



City of Morden
Planning & Engineering
100-195 Stephen Street,
Morden, R6M 1L6

17 July 2014

RE: Victoria Street Pathway Reconstruction Project
Tender 1311. Base Construction.

Dear Prospective Contractor,

The City of Morden wishes to invite tenders for Victoria Street Pathway Reconstruction Project.
Base Construction.

Please take careful note of the following:

1. Tender submission deadline is **July 23, 2014 at 11am**;
2. Works must be completed by August 15, 2014, with an exception of topsoil, which must be completed within three weeks after asphalt and concrete works (by others)
3. Please direct questions to Dave Haines, P.Eng. as follows.
dhaines@mordenmb.com; (204)822-4434

We understand that you will invest time and effort into providing tender and we express our thanks and appreciation for doing so.

Please feel free to request clarifications and any additional information necessary for you to prepare a comprehensive quotation.

Sincerely,

Tatiana Sinchenko
City of Morden
Engineering Assistant



City of Morden
Planning & Engineering
100-195 Stephen Street,
Morden, R6M 1L6

17 July 2014

RE: Victoria Street Pathway Reconstruction Project
Tender 1311. Base Construction.

Dear Prospective Contractor,

The City of Morden wishes to invite tenders for Victoria Street Pathway Reconstruction Project.
Base Construction.

Please take careful note of the following:

1. Tender submission deadline is **July 23, 2014 at 11am**;
2. Works must be completed by August 15, 2014, with an exception of topsoil, which must be completed within three weeks after asphalt and concrete works (by others)
3. Please direct questions to Dave Haines, P.Eng. as follows.
dhaines@mordenmb.com; (204)822-4434

We understand that you will invest time and effort into providing tender and we express our thanks and appreciation for doing so.

Please feel free to request clarifications and any additional information necessary for you to prepare a comprehensive quotation.

Sincerely,

Tatiana Sinchenko
City of Morden
Engineering Assistant

Tender

Project 1311

Victoria Pathway Reconstruction Project: Base Construction

Note:

1. Tender closing is: July 23, 2014
2. Sign and return ALL sections of this tender



City of Morden
100-195 Stephen Street
Morden, MB R6M 1V3
[Tel] 204-822-4434
[Fax] 204-822-6494

Project No. 1311
July 7, 2014

PART 1. Invitation to Tender

The City of Morden invites Tenders for Project Number 1311, "Victoria Pathway Reconstruction Project: Base Construction".

PART 2. Description of Works

- A. The location of the Work is at Victoria Street, east of First Street, Morden. The Work shall include:
- i. Supply, place and compact pit-run to existing ditches.
 - ii. Supply, install and compact C-Base and A-Base to existing ditch at the locations shown on the plans.
 - iii. Remove existing road signs and reinstall them as marked on the plans.

PART 3. Tender Documents

- A. Documents may be obtained at the City Office: 100-195 Stephen Street, Morden, MB. Ensure that you provide your full name, address, telephone, email and fax details to guarantee that you receive addenda. Call ahead to make sure the package is ready.

PART 4. Tender Submission

- A. The date and time of Tender Closing is **Thursday, July 23, 2014 at 11a.m.** The Owner will receive Tenders at the PDO Office:
- 133 - 7th Street
Morden, MB
- B. Submission of a Tender indicates the Tenderer's agreement that all costs and expenses associated with the preparation of the Tender are the sole responsibility of the Tenderer.
- C. The submission must be contained in a sealed envelope or package, labeled with the Project Description and the Tenderer's name. The Tender submission must contain whole tender contract with each section signed.
- D. The Owner may accept Fax and Email copies of the documents in Clause C at its discretion. Should the Owner choose to accept Tender Submissions in that format, the successful Tenderer must provide the Owner with the originals within two calendar days of the Tender closing date. Any Tenderer wishing to submit in this format must contact the Engineer to make such arrangements.

- E. The Owner will only accept Tender submissions in the form described above. The Owner will not consider oral submissions for acceptance.
- F. The Owner will accept amendments to a Tender submission providing that such amendment is submitted in writing, signed by the person(s) who signed the original submission, and that it arrives prior to Tender Closing in a sealed envelope labeled with the details described above. Such amendments must be in accordance with the Tender Documents.

PART 5. Pre-Tender Enquiries and Addenda

- A. For any enquiries relating to the Tender please contact:

Primary Contact

Dave Haines, P. Eng.
Civil Engineer
City of Morden, Planning & Engineering
133 – 7th Street
Morden, MB
[Tel] 204-822-4434
[Fax] 204-822-6494

Secondary Contact

Tatiana Sinchenko
Engineering Assistant
[Tel] 204-822-4434 ext.2574
[Fax] 204-822-6494

- B. Clarifications, interpretations, and explanations may be made in the form of Addenda. The Owner may issue addenda during the Tender period and will distribute such Addenda to all persons known by the Owner to have obtained a set of the Tender Documents. All such Addenda shall become part of the Tender Documents.
- C. No oral clarifications, interpretations, or explanations by any person whatsoever shall bind the Owner in the interpretation of the Tender Documents.
- D. Should a Tenderer find any errors, omissions, or discrepancies in the Tender Documents, it shall immediately notify the Owner in writing.
- E. The Owner will consider any requests for extension to Tender Closing but reserves the right to do so at its own discretion.

PART 6. Site Inspection

- A. The Tenderer is responsible for examining the work site before submitting a Tender. The Tenderer is responsible for familiarizing itself with, and allowing for, all site conditions including the project locations, local conditions, access locations and limitations,

topographical conditions, presence of obstructions, working widths, and all other site conditions which may affect the Work.

- B. The Tender is deemed to include the cost of working in these conditions and the Owner will not consider additional payment or time extensions due to site conditions which were or would have been reasonably foreseeable given a proper inspection of the site by the Tenderer.
- C. Should a Tenderer wish to make exploratory excavations or investigations at the site, it shall make arrangements with the Owner. The Owner, at its own discretion, may set conditions or limitations on such excavations or investigations and may refuse to permit them.

PART 7. Bid and Performance Security

- A. The Owner will not require a bid bond for this project.
- B. In lieu of performance bonding, the Owner will implement an increased holdback as follows: the Owner will retain a 15% holdback until 40 days after substantial completion, after which time it will reduce to 7% and be retained for the maintenance period.

PART 8. Variations to Tender Documents

- A. Tender submissions shall be in accordance with the terms and conditions contained in the Tender Documents. The Owner may, at its own discretion, disqualify a Tender that materially changes these terms and conditions.
- B. Should a Tenderer wish to submit a Tender that is different from the terms and conditions of the Tender Documents, it shall do so in the form of the "Tenderer's Proposed Amendments" form. The Tenderer shall submit this form in accordance with the terms and conditions of the Tender Documents and by the date and time specified therein.
- C. Note that a Tender submission cannot be accepted with such proposed amendments unless the entire Tender is complete as per the Contract Documents.

PART 9. Irrevocability of Offer

The Tender submitted by the Tenderer shall remain open to acceptance by the Owner and shall be irrevocable for a period of sixty (60) days from the Tender Closing date.

PART 10. Acceptance and Rejection of Tenders

- A. The Owner, at its own discretion, reserves the right to:
 - i. Accept any Tender;
 - ii. Reject any Tender;

- iii. Accept a Tender which is not the lowest Tender;
 - iv. Reject a Tender even if it is the only Tender received by the Owner;
 - v. Accept all or any part of a Tender.
- B. The Owner reserves the right to reject any Tender containing errors, omissions, erasures, items not part of the Tender form, or any obviously unbalanced Tender.
- C. The Owner may disqualify or reject Tenders containing qualifying conditions or otherwise failing to comply with the Tender Documents. The Owner reserves its right to reject or retain for its consideration non-qualifying Tender submissions.
- D. The Owner will notify the successful Tenderer in writing that its Tender has been accepted.
- E. The successful Tenderer shall submit the following original documentation to the Owner within two (2) days of the notification of acceptance of Tender:
- i. An original certificate of insurance as per MWSB Clause 10 (1) in the amount of \$2,000,000.

PART 11. Withdrawal of Tender

The Tenderer may withdraw its Tender submission, unopened, if such request is received by the Owner in writing prior to the Tender Closing date.

I have read and understood the "*Tender Instructions*".

Signature

Date

PART 1. Tenderer's Name

This Tender for Project Number Victoria Pathway Reconstruction Project: Base Construction, "1311" is hereby submitted by (please print):

[Name of Tenderer]

[Address of Tenderer]

[Telephone Number of Tenderer]

[Fax Number of Tenderer]

[GST Registration Number]

[Signature of Tenderer]

[Date]

PART 2. Tender Documents

A. The Tender Documents for this Contract include:

- i. All documents listed in the Table of Contents.
- ii. Drawings
- iii. Addenda

PART 3. Tenderer's Offer

A. The Tenderer offers to perform the works for the total Tender Price of:

\$ _____ CANADIAN DOLLARS

PART 4. Tenderer's Declarations

- B. The Tenderer declares that it has read and understood and agrees to be bound by the Tender Documents.
- C. The Tenderer confirms, represents and warrants that all information which it has provided or will provide to the City is true and accurate in every respect.
- D. If the City accepts the Tender, the Tenderer shall commence the Work on the date agreed upon by the City and the Contractor, and shall achieve Substantial Completion upon completion of seventy-five percent (75%) of the Contract value.

PART 5. Schedules

- A. The following Schedules shall form a part of the Tender Documents:
 - i. Schedule of Quantities and Prices
 - ii. Schedule of Tenderer's Proposed Amendments(Note that all schedules must be included with the Tender submission.)
- B. All prices to be shown in Canadian Dollars.

Schedule of Quantities and Prices

- I. The Tenderer hereby submits unit prices as required by the specifications and agrees that the City will use these as the basis for payment of work. The quoted prices shall remain in force until the date of contract completion.
- II. The Tenderer agrees that the City will use the unit prices agreed upon in the Tender Form to determine the value of any works added to, or deleted from the Contract.
- III. The Tenderer agrees that the Tender Price, including the unit prices, includes all necessary costs to complete the works unless otherwise indicated elsewhere in the Tender Documents.
- IV. The Tenderer agrees that the City, or its appointed representative, will measure the progress of the work.
- V. The Total Tender Amount should agree with the sum of the individual unit prices plus GST.

	Item Description	Qty.	Unit	Unit Price (\$)	Total Price (\$)
1.	Remove existing 50mm Asphalt surface and transport to Compost Site	51.0	YD3	\$	\$
2.	Compaction of existing subgrade	1350	SM	\$	\$
3.	Supply, place and compact pit-run	320	YD3	\$	\$
4.	Supply and installation of Geotextile (Woven)	1170	SM	\$	\$
5.	Supply, place and compact C-Base	235	YD3	\$	\$
6.	Supply, place and compact A-Base	230	YD3	\$	\$
7.	Remove existing road signs and reinstall them after job is done	7	EA	\$	\$
8.	Supply, place and level topsoil (100mm)	150	YD3	\$	\$

Total Price	\$
--------------------	-----------

GST (5%) \$

Total Tender Price	\$
---------------------------	-----------

Total Tender Price (printed):

Name of Tenderer

Signature of Tenderer

Date

VI. The Tenderer agrees that the City will pay any Extra Work on the basis of hourly rates indicated in *Tenderer's Rates*. Please list all equipment, tools, manpower, etc. that you intend to use to complete Works and associated hourly rates.

Tenderer's Rates

Item	Rate (\$)	Hourly/Daily

Schedule of Tenderer's Proposed Amendments

- I. The following is a full and complete list of the Tenderer's proposed changes or amendments to the Tender Documents.
- II. Use additional pages if necessary. Any additional pages must be signed and dated as below.

Name of Tenderer

Signature of Tenderer

Date

Execution by Tenderer

This Tender is executed at _____ this ____ day of _____, 2014.

SIGNED, SEALED and DELIVERED

) TENDERER

)

)

) _____
Company Name

)

)

) _____
Signature

)

)

) _____
Print Name & Title

)

)

) _____
Signature

)

)

) _____
Print Name & Title

In the presence of:

Print Name of Witness

Address

Signature of Witness

This Agreement made this ____ (day) of _____ (month), 2014

BETWEEN: *Contractor* (the “Contractor”)

AND: City of Morden (the “Owner”)

FOR: The Works as described in the Contract Documents for the Victoria Pathway Reconstruction Project: Base Construction Project

This agreement witnesses that the Contractor and the Owner agree as follows:

1. The Contractor shall provide the necessary labour, plant, equipment, and materials required to perform the work within the required time, as required by the Contract Documents.
2. The Owner shall pay the Contractor the Contract price, as required by the Contract Documents.
3. The Contract Price shall be as follows:
 - a. The Tender Price, as set out in Section 1200, for the unit prices agreed upon and for the actual quantities of work performed by the Contractor; and
 - b. Any payments made on account of changes, as may be required by the Contract documents.
4. The Contractor shall commence the Work on the date agreed upon by both parties and shall complete all works within the period agreed upon by both parties.
5. The Contract Documents, including the Tender Form, all appendices and Addenda, shall form a part of this Agreement.
6. The Contractor shall not assign the Contract, or any portion of the Contract, or any payments due or to become due under the Contract, without the express written consent of the City.

Section 1300

Form of Agreement

Time shall be of the essence of this Agreement.

IN WITNESS WHEREOF the Contractor and the Owner have executed this Agreement this ____ day of _____, 2014.

SIGNED, SEALED and DELIVERED
on behalf of the Contractor

) **CONTRACTOR**
)
) _____
) Company Name
)
) _____
) Signature
)
) _____
) Print Name & Title
)
) _____
) Signature
)
) _____
) Print Name & Title

In the presence of:

Print Name of Witness

Address

Signature of Witness

SIGNED, SEALED and DELIVERED
on behalf of the Owner

) **OWNER**
)
) _____
) Company Name
)
) _____
) Signature
)
) _____
) Print Name & Title
)
) _____
) Signature
)
) _____
) Print Name & Title

In the presence of:

Print Name of Witness

Address

Signature of Witness

This Agreement made this ____ (day) of _____ (month), 2014

BETWEEN: *Contractor* (the "Contractor")

AND: City of Morden (the "Owner")

FOR: The Works as described in the Contract Documents for the Victoria Pathway Reconstruction Project: Base Construction Project

This agreement witnesses that the Contractor and the Owner agree as follows:

1. The Contractor shall provide the necessary labour, plant, equipment, and materials required to perform the work within the required time, as required by the Contract Documents.
2. The Owner shall pay the Contractor the Contract price, as required by the Contract Documents.
3. The Contract Price shall be as follows:
 - a. The Tender Price, as set out in Section 1200, for the unit prices agreed upon and for the actual quantities of work performed by the Contractor; and
 - b. Any payments made on account of changes, as may be required by the Contract documents.
4. The Contractor shall commence the Work on the date agreed upon by both parties and shall complete all works within the period agreed upon by both parties.
5. The Contract Documents, including the Tender Form, all appendices and Addenda, shall form a part of this Agreement.
6. The Contractor shall not assign the Contract, or any portion of the Contract, or any payments due or to become due under the Contract, without the express written consent of the City.

Section 1300

Form of Agreement

Time shall be of the essence of this Agreement.

IN WITNESS WHEREOF the Contractor and the Owner have executed this Agreement this ____ day of _____, 2014.

SIGNED, SEALED and DELIVERED
on behalf of the Contractor

) **CONTRACTOR**

)

)

)

)

)

)

)

)

)

)

)

)

)

)

In the presence of:

Print Name of Witness

Company Name

Signature

Print Name & Title

Address

Signature

Signature of Witness

Print Name & Title

SIGNED, SEALED and DELIVERED
on behalf of the Owner

) **OWNER**

)

)

)

)

)

)

)

)

)

)

)

)

)

)

In the presence of:

Print Name of Witness

Company Name

Signature

Print Name & Title

Address

Signature

Signature of Witness

Print Name & Title

PART 1. Definitions

The following words and terms, unless context indicates otherwise, in all Contract Documents, shall have the meanings set out below:

“ADDENDA” means any supplemental written specifications, instructions, or drawings issued prior to the execution of the Agreement, modifying or interpreting the Contract Documents.

“AGREEMENT” means the agreement set out in Section 1300.

“CONTRACT DOCUMENTS” means and includes the following documents:

- i. The Tender Documents.
- ii. The executed Tender Form.
- iii. The executed Bonds, if any.
- iv. The executed Agreement.
- v. The General Conditions and Specifications.
- vi. Drawings.
- vii. Specifications as set out in the following pages.
- viii. Such other documents as may be specifically included.

“CONTRACT PRICE” means the price set out in Section 1400.

“CONTRACTOR” means the party identified in Section 1300 as the “Contractor”.

“DEFICIENCY LIST” means the list of defective, deficient or incomplete items necessary for the completion of the works.

“ENGINEER” means and includes the Engineer of the Owner and any other person duly authorized to act as Engineer or to represent the Engineer on behalf of the Owner.

“EXTRA WORK” means any work required by the Contractor to complete the Works that could not have been reasonably foreseen at the time of Tender.

“MAINTENANCE PERIOD” means the period of time specified herein for which the Contractor shall be held responsible for the guarantee of workmanship for those works completed by, for, or on behalf of, the Contractor in the fulfillment of the requirements of the Contract Documents.

“NOTICE TO PROCEED” means the written notice to the Contractor to proceed with the works outlined in the Contract Documents.

“OWNER” means the party identified in Section 1300 as the “Owner”.

“SUBSTANTIAL COMPLETION” means that the work has been sufficiently completed such that it is ready for use or is being used for its intended purpose and the work is capable of completion, including any work set out in the Deficiency List at a cost of not more than 1% of the balance of the Contract Price.

“TENDER” means the written offer set out in Section 1200 as instructed in Section 1100.

“TENDERER” means the person, persons, partnership, or corporation that submits a Tender for the proposed works.

“WORK SITE” means the site where the works specified in the Contract Documents are done.

PART 2. Specifications

- A. The following Specifications form an integral part of this Contract as fully as though recited in full herein:
- i. The Manitoba Infrastructure and Transportation, Standard Construction Specifications, hereafter referred as “MIT Specification”.
 - ii. The City of Winnipeg Standard Construction Specifications: Division 4 – Surface Works Specifications, hereafter referred as “CW Specification”.
- B. The Contractor is responsible to obtain and familiarize itself with all relevant standards and specifications cited by, and included in, the Contract Documents.
- C. Materials, Compaction and Testing
- i. The Owner will arrange for the compaction testing of pit-run, the ‘C’ base and ‘A’ base once compaction is complete. As indicated in Part 3, the Owner will pay the costs for testing; where retesting is required due to failed tests, the Contractor is responsible for the extra testing cost. The Contractor is responsible to ensure that the testing agency has the necessary information and samples necessary to establish the proctor on all materials. Compaction will be to 98% Modified Proctor density.
 - ii. Materials shall meet the specifications of MIT No. 700 “Specifications for Granular Base Course”.
- D. Construction Methods
- a. For removing asphalt pavement shall meet the specifications of MIT No. 810 “Specification for Removing Asphalt Pavement”.
 - b. Base Construction shall meet the CW Specification Division 4 – Surface Works Specifications, CW 3110-R17.
 - c. Geotextile fabric shall be woven, and installed according to CW Specification Division 4 – Supply and Installation of Geotextile Fabrics, CW 3130-R4

PART 3. Measurement & Payment

- A. Measurements and payments will be according to the unit prices and units indicated in Section 1200, *Quantities and Prices*, and as explained or qualified here.
- B. Payment will be on a monthly basis unless the Owner and Contractor make other arrangements and the holdback will be deducted from each progress payment.
- C. The Contractor must provide the Engineer with a detailed list of the equipment, tools, and manpower, with associated hourly rates, that they will use to complete the Works. The Engineer reserves the right to negotiate hourly rates to reflect market rates and these rates will be the basis for down time and extra work.
- D. The Owner will pay any Extra Work on the basis of actual time spent on that work rounded up to the nearest half hour. Before completing any Extra Work, the Contractor *must* notify the Engineer of the requirement for Extra Work.
- i. The Engineer will make note of the equipment and manpower required for the Extra Work and will use the hourly rates to determine payment for the Extra Work.
 - ii. The Owner will pay for additional materials required for Extra Works on the basis of cost plus 15%, unless the material is already included in the Quantities and Prices (Section 1200). The Contractor must provide the necessary documentation (ie. invoices, receipts, weigh scale tickets, etc.) in order to receive reimbursement for the additional materials.
- E. In the event that the Contractor is unable to work on the project, the Owner may pay Down Time according to the following:
- i. It is the Contractor's responsibility to engage in other works to limit, or eliminate, Down Time. This may mean moving off-site to a different project or relocating to other works on the site. Down Time will not apply to the time required to move equipment and manpower around on the site;
 - ii. That Down Time will be assessed on the basis of this Contract and may include a detailed review of all associated documents;
 - iii. Down Time must be agreed and recorded by the Engineer and will apply to any equipment and labour actually on site and that are normally required for the work at hand. The Owner reserves the right to require a list of equipment and manpower, and associated hourly rates from the Contractor;
 - iv. That Down Time will not apply to the time required by the Engineer to assess the conditions and claims unless this time exceeds one (1) hour.
- F. Please note the following clarifications for the unit prices:
- i. *Item 3*: For filling ditches use pit-run. Compact the base until there is no appreciable displacement under the compaction equipment. Compact each layer before placing a subsequent layer. If the material is too dry to readily attain the required compaction, add water as necessary to achieve compaction. Compaction testing must be done as indicated in Part 2 of Section 1400, *General Conditions & Specification*.

- ii. *Item 4:* Geotextile must be according to MIT Approved Products List, Part 161 “*Geotextile*”
- iii. *Item 5&6:* Both the installation of ‘C’ and ‘A’ Bases is to include placement and compaction. The payment is based on the actual quantity of materials delivered, measured in the truck volumes, less any materials not required for the Works.
- iv. *Item 7:* Remove existing road signs without damaging posts and plates. If this happens, the Contractor is responsible for replacing damaged parts. After completion of the works signs must be installed about 2ft deep at places directed by the Engineer.
- v. *Item 8:* Topsoil must be placed after asphalt pathway and concrete curb&gutter are done. Minimal layer depth is 100mm.

PART 4. General Requirements

A. Start & Completion Dates

- i. **The works must be complete by August 15, 2014, with the exception of Item 8 (Topsoil), which must be complete within three weeks after asphalt and concrete works.**

B. Deletion of Work

- i. The Owner reserves the right to increase or decrease the quantity of any Unit Price item, alter the route or alignment of a pipeline or road, and make any modifications to the quantities of the contract items that it deems necessary and in its best interest.
- ii. Such modifications and changes shall not constitute grounds to change the value of any unit prices agreed in the contract for these items.

C. Existing Infrastructure

- i. The Contractor is responsible for abiding by all Federal, Provincial and Municipal Regulations and By-Laws regarding construction activities in the vicinity of existing utilities and structures.
- ii. The Contractor is responsible for verifying the existence and locations of all overhead and underground utility infrastructure and appurtenances, and obtaining the necessary approvals and permits before proceeding with the works. The Contractor is responsible for any damages to, and for the maintenance and protection of, existing utilities and infrastructure.
- iii. Where the Contractor requires the relocation or removal of existing infrastructure in order to accommodate the Contractor’s method of works, all expenses for such relocations or removals will be the responsibility of the Contractor unless indicated otherwise in the Contract Specifications.

D. Equipment, Plant and Labour

- i. The Contractor shall be responsible for the provision of all the equipment, plant, tools, and labour required to complete the works to the fulfillment of the terms of the Contract Documents. The cost for this shall be deemed to be included in the Contract Price.

E. Materials

- i. The contractor must provide all materials required for the completion of the works. The details for all materials are shown on the plans.

F. Restorations and Finished Levels

- i. The Contractor shall complete the works to the specifications shown on the plans.

G. Construction Procedures

- i. Subject to the rights of the Owner and according to the Contract Documents the Contractor shall be solely responsible for and shall supervise and direct the work. The Contractor shall determine the means, methods, techniques, sequences, and procedures of construction, except where the Contract Documents, in order to define the quality of a particular item of work, specify a means, method, technique, sequence, or procedure for construction of that item of the work.

H. Layout & Survey

- i. The Engineer will provide the initial survey and layout for all works.
- ii. The Engineer will provide the necessary surveying materials to complete the layout and survey.
- iii. The Contractor is responsible for protecting all survey and layout reference locations. Should they be damaged due to the Contractor's lack of care, the Contractor will be responsible for the costs to reinstate the damaged references.

I. Defective or Improper Work

- i. The Owner shall provide the level of inspection it deems necessary to ensure that the works are complete according to the specifications of the Contract Documents.
- ii. The Contractor shall comply with any and every instruction given by the agent appointed by the Owner to carry out such inspections and rectify any defects or deficiencies within the period of time specified by the Owner.

J. Guarantee of Workmanship

- i. The Contractor guarantees the works completed by it to be free from defects in workmanship for the Maintenance Period as follows:
 - i. Twelve months from the date of substantial completion.

K. Traffic Safety and Control

- i. The Contractor will, at all times during the construction process, take every precaution to ensure the safety of vehicular, bicycle, and pedestrian traffic.

- ii. The Contractor can arrange to use the Owner's barricades but is responsible for picking them up and returning them after use. The Contractor can make those arrangements with the Public Works Director, 822-5119. The Contractor is responsible for any damage to the barricades while in the Contractor's possession.
- iii. The Contractor is responsible to maintain the access for the residents on Victoria St. during construction.

PART 5. Workplace Safety & Health

- A. The Contractor shall be deemed to be a "prime contractor" under the *Regulations* of the *Workplace Safety and Health Act*.
- B. The Contractor is responsible for ensuring that all activities under its control, for the duration of the works, are conducted in compliance with the Province of Manitoba's *Workplace Safety and Health Act* including all relevant *Regulations*.
- C. The Contractor alone shall at all times be responsible for the safety of its employees, its subcontractors' employees and other persons and equipment lawfully on the work site. The Contractor shall be responsible for maintaining the Work Site as a safe place to work and perform the work in a manner which meets all applicable requirements and standards for the Work Site.
- D. The Contractor shall obtain and maintain Workers Compensation Insurance as required by the *Workers Compensation Act*. The Contractor shall be registered and be in good standing with the *Workers Compensation Board*.

I have read and understood the "General Conditions & Specifications":

_____ Signature

_____ Date

CW 3130 – SUPPLY AND INSTALLATION OF GEOTEXTILE FABRICS

TABLE OF CONTENTS

1.	DESCRIPTION.....	1
	1.1 General	1
	1.2 Definitions	1
	1.3 Referenced Standard Construction Specifications	1
2.	MATERIALS.....	1
	2.1 Approved Products	1
	2.2 Material Identification	1
	2.3 Storage and Handling	1
	2.4 Mill Certificate and Marv Data.....	1
	2.5 Separation Geotextile Fabric	2
	2.6 Separation/Reinforcement Geotextile Fabric.....	2
3.	CONSTRUCTION METHODS	3
	3.1 General	3
	3.2 Separation or Separation/Reinforcement Geotextile Fabric	3
4.	MEASUREMENT AND PAYMENT	4
	4.1 Separation Geotextile Fabric	4
	4.2 Separation/Reinforcement Geotextile Fabric.....	4

CW 3130 – SUPPLY AND INSTALLATION OF GEOTEXTILE FABRICS

1. DESCRIPTION

1.1 General

- .1 This specification covers the supply and installation of Separation (non – woven) and Separation/Reinforcement (woven) Geotextile Fabrics relating to Surface Works construction.

1.2 Definitions

- .1 Separation Geotextile Fabric – a non-woven geotextile fabric used to separate the sub-base from the sub-grade in a pavement structure.
- .2 Separation/Reinforcement Geotextile Fabric – a woven geotextile fabric used to separate the sub-base from the sub-grade and provide limited reinforcement in a pavement structure.

1.3 Referenced Standard Construction Specifications

- .1 CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- .2 CW 3135 – Supply and Installation of Geogrid.
- .3 Approved Products for Surface Works.

2. MATERIALS

2.1 Approved Products

- .1 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at: <http://www.winnipeg.ca/matmgt/info.stm>

2.2 Material Identification

- .1 Geotextile fabric is to be labelled in accordance with ASTM D4873, and must clearly show the manufacturer's product style number and unique roll number.

2.3 Storage and Handling

- .1 Protect geotextile fabric at all times from contamination of dirt, dust any other deleterious materials.
- .2 Protective coating is to remain on the geotextile fabric until installation.
- .3 Store and handle in accordance with manufacturer's and/or supplier's recommendations.
- .4 Protect geotextile fabric from exposure to ultraviolet light during storage.

2.4 Mill Certificate and Marv Data

- .1 Provide Mill Certificate and the MARV (Minimum Average Roll Value) Data upon request by the Contract Administrator.

2.5 Separation Geotextile Fabric

- .1 Separation Fabric will be non-woven and meet or exceed the following requirements:

TABLE CW 3130.1 – Separation Fabric Requirements

Physical Property	Standard	Test Method
Grab Tensile Strength	900 N – minimum	ASTM D4632
CBR Puncture	2200 N - minimum	ASTM D 6241
Trapezoid Tear	350 N - minimum	ASTM D4533
Apparent Opening Size	0.18mm – maximum	ASTM D4751
Permittivity	1.4 sec ⁻¹ – minimum	ASTM D4491
Flow Rate	4000 l/min/m ² – minimum	ASTM D4491
U.V. Resistance	70% per 500 hrs - minimum	ASTM D4355

- .2 When CBR Puncture and Trapezoid Tear material property values are not available from the manufacturer, the following material property values for Puncture Strength* and Mullen Burst** must be met as alternatives to CBR Puncture and Trapezoid Tear in Table CW 3130.1.

*Puncture Strength	575 N – minimum	ASTM D4833
**Mullen Burst	2000 kPa – minimum	ASTM D3786

- .3 All physical property requirements are MARV (Minimum Average Roll Values) determined in accordance with ASTM 4759.

2.6 Separation/Reinforcement Geotextile Fabric

- .1 Separation/reinforcement geotextile fabric will be woven fabric and meet or exceed the following requirements:

TABLE CW 3130.2 – Separation/Reinforcement Geotextile Fabric Requirements

Physical Property	Requirements	Test Method
Grab Tensile Strength	1400 N – minimum	ASTM D4632
CBR Puncture	4000 N - minimum	ASTM D 6241
Trapezoid Tear	500 N – minimum	ASTM D4533
Apparent Opening Size	0.43 mm – maximum	ASTM D4751
Permittivity	0.05 sec ⁻¹ – minimum	ASTM D4491
U.V. Resistance	70% per 500 hrs - minimum	ASTM D4355

- .2 When CBR Puncture material property values are not available from the manufacturer, the following material property values for Puncture Strength* and Mullen Burst** must be met as alternatives to CBR Puncture in Table CW 3130.2.

*Puncture Strength	530 N – minimum	ASTM D4833
**Mullen Burst	3500 KPa - minimum	ASTM D 3786

- .3 All physical property requirements are MARV (Minimum Average Roll Values) determined in accordance with ASTM 4759.

3. CONSTRUCTION METHODS**3.1 General**

- .1 Where the sub-grade is unstable as determined by the Contract Administrator, place separation (non-woven) geotextile fabric and geogrid over the sub-grade in accordance with CW 3135.
- .2 Where the sub-grade is stable as determined by the Contractor Administrator, place separation (non-woven) geotextile fabric without geogrid over the sub-grade.
- .3 Separation/Reinforcement (Woven) Geotextile Fabric may be used as directed by the Contract Administrator in place of Separation Geotextile Fabric over stable sub-grade.

3.2 Separation or Separation/Reinforcement Geotextile Fabric

- .1 Commence installation of geotextile fabric after material has been approved by the Contract Administrator and the preparation of the sub-grade has been completed in accordance with CW 3110.
- .2 Install geotextile fabric to the complete limits of the roadway sub-grade including intersections and turning lanes or as directed by the Contract Administrator.
- .3 Unroll geotextile fabric as smooth as possible on the prepared sub-grade in the direction of the construction traffic.
- .4 Install geotextile fabric in the longest continuous practical length, free from tension, stress, wrinkles and creases.
- .5 Cut or fold geotextile fabric to conform to curves.
- .6 Install geotextile fabric in accordance with this specification and procedures recommended by the manufacturer.
- .7 Overlap joints a minimum of 600 millimetres.
- .8 Install pins or place piles of sub-base material as required to hold geotextile fabric in place.
- .9 Place a minimum of 150mm of sub-base over the geotextile fabric before driving construction vehicles over the geotextile fabric.
- .10 Remove and replace geotextile fabric that is improperly installed or damaged as directed by the Contract Administrator.

4. MEASUREMENT AND PAYMENT**4.1 Separation Geotextile Fabric**

- .1 Supply and installation of separation geotextile fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Separation Geotextile Fabric". The area to be paid for will be the total number of square metres of separation geotextile fabric, supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- .2 Only material placed within the designated sub-grade limits will be included in the payment for "Separation Geotextile Fabric".
- .3 No measurement or payment will be made for geotextile fabric removed and replaced due to improper installation or damaged materials.
- .4 No measurement or payment will be made for 600mm overlap described in this Specification.

4.2 Separation/Reinforcement Geotextile Fabric

- .1 Supply and installation of separation/reinforcement geotextile fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Separation/Reinforcement Geotextile Fabric". The area to be paid for will be the total number of square metres of separation/reinforcement geotextile fabric, supplied and installed in accordance with specification, accepted and measured by the Contract Administrator.
- .2 Only material placed within the designated sub-grade limits will be included in the payment for "Separation/Reinforcement Geotextile Fabric".
- .3 No measurement or payment will be made for geotextile fabric removed and replaced due to improper installation or damaged materials.
- .4 No measurement or payment will be made for the 600 mm overlap described in this Specification.

161-4 Woven, Class II (Heavy Duty)

Product Name/ Type	Manufacturers/Suppliers
Amntec 845	Mirafi Construction Products Amntec Construction Products Century Petroleum Construction
ProPex 2004 and ProPex 2016	Amoco Fabrics and Fibers Co. Brock White Canada Company
SI 250 ST	SI Geosolutions Century Wes-Can Equipment
Layfield LP 315	Layfield Plastics Ltd. Century Petroleum Construction
Amoco Style 2006-W 315	Amoco Fabrics and Fibers Co. Century Petroleum Construction
Beltech 883	Belton Industries Inc. Emco Supply
NILEX NW 250	Nilex Inc. G.D. Johnson Amoco Fabrics and Fibers Co.
MXW 13	MacCafferri Canada Ltd.
GEOTEX 315ST	SI Geosolutions Specialty Construction
400W (315ST)	SI Geosolutions Western Tank & Lining Ltd.
400W (GST300)	Linq Industrial Fabrics, Inc. Western Tank & Lining Ltd.
FX-60	Carthage Mills
FX-66	Carthage Mills
WINFAB 270W	Canada Culvert
550X, 600X	TenCate Mirafi Geosynthetics

Specifications for Woven, Class II (Heavy Duty)