MASTER MUNICIPAL CONSTRUCTION DOCUMENTS

PLATINUM EDITION

UNIT PRICE CONTRACT

CITY OF GRAND FORKS

DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING

0788.0039.02

MASTER MUNICIPAL CONSTRUCTION DOCUMENTS

Platinum Edition

CONTENTS

The complete **Master Municipal Construction Documents** consist of the following parts:

1. **Project Specific Documents** (contained within this document and the Contract drawings)

2. **Standard Complete Master Municipal Construction Documents – Platinum Edition** Not Contained Herein (available in the "MMCD Platinum Edition – Volume II")

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**(TO BE READ WITH "INSTRUCTIONS TO TENDERERS - PART II"
CONTAINED IN THE EDITION OF THE PUBLICATION
"MASTER MUNICIPAL CONSTRUCTION DOCUMENTS" SPECIFIED IN ARTICLE 2.2 BELOW)**

Owner: City of Grand Forks

Contract: **DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING**

Reference No. 0788.0039.02

1.0 Introduction

1.1 These Instructions apply to and govern the preparation of tenders for this Contract. The Contract is generally for the following work:

700 m of 300 mm watermain including a 100 m bridge crossing

Road restoration

(BRIEF DESCRIPTION OF THE WORK)

1.2 Direct all inquiries regarding the Contract, to:

Urban Systems Ltd.

Jeremy Clowes, P.Eng., Contract Administrator

Address: Urban Systems Ltd.
304 - 1353 Ellis Street, Kelowna, BC V1Y 1Z9 | T: 250-762-2517

Fax: 250-763-5266

2.0 Tender Documents

2.1 The tender documents which a tenderer should review to prepare a tender consist of all of the Contract Documents listed in Schedule 1 entitled "Schedule of Contract Documents". Schedule 1 is attached to the Agreement which is included as part of the tender package. The Contract Documents include the drawings listed in Schedule 2 to the Agreement, entitled "List of Contract Drawings".

2.2 A portion of the Contract Documents are included by reference. Copies of these documents have not been included with the tender package. These documents are the Instructions to Tenderers - Part II, General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings". Refer to Schedule 1 of the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the Tender Closing Date. All sections of this publication are by reference included in the Contract Documents.

2.3 Any additional information made available to tenderers prior to the Tender Closing Time by the Owner or representative of the Owner, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the Contract Documents. Such additional information is made available only for the assistance of tenderers who must make their own judgment about its reliability, accuracy, completeness and relevance to the Contract, and

neither the Owner nor any representative of the Owner gives any guarantee or representation that the additional information is reliable, accurate, complete or relevant.

3.0 Submission of Tenders

3.1 Tenders must be submitted in a sealed envelope, marked on the outside with the above Contract Title and Reference No., and must be received by the office of:

City of Grand Forks

on or before:

Tender Closing Time: 2:00:00 PM Local Time

Tender Closing Date: 9 September 2016

at

Address:

City of Grand Forks

7217 4th Street
Grand Forks, BC V0H 1H0

Fax: 250-442-8000

3.2 Late tenders will not be accepted or considered, and will be returned unopened.

4.0 Additional Instructions to Tenderers

4.1 Refer to Supplementary General Conditions

4.2 Refer to Supplementary Specifications

4.3 Tenderers must obtain their own copy of the correct edition of the MMCD, Volume II, which includes Instructions to Tenderers – Part II, General Conditions, Specifications and Standard Detail Drawings. The address is:

Support Services Unlimited
#102- 211 Columbia Street
Vancouver, BC V6A 2R5
Phone: (604) 681-0295
Fax: (604) 681-4545

4.4 Delete Instructions to Tenderers – Part II Section 17.1 and replace with the following:

17.1 If the Schedule of Quantities and Prices includes any tender prices for Optional Work, as defined in GC 1.48, then tenderers must complete all the unit prices for such Optional Work. Such tender prices shall not include any general overhead costs, or other costs, or profit, not directly related to the Optional Work. Tenderers are directed to GC 9.4.2.

4.5 Contract documents, contract drawings and any reference material for this project will only be distributed electronically in digital format (PDF) through the BC Bid tendering website at www.bcbid.gov.bc.ca under the

"Agencies, Crown & Private Corporations" tab. An updated list of document holders can be accessed, at no charge, via the "View" button for the Document Request List, after clicking on the "Opportunity". All addenda, amendments or further information will be published on the BCBid website. It is the sole responsibility of the Tenderer to monitor the website regularly to check for updates.

4.6 An optional pre-tender site visit will be held for this project as follows:
Monday, August 29, 2016
(DATE)

2: 00 pm
(LOCAL TIME)

Darrell J. Priede Bridge (refer to Drawings for location)
(LOCATION)

Owner: City of Grand Forks

Contract: Darrell J. Priede Bridge Watermain Crossing

Reference No. 0788.0039.02

To Owner:

WE, THE UNDERSIGNED:

1.1 have received and carefully reviewed all of the Contract Documents, including the Instructions to Tenderers, the specified edition of the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

_____

_____

(ADDENDA, IF ANY)

1.2 have full knowledge of the Place of the Work, and the Work required; and

1.3 have complied with the Instructions to Tenderers.

ACCORDINGLY WE HEREBY OFFER:

2.1 to perform and complete all of the Work and to provide all the labour, equipment and material all as set out in the Contract Documents, in strict compliance with the Contract Documents; and

2.2 to achieve Substantial Performance of the Work on or before 14 April 2017.

2.3 to do the Work for the price, which is the sum of the products of the actual quantities incorporated into the Work and the appropriate unit prices set out in Appendix 1, the "Schedule of Quantities and Prices", plus any lump sums or specific prices and adjustment amounts as provided by the Contract Documents. For the purposes of tender comparison, our offer is to complete the Work for the "Tender Price" as set out on Appendix 1 of this Form of Tender. Our Tender Price is based on the estimated quantities listed in the Schedule of Quantities and Prices, and excludes GST.

WE CONFIRM:

3.1 that we understand and agree that the quantities as listed in the Schedule of Quantities and Prices are estimated, and that the actual quantities will vary.

WE CONFIRM:

4.1 that the following appendices are attached to and form a part of this tender:

4.1.1 the appendices as required by paragraph 5.3 of the Instructions to Tenderers – Part II; and

4.1.2 the Bid Security as required by paragraph 5.2 of the Instructions to Tenderers – Part II.

WE AGREE:

5.1 that this tender will be irrevocable and open for acceptance by the Owner for a period of forty-five (45) calendar days from the day following the Tender Closing Date and Time, even if the tender of another tenderer is accepted by the Owner. If within this period the Owner delivers a written notice ("Notice of Award") by which the Owner accepts our tender we will:

5.1.1 within 15 Days of receipt of the written Notice of Award deliver to the Owner:

.1 a Performance Bond and a Labour and Material Payment

Bond, each in the amount of 50% of the Contract Price, covering the performance of the Work including the Contractor's obligations during the Maintenance Period, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the Owner;

.2 a Baseline Construction Schedule, as provided by GC 4.6.1;

.3 a "clearance letter" indicating that the tenderer is in Worksafe BC compliance; and

.4 a copy of the insurance policies as specified in GC 24 indicating that all such insurance coverage is in place and;

5.1.2 within 2 Days of receipt of written "Notice to Proceed", or such longer time as may be otherwise specified in the Notice to Proceed, commence the Work; and

5.1.3 sign the Contract Documents as required by GC 2.1.2.

WE AGREE:

6.1 that, if we receive written Notice of Award of this Contract and, contrary to paragraph 5 of this Form of Tender, we:

6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or

6.1.2 fail or refuse to commence the Work as required by the Notice to Proceed,

6.1.3 then such failure or refusal will be deemed to be a refusal by us to enter into the Contract and the Owner may, on written notice to us, award the Contract to another party. We further agree that, as full compensation on account of damages suffered by the Owner because of such failure or refusal, the Bid Security shall be forfeited to the Owner, in an amount equal to the lesser of:

6.1.4 the face value of the Bid Security; and

6.1.5 the amount by which our Tender Price is less than the amount for which the Owner contracts with another party to perform the Work.

OUR ADDRESS IS AS FOLLOWS:

(ADDRESS)

(ADDRESS)

(PHONE NUMBER)

(FAX)

(ATTENTION TO)

This Tender is executed this

_____ day of _____ _____

(DATE) (MONTH) (YEAR)

Contractor:

_____

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____

(AUTHORIZED SIGNATORY)

_____

(AUTHORIZED SIGNATORY)

CITY OF GRAND FORKS

Darrell J. Priede Bridge Watermain Crossing

Schedule of Quantities and Prices

(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes*, but shall not include G*ST*. G*ST* shall be shown separately.)

Item	Section	Brief Description See MMCD Master Municipal Specifications and Supplementary Specifications for Additional Details and Descriptions	Unit	Est. Qty.	Unit Price	Amount
Division 26 – Electrical						
26 00 00 - Electrical						
	1.1 (S)	Electrical Service, Kiosk and Heat Trace System	LS	1		
Division 31 - Earthwork						
31 11 01 - Clearing and Grubbing						
	1.4.2 (S)	Clearing and Grubbing Including Isolated Tree Removal	LS	1		
31 24 13 - Roadway Excavation, Embankment and Compaction						
	1.8.5.3 (s)	Remove and Dispose of Existing Asphalt (100 mm or less)	m^2	950		
	1.8.14 (s)	Remove and Relocate Sign	each	3		
	1.8.15 (s)	Remove and Reinstate Bollards	each	3		
Division 32 – Roads and Site Improvements						
32 11 16.1 - Granular Subbase						
	1.4.3	250 mm - 75 mm Pit Run Gravel - Roadway	m^2	770		
32 11 23 - Granular base						
	1.4.2	100 mm - 19 mm Crushed Gravel Base - Roadway	m^2	770		
	1.4.2	150 mm - 19 mm Crushed Gravel Base - Multi-use Pathway	m^2	180		
	1.4.2	50 mm - 19 mm Crushed Gravel Base - Driveways	m^2	20		
32 12 16 - Hot-Mix Asphalt Concrete Paving						
	1.5.1 (s)	Asphalt Pavement - 50mm Upper Course #2 - 66th Ave	m^2	680		
	1.5.1 (s)	Asphalt Pavement - 75mm Upper Course #2 - Kettle River Dr	m^2	90		
	1.5.1 (s)	Asphalt Pavement - 50mm - Multi-use Pathway	m^2	180		
32 17 23 - Painted Pavement Markings						
	1.5.2	Permanent Painted Pavement Markings	LS	1		
32 31 13 - Chain Link Fences & Gates						
	1.5.3	Remove & Reinstate Chain Link Fence	lm	85		
32 92 20 - Seeding						
	1.8.1	Hydraulic Seeding	m^2	1800		
Division 33 – Utilities						
33 11 01 - Waterworks						

CITY OF GRAND FORKS

Darrell J. Priede Bridge Watermain Crossing

Schedule of Quantities and Prices

(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes* , but shall not include G*ST* . G*ST* shall be shown separately.)

Item	Section	Brief Description See MMCD Master Municipal Specifications and Supplementary Specifications for Additional Details and Descriptions	Unit	Est. Qty.	Unit Price	Amount
	1.8.2 (S)	300 mm C900 DR 18 PVC Watermain	lm	605		
	1.8.3	300 mm Gate Valve	ea	8		
	1.8.3	250 mm Gate Valve	ea	3		
	1.8.3	200 mm Gate Valve	ea	1		
	1.8.3	150 mm Gate Valve	ea	2		
	1.8.3	300 mm X 300 mm X 150 mm	ea	2		
	1.8.3	250 mm X 250 mm X 250 mm	ea	1		
	1.8.3	300 mm 45^{o} Bend	ea	4		
	1.8.3	300 mm 22.5^{o} Bend	ea	7		
	1.8.3	300 mm 11.25^{o} Bend	ea	3		
	1.8.3	300 mm 5^{o} Bend	ea	1		
	1.8.3	300 mm X 200 mm Reducer	ea	1		
	1.8.3	300 mm X 250 mm Reducer	ea	1		
	1.8.3	300 mm Transition Coupling	ea	2		
	1.8.3	250 mm Transition Coupling	ea	2		
	1.8.3	200 mm Transition Coupling	ea	2		
	1.8.3	150 mm Transition Coupling	ea	2		
	1.8.3	200 mm End Cap	ea	2		
	1.8.3	150 mm End Cap	ea	3		
	1.8.13 (s)	Tie- in to Existing 19 mm Water Service to Proposed Watermain	ea	4		
	1.8.13 (s)	Tie-in to Existing 250 mm at Kettle River Drive	LS	1		
	1.8.13 (s)	Tie-in to Existing 150 mm at 10th Street	LS	1		

CITY OF GRAND FORKS

Darrell J. Priede Bridge Watermain Crossing

Schedule of Quantities and Prices

(See paragraph 5.3.1 of the Instructions to Tenderers - Part II)

(All prices and *Quotations* including the *Contract Price* shall include all *Taxes* , but shall not include G*ST* . G*ST* shall be shown separately.)

Item	Section	Brief Description See MMCD Master Municipal Specifications and Supplementary Specifications for Additional Details and Descriptions	Unit	Est. Qty.	Unit Price	Amount
	1.8.13 (s)	Tie-in to Existing 150 mm at 9th Street	LS	1		
	1.8.13 (s)	Tie-in to Existing 200 mm at Como Street (hot tap)	LS	1		
	1.8.14 (s)	Fire Hydrant Assembly	ea	1		
	1.8.15 (s)	300 mm Steel Watermain	lm	95		
	1.8.16 (s)	300 mm Expansion Joint	ea	1		
	1.8.17 (s)	50 mm Combination Air/Vacuum Valve for Bridge Crossing	ea	1		
					Subtotal	
					Tender Price	
					5% GST	
					Tender Price with GST	

CITY OF GRAND FORKS

DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING

See paragraph 5.3.2 of the Instructions to Tenderers – Part II.

Indicate Schedule with bar chart with major item descriptions and time.

MILESTONE DATES:

- Anticipated Contract Award: Tuesday, September 19, 2016
- Milestone 1 (Watermain Installation, Pressure Testing, Disinfection and Final Tie-ins and Heat Trace System Completed): November 21, 2016
- Milestone 2 (Substantial Performance): April 14, 2017
- Milestone 3 (Total Performance): April 28, 2017

ACTIVITY	CONSTRUCTION SCHEDULE									
	1	2	3	4	5	6	7	8	9	10

CITY OF GRAND FORKS

DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING

See paragraph 5.3.3 of the Instructions to Tenderers – Part II.

Name: _____

Experience:

Dates: _____

Project Name: _____

Responsibility: _____

_____

_____

References: _____

_____

Dates: _____

Project Name: _____

Responsibility: _____

_____

_____

References: _____

_____

Dates: _____

Project Name: _____

Responsibility: _____

_____

_____

References: _____

_____

Dates: _____

Project Name: _____

Responsibility: _____

_____

_____

References: _____

_____

Dates: _____

Project Name: _____

Responsibility: _____

_____

_____

References: _____

_____

CITY OF GRAND FORKS

DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING

See paragraph 5.3.4 of the Instructions to Tenderers – Part II.

PROJECT	OWNER / CONTACT NAME PHONE and FAX	WORK DESCRIPTION	VALUE ($)
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		
	Owner / Contract ______ Phone ( ) ______ Fax ( ) ______		

CITY OF GRAND FORKS

DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING

See paragraph 5.3.5 of the Instructions to Tenderers – Part II.

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER
Surveying			
Watermain			
Bridge Crossing			
Asphalt Paving			

BETWEEN OWNER AND CONTRACTOR

This agreement made in duplicate this

day of

(DATE) (MONTH) (YEAR)

Contract: **DARRELL J. PRIEDE BRIDGE WATERMAIN CROSSING**

Reference No. 0788.0039.02

BETWEEN the City of Grand Forks
("the Owner")

AND

the

(NAME AND OFFICE ADDRESS OF CONTRACTOR)

("the Contractor")

The Owner and the Contractor agree as follows:

Article 1 The Work Start / Completion Dates

1.1 The Contractor will perform all Work and provide all labour, equipment and material and do all things strictly as required by the Contract Documents.

1.2 The Contractor will commence the Work in accordance with the Notice to Proceed. The Contractor will proceed with the Work diligently, will perform the Work generally in accordance with the construction schedules as required by the Contract Documents and will achieve Substantial Performance of the Work on or before 14 April 2017 subject to the provisions of the Contract Documents for adjustments to the Contract Time.

1.3 Time shall be of the essence of the Contract.

Article 2 Contract Documents

2.1 The "Contract Documents" consist of the documents listed or referred to in Schedule 1, entitled "Schedule of Contract Documents", which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the Contract Documents. All of the Contract Documents shall constitute the entire Contract between the Owner and the Contractor.

2.2 The Contract supersedes all prior negotiations, representations or agreements, whether written or oral, and the Contract may be amended only in strict accordance with the provisions of the Contract Documents.

Article 3 Contract Price

3.1 The price for the Work ("Contract Price") shall be the sum in Canadian dollars of the following:

3.1.1 the product of the actual quantities of the items of Work listed in the Schedule of Quantities and Prices which are incorporated into or made necessary by the Work and the unit prices listed in the Schedule of Quantities and Prices; plus

3.1.2 all lump sums, if any, as listed in the Schedule of Quantities and Prices, for items relating to or incorporated into the Work; plus

3.1.3 any adjustments, including any payments owing on account of Changes and agreed to Extra Work, approved in accordance with the provisions of the Contract Documents.

3.2 The Contract Price shall be the entire compensation owing to the Contractor for the Work and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the Work.

Article 4 Payment

4.1 Subject to applicable legislation and the provisions of the Contract Documents, the Owner shall make payments to the Contractor.

4.2 If the Owner fails to make payments to the Contractor as they become due in accordance with the terms of the Contract Documents then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

Article 5 Rights and Remedies

5.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

5.2 Except as specifically set out in the Contract Documents, no action or failure to act by the Owner, Contract Administrator or Contractor shall constitute a waiver of any of the parties' rights or duties afforded under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the Contract.

Article 6 Notices

6.1 Communications among the Owner, the Contract Administrator and the Contractor, including all written notices required by the Contract Documents, may be delivered by hand, or by fax, or by pre-paid registered mail to the addresses as set out below:

The Owner: City of Grand Forks

(NAME OF OWNER)

7217 – 4th Street

(ADDRESS)

Grand Forks, BC V0H 1H0

(ADDRESS)

Fax: 250-442-8000

Attention: Dolores Sheets, Manager of Development and Engineering

The Contractor:

(NAME OF CONTRACTOR)

(ADDRESS)

(ADDRESS)

Fax:

Attention:

The Contract Administrator: Urban Systems Ltd.

(NAME OF CONTRACT ADMINISTRATOR)

304 - 1353 Ellis Street, Kelowna, BC V1Y 1Z9 | T: 250.762.2517

(ADDRESS)

Fax: 250-763-5266

Attention: Jeremy Clowes, P.Eng., Contract Administrator

6.2 A communication or notice that is addressed as above shall be considered to have been received:

6.2.1 immediately upon delivery, if delivered by hand; or

6.2.2 immediately upon transmission if sent by fax and received in hard copy; or

6.2.3 after 5 Days from date of posting if sent by registered mail.

6.3 The Owner or the Contractor may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the Contract Administrator changes its address for notice then the Owner will give or cause to be given written notice to the Contractor.

6.4 The sender of a notice by fax assumes all risk that the fax is received in hard copy.

Article 7 General

7.1 This Contract shall be construed according to the laws of British Columbia.

7.2 The Contractor shall not, without the express written consent of the Owner, assign this Contract, or any portion of this Contract.

7.3 The headings included in the Contract Documents are for convenience only and do not form part of this Contract and will not be used to interpret,

define or limit the scope or intent of this Contract or any of the provisions of the Contract Documents.

7.4 A word in the Contract Documents in the singular includes the plural and, in each case, vice versa.

7.5 This agreement shall ensure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor:

_____
(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY)

Owner:

_____
(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

_____
(AUTHORIZED SIGNATORY)

_____
(AUTHORIZED SIGNATORY)

Schedule 1 Schedule of Contract Documents

The following is an exact and complete list of the Contract Documents, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with * are contained in the "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings", Platinum edition dated 2009. All sections of this publication are included in the Contract Documents.

8.1 Agreement, including all Schedules

8.2 Supplementary General Conditions

8.3 General Conditions*

8.4 Supplementary Specifications

8.5 Specifications*

8.6 Supplementary Detail Drawings

8.7 Standard Detail Drawings*

8.8 Executed Form of Tender, including all Appendices

8.9 Contract Drawings listed in Schedule 2 to the Agreement –"List of Contract Drawings"

8.10 Instructions to Tenderers - Part I

8.11 Instructions to Tenderers - Part II*

8.12 The following Addenda:

_____

_____

(ADDENDA, IF ANY)

Schedule 2 List of Contract Drawings

TITLE	DRAWING NO.	DATE	REVISION NO.	REVISION DATE
Cover Sheet	C00	August 4, 2016	1	August 22, 2016
Legend	L01	August 4, 2016	1	August 22, 2016
Plan and Profile Station 0+000 to 0+340	C01	August 4, 2016	1	August 22, 2016
Plan and Profile Station 0+340 to 0+710	C02	August 4, 2016	1	August 22, 2016
5th Street Plan	C03	August 4, 2016	1	August 22, 2016
Details	D01	August 4, 2016	1	August 22, 2016
Details	D02	August 4, 2016	1	August 22, 2016
Plan and Sections	S01	August 8, 2016		
Section and Typical Details	S02	August 8, 2016		

SUPPLEMENTARY GENERAL CONDITIONS

Supplementary General Conditions

Table of Contents

The following Supplementary General Conditions included in this section of the Contract Documents are modifications or additions to the General Conditions in the Master Municipal Construction Document Volume II (Platinum Edition):

SGC 1.21.1 Contract Administrator ‡

Delete GC 1.21.1 and replace with the following:

"Contract Administrator" means the person appointed by the Owner and identified by the Owner in writing to the Contractor. The Contract Administrator may be an officer of the Owner, a direct employee of the Owner, an officer or employee of the consultant who designed the Work for the Owner, or an independent consultant.

SGC 1.30 Deleted Items ‡

Delete GC 1.30.1 "Deleted Items"

SGC 2.2 Interpretation ‡

Delete GC 2.2.4 (1) (i) and replace with the following:

(i) Standard Detail Drawings

SGC 3.4 Inspection and Site Inspector ‡

Delete GC 3.4.5 and replace with the following:

.5 If at any time and for any reason the Contract Administrator determines that inspection or testing of the Work, or portion of the Work, is required that was not called for in the Contract Documents, then the Contract Administrator may direct the Contractor to perform, or have performed, that inspection or testing, as provided in GC 4.12.6.

SGC 4.6 Construction Schedule

Delete GC 4.6.2 and replace with the following: ‡

.2 The Contractor shall update the Baseline Construction Schedule monthly to produce an adjusted Baseline Schedule (the "Adjusted Baseline Schedule") that reflects any adjustments to the Milestone Date(s) or the Contract Time as provided by the Contract Documents, including without limitation if the Contract Administrator issues a Change Order or other Contract Document(s) which adjusts any Milestone Date(s). Each Adjusted Baseline Schedule will replace the previous Baseline Construction Schedule.

Delete GC 4.6.6 and replace with the following: ‡

.6 The time for the performance of the Work shall commence on the date specified in the Notice to Proceed, or if not so specified, on the date the Notice to Proceed is issued. Subject to a contrary provision in the Contract Documents, the Owner shall issue the Notice to Proceed within 10 Days of receipt of the documentation required from the Contractor under paragraph 5.1.1 of the Form of Tender. Failure by the Owner to issue the Notice to Proceed within the 10 Days shall entitle the Contractor to a claim for delay under GC 13.1.1.

Add SGC 4.6.8 as follows:

.8 In preparing and updating the Baseline Construction Schedule, the Contractor shall respect and adhere to the following project scheduling considerations and constraints:

1. The Contractor is permitted to Work between the hours of 7:00am to 9:00pm, Monday to Friday, 10am to 9pm on Saturdays, and 10am to 6pm on Sundays. No Work is to occur on Sundays or Statutory Holidays, without prior approval.

SGC 4.7 Superintendent

Delete GC 4.7.1 and replace with the following: ‡

.1 The Contractor shall employ a competent senior representative at the Place of the Work (the "Superintendent") who shall have the responsibility to ensure that the Work is performed in compliance with the Contract Documents. Unless otherwise permitted in writing by the Owner, the Superintendent shall be the person whose experience was submitted in Appendix 3 of the Tender. The Contractor shall also employ necessary assistants for the Superintendent and the Superintendent and assistants shall be in attendance at the Place of the Work while Work is being performed.

SGC 4.11 Subcontractors ‡

Delete GC 4.11.2 and replace with the following:

The Contractor shall employ only the Subcontractors listed in Appendix 5 of the Form of Tender, or others as approved in writing by the Owner, and shall not change or employ additional Subcontractors without the approval of the Owner, which approval shall not be unreasonably withheld.

SGC 7.1 Changes ‡

Delete GC 7.1.3 and replace with the following:

.3 Additional work that the Owner may wish performed that does not satisfy the requirements of subparagraphs (a) and (b) of GC 7.1.1(1) is extra Work ("Extra Work") and not a Change. Pursuant to GC 8, Extra Work may be declined by the Contractor or may, upon agreement between the parties, be undertaken as Extra Work.

SGC 9.4 Quantity Variations

Delete GC 9.4.1 and replace with the following: ‡

.1 If for any reason, including an addition or deletion under GC 7.1.1.(1) or GC 7.1.1.(2) respectively, the actual quantity of a unit price item varies by more than plus or minus the Variance Threshold Percentage from the estimated quantity for that unit price item as listed in the Schedule of Quantities and Prices (the "Tender Quantity") or as otherwise agreed to pursuant to these Contract Documents, then either the Owner or the Contractor may by written notice request the other party to agree to a revised unit price, considering the change in quantities. A party shall make a request for a revised unit price as soon as reasonably possible after the party concerned becomes aware of the quantity variation.

Delete GC 9.4.2 (2) and replace with the following: ‡

(2) If there is an overrun in the estimated quantity, GC 9.4.3 (2) shall apply to the overrun.

SGC 10.1 Force Account Costs

Delete GC 10.1.1(4) and replace with the following: ‡

(4) Force Account Work Performed by a subcontractor shall be paid for in the lesser of: (i) the amount as provided by subparagraphs (1), (2) and (3) of this GC, plus a markup of 5%, or (ii) the actual amount the Contractor pays the subcontractor including a markup of 10% on such actual cost to cover all overhead and profit.

SGC 12.2 Discovery of Hazardous Materials ‡

Delete GC 12.2.2 and replace with the following:

.2 If the Contract Administrator observes any materials at the Place of the Work that the Contract Administrator knows or suspects may be Hazardous Materials then the Contract Administrator shall immediately give written notice to the Contractor and the Contractor shall immediately stop the Work or portion of the Work as required by GC 12.2.1 (1).

Note: ‡ Indicates amendment recommended by MMCD Board

SGC 13.9 Liquidated Damages for Late Completion ‡

Delete GC 13.9.1 and replace with the following:

.1 If the Contractor fails to meet the Milestone Date for Substantial Performance as set out in the Form of Tender, paragraph 2.2 as may be adjusted pursuant to the provisions of the Contract Documents, then the Owner may deduct from any monies owing to the Contractor for the Work:

(1) as a genuine pre-estimate of the Owner's increased costs for the Contract Administrator and the Owner's own staff caused by such delay an amount of $1,500 per day or pro rata portion for each Day that actual Substantial Performance is achieved after the Substantial Performance Milestone Date; plus

(2) all direct out-of-pocket costs, such as costs for safety, security, or equipment rental, reasonably incurred by the Owner as a direct result of such delay.

If the monies owing to the Contractor are less than the total amount owing by the Contractor to the Owner under (1) and (2) then any shortfall shall immediately, upon written notice from the Owner, and upon Substantial Performance, be due and owing by the Contractor to the Owner.

SGC 17.5 Referee ‡

Delete GC 17.5.2 (2) and replace with the following:

(3) if the parties have not agreed upon a Referee within 3 Days of a submission of names by one party to the other as provided by GC 17.5.2 (1), then either party may request in writing the Master Municipal Construction Documents Association to appoint the Referee. The Association will have the authority to appoint a Referee without further consultation with the parties and the parties shall accept the Association's appointment. If for any reason the Association fails to appoint a Referee within 5 Days of the written request then such failure shall be deemed to be an agreement between the parties to omit a review of that Dispute by a Referee and a party may at the end of the 5 Days request a Settlement Meeting and proceed with the remaining steps in the Dispute resolution process as described in this GC.

SGC 18.2 Supporting Documentation ‡

Delete GC 18.2.2 and replace with the following:

.2 If requested in writing by the Contract Administrator the Contractor shall as a precondition to the issuance of the Payment Certificate provide a sworn declaration in a form acceptable to the Contract Administrator, that as of the date set out in the sworn declaration all amounts which have been incurred directly by the Contractor relating to the Work that are due and owing to third parties have been paid.

SGC 18.4 Holdbacks

Delete GC 18.4.2 and replace with the following:

.2 Defects and Deficiencies: In addition to other holdbacks as provided by the Contract Documents, when considering Substantial Performance, the Owner may hold back from payments otherwise due to the Contractor 200% of a reasonable estimate, as determined by the Contract Administrator, on account of deficient or defective Work already paid for. This holdback may be held, without interest, until all deficiencies or defects are remedied. The items of defect or deficiency and the amounts of related holdbacks shall be listed separately on the Payment Certificate.

Add SGC 18.4.6 as follows:

.6 At the time of Substantial Performance the Contractor is required to provide record drawing information that meets Section 01 33 01 – Project Record Drawings. Should the Contractor fail to provide the record drawing information, this will be taken to be a deficiency and the Owner may hold back $5,000 from payments otherwise due to the Contractor. This holdback may be held until record drawing information is submitted and approved by the Contract Administrator, and the conditions of SGC 18.4.2 are met.

SGC 18.6 Substantial Performance ‡

Delete GC 18.6.3 (1) and replace with the following:

(1) a sworn declaration in a form in accordance with SGC 18.2.2; and;

SGC 20.2 Permits

Add SGC 20.2.3 as follows:

.3 The Contractor shall obtain a City of Grand Forks business license, a copy of which must be submitted to the Contract Administrator prior to issuance of the first Payment Certificate.

Note: ‡ Indicates amendment recommended by MMCD Board

SGC 24.1 Required Insurance ‡

Delete GC 24.1.1 (2) and replace with the following:

(2) Commercial General Bodily Injury and Property Damage liability Insurance

Limits: Bodily Injury and Property damage – inclusive $5,000,000

The insurance shall include Contractor's Contingent Liability and Contractual Liability of sufficient scope to include the liability assumed by the Contractor under the terms of this Contract, and Completed Operations Liability. The policy shall include the Owner and the Contract Administrator as additional insured's with a cross liability clause. Any property damage shall be for the account of the Contractor and shall not exceed $10,000.00 for any one occurrence.

Add GC 24.1.1 (5) as follows:

(5) Boiler and machinery Insurance in the joint names of the Contractor, and the Owner. The policy shall include as insured's all Subcontractors. The coverage shall be maintained continuously from commencement of use or operation of the boiler and machinery objects insured by the policy and until 10 calendar days after Substantial Performance.

Delete GC 24.1.5 and replace with the following:

.5 All policies referred to in this GC shall provide that thirty (30) days notice of cancellation will be given in writing to each insured, including the Owner, otherwise the policies to remain in full force and effect until the Work has been completed. Notwithstanding the foregoing, the Commercial General Bodily Injury and Property Damage Liability insurance referred to in GC 24.1.1 (2) shall remain in full force and effect from the commencement of the performance of the Work for a period of not less than twelve (12) months following Total Performance, and with respect to completed operations coverage for a period of not less than 24 months following Total Performance.

SCHEDULE 17.5.3 Letter Agreement with Referee ‡

Add following Schedule 17.5.3 to Supplementary General Conditions:

Schedule 17.5.3

Letter Agreement with Referee

(Name and Address of Referee)

Contract:

Reference No.

BETWEEN:

_____

_____

_____

(the "Owner")

AND:

_____

_____

_____

(the "Contractor")

We write to confirm your appointment as a Referee under the above Contract. The terms of your appointment are as contained in GC 17.5 of the Contract Documents. The parties specifically confirm GC 17.5.5, GC 17.5.13 and GC 17.5.14.

We confirm that you agree to review any Disputes in accordance with the Contract Documents that may be sent to you by either of the parties, and perform the functions of a Referee as described in the Contract Documents. The written Dispute and related materials, including a copy of the Contract Documents, shall be forwarded to you.

We confirm that your daily/hourly rate for fees is $_____. In addition to your invoiced fees the Owner will pay any and all reasonable disbursements incurred in providing your services.

Please submit your invoices on a monthly basis directly to the Contract Administrator. The Owner shall make payment within 20 calendar days of receipt.

Please confirm your agreement to the terms as set out in this letter by signing a copy of the enclosed letter and returning it to the Contract Administrator.

Yours truly,

Authorized Signatory of Owner	Date
Authorized Signatory of Contractor	Date
Referee	Date

END OF SUPPLEMENTARY GENERAL CONDITIONS

SUPPLEMENTARY SPECIFICATIONS

Supplementary Specifications

Table of Contents

The following Supplementary Specifications included in this section of the *Contract Documents* are modifications or additions to the Specifications in the Master Municipal Construction Document Volume II (Platinum Edition):

END OF SUPPLEMENTARY SPECIFICATIONS

SS 01 33 01 Project Record Documents

1.7 Recording Actual Site Conditions

Add section 1.7.5 as follows:

.5 Upon completion of construction at the time of Substantial Performance, provide the Contract Administrator with a clearly legible hand marked as-constructed set of Drawings and an as-constructed 3D digital alignment survey compatible with AutoCAD 2014 in UTM NAD 83 Zone 10 coordinates and a PNEZD comma delimited survey point file, including a complete and accurate record of the details and precise locations of the Work as they have been constructed in relation to the legal boundaries of the City. The record shall include:

.1 confirmation of all material sizes, types and classifications;

.2 locations and inverts of all installed watermain;

.3 locations, sizes and inverts of all existing services and utilities exposed during the course of the construction; and horizontal alignment of curbs, sidewalks and line painting that are constructed or reinstated.

END OF SECTION SS 01 33 01

SS 01 42 00 Reference Specifications

1.1 Nomenclature

Delete reference 1.1.26 :‡

.26 NAAPI North American Association of Pipeline Inspectors

1.2 Referenced Specifications

Delete Referenced Specifications 1.2.15.1, .2, .5, .10 and .11‡

Add Referenced Specification:‡

1.2.18.36 CSA A3000 Cementitious Materials Compendium

END OF SECTION SS 01 42 00

SS 01 55 00 Traffic Control, Vehicle Access and Parking

1.0 General

Add sections 1.0.6 and 1.0.7 as follows:

.6 Provide weekly written notices of planned construction activities and schedule to all residents, businesses and/or affected parties within the project area. Advertise on the radio a "Notice of Closure or Disruption", as directed by the Contract Administrator.

.7 Advise in writing all property owners affected by access and service disruptions and specific construction disturbance two days prior to commencing the Work.

1.4 Traffic Control

Delete section 1.4.10.3 and replace with the following: ‡

.3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.

Add sections 1.4.14, 1.4.15 and 1.4.16 as follows:

.14 Submit a Traffic Management Plan to the Contract Administrator prior to the commencement of construction. Plan to indicate alternate routes and accesses for all private property and will be reviewed with affected property owners prior to construction taking place.

.15 Maintain access for emergency vehicles through or around the Site.

.16 Maintain garbage pick-up service on the scheduled dates (dates will be provided by the Owner), to all affected residents or businesses during the construction period or as directed by the Contract Administrator for the duration of the project.

.17 Update the traffic management plan as required if conditions and schedules change. Provide Contract Administrator with a weekly update summarizing scheduled activities, confirmation of notification to affected owners and businesses and traffic management measures for that week.

END OF SECTION SS 01 55 00

SS 01 57 01 Environmental Protection

1.2 Temporary Erosion and Sedimentation Controls

Delete section 1.2.2.2 and replace with the following: ‡

.2 Do not operate construction equipment in watercourses.

1.4 Environmental Protection

Add section 1.4.4 and 1.4.5 as follows:

.4

The Owner's qualified professional must undertake an active bird nest survey prior to any construction activities. Contractor to adhere to recommendations from the survey.

.5 Best Management Practices:

.1 Vegetation clearing should be kept to a minimum and retain as much natural vegetation and coarse woody debris on and around the project site, as possible.

.2 Stockpile topsoil and re-use to encourage growth of native vegetation. Restrict the operation of heavy machinery to designated areas to minimize impact on surrounding area;

.3 Deleterious substances are not to be permitted to enter area wetlands or drainage ditches, and implement erosion controls such as silt fencing. No vehicles or machinery are to be operated within 15 m of the wetted perimeter of area wetlands;

.4 Establish a staging area for re-fueling of equipment and machinery which must be located a minimum of 30 m away from area wetlands or drainage ditches. Ensure all equipment is clean, leak-free and in good operating condition. All machinery should be supplied with spill kits and operators should be knowledgeable in their use; and

.5 Provide an Environmental Mitigation Plan to the Contract Administrator prior to commencement of activities.

END OF SECTION SS 01 57 01

SS 26 00 00 Electrical

Add Section 26 00 00 as follows:

1.0 GENERAL

.1 This Section refers to the portion of the Work that is unique to the supply and installation of the electrical kiosk for the watermain heat trace system.

1.1 Measurement and Payment

Payment for the heat trace system will be on a lump sum basis. Payment includes cost of concrete base, kiosk, two bollards, conduit, thermostat and power feed kit. The heat trace cable is incidental to the watermain cost described in Section 33 11 01.

2.0 PRODUCTS

.1 Interior Instrument will supply and install the electrical kiosk required for the heat trace system. Refer to quotation in the reference documents.

.2 Thermostat, power feed kit and heat trace cable to be manufactured by Urecon or approved equal.

3.0 EXECUTION

.1 Coordinate with the City of Grand Forks for the installation of an electrical service to the kiosk.

.2 Install conduit from kiosk to watermain as shown on the drawings. Conduit to be bedded in sand and come with an electrical warning tape. Provide 900 mm cover over conduit.

.3 Prepare base for kiosk by excavating and disposing of any organic soils. Backfill as needed with granular base. Set top of concrete base to be 50 mm above existing grade.

.3 Construct cast-in-place concrete base to dimensions shown on the drawing. Pre-cast concrete bases are also acceptable. Provide openings in concrete base as directed by Interior Instrument.

.4 Coordinate with Interior Instrument to have the kiosk supplied and installed.

.5 Install bollards for kiosk as shown on the Drawings.

.6 Demonstrate to Contract Administrator that heat trace system is functional.

END OF SECTION SS 26 00 00

SS 31 05 17 Aggregates and Granular Materials

2.7 Granular Pipe Bedding and Surround Material

Delete section 2.7.1 and replace with the following: ‡

Percent Passing											
Sieve Designation		**Type 1***			**Type 2***			**Type 3***			
50.0	mm			100			100	100	-	100	
38.0	mm			100			100	90	-	100	
25.0	mm			100			100	20	-	60	
19.0	mm	90	-	100	90	-	100	0	-	15	
12.5	mm	65	-	85	70	-	100				
9.5	mm	50	-	75				0	-	5	
4.75	mm	25	-	50	40	-	70				
2.36	mm	10	-	35	25	-	52				
1.18	mm	6	-	26	15	-	38				
0.600	mm	3	-	17	6	-	27				
0.300	mm				3	-	20				
0.075	mm	0	-	5	0	-	8				

***Type 1:** *standard gradation*

***Type 2:** *to be used only in dry trench conditions and with Contract Administrator's approval*

***Type 3:** *minimum 40% Porosity*

Recycled concrete free from contaminated and other extraneous material, confirming to the Type 1 gradations, may be used as pipe bedding and surround material.

END OF SECTION SS 31 05 17

SS 31 11 01 Clearing and Grubbing

1.4 Measurement and Payment

Delete Clause 1.4.2 and replace with:

.2 Payment for all clearing and grubbing items will be paid for as lump sum and include those items identified in 1.4.1 and isolated tree removal as directed by the Contract Administrator.

END OF SECTION SS 31 11 01

SS 31 23 01 Excavating Trenching and Backfilling

1.7 Disposal

Delete section 1.7.1 and replace with the following:

.1 Dispose of all surplus spoil from excavations on-site and/or off-site. Any surplus spoil left on-site must be graded out over the watermain alignment in a manner that will not adversely impact natural drainage paths. Suitability of excavated material for use as native bedding or trench backfill will be governed by 2.0 of this Section. Dumping of spoil on private property will be permitted only upon written approval from property owner and provided all necessary permits and approvals have been obtained and copies provided to the Contract Administrator.

1.10 Measurement and Payment

Delete 1.10.4 and replace with the following:

.4 Payment for removal and disposal of disused watermain required to complete the installation of the proposed watermain will be incidental to the watermain cost described in Section 33 11 01. No payment will be under this item for removal of the existing watermain where required. Contractor must adhere to all WorkSafeBC and environmental regulations for safely handling and disposing of asbestos cement pipe.

No payment will be made under this item for removal and disposal carried out as part of the operation for removal and disposal of excavated materials from trenchwork.

END OF SECTION SS 31 23 01

SS 31 24 13 Roadway Excavation, Embankment and Compaction

1.8 Measurement and Payment

Delete 1.8.5 and replace with the following:

.5 Payment for common excavation includes removal of existing soils, driveways, pipes, conduits, and any pavement which are removed as part of the operation for common excavation. Separate payment will be made for removal of asphalt, curb & gutter, concrete sidewalk and culverts. Measurement is as follows:

.1 Common excavation will be measured in cubic meters from the existing surface following stripping to design subgrade calculated from cross-sections taken by the *Contract Administrator* in areas of excavation. The measurement will not incorporate potential excavation for utility trenches within that zone. Payment will be made at the respective unit price for onsite reuse, onsite stockpile or offsite disposal. The unit price for common excavation to onsite stockpile is to include all material handling costs to excavate, store and replace material and compact as noted in the *Contract Drawings*. The unit price for common excavation to offsite disposal is to include all material handling costs to excavate and haul material to a suitable offsite location as identified by the *Contractor*.

.2 Payments for on-site re-use includes compaction of the re-used materials.

.3 Asphalt removal shall be measured on a square meter basis of asphalt removed.

Payment for asphalt removal shall be at the *Contract Unit Price* indicated in the *Schedule of Quantities and Prices*. Such payment shall be full compensation for saw cutting, removal and hauling of all asphalt to a disposal site.

.4 Curb & gutter removal shall be measured on a lineal metre basis of curb & gutter removed.

Payment for curb & gutter removal shall be at the *Contract Unit Price* indicated in the *Schedule of Quantities and Prices*. Such payment shall be full compensation for saw cutting, removal and disposal of all curbs & gutter to a disposal site.

.5 Removal of concrete sidewalks, pads, and driveways shall be measured on a square meter basis of concrete removed.

Payment for concrete removal shall be at the *Contract Unit Price* indicated in the *Schedule of Quantities and Prices*. Such payment shall

be full compensation for saw cutting, removal and disposal of all concrete to a disposal site.

.6 Contractor will be responsible for locating offsite areas suitable for disposal of surplus excavated soil.

Add section 1.8.14 as follows:

.14 Payment for sign removal and reinstatement will include all items necessary for the removal and installation of existing signage on new bases at a location specified by the Contract Administrator.

Add section 1.8.15 as follows:

.15 Payment for bollard removal and reinstatement will include all items necessary for the removal and installation of existing bollards on new bases at a location specified by the Contract Administrator.

END OF SECTION SS 31 24 13

SS 32 12 16 Hot Mix Asphalt Concrete Paving

1.5 Measurement and Payment

Delete section 1.5.1 and replace with the following:

.1 Payment for asphaltic concrete paving includes all construction joint preparation, supply and placing of the asphaltic concrete, compaction, adjusting and cleaning frames, covers and lids of all castings affected and taped temporary pavement markings.

Measurement for asphaltic concrete paving for the specified design mixes for lower and upper courses will be for the specified thickness and limits indicated on the Contract Drawings. All costs incurred as a result of unauthorized paving beyond the limits shown on the Contract Drawings will be the Contractor's responsibility.

Delete section 1.5.2.2 and replace with the following:

.2 if thickness is less than specified, Contract Administrator may calculate amount of asphaltic concrete deficiency and, for payment purpose, reduce the item amount in pro-rata accordingly.

Add section 1.5.2.3 as follows:

.3 if thickness is greater than specified, Contract Administrator may accept the work, if the excess thickness is acceptable, with no additional payment for the excess thickness.

3.1 Placing

Delete 3.5.3.1 and replace with the following:

.1 Place asphalt mixtures only when air temperature is above 5 degrees Celsius. The Contractor may be permitted to place asphalt mixtures at lower air temperatures if approved by the Contract Administrator. The Owner may request that warm mix asphalt be utilized when air temperature is below 5 degrees Celsius. Place overlay pavement only when air temperature is above 10 degrees Celsius.

END OF SECTION SS 32 12 16

SS 32 12 16 Hot Mix Asphalt Concrete Paving

1.5 Measurement and Payment

Delete section 1.5.1 and replace with the following:

.1 Payment for asphaltic concrete paving includes all construction joint preparation, supply and placing of the asphaltic concrete, compaction, adjusting and cleaning frames, covers and lids of all castings affected and taped temporary pavement markings.

Measurement for asphaltic concrete paving for the specified design mixes for lower and upper courses will be for the specified thickness and limits indicated on the Contract Drawings. All costs incurred as a result of unauthorized paving beyond the limits shown on the Contract Drawings will be the Contractor's responsibility.

Delete section 1.5.2.2 and replace with the following:

.2 if thickness is less than specified, Contract Administrator may calculate amount of asphaltic concrete deficiency and, for payment purpose, reduce the item amount in pro-rata accordingly.

Add section 1.5.2.3 as follows:

.3 if thickness is greater than specified, Contract Administrator may accept the work, if the excess thickness is acceptable, with no additional payment for the excess thickness.

3.1 Placing

Delete 3.5.3.1 and replace with the following:

.1 Place asphalt mixtures only when air temperature is above 5 degrees Celsius. The Contractor may be permitted to place asphalt mixtures at lower air temperatures if approved by the Contract Administrator. The Owner may request that warm mix asphalt be utilized when air temperature is below 5 degrees Celsius. Place overlay pavement only when air temperature is above 10 degrees Celsius.

END OF SECTION SS 32 12 16

SS 32 17 23 Painted Pavement Markings

2.1 Materials

Delete reference title for section 2.1.6 and replace with the following title: ‡

.6 Pavement Markings:

Delete section 2.1.6.7‡

Add section 2.1.7 as follows: ‡

.7 Thermoplastic material:

.1 Material composition shall be at the discretion of the manufacturer subject to the approval of the Contract Administrator. Each formulation shall be identified by a code number

.2 No retained water when tested by ASTM D-570

.3 Specific gravity of the supplied product shall be within 3% of that specified for the selected formulation.

.4 Material shall not deteriorate upon contact with de-icing chemicals, gasoline, diesel fuel or grease dropped by traffic.

.5 Material shall not break down, deteriorate, scorch or discolour, if held within the application temperature range specified by the manufacturer for a period of four hours and it must be able to be reheated from room temperature to the application temperature four (4) times without showing any of these detrimental effects.

.6 When applied at the temperature recommended by the manufacturer and at a film thickness of 2 to 4mm, the material shall set solid and show no tracking under traffic after elapsed times as follows:

.1 Two (2) minutes at an air temperature of 10°C, relative humidity less than 75%, and road surface temperature from 10° C.

.2 Five (5) minutes at an air temperature of 32° C, relative humidity less than 75%, and road surface temperature from 35°C.

.3 The drying time under conditions intermediate between the two air temperatures shall be interpolated using a straight line model.

.7 The quantity, type, and gradation of the component reflecting glass spheres premixed in the thermoplastic material shall be at the discretion of the manufacturer, but shall provide retro-reflection levels specified below.

3.3 Application

Delete section 3.3.3.3 and replace with the following: ‡

.3 Thermoplastic material shall be heated in the melter to a temperature of 382 ^{0}F

END OF SECTION SS 32 17 23

SS 32 92 19 Hydraulic Seeding

3.3 Equipment

Delete section 3.3.1 and replace with the following: ‡

.1 All hydraulic seeding/mulching equipment adjustment to reflect Rates of Application determined for the project.

3.5 Application for Hydraulic Seeding

Delete section 3.5.4 and replace with the following: ‡

.4 If required, add legume seed to grass mixture at time of seeding. Inoculate legume seed with standard product humus culture before mixing with grass seed. Protect inoculated seed from exposure to sunlight for periods of over one-half hour. Use seed within eight hours from inoculation; otherwise, seed to be reinoculated.

END OF SECTION SS 32 92 19

SS 33 11 01 Waterworks

1.8 Measurement and Payment

Delete Section 1.8.2 and replace with the following:

.2 Payment for watermain and service connection includes saw cutting payment, trench excavation, disposal of surplus excavated material, bedding, supply and installation of all pipe, bolts, gaskets and tie rods, mechanical restraints, thrust blocks, imported or native backfill as shown on the Drawings, cleaning, pressure and leakage testing, flushing, disinfection, all surface restoration as specified under Section 31 23 01 – Excavating, Trenching and Backfilling -3.6, except permanent pavement restoration and all other work and materials necessary to complete the installation as shown on the Drawings and specified under the Section.

Measurement for watermain will be made along centreline of main, through valves and fittings, with no deduction for length of valves or fittings, over the surface after work has been completed.

Delete Section 1.8.9 and replace with the following:

.9 Payment for localised concrete encasement, anchor blocks and support blocks as shown on the Contract Drawings or directed by Contract Administrator includes all necessary extra excavation and formwork and supply and placement of concrete as specified in Section 03 30 53 – Cast-in-Place Concrete. Payment will be based on volume calculated from actual measurement of the dimensions of the components constructed as detailed in the Contract Drawing.

Delete section 1.8.13 and replace with the following: ‡

.13 Payment for tie-ins to existing mains where all pipework is to be undertaken by the Contractor will be as 1.8.12 of this Section, including all pipes, fittings and necessary tie-in work to complete tie-in as shown on Contract Drawings.

Add section 1.8.14 as follows:

.14 Payment for hydrants includes the hydrant body, mainline tee, lateral connections from mainline tee off watermain to hydrants, isolation valve with adjustable valve box, thrust blocks and all other incidental work as shown on Contract Drawings.

Add Section 1.8.15 as follows:

.15 Payment for the steel watermain for the bridge crossing includes saw cutting pavement, trench excavation, disposal of surplus excavated material, supply and installation of epoxy coated pipe, insulation, polyethylene cover, sheet saddles, heat trace wire, grooved couplers, pipe supports, thrust blocks, modification to hand railings and modifications of the platform as shown on the Drawings, cleaning, pressure and leakage testing, flushing, disinfection, all surface restoration as specified under Section 31 23 01 – Excavating,

Trenching and Backfilling - 3.6, except permanent pavement restoration, and all other work and materials necessary to complete the installation as shown on the Drawings and specified under this Section.

Measurement for steel watermain will be made along centreline of main, through valves and fittings, with no deduction for length of valves or fittings, over the surface after work has been completed.

Add Section 1.8.16 as follows:

.16 Payment for expansion joint includes supply and installation of the specified joint.

Add Section 1.8.17 as follows:

.17 Payment for air valve as shown on Detail 7 in the Drawings includes fabrication, supply and installation of steel box, weld-o-let, ball valve, air valve, vent pipe and lock.

2.2 Mainline Pipe, Joints and Fittings

Delete section 2.2.2.2 and replace with the following:‡

.2 Joints: It is mandatory that the push-on integrally thickened bell and spigot type conform to ASTM D3139 Clause 6.2 with single elastomeric gasket to ASTM F477.

Delete section 2.2.4.13 and replace with the following: ‡

.13 Joint Restraint Devices: General Requirements:

.1 Ductile iron castings to ASTM A536.

.2 Anti-corrosion coating of ductile iron castings to AWWA C219, AWWA C210, C213 or C550.

.3 Bolts and nuts high strength low alloy steel to AWWA C111 or as specified in Contract Documents, stainless steel to ASTM F593 or F738 for bolts and ASTM F594 or F836 for heavy hex nuts. Rolled threads, fit and dimensions to AWWA C111.

.4 Tie rods to 2.2.3.8 of this Section.

.5 Restrainers for ductile iron pipe shall be mechanical joint fittings or push-on joint fittings with tie rod.

.6 Restrainers for PVC pipe shall be mechanical joint fittings or push-on joint fittings with tie rod lugs.

.7 Restrained harnesses or integral restraint systems manufactured as part of the pipe joint.

.8 All joint restraint systems for PVC pipe to be approved by the specific PVC pipe manufacturer, and that they do not derate the pipe manufacturer's recommended working pressures.

.9 Restrainers for PVCO pipe shall be mechanical joint fittings or push-on joint fittings with tie rod lugs.

.10 All joint restraint systems for PVCO pipe to be approved by the specific PVCO pipe manufacturer, and that they do not derate the pipe manufacturer's recommended working pressures.

2.2 Mainline Pipe, Joints and Fittings

Delete section 2.2.4.14.4.1 and replace with the following

.1 Acceptable tapping sleeve is Robar model 6506 that is epoxy coated and comes with stainless steel fasteners or approved equal.

Add section 2.2.4.16 as follows:

.16 300 mm expansion joint to be manufactured by Victaulic, model 155 and provide 75 mm of movement. Expansion joint to come with Ductile Iron coupling and schedule 40 carbon steel pipe.

2.3 Valves and Valve Boxes

Delete section 2.3.6.2 and replace with the following:

.2 Valve box riser pipe to be 150 mm diameter PVC C-900.

Delete section 2.3.2.7 and replace with the following:

.7 Acceptable manufacturers are Clow, Muller and Terminal City.

Delete section 2.6.1.6.2 and replace with the following:

.2 Pump nozzle to come with STORZ type quick connector.

Delete section 2.6.1.6.3

Delete Section 2.6.2 and replace with the following:

.2 Color as directed by the Contract Administrator.

Delete section 2.6.3 and replace with the following:

.3 Hydrants to be manufactured by Canada Valve, Terminal City or approved equal.

Add 2.3.5.5:

.5 Air valve to be manufactured by Vent-o-mat, model RBX.

2.4 Valve and Large Meter Chambers

Delete section 2.4.7 and replace with the following:

.7 Mortar: aggregate to CAN/CSA-A82.56, masonry cement to CSA A3000

3.3 Trenching

Delete section 3.3.3 and replace with the following:

.3 Trench depth to provide cover over pipe of not less than 1.5 m from finished grade unless shown otherwise on Contract Drawings.

3.12 Hydrants

Delete 3.12.6 and replace with the following:

.6 For hydrants not in service, place an orange bag over the entire hydrant, secured at the bottom with tape and labeled in black “Not In Service”. Remove bag once the watermain has been accepted by the City.

3.19 Testing Procedures

Add new section 3.19.7 as follows:

.7 Fire Hydrants to be included in all watermain testing.

3.20 Disinfection, General

Add new section 3.20.3 as follows:

.3 All water mains to be flushed, disinfected, and bacteriological tested in accordance with AWWA C651. Bacteriological testing to include total coliforms, fecal coliforms, and heterotrophic plate count (HPC). Bacteriological samples to be collected by the Contractor.

3.23 Connection to Existing Mains

Delete section 3.23.1 and replace with the following:

.1 Connections to existing waterworks systems will be made by the Contractor. The Contractor shall make all the necessary arrangements with the Owner and must provide a minimum of 72 h notice of connection to the Contract Administrator and the Owner, and shall notify the public if so directed by the Contract Administrator. The connection cannot be scheduled until all flushing, testing and disinfection of the Work has been approved by the Contract Administrator.

Add 3.23.2 as follows:

.2 The Owner’s staff will be responsible for opening and closing any existing mainline water valves.

Add 3.23.3 as follows:

.3 Proposed works required for tie-ins shall be disinfected by swabbing in accordance with AWWA C651 followed by line flushing immediately after installation work is complete and placed back into service.

Add 3.23.4 as follows:

.4 All pipes, fittings, couplings, miscellaneous materials and sufficient equipment and labour shall be made available at the tie-ins to ensure the tie-in can be completed within the maximum duration of water service disruption permitted.

END OF SECTION SS 33 11 01

Reference Documents

- INTERIOR -
TESTING SERVICES
- LTD. -

MATERIALS TESTING • SOILS
CONCRETE • ASPHALT • CORING
GEOTECHNICAL ENGINEERING

1 - 1925 KIRSCHNER ROAD
KELOWNA, B.C. V1Y 4N7
PHONE: 860-6540
FAX: 860-5027

Urban Systems Ltd
Suite 304 – 1353 Ellis Street
Kelowna, BC V1Y 1Z9

May 17, 2016
Job 16.103

Attention: Mr Jeremy Clowes, P Eng – Water Resources Engineer

Dear Sir:

Re: **Geotechnical Investigation**
Proposed Darrell Priede Bridge Watermain
Grand Forks, BC

As requested and further to our proposal dated July 21, 2015, Interior Testing Services Ltd. (ITSL) has carried out a geotechnical investigation and prepared the following report for the above noted project. Please find attached a one page site plan with schematic soil logs and seven pages of auger hole logs.

1.0 INTRODUCTION

As outlined in our proposal, we understand that roughly 700 m of buried waterline is proposed between Como Street and Kettle River Drive in Grand Forks, BC. In addition, we have been advised that the section of waterline which crosses the Kettle River will be strapped to Darrell Priede Bridge. We also understand that typical pipe invert elevations are approximately 1.5 m below existing site grades.

The purpose of our investigation was to identify the soil and groundwater conditions with respect to general geotechnical comments for pipe installation. The following report presents our findings and provides recommendations for pipe installation work and road re-construction.

2.0 FIELD WORK

On May 10, 2016, a track mounted drill rig operated by Mud Bay Drilling Co Ltd was used to advance seven solid-stem auger holes to as much as 3 m below current grades. The soil profile at each auger hole location was observed and logged in the field, with occasional, representative soil samples recovered and returned to our laboratory for additional testing.

Auger hole locations are referenced to the existing site plan (Drawing 16.103-1) provided by Urban Systems Ltd. Elevations of the auger holes were not obtained.

3.0 RESULTS

The schematic logs are shown on Drawing 16.103 and detailed soil descriptions are provided on the individual auger hole logs (Drawings 16.103-2 to 16.103-8) which should be used in preference to the generalized descriptions that follow.

3.1 Soil Profile

Roughly 50 mm of asphalt was encountered within AH1. Below the asphalt, AH1 encountered roughly 1.8 m of brown, sand and gravel FILL which is expected to be the abutment FILL placed to construct the end of Darrell Priede Bridge.

AH2 to AH5 generally encountered natural SANDs and GRAVELs below surface topsoils and fills. AH4 encountered natural silty SAND to SAND below the surface SANDs and GRAVELs.

AH6 and AH7 were advanced along 66th Avenue and roughly 50 to 60 mm of asphalt was encountered underlain by natural SANDs to SANDs and GRAVELs.

3.2 Groundwater Conditions

During our field investigation, groundwater was encountered in all auger holes except AH1 and AH6. Where groundwater was noted, it was normally measured between roughly 1 to 1.5 m below grade, which we anticipate likely matches the surface undulations.

Two 25 mm diameter pvc piezometers were installed to roughly 2.5 m below grade in AH2 and AH5 to allow for future monitoring, should that be desired.

As a general comment, groundwater levels are expected to vary seasonally and will be affected by drainage and infiltration conditions. For pipe installation some level of groundwater control will be necessary (see 4.2 below).

3.3 Laboratory Results

We determined the moisture contents of all recovered samples. These results are shown on the attached soil log sheets (Drawings 16.103-2 to 16.103-8). The oven-dried moisture content of the samples ranged from 2 to 25%, with the higher results indicating more silt content within the sample.

4.0 PIPE INSTALLATION CONSTRUCTION CONSIDERATIONS

A discussion of the pertinent construction considerations for the pipework installation of the project is as follows.

4.1 Trench Cut Slopes

Standard Worksafe BC side slopes of 3 Horizontal to 4 Vertical (3H:4V) for an effectively dewatered trench should be satisfactory for the majority of the soils exposed, for trench cuts up to roughly 3 m in height.

If there is a change in design (ie deeper invert elevations) or if conditions are significantly different from those described, a geotechnical engineer should have the opportunity to review the trench cut slopes at the time of construction.

4.2 Trench Groundwater Considerations

Water levels appear to range from 1 to 1.5 m below grade. It is generally feasible to maintain reasonable working conditions using sump-pumps to roughly 1 m below the groundwater level. Where deeper excavations are proposed, well-point de-watering may become necessary.

4.3 Bearing Conditions

The natural soils appear to be competent for pipe support. Some over-excavation and replacement may be required where fine grained materials are encountered (ie fine sand or silt). We recommend that drain rock be used where over-excavation is required. This is

intended to provide an adequate bearing layer and should be suitable for typical construction activities.

4.4 Trench Backfill

In general, the majority of the natural SANDs and GRAVELs appear to be suitably practical for re-use as trench backfill, provided the particle size is limited to roughly 200 to 300 mm. The silt soils encountered within AH4 will likely be challenging to re-use. However, where the trench is to be covered with a gravel path, as is expected between AH1 and AH5, we anticipate that some reduced performance of the trench backfill would be acceptable and therefore, the poorer quality materials could be re-used as backfill, provided the risks are understood and tolerable.

Where asphalt is to be set above the trench backfill (ie between AH6 and AH7), conventional City of Grand Forks specifications for trench backfill should be followed.

Alternatively, trench backfill could be placed in maximum 300 mm thick loose lifts and then compacted to at least 95% of Modified Proctor Density (MPD) and to within 2% of the optimum moisture content. Regular field density testing should be carried to confirm suitable compaction is being achieved.

Provided that the existing road base fills and asphalt millings of the existing roadways can be adequately separated from the remainder of the excavated material, mixing and re-use as base gravels could be carried out. Further laboratory testing and design guidance could be carried out at the time of construction, if desired.

5.0 ROAD RE-CONSTRUCTION

5.1 Asphalt Condition

Based on our visual assessment during our soils investigation, it appears that the majority of the asphalt surface of 66th Avenue is in a fair condition and, where desired, fillet construction of the trench area to the existing road standards could be considered.

5.2 New Pavement Structure

Where a new pavement structure is desired above the trench backfill, we provide the following considerations.

Provided that trench material consists of sand and gravel FILL (see 4.4 above), placed and compacted to conventional City of Grand Forks standards, a California Bearing Ratio (CBR) of between 5 and 10 can likely be reasonably assumed. For roadway construction, assuming local roadway classification, we provide the following design pavement structure.

50 mm	ASPHALT
100 mm	19 mm crushed gravel BASE – Compacted to 95% of MPD
200 mm	75 mm minus gravel SUBBASE – Compacted to 95% of MPD
overlying	suitable sand and gravel subgrade

The road pavement structures above should also be reasonable from a frost protection perspective.

While the recommended pavement structure is expected to be sufficient for the intended post-construction traffic conditions, heavy construction traffic driving over the compacted trench backfill may result in rutting, sponging, or disturbance to the road subgrade soils (especially in the areas where high fines / fine grained soils are near the top of the subgrade elevation). Removal of moist soils and replacement with thickened subbase gravels will generally resolve this issue. This may occur in areas of increased silt content or in the event of significant rainfall during construction, however the overall risk associated with rutting, sponging or disturbance is expected be low so that increasing the pavement structure over the entire project does not appear to be warranted.

6.0 CONCLUSIONS

6.1 Results of the auger holes advanced within the project area have been provided in the previous sections of this report, along with our comments related to trench work and road re-construction.

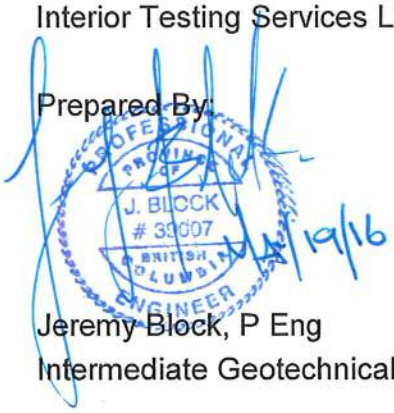
6.2 If significant variations in the soil profile are encountered at the time of construction, it is recommended that a geotechnical engineer have the opportunity to review site conditions and propose remedial measures as necessary to meet the objectives of the project.

6.3 It is recommended that field density testing, as per City of Grand Forks standards, be carried out on the trench backfill, subbase and base materials to confirm adequate compaction is being achieved.

We trust the above comments will assist you. After your review, if you have any questions, please do not hesitate to call.

Best Regards,
Interior Testing Services Ltd

Prepared By:

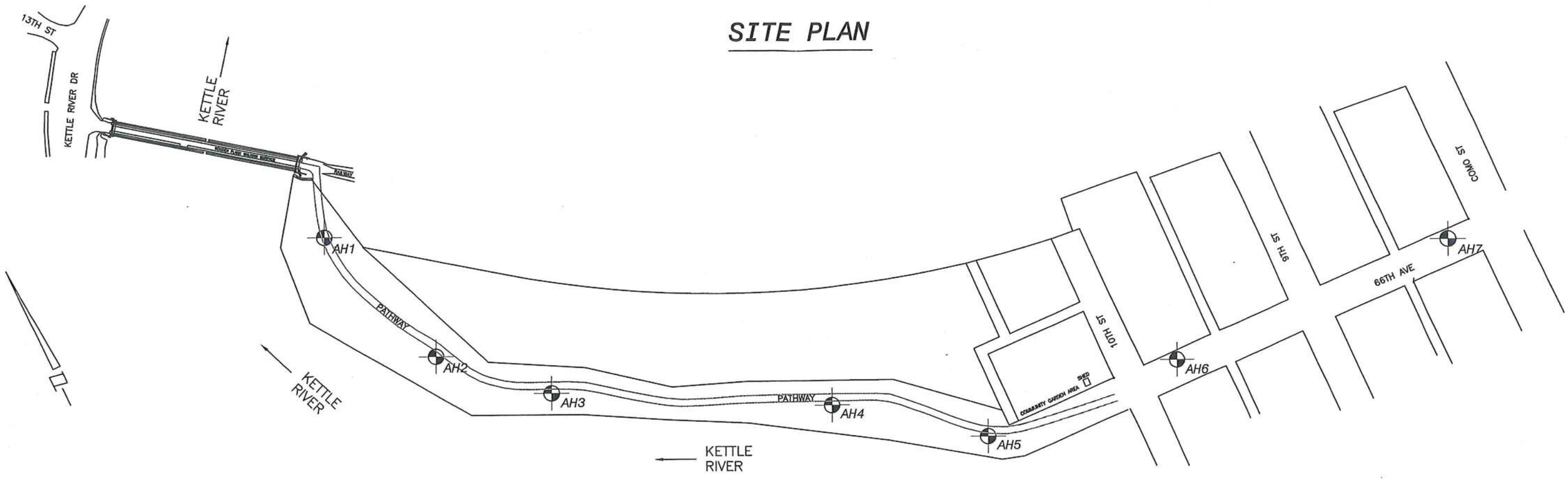


Jeremy Block, P Eng
Intermediate Geotechnical Engineer

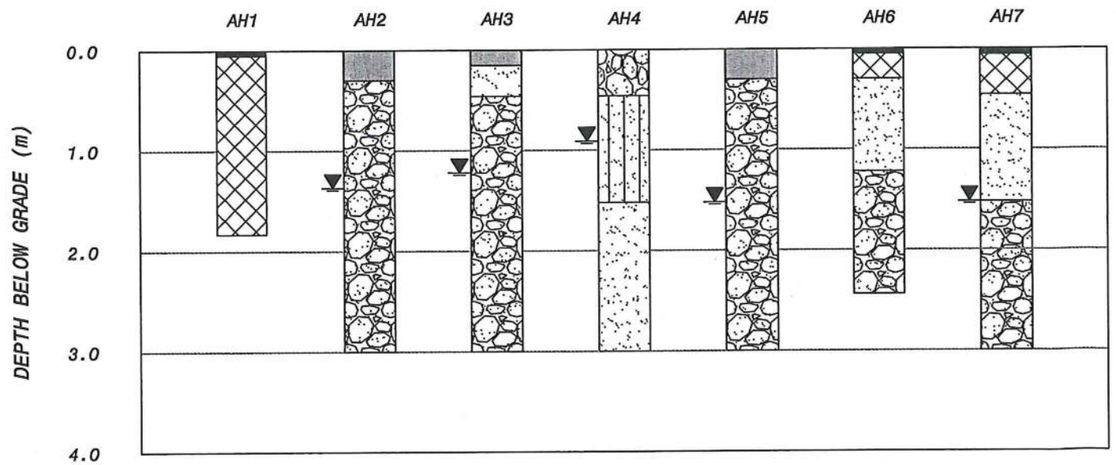
Reviewed By:

Peter Hanenburg, P Eng
Principal Geotechnical Engineer

SITE PLAN



SCHEMATIC LOGS



LEGEND

- ASPHALT
- TOPSOIL
- FILL
- SAND
- SAND & GRAVEL
- SILTY SAND
- AUGER HOLE LOCATION
- WATER NOTED DURING DRILLING (MAY 10/16)

NOTES

1. REFERENCE PLAN SUPPLIED BY URBAN SYSTEMS LTD.
2. AUGER HOLE LOCATIONS ARE APPROXIMATE AND MAY VARY FROM THAT SHOWN.
3. FOR DETAILED SOIL DESCRIPTIONS REFER TO AUGER HOLE LOGS.

URBAN SYSTEMS LTD.

GEOTECHNICAL INVESTIGATION

PROPOSED DARRELL PRIEDE BRIDGE WATERMAIN

GRAND FORKS, BC

SITE PLAN

INTERIOR TESTING SERVICES LTD.

1-1925 KIRSCHNER ROAD, KELOWNA, BC V1Y 4N7

PH: 250-860-6540 EM: info@interiortesting.com

DATE OF INVESTIGATION: MAY 10, 2016

JOB NUMBER: 16.103 DRAWING NUMBER: 16.103-1

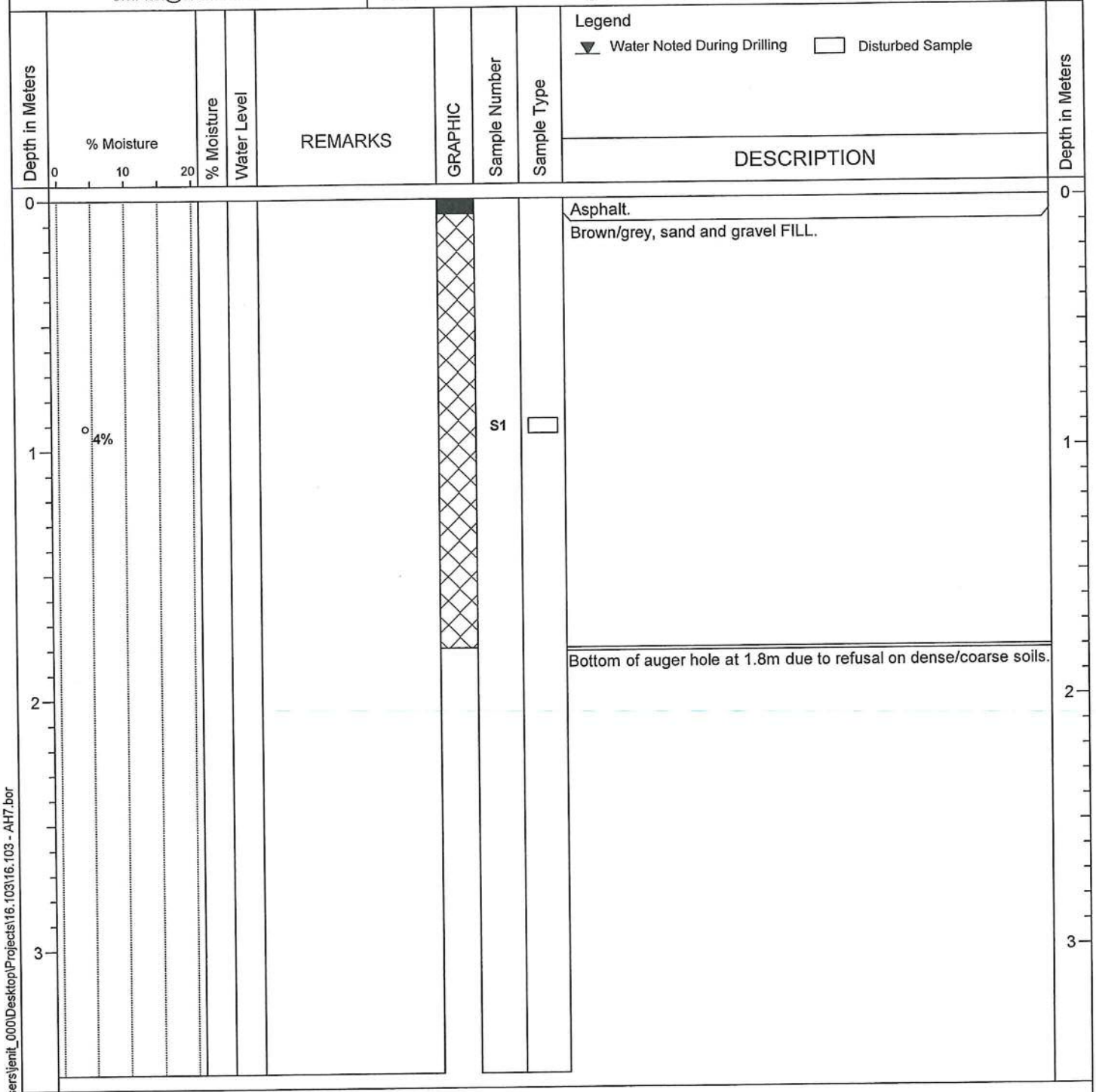
- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 1

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend
▼ Water Noted During Drilling ☐ Disturbed Sample



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Drawing No. 16.103-2

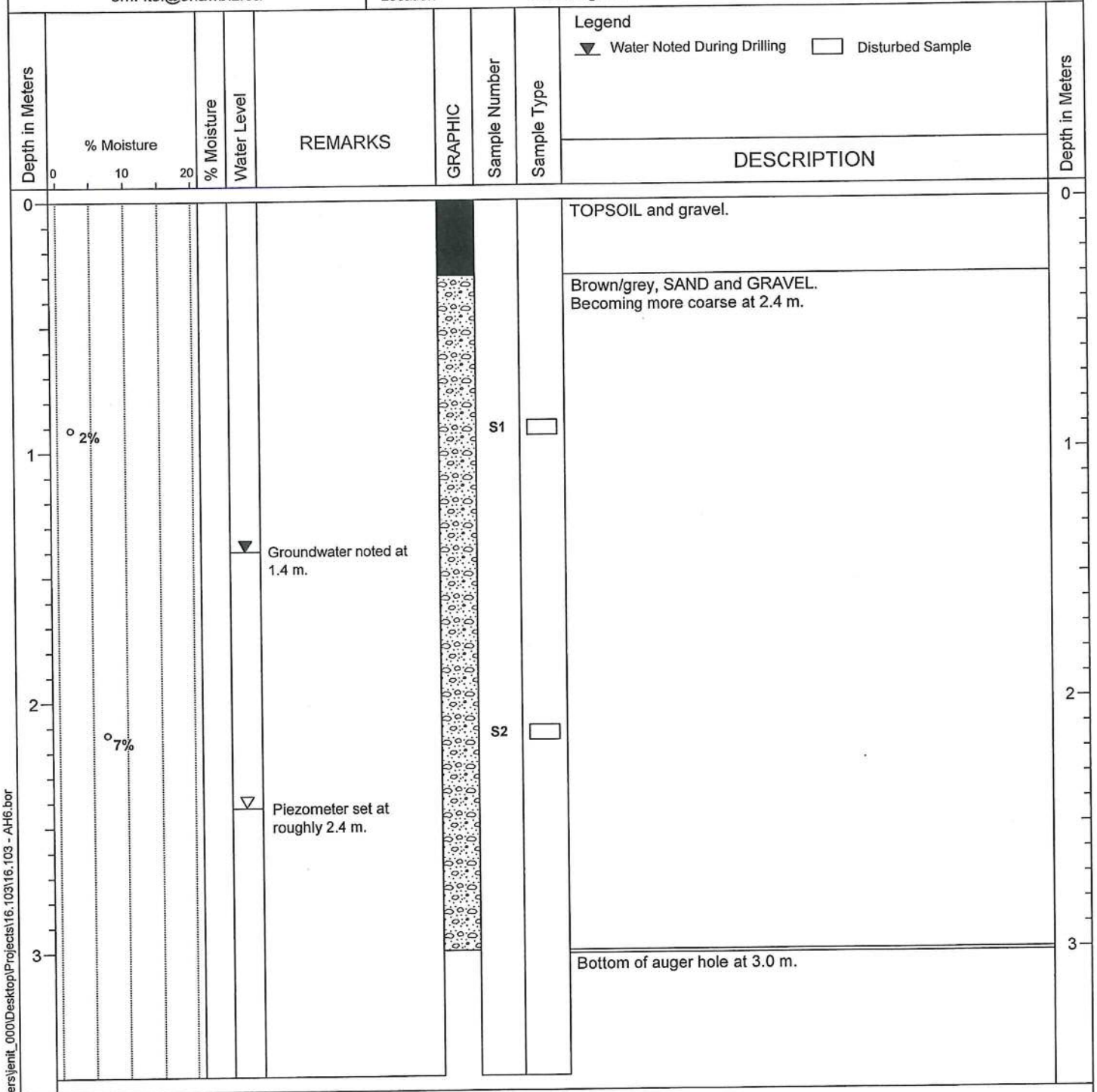
- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 2

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend
▼ Water Noted During Drilling ▭ Disturbed Sample



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Drawing No. 16.103-3

- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 3

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend: ▼ Water Noted During Drilling; ▭ Disturbed Sample

Depth in Meters	% Moisture (0 10 20)	% Moisture	Water Level	REMARKS	GRAPHIC	Sample Number	Sample Type	DESCRIPTION	Depth in Meters
0		0						TOPSOIL.	0
	7%					S1	▭	Brown, fine SAND.	
1			▼	Groundwater noted at 1.2 m.		S2	▭	Brown/grey, SAND and GRAVEL. Very gravelly at 2.1 to 3.0 m.	1
	4%								
2						S3	▭		2
	8%								
3								Bottom of auger hole at 3.0 m.	3

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Drawing No. 16.103-4

- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 4

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend: Water Noted During Drilling; Disturbed Sample

Depth in Meters	% Moisture (0 5 10 15 20 25 30)	% Moisture	Water Level	REMARKS	GRAPHIC	Sample Number	Sample Type	DESCRIPTION
0								Light grey, SAND and GRAVEL.
								Dark brown, silty SAND.
1	25%		▼	Groundwater noted at 0.9 m.		S1	☐	
								Grey, medium SAND.
2	25%					S2	☐	
3								Bottom of auger hole at 3.0 m.

Depth in Meters: 0, 1, 2, 3

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Drawing No. 16.103-5

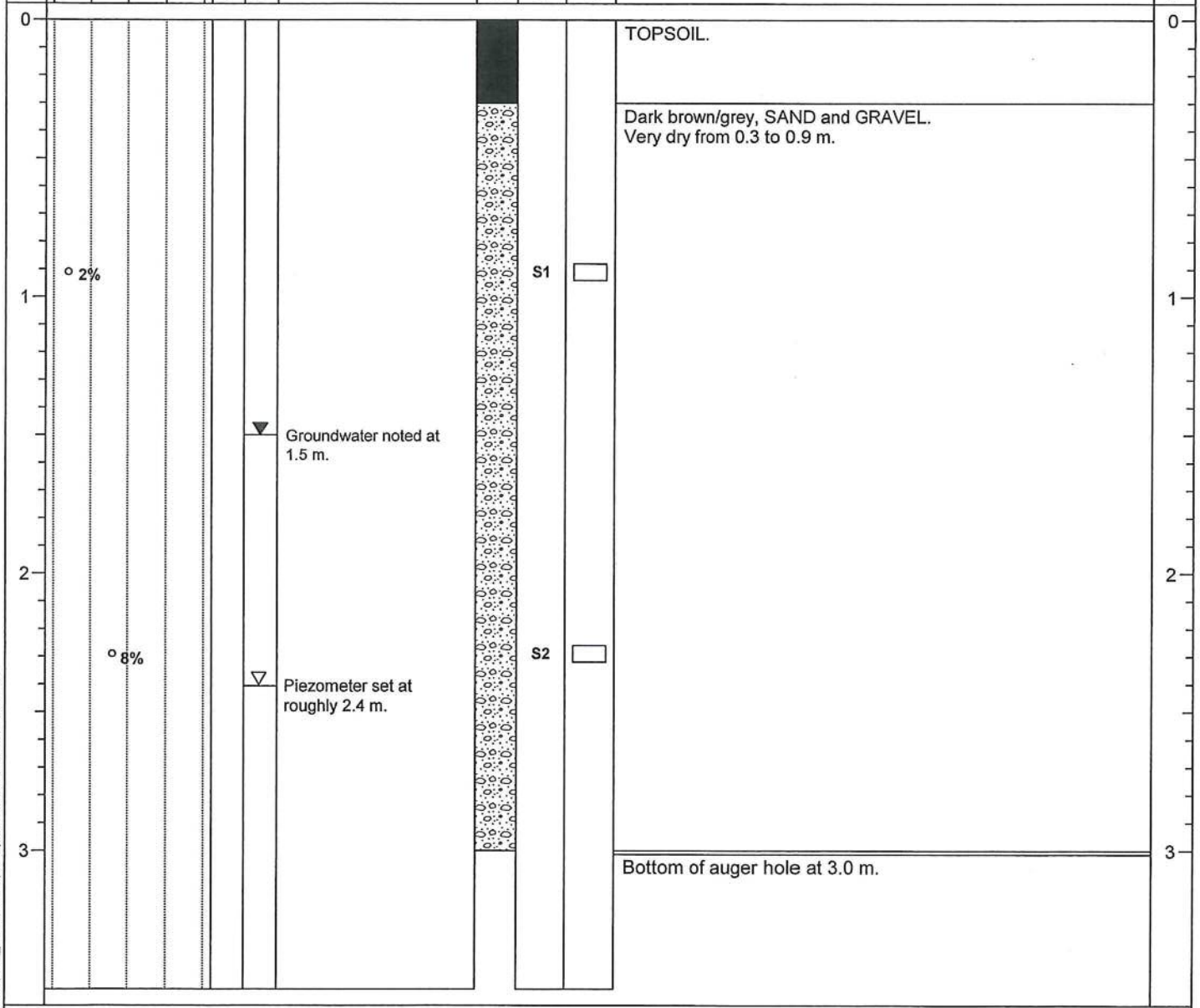
- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 5

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend
Water Noted During Drilling
Disturbed Sample



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Drawing No. 16.103-6

- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 6

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend
▼ Water Noted During Drilling ▭ Disturbed Sample

Depth in Meters	% Moisture (0 10 20)	% Moisture	Water Level	REMARKS	GRAPHIC	Sample Number	Sample Type	DESCRIPTION	Depth in Meters
0				No groundwater noted.				Asphalt.	0
								Grey sand and gravel FILL.	
								Light brown/grey, SAND, some gravel.	
1	o 3%					S1	▭		1
								Grey, SAND and GRAVEL. Very difficult drilling from 2.1 to 2.5 m.	
2	o 5%					S2	▭		2
								Bottom of auger hole at 2.5 m due to refusal on dense/coarse soils.	
3									3

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Drawing No. 16.103-7

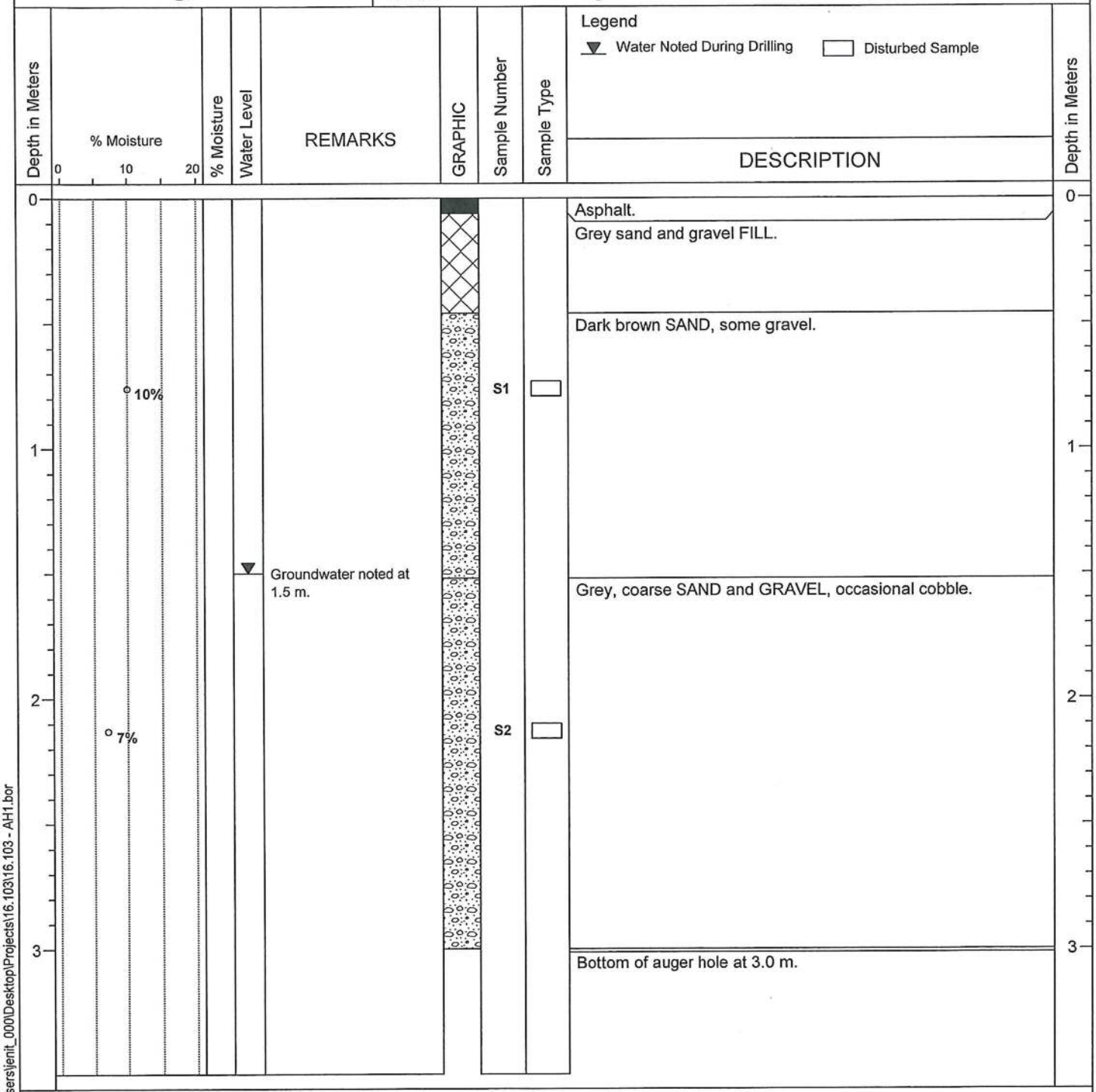
- INTERIOR -
TESTING SERVICES
- LTD. -

LOG OF TEST BORING AH 7

Interior Testing Services Ltd
1 - 1925 Kirschner Road
Kelowna, BC V1Y 4N7
ph: (250) 860 - 6540
em: itsl@shawbiz.ca

Project	: 16.103	Method	: Tracked Drill Rig
	: Proposed Water Main	Driller	: Mud Bay
	: 66th Ave & Adjacent Pathway	Logged By	: MT
	: Grand Forks, BC	Date	: May 10, 2016
Location	: See Dwg. No. 16.103-1		

Legend
▼ Water Noted During Drilling
▭ Disturbed Sample



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Drawing No. 16.103-8

Interior Instruments
a division of CORIX

1115 St. Paul Street
Kelowna, BC V1Y 2C6
T 250.717.8813
F 250.717.8814

QUOTATION

TO:	**Urban Systems** **304 – 1353 Ellis Street** **Kelowna, BC V1Y 1Z9**	**QUOTE NO:**	**080416KH-001**
		DATE:	**August 4, 2016**
		PHONE NO:	**250.762.2517**
ATTENTION:	**Jeremy Clowes, P.Eng.**	**FAX NO:**	
REFERENCE:	**Grand Forks Heat Trace Power Service Kiosk Installation**	**CELL NO:**	**250.878.7751**
		Email:	jclowes@urbansystems.ca

We are pleased to quote the following: **Page 1 of 1**

Item	Qty	Description	Unit Cost	Total Cost
1	1	Heat Trace Power Service Electrical Kiosk consisting of: - 2.0m x 0.7m x 1.5m 1-Compartment Insulated Kiosk Enclosure. - 100A 4-Jaw Meterbase - 100A, 24Cct Combination Panel c/w Breakers. - Installation of free issued Heat Trace Controller and Associated Equipment. - Kiosk Heat, Light and Ventilation Fan. - Kiosk CSA Certification and Testing. - Kiosk Approval and As Constructed Drawings. - Kiosk Shipping to Grand Forks. Offloading by others.		
2	1	Kiosk Installation and Electrical Wiring consisting of: - Kiosk and Power Service Conduit Installation Assistance. - Kiosk Power Service Grounding and Kiosk Bonding. - Termination Heat Trace Cable Inside Kiosk. - Project Electrical Permit ($35K Value) - Travel and Living Expenses.		
			Total	$ 25,300.00

K. L. Hansen

PER: Ken Hansen, A.Sc.T.

QUOTATION TERMS: Firm 30 Days.
PAYMENT TERMS: 90% Net 30 Days, 10% Holdback.
FUNDS: Canadian Dollars
TAXES: 5% GST is extra on all items. 7% PST is included where applicable.
DELIVERY: Approval Drawings: 2-3 Weeks After Receipt of Purchase Order.
Equipment: 6-8 Weeks After Return of Approved Drawings.
FOB: Grand Forks, BC
WARRANTY: 1-Year after date of shipment. **For WARRANTY REPAIRS, freight to and from our Kelowna facility is not included.**

QUOTATION EXCLUSIONS:

1) Any Civil or Mechanical works such as ditching, trenching or bedding sand.
2) Any concrete work. The Kiosk will require a 2.4M x 1.0M x 0.3M concrete pad.
3) Any supply and installation of underground electrical raceways, chaseways or piping systems.
4) Supply and Installation of the Power Service Conductors.
5) Supply and installation of Heat Trace Cable. Cable is to brought up into the Kiosk for termination into the Heat Trace Controller.
6) Cost for any other permits other than the project electrical permits.
7) Any site facilities, a first aid attendant or the supply of any confine space entry hazard assessment.