



CONTRACT
FOR
**SUPPLY AND DELIVERY OF LONG-
LIFE COOLANT TO VARIOUS GO BUS
FACILITIES**

Contract Number: PT-2018-BUSF-580

PO: TBD

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ARTICLES OF AGREEMENT

SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO VARIOUS GO BUS FACILITIES PT-2018-BUSF-580

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These Articles of Agreement are made as of the 4th day of January 2019.

BETWEEN:

METROLINX, 277 Front Street West, Suite 400, Toronto, Ontario, M5V 2X4,
a provincial Crown corporation incorporated under the laws of Ontario (hereinafter referred to as
“Metrolinx”)

- and –

InterAtlas Auto Fluids – Division of Mancuso Chemicals Limited

(hereinafter referred to as the “Vendor”)

Vendor Contact Information

Mailing Address:	5725 Progress Street Niagara Falls, Ontario L2G 0C1		
General Phone No.:	905 357 3626	General Facsimile No.	905 357 3631
Contact Person, Name and Title:	Luke Pignataro Manager of Finance & Administration		
Contact Person Email Address:	LPignataro@mancusochemicals.com	Phone No.	905 357 3631

In consideration of the mutual covenants and agreements contained herein, and other good and

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valuable consideration, the receipt and sufficiency of which are mutually acknowledged, Metrolinx and the Vendor agree as follows:

1.0 Contract

- 1.1 The following documents and any amendments relating thereto form the contract between Metrolinx and the Vendor (the “Contract”):
 - (a) these Articles of Agreement;
 - (b) Addenda;
 - (c) the document attached hereto and entitled “General Conditions of the Contract”;
 - (d) the document attached hereto and entitled “Scope of Work”;
 - (e) the document attached hereto and entitled “Attachments”
- 1.2 In the event of discrepancies, inconsistencies or ambiguities of the wording of these documents, the wording of the document that first appears on the above list shall prevail over the wording of a document subsequently appearing on the list.
- 1.3 The Vendor has informed itself of the conditions relating to the Work to be performed and is thoroughly familiar with all information and documentation contained in the Contract Document.
- 1.4 The Vendor declares that no Conflict of Interest exists in accordance with the General Conditions of the Contract.
- 1.5 The Vendor agrees to be bound to each and every term, condition, article, covenant and obligation of the Contract.

2.0 Description of Work

- 2.1 The Vendor shall perform and complete with care, skill, diligence and efficiency the Work that is further described as follows:
 - (a) For the provision of the supply and delivery of long-life coolant to various GO Bus Facilities as set out and to be carried out in accordance with the “General Conditions of the Contract” and “Scope of Work” of this Contract.
 - (b) The Work is to be provided to the satisfaction of Director of Fleet Services, unless otherwise specified.

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3.0 Contract Price

3.1 Payment for services rendered and goods supplied in accordance with the terms and conditions of the Contract shall be based on the following:

- (a) The Total Estimated Contract Price is firm and is in Canadian funds.
 - (b) The Total Estimated Contract Price includes all specified cash allowances, contingency allowances (if applicable) and all applicable taxes, except Harmonized Sales Tax (H.S.T.).
 - (c) The Total Estimated Contract Price represents full payment for all Work necessary for the proper completion of the Contract.
 - (d) The Total Estimated Contract Price includes all labour, superintendence, plant, tools, appliances, equipment, supplies and other accessories, services and facilities customs, duties, royalties, handling, transportation, travel, mileage, overhead, profit and all other charges.
 - (e) The Total Estimated Contract Price quoted shall include the cost of delivery for all locations as set out in these Contract Documents.
- (i)

PERIOD(S)	Item No.	Detailed Description	Estimated Quantity	Contract Unit Price	Extended Total
PERIOD ONE	A1	Long/Extended Life Engine Coolant in Bulk (Liters) - inclusive of delivery charges	143000	\$1.7200	\$ 245,960.0000
	A2			Subtotal	\$ 245,960.0000
PERIOD TWO	B1	Long/Extended Life Engine Coolant in Bulk (Liters) - inclusive of delivery charges (OPTION EXERCISABLE AT METROLINX'S SOLE DISCRETION)	143000	\$1.7200	\$ 245,960.0000
	B2			Subtotal	\$ 245,960.0000

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TOTAL ESTIMATED CONTRACT PRICE		\$ 491,920.0000
	13% Harmonized Sales Tax (H.S.T.) Amount	\$ 63,949.60

(e) Estimated Quantities

- (i) Metrolinx reserves the right to purchase quantities other than those stated for each year of the Contract at the Rates quoted.

4.0 Harmonized Sales Tax

- 4.1 The Vendor is bound by the General Conditions of the Contract as it relates to Harmonized Sales Tax.

5.0 Options

5.1 Option Years

- (a) Option Year is defined as a specified timeframe, in accordance with Section 6.0 below, in which the Work shall be carried out in accordance with the Contract requirements at the fixed all-inclusive prices stated in Section 4.0 herein solely if Metrolinx exercises its option to proceed with an Option Year in accordance with Sections 5.1(a) and 5.1(b) below.
- (b) It is understood that Option Year Two, is an option exercisable at the sole discretion of Metrolinx. In the event Metrolinx does not exercise its option, the Contract shall be considered complete upon expiration of the current year.
- (c) Each Option Year shall be automatically exercised unless Metrolinx informs the Vendor with sixty (60) days written notice prior to the end of the current year that Metrolinx will not be exercising such Option Year.

6.0 Project Schedule

- 6.1 The Work shall be carried out from the date of these Articles of Agreement and in accordance with the dates noted in the Project Schedule for the Work as follows:
- (a) **Year One:** Upon Final Execution of the Contract to December 31, 2019

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- (b) **Year Two:** January 1, 2020 to December 31, 2020
(Option Year Two to be exercised at the sole discretion of Metrolinx)

InterAtlas Auto Fluids – Division of Mancuso
Chemicals Limited

Per:

Name:

Title:_____

Per:

Name:

Title:_____

I/We have authority to bind the Corporation

METROLINX

Per:

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Name:

Title:_____

Per:

Name:

Title:_____

I/We have authority to bind the Corporation

IN WITNESS WHEREOF, the above signed have executed this agreement, this day
of , 20 .

Any Addenda/Addendum issued hereto shall form part of this Contract Document and any resultant Contract(s) for the Work.

Addenda, if applicable, are as follows:

Addendum No.	Date Issued	No. of Pages
Addendum No. 3	December 4, 2018	2
Addendum No. 2	November 30, 2018	2
Addendum No. 1	November 22, 2018	2

Date: December 4, 2018

Tender No. PT-2018-BUSF-580
SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO VARIOUS GO BUS
FACILITIES

The following amendments/clarifications hereby form part of this Addendum which in turn form part of the Tender Document. The contents of this Addendum shall be accounted for in the Submission, including any prices bid for the Work.

No consideration will be given for extras and/or changes due to the Bidder not being familiar with the contents of this Addendum.

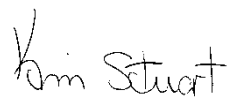
By way of submitting a Submission, the Bidder acknowledges receipt of this Addendum. All other terms and conditions remain the same.

1.0 TENDER DOCUMENT REVISIONS

- 1.1 The Tender Document has been revised and sections affected are noted below. The revised Tender Document is attached in the file entitled “Revised Tender Document PT-2018-BUSF-580” which supersedes all previous Tender Document versions.
[149 Pages Attached – Changes are highlighted in yellow and are as follows:

Section Affected:	Revisions
Instructions to Bidders	a) Revised Section 1.2, Tender Timetable, as follows: 1. Deadline to Submit Questions, to read “December 6, 2018”; and 2. Last Day for Issuance of Addenda, to read “December 13, 2018”.
Scope Of Work	a) Revised Section 3.0 Product Specifications, to include “ The long/extended life coolant supplied shall be propylene glycol based coolant” b) Renumbered the Section accordingly.

Sincerely,

A handwritten signature in black ink that reads "Kim Stuart". The signature is written in a cursive, slightly informal style.

Kim Stuart
Procurement Officer
Procurement Services, Metrolinx
Direct Dial: 416-202-5565
Email: kim.sturt@metrolinx.com

Date: November 30, 2018

Tender No. PT-2018-BUSF-580
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FACILITIES

The following amendments/clarifications hereby form part of this Addendum which in turn form part of the Tender Document. The contents of this Addendum shall be accounted for in the Submission, including any prices bid for the Work.

No consideration will be given for extras and/or changes due to the Bidder not being familiar with the contents of this Addendum.

By way of submitting a Submission, the Bidder acknowledges receipt of this Addendum. All other terms and conditions remain the same.

1.0 Closing

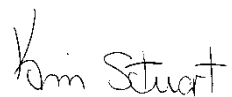
- 1.1 The Closing date has been extended to December 18, 2018. The Closing time remains the same at 3:00 p.m. Toronto, Ontario time.

2.0 TENDER DOCUMENT REVISIONS

- 2.1 The Tender Document has been revised and sections affected are noted below. The revised Tender Document is attached in the file entitled “Revised Tender Document PT-2018-BUSF-580” which supersedes all previous Tender Document versions.
[149 Pages Attached – Changes are highlighted in yellow and are as follows:

Section Affected:	Revisions
Instructions to Bidders	a) Revised Section 1.2, Tender Timetable, Closing to read “December 18, 2018”.

Sincerely,

A handwritten signature in black ink that reads "Kim Stuart". The signature is written in a cursive, slightly informal style.

Kim Stuart
Procurement Officer
Procurement Services, Metrolinx
Direct Dial: 416-202-5565
Email: kim.sturt@metrolinx.com

Date: November 22, 2018

Tender No. PT-2018-BUSF-580
SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO VARIOUS GO BUS
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The following amendments/clarifications hereby form part of this Addendum which in turn form part of the Tender Document. The contents of this Addendum shall be accounted for in the Submission, including any prices bid for the Work.

No consideration will be given for extras and/or changes due to the Bidder not being familiar with the contents of this Addendum.

By way of submitting a Submission, the Bidder acknowledges receipt of this Addendum. All other terms and conditions remain the same.

1.0 TENDER DOCUMENT REVISIONS

- 1.1 The Tender Document has been revised and sections affected are noted below. The revised Tender Document is attached in the file entitled “Revised Tender Document PT-2018-BUSF-580” which supersedes all previous Tender Document versions.
[149 Pages Attached – Changes are highlighted in yellow and are as follows:

Section Affected:	Revisions
List of Contents	a) Added under Attachments; “Bulk Storage Tank Filling Procedures Manual”.
Attachments	b) Added “Bulk Storage Tank Filling Procedures Manual”, 39 pages.
Tender Document Form: Attachment # 1 (Excel Spreadsheet)	Tender Document Form: Attachment #1 (Excel Spreadsheet) has been revised and sections affected are noted below. [1 Pages Attached – Changes are highlighted in yellow and are as follows: a) Heading, Estimated Quantity has been revised to read “Estimated Quantity (in Liters); b) Contract Unit Price, Extended Total, Subtotal and Total Estimated Contract Price the formula has been revised to provide four (4) decimal places.
Scope Of Work	a) Added Section 4.8. b) Added Section 5.0, Confirmation of Delivery

	c) Renumbered Sections 5.0 to 6.0 accordingly.
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Sincerely,

A handwritten signature in black ink that reads "Kim Stuart". The signature is written in a cursive, slightly slanted style.

Kim Stuart
Procurement Officer
Procurement Services, Metrolinx
Direct Dial: 416-202-5565
Email: kim.sturt@metrolinx.com

GENERAL CONDITIONS OF THE CONTRACT
SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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The documents, as stated under “General Conditions” of List of Contents, hereby form part of the General Conditions of the Contract and are appended to this Tender Document.

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1.0 Interpretation

1.1 Definitions

- (e) Capitalized terms used in this Contract shall have the respective meanings ascribed thereto in Schedule A - Definitions.

1.2 Time of the Essence

- (e) Time is of the essence in the performance of a Party's respective obligations under this Contract.

1.3 Currency

- (e) All prices and sums of money and all payments made under this Contract shall be in Canadian dollars.

1.4 Units of Measure

- (e) All dimensions, quantities, performance specifications, calibrations and other quantitative elements used in this Contract shall be expressed in the International System of Units (SI), except where otherwise indicated.

1.5 Language

- (e) All communication between Metrolinx and the Vendor and between the Vendor and each of the Subvendors with regard to the Work shall be in the English language.

1.6 References

- (e) Each reference to a statute in this Contract is deemed to be a reference to that statute and to the regulations made under that statute, all as amended or re-enacted from time to time. Following any and all changes to Applicable Laws, the Vendor shall perform the Work in accordance with the terms of this Contract, including in compliance with Applicable Laws.
- (f) Any provision establishing a higher standard of safety, reliability, performance or service shall take precedence over a provision establishing a lower standard of safety, reliability, durability, performance or service.
- (g) Each reference, whether express or implied, to a Standard of any technical organization or Governmental Authority is deemed to be a reference, to that Standard as amended, supplemented, restated, substituted or replaced.

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- (h) Subject to any express definitions contained in this Contract, words and abbreviations which have well known technical or trade meanings are used in this Contract in accordance with such recognized meanings.
- (i) Where used in this Contract, "including" means including without limitation, and the terms "include", "includes", and "included" have similar meanings.
- (j) Each reference to an Article or Section within the Contract or Schedules shall refer to that Article or Section number in the Contract or the Schedule in which the reference occurs unless otherwise specified.
- (k) The division of this Contract into Articles and Sections, the insertion of headings, and the provision of a table of contents are for convenience of reference only and do not affect the construction or interpretation of this Contract.

1.7 Time

- (e) Unless otherwise specified, references to time of day or date mean the local time or date in Toronto, Ontario. When any period of time is referred to in this Contract by days between two dates, it will be calculated by excluding the first and including the last day of such period.
- (f) If, under this Contract, any payment or other event falls due on or as of a day that is not a Business Day, that payment or other event shall fall due instead on the next day that is a Business Day, unless expressly stated otherwise.
- (g) Unless otherwise specified, references to "day" shall mean calendar day.

1.8 Schedules

- (e) The following Schedules attached to this Contract shall constitute an integral part of this Contract and all expressions defined in this Contract shall have the same meanings in such Schedules:
 - (i) Schedule A - Definitions
 - (ii) Schedule B - Financial Terms
 - (iii) Schedule C - Insurance
 - (iv) Schedule D - Dispute Resolution

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(v) Schedule E - Vendor Personnel

1.9 Order of Precedence

- (e) In the event of discrepancies, inconsistencies or ambiguities of the wording of the documents noted in the List of Contents, the wording of the document that first appears in the List of Contents shall prevail over the wording of a document subsequently appearing in the List of Contents.

2.0 Performance

2.1 Term of the Contract

- (e) This Contract shall take effect on the Effective Date hereof and shall continue in full force and effect until the earlier of: (i) the anniversary of the Effective Date; or (ii) the date that this Contract is terminated in accordance with its terms (the "Term").

2.2 Performance of the Work

- (e) The Vendor shall carry out and complete the work set forth in "Scope of Work" (the "Work") to the satisfaction of Metrolinx in accordance with all the terms of this Contract.
- (f) The Vendor shall supply the Work diligently and continuously in accordance with the scheduling requirements set out in the Project Schedule. Without limiting the generality of the foregoing, the Vendor shall perform the Work so as to enable Metrolinx to meet any timelines imposed on it under any Third Party Contracts, provided that such timelines have been identified in the Project Schedule or otherwise expressly communicated to the Vendor.
- (g) The Vendor acknowledges and agrees that each of the Vendor's Personnel shall be available to perform the Work in accordance with the required duration specified in Schedule E - Vendor Personnel. The Vendor further acknowledges and agrees that Metrolinx may, acting in its sole discretion, change the schedule including in respect of the timing of the provision of the Work and availability and number of the Vendor's Personnel. Without limiting the generality of the foregoing, Metrolinx may from time to time, on prior written notice to the Vendor twenty (20) Business Days', unilaterally extend or reduce the required duration with respect to the availability of any of the Vendor's Personnel or direct the Vendor to increase the number of Vendor's Personnel available. Metrolinx and the Vendor shall meet at a minimum, on a quarterly basis to discuss the

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progress of the Work and the anticipated scheduling needs with respect to the Vendor's Personnel.

- (h) Metrolinx may, from time to time, in its sole discretion, but is not required to, direct the Vendor to cause specific Vendor Personnel to perform certain tasks or activities that form part of the Work in accordance with the scheduling requirements provided by Metrolinx. Any such instructions shall be provided by Metrolinx in writing to the Vendor no less than five (5) Business Days before the specified tasks or activities are required to be performed by the Vendor Personnel.
- (i) The Vendor shall provide, at the sole cost and expense of the Vendor, save as otherwise provided in this Contract, all necessary equipment, goods, materials, analysis, transportation, accommodation, labour, staff and technical assistance and incidentals required in performing the Work and to undertake, perform and complete its undertakings, obligations and responsibilities provided for in this Contract.
- (j) The Work shall be provided in a professional, timely and economical manner according to the Required Standard of Care. Without limitation, the Vendor shall ensure that the Work are conducted in a manner that will maintain good relations with the general public and property owners.
- (k) The Vendor shall comply with and conform to all Applicable Laws, applicable to the Work to be provided by, and the responsibilities and obligations of, the Vendor under this Contract.
- (l) The Vendor shall not alter any part of a Joint Venture except with the prior written consent of Metrolinx in its sole discretion.

2.3 Subvendors

- (e) Other than the Subvendors identified in the Submission, the Vendor shall not subcontract the Work to any Person without the prior written consent of Metrolinx. No subcontracting by the Vendor shall relieve the Vendor of any responsibility for the full performance of all obligations of the Vendor under this Contract. Notwithstanding the approval of any Subvendors by Metrolinx, the Vendor shall be fully responsible for every Subvendor's activities, works, services and acts or omissions.
- (f) The Vendor shall be solely responsible for the payment of any Subvendors.
- (g) The Vendor shall co-ordinate the services of all Subvendors employed, engaged or retained by the Vendor with Metrolinx and, without limiting the

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generality of any other provision of this Contract, the Vendor shall be liable to Metrolinx for costs or damages arising from errors or omissions of such Subvendors or any of them. It shall be the Vendor's responsibility to control and review the Work of its own forces and of all its Subvendors and to ascertain that all Work are performed in accordance with this Contract, all governing regulations and the Required Standard of Care.

- (h) In any subcontract, the Vendor shall ensure that the Subvendor is bound by conditions compatible with, and no less favorable to Metrolinx than, the conditions of this Contract.
- (i) The Vendor warrants and represents that it and any of its permitted Subvendors and the respective workforce of each are fully qualified to perform the Work and perform this Contract and hold all requisite Approvals.
- (j) The Vendor shall only employ, for the purposes of this Contract, such persons as are careful, skilled and experienced in the duties required of them and have the required Domain Expertise, and must ensure that every such person is properly and sufficiently trained and instructed. The Vendor shall ensure that all workers and persons employed by them or under their control or employed by or under the control of its Subvendors comply with the terms of this Contract and, in particular without limiting the foregoing, the responsibilities of the Vendor with respect to matters concerning safety, compliance with the Applicable Laws and the conduct of the Work.
- (k) The Vendor shall be an independent vendor with respect to the Work to be provided under this Contract and nothing contained in this Contract shall be construed as constituting a joint venture or partnership between the Vendor and Metrolinx. Neither the Vendor nor its Subvendors shall be deemed to be employees, agents, servants or representatives of Metrolinx in the performance of the Work hereunder.
- (l) The Vendor shall not remove or change any Subvendors, or materially reduce the responsibilities of any Subvendors in relation to the provision of the Work except with the prior written consent of Metrolinx in its sole discretion. The proposed replacement Subvendor shall possess the requisite Domain Expertise and similar qualifications, experience and ability as the outgoing Subvendor.

2.4 Vendor Personnel

- (e) The Vendor shall select and employ a sufficient number of suitably qualified and experienced Vendor Personnel to perform and provide the

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Work, as determined with reference to the requirements of the Work to be performed by each individual or otherwise as required pursuant to the Contract. All Vendor Personnel shall possess or, where permitted, shall be supervised by persons who possess, the professional accreditation required to complete the Work.

- (f) If a role is described in Schedule E - Vendor Personnel, the Vendor shall fill that role with a person who meets the qualifications, experience and minimum years of experience requirements that are contained in Schedule E - Vendor Personnel.
- (g) The Vendor shall provide effective and efficient supervision to ensure that the quality of workmanship meets the requirements of the Contract.
- (h) The Vendor shall ensure that the Vendor Personnel assigned to perform the Work shall:
 - (i) act in a proper and professional manner in accordance with the standards generally used recognized by the industry; and
 - (ii) comply with all applicable Metrolinx policies and procedures, provided that the Vendor has been made aware of same.
- (i) Metrolinx may, for reasonable cause, direct the Vendor to remove and replace any Vendor Personnel of the Vendor or any Subvendor employed by the Vendor. Furthermore, the supervisor employed by the Vendor shall be satisfactory to Metrolinx and if not shall be replaced at the request of Metrolinx.

2.5 Third Party Work

- (e) The Vendor shall reasonably cooperate with Metrolinx and any Third Party and shall co-ordinate the Work with any and all Third Party Work. Without limiting the generality of the foregoing, the Vendor shall not alter, unreasonably interfere with or make it difficult to access any Third Party Work, except with the express written consent of Metrolinx.
- (f) The Vendor shall make best efforts to coordinate with Metrolinx and all applicable Third Parties in order to minimize:
 - (i) any delays to or interference with any Third Party Work within the rail corridors;

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- (ii) costs resulting from any delays to or interference with Third Party Work; and
 - (iii) impacts on the operations of, or use of the rail corridors by, Third Party Operators, including any delays to rail passenger or freight service on the rail corridors.
- (g) When and as directed by Metrolinx, the Vendor shall participate with Metrolinx employees and any applicable Third Parties in reviewing their respective schedules and cause designated Vendor Personnel to attend such meetings with Third Parties as may be reasonably requested by Metrolinx from time to time.
- (h) In the event that the proper performance of any part of the Work depends upon Third Party Work, the Vendor shall promptly inspect such Third Party Work and provide written notice to Metrolinx of any delays or defects in such Third Party Work that render such Third Party Work unavailable or unsuitable for integration with the Work.
- (i) Claims, disputes and other matters in question between the Vendor and Third Parties shall be dealt with in accordance with Schedule D - Dispute Resolution, provided that the Third Party has reciprocal obligations. The Vendor and Metrolinx shall be deemed to have consented to arbitration of any dispute with any Third Party whose contract with Metrolinx contains a similar dispute resolution provision that includes an agreement to submit to binding arbitration, provided that Metrolinx, at its sole and absolute discretion, shall be entitled to refuse to include any dispute with a Third Party from this Contract.

2.6 Non-Interference with Operations

- (e) The Vendor understands and agrees that:
 - (i) Metrolinx and Third Party Operators are in the business of moving large volumes of passengers and cargo through rail corridors safely, expeditiously and according to a fixed timetable;
 - (ii) the success of the businesses of Metrolinx and Third Party Operators depends on meeting the above objectives on a daily basis;
 - (iii) Metrolinx has contractual and statutory obligations to ensure the safety of all persons on the rail corridors and the property and facilities adjacent thereto; and

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(iv) Third Party Operators operating in and through the rail corridors and Third Party Vendors working in the rail corridors have similar restrictions and requirements.

(f) Notwithstanding any other term or condition set out in this Contract, the safety and non-disruption of all Third Parties operating in the rail corridors is of paramount importance. Consequently, the Vendor acknowledges and agrees that the safety of all trains, passengers, operating and maintenance personnel, goods and other transported cargos, as well as the Vendor Personnel and the public in general will take precedence over all actions or non-actions of the Vendor, whether mandated or not by any other terms and conditions of this Contract.

(g) The Vendor shall not disrupt the movement of any rail traffic in or through the rail corridors of either Metrolinx or the Third Party Operators except where it has obtained the prior written consent of Metrolinx to such disruption (which consent may be withheld in the sole discretion of Metrolinx).

2.7 Key Personnel

Intentionally omitted.

2.8 Vendor's Representative

Intentionally omitted.

2.9 Metrolinx Responsibilities

(e) Metrolinx shall designate an individual to act as its representative (the "Metrolinx Representative") who will transmit instructions to, and receive information from the Vendor. The Metrolinx Representative will be accountable for all project expenditures relative to design, procurement and construction activities.

2.10 French Language Services

Intentionally omitted.

2.11 Vendor Work Performance Rating

(e) Metrolinx shall during the term of the Contract, maintain a record of the performance of the Vendor completing Work for Metrolinx. This information shall be used to complete a "Contract Performance Appraisal" report, a copy of which will be forwarded to the Vendor upon completion of

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of the Work. Interim "Contractor Performance Appraisal" reports may be issued, as deemed appropriate by Metrolinx, at any time during the Term of the Contract. A copy of the Contract Performance Appraisal template can be found under "Attachments".

- (f) The overall history of the Vendor in performing work for Metrolinx, including the Vendor's performance pursuant to this Contract, will be considered in the evaluation of future submissions from the Vendor.
- (g) Metrolinx reserves the right in future procurements, during any procurement process, to reject any any submissions by the Vendor due to unsatisfactory performance history with Metrolinx.
- (h) Non-compliance with Contract requirements will be identified to the Vendor.
- (i) The information contained in the "Contract Performance Appraisal" may be provided to the Ministry of Transportation, other ministries and other government agencies. Such performance reviews may be relied upon to reject the Vendor's submission on any procurement processes.
- (j) The performance category on the Contract Performance Appraisal may be revised by Metrolinx subject to Change Orders or Amendments. In such instances, the Vendor shall be notified via written communication of the change.

3.0 Health and Safety

3.1 Occupational Health & Safety Act

- (e) The Vendor shall comply with OHSA, and any obligations of the Vendor as an "employer" thereunder, and with all regulations made under the OHSA.
- (f) The Vendor shall report to Metrolinx any non-compliance by a Subvendor in the performance of the Work with the regulations under the OHSA if and when brought to the attention of the Vendor.
- (g) The Vendor acknowledges that lack of compliance with applicable provincial or municipal health and safety requirements will be and are intended to be documented and kept on file, and that such lack of compliance may cause:
 - (i) the Vendor's performance of the Work to be suspended; or
 - (ii) this Contract to be cancelled by Metrolinx.

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- (h) The Vendor will be under an obligation to cease the Work, or any part thereof, if an authorized representative of Metrolinx so requires orally or in writing on the grounds that there has been any violation of the OHSA or any of the regulations under it, and thereafter the Work or affected part thereof shall not resume until any such violation has been rectified.
- (i) The Vendor shall be responsible for any delay caused by the Vendor in the progress of the Work as a result of any violation of provincial or municipal health and safety requirements by the Vendor, it being understood that such delay shall be not be a Force Majeure for the purposes of extending the time for performance of the Work or entitling the Vendor to additional compensation, and the Vendor shall take all necessary steps to avoid delay in the final completion of the Work without additional cost to Metrolinx, which shall not be responsible for any additional expense or liability resulting from any such delay.
- (j) Nothing in this Section 3.1 shall be taken as making Metrolinx the "employer" (as described in Section 3.1(e) of any workers employed or engaged by the Vendor for the Work, either instead of or jointly with the Vendor.

3.2 Safety Requirements

- (e) The Vendor shall comply with the "Safety Requirements" and "Environmental Protection" (if applicable) sections of the of Scope of Work. Safety of Persons at or near a Place of Work and the public is of paramount concern to Metrolinx. In the performance of the Work, the Vendor shall not in any manner endanger the safety of, or unlawfully interfere with, Persons on or off the Place of Work, including the public.
- (f) The Vendor specifically covenants and agrees that:
 - (i) it shall comply with best industry practice in Ontario respecting health and safety in a manner that recognizes and minimizes the risk to workers, other individuals, property and the operations of Metrolinx and any railways, to the extent that such practices are not inconsistent with an express instruction set out in this Contract or provided by Metrolinx;
 - (ii) it shall comply, and shall ensure that all Vendor Personnel comply, in all regards with the requirements of OHSA and/or the Canadian Labour Code, Part II, as applicable;

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- (iii) it shall comply, and shall ensure that all Vendor Personnel comply, in all regards with the safety requirements set out in the Contract Documents;
- (iv) it shall maintain, strictly enforce and comply, and ensure that all Vendor Personnel comply, in all regards with the Vendor's own health and safety program, to the extent not inconsistent with this Contract and Metrolinx' health and safety program;
- (v) it shall comply, and shall ensure that all Vendor Personnel comply, with any and all safety-related directives or instructions issued by Metrolinx;
- (vi) it shall take all steps reasonable in the circumstances to ensure the health and safety of all workers for which it has responsibility under OHSA; and
- (vii) it shall make available, at Metrolinx' request, such policies and procedures relating to its occupational health and safety matters as Metrolinx may from time to time request, and hereby covenants that all Vendor Personnel have been properly trained and are knowledgeable with respect to these policies and procedures.

3.3 Railway Safety

- (e) If applicable, the Vendor shall comply with "Railway Safety Requirements" of Scope of Work and acknowledges and agrees that:
 - (i) access to the rail corridors by the Vendor and any Vendor Personnel, shall at all times be subject to the direction of Metrolinx and/or a third party designated by Metrolinx as to rail safety matters and any applicable railway operating rules; and
 - (ii) any and all questions, matters or disputes which may arise affecting the safety of railway operations or the maintenance of the railways shall be referred to Metrolinx which shall in its discretion decide all such questions, matters and disputes.
- (f) The Vendor shall perform the Work, and shall ensure that all Vendor Personnel perform the Work, in accordance with the Canadian Rail Operating Rules from time to time approved by the Minister of Transport under the authority of the Railway Safety Act (Canada), the Standards, and all other applicable Transport Canada guidelines, railway standards, and practices.

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- (g) In the event that the Work is the subject of an audit or inspection by any Governmental Authority, the Vendor shall at its own expense:
 - (i) provide notice of such audit or inspection to Metrolinx;
 - (ii) make available or cause to be made available such reasonable information and material as may be required and shall otherwise reasonably cooperate with Transport Canada officials;
 - (iii) provide Metrolinx with a copy of any audit or inspection report or other results or recommendations issued by Transport Canada, as soon as practicable but in any event within five (5) Business Days of receipt thereof by the Vendor; and
 - (iv) take all steps necessary to rectify, in consultation with and as directed by Metrolinx, any issues identified by Transport Canada.

3.4 Workers' Rights

- (e) The Vendor shall at all times pay or cause to be paid any assessments or compensation required to be paid by the Vendor or its Subvendors pursuant to any applicable workers' compensation legislation, and upon failure to do so, Metrolinx may pay such assessments or compensation to the Workplace Safety and Insurance Board and may deduct such assessments or compensation from monies due to the Vendor. The Vendor shall comply with all regulations and laws relating to workers' compensation.

4.0 Financial Terms

4.1 Financial Terms

- (e) All financial and payment terms applicable to this Contract and the Work are set out in Schedule B - Financial Terms.

5.0 Construction Lien Act

Not Applicable

6.0 Right of Ownership and Use

6.1 General

- (e) The Vendor shall be responsible for procuring for Metrolinx the right to use all Vendor Intellectual Property required in connection with the Work.

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- (f) In the event that any third party Intellectual Property (other than the Metrolinx Intellectual Property) is required in connection with the Work, the Vendor shall, at its own cost, be responsible for entering into and fully maintaining, during the Term, all related and applicable license, and maintenance and support agreements for such third party Intellectual Property.
- (g) If during the Term, third party Intellectual Property (other than Metrolinx Intellectual Property) used in connection with the Work ceases to be commercially available, then the Vendor shall:
 - (i) promptly provide Metrolinx with notice of such event; and
 - (ii) promptly replace such third party Intellectual Property with an alternative product.
- (h) Any increased costs resulting from the foregoing shall be addressed pursuant to the change management process described in Article 8; provided that, in the event such Intellectual Property ceases to be available as a result of any act or omission of the Vendor, the Vendor shall be responsible for all costs associated therewith.

6.2 Ownership of Metrolinx Intellectual Property

- (e) As between Metrolinx and the Vendor, Metrolinx owns and shall own all right, title and interest in and to the Metrolinx Intellectual Property. To the extent that the Vendor requires the use of any Metrolinx Intellectual Property in connection with this Contract or the Work, Metrolinx hereby grants to the Vendor, during the Term, a non-exclusive, non-transferable, non-sublicenseable, fully paid-up, royalty-free right and license for the Vendor and the Vendor Personnel to access, use, copy, support, maintain and, to the extent reasonably necessary to provide the Work, modify, the Metrolinx Intellectual Property solely for the purposes of fulfilling the Vendor's obligations under this Contract, subject to compliance with the confidentiality obligations set out in this Contract.
- (f) Metrolinx grants no rights other than explicitly granted herein, and the Vendor shall not exceed the scope of this license. Except for the limited right to use such Metrolinx Intellectual Property as set forth in this section, the Vendor shall not have or acquire any rights in or to the Metrolinx Intellectual Property.

6.3 Ownership of Vendor Intellectual Property

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- (e) As between Metrolinx and the Vendor, the Vendor owns all right, title and interest in and to the Vendor Intellectual Property. The Vendor hereby grants to Metrolinx a non-exclusive, irrevocable, perpetual, fully paid-up, royalty-free and worldwide right and license to access, use, copy, support, maintain, modify (including create derivative works from), sublicense (through multiple tiers), assign, distribute or otherwise exploit any Vendor Intellectual Property that is integrated with, embedded in, forms part of or is otherwise required to access, use, copy, support, maintain, modify (including create derivative works from), sublicense, assign, distribute or otherwise exploit any Custom Intellectual Property; provided, however, that the foregoing license does not permit Metrolinx to use the Vendor Intellectual Property in its standalone form or for any purpose other than as part of or in conjunction with the Custom Intellectual Property it is associated with. The Vendor grants no rights other than explicitly granted herein, and Metrolinx shall not exceed the scope of this license.
- (f) If the Vendor integrates with or embeds in any Deliverables any Intellectual Property provided by a third party vendor, Subvendor, independent vendor, Subvendor or other Person, the Vendor shall obtain for Metrolinx the same license rights for Metrolinx has set forth in Section 6.3(e).

6.4 Ownership of Custom Intellectual Property

- (e) Metrolinx owns and shall own all right, title and interest in and to the Custom Intellectual Property. The Vendor hereby irrevocably assigns and transfers to Metrolinx all right, title and interest, throughout the world in and to all Custom Intellectual Property produced pursuant to this Contract including all applicable Intellectual Property Rights thereto. If the Vendor has any rights to Custom Intellectual Property that cannot, or which the Parties agree will not, be assigned to Metrolinx, the Vendor hereby grants to Metrolinx a non-exclusive, irrevocable, perpetual, fully paid-up, royalty-free and worldwide right and license to access, use, copy, support, maintain, modify (including create derivative works from), sublicense (through multiple tiers), assign, distribute or otherwise exploit the Custom Intellectual Property.

6.5 Employee and Subvendor Contracts

- (e) The Vendor shall obtain from each of the Contract Personnel an assignment of rights to the Custom Intellectual Property and a waiver of any moral rights (and any similar rights to the extent that such rights exist and may be waived in each and any jurisdiction throughout the world) in and to the Custom Intellectual Property, for the benefit of Metrolinx and its respective successors, assigns, licensees and vendors, prior to the performance of any

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Work by each such individual. The Vendor shall provide copies of such documentation to Metrolinx upon request.

6.6 Title and Risk of Loss

- (e) Risk of loss of or damage to the goods shall remain with the Vendor, and shall pass to Metrolinx upon acceptance of the goods at the designated Place of Work.
- (f) The Vendor shall be liable for all costs up to the full replacement value of any good(s) prior to passage of title of the goods to Metrolinx. Any goods, which prior to acceptance by Metrolinx shall become damaged from any cause whatsoever, shall be made good at the expense of the Vendor, except that, in the event that and to the extent that negligence on the part of Metrolinx or its employees or representatives causes the above-mentioned damage, Metrolinx shall accept responsibility and reimburse the Vendor for the price of necessary repairs. In either event the time for delivery shall be adjusted accordingly.
- (g) Risk of loss of or damage to spare parts, capital spares, diagnostic tools and other deliverables covered by the Contract shall remain with the Vendor until, and shall pass to Metrolinx upon, delivery and acceptance of the good by Metrolinx at the designated Place of Work.
- (h) The Vendor shall be liable for all costs up to the full replacement value of any spare parts, capital spares, diagnostic tools and other deliverables covered by this Contract prior to acceptance by Metrolinx.
- (i) Upon any payment being made to the Vendor for or on account of materials, parts, Work-in-process, or finished Work, either by way of progress payments or accountable advances or otherwise, title in and to all materials, parts, Work-in-process and finished Work so paid for by such progress payments or accountable advances or otherwise shall vest and remain in Metrolinx unless already so vested under any provision of the Contract and the Vendor shall be responsible therefor in accordance with the provisions of Section 6.6 herein, it being understood and agreed that such vesting of title in Metrolinx shall not constitute acceptance by Metrolinx of such materials, parts, work-in-progress and finished work and shall not relieve the Vendor of its obligations to perform the Work in conformity with the requirements of the Contract.
- (j) The Vendor shall take reasonable and proper care of all property, title to which is vested in Metrolinx, while the same is in, on or about the plant and premises of the Vendor or otherwise in his possession or subject to his

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control and shall be responsible for any loss or damage resulting from his failure to do so other than loss or damage caused by ordinary wear and tear.

7.0 Insurance

7.1 Insurance Requirements

- (e) The Vendor agrees to purchase and maintain in force, at its own expense and for the duration of this Contract, the policies of insurance set forth in Schedule C - Insurance, which policies will be in a form and with an insurer or insurers acceptable to Metrolinx. A certificate of these policies originally signed by the insurer or an authorized agent of the insurer and copies of the policies must be delivered to Metrolinx prior to the commencement of the Work.

8.0 Changes and Cash Allowances

8.1 Changes Requested by Metrolinx

- (e) Metrolinx may, in writing, request changes or alterations to the Work, or request additional services from the Vendor (any of the foregoing, "Changes"). Subject to this Article 8, the Vendor shall comply with and implement all reasonable Metrolinx Change requests, and the performance of such requests shall be in accordance with this Contract.

8.2 Changes Recommended by the Vendor

- (e) The Vendor shall promptly notify Metrolinx in writing if the Vendor considers that any notice, direction, requirement, request, correspondence, or other fact, event, or circumstance comprises, requires, or results in a Change, and seek instructions as to whether or not to proceed to implement such Change.

8.3 Change Management Process

- (e) Where a Change request is initiated by Metrolinx pursuant to Section 8.1, Metrolinx shall set out, in the Change request:
 - (i) the proposed prices for the contemplated changes;
 - (ii) the timing requirements for the implementation of the Change; and
 - (iii) any other information which may reasonably be required.

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- (f) The Vendor shall respond to Metrolinx' Change request in writing within ten (10) Business Days.
- (g) Where a Change is initiated by the Vendor pursuant to Section 8.2, the Vendor shall set out in the Change request, conforming to Section 8.3(e):
 - (i) a description of the proposed Change;
 - (ii) the estimated cost of the proposed Change;
 - (iii) any proposals, designs or other details or information which may be reasonably required; and
 - (iv) the reasons for the proposed Change, including the benefits of the proposed Change and any consequences of not proceeding with the Change.
- (h) No Changes shall be implemented and no Change request shall become effective until an amendment or change order documenting the Change has been executed by both Parties, and such executed instrument shall be the final determination of any adjustments to the Contract price, the Project Schedule, or the terms and conditions of the Contract, as applicable, with respect to the Change set out therein.
- (i) Where Metrolinx and the Vendor cannot agree as to whether or not a particular notice, direction, requirement, request, correspondence, or other fact, event, or circumstance comprises, requires, or results in a change to the scope of the Work, then either Party may refer the issue to dispute resolution in accordance with Article 16.

8.4 Cash Allowance Items and Task Assignment Process

Intentionally omitted.

8.5 Performance of Changes and Cash Allowance Items

Intentionally omitted.

9.0 Additional Resources

9.1 Additional Resources

- (e) In addition to, or in connection with, a request for additional or altered services pursuant to Article 8, at any time during the Term, Metrolinx shall

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have the right in its discretion to require the Vendor to increase the number of Vendor Personnel upon twenty (20) days' notice.

- (f) Unless otherwise agreed to in writing by Metrolinx, such additional Vendor Personnel shall be available to report for work at any Place of Work designated by Metrolinx within twenty (20) days of receipt of a written request from Metrolinx pursuant to Section 9.1(e).
- (g) The hourly rate payable in respect of additional Vendor Personnel, if applicable, shall be as set out in the Articles of Agreement.

10.0 Confidential Information, Personal Information, Freedom of Information, Access and Audit Rights

10.1 Confidential Information

- (e) The Vendor shall keep all Confidential Information confidential. Without limiting the generality of the foregoing, the Vendor shall:
 - (i) not disclose, reveal, publish, or disseminate any Confidential Information to anyone, except as permitted pursuant to this Contract;
 - (ii) shall use Confidential Information only in connection with this Contract and the performance of the Work;
 - (iii) shall take all reasonable steps required to prevent any unauthorized reproduction, use, disclosure, publication, or dissemination of the Confidential Information; and
 - (iv) shall immediately notify Metrolinx in the event that it becomes aware of any unauthorized disclosure of Confidential Information.

10.2 Permitted Disclosure

- (e) Notwithstanding the obligations set out in Section 10.1, the Vendor may disclose Metrolinx' Confidential Information to those of its Subvendors and Vendor's Personnel who need to know such Confidential Information in connection with this Contract, provided that such Subvendor or Vendor's Personnel, as applicable, is subject to obligations of confidentiality substantially similar to those contained in this Article 10.

10.3 Exceptions

- (e) The obligations of confidentiality set out in Section 10.1 shall not apply to Confidential Information which:

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- (i) becomes generally available to the public through no fault of the Vendor;
 - (ii) prior to receipt from Metrolinx, was known to the Vendor on a non-confidential basis and is not subject to another obligation of secrecy and non-use, as documented by written records possessed by the Vendor;
 - (iii) was independently developed by the Vendor prior to receipt from Metrolinx, as documented by written records possessed by the Vendor; or
 - (iv) becomes available to the Vendor on a non-confidential basis from a source other than Metrolinx that is not under other obligations of confidence.
- (f) If the Vendor becomes compelled to disclose any Confidential Information pursuant to Applicable Law, the Vendor shall provide Metrolinx with prompt written notice of any such requirement and shall cooperate with Metrolinx in seeking to obtain any protective order or other arrangement pursuant to which the confidentiality of the relevant Confidential Information is preserved. If such an order or arrangement is not obtained, the Vendor shall disclose only that portion of the Confidential Information as is required pursuant to Applicable Law. Any such required disclosure shall not, in and of itself, change the status of the disclosed information as Confidential Information under the terms of this Article 10.
- (g) Without limiting the generality of Section 10.3(e) and notwithstanding Section 10.3(f), the Parties acknowledge and agree that the treatment and disclosure of Confidential Information shall in all cases be subject to the requirements of FIPPA.

10.4 Security Measures

- (e) The Vendor shall select, implement (prior to the commencement of the Work), use and maintain the most appropriate products, tools, measures and procedures to ensure the security of all Confidential Information, as determined with reference to and generally in compliance with Applicable Laws, Industry Standards, the security requirements specified in "Scope of Work" and best practices, or as otherwise prescribed by Metrolinx during the Term. Without limiting the generality of the foregoing, such practices shall include:
- (i) privacy due diligence safeguards; and

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(ii) physical and electronic security measures and confidentiality enhancing technologies to guard against unauthorized disclosures, access and use, such as firewalls, encryption, the use of user identification and passwords, software or other automated systems to control and track the addition and deletion of users, and software or other automated systems to control and track user access to areas and features of information systems.

(f) For greater certainty, Metrolinx reserves the right to prescribe the specific manner in which Vendor shall perform its obligations relating to this Section 10.4.

10.5 Intellectual Property Rights

(e) Metrolinx, its vendors, subvendors, consultants, advisors, agents, strategic business partners, and affiliates shall retain all right, title and interest, including all Intellectual Property Rights, in and to its Confidential Information.

10.6 Return or Destruction of Confidential Information

(e) Immediately upon expiration or termination of this Contract or at any other time upon the request of Metrolinx, and subject to Section 10.10, the Vendor agrees to:

(i) promptly return all Confidential Information (other than the Contract Records) to Metrolinx; or

(ii) promptly delete or destroy the Confidential Information (other than the Contract Records) and all copies thereof in any form whatsoever under its power or control and provide Metrolinx with a destruction certificate signed by an appropriate officer of the Vendor certifying such destruction.

(f) Notwithstanding the foregoing, the Vendor shall have no obligation to return or destroy:

(i) Confidential Information that is captured and retained within the Vendor's routine computer systems backup processes, provided that (a) no specific effort is made to retrieve such archived Confidential Information for purposes that would violate the confidentiality obligations under this Contract and (b) the confidentiality obligations of under this Contract shall continue to apply to such archived

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Confidential Information for so long as such information is retained;
and

- (ii) working papers or other documentation which it is required to retain pursuant to Applicable Law or any rules of professional conduct applicable to the Vendor or the Vendor Personnel.

10.7 FIPPA and Personal Information

- (e) Metrolinx and the Vendor acknowledge and agree the collection, use, retention and disclosure of Personal Information is governed by FIPPA. Metrolinx acknowledges that the Vendor may also be subject to the requirements of PIPEDA. In the event of a conflict between the requirements of FIPPA and the requirements of PIPEDA or any other legislation governing the treatment of Personal Information, the more onerous provision shall apply.
- (f) The Vendor shall ensure that all collection, access, use, retention and disclosure of Personal Information under this Contract, whether through the performance of the Work or otherwise, complies with Applicable Laws including FIPPA, PIPEDA, Standards, and applicable requirements to collect, record and retain relevant consents pertaining to the collection, access, use, retention and disclosure of Personal Information in respect of the Work.
- (g) At Metrolinx's request at any time during the Term, the Vendor shall fully participate in a Privacy Impact Assessment with respect to the performance of the Work. The Privacy Impact Assessment may be conducted by Metrolinx or external third party advisors to Metrolinx at various times throughout the Term. The Vendor and all Vendor Personnel shall cooperate with Metrolinx and/or its third party advisors to provide the resources required to facilitate and fulfill this assessment. The Vendor shall implement any recommendations resulting from the Privacy Impact Assessment process.
- (h) The Vendor shall ensure the security and integrity of any Personal Information collected by the Vendor and shall protect it against loss, unauthorized access, destruction, or alteration, in accordance with the following:
 - (i) The Vendor shall not directly or indirectly collect, use, disclose, store or destroy any Personal Information, or give, exchange, disclose, provide, or sell Personal Information to any third party, except as

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expressly permitted, and for a purpose(s) authorized, under this Contract or otherwise agreed to in writing by Metrolinx.

- (ii) The Vendor shall ensure that access to Personal Information is restricted to those Vendor Personnel who have a need to know or use such information in the performance of the Work and who have been specifically authorized to have such access for the purposes of performing the Work. Access shall be limited to only that Personal Information which is required for the performance of the Work.
- (iii) All Personal Information shall be kept in a physically secure location and separate from all other records and databases. The Vendor shall not place, input, match, insert or intermingle, nor shall it permit any Person to place, input, match or intermingle, any data or records in any form whatsoever into or with any records or database containing such Personal Information.
- (i) For greater certainty, Metrolinx reserves the right to prescribe the specific manner in which the Vendor shall perform its obligations relating to this Section 10.7.

10.8 FIPPA and Freedom of Information

- (e) The Vendor acknowledges that Metrolinx is a provincial crown agency subject to FIPPA, and acknowledges and agrees as follows:
 - (i) All FIPPA Records are subject to, and the collection, use, storage and treatment thereof is governed by FIPPA. The Vendor agrees to keep all FIPPA Records secure and available, in accordance with the requirements of FIPPA. The Vendor acknowledges that all information, data, records and materials, however recorded, that are held by the Vendor and/or created by the Vendor in the course of performing the Work are considered to be FIPPA Records and subject to FIPPA.
 - (ii) Section 10.5 shall apply to all FIPPA Records (other than the Contract Records), which shall be returned and/or destroyed in accordance with that section.
 - (iii) In the event of a conflict between the requirements of this Contract and the requirements of FIPPA, the requirements of FIPPA shall take precedence.

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- (iv) In the event that a request is made under FIPPA for the disclosure of any FIPPA Records, Metrolinx shall provide prompt written notice thereof to the Vendor and the Vendor shall provide any and all relevant FIPPA Records to Metrolinx on demand for the purposes of responding to an access request under FIPPA. In these circumstances, the Vendor shall provide all FIPPA Records requested to Metrolinx's Freedom of Information Coordinator (or equivalent) within seven (7) Business Days of receipt of the request from Metrolinx. Notwithstanding anything to the contrary in this Contract and subject to the Vendor's rights of appeal pursuant to Section 28(9) of FIPPA, Metrolinx shall determine what FIPPA Records will be disclosed in connection with any such request, in accordance with the requirements of FIPPA (including, without limitation, the requirements with respect to affected persons set out in Section 28 thereof).
- (v) Storage of FIPPA Records (including the Contract Records) at a location outside Canada shall only be permitted with Metrolinx's express written consent.

10.9 Access

- (e) The Vendor shall provide to Metrolinx the network access requirements and access level that will be required by the Vendor to perform the Work. All requests to access Metrolinx's network will be subject to Metrolinx's written approval.
- (f) The Vendor shall aggregate all access into a central network access point before network access is granted to Metrolinx's information systems. The network controls used to facilitate access between the Vendor and Metrolinx will be subject to Metrolinx's written approval.
- (g) Contract Personnel shall not attempt to access, or allow access to, any Metrolinx data to which they are not permitted access under this Contract. If such access is attained, the Vendor shall immediately report such incident to Metrolinx, describe in detail any accessed Metrolinx data, and return to Metrolinx any copied or removed Metrolinx data.
- (h) The Vendor is responsible for ensuring that Vendor Personnel do not access, or allow access, to any Metrolinx data to which they are not permitted access under this Contract. The Vendor shall utilize commercially reasonable efforts, including through the use of rigorous systems security measures, to guard against, identify and promptly terminate the

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unauthorized access, alteration or destruction of software and Metrolinx data.

10.10 Audit Rights

- (e) During the Term and for a period of seven (7) years thereafter, the Vendor shall, at its cost and expense, retain and maintain, in an organized, accurate and accessible mode and manner, all financial and other books, records and documentation relating or pertaining to the Contract and the performance of the Work, including (i) original invoices and accounts, along with related records showing costs and expenses incurred, including but not limited to the cost to the Vendor of the Work and of all expenditures or commitments made by the Vendor in connection therewith; (ii) correspondence, e-mails, tenders, minutes of meetings, notes, reports, timesheets, memoranda and other documents associated with the Contract; (iii) records relating to any service level agreements and key performance indicators included in the Contract, and (iv) records related to matters of security and privacy (collectively, the "Contract Records").
- (f) The Contract Records shall be retained and maintained in accordance with all generally acceptable accounting principles and Applicable Laws and Industry Standards, or as otherwise may be required to substantiate compliance with this Contract and/or any payment to be made to the Vendor under this Contract.
- (g) During the Term and for a period of seven (7) years thereafter, Metrolinx or any third party acting on behalf of Metrolinx, shall have the right, upon no less than twenty-four (24) hours' notice in writing to the Vendor and during normal office hours, to inspect and audit, and to have access to, all Contract Records whether maintained by the Vendor or a Vendor Personnel, reasonably required to confirm the Vendor's compliance with the terms of this Contract and Applicable Laws, and to make copies thereof. The Vendor shall make available or cause to be made available the Corporate Records that are requested by Metrolinx or that may be required given the scope of the audit (provided such scope is disclosed to the Vendor), and shall otherwise reasonably cooperate with Metrolinx and any third party acting on Metrolinx's behalf, including by providing reasonable access to all of the Vendor's premises and to the Vendor's employees. Where access is needed to a Vendor Personnel's employees or to Contract Records that are maintained by a Vendor Personnel, the Vendor shall use reasonable efforts to arrange for such access on a timely basis. Without limiting the generality of the foregoing, the rights set out in this Section 10.10 shall extend to any Governmental Authority exercising its right to audit pursuant to Applicable Law or any contract with Metrolinx.

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- (h) The Vendor shall maintain a competent and independent audit function to assess the internal controls over its environment and its compliance with Applicable Laws and Industry Standards. The Vendor shall provide Metrolinx, upon request, the results of all internal controls and security audits performed by the Vendor's auditors.
- (i) The Vendor shall upon advance written request, provided by e-mail or otherwise, provide Metrolinx with reasonable access to all premises that may reasonably be required to enable Metrolinx and/or Metrolinx's agents to monitor the progress of the Work. Any such monitoring or verifications shall be without prejudice to any other rights of Metrolinx under this Contract and shall not relieve the Vendor from any of its obligations under this Contract nor shall such verification be used by the Vendor as evidence of effective control of quality.
- (j) The Vendor and Metrolinx shall meet to review each audit report promptly after the issuance thereof and to mutually agree upon the appropriate manner, if any, in which to respond to the changes suggested or issued identified by the audit report. Without limiting any remedies which may be available to Metrolinx, the Vendor shall promptly remedy any violations of this Contract of which it becomes aware, pursuant to any audit or otherwise.

10.11 Vendor Compliance

- (e) The Vendor shall advise all of its Vendor Personnel, all of its Subvendors, and all of its Subvendor's Vendor Personnel of the requirements of this Article 10, and associated requirements set out elsewhere in this Contract, and take appropriate action to ensure compliance by such persons with the terms of this Article 10. In addition to any other liabilities of the Vendor pursuant to this Contract or otherwise at law or in equity, the Vendor shall be liable for all claims arising from any non-compliance with this Article 10 by the Vendor, any of its Vendor Personnel, any Subvendor and of its Subvendor's Vendor Personnel.
- (f) The Vendor warrants that each of its Vendor Personnel, each of its Subvendors and each of its Subvendor's Vendor Personnel engaged by the Vendor to provide the services pursuant to this Contract is under a written obligation to the Vendor requiring such person to comply with the terms of this Article 10.

10.12 Publicity

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- (e) Neither Party may make any public announcement or press release regarding this Contract or any relationship between the Vendor and Metrolinx, without the other Party's prior written consent.

10.13 Damages

- (e) The Vendor acknowledges and agrees that any breach or threatened breach of this Article 10 or the obligations set out herein shall cause immediate and irreparable harm to Metrolinx for which damages alone are not an adequate remedy. The Vendor hereby acknowledges and agrees that Metrolinx shall be entitled to seek, in addition to any other legal remedies which may be available to it, such equitable relief as may be necessary and available to protect Metrolinx against such breach or threatened breach. No failure or delay by Metrolinx in exercising any right hereunder shall operate as a waiver hereof, or shall estop Metrolinx from obtaining permanent injunctive relief.

11.0 Representations, Warranties and Covenants

11.1 Representations, Warranties and Covenants of the Vendor

- (e) The Vendor covenants and agrees with and represents and warrants to Metrolinx, and acknowledges and confirms that Metrolinx is relying on such covenants, agreements, representations and warranties, as follows:
 - (i) the Vendor is validly existing under the laws of the location of its head office and the Vendor has all necessary corporate power, authority and capacity to enter into this Contract and to perform its obligations hereunder;
 - (ii) the entering into of this Contract by the Vendor and the performance of its obligations hereunder has been authorized by all necessary corporate action;
 - (iii) the execution and delivery of this Contract, the consummation of the transactions contemplated herein and compliance with and performance of the provisions of this Contract does not and shall not:
 - (A) result in a breach of or constitute a default under, or create a state of fact, which after notice or lapse of time or both, or otherwise, would constitute a default under any term or provision of the constating documents of the Vendor, the by-laws or resolutions of the Vendor or any agreement or

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instrument to which the Vendor is a party or by which it is bound, or

- (B) require the Vendor to obtain any Approval or action of any other Persons and, if required, any such Approvals have already been obtained as of the date of this Contract;
- (iv) this Contract constitutes a legally valid and binding obligation of the Vendor enforceable against it in accordance with its terms, subject only to applicable bankruptcy, insolvency and other similar laws affecting the enforceability of the rights of creditors generally, the principles of equity and that equitable remedies such as specific performance and injunction are available only in the discretion of a court of competent jurisdiction;
- (v) the Vendor has carefully reviewed the whole of this Contract, including all of the Contract Documents, and all other documents made available to the Vendor by Metrolinx, and, to the Vendor's knowledge, nothing contained herein or therein inhibits or prevents the Vendor from performing the Work in accordance with the Required Standard of Care so as to achieve and satisfy the requirements of this Contract;
- (vi) the Vendor has engaged and shall engage only Subvendors and Vendor Personnel that are qualified and competent to perform the portions of the Work they are responsible for and possess the requisite Domain Expertise;
- (vii) the Vendor has available the resources and personnel to complete all of its obligations under this Contract in a timely, efficient and professional manner in accordance with the Required Standard of Care;
- (viii) the Vendor is not aware of any legal action instituted, threatened or pending against the Vendor that could have a material adverse effect on its ability to perform its obligations under this Contract;
- (ix) Except as disclosed in the Submission, the Vendor is free of any actual or potential Tender Conflict of Interest;
- (x) the Vendor is registered as an employer pursuant to the Workplace Safety and Insurance Act (Ontario) and has completed all filings and paid all assessments as required pursuant to that Act and the regulations thereunder;

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- (xi) the Vendor is familiar with the obligations imposed on an "employer" as defined in OHSA, and that it has in place a health and safety program to ensure that it takes all steps reasonable in the circumstances to ensure the health and safety of all workers for which it has responsibility under that Act; and
- (xii) the Vendor represents, warrants and covenants to Metrolinx that the Vendor is and shall remain duly registered for the purposes of Part IX of the Excise Tax Act.

11.2 Continuing Effect of Representations, Warranties and Covenants

- (e) The Vendor hereto agrees that its covenants, representations and warranties contained in this Article 11 are continuing covenants, representations and warranties and shall apply and be true and correct at all times during the Term.

12.0 Indemnity

12.1 Indemnification

- (e) The Vendor shall at all times indemnify and save harmless Metrolinx, its officers, directors, employees, members, agents, representatives, successors and assigns (hereinafter the "Indemnified Parties"), from and against any and all Losses resulting from:
 - (i) any breach, violation or non-performance by or on behalf of the Vendor of any covenant, obligation or agreement of the Vendor contained in this Contract, including any warranty;
 - (ii) any negligent acts, errors or omissions or wilful misconduct by or on behalf of the Vendor relating to the Work to be provided under this Contract;
 - (iii) any acts performed by or on behalf of the Vendor beyond the authority of the Vendor hereby conferred;
 - (iv) any inaccuracy in or breach of any of the representations or warranties of the Vendor contained in this Contract;
 - (v) any breach of the terms and conditions set out in Article 3 or arising as a result of any illness, injury or death of any employee of the Vendor or any Subvendor, including:

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- (A) any resulting expenses incurred by Metrolinx as a result of stoppage of the Work on account of failure by the Vendor to meet its obligations under and/or with respect to the OHSA; and
 - (B) any resulting fine(s) levied against Metrolinx as a result of any breach of the responsibilities of the employer for the work, to the extent attributable to the Vendor's failure to fulfil its obligations as described in Section 3.1; and/or
- (vi) any infringement or alleged infringement of any patent, trade secret, service mark, trade name, copyright, official mark, moral right, trade-mark, industrial design or other proprietary rights conferred by contract, common law, statute or otherwise in respect to the Work or any matter provided to Metrolinx or performed by the Vendor, or anyone else for whom at law the Vendor is responsible provided, however, the Vendor shall not be required to indemnify the Indemnified Parties pursuant to this subsection if (i) the infringement or alleged infringement was caused by the modification of a deliverable or work product prepared pursuant to this Contract by any person other than the Vendor or a Vendor Personnel, (ii) the deliverable or work product was based upon designs provided by Metrolinx, or (iii) the Work relating to the infringement or alleged infringement were used in a manner not permitted by the Contract.
- (f) The Vendor shall pay all reasonable costs, expenses and legal fees that may be incurred or paid by the Indemnified Parties in connection with any demand, claim, execution, action, suit or proceeding with respect to a matter for which the Vendor is obligated to indemnify the Indemnified Parties pursuant to this Article 12, provided that the indemnity obligations of the Vendor under this Article 12 shall not extend to Loss attributable to the negligence or willful misconduct of any Indemnified Parties to the extent that such Indemnified Parties' negligence or willful misconduct caused the Loss.
- (g) In the event any Loss is asserted in respect to which an Indemnified Party is entitled to indemnification under this Article 12, and without prejudice to any other right or remedy Metrolinx may have, Metrolinx shall be entitled to deduct or withhold a reasonable sum on account of such claim, action, suit, execution or demand, including legal costs, from monies owed or payable by Metrolinx to the Vendor under this Contract pending the final determination or settlement of such claim, action, suit, execution or demand. In the event,

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- (i) the Vendor is, becomes, or is deemed to be bankrupt or an insolvent person pursuant to the Bankruptcy and Insolvency Act (Canada);
- (ii) the Vendor makes a general assignment for the benefit of creditors; or
- (iii) a receiver or interim-receiver is appointed with respect to some or all of the Vendor's business, assets, or property,

then Metrolinx shall be entitled, without prejudice to any other right or remedy Metrolinx may have, to further deduct or withhold a reasonable sum on account of such Loss, from any monies owed or payable by Metrolinx to the Vendor under any other agreement or account. The provisions of this Section 12.1(g) shall not apply in the event that such Loss is otherwise provided for under any insurance provided by the Vendor to or for the benefit of Metrolinx.

13.0 Limitation of Liability

13.1 General Intent

- (e) It is the intent of the Parties that each Party shall be liable to the other Party for any actual damages incurred by the non-breaching Party as a result of the breaching Party's failure to perform its obligations in the manner required by the Contract.

13.2 Limitations on Liability

- (e) Subject to Section 13.2(g), in no event shall either Party be liable for indirect, consequential, exemplary, punitive or special damages relating to the Contract even if such Party has been advised in advance of the possibility of such damages.
- (f) Subject to Section 13.2(g), each Party's aggregate liability to the other under the Contract for direct damages for all events giving rise to liability hereunder shall be limited to an amount equal to [the Total Estimated Contract Price].
- (g) The limitations of liability set forth in Sections 13.2(g) and 13.2(f) shall not apply with respect to Losses:
 - (i) that are the subject of indemnification pursuant to Articles 12.1(a)(ii), (iii), (v), (vi) or (vii); or
 - (ii) occasioned by a breach of Article 10.

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- (h) Each party shall have a duty to mitigate damages for which the Vendor is responsible.

14.0 Termination

14.1 Termination for Cause by Metrolinx

- (e) Metrolinx may, by ten (10) days' written notice to the Vendor, suspend or terminate the whole or any part of the provision of the Work or this Contract for cause in the event that the Vendor is in breach of any of its obligations under this Contract, and it fails to cure such breach (which breach must be curable) within thirty (30) days of being notified thereof, and thereupon:
 - (i) Metrolinx may appoint officials of Metrolinx or any other person or persons in the place and stead of the Vendor to perform the Work or any portion thereof; and
 - (ii) the Vendor shall immediately discontinue the Work on the date and to the extent specified in the notice and place no further orders for materials or services for the terminated portion of the Work.
- (f) nothing contained herein shall limit the rights of Metrolinx to recover damages from the Vendor arising from the failure of the Vendor to perform the Work satisfactorily in accordance with the terms of this Contract.

14.2 Termination for Convenience by Metrolinx

- (e) Metrolinx may, by thirty (30) days' written notice to the Vendor, terminate this Contract for convenience, and thereupon Metrolinx shall be liable for payment to the Vendor for those monies attributable to the part of the Work performed to the satisfaction of Metrolinx to the date of termination stipulated in such notice. Metrolinx shall also be liable for any reasonable demobilization costs and the reasonable cost of cancellation of any contracts, but in no event will Metrolinx be liable for any loss of profits, loss of revenue or other consequential damages.

15.0 Force Majeure

15.1 Force Majeure

- (e) Neither Party shall be liable for Losses caused by a delay or failure to perform its obligations under this Contract where such delay or failure is caused by an event beyond its reasonable control (a "Force Majeure

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Event"). The Parties agree that an event shall not be considered beyond one's reasonable control if a reasonable business person applying due diligence in the same or similar circumstances under the same or similar obligations as the provisions of this Contract would have put in place contingency plans to either materially mitigate or negate the effects of such event.

- (f) Without limiting the generality of the foregoing, the Parties agree that Force Majeure Events may include acts of God, natural disasters, acts of war, war-like operations, civil war, acts of foreign enemy, plagues, epidemics, insurrection and terrorism (provided that the conditions of Section 15.1(e) are met) but shall in no event include:
 - (i) shortages or delays relating to supplies or services; or
 - (ii) on the part of the Vendor, lack of financing or inability to perform because of the financial condition of the Vendor.
- (g) A failure by Metrolinx to furnish instructions is not a Force Majeure Event until fourteen (14) days after a demand for such instructions has been made in writing by the Vendor and not then unless such claim is reasonable and justified to Metrolinx.

15.2 Process

- (e) If a Party seeks to excuse itself from its obligations under this Contract due to a Force Majeure Event:
 - (i) that Party shall immediately notify the other Party of the delay or non-performance, the reason for such delay or non-performance and the anticipated period thereof; and
 - (ii) the Party giving the notice shall thereupon be excused the performance or punctual performance, as the case may be, of such obligation for the period of time directly attributable to such Force Majeure Event.
- (f) This Section shall not apply or be available to a Party in respect of any event, or resulting delay or failure to perform, occurring more than fourteen (14) days before notice is given to Metrolinx pursuant to Section 15.2(e).
- (g) In the case of a continuing Force Majeure Event, only one notice shall be necessary.

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15.3 Metrolinx Rights

- (e) Without limiting any other rights available to Metrolinx under this Contract, Metrolinx reserves the right to contract any Work from a third party during any period of Force Majeure claimed by the Vendor.

16.0 Dispute Resolution

- 16.1 All Disputes shall be resolved in accordance with, and the Parties shall comply with, Schedule D - Dispute Resolution.

17.0 Set Off

- 17.1 Metrolinx shall have the right to satisfy any amount from time to time owing by it to the Vendor under the Contract by way of a set-off against any amount from time to time owing by the Vendor to Metrolinx under the Contract, including but not limited to any amount owing to Metrolinx pursuant to the Vendor's indemnification of Metrolinx in this Contract.

18.0 General

18.1 Entire Agreement

- (e) This Contract constitutes the entire agreement between the Parties regarding the Work and supersedes any prior understandings, negotiations, representations or agreements, whether written or verbal.

18.2 Governing Law and Jurisdiction

- (e) This Contract shall be governed by and interpreted in accordance with the laws of the Province of Ontario and the federal laws applicable therein, without regard to principles of conflicts of law that would impose the law of another jurisdiction. The Parties hereby irrevocably and unconditionally attorn and submit to the non-exclusive jurisdiction of the courts of the Province of Ontario and all courts competent to hear appeals therefrom.

18.3 Survival

- (e) The obligations set out in Articles 1, 2, 3, 7, 8, 10, 11 and 12 and this Article 18 of this Contract shall continue to bind the Vendor notwithstanding expiration or termination of this Contract for any reason whatsoever or completion of the Work as contemplated hereunder.

18.4 Enurement

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- (e) This Contract shall enure to the benefit of, and be binding upon the Parties and their respective heirs, executors, administrators, personal representatives, successors and permitted assigns.

18.5 Assignment

- (e) The Vendor shall not be entitled to assign this Contract in whole or in part without the prior written consent of Metrolinx, which consent shall not be unreasonably withheld or delayed.

18.6 Independent Parties

- (e) This Contract does not create and is not intended to create an agency or employment relationship, partnership, joint venture or other similar association between the Parties. The relationship between the Parties is to be considered at all times as that of a purchaser and an independent contractor. Neither Party shall have the right to bind the other to any agreement with any third party or to incur any obligation or liability on behalf of the other Party. Except as expressly provided for in this Contract, neither Party shall represent, directly or indirectly by conduct, to any third party that it is an agent, employee, partner or joint venturer of the other.
- (f) The Vendor Personnel and all other personnel providing the Work are solely the employees of the Vendor and applicable Subvenders (and not Metrolinx') for all purposes under this Contract, including for all purposes under any Applicable Laws. Accordingly, none of the foregoing personnel is entitled to any benefits respecting any pension or other benefit plan, program or policy of Metrolinx.

18.7 Third Party Beneficiaries

- (e) This Contract is made solely for the benefit of the Parties and, to the extent expressly and specifically stated, any other Parties made beneficiaries of this Contract. No terms of this Contract shall be deemed to confer upon any other third parties any claim, remedy, reimbursement or other right.
- (f) The Vendor represents and warrants to Metrolinx that the Vendor is entering into this Contract solely on the Vendor's own behalf and not as an agent for any other Person.

18.8 Joint and Several Liability

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- (e) Where the Vendor comprises two or more Persons, each of them shall be jointly and severally liable for the obligations of the Vendor under this Contract.

18.9 Notice

- (e) Unless expressly provided elsewhere in the Contract Documents, every notice required or permitted under this Contract must be in writing and may be delivered in person, by courier or by fax to the applicable party at the address or fax number in the Articles of Agreement or to any other address, fax number or individual that a party subsequently designates by notice.
- (f) Any notice under this Contract, if delivered personally or by courier on a Business Day will be deemed to have been given when actually received, if delivered by fax before 3:00 p.m. on a Business Day will be deemed to have been delivered on that Business Day and if delivered by fax after 3:00 p.m. on a Business Day or on a day that is not a Business Day will be deemed to be delivered on the next Business Day. For greater clarity, notice shall not be given by email.

18.10 Amendments

- (e) Except as expressly provided in this Contract, no amendment, supplement or restatement of any provision of this Contract is binding unless it is in writing and signed by both Parties.

18.11 No Waiver

- (e) No provision of this Contract shall be deemed waived, amended or modified by either Party unless such waiver, amendment or modification is in writing and signed by the Party against whom it is sought to enforce the waiver, amendment or modification. The failure by a Party to exercise any of its rights, powers or remedies hereunder or its delay to do so does not constitute a waiver of those rights, powers or remedies. No waiver made with respect to any instance involving the exercise of any such right is to be deemed to be a waiver with respect to any other instance involving the exercise of the right or with respect to any other such right.

18.12 Severability

- (e) If any term or condition of this Contract, or the application thereof to the Parties or circumstances, is to any extent invalid or unenforceable in whole or in part, the remainder of this Contract shall continue in full force and effect, and the application of such term or condition to the Parties or

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circumstances other than those to which it is held invalid or unenforceable shall not be affected thereby.

18.13 Further Assurances

- (e) Each Party agrees that it shall at any time and from time to time, at its own expense, execute and deliver such further documents and do such further acts and things as the other Party may reasonably request for the purpose of giving effect to this Contract or carrying out the intention or facilitating the performance of the terms of this Contract.

18.14 Conflict of Interest Acknowledgement and Agreement

- (e) For the purposes of this Contract, a "Conflict of Interest" includes any situation or circumstances where, in relation to the performance of its contractual obligations in this Contract, the Vendor's other commitments, relationships or financial interests:
 - (i) could or could be seen to exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgment; or
 - (ii) could or could be seen to compromise, impair or be incompatible with the effective performance of its contractual obligations.
- (f) The Vendor acknowledges that participation (directly or indirectly) in any procurement process arising from or related to this Contract (the "Prohibited Procurements") would constitute a Conflict of Interest with this Contract, and the Vendor agrees that it shall not, and shall take reasonable steps (including obtaining covenants substantially similar to those set out in this section) to ensure that its Subvendors do not participate in or be involved with such Prohibited Procurements either directly or indirectly, including as a bidder or as a subvendor, contractor or advisor to any bidder.
- (g) The Vendor shall:
 - (i) avoid all Conflict of Interest in the performance of its contractual obligations;
 - (ii) disclose to Metrolinx without delay any actual or potential Conflict of Interest that arises during the performance of its contractual obligations; and

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- (iii) comply with any requirements prescribed by Metrolinx to resolve any Conflict of Interest.
- (h) In addition to all other contractual rights or rights available at law or in equity, Metrolinx shall have the right to immediately terminate this Contract, by giving notice in writing to the Vendor, where:
 - (i) the Vendor fails to disclose an actual or potential Conflict of Interest;
 - (ii) the Vendor fails to comply with any requirements prescribed by Metrolinx to resolve a Conflict of Interest; or
 - (iii) the Vendor's Conflict of Interest cannot be resolved.
- (i) This section shall survive any termination or expiry of this Contract.

18.15 Counterparts

- (e) This Contract may be executed in one or more counterparts. Any single counterpart or a set of counterparts executed, in either case, by all Parties shall constitute a full, original and binding agreement for all purposes. Counterparts may be executed either in original or electronic form, provided that the Party providing its signature in electronic form shall promptly forward to the other Party an original signed copy of this Contract which was so sent electronically.

19.0 Warranty

19.1 General

- (e) The Vendor represents, warrants and covenants:
 - (i) That all workmanship shall be in compliance with the requirements of the Contract; and
 - (ii) That all goods shall be in compliance with the requirements of the Contract and be free from defects in design, material, workmanship, manufacture, fabrication, packaging, shipment and delivery.
- (f) The express warranties contained herein are in addition to all other warranties and conditions, express or implied, including all legal and statutory warranties, all warranties arising at law, warranties of merchantability and fitness for a particular purpose, and warranties of the Vendor.

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- (g) The warranty period shall commence upon acceptance of goods by Metrolinx.

19.2 Warranty Conditions

- (e) If, within twenty-four (24) months, the goods supplied by the Vendor or any part thereof become defective or fails due to any default by the Vendor in fulfilling the requirements of the Contract including, without limitation, improper, faulty or defective design, materials, workmanship, manufacture, fabrication, packaging, shipment or delivery, then the Vendor, upon notification in writing from Metrolinx, shall forthwith repair or remedy every such defect or failure, or replace the goods, without cost (including without limitation transportation cost) to Metrolinx.
- (f) All labour cost incurred by Metrolinx in respect of the repair or remedy of defects or failures, and of the replacement of goods during the warranty period, shall be reimbursed to Metrolinx by the Vendor in accordance with the agreed to hourly rates to be negotiated.
- (g) Metrolinx shall provide the Vendor with reasonable access to the Place of Work for the purpose of performing warranty work when practical.
- (h) The Vendor shall prepare and furnish data and reports pertaining to any repairs, replacements and remedies pursuant to the Warranty, including, but not limited to, revisions and updating of contract drawings, data and contract deliverables.
- (i) In the event the Vendor fails to fulfil any obligation stipulated in this Warranty, Metrolinx shall have the right to repair, remedy or replace the goods at the Vendor's expense.
- (j) The Vendor shall cause those warranties that are provided by Subvendors and suppliers that extend beyond the Vendor's warranty period, be assigned to Metrolinx. Should there be any claim under the said warranties after the expiration of the Vendor's warranty period, such claim shall be made and processed directly by Metrolinx with the relevant Subvendors or suppliers. Subvendors' and suppliers' warranties shall also pass to Metrolinx in the event that the Vendor is unable to complete its obligations under the Contract. In any event, the Vendor shall make provision in all subcontracts and purchase orders for all warranties to be directly assigned to Metrolinx.
- (k) Any product that does not meet the Contract Scope of Work, notwithstanding tests, inspection or acceptance at any time or location, are found to contain deficiencies, will be subject to rejection and shall be

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returned to the Vendor. The Vendor shall be entitled to a joint inspection of the defective component at the premises of Metrolinx. The Vendor shall assume the expenses of handling and transportation in both directions.

19.3 Intellectual Property

- (e) In addition to the warranties and conditions implied by the Sales of Goods Act (Ontario), the Vendor represents and warrants that there are no patents, trademarks, copyrights or other rights restricting the use, repair or replacement of the goods, or any part thereof, furnished under this Contract.

20.0 Custom Duties and Import Charges

20.1 The Vendor shall be responsible for all costs, including administrative costs, relating to delivery of the goods and shall acquire and pay for all necessary permits and licences required for the importation and delivery of goods to the Place of Work.

20.2 The Vendor shall be responsible for freight, insurance, importation taxes and duties, custom broker and/or clearance fees and container packing (direct labour and packing material) costs for delivery of goods, components, diagnostic tools, equipment and spare parts and shall pay for such costs. The Vendor shall use commercially reasonable efforts to minimize freight, duty and other delivery costs reimbursed to the Vendor by Metrolinx and incurred under the Contract during the Term. The Vendor shall provide to Metrolinx on a semi-annual basis during the Term of the Contract evidence of the costs in this Section 20.2 incurred under the Contract and any actions taken to minimize these costs. Reductions in freight, insurance, importation taxes and duties, custom broker and/or clearance fees and container packing (direct labour and packing material) costs shall inure to the benefit of Metrolinx.

20.3 Customs Clearance Services

- (e) The Vendor shall be the importer of record for this Contract. The Vendor shall provide and shall arrange for customs brokerage services and other services required to comply with all requirements imposed or administered by Canada Border Services Agency regarding the import of the goods into Canada. All communications with customs authorities or customs brokers shall be handled by the Vendor. In the event that a document or thing is required from Metrolinx as the ultimate owner of the goods, the Vendor shall prepare such document or thing for review by Metrolinx prior to submission of such document or thing to the Party requiring same. All costs for these services are included in the Total Estimated Contract Price.

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END OF SECTION

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1.0 In this Contract Document,

- 1.1 "Acceptance" or "Acceptable" or "Accepted" means the act of formal notification by Metrolinx of no further objections regarding content, construction or compliance.
- 1.2 "Applicable Laws" means all applicable laws, statutes, regulations, orders, by-laws, treaties, judgements, decrees and ordinances applicable from time to time and, whether or not having the force of law, all applicable Approvals, Standards, codes, requirements, requests, directives, rules, guidelines, instructions, circulars, manuals, and policies of any Governmental Authority having or purporting to have jurisdiction or authority over a Party, property, transaction or event, including laws relating to workplace safety and insurance, occupational health and safety and employment standards.
- 1.3 "Approvals" means any permits, licences, consents, approvals, clearances, orders, ordinances, registrations, filings or other authorizations respecting the work undertaken as part of the Work as may be required from any applicable Governmental Authority or otherwise by the Vendor's contract documents.
- 1.4 "Arbitration Act" means the Arbitration Act, 1991, S.O. 1991, Chapter 17.
- 1.5 "Business Day" means any day other than: (a) a Saturday or Sunday and (b) any other day on which Metrolinx is not open for business. Each Business Day will end at 4:00 p.m. on that day.
- 1.6 "Cash Allowance", if applicable, means a sum included in the Total Estimated Contract Price by Metrolinx as a predetermined allowance to cover the items identified in "Tender Document Form: Contract Prices" which shall form part of the Articles of Agreement.
- 1.7 "Cash Allowance Items", if applicable, means those items, work and/or services identified in the "Tender Document Form: Contract Prices" which shall form part of Articles of Agreement as items to be paid for using the designated Cash Allowance.
- 1.8 "Changes" has the meaning ascribed to it in Section 8.1 of General Conditions of the Contract.
- 1.9 "Construction Lien Act", if applicable, means the Construction Lien Act, R.S.O. 1990, Chapter C.30.

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- 1.10 "Confidential Information" means all information of a confidential nature (as determined with reference to its treatment by Metrolinx) which is provided, disclosed or made available (orally, electronically or in writing or by any other media) by Metrolinx (or its representatives) to the Vendor (including to employees, vendors, contractors or other representatives thereof) and includes any copies or reproductions thereof. For greater certainty, all Personal Information, Contract Records, construction documents, personal information, and anything else specifically marked or identified by Metrolinx as confidential or proprietary are deemed to be "Confidential Information" for the purposes of this Contract.
- 1.11 "Conflict of Interest" has the meaning ascribed to it in Section 18.14 of General Conditions of the Contract.
- 1.12 "Contract" means this contract between the Vendor and Metrolinx pursuant to Tender No. PT-2018-BUSF-580 including the Articles of Agreement, General Conditions of the Contract and the Schedules thereto and the Contract Documents.
- 1.13 "Contract Documents" means the Contract and those documents listed in "Scope of Work" and any written amendments thereto as agreed to by the Parties.
- 1.14 "Contract Performance Appraisal" has the meaning ascribed to it in Section 2.11(e) of General Conditions of the Contract.
- 1.15 "Contract Records" has the meaning ascribed to it in Section 10.8 of General Conditions of the Contract.
- 1.16 "Custom Intellectual Property" means any Intellectual Property created, developed or produced by the Vendor or any Vendor Personnel under this Contract specifically for use in connection with the performance of the Work, all documentation and media related thereto, and all Intellectual Property Rights therein.
- 1.17 "Deliverables" means the work product created by the Vendor and/or the Vendor Personnel in connection with or as a requirement of the Work, including all reports, drawings, plans, designs, processes, tools, standards, registers, logs, updates, files, databases, Software, and documentation.
- 1.18 "Dispute" means all disputes, controversies, or claims arising out of or relating to: (a) this Contract; (b) the alleged wrongful exercise or failure to exercise by a Party of a discretion or power given to that Party under this Contract; and/or (c) the interpretation, enforceability, performance, application, or administration,

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breach, termination, or validity of this Contract or any failure to agree where agreement between the Parties is called for.

- 1.19 "Dispute Notice" has the meaning given in Schedule D - Dispute Resolution of General Conditions.
- 1.20 "Domain Expertise" means the required level of depth and breadth of qualifications and experience in respect of the tasks to be performed in connection with the Work, gained through a practical application of the knowledge underlying the tasks in an environment substantially similar to that of the Work.
- 1.21 "Drawings" describe the detailed technical requirements of the Work and form part of the Scope of Work.
- 1.22 "Effective Date" means the final date of execution of this Contract by both Parties.
- 1.23 "Encumbrance" means any mortgage, charge, pledge, hypothecation, Lien, security interest, hypothec, easement, right-of-way, right-of-first refusal, option, encroachment, building or use restriction, conditional sales agreement, personal property lease, licence, restrictive covenant, adverse claim, promissory right or other encumbrance of any nature however arising, or any other security agreement or arrangement creating in favour of any creditor a right in respect of any property that is prior to the right of any other creditor in respect of such property.
- 1.24 "Excise Tax Act" means the Excise Tax Act, R.S.C. 1985, Chapter E-15.
- 1.25 "FIPPA" means the Freedom of Information and Protection of Privacy Act, R.S.O. 1990, Chapter F.31.
- 1.26 "FIPPA Records" means all information, data, records and materials, however recorded, in the custody or control of Metrolinx, including Confidential Information, Personal Information and Contract Records. For the purposes of this definition, documents held by the Vendor in connection with this Contract are considered to be in the control of Metrolinx.
- 1.27 "French Designated Area" means an area designated as such in the Schedule to the French Language Services Act. A map and complete listing of French Designated Areas is available at <http://www.ofa.gov.on.ca/en/flsa-mapdesig.html>.
- 1.28 "French Language Services Act" means the French Language Services Act, R.S.O. 1990, Chapter F.32.

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- 1.29 "Governmental Authority" means any domestic government, including any federal, provincial, territorial, municipal, regional or other local government, and any government established court, agency, tribunal, commission or other authority exercising or purporting to exercise executive, legislative, judicial, regulatory or administrative functions respecting government; provided, however, "Governmental Authority" does not include Metrolinx.
- 1.30 "Income Tax Act" means the Income Tax Act, R.S.C. 1985, Chapter 1 (5th Supp.).
- 1.31 "Indemnified Parties" has the meaning ascribed to it in Section 12.1 of General Conditions of the Contract.
- 1.32 "Intellectual Property" means all intellectual and industrial property, including: (a) materials, images, reports, Software, applications, audio or video recordings, specifications, performance requirements, software development tools, technologies, content, data (including all information whether or not contained in or on any database or electronic information storage system or media owned by or in the custody or control of Metrolinx), technical information, interfaces, web portals, components, services, information, databases, and documentation; (b) patents, patent application rights, rights to file patents, inventions, trade-marks (whether registered or not), trade-mark applications, rights to file trade-marks, trade names, copyrights (whether registered or not), design registrations, trade secrets, confidential information, industrial and similar designs, rights to file for industrial and similar designs, processes, methodologies, techniques and know-how; and (c) all Intellectual Property Rights therein.
- 1.33 "Intellectual Property Rights" means any right to Intellectual Property recognized by law, including any Intellectual Property right protected by legislation or arising from protection of information as a trade secret or as confidential information.
- 1.34 "Joint Venture" is the business arrangement of two or more parties proposed as identified in the Submission.
- 1.35 "Key Personnel" means the people identified by name in Section 1.1(a) of Schedule E - Vendor Personnel.
- 1.36 "Key Responsibilities" means the main responsibilities and tasks to be performed by each category of Vendor Personnel, as identified in Schedule E: Vendor Personnel.
- 1.37 "List of Contents" shall mean the section of the Contract Document entitled "List of Contents".

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- 1.38 "Losses" means claims, actions, suits, executions, and demands and all loss, liability, judgments, costs, charges, damages, liens and expenses of any nature whatsoever and howsoever caused.
- 1.39 "Metrolinx" means Metrolinx, a provincial crown agency continued under the Metrolinx Act, S.O. 2006, Chapter 16, and its successors and assigns.
- 1.40 "Metrolinx Intellectual Property" means: (a) all Intellectual Property that is proprietary to, or controlled or licensed by, Metrolinx and provided to the Vendor; (b) all Metrolinx Marks; (c) all procurement documents issued by Metrolinx; (d) all documentation or source materials (including source code) related to any of the foregoing; and (e) all copies, translations, improvements, modifications, enhancements, adaptations, or derivations made to the Metrolinx Intellectual Property by Metrolinx and/or any third party not performing work under this Contract.
- 1.41 "Metrolinx Marks" means any trademarks, service marks, trade names, logos or other commercial or product designations owned or licensed by Metrolinx, whether registered or not.
- 1.42 "Metrolinx Representative" or "Metrolinx's Representative" has the meaning ascribed to it in Section 2.9 of General Conditions of the Contract.
- 1.43 "OHSA" means the Occupational Health and Safety Act, R.S.O. 1990, Chapter O.1.
- 1.44 "Parties" means both of Metrolinx and the Vendor and a "Party" means either one of them.
- 1.45 "Person" means any individual, sole proprietorship, partnership, limited partnership, corporation or company (with or without share capital), trust, foundation, joint venture, Governmental Authority or any other incorporated or unincorporated entity or association of any nature.
- 1.46 "Personal Information" has the meaning ascribed to it in FIPPA.
- 1.47 "PIPEDA" means the Personal Information Protection and Electronic Documents Act, S.C. 2000, Chapter 5.
- 1.48 "Place of Work" is the designated site or location of the Work.
- 1.49 "Privacy Impact Assessment" refers to a systematic and consistent method of analysis to identify and analyze privacy risks in a program, technology or service.

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- 1.50 "Prohibited Procurements" has the meaning ascribed to it in Section 18.14 of General Conditions of the Contract.

- 1.51 "Product" means any goods, machinery, equipment, fixtures and Software (including any components of any of the foregoing) forming part of the Deliverables, but does not include machinery and equipment used solely to perform the Work.

- 1.52 "Professional Engineer" means an engineer licensed to practice engineering in the Province of Ontario.

- 1.53 "Project Schedule" means the schedule of work identified in Tender Document Form: Form of Tender, which shall form part of the Contract and may be amended at the sole discretion of Metrolinx.

- 1.54 "Quotation" has the meaning given in Section 15.0 of Schedule B - Financial Terms of General Conditions.

- 1.55 "Railway(s)" means one or more of the Canadian National Railway Company (CN), Canadian Pacific Railway Company (CP), Metrolinx or the Toronto Terminals Railway Company (TTR) owning or operating the Railway Right-of-Way on which all or part of the Work may be performed.

- 1.56 "Rates" has the meaning ascribed to it in Section 1.1 of Schedule B - Financial Terms of General Conditions.

- 1.57 "Required Standard of Care" means: (a) using the Standards, practices, methods and procedures among the highest commercial standards of practice and professionalism as understood in the Province of Ontario; (b) confirming to Applicable Laws and all rules of professional conduct applicable to the Vendor or the Vendor Personnel; (c) exercising that degree of skill and care, diligence, prudence and foresight which would be expected from a leading Person or professional performing work similar to those called for under this Contract; and (d) using only proper materials and methods as are suited to the function and performance intended.

- 1.58 "Software" means any set of machine readable instructions that directs the performance of specific operations, including computer programs, computer code, software programs (whether executable or not executable), system software, application software, embedded software, databases, data, middleware, GUI's, objects, firmware, components and modules and related documentation.

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- 1.59 "Standards" means, at a given time, those standards, specifications, manuals, codes, practices, methods and procedures applicable to the Required Standard of Care.
- 1.60 "Subvendor" means an individual, firm, partnership, corporation or design professional having a direct contract with the Vendor or another Subvendor to perform a part or parts of the Work as identified in the Submission or as otherwise identified in a request to add a new Subvendor.
- 1.61 "Submission" means all documentation and other materials and information submitted by the Bidder in response to Tender No PT-2018-BUSF-580.
- 1.62 "Supplier" means an individual, firm, partnership or corporation having a direct contract with the Vendor or another Subvendor to provide goods and/or services required to carry out the Work of the Contract.
- 1.63 "Scope of Work" describes the general and detailed requirements of the Work and is to be read in conjunction with any Drawings, if applicable, contained herein.
- 1.64 "Task Assignment Items", if applicable, means those items, work and/or services identified in the "Tender Document Form: Contract Prices" which shall form part of Articles of Agreement as items to be paid for under the Total Estimated Contract Price.
- 1.65 "Task Assignment Process" has the meaning ascribed to it in Section 8.4 of General Conditions of the Contract.
- 1.66 "Taxes" means all present and future taxes, surtaxes, duties, levies, imposts, rates, fees, premiums, assessments, withholdings, dues and other charges of any nature imposed by any Governmental Authority (including, income, capital (including large corporations), gross receipts, consumption, sales, use, transfer, goods and services or other Value Added Taxes, excise, customs or other import, anti-dumping, countervail, net worth, alternative or add-on minimum, windfall profits, stamp, registration, franchise, payroll, employment insurance, Canada Pension Plan, worker's compensation, health, education, school, business, property, local improvement, environmental, development and occupation taxes, surtaxes, duties, levies, imposts, rates, fees, premiums, assessments, withholdings, dues and charges) together with all fines, interest and penalties in respect thereof or in lieu of or for non-collection thereof.
- 1.67 "Tender Conflict of Interest" means the Vendor had an unfair advantage or engaged in conduct, directly or indirectly, that gave it an unfair advantage, including but not limited to (i) having, or having had access to, confidential

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information of Metrolinx in the preparation of its submission during the Tender process that was not available to other bidders, (ii) communicating with any person with a view to influencing preferred treatment in the Tender process (including but not limited to the lobbying of decision makers involved in the Tender process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the Tender process.

- 1.68 "Term" has the meaning ascribed to it in Section 2.1 of General Conditions of the Contract.
- 1.69 "Third Party" or "Third Parties" means any Third Party Vendors or Third Party Operators.
- 1.70 "Third Party Contract" means a contract between Metrolinx and any other Person which is in any way related to, impacts or is impacted by the Work and/or the Vendor's acts or omissions, whether expressly identified to the Vendor or not.
- 1.71 "Third Party Vendors" means vendors, suppliers, service providers, utility owners or any other third party (excluding the Vendor and any Subvendors and Vendor Personnel) performing work and/or providing products and services in, or in respect of, the rail corridors, where such work, products or services (a) are on behalf and for the benefit of Metrolinx or (b) are being undertaken to enable work, products or services on behalf of and for the benefit of Metrolinx.
- 1.72 "Third Party Operators" means (a) any third party providing products and/or services in the rail corridors on their own behalf, pursuant to rights granted by Metrolinx, including VIA Rail Canada Limited, Canadian Pacific Railway Company and Canadian National Railway Company; and (b) any third party who otherwise has a right to occupy, access, or use property or facilities on or adjacent to the rail corridors.
- 1.73 "Third Party Work" means work and services conducted or provided by Third Parties.
- 1.74 "Total Estimated Contract Price" means the amount identified as such in Tender Document Form: Contract Prices which shall form part of the Articles of Agreement.
- 1.75 "Value Added Taxes" means such sum as shall be levied upon amounts payable to the Vendor under this Contract by any Governmental Authority that is computed as a percentage of the amounts payable to the Vendor (including all other Taxes but excluding Value Added Taxes), and includes the HST, and any similar tax, the

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payment or collection of which, by the legislation imposing such tax, is an obligation of the Vendor.

- 1.76 "Vendor" means the company identified as such in the Articles of Agreement.
- 1.77 "Vendor Intellectual Property" means any Intellectual Property which (a) the Vendor has already created, developed or produced prior to the Effective Date; (b) which the Vendor creates, develops or produces independently of this Contract and/or the performance of the Work; (c) which the Vendor licenses from a third party; (d) all documentation or source materials (including source code) related to any of the foregoing; and (e) all copies, translations, improvements, modifications, enhancements, adaptations, or derivations made to the Vendor Intellectual Property by the Vendor and/or any third party not performing work under this Contract; provided, however, that Vendor Intellectual Property does not include Custom Intellectual Property.
- 1.78 "Vendor Personnel" or "Vendor's Personnel" means (a) with respect to the Vendor, all of the Vendor's personnel, employees and independent contractors (including the Key Personnel and the Vendor's Representative) engaged in the performance of the Work; and (b) with respect to each Subvendor, all of that Subvendor's personnel, employees and independent contractors engaged in the performance of the Work.
- 1.79 "Vendor Policies" has the meaning ascribed to it in Schedule C - Insurance of General Conditions.
- 1.80 "Vendor's Representative" means the person identified by the Vendor, and Accepted by Metrolinx, as the Vendor's authorized representative pursuant to Section 2.8 of General Conditions of the Contract.
- 1.81 "Work" means all activities, services, goods, equipment, matters and things required to be done, including all of the work, labour, services, goods, equipment, if applicable, described in the Scope of Work and Drawings and is further described in Section 2.2(e) of General Conditions.
- 1.82 "Working Day" means means 7:00 a.m. to 4:00 p.m. Monday to Friday (StatutoryHolidays excluded).

END OF SECTION

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1.0 Payment

- 1.1 Metrolinx will pay the Vendor for the Work performed by the Vendor pursuant to this Contract, in the amounts and manner, at the rates set out in the Articles of Agreement (the "Rates") and at the times, set forth in the Articles of Agreement and this Schedule B - Financial Terms.
- 1.2 The Vendor shall perform all of the Work notwithstanding that the value of the time spent by the Vendor in performance thereof may exceed the maximum amount payable to the Vendor pursuant to Section **Error! Reference source not found.** of this Schedule B - Financial Terms.

2.0 Limitation of Expenditure

- 2.1 It is understood that the Contract is based on reimbursement for actual Work requested by Metrolinx and performed by the Vendor, to the satisfaction of Metrolinx.
- 2.2 Metrolinx does not guarantee any minimum or maximum of work.

3.0 Total Estimated Contract Price

- 3.1 Subject to Sections 8.1, 8.2 and Article 9 - Additional Resources of General Conditions of the Contract, Metrolinx and the Vendor acknowledge and agree that the Total Estimated Contract Price set out in the Articles of Agreement is the maximum amount payable in respect to the provision of the Work provided, however, that the foregoing is not an entitlement to, nor a guarantee that the Vendor will be paid the full amount of the Total Estimated Contract Price. The Total Estimated Contract Price includes all Cash Allowances identified in this Contract.

4.0 Rates for Work

- 4.1 The Vendor acknowledges and agrees that the Rates are inclusive of all labour and materials, insurance costs, disbursements and all other overhead including any fees or other charges required under Applicable Laws and noted in the Articles of Agreement. Without limiting the generality of the foregoing, the Rates include costs for the coordination, administration of the provision and management of the Work necessary to achieve compliance with external agencies and Governmental Authorities as required to obtain any Approvals, provided, however, that the specific costs associated with application and permit fees in respect of the Approvals shall be paid directly by Metrolinx.

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- 4.2 Metrolinx shall not reimburse the Vendor for any hospitality, food or incidental expenses incurred. Subject to the prior consent of Metrolinx, Metrolinx shall reimburse the Vendor for reasonable traveling expenses incurred in connection with the performance of the Work, such reimbursement to be made in accordance with the Government of Ontario's Travel, Meal, and Hospitality Expenses Directive.
- 4.3 As part of the Work, the Vendor shall also be responsible for obtaining and registering all of the Software licenses and long term support agreements, as and if applicable, on behalf of Metrolinx, and any costs incurred by the Vendor in connection thereto shall be included in the Rates set out in the Articles of Agreement.

5.0 Taxes

- 5.1 The Total Estimated Contract Price and all amounts payable under the Contract shall be inclusive of all Taxes (except for HST) in effect as at the date of this Contract. Unless otherwise expressly specified in this Contract or otherwise required by Applicable Law, the Vendor shall be responsible for remittance of any and all Taxes due and payable in respect of the Work.
- 5.2 Any amount to be levied against Metrolinx in respect of the HST or any similar successor tax levied under the Excise Tax Act and applicable to the Work, is to be shown separately on all invoices for Work performed by the Vendor. The Vendor shall remit any HST paid or due to the Canada Revenue Agency in accordance with Applicable Laws, and shall, at the request of Metrolinx, provide evidence of payment of same.
- 5.3 In the event that Metrolinx is entitled to a rebate under the Retail Sales Tax Act (Ontario) or the Excise Tax Act in whole or in part, for Value Added Taxes paid under this Contract, the Vendor shall show on each invoice, and in the manner directed by Metrolinx, either the actual Value Added Taxes paid by the Vendor by category or the portion of the Vendor's fees eligible under Applicable Law for the rebate.
- 5.4 Certain payments to non-resident corporations or individuals may be subject to withholding taxes, under the Income Tax Act. Non-residents can apply in advance to Revenue Canada, Taxation, for a waiver or reduction of the withholding tax requirement. Unless Metrolinx is provided with a copy of the written information as a result of the waiver application to the Tax Services Office of Canada Customs and Revenue Agency, taxes will be withheld as determined under the Income Tax Act. The Vendor shall be responsible for investigating whether they

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are subject to the withholding of taxes under the Income Tax Act and obtaining the necessary waiver or reduction as needed.

6.0 Invoicing and Payment Process

- 6.1 Unless otherwise specified in the Articles of Agreement or in a Task Plan, the Vendor shall submit an invoice for payment for Work completed no less than ten (10) Business Days following the end of the month in respect of which the related Work were rendered. The invoice shall be in form and substance satisfactory to Metrolinx acting reasonably and shall set out with sufficient particularity the Work performed in the previous month and the total time spent by each category of Vendor Personnel multiplied by the applicable Rate.
- 6.2 The aggregate amount invoiced by the Vendor shall not exceed the Total Estimated Contract Price, unless such additional amount is agreed by the Parties pursuant to the change management process set out in Article 8 of General Conditions of the Contract.
- 6.3 Unless there is a Dispute with respect to the content of an invoice and subject to the other provisions of this Schedule B, Metrolinx shall make payment to the Vendor no later than thirty (30) Business Days following receipt of the invoice for payment from the Vendor, unless otherwise provided or permitted in the Contract. The Vendor shall accept any payments made by Metrolinx by way of Electronic Funds Transfer, and shall, if requested by Metrolinx, provide the account information required to complete an Electronic Funds Transfer.

7.0 Cost of Changes

- 7.1 Changes shall be implemented by the Vendor without any additional charge, unless the Vendor is able to demonstrate (with supporting documentation) that the Change causes the Vendor to incur additional costs.
- 7.2 The Vendor shall implement all Changes for a reasonable price in accordance with the same pricing principles and price levels as originally agreed in the Articles of Agreement. Where Rates apply to Vendor Personnel, those same Rates shall apply with reference to the applicable level of experience and/or expertise.
- 7.3 With respect to any Changes that (in whole or in part) require the services of a third party, Metrolinx (at its sole discretion) shall have the right to require the Vendor to provide three (3) quotes to Metrolinx in respect of such third party services, in accordance with Section 8.0 of this Schedule B - Financial Terms.

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- 7.4 Metrolinx shall have the right to request such documentation and other supporting information as it reasonably requires to confirm and substantiate the costs associated with any Change request, and the Vendor shall provide same to Metrolinx within five (5) Business Days of the request therefor.

8.0 Expenditure of Cash Allowance

Intentionally omitted.

9.0 Quotations - Changes and Cash Allowance Items

- 9.1 With respect to any Changes or Cash Allowance Items (or any part thereof), the Vendor shall, upon request by Metrolinx (at its sole discretion), submit up to three (3) quotes detailing the estimated cost of the applicable Change or Cash Allowance Item (each a "Quotation"). Where Metrolinx has not provided the names of third parties from which quotations should be obtained, the Vendor shall have the right to choose which third parties shall provide quotations. Subject to any instruction to the contrary issued by Metrolinx pursuant to Section 8.5 of the General Conditions, where a Cash Allowance Item includes work that the Vendor proposes would be most efficiently performed by the Vendor's own workforces, the Vendor shall include as one of the three (3) quotes the price proposal for having its own workforce perform the work.

- (e) Any and all costs incurred by the Vendor for providing a Quotation or obtaining quotations from third parties, shall be borne by the Vendor.
- (f) All Quotations shall be prepared on the Vendor's letterhead and in a format agreed to by Metrolinx and the Vendor. The Quotation shall at a minimum contain the following information:
 - (g) a description of the work required by the Work;
 - (h) Curriculum Vitae for each required position and two (2) references for each individual;
 - (i) estimated hours of work for each identified key role;
 - (j) any requirement for additional positions other than those listed in Schedule E - Vendor Personnel;
 - (k) required Subvendors; and specialized service providers;
 - (l) any requirements for testing and/or reporting;

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- (m) detailed breakdown of costs;
- (n) detailed work schedule which complies with completion date provided by Metrolinx (as required by Metrolinx); and
- (o) any other requirements/instructions.
- (p) The Vendor shall, upon request, disclose to Metrolinx the originals of all bids, quotations and other price related information received from suppliers or Subvendors.

9.2 Metrolinx reserves the right to accept or reject a Quotation, in whole or in part.

10.0 Metrolinx Property

10.1 All tangible property purchased and charged to Metrolinx' account is and shall be deemed and shall remain the property of Metrolinx.

11.0 Payment Schedule and Advance Payment Security

Intentionally omitted.

12.0 Contract Security

Intentionally omitted.

13.0 Bonus for Early Completion

Intentionally omitted.

14.0 Liquidated Damages

Intentionally omitted.

END OF SECTION

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE C – INSURANCE

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Vendor Insurance Requirements

1.1 The Vendor shall, at its own expense, obtain and maintain for the entire Term minimum insurance coverage as follows:

(e) Commercial General Liability

- (i) The policy shall provide a policy limit of not less than five million dollars (\$5,000,000) per occurrence for all claims arising out of bodily injury (including death), personal injury, and damage to property of others. Such policy shall not contain any exclusion that conflict with the Work required to be performed under this Contract. The Vendor shall cause the interest of Metrolinx, and such other Person as Metrolinx may determine at its sole and absolute discretion, to be noted on the Vendor Policies hereof as “Additional Insured”. The policy shall contain a waiver of subrogation, cross liability and severability of interest.

(f) Automobile Liability Insurance

- (i) If required, the policy shall provide coverage for liability arising out of the use of owned, non-owned, leased or hired automobiles in connection with the performance of the Work. Coverage shall consist of a combined single limit of not less than five million dollars (\$5,000,000) per occurrence. Alternatively, for Work that do not require the use of owned, non-owned, leased or hired automobile, the Vendor shall provide a written confirmation within five (5) Business Days of contract award, stating same, in place of the insurance coverage.

(g) Errors and Omissions Insurance

Intentionally omitted.

(h) All Risk Property Insurance

- (i) The insurance shall provide coverage for all risks of physical loss or damage and shall have limits of not less than the full value of the products and goods provided. The policy shall include a waiver of subrogation against Metrolinx.

(i) Crime/Employee Theft Insurance

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE C – INSURANCE

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- (i) Crime/Employee Theft and Dishonesty Insurance, inclusive of client coverage, in the amount of not less than two-hundred and fifty thousand (\$250,000) per occurrence.
- (j) Any other valid or collectible insurance available to Metrolinx shall not apply to any loss until the coverage and limits available under the insurance policies maintained by the Vendor in accordance with this Contract have been exhausted.

1.2 Additional Coverage

- (e) Without prejudice to any other provisions of this Contract (including Section 1.1 of this Schedule C - Insurance), the Vendor shall, at all relevant times and at its own expense, obtain and maintain, or cause to be obtained and maintained (during the Term plus thirty-six (36) months after termination or expiration of this Contract):
 - (i) those insurances that are reasonable for the performance of the type and scope of Work set out by this Contract (including, as applicable, insurance as would typically be required by prudent designers or consultants); and/or
 - (ii) those insurances that the Vendor is required to obtain and maintain, or cause to be obtained or maintained, by Applicable Law.

1.3 Requirements for Insurance

- (e) All of Vendor's policies of insurance, as required under this Contract (the "Vendor Policies"), shall be taken out with insurance companies licensed to transact business in the Province of Ontario with an AM Best rating of no less than A.
- (f) Any deductible or self-insured retention amounts are the responsibility of the Vendor. Notwithstanding the foregoing, such deductibles or self-insured retention must be consistent with standard commercial practice and acceptable to Metrolinx, acting reasonably.
- (g) All Vendor Policies shall be kept in full force and effect during the Term, including any requirements for the period following the Term.
- (h) In the event that the Vendor fails to obtain and/or maintain in full force and effect any such insurance as aforementioned, then Metrolinx shall have the right as the Vendor's true and lawful attorney to do all things necessary for

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE C – INSURANCE

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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this purpose. The Vendor shall be responsible, and shall reimburse Metrolinx, all amounts paid by Metrolinx for insurance premiums and any and all costs incurred by Metrolinx in connection with this Contract. Without limitation, any premiums due on any insurance policy under this Schedule C - Insurance, but not paid by the Vendor may be paid directly to the insurer(s) or broker(s) by Metrolinx, which shall be entitled to deduct the amount of same along with its reasonable costs in so doing from any monies otherwise due to the Vendor by Metrolinx either under this Contract or otherwise.

- (i) All Vendor Policies shall be endorsed to provide Metrolinx with not less than thirty (30) days' advance written notice of cancellation.
- (j) Irrespective of the insurance requirements above, the insolvency, bankruptcy, or failure of any such insurance company providing insurance for the Vendor, or the failure of any such insurance company to pay claims that occur will not be held to waive any of the provisions hereof.

1.4 Proof of Insurance

- (e) The Vendor shall, prior to the commencement of the Work and thereafter upon request, provide to Metrolinx or a designated Metrolinx third party representative, original signed certificates of insurance for the Vendor Policies, confirming that the required coverage has been placed and maintained. In addition, at least fifteen (15) days prior to the expiry date or replacement of any policy, the Vendor shall provide original signed certificates evidencing renewals or replacements of such policy to Metrolinx, without notice or request by Metrolinx.
- (f) The Vendor shall, upon request, provide evidence to Metrolinx that the premiums associated with the Vendor Policies have been paid; however, receipt by Metrolinx of the above information will in no way constitute confirmation by Metrolinx that the insurance complies with the requirements of this Contract. Responsibility for ensuring that the insurance coverage outlined in this Contract is in place rests solely with the Vendor.
- (g) The Vendor also agrees to provide Metrolinx with proof of errors and omissions insurance maintained by any Subvendor, where such Subvendor is under a professional obligation to maintain the same, and with proof of such insurance to be provided to Metrolinx no later than the execution of this Contract by the Vendor and to be in a form and with an insurer acceptable to Metrolinx.

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE C – INSURANCE

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.5 Vendor's Liability Preserved

- (e) The provisions of this Contract as they relate to insurance do not diminish, limit or otherwise affect the liability of the Vendor to Metrolinx under or in relation to any other provisions of this Contract.

1.6 Certificates of Insurance shall include:

- (e) A reference to the Project description and Contract number;
- (f) Additional insureds as follows:
 - (i) The Certificate of Commercial General Liability Insurance shall include the following as additional insureds:
 - (A) Metrolinx.
- (g) Confirmation the policy includes a waiver of subrogation against Metrolinx as required by General Conditions of the Contract.
- (h) A provision requiring the insurer to give Metrolinx thirty (30) calendar days prior written notice of any changes to, or cancellation of, the required insurance policies.

2.0 Workplace Safety & Insurance Board Protection

- 2.1 With respect to the WSIB coverage as required under the Workplace Safety and Insurance Act (Ontario), the Vendor unconditionally guarantees to Metrolinx full compliance with the conditions, regulations and laws relating to workplace safety insurance by itself and by all Subvendors.
- 2.2 Without restricting the indemnity obligations of the Vendor in Article 12 of the General Conditions, unless the Vendor is WSIB exempt, the Vendor shall produce, at the commencement of this Contract, from time to time as may be required by Metrolinx and prior to issuance of the Final Payment Certificate, a valid Workplace Safety and Insurance Clearance Certificate, issued by the WSIB, for the premium rate class, subclass or group appropriate to the Work.
- 2.3 If the Vendor is WSIB exempt, it shall provide evidence of Employer's Liability or equivalent, to the satisfaction of Metrolinx, in lieu of a Workplace Safety and Insurance Clearance Certificate.

END OF SECTION

**GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE D – DISPUTE RESOLUTION**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Bona fide efforts to resolve

- 1.1 The Parties shall at all times during the Term make bona fide efforts to resolve any and all Disputes arising between them by amicable negotiations and to have all Disputes resolved at the lowest level of management before engaging the dispute resolution processes described in the balance of this Schedule D - Dispute Resolution.

2.0 Continuance of the Work During Dispute

- 2.1 Unless expressly directed otherwise by Metrolinx, the Vendor shall not stop or delay the performance of the Work, in whole or in part, on account of a Dispute between the Vendor and Metrolinx or between the Vendor and any other Person. Without limiting the generality of the foregoing, at all times during the course of a Dispute, the Vendor shall:
- (e) continue with the Work in a diligent manner and without delay;
 - (f) conform to Metrolinx' decisions and directions; and
 - (g) be governed by all applicable provisions of this Contract.
- 2.2 The Parties acknowledge and agree that the Vendor's compliance with this Section 2.0 shall not operate to waive any claim or contention that the Vendor may have in relation to any Dispute.

3.0 Tiered-Dispute Resolution

- 3.1 The Parties agree that any Dispute which cannot be resolved to the satisfaction of both Parties by direct discussions between staff members of the Parties, may be referred for negotiation between senior management of both Parties by delivery from one Party to the other Party of notice in writing requesting dispute resolution, which notice shall set out the Dispute in reasonably sufficient detail (a "Dispute Notice").

4.0 Negotiation

- 4.1 In the event a Party issues a Dispute Notice to the other Party, the Vice President, GO Capital Infrastructure at Metrolinx (or if that position no longer exists at the time the Dispute Notice is issued, the person performing an equivalent function) and an authorized representative of the Vendor, of equivalent seniority and duly appointed to represent the Vendor in this regard, shall meet and make a good faith effort, on a without prejudice basis, to resolve the Dispute as set out in the

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE D – DISPUTE RESOLUTION

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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Dispute Notice in a prompt manner and, for the purpose of same, each Party shall provide its representative with full and timely disclosure of all relevant facts information and documents as may be reasonably required or may be reasonably requested by the other Party, on a without prejudice basis, to facilitate such negotiation.

- 4.2 Negotiations under this Section 4.0 shall be commenced within ten (10) Business Days of delivery of a Dispute Notice and shall, unless otherwise agreed by the Parties, be concluded within fifteen (15) Business Days of their commencement. In the event that a resolution satisfactory to all Parties is achieved through such negotiations, the Parties shall issue a joint statement detailing the manner in which the Dispute has been resolved.

5.0 Mediation

- 5.1 If a Dispute has not been resolved through high-level negotiation as contemplated in Section 4.0, either Party may refer the Dispute to be resolved through mediation.
- 5.2 The Parties shall mutually agree to the appointment of the mediator within thirty (30) Business Days, or within such other time as the Parties may agree, of any Party issuing a supplementary Dispute Notice requesting mediation.
- 5.3 If the Parties cannot agree on the appointment of a mediator, the appointment of a mediator shall be determined by the Ontario Superior Court of Justice following an application by either Party.
- 5.4 The mediator shall be independent of and at arm's length to the Parties and shall be a person who by training and experience has the qualifications and the mediation skills to mediate a Dispute.
- 5.5 Unless the Parties otherwise agree, the mediation shall proceed in accordance with the following procedures:
- (e) Each Party shall prepare a summary of the issues in dispute, with the Party's position with respect to those issues. The summary shall be delivered to the mediator and the other Parties, at least seven (7) Business Days before the first mediation conference.
 - (f) The goal of the mediation is to reach an agreed upon settlement and, therefore, all individuals with the appropriate authority to agree to the settlement terms and conditions shall be present at the mediation.

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE D – DISPUTE RESOLUTION

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- (g) A Party may be represented at the mediation by counsel or another representative at the sole cost of such Party.
 - (h) The mediator, the Parties and their counsel or representatives shall keep confidential all matters relating to the mediation, except where disclosure of a settlement agreement is necessary to implement or enforce that agreement and except as otherwise required by Applicable Law.
 - (i) In all respects, the mediation is deemed to be a "without prejudice" proceeding.
- 5.6 The costs of the mediator shall be apportioned equally between the Parties unless otherwise agreed under any settlement reached under this Section 5.0.
- 5.7 If the Parties achieve a resolution of the Dispute, the mediator shall confirm the resolution in writing, which will be signed by the Parties. If the Parties do not resolve the Dispute, the mediator shall provide a written confirmation that the Parties were unable to resolve the Dispute.
- 5.8 Both Parties acknowledge and agree that they may not refer a Dispute for resolution by arbitration under Section 6.0 herein prior to attempting to resolve such Dispute through mediation pursuant to this Section 5.0.

6.0 Arbitration

- 6.1 Any Party may, within ten (10) Business Days of the delivery of the mediator's confirmation that the Parties were unable to resolve their Dispute, issue a supplementary Dispute Notice requesting arbitration. Subject to Applicable Law, if such a supplementary Dispute Notice is issued, the Parties shall proceed to arbitration in the manner described below.
- 6.2 If the Parties agree on the arbitrator, the Parties shall jointly appoint the arbitrator as soon as possible and in any event within ten (10) Business Days of the submission of a Dispute to arbitration under this Section 6.0. If the Parties are unable to agree on an arbitrator, each Party shall appoint an arbitrator, and the two arbitrators so chosen shall select a third arbitrator acceptable to both of them within ten (10) Business Days of their selection.
- 6.3 The arbitrator(s) shall be independent of and at arm's length to the Parties and shall be a person who by training and experience has the qualifications and arbitration skills to arbitrate a Dispute.

GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE D – DISPUTE RESOLUTION

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- 6.4 The arbitration shall be conducted in accordance with the provisions of the Arbitration Act, except to the extent they are modified by the express provisions of this Schedule D - Dispute Resolution or unless the Parties otherwise agree.
- 6.5 If the issue in dispute is particularly time sensitive, the Parties shall, in good faith, take such reasonable steps as may be required to expedite the arbitration process in order that an award may be rendered as soon as practicable by the arbitrator(s), given the nature of the Dispute.
- 6.6 The arbitrator(s) has the jurisdiction to deal with all matters relating to a Dispute.
- 6.7 Unless otherwise agreed, the arbitration shall be conducted in the City of Toronto, Province of Ontario at the location determined from time to time by the arbitrators, but the arbitrators may meet in any other place the arbitrators considers necessary for consultation, to hear witnesses, experts or other parties, or for the inspection of documents, goods or other property.
- 6.8 In addition to the examination of the Parties by each other, the arbitrator(s) may examine, in the ordinary course, the Parties or either of them and the witnesses in the matter referred to the arbitrator(s), and the Parties and witnesses, if examined, shall be examined on oath or affirmation.
- 6.9 The language of the arbitration shall be English.
- 6.10 The arbitrator(s) shall, after full consideration of the issues in dispute, the relevant facts and Applicable Law, render a decision as soon as possible and, in any event, shall use all reasonable efforts to render a decision no later than thirty (30) Business Days after argument of the issue to the arbitrator(s), which decision shall be final and binding on the Parties and not subject to appeal or challenge, except such limited relief provided under Section 45(1) (appeal on a question of law, with leave) or Section 46 (setting aside award) of the Arbitration Act.
- 6.11 The costs of the arbitration are in the discretion of the arbitrator(s) who, in addition to any jurisdiction and authority under Applicable Law to award costs, has the jurisdiction and authority to make an order for costs on such basis as the arbitrator(s) consider appropriate in the circumstances. The submission to the arbitrator(s), and any award made in pursuance of it, may, at the instance of either of the Parties and without notice to the other of them, be made an Order of the Ontario Court (General Division), pursuant to the Arbitration Act and the Courts of Justice Act (Ontario).

END OF SECTION

**GENERAL CONDITIONS OF THE CONTRACT
SCHEDULE E – VENDOR PERSONNEL**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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Not applicable.

END OF SECTION

SCOPE OF WORK

SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO VARIOUS GO BUS FACILITIES PT-2018-BUSF-580

Page 1 of 1

The Scope of Work is comprised of those documents listed under “Scope of Work” in List of Contents.

**SCOPE OF WORK
GENERAL INSTRUCTIONS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Location and Hours of Work

1.1 Location(s) of Work

- (e) The Work shall be carried out at the locations set out in the Detailed Scope of Work(s):

1.2 Hours of Work

- (e) The Vendor's hours of work for this Contract are 8:00 a.m. to 4:00 p.m., Monday to Friday, statutory holidays excluded.

2.0 Subvendors and Suppliers

- 2.1 The Vendor shall submit within five (5) Working Days of execution of the Contract a complete list of Subvendors and Suppliers that shall include the names of all Subvendors and Suppliers that will be employed to perform or supply the Work:

- 2.2 The Vendor shall not change the identified Subvendors or Suppliers listed without written consent of Metrolinx.

3.0 Vendor's Use of Site

- 3.1 Perform Work, and schedule deliveries, in a manner that will interfere as little as possible with Metrolinx's operations.

4.0 Codes and Standards

- 4.1 Perform Work in accordance with applicable acts administered by other authorities having jurisdiction.
- 4.2 Work to meet or exceed requirements of specified standards, codes and referenced documents.
- 4.3 Codes, specification standards, manuals and installation, application and maintenance instructions, referred to in the Contract shall be of latest published editions at date of Closing.

5.0 Final Cleaning

- 5.1 Products

**SCOPE OF WORK
GENERAL INSTRUCTIONS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- (e) Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

5.2 Cleaning

- (e) Ensure that the Place of Work is kept clean and tidy at all times throughout the term of the Contract. Remove all rubbish and debris promptly as it accumulates. Ensure that all sub-trades conform similarly.
- (f) Promptly remove from the Place of Work and dispose of surplus materials.
- (g) Do not accumulate scrap piles at any time. Fires will not be permitted at the Place of Work.
- (h) Remove dust and soil from all surfaces affected by Work by vacuuming, damp mopping, washing or scrubbing, as required.

6.0 Date-Related Compliance

- 6.1 All materials, equipment, systems and components thereof used in connection with the provision of the Work, individually or in combination as the case may be, shall accurately and automatically process any and all date and date-related data including, but not limited to calculating, comparing and sequencing when used in accordance with the documentation provided by the Vendor.
- 6.2 Metrolinx may, at no additional cost to itself, require the Vendor to demonstrate date-related compliance as specified in Section 6.1 above and/or compliance techniques and test procedures the Vendor followed in order to comply with these requirements.

END OF SECTION

**SCOPE OF WORK
QUALITY CONTROL**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Inspection

- 1.1 Metrolinx may order any part of the work to be examined to ensure compliance with the Contract. If, upon examination such work is found not in accordance with the Contract, correct such work and pay the cost of examination and correction.
- 1.2 The review of the information covering materials and equipment by Metrolinx shall in no way release the Vendor from his responsibility for the proper design, installation and performance of any material, equipment or arrangement or from the liability to replace same should it prove defective or deficient.

2.0 Independent Inspection Agencies

- 2.1 Independent Inspection/Testing Agencies may be engaged by Metrolinx for inspecting and/or testing portions of work.
- 2.2 Provide samples and/or assistance required for inspection and testing by the appointed agencies.
- 2.3 Employment of Inspection/Testing Agencies does not remove the responsibility to perform Work in accordance with the Contract.
- 2.4 If defects are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defects and irregularities as advised by Metrolinx at no cost to Metrolinx. Pay costs for retesting and re-inspection.

3.0 Procedures

- 3.1 Notify the appropriate agency and Metrolinx a minimum of two (2) Working Days in advance of the requirement for tests, in order that arrangements can be made with the testing company.
- 3.2 Submit samples and/or materials required for testing, as specifically requested in Scope of Work. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in the Work.
- 3.3 Provide labour and equipment to obtain and handle samples and materials at the Place of Work.

**SCOPE OF WORK
QUALITY CONTROL**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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4.0 Rejected Work

- 4.1 If, in the opinion of Metrolinx, it is not expedient to correct defective work, or work not performed in accordance with the Contract, Metrolinx may deduct from the Total Estimated Contract Price the difference in value between the work performed and that called for by the Contract, the amount of which shall be determined by Metrolinx.

END OF SECTION

SCOPE OF WORK
RAILWAY SAFETY REQUIREMENTS
SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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Not applicable

END OF SECTION

**SCOPE OF WORK
ENVIRONMENTAL PROTECTION**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Fires

- 1.1 Fire and burnings of rubbish at the Place of Work will not be permitted.

2.0 Disposal of Wastes

- 2.1 Do not bury rubbish and waste materials at the Place of Work.
- 2.2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- 2.3 Except as indicated otherwise, surplus materials shall become the property of the Vendor and shall be removed from the premises promptly as they become surplus, at the cost of the Vendor.

3.0 Pollution Control

- 3.1 Prevent extraneous materials from contaminating the environment immediately to and beyond the application area, by providing temporary enclosures or other appropriate preventative measures.
- 3.2 Spill containment devices and spill kits shall be required at the Place of Work where there is the potential for any hazardous products to accumulate or enter the environment.

4.0 Noise

- 4.1 The Vendor shall take all measures reasonably necessary to protect workers from hazardous sound levels in compliance with the OHSA O.Reg 318/15:Noise

5.0 Spills

- 5.1 The Vendor shall provide Metrolinx with a written program for spills response and reporting. Copies of training records shall also be provided.
- 5.2 All spills shall immediately be reported to the GO Transit Communications Center, (416) 601-2174, or as directed by Metrolinx.

END OF SECTION

**SCOPE OF WORK
SAFETY REQUIREMENTS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 Safety Measures

- 1.1 The Vendor's representative shall be responsible for ensuring that the provisions of statutes, regulations and by-laws pertaining to safe performance of the work and the work of other vendors/Subvendors at the Place of Work are observed and that the methods of performing the work do not endanger the personnel employed thereon, the general public, and are in accordance with best safety practices and the latest edition of the OHSA and applicable Regulations.
- 1.2 Prior to the Vendor's representative being absent from the Place of Work, the Vendor's representative will name another person, in writing to Metrolinx, who is competent to assume these responsibilities as the Vendor's representative.

2.0 Project Health and Safety Compliance

- 2.1 The Vendor and the Vendor's representative shall ensure that:
 - (e) All measures and procedures prescribed by the following Acts and Regulations (applicable Provincial) are carried out at the Place of Work;
 - (i) The Occupational Health and Safety Act;
 - (ii) The Regulations for Industrial Establishments;
 - (iii) The Canada Labour Code Part II;
 - (iv) The Environmental Protection Act and Regulations;
 - (v) WHMIS Regulations;
 - (vi) Smoke-Free Ontario Act;
 - (vii) All other legislation, regulations and standards as applicable; and
 - (viii) Metrolinx's "Safety Guidelines For Vendors, Consultants and Project Coordinators";
- 2.2 Every employer and every worker performing work at the Place of Work complies with all of the requirements referred to in Section 2.1 above; and
- 2.3 The health and safety of workers and the general public are protected in relation to the work performed at the Place of Work. In addition to compliance with all occupational health and safety legislation, every employer and every worker

**SCOPE OF WORK
SAFETY REQUIREMENTS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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performing Work at the Place of Work is required to demonstrate a willingness to participate in occupational health and safety program(s).

3.0 Due Diligence

- 3.1 The Vendor acknowledges that it has read and understands the measures and procedures relating to occupational health and safety as prescribed in Sections 2.0 and **Error! Reference source not found.** above. The Vendor acknowledges and understands its duties as therein set out and hereby expressly undertakes and agrees to comply with all such requirements and standards in their entirety and at the Vendor's expense.
- 3.2 The Vendor further agrees to fully cooperate with all health and safety requirements, rules, regulations, standards and criteria set out in the Contract, which agreement is in furtherance of the Vendor's duties and responsibilities under occupational health and safety legislation.
- 3.3 The Vendor agrees that if, in the opinion of Metrolinx, the health and safety of a person or persons is endangered or the effective operation of the system put in place to ensure the health and safety of workers on the Place of Work is not being implemented, Metrolinx may take such action as it deems necessary and appropriate in the circumstances, including, without limitation, the following:
 - (e) Require the Vendor to correct the condition forthwith at no expense to Metrolinx;
 - (f) Require that the Place of Work be shut down in whole or in part until such time as the condition has been corrected. Metrolinx will not reimburse the Vendor for any costs caused by such a delay nor will Metrolinx extend the time to complete the Work of the Contract because of such a delay;
 - (g) Correct the problem and deduct the cost thereof from any payment then or thereafter due the Vendor; and/or
 - (h) Terminate the Contract in whole or in part.

4.0 Joint Health and Safety Committee and/or Representative

- 4.1 The Vendor shall be responsible for the establishment and operation of the JHSC as required or the selection of a safety representative as required by the Occupational Health and Safety Act or the Canada Labour Code, Part II as applicable to the operations of the Vendor.

**SCOPE OF WORK
SAFETY REQUIREMENTS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- 4.2 In advance of commencement of the Work, the Vendor shall provide its plan of compliance with the Occupational Health and Safety Act, Part II, Administration, to Metrolinx where:
- (e) the number of workers employed at the Place of Work regularly exceeds five (5); or
 - (f) the duration of the Work is three (3) months or longer.
- 4.3 A site file shall be maintained of all information specific to the Joint Health and Safety Committee for the Project. This file shall be made available to Metrolinx for review upon request.

5.0 Fit-For-Duty Requirements

- 5.1 The following rules shall apply to all persons while at the Place of Work and/or on Metrolinx property while carrying out all aspects of the Work:
- (e) The use, possession, offering, distribution and/or sale of illegal drugs, prescription and over-the-counter medications, mood altering substances, chemicals which has the potential to change or adversely affect the way a person thinks, feels or acts and/or may inhibit the ability to perform work safely and productively, is prohibited;
 - (f) The use, possession, distribution and/or sale of drug paraphernalia (property associated with the use of any drug for recreational or illicit purposes), is prohibited.
 - (g) The use, possession, distribution and/or sale of any form of alcohol, including alcoholic beverages, is prohibited;
 - (h) The Vendor's Personnel must know and understand the possible effects of drugs, medication or mood altering agents, including those prescribed by a doctor, which will adversely affect, in any way and to any extent, their ability to work safely;
 - (i) The Vendor's Personnel shall ensure that prescribed or over-the-counter medications are used responsibly and in accordance with the applicable instructions. Persons taking prescription drugs shall advise their supervisor if there is potential for performance to be negatively affected;

**SCOPE OF WORK
SAFETY REQUIREMENTS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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- (j) The Vendor's Personnel must report for duty free of extreme fatigue which would adversely affect, in any way and to any extent, their ability to work safely;
 - (k) The Vendor's Personnel must report for duty, free of the negative effects of alcohol and other drugs, including the effects of such use, and remain so during the entire period of duty.
- 5.2 Where any Vendor's Personnel is suspected of being unfit for duty, the following procedures must be followed:
 - (e) Such Vendor Personnel will be escorted to a safe location away from the work area, and asked to remain there pending further action;
 - (f) The Vendor shall be required to attend a meeting with Metrolinx and Consultant, if applicable, (hereinafter referred to as a Fit For Duty (FFD) Meeting);
 - (g) The FFD meeting members will determine an appropriate course of action and a means of transport to a suitable safe location for the Vendor Personnel in question;
 - (h) Where there are differences of opinion between Metrolinx and the Vendor with respect to the Vendor Personnel's fitness for duty, the dispute will be resolved with a view to ensuring safety, and the Vendor's Personnel in question will be transported home, or will be required to remain in a safe location until transportation can be arranged; and
 - (i) The local police may be called if the Vendor's Personnel was operating any motorized vehicle requiring a valid driver's license.
- 5.3 Metrolinx maintains a position of zero tolerance to any violations of Sections 6.1 and 6.2 above. At the sole discretion of Metrolinx, non-compliance may result in:
 - (e) Verbal and written reporting to the person's supervisor/employer;
 - (f) Issuance of a written warning, and recording of same;
 - (g) Reporting to the appropriate police department for investigation and subject to criminal prosecution;
 - (h) An order to leave the project site temporarily or permanently; or
 - (i) Remedies as may be specified in the Contract

**SCOPE OF WORK
SAFETY REQUIREMENTS**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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5.4 Vendor's Fit For Duty Policy

- (e) The Vendor is required to ensure all Vendor Personnel at the Place of Work have read and understand the Vendor's fit for duty policy requirements in addition to the Metrolinx fit for duty requirements stated in this Section 6.0.
- (f) The Vendor shall provide a copy of its Fit-For-Duty Policy and Program to Metrolinx within thirty (30) Business Days after final execution of the Contract. (The Metrolinx Fit For Duty Policy can be provided to the Vendor upon request, solely as an example for reference purposes.)

6.0 Smoking in the Workplace

- 6.1 The Vendor shall comply with, and enforce, all the provisions of the Smoke Free Ontario Act at all times while on Metrolinx's property.
- 6.2 A designated smoking area may be created at the Place of Work providing Metrolinx and the Vendor can mutually agree that one can be provided within the provisions of the Smoke Free Ontario Act. The Vendor shall be responsible for providing any and all signage required for the designated smoking area in the event a designated smoking area is created.

7.0 Barricades

- 7.1 Observe all necessary precautions and provide, erect and maintain suitable signs, barricades and lights to protect all persons from injury and all vehicles from damage during the progress of the work, all to the approval of Metrolinx or any authority having jurisdiction at this location.
- 7.2 Protect the work in conformity with the Contract.

8.0 Vehicle Traffic Protection

- 8.1 Provide qualified signal persons to protect vehicular and pedestrian traffic during the operations, at any time when workers or equipment could endanger such traffic, all to the complete satisfaction of Metrolinx and any other authority having jurisdiction at this location.
- 8.2 Accept responsibility for any damage to vehicles and damage and injury to pedestrians or occupants of vehicles resulting from the operations or the operating of equipment by others. Provide adequate protection to the satisfaction of Metrolinx.

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- 8.3 Wherever the Place of Work is intersected by public or private roads, provide convenient openings to pass and maintain all crossings in a condition so they can be used safely and without any just grounds for complaint during the progress of the work; all to the satisfaction of Metrolinx and respective road authority.

9.0 Workplace Hazardous Materials Information System (WHMIS)

- 9.1 Be familiar with and comply to WHMIS Regulations:
- 9.2 Properly label controlled products.
- 9.3 Provide proper warning labels and training at the Place of Work.
- 9.4 Prior to delivery of products to the Place of Work, provide copies of the material safety data sheets (MSDS) for any controlled products.
- 9.5 Be responsible for all applicable requirements of the regulations.
- 9.6 Before commencing any work at the Place of Work, attend a meeting in a location to be determined by Metrolinx and provide a proposal as to how hazardous materials will be stored and dispensed at the Place of Work. Also, present a proposal as to how hazardous and contaminated materials will be removed from the Place of Work. The disposal of hazardous materials shall comply with all legislative and municipal requirements.
- 9.7 Provide a list and proper handling procedures for all hazardous materials.

10.0 Metrolinx Safety Guidelines

- 10.1 Metrolinx will issue an appropriate number of copies of its "Safety Guidelines For Vendors, Consultants and Project Coordinators" to the Vendor in advance of commencement of the Work. This will also be made available electronically in PDF format, to the Vendor.
- 10.2 Vendors are responsible for familiarizing themselves and their employees with the contents of this manual.
- 10.3 Vendors shall distribute copies of this manual to their Subvendors and shall ensure that they, and their employees, are familiar with its content.
- 10.4 This manual shall form part of the orientation for new employees and acknowledged as being included.

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- 10.5 The requirements of this manual shall apply to the Work and the Place of the Work.

11.0 Safety Personnel at the Place of Work

- 11.1 In the event Metrolinx deems it necessary, because of the Work and/or Safety Performance, the Vendor shall assign to the Place of Work a full time "Safety Officer" to assist the Vendor's representative in the discharging of safety responsibility at the Place of Work, at no additional costs to Metrolinx.
- 11.2 The Safety Officer shall have the training, experience and credentials to ensure compliance to the Occupational Health and Safety Act and regulations that pertain to the Work at the Place of Work.

12.0 Security at the Place of Work

- 12.1 The Vendor shall ensure all personnel employed at the Place of Work, whether its own employees or a Subvendor's, wear an identification badge. At Metrolinx's locations where access is restricted Metrolinx shall supply the identification badges. At all other locations it shall be the Vendor's responsibility to provide the identification badges. The "GO Safe" Railway Orientation badge with photo I.D. will meet this requirement.
- 12.2 A daily site log shall be maintained of all persons granted access to the "Place of Work" under the control and custody of the Vendor.
- 12.3 The Vendor shall ensure that all required documentation is available upon request by Metrolinx.
- 12.4 The Vendor shall not allow "Unauthorized" persons to access the "Place of Work".

END OF SECTION

**SCOPE OF WORK
MATERIALS AND EQUIPMENT**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
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1.0 General

- 1.1 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- 1.2 Use products of one manufacturer for equipment or material of same type or classification unless otherwise specified.

2.0 Manufacturer's Instructions

- 2.1 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- 2.2 Notify Metrolinx in writing of any conflict between this Scope of Work and manufacturer's instructions. Metrolinx will designate which document is to be followed.

3.0 Delivery and Storage

- 3.1 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact.
- 3.2 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from the Place of Work.
- 3.3 Store material and equipment in accordance with suppliers' instructions.

4.0 Origin of Materials

- 4.1 Materials, plant and equipment supplied for Work shall be as far as possible and unless otherwise specified, of Canadian manufacture.

5.0 Ownership of Materials

- 5.1 Unless otherwise specified, materials existing at the Place of Work at time of signing Contract shall remain the property of Metrolinx.
- 5.2 Equipment and materials delivered to the Place of Work to form part of Work shall be property of Metrolinx.
- 5.3 Vendor shall remove surplus or rejected materials from the Place of Work notified by Metrolinx as required by site conditions.

**SCOPE OF WORK
MATERIALS AND EQUIPMENT**

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6.0 Specified Material and Equipment

- 6.1 Materials and equipment shall be as specified.

7.0 Substitutions After Award of Contract

- 7.1 Request for substitutions of specified materials and equipment other than alternatives accepted prior to Contract execution will not be considered unless request is accompanied by a written statement from Vendor giving reasons why specified item cannot or should not be used, evidence of quality of substitution and amount of change in Total Estimated Contract Price.
- 7.2 Written statement shall include full details, stating clearly name of manufacturer or supplier, together with a detailed description of substitutions, and stating reduction from or addition to contract price, if any for the use of alternative material or equipment.
- 7.3 Metrolinx reserves right to accept or reject substitution(s) at its sole discretion and also to claim financial benefit of substitution if accepted. Rejection by Metrolinx of proposed alternative material or equipment is final and Metrolinx is not obligated to give any reason for rejection of a substitution(s).
- 7.4 Approved equipment substitutions must not exceed space requirements allocated on Drawings. Be responsible for additional cost resulting from acceptance of a substitute piece of equipment.
- 7.5 Substitutions shall not be considered accepted unless authorized in writing by Metrolinx.

END OF SECTION

**SCOPE OF WORK
DETAILED SCOPE OF WORK**

**SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO
VARIOUS GO BUS FACILITIES
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ADDENDUM NO. 3

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1.0 Definitions

- 1.1 **“ASTM”** means ASTM International or standards developed by that organization.
- 1.2 **“CAT and Caterpillar”** means Caterpillar Inc. , its products, standards or specifications.
- 1.3 **“Cummins”** means Cummins Inc., its products, standards or specifications.
- 1.4 **“DD and Detroit Diesel”** means Detroit Diesel Corp., its products, standards or specifications.
- 1.5 **“Drum”** means full or empty Drum(s) used for the supply of long/extended life coolant.
- 1.6 **“Facilities”** means location of the Work.
- 1.7 **“Product”** means long/extended life coolant.
- 1.8 **“Work”** means the supply, delivery and unloading of long/extended life coolant to various GO Bus Transit facilities.

1.0 Purpose

- 1.1 For the supply, delivery and unloading of bus engine long/extended life coolant to be used in Metrolinx fleet of heavy duty buses employed in the highway and suburban service.
- 1.2 The Vendor shall provide Metrolinx with **Technical Data Sheets and/ or Approval Certificates** demonstrating compliance of the product with the Material Specifications required.
- 1.3 The Vendor shall provide Metrolinx with Safety Data Sheets prior to product delivery.
- 1.4 All Quantities are estimated based on historical requirements, there is no guarantee that these estimated will be reached.

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2.0 Product Specifications

- 2.1 These specifications cover engine coolant used in GO Transit fleet of heavy duty bus vehicles operating in suburban and highway service. The coolant will be used for topping up the cooling system as well as a complete fill. The vehicles are Motor Coach Industries (M.C.I) and Alexander Dennis Ltd. (ADL) using a combination of standard and proprietary component as set out in these Contract documents.
- 2.2 The Vendor shall ensure that the Product supplied shall conform to Metrolinx Product Specification as follows:
- (a) The long/extended life coolant supplied shall have a minimum life expectancy of six (6) years, with the use of a coolant Extender Inhibitor Additive;
 - (b) The long/extended life coolant supplied shall be a pre-mixed 50/50 blend of water and coolant so as to provide sufficient freeze and boil protection within the environment GO Transit operates. (-35 degrees Celsius-106 degrees Celsius);
 - (c) The long/extended life coolant supplied shall be propylene glycol based coolant;
 - (d) The water used for blending shall be distilled or de-ionized water. In the event these are not available the water must meet the following requirements:
 - (i) Chloride - 40 ppm max;
 - (ii) Sulfate- 100 ppm max;
 - (iii) Total Hardness - 170 ppm max;
 - (iv) Total Solids-340 ppm max; and
 - (v) Acidity-pH of 5.5 -9.0
 - (e) Long/extended life engine coolant shall be used in the following engines:
 - (i) Detroit Diesel Series 60;
 - (ii) Cummins - ISM/ISL/ISX; and

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- (iii) CAT C13 – KCB/LEE.
- (f) The engine coolant supplied shall be compatible with and must meet or exceed the following specifications as outlined by the engine manufacturers:
 - (i) Cummins ASTM 6210;
 - (ii) CES 14603;
 - (iii) Detroit Diesel - D6210, The Technology and Maintenance Council RP-329;
 - (iv) Type “A” (phosphate free) on The Technology and Maintenance Council RP-330;
 - (v) Caterpillar EC-1;
 - (vi) ASTM 04985-05; and
 - (vii) ASTM D6210-06
- (g) The long/extended life coolant supplied, shall be compatible with, and shall not dilute or degrade the original long/extended life coolant from the Bus Engine Original Equipment Manufacturer, which are Detroit Diesel Power Cool Plus and/or Cummins Fleet Cool OAT

3.0 Drum Delivery and Pickup

- 3.1 The Vendor shall deliver the Product in two hundred and five (205)-Liter Drums to any of the locations set out in these Contract Documents as required.
- 3.2 The Vendor shall be responsible for the supply, delivery and unloading (including the fluid transfer to METROLINX bulk tanks).
- 3.3 Drum delivery to all locations will require a vehicle with a hydraulic tailgate and a Drum dolly.
- 3.4 It shall be the sole responsibility of the Vendor to make the necessary arrangements to remove all empty Drums from Metrolinx facilities, either at the time of the next delivery, or at a minimum, once (1) per month, whichever occurs first.

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- 3.5 Should damage occur as a result of the Drums not being picked up in a timely manner by the Vendor, Metrolinx will not be held responsible for all related costs to replace and/or repair Drums which have been damage from direct exposure to the elements.
- 3.6 Drum delivery, unloading and pickup shall not interfere with GO Bus Operations.
- 3.7 Should the Vendor not be able to supply, deliver and unload the Product as requested, the Vendor shall notify Metrolinx' designated representative in writing immediately.
- 3.8 The Vendor shall ensure that delivery of the Product is in full compliance with the Bulk Storage Tank Filling Procedures manual as provided for under Attachments.

4.0 Confirmation of Delivery

- 4.1 Metrolinx shall be deemed to have received the Product upon delivery to the unmanned location(s) based on the information provided by Metrolinx' fluid measuring equipment.

5.0 Locations of the Work

The Vendor shall make deliveries to the following Metrolinx locations:

- (a) Steeprock Bus Maintenance Facility
200 Steeprock Drive
Toronto, ON M3J 2T4
- (b) Oshawa Bus Maintenance Facility
1002 Thornton Road South
Oshawa, ON L1J 7E2
- (c) East Gwillimbury Bus Storage Facility
65 Garfield Wright Blvd.,
East Gwillimbury, Ontario, L0G 1V0
- (d) Streetsville Bus Maintenance Facility

6190 Mississauga Road
Mississauga, ON L5N 1A7

**SCOPE OF WORK
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- (e) Brampton Bus Storage Facility
85 Van Kirk Drive
Brampton, ON L7A 1A4
- (f) Halton Hills Bus Storage Facility
19 Mansewood Court
Halton Hills, ON L7J 0A1
- (g) Aberfoyle Bus Storage Facility
7471 McLean Road
Aberfoyle, ON N1H 6H9
- (h) Lincolnville Bus and Rail Facility
13190 York Durham Line
Stouffville, Ontario L4A 7X4
- (i) Hamilton Bus Storage Facility
155 Coreslab Drive
Hamilton, ON L9H 0B2
- (j) Kitchener Bus Storage Facility
200 Shirley Ave.
Kitchener ON N2B 2E1

- 5.1 Metrolinx reserves the right at its sole discretion to remove, replace or add locations according to its' operational requirements as required. Metrolinx shall advise the Vendor in writing one (1) week in advance or sooner.
- 5.2 All deliveries, unloading and empty drum pickups are to be made between the hours of 7:00 a.m. and 4:00 p.m., Monday to Friday (Statutory Holidays excluded).
- 5.3 The Vendor shall supply, deliver and unload the Product within forty-eight (48) hours of order placement date, to the specified delivery location(s). Metrolinx shall notify the Vendor by fax or email, of the requirement by Metrolinx's designated representative.
- 5.4 The Vendor and its SubVendor(s) shall comply with the following Metrolinx Safety Policies:

- (e) Safety Guidelines for Vendors, Consultants and Project Coordinators;

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- (f) Bulk Storage Tanks and Fuel Handling, Environmental Performance Standard;
- (g) Chemical Management Environmental Performance Standard;
- (h) Spill Response Plan; and
- (i) Any other Safety and Environmental standards, guidelines and plans that Metrolinx may issue or revise through duration of the Contract.

END OF SECTION

ATTACHMENTS

SUPPLY AND DELIVERY OF LONG-LIFE COOLANT TO VARIOUS GO BUS FACILITIES PT-2018-BUSF-580

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Attachments are comprised of those documents listed under "Attachments" in List of Contents



Name of Vendor:		Vendor Project Manager:	
Street:	City:	Province/State:	Postal/ZIP Code:
Original Contract Date	Contract No. PT-2018-BUSF-580	Project No.	
Contract Name:	Supply and Delivery of Long Life Coolant to various BFF as required		
Category of Work:	General Goods and Equipment (Non-I&IT)		
Division:	Bus Services Division	Branch:	Fleet and Facilities Services
Project Coordinator:	FRANK VELUNZA MARTINEZ		

Scale	0: Unacceptable - Does not meet any requirements of the key performance indicator	Applied Weight	Score
	1: Poor - Meets few of the requirements of the key performance indicator		
	2: Fair - Meets some of the requirements of the key performance indicator		
	3: Satisfactory - Meets most of the requirements of the key performance indicator		
	4: Good - Meets all of the requirements of the key performance indicator		
	5: Excellent - Exceeds the requirements of the key performance indicator		

Section 3	Qualifications in Support of the Rating

Information regarding the Metrolinx Vendor Performance Management System and how a Vendor Performance Rating is calculated can be found in the Metrolinx "Vendor Relationship Management Procedures and Guidelines v1.1 dated November 7, 2016", or most current version, accessed through the following link:
http://www.metrolinx.com/tenders/en/VendorRelationshipManagement_Guidelines.pdf.



METROLINX

An agency of the Government of Ontario



Safety Guidelines for Contractors, Consultants and Project Coordinators

EMERGENCY CONTACT NUMBERS

GO Transit 24 hrs contact list:

1. Rail Operations Control Centre (ROCC): **416.601.2174**
2. Bus Operations – Steeprock Ctrl Room (24/7): . **416.638.6776**
3. Transit Safety Dispatch: **905.803.0642**
1.877.297.0642
4. USRC-CMO (Union Station): **416.601.3611**
5. City of Toronto (Union Station Security): **416.338.8000**

Railway 24 hrs contact list:

6. CN Railway: **1.800.465.9239**
7. CP Railway: **1.800.716.9132**
8. TTR (07:00 – 16:00): **416.864.3440**

Others:

9. Fire / Police / Ambulance: **911**
10. Nearest Hospital:
11. MOE Spills Action Centre : **1.800.268.6060**
(Toronto Division) **416.325.3000**
12. Project Manager / Coordinator:

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Occupational Health and Safety Policy

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Metrolinx, as an employer is dedicated to the health, safety and well-being of all its employees and is committed to conducting its operations in a safe manner in order to prevent injuries, illnesses, and damages. We will take whatever steps reasonable to protect our workers from workplace violence and harassment from all sources.

Metrolinx strives to fully comply with all health and safety legislation. Where reasonable, Metrolinx will strive to exceed legislated requirements by adopting the best practices available to protect Metrolinx employees and to promote a positive health and safety culture. Metrolinx will work towards continuous improvement on its health and safety program.

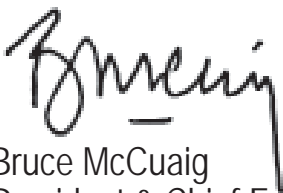
In recognition and support of the corporate goals, management ensures that employees work safely and that safe work conditions are maintained by implementation of personal injury and occupational disease prevention methods; training and competent supervision.

Management will be held accountable for the health and safety of those individuals under their supervision and those workplaces under their charge. Management will ensure that all workers and supervisors have the appropriate information and instruction to protect them from violence and harassment in the workplace.

Every employee must protect his or her own health, safety and well-being, and that of any person in the workplace, by following occupational health and safety legislation, as well as Metrolinx policies and procedures. Employees must receive adequate training in their specific work tasks and must report all unsafe and unhealthy conditions to management.

Contractors and sub-contractors employed by the Corporation have a responsibility for the health, safety and well-being of all workers and, when working for the Corporation, must follow the requirements of the Occupational Health & Safety Act and the Corporation's safety programs, policies, practices, procedures and departmental requirements, where applicable.

It is in the best interest of all parties to consider health and safety in every activity. Commitment to health and safety is integral to Metrolinx, and is reflected at all levels within the organization.



Bruce McCuaig
President & Chief Executive Officer
Metrolinx

January 2014

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Definitions

In this document, unless the context requires otherwise, the following definitions shall apply:

Accident: An undesirable and unexpected event resulting in personal injury, property or environmental damage, or losses in the production process.

Applicable Law: All applicable laws, statutes, regulations, orders, by-laws, ordinances, codes and standards of any governmental authority, body, agency or association having jurisdiction over the Work of the Contract or the Place of Work.

Arc Flash Hazard: A dangerous condition associated with the release of energy caused by an electric arc (CSA Z462-12).

Blue Tag – Track Protection: Lock out procedure during train servicing/cleaning (Willowbrook Maintenance Facility) Bombardier OP-W-11-003.

CCDC: Canadian Construction Documents Committee.

CCOHS: Canadian Centre for Occupational Health and Safety (www.ccohs.ca).

Confined Space: Fully or partially enclosed space:

- (a) that is not both designed and constructed for continuous human occupancy, and
- (b) in which atmospheric hazards may occur because of its construction, location, or contents or because of work that is done in it.

Contract: The duly executed agreement between GO Transit and the Contractor to perform their respective duties, obligations and responsibilities as presented in the Contract Documents.

Contract Documents: Those documents listed in the Agreement between Owner and Contractor section of the Contract that make-up the Contract.

CN: Canadian National Railway Company or a designated representative thereof (www.cn.ca).

CP: Canadian Pacific Railway Company or a designated representative thereof (www.cpr.ca).

Consultant: A person, firm or corporation identified as such in the Contract Documents, and is an Architect or Engineer licensed to practice in the province or territory where the Work is being performed.

Contractor: The person or entity identified as such in the Contract Documents. The term Contractor means the Contactor or the Contractor's authorized representative as designated to GO Transit in writing.

CROR: Canadian Rail Operating Rules, as well as the special instructions in use on the operating railways within GO Transit rail service area.

Employee: Any person employed at the Place of Work or Work Site by Contractor or any of its Subcontractors.

Fall Hazard: A dangerous condition associated with a person falling from a height.

Fall Protection System: A system designed to protect a person from the risk of falling when working at heights.

Governing Authority: Any governmental authority, body, agency or association having jurisdiction over the Work of the Contract or the Place of work.

Hazard: A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation; a condition that is a prerequisite to an accident.

Hazards can include latent conditions that may represent future threats and can have different origins. Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity, frequency and probability.

Hot Work: A process or activity that produces heat ,sparks or open flame including cutting, welding, grinding, soldering, brazing.

Incident (near miss): An undesirable and unexpected event that under slightly different circumstances could have resulted in personal injury, property or environmental damage, or losses in the production process.

MOE: Ministry of Environment (www.ene.gov.on.ca).

MOL: Ministry of Labour (www.labour.gov.on.ca).

MOT: Ministry of Transportation (www.mto.gov.on.ca).

MSDS: Material Safety Data Sheet.

OHSA: Occupational Health and Safety Act and Regulations.

Operator: A person responsible for operating or driving vehicles or equipment.

Place of Work: The designated site or location of the work as identified in the Contract Documents.

PNR: Pacific Northern Railway Contractors Inc. or a designated representative thereof (www.railworks.com).

Professional Engineer: A person who is duly registered and licensed to practice as an engineer in the province or territory where the Work is being performed (www.peo.on.ca).

Project Coordinator: The designated GO Transit employee or representative who is responsible for the entire project and acts on behalf of GO Transit in this capacity.

Protecting Person – Flagman: A Protecting Person is a railway employee qualified in the Canadian Rail Operating Rules (CROR).

Protecting Persons are charged solely with the safe movement of trains and are NOT responsible for the safety of the Contractor, Contractor's Employees, Consultants, or their equipment.

Qualified person: A person who, by reason of his/her knowledge, training and experience in a specific field, has the skills necessary to perform a task safely and efficiently.

Risk: The possibility that a specific undesirable event may occur, within a given time period or under specific circumstances, and that the event may produce negative effects or consequences.

Risk Evaluation: A quantitative estimation of the possibility of a given undesirable event occurring and of its consequences.

Railway Right of Way, (ROW): The land occupied by a railway for its exclusive use; the right of railway traffic to take precedence.

Where work is to be performed less than 8 m (25 ft) from the nearest rail or where otherwise deemed necessary by the railroad, host railroad will assign a Protecting Person for protection of the Railway's operation (refer to section 6 for more details).

Subcontractor: A person or entity having a direct contract with the Contractor to perform a part or parts of the Work, or to supply products worked to a special design for the Work.

TC: Transport Canada (www.tc.gc.ca).

TTR: Toronto Terminals Railway Company Ltd. or a representative thereof (www.ttrly.com).

Visitor: A person authorized to visit the Work Site to examine conditions, or to give or gather information, but who is only at the site for a short time. The Contractor shall accompany visitors.

WHMIS: Workplace Hazardous Materials Information System.

WSIB: Work Place Safety & Insurance Board (www.wsib.on.ca).

Work: The total construction and related services required by the Contract Documents.

Work Site: Any place where the Contractor performs tasks as part of the contracted work.

Worker: See Employee.

Intent & Limitations

1. The following health and safety guidelines shall govern the actions of all Contractors including their subcontractors, and all service providers engaged in performing work of any sort for GO Transit, including its employees or the designated GO Transit Consultant(s) who act on behalf of GO Transit.
2. The purpose of this document is to outline **minimum** GO Transit safety standards for Contractors, their employees, Subcontractors and Consultants. The Office of System Safety will be available as an additional resource in developing and maintaining a Safe and Secure work environment for all parties involved.
3. When GO Transit a division of Metrolinx is deemed the “constructor” under the *Occupational Health & Safety Act* additional governance will be implemented by the GO-CMO Construction Safety Management Program and will be referenced in the contract documents.
4. These health and safety guidelines are deemed to be supplementary to and incorporated in the obligations and responsibilities identified in the contract documents or purchase order agreements between GO Transit and the Contractor or service provider. In the event of discrepancy between these guidelines and the Contract, the Contract shall govern.
5. When the work is being performed indirectly for GO Transit within a railway right-of-way, under direct Contract to the railway company having ownership of the right-of-way, the railway shall be fully responsible for the management of the contract work. The Contractor shall deal with the designated railway “Project Manager” or the designated railway Consultant. The railway’s safety procedures and requirements are set out in the appropriate contract documents.

6. When the work is being performed directly for GO Transit, under direct Contract to GO Transit, within the railway right-of-way, or property owned or controlled by GO Transit, GO Transit is fully responsible for the management of the contract work and the Contractor or service provider shall deal with the designated GO Transit Project Coordinator or Consultant.
7. Contractors are responsible for thoroughly familiarizing themselves with all Applicable Law and Regulation governing worker health and safety and providing safe work procedures that determine their applicability in relation to the Work of the Contract prior to the start of work.
8. Contractors are responsible and accountable for ensuring compliance with all Applicable Law and regulation and these Safety Guidelines. Contractors will be monitored from time to time by GO Transit to ensure said compliance as set out in these guidelines.
9. The Contractor shall be responsible for determining the appropriate measures to ensure the health, safety, security and physical wellbeing of Employees, in consultation with the appropriate regulatory authorities, if necessary, to achieve compliance with Applicable Laws prior to the implementation of these Safety Guidelines.
10. A health & safety program and site specific plan developed by the Contractor working on GO Transit property shall be submitted for approval prior to the start of work. Such complementary safety programs shall:
 - a) Be specific to the work site and scope of work being contracted,
 - b) Take into account the existing and potential hazards inherent to the work performed,
 - c) Include copies of the risk assessments, job hazard analysis and / or engineering reports used to develop risk control strategies,

- d) Include copies of all specific work and emergency procedures required for the project, and
 - e) Shall include summaries of all specific safety training given to the Contractor's and Subcontractors employees. Copies of all training certificates shall be included in the package.
11. The Contractor shall be responsible for ensuring that its employees, subcontractors and visitors are familiar with these Safety Guidelines and ensuring day-to-day application.
12. The information set out in this document, including regulations, standards, references and links, are up to date during the time of printing. They are subject to change without further notice. Any discrepancies, omissions should be directed to the Office of System Safety.

4.1 - Principles

These guidelines are based on the following principles:

1. All accidents and incidents causing loss or injury can be prevented.
2. It is possible to manage effectively all risks that may lead to injuries, occupational illness, or property damage.

4.2 - Conditions To Be Respected By The Contractor

These guidelines require that the following conditions be respected:

1. The respect for safety in the performance of work shall be a condition of the Contract.
2. The Contractor shall be responsible for enforcing and respecting safety rules in the performance of all work covered by the Contract.
3. It is the Contractor's responsibility to quickly resolve any problems related to health and safety at the Place of Work.
4. No task, regardless of its urgency, shall be performed unless it can be done in complete safety.

4.3 - Contractor's Responsibility

Contractors engaged for the purpose of providing construction services to GO Transit shall be responsible for:

1. Ensuring that the health and safety of its Employees, GO personnel, patrons and the general public is of paramount

importance with regards to the performance of construction at GO Transit.

2. Ensuring that all construction conforms to all Applicable Laws.
3. Ensuring that the Employees, Consultants and suppliers conform to all its safety requirements as well as GO Transit safety requirements for construction at the Place of Work.
4. Protecting the environment by:
 - Conducting a daily clean up of the work area.
 - Properly disposing of any waste, including hazardous waste and by controlling the release of any hazardous substances as per applicable regulation.
 - Not dumping, burying or burning waste material on GO Transit or railway property.
 - Labeling all containers as to contents and hazards.
 - Providing a means to capture any fluids leaking from equipment.
 - Providing adequate dust control measures.
 - Containing any runoff from washing work equipment.
 - Implement erosion control and mitigation measures.
 - Tree hoarding where required by jurisdictional boundary.
 - Reporting all spills immediately to GO Transit by utilizing the Safety Management Systems Environmental Management Program specifically the GO-ENV-R201 Spill Prevention and Contingency Plan.
5. Conducting regular work site inspections and acting promptly in all situations where there is a risk to Health & Safety or the Environment.
 - The inspections shall be carried out on a weekly basis, or

more frequently as the nature of the Work dictates.

- Copies of all inspection reports shall be kept on file and immediately forwarded to GO Transit for review upon request.
6. Investigating all accidents and incidents having caused or risked causing losses or injury, in order to identify the causal factors, and immediately take the appropriate corrective action to prevent their recurrence.
 - All investigation reports shall be forwarded to GO Transit within twenty four (24) hours of the occurrence.
 - All major injury and property damage accidents must be immediately reported to the GO Transit Control Center: 416.601.2174.
 - All close out reports indicating corrective actions taken to prevent recurrence shall be forwarded to GO Transit Project Coordinator within twenty one (21) days from the date of occurrence and copied to the Office of System Safety.
 7. Taking all necessary steps to ensure that Employees and all persons admitted to the Place of Work and who are under the Contractor's control, or who are present at the latter's request, comply with Contractor safety procedures, these safety guidelines and with all codes, regulations and other instructions in effect.
 8. Providing proper training prior to starting a task so that they can perform their work safely.
 9. Providing and maintaining in good condition all personal protective devices for Employees, and / or any other safety devices required by regulation, standard or code during the performance of the work.
 10. Maintaining contact with the Office of System Safety as an additional resource when required.

4.4 - Consultant / Project Coordinator Responsibilities

Consultants / Project Coordinators, shall be responsible for:

1. Monitoring, recording and notifying the Contractor and GO Transit of any observed safety violations during construction, based on reasonable care, competence, knowledge, skill, judgment and due diligence.
2. Following up with Contractor and verifying completion and sustainability of requested corrective actions.
3. Maintain, record, compile and ensure all required regulatory and contractually referenced documentation as identified in the contract or required by Applicable law is provided or available for review by the Office of System Safety as required.
4. Provide notice and minutes of site meetings to the Office of System Safety on a regular and ongoing basis for the duration of the contract
5. Maintaining contact with the Office of System Safety as an additional resource when required.

5.1 - Compliance With Regulations

1. The Contractor is fully responsible for the occupational health and safety of its Employees, Subcontractors and visitors in accordance with Contract provisions and Applicable Law.
2. In the event of conflict between Applicable Laws, the Contractor shall comply with and apply the most restrictive or demanding Applicable Law.
3. As CN, CP and TTR are federally chartered and regulated railway companies, Contractors are advised that work undertaken on any Railway ROW shall be carried out in compliance with federal regulation.
4. The Contractor is responsible for obtaining approval from GO Transit where work is to be performed on or near the Railway ROW. GO Transit Project Coordinators or Consultants may issue new instructions from time to time based on site conditions or contract changes.

5.2 - Site Set-up

5.2.1 - Start-up meeting

The Contractor shall:

1. Attend a construction kick-off meeting with GO Transit representatives prior to mobilizing on site. The agenda of this meeting shall include as a minimum the following topics:
 - Review of GO Transit policies and procedures,
 - Review of Contractors' safety programs and site specific safety plans,

- Review and planning of project activities,
 - Ensuring compliance with all Applicable Law,
 - Initial Safety Orientation session planning, •
Railway protection planning (ROW access),
 - Initial job briefing session planning.
2. Communicate all applicable safety issues discussed at the meeting to its supervisors and others responsible for contract execution, including Subcontractors and Visitors.

5.2.2 - Safety Orientation / Meetings

The Contractor is responsible to ensure that the following safety orientations and job briefings are carried out prior to and during the performance of the Work.

The Contractor shall:

1. Provide site safety orientation to all persons with access to the site and maintain written records of this event. Copies of the written records to be sent to GO Transit upon request.
2. Organize additional safety orientation sessions for new employees, as required.
3. Instruct all visitors and delivery personnel on all safety instructions applicable to the Work Site, including all emergency procedures and GO Transit Contractor Safety Guidelines as required.
4. Ensure that a health and safety representative or JHSC committee has been established for the site and hold regular meetings as required by Applicable Law. The GO Transit Project Coordinator / Consultant shall attend these meetings.
5. Keep minutes of all Joint Health and Safety Committee meetings. The minutes shall be kept on file. Documentation of said meetings shall be retained on file at the Place of

Work by the Contractor and provided to GO Transit upon request.

6. Hold weekly safety meetings with all employees as required to ensure site safety and maintain employee hazard awareness. Documentation of said meetings shall be retained on file at the Place of Work by the Contractor and provided to GO Transit upon request.
7. Ensure that all of the Contractors' Employees and all Subcontractors and their employees working on ROW have taken GO Safe Railway Orientation training, for all work at track level, prior to the start of work.
8. Hold a daily job briefing session with all persons engaged in work to identify hazards and appropriate controls. Work activity that may interfere with rail operations requires the Protecting Person to attend these briefings and identify the required track protection methods to all affected workers. A written record of the briefing sessions shall be kept on file by the Protecting Person and shall be made available to GO Transit upon request for audit purposes.

5.2.3 - Work Site access / Material Delivery

1. The Contractor is ultimately responsible for ALL individuals entering the Place of Work. Accompany / escort all visitors at all time.
2. The Contractor shall submit their method of controlling access to the Place of Work to GO Transit for approval prior to the start of the contract.
3. All persons admitted to the Work Site shall wear personal protective equipment in accordance with section 5.3 herein.
4. The Contractor shall ensure that all persons with access to the Place of Work wear their hard hat stickers for identification purposes (ROW access).

5. The Contractor shall keep an up-to-date register of all personnel who have been issued the identification stickers. This register shall be accessible to GO Transit within twenty four (24) hours of receiving such a request (ROW access).
6. Communicate safety procedures around live railway track to those delivering materials or equipment and have them accompanied at all times. Individuals that deliver materials / supplies frequently (on the regular basis) will be required to complete the GO Safe Railway Orientation training.
7. Deny site access to a person who is not respecting the safety standards or a person who has been ordered off the site by GO Transit.

5.2.4 - Contractor's file

1. Prepare and maintain a list, by company and Subcontractor, of the people in charge at the Work Site, indicating their function relating to the Work, the name and address of their employer and their appropriate telephone numbers (office, fax, cellular, pager, home).
2. Prepare and maintain a list of emergency response employees, indicating their employers' names and twenty four (24) hour emergency telephone numbers.
3. The most updated list shall be posted at the Place of Work, kept at the GO Transit and Contractor's offices, and shall be readily accessible.

5.2.5 - Notices from Governing Authorities

1. GO Transit must be promptly notified by the contractor of any and all inspections conducted at the Place of Work by any Governing Authority.
2. The Contractor shall forward a copy of said notices on the same day as the inspection to the Project Coordinator and the Office of System Safety.

5.2.6 - Vehicles, Equipment, Tools

1. It is the responsibility of the Contractor to ensure that all vehicles, equipment, tools are in a safe condition to operate and where required have received the necessary regulatory inspection as per Applicable Law. If, in the opinion of the Project Coordinator, any of the Contractor's equipment is unsafe for use, the Contractor shall remove such equipment from the GO Transit / host railway's property.
 - The Contractor must ensure that the Operators of all equipment are properly trained and competent in the safe operation of the equipment.
 - Training records shall be made available to GO Transit upon request and be carried by the equipment operator at all times.
2. Operators on the ROW must (*refer to section 6 for more details*):
 - Be CROR qualified to operate Hi- rail mounted equipment
 - Obey Protecting Person directives all the time.
 - Ensure the operator's manual, which includes instructions for safe operation, is kept with each machine.
 - Shut off any unattended vehicle, equipment, tools, and properly secure the equipment against movement.
 - Verify that the master battery switch is left in the off or disconnect position and padlocked if equipment is to be left for extended period of time.
 - Where equipment has an enclosed cab, padlock the cab access doors and any glass protective coverings.
3. All crane work (hoisting, setting-up, and dismantling) shall be done in accordance with the provisions of the most recent Applicable Law and OHSa regulations.
 - Written safe work procedures, hoisting plans,

yearly crane certifications, including major rigging components, and operator training records for all hoisting activity must be provided to the Project Coordinator and the Office of System Safety for review prior to the work being undertaken.

- All overhead lines will be considered to be 'live' and high voltage, unless otherwise explicitly indicated by local utility provider. Work performed near power lines shall conform to O.Reg 213/91 s.187,188 and O.Reg. 627/05, s.7.
 - All hoisting activity must be well communicated and coordinated with other employees at the job site during daily job briefings.
 - The hoisting area shall be cordoned off and proper signage in place to warn others of the hazard.
 - The Contractor must implement an inclement weather policy in their written program for any hoisting operation.
 - Any serious violations of the crane safety procedures will result in an immediate work stoppage pending appropriate investigation by the Contractor, Project Coordinator with System Safety Review or involvement as required.
4. All vehicles and equipment are to give the right of way to trains. They must be prepared and able to stop at all railway at-grade crossings, and shall stop when necessary (*refer to Section 6 for min clearances*).
- Cranes shall ensure that the crane body, counter weight, boom or load attached to the crane is positioned to maintain adequate minimum clearances for passing trains.
 - Loads must be grounded while trains are passing to avoid wind induced movement.

5. Seat belt use is required when available on operating equipment and when driving or riding in vehicles unless they are on hi-rail gear.

5.2.7 - Site Housekeeping

The Contractor shall:

1. Remove all rubbish and debris from the site as work progresses, to GO Transit's satisfaction and in accordance with all Applicable Law and the requirements of the Contract Documents.
2. Keep traffic and employees' access routes clean and clear of any obstructions including application of sand and salt during winter months. Access routes with openings, construction material, excavated material or equipment must be barricaded and / or marked with appropriate and approved signage.
3. Obtain pre-authorization from GO Transit and / or the operating railway to store equipment or materials on the Railway (ROW) . Such storage shall in no way impede railway operations.

5.2.8 - Utility Locates

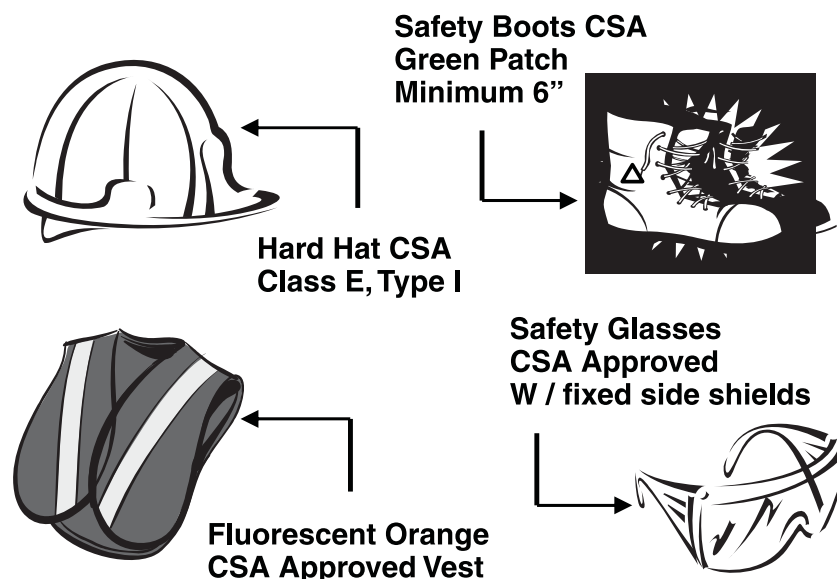
The Contractor shall:

1. Be responsible for determining the exact location of all utilities. The Contractor shall serve proper advance notice to GO Transit and the respective railway, as applicable, and the appropriate utility company or agency, for the purpose of utility locates.
2. Be responsible for all costs, including permit fees, daylighting, radar or any other means as may be required to perform the utility locates.
3. Not allow any excavation or other work that could impact

the existing utilities or services to be undertaken before approval is granted by the consultant or GO Transit Project Coordinator. The exact location and size of all embedded services has to be determined. Hand digging within three feet of known services must be done to ensure identification and eliminate potential contact with equipment.

4. Have written notification from the Railway Signal & Communications Department indicating that ALL cables/ services have been located in the Railway ROW prior to allowing any tool to break the ground surface.
5. If in doubt as to the validity or accuracy of any locate mark a remark must be requested of the utility service provider(s).
6. Barricade and prevent access to all excavations, holes, and trenches to protect pedestrians and vehicle traffic.
7. A review of all locates must be performed with the designated equipment operator prior to excavation and a valid copy of the locates maintained in the cab or in possession of the operator at all times

5.3 - Personal Protective Equipment



5.3.1 - Site access on Railway ROW

1. All Employees having access to the Place of Work on railway property shall wear CSA approved personal protective equipment:

- Approved headwear, approved footwear
- Approved eyewear with fixed side shields
- High visibility apparel

Note: High visibility apparel must be approved by the Office of System Safety, and must be manufactured to CSA Z96-02 High Visibility Apparel, Class 2 during daylight hours, and Class 3 for employees required to work between dusk and dawn and during other low-light conditions, or at any time on and about roadways where the posted speed exceeds 80 km/h.

- Any other additional PPE as prescribed for project specific activities or defined in safe work procedures, risk assessments or required by Applicable Law.
2. The individuals that are allowed to the Place of Work visiting, delivering, supplying shall also wear all required personal protective equipment and shall be briefed with all site safety procedures. It is the Contractor's responsibility to ensure that personal protective equipment is used.

5.3.2 - Site access with NON Railway ROW

1. All persons having access to the work site shall wear CSA approved personal protective equipment, at all times as required by:
 - The Contractors' own safety program.
 - GO Transit's site-specific safety requirements.
 - As prescribed by Applicable Law.

2. The individuals that are allowed to the Place of Work visiting, delivering, supplying shall also wear all required personal protective equipment and shall be briefed with all site safety procedures. It is the Contractor's responsibility to ensure that personal protective equipment is used.

5.3.3 - Potential danger zones

1. Use appropriate signage, caution/danger tape to identify potential danger zones such as high noise levels, hoisting or reversing equipment to warn others and where special protective equipment must be used to ensure personal safety.
2. Hearing protection, face shields, respiratory protection, fall protection equipment and all other special protective devices shall be used where signs are posted or when a potential hazard exists.

5.4 - Public Safety Protection

1. The Contractor shall erect and maintain all necessary protective devices / measures required to protect the public i.e. traffic signs, barricades, lights, fences etc.
2. Arrangements must be made with the designated GO Transit Project Coordinator / Consultant or appropriate operating railway personnel when these precautions could interfere with rail equipment movement (ROW access).

5.5 - Hazardous Materials

1. GO Transit shall disclose the information on any known substances in the workplace that may be hazardous to the Contractor's employees in the tender documents. (i.e. asbestos, lead, mould, etc.)
2. The Contractor shall provide GO Transit with their written program to address removal, abatement, handling and

disposal of said hazardous substances as required by Applicable Law.

3. The Contractor shall ensure compliance with WHMIS regulations and shall provide GO Transit with the MSDS's for all hazardous substances the Contractor will introduce to the worksite fourteen (14) days prior to starting work.
4. GO Transit reserves the right to request that the Contractor substitute products with less hazardous ones, or may ban the use of certain products all together.

5.6 - Emergency and Accident Response Plans

5.6.1 - Emergency procedures

The Contractor shall:

1. Prepare site specific emergency procedures and an evacuation plan for the work site prior to commencing work.
2. Arrange for adequate emergency transportation including remote rail operations to the nearest accessible meeting or muster point with local EMS in coordination with the local Hospital in the event an injury occurs at the Place of Work.
3. Ensure that all persons having access to the Place of Work are instructed on the emergency procedures and evacuation plan before being authorized to enter the Place of Work.
4. Keep the following records and postings at the work site:
 - List of all persons present (sign in log book).
 - Written emergency procedures with the hospital route map posted including WSIB form 82 poster "In Case of Injury at Work".
 - List of emergency contact & phone numbers posted.
 - List of qualified first-aid attendants posted with copy of Record of Training.

- WSIB Regulation 1101po.
 - Employment Standards Act Poster
 - Health & Safety , Workplace Violence & Harassment Policies
 - Post at the Place of Work any plan for the rescue of workers from a confined space , fall arrest situation or work over water.
 - Traffic Control Plans.
 - All material safety data sheets.
 - MOL orders and narratives.
 - JHSC /WTC Committee Members and meeting minutes.
 - Workplace Inspections.
 - Safety Talks.
5. Develop emergency procedures and submit the most updated copy to GO Transit. Keep an up-to-date list of emergency numbers, including GO Transit emergency numbers.
6. Investigate all accidents and incidents having caused or risked causing losses or injury, in order to identify the cause or causes, and immediately take the appropriate corrective action to prevent their recurrence.
- All investigation reports shall be forwarded to GO Transit within twenty four (24) hours of the occurrence.
 - All major injury and property damage accidents must be immediately reported to GO Transit Control Center 416.601.2174.
 - All close out reports indicating corrective actions taken to prevent recurrence shall be forwarded to GO Transit within twenty one (21) days from the date of occurrence.

7. Participate and collaborate with GO Transit and all other Governing Authorities in the planning and in realization of emergency procedure exercises and evacuation exercises implemented by the Contractor, GO Transit or any Governing Authority. These exercises may be conducted at any time and anywhere at the Place of Work.

5.6.2 - Rescue Equipment and Training

1. Before considering the Fire Department (911) as a means for rescuing an employee, the Contractor shall:
 - a) Ensure a complete Risk Evaluation of the fall protection system, or confined space, has been carried out by a competent person; and
 - b) Ensure the Risk Evaluation and Rescue Plan have been reviewed and signed off by the appropriate Governing Authority indicating they have:
 - i) An appropriate response time; and
 - ii) The necessary rescue equipment; and
 - iii) The specialized rescue training required.
 - c) Ensure all documentation has been submitted to GO Transit, System Safety, for final review and approval prior to project start-up.
2. If it has been determined that the Fire Department (911) cannot adequately respond to the emergency and specialty rescue equipment, personal and/or training is required, the Contractor shall ensure that:
 - a) Specific rescue equipment for confined space rescue or fall protection rescue is on site as required, and in readiness at all times; and
 - b) A sufficient number of employees or third party service providers are fully trained and qualified as “rescuers”, and are on site, in order to carry out an efficient and effective rescue.

5.6.3 - First aid

1. The Contractor shall ensure that the adequate quantity and type of First Aid supplies is readily available at the Place of Work, are in compliance with the requirements of the Applicable Law and (WSIB Reg. 1101).
2. The number of Employees trained and their qualification level shall meet all requirements of Applicable Law. The names of those identified as being First Responders shall be posted as per (WSIB Reg. 1101).
3. Remote operations without EMS access will require the contractor to provide adequate procedures and methods of communication, transportation and medical equipment to the nearest vehicle accessible location.

5.6.4 - Fire prevention

1. Supply, at the Place of Work, a sufficient number of 20 lbs type ABC regulation fire extinguishers, or other type of fire extinguishing medium as required, to provide reasonable protection as dictated by the nature of the Work, the Ontario Fire Code, and O.Reg. 213/91, s.(52 - 57).
2. The Contractor, Project Coordinator, Consultant or GO Transit Supervisor shall utilize the Hot work Permit Guidelines /Checklist form 0566-14 and Hot Work Permit form 0565-14 when performing hot work on a project or while conducting maintenance activities at GO Transit Facilities. The contractor may substitute their program and form if in place and offering similar protection.
3. Inspect the work area for flammables, combustibles and fire extinguishing devices prior to the start of work and utilize adequate spark containment and asset protection measures in the form of fire retardant tarps or blankets where necessary.

4. Provide a dedicated fire watch to observe and perform regular inspections to prevent fires and ensure permit compliance.

5.7 - Working At Heights

5.7.1 - Ladders

The Contractor shall ensure employees are trained on the types of ladder to use, the methods for its use, and requirements for inspection and maintenance.

Typical safety concerns may include:

- Ladders not secured, inadequate footing, improper angle
- Not maintaining three point contact
- Improper use
- Housekeeping
- Defective ladder

O.Reg. 213/91, Construction Projects. s. (72, 78-84)

5.7.2 - Scaffolding

1. Scaffolding must comply with the provisions of the OHSA, O. Reg. 213/91, Construction Projects (s. 125 142), as amended from time to time, as well as any more restrictive directive issued by GO Transit or imposed by any Applicable Law.
2. The Contractor shall adhere to the following restrictions for scaffold installations:
 - a) Obtain authorization from GO Transit before erecting scaffolds on a GO Transit structure or near a railway track.
 - b) The scaffolding shall not interfere with the safe operation of railway traffic unless authorized by the Protecting Person for set periods of time.

- c) Scaffolds must be positioned so that minimum clearance for vehicle or pedestrian traffic is always provided.

5.7.3 - Fall Protection

1. Fall Protection systems and equipment must comply with the provisions of the OHSA, O. Reg. 213/91 Construction Projects, s. 26, as amended from time to time, as well as any more restrictive directive issued by GO Transit or imposed by any Applicable Law.
2. All horizontal lifelines used for fall protection shall be designed by a professional engineer and installed in accordance with the following CSA Standards:
 - a) CAN / CSA Z259.13-04 Flexible horizontal lifeline systems
 - b) CAN / CSA Z259.16-04 Design of active fall-protection systems
3. The Contractor shall adhere to the following restrictions for fall protection system installations:
 - a) Obtain authorization from GO Transit before suspending, attaching or erecting fall protection devices on a GO Transit structure or near a railway track.
 - b) Components attached to structures must be placed on pads to prevent damage to the structures.
 - c) Fall protection systems must be positioned so that minimum clearance for railway, road and other traffic is always provided, unless authorized by the Protecting Person for set periods of time.
4. All Employees requiring fall protection shall be adequately trained on the fall protection equipment, systems, specific safe usage procedures, rescue procedures, its maintenance and inspection requirements.

5. Prior to the start of work: GO Transit reserves the right to review all training program material, instructor qualifications, and employee testing criteria prior to accepting the Contractor's training program as adequate and in conformance with the Working at Heights Program Standard released by the Ontario Ministry of Labour in 2014. O.Reg 297/13.
6. If the Contractor's training program and/or procedures are deemed inadequate by GO Transit, the Contractor will not be allowed to begin work until such deficiencies are corrected, at no cost to GO Transit.

5.8 - Hazardous Energy Sources

1. The Contractor shall be responsible for ensuring that its Employees are trained to recognize the energy sources and to implement Lock out/ Tag out procedures. (CSA Z460-13) Control of Hazardous Energy – Lockout and other methods.
2. The Contractor shall be responsible for ensuring that its Employees are trained on how to identify, work with and control the types of hazardous energy including use of an adequate personal protection:
 - **Electrical (Arc Flash, Shock and Burn)**
Electrical Utility Safety Rules
CSA Z462-12 Workplace Electrical Safety
CSA Z463-13 Maintenance of Electrical Systems
 - **Mechanical (hydraulic, pneumatic pressure)**
Applicable Safety Standards
 - **Steam, Heat, Natural Gas**
Applicable Safety Standards
CSA B149 Natural Gas & Propane Handling Code 2010
 - **Gravity, Spring, etc**
Applicable Safety Standards

3. The Contractor shall de-energize, disconnect, depressurize, block, drain, any and all energy sources and verify 'zero energy' state before proceeding with any task where a hazardous energy source may be encountered.
4. The Contractor shall utilize a lockout system that conforms to O.Reg 213/91, s. 190 s.(6)(7)(8) that defines the requirements on the use of tags and identification of the owner for all Contractor installed lockout devices.

NEVER WORK 'LIVE', UNLESS ABSOLUTELY NECESSARY WITH PROPER PROCEDURES and MANDATORY PPE.

OHSA s.(25- 28)

O.Reg. 213/91 Construction Projects s... (181-195)

5.9 - Confined Space Entry

1. The Contractor shall ensure that all feasible precautions and required safeguards are met to prevent exposure to toxic gases, oxygen deficiency, flammable atmosphere, and accidents related to entering confined spaces. Follow O.Reg., 632/05 Confined Spaces issued by Ministry of Labour and /or the most current Applicable Law
2. Confined spaces may include:
 - Storage tanks, process vessels, bins, boilers, ventilations or exhaust ducts, sewers, underground utility vaults, enclosed tunnels, pipelines and deep open top spaces such as sump pits
3. No work is to be carried out in a confined space until the Contractor has provided GO Transit with a copy of the written hazard assessments, rescue procedures and training records for review to verify that all risks have been adequately addressed and entrants are adequately trained in the rescue procedures.

4. GO Transit may stipulate that the Contractor use, at no cost to GO Transit, a third party to provide confined space rescue and supervision if the Contractors plan is deemed inadequate.
5. An “Entry Permit” form 0169-14 as found in this document or the contractors form & program documents approved by Office of System Safety, must be used to record all confined space entries and tests made during the course of the entry. see O.Reg 632/05 s.(21) Records for retention on construction projects and GO Transit owned facility.

5.10 - Respiratory Protection

The Contractor shall identify all potential atmospheric hazards by Risk Assessment and ensure occupational exposure levels are not exceeded. Mitigation efforts will utilize the hierarchy of controls to eliminate exposure to workers, GO Transit Staff and members of the public. In the event that PPE is the only available or cost effective method of control the Contractor will supply the adequate PPE to employees. The Employees shall be adequately equipped and trained on proper use and care of the protective equipment when it is required by Applicable Law.

5.11 - Compressed Gas Cylinders & Flammables

1. All workers involved with the storage, handling and use of any compressed gas, flammable or combustible liquid shall be familiar with its M.S.D.S. , characteristics and the necessary safety precautions and Applicable Law.
2. Compressed gas cylinders must be secured in the upright position at all times with the protective cap in place when not in use. Storage areas for gas cylinders and flammable liquids must be kept separated locked and identified with the appropriate signage. see O.Reg., 213/91 s. 42,43
3. Any and all compressed gas cylinders must be transported

utilizing appropriately designed carts or dollies and storage racks.

4. Flammable/ Combustible liquid containers utilized at GO Transit Facilities must be stored in a flammable storage cabinet. Class 1 and Class 2 flammable and combustible liquids must utilize a safety container that meets NFPA requirements including a self -closing lid with flash back arrestor. (See Ontario Fire Code (4.2.6 and 4.2.10).
5. No more than one day's supply may be stored in a building or structure on a project unless in a controlled access area or room that has sufficient window area to provide explosion relief to the outside.
6. Large Flammable/ Combustible storage and dispensing tanks on a Construction site must be placed a minimum 25 feet from any commonly occupied buildings and at least 100 feet from any compressed gas cylinder storage area. Have fire suppression, warning signage, vehicle protection and spill or leak containment equal to the tank size.
7. See Safety Management System Environmental Management System. GO-Env-PS104 Bulk Storage Tanks and Fuel Handling Environmental Performance Standard.

Propane

1. The Contractor shall have adequate number of Workers trained in the proper use, care and storage of propane appliances and containers. This certification must be obtained by training providers certified by the Technical Safety & Standards Association (TSSA) CSA B149 Natural Gas & Propane Handling Code 2010.

Typical safety concerns:

- Propane is heavier than air and will settle in low areas.
- Trenches, manholes, sumps shall be checked for gas build up.

- The containers shall be regularly checked for leaks.
- Cylinders shall be kept upright and secured.
- Cylinders shall be stored in a well ventilated area, away from heat.
- Only approved hoses and fittings will be used. ALL propane fired appliances shall utilize a pressure regulator affixed at the cylinder.
- Adequate warning signage to be posted

Only one day's supply of propane may be left inside a building and it must be removed overnight.

5.12 - Other Hazardous Processes

The Contractor and Workers shall be trained on how to identify, work with and control the hazardous material and processes including use of adequate personal protective equipment and containment measures.

Typical hazardous processes may include:

- excessive dust, noise,
- equipment / tool vibration,
- welding fumes and flash,
- sand blasting,
- concrete cutting
- abatement of designated substances, i.e. lead , asbestos.

The Contractor shall submit their hazardous process safety procedures, MOL Notices, to GO Transit for review prior to any site activity involving a designated substance and according to contract documents.

Hazardous Waste will be defined in contract documents and System Safety Environmental Management Program references should be referenced. See Regulated Waste Management Environmental Performance Standard (GO-Env-PS103),

5.13 - Workplace Hazardous Material Information System

All GO Transit, Contractors, are required to have annual WHMIS Training. The contractor will be responsible to maintain an up to date copy of all WHMIS controlled products at the Place of Work for review by workers. R.R.O 1990, Regulation 860.

The contractor will be responsible to train workers on any new products introduced into the Place of Work or unfamiliar to the worker.

Railway Right-of-way and Train Operation

6

6.1 - General Overview

1. Before entering and start of Work on the Railway ROW within GO Transit facilities, Consultants, Contractors and Subcontractors shall:

Undergo the GO Safe Railway Orientation training, in addition to the Contractor's own Safety Orientation training:

<https://gotransitcontractor.com/>

2. The Contractor shall not mobilize or start any work within the railway ROW, unless proper advance notice has been given and the appropriate written authorization has been granted by the respective railway or GO Transit.
3. When Work is being performed under direct Contract to GO Transit, either within the railway right-of-way or property of GO Transit, the Contractor shall deal with the designated GO Transit Project Coordinator or Project Manager.
4. GO Transit reserves the right to prohibit or halt, without prior notice, any of the Contractor's work that may have repercussions on rail operations and / or for Health & Safety violations.
5. Specific Blue Flag Procedures must be developed, and approved by GO Transit System Safety, prior to any work being undertaken on or about rail equipment on shop tracks or at lay-over points or any railway yard.
6. Contractors employees, visitors shall be properly briefed by a C.R.O.R qualified Protecting person on safety procedures to be followed when working on, or being near a railway track and shall be accompanied at all times or

in communication with that qualified Protecting person. A written record of the job briefing shall be maintained and made available to GO Transit upon request.

7. The Contractor shall not unnecessarily interfere with the movement of trains.
8. The Contractor shall ensure that no railway plant, signal, structure, equipment or property of any kind is tampered with, modified or removed.

6.2 - Restrictions for working on ROW

1. Host railway's (CN, CP, TTR etc) safety requirements apply and take precedence.
2. Summary of General Safety Rules:
 - Always be on the alert for moving equipment. All parties involved in the Work must always expect train, engine, car or track unit movement on **any track, at any time, in either direction.**
 - Where work is to be performed less than **10 m (30 ft)** from the nearest rail, or where otherwise deemed necessary by the operating railway, the Contractor must arrange for a qualified C.R.O.R. Protecting Person to be on site.
 - The Protecting Person will provide proper track protection, assist, participate and / or conduct a job briefing and have the Contractor sign the job briefing form before employees or machines are allowed to move and be positioned in the right-of-way. All parties involved in the Work shall always obey Protecting Person directives.

NOTE: CN / CP / GO Transit require that vehicles come to a stop, the engine to be shut off and be located at least:

***10 m (30 ft)** away from the nearest rail when trains are passing.*

- Do not step or walk on the top of the rail, frog, switches, guardrails, or other track components. Do not operate a track switch, derail or electric lock.
- Look in both directions before stepping over or crossing tracks and / or passing obstructions limiting clear line of sight.
- Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when equipment has been protected against movement and authorized by the railway's Protecting Person.
- Do not cross the tracks within 25 feet of standing railway equipment.
- No tools or materials are to be left UNATTENDED close to the track AT ANY TIME. Metal or conductive tools must not be allowed to contact both rails at the same time.
- Vehicles shall not exceed **15 km/h (9 mph)** on ROW. More restrictive speed limits may be imposed.
- Cranes & Hoisting devices are NOT permitted to be operated closer than **10m (30 ft)** from the nearest rail of any track without Protecting Person authorization and with railway traffic protection as specified by host railway.
- No track shall be fouled at any time except for a specific and approved task, for a limited time and under protection of the railway's Protecting Person.

7.1 - Alcohol & Drug Abuse Prevention

1. GO Transit is committed to a safe work environment free from the negative effects of substance abuse and has set strictly enforced rules pertaining to drug and alcohol use, consumption and “under the influence of” while on duty.
2. The Contractor is responsible to be astute to the indications of substance abuse as well as employees’ physical and mental capabilities to perform and to undertake corrective actions as necessary.
3. Employees who are taking prescribed medication must ensure any potential adverse affects of such medication do not pose a safety hazard to themselves or others while performing their duties. These employees are encouraged to disclose this potential hazard to their Supervisor to reduce risk potential while under the influence of prescription medications. Contractors’ employees are responsible to report and remain fit for duty while on GO Transit property.
4. Metrolinx CCDC Contract Documents “ Safety Requirements” section 01600 specifically section 6. Alcohol & Drug Abuse Prevention detail the requirements in regard to the process and expectations of contractors if this contravention is identified by either GO Transit staff or the contractor’s employees.

NOTE: Operating railways such as CN in particular, maintain a “Zero Tolerance” approach to violations of their Policy To Prevent Workplace Alcohol and Drug Problems.

8.1 - Quick Reference

1. **Site Security Measures:**

All Employees to display GO approved positive identification, provided by Contractor, while on GO Transit project / property:

- Restricted Areas – Photo ID badge required (high risk, direct impact on operations)
- Private Areas – Non Photo ID badge required (low risk, indirect impact on operations)
- Other project specific security measures as approved by GO Transit

2. **Training:**

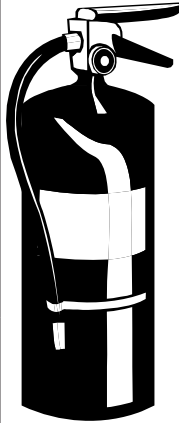
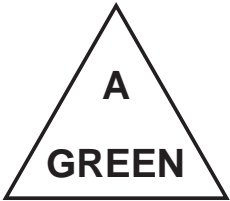
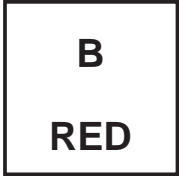
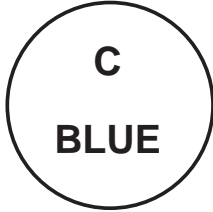
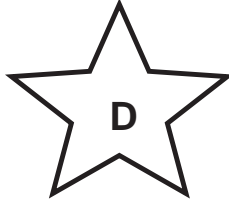
- All Employees to go through site specific orientation
- All Visitors to go through visitor orientation and
- GO Transit GO Safe Railway Orientation

3. **Personal Protective Equipment PPE (Sec 5.3)**

- Approved headwear and footwear O.Reg 213/91 s. 22,23,
- A fluorescent outer most garment around moving vehicles and/or equipment and when on any Railway ROW or Construction Project,. O.Reg. 213/91 s.69.1
- Safety glasses as required and when on any Railway ROW or Construction Project. O.Reg 213/91 s. 24

4. **Every Project must have:**

- A qualified competent Supervisor present whenever there is any activity or task being performed, O.Reg. 213/91 s. 14 (2)
- Appropriate first aid supplies / equipment and a sufficient number of qualified first aiders. (WSIB Reg. 1101)
- Appropriate number of 20lb fire extinguishers present, with a sufficient number of Workers trained in their use, and compliance with O.Reg 213/91 s. 52-55

	Ordinary Combustible 	GREEN	CLASS “A” Extinguishers For fires with ordinary combustible materials such as wood, paper and textiles, where a quenching cooling effect is required.
	Flammable Liquid 	RED	CLASS “B” Extinguishers For flammable liquid and gas fires such as oil, paint, gasoline and greases where an oxygen exclusion or flame interruption is essential.
	Electrical Equipment 	BLUE	CLASS “C” Extinguishers For fires with electrical wiring and equipment where the non-conductivity of extinguishing agents is crucial. This extinguisher should be present whenever functional testing and system energizing takes place.
	Combustible Metals 		CLASS “D” Extinguishers For fires in combustible metals such a sodium magnesium, and potassium.
How to use the Fire Extinguisher Aim the extinguisher at the base of the fire to extinguish the flame at their source.			

5. Postings to be displayed:

- Notice of Project, R.S.O. 1990, c. 0.1, s. 23(2) O.Reg. 213/91, s.6
- Project Emergency Procedures, O.Reg. 213/91 s. 17
Emergency Contacts – names, company, position and 24 hour contact phone number(s)
- Map to Nearest Hospital,
- Qualified First Aiders names,
- WSIB poster, Form 82 “In Case of Injury at Work”
- Form 1000 posted for all contractors on the project
- Employment Standards Act Poster
- MSDS for all products at the project
- See Emergency Procedures Section 5.6.1 for complete List of required postings

6. Signage to be displayed:

- Appropriate ‘DANGER’, PPE, and ‘NO TRESPASSING’ warning signage will be conspicuously posted as required, and
- All signage will remain legible at all times and in conformance with the GO Transit Design Requirements stipulated in the contract documents

7. Hoarding, where installation is approved by GO Transit, to have:

- A 1.8 meter (6ft) approved sturdy fence will be erected to protect the public, O. Reg. 213/91 s. 65
- A 1.8 meter (6ft) approved sturdy fence will be erected between any railway track and the project, to protect the Railway ROW
- The Place of Work to be secured against unauthorized access

8. Records to be kept onsite:

- All safety related activities (NOP, employer registration forms, project orientation, training, proof of training, weekly/daily site inspections, safety talks, meetings, investigations, First Aids, maintenance, MOL

- notifications, MOL inspections etc.),
- Record(s) will be sent to GO Transit upon request

9. Same day notification to GO Transit to be submitted for each of the following:

- Every incident and/or accident, regardless if reportable to the MOL,
- Every MOL site inspection – a copy of the MOL Orders will be forwarded to The Office of System Safety the same day as the inspection.

NOTE: *A written report making recommendations and listing the procedure changes instituted for each of the above will be forwarded to The Office of System Safety within 48 hours of occurrence.*

10. Project specific activities – adherence to all applicable standards and legislations, such as but not limited to:

- Hot Work (Permits),
- Confined Spaces (Entry Permits) / Rescue Plan,
- Fall Protection / Rescue Plan,
- Ladders, scaffolding, work platforms,
- Public Way Protection,
- Track Safety,
- Traffic Control / Protection,
- WHMIS, MSDS's
- Ventilation, house keeping,
- Additional PPE (i.e. sandblasting, arc flash, respiratory, etc)
- Security.
- Work in proximity to overhead power lines.

11. Environmental Protection:

- Spills Controls / Notification / Reporting,
- Sandblasting operations
- Tree hoarding
- Sediment and erosion control
- Hazardous waste disposal procedures.

8.2 - Stoppage of Work Due To Failure To Comply

1. Failure by the Contractor, Subcontractors or Employees to respect established Safety Guidelines may, in accordance with provisions of the Contract Documents, lead to temporary stoppage of the work, closure of the site until the situation is corrected or even removal of the Contractor from the work site at the discretion of GO Transit.

8.3 - Execution of Safety Compliance

1. The Contractor is responsible for ensuring compliance with all Applicable Laws in effect, and keeping a written record of safety supervision activities carried out by the Contractor, or on the Contractor's behalf.
2. The Contractor is responsible for putting into effect the necessary procedures and mechanisms required to comply with the Applicable Laws including broadcasting the necessary information to all those having access to the Place of Work, controlling and supervising all activities to ensure compliance and executing corrective measures resulting from non-compliant activities.
3. Governing Authorities, such as the WSIB, Ontario Ministry of Labour, Transport Canada, etc., may intervene with the Contractor. A Governing Authority may intervene on its own or in association with other Authorities and / or GO Transit. GO Transit may also ask Governing Authorities to intervene as required to ensure compliance under their respective jurisdiction.

8.4 - Contractor Safety Information Flow

Documentation Type	Action	By Who?	TO Who?	Timelines
Safety Policy & Program	Copy to GO	Contractor	PC/SS	With tender/Annually
Site Specific Safety Plan	Copy to GO/file	Contractor	PC/SS	14 days before start of Work
Training Records	Copy to GO/file	Contractor	PC/SS	as requested
Inspection Certificates Lifting/ Handling Eqpt.	Copy to GO/file	Contractor	PC/SS	as requested
Start-Up meeting minutes	Copy to GO/file	Consultant	PC/SS	Within 5 days after meeting
Job Briefing Forms	File	Contractor	PC/SS	as requested
Orientation Register	File	Contractor	PC/SS	as requested
Emergency contact list (with Site Specific Safety Plan)	Copy to GO/file Posted on Site	Contractor	PC/SS	48 hrs before start of Work
Utility Locates	Owner	Contractor	PC/RLWY	7 days prior to start of Work
Hazard Reports	Copy to GO/file	Contractor	PC/SS	as required

Documentation Type	Action	By Who?	TO Who?	Timelines
Inspection Reports	File on Project	Contractor	upon request monthly by PC/SS	monthly
Accident Reports	Copy to GO/file	Contractor	PC/SS	immediately to 24 hrs after event - 21 days for close-out report
JHSC Meeting Minutes	Copy to GO/file	Contractor	PC/SS	monthly or as required by regulation
Compliance Observations	Copy to GO/file	PC/SS/ Contractor	PC/SS	based on project scope(monthly/quarterly)
Corrective Actions Taken	Copy to GO/file	Contractor	PC/SS	as stipulated in request
Sign in log book	Copy to GO/file Posted on Site	Contractor	PC/SS	Weekly review

PC = GO Project Coordinator / Consultant

SS = System Safety

RLWY = CN / CP / TTR

8.5 - Construction Site Security

Since GO Transit's construction projects deal with critical, direct or indirect transportation infrastructure, it is a subject to service disruption and / or civil security. This interference can be triggered by an intentional or accidental act. Additionally, and to comply with Transport Canada security guidelines, as well as to reduce construction equipment thefts, GO Transit recommends a number of specific security requirements to be applied to the projects, based on the security hazard:

1. **Visible Identification**

The Contract Documents shall set out the required Employees identification measures on each project based on the level of security risk determined by GO Transit.

All Employees on GO Transit projects shall follow the required security measures. This affords the Contractor the ability to easily identify and challenge individuals who do not belong at the Place of Work.

2. **Sign in/out logs**

The Contractor to maintain an accurate up to date sign in/out log located at the entrance checkpoint. These logs shall be supplied to GO Transit upon request.

3. **Key Controlled lockable gates and construction hoarding**

Wherever possible, construction hoarding shall be erected to limit accessibility to the Place of Work to one (1) designated entrance point. This provides for a single point of entry requiring all who work or visit to report to the entrance checkpoint to sign in.

Entrance to stairwells, tunnels, and other designated areas under construction, shall be secured in a manner acceptable to GO Transit at all times when the Contractor does not have employees at the Place of Work.

4. **Security Personnel**

Where required by the Contract, the contractor shall provide security personnel at the entrance checkpoint.

5. **Security Signage**

All projects shall have GO Transit approved security signage. These signs will be of high visibility type indicating that the site is private property and trespassers will be prosecuted.

6. **Suspicious Activities / Articles**

Any suspicious activities and / or unattended articles, packages of unknown origin should be immediately reported to:

GO Transit Control Center1.416.601.2174

Transit Safety Dispatch1.877.297.0642
905.803.0642

CN Railway.....1.800.465.9239

CP Railway1.800.716.9132

Remember:

‘If you see something, say something’

<u>Basic:</u> Routine day to day business.	<div>BLUE</div>
<u>Low:</u> (Increased Vigilance) Authorized by the Manager of the affected department or by any supervisor in the department on duty in place of the Manager, where there is a potential or indirect threat to GO Transit. → Staff should be more aware of their surroundings, including who or what maybe be within that environment.	<div>YELLOW</div>
<u>Medium:</u> (Precautionary Measures) Authorized by the Manager of the affected department or the Director of the affected division, when a threat is perceived to exist against GO Transit. → Staff should maintain vigilance; escort all visitors and contractors from the workplace and screen all deliveries.	<div>ORANGE</div>
<u>High:</u> (Maximum Measures) Authorized by the Managing Director, when GO Transit in whole or in part is subject to a direct threat that is imminent or underway. → All GO Transit operations have ceased. No visitors/contractors allowed on site and only deliveries essential to our operations will be allowed.	<div>RED</div>

9.1 - Safety Management System

The GO Transit Safety Management System (SMS) - August 2014 v. 1.0 can be found in the GO Transit MY Linx Web page at <http://mylinx/sites/Safety/en/System/Pages/Safety-Management-System.asp>

9.2 - Metrolinx as a “Constructor”

1. USRC-CMO Construction Safety Management Program

9.3 - Willowbrook Maintenance Facility

1. Willowbrook Maintenance Facility, Contractor Safety Requirements
2. Bombardier OP-W-11-003 – Blue Signal Regulation –

9.4 - Environmental Management System

The GO Transit Environmental Management System (ENV-MS) The GO-Env-M001 Environmental Management System Manual can be found in the GO Transit MY Linx Web page at <http://mylinx/sites/Safety/en/System/Pages/Environmental-Management-Plan.aspx>

1. ENV-GO-R201 Spill Prevention & Contingency Plan

9.5 - Station Operations

1. SO-0205-01 Platform Protection Procedures

9.6 - Regulatory Requirements

1. *Occupational Health and Safety Act* R.S.O. 1990, c 0.1.
 - a) Ontario Regulation 851 Industrial Establishments
 - b) Ontario Regulation. 213/91 Construction Projects
2. Canada Labour Code, Part II
 - a) Canada Occupational Health and Safety Regulations
3. *Workplace Safety & Insurance Act*, 1997
4. *Building Code Act*, S.O.. 1992, CHAPTER 23
 - a) And applicable municipal by-laws
5. *Environmental Protection Act* R.S.O. 1990
6. *Railway Safety Act* (1985, c. 32 (4th Supp.))
7. Ontario Fire Code 2007

9.7 - Transport Canada (www.tc.gc.ca)

9.8 - Ministry of Transportation Ontario (www.mto.gov.on.ca)

9.9 - Canadian National Railway (www.cn.ca)

- Safety Guidelines for Contractors September 2013
- Operating Manual

9.10 - Canadian Pacific Railway (www.cpr.ca)

- Minimum Safety Requirements for Contractors working on CP Property in Canada 2010

9.11 - Infrastructure Health & Safety Association (www.ihsa.ca)

- Includes the Transportation Health & Safety Association, Electrical & Utility Safety Association, Construction Health & Safety Association

9.12 - Industrial Accident Prevention Association (www.iapa.ca)

9.13 - Ontario General Contractors Association (www.ogca.ca)

- Safety Policy and Reference Manual

9.14 - Construction Safety Engineering Principles

David V. MacCollum, McGraw Hill, Dec 2006

9.15 - The Canadian Standards Association (www.csa.ca)

9.16 - *Fire Protection and Prevention Act* The Ontario Fire Code (www.ofm.gov.on.ca)

9.17 - National Fire Protection Association (www.nfpa.org)

- 10.1 GO Transit Reporting Forms
 - 10.1.1 Job Briefing Forms 0593-09
 - 10.1.2 Incident Report Form
- 10.2 Hot Work Permit Form – 0565-14
Hot Work Permit Guidelines – 0566-14
- 10.3 Confined Space Entry Permit – 0169-12
- 10.4 Spill Report
Consult Go Transit Spill Prevention & Contingency Plan
ENV-GO-R201

Attached Forms are recommended templates for effective communication. Contractor specific forms may be substituted provided that they are acceptable by GO Transit and fulfill the required purpose.

Other forms for project specific activities can be developed and / or approved by the Office of System Safety upon request.

Confirm attached form's latest revision level before use

.

10.1.1 - Job Briefing Form



Job Briefing Record

Fill out the appropriate areas before starting the job briefing. Note any safety concerns raised and steps taken to address them. All personnel must review and sign the form before starting work.

Station Name:	Sub:	Mile:
----------------------	-------------	--------------

Describe work being done:
Track(s) affected:

☐ Light Equipment
 ☐ Heavy Equipment
 ☐ Other (explain) _____

TRACK PROTECTION to be used:

☐ Track Occupancy Permit
 ☐ Safety Watch
 ☐ Other (explain) _____

Protecting Person: _____
 (Print Name) (Signature)

Safety Watch: _____
 (Print Name) (Print Names of Relief & Times)

Safety Watch to be located:
Safety Warnings: ("Clear the Track")
Clearing Location:
Other Considerations:

I was present at the Job Briefing and understand the safety requirements for the tasks assigned.
--

Date: dd/mm/yy	Conducted by:	Signature
----------------	---------------	-----------

Retain on file and send completed copy to System Safety as directed.

0593-15 (Feb 2015)



A Division of Metrolinx

Incident Report

(To be completed by GO Transit employees **ONLY**)

Page 1 of _____

Type of Incident:
☐ **Bus** ☐ **Train** ☐ **Personal/Property**

Reference no.	Incident Time	Incident Date
Incident Location (specify)		
<input type="checkbox"/> Inside Station <input type="checkbox"/> Bus Platform <input type="checkbox"/> Outside Station <input type="checkbox"/> Rail Platform <input type="checkbox"/> Parking Lot		

Bus/Train no.	Trip no.	Coach no./location of coach-rail	Travelling from: _____ To: _____
---------------	----------	----------------------------------	----------------------------------

Incident Location (check one or more of the following):

Bus <input type="checkbox"/> Boarding <input type="checkbox"/> On-Board <input type="checkbox"/> Exiting	Train <input type="checkbox"/> Boarding <input type="checkbox"/> On-Board - <input type="checkbox"/> Locomotive end <input type="checkbox"/> Exiting <input type="checkbox"/> Washroom end <input type="checkbox"/> Lower level <input type="checkbox"/> Mezzanine <input type="checkbox"/> Upper level <input type="checkbox"/> Other - specify: _____	Station / Terminal / Bus Stop <input type="checkbox"/> Concourse/waiting area <input type="checkbox"/> Elevator <input type="checkbox"/> Escalator <input type="checkbox"/> Mezzanine <input type="checkbox"/> Other - specify: _____	<input type="checkbox"/> Parking lot <input type="checkbox"/> Pedestrian bridge <input type="checkbox"/> Platform <input type="checkbox"/> Shelter <input type="checkbox"/> Sidewalk <input type="checkbox"/> Stairway <input type="checkbox"/> Tunnel <input type="checkbox"/> Washroom
--	---	---	---

Describe incident/exact location: _____

Type of Incident

☐ Additional information on back

Was Bus/Train moving at time of incident? <input type="checkbox"/> No <input type="checkbox"/> Yes	Was the emergency strip used? <input type="checkbox"/> No <input type="checkbox"/> Yes	Was the train between stations?, If so what stations? <input type="checkbox"/> No <input type="checkbox"/> Yes
---	---	---

What was the condition of the coach where the accident occurred?

How soon after the incident did you inspect the premises?

Specify minutes:

Did you find:

☐ Area clear ☐ Ice ☐ Snow ☐ Slush ☐ Water ☐ Litter ☐ Defect ☐ Obstacle ☐ Other:

Describe ground conditions:

Complete a separate form for each individual

Passenger / Victim	<input type="checkbox"/> Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Ms	Surname _____	Given name _____	Sex <input type="checkbox"/> M <input type="checkbox"/> F
	Address - include street number and name _____ City/Town _____ Postal Code _____			
	Home telephone number _____		Business telephone number _____	
	Vehicle make / model / colour _____		Insurance company _____ Policy number _____	
	Did person require immediate medical attention? <input type="checkbox"/> No <input type="checkbox"/> Yes			
	Did person report the incident to any on-board personnel? <input type="checkbox"/> No <input type="checkbox"/> Yes Name/Badge No.: _____			
Other information / injuries - describe specific details on reverse side of form.				

Witness

Were you an eye witness to the incident? <input type="checkbox"/> No <input type="checkbox"/> Yes	GO Employee? <input type="checkbox"/> No <input type="checkbox"/> Yes (specify work location)
Name _____	Name _____
Address - include street number and name _____	Address - include street number and name _____
City/Town _____ Postal Code _____	City/Town _____ Postal Code _____
Home telephone number _____	Business telephone number _____
Home telephone number _____	Business telephone number _____

Action Taken

Emergency assistance called: <input type="checkbox"/> Police <input type="checkbox"/> Fire / Emergency <input type="checkbox"/> Ambulance <input type="checkbox"/> Other (specify): _____			
Police officer #1 _____		Badge number _____ Division _____	
Police officer #2 _____		Badge number _____ Division _____	
Charges laid, against who (specify): _____			
Was medical aid provided? <input type="checkbox"/> No <input type="checkbox"/> Yes (describe): _____			
Ambulance number _____		Hospital _____	

0193-10

Complete all information on back page

Incident Report

Page 2 of _____

Reference no.	Incident Time	Incident Date
Incident Location (<i>specify</i>)		<input type="checkbox"/> Inside Station <input type="checkbox"/> Bus Platform <input type="checkbox"/> Outside Station <input type="checkbox"/> Rail Platform <input type="checkbox"/> Parking Lot

Description of incident: _____

Additional Pages attached ☐ Yes ☐ No

Please put additional comments on separate page, and number the added pages

Passenger / Victim - Details / injuries - describe: _____

Type of build: ☐ small ☐ medium ☐ large Approximate weight: _____ Approximate age: _____

Description of clothing / shoes: _____

Glasses? ☐ Yes ☐ No Was person carrying parcels, bags, etc.? ☐ No ☐ Yes - specify: _____

Did the person make any statements? ☐ No ☐ Yes - specify: _____

To be completed by GO Employee

 Additional information attached: ☐ CSR ☐ Comments ☐ Other (*specify*):
 Forwarded Original to: ☐ Claims Copies to: ☐ Supervisor ☐ Transit Enforcement ☐ Other (*specify*):

Employee name (<i>Please Print</i>)	Employee no.	Work location
Employee signature	Date completed	Time completed



Hot Work Permit Guidelines / Checklist

The "Hot Work Permit" is required for any "Hot Work" performed out of designated areas, indoors or outdoors, involving open flames or producing heat and/or sparks.

This includes but is not limited to: Brazing, Cutting, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding

- Step 1: Complete the "Identification" section (Supervisor, Contractor or Hot Work Operator)
 Step 2: Complete the "Timeline" section (Contractor/Hot Work Operator and Firewatches)
 Step 3: Complete "Checklist", Review Permit, Assign Permit Number, Sign (Hot Work Authority/Consultant)
 Step 4: Post the "Hot Work Permit" on site (Supervisor, Contractor)
 Step 5: After work is complete remove the 'Hot Work Permit' and return it to Hot Work Authority (Supervisor/Contractor)
 Step 6: Hot Work Authority to forward to GO Transit Facility Manager and/or Project file. Copy to remain at project location for review

NOTE: In the event of fire at project locations initiate the Site Emergency Response Plan.
 For GO Transit Facilities activate the nearest Fire Alarm Pull Station

Emergency Response	Control Center	Security
--------------------	----------------	----------

Checklist: Mark boxes "Y" if safety measure is required and in place.
 Mark boxes "N" if safety measure is not required.

General Requirements

- ☐ Personnel must have reviewed "Hot Work Procedures".
- ☐ Hot work must be performed by qualified persons.
- ☐ Hot work equipment must be in good condition.
- ☐ In order to eliminate any possible explosive atmosphere, any area or container must have been cleared of all flammable liquids and vapors, dust, lint, and oily deposits.
- ☐ Available sprinklers, hose streams, fire extinguishers must be in service/operable.
- ☐ This permit must be posted adjacent to the work area.
- ☐ Warning signs must be posted in the immediate area.

Personal / Public Safety Equipment

- ☐ Portable screens must be used in public areas.
- ☐ Aprons, welding helmet with visor, and gloves where applicable must be used.

Other Precautions Taken

- ☐ Zone bypass of the fire alarm panel, or Sprinkler System.
- ☐ Covering of smoke detector(s) or sprinkler heads.
- ☐ Portable smoke extractor used indoors.

Fire Watch / Area Monitoring

- ☐ A fire watch has been assigned to watch for dangerous sparks in the area as well as in the floors above and below, and in adjacent areas as required.

- ☐ Fire watch must be provided during and for a minimum of 30 minutes after completion of the work, including any coffee or lunch breaks.
- ☐ Fire watch must be provided with suitable portable fire extinguishers/fire hoses and is appropriately trained.
- ☐ Hot work area must be monitored periodically for up to 4 hours after the job is completed by a fire watch, co-ordinator (or designate), or Security.

Specific requirements within 11 m (35 ft) of work

- ☐ Flammable liquids and vapours, dust, lint, and oily deposits must be removed.
- ☐ Explosive atmosphere in the area must be eliminated.
- ☐ Atmosphere is properly monitored and ventilation required for Confined Space.
- ☐ Combustible floors must be covered with fire resistant tarpaulins.
- ☐ Other combustibles must be relocated where possible or otherwise protected with fire-resistant tarpaulins or metal shields.
- ☐ Wall and floor openings must be covered; fire resistant tarpaulins must be suspended beneath.

Work on walls / ceilings

- ☐ Construction is non-combustible and without combustible covering or insulation.
- ☐ Combustibles on the other side of walls must have been adequately protected or removed.

Hot Work Authority: <i>(Print Name)</i>	Permit Number
Signature	Date

0566-14

Original - Work Site

Copy - Plant Maintenance / Project Manager



Hot Work Permit

Identification	<input type="checkbox"/> Contractor Company Name <input type="checkbox"/> GO Transit Shop / Department		Permit No.
	Date of Issue		
	Applicable to all operations involving heat, such as: Arc/Gas Welding, Cutting, Torches, Brazing, Gas Heating, abrasive grinding and cutting.		
	Hot Work Operator: <i>(Print name)</i>		Fire Watch: <i>(Print name)</i>
	Task Description:		
	Process, Tools or equipment utilized?		
	Where are the exact locations where the tasks will be done?		
This permit is valid: From _____ Time _____ DD / MM / YYYY To _____ Time _____ DD / MM / YYYY			

I have noted all provisions and will adhere to all standards and regulations so imposed.

Time Line	GO Transit Hot Work Authority: <i>(Please print)</i>			Project Number
	Signature			Date
	Contractor / Supervisor: <i>(Please print)</i>			
	Signature			Date
	30 Minute Fire Watch Completed	Time	Date (DD / MM / YYYY)	Signature
	60 Minute Fire Watch Completed	Time	Date (DD / MM / YYYY)	Signature
	4 Hour Fire Watch Completed	Time	Date (DD / MM / YYYY)	Signature

0565-14

Original - Work Site

Copy - Plant Maintenance / Project Manager



Confined Space Entry Permit

Date	Valid Time	Permit Number																																
Location and Description of Confined Space																																		
Purpose of Entry																																		
Entry Supervisor		Phone #																																
Hazards (Review the confined space, delete any hazard not potentially or actually present for that specific confined space.) <table border="0"> <tr> <td>Pre-Entry Readings</td> <td>Biological Material</td> <td>Engulfment</td> <td>Falling</td> </tr> <tr> <td>% of Oxygen _____</td> <td>Conflict</td> <td>Flying Particles/Liquid</td> <td>Lack of Oxygen</td> </tr> <tr> <td>% of LEL's 0 _____</td> <td>Electrical Current</td> <td>Light Extremes</td> <td>Moving Equipment/Parts</td> </tr> <tr> <td>Flammable/Combustibles _____</td> <td>Lapse of Consciousness</td> <td>Noise</td> <td>Panic</td> </tr> <tr> <td>Poisons & Toxics _____</td> <td>Muscular/Skeletal Stress</td> <td>Pressure</td> <td>Reactive Material</td> </tr> <tr> <td>Other: (Toxic, Noise, Temp. etc.) _____</td> <td>Structural Failure</td> <td>Temperature Extremes</td> <td>Vehicle Traffic</td> </tr> <tr> <td>_____</td> <td>Blocked Pathways</td> <td>Clutter</td> <td></td> </tr> <tr> <td>_____</td> <td>Corrosives</td> <td>Curiosity</td> <td></td> </tr> </table>			Pre-Entry Readings	Biological Material	Engulfment	Falling	% of Oxygen _____	Conflict	Flying Particles/Liquid	Lack of Oxygen	% of LEL's 0 _____	Electrical Current	Light Extremes	Moving Equipment/Parts	Flammable/Combustibles _____	Lapse of Consciousness	Noise	Panic	Poisons & Toxics _____	Muscular/Skeletal Stress	Pressure	Reactive Material	Other: (Toxic, Noise, Temp. etc.) _____	Structural Failure	Temperature Extremes	Vehicle Traffic	_____	Blocked Pathways	Clutter		_____	Corrosives	Curiosity	
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_____	Blocked Pathways	Clutter																																
_____	Corrosives	Curiosity																																
Gas Detector Operator	Unit ID Info	Time of Test																																
Hazard Management Requirements (Put a ✓ in the box for task completed or N/A in the box if the task is not necessary)																																		
Lockout Switches & Valves		Entrant to Attendant Communications																																
Blanking/Blocking of Pipes		Personal Protective Equipment																																
Depressurization of Pipes		Chemical Protective Clothing																																
Vehicle Barricades		Entrant Respiratory Protection																																
Pedestrian Barricades		Retrieval System w/ Rescuer PPE																																
Ventilation		First Aid & Packaging Equipment																																
Purging		Chocking of Mechanical/Moving Parts																																
Special Work Precautions		Lighting																																
Hot Work / High Temperature / Other:		Refreshing/Clean up/Decontamination System																																
Rescue Assignments																																		
Attendant	Retrieval System Set Up	Air System Monitor																																
Retrieval Personnel	Emergency Assistance	Contact Method																																

Certification

I certify that I have personally examined the confined space and am satisfied that all the particular requirements listed in the procedures have been met AND THAT THE SPACE IS FREE FROM HAZARDS AND WILL REMAIN FREE FROM HAZARDS, making it safe to enter. (DELETE THE CAPITALIZED STATEMENT BEFORE SIGNING IF STATEMENT IS NOT TRUE.)

(Signature of Evaluator)

(Print Name)

(Date)

Entrant Permit Review Acknowledgement

The Confined Space Permit for this job has been reviewed with me and I will undertake to follow the stipulated procedures for this job.

Entrant Name	Signature	Entrant Name	Signature

Facility Supervisors / Project Coordinators – File original at site and fax completed copy to Human Resources (416) 369-5742

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Spills Report

Part I - Control Centre Communication Record

Reported to (name)		Office	
Reported by (name)		Office	
Location of spill (facility, track mile, street or other as appropriate)		Date & Time of Spill	
Material spilled		Est. quantity of spill or area impacted	
Initial action taken			
Has source of spill been curtailed? <input type="checkbox"/> Yes <input type="checkbox"/> No Has all material been contained? <input type="checkbox"/> Yes <input type="checkbox"/> No Has spill occurred in public area? <input type="checkbox"/> Yes <input type="checkbox"/> No Potential migration off-site or to a watercourse? <input type="checkbox"/> Yes * <input type="checkbox"/> No			
SAC notified? *		MOE Incident No. assigned	
<input type="checkbox"/> Yes <input type="checkbox"/> No Person's name		Time notified <input type="checkbox"/> AM <input type="checkbox"/> PM HR MIN	
Supervisor notified?		Time notified <input type="checkbox"/> AM <input type="checkbox"/> PM	
<input type="checkbox"/> Yes <input type="checkbox"/> No Person's name		HR MIN	

* MOE Spills Action Centre notification required for any spill to the natural environment of abnormal quantity or quality: 1-800-268-6060

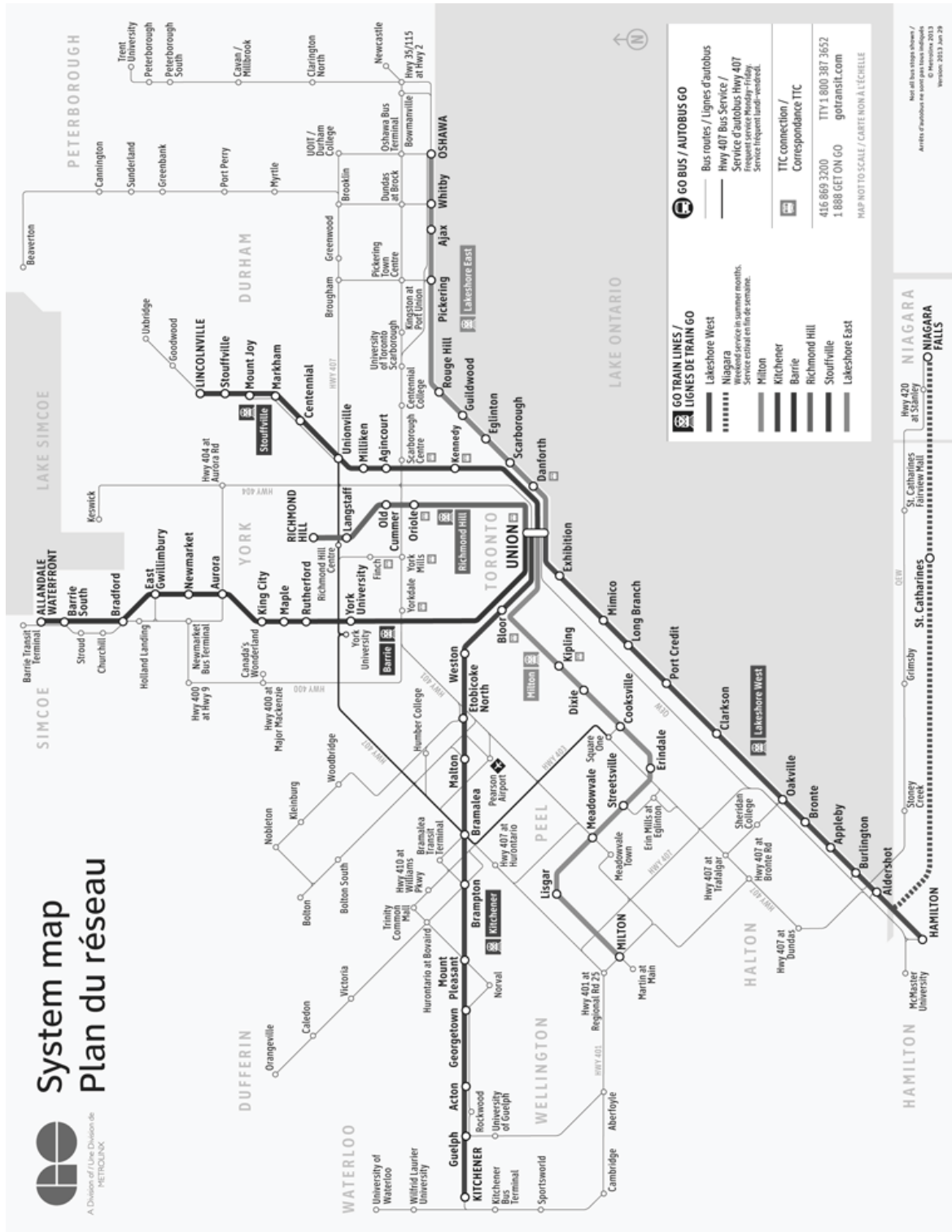
Part II

Specific area of spill	
Description of incident	
Materials involved	
MSDS available?	Was container labelled?
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Equipment involved	
Actual or potential property damage	
Actual or potential environmental impact	
Actual or potential Health / Safety impact	
Cause of spill (include details of main cause and factors contributing to spill severity, control / clean-up limitations etc.)	
Actions Taken	

Personnel on Site				Time of Arrival				
Supervisor				Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM		
Spills Response	Team members			Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM		
	Team members			Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM		
	Team members			Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM		
	Team members			Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM		
MOE representative, if present				Title	Phone No.	Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM
Others on Site	Name			Representing		Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM
	Name			Representing		Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM
	Name			Representing		Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM
	Name			Representing		Time HR	MIN	<input type="checkbox"/> AM <input type="checkbox"/> PM
Clean-up Details	Method of material containment and spills supplies used							
	Method of disposal							
Quantity & type of wastes generated				Was waste manifested? <input type="checkbox"/> No <input type="checkbox"/> Yes	Waste Gen. No.	Manifest No.	Date of waste shipment D M Y	
Cost of disposal In-house External				Disposal contractor			Date of completion D M Y	
Comments and recommendations								
Photo's attached: <input type="checkbox"/> Yes <input type="checkbox"/> No Additional information attached: <input type="checkbox"/> Yes <input type="checkbox"/> No								
Supervisor's signature							Date of completion D M Y	
Manager's signature (required for MOE Reportable Spills only)							Date of completion D M Y	

Important: Send completed form, associated correspondence & reports to System Safety at: systemsafety@gotransit.com













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Excavator Hand Signals

Load Up 1	Load Down 2	Swing Left 3	Swing Right 4
Turn Left 5	Turn Right 6	Travel 7	This Far To Go 8
Everything Slow 9	Stop Engine 10	Stop 11	Emergency Stop 12
Boom Up 13	Boom Down 14	Telescope in 15	Telescope Out 16
Dipper In 17	Dipper Out 18	Counter Rotate 19	Counter Rotate 20
Open Bucket 21	Close Bucket 22	Dog Everything 23	 IHSA.ca <i>Work Safe for Life</i> 5110 Creekbank Road, #400 Mississauga, ON L4W 0A1 1-800-263-5024 905-625-0100 V015

No response should be made to unclear signals!

 <p>HOIST With upper arm extended to the side, forearm and index finger pointing straight up, hand and finger make small circles.</p>	 <p>LOWER With arm and index finger pointing down, hand and finger make small circles.</p>	 <p>USE MAIN HOIST A hand taps on top of the head. Then regular signal is given to indicate desired action.</p>	 <p>USE WHIPLINE (Auxiliary Hoist) With arm bent at elbow and forearm vertical, elbow is tapped with other hand. Then regular signal is used to indicate desired action.</p>
 <p>BOOM UP With arm extended horizontally to the side, thumb points up with other fingers closed.</p>	 <p>BOOM DOWN With arm extended horizontally to the side, thumb points down with other fingers closed.</p>	 <p>MOVE SLOWLY A hand is placed in front of the hand that is giving the action signal. (Hoist slowly shown in example.)</p>	 <p>SWING With arm extended horizontally, index finger points in direction that boom is to swing.</p>
 <p>BOOM DOWN AND RAISE THE LOAD With arm extended horizontally to the side and thumb pointing down, fingers open and close while load movement is desired.</p>	 <p>BOOM UP AND LOWER THE LOAD With arm extended horizontally to the side and thumb pointing up, fingers open and close while load movement is desired.</p>	 <p>STOP With arm extended horizontally to the side, palm down, arm is swung back and forth.</p>	 <p>EMERGENCY STOP With both arms extended horizontally to the side, palms down, arms are swung back and forth.</p>

Crane Hand Signals

 <p>TRAVEL With all fingers pointing up, arm is extended horizontally out and back to make a pushing motion in the direction of travel.</p>	 <p>DOG EVERYTHING Hands held together at waist level.</p>	 <p>TRAVEL (BOTH TRACKS) Rotate fists around each other in front of body; direction of rotation away from body indicates travel forward; rotation towards body indicates travel backward. (For crawler cranes only)</p>	 <p>TRAVEL (ONE TRACK) Indicate track to be locked by raising fist on that side. Rotate other fist in front of body in direction that other track is to travel. (For crawler cranes only)</p>
 <p>TELESCOPE OUT (TELESCOPING BOOMS) With hands to the front at waist level, thumbs point outward with other fingers closed.</p>	 <p>TELESCOPE IN (TELESCOPING BOOMS) With hands to the front at waist level, thumbs point at each other with other fingers closed.</p>	 <p>TELESCOPE OUT (TELESCOPING BOOMS) One hand signal. One fist in front of chest with thumb tapping chest.</p>	 <p>TELESCOPE IN (TELESCOPING BOOMS) One hand signal. One fist in front of chest, thumb pointing outward and heel of fist tapping chest.</p>

Notes

Notes

[illegible]

Notes

[illegible]

Bulk Storage Tanks and Fuel Handling Environmental Performance Standard

(GO-Env-PS104)



1. Objectives

The objectives of the GO Transit Bulk Storage Tanks and Fuel Handling Environmental Performance Standard (EPS) are to:

1. Provide information on the laws and regulations governing storage tanks used for the storage of flammable materials (i.e., fuel and other flammables), and to
2. Set out GO Transit's storage tank management requirements and expectations for fuels, flammable materials and other bulk products stored at all GO Transit facilities that fall under the scope of the GO Transit Environmental Management System (Env.MS).

To meet these objectives, this program:

- Lists the legal requirements that must be met with respect to fuel and flammable material storage tanks;
- Identifies individuals within GO Transit with designated duties for program oversight and outlines their responsibilities;
- Provides storage tank management procedures, including those for storage tank system design, storage tank maintenance, fuel or product delivery, inspections, labelling and training;
- Outlines general emergency response procedures; and,
- Sets out documentation and program review requirements.

2. Scope and Limitations

This procedure applies to fixed and portable storage tanks. A **fixed storage tank** is defined as a permanent or temporary vessel installed in a fixed location for the storage of chemicals, flammable or combustible material, waste oil, oils or other materials other than water with a capacity of more than 230 litres (L). A **portable storage tank** is defined as a vessel containing flammable and combustible materials that is mobile and contains up to 2500 L.

This procedure applies to both aboveground and underground tank systems, as well as horizontal and vertical tanks. Subject materials stored in storage tanks at GO Transit facilities include, but are not limited to the following:

- Diesel Fuel
- Diesel Exhaust Fluid (DEF)
- Engine Oil
- Coolant
- Transmission Fluid
- Windshield Washer Fluid
- Waste Coolant
- Waste Oil
- Propane



Containers under 230 L and mobile tanks (including totes) under 2500 L are covered under GO-Env-PS101 Chemical Management. Note that all containers (i.e. totes) and mobile tanks used for flammable or combustible liquids must be certified for use. Where there is a question about whether a vessel is subject to this Env.PS, please contact System Safety.

The applicability of this procedure depends on land and storage tank ownership, as well as tank operations, as outlined in the table below:

Land Ownership	Tank Ownership or Use	Tank Operations	Applicability
GO Transit Owned Land	GO Transit owned	GO Transit operated	All of procedure 104 applies
	GO Transit owned	Operated by others	All of procedure 104 applies
	Owned by others	Operated by others	Section 8.1 of procedure 104 applies
Land Owned by Others	GO Transit owned	GO Transit operated	All of procedure 104 applies
	Owned by others	Operated by others	Procedure 104 does not apply

Regulatory requirements will vary based on the use of the storage tank and the regulatory requirements that pertain to the facility (i.e. provincial or federal lands); however, GO Transit best practice measures will apply to all storage tanks (other than water).

3. Roles, Responsibilities and Program Maintenance

3.1 Program Development

System Safety is responsible for the maintenance, administration and review of this procedure and will work with internal stakeholders to ensure that the information contained within this procedure is current, applicable, and reflective of GO Transit operations. System Safety will review this procedure annually or when regulatory or other changes impact the requirements applicable to GO Transit facilities. The implementation of this procedure will be assessed during internal Env.MS audits, led by System Safety as per the Env.MS audit program.

All revisions to this procedure will be documented as per the Env.MS (i.e., dated, new revision level assigned, etc.) and communicated to all stakeholders. The **Environmental Steering Committee** (Env.SC) will participate in the finalization of changes to the procedure and members will be responsible for communicating the changes to their respective operational groups.

Operational groups (i.e., Station Services, Bus Services, Rail Fleet & Facilities, Rail Operations and Rail Corridors) are responsible to inform System Safety of any inaccuracies and associated changes required to the procedure as soon as possible upon the discovery of the issue. System Safety will resolve any conflicts or issues and make appropriate changes to this procedure, supporting documents, forms, etc. as required.

System Safety will provide support through the Env.SC to any stakeholder that requests assistance with the administration of this procedure or changes to it and will be responsible for updating the version of the procedure posted to the MyLinX. Operations shall maintain signage associated with this procedure that is posted at their facilities.



3.2 Program Implementation

The **Manager** of the operational group that owns or operates a storage tank, as per Section 2, is responsible to ensure that:

- Storage tanks are managed and maintained in accordance with applicable laws and regulations, and this procedure.
- Employees operating or maintaining storage tank systems are identified and receive appropriate training, including procedure awareness training.
- Employees working in the vicinity of storage tank systems, or who's activities may impact these systems, are provided with general awareness training.
- All training (as above) is documented and records are maintained.
- Storage tank and piping system operation and maintenance is carried out in such a way as to prevent risk to a worker's health, safety or the environment.
- Arrangements have been made for the legal disposal of the generated waste (if applicable).
- A Material Safety Data Sheet (MSDS) (if applicable) is available to the workers.

Employees operating or maintaining storage tank systems are responsible for knowing the environmental risks associated with their activities, their responsibilities for the maintenance and safe operation of the system and their duty to report any signs of leaks, spills, or irregularities in the system to their Supervisor. Supervisors are responsible for reporting any spills in accordance with the *Spill Response Plan* (GO-Env-R201), including the completion of a spills report and communication to System Safety.

3.3 Record Retention

The retention of records relating to storage tank monitoring, maintenance activities, inspections, and certifications, and any associated training and emergency response activities or reporting will be the responsibility of each group Manager and Supervisor. Non-routine accidents, incidents or environmental occurrences must be reported by the Manager or Supervisor to System Safety as per the *Spill Response Plan*. Other small, routine occurrences should be evaluated in-house, such that trends can be identified and information disseminated to other internal stakeholders that may be affected, namely through the Env.SC. All records must be legible and retrievable.

4. Applicable Regulations

In Ontario, legal requirements for the operation of storage tanks for fuel or flammables and combustibles are outlined in the following legislation. Currently, there are no regulations that are directly applicable to the storage of other materials in storage tanks specifically, and regulations regarding the storage and handling of chemicals apply where the chemical is controlled under WHMIS or Transportation of Dangerous Goods (TDG) (procedureS-001-Chemical Management). Those in grey do not directly apply to standard GO Transit operations, but serve as guidance or best practice measures:

- Ontario Fire Code, O. Reg. 213/07
- Fuel Oil, O. Reg. 213/01
- Environmental Protection Act, RSO 1990, c E.19
- Workplace Hazardous Materials Information System (WHMIS), RRO 1990, O. Reg. 860



- Transportation of Dangerous Goods (TDG) Act and Regulations
- Liquid Fuels, O. Reg. 217/01
- Petroleum and Allied Petroleum Products Storage Tanks Regulations, SOR/2008-197 (Federal)
- Spill Prevention and Contingency Plans, O. Reg. 224/07
- Classification and Exemption of Spills and Reporting of Discharges, O. Reg. 675/98
- Spills, O. Reg. 360

To address legislative requirements:

- System Safety will review and update this procedure to reflect applicable changes made to the Legal Environmental Registry, developed under the Env.MS.
- Each operating group will be expected to understand their legal obligations and review applicable regulations to ensure compliance (while key requirements are outlined herein, regulations should be reviewed to ensure compliance with all applicable clauses).
- No materials stored in storage tanks may be discharged to drains, soil or waterways (storm or potable water excepted).

4.1 Ontario Fire Code Requirements

The Fire Code (O. Reg. 213/07) falls under the *Fire Protection and Prevention Act, 1997* and was developed in order to limit the probability that a person in or adjacent to a building or facility would be exposed to an unacceptable risk of injury due to fire as a result of specific circumstances related to the building or facility. In addition to storage tank and container requirements for flammable and combustible materials, the Fire Code also sets out inspection, maintenance and record retention requirements for fire safety systems, such as sprinklers and fire extinguishers; however, design and maintenance of these systems is excluded from the scope Env.MS.

Tank storage requirements for flammable or combustible liquids are outlined in Section 4.3 of the Code. The requirements of the Fire Code have been incorporated into the inspection requirements of this procedure. As a best practice, these requirements will be applied to all bulk tanks unless otherwise indicated, as similar standards do not exist under other regulations for non-flammable or combustible materials stored in storage tanks.

4.2 Fuel Oil, O. Reg. 213/01

The Fuel Oil Regulations (O. Reg. 213/01) fall under the *Technical Standards and Safety Act* and apply to the installation, testing, maintenance, repair, removal, replacement, inspection and use of appliances, equipment, components and accessories where fuel oil is to be used as a fuel, with some exceptions. The regulation requires that those who work on fuel equipment or distribute fuel oil be certified and specifies that distributors cannot supply fuel to a container or tank system that does not comply with the regulations.

Under the regulation, no person may operate an appliance or tank system unless it is maintained in a safe operating condition and it complies with O. Reg. 213/01. The appliance or tank system must bear the label or symbol of a designated testing organization or a label or symbol authorized by the director, certifying that it complies with an approved standard or laboratory test report.



4.3 Federal Petroleum Storage Requirements

Where applicable, GO Transit petroleum product storage tanks situated on Federal lands must meet the requirements of the Federal Petroleum Storage Tank Regulations. These regulations include specific requirements for tank registration, interstitial monitoring of tanks and piping and venting. These requirements shall be reviewed prior to use of a petroleum storage tank on Federal lands.

5. Storage Tank Requirements

5.1 Storage Tank and Piping Installations

All storage tanks installed on GO Transit property and any tank owned by GO Transit must meet the requirements of the Fire Code (for flammables or combustibles) and other applicable codes or standards that apply to the storage of the material.

Although many of the following requirements were developed under the Fire Code for the storage of flammables and combustibles, GO Transit will enforce the following standards for all storage tanks installed by GO or on GO property (unless otherwise noted), as a best practice measure:

- Storage tanks and piping must be installed as per the manufacturer's design documents;
- Used tanks are not to be used or installed unless refurbished, inspected and certified;
- Storage tanks and piping must be installed securely and in such a way that they are protected from site activities, unsecure footings and natural events (i.e., earthquakes and flooding);
- All tanks must have secondary containment equivalent to 110% of the volume of the tank, or if grouped with other tanks in a containment area, the containment area must be equivalent to 110% of the volume of the largest tank within the containment;
- Piping must have secondary containment where visual inspection is not possible or where a leak may cause immediate impact to the environment (i.e., site exterior);
- At the time of installation, tanks and piping must be tested for leakage and tanks must not be filled until appropriately leak tested;
- Overfill protection must be provided by certified overfill protection device;
- Fill ports must be outfitted with a designated lock to ensure only certified persons supervise the filling of a storage tank;
- Bulk storage tanks will be installed in dedicated rooms (waste oil tanks and day tanks excepted);
- Storage tanks for flammables and combustibles must be set back from property lines and buildings; and
- Each storage tank for flammables and combustibles must be accessible for firefighting purposes.

5.1.1 Labelling and Signage

To reduce risks to the environment caused by the storage and use of bulk materials at GO Transit facilities, clear labelling and signage will be used to communicate potential risks and hazards. The following are required:

- The contents and flow direction of exposed piping and connections must be identified throughout the facility (specific labelling required for flammables and combustibles);



- All tanks must be labelled with the tank volume, name of product contained in tank and appropriate hazard warnings;
- If the storage tank is not visible from the fill port, the fill port must be tagged or labelled with a product identifier, such that the risk of mixing products within the tanks is reduced; and,
- Durable signage with emergency contact information and appropriate spills response protocols must be posted at fill ports and in areas within visible distance from storage tanks.

5.2 Weekly Inspections

Each operating group is responsible for maintaining and verifying the integrity of storage tanks at their respective facilities. Storage tank inspections must be completed at least weekly to ensure that all storage tanks are in good condition and do not pose a potential environmental or health and safety hazard (see *Tank Storage Area Inspection Checklist*, GO-Env-PS104_F1, on MyLinux). The following items should be considered as part of the inspection, as a minimum:

- Identify any signs of leaking, spills or discharges by looking at tank integrity, condition of hoses and piping connections, staining below the tank or piping or other signs of leaking materials (i.e., odour);
- Make sure that the containment area is not used for the storage of other materials and is free of accumulated debris or liquids (i.e., water);
- Check the condition of corrosion protection on the tank to see whether there are any exposed metal surfaces or signs of rust (i.e., rust-resisting paint is missing);
- Verify there are no compressed gas cylinders or tanks for liquefied petroleum products (i.e., propane) within 6 m of a tank containing a flammable or combustible material, and that there are no such cylinders or tanks within 3 m or 7 m of a containment area, respectively;
- Inspect tank and pipe labelling to ensure it is present, legible and in good condition;
- If a spill kit is in the area, review the condition of the spill kit and its contents for any missing materials;
- Review condition of portable gasoline containers for signs of leaks or spills; and,
- Complete a general inspection of the area for any other potential concerns.

Note that if it is not possible to see the base of an above-ground storage tank (AST), a monitoring device should be installed to detect leaks or loss of integrity of secondary containment (i.e., double wall interstitial spacing). This device may be a pressure gauge, which should be included in the visual inspection.

Diesel tanks on rail equipment must also be inspected as part of an ongoing maintenance program, with the frequency determined by Rail Services. Any temporary connections to or from rail diesel tanks must be monitored at all times.

5.3 Weekly Leak Testing

As per the Fire Code, quantitative leak testing (i.e., measurement of product levels) must be completed for all flammable or combustible storage tanks every seven days (if they are not monitored using continuous leak detection equipment). Each time a product level measurement is completed; the gain or loss to the tank must be calculated and reconciled with accounting records, to determine whether there may be a leak.



If continuous leak detection is provided, weekly reconciliation is not required, but GO Transit requires that an annual calibration of the leak detection equipment be completed, unless otherwise noted by the manufacturer.

Continuous leak detection is required for all underground storage tanks (UST).

Additional reviews of product levels and records reconciliation may be required if a leak is suspected. A test of the integrity of the tank can also be conducted by a certified contractor if a leak is suspected.

5.4 Fire Code Review

Managers shall ensure that external expert in Fire Code brought in to review of flammable and combustible storage tanks as required or every 5 years as a minimum to identify any deficiencies to the Fire Code. Work order requests will be issued to address any findings.

5.5 Record Retention

All inspection records and leak test records must be maintained for examination by government regulators or the Chief Fire Official. Records demonstrating ongoing leak protection must be maintained for the life of the tank and two years thereafter. Records must be retrievable and legible.

6. Fuel and Bulk Product Handling

Spills are most likely to occur during the process of product transfer, such as when filling bulk tanks, fuelling mobile equipment or collecting waste materials for disposal. To prevent environmental impacts caused by fuel and bulk product handling:

- Training on fuelling procedures and emergency response protocols must be provided to all individuals supervising or conducting product transfer activities;
- All product transfers must be supervised by qualified person at all times;
- The storage tank capacity must be verified before product delivery;
- Fuelling must be completed over paved or lined surfaces, designed to prevent spilled materials from discharging to open drains, catch basins, waterways or unpaved land surfaces;
- All new fuelling nozzles must be spring-loaded to cut off fuel supply if handle is not actively squeezed;
- Fill stations must be equipped with emergency shut-offs, which must be tested at least annually (maintain record for two years); and,
- All fuel nozzles, hoses and fill ports are to be secured when not in use.

In addition, equipment must be properly maintained at all times, such that:

- Any fuelling equipment that is suspected to be leaking or otherwise damaged or compromised must be placed out of service, locked out and repaired (by certified contractor); and,
- No maintenance will be conducted on any fuel or bulk handling equipment unless properly locked out and conducted by qualified person.



6.1.1 Other Flammable/Combustible Product Storage

Information on the storage and handling of other flammable products and compressed gas cylinders is available in GO-Env-PS101-Chemical Management.

7. Emergency Response

7.1 Spill Response

All fuelling areas and fill port locations must be supplied with appropriate spill clean-up equipment (i.e., spill kits), which are to be inspected and maintained. The content of the kits must be reviewed annually by the facility supervisor or designate to verify that suitable spill equipment is available based on the potential spill pathways, products and volumes. Appropriate eyewash stations and showers must also be provided where deemed appropriate; however, inspection and maintenance requirements and records for these items fall outside the scope of the Env.MS. More information on spill response is provided in the *Spill Response Plan* (GO-Env-R201).

7.2 Leak Detected

When a leak is detected in a storage tank, the storage tank shall be replaced in the case of a UST or repaired and recertified or replaced in the case of an AST and the escaped liquid shall be removed and appropriate remediation completed.

If the product was flammable or combustible, the Chief Fire Official must be notified within 24 hours of the detection of the leak. A leak may also need to be reported to the MOE if the leak was not contained and had an actual or potential adverse impact on the environment. More details on spills reporting are available in the *Spill Response Plan*.

8. Contractor Review

The Manager must review the qualifications of all contractors or service providers retained for fuel or bulk product delivery and fuel equipment maintenance. Certifications should be kept on-file. Contractors are responsible for abiding by GO Transit's fuelling requirements and acting in a responsible manner. The actions of contractors that are involved in a spill or release during fuelling or filling operations must be reviewed and appropriate action taken.

9. Training

Supervisors are responsible to provide job-specific training to employees and identify what level of training is required with respect to fuel and bulk material handling, in accordance with job responsibilities. Employees must be made aware of this procedure and other site-specific requirements employed to reduce risks to the environment. Employees must know their responsibilities and ask their supervisor to clarify anything they do not understand.



When notified of a change to the procedure, supervisors are responsible for communicating information on changes to operating practices, documentation, reporting, etc. to affected employees (and contractors) and provide the training, supplies and support required to ensure that changes are understood and implemented appropriately.

10. Acronyms

AST.....Aboveground Storage Tank
 Env.MS.....Environmental Management System
 Env.SCEnvironmental Steering Committee
 O. Reg.Ontario Regulation
 MSDSMaterial Safety Data Sheet
 SPCP.....Spill Prevention and Contingency Plan
 TDGTransportation of Dangerous Goods
 USTUnderground Storage Tank
 WHMISWorkplace Hazardous Materials Information System

Revision	Date	Notes
0	Dec. 2013	Initial Issue
1	Nov. 2014	Final Issue – Updated references to associated plans (i.e. Spill Response Plan); inclusion of Federal Requirements in Applicable Regulations (Section 4.3)

Chemical Management Environmental Performance Standard

(GO-Env-PS101)



1. Objectives

The purpose of the GO Transit Chemical Management Environmental Performance Standard (EPS) is to ensure chemical acquisition, use, storage, handling and disposal activities are controlled and managed in accordance with best practice standards and in compliance with all applicable legal requirements at all GO facilities that fall under the scope of the GO Transit Environmental Management System (Env.MS), as outlined in the Env.MS Manual (GO-Env-M001). To meet these objectives, this EPS:

- Lists the legal requirements that must be met with respect to chemical management;
- Identifies individuals within GO Transit with designated duties for chemical management and outlines their responsibilities;
- Provides chemical management procedures, including those for approvals, storage, provision of safety information and disposal;
- Outlines general emergency response procedures; and,
- Sets out program review and maintenance requirements.

2. Scope and Limitations

The chemical management program applies to the acquisition, use, storage, handling and disposal of all Workplace Hazardous Materials Information System or Global Harmonized System (**WHMIS/GHS**) **controlled** chemicals (herein referred to as “chemicals”) used at GO Transit facilities by GO Transit personnel. The EPS also applies to any maintenance or production chemical used in an industrial/bulk capacity (i.e. oil, consumer cleaning products, etc.). This includes hazardous materials that are samples, petty cash purchases and all other acquisitions.

This EPS discusses Transportation of Dangerous Goods (TDG) and the required training for handling TDG-regulated goods received, generated at and shipped from GO Transit facilities.

3. Roles, Responsibilities and Program Maintenance

3.1 Program Development

System Safety (Safety & Security Division) is responsible for the maintenance, administration and review of the Chemical Management EPS at GO Transit. System Safety will review the EPS annually or when regulatory or other changes impact the requirements applicable to GO Transit facilities. Evaluations of implementation conformance to this EPS will be completed through informal checks and internal Env.MS audits led by System Safety as per the Env.MS internal audit program.



All revisions to this EPS will be documented as per the Env.MS (i.e. dated, new revision level assigned, etc.) and communicated to all stakeholders. The **Environmental Steering Committee** (Env.SC) will participate in the finalization of changes to the procedure and will be responsible to communicate the changes to their respective operational groups.

System Safety will provide support through the Env.SC to any stakeholder that requests assistance with the administration of this EPS or changes to it and will be responsible for updating the version posted to *MyLinx*.

Human Resources (HR) maintains the *Metrolinx Learning & Development Calendar* identifying what roles require WHMIS/GHS, Transportation of Dangerous Goods, and Spill Response and Reporting Procedures training. Additional training may be added to the Calendar as appropriate.

3.2 Program Implementation

The Manager of the department using, handling, storing or disposing of a chemical has the responsibility for ensuring that:

- Chemicals used do not unreasonably risk a worker's health, safety or the environment.
- Workers have been trained on the hazards of the material, including: appropriate material applications, proper usage of personal protective equipment (PPE), first aid procedures, emergency contingency plans, disposal procedures and any other relevant factors.
- Arrangements have been made for the appropriate disposal of generated wastes (i.e. in compliance with applicable regulations).
- Current Material Safety Data Sheets or Safety Data Sheets (M/SDS) are available to the workers and the Joint Health and Safety Committee.

Supervisors will ensure required training is conducted and appropriate information is provided to all employees using chemicals. Periodic inspections are considered to be a best practice measure to ensure that workers can demonstrate their WHMIS/GHS training, including where to find a M/SDS, what PPE to use and how to handle a chemical, including knowledge of incompatibilities with other products.

The Manager and Supervisor will ensure that:

- An inventory is maintained of all hazardous material and physical agents in the workplace;
- M/SDS are current, maintained and available to all employees;
- That all chemicals are labelled; and,
- Respective employees are adequately trained.

3.3 Record Retention

The retention of records relating to chemicals, chemical approvals, on-site training and preparation of emergency response plans will be the responsibility of each group Manager and Supervisor. Copies of M/SDS for chemicals that were reviewed during industrial hygiene tests, involved in significant spills investigations, were disposed of as regulated wastes or were included in regulatory reporting (i.e. NPRI) shall be retained on file with the corresponding records or investigation.



4. Applicable Regulations

In Ontario, legal requirements for chemical storage and material handling, including spill prevention, are outlined in the following legislation. Legislation identified in grey do not directly apply to standard GO Transit operations, but serve as guidance or best practice measures:

- Ontario Fire Code, Ontario Regulation (O. Reg.) 388/97
- Workplace Hazardous Materials Information System (WHMIS), RRO 1990, O. Reg. 860
- Environmental Protection Act, RSO 1990, c E.19
- Classification and Exemption of Spills and Reporting of Discharges, O. Reg. 675/98
- Spills, O. Reg. 360
- Occupational Health and Safety Act (General Duty of Care)
- Transportation of Dangerous Goods (TDG) Act and Regulations
- Industrial Establishments, O. Reg. 851
- Spill Prevention and Contingency Plans, O. Reg. 224/07

The storage and handling of flammable and combustible products are outlined in the Ontario *Fire Code*. There are no similar regulations regarding the use and storage of materials that are non-flammable or non-combustible. Compressed gas cylinder storage and handling is legislated under the *Occupational Health and Safety Act* (OHSA), under *Industrial Establishments*, O. Reg. 851. The general requirement for chemical management is to provide the appropriate resources to protect and inform employees and prevent adverse impacts to the environment (i.e. through spills).

To address legislative requirements:

- System Safety will review and update this EPS to reflect applicable changes made to the Environmental Legal Registry (GO-Env-M004) developed under the Env.MS.
- Each operating group will be expected to review the storage of their flammable products at least annually to identify any deficiencies in comparison to the Ontario Fire Code. Work order requests will be issued to address any findings.
- Each operating division must keep M/SDS for controlled products current to within three years of the last issue or revision
- Each operating group shall complete an annual physical inventory of products and reconcile the inventory with the M/SDS binder or database.
- Chemicals with potential adverse effects to the environment will not be discharged to drains, soil or waterways.



5. Management of Controlled Products

5.1 Chemical Acquisition

GO Transit must comply with the *Occupational Health and Safety Act* and Regulations concerning WHMIS/GHS. As such, no chemicals will be purchased or received without a M/SDS current to within three years and appropriate WHMIS/GHS labelling.

Before purchasing or using a new chemical at a GO facility, a Supervisor or Manager of employees using the chemical, or working in the vicinity of bulk storage areas, must review the M/SDS. The following information must be considered to ensure that the chemical will be used safely and with proper environmental protection measures in place:

1. **Chemical Properties and Precautions:** toxicity, corrosiveness, flammability, PPE requirements, ventilation requirements, machine guarding, noise.
2. **Waste Disposal:** Hazardous Waste Information Network registration under O. Reg. 347, municipal sewer/environmental by-laws.
3. **Storage Requirements:** compatibility, flammability, reactivity.
4. **Emergency Planning:** containment and clean-up of spills, flammability, emergency response (i.e. fire extinguishers, worker safety, etc.).

A checklist is appended to this EPS for use during the review. This checklist must be completed for all new WHMIS controlled or bulk chemicals used or stored at GO facilities. Once the Supervisor or Manager has reviewed the chemical's properties and is satisfied that appropriate control measures can be implemented to protect employees and the environment, the M/SDS must be submitted for approval firstly to System Safety (environmental) and secondly to HR (health and safety).

5.1.1 Environmental (System Safety) Approval

System Safety must review and approve all new chemicals for potential environmental impact prior to purchase, use or storage on-site.

The Supervisor or local M/SDS Management Service System Administrator shall forward the M/SDS and checklist to System Safety via email for review. System Safety will issue an approval to the requester via email, along with any conditions of the approval. If the product presents environmental concern, further discussion or documentation may be required prior to approval of the chemical for use.

5.1.2 Human Resources Approval

After the environmental approval is received, the M/SDS Management Service System Administrator must submit the new M/SDS to the Health, Safety & Wellness Office for a final approval. The submission and approval process is guided by the Health, Safety and Wellness Office.

When the M/SDS is approved by the Health, Safety & Wellness Office, it will be added to the M/SDS on-line library (currently contracted to the Canadian Centre for Occupational Health and Safety (CCOHS)) and will be accessible by all Metrolinx employees.



In special cases where a less harmful chemical cannot be used due to technical or other limitations, Form 0408E-01 must be completed and submitted to HR for further consideration. In certain cases, an industrial hygienist may be required to ensure adequate employee protections are provided.

5.1.3 New Product Communications

Following approval, M/SDS binder(s) must be updated accordingly and all employees working in or around the chemical or material must be notified of the material's properties, appropriate protective measures, storage requirements and where to find additional information (i.e. M/SDS).

5.1.4 Receipt of Dangerous Goods

No TDG-regulated chemicals (i.e. regulated with UN number) shall be received at a facility without valid shipping documents. Only a TDG-trained individual who is designated by the Manager or Supervisor may sign for any TDG-regulated chemicals.

5.2 Chemical Renewals

When notified of an updated M/SDS, the M/SDS Management Service System Administrator shall review the updated M/SDS to verify whether there are any changes to the chemical ingredients, PPE, storage requirement or other relevant information to the day-to-day handling of the product. If significant changes are evident, a new approval may be required. In this instance, HR and System Safety should be contacted for guidance.

5.3 Storage and Handling

5.3.1 General Storage

The following general storage rules apply to all GO Transit Facilities:

1. Chemicals at each GO Transit Facility will be stored in a designated area, and chemicals stored at point of use will be kept to the minimum amount necessary to perform job functions.
2. If there is an indication that inventories are not being effectively managed or controlled, then the Manager is responsible to implement inventory controls.
3. Containers of flammable and combustible materials that are not in use must be stored in accordance with the Ontario Fire Code, such as in flammable storage cabinets or specially designed rooms.
4. Doors of flammable storage cabinets will be kept closed when not in use.
5. Chemicals that have expired will be disposed of as per the Regulated Waste Management Procedure (GO-Env-PS103).
6. Chemical compatibility will be reviewed and chemicals will be stored in compatible groups, with incompatible materials separated by barriers, space or spill containment.
7. Chemicals will be stored in appropriate containment in accordance with the hazard presented and likely worst case scenario events.
8. Chemical storage areas will be protected from exposure to weather.



9. Areas where chemicals are stored will have appropriate spill clean-up equipment available.
10. Storage areas will be inspected at a minimum of once per week under the site's standard work for signs of damaged containment, leaks, corrosion, or other condition which may present a potential hazard.

5.3.2 Compressed Gas Storage

Special requirements must be followed in the handling and storage of compressed gases to prevent injury and environmental impacts:

1. Compressed gas cylinders must be held securely in place when in storage, use, or transport (i.e. secured by chains or straps, on racks, nesting, portable gas cylinder carts, etc.).
2. When stored indoors, rooms or areas containing gas cylinders shall be dry and ventilated.
3. When stored outdoors, cylinder storage areas shall be:
 - a. supported on raised concrete or non-combustible platforms,
 - b. located in a separate enclosure,
 - c. surrounded by an unobstructed, locked fence of at least 1.8 m in height,
 - d. Covered by a canopies that is non-combustible, and
 - e. Is located no closer to any building opening than what is specified in Section 5.6.2.3 of the Ontario Fire Code (minimum of 1.5 m, if aggregate capacity of expanded gas is less than 170 m³).
4. Valves must be tightly closed when not in use and covered by a valve protector cap.
5. Labelling must be provided to identify cylinders and storage areas, as follows:
 - a. The contents of gas cylinders must be clearly identified.
 - b. Gas cylinder storage areas must be clearly identified and storage rooms containing gas cylinders shall have exterior signs with a minimum of 50 mm high letters indicating the nature of the compressed gases.
 - c. Empty gas cylinders will be labeled as empty, or stored in a marked area outdoors.
6. Incompatible (reactive) gases will be stored separately (i.e. oxygen and acetylene). Reactive gases must be separated as per Section 5.6.2.7 of the Ontario Fire Code, as follows:
 - a. By fire separation with a fire-resistance rating of at least one hour, or
 - b. By a minimum distance of 7.5 m if lighter than air or 15 m if heavier than air.
7. Flammable gas cylinders must have flame arresters when in use.
8. Gas cylinders must not be stored in areas of over 52°C near sources of ignition, heat or open flame and will be grounded, if required.
9. Gas cylinders shall not be stored in confined (i.e., under stairways) or in high traffic areas.



5.3.3 Flammable/Combustible Product Storage

To reduce the potential for emergencies related to fire and resulting environmental impact, the following handling and requirements will be implemented for flammable or combustible (F/C) products:

1. F/C materials in drums, tanks, or totes will be stored in secure, ventilated areas, away from emergency exits or access to emergency exits.
2. Containers used for F/C liquids must be:
 - a. Labelled in accordance with WHMIS/GHS or TDG requirements, or
 - b. Distinctly marked or labelled in easily legible type that is in contrast to any other printed matter on the label and indicates that: the material in the container is flammable, it should be kept closed when not in use, and it should be kept away from heat, sparks and open flames.
3. As applicable, F/C materials will be stored in (closed) flammable storage cabinets when not in use.
4. Combustible materials (i.e. paper, cardboard, etc.), other than those used for the packaging of F/C liquids, shall not be stored in the same individual storage area as F/C liquids.
5. Flammable storage cabinets that are not used for the storage of F/C products must be marked to indicate that they are not a flammable storage cabinet (i.e. latex paint only).
6. The maximum quantity of F/C materials stored is not to exceed the design capacity of the room or cabinet. If over 2500 litres of a F/C material is stored on-site within a single fire compartment, the site shall review the requirements of the Ontario Fire Code to ensure adequate storage is provided.
7. Oxidizing or reactive materials will be stored on secondary containment at least 2.5 m from any F/C product.
8. Flammable storage cabinets shall be grounded wherever possible.
9. All F/C storage containers must be made of a suitable material for the safety of all workers. In addition, portable containers used for dispensing flammable liquids must be labelled and have a spring-loaded cap and flame arrestor.
10. When decanting F/C products to a portable container, the containers and dispensing equipment must be bonded and grounded.

Absorbent materials shall be available in F/C material storage areas for use in clean-up of spilled F/C liquids.

5.3.4 General Handling

The following chemical use procedures will be employed:

1. Chemical containers will be kept closed when not in use (including solvent parts washers).
2. Containers with decanted chemicals must have appropriate workplace labels.
3. Appropriate PPE will be worn during chemical use, as per M/SDS and any specific training provided.



4. Employees will be trained in how to identify potential hazards associated with chemical use and receive specific handling instructions prior to use, as appropriate based on the hazards presented by the chemical.
5. After use, all products will be returned to their appropriate storage location.
6. Any product that is not labelled will be reported to the Supervisor for appropriate action (i.e. labelling or disposal).
7. Any spills will be handled in accordance with the *Spill Response Plan* (GO-Env-R201).

5.4 Inventories

The Manager and Supervisor will ensure that an inventory is maintained of all chemical and physical agents in the workplace. A physical inventory will be completed at least annually to update the applicable M/SDS, remove expired products or those that are no longer in use from the facility, ensure storage, labelling and handling is adequate, and review inventory control effectiveness.

5.5 M/SDS Management

Managers and Supervisors are responsible for ensuring that M/SDS are current, maintained in good condition and are available to all employees that may need them. M/SDS shall also be posted to GO's online M/SDS database.

5.6 Chemical Disposal

Chemicals will be disposed of in accordance with their identified waste class. Waste chemicals will be manifested if deemed hazardous or subject waste and identified by their appropriate UN shipping name. Only TDG-trained individuals will be permitted to sign manifests for TDG-regulated wastes. Only approved waste disposal service vendors are to be used for the disposal of subject wastes (includes both TDG-regulated and non-TDG regulated).

Employees are not permitted to remove any containers previously containing hazardous or regulated products for personal use.

5.6.1 Disposal of Dangerous Goods

No wastes shall be shipped from site without valid shipping documents (manifests and/or bills of lading) for any liquid industrial or TDG-regulated goods (i.e. regulated with UN number). A TDG-trained individual who is designated by the Manager or Supervisor must sign for any manifests related to TDG-regulated wastes.



5.7 Emergency Preparedness

5.7.1 Spill Prevention and Response Equipment

The following key equipment has been identified with respect to chemical management. Where used, this equipment must be maintained and inspected monthly to ensure the equipment is well stocked and/or in good working order:

- Spill Containment: used for chemicals that pose a more immediate environmental or health risk if spilled during use or storage (i.e. products identified as hazardous or those in use within close vicinity of discharge drains), either by the nature of the product or potential interactions with other chemicals; must be inspected for overall integrity, and to ensure they are free of spilled product or residue.
- Spill Kits: spill kits must be available in areas where spills are more likely to occur or have a larger impact. These spill kits must be inspected and maintained to ensure they have adequate supplies to handle the potential spill.
- Eye wash stations/showers: must be good working order (i.e. eyewash solution must not be expired), clean, located in areas where chemicals are used or stored. Plumbed eyewash stations or showers must be inspected weekly.
- M/SDS Stations: must be readily accessible and legible for employees, located in close proximity to where chemicals are stored or handled.

5.7.2 Spill Response Procedures

Any spills will be handled in accordance with the *Spill Response Plan* (GO-Env-R201). The Spill Response Plan provides spill reporting requirements and an overview of response measures to be taken in the event of a spill, recognizing that specific procedures and policies may be required on a site-by-site or functional basis. Operating divisions must complete a root cause assessment of any spills, implement follow-up measures and install safeguards to prevent similar incidents.

5.7.3 Spill Reporting

The Spill Response Plan outlines reporting requirements for spills or spill incidents. Reporting spills allows for a review of other GO operations and an opportunity to proactively address other potentially similar spill scenarios. The Spill Report Form 0243¹ outlines what information must be reported.

It is recommended that any potentially relevant details of a spill or spill response be shared with the Env.SC.

5.8 Contractor Chemicals

Contractors that use controlled chemicals on a GO Transit property must communicate what chemicals are being used to the appropriate GO Transit representative. Contractors are responsible to ensure that they have current M/SDS for all products they use and that their employees are adequately trained in the use of the products. No controlled products are to be temporarily stored, staged or left at a GO Transit facility by a contractor unless permission is granted by the facility and a secure storage area is provided.



6. Training

Human Resources provides employees with WHMIS/GHS, Right to Refuse unsafe work, TDG and Spills Response training. Supervisors are responsible to provide job-specific training to employees, including the proper use of PPE. Employees must know their responsibilities and ask their supervisor to clarify anything they do not understand. Spills training will be completed as per the Spill Response Plan.

When notified of a change to the procedure, Supervisors must communicate changes to operating practices, documentation, reporting, etc. to affected employees (and contractors) and provide the training, supplies and support required to ensure that changes are understood and implemented appropriately.

Note changes to regulatory training requirements (i.e. change from WHMIS to Global Harmonized System) will be administered and co-ordinated through the Human Resources ODL/Training Office.

6.1 Eligibility

Employees who require WHMIS/GHS or TDG training are identified by Human Resources.

7. Acronyms and Definitions

Env.MS	Environmental Management System
Env.SC	Environmental Steering Committee
EPS	Environmental Performance Standard
F/C	Flammable or Combustible
GHS	Global Harmonized System
M/SDS	Material Safety Data Sheet/Safety Data Sheet
O. Reg.	Ontario Regulation
PPE	Personal Protective Equipment
TDG	Transportation of Dangerous Goods
WHMIS	Workplace Hazardous Materials Information System

Hazardous Chemical that presents specific safety concerns, regulated under TDG when in transit and/or WHMIS/GHS when in use at a workplace

Subject waste Wastes that must be manifested as per Ontario Regulations that include liquid industrial and hazardous wastes



8. Revision Log

Revision	Date	Notes
0	March 2014	Initial Issue
1	August 2014	Section 5.1 and Section 5.2: Revised procedure for submission to System Safety and HR, removed Chemical Approval Form and added a checklist, removed requirement to renew an M/SDS through the approval method.



APPENDIX A

Chemical Approval Checklist

The following checklist must be reviewed by the Manager or Supervisor of employees using or working in the vicinity of bulk storage areas of the chemical

Submit this completed checklist along with SDS to System Safety for approval

I, as a Manager or Supervisor, have reviewed the attached SDS for the following information. I confirm that appropriate actions to protect health, safety and the environment will be implemented prior to use of the chemical on-site.

Please check to indicate review was completed:

- ☐ **Chemical Properties:** toxicity, corrosiveness and flammability
- ☐ **Use Precautions:** PPE, ventilation, machine guarding and noise protection requirements
- ☐ **Waste Disposal:** Waste classification and disposal requirements, including any necessary updates to waste generator number registrations on the Hazardous Waste Information Network
- ☐ **Discharges:** product ingredients compared to municipal sewer/environmental by-law parameters and limits
- ☐ **Storage Requirements:** compatibility, flammability and reactivity
- ☐ **Emergency Planning:** consideration and availability of containment, suitable spill response equipment, fire extinguishing equipment, emergency contacts and response strategy
- ☐ **Training:** Training has or will be provided for all staff using the chemical or working in proximity of bulk storage, outlining potential hazards and appropriate safety and environmental precautions

In addition, please indicate the following:

1. Product Type:
☐ Solid ☐ Liquid ☐ Powder ☐ Aerosol ☐ Compressed Gas
2. Interactions/mixed with other chemicals other than water? ☐ Yes / ☐ No
If yes, please provide SDS for this chemical with approval request.
3. Discharges to drains or sewers? ☐ Yes / ☐ No

Completed By:

Title:

Date:

Spill Response Plan

(GO-Env-R201)



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ATTACHMENT A: Emergency Contact Information

ATTACHMENT B: Quick Reference Guide



1. Objectives

This Spill Response Plan has been developed to provide guidance and outline expectations for appropriate spill response in the event of an accident or incident that causes the release of a contaminant during GO Transit operations or on GO Transit property.

This Spill Response Plan was developed by consolidating previously implemented GO spills procedures and has been updated for consistency and to meet current regulatory requirements and industry standard practices.

2. Scope and Limitations

The Spill Response Plan falls under the GO Environmental Management System (Env.MS) and is associated with its Environmental Performance Standards (EPS), namely Chemical Management (GO-Env-PS101) and Bulk Storage Tanks and Fuel Handling (GO-Env-PS104). These EPS outline spill prevention measures that must be implemented and maintained.

The protocols within this Plan are focused on the protection of the environment against adverse impacts. Additional precautions for the protection of human health and safety must be considered.

This Spill Response Plan does not provide detailed response measures for every spill scenario. It is intended to set a common administrative standard for spill response for all GO operating divisions, as specified in Section 4, Roles and Responsibilities.

Any supplementary procedures and protocols developed by operating divisions must not conflict with the requirements outlined in this Spill Response Plan.

3. Definitions

Contaminant: any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect

Pollutant: a subset of “contaminant”, being a contaminant other than heat, sound, vibration or radiation

Spill: any accidental, abnormal or inadvertent release of a pollutant discharged into the natural environment from or out of a man-made container (subject to exemptions listed in Section 8.5)

Operating Divisions: Station Services, Rail Operations, Rail Fleets and Facilities, Railway Corridors and Bus Fleet and Facilities and Bus Operations (GO)



4. Roles and Responsibilities

System Safety is responsible for maintaining the Spills Response Plan and soliciting input from the operating divisions. The Spill Response Plan will be reviewed following any MOE-reportable spills to ensure that Plan procedures were followed and that appropriate measures were in place prior to the spill to prevent or mitigate any potential impacts to the environment. Should no MOE-reportable spills occur, the Plan will be reviewed annually at a minimum. Any updates will be communicated to operating divisions by System Safety, Safety and Security Division.

Operating Divisions are responsible for the following:

- Understanding the requirements of the Spill Response Plan and abiding by them.
- Evaluating the specific spill risks presented by their operations.
- Developing targeted spill prevention and response plans for high risk activities.
- Specifying additional internal reporting and follow-up protocols, as required.
- Outlining the responsibilities of incident command and emergency response within their division.
- Training staff on their responsibilities under the Spill Response Plan and operation-specific procedures, in accordance with each employee's role and location of employment.

Human Resources ODL/Training Office is responsible for maintaining the Metrolinx Corporate Learning and Development Calendar and for providing up-to-date materials to any trainers retained to instruct the Spills Response and Reporting training program.

5. Regulatory Requirements

In Ontario, Part X of the *Environmental Protection Act* (EPA) lays the foundation for how spills are defined and must be managed in Ontario. The onus of reporting and clean-up is placed on those who caused or permitted a spill, had control of the spilled pollutant or owned the spilled pollutant.

In other words, Part X of the EPA establishes three basic responsibilities:

1. the duty to report a spill (S. 92),
2. the duty to clean up (S. 93), and
3. accountability (S. 99).

Part X of the EPA and other legal requirements that come into play in a spill situation include:

- Environmental Protection Act, RSO 1990, c E.19 – Specifically Part X, Spills
- Classification and Exemption of Spills and Reporting of Discharges, O. Reg. 675/98
- Spill Prevention and Contingency Plans, O. Reg. 224/07
- Spills, O. Reg. 360 (Payments)
- Technical Standards and Safety Act
- Liquid Fuels, O. Reg. 217/01
- Ontario Fire Code, Ontario Regulation (O. Reg.) 388/97
- Transportation of Dangerous Goods (TDG) Act and Regulations
- Canadian Transportation Accident Investigation and Safety Board Act



6. Spill Prevention

Operating divisions must implement engineering and administrative controls to eliminate or reduce the risk of spills resulting from their operations and facilities. This includes the implementation of Env.MS EPS requirements (on MyLinx) and other internal programs designed to address specific spill risks presented by activities, material use, location or other factors unique to each operation.

Key chemical management equipment must be maintained as per the Chemical Management EPS (GO-Env-PS101), including: spill containment, spill kits and MSDS. In addition, all required inspections must also be completed according to the prescribed schedules, with deficiencies corrected as identified. Ensure inspection records are completed and maintained.

Support in identifying spill risks and implementing appropriate preventative measures is available through System Safety.

7. Spill Response and Reporting Procedure

GO Transit's internal spill response and reporting procedure is compliant with applicable regulations and outlines the methodology for tracking spill incidents, identifying patterns and trends, and implementing corrective actions. This procedure encourages the cross-division review of previous incidents as an opportunity to learn and continually improve across all Operating Divisions. Through the full implementation of this Spill Response Plan, GO Transit will be able to appropriately address and document spill incidents and demonstrate due diligence in spills response.

GO classifies spills into the following types:

Type	Spill Parameters	Required Reporting
A	Spill to natural environment that does not meet exemption criteria, or Discharge of a pollutant to air within or outside a building, or Spill or confirmed leak of petroleum product from a fuelling system to the environment or inside a building (O. Reg. 217/01, s. 13(2))	Reportable to MOE ¹ + Internal spill report and record keeping
B	Spill to natural environment that meets exemption criteria ² , or Spill that is contained, but outside the normal course of events	Internal spill report and record keeping ²
C	Minor spill, routine in nature, contained	Report to supervisor if reoccurring or repair is required

1 – Diesel fuel spills >200L on the railway must also be reported to Transportation Safety Board

2 – Motor vehicle spills of <100L of fuel must be reported to the local municipality, despite MOE reporting exemptions

Note that this procedure applies to spills both on-site and off-site.

Spill Response Plan

(GO-Env-R201)



7.2 Spill Response

If a spill occurs, remember that personal safety and the safety of others comes first. Adequate knowledge, training and spill equipment must be available prior to initiating spill response.

Specific spill response training is provided to employees who are more likely to encounter a spill situation due to their roles or responsibilities. Human Resources ODL/Training Office provides Spill Response and Reporting in-class training (8-hour), which must be complemented by facility or task-specific awareness training.

In the event of a spill:

Action	Steps
Assess	<ul style="list-style-type: none"> Take a moment to understand the situation, identify hazards, the source and potential spill pathways Stay calm and do not rush
Notify	<ul style="list-style-type: none"> Notify GTCC and request emergency services or notification to MOE, TSB and local municipality, as required Report incident as per Section 7.2
Protect	<ul style="list-style-type: none"> Put on appropriate personal protective equipment
Control	<ul style="list-style-type: none"> Stop the source of the spill as quickly as possible (right container, close valve, plug hole, etc.) Protect drains and pathways to the natural environment Erect signage or barriers and warn others to stay away Call for necessary assistance
Clean	<ul style="list-style-type: none"> Weigh down drain covers and absorbent socks/booms to prevent movement Stay to the outside of the spilled material Clean-up promptly using appropriate materials
Tidy	<ul style="list-style-type: none"> Clean-up spent absorbents with a brush and scoop Decontaminate surface areas after clean-up using mild detergent, as required
Dispose	<ul style="list-style-type: none"> Place waste materials into a labelled bag or drum (choose drum type based on material) Dispose of contaminated materials in accordance with regulations
Restock	<ul style="list-style-type: none"> Replenish used spill clean-up supplies
Recover	<ul style="list-style-type: none"> Investigate potential environmental impacts and complete necessary remediation Ensure incident has been properly documented and followed-up on

Those participating in clean-up activities should be mindful of the following:

- Do not smoke, drink or eat during clean-up activities.
- Work upwind of the spilled material.
- Laundry or dispose of all personal protective equipment after clean-up.
- Wash or shower off any potentially contaminated areas of the body.
- Make detailed notes of clean-up events and timelines and include this information when making a record of the incident response.

Spill Response Plan

(GO-Env-R201)

**7.2.1 Spills in Public Areas**

In Stations or other areas accessible by the public, pay special attention to protecting the health and safety of the public and scene control. Spilled materials must be protected from foot or vehicular traffic and travel pathways (including access and egress points) should be adjusted as required. Any necessary service adjustments must also be made and communicated to the GO Transit Control Centre (GTCC).

Clear communication with the public is required. The GO employee responding to the scene must identify their position and association with GO and take command of the scene. Additional resources may need to be mobilized to the scene to control traffic or respond to questions by members of the public or the media.

The Customer Contact Centre must be notified and respond to communications from the public. Only the Supervisor of Corporate Communications and Media Relations may respond to media inquiries.

7.2.2 Retaining Outside Resources

Some spills cannot be adequately addressed through internal resources or without specialized equipment. GO retains outside spill response contractors to control, manage and remediate spills that are outside the capabilities of GO employees and first responders. These resources are available through the GTCC. Operating Division may also identify and contact more local spill clean-up contractors, as appropriate.

7.3 Internal Reporting

All Type A and B spills must be recorded on a Spills Report (Form 0243) by the Operating Division responsible for the spilled material. The most recent version of Form 0243 is available on MyLinx and is reviewed and updated independently of this procedure to maintain operational flexibility.

The following steps must be followed when reporting a spill internally:

Step	Responsibility	Actions
1	Operating Division	<ul style="list-style-type: none"> Contact the GTCC forthwith and provide the information in Part I of the Spills Report form.
2	GTCC	<ul style="list-style-type: none"> Notify the SAC, local municipality, TSB and/or spill clean-up contractor, as requested. Notify emergency services, as required. Initiate service recovery.
3	Operation Division	<ul style="list-style-type: none"> Update the MOE and GTCC with relevant information. Reference MOE Incident Number in subsequent correspondence with SAC/MOE.
4	Operating Division	<ul style="list-style-type: none"> Complete the Spills Report, follow-up investigation and associated documentation. Submit a copy of the signed and completed form and documentation to System Safety.
5	Operating Division & System Safety	<ul style="list-style-type: none"> Maintain relevant records for at least seven (7) years. Records must be legible and easily retrievable.

The completed form shall be submitted as a PDF by email or through online reporting software, as available. Associated records may include email correspondence, PDFs, picture files, report from MOE, GTCC incident correspondence, etc.



7.4 Disposal of Wastes

No regulated or hazardous waste generated from a spill may be shipped from site without a waste manifest. If the waste product is regulated by Transportation of Dangerous Goods (TDG), only TDG-trained individuals may sign-off on the manifest. Also, in accordance with GO-Env-PS1013, only GO/Metrolinx employees or a designated Contract Administrator may sign a waste manifest generated using a GO Waste Generator Number.

The MOE may assign an emergency waste generator number if the spill occurs off-site or if the appropriate waste class code is not registered at the facility where the spill occurred. If this is the case, this is the number that must appear on the waste manifest.

Any absorbents used for non-hazardous or non-TDG regulated products (i.e. oil) may be disposed of in the regular garbage in moderate quantities, as long as the absorbent material is not saturated (i.e. dripping). Saturated clean-up materials must be disposed of as liquid industrial waste.

7.5 Spill Follow-Up

Following a spill event (including a near miss), the Operating Division must complete an assessment to evaluate root cause and identify contributing factors to the spill. This assessment shall also involve the Environmental representative of System Safety. Any technically and financially feasible measures identified to prevent future or similar occurrences shall be implemented. Corrective measures shall be applied both to address the spill that occurred and also at facilities or in operations where similar risk factors are present.

The root cause assessment and implemented corrective actions shall be documented and provided to System Safety. Internal records shall be maintained by Operating Divisions and System Safety for at least seven (7) years.

Operating Divisions are encouraged to provide spill or near miss details to the Env.SC, such that other Operating Divisions can identify similar areas of risk within their operations, contribute to the root cause analysis, make suggestions and share similar experiences, and implement their own corrective actions.

7.6 Contractor Spills

Contractors must include spill response measures in their Emergency Plan (procurement requirement) and have access to spill response equipment sufficient to at least control and contain any products they are using on or off GO property.

For contractors retained by the Construction Management Office (CMO), contractors shall contact the GO-CMO Emergency Line and follow the CMO Construction Safety Management Program "Procedures for Containing and Guidance for Reporting Project Spills" (Appendix 23).

For contractors retained directly by Operating Divisions, the Operating Division shall follow the reporting procedure outlined in Section 7.2.



8. MOE Reportable Spills

The question of what spills must be reported to outside agencies is addressed in Sections 15 and 92 of the EPA.

Previously, the obligation to report spills under the EPA only applied to a spill of a pollutant *that causes or is likely to cause an adverse effect*. However, with amendments to the wording of Section 92 in 2005, the restriction of “causes or likely to cause an adverse effect” was removed. Therefore, **every spill of a pollutant must be reported**, with the only exceptions being those outlined in O. Reg. 675/98 (see Section 8.5).

Reportable Spill

Any accidental, abnormal or inadvertent release of a solid, liquid, gas or odour discharged into the natural environment from or out of a man-made container

8.1 Who must Report

The EPA (Section 92(4)) imposes a duty to report the release of a contaminant on the following individuals or organizations:

- a) the person that spills or who causes or permits the spill,
- b) the person who had control of the pollutant immediately prior to the spill, and
- c) police officers and employees of a municipality or other public authorities¹ who may have been informed of or who are investigating a spill unless they have reasonable grounds for believing that the MOE was already notified.

8.2 Who must be notified

The following parties must always be notified of a spill:

- **Ministry of the Environment (EPA, ss. 15(1) and 92(1)(a))**
Notification through the Spills Action Centre (SAC): 1-800-268-6060 (or 416-325-3000 in Toronto)
- **Municipality (EPA, s. 92(1)(b))**
Direct notification to municipality, or arrange notification to municipality through the SAC
- **Owner of Pollutant (EPA, s. 92(1)(c))**
Required if the person reporting to the SAC is not the owner of the pollutant spilled
- **Person in Control of Pollutant (EPA, s. 92(1)(d))**
Report to the person who had control of the pollutant immediately prior to the spill, to ensure that the response actions are undertaken
- **Technical Standards and Safety Authority (TSSA)**
If a spill or leak has occurred because of the use, handling or storage of hydrocarbons covered under the Technical Standards and Safety Act (see Section 9), the TSSA must be notified

¹ According to the Canadian Bar Association (2006), “Public Authority” has not been defined in regulation, but has been designated by the courts as an “entity which is subject to government control and which functions for the benefit of the public rather than for private benefit”. Under this definition, GO Transit and its employees would be considered a “Public Authority.” Source Link: <http://www.cba.org/cba/newsletters/ip-2003/PrintHtml.aspx?DocId=11136>



When contacting the SAC, the caller (Section 7.2) shall confirm that the SAC will notify the municipality(ies) and the TSSA (as required) on behalf of GO Transit.

8.3 Reporting Timelines

The *Environmental Protection Act* (EPA) requires that notifications be made “**forthwith**” or “without undue delay”. Courts have interpreted this to mean as quickly as possible under the circumstances, or “immediately when the person knows or ought to know that the pollutant is spilled” (s. 92(2) of the EPA).

Reasonable delay is accepted if caused by initial efforts to stop or contain the spill, the notification of first responders and potentially affected parties, and the gathering, without pause, of information critical to the Ministry’s understanding and assessment of the event.

8.4 Reporting Details

In the event of a reportable spill, the following details must be provided to the SAC or other notified party – **Think W5:**

The W5 of Reporting a Spill	
Who?	<ul style="list-style-type: none"> • Caller’s name, telephone number, organization and position • Names, telephone numbers and roles of those coordinating the response • Other persons contacted
What?	<ul style="list-style-type: none"> • Identity and quantity of the pollutants discharged • Known hazards (see MSDS) and if it is a “toxic substance” • A description of any adverse effects that occurred or may occur² and actions being implemented to mitigate impacts
When?	<ul style="list-style-type: none"> • Date and time the discharge occurred • Date and time the discharge was discovered • The duration of the discharge and whether the discharge is continuing
Where?	<ul style="list-style-type: none"> • Location of the discharge • Access restrictions or hazards (i.e. confined space, hours of operation, right-of-way, rail maintenance yard, etc.)
Why?	<ul style="list-style-type: none"> • Source of the pollutant • Best available information regarding the cause of the discharge, or steps that are being taken to determine the cause

² Adverse effects may include: personal or public safety or health threats, potential impacts to wells or water intakes, impacts to off-site property, impacts to fish or wildlife habitat or flood plains, other environmental impacts



8.6 Spill Reporting Exemptions

Certain classes of spills fall under O. Reg. 675/98, the *Classification and Exemption of Spills and Reporting of Discharges* regulation. If a spill falls into one of these classes, it does not need to be reported to MOE SAC. The table below identifies the classes laid out in O. Reg. 675/98 and the conditions that remain in effect should one of the classifications apply.

Note that the O. Reg. 675/98 reporting exemptions **DO NOT APPLY** (i.e. incident is reportable) if:

- The spill of operating system fluids enters or is likely to enter directly or indirectly water or a watercourse, as defined by the Ontario Water Resources Act; and,
- The spill causes or is likely to cause adverse effects other than those that are readily remediated through cleanup and restoration of surfaces prepared for vehicular traffic or adjacent paved, gravelled and sodded areas.

Table 1 Exemption Classes and Conditions as per Ontario Regulation 675/98

Class	Exemption	Remaining Conditions
I	Discharge was completed under a permit or approval	Permit restrictions
II	Only potable water was discharged and did not carry any silt or pollutants	None
III	The spill was the result of a fire (stations only)	None
VI	The spill was planned and pre-approved	None
V	Less than 100kg of refrigerant	None
VI	Less than 100L fuel from motor vehicle (bus and support vehicles)	1. Notify Municipality, owner and person in control of pollutant
VII	Less than 100L mineral oil from public transformer or capacitor	1. Arrange for and implement restoration/remediation 2. Maintain all records 3. Notify owner and person in control of pollutant
VIII	Less than 100L gas or associated product from private fuel outlet	1. Arrange for and implement restoration/remediation 2. Maintain all records 3. Notify owner and person in control of pollutant
XI	Spill of cargo not reportable according to TDG (i.e. <200L diesel) ¹	1. Arrange for and implement restoration/remediation 2. Maintain all records 3. Notify owner and person in control of pollutant
X	Spill covered and addressed as per Spill Prevention and Contingency Plan (O. Reg. 224/07) <i>Note that this Spill Response Plan does <u>not</u> meet all the requirements of a SPCP as per O. Reg. 224/07.</i>	1. SPCP must already be in effect 2. Spill is addressed as per steps in SPCP 3. Spill is not deliberate 4. No MOE concerns 5. Items in place to mitigate potential effects and remediation planned or completed 6. Spill records maintained for 5 years 7. Owner and person in control of pollutant notified
XI	Falls under existing spills Memorandum of Understanding (MOU) with MOE	1. Maintain records of pollutant (i.e. MSDS) 2. Notify owner and those in control of pollutant

¹ – The only TDG-regulated good carried by trains/buses is diesel fuel; all other operating fluids are non-TDG regulated



9. Reporting Rules for Fuel Handling Systems

Additional reporting requirements are mandated under the Technical Standards and Safety Act for licensed fuel handling facilities.

If a spill or leak of a petroleum product at a fuelling facility meets the following conditions, it must be reported to the TSSA through the SAC:

- Spill in excess of 100 litres at sites restricted from public access
- Spill in excess of 25 litres at sites with public access
- Spill that meets any of the following conditions:
 - creates a hazard to public health or safety,
 - contaminates any fresh water source or waterway,
 - interferes with the rights of any person, or
 - allows entry of product into a sewer system or underground stream or drainage system
- Leaks (i.e. product escapes) that result from equipment failures, regardless of quantity released
- Petroleum Product that has escaped to the environment or inside a building

10. Training

Human Resources ODL/Training Office organize in-class 8-hour **Spill Response and Reporting** training. Employees who require this training are identified according to role code. Refresher training is provided every three (3) years. Operating Divisions are responsible for reviewing these roll codes on a regular basis to ensure all relevant positions are captured.

Operating Divisions shall provide additional on-site training to employees, as appropriate to their spill response roles and responsibilities. Site or job-specific **General Awareness** training must be provided to **every** employee working with or around a potential pollutant and shall include:

- an overview of product (type, volume and location),
- location of spill supplies,
- spill kit types, and
- internal reporting protocols.

Spill Response Teams may be established to address anticipated but unpreventable spills (i.e. spill of fuel due to collision). Spill response team members must be fully trained for their responsibilities and have adequate supplies to control and contain anticipated spill volumes and materials. Training must include:

- Handling of anticipated spilled materials and their hazards
- Proper use and maintenance of protective clothing and equipment
- Containment materials and devices
- Containment methods and techniques
- Environmental regulations and the GO Spill Response Plan
- Drainage fundamentals and how to interpret drainage plans.



10.1 Record Retention

Training must be documented one of the following ways:

- Spill Response and Reporting: Human Resources ODL/Training Office, attendance sheet
- Spill Response Team: Operating Division, attendance sheet
- General Awareness: Facility Orientation, checklist and sign-off

11. Acronyms

CMO	Construction Management Office
Env.MS	Environmental Management System
Env.SC	Environmental Steering Committee
EPA	Environmental Protection Act (Ontario)
EPS	Environmental Performance Standard
GTCC	GO Transit Control Centre
MOE	Ministry of the Environment and Climate Change
MSDS	Material Safety Data Sheet
O. Reg.	Ontario Regulation
PPE	Personal Protective Equipment
SAC	Spills Action Centre (MOE)
SPCP	Spill Prevention and Contingency Plan
TDG	Transportation of Dangerous Goods
TSB.....	Transportation Safety Board
TSSA	Technical Standards and Safety Authority

12. Revision Log

Revision	Date	Notes
0	July 2014	Initial Issue

Spill Response Plan – Attachment A

(GO-Env-R201)



Spill Response Plan (GO-Env-R201)

Attachment A – Emergency Contact List

(For Reference Only)

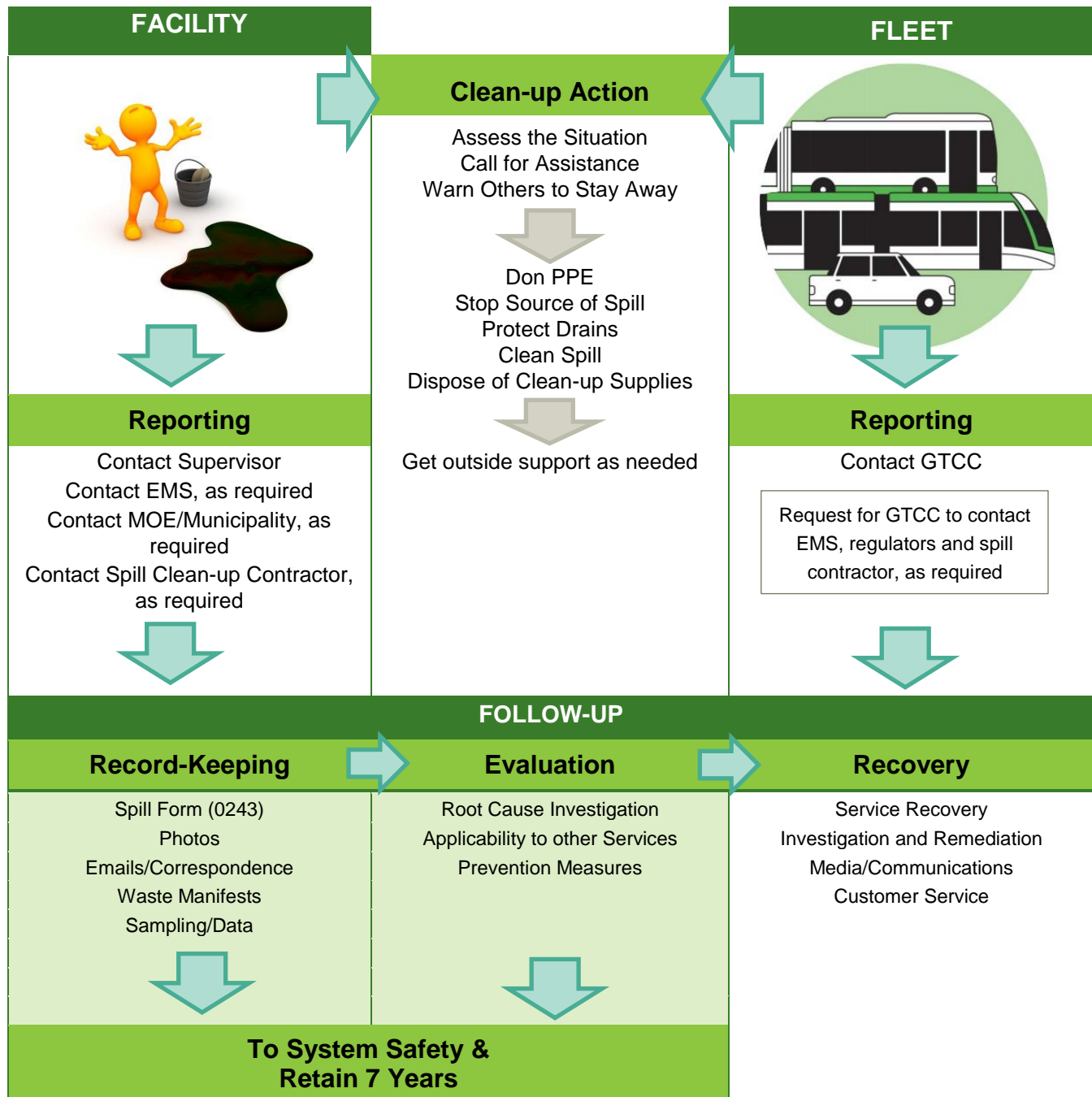
	Contacts	Internal	External
Internal	Rail GTCC 24/7	7100	416.869.3600 Ext 7100
	Bus GTCC 24/7	7044	416.869.3600 Ext 7044
		Phone	Email
	GTCC Manager On-Call	416.293.1511	GTCCManagers@gotransit.com
	System Safety	-	SystemSafety@gotransit.com
	Station Services	Refer to current call lists	-
	Bus Services	Refer to current call lists	-
	Rail Fleets & Facilities	Refer to current call list	-
	Rail Corridors	Refer to current call list	-
Municipalities	Transportation Safety Board 24/7	1.819.953.7876	railnotifications@tsb.gc.ca
	MOE Spills Action Centre 24/7	1.800.268.6060 or 416.325.3000	-
	Municipal Emergency Services	911	-
	Municipal Spills Reporting:	-	-
	City of Toronto	311	-
	York Region	905.895.1231 or 1.877.464.9675	-
	Durham Region	905.668.7711 or 1.800.372.1102	-
	Region of Peel (Spill Coordinator) 24/7	905.791.7800 Ext 3101	Spill Reporting Guide: Link
	Halton Region 24/7 (Emergency Spill Response Team)*	905.825.6000 or 1-866-442-5866	Spill Reporting Guide: Link
	City of Hamilton (Spill Reporting Line) 24/7	905.540.5188	Spill Reporting Guide: Link
	Region of Waterloo (Spill Line)	519.650.8260 (day) or 519.650.8200 (after hours)	Spill Reporting Guide: Link
	City of Barrie	705.726.4242	-
	City of Guelph	519.822.1260	-
External	Newalta	1.800.567.7455	-
	PNR	Refer to Quick Links	-
	TTR	Refer to current call list	-
	VIA Rail	800.361.6265	-
	CN/CP	In PENTA	-


* When contacting Halton's Emergency Spill Response Team during normal working hours (Monday to Friday, 8:30 a.m. to 4:30 p.m. excluding holidays), please request that the call be directed to the Wastewater Plant Operations Division



Spill Response Plan (GO-Env-R201)

Attachment B – Quick Reference Guide



		BUS SERVICES		Env-BS-P-104_G2	
Section	Subject			Approved	Page
Bus Fleet & Facilities	Bulk Storage System Filling Procedure			08-01-2014	1 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor					

1. Objectives

The intention of this operating procedure is to provide standardized direction to personnel for supervising and conducting delivery of products into the Bus Services maintenance facility bulk storage systems.

2. Scope and Limitations

This procedure is intended for use by product delivery personnel contracted by Bus Fleet and Facilities Services at all Bus Services maintenance garages, as applicable. The procedure provides general guidance regarding the transfer of product into bus maintenance facility bulk storage systems. Products which may be involved include transmission oil, engine oil, coolant, windshield washer fluid and diesel fuel. This procedure is to be used in conjunction with other product-specific handling and operational requirements.

3. Roles, Responsibilities and Program Maintenance

3.1 Delivery Personnel:

- 3.1.1 Shall don all necessary personal protective equipment as required by the product label or MSDS, receiving facility operations or internal company requirements. Equipment may include, but is not limited to steel toe safety boots, protective eye wear and gloves.
- 3.1.2 Are responsible for reviewing the posted emergency response procedure and identifying location of supplied emergency spill kits, prior to commencing fill procedures.
- 3.1.3 Are required to ensure at least one qualified employee (contracted company) is present and attentive to the fill operation as long as the supply truck is connected to a bulk storage system.
- 3.1.4 Before connecting to a bulk storage system:
 - 3.1.4.1 Set brakes and connect grounding and bonding cables where required.
 - 3.1.4.2 Verify the truck unloading line is in good condition (no external cracks). Ensure delivery hoses are firmly connected, with no leaking seals.
 - 3.1.4.3 Verify truck contents (material and quantity). Proceed inside the facility, check and print receiving tank contents and initial level at the facility's Veeder Root station (not applicable at the Lincolnville facility). Determine volume available for filling within receiving tank. Verify that the tank will contain contents of the intended transfer volume without overflow.



BUS SERVICES

Env-BS-P-104_G2

Section	Subject	Approved	Page
Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	2 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

3.1.5 Fuel Delivery to Bulk Storage Tanks

3.1.5.1 Fuel loads are to be delivered within 24 hours of GO's request for delivery under normal operating circumstances.

3.1.5.2 Manually dip the tank and confirm Veeder Root level reading using the associated tank dip chart (Appendix A). Record the before dip reading on the Vehicle Loading Report.

If delivering to Lincolnville bus maintenance facility, Veeder Root start and end levels cannot be collected as there is no access to the Veeder Root station. Similarly, the storage tanks are not equipped with dip ports for collecting dip measurements. Connect to the outdoor delivery port and enter code 1976 in the TMS digital keypad to start the transfer pump.

****In rare occasions where a full delivery cannot be made, product should be retained and redirected to another GO location. Notification must be made to a GO Bus Fleet and Facilities Services Supervisor should this occur.**

3.1.5.3 Be aware there are no visual or audible overfill alarms at the fill port of any bus maintenance facility underground bulk storage system. The systems are equipped with automatic shut-offs, triggered at high level set points, but no warning alarms will be activated.

3.1.5.4 All GO Transit Bus Services bulk storage tank systems are equipped with automatic shut-offs, triggered at high level set points.

3.1.5.5 Upon completion of fuel transfer, manually dip the tanks again and record the end dip information on the Vehicle Loading Report. Return to the Veeder Root station and print receiving tank contents and ending level. Attach both Veeder Root slips (start level and end level) to the Vehicle Loading Report.

When delivering to a B Facility, the final Vehicle Loading Report – Bill of Lading should be deposited in the mailbox mounted next to the facility Veeder Root station or TMS station at Lincolnville.

When delivering to an A Facility, reports are to be submitted to the Stores Supervisor.

Ensure tank closures are firmly replaced and locked.



BUS SERVICES

Env-BS-P-104_G2

Section	Subject	Approved	Page
Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	3 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

3.1.6 Non Fuel Fluid Delivery to Bulk Storage Tanks (Engine Oil, Coolant, Hydraulic Oil, etc.)

3.1.6.1 Be aware the aboveground storage systems at the following locations are not equipped with visual and / or audible overfill alarms at the fill port:

- 85 Van Kirk Drive, Brampton
- 19 Mansewood Court, Halton Hills
- 1002 Thornton Road South, Oshawa
- 65 Garfield Wright Boulevard, East Gwillimbury

3.1.6.2 **All GO Transit Bus Services bulk storage tank systems are equipped with automatic shut-offs, triggered at high level set points.**

3.1.6.3 If product delivery is being made to an aboveground bulk storage system at the 6190 Mississauga Road, Streetsville bus maintenance facility, activate the overfill protection alarm, in the panel box labeled to correspond with the target receiving tank.

Overfill alarm panel boxes are located on the wall of the facility, behind the bulk storage tank area. Activation instructions are provided on the inside panel wall.

3.1.6.4 If product delivery is being made to an aboveground bulk storage system at the 200 Steeprock, Toronto maintenance facility, be aware the system is equipped with overfill audible alarms that will automatically sound.

Cease filling operations if an alarm sounds and seek the assistance of an on-site GO Transit representative.

3.1.6.5 Upon completion of fluid transfer, return to the Veeder Root station and print receiving tank contents and ending level. Attach both Veeder Root slips (start level and end level) to the Bill of Lading.

3.1.6.6 The Bill of Lading should be deposited in the mailbox mounted next to the facility Veeder Root station.

3.1.6.7 Ensure tank closures are firmly replaced and locked.

3.1.6.8 If a spill of product occurs, follow emergency response procedures outlined on posted signs and supplied spill kit equipment to contain and clean up. Report the occurrence to on-site GO Transit representatives forthwith.



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3.2 Plant Service Person I (PSP1):

- 3.2.1 The Bus Facility Infrastructure PSP1 is responsible for checking the fluid delivery mail box at B Facilities on a daily basis and forwarding Bill of Ladings to the Fleet Services Budget & Contract Administrator.

3.3 Fleet Services Budget & Contract Administrator:

- 3.3.1 Maintain the Delivery Validation and Invoice Reconciliation excel spreadsheet, according to the Stores internal Fuel Procedure SOP, Appendix B. This spreadsheet should be maintained in a common directory to permit the Stores Supervisors regular access.
- 3.3.2 Review the Vehicle Loading Report. Note delivered volume indicated by the Veeder Root slips to the total liters delivered indicated on the Vehicle Loading Report. Record and track delivery variances on the above noted Reconciliation excel spreadsheet.

Large discrepancies should be flagged and brought to the attention of vendor and/or carrier for correction

Should the Veeder Root slips not be attached to the Vehicle Load Report, contact the carrier representative and report the occurrence with the driver name and number (as indicated on the Vehicle Load Report) and the BOL #. Track this on a spreadsheet, for full circle closure.


- 3.3.3 Further determine delivered volume by dip measurements recorded on the Vehicle Loading Report by subtracting the "Before Invent" reading from the "Ending Invent" reading. The volume should be similar to the total measured liters indicated on the Vehicle Load Report. **Dip measurements should only be used as a check on the accuracy of the Veeder Root system and not used to validate delivered loads in place of the Veeder Root system.**

3.4 Bus Fleet Stores Supervisor:

- 3.4.1 Audits of delivery personnel and procedures will be conducted by the Bus Fleet Stores Supervisors to ensure the requirements of this standard are abided by. Each A facility shall be audited at minimum once per quarter.

The carrier company should not be given advanced notice of planned audits.

The Supervisor shall note any non-conformances to this standard and take follow up action to address raised issues.

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4. Applicable Legislation, Standards or Other Requirements

Fire Protection and Prevention Act, 1997 – O.Reg. 213/07

Technical Standards & Safety Act, 2000 – O.Reg. 217/01

5. Definitions

Bulk storage system	A vessel having a capacity of more than 230 L and designed to be installed in a fixed location.
Veeder Root	Automated storage tank monitoring system for in-tank inventory and leak detection. System control panels are located in the fueling bay of each maintenance facility.
A Facility	Facilities equipped to provide storage, fluid top-up, bus wash, major repairs and inspection work. A facilities currently include Streetsville, Steeprock and Oshawa bus maintenance facilities.
B Facility	Facilities equipped to provide storage, fluid top up, bus wash and light running repairs. B facilities currently include Aberfoyle, Halton Hills, Brampton, Hamilton, East Gwillimbury.

6. Revision History

Change Made	Revision Level	Date of Change
New document	000	06-12-2014
Addition of Lincolnville and East Gwillimbury facilities	001	01-22-2015
Addition of Plant Service Person 1, Budget & Contract Administrator and Stores Supervisor Responsibilities. Addition of more detailed delivery procedure for fuel.	002	11-22-2016



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APPENDIX A

FACILITY FUEL TANK DIP CHARTS



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Halton Hills & Brampton Bus Maintenance Facilities

Model DWT6 (8) 50000
DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
0.5	34	30.5	3,902	60.5	10,426	90.5	18,281	120.5	26,701
1.0	55	31.0	3,994	61.0	10,548	91.0	18,419	121.0	26,842
1.5	79	31.5	4,087	61.5	10,671	91.5	18,556	121.5	26,984
2.0	106	32.0	4,181	62.0	10,794	92.0	18,694	122.0	27,125
2.5	136	32.5	4,276	62.5	10,918	92.5	18,832	122.5	27,266
3.0	167	33.0	4,371	63.0	11,042	93.0	18,971	123.0	27,407
3.5	202	33.5	4,466	63.5	11,166	93.5	19,109	123.5	27,549
4.0	238	34.0	4,563	64.0	11,290	94.0	19,247	124.0	27,690
4.5	276	34.5	4,660	64.5	11,415	94.5	19,386	124.5	27,831
5.0	316	35.0	4,757	65.0	11,540	95.0	19,525	125.0	27,972
5.5	357	35.5	4,856	65.5	11,666	95.5	19,663	125.5	28,113
6.0	401	36.0	4,954	66.0	11,792	96.0	19,802	126.0	28,254
6.5	446	36.5	5,054	66.5	11,918	96.5	19,942	126.5	28,395
7.0	492	37.0	5,154	67.0	12,044	97.0	20,081	127.0	28,535
7.5	540	37.5	5,254	67.5	12,171	97.5	20,220	127.5	28,676
8.0	589	38.0	5,356	68.0	12,298	98.0	20,359	128.0	28,817
8.5	640	38.5	5,457	68.5	12,426	98.5	20,499	128.5	28,957
9.0	692	39.0	5,560	69.0	12,553	99.0	20,639	129.0	29,098
9.5	746	39.5	5,663	69.5	12,681	99.5	20,778	129.5	29,238
10.0	801	40.0	5,766	70.0	12,810	100.0	20,918	130.0	29,379
10.5	857	40.5	5,870	70.5	12,938	100.5	21,058	130.5	29,519
11.0	914	41.0	5,975	71.0	13,067	101.0	21,198	131.0	29,659
11.5	972	41.5	6,080	71.5	13,196	101.5	21,338	131.5	29,799
12.0	1,032	42.0	6,185	72.0	13,326	102.0	21,479	132.0	29,939
12.5	1,093	42.5	6,292	72.5	13,456	102.5	21,619	132.5	30,079
13.0	1,155	43.0	6,398	73.0	13,586	103.0	21,759	133.0	30,219
13.5	1,218	43.5	6,506	73.5	13,716	103.5	21,900	133.5	30,359
14.0	1,282	44.0	6,613	74.0	13,846	104.0	22,040	134.0	30,498
14.5	1,347	44.5	6,721	74.5	13,977	104.5	22,181	134.5	30,638
15.0	1,413	45.0	6,830	75.0	14,108	105.0	22,322	135.0	30,777
15.5	1,480	45.5	6,939	75.5	14,239	105.5	22,462	135.5	30,917
16.0	1,548	46.0	7,049	76.0	14,371	106.0	22,603	136.0	31,056
16.5	1,618	46.5	7,159	76.5	14,503	106.5	22,744	136.5	31,195
17.0	1,688	47.0	7,270	77.0	14,635	107.0	22,885	137.0	31,334
17.5	1,759	47.5	7,381	77.5	14,767	107.5	23,026	137.5	31,473
18.0	1,831	48.0	7,493	78.0	14,900	108.0	23,167	138.0	31,611
18.5	1,904	48.5	7,605	78.5	15,032	108.5	23,308	138.5	31,750
19.0	1,978	49.0	7,718	79.0	15,165	109.0	23,449	139.0	31,888
19.5	2,053	49.5	7,831	79.5	15,299	109.5	23,590	139.5	32,027
20.0	2,128	50.0	7,944	80.0	15,432	110.0	23,732	140.0	32,165
20.5	2,205	50.5	8,058	80.5	15,566	110.5	23,873	140.5	32,303
21.0	2,282	51.0	8,173	81.0	15,700	111.0	24,014	141.0	32,441
21.5	2,360	51.5	8,288	81.5	15,834	111.5	24,155	141.5	32,578
22.0	2,439	52.0	8,403	82.0	15,968	112.0	24,297	142.0	32,716
22.5	2,519	52.5	8,519	82.5	16,103	112.5	24,438	142.5	32,853
23.0	2,600	53.0	8,635	83.0	16,237	113.0	24,580	143.0	32,991
23.5	2,682	53.5	8,751	83.5	16,372	113.5	24,721	143.5	33,128
24.0	2,764	54.0	8,868	84.0	16,508	114.0	24,862	144.0	33,265
24.5	2,847	54.5	8,986	84.5	16,643	114.5	25,004	144.5	33,401
25.0	2,931	55.0	9,104	85.0	16,778	115.0	25,145	145.0	33,538
25.5	3,015	55.5	9,222	85.5	16,914	115.5	25,287	145.5	33,674
26.0	3,101	56.0	9,341	86.0	17,050	116.0	25,428	146.0	33,811
26.5	3,187	56.5	9,460	86.5	17,186	116.5	25,570	146.5	33,947
27.0	3,274	57.0	9,579	87.0	17,322	117.0	25,711	147.0	34,083
27.5	3,361	57.5	9,699	87.5	17,459	117.5	25,853	147.5	34,218
28.0	3,450	58.0	9,819	88.0	17,595	118.0	25,994	148.0	34,354
28.5	3,539	58.5	9,940	88.5	17,732	118.5	26,135	148.5	34,489
29.0	3,628	59.0	10,061	89.0	17,869	119.0	26,277	149.0	34,624
29.5	3,719	59.5	10,182	89.5	18,006	119.5	26,418	149.5	34,759
30.0	3,810	60.0	10,304	90.0	18,144	120.0	26,560	150.0	34,894



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Model DWT6 (8) 50000 DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
150.5	35,028	180.5	42,590	210.5	48,548
151.0	35,163	181.0	42,706	211.0	48,626
151.5	35,297	181.5	42,820	211.5	48,705
152.0	35,431	182.0	42,935	212.0	48,782
152.5	35,564	182.5	43,049	212.5	48,858
153.0	35,698	183.0	43,162	213.0	48,934
153.5	35,831	183.5	43,275	213.5	49,008
154.0	35,964	184.0	43,388	214.0	49,082
154.5	36,097	184.5	43,500	214.5	49,155
155.0	36,229	185.0	43,611	215.0	49,227
155.5	36,361	185.5	43,722	215.5	49,298
156.0	36,493	186.0	43,833	216.0	49,368
156.5	36,625	186.5	43,943	216.5	49,437
157.0	36,757	187.0	44,053	217.0	49,505
157.5	36,888	187.5	44,162	217.5	49,572
158.0	37,019	188.0	44,271	218.0	49,638
158.5	37,150	188.5	44,379	218.5	49,703
159.0	37,280	189.0	44,486	219.0	49,766
159.5	37,410	189.5	44,593	219.5	49,829
160.0	37,540	190.0	44,700	220.0	49,891
160.5	37,670	190.5	44,806	220.5	49,952
161.0	37,799	191.0	44,912	221.0	50,011
161.5	37,928	191.5	45,017	221.5	50,069
162.0	38,057	192.0	45,121	222.0	50,126
162.5	38,186	192.5	45,225	222.5	50,182
163.0	38,314	193.0	45,328	223.0	50,237
163.5	38,442	193.5	45,431	223.5	50,290
164.0	38,570	194.0	45,533	224.0	50,342
164.5	38,697	194.5	45,635	224.5	50,392
165.0	38,824	195.0	45,736	225.0	50,442
165.5	38,951	195.5	45,837	225.5	50,489
166.0	39,077	196.0	45,937	226.0	50,535
166.5	39,203	196.5	46,036	226.5	50,580
167.0	39,329	197.0	46,135	227.0	50,623
167.5	39,455	197.5	46,233	227.5	50,664
168.0	39,580	198.0	46,330	228.0	50,704
168.5	39,705	198.5	46,427	228.5	50,742
169.0	39,829	199.0	46,523	229.0	50,778
169.5	39,953	199.5	46,619	229.5	50,811
170.0	40,077	200.0	46,714	230.0	50,843
170.5	40,200	200.5	46,808	230.5	50,872
171.0	40,324	201.0	46,902	231.0	50,899
171.5	40,446	201.5	46,995	231.5	50,922
172.0	40,569	202.0	47,087	232.0	50,943
172.5	40,691	202.5	47,179	232.5	50,959
173.0	40,812	203.0	47,270	233.0	50,970
173.5	40,934	203.5	47,360		
174.0	41,054	204.0	47,450		
174.5	41,175	204.5	47,539		
175.0	41,295	205.0	47,627		
175.5	41,415	205.5	47,715		
176.0	41,534	206.0	47,801		
176.5	41,653	206.5	47,887		
177.0	41,772	207.0	47,973		
177.5	41,890	207.5	48,057		
178.0	42,008	208.0	48,141		
178.5	42,125	208.5	48,224		
179.0	42,242	209.0	48,306		
179.5	42,359	209.5	48,387		
180.0	42,475	210.0	48,468		



HOW TO PROPERLY GAUGE YOUR TANK:
Underground storage tanks require periodic measurement to determine current inventory level. Using the proper methods when gauging your tank's contents will insure the most accurate reading and insure that you do not damage your tank. The following procedure should be followed whenever you use a gauge stick to determine the amount of product that is in your tank:
1) Use a wood dipstick with a rubber or nylon tip. Metallic dipsticks are not recommended. This will insure that frequent tank gaugings or an accidental dropping of the gauge stick into the tank will not damage the tank bottom.
2) Slowly lower your gauge stick into the fill port until it touches the tank bottom. Never free drop the gauge stick. This can result in inaccurate measurements due to product splashing. Free dropping can also result in gauge stick damage and tank damage.
3) Remove your dipstick slowly and read the product level directly from the gauge stick.

Water Paste Detection:
To detect water in the tank bottom, water detection paste is available from petroleum equipment distributors. See vendor below or suitable equal.

Gasola Water Finding Paste
Federal Process Corp.
800-846-7325
www.gasola.com

Caution
Pressurized deliveries are not recommended. If the delivery vehicle uses pumps to fill the tank, install overfill shutoff equipment in the tank and truck to prevent the tank from being overfilled. **Overfilling the tank under pressure will damage the tank even if the tank vent is unrestricted.**

Containment Solutions, Inc.
5150 Jefferson Chemical Road
Conroe, TX 77301
Tel: 936-756-7731
Fax: 936-756-7766

Note: Calibration chart is based on the fluid level above a 8mm [5/16"] deflector plate.

Pub No. CAL 8-50000LDWT-CAN 5/11



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Aberfoyle Bus Maintenance Facility

TANK CALIBRATION CHART

TMS

50000LT AG DW VACUUM MONITORED TANK,
ULC-S601-07

Horizontal tank with flat heads

Diameter = 2,997 mm Length = 7,090 mm Total Tank Capacity = 50,006 litres

<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)
1.00	16	36.00	3,405	71.00	9,062	106.00	15,825
2.00	46	37.00	3,544	72.00	9,244	107.00	16,029
3.00	85	38.00	3,684	73.00	9,425	108.00	16,232
4.00	130	39.00	3,826	74.00	9,608	109.00	16,437
5.00	182	40.00	3,970	75.00	9,792	110.00	16,641
6.00	239	41.00	4,116	76.00	9,976	111.00	16,846
7.00	301	42.00	4,262	77.00	10,162	112.00	17,052
8.00	367	43.00	4,411	78.00	10,348	113.00	17,258
9.00	438	44.00	4,560	79.00	10,535	114.00	17,464
10.00	512	45.00	4,711	80.00	10,722	115.00	17,670
11.00	590	46.00	4,864	81.00	10,911	116.00	17,877
12.00	672	47.00	5,018	82.00	11,100	117.00	18,084
13.00	757	48.00	5,173	83.00	11,290	118.00	18,292
14.00	845	49.00	5,329	84.00	11,480	119.00	18,499
15.00	936	50.00	5,487	85.00	11,671	120.00	18,707
16.00	1,030	51.00	5,646	86.00	11,863	121.00	18,916
17.00	1,127	52.00	5,807	87.00	12,056	122.00	19,125
18.00	1,227	53.00	5,968	88.00	12,249	123.00	19,333
19.00	1,329	54.00	6,131	89.00	12,443	124.00	19,543
20.00	1,434	55.00	6,295	90.00	12,637	125.00	19,752
21.00	1,541	56.00	6,460	91.00	12,832	126.00	19,962
22.00	1,651	57.00	6,626	92.00	13,028	127.00	20,172
23.00	1,763	58.00	6,793	93.00	13,225	128.00	20,382
24.00	1,877	59.00	6,962	94.00	13,421	129.00	20,592
25.00	1,994	60.00	7,131	95.00	13,619	130.00	20,803
26.00	2,112	61.00	7,302	96.00	13,817	131.00	21,013
27.00	2,233	62.00	7,474	97.00	14,015	132.00	21,224
28.00	2,356	63.00	7,646	98.00	14,215	133.00	21,435
29.00	2,480	64.00	7,820	99.00	14,414	134.00	21,646
30.00	2,607	65.00	7,995	100.00	14,614	135.00	21,858
31.00	2,735	66.00	8,170	101.00	14,815	136.00	22,069
32.00	2,866	67.00	8,347	102.00	15,016	137.00	22,281
33.00	2,998	68.00	8,524	103.00	15,218	138.00	22,493
34.00	3,132	69.00	8,703	104.00	15,420	139.00	22,705
35.00	3,267	70.00	8,882	105.00	15,622	140.00	22,917



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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Diameter = 2,997 mm Length = 7,090 mm Total Tank Capacity = 50,006 litres

<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)	<u>Depth</u> (cm)	<u>Capacity</u> (litres)
141.00	23,129	184.00	32,201	227.00	40,645	270.00	47,447
142.00	23,341	185.00	32,408	228.00	40,827	271.00	47,573
143.00	23,553	186.00	32,614	229.00	41,008	272.00	47,697
144.00	23,765	187.00	32,820	230.00	41,188	273.00	47,820
145.00	23,978	188.00	33,026	231.00	41,367	274.00	47,940
146.00	24,190	189.00	33,231	232.00	41,545	275.00	48,058
147.00	24,402	190.00	33,436	233.00	41,722	276.00	48,173
148.00	24,615	191.00	33,641	234.00	41,899	277.00	48,287
149.00	24,827	192.00	33,845	235.00	42,074	278.00	48,398
150.00	25,040	193.00	34,049	236.00	42,248	279.00	48,507
151.00	25,252	194.00	34,252	237.00	42,422	280.00	48,614
152.00	25,465	195.00	34,455	238.00	42,594	281.00	48,718
153.00	25,677	196.00	34,657	239.00	42,765	282.00	48,819
154.00	25,890	197.00	34,859	240.00	42,936	283.00	48,918
155.00	26,102	198.00	35,060	241.00	43,105	284.00	49,014
156.00	26,314	199.00	35,261	242.00	43,273	285.00	49,107
157.00	26,527	200.00	35,462	243.00	43,440	286.00	49,198
158.00	26,739	201.00	35,662	244.00	43,606	287.00	49,285
159.00	26,951	202.00	35,861	245.00	43,771	288.00	49,369
160.00	27,163	203.00	36,060	246.00	43,934	289.00	49,449
161.00	27,375	204.00	36,259	247.00	44,097	290.00	49,526
162.00	27,587	205.00	36,457	248.00	44,258	291.00	49,600
163.00	27,799	206.00	36,654	249.00	44,418	292.00	49,669
164.00	28,010	207.00	36,851	250.00	44,576	293.00	49,734
165.00	28,222	208.00	37,047	251.00	44,734	294.00	49,795
166.00	28,433	209.00	37,242	252.00	44,890	295.00	49,850
167.00	28,644	210.00	37,437	253.00	45,045	296.00	49,900
168.00	28,855	211.00	37,631	254.00	45,198	297.00	49,944
169.00	29,066	212.00	37,825	255.00	45,350	298.00	49,980
170.00	29,277	213.00	38,018	256.00	45,501	299.00	50,006
171.00	29,487	214.00	38,210	257.00	45,650		
172.00	29,697	215.00	38,402	258.00	45,798		
173.00	29,907	216.00	38,593	259.00	45,944		
174.00	30,117	217.00	38,783	260.00	46,089		
175.00	30,327	218.00	38,973	261.00	46,232		
176.00	30,536	219.00	39,162	262.00	46,374		
177.00	30,745	220.00	39,350	263.00	46,514		
178.00	30,954	221.00	39,537	264.00	46,653		
179.00	31,163	222.00	39,724	265.00	46,790		
180.00	31,371	223.00	39,910	266.00	46,925		
181.00	31,579	224.00	40,095	267.00	47,058		
182.00	31,787	225.00	40,279	268.00	47,190		
183.00	31,994	226.00	40,463	269.00	47,319		



BUS SERVICES

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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Hamilton Bus Maintenance Facility

Model DWT6 (8) 50000
DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
0.5	34	30.5	3,902	60.5	10,426	90.5	18,281	120.5	26,701
1.0	55	31.0	3,994	61.0	10,548	91.0	18,419	121.0	26,842
1.5	79	31.5	4,087	61.5	10,671	91.5	18,556	121.5	26,984
2.0	106	32.0	4,181	62.0	10,794	92.0	18,694	122.0	27,125
2.5	136	32.5	4,276	62.5	10,918	92.5	18,832	122.5	27,266
3.0	167	33.0	4,371	63.0	11,042	93.0	18,971	123.0	27,407
3.5	202	33.5	4,466	63.5	11,166	93.5	19,109	123.5	27,549
4.0	238	34.0	4,563	64.0	11,290	94.0	19,247	124.0	27,690
4.5	276	34.5	4,660	64.5	11,415	94.5	19,386	124.5	27,831
5.0	316	35.0	4,757	65.0	11,540	95.0	19,525	125.0	27,972
5.5	357	35.5	4,856	65.5	11,666	95.5	19,663	125.5	28,113
6.0	401	36.0	4,954	66.0	11,792	96.0	19,802	126.0	28,254
6.5	446	36.5	5,054	66.5	11,918	96.5	19,942	126.5	28,395
7.0	492	37.0	5,154	67.0	12,044	97.0	20,081	127.0	28,535
7.5	540	37.5	5,254	67.5	12,171	97.5	20,220	127.5	28,676
8.0	589	38.0	5,356	68.0	12,298	98.0	20,359	128.0	28,817
8.5	640	38.5	5,457	68.5	12,426	98.5	20,499	128.5	28,957
9.0	692	39.0	5,560	69.0	12,553	99.0	20,639	129.0	29,098
9.5	746	39.5	5,663	69.5	12,681	99.5	20,778	129.5	29,238
10.0	801	40.0	5,766	70.0	12,810	100.0	20,918	130.0	29,379
10.5	857	40.5	5,870	70.5	12,938	100.5	21,058	130.5	29,519
11.0	914	41.0	5,975	71.0	13,067	101.0	21,198	131.0	29,659
11.5	972	41.5	6,080	71.5	13,196	101.5	21,338	131.5	29,799
12.0	1,032	42.0	6,185	72.0	13,326	102.0	21,479	132.0	29,939
12.5	1,093	42.5	6,292	72.5	13,456	102.5	21,619	132.5	30,079
13.0	1,155	43.0	6,398	73.0	13,586	103.0	21,759	133.0	30,219
13.5	1,218	43.5	6,506	73.5	13,716	103.5	21,900	133.5	30,359
14.0	1,282	44.0	6,613	74.0	13,846	104.0	22,040	134.0	30,498
14.5	1,347	44.5	6,721	74.5	13,977	104.5	22,181	134.5	30,638
15.0	1,413	45.0	6,830	75.0	14,108	105.0	22,322	135.0	30,777
15.5	1,480	45.5	6,939	75.5	14,239	105.5	22,462	135.5	30,917
16.0	1,548	46.0	7,049	76.0	14,371	106.0	22,603	136.0	31,056
16.5	1,618	46.5	7,159	76.5	14,503	106.5	22,744	136.5	31,195
17.0	1,688	47.0	7,270	77.0	14,635	107.0	22,885	137.0	31,334
17.5	1,759	47.5	7,381	77.5	14,767	107.5	23,026	137.5	31,473
18.0	1,831	48.0	7,493	78.0	14,900	108.0	23,167	138.0	31,611
18.5	1,904	48.5	7,605	78.5	15,032	108.5	23,308	138.5	31,750
19.0	1,978	49.0	7,718	79.0	15,165	109.0	23,449	139.0	31,888
19.5	2,053	49.5	7,831	79.5	15,299	109.5	23,590	139.5	32,027
20.0	2,128	50.0	7,944	80.0	15,432	110.0	23,732	140.0	32,165
20.5	2,205	50.5	8,058	80.5	15,566	110.5	23,873	140.5	32,303
21.0	2,282	51.0	8,173	81.0	15,700	111.0	24,014	141.0	32,441
21.5	2,360	51.5	8,288	81.5	15,834	111.5	24,155	141.5	32,578
22.0	2,439	52.0	8,403	82.0	15,968	112.0	24,297	142.0	32,716
22.5	2,519	52.5	8,519	82.5	16,103	112.5	24,438	142.5	32,853
23.0	2,600	53.0	8,635	83.0	16,237	113.0	24,580	143.0	32,991
23.5	2,682	53.5	8,751	83.5	16,372	113.5	24,721	143.5	33,128
24.0	2,764	54.0	8,868	84.0	16,508	114.0	24,862	144.0	33,265
24.5	2,847	54.5	8,986	84.5	16,643	114.5	25,004	144.5	33,401
25.0	2,931	55.0	9,104	85.0	16,778	115.0	25,145	145.0	33,538
25.5	3,015	55.5	9,222	85.5	16,914	115.5	25,287	145.5	33,674
26.0	3,101	56.0	9,341	86.0	17,050	116.0	25,428	146.0	33,811
26.5	3,187	56.5	9,460	86.5	17,186	116.5	25,570	146.5	33,947
27.0	3,274	57.0	9,579	87.0	17,322	117.0	25,711	147.0	34,083
27.5	3,361	57.5	9,699	87.5	17,459	117.5	25,853	147.5	34,218
28.0	3,450	58.0	9,819	88.0	17,595	118.0	25,994	148.0	34,354
28.5	3,539	58.5	9,940	88.5	17,732	118.5	26,135	148.5	34,489
29.0	3,628	59.0	10,061	89.0	17,869	119.0	26,277	149.0	34,624
29.5	3,719	59.5	10,182	89.5	18,006	119.5	26,418	149.5	34,759
30.0	3,810	60.0	10,304	90.0	18,144	120.0	26,560	150.0	34,894




BUS SERVICES

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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	12 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

Model DWT6 (8) 50000 DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
150.5	35,028	180.5	42,590	210.5	48,548
151.0	35,163	181.0	42,706	211.0	48,626
151.5	35,297	181.5	42,820	211.5	48,705
152.0	35,431	182.0	42,935	212.0	48,782
152.5	35,564	182.5	43,049	212.5	48,858
153.0	35,698	183.0	43,162	213.0	48,934
153.5	35,831	183.5	43,275	213.5	49,008
154.0	35,964	184.0	43,388	214.0	49,082
154.5	36,097	184.5	43,500	214.5	49,155
155.0	36,229	185.0	43,611	215.0	49,227
155.5	36,361	185.5	43,722	215.5	49,298
156.0	36,493	186.0	43,833	216.0	49,368
156.5	36,625	186.5	43,943	216.5	49,437
157.0	36,757	187.0	44,053	217.0	49,505
157.5	36,888	187.5	44,162	217.5	49,572
158.0	37,019	188.0	44,271	218.0	49,638
158.5	37,150	188.5	44,379	218.5	49,703
159.0	37,280	189.0	44,486	219.0	49,766
159.5	37,410	189.5	44,593	219.5	49,829
160.0	37,540	190.0	44,700	220.0	49,891
160.5	37,670	190.5	44,806	220.5	49,952
161.0	37,799	191.0	44,912	221.0	50,011
161.5	37,928	191.5	45,017	221.5	50,069
162.0	38,057	192.0	45,121	222.0	50,126
162.5	38,186	192.5	45,225	222.5	50,182
163.0	38,314	193.0	45,328	223.0	50,237
163.5	38,442	193.5	45,431	223.5	50,290
164.0	38,570	194.0	45,533	224.0	50,342
164.5	38,697	194.5	45,635	224.5	50,392
165.0	38,824	195.0	45,736	225.0	50,442
165.5	38,951	195.5	45,837	225.5	50,489
166.0	39,077	196.0	45,937	226.0	50,535
166.5	39,203	196.5	46,036	226.5	50,580
167.0	39,329	197.0	46,135	227.0	50,623
167.5	39,455	197.5	46,233	227.5	50,664
168.0	39,580	198.0	46,330	228.0	50,704
168.5	39,705	198.5	46,427	228.5	50,742
169.0	39,829	199.0	46,523	229.0	50,778
169.5	39,953	199.5	46,619	229.5	50,811
170.0	40,077	200.0	46,714	230.0	50,843
170.5	40,200	200.5	46,808	230.5	50,872
171.0	40,324	201.0	46,902	231.0	50,899
171.5	40,446	201.5	46,995	231.5	50,922
172.0	40,569	202.0	47,087	232.0	50,943
172.5	40,691	202.5	47,179	232.5	50,959
173.0	40,812	203.0	47,270	233.0	50,970
173.5	40,934	203.5	47,360		
174.0	41,054	204.0	47,450		
174.5	41,175	204.5	47,539		
175.0	41,295	205.0	47,627		
175.5	41,415	205.5	47,715		
176.0	41,534	206.0	47,801		
176.5	41,653	206.5	47,887		
177.0	41,772	207.0	47,973		
177.5	41,890	207.5	48,057		
178.0	42,008	208.0	48,141		
178.5	42,125	208.5	48,224		
179.0	42,242	209.0	48,306		
179.5	42,359	209.5	48,387		
180.0	42,475	210.0	48,468		

**CONTAINMENT SOLUTIONS**

HOW TO PROPERLY GAUGE YOUR TANK:
Underground storage tanks require periodic measurement to determine current inventory level. Using the proper methods when gauging your tank's contents will insure the most accurate reading and insure that you do not damage your tank. The following procedure should be followed whenever you use a gauge stick to determine the amount of product that is in your tank:
1) Use a wood dipstick with a rubber or nylon tip. Metallic dipsticks are not recommended. This will insure that frequent tank gaugings or an accidental dropping of the gauge stick into the tank will not damage the tank bottom.
2) Slowly lower your gauge stick into the fill port until it touches the tank bottom. Never free drop the gauge stick. This can result in inaccurate measurements due to product splashing. Free dropping can also result in gauge stick damage and tank damage.
3) Remove your dipstick slowly and read the product level directly from the gauge stick.

Water Paste Detection:
To detect water in the tank bottom, water detection paste is available from petroleum equipment distributors. See vendor below or suitable equal.

Gasolla Water Finding Paste
Federal Process Corp.
800-846-7325
www.gasolla.com

Caution
Pressurized deliveries are not recommended. If the delivery vehicle uses pumps to fill the tank, install overfill shutoff equipment in the tank and truck to prevent the tank from being overfilled. **Overfilling the tank under pressure will damage the tank even if the tank vent is unrestricted.**

Containment Solutions, Inc.
5150 Jefferson Chemical Road
Conroe, TX 77301
Tel: 936-756-7731
Fax: 936-756-7766

Note: Calibration chart is based on the fluid level above a 8mm [5/16"] deflector plate.

Pub No. CAL 8-50000LDWT-CAN 5/11



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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Streetsville Bus Maintenance Facility

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
0.0	11	14	17	19	21	22	23	27	30
0.5	20	25	31	35	38	40	43	49	55
1.0	31	39	48	53	59	62	67	76	85
1.5	44	55	68	75	83	87	93	107	118
2.0	57	73	89	98	109	114	123	141	156
2.5	73	92	113	124	137	144	155	177	197
3.0	89	113	138	152	168	177	189	217	241
3.5	107	135	165	182	201	211	226	259	287
4.0	125	158	194	213	235	248	265	304	337
4.5	145	183	224	246	272	286	306	351	389
5.0	166	209	256	281	310	326	349	400	443
5.5	187	236	289	317	350	368	394	451	500
6.0	210	264	323	355	391	412	441	504	559
6.5	233	293	359	394	434	457	489	560	620
7.0	257	324	395	435	479	504	539	617	683
7.5	282	355	433	476	525	552	591	676	749
8.0	308	387	473	519	572	602	644	737	816
8.5	334	420	513	564	621	653	699	799	885
9.0	361	454	554	609	671	706	755	863	956
9.5	389	489	597	656	722	760	813	929	1029
10.0	418	525	641	704	775	815	872	996	1104
10.5	447	562	685	752	829	871	933	1065	1180
11.0	477	599	731	802	884	929	994	1136	1258
11.5	508	638	777	853	940	988	1058	1208	1337
12.0	540	677	825	906	997	1048	1122	1281	1419
12.5	572	717	873	959	1055	1110	1188	1356	1501
13.0	604	758	923	1013	1115	1172	1254	1432	1586
13.5	637	799	973	1068	1176	1236	1322	1510	1671
14.0	671	841	1024	1124	1237	1301	1392	1589	1759
14.5	706	884	1076	1181	1300	1367	1462	1669	1847
15.0	741	928	1129	1239	1364	1433	1534	1750	1937
15.5	777	972	1183	1298	1428	1501	1606	1833	2029
16.0	813	1017	1238	1358	1494	1570	1680	1917	2122
16.5	849	1063	1293	1419	1561	1640	1755	2002	2216
17.0	887	1109	1349	1480	1628	1712	1831	2089	2312
17.5	925	1156	1406	1543	1697	1784	1908	2177	2408
18.0	963	1204	1464	1606	1766	1857	1986	2265	2507
18.5	1002	1253	1523	1670	1837	1930	2065	2355	2606
19.0	1041	1302	1582	1735	1908	2005	2145	2446	2707
19.5	1081	1351	1642	1801	1980	2081	2226	2539	2809
20.0	1122	1401	1703	1867	2053	2158	2308	2632	2912
20.5	1163	1452	1764	1935	2127	2235	2391	2726	3016
21.0	1204	1504	1827	2003	2202	2314	2474	2822	3121
21.5	1246	1556	1890	2071	2278	2393	2559	2918	3228
22.0	1288	1608	1953	2141	2354	2474	2645	3016	3336
22.5	1331	1661	2017	2211	2431	2555	2731	3114	3445
23.0	1375	1715	2082	2283	2509	2636	2819	3214	3555
23.5	1418	1770	2148	2354	2588	2719	2907	3315	3666
24.0	1463	1824	2214	2427	2668	2803	2997	3416	3778
24.5	1507	1880	2281	2500	2748	2887	3087	3519	3891
25.0	1552	1936	2349	2574	2829	2972	3178	3622	4005
25.5	1598	1992	2417	2649	2911	3058	3269	3727	4121
26.0	1644	2049	2486	2724	2994	3145	3362	3832	4237
26.5	1690	2107	2556	2800	3077	3233	3456	3938	4355
27.0	1737	2165	2626	2877	3161	3321	3550	4046	4473
27.5	1785	2223	2696	2954	3246	3410	3645	4154	4592
28.0	1832	2282	2768	3032	3332	3500	3741	4263	4713
28.5	1880	2342	2840	3111	3418	3590	3837	4373	4834
29.0	1929	2402	2912	3190	3505	3681	3935	4483	4957
29.5	1978	2463	2985	3270	3592	3773	4033	4595	5080
30.0	2027	2524	3059	3350	3681	3866	4132	4708	5204



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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
30.5	2077	2585	3133	3431	3770	3960	4232	4821	5329
31.0	2127	2647	3208	3513	3859	4054	4332	4935	5455
31.5	2177	2709	3283	3596	3950	4148	4433	5050	5582
32.0	2228	2772	3359	3679	4041	4244	4535	5166	5710
32.5	2280	2836	3435	3762	4132	4340	4638	5283	5839
33.0	2331	2900	3512	3846	4224	4437	4741	5400	5969
33.5	2383	2964	3590	3931	4317	4534	4845	5519	6099
34.0	2436	3029	3668	4016	4411	4632	4950	5638	6231
34.5	2488	3094	3746	4102	4505	4731	5055	5757	6363
35.0	2541	3159	3826	4188	4600	4831	5162	5878	6496
35.5	2595	3225	3905	4275	4695	4931	5268	5999	6630
36.0	2649	3292	3985	4363	4791	5031	5376	6122	6765
36.5	2703	3359	4066	4451	4888	5133	5484	6245	6900
37.0	2757	3426	4147	4540	4985	5235	5593	6368	7037
37.5	2812	3494	4229	4629	5083	5337	5702	6493	7174
38.0	2867	3562	4311	4719	5181	5440	5812	6618	7312
38.5	2923	3630	4393	4809	5280	5544	5923	6743	7451
39.0	2979	3699	4476	4900	5379	5648	6034	6870	7591
39.5	3035	3769	4560	4991	5479	5753	6146	6997	7731
40.0	3092	3839	4644	5083	5580	5859	6259	7125	7872
40.5	3148	3909	4729	5175	5681	5965	6372	7254	8014
41.0	3206	3979	4813	5268	5783	6072	6486	7383	8157
41.5	3263	4050	4899	5361	5885	6179	6601	7513	8300
42.0	3321	4122	4985	5455	5988	6287	6716	7644	8445
42.5	3379	4193	5071	5549	6091	6395	6831	7775	8589
43.0	3438	4265	5158	5644	6195	6504	6948	7907	8735
43.5	3497	4338	5245	5739	6299	6614	7064	8040	8882
44.0	3556	4411	5333	5835	6404	6724	7182	8174	9029
44.5	3615	4484	5421	5931	6510	6834	7300	8308	9177
45.0	3675	4558	5510	6028	6616	6946	7418	8442	9325
45.5	3735	4632	5599	6125	6722	7057	7538	8578	9474
46.0	3795	4706	5688	6223	6829	7169	7657	8714	9624
46.5	3856	4781	5778	6321	6937	7282	7777	8850	9775
47.0	3917	4856	5868	6420	7045	7395	7898	8987	9926
47.5	3978	4931	5959	6519	7153	7509	8020	9125	10078
48.0	4039	5007	6050	6618	7262	7623	8142	9264	10231
48.5	4101	5083	6142	6718	7372	7738	8264	9403	10384
49.0	4163	5159	6233	6818	7481	7854	8387	9542	10538
49.5	4226	5236	6326	6919	7592	7969	8511	9682	10693
50.0	4288	5313	6419	7021	7703	8086	8635	9823	10848
50.5	4351	5391	6512	7122	7814	8202	8759	9965	11004
51.0	4414	5469	6605	7224	7926	8320	8884	10107	11161
51.5	4478	5547	6699	7327	8038	8437	9010	10249	11318
52.0	4542	5625	6793	7430	8151	8556	9136	10392	11476
52.5	4606	5704	6888	7533	8264	8674	9263	10536	11634
53.0	4670	5783	6983	7637	8378	8793	9390	10680	11793
53.5	4735	5863	7079	7741	8492	8913	9517	10825	11953
54.0	4800	5942	7175	7846	8606	9033	9645	10971	12113
54.5	4865	6022	7271	7951	8721	9154	9774	11117	12274
55.0	4930	6103	7367	8056	8837	9275	9903	11263	12436
55.5	4996	6183	7464	8162	8953	9396	10033	11410	12598
56.0	5062	6264	7562	8268	9069	9518	10163	11558	12761
56.5	5128	6346	7659	8375	9186	9641	10293	11706	12924
57.0	5194	6427	7757	8482	9303	9763	10424	11854	13088
57.5	5261	6509	7856	8589	9420	9887	10555	12004	13252
58.0	5328	6592	7955	8697	9538	10010	10687	12153	13417
58.5	5395	6674	8054	8805	9657	10134	10820	12303	13583
59.0	5462	6757	8153	8914	9775	10259	10953	12454	13749
59.5	5530	6840	8253	9022	9895	10384	11086	12605	13916
60.0	5598	6924	8353	9132	10014	10509	11220	12757	14083
60.5	5666	7007	8454	9241	10134	10635	11354	12909	14251



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Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
61.0	5734	7091	8554	9351	10255	10761	11488	13062	14419
61.5	5803	7175	8656	9462	10375	10888	11623	13215	14588
62.0	5872	7260	8757	9572	10496	11015	11759	13369	14757
62.5	5941	7345	8859	9683	10618	11143	11895	13523	14927
63.0	6010	7430	8961	9795	10740	11270	12031	13678	15097
63.5	6080	7515	9063	9907	10862	11399	12168	13833	15268
64.0	6149	7601	9166	10019	10985	11527	12305	13988	15440
64.5	6219	7687	9269	10131	11108	11656	12442	14144	15612
65.0	6290	7773	9373	10244	11232	11786	12580	14301	15784
65.5	6360	7860	9477	10357	11355	11916	12719	14458	15958
66.0	6431	7946	9581	10471	11480	12046	12858	14615	16131
66.5	6502	8033	9685	10585	11604	12176	12997	14773	16305
67.0	6573	8121	9790	10699	11729	12307	13136	14932	16479
67.5	6644	8208	9895	10813	11854	12439	13276	15090	16654
68.0	6716	8296	10000	10928	11980	12570	13417	15250	16830
68.5	6787	8384	10106	11043	12106	12702	13558	15409	17006
69.0	6859	8472	10212	11159	12232	12835	13699	15569	17182
69.5	6932	8561	10318	11275	12359	12968	13840	15730	17359
70.0	7004	8650	10424	11391	12486	13101	13982	15891	17537
70.5	7077	8739	10531	11507	12614	13234	14125	16052	17714
71.0	7149	8828	10638	11624	12741	13368	14267	16214	17893
71.5	7222	8918	10745	11741	12869	13502	14410	16376	18072
72.0	7296	9007	10853	11858	12998	13637	14554	16539	18251
72.5	7369	9097	10961	11976	13126	13772	14698	16702	18430
73.0	7443	9188	11069	12094	13255	13907	14842	16866	18610
73.5	7516	9278	11178	12212	13385	14043	14986	17029	18791
74.0	7590	9369	11286	12331	13514	14179	15131	17194	18972
74.5	7665	9460	11395	12450	13644	14315	15276	17358	19153
75.0	7739	9551	11505	12569	13775	14452	15422	17523	19335
75.5	7814	9642	11614	12688	13905	14588	15568	17689	19518
76.0	7888	9734	11724	12808	14036	14726	15714	17855	19700
76.5	7963	9826	11834	12928	14168	14863	15861	18021	19883
77.0	8039	9918	11944	13048	14299	15001	16008	18188	20067
77.5	8114	10010	12055	13169	14431	15139	16155	18354	20251
78.0	8189	10103	12166	13290	14563	15278	16303	18522	20435
78.5	8265	10195	12277	13411	14696	15417	16451	18690	20620
79.0	8341	10288	12388	13532	14829	15556	16599	18858	20805
79.5	8417	10382	12500	13654	14962	15695	16748	19026	20991
80.0	8493	10475	12612	13776	15095	15835	16897	19195	21177
80.5	8570	10569	12724	13898	15229	15975	17046	19364	21363
81.0	8646	10662	12836	14020	15362	16116	17195	19534	21550
81.5	8723	10756	12949	14143	15497	16256	17345	19704	21737
82.0	8800	10851	13062	14266	15631	16397	17496	19874	21924
82.5	8877	10945	13175	14389	15766	16538	17646	20044	22112
83.0	8954	11040	13288	14513	15901	16680	17797	20215	22301
83.5	9032	11135	13402	14637	16036	16822	17948	20387	22489
84.0	9109	11230	13516	14761	16172	16964	18099	20558	22678
84.5	9187	11325	13630	14885	16308	17106	18251	20730	22868
85.0	9265	11420	13744	15010	16444	17249	18403	20902	23057
85.5	9343	11516	13858	15134	16580	17392	18556	21075	23248
86.0	9422	11612	13973	15259	16717	17535	18708	21248	23438
86.5	9500	11708	14088	15385	16854	17679	18861	21421	23629
87.0	9579	11804	14203	15510	16991	17822	19014	21595	23820
87.5	9657	11900	14319	15636	17129	17966	19168	21769	24011
88.0	9736	11997	14434	15762	17266	18111	19321	21943	24203
88.5	9815	12093	14550	15888	17404	18255	19475	22117	24395
89.0	9895	12190	14666	16014	17542	18400	19630	22292	24588
89.5	9974	12287	14782	16141	17681	18545	19784	22467	24781
90.0	10053	12385	14899	16268	17820	18690	19939	22643	24974
90.5	10133	12482	15015	16395	17958	18836	20094	22819	25168
91.0	10213	12580	15132	16522	18098	18982	20250	22995	25361



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Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
91.5	10293	12678	15249	16650	18237	19128	20405	23171	25556
92.0	10373	12776	15366	16777	18377	19274	20561	23348	25750
92.5	10453	12874	15484	16905	18517	19421	20717	23524	25945
93.0	10534	12972	15602	17034	18657	19568	20874	23702	26140
93.5	10614	13071	15719	17162	18797	19715	21030	23879	26336
94.0	10695	13169	15837	17291	18938	19862	21187	24057	26531
94.5	10776	13268	15956	17419	19078	20009	21344	24235	26727
95.0	10857	13367	16074	17548	19219	20157	21502	24413	26924
95.5	10938	13466	16193	17678	19361	20305	21659	24592	27120
96.0	11019	13565	16311	17807	19502	20453	21817	24771	27317
96.5	11100	13665	16430	17937	19644	20602	21975	24950	27514
97.0	11182	13764	16549	18066	19786	20750	22134	25129	27712
97.5	11263	13864	16669	18196	19928	20899	22292	25309	27910
98.0	11345	13964	16788	18327	20070	21048	22451	25489	28108
98.5	11427	14064	16908	18457	20212	21198	22610	25669	28306
99.0	11509	14164	17028	18588	20355	21347	22769	25849	28505
99.5	11591	14265	17148	18718	20498	21497	22929	26030	28704
100.0	11673	14365	17268	18849	20641	21647	23089	26211	28903
100.5	11756	14466	17389	18980	20784	21797	23249	26392	29102
101.0	11838	14567	17509	19112	20928	21947	23409	26573	29302
101.5	11921	14668	17630	19243	21072	22098	23569	26755	29502
102.0	12003	14769	17751	19375	21216	22248	23730	26937	29702
102.5	12086	14870	17872	19507	21360	22399	23891	27119	29903
103.0	12169	14971	17993	19639	21504	22551	24052	27301	30103
103.5	12252	15073	18114	19771	21648	22702	24213	27484	30304
104.0	12336	15175	18236	19903	21793	22853	24374	27667	30506
104.5	12419	15276	18358	20036	21938	23005	24536	27850	30707
105.0	12502	15378	18479	20168	22083	23157	24698	28033	30909
105.5	12586	15480	18601	20301	22228	23309	24860	28216	31111
106.0	12669	15582	18723	20434	22373	23461	25022	28400	31313
106.5	12753	15685	18846	20567	22519	23614	25184	28584	31515
107.0	12837	15787	18968	20701	22664	23766	25347	28768	31718
107.5	12921	15890	19091	20834	22810	23919	25509	28952	31921
108.0	13005	15992	19213	20968	22956	24072	25672	29137	32124
108.5	13089	16095	19336	21102	23102	24225	25835	29322	32327
109.0	13173	16198	19459	21236	23249	24379	25999	29506	32531
109.5	13258	16301	19582	21370	23395	24532	26162	29692	32735
110.0	13342	16404	19706	21504	23542	24686	26326	29877	32939
110.5	13427	16507	19829	21638	23689	24840	26490	30062	33143
111.0	13511	16611	19953	21773	23836	24994	26654	30248	33347
111.5	13596	16714	20076	21908	23983	25148	26818	30434	33552
112.0	13681	16818	20200	22042	24130	25302	26982	30620	33757
112.5	13766	16921	20324	22177	24278	25456	27147	30806	33962
113.0	13851	17025	20448	22312	24425	25611	27311	30993	34167
113.5	13936	17129	20572	22448	24573	25766	27476	31179	34373
114.0	14021	17233	20697	22583	24721	25921	27641	31366	34578
114.5	14106	17337	20821	22718	24869	26076	27806	31553	34784
115.0	14192	17441	20945	22854	25017	26231	27972	31740	34990
115.5	14277	17546	21070	22990	25165	26386	28137	31928	35196
116.0	14363	17650	21195	23126	25314	26542	28303	32115	35403
116.5	14448	17755	21320	23262	25462	26697	28468	32303	35609
117.0	14534	17859	21445	23398	25611	26853	28634	32491	35816
117.5	14620	17964	21570	23534	25760	27009	28800	32679	36023
118.0	14706	18069	21695	23670	25909	27165	28966	32867	36230
118.5	14792	18174	21820	23807	26058	27321	29133	33055	36437
119.0	14878	18279	21946	23943	26207	27477	29299	33243	36644
119.5	14964	18384	22071	24080	26356	27634	29466	33432	36852
120.0	15050	18489	22197	24217	26506	27790	29632	33621	37060
120.5	15136	18594	22323	24354	26655	27947	29799	33809	37267
121.0	15222	18699	22449	24491	26805	28104	29966	33998	37475
121.5	15309	18805	22574	24628	26955	28261	30133	34188	37684



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Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
122.0	15395	18910	22700	24765	27105	28418	30300	34377	37892
122.5	15482	19016	22827	24902	27255	28575	30468	34566	38100
123.0	15568	19121	22953	25040	27405	28732	30635	34756	38309
123.5	15655	19227	23079	25177	27555	28889	30803	34945	38518
124.0	15741	19333	23205	25315	27705	29047	30970	35135	38727
124.5	15828	19439	23332	25452	27855	29204	31138	35325	38936
125.0	15915	19545	23458	25590	28006	29362	31306	35515	39145
125.5	16002	19651	23585	25728	28157	29519	31474	35705	39354
126.0	16089	19757	23712	25866	28307	29677	31642	35896	39563
126.5	16176	19863	23838	26004	28458	29835	31810	36086	39773
127.0	16263	19969	23965	26142	28609	29993	31978	36277	39983
127.5	16350	20075	24092	26280	28760	30151	32147	36467	40192
128.0	16437	20182	24219	26418	28911	30310	32315	36658	40402
128.5	16524	20288	24346	26557	29062	30468	32484	36849	40612
129.0	16612	20394	24474	26695	29213	30626	32653	37040	40823
129.5	16699	20501	24601	26834	29365	30785	32821	37231	41033
130.0	16786	20608	24728	26972	29516	30943	32990	37422	41243
130.5	16874	20714	24856	27111	29668	31102	33159	37613	41454
131.0	16961	20821	24983	27250	29819	31261	33328	37805	41664
131.5	17049	20928	25111	27389	29971	31420	33497	37996	41875
132.0	17136	21035	25238	27528	30122	31579	33667	38188	42086
132.5	17224	21142	25366	27667	30274	31738	33836	38379	42297
133.0	17312	21248	25494	27806	30426	31897	34005	38571	42508
133.5	17399	21355	25621	27945	30578	32056	34175	38763	42719
134.0	17487	21462	25749	28084	30730	32215	34344	38955	42930
134.5	17575	21570	25877	28223	30882	32374	34514	39146	43141
135.0	17663	21677	26005	28362	31034	32533	34683	39339	43352
135.5	17751	21784	26133	28502	31186	32693	34853	39531	43564
136.0	17839	21891	26261	28641	31338	32852	35023	39723	43775
136.5	17926	21998	26389	28780	31491	33012	35193	39915	43987
137.0	18014	22106	26517	28920	31643	33171	35363	40107	44198
137.5	18102	22213	26645	29059	31795	33331	35533	40300	44410
138.0	18190	22320	26773	29199	31948	33491	35703	40492	44622
138.5	18278	22428	26902	29339	32100	33650	35873	40685	44834
139.0	18367	22535	27030	29478	32253	33810	36043	40877	45046
139.5	18455	22643	27158	29618	32405	33970	36213	41070	45258
140.0	18543	22750	27287	29758	32558	34130	36383	41262	45470
140.5	18631	22858	27415	29897	32711	34289	36553	41455	45682
141.0	18719	22965	27544	30037	32863	34449	36724	41648	45894
141.5	18807	23073	27672	30177	33016	34609	36894	41841	46106
142.0	18896	23180	27800	30317	33169	34769	37064	42034	46318
142.5	18984	23288	27929	30457	33322	34929	37235	42226	46530
143.0	19072	23396	28058	30597	33475	35089	37405	42419	46743
143.5	19160	23503	28186	30737	33627	35250	37576	42612	46955
144.0	19249	23611	28315	30877	33780	35410	37746	42805	47167
144.5	19337	23719	28443	31017	33933	35570	37917	42998	47380
145.0	19425	23826	28572	31157	34086	35730	38087	43191	47592
145.5	19514	23934	28701	31297	34239	35890	38258	43384	47805
146.0	19602	24042	28829	31437	34392	36050	38429	43578	48017
146.5	19691	24150	28958	31577	34545	36211	38599	43771	48230
147.0	19779	24257	29087	31717	34698	36371	38770	43964	48442
147.5	19867	24365	29215	31857	34851	36531	38940	44157	48655
148.0	19956	24473	29344	31997	35004	36692	39111	44350	48868
148.5	20044	24581	29473	32137	35157	36852	39282	44543	49080
149.0	20133	24689	29602	32278	35310	37012	39453	44737	49293
149.5	20221	24797	29730	32418	35463	37172	39623	44930	49505
150.0	20309	24904	29859	32558	35616	37333	39794	45123	49718
150.5	20398	25012	29988	32698	35770	37493	39965	45316	49931
151.0	20486	25120	30117	32838	35923	37653	40135	45509	50143
151.5	20575	25228	30246	32978	36076	37814	40306	45703	50356
152.0	20663	25336	30374	33119	36229	37974	40477	45896	50569



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Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
152.5	20752	25444	30503	33259	36382	38134	40648	46089	50781
153.0	20840	25551	30632	33399	36535	38295	40818	46282	50994
153.5	20928	25659	30761	33539	36688	38455	40989	46476	51206
154.0	21017	25767	30889	33679	36841	38615	41160	46669	51419
154.5	21105	25875	31018	33819	36994	38776	41330	46862	51632
155.0	21194	25983	31147	33959	37147	38936	41501	47055	51844
155.5	21282	26091	31275	34100	37300	39096	41672	47248	52057
156.0	21370	26198	31404	34240	37453	39256	41842	47441	52269
156.5	21459	26306	31533	34380	37606	39417	42013	47635	52482
157.0	21547	26414	31661	34520	37759	39577	42184	47828	52694
157.5	21636	26522	31790	34660	37912	39737	42354	48021	52907
158.0	21724	26629	31919	34800	38065	39897	42525	48214	53119
158.5	21812	26737	32047	34940	38218	40057	42695	48407	53331
159.0	21900	26845	32176	35080	38371	40217	42866	48600	53544
159.5	21989	26952	32304	35220	38523	40377	43036	48793	53756
160.0	22077	27060	32433	35360	38676	40538	43207	48985	53968
160.5	22165	27167	32561	35499	38829	40698	43377	49178	54181
161.0	22253	27275	32690	35639	38982	40857	43547	49371	54393
161.5	22342	27383	32818	35779	39134	41017	43717	49564	54605
162.0	22430	27490	32947	35919	39287	41177	43888	49756	54817
162.5	22518	27598	33075	36059	39440	41337	44058	49949	55029
163.0	22606	27705	33203	36198	39592	41497	44228	50142	55241
163.5	22694	27813	33332	36338	39745	41657	44398	50334	55453
164.0	22782	27920	33460	36477	39897	41816	44568	50527	55664
164.5	22870	28027	33588	36617	40050	41976	44738	50719	55876
165.0	22958	28135	33716	36757	40202	42136	44908	50912	56088
165.5	23046	28242	33844	36896	40354	42295	45078	51104	56300
166.0	23134	28349	33973	37035	40507	42455	45248	51296	56511
166.5	23222	28456	34101	37175	40659	42614	45418	51488	56723
167.0	23310	28563	34229	37314	40811	42773	45587	51680	56934
167.5	23398	28671	34356	37453	40963	42933	45757	51872	57145
168.0	23485	28778	34484	37593	41115	43092	45927	52064	57356
168.5	23573	28885	34612	37732	41267	43251	46096	52256	57568
169.0	23661	28992	34740	37871	41419	43410	46266	52448	57779
169.5	23749	29099	34868	38010	41571	43569	46435	52640	57990
170.0	23836	29205	34995	38149	41723	43728	46604	52831	58201
170.5	23924	29312	35123	38288	41874	43887	46773	53023	58411
171.0	24011	29419	35250	38426	42026	44046	46943	53214	58622
171.5	24099	29526	35378	38565	42178	44205	47112	53406	58833
172.0	24186	29632	35505	38704	42329	44363	47281	53597	59043
172.5	24274	29739	35633	38842	42480	44522	47449	53788	59253
173.0	24361	29846	35760	38981	42632	44680	47618	53979	59464
173.5	24448	29952	35887	39119	42783	44839	47787	54170	59674
174.0	24535	30058	36014	39258	42934	44997	47955	54361	59884
174.5	24623	30165	36141	39396	43085	45155	48124	54552	60094
175.0	24710	30271	36268	39534	43236	45313	48292	54742	60304
175.5	24797	30377	36395	39672	43387	45471	48461	54933	60513
176.0	24884	30483	36522	39810	43538	45629	48629	55123	60723
176.5	24971	30590	36648	39948	43688	45787	48797	55313	60932
177.0	25058	30696	36775	40086	43839	45945	48965	55503	61141
177.5	25144	30801	36902	40224	43989	46103	49133	55693	61351
178.0	25231	30907	37028	40362	44140	46260	49300	55883	61560
178.5	25318	31013	37154	40499	44290	46417	49468	56073	61768
179.0	25404	31119	37281	40637	44440	46575	49636	56263	61977
179.5	25491	31224	37407	40774	44590	46732	49803	56452	62186
180.0	25577	31330	37533	40911	44740	46889	49970	56642	62394
180.5	25664	31435	37659	41049	44890	47046	50137	56831	62602
181.0	25750	31541	37785	41186	45040	47203	50304	57020	62811
181.5	25836	31646	37911	41323	45190	47360	50471	57209	63019
182.0	25923	31751	38036	41459	45339	47516	50638	57398	63226
182.5	26009	31856	38162	41596	45488	47673	50805	57587	63434



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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
183.0	26095	31961	38287	41733	45638	47829	50971	57775	63642
183.5	26181	32066	38413	41869	45787	47985	51138	57964	63849
184.0	26267	32171	38538	42006	45936	48141	51304	58152	64056
184.5	26353	32276	38663	42142	46085	48297	51470	58340	64263
185.0	26438	32381	38788	42278	46234	48453	51636	58528	64470
185.5	26524	32485	38913	42414	46382	48609	51802	58716	64677
186.0	26610	32590	39038	42550	46531	48765	51968	58903	64883
186.5	26695	32694	39163	42686	46679	48920	52133	59091	65090
187.0	26781	32799	39288	42822	46828	49075	52299	59278	65296
187.5	26866	32903	39412	42958	46976	49231	52464	59465	65502
188.0	26951	33007	39537	43093	47124	49386	52629	59652	65708
188.5	27037	33111	39661	43228	47272	49541	52794	59839	65913
189.0	27122	33215	39785	43364	47419	49695	52959	60026	66119
189.5	27207	33319	39909	43499	47567	49850	53124	60212	66324
190.0	27292	33422	40033	43634	47714	50004	53288	60398	66529
190.5	27376	33526	40157	43768	47862	50159	53452	60584	66734
191.0	27461	33629	40280	43903	48009	50313	53617	60770	66938
191.5	27546	33733	40404	44038	48156	50467	53781	60956	67143
192.0	27630	33836	40527	44172	48303	50621	53944	61141	67347
192.5	27715	33939	40651	44306	48449	50774	54108	61327	67551
193.0	27799	34042	40774	44440	48596	50928	54272	61512	67755
193.5	27883	34145	40897	44574	48742	51081	54435	61697	67958
194.0	27967	34248	41020	44708	48888	51234	54598	61881	68161
194.5	28051	34350	41142	44842	49034	51387	54761	62066	68365
195.0	28135	34453	41265	44975	49180	51540	54923	62250	68567
195.5	28219	34555	41387	45108	49326	51692	55086	62434	68770
196.0	28303	34657	41509	45241	49471	51845	55248	62618	68972
196.5	28387	34760	41632	45374	49616	51997	55411	62802	69175
197.0	28470	34862	41754	45507	49762	52149	55573	62985	69377
197.5	28553	34963	41875	45640	49907	52301	55734	63168	69578
198.0	28637	35065	41997	45772	50051	52453	55896	63351	69780
198.5	28720	35167	42118	45905	50196	52604	56057	63534	69981
199.0	28803	35268	42240	46037	50340	52755	56218	63717	70182
199.5	28886	35370	42361	46169	50485	52907	56379	63899	70383
200.0	28969	35471	42482	46301	50629	53057	56540	64081	70583
200.5	29051	35572	42603	46432	50773	53208	56701	64263	70783
201.0	29134	35673	42724	46564	50916	53359	56861	64444	70983
201.5	29217	35774	42844	46695	51060	53509	57021	64626	71183
202.0	29299	35874	42965	46826	51203	53659	57181	64807	71382
202.5	29381	35975	43085	46957	51346	53809	57341	64988	71582
203.0	29463	36075	43205	47088	51489	53959	57500	65169	71780
203.5	29545	36175	43325	47219	51632	54108	57660	65349	71979
204.0	29627	36275	43444	47349	51774	54258	57819	65529	72177
204.5	29709	36375	43564	47479	51917	54407	57977	65709	72375
205.0	29790	36475	43683	47609	52059	54555	58136	65888	72573
205.5	29872	36575	43802	47739	52200	54704	58294	66068	72771
206.0	29953	36674	43921	47868	52342	54852	58452	66247	72968
206.5	30034	36773	44040	47998	52483	55001	58610	66426	73165
207.0	30115	36872	44159	48127	52625	55149	58768	66604	73361
207.5	30196	36971	44277	48256	52766	55296	58925	66783	73558
208.0	30277	37070	44395	48385	52906	55444	59082	66961	73754
208.5	30358	37169	44513	48513	53047	55591	59239	67138	73949
209.0	30438	37267	44631	48642	53187	55738	59396	67316	74145
209.5	30519	37366	44749	48770	53327	55885	59552	67493	74340
210.0	30599	37464	44866	48898	53467	56031	59708	67670	74535
210.5	30679	37562	44983	49026	53607	56178	59864	67846	74729
211.0	30759	37660	45100	49153	53746	56324	60020	68023	74923
211.5	30839	37757	45217	49280	53885	56470	60175	68199	75117
212.0	30919	37855	45334	49407	54024	56615	60330	68374	75310
212.5	30998	37952	45450	49534	54163	56760	60485	68550	75504
213.0	31077	38049	45566	49661	54301	56905	60640	68725	75696



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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	20 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
213.5	31157	38146	45682	49787	54440	57050	60794	68900	75889
214.0	31236	38243	45798	49913	54577	57195	60948	69074	76081
214.5	31314	38339	45914	50039	54715	57339	61102	69248	76273
215.0	31393	38435	46029	50165	54852	57483	61255	69422	76464
215.5	31472	38532	46144	50290	54990	57627	61408	69596	76655
216.0	31550	38628	46259	50416	55127	57770	61561	69769	76846
216.5	31628	38723	46374	50541	55263	57913	61714	69942	77037
217.0	31707	38819	46488	50665	55400	58056	61866	70114	77227
217.5	31784	38914	46602	50790	55536	58199	62018	70287	77416
218.0	31862	39010	46716	50914	55672	58341	62170	70459	77606
218.5	31940	39105	46830	51038	55807	58483	62321	70630	77795
219.0	32017	39199	46944	51162	55942	58625	62472	70801	77983
219.5	32095	39294	47057	51285	56077	58767	62623	70972	78172
220.0	32172	39388	47170	51409	56212	58908	62773	71143	78360
220.5	32249	39483	47283	51532	56347	59049	62924	71313	78547
221.0	32325	39577	47396	51654	56481	59189	63073	71483	78734
221.5	32402	39670	47508	51777	56615	59330	63223	71652	78921
222.0	32478	39764	47620	51899	56748	59470	63372	71822	79107
222.5	32555	39857	47732	52021	56882	59609	63521	71990	79293
223.0	32631	39950	47843	52142	57015	59749	63670	72159	79479
223.5	32707	40043	47955	52264	57147	59888	63818	72327	79664
224.0	32782	40136	48066	52385	57280	60027	63966	72495	79848
224.5	32858	40229	48177	52506	57412	60165	64113	72662	80033
225.0	32933	40321	48287	52626	57544	60304	64261	72829	80217
225.5	33008	40413	48398	52747	57675	60441	64408	72995	80400
226.0	33083	40505	48508	52867	57807	60579	64554	73162	80583
226.5	33158	40597	48618	52986	57938	60716	64700	73327	80766
227.0	33233	40688	48727	53106	58068	60853	64846	73493	80948
227.5	33307	40779	48836	53225	58199	60990	64992	73658	81130
228.0	33381	40870	48945	53344	58329	61126	65137	73822	81311
228.5	33455	40961	49054	53462	58458	61262	65282	73987	81492
229.0	33529	41051	49163	53580	58587	61397	65426	74150	81673
229.5	33602	41141	49271	53698	58716	61532	65571	74314	81853
230.0	33676	41231	49379	53816	58845	61667	65714	74477	82032
230.5	33749	41321	49486	53933	58973	61802	65858	74639	82212
231.0	33822	41411	49593	54050	59102	61936	66001	74802	82390
231.5	33895	41500	49701	54167	59229	62070	66143	74963	82569
232.0	33967	41589	49807	54283	59357	62203	66286	75125	82746
232.5	34040	41678	49914	54400	59484	62337	66428	75286	82924
233.0	34112	41766	50020	54515	59610	62469	66569	75446	83101
233.5	34184	41855	50126	54631	59737	62602	66710	75606	83277
234.0	34256	41943	50231	54746	59862	62734	66851	75766	83453
234.5	34327	42030	50337	54861	59988	62865	66991	75925	83628
235.0	34398	42118	50442	54975	60113	62997	67131	76084	83803
235.5	34470	42205	50546	55089	60238	63128	67271	76242	83978
236.0	34540	42292	50651	55203	60363	63258	67410	76400	84152
236.5	34611	42379	50755	55317	60487	63388	67549	76557	84325
237.0	34682	42465	50858	55430	60611	63518	67687	76714	84498
237.5	34752	42551	50962	55543	60734	63647	67825	76871	84670
238.0	34822	42637	51065	55655	60857	63777	67963	77027	84842
238.5	34891	42723	51168	55767	60980	63905	68100	77182	85014
239.0	34961	42808	51270	55879	61102	64033	68237	77337	85185
239.5	35030	42893	51372	55990	61224	64161	68373	77492	85355
240.0	35099	42978	51474	56101	61346	64289	68509	77646	85525
240.5	35168	43063	51575	56212	61467	64416	68644	77800	85694
241.0	35237	43147	51677	56322	61587	64542	68779	77953	85863
241.5	35305	43231	51777	56432	61708	64668	68914	78106	86031
242.0	35373	43315	51878	56542	61828	64794	69048	78258	86199
242.5	35441	43398	51978	56651	61947	64919	69181	78409	86366
243.0	35509	43481	52078	56760	62066	65044	69315	78561	86533
243.5	35576	43564	52177	56868	62185	65169	69447	78711	86699



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Author: Heather Niefer, Environmental Audit & Reporting Advisor			

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
244.0	35643	43646	52276	56977	62304	65293	69580	78861	86864
244.5	35710	43729	52375	57084	62422	65417	69712	79011	87029
245.0	35777	43810	52473	57192	62539	65540	69843	79160	87194
245.5	35843	43892	52571	57299	62656	65663	69974	79309	87358
246.0	35909	43973	52669	57405	62773	65785	70104	79457	87521
246.5	35975	44054	52766	57511	62889	65907	70234	79604	87683
247.0	36041	44135	52863	57617	63005	66028	70364	79751	87845
247.5	36106	44215	52960	57722	63120	66149	70493	79898	88007
248.0	36171	44295	53056	57827	63235	66270	70621	80043	88168
248.5	36236	44375	53152	57932	63350	66390	70749	80189	88328
249.0	36301	44455	53247	58036	63464	66509	70877	80334	88488
249.5	36365	44534	53342	58140	63577	66629	71004	80478	88647
250.0	36429	44612	53437	58243	63690	66747	71131	80621	88805
250.5	36493	44691	53531	58346	63803	66865	71257	80765	88963
251.0	36556	44769	53625	58449	63915	66983	71382	80907	89120
251.5	36619	44847	53719	58551	64027	67100	71507	81049	89276
252.0	36682	44924	53812	58652	64138	67217	71632	81190	89432
252.5	36745	45001	53904	58753	64249	67333	71756	81331	89588
253.0	36807	45078	53997	58854	64360	67449	71879	81471	89742
253.5	36869	45154	54089	58955	64469	67564	72002	81611	89896
254.0	36931	45231	54180	59054	64579	67679	72124	81750	90049
254.5	36992	45306	54271	59154	64688	67793	72246	81888	90202
255.0	37054	45382	54362	59253	64796	67907	72368	82026	90354
255.5	37115	45457	54452	59351	64904	68020	72488	82163	90505
256.0	37175	45531	54542	59449	65011	68133	72609	82300	90656
256.5	37235	45606	54631	59547	65118	68245	72728	82435	90806
257.0	37295	45680	54720	59644	65225	68357	72847	82571	90955
257.5	37355	45753	54809	59741	65331	68468	72966	82705	91103
258.0	37415	45826	54897	59837	65436	68578	73084	82839	91251
258.5	37474	45899	54984	59933	65541	68688	73201	82973	91398
259.0	37532	45972	55072	60028	65645	68798	73318	83105	91544
259.5	37591	46044	55158	60123	65749	68907	73434	83237	91690
260.0	37649	46115	55245	60217	65852	69015	73550	83369	91835
260.5	37707	46187	55331	60311	65955	69123	73665	83499	91979
261.0	37764	46258	55416	60404	66057	69230	73779	83629	92122
261.5	37821	46328	55501	60497	66159	69337	73893	83758	92265
262.0	37878	46398	55585	60589	66260	69443	74006	83887	92407
262.5	37935	46468	55669	60681	66361	69548	74119	84015	92548
263.0	37991	46537	55753	60772	66461	69653	74231	84142	92688
263.5	38047	46606	55836	60863	66560	69757	74342	84269	92828
264.0	38102	46675	55918	60953	66659	69861	74453	84394	92967
264.5	38158	46743	56000	61043	66757	69964	74563	84519	93105
265.0	38212	46811	56082	61132	66855	70067	74672	84644	93242
265.5	38267	46878	56163	61220	66952	70168	74781	84767	93378
266.0	38321	46945	56244	61308	67048	70270	74889	84890	93514
266.5	38375	47011	56324	61396	67144	70370	74996	85012	93648
267.0	38428	47077	56403	61483	67240	70470	75103	85133	93782
267.5	38481	47143	56482	61569	67334	70570	75209	85254	93915
268.0	38534	47208	56561	61655	67428	70668	75314	85374	94047
268.5	38586	47272	56639	61740	67522	70766	75419	85493	94179
269.0	38638	47337	56716	61825	67615	70864	75523	85611	94309
269.5	38690	47400	56793	61909	67707	70961	75626	85728	94439
270.0	38741	47464	56869	61992	67798	71057	75729	85845	94567
270.5	38792	47527	56945	62075	67889	71152	75831	85961	94695
271.0	38842	47589	57021	62158	67980	71247	75932	86076	94822
271.5	38892	47651	57095	62239	68069	71341	76032	86190	94948
272.0	38942	47712	57169	62320	68158	71434	76132	86303	95073
272.5	38991	47773	57243	62401	68246	71527	76231	86415	95197
273.0	39040	47834	57316	62481	68334	71619	76329	86527	95321
273.5	39089	47894	57388	62560	68421	71710	76426	86638	95443
274.0	39137	47953	57460	62638	68507	71800	76523	86747	95564



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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	22 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

Gauge Chart Manual – FRP Underground Storage Tanks Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge P-100 Series / Série Primary / Primaire – Metric / Métrique									
Depth/ Niveau (cm)	40,000L	50,000L	60,000L	65,000L	70,000L	75,000L	80,000L	90,000L	100,000L
274.5	39184	48012	57532	62716	68592	71890	76618	86856	95684
275.0	39232	48071	57602	62794	68677	71979	76713	86964	95804
275.5	39279	48129	57672	62870	68761	72067	76807	87072	95922
276.0	39325	48186	57742	62946	68844	72154	76901	87178	96039
276.5	39371	48243	57810	63021	68927	72241	76993	87283	96155
277.0	39416	48300	57879	63096	69009	72327	77085	87387	96271
277.5	39462	48356	57946	63170	69090	72412	77176	87491	96385
278.0	39506	48411	58013	63243	69170	72496	77266	87593	96498
278.5	39550	48466	58079	63315	69250	72580	77355	87695	96610
279.0	39594	48520	58145	63387	69328	72663	77443	87795	96721
279.5	39637	48574	58210	63458	69406	72744	77531	87895	96831
280.0	39680	48627	58274	63528	69484	72825	77617	87993	96940
280.5	39723	48679	58338	63598	69560	72905	77703	88091	97047
281.0	39764	48731	58400	63667	69635	72985	77788	88187	97154
281.5	39806	48783	58463	63735	69710	73063	77871	88282	97259
282.0	39847	48834	58524	63802	69784	73141	77954	88377	97363
282.5	39887	48884	58585	63869	69857	73217	78036	88470	97466
283.0	39927	48933	58645	63934	69929	73293	78117	88562	97568
283.5	39966	48982	58704	63999	70000	73368	78197	88653	97669
284.0	40005	49030	58762	64063	70070	73442	78276	88743	97768
284.5	40044	49078	58820	64126	70140	73514	78354	88831	97866
285.0	40081	49125	58877	64189	70208	73586	78430	88919	97963
285.5	40119	49171	58933	64250	70276	73657	78506	89005	98058
286.0	40155	49217	58988	64311	70342	73727	78581	89090	98152
286.5	40191	49262	59043	64370	70408	73796	78655	89174	98245
287.0	40227	49306	59097	64429	70473	73864	78727	89257	98336
287.5	40262	49350	59150	64487	70536	73931	78799	89338	98426
288.0	40296	49393	59202	64544	70599	73997	78869	89418	98515
288.5	40330	49435	59253	64600	70660	74061	78938	89497	98602
289.0	40364	49476	59303	64655	70721	74125	79006	89575	98687
289.5	40396	49517	59352	64709	70780	74187	79073	89651	98772
290.0	40428	49557	59401	64762	70838	74248	79138	89725	98854
290.5	40459	49596	59448	64814	70896	74308	79202	89798	98935
291.0	40490	49634	59495	64865	70952	74367	79265	89870	99014
291.5	40520	49672	59540	64915	71007	74425	79327	89941	99092
292.0	40549	49708	59585	64964	71060	74481	79387	90009	99168
292.5	40578	49744	59628	65011	71113	74536	79446	90077	99243
293.0	40606	49779	59670	65058	71164	74590	79504	90142	99315
293.5	40633	49813	59712	65103	71214	74643	79560	90206	99386
294.0	40659	49846	59752	65147	71262	74694	79614	90268	99455
294.5	40685	49878	59791	65190	71309	74743	79667	90329	99522
295.0	40710	49909	59829	65232	71355	74791	79719	90388	99587
295.5	40734	49939	59866	65272	71400	74838	79769	90445	99650
296.0	40757	49969	59901	65311	71442	74883	79817	90500	99711
296.5	40780	49997	59935	65349	71484	74927	79864	90553	99770
297.0	40801	50023	59968	65385	71523	74968	79908	90604	99826
297.5	40821	50049	60000	65419	71561	75008	79951	90653	99881
298.0	40841	50074	60030	65452	71598	75046	79992	90700	99932
298.5	40859	50097	60058	65483	71632	75083	80031	90744	99981
299.0	40877	50119	60085	65513	71665	75117	80067	90786	100028
299.5	40893	50140	60110	65541	71695	75149	80102	90825	100071
300.0	40908	50159	60133	65566	71723	75179	80133	90861	100112
300.5	40922	50176	60155	65590	71749	75206	80163	90895	100149
301.0	40935	50192	60174	65611	71773	75230	80189	90925	100182
301.5	40945	50205	60191	65629	71793	75252	80212	90951	100211
302.0	40954	50217	60205	65645	71810	75270	80231	90973	100236
302.5	40961	50225	60215	65656	71823	75283	80246	90990	100254
303.0	40963	50228	60219	65660	71827	75288	80251	90996	100261



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Author: Heather Niefer, Environmental Audit & Reporting Advisor

Steepprock Bus Maintenance Facility

Gauge Chart Manual – FRP Underground Storage Tanks

Tableaux des capacités des réservoirs – Réservoirs de stockage souterrain en FVR

Depth Chart / Tableau du niveau de jauge – P-86 Series / Série – Metric / Métrique														
Depth/ Niveau (cm)	Primary / Primaire									Extensions				
	15,000L	20,000L	25,000L	30,000L	35,000L	40,000L	45,000L	50,000L	65,000L	10,000L	15,000L	20,000L	25,000L	30,000L
0.0	4	6	8	10	12	15	17	19	26	5	7	9	11	13
0.5	7	11	15	19	23	27	31	35	47	8	12	16	20	24
1.0	10	17	23	30	35	42	48	54	73	12	19	25	31	37
1.5	15	24	32	42	49	59	67	75	102	17	26	35	43	52
2.0	20	32	42	55	65	78	89	99	134	23	34	46	57	68
2.5	25	41	54	70	82	99	112	125	169	29	43	57	71	86
3.0	31	50	66	86	101	121	137	153	207	35	52	70	87	105
3.5	37	60	79	103	121	145	164	183	247	42	62	84	104	125
4.0	44	71	93	121	142	170	193	215	290	49	73	98	122	146
4.5	52	83	108	140	164	197	223	248	334	56	84	113	140	168
5.0	59	95	123	159	187	224	254	283	381	64	96	129	160	192
5.5	67	107	139	180	211	254	287	319	430	72	108	145	180	216
6.0	76	120	156	202	237	284	322	357	481	80	121	162	201	241
6.5	85	134	174	225	263	315	357	397	534	89	134	179	223	267
7.0	94	148	192	248	290	348	394	438	589	98	147	198	245	294
7.5	104	163	211	272	319	382	432	480	645	108	161	216	269	322
8.0	114	179	231	297	348	416	471	523	703	117	176	235	292	351
8.5	124	194	251	323	378	452	511	568	763	127	190	255	317	380
9.0	135	211	272	350	409	489	553	614	825	137	205	275	342	411
9.5	146	228	294	377	441	527	596	661	888	147	221	296	368	441
10.0	158	245	316	405	473	565	639	710	952	158	237	317	394	473
10.5	170	263	338	434	506	605	684	759	1,018	169	253	339	421	505
11.0	182	281	361	463	541	646	730	810	1,086	180	269	361	449	538
11.5	194	300	385	493	576	687	776	861	1,155	191	286	384	477	572
12.0	207	319	409	524	611	729	824	914	1,225	203	304	407	505	606
12.5	220	338	434	555	648	773	873	968	1,297	214	321	431	535	641
13.0	234	358	459	587	685	817	922	1,023	1,370	226	339	454	564	677
13.5	248	379	485	620	723	862	973	1,079	1,445	238	357	479	594	713
14.0	262	400	512	653	761	907	1,024	1,136	1,520	251	375	503	625	750
14.5	276	421	538	687	800	954	1,077	1,194	1,597	263	394	528	656	787
15.0	291	443	566	722	840	1,001	1,130	1,252	1,676	276	413	554	688	825
15.5	306	465	594	757	881	1,049	1,184	1,312	1,755	289	432	580	720	864
16.0	321	487	622	793	922	1,098	1,239	1,373	1,836	302	452	606	752	903
16.5	337	510	651	829	964	1,148	1,295	1,435	1,918	315	472	633	785	942
17.0	353	533	680	866	1,007	1,198	1,351	1,497	2,001	328	492	659	819	982
17.5	369	557	709	903	1,050	1,249	1,409	1,561	2,085	342	512	687	853	1,023
18.0	385	581	740	941	1,094	1,301	1,467	1,625	2,170	356	533	714	887	1,064
18.5	402	605	770	979	1,138	1,353	1,526	1,690	2,257	370	554	742	922	1,106
19.0	419	630	801	1,018	1,183	1,407	1,586	1,756	2,345	384	575	771	957	1,148
19.5	436	655	833	1,058	1,229	1,461	1,646	1,823	2,433	398	596	799	992	1,190
20.0	454	681	865	1,098	1,275	1,515	1,708	1,891	2,523	413	618	828	1,028	1,233
20.5	472	706	897	1,138	1,322	1,570	1,770	1,959	2,614	427	640	857	1,065	1,277
21.0	490	733	930	1,179	1,369	1,626	1,832	2,029	2,706	442	662	887	1,101	1,321
21.5	508	759	963	1,221	1,417	1,683	1,896	2,099	2,798	457	684	917	1,138	1,365
22.0	527	785	996	1,263	1,466	1,740	1,960	2,170	2,892	472	707	947	1,176	1,410
22.5	546	813	1,030	1,306	1,515	1,798	2,025	2,241	2,987	487	729	977	1,214	1,456
23.0	565	841	1,065	1,349	1,564	1,856	2,091	2,314	3,083	503	752	1,008	1,252	1,501
23.5	585	869	1,100	1,392	1,614	1,916	2,157	2,387	3,180	518	775	1,039	1,290	1,548
24.0	604	897	1,135	1,436	1,665	1,975	2,224	2,461	3,278	534	799	1,071	1,329	1,594
24.5	624	926	1,170	1,481	1,716	2,036	2,292	2,535	3,376	549	822	1,102	1,368	1,641
25.0	644	955	1,206	1,526	1,768	2,097	2,360	2,611	3,476	565	846	1,134	1,408	1,689
25.5	665	984	1,243	1,571	1,820	2,158	2,429	2,687	3,577	581	870	1,166	1,448	1,737
26.0	685	1,013	1,279	1,617	1,873	2,220	2,499	2,764	3,678	598	894	1,199	1,488	1,785
26.5	706	1,043	1,316	1,663	1,926	2,283	2,569	2,841	3,781	614	919	1,231	1,529	1,834
27.0	728	1,073	1,354	1,710	1,980	2,346	2,640	2,919	3,884	630	943	1,264	1,570	1,883
27.5	749	1,104	1,392	1,757	2,034	2,410	2,712	2,998	3,988	647	968	1,298	1,611	1,932
28.0	771	1,135	1,430	1,805	2,089	2,475	2,784	3,078	4,093	664	993	1,331	1,652	1,982
28.5	793	1,166	1,469	1,853	2,144	2,540	2,857	3,158	4,199	681	1,018	1,365	1,694	2,032
29.0	815	1,197	1,508	1,901	2,200	2,605	2,930	3,239	4,306	698	1,044	1,399	1,736	2,083
29.5	837	1,229	1,547	1,950	2,256	2,671	3,004	3,321	4,414	715	1,069	1,433	1,779	2,134
30.0	860	1,261	1,586	1,999	2,313	2,738	3,079	3,403	4,522	732	1,095	1,467	1,822	2,185



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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	24 of 39
Author: Heather Niefer, Environmental Audit & Reporting Advisor			

Oshawa Bus Maintenance Facility

Model DWT6 (8) 50000
DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
0.5	34	30.5	3,902	60.5	10,426	90.5	18,281	120.5	26,701
1.0	55	31.0	3,994	61.0	10,548	91.0	18,419	121.0	26,842
1.5	79	31.5	4,087	61.5	10,671	91.5	18,556	121.5	26,984
2.0	106	32.0	4,181	62.0	10,794	92.0	18,694	122.0	27,125
2.5	136	32.5	4,276	62.5	10,918	92.5	18,832	122.5	27,266
3.0	167	33.0	4,371	63.0	11,042	93.0	18,971	123.0	27,407
3.5	202	33.5	4,466	63.5	11,166	93.5	19,109	123.5	27,549
4.0	238	34.0	4,563	64.0	11,290	94.0	19,247	124.0	27,690
4.5	276	34.5	4,660	64.5	11,415	94.5	19,386	124.5	27,831
5.0	316	35.0	4,757	65.0	11,540	95.0	19,525	125.0	27,972
5.5	357	35.5	4,856	65.5	11,666	95.5	19,663	125.5	28,113
6.0	401	36.0	4,954	66.0	11,792	96.0	19,802	126.0	28,254
6.5	446	36.5	5,054	66.5	11,918	96.5	19,942	126.5	28,395
7.0	492	37.0	5,154	67.0	12,044	97.0	20,081	127.0	28,535
7.5	540	37.5	5,254	67.5	12,171	97.5	20,220	127.5	28,676
8.0	589	38.0	5,356	68.0	12,298	98.0	20,359	128.0	28,817
8.5	640	38.5	5,457	68.5	12,426	98.5	20,499	128.5	28,957
9.0	692	39.0	5,560	69.0	12,553	99.0	20,639	129.0	29,098
9.5	746	39.5	5,663	69.5	12,681	99.5	20,778	129.5	29,238
10.0	801	40.0	5,766	70.0	12,810	100.0	20,918	130.0	29,379
10.5	857	40.5	5,870	70.5	12,938	100.5	21,058	130.5	29,519
11.0	914	41.0	5,975	71.0	13,067	101.0	21,198	131.0	29,659
11.5	972	41.5	6,080	71.5	13,196	101.5	21,338	131.5	29,799
12.0	1,032	42.0	6,185	72.0	13,326	102.0	21,479	132.0	29,939
12.5	1,093	42.5	6,292	72.5	13,456	102.5	21,619	132.5	30,079
13.0	1,155	43.0	6,398	73.0	13,586	103.0	21,759	133.0	30,219
13.5	1,218	43.5	6,506	73.5	13,716	103.5	21,900	133.5	30,359
14.0	1,282	44.0	6,613	74.0	13,846	104.0	22,040	134.0	30,498
14.5	1,347	44.5	6,721	74.5	13,977	104.5	22,181	134.5	30,638
15.0	1,413	45.0	6,830	75.0	14,108	105.0	22,322	135.0	30,777
15.5	1,480	45.5	6,939	75.5	14,239	105.5	22,462	135.5	30,917
16.0	1,548	46.0	7,049	76.0	14,371	106.0	22,603	136.0	31,056
16.5	1,618	46.5	7,159	76.5	14,503	106.5	22,744	136.5	31,195
17.0	1,688	47.0	7,270	77.0	14,635	107.0	22,885	137.0	31,334
17.5	1,759	47.5	7,381	77.5	14,767	107.5	23,026	137.5	31,473
18.0	1,831	48.0	7,493	78.0	14,900	108.0	23,167	138.0	31,611
18.5	1,904	48.5	7,605	78.5	15,032	108.5	23,308	138.5	31,750
19.0	1,978	49.0	7,718	79.0	15,165	109.0	23,449	139.0	31,888
19.5	2,053	49.5	7,831	79.5	15,299	109.5	23,590	139.5	32,027
20.0	2,128	50.0	7,944	80.0	15,432	110.0	23,732	140.0	32,165
20.5	2,205	50.5	8,058	80.5	15,566	110.5	23,873	140.5	32,303
21.0	2,282	51.0	8,173	81.0	15,700	111.0	24,014	141.0	32,441
21.5	2,360	51.5	8,288	81.5	15,834	111.5	24,155	141.5	32,578
22.0	2,439	52.0	8,403	82.0	15,968	112.0	24,297	142.0	32,716
22.5	2,519	52.5	8,519	82.5	16,103	112.5	24,438	142.5	32,853
23.0	2,600	53.0	8,635	83.0	16,237	113.0	24,580	143.0	32,991
23.5	2,682	53.5	8,751	83.5	16,372	113.5	24,721	143.5	33,128
24.0	2,764	54.0	8,868	84.0	16,508	114.0	24,862	144.0	33,265
24.5	2,847	54.5	8,986	84.5	16,643	114.5	25,004	144.5	33,401
25.0	2,931	55.0	9,104	85.0	16,778	115.0	25,145	145.0	33,538
25.5	3,015	55.5	9,222	85.5	16,914	115.5	25,287	145.5	33,674
26.0	3,101	56.0	9,341	86.0	17,050	116.0	25,428	146.0	33,811
26.5	3,187	56.5	9,460	86.5	17,186	116.5	25,570	146.5	33,947
27.0	3,274	57.0	9,579	87.0	17,322	117.0	25,711	147.0	34,083
27.5	3,361	57.5	9,699	87.5	17,459	117.5	25,853	147.5	34,218
28.0	3,450	58.0	9,819	88.0	17,595	118.0	25,994	148.0	34,354
28.5	3,539	58.5	9,940	88.5	17,732	118.5	26,135	148.5	34,489
29.0	3,628	59.0	10,061	89.0	17,869	119.0	26,277	149.0	34,624
29.5	3,719	59.5	10,182	89.5	18,006	119.5	26,418	149.5	34,759
30.0	3,810	60.0	10,304	90.0	18,144	120.0	26,560	150.0	34,894




BUS SERVICES

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Model DWT6 (8) 50000 DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
150.5	35,028	180.5	42,590	210.5	48,548
151.0	35,163	181.0	42,706	211.0	48,626
151.5	35,297	181.5	42,820	211.5	48,705
152.0	35,431	182.0	42,935	212.0	48,782
152.5	35,564	182.5	43,049	212.5	48,858
153.0	35,698	183.0	43,162	213.0	48,934
153.5	35,831	183.5	43,275	213.5	49,008
154.0	35,964	184.0	43,388	214.0	49,082
154.5	36,097	184.5	43,500	214.5	49,155
155.0	36,229	185.0	43,611	215.0	49,227
155.5	36,361	185.5	43,722	215.5	49,298
156.0	36,493	186.0	43,833	216.0	49,368
156.5	36,625	186.5	43,943	216.5	49,437
157.0	36,757	187.0	44,053	217.0	49,505
157.5	36,888	187.5	44,162	217.5	49,572
158.0	37,019	188.0	44,271	218.0	49,638
158.5	37,150	188.5	44,379	218.5	49,703
159.0	37,280	189.0	44,486	219.0	49,766
159.5	37,410	189.5	44,593	219.5	49,829
160.0	37,540	190.0	44,700	220.0	49,891
160.5	37,670	190.5	44,806	220.5	49,952
161.0	37,799	191.0	44,912	221.0	50,011
161.5	37,928	191.5	45,017	221.5	50,069
162.0	38,057	192.0	45,121	222.0	50,126
162.5	38,186	192.5	45,225	222.5	50,182
163.0	38,314	193.0	45,328	223.0	50,237
163.5	38,442	193.5	45,431	223.5	50,290
164.0	38,570	194.0	45,533	224.0	50,342
164.5	38,697	194.5	45,635	224.5	50,392
165.0	38,824	195.0	45,736	225.0	50,442
165.5	38,951	195.5	45,837	225.5	50,489
166.0	39,077	196.0	45,937	226.0	50,535
166.5	39,203	196.5	46,036	226.5	50,580
167.0	39,329	197.0	46,135	227.0	50,623
167.5	39,455	197.5	46,233	227.5	50,664
168.0	39,580	198.0	46,330	228.0	50,704
168.5	39,705	198.5	46,427	228.5	50,742
169.0	39,829	199.0	46,523	229.0	50,778
169.5	39,953	199.5	46,619	229.5	50,811
170.0	40,077	200.0	46,714	230.0	50,843
170.5	40,200	200.5	46,808	230.5	50,872
171.0	40,324	201.0	46,902	231.0	50,899
171.5	40,446	201.5	46,995	231.5	50,922
172.0	40,569	202.0	47,087	232.0	50,943
172.5	40,691	202.5	47,179	232.5	50,959
173.0	40,812	203.0	47,270	233.0	50,970
173.5	40,934	203.5	47,360		
174.0	41,054	204.0	47,450		
174.5	41,175	204.5	47,539		
175.0	41,295	205.0	47,627		
175.5	41,415	205.5	47,715		
176.0	41,534	206.0	47,801		
176.5	41,653	206.5	47,887		
177.0	41,772	207.0	47,973		
177.5	41,890	207.5	48,057		
178.0	42,008	208.0	48,141		
178.5	42,125	208.5	48,224		
179.0	42,242	209.0	48,306		
179.5	42,359	209.5	48,387		
180.0	42,475	210.0	48,468		

**CONTAINMENT SOLUTIONS**

HOW TO PROPERLY GAUGE YOUR TANK:
Underground storage tanks require periodic measurement to determine current inventory level. Using the proper methods when gauging your tank's contents will insure the most accurate reading and insure that you do not damage your tank. The following procedure should be followed whenever you use a gauge stick to determine the amount of product that is in your tank:
1) Use a wood dipstick with a rubber or nylon tip. Metallic dipsticks are not recommended. This will insure that frequent tank gaugings or an accidental dropping of the gauge stick into the tank will not damage the tank bottom.
2) Slowly lower your gauge stick into the fill port until it touches the tank bottom. Never free drop the gauge stick. This can result in inaccurate measurements due to product splashing. Free dropping can also result in gauge stick damage and tank damage.
3) Remove your dipstick slowly and read the product level directly from the gauge stick.

Water Paste Detection:
To detect water in the tank bottom, water detection paste is available from petroleum equipment distributors. See vendor below or suitable equal.

Gasolia Water Finding Paste
Federal Process Corp.
800-846-7325
www.gasolia.com

Caution
Pressurized deliveries are not recommended. If the delivery vehicle uses pumps to fill the tank, install overfill shutoff equipment in the tank and truck to prevent the tank from being overfilled. **Overfilling the tank under pressure will damage the tank even if the tank vent is unrestricted.**

Containment Solutions, Inc.
5150 Jefferson Chemical Road
Conroe, TX 77301
Tel: 936-756-7731
Fax: 936-756-7766

Note: Calibration chart is based on the fluid level above a 8mm [5/16"] deflector plate.

Pub No. CAL 8-50000LDWT-CAN 5/11



BUS SERVICES

Env-BS-P-104_G2

Section
Bus Fleet & Facilities

Subject
Bulk Storage Tank Filling Procedure

Approved
06-12-2014

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Author: Heather Niefer, Environmental Audit & Reporting Advisor

East Gwillimbury Bus Maintenance Facility

Model DWT6 (8) 50000
DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
0.5	34	30.5	3,902	60.5	10,426	90.5	18,281	120.5	26,701
1.0	55	31.0	3,994	61.0	10,548	91.0	18,419	121.0	26,842
1.5	79	31.5	4,087	61.5	10,671	91.5	18,556	121.5	26,984
2.0	106	32.0	4,181	62.0	10,794	92.0	18,694	122.0	27,125
2.5	136	32.5	4,276	62.5	10,918	92.5	18,832	122.5	27,266
3.0	167	33.0	4,371	63.0	11,042	93.0	18,971	123.0	27,407
3.5	202	33.5	4,466	63.5	11,166	93.5	19,109	123.5	27,549
4.0	238	34.0	4,563	64.0	11,290	94.0	19,247	124.0	27,690
4.5	276	34.5	4,660	64.5	11,415	94.5	19,386	124.5	27,831
5.0	316	35.0	4,757	65.0	11,540	95.0	19,525	125.0	27,972
5.5	357	35.5	4,856	65.5	11,666	95.5	19,663	125.5	28,113
6.0	401	36.0	4,954	66.0	11,792	96.0	19,802	126.0	28,254
6.5	446	36.5	5,054	66.5	11,918	96.5	19,942	126.5	28,395
7.0	492	37.0	5,154	67.0	12,044	97.0	20,081	127.0	28,535
7.5	540	37.5	5,254	67.5	12,171	97.5	20,220	127.5	28,676
8.0	589	38.0	5,356	68.0	12,298	98.0	20,359	128.0	28,817
8.5	640	38.5	5,457	68.5	12,426	98.5	20,499	128.5	28,957
9.0	692	39.0	5,560	69.0	12,553	99.0	20,639	129.0	29,098
9.5	746	39.5	5,663	69.5	12,681	99.5	20,778	129.5	29,238
10.0	801	40.0	5,766	70.0	12,810	100.0	20,918	130.0	29,379
10.5	857	40.5	5,870	70.5	12,938	100.5	21,058	130.5	29,519
11.0	914	41.0	5,975	71.0	13,067	101.0	21,198	131.0	29,659
11.5	972	41.5	6,080	71.5	13,196	101.5	21,338	131.5	29,799
12.0	1,032	42.0	6,185	72.0	13,326	102.0	21,479	132.0	29,939
12.5	1,093	42.5	6,292	72.5	13,456	102.5	21,619	132.5	30,079
13.0	1,155	43.0	6,398	73.0	13,586	103.0	21,759	133.0	30,219
13.5	1,218	43.5	6,506	73.5	13,716	103.5	21,900	133.5	30,359
14.0	1,282	44.0	6,613	74.0	13,846	104.0	22,040	134.0	30,498
14.5	1,347	44.5	6,721	74.5	13,977	104.5	22,181	134.5	30,638
15.0	1,413	45.0	6,830	75.0	14,108	105.0	22,322	135.0	30,777
15.5	1,480	45.5	6,939	75.5	14,239	105.5	22,462	135.5	30,917
16.0	1,548	46.0	7,049	76.0	14,371	106.0	22,603	136.0	31,056
16.5	1,618	46.5	7,159	76.5	14,503	106.5	22,744	136.5	31,195
17.0	1,688	47.0	7,270	77.0	14,635	107.0	22,885	137.0	31,334
17.5	1,759	47.5	7,381	77.5	14,767	107.5	23,026	137.5	31,473
18.0	1,831	48.0	7,493	78.0	14,900	108.0	23,167	138.0	31,611
18.5	1,904	48.5	7,605	78.5	15,032	108.5	23,308	138.5	31,750
19.0	1,978	49.0	7,718	79.0	15,165	109.0	23,449	139.0	31,888
19.5	2,053	49.5	7,831	79.5	15,299	109.5	23,590	139.5	32,027
20.0	2,128	50.0	7,944	80.0	15,432	110.0	23,732	140.0	32,165
20.5	2,205	50.5	8,058	80.5	15,566	110.5	23,873	140.5	32,303
21.0	2,282	51.0	8,173	81.0	15,700	111.0	24,014	141.0	32,441
21.5	2,360	51.5	8,288	81.5	15,834	111.5	24,155	141.5	32,578
22.0	2,439	52.0	8,403	82.0	15,968	112.0	24,297	142.0	32,716
22.5	2,519	52.5	8,519	82.5	16,103	112.5	24,438	142.5	32,853
23.0	2,600	53.0	8,635	83.0	16,237	113.0	24,580	143.0	32,991
23.5	2,682	53.5	8,751	83.5	16,372	113.5	24,721	143.5	33,128
24.0	2,764	54.0	8,868	84.0	16,508	114.0	24,862	144.0	33,265
24.5	2,847	54.5	8,986	84.5	16,643	114.5	25,004	144.5	33,401
25.0	2,931	55.0	9,104	85.0	16,778	115.0	25,145	145.0	33,538
25.5	3,015	55.5	9,222	85.5	16,914	115.5	25,287	145.5	33,674
26.0	3,101	56.0	9,341	86.0	17,050	116.0	25,428	146.0	33,811
26.5	3,187	56.5	9,460	86.5	17,186	116.5	25,570	146.5	33,947
27.0	3,274	57.0	9,579	87.0	17,322	117.0	25,711	147.0	34,083
27.5	3,361	57.5	9,699	87.5	17,459	117.5	25,853	147.5	34,218
28.0	3,450	58.0	9,819	88.0	17,595	118.0	25,994	148.0	34,354
28.5	3,539	58.5	9,940	88.5	17,732	118.5	26,135	148.5	34,489
29.0	3,628	59.0	10,061	89.0	17,869	119.0	26,277	149.0	34,624
29.5	3,719	59.5	10,182	89.5	18,006	119.5	26,418	149.5	34,759
30.0	3,810	60.0	10,304	90.0	18,144	120.0	26,560	150.0	34,894



BUS SERVICES

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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	27 of 39

Author: Heather Niefer, Environmental Audit & Reporting Advisor

Model DWT6 (8) 50000 DW FRP CUL Tank = 50,970 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
150.5	35,028	180.5	42,590	210.5	48,548
151.0	35,163	181.0	42,706	211.0	48,626
151.5	35,297	181.5	42,820	211.5	48,705
152.0	35,431	182.0	42,935	212.0	48,782
152.5	35,564	182.5	43,049	212.5	48,858
153.0	35,698	183.0	43,162	213.0	48,934
153.5	35,831	183.5	43,275	213.5	49,008
154.0	35,964	184.0	43,388	214.0	49,082
154.5	36,097	184.5	43,500	214.5	49,155
155.0	36,229	185.0	43,611	215.0	49,227
155.5	36,361	185.5	43,722	215.5	49,298
156.0	36,493	186.0	43,833	216.0	49,368
156.5	36,625	186.5	43,943	216.5	49,437
157.0	36,757	187.0	44,053	217.0	49,505
157.5	36,888	187.5	44,162	217.5	49,572
158.0	37,019	188.0	44,271	218.0	49,638
158.5	37,150	188.5	44,379	218.5	49,703
159.0	37,280	189.0	44,486	219.0	49,766
159.5	37,410	189.5	44,593	219.5	49,829
160.0	37,540	190.0	44,700	220.0	49,891
160.5	37,670	190.5	44,806	220.5	49,952
161.0	37,799	191.0	44,912	221.0	50,011
161.5	37,928	191.5	45,017	221.5	50,069
162.0	38,057	192.0	45,121	222.0	50,126
162.5	38,186	192.5	45,225	222.5	50,182
163.0	38,314	193.0	45,328	223.0	50,237
163.5	38,442	193.5	45,431	223.5	50,290
164.0	38,570	194.0	45,533	224.0	50,342
164.5	38,697	194.5	45,635	224.5	50,392
165.0	38,824	195.0	45,736	225.0	50,442
165.5	38,951	195.5	45,837	225.5	50,489
166.0	39,077	196.0	45,937	226.0	50,535
166.5	39,203	196.5	46,036	226.5	50,580
167.0	39,329	197.0	46,135	227.0	50,623
167.5	39,455	197.5	46,233	227.5	50,664
168.0	39,580	198.0	46,330	228.0	50,704
168.5	39,705	198.5	46,427	228.5	50,742
169.0	39,829	199.0	46,523	229.0	50,778
169.5	39,953	199.5	46,619	229.5	50,811
170.0	40,077	200.0	46,714	230.0	50,843
170.5	40,200	200.5	46,808	230.5	50,872
171.0	40,324	201.0	46,902	231.0	50,899
171.5	40,446	201.5	46,995	231.5	50,922
172.0	40,569	202.0	47,087	232.0	50,943
172.5	40,691	202.5	47,179	232.5	50,959
173.0	40,812	203.0	47,270	233.0	50,970
173.5	40,934	203.5	47,360		
174.0	41,054	204.0	47,450		
174.5	41,175	204.5	47,539		
175.0	41,295	205.0	47,627		
175.5	41,415	205.5	47,715		
176.0	41,534	206.0	47,801		
176.5	41,653	206.5	47,887		
177.0	41,772	207.0	47,973		
177.5	41,890	207.5	48,057		
178.0	42,008	208.0	48,141		
178.5	42,125	208.5	48,224		
179.0	42,242	209.0	48,306		
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180.0	42,475	210.0	48,468		



**CONTAINMENT
SOLUTIONS**

HOW TO PROPERLY GAUGE YOUR TANK:

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Water Paste Detection:

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Gasolla Water Finding Paste

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Caution

Pressurized deliveries are not recommended. If the delivery vehicle uses pumps to fill the tank, install overfill shutoff equipment in the tank and truck to prevent the tank from being overfilled. **Overfilling the tank under pressure will damage the tank even if the tank vent is unrestricted.**

Containment Solutions, Inc.

5150 Jefferson Chemical Road
Conroe, TX 77301
Tel: 936-756-7731
Fax: 936-756-7766

Note: Calibration chart is based on the fluid level above a 8mm [5/16"] deflector plate.

Pub No. CAL 8-50000LDWT-CAN 5/11



BUS SERVICES

Env-BS-P-104_G2

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Bus Fleet & Facilities	Bulk Storage Tank Filling Procedure	06-12-2014	28 of 39

Author: Heather Niefer, Environmental Audit & Reporting Advisor

Lincolnvile Bus Maintenance Facility

Model DWT6 (8) 25000

DW FRP CUL Tank = 25,479 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
0.5	16	30.5	1,872	60.5	5,104	90.5	9,071	120.5	13,359
1.0	26	31.0	1,917	61.0	5,165	91.0	9,141	121.0	13,431
1.5	37	31.5	1,963	61.5	5,227	91.5	9,211	121.5	13,503
2.0	50	32.0	2,008	62.0	5,288	92.0	9,281	122.0	13,575
2.5	63	32.5	2,055	62.5	5,350	92.5	9,352	122.5	13,647
3.0	78	33.0	2,101	63.0	5,412	93.0	9,422	123.0	13,719
3.5	94	33.5	2,148	63.5	5,475	93.5	9,492	123.5	13,791
4.0	111	34.0	2,195	64.0	5,537	94.0	9,562	124.0	13,863
4.5	129	34.5	2,243	64.5	5,600	94.5	9,633	124.5	13,935
5.0	148	35.0	2,290	65.0	5,663	95.0	9,703	125.0	14,007
5.5	168	35.5	2,339	65.5	5,726	95.5	9,774	125.5	14,078
6.0	188	36.0	2,387	66.0	5,789	96.0	9,845	126.0	14,150
6.5	209	36.5	2,436	66.5	5,853	96.5	9,916	126.5	14,222
7.0	231	37.0	2,485	67.0	5,916	97.0	9,986	127.0	14,294
7.5	254	37.5	2,534	67.5	5,980	97.5	10,057	127.5	14,365
8.0	278	38.0	2,584	68.0	6,044	98.0	10,128	128.0	14,437
8.5	302	38.5	2,634	68.5	6,108	98.5	10,199	128.5	14,509
9.0	326	39.0	2,685	69.0	6,173	99.0	10,270	129.0	14,580
9.5	352	39.5	2,735	69.5	6,237	99.5	10,341	129.5	14,652
10.0	378	40.0	2,786	70.0	6,302	100.0	10,413	130.0	14,723
10.5	404	40.5	2,837	70.5	6,367	100.5	10,484	130.5	14,795
11.0	432	41.0	2,889	71.0	6,432	101.0	10,555	131.0	14,866
11.5	459	41.5	2,941	71.5	6,497	101.5	10,626	131.5	14,937
12.0	488	42.0	2,993	72.0	6,562	102.0	10,698	132.0	15,009
12.5	517	42.5	3,045	72.5	6,627	102.5	10,769	132.5	15,080
13.0	546	43.0	3,098	73.0	6,693	103.0	10,841	133.0	15,151
13.5	576	43.5	3,151	73.5	6,759	103.5	10,912	133.5	15,222
14.0	607	44.0	3,204	74.0	6,825	104.0	10,984	134.0	15,293
14.5	638	44.5	3,258	74.5	6,891	104.5	11,056	134.5	15,364
15.0	670	45.0	3,312	75.0	6,957	105.0	11,127	135.0	15,435
15.5	702	45.5	3,366	75.5	7,023	105.5	11,199	135.5	15,506
16.0	734	46.0	3,420	76.0	7,090	106.0	11,271	136.0	15,577
16.5	768	46.5	3,475	76.5	7,156	106.5	11,342	136.5	15,648
17.0	801	47.0	3,530	77.0	7,223	107.0	11,414	137.0	15,718
17.5	835	47.5	3,585	77.5	7,290	107.5	11,486	137.5	15,789
18.0	870	48.0	3,640	78.0	7,357	108.0	11,558	138.0	15,859
18.5	905	48.5	3,696	78.5	7,424	108.5	11,630	138.5	15,930
19.0	940	49.0	3,752	79.0	7,492	109.0	11,702	139.0	16,000
19.5	976	49.5	3,808	79.5	7,559	109.5	11,774	139.5	16,071
20.0	1,013	50.0	3,865	80.0	7,627	110.0	11,846	140.0	16,141
20.5	1,050	50.5	3,921	80.5	7,694	110.5	11,918	140.5	16,211
21.0	1,087	51.0	3,978	81.0	7,762	111.0	11,990	141.0	16,281
21.5	1,125	51.5	4,035	81.5	7,830	111.5	12,062	141.5	16,351
22.0	1,163	52.0	4,093	82.0	7,898	112.0	12,134	142.0	16,421
22.5	1,201	52.5	4,150	82.5	7,966	112.5	12,206	142.5	16,491
23.0	1,240	53.0	4,208	83.0	8,034	113.0	12,278	143.0	16,560
23.5	1,280	53.5	4,266	83.5	8,103	113.5	12,350	143.5	16,630
24.0	1,319	54.0	4,325	84.0	8,171	114.0	12,422	144.0	16,699
24.5	1,360	54.5	4,383	84.5	8,240	114.5	12,494	144.5	16,769
25.0	1,400	55.0	4,442	85.0	8,309	115.0	12,566	145.0	16,838
25.5	1,441	55.5	4,501	85.5	8,378	115.5	12,638	145.5	16,907
26.0	1,483	56.0	4,561	86.0	8,446	116.0	12,710	146.0	16,977
26.5	1,524	56.5	4,620	86.5	8,516	116.5	12,782	146.5	17,046
27.0	1,567	57.0	4,680	87.0	8,585	117.0	12,854	147.0	17,115
27.5	1,609	57.5	4,740	87.5	8,654	117.5	12,927	147.5	17,183
28.0	1,652	58.0	4,800	88.0	8,723	118.0	12,999	148.0	17,252
28.5	1,695	58.5	4,860	88.5	8,793	118.5	13,071	148.5	17,321
29.0	1,739	59.0	4,921	89.0	8,862	119.0	13,143	149.0	17,389
29.5	1,783	59.5	4,981	89.5	8,932	119.5	13,215	149.5	17,458
30.0	1,827	60.0	5,042	90.0	9,002	120.0	13,287	150.0	17,526



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Model DWT6 (8) 25000 DW FRP CUL Tank = 25,479 Liters

Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)	Liquid Depth (cm)	Volume (liters)
150.5	17,594	180.5	21,397	210.5	24,324
151.0	17,662	181.0	21,455	211.0	24,362
151.5	17,730	181.5	21,512	211.5	24,400
152.0	17,798	182.0	21,569	212.0	24,437
152.5	17,865	182.5	21,625	212.5	24,474
153.0	17,933	183.0	21,682	213.0	24,510
153.5	18,000	183.5	21,738	213.5	24,546
154.0	18,068	184.0	21,794	214.0	24,581
154.5	18,135	184.5	21,849	214.5	24,616
155.0	18,202	185.0	21,905	215.0	24,651
155.5	18,269	185.5	21,960	215.5	24,685
156.0	18,335	186.0	22,015	216.0	24,718
156.5	18,402	186.5	22,069	216.5	24,751
157.0	18,468	187.0	22,124	217.0	24,784
157.5	18,535	187.5	22,178	217.5	24,816
158.0	18,601	188.0	22,232	218.0	24,848
158.5	18,667	188.5	22,285	218.5	24,879
159.0	18,733	189.0	22,338	219.0	24,909
159.5	18,798	189.5	22,391	219.5	24,939
160.0	18,864	190.0	22,444	220.0	24,968
160.5	18,929	190.5	22,496	220.5	24,997
161.0	18,995	191.0	22,548	221.0	25,026
161.5	19,060	191.5	22,600	221.5	25,053
162.0	19,125	192.0	22,652	222.0	25,080
162.5	19,190	192.5	22,703	222.5	25,107
163.0	19,254	193.0	22,754	223.0	25,133
163.5	19,319	193.5	22,804	223.5	25,158
164.0	19,383	194.0	22,855	224.0	25,183
164.5	19,447	194.5	22,905	224.5	25,207
165.0	19,511	195.0	22,954	225.0	25,230
165.5	19,575	195.5	23,004	225.5	25,252
166.0	19,638	196.0	23,053	226.0	25,274
166.5	19,702	196.5	23,102	226.5	25,295
167.0	19,765	197.0	23,150	227.0	25,316
167.5	19,828	197.5	23,198	227.5	25,335
168.0	19,891	198.0	23,246	228.0	25,354
168.5	19,954	198.5	23,293	228.5	25,372
169.0	20,016	199.0	23,340	229.0	25,388
169.5	20,078	199.5	23,387	229.5	25,404
170.0	20,141	200.0	23,434	230.0	25,419
170.5	20,203	200.5	23,480	230.5	25,433
171.0	20,264	201.0	23,525	231.0	25,445
171.5	20,326	201.5	23,571	231.5	25,456
172.0	20,387	202.0	23,616	232.0	25,466
172.5	20,448	202.5	23,660	232.5	25,474
173.0	20,509	203.0	23,705	233.0	25,479
173.5	20,570	203.5	23,749		
174.0	20,630	204.0	23,792		
174.5	20,691	204.5	23,836		
175.0	20,751	205.0	23,878		
175.5	20,811	205.5	23,921		
176.0	20,870	206.0	23,963		
176.5	20,930	206.5	24,005		
177.0	20,989	207.0	24,046		
177.5	21,048	207.5	24,087		
178.0	21,107	208.0	24,127		
178.5	21,165	208.5	24,168		
179.0	21,224	209.0	24,207		
179.5	21,282	209.5	24,247		
180.0	21,340	210.0	24,286		

**CONTAINMENT
SOLUTIONS**

HOW TO PROPERLY GAUGE YOUR TANK:
Underground storage tanks require periodic measurement to determine current inventory level. Using the proper methods when gauging your tank's contents will insure the most accurate reading and insure that you do not damage your tank. The following procedure should be followed whenever you use a gauge stick to determine the amount of product that is in your tank:
1) Use a wood dipstick with a rubber or nylon tip. Metallic dipsticks are not recommended. This will insure that frequent tank gaugings or an accidental dropping of the gauge stick into the tank will not damage the tank bottom.
2) Slowly lower your gauge stick into the fill port until it touches the tank bottom. Never free drop the gauge stick. This can result in inaccurate measurements due to product splashing. Free dropping can also result in gauge stick damage and tank damage.
3) Remove your dipstick slowly and read the product level directly from the gauge stick.

Water Paste Detection:
To detect water in the tank bottom, water detection paste is available from petroleum equipment distributors. See vendor below or suitable equal.

Gasolia Water Finding Paste
Federal Process Corp.
800-846-7325
www.gasolia.com

Caution
Pressurized deliveries are not recommended. If the delivery vehicle uses pumps to fill the tank, install overfill shutoff equipment in the tank and truck to prevent the tank from being overfilled. **Overfilling the tank under pressure will damage the tank even if the tank vent is unrestricted.**

Containment Solutions, Inc.
5150 Jefferson Chemical Road
Conroe, TX 77301
Tel: 936-756-7731
Fax: 936-756-7766

Note: Calibration chart is based on the fluid level above a 8mm [5/16"] deflector plate.

Pub No. CAL 8-25000LDWT-CAN 5/11




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APPENDIX B

Fuel Procedure and Standard Operating Procedure

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Fuel procedures and SOP.

Ordering process

Orders are placed daily Monday to Friday; information used for ordering is gathered from the Veeder root system for each location and populated in the Phoenix program for reconciliation.





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The screenshot displays the OPW Fuel Management Systems web application. On the left is a navigation menu with categories: Administration, Sites, Accounts, Cards, FSC Transactions, ATG Transactions, and Reports. The Reports section is expanded, showing options like Report Utilities, Site Reports, Account Reports, Card Reports, Transaction Reports, Product Reports, and Support Table Reports. The main content area is titled 'GO Transit / Metrolinx Site Reports' and features a 'Report Name' list on the left and a 'Tank Inventory' form on the right. The 'Report Name' list includes various activity and summary reports, with 'Tank Inventory' highlighted. The 'Tank Inventory' form includes a dropdown for 'Enter Starting Site ID' (showing a list of locations like Streetsville, Steepleck, Brampton, etc.), a 'relative Date' field, and a 'Time' field set to 11:59 PM. A 'Generate Report' button is at the bottom of the form. The footer contains links for Logout, Account, Settings, Search, Help, and Home, along with the user status 'Hello guest'.



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Information is populated into an ordering spreadsheet which shows all locations and includes the following bits of information; current inventory, capacity, time of electronic dip, available order Quantity, account number, and a column for planned deliveries.

SUNCOR						
GO Transit (Bus) Daily Fuel Inventory Report						
Date:	Monday, March 14, 2016					
Facility	Current Inventory (litres)	Current as at:	Avail. Order Quantity	Capacity (@ 90%)	Account #	DELIVERIES
Steeprock	45,802	March 14, 2016 @ 3:58 AM	44,198	90,000	3125330	0
Brampton	17,774	March 14, 2016 @ 4:01 AM	27,226	45,000	3125333	0
East Gwillimbury	17,558	March 14, 2016 @ 3:58 AM	27,442	45,000	3125332	0
Halton Hills	23,395	March 14, 2016 @ 3:51 AM	21,605	45,000	3125334	0
Streetsville	31,138	March 14, 2016 @ 3:58 AM	58,862	90,000	3125331	0
Oshawa	83,674	March 14, 2016 @ 7:59 AM	6,326	90,000	3125335	0
Lincolnville	14,042	March 14, 2016 @ 6:55 AM	8,458	22,500	3115219	0
Hamilton	24,029	March 14, 2016 @ 4:01 AM	20,971	45,000	3127706	0
Aberfoyle	0	March 14, 2016 @ 6:55 AM	45,000	45,000	TBD	0
will advise when online						
E-mail Daily to	disport@suncor.com					
Instructions:	Complete Inventory and Date/Time fields Copy the chart portion Click the Link Paste the chart directly into email Save the chart in the F:\BUS-EQ\EqpFiles\Stores\Ultramar Reports folder					

Should the system go down and any inventory become unavailable, we will request the assistance of plant department to collect the fuel inventory for that particular site.

If the reading isn't available in a timely manner we will send the inventories with an update to follow for the missing inventory.



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Suncor will reply with the scheduled delivery dates for each location. Go representatives will double check delivery schedules and ensure they meet our requirements.


From: Max Budiman [mailto:Max.Budiman@gotransit.com]
Sent: Friday, March 11, 2016 8:00 AM
To: Dispatch-COF; Beharri, Avy; frdispatch@frawliquif.com; josemansueto@bidffuels.com
Cc: Mike Palmieri; Andrew Sherratt; Steve Yong; Stephen Turner
Subject: GO Transit (Bus) Daily Fuel Inventory Report - Friday, March 11, 2016

SUNCOR GO Transit (Bus) Daily Fuel Inventory Report

Date: Friday, March 11, 2016

Facility	Current Inventory (litres)	Current as at:	Avail. Order Quantity	Capacity (@ 90%)	Account #	DELIVERIES
Steepprock	72,081	March 11, 2016 @ 3:58 AM	17,919	90,000	3125330	Tuesday
Brampton	33,130	March 11, 2016 @ 4:01 AM	11,870	45,000	3125333	Tuesday
East Gwillimbury	26,847	March 11, 2016 @ 3:58 AM	18,153	45,000	3125332	Thursday
Halton Hills	33,062	March 11, 2016 @ 3:51 AM	11,938	45,000	3125334	Thursday
Streetsville	65,994	March 11, 2016 @ 3:58 AM	24,006	90,000	3125331	Monday
Oshawa	55,589	March 11, 2016 @ 7:59 AM	34,411	90,000	3125335	Monday
Lincolnville	9,208	March 11, 2016 @ 6:55 AM	13,292	22,500	3115219	0
Hamilton	22,484	March 11, 2016 @ 4:01 AM	22,516	45,000	3127706	30K tomorrow
Aberfoyle	0	March 11, 2016 @ 6:55 AM	45,000	45,000	TBD	0 will advise when online

Max Budiman
Stock Control Officer - Fleet and Facilities Services, GO Transit
METROLINX | 6190 Mississauga road | Mississauga | Ontario | L5N 1A7
T: 905.286.4922 ext. 6001
max.budiman@gotransit.com

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Suncor has been given a minimum fuel level and delivery expectation to prevent our fleet from running out of fuel.

Minimum daily fuel levels for each facility

Streetsville: 40000 liters (20000 liter daily usage)
Steeprock: 35000 liters (17000 liter daily usage was 14000)
Oshawa: 30000 liters (12000 liter daily usage)
Brampton: 20000 liters (8000 liter daily usage)
Halton Hills: 15000 liters (6000 liter daily usage)
East Gwillimbury: 15000 liters (6000 liter daily usage)
Lincolnville: 12000 liters (3500 liter daily usage)
Hamilton: 16000 liters (8000 liter daily usage)
Aberfoyle: 16000 liters (8000 liter daily usage)

The minimum level marker requires a delivery to be scheduled and completed for the following day before 16:00 hours.

Suncor will also communicate ASAP any changes in the delivery schedule and work with GO representatives to ensure service levels are met.

**This is a guide; general rule of thumb for GO's fleet is that a delivery will be made when a full load can be safely dropped in the tank.*



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Delivery procedures

Suncor's carrier FREW LIQUID TRANSFER will deliver our required loads within 24 hours of the need being identified. All deliveries will be made prior to 16:00 under normal circumstances.

As per TSSA requirements the carrier has site plans and dip charts for all of our locations.

Upon arrival at facility FLT will come into to the supervisor's office to make their presence known and to print off a Veeder root "dip" and ensure there is enough room for the delivery. The driver will then return to their vehicle and manually dip the tanks prior to commencing a delivery as per TSSA procedures using their dip charts (Should the tanks not hold the full deliver, product will be retained and redirected to another GO location – rare occasions). Once the fuel drop has been completed the driver will again manually dip the tanks then return to the supervisor's office to collect the Veeder root "dip" and leave the BOL.

Fuel alarm levels for Veeder root system.

GO Transit Fueling Locations - Fuel Tank Alarms				
Location	Tank Size	Qty of Tanks	Low Fuel Alarm(15%)	Pump Shut-Off(5%)
Steeprock	50,000	2	15000	5000
Brampton	50,000	1	7500	2500
East Gwillimbury	50,000	1	7500	2500
Halton Hills	50,000	1	7500	2500
Streetsville	50,000	2	25114	5000
Oshawa	50,000	2	15000	5000
Lincolnville	25,000	1	3750	1250
Hamilton	50,000	1	7500	2500
Aberfoyle	50,000	1	7500	2500
High Product 97%				
Tanks are Over fill at 95%				
Delivery set at 15% (except SVL its at 50%)				
Pump shut down at 5%				



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These markers are set to identify when a delivery is needed- as a visual aid a yellow caution light will flash (and an alarm will sound when the initial marker is met) until the delivery has been made.

Tanks at our locations are;

If above ground – double wall welded Steel.

In ground – Fiberglass double wall FRP (fiberglass reinforced plastic)

Tanks at each location are as follows.

Streetsville – 2 x 50,000 liters in ground

Steeprock – 2 x 50,000 liters in ground

Oshawa – 2 x 50,000 liters in ground

Brampton – 1 x 50,000 liter in ground

East Gwillimbury - 1 x 50,000 liter in ground

Halton Hills - 1 x 50,000 liter in ground

Hamilton – 1 x 50,000 liter in ground

Lincolnville – 1 x 25,000 liter on ground

Aberfoyle 1 x 50,000 liter on ground

** Tanks are filled to 90% max capacity for expansion**



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Delivery validation and invoice reconciliation.

All tank levels are imported daily into a spreadsheet for each location as the orders are placed.

*The spreadsheet tracks the daily usages by location – **in red** and will also show the deliveries as a + increase **in black**,*

*Previous days usage + total increase (**in black**) = the delivery.*

4-Feb-16	32254	-8590		
5-Feb-16	23605	-8649		
6-Feb-16	15437	-8168		
7-Feb-16	8614	-6823		
8-Feb-16	2131	-6483	30223	508635
9-Feb-16	23743	21612		
10-Feb-16	14729	-9014	30309	133639
11-Feb-16	36393	21664		
12-Feb-16	27404	-8989		
13-Feb-16	19892	-7512		
14-Feb-16	12818	-7074	30440	509395
15-Feb-16	36875	24057		
16-Feb-16	29179	-7696		
17-Feb-16	21772	-7407		
18-Feb-16	13717	-8055	30417	509882
19-Feb-16	34506	20789		
20-Feb-16	26484	-8022		
21-Feb-16	19495	-6989		
22-Feb-16	13446	-6049	30283	510245
23-Feb-16	35510	22064		
24-Feb-16	27943	-7567		
25-Feb-16	19228	-8715		
26-Feb-16	11667	-7561	30290	510746
27-Feb-16	34582	22915		
28-Feb-16	28127	-6455		
29-Feb-16	21554	-6573		

Delivery liters are populated by the stores supervisor using the TC corrected liters and the BOL number. BOL's are filed and kept on hand for the year. Any discrepancies found from here are sorted out with the vendor and carrier prior to the approved list of BOL's being sent to finance.



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This information is then reconciled on to a spreadsheet for Finance to approve and pay invoices, any discrepancies are then sent back to the stores supervisor for review, rejection, or approval.

OSHAWA				LINCOLNVILLE				EAST GWILL				STEEPPROCK			
DATE	LITERS	IBOL #		DATE	LITERS	IBOL #		DATE	LITERS	IBOL #		DATE	LITERS	IBOL #	
1-Feb-15	41125	NO DATA		1-Feb-15	12445	NO DATA		1-Feb-15	23981	NO DATA		1-Feb-15	10492	NO DATA	
2-Feb-15	38168	10492	50598 50101	2-Feb-15	10492	NO DATA		2-Feb-15	23980	2791		2-Feb-15	28978	1493	50422 50063
3-Feb-15	78630	39927		3-Feb-15	10767	1490		3-Feb-15	28844	5196		3-Feb-15	10543	1494	
4-Feb-15	50724	10981		4-Feb-15	10887	2368	10981 10546	4-Feb-15	27886	10316		4-Feb-15	43201	13382	
5-Feb-15	41241	10159		5-Feb-15	10766	8959		5-Feb-15	27811	5004		5-Feb-15	28932	14749	51088 10564
6-Feb-15	NO DATA	NO DATA		6-Feb-15	NO DATA	NO DATA		6-Feb-15	NO DATA	NO DATA		6-Feb-15	NO DATA	NO DATA	
7-Feb-15	NO DATA	NO DATA		7-Feb-15	NO DATA	NO DATA		7-Feb-15	NO DATA	NO DATA		7-Feb-15	NO DATA	NO DATA	
8-Feb-15	70108	NO DATA		8-Feb-15	89147	NO DATA		8-Feb-15	8261	NO DATA		8-Feb-15	14983	NO DATA	
9-Feb-15	44847	10981		9-Feb-15	7795	3862	14017 106247	9-Feb-15	33295	25038	31031 105596	9-Feb-15	40489	14194	
10-Feb-15	83587	10149		10-Feb-15	10791	10396		10-Feb-15	24444	4796		10-Feb-15	20478	14588	52417 106442
11-Feb-15	43883	10371		11-Feb-15	85507	3194		11-Feb-15	27466	5083		11-Feb-15	31681	35931	
12-Feb-15	28749	12289	51454 106830	12-Feb-15	61493	3884		12-Feb-15	33291	5195		12-Feb-15	41947	10994	
13-Feb-15	NO DATA	NO DATA		13-Feb-15	NO DATA	NO DATA	62241 107005	13-Feb-15	NO DATA	NO DATA		13-Feb-15	NO DATA	NO DATA	
14-Feb-15	NO DATA	NO DATA		14-Feb-15	NO DATA	NO DATA		14-Feb-15	NO DATA	NO DATA		14-Feb-15	NO DATA	NO DATA	52428 52333
15-Feb-15	NO DATA	NO DATA		15-Feb-15	NO DATA	NO DATA		15-Feb-15	NO DATA	NO DATA	32300 51246	15-Feb-15	NO DATA	NO DATA	
16-Feb-15	NO DATA	NO DATA		16-Feb-15	NO DATA	NO DATA		16-Feb-15	NO DATA	NO DATA		16-Feb-15	NO DATA	NO DATA	
17-Feb-15	30780	NO DATA		17-Feb-15	NO DATA	NO DATA		17-Feb-15	NO DATA	NO DATA		17-Feb-15	NO DATA	NO DATA	
18-Feb-15	28540	10732	51432 51436	18-Feb-15	8890	3152		18-Feb-15	14952	NO DATA		18-Feb-15	48495	NO DATA	
19-Feb-15	43289	21658		19-Feb-15	10752	8668	10205 101652	19-Feb-15	10950	4834		19-Feb-15	27539	10346	53704 51473
20-Feb-15	NO DATA	NO DATA		20-Feb-15	NO DATA	NO DATA		20-Feb-15	NO DATA	NO DATA		20-Feb-15	NO DATA	NO DATA	
21-Feb-15	NO DATA	NO DATA		21-Feb-15	NO DATA	NO DATA		21-Feb-15	NO DATA	NO DATA		21-Feb-15	NO DATA	NO DATA	
22-Feb-15	48631	NO DATA		22-Feb-15	10165	NO DATA		22-Feb-15	14491	NO DATA		22-Feb-15	10169	NO DATA	
23-Feb-15	39867	10984	51483 106759	23-Feb-15	7946	2368	52107 108792	23-Feb-15	10931	4394	30274 108892	23-Feb-15	26714	14235	52445 52553
24-Feb-15	68784	38717		24-Feb-15	10747	3907		24-Feb-15	10552	24681		24-Feb-15	67969	35855	
25-Feb-15	10545	10639		25-Feb-15	10661	2368		25-Feb-15	10950	4832		25-Feb-15	16383	16366	
26-Feb-15	45412	10132		26-Feb-15	10771	2795		26-Feb-15	10814	4336		26-Feb-15	28419	10784	51552 52618
27-Feb-15	NO DATA	NO DATA	52412 526672	27-Feb-15	NO DATA	NO DATA	10245 109537	27-Feb-15	NO DATA	NO DATA		27-Feb-15	NO DATA	NO DATA	
28-Feb-15	NO DATA	NO DATA		28-Feb-15	NO DATA	NO DATA		28-Feb-15	NO DATA	NO DATA		28-Feb-15	NO DATA	NO DATA	
29-Feb-15	22862	NO DATA		29-Feb-15	10886	NO DATA		29-Feb-15	12354	NO DATA		29-Feb-15	10278	NO DATA	
BRAMPTON				STIRCHESVILLE				HALLOW				HAMILTON			
DATE	LITERS	IBOL #		DATE	LITERS	IBOL #		DATE	LITERS	IBOL #		DATE	LITERS	IBOL #	
1-Feb-15	13495	NO DATA		1-Feb-15	28493	NO DATA	47020 10477	1-Feb-15	29676	NO DATA		1-Feb-15	40688	NO DATA	
2-Feb-15	34635	23886		2-Feb-15	56549	27859		2-Feb-15	24443	5113		2-Feb-15	10444	36	
3-Feb-15	24493	7226		3-Feb-15	10513	11298	51427 510284	3-Feb-15	10715	4705		3-Feb-15	10444	8	
4-Feb-15	22481	7246		4-Feb-15	78829	21285		4-Feb-15	14935	486		4-Feb-15	12254	8938	
5-Feb-15	18384	7275		5-Feb-15	5054	10562		5-Feb-15	19957	4381	30216 103071	5-Feb-15	13146	8519	
6-Feb-15	NO DATA	NO DATA	36261 105747	6-Feb-15	NO DATA	NO DATA	47455 10311	6-Feb-15	NO DATA	NO DATA		6-Feb-15	18437	418	
7-Feb-15	NO DATA	NO DATA		7-Feb-15	NO DATA	NO DATA		7-Feb-15	NO DATA	NO DATA		7-Feb-15	8614	4823	
8-Feb-15	36215	NO DATA		8-Feb-15	66199	NO DATA		8-Feb-15	109289	NO DATA		8-Feb-15	2191	4483	30223 50063
9-Feb-15	23686	7291		9-Feb-15	47864	10427		9-Feb-15	17561	5078		9-Feb-15	23443	2812	
10-Feb-15	28784	6394		10-Feb-15	28719	10821	50375 522158	10-Feb-15	10927	4894		10-Feb-15	14729	3614	30226 102633
11-Feb-15	13673	7828	30235 106532	11-Feb-15	53314	28592		11-Feb-15	10476	4893		11-Feb-15	10393	2854	
12-Feb-15	30153	22448		12-Feb-15	37859	24176	61617 522795	12-Feb-15	10773	4893	30360 103575	12-Feb-15	27484	4369	
13-Feb-15	NO DATA	NO DATA		13-Feb-15	NO DATA	NO DATA		13-Feb-15	NO DATA	NO DATA		13-Feb-15	10892	7512	
14-Feb-15	NO DATA	NO DATA		14-Feb-15	NO DATA	NO DATA		14-Feb-15	NO DATA	NO DATA		14-Feb-15	12610	7874	30440 100910
15-Feb-15	NO DATA	NO DATA		15-Feb-15	NO DATA	NO DATA		15-Feb-15	NO DATA	NO DATA		15-Feb-15	16176	24857	
16-Feb-15	NO DATA	NO DATA		16-Feb-15	NO DATA	NO DATA		16-Feb-15	NO DATA	NO DATA		16-Feb-15	29475	7236	
17-Feb-15	5488	NO DATA	30244 51002	17-Feb-15	65132	NO DATA	20000 114424	17-Feb-15	10685	NO DATA		17-Feb-15	21772	7497	
18-Feb-15	32112	22708		18-Feb-15	48763	10181		18-Feb-15	10663	5108		18-Feb-15	13717	5558	50417 500301
19-Feb-15	24916	7276		19-Feb-15	27439	10639	47665 10181	19-Feb-15	14223	4447		19-Feb-15	18586	28719	
20-Feb-15	NO DATA	NO DATA		20-Feb-15	NO DATA	NO DATA		20-Feb-15	NO DATA	NO DATA		20-Feb-15	18444	8022	
21-Feb-15	NO DATA	NO DATA		21-Feb-15	NO DATA	NO DATA		21-Feb-15	NO DATA	NO DATA		21-Feb-15	18496	4889	
22-Feb-15	30245	NO DATA	27880 106348	22-Feb-15	10911	NO DATA		22-Feb-15	14610	NO DATA		22-Feb-15	13446	4845	30083 510045
23-Feb-15	28915	7272		23-Feb-15	20440	10846	52485 10876	23-Feb-15	11688	4327		23-Feb-15	35438	22884	
24-Feb-15	28178	7889		24-Feb-15	10520	31863		24-Feb-15	7889	4882	35380 105528	24-Feb-15	27443	7567	
25-Feb-15	14719	7228	30247 105116	25-Feb-15	35591	10840	52417 526245	25-Feb-15	17956	20090		25-Feb-15	19229	8710	
26-Feb-15	32252	22932		26-Feb-15	67432	20886		26-Feb-15	22376	1860		26-Feb-15	18667	7561	30290 510746
27-Feb-15	NO DATA	NO DATA		27-Feb-15	NO DATA	NO DATA		27-Feb-15	NO DATA	NO DATA		27-Feb-15	14543	2218	
28-Feb-15	NO DATA	NO DATA		28-Feb-15	NO DATA	NO DATA		28-Feb-15	NO DATA	NO DATA		28-Feb-15	28827	4455	
29-Feb-15	2285	NO DATA		29-Feb-15	32634	NO DATA		29-Feb-15	22881	NO DATA		29-Feb-15	2054	4573	

Regular daily usages are monitored; any abnormalities are investigated on and followed up on.

Spills are handled via our internal spills procedures.

Tanks are locked and the carrier is the only one to have the keys/code.

Plant department has a contract to calibrate and leak test the tanks annually.