in B15.1.3(b), declare the Proposal withdrawn.
- B15.2 A Bidder who withdraws his Proposal after the Submission Deadline but before his offer has been released or has lapsed as provided for in B14.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

B16. INTERVIEWS

- B16.1 The Contract Administrator may, in his sole discretion, interview Bidders during the evaluation process.

B17. NEGOTIATIONS

- B17.1 The City reserves the right to negotiate details of the Contract with any Bidder. Bidders are advised to present their best offer, not a starting point for negotiations in their Proposal Submission.
- B17.2 The City may negotiate with the Bidders submitting, in the City's opinion, the most advantageous Proposals. The City may enter into negotiations with one or more Bidders without being obligated to offer the same opportunity to any other Bidders. Negotiations may be concurrent and will involve each Bidder individually. The City shall incur no liability to any Bidder as a result of such negotiations.
- B17.3 If, in the course of negotiations pursuant to B17.2 or otherwise, the Bidder amends or modifies a Proposal after the Submission Deadline, the City may consider the amended Proposal as an alternative to the Proposal already submitted without releasing the Bidder from the Proposal as originally submitted.

B18. EVALUATION OF PROPOSALS

- B18.1 Award of the Contract shall be based on the following evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Request for Proposal or acceptable deviation therefrom:
 - (i) mandatory requirements (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B12:
 - (i) mandatory qualifications (pass/fail);

- (c) Total Bid Price 40%;
- (d) Technical suitability 30%;
- (e) Flexibility and/or adaptability to future data needs 20%;
- (f) economic analysis of any approved alternative pursuant to B6;

B18.2 Further to B18.1(a), the Award Authority may reject a Proposal as being non-responsive if the Proposal Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Proposal, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

B18.3 Further to B18.1(b), the Award Authority shall reject any Proposal submitted by a Bidder who does not demonstrate, in his Proposal, in other information required to be submitted, during interviews or in the course of reference checks, that he is responsible and qualified.

B18.4 Further to B18.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.

B18.5 Further to B18.1(d), the Technical Suitability will be evaluated in accordance with the specifications as listed in PART E - Specifications and the proposed point to point microwave link.

B18.6 Further to B18.1(e), the Flexibility and/or adaptability to future needs will be evaluated considering the information submitted.

B18.7 This Contract will be awarded as a whole.

B18.8 If, in the sole opinion of the City, a Proposal does not achieve a pass rating for B18.1(a) and B18.1(b), the Proposal will be determined to be non-responsive and will not be further evaluated.

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 responsible and qualified, and the Proposals 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 its own forces;
- (d) only one Proposal is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B19.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the most advantageous offer, in accordance with B18.

B19.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Proposal upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for the Supply and Delivery of Goods* (Revision 2008 05 26) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for the Supply and Delivery of Goods* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the proposal to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Supply of Goods*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

- D1.1 In addition to the *General Conditions for the Supply and Delivery of Goods*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.1 In addition to the *General Conditions*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

- D2.1 The Work to be done under the Contract shall consist of the supply and installation of a Point to Point Microwave Link.
- D2.2 The major components of the Work are as follows:
- (a) One link will be used to carry Ethernet traffic related to the City's internal business network,
 - (b) The second link will be used to carry SCADA data.
- D2.3 Notwithstanding D2.1, the type and quantity of Work to be performed under this Contract is subject to annual approval of monies therefore in a budget by Council. Bidders are advised that monies have been approved for work up to and including December 31, 2009.
- D2.4 Notwithstanding D2.1, in the event that operational changes result in substantial changes to the requirements for Work, the City reserves the right to alter the type or quantity of work performed under this Contract, or to terminate the Contract, upon thirty (30) Calendar Days written notice by the Contract Administrator. In such an event, no claim may be made for damages on the ground of loss of anticipated profit on Work.

D3. CONTRACT ADMINISTRATOR

- D3.1 The Contract Administrator is:
- Ed Richardson
Communications Systems Engineer
421 Osborne Street
- Telephone No.: (204) 986-6002
Facsimile No.: (204) 986-2666
erichardson@winnipeg.ca

D4. NOTICES

- D4.1 Notwithstanding C21.3 all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:
- The City of Winnipeg
Chief Financial Officer
Administration Building, 3rd Floor
510 Main Street
Winnipeg MB R3B 1B9
Facsimile No.: (204) 949-1174

D5. CONFIDENTIALITY AND OWNERSHIP OF INFORMATION

- D5.1 Information provided to the Contractor by the City or acquired by the Contractor during the course of the Work is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator.
- D5.2 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City. The Contractor shall not disclose or appropriate to its own use, or to the use of any third party, all or any part thereof without the prior written consent of the Contract Administrator.
- D5.3 The Contractor shall not make any statement of fact or opinion regarding any aspect of the Contract to the media or any member of the public without the prior written authorization of the Contract Administrator.

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

- D6.1 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.

D7. INSURANCE

- D7.1 The Contractor shall provide and maintain the following insurance coverage:
- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;
 - (b) if required, automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00), to remain in place at all times during the performance of the Work;
- D7.2 Deductibles shall be borne by the Contractor.
- D7.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4, for the return of the executed Contract.
- D7.4 The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

SCHEDULE OF WORK

D8. COMMENCEMENT

- D8.1 The Contractor shall not commence any Work until he is in receipt of a notice of award from the City authorizing the commencement of the Work.
- D8.2 The Contractor shall not commence any Work until:
- (a) the Contract Administrator has confirmed receipt and approval of:

- (i) evidence of authority to carry on business specified in D6;
 - (ii) evidence of the workers compensation coverage specified in C6.16; AND
 - (iii) evidence of the insurance specified in D7.
- (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

D9. DELIVERY

- D9.1 Goods shall be delivered within forty five (45) Calendar Day(s) of the placing of an order, f.o.b. destination, freight prepaid to:
- (a) McPhillips Control Centre, 360 McPhillips Street, Winnipeg;
 - (b) Deacon Water Treatment Plant, Lot 57082 PR207 RM of Springfield.
- D9.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.
- D9.3 Goods shall be delivered between 8:30 a.m. and 4:30 p.m. on Business Days.
- D9.4 The Contractor shall off-load goods as directed at the delivery location.

MEASUREMENT AND PAYMENT

D10. PAYMENT

- D10.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D11. PAYMENT SCHEDULE

- D11.1 Further to C10, payment shall be in accordance with the following payment schedule:
- (a) fifty percent (50%) payable after delivery of product;
 - (b) thirty-five percent (35%) payable after installation;
 - (c) the balance, (fifteen percent 15%), payable after successful commissioning.

WARRANTY

D12. WARRANTY

- D12.1 Notwithstanding C11, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter unless extended pursuant to C11.3, in which case it shall expire when provided for thereunder..

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

- E1.1 These Specifications shall apply to the Work.
- E1.2 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6.

E2. GOODS

- E2.1 The Contractor shall supply a medium capacity redundant microwave link in accordance with the requirements hereinafter specified.
- E2.2 The microwave link is defined as a the transmitters, receivers, antennas, feedline, power supplies and any necessary cables multiplexors or interfaces required to transport the data as outlined below.
- E2.3 The link shall be designed to be redundant. Two separate links shall exist between Terminal 1 and Terminal 2.
- E2.4 One link will be used to carry Ethernet traffic related to the City's internal business network. The second link will be used to carry SCADA data.
- E2.5 A failure on any component in either link must result in the traffic carried on the failed link being switched to the other link. This switch of data routing must be automatic and accomplished with no operator intervention.

E3. TERMINAL 1

- E3.1 The primary terminal is identified as the McPhillips Control Center (MCC). There is a free standing tower of height thirty (30) meters at this Site.
- E3.2 The tower is a model RG33 tower, installed by Radian Communication Services in 2003.
- E3.3 The Coordinates of the tower at MCC are (49 54' 57"N, 97 10' 18"W)
- E3.4 The existing tower is currently loaded as follows:

ANT	Description	Elevation	Tx Line	Azimuth
1	SRL-480 (940 MHz omnidirectional)	30.0m	LDF5	N/A
2	GP6 (6FT diam grid dish)	27.4m	LDF5	113.3°
3	SRL-406HD (940 MHz yagi)	18.3m	LDF4	116°

- E3.5 The tower has been designed for additional loading that would allow another six (6) foot diameter grid antenna to be installed five (5) meters below the existing GP6.

E4. TERMINAL 2

- E4.1 The second terminal is identified as the Branch 2 Surge Tower, located at the Deacon Water Treatment Plant (DTP). There is a free standing tower of height nine (9) meters installed atop a 33m concrete structure at this Site. The structure is called the "Surge Tower"
- E4.2 The tower is a model RG24 series tower installed by Radian Communication Services in 2002.
- E4.3 The Coordinates of the Branch 2 Surge Tower are (49 51' 1"N, 96 56' 41"W)
- E4.4 The existing tower is currently loaded as follows:

ANT	Description	Elevation	Tx Line	Azimuth
1	GP6 (6FT diam grid dish)	40.6m	LDF5	293.5°
2	GP6 (6FT diam grid dish)	40.6m	LDF5	104.8°

- E4.5 The tower has been designed for additional loading that would allow another two, six (6) foot diameter grid antennas to be installed two (2) meters below the existing GP6.

E5. DATA

- E5.1 An existing 940MHz link is used to send and receive SCADA data. This data originates and terminates in Ethernet TCP/IP protocol.
- E5.2 A secondary 5.8GHz unlicensed link exists that carries business Ethernet network traffic.
- E5.3 The intent of this project is to provide two independent licensed microwave links between 360 McPhillips and the Deacon Water Treatment Plant. One link will be designated for carrying business data traffic and the second link for the SCADA Ethernet traffic. The failure of either link must result in the traffic from the failed link being transferred to the operational link automatically.
- E5.4 Capacity for expansion is important. Consideration for adding multiple video channels, 2 wire and 4 wire DS0 channels should be provided.

E6. BASIC TECHNICAL SPECIFICATION

- E6.1 Offerer shall provide details on the proposed solution, specifically including all electrical, mechanical and environmental specifications contained below.
- E6.2 Radio Frequencies
- (a) The transmit and Receive frequencies must be in a licensed band.
 - (b) The transmit and receive frequencies should be in the 2025-2110 and/or the 2200-2285 MHz bands.
 - (c) Offerer shall provide the available frequency bands for their proposal.
- E6.3 The frequency stability of the proposed solution must be less than or equal to 3ppm over the complete temperature range. The Offerer shall provide temperature stability specifications.
- E6.4 Modulation of the carrier shall be spectrally efficient and selectable via software. The use of adaptive modulation techniques that adjust to variations in link performance automatically is permitted. The Offerer shall detail the modulation formats available and the required signal levels for each modulation required to provide a bit error rate (BER) of 10^{-6} .

- E6.5 The link transmitters and receivers shall have a MTBF of >80000 hours. The Offerer shall provide the MTBF.
- E6.6 Data capacity shall be a minimum of 10Mbps per link. The Offerer shall detail the minimum and maximum capacities achievable on the planned link. Capacity shall be measured at a BER of 10^{-6} .
- E6.7 Transmitter power shall conform with the Industry Canada regulations specific to the frequency band being proposed. The Offerer shall provide the minimum and maximum transmit power measured in dBm, the adjust range, adjustment step size, and adjustment method.
- E6.8 Receiver sensitivity shall be defined as the signal level required at the antenna input required to produce a BER of 10^{-6} . The Offerer shall provide the receiver sensitivity for each modulation format and data rate.
- E6.9 Carrier to Interference (C/I) ratio shall be provided for each modulation format and data rate.
- E6.10 The Offerer shall provide details on the error correction methodology that is implemented.
- E6.11 The Offerer shall detail the strategies for dealing with multipath interference.
- E6.12 The Offerer shall describe the cross connect facilities available. Cross connect enables distribution of the radio link capacity to the various customer interfaces, thereby providing flexibility to reconfigure traffic as network changes demand plus drop and insert capabilities.
- E6.13 The Offerer shall provide details on the power supply system including, input and output voltages, input and output currents, and methods of interconnecting the various system components.
- E6.14 The Offerer shall provide details on the Ethernet interface. Specifically the following items must be described:
- (a) How is allocation of Ethernet traffic performed?
 - (b) Is the full gross rate of the radio available for Ethernet?
 - (c) Half or Full duplex configuration methods?
 - (d) Is auto-sensing MDI/MDIX available?
 - (e) VLAN tagging and Quality of Service (QoS).
 - (f) Port based rate limiting and flow control.
 - (g) Filtering and forwarding, automatic learning and aging.
 - (h) Number of MAC addresses supported.

E7. ENVIRONMENTAL SPECIFICATION

- E7.1 The proposed solution may be comprised of indoor and outdoor equipment. Outdoor equipment such as antennas, transmitters/receivers, interconnecting cable and power supplies, shall be designed to withstand the wide temperature extremes, rain, snow and freezing precipitation.
- E7.2 Electrical specifications must be maintained over the complete operating temperature and humidity range.
- E7.3 The Offerer shall provide the details of the environmental specifications. The following specifications as a minimum must be provided:
- (a) Operating temperature range for any outdoor installed equipment shall be <-45°C to >+45°C;
 - (b) Operating temperature range for any indoor installed equipment shall be <-5°C to >+40°C;
 - (c) Humidity rating for any outdoor installed equipment shall be 100% condensing and the equipment shall operate without degradation when subjected to rainfall amounts of 200mm/hr; and

- (d) Humidity rating for all indoor installed equipment shall be > 95% non-condensing.

E8. MECHANICAL SPECIFICATION

- E8.1 Outdoor installed equipment shall be designed to withstand the environmental and physical mounting requirements.
- E8.2 The Offerer shall provide the mechanical specifications of each system component. Specifications shall include:
 - (a) Physical dimensions;
 - (b) Weight;
 - (c) Windloading for tower mounted equipment.

E9. CONFIGURATION, ALARMS AND MONITORING

- E9.1 Configuration of the electronics should be via an Ethernet connection. Through this connection, radio configuration files should be downloaded or uploaded.
- E9.2 For indoor mounted electronics, front panel programming in addition to Ethernet connection is acceptable.
- E9.3 Offerer shall describe the parameters that can be modified. As a minimum these should include:
 - (a) Transmit power;
 - (b) Transmit Frequency; and
 - (c) Receive Frequency.
- E9.4 Software and firmware updates should be performed through the Ethernet connection.
- E9.5 The electronics must provide indications of faulted operation or out of specification performance. The Offerer shall describe which methods are used and how the fault conditions are reported.
- E9.6 For outdoor mounted equipment, an SNMP connection to the equipment is acceptable for fault monitoring.
- E9.7 For indoor mounted electronics, relay contacts in addition to an SNMP connection should be provided.
- E9.8 The Offerer shall describe the faults /conditions that can be monitored and how they are reported or indicated. As a minimum, the following conditions shall be reported:
 - (a) Forward power, low power conditions;
 - (b) Reverse power, excessive return loss or VSWR;
 - (c) High temperature; and
 - (d) Loss of receive signal.
- E9.9 The Offerer shall describe the performance characteristics that can be monitored and how these are reported. As a minimum, these should include:
 - (a) Relative Signal Strength or RSSI; and
 - (b) Bit error rate or BER.

E10. INSTALLATION AND COMMISIONING

- E10.1 Responders to this bid must be an authorized, distributor, reseller or manufacturer of the equipment.

- E10.2 Installation shall only be performed by individuals that have been certified or accredited by the manufacturer as being qualified to perform the work.
- E10.3 Installations of antennas, feedlines, and other outdoor tower mounted equipment shall be performed only by experienced individuals, familiar with the safety precautions and safe work practices required for this Work. The Offerer shall provide details of the work history and experience of the individuals performing this Work.
- E10.4 A complete test and commissioning plan ("Plan") must be provided to the Contract Administrator no less than fifteen (15) working days before the scheduled installation. The installation and commission may not proceed until this plan is approved in writing by the Contract Administrator.
- E10.5 A complete Safe Work Plan must be provided to the Contract Administrator no less than fifteen (15) Working Days before the scheduled installation.
- E10.6 Three (3) complete sets of as built drawings must be provided by the Offerer no later than sixty (60) Calendar Days after the successful installation and commissioning.
- E10.7 The system will be considered installed and commissioned only once all tests and processes contained in the "Plan" have been witnessed and approved in writing by the Contract Administrator or his/her representative.
- E10.8 Installation shall include all the necessary components required to transmit and receive Ethernet data between the two terminal Sites. The City will be responsible for providing an Ethernet connection at each terminal Site.