

RETURN BIDS TO:

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**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada**

1713 Bedford Row

Halifax, N.S./Halifax, (N.É.)

Halifax

Nova Scotia

B3J 1T3

Bid Fax: (902) 496-5016

Request For a Standing Offer Demande d'offre à commandes

Regional Individual Standing Offer (RISO)

Offre à commandes individuelle régionale (OCIR)

Canada, as represented by the Minister of Public Works and Government Services Canada, hereby requests a Standing Offer on behalf of the Identified Users herein.

Le Canada, représenté par le ministre des Travaux Publics et Services Gouvernementaux Canada, autorise par la présente, une offre à commandes au nom des utilisateurs identifiés énumérés ci-après.

Comments - Commentaires

Vendor/Firm Name and Address**Raison sociale et adresse du fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Atlantic Region Acquisitions/Région de l'Atlantique Acquisitions

1713 Bedford Row

Halifax, N.S./Halifax, (N.É.)

Halifax

Nova Scot

B3J 1T3

Title - Sujet RISO - Fuel Tank System Repairs	
Solicitation No. - N° de l'invitation W684H-220088/A	Date 2022-08-23
Client Reference No. - N° de référence du client W684H-22-0088	GETS Ref. No. - N° de réf. de SEAG PW-\$HAL-414-11565
File No. - N° de dossier HAL-2-88016 (414)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM Atlantic Daylight Saving Time ADT on - le 2022-09-20 Heure Avancée de l'Atlantique HAA	
Delivery Required - Livraison exigée See Herein – Voir ci-inclus	
Address Enquiries to: - Adresser toutes questions à: Castillo Nieto, Carlos	Buyer Id - Id de l'acheteur hal414
Telephone No. - N° de téléphone (782)640-3162 ()	FAX No. - N° de FAX (902)496-5016
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE CFB HALIFAX BUILDING WL7 99000 HALIFAX NOVA SCOTIA B3K5X5 Canada	
Security - Sécurité This request for a Standing Offer includes provisions for security. Cette Demande d'offre à commandes comprend des dispositions en matière de sécurité.	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address	
Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone	
Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)	
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

THIS DOCUMENT CONTAINS A SECURITY REQUIREMENT.

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PART 1 - GENERAL INFORMATION

1.1 Introduction

The Request for Standing Offers (RFSO) is divided into seven parts plus attachments and annexes, as follows:

- | | |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part 1 | General Information: provides a general description of the requirement; |
| Part 2 | Offeror Instructions: provides the instructions applicable to the clauses and conditions of the RFSO; |
| Part 3 | Offer Preparation Instructions: provides offerors with instructions on how to prepare their offer to address the evaluation criteria specified; |
| Part 4 | Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria which must be addressed in the offer, and the basis of selection; |
| Part 5 | Certifications and Additional Information: includes the certifications and additional information to be provided; |
| Part 6 | Security, Financial and Insurance Requirements: includes specific requirements that must be addressed by offerors; and |
| Part 7 | 7A, Standing Offer, and 7B, Resulting Contract Clauses:

7A, includes the Standing Offer containing the offer from the Offeror and the applicable clauses and conditions;

7B, includes the clauses and conditions which will apply to any contract resulting from a call-up made pursuant to the Standing Offer. |

The Annexes include the Statement of Work, the Basis of Payment, the Security Requirements Checklist (SRCL), the Standing Offer Reporting Form and the Information for Code of Conduct Certification form.

1.2 Summary

Public Works and Government Services Canada, on behalf of Department of National Defence, has a requirement for a Regional Individual Standing Offer to provide all labour, material, tools, equipment, transportation and supervision necessary to conduct repairs, replacements, removals and permanent withdrawals of underground or above ground fuel storage tank system installations at various CFB Halifax locations.

All work is to be performed in accordance with Annex A Statement of Work Job No. W684H-220088 dated 2021-12-08.

The period for call-ups and rendering services against this standing offer is **1 November 2022 to 31 October, 2023** with the option to extend for two (2) additional one-year (1) periods.

The requirement is subject to the provisions of the World Trade Organization Agreement on Government

Procurement (WTO-AGP), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

This RFSO allows offerors to use the epost Connect service provided by Canada Post Corporation to transmit their offers electronically. Offerors must refer to Part 2 of the RFSO entitled Offeror Instructions and Part 3 of the RFSO entitled Offer Preparation Instructions, for further information on using this method.

1.3 Security Requirements

There are security requirements associated with the requirement of the Standing Offer. For additional information, see Part 6 - Security, Financial and Insurance Requirements, and Part 7 - Standing Offer and Resulting Contract Clauses. For more information on personnel and organization security screening or security clauses, offerors should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

1.4 Debriefings

Offerors may request a debriefing on the results of the request for standing offers process. Offerors should make the request to the Standing Offer Authority within 15 working days of receipt of the results of the request for standing offers process. The debriefing may be in writing, by telephone or in person.

1.5 Anticipated migration to an e-Procurement Solution (EPS)

Canada is currently developing an online EPS for faster and more convenient ordering of goods and services. In support of the anticipated transition to this system and how it may impact any resulting Standing Offer that is issued under this solicitation, refer to 7.15 Transition to an e-Procurement Solution (EPS).

The Government of Canada's [press release](#) provides additional information.

PART 2 - OFFEROR INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the Request for Standing Offers (RFSO) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Offerors who submit an offer agree to be bound by the instructions, clauses and conditions of the RFSO and accept the clauses and conditions of the Standing Offer and resulting contract(s).

The [2006](#) (2022-03-29) Standard Instructions - Request for Standing Offers - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the RFSO.

2.2 Submission of Offers

Offers must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated in the RFSO.

- Email address to establish ePost Connect Service:
 - TPSGC.RAReceptionSoumissionsNE-ARBidReceivingNS.PWGSC@tpsgc-pwgsc.gc.ca
- **Note: Bids / Offers will not be accepted if emailed directly to this email address. This email address is to be used to open an CPC Connect conversation, as detailed in Standard Instructions 2006, or to send offers through an CPC Connect message if the bidder is using its own licensing agreement for CPC Connect service.**

2.3 Former Public Servant

For the purposes of this clause,

"former public servant" is any former member of a department as defined in the [Financial Administration Act](#) R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Offeror a FPS in receipt of a pension? **YES () NO ()**

If so, the Offeror must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Offerors agree that the successful Offeror's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of

the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2019-01](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Offeror a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **YES** () **NO** ()

If so, the Offeror must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

2.4 Enquiries - Request for Standing Offers

All enquiries must be submitted in writing to the Standing Offer Authority no later than **five (5)** calendar days before the Request for Standing Offers (RFSO) closing date. Enquiries received after that time may not be answered.

Offerors should reference as accurately as possible the numbered item of the RFSO to which the enquiry relates. Care should be taken by offerors to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that offerors do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all offerors. Enquiries not submitted in a form that can be distributed to all offerors may not be answered by Canada.

2.5 Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

Offerors may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their offer, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the offerors.

2.6 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential offerors to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages offerors to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
 - Office of the Procurement Ombudsman (OPO)
 - Canadian International Trade Tribunal (CITT)
- (c) Offerors should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Offerors should therefore act quickly when they want to challenge any aspect of the procurement process.

PART 3 - OFFER PREPARATION INSTRUCTIONS

3.1 Offer Preparation Instructions

- If the Offeror chooses to submit its offer electronically, Canada requests that the Offeror submits its offer in accordance with section 08 of the 2006 standard instructions. The CPC Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

Canada requests that the offer be gathered per section and separated as follows:

Section I: Technical Offer
Section II: Financial Offer
Section III: Certifications

- If the Offeror chooses to submit its offer in hard copies, Canada requests that the Offeror provides its offer in separately bound sections as follows:

Section I: Technical Offer (1 hard copy)

Section II: Financial Offer (1 hard copy)

Section III: Certifications (1 hard copy)

If there is a discrepancy between the wording of the soft copy on electronic media and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

- If the Offeror is simultaneously providing copies of its offer using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through CPC Connect service, the wording of the electronic copy provided through CPC Connect service will have priority over the wording of the other copies.

Prices must appear in the financial offer only. No prices must be indicated in any other section of the offer.

Canada requests that offerors follow the format instructions described below in the preparation of hard copy of their offer:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the RFSO.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, Offerors should:

- 1) Include all environmental certification(s) relevant to your organization (e.g., ISO 14001, Leadership in Energy and Environmental Design (LEED), Carbon Disclosure Project, etc.)
- 2) Include all environmental certification(s) or Environmental Product Declaration(s) (EPD) specific to your product/service (e.g., Forest Stewardship Council (FSC), ENERGYSTAR, etc.)
- 3) Unless otherwise noted, Offerors are encouraged to submit offers electronically. If hard copies are required, Offerors should:
 - a. use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
 - b. use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Offer

In their technical offer, offerors should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Offer

Offerors must submit their financial offer in accordance with Annex A, Basis of Payment.

3.1.1 Exchange Rate Fluctuation

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications Offerors must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Offers will be assessed in accordance with the entire requirement of the Request for Standing Offers including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the offers.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

- a) A minimum of two (2) Tradespeople are required for this Standing Offer. Bidders will provide only Tradespeople holding a valid Class of Certification issued by the Nova Scotia Department of Environment for the install, alteration or removal of petroleum storage tank systems. Tradespeople must be either NSDOE Class I tank installer

certified or hold a PM3 Certification from the CPCA (Canadian Contractors Association). Bidders must provide with their bid copies of the Qualification Certificates for each Tradesperson that will be employed through this Standing Offer.

- b) Bidders must also possess five (5) years of experience as a company in good order for similar projects in size and nature.
- c) Bidders must provide evidence of its experience and past performance as a company by referencing three (3) projects or contracts satisfactorily rendered within the last ten (10) years wherein the range of services provided were comparable to the requirements identified in this Solicitation.

Please note that bids that do not include the above mentioned requirements will be deemed non-compliant. Non-compliant bids will be set-aside and be given no further consideration.

4.1.2 Financial Evaluation

4.1.2.1 SACC Manual Clause [M0220T](#) (2016-01-28), Evaluation of Price - Offer

4.2 Basis of Selection

An offer must comply with the requirements of the Request for Standing Offers and meet all mandatory technical evaluation criteria to be declared responsive. The responsive offer with the lowest evaluated price will be recommended for issuance of a standing offer.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Offerors must provide the required certifications and additional information to be issued a standing offer.

The certifications provided by offerors to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare an offer non-responsive, will have the right to set-aside a standing offer, or will declare a contractor in default if any certification made by the Offeror is found to be untrue whether made knowingly or unknowingly during the offer evaluation period, during the Standing Offer period, or during the contract period.

The Standing Offer Authority will have the right to ask for additional information to verify the Offeror's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Standing Offer Authority will render the offer non-responsive, result in the setting aside of the Standing Offer or constitute a default under the Contract.

5.1 Certifications Required with the Offer

Offerors must submit the following duly completed certifications as part of their offer.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all offerors must provide with their offer, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to the Issuance of a Standing Offer and Additional Information

The certifications and additional information listed below should be submitted with the offer but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Standing Offer Authority will inform the Offeror of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the offer non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Offeror must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Standing Offer Certification

By submitting an offer, the Offeror certifies that the Offeror, and any of the Offeror's members if the Offeror is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list) available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

Canada will have the right to declare an offer non-responsive, or to set-aside a Standing Offer, if the Offeror, or any member of the Offeror if the Offeror is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of issuing of a Standing Offer or during the period of the Standing Offer.

5.2.3 Additional Certifications Precedent to Issuance of a Standing Offer

5.2.3.1 Status and Availability of Resources

The Offeror certifies that, should it be issued a standing offer as a result of the Request for Standing Offer, every individual proposed in its offer will be available to perform the Work resulting from a call-up against the Standing Offer as required by Canada's representatives and at the time specified in a call-up or agreed to with Canada's representatives. If for reasons beyond its control, the Offeror is unable to provide the services of an individual named in its offer, the Offeror may propose a substitute with similar qualifications and experience. The Offeror must advise the Standing Offer Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Offeror: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Offeror has proposed any individual who is not an employee of the Offeror, the Offeror certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Offeror must, upon request from the Standing Offer Authority, provide a written confirmation, signed by the individual, of the permission given to the Offeror and of his/her availability.

PART 6 - SECURITY, FINANCIAL AND INSURANCE REQUIREMENTS

6.1 Security Requirements

1. At the Request for Standing Offers closing date, the following conditions must be met:

-
- (a) the Offeror must hold a valid organization security clearance as indicated in Part 7A - Standing Offer;
 - (b) the Offeror's proposed individuals requiring access to classified or protected information, assets or sensitive work sites must meet the security requirements as indicate in Part 7A - Standing Offer;
 - (c) the Offeror must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
2. For additional information on security requirements, offerors should refer to the [Contract Security Program](http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html) of Public Works and Government Services Canada (<http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html>) website.

6.2 Insurance Requirements

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

PART 7 - STANDING OFFER AND RESULTING CONTRACT CLAUSES

A. STANDING OFFER

7.1 Offer

- 7.1.1 The Offeror offers to perform the Work in accordance with the Statement of Work at Annex A.

7.2 Security Requirements

- 7.2.1 The following security requirements (SRCL and related clauses provided by the Contract Security Program) apply and form part of the Standing Offer.

SECURITY REQUIREMENTS FOR CANADIAN SUPPLIER: PWGSC FILE # W684H-220088

- 1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Contract Security Program (CSP), Public Works and Government Services Canada (PWGSC).
- 2. The Contractor/Offeror personnel requiring access to sensitive site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by the CSP, PWGSC.
- 3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of the CSP, PWGSC.
- 4. The Contractor/Offeror must comply with the provisions of the:
 - a) Security Requirements Check List and security guide (if applicable), attached at Annex C;
 - b) *Contract Security Manual* (Latest Edition).

5. Canadian Forces Ammunition Depot (CFAD) Safety Brief. All employees of the company that will be working on DND establishments at CFAD Bedford must complete a half day safety course at the Canadian Forces Ammunition Depot prior to any work being conducted in the "Explosive Area".
6. Additional Security Requirements for 12 Wing Shearwater Airfield Operation Zone(AOZ):
 - a) The Contractor and/or Sub-contractor's employees must have as a minimum, "Reliability Status" security clearance in order to access any restricted site, or be accompanied by an assigned, qualified, security cleared escort.
 - b) The Airfield Operation Zone (AOZ) safety and security briefing is required by all personnel needing access while driving work vehicles onto the AOZ.
 - c) Any vehicles accessing the runways, helicopter landing areas or taxi areas as defined by 12 Wing Shearwater Air Traffic Control, must have a RAMP qualified escort at all times.
 - d) A valid, up-to-date Contract Employee Access List (CEAL) along with the AOZ certification, under most circumstances, will guarantee Tarmac access; although 12 Wing Ops will have the final decision, dependent upon the current Threat-Risk-Analysis (TRA) and immediate operational requirements.
7. Visit Clearance Request: Immediately upon award of Contract, the Contractor must apply for a "Visit Clearance Request (VCR)" for each employee in order to access DND property. Proof of the VCR application must be provided to the Base Security Officer (BSO)/Unit Security Supervisor (USS) within 30 days after award of Contract. The Contractor is responsible to maintain the VCR list up to date on a yearly basis for the duration of the Contract.

7.3 Standard Clauses and Conditions

All clauses and conditions identified in the Standing Offer and resulting contract(s) by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](#)

(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

7.3.1 General Conditions

[2005](#) (2022-01-28) General Conditions - Standing Offers - Goods or Services, apply to and form part of the Standing Offer.

7.3.2 Standing Offers Reporting

The Offeror must compile and maintain records on its provision of goods and services to Canada under contracts resulting from the Standing Offer. This data must include all purchases done by Canada, including those acquired and paid for by Canada acquisition cards.

If some data is not available, the reason must be indicated in the report. If no goods or services is provided during a given period, the Offeror must provide a "nil" report.

The data must be submitted on a quarterly basis to the Standing Offer Authority.

The quarterly reporting periods are defined as follows:

- first quarter: April 1 to June 30
- second quarter: July 1 to September 30
- third quarter: October 1 to December 31
- fourth quarter: January 1 to March 31

The data must be submitted to the Standing Offer Authority no later than **ten (10)** calendar days after the end of the reporting period.

7.4 Term of Standing Offer

7.4.1 Period of the Standing Offer

The period for making call-ups against the Standing Offer is from issuance of the Standing Offer for a **one (1) year period**.

7.4.2 Extension of Standing Offer

If the Standing Offer is authorized for use beyond the initial period, the Offeror offers to extend its offer for an additional **two (2), one (1) year periods** under the same conditions and at the rates or prices specified in the Standing Offer, or at the rates or prices calculated in accordance with the formula specified in the Standing Offer.

The Offeror will be advised of the decision to authorize the use of the Standing Offer for an extended period by the Standing Offer Authority before the expiry date of the Standing Offer. A revision to the Standing Offer will be issued by the Standing Offer Authority.

7.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex A of the Standing Offer.

7.5 Authorities

7.5.1 Standing Offer Authority

The Standing Offer Authority is:

Name: Carlos Castillo Nieto
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Address: 1713 Bedford Row, Halifax, NS B3J 3C9

Telephone: 782-640-3162
Facsimile: 902-496-5016
E-mail address: Carlos.CastilloNieto@tpsgc-pwgsc.gc.ca

The Standing Offer Authority is responsible for the establishment of the Standing Offer, its administration and its revision, if applicable. Upon the making of a call-up, as Contracting Authority, he is responsible for any contractual issues relating to individual call-ups made against the Standing Offer by any Identified User.

7.5.2 Project Authority

The Project Authority for the Standing Offer is (completed at award):

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone: ____ - ____ - ____
Facsimile: ____ - ____ - ____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work will be carried out pursuant to a call-up under the Standing Offer and is responsible for all the technical content of the Work under the resulting Contract.

7.5.3 Offeror's Representative (to be completed by bidder)

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: ____ - ____ - ____
Facsimile: ____ - ____ - ____
E-mail address: _____

7.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2019-01](#) of the Treasury Board Secretariat of Canada.

7.7 Identified Users

The Identified User authorized to make call-ups against the Standing Offer is: **Department of National Defence, Real Property Operations Section (Halifax) personnel with delegated authority.**

7.8 Call-up Instrument

The Work will be authorized or confirmed by the Identified User(s) using the duly completed forms or their equivalents as identified in paragraphs 2 and 3 below, or by using Canada acquisition cards (Visa or MasterCard) for low dollar value requirements.

1. Call-ups must be made by Identified Users' authorized representatives under the Standing Offer and must be for goods or services or combination of goods and services included in the Standing Offer at the prices and in accordance with the terms and conditions specified in the Standing Offer.
2. Any of the following forms could be used which are available through [PWGSC Forms Catalogue](#) website:
 - PWGSC-TPSGC 942 Call-up Against a Standing Offer
 - PWGSC-TPGSC 942-2 Call-up Against a Standing Offer - Multiple Delivery
 - PWGSC-TPSGC 944 Call-up Against Multiple Standing Offers (English version)

- PWGSC-TPSGC 945 Commande subséquente à plusieurs offres à commandes (French version)

or

3. An equivalent form or electronic call-up document which contains at a minimum the following information:
- standing offer number;
 - statement that incorporates the terms and conditions of the Standing Offer;
 - description and unit price for each line item;
 - total value of the call-up;
 - point of delivery;
 - confirmation that funds are available under section 32 of the Financial Administration Act;
 - confirmation that the user is an Identified User under the Standing Offer with authority to enter into a contract.

7.9 Limitation of Call-ups

Individual call-ups against the Standing Offer must not exceed **\$100,000.00** (Applicable Taxes included).

7.10 Financial Limitation

The total cost to Canada resulting from call-ups against the Standing Offer must not exceed the sum of \$TBD (Goods and Services Tax or Harmonized Sales Tax excluded) unless otherwise authorized in writing by the Standing Offer Authority. The Offeror must not perform any work or services or supply any articles in response to call-ups which would cause the total cost to Canada to exceed the said sum, unless an increase is so authorized.

The Offeror must notify the Standing Offer Authority as to the adequacy of this sum when 75 percent of this amount has been committed, or before the expiry date of the Standing Offer, whichever comes first. However, if at any time, the Offeror considers that the said sum may be exceeded, the Offeror must promptly notify the Standing Offer Authority.

7.11 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- a) the call up against the Standing Offer, including any annexes;
- b) the articles of the Standing Offer;
- c) the general conditions 2005 (2022-01-28), General Conditions - Standing Offers - Goods or Services;
- d) the general conditions 2010C (2022-01-28), Services (medium complexity);
- e) Annex A, Statement of Work;
- f) Annex B, Basis of Payment;
- g) Annex C, Security Requirements Check List;
- h) the Offeror's offer dated _____ (*insert date of offer*).

7.12 Certifications and Additional Information

7.12.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Offeror with its offer or precedent to issuance of the Standing Offer (SO), and the ongoing cooperation in providing additional information are conditions of issuance of the SO and failure to comply will constitute the Offeror in default. Certifications are subject to verification by Canada during the entire period of the SO and of any resulting contract that would continue beyond the period of the SO.

7.12.2 SACC Manual Clauses

[M3020C](#) (2016-01-28), Status of Availability of Resources – Standing Offer

7.13 Applicable Laws

The Standing Offer and any contract resulting from the Standing Offer must be interpreted and governed, and the relations between the parties determined, by the laws in force in Nova Scotia.

7.14 Transition to an e-Procurement Solution (EPS)

During the period of the Standing Offer, Canada may transition to an EPS for more efficient processing and management of individual call-ups for any or all of the SO's applicable goods and services. Canada reserves the right, at its sole discretion, to make the use of the new e-procurement solution mandatory. Canada agrees to provide the Offeror with at least a three-month notice to allow for any measures necessary for the integration of the Offer into the EPS. The notice will include a detailed information package indicating the requirements, as well as any applicable guidance and support.

If the Offeror chooses not to offer their goods or services through the e-procurement solution, the Standing Offer may be set aside by Canada.

B. RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from a call-up against the Standing Offer.

7.1 Statement of Work

The Contractor must perform the Work described in the call-up against the Standing Offer.

7.2 Standard Clauses and Conditions

7.2.1 General Conditions

[2010C](#) (2022-01-28), General Conditions - Services (Medium Complexity) apply to and form part of the Contract.

7.3 Term of Contract

7.3.1 Period of the Contract

The Work must be completed in accordance with the call-up against the Standing Offer.

7.3.2 Delivery Date

Delivery must be completed in accordance with the call-up against the Standing Offer.

7.4 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2019-01](#) of the Treasury Board Secretariat of Canada.

7.5 Payment

7.5.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices, as specified in Annex B. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

7.5.2 Electronic Payment of Invoices – Call-up

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Direct Deposit (Domestic and International);

7.6 Invoicing Instructions

Invoices to be made out and forwarded to:

Accounts Payable Section
Real Property Operations Section – Halifax
Maritime Forces Atlantic PO Box 99000
Station Forces, Willow Park Bldg. WL7
Halifax, NS B3K 5X5

Invoices must be submitted within 30 days of completion of Work.
Each invoice will indicate the following information:

1. Contract number;
2. Work order/ serial number;
3. Requisition/order offer number;
4. Building number or location;
5. Dates during which the Work was accomplished;
6. A detailed description of the Work performed, with itemized list of materials & labour (a copy of the Contractor's invoice from his material supplier will also be included plus any other costs being charged), labour, overhead, profit and applicable taxes will be included separately on the invoice.
7. Labour costs are to be broken down by trade and sub-trade. Labour time sheets will also be provided upon request.

No invoices will be processed without proper information as outlined.

1. DND payments to Contractor will be done through direct deposit process. The Contractor will be required to provide the following to Accounts Payable Section:
 - a. banking information for direct deposit; and
 - b. email address.

7.7 Insurance

SACC Manual clause [G1005C](#) (2016-01-28) Insurance – No Specific Requirement

7.8 SACC Manual Clauses

[A9062C](#) (2011-05-16), Canadian Forces Site Regulations
[C0705C](#) (2010-01-11), Discretionary Audit

7.9 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".

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Amd. No. - N° de la modif.
File No. - N° du dossier

Buyer ID - Id de l'acheteur
ha1414
CCC No./N° CCC - FMS No./N° VME

ANNEX A

STATEMENT OF WORK

(See Attachment)

ANNEX B

BASIS OF PAYMENT

Please complete the following table and submit with Bid.

Regular working hours: Monday to Friday, 0730 - 1600 hrs.

1. The price of the bid will be evaluated in Canadian dollars, the Goods and Services tax or the Harmonized Sales Tax excluded, FOB destination including Canadian customs duties and excise taxes included.
2. The estimated annual usage figures (C) are for evaluation purposes only and does not infer all the quantities for that item will be utilized or that the quantities may not be exceeded.
3. Lowest overall evaluation price will be determined as follows $(C * D) + (C * E) + (C * F) = G$.

Table 1 – Pricing Table						
A	Description B	Estimated Annual Usage C	Year 1 Pricing (\$/hr)(\$/m²) D	Option Year 1 Pricing (\$/hr)(\$/m²) E	Option Year 2 Pricing (\$/hr)(\$/m²) F	Extended Total G
A.	Labour rates tank repairs/removals/installations Includes travel time to and from the work site.					
.1	Certified tank installer	500 hours	\$ _____	\$ _____	\$ _____	\$ _____
.2	Electronic technician	100 hours	\$ _____	\$ _____	\$ _____	\$ _____
.3	Electrician	50 hours	\$ _____	\$ _____	\$ _____	\$ _____
.4	Plumber/pipe fitter	700 hours	\$ _____	\$ _____	\$ _____	\$ _____
.5	Welder	100 hours	\$ _____	\$ _____	\$ _____	\$ _____
.6	Labourer	1,000 hours	\$ _____	\$ _____	\$ _____	\$ _____
B.	Minor concrete work: Concrete work including installation of slab on grade. Includes labour, excavating, forming, reinforcement, finishing, curing, control joints, expansion joints and penetrating sealer.					

.1	100 mm thick, unit: m ²	50 m ²	\$ _____	\$ _____	\$ _____	\$ _____
.2	200 mm thick, unit: m ²	50 m ²	\$ _____	\$ _____	\$ _____	\$ _____
C.	Minor asphalt work Asphalt work including removal and disposal of materials to facilitate new asphalt work, placing of compacted gravel base, hot mix asphalt concrete paving, including prime and tack coat, restoration materials such as top soil and sods.					
.1	Removal and disposal of materials	50 m ²	\$ _____	\$ _____	\$ _____	\$ _____
.2	Asphalt work complete with gravel base	50 m ²	\$ _____	\$ _____	\$ _____	\$ _____
.3	Restoration work including sods and topsoil	50 m ²	\$ _____	\$ _____	\$ _____	\$ _____
D.	Kilometric rate: Kilometric rate for all areas outside of the Halifax Regional Municipality (HRM).					
.1	Kilometric rate (\$/km)	2000 km	\$ _____	\$ _____	\$ _____	\$ _____
Grand extended total (for evaluation purposes only)						\$ _____
Note: 1. An allowance for materials and replacement parts, required permits, certificates, assessments, specialty equipment, disposals and security will be at net cost plus 10% mark-up (Includes invoice costs, transportation costs, exchange, customs and brokerage charges).						
Total bid price (grand extended total)			\$ _____			

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ANNEX C

SECURITY REQUIREMENTS CHECK LIST

(See attachment)

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ANNEX D

STANDING OFFER REPORTING

			REPORT TOTALS
COMPANY NAME:		OPENING VALUE:	\$
STANDING OFFER NO.:		Less Usage to Date:	\$
PERIOD OF REPORT:		Balance Remaining:	\$
CALL UP NUMBER	DATE OF CALL UP	CUSTOMER NAME	CALL-UP VALUE
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$
			\$

ANNEX E

LIST OF BOARD OF DIRECTORS

If the required list of names has not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to provide the names within the time frame specified will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Department of National Defence



Specification

Standing Offer Agreement

Fuel Tank Systems Repairs and Replacement

CFB Halifax, NS

Job No.W684H-220088

2021-12-08

<u>Section</u>	<u>Title</u>	<u>Pages</u>
<u>Division 01 - General Requirements</u>		
01 11 00	General Instructions	9
01 35 30	Health and Safety Requirements	8
01 35 35	DND Fire Safety Requirements	6
01 35 36	Security, Safety and Fire Regulations CFAD Bedford, NS	6
01 35 37	Access to DRDC Atlantic Complex	1
01 35 43	Environmental Procedures	2
01 35 73	Confined Spaces Requirements	10
01 74 00	Cleaning	2
<u>Division 03 - Concrete</u>		
03 20 00	Concrete Reinforcing	3
03 30 00	Concrete Repairs	8
<u>Division 09 - Finishes</u>		
09 91 13.23	Exterior Painting of Structural Steel	17
<u>Division 23 - Heating, Ventilating and Air-Conditioning (HVAC)</u>		
23 05 00	General Mechanical	6
23 11 13	Facility Fuel Oil Piping	8
<u>Division 26 - Electrical</u>		
26 05 00	General Electrical	2
<u>Division 31 - Earthwork</u>		
31 23 33.01	Excavating, Trenching and Backfilling	9
<u>Division 32 - Exterior Improvements</u>		
32 12 16	Asphalt Paving	12
<u>Division 33 - Utilities</u>		
33 56 13	Fuel Storage Tanks	10
33 56 17	Appendix 1 - Certificate of Removal and Disposal	1
33 56 18	Appendix 2 - Record of Tank Commissioning	7

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 35 73 - Confined Spaces Requirements.
- .2 Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .3 Section 23 11 13 - Facility Fuel Oil Piping.
- .4 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .5 Section 33 56 13 - Fuel Storage Tanks.

1.2 DESCRIPTION OF WORK

- .1 Work under this requirement comprises the furnishing of all labour, material, tools, equipment, transportation, and supervision required to conduct repairs, replacements, removals, and permanent withdrawals of underground or above ground fuel storage tank system installations, as directed by the Departmental Representative, at various areas of CFB Halifax as specified herein.

1.3 DELIVERABLES

- .1 All deliverables associated with this Contract must comply with all Government of Canada legislation, policies, and directives. These include, but are not limited to, the Official Languages Act, Canadian Labour Code, National Building Code of Canada, Defence Production Act, Government Contracting Regulations, and others.

1.4 DEPARTMENTAL REPRESENTATIVE

- .1 All reference to the Departmental Representative in this specification, who is the Contract Inspector which is representing the Real Property Operations Section - Halifax (RPOS(H)).

1.5 WORK INCLUDED

- .1 Work included in this requirement includes but will not be limited to the following:
 - .1 Conduct repairs, replacements, removals or permanent withdrawals of underground or above ground fuel storage tank system installations. Types of systems include:
 - .1 #2 heating fuel;
 - .2 gasoline and diesel fuel dispensing;
 - .3 diesel generators;

1.5 WORK INCLUDED (Cont'd)	.1	(Cont'd)
	.1	(Cont'd)
	.4	waste oil; and
	.5	waste fuel.
	.2	Note: System includes tank and all appurtenances, piping, valves, pumps, gauges, electronic monitoring equipment, card reading equipment, grounding, concrete slab, steel steps, vehicle protection and signage.
	.3	Perform work in a confined space as required.
	.4	Conduct clean up.
1.6 LOCATIONS OF JOB SITES	.1	Areas covered under this specification include but not limited to the following locations:
	.1	Halifax Regional Municipality (HRM) area:
	.1	Stadacona - Halifax, NS;
	.2	Windsor Park - Halifax, NS;
	.3	Willow Park - Halifax, NS;
	.4	Halifax Armoury - Halifax, NS;
	.5	Royal Artillery (RA) Park - Halifax, NS;
	.6	HMC Dockyard - Halifax, NS;
	.7	Damage Control School - Herring Cove, NS;
	.8	Ferguson's Cove - Ferguson's Cove, NS;
	.9	12 Wing Shearwater - Eastern Passage, NS;
	.10	Osbourne Head Gunnery Range - Cow Bay, NS;
	.11	Naval Armament Depot (NAD) - Dartmouth, NS;
	.12	DRDC Atlantic - Dartmouth, NS;
	.13	Wright's Cove Degaussing Range - Dartmouth, NS;

1.6 LOCATIONS OF JOB
SITES
(Cont'd)

- .1 (Cont'd)
 - .1 (Cont'd)
 - .14 CFAD Bedford - Bedford, NS;
 - .15 Bedford Armoury - Bedford, NS; and
 - .16 Bedford Rifle Range - Bedford, NS.
 - .2 Outlying areas:
 - .1 NRS Mill Cove - Mill Cove, NS;
 - .2 NRS Newport Corner - Newport Corner, NS;
 - .3 Windsor Armoury - Windsor, NS;
 - .4 Truro Armoury - Truro, NS;
 - .5 Masstown Rx Site - Masstown, NS;
 - .6 Great Village Tx Site - Great Village, NS;
 - .7 Debert Rifle Range - Debert, NS;
 - .8 Springhill Armoury - Springhill, NS;
 - .9 Amherst Armoury - Amherst, NS; and
 - .10 Pictou Armoury - Pictou, NS.
 - .3 Cape Breton area:
 - .1 Victoria Park - Sydney, NS;
 - .2 Sydney Rifle Range - Sydney, NS; and
 - .3 Glace Bay Armoury - Glace Bay, NS.

1.7 SITE ACCESS

- .1 Access to the site is under the direction of the Department of National Defence. All visitors entering areas issuing a daily pass will be aware of the requirement for search as a condition of issue.
- .2 While within the confines of CFB Halifax all employees and representatives of the Contractor must comply with all of the Standing Orders as promulgated by Base/Unit Authorities.

1.8 PRE-JOB MEETING

- .1 Immediately upon receipt of award of Standing Offer Agreement, the successful Contractor will contact the Departmental Representative to arrange a pre-job meeting prior to commencement of any work.
- .2 The Departmental Representative will provide the Contractor with a list of his/her authorized representatives at the pre-job meeting.

1.9 WORKMANSHIP

- .1 Workmanship must be the best quality executed by workers experienced and skilled in the respective duties for which they are employed.
- .2 Do not employ any unfit person or anyone unskilled in their required duties. The Departmental Representative reserves the right to require the dismissal from the site, workers deemed incompetent, careless, insubordinate or otherwise objectionable.
- .3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Departmental Representative whose decision is final.
- .4 The Contractor will employ a competent and experienced supervisor with the authority to speak on his behalf on day-to-day routine matters.
- .5 Whenever the Contractor uses sub-contractors, they too must perform to and comply with all requirements.

1.10 NORMAL WORKING HOURS

- .1 Normal working hours will be 0730 to 1600 hours, Monday to Friday. Any work carried out other than normal working hours must be authorized by the Departmental Representative.

1.11 CONTRACTOR'S USE OF SITE

- .1 Contractor will be briefed on use of site by the Departmental Representative.
- .2 Do not unreasonably encumber site with materials or equipment.
- .3 Move stored products or equipment which interferes with operations of Departmental Representative or other Contractors.
- .4 The Departmental Representative will brief the Contractor on access to restricted areas.

<u>1.11 CONTRACTOR'S USE OF SITE (Cont'd)</u>	.5	Obtain a properly completed excavation permit prior to carrying out any excavation on site.
<u>1.12 PARKING</u>	.1	In limited areas, a parking space will be made available on site for Contractor vehicles to drop off equipment and supplies. Maintain and administer this space as directed.
<u>1.13 CODES AND STANDARDS</u>	.1	Perform work in accordance with the latest edition of the National Building Code of Canada (NBC), Canadian Electrical Code Part I, Canada Labour Code Part II, National Fire Code of Canada (NFCC), NS Environment and Labour requirements, and any other applicable federal, provincial and municipal regulations and by-laws. In any case of conflict or discrepancy, the more stringent requirements will apply.
	.2	Meet or exceed requirements of Standing Offer documents, specified standards, codes and referenced documents.
<u>1.14 LICENSES AND PERMITS</u>	.1	The Contractor will be responsible for obtaining and paying for all licenses and permits required to perform the Work.
<u>1.15 PROTECTION OF EXISTING FACILITIES</u>	.1	The Contractor must take all necessary precautions to ensure against damage to existing facilities. Any damage to such facilities as a result of the Contractors operations must be repaired or replaced by the Contractor at his/her own expense, as soon as is reasonably possible.
	.2	Special coverings and protection must be provided to protect plants, walls, projections and adjacent work where materials are being removed, installed or hoisted.
	.3	The Contractor must protect all occupant owned furnishings and equipment, and the building from damage during execution of this requirement.
	.4	Where the Departmental Representative considers it necessary, provide and erect warning signs and barriers.

1.16 ALTERATIONS,
ADDITIONS OR REPAIRS TO
EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to building operations, occupants, public and normal use of premises. Arrange with the Departmental Representative to facilitate execution of work.
- .2 Where security has been reduced by work of Contract, provide temporary means to maintain security.
- .3 Provide temporary dust control, barriers, warning signs in locations where renovation and alteration work is adjacent to areas used by public or government staff.

1.17 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give 48 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to tenant operations.
- .3 Provide alternative routes for personnel, pedestrian and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.
- .5 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .7 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
- .8 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .9 Record locations of maintained, re-routed and abandoned service lines.

1.18 CUTTING, FITTING
AND PATCHING

- .1 Execute cutting, fitting and patching required to make work fit properly.
- .2 Where new work connects with existing and where existing work is altered, or cut, patch and make good to match.
- .3 Obtain Departmental Representative's approval before cutting, boring or sleeving load-bearing members.
- .4 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.
- .5 Fit work airtight to pipe, sleeves, ducts and conduits.

1.19 POWER AND WATER
SUPPLY

- .1 DND may provide, free of charge, temporary electric power and water for construction purposes.
- .2 Departmental Representative will determine delivery points and quantitative limits. Departmental Representative's written permission is required before any connection is made. Connect to existing power supply in accordance with Canadian Electrical Code.
- .3 Provide, at no cost to DND, all equipment and temporary lines to bring these services to project site.
- .4 Supply of temporary services by DND is subject to DND requirements and may be discontinued by DND site representative at any time without notice, without acceptance of any liability for damage or delay caused by such withdrawal of temporary services.
- .5 After the temporary service lines are no longer required, the Contractor must remove all lines and equipment, restore the connection points to their original condition and return the land to its original contour.

1.20 HEATING AND
VENTILATING

- .1 Provide temporary heat and ventilation as required to:
 - .1 facilitate progress of work;
 - .2 protect work and products against dampness and cold;
 - .3 prevent moisture condensation on surfaces;

1.20 HEATING AND VENTILATING <u>(Cont'd)</u>	.1	(Cont'd)
	.4	provide ambient temperatures and humidity levels for storage, installation and curing of materials; and
	.5	provide adequate ventilation to meet health regulations for safe working environment.
	.2	Maintaining strict supervision of operation of temporary heating and ventilating equipment to:
	.1	conform with applicable codes and standards;
	.2	enforce safe practices;
	.3	prevent abuse of services;
	.4	prevent damage to finishes; and
	.5	vent direct-fired combustion units to outside.
1.21 ADDITIONAL DRAWINGS <u></u>	.1	Departmental Representative may furnish additional drawings to assist proper execution of work. These drawings will be issued for clarification only. Such drawings will have same meaning and intent as if they were included with plans referred to in Standing Offer documents.
1.22 INSPECTION <u></u>	.1	All work and materials covered by this specification will be subject to inspection at any time by the Departmental Representative or his/her representative.
1.23 REPORTING IRREGULARITIES <u></u>	.1	The Contractor must notify immediately the Departmental Representative of irregularities in the work area, such as accidents, spills, structural defects, mechanical and/or electrical problems and/or any beyond the scope of work.
PART 2 - PRODUCTS <u></u>		
2.1 NOT USED <u></u>	.1	Not used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

1.1 WORK SAFETY
MEASURES

- .1 Observe and enforce construction safety measures by complying with the requirements of the following statutes and authorities:
 - .1 Canada Labour Code Part II and the Canada Occupational Health and Safety Regulations;
 - .2 Nova Scotia Occupational Health and Safety Act and supporting Occupational General Safety Regulations as amended from time to time;
 - .3 most recent amendments to the National Building Code of Canada, Part 8 and National Fire Code of Canada.
- .2 Refer to Section 01 35 35 - DND Fire Safety Requirements.
- .3 Departmental Representative will provide a copy of any relevant special written instructions to be followed.
- .4 Before Work Begins:
 - .1 Bidder/Tender to provide documentation if requested by the Crown, indicating all safety training attained for each person who will be involved with the requirements.
- .5 The following disciplinary measures will be taken for any violations of safety under this requirement:
 - .1 First Violation:
 - .1 Verbal warning issued to the Contractor for the first violation of a safety regulation (Violation will be documented on Standing Offer file, copy to Contractor and PSPC.).
 - .2 Second Violation:
 - .1 Written warning to Contractor for second violation of a safety regulation (Violation will be documented on Standing Offer file, copy to Contractor and PSPC.).
 - .3 Third Violation:

1.1 WORK SAFETY
MEASURES
(Cont'd)

.5

(Cont'd)

.3 (Cont'd)

.1 A third violation of a safety regulation may result in the termination of the Standing Offer.

.4 Serious Violation:

.1 For a serious violation of a safety regulation as deemed by a regulator, project manager or safety officer a recommendation will be made to the Contracting Authority to immediately terminate the Contract/Standing Offer (Violation documented on Standing Offer file, copy to Contractor and PSPC.).

1.2 HAZARD ASSESSMENTS

.1

Contractor must implement and carry out a health and safety hazard assessment program as part of the Work. Program to include:

.1 Initial Hazard Assessment:

.1 Carried out upon notification of Contract award and/or prior to commencement of Work.

.2 On-going Hazard Assessments:

.1 Performed during the progress of Work identifying new or potential health risks and safety hazards not previously known. As a minimum, hazards assessments must be carried out when:

.1 new sub-trade work, new sub-contractor(s) or new workers arrive at the site to commence another portion of the Work;

.2 the scope of Work has been changed;

.3 Work conducted in confined spaces; and/or

.4 potential hazard or weakness in current health and safety practices are identified by the Departmental Representative.

.2 Hazard assessments will be project and site specific, based on review of documents and site.

1.2 HAZARD ASSESSMENTS
(Cont'd)

- .3 Each hazard assessment to be made in writing. Keep copies of all assessments on site for duration of Work. Upon request, make available to Departmental Representative.
- .4 The Contractor must notify the Departmental Representative of suspected hazardous material during work and not apparent from drawings, specifications, or report pertaining to work (e.g. lead, asbestos etc.). Do not disturb such material pending instructions from the Departmental Representative. The Departmental Representative will make the necessary arrangements for testing the material as required.

1.3 ASBESTOS PRODUCT &
ASBESTOS ACTIVITY

- .1 Within the confines of the Base/Unit, the provision of new products containing fibrous asbestos materials is prohibited.
- .2 Demolition or disturbance of spray or trowel-applied asbestos can be hazardous to health. Should material resembling spray or trowel-applied asbestos be encountered in course of work, stop work and notify Departmental Representative immediately. Do not proceed until written instructions have been received from the Departmental Representative.

1.4 HAZARDOUS SPILL

- .1 The Contractor or sub-contractors must report to the DND Fire Department and the Departmental Representative for any incident or spill involving hazardous materials (HAZMAT).
- .2 In the event of a hazardous material spill, the following procedures for initial actions must be followed:
 - .1 ensure safety of all personnel;
 - .2 assess spill hazards and risks;
 - .3 ventilate area if release is indoors and remove all sources of ignition;
 - .4 stop the spill if safely possible (e.g. shut off pump, replace cap, tip drum upward, patch leaking hole etc.).
 - .5 no matter the volume is, contact the DND Fire Department and provide the following information:
 - .1 time of the spill;

1.4 HAZARDOUS SPILL
(Cont'd)

- .2 (Cont'd)
- .5 (Cont'd)
- .2 location;
- .3 special considerations:
- .1 personal safety;
- .2 environmental.
- .4 type and amount of spill;
- .5 person reporting the spill:
- .1 name;
- .2 company; and
- .3 telephone number.
- .6 contain the spill;
- .7 isolate the area as required;
- .8 provide Material Safety Data Sheets (MSDS) to DND Fire Department and Departmental Representative;
- .9 contact the Departmental Representative; and
- .10 clean up minor spills using appropriate protective equipment and supplies.

1.5 FASTENING DEVICES
EXPLOSIVE ACTUATED

- .1 Explosive actuated devices must not be used without the approval of the Departmental Representative.
- .2 Operator must have the appropriate training before using the explosive actuated device.
- .3 Follow the manufacturer's safety guidelines and ensure the applicable personal protective equipment is used.

1.6 HOT WORK

- .1 All hot work activity is to take place with the Departmental Representative's approval and written permission from the DND Fire Department (hot work permit). Hot work permits and fire watch requirements will be provided by the DND Fire Department.
- .2 The ventilation system in the area of any hot work is to be isolated to prevent migration of fumes/smoke and to reduce any possible spread of fire to other areas of the facility.
- .3 Contractor is to employ an employee trained in the use of fire extinguishers as fire watch during any hot work for a minimum of 30 minutes after activity has ceased.

1.7 CONFINED SPACES

- .1 All work in confined spaces will be carried out in compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .2 The Contractor to provide and maintain all equipment as required by any person to enter and/or perform work in a safe manner, in compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .3 The Contractor to provide and maintain training, as required by the Canada Occupational Safety and Health Regulations, Part XI.
 - .1 The personnel entering and working in confined spaces must have at all times valid certifications when working in confined spaces. The Contractor and/or his employees must provide proof of training and qualifications when requested by the Departmental Representative or the Unit Safety Officer.
- .4 The Contractor to provide the Departmental Representative with a copy of an "entry permit" for each and every entry into the confined space to ensure compliance with the Canada Occupational Safety and Health Regulations, Part XI.
- .5 The Contractor to have a hazard assessment of the confined space performed.
 - .1 The Contractor to provide the Departmental Representative with a copy of the hazard assessment.
- .6 The Contractor must have a written rescue plan posted on site.

1.7 CONFINED SPACES
(Cont'd)

- .7 Contractor must inform the DND Fire Department and the Central Heating plant before entering any service tunnel.

1.8 FALL PROTECTION

- .1 All work carried out above the mandatory height restrictions, from unguarded structure and/or scaffolding, will be done in compliance with the Canada Occupational Safety and Health Regulations, Part XII, Section 12.10.
- .2 The components of a fall protection system must meet the standards as outlined in the Canada Occupational Safety and Health Regulations, Part XII, Section 12.10 (2).
- .3 The Contractor is to ensure fall protection equipment is maintained, inspected and tested by a qualified technician as required by the Canada Occupational Safety and Health Regulations, Part XII, Section 12.3.

1.9 ARC FLASH

- .1 The Contractor is to ensure all electrical equipment such as switchboards, panel boards, motor control centres and meter socket enclosures be marked to warn persons of potential electric shock and arc flash hazards. This labeling is required for all new and modified installations.
- .2 The warning label must also include information regarding "arc flash hazard category (0 to 4)" and the "Flash Protection Boundary" as defined in NFPA 70E. All projects specifications must include short circuit study and flash hazard analysis.
- .3 In accordance with the CSA Standards Z462 Workplace Electrical Safety, electrical Contractors are required to perform a shock and flash hazard analysis to select the appropriate PPE to wear. Electrical contractors are required arc-rated personal protective equipment while troubleshooting and diagnostic testing that cannot be performed unless the electrical conductor or circuit part is energized. All Contractor work practices must protect each employee from arc flash and from contact with live parts directly with any part of the body or indirectly through some other conductive object.

1.10 SAFETY

- .1 It is the Contractor's responsibility to be familiar with all applicable safety acts, regulations, codes and requirements. These must be identified and addressed in the safety plan, by identifying Standard Operating Procedures (SOP) and safe work practices (SWP) which incorporate clear and specific control measures, applicable rules, procedures and practices, all of which will become mandatory.
- .2 The Contractor must ensure all workers and authorized persons entering the work site are notified of and abide by the posted safety plan, safety rules, procedures, safe work practices and applicable safety acts, regulations, and codes. Any person not complying with these will not be permitted on the site.
- .3 Contractor must ensure that all applicable personal protective equipment (PPE) is used.
 - .1 All personnel are required to wear hard hats, in accordance with CSA Z94.1, Industrial Protective Headwear.
 - .2 All personnel are required to wear safety footwear, in accordance with CSA Z195, Protective Footwear.
 - .3 All personnel are required to wear eye and face protection, in accordance with CSA Z94.3.1, Selection, Use, and Care of Protective Eyewear.
 - .4 When and where noise level is above 85 decibels; all personnel are required to wear hearing protection, in accordance with CSA Z94.2, Hearing Protection Devices - Performance, Selection, Care and Use.
 - .5 Where toxic or noxious gas fumes, or oxygen deficiency or excessive dust may occur, so as to create a hazard to life, safety or health; all personnel are required to wear respiratory protection, in accordance with CAN/CSA Z94.4, Selection, Use, and Care of Respirators.
- .4 The Departmental Representative will coordinate arrangements for the Contractor to be briefed on site safety within 14 days of award of Standing Offer Agreement.

1.11 SECURITY RESPONSE

- .1 Security incident can be defined as any fact or event which could affect your personal or organizational security.

1.11 SECURITY RESPONSE
(Cont'd)

- .2 When performing Work on the premises of CFB Halifax, security incidents or threats could occur at any time such as bomb threats, active intruder, lockdowns etc.
- .3 When a security incident occurs, the Contractor shall:
 - .1 stop the work safely;
 - .2 account for all your personnel in a secure area;
 - .3 report to the building main office or facility manager for further directives; and
 - .4 call the Departmental Representative.
- .4 The above actions must be taken also during Base/Unit security training exercises.

1.12 SITE SIGNS AND
NOTICES

- .1 Safety and instruction signs and notices:
 - .1 Signs and notices for safety and instruction must be in both official languages. Graphic symbols must conform to latest version of "Signs and Symbols for the Workplace".

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not used.

PART 1 - GENERAL

1.1 EMERGENCY
REPORTING

- .1 Telephone numbers for emergency reporting will be provided by the Departmental Representative at the fire safety briefing.

1.2 FIRE SAFETY
ENFORCEMENT

- .1 Within the confines the Base/Unit, the prescription and enforcement of mandatory fire safety measures will be exercised under the authority of the DND Fire Department.
- .2 Comply with and enforce compliance by all Contractor personnel with all requirements of this specification section, and with the most recent edition of the National Building Code of Canada (NBC) and the National Fire Code of Canada (NFC), including all subsequent revisions issued by the National Research Council of Canada.

1.3 FIRE SAFETY BRIEFING

- .1 Prior to commencement of work under this requirement, the Departmental Representative will arrange a meeting of all parties concerned to review and clarify requirements for fire safety measures. This may involve a briefing by the DND Fire Department.

1.4 FIRE WATCH

- .1 For hot work activity, the Contractor will provide the service of fire-watch persons on a scale and schedule as prescribed by the DND Fire Department at the time of issuance of the hot work permit.

1.5 FIRE EXTINGUISHERS

- .1 The Contractor will supply fire extinguishers, as scaled by the DND Fire Department, necessary to protect work in progress and Contractor's physical plant on site.
- .2 Provide supplemental fire extinguishers to these areas and otherwise as directed by the DND Fire Department:
 - .1 adjacent to hot works;
 - .2 areas where combustibles materials are stored;
 - .3 adjacent to areas where flammable liquids or gases are stored or handled;
 - .4 near on on internal combustion engines;

1.5 FIRE EXTINGUISHERS
(Cont'd)

- .2 (Cont'd)
- .5 adjacent to temporary oil fired or gas fired equipment; and
- .6 adjacent to bitumen heating equipment.

1.6 SMOKING
PRECAUTIONS

- .1 Smoking not permitted on DND property except in designated smoking areas. This includes smoking in passenger motor vehicles.
- .2 In accordance with these fire safety requirements particular to the work area and site, the Departmental Representative and the DND Fire Department will designate hazardous areas as well as non-restricted areas where smoking may be permitted.
- .3 Smoking is prohibited in all buildings.
- .4 In all other areas, exercise care and comply with written or oral directives of the Departmental Representative for the use of smoking materials.

1.7 REPORTING FIRES

- .1 Inform the Departmental Representative and the DND Fire Department of fire incidents at construction site, regardless of size.
- .2 Know location of nearest fire alarm pull station and telephone, including emergency phone number.
- .3 Report immediately fire incidents to the Fire Department as follows:
 - .1 activate nearest fire pull station;
 - .2 dial 9-1-1 or designated number given at the time of briefing; and
 - .3 telephone the Departmental Representative.
- .4 Person activating fire alarm station will remain at main entrance of site to direct the Fire Department to the scene of the fire.
- .5 When reporting fire by telephone, give location of fire, name and number of building and be prepared to direct the Fire Department to the scene of the fire.

1.8 FIRE PROTECTION
SYSTEM IMPAIRMENT

- .1 Maintain existing systems in an operational state at all times during construction.
- .2 Use of fire hydrants, standpipes and hose systems for purposes other than fire fighting unless authorized by the DND Fire Department, is prohibited.
- .3 Existing fire protection and alarm systems will not be obstructed, shut off, disabled or left inactive at end of each working day or shift without written authorization from the DND Fire Department.
- .4 Submit written notification to the Departmental Representative and the DND Fire Department 48 hours in advance of planned interruption of services. Submit written notification for operation including shutting down active fire protection system, including water supply, fire suppression, fire detection and life safety systems.
- .5 Where a fire protection system that provide fire alarm monitoring is impaired in an existing building, provide a fire watch as directed by the DND Fire Department.
- .6 Conduct work on fire protection system where systems are affected or impaired in accordance with National Fire Code of Canada conforming to the Base/Unit Fire Orders.

1.9 ACCESS FOR FIRE
FIGHTING

- .1 Provide and maintain access for firefighting in accordance with National Fire Code of Canada.
- .2 Provide written notification to the DND Fire Department a minimum of two (2) working days in advance of operation that would impede fire apparatus response including:
 - .1 violation of minimum horizontal and overhead clearances;
 - .2 other operations as directed by the DND Fire Department; and
 - .3 erecting of barricades and digging of trenches.
- .3 Maintain a minimum clear horizontal width on access routes of 5 meters or otherwise as defined by the DND Fire Department.
- .4 Maintain a minimum vertical clearance of 6 meters or otherwise as defined by the DND Fire Department.

1.10 RUBBISH AND WASTE
MATERIALS

- .1 Keep rubbish and waste materials to a minimum.
- .2 Burning of rubbish is prohibited.
- .3 Remove rubbish from work site at end of work day or shift or more as directed by the DND Fire Department.
- .4 Storage:
 - .1 Store oily waste in approved receptacles to ensure maximum cleanliness and safety.
 - .2 Deposit greasy or oily rags and materials subject to spontaneous combustion in approved receptacles approved by the DND Fire Department and removed at end of each work day.

1.11 FLAMMABLE AND
COMBUSTIBLE LIQUIDS

- .1 Handle, store and use flammable and combustible liquids in accordance with National Fire Code of Canada and as otherwise directed by the DND Fire Department.
- .2 Store flammable and combustible liquids such as gasoline, kerosene and naphtha in quantities not exceeding 45 litres. Store in approved safety cans bearing Underwriters' Laboratory of Canada or Factory Mutual seal of approval. Obtain written authorization from the DND Fire Department for storage of quantities of flammable and combustible liquids exceeding 45 litres.
- .3 The Departmental Representative reserves the right to require removal from the site any storage containers not acceptable to the DND Fire Department.
- .4 Transfer of flammable and combustible liquids within buildings or on jetties is prohibited.
- .5 Transfer of flammable and combustible liquids in vicinity of open flames or any type of heat-producing devices is prohibited.
- .6 Use of flammable liquids having flash point below 38 degrees C such as naphtha or gasoline as solvents or cleaning agents is prohibited.
- .7 Storing flammable and combustible waste liquids on site is prohibited. Remove daily or more frequently as directed by the DND Fire Department.

1.12 HOT WORKS

- .1 Implement a hot works program in accordance with National Fire Code of Canada and NFPA 51B Standard for Fire Prevention. Apply hot works program to processes involving welding, cutting, roofing and other hot works as defined by the DND Fire Department.
- .2 Obtain a "Hot Work" permit from the DND Fire Department for hot works in construction area. Frequency of renewal for hot works permits is at discretion of the DND Fire Department.
- .3 When work is carried out in a dangerous or hazardous areas involving use of heat, provide fire watchers equipped with sufficient fire extinguishers. Determination of dangerous or hazardous areas along with level of protection necessary for fire watch is at discretion of the DND Fire Department.
- .4 Provide fire watch service for work as directed by the DND Fire Department and as defined in the fire safety briefing. Provide fire watchers trained in use of fire extinguishing equipment.
- .5 Carry out hot works processes in areas free of combustible and flammable content.

1.13 HAZARDOUS
SUBSTANCES

- .1 Perform work involving the use of toxic or hazardous materials, chemicals and/or explosives, or otherwise creating hazard to life, safety or health, in accordance with National Fire Code of Canada (NFC), and measures prescribed by the DND Fire Department.
- .2 Provide ventilation where flammable liquids, such as lacquers or urethanes are used. Eliminate sources of ignition. Provide written notification to the DND Fire Department a minimum of five (5) days prior to starting and immediately at completion of work.

1.14 FIRE INSPECTION

- .1 Co-ordinate site inspections by DND Fire Department through the Departmental Representative.
- .2 Allow DND Fire Department unrestricted access to work site.
- .3 Co-operate with DND Fire Department during routine fire safety inspection of work site.
- .4 Immediately remedy unsafe fire situations observed by DND Fire Department.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

1.1 GENERAL

- .1 The Contractor must ensure that all their personnel are familiar with these regulations and requirements.
- .2 The following is a summary the security, safety and fire regulations Canadian Forces Ammunition Depot (CFAD) Bedford, as promulgated by the Base Commander of CFB Halifax and administered by the Superintendent CFAD Bedford, NS.
- .3 Contractor's personnel will be subject to all of the regulations while working within confines of CFAD Bedford.

1.2 PRE JOB SECURITY AND SAFETY MEETING

- .1 Prior to commencement of Work, the Contractor must meet with the site security, safety and fire regulations officers. In accordance with direction of Departmental Representative and these site officers, ensure that all employees of the Contractor are given thorough instructions on security, safety and fire precautions peculiar to an ammunition depot and that the regulations are fully compiled with, at all times, by all Contractor personnel.

1.3 SECURITY PASSES

- .1 Contractors must report to the NCO I/C Commissionaires at building 153; submit names of all their personnel and description of all their vehicles to arrange the issue of the required temporary passes prior to proceeding to work within the confines of the Depot.

1.4 CONDITIONS FOR ACCESS

- .1 All visitors will be issued a daily and will be required to sign acknowledgement that they are aware of and consent to the following conditions for access.
- .2 Contractor will be escorted by a commissionnaire or CFAD employee in order to access the site.
- .3 The person to whom this pass is issued agrees to return the pass to the security guard at the gate when the Contract or employment at CFAD Bedford expires.
- .4 All vehicles entering and leaving CFAD Bedford may be searched to ensure that no prohibited articles are taken into nor contraband articles are taken out of the ammunition depot.

1.5 FIRE SERVICE CFAD
BEDFORD

- .1 Fire service at CFAD Bedford is provided by the DND Fire Service from 0730 until 1600 hours, Monday to Friday. All Contract work will be ended by 1530 hours daily. Fire response at all other times is provided by HRM. Before any work is carried out during silent hours, the Dockyard Platoon Chief must be contacted at 427-0550, local 3500.

1.6 SEARCHES

- .1 The Canadian Corps of Commissionaires may conduct a personal search of individuals at any time within the Ammunition Depot. Vehicles entering or leaving the Depot may be searched to ensure that contraband articles are not taken into the explosives area and that property is not taken out without authorization.

1.7 ALARMS

- .1 Depot Alarms:
- .1 A siren is sounded only in the event of an emergency such as a fire, explosion, thunderstorm or evacuation. A siren is also sounded to signify "All Clear".
- .2 Fire Emergency:
- .1 A series of "Hi-Lo" sounds on the Depot alarm system signifies an emergency in the explosive area. Contractors must cease operations and proceed in their own vehicles to the nearest exit gate out of the explosive area. If no vehicle available proceed to the nearest "Fire Assembly Point" at buildings 169 or 143.
- .3 Thunder and Lightning:
- .1 A series of "Beeps" on the Depot alarm system signifies a thunder/lightning storm warning. Contractors must cease operations and proceed in their own vehicles to the nearest exit gate out of the explosive area. If no vehicle available proceed to the nearest "Fire Assembly Point" at buildings 169 or 143.
- .4 Evacuation:
- .1 A series of "Slow Whoops" on the Depot alarm system signifies that evacuation in the explosive area has been ordered by the Superintendent. The evacuation could be extended to include the non-explosive area as well as so ordered by the Superintendent.

1.7 ALARMS
(Cont'd)

- .5 All Clear:
- .1 A continuous blast on the Depot alarm system signifies that the emergency situation is "All Clear".

1.8 REPORTING OF FIRES

- .1 All fires, regardless of whether they have been extinguished or not, must be reported immediately to the Base Fire Department.
- .2 All Contractors and employees must familiarize themselves with the locations of the nearest fire alarm box or telephone.
- .3 Fires may be reported by ringing the nearest street alarm box or by telephoning 9-1-1. Persons reporting the fire must remain at the alarm box or telephone until the Fire Department arrives and be prepared to direct fire fighters to the scene of the fire.

1.9 PROHIBITED ARTICLES

- .1 The following articles are prohibited and/or controlled from being taken inside the explosive area. Permission by the Superintendent may be granted for certain articles:
- .1 matches or other flame producing equipment (including vehicle lighters);
- .2 pipes, smoking appliances, tobacco products, or smoking materials in any form;
- .3 explosives or chemicals;
- .4 lights, lamps or electrical devices/tools which are not explosion proof;
- .5 cameras;
- .6 food and drink; and
- .7 radio transmitting devices (i.e. mobile radios, cellular phone phones, remote car starters, and garage door openers, etc).
- .2 No persons will introduce, possess or consume alcoholic beverages, narcotics or any intoxicant within the confines of the Ammunition Depot.
- .3 The site security officers will seize and hold at the gate, any such materials found by search.

1.10 SAFETY AND FIRE
REGULATIONS

- .1 Smoking:
 - .1 Is strictly prohibited in explosive areas.
 - .2 Buildings:
 - .1 Smoking is prohibited in all buildings.
 - .3 Safety Precautions Electrical/Electronic Equipment:
 - .1 All personnel operating or maintaining electrical/electronic equipment involving the use of voltage higher than 50V must brief the site safety and fire safety officers concerning all safety rules in the operating and instructional manuals covering the equipment.
 - .4 Flammables, Explosives or Chemicals:
 - .1 As required, may be allowed into the explosive area provided that the Depot Safety Officer and the Depot Fire Department are made aware of this and that approval by the Superintendent is given. These items after approval may be transported by the Contractors provided the transportation route is known by the Depot Fire Department and adequate fire extinguishers are available.
 - .5 Open Flame or Welding:
 - .1 Prior approval must be obtained before commencing any work involving cutting, welding or use of open flame appliances in or around buildings containing explosives. The Fire Safety Officer will check out the work area and ensure that adequate fire extinguishers and first aid appliances are available and that fire watchers have been posted.
 - .6 Fuel Dispensing Containers:
 - .1 Contractors must ensure that all of their fuel dispensing containers meet or exceed the following standards:
 - .1 type II safety container, leakproof, Terne plate construction, UL listed and FM approved;
 - .2 container must have spring-operated spout cap which opens to allow vapours to escape and self closes on release of internal pressures;
-

1.10 SAFETY AND FIRE
REGULATIONS
(Cont'd)

- .6 (Cont'd)
 - .1 (Cont'd)
 - .3 container must have flexible or rigid built-in metal dispensing nozzle to prevent static sparks;
 - .4 standard of Acceptance: Protectoseal, model nos. 247, 249, 8410 and 8420;
 - .5 other acceptable products: Safe-T-Way; and
 - .6 any other model must be approved by the Base Fire Department.
 - .7 Violation of any of the above regulations will result in immediate cancellation of the offender's security pass and expulsion from the site.

1.11 TRAFFIC
REGULATIONS

- .1 Vehicles:
 - .1 All operators must adhere strictly to the following rules while proceeding through the Ammunition Depot:
 - .1 drivers must not leave the motors of their vehicles running or leave the vehicles unattended when parked between buildings or traverses;
 - .2 drivers must not drive vehicles in the direction opposite to that indicated by the "One-way" signs;
 - .3 no one will operate a vehicle within the Depot area at a speed greater than 25 kilometres per hour at any time;
 - .4 no one will operate a vehicle within the Depot area at a speed greater than 8 kilometres per hour at any time, while passing between blast walls and buildings;
 - .5 no one will leave a vehicle unattended within 10 metres of a fire hydrant or within 30 metres of a building containing explosives; and

1.11 TRAFFIC
REGULATIONS
(Cont'd)

- .1 (Cont'd)
 - .1 (Cont'd)
 - .6 all vehicles must be equipped with a fire extinguisher of a suitable size and type so that it may be used to extinguish any fire originating in that vehicle.
 - .2 Violation of any of the above regulations will result in immediate cancellation of the offender's vehicle pass and expulsion from the site.
- .2 Roadways:
 - .1 In the event of a fire or emergency all roads and buildings within CFAD Bedford must be accessible at all times. Contractors required to disrupt roadways during the course of their work, must ensure that at least one lane of each roadway is passable, at all times. Vehicles not required to transport personnel to the nearest exit gate must be parked on the side of the road and away from the nearest building.
- .3 Fueling:
 - .1 Fueling of vehicles within the explosive areas is prohibited. Small equipment (lawn mowers, chainsaws, etc.) may be re-fueled, but only at sites designated by the Safety Officer and Fire Safety Officer. Comply with all safety practices pertaining to re-fueling hot equipment. Provide adequate fire extinguishers of types prescribed by the Fire Safety Officer. Only approved safety dispensing containers, as specified at sub-paragraph 1.10.6, will be permitted within the confines of the Ammunition Depot.
- .4 Violation of any of the above regulations will result in immediate cancellation of the vehicle pass and expulsion of the offender from the site.

PART 2 - PRODUCTS

2.1 NOT USED

- .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED

- .1 Not used.

PART 1 - GENERAL

1.1 SITE ACCESS .1 Contractor's personnel are required to report to the main desk each morning, sign the register and obtain an identification badge which must be displayed on their person at all times. Upon leaving the Complex at the end of the day, or at lunch time, the Contractor's personnel must report to the main desk, return the badge and be signed off the register.

1.2 PARKING .1 Contractor's vehicles will be allowed into the inner compound only under the following conditions; namely, for short periods of time, to load or unload equipment and supplies and then remove to the upper parking lot adjacent to Windmill Road or to the street. The site supervisor of the contracting firm will be allowed to park his/her vehicle, for short periods of time, in one of the visitor's parking slots or, if filled, he/she will be permitted to park in the inner compound while making periodic progress visits. It is emphasized that contractors' vehicles entering the inner compound can be subject to search by the Commissionaire on duty upon their departure. DRDC Atlantic reserves the right to limit the above-mentioned parking privileges if they are being abused.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

1.1 DEFINITIONS

- .1 Environmental Pollution and Damage:
 - .1 Presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection:
 - .1 Prevention/control of pollution and habitat or environment disruption during work. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources, and includes management of visual aesthetics, noise, solid, chemical, gaseous, and liquid waste, radiant energy and radioactive material as well as other pollutants.

1.2 ENVIRONMENTAL CONSIDERATIONS

- .1 RPOS(H) Unit Environmental Officer will determine IAA requirements in consultation with Departmental Environmental Office.
- .2 All work in this requirement will be conducted in accordance with federal and provincial regulations, contract documents and as well as additional site-specific mitigation measures communicated to the Contractor.

1.3 FIRES

- .1 Fires and burning of rubbish on site is not permitted.

1.4 DISPOSAL OF WASTE

- .1 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.
- .2 Do not bury rubbish and waste materials on site.
- .3 All spills must be reported immediately to the Departmental Representative and cleanup will be done at Contractor's expense.
- .4 Environmental incident:

1.4 DISPOSAL OF WASTE
(Cont'd)

.4

(Cont'd)

.1 An environmental incident has occurred when there has been an uncontrolled or unintended release of a hazardous waste, hazardous liquid, hazardous gas and/or dangerous good. Take the following action when any of the above have occurred:

.1 control the release, if possible;

.2 contact DND Fire Department at 902-427-3333 or 911; and

.3 contact the Departmental Representative.

1.5 DRAINAGE

.1

Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.

.2

Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

PART 2 - PRODUCTS

2.1 NOT USED

.1

Not used.

PART 3 - EXECUTION

3.1 NOT USED

.1

Not used.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 - General Instructions.
- .2 Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .3 Section 23 11 13 - Facility Fuel Oil Piping.
- .4 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .5 Section 33 56 13 - Fuel Storage Tanks.

1.2 REFERENCES

- .1 Canada Occupational Health and Safety Regulations, Part XI (latest edition including all amendments).
- .2 CSA Z1006 Management of work in confined spaces.
- .3 American Conference of Governmental Industrial Hygienists publication "Threshold Limit Values For Chemical Substances and Physical Agents and Biological Indices".

1.3 DESCRIPTION

- .1 This section outlines the mandatory regulations which must be followed to ensure safe operations in and around potentially hazardous confined spaces and the emergency procedures that are to be followed.
- .2 The safety standards in this section are applicable to Contractors and consultants, their employees (including subcontractors), materials, works and buildings throughout CFB Halifax.
- .3 All personnel entering a confined space, acting as an observer, or as a rescuer will be thoroughly trained in all procedures in accordance with above reference, No.1.
- .4 The Contractor will be responsible for and ensure compliance with the provisions of this Section and of the Standards in above reference, No.1.

1.4 RESTRICTIONS

- .1 No Contractor, subcontractor, consultant, or their employee will:

1.4 RESTRICTIONS
(Cont'd)

- .1 (Cont'd)
- .1 Be permitted to enter a hazardous confined space without receiving an evaluation, written in language which is understood by the employee/Contractor, concerning the level of hazard in the confined space. Entry must be made in compliance with this Section and with the requirements in reference, No.1.
- .2 Enter a hazardous confined space without a safe entry permit posted at the site of work and a copy on file.

1.5 DEFINITIONS

- .1 For the purpose of this section the following definitions will apply:
- .1 Confined space:
- .1 A tank, process vessel, underground vault, tunnel or other enclosure not designed or intended for human occupancy, except for the purpose of performing work:
- .1 that has limited number of openings for entry and exit;
- .2 that has poor natural ventilation;
- .3 in which there may be an oxygen deficient atmosphere; or
- .4 in which there may be an airborne dangerous substance.
- .2 Dangerous substance:
- .1 A hazardous substance or a chemical, physical or biological agent that, because of a property it possesses, is hazardous to the safety or health of a person exposed to it.
- .3 Qualified person:
- .1 In respect to a specified duty, a person who, because of their knowledge, training and experience is qualified to perform that duty safely and properly.
- .4 Class of confined space:

1.5 DEFINITIONS
(Cont'd)

- .1 (Cont'd)
- .4 (Cont'd)
 - .1 A group of at least two confined spaces that are likely, by reason of their similarity, to present the same hazards to persons entering, exiting or occupying them. Confined spaces are identified as Class A, B, or C by DND depending on hazard assessment.
 - .1 Class A - Hazardous confined space:
 - .1 Any confined space that cannot be made safe by ventilation and maintained in this safe condition even when lock-out, blank and bleed, and all other actions have been taken.
 - .2 Class B - Confined space:
 - .1 Hazards exist but can be eliminated by ventilation, lock-out, and blank and bleed.
 - .3 Class C - Considered confined space:
 - .1 Conditions could arise to make the area a confined space.

1.6 COMMON HAZARDS

- .1 Hazards common to confined spaces that Contractors must watch for are:
 - .1 toxic vapours from sludge or leakage into the space;
 - .2 flammable gases and vapours with potential fire or explosion hazards;
 - .3 oxygen below 19.5% or over 23% (normal 20.9%);
 - .4 electric shock from tools, lights or other electrical equipment;
 - .5 chemical burns from corrosives or injury from dermatitis producing materials;
 - .6 burns from high pressure steam, hot water or fuel oil;

1.6 COMMON HAZARDS
(Cont'd)

- .1 (Cont'd)
- .7 high pressure air;
- .8 physical hazards from slips, falls, protruding objects or falling objects; and
- .9 excess corrosion on metal components.

1.7 SAFE ENTRY PERMIT

- .1 Where the Contractor must enter a confined space, a safe entry permit must be provided to the Departmental Representative, completed in triplicate and returned to the Departmental Representative before access will be permitted. One copy must be posted at site of work. Original copy must be sent to the Unit General Safety Officer.

1.8 VERIFICATIONS

- .1 Prior to entering a confined space the Contractor must provide a qualified person to ensure/verify:
 - .1 That there are openings for entry and exit from the confined space of sufficient size to allow the safe passage of a person using protective equipment. This opening can be:
 - .1 a manhole; or
 - .2 other clear opening.
 - .2 That the entry of any liquid or free flowing solid or hazardous material has been prevented by secure means of disconnection or by blanking off the flanges from any source of these materials. In addition, that any liquid in which the person could drown, or free flowing solid in which they could be entrapped, has been removed.
 - .3 That all electrical/mechanical equipment which may present a hazard to the person has been disconnected from it's power source, either real or residual, and has been locked out in the off position by the person entering the space. Note: The key must be held by the person who locked out the equipment until such time as the work is complete and the lock out is removed by the individual. As well, the removal of fuses is encouraged.

1.8 VERIFICATIONS
(Cont'd)

.1 (Cont'd)

- .4 Tests for oxygen levels, combustibility, and toxicity of hazardous substances (in that order) are conducted and evaluated (e.g. oxygen, explosive gases or vapours, hydrogen sulfide, and then carbon monoxide).
 - .1 Tests for oxygen levels and combustibility and toxicity must be made with a probe at the point of entry to the confined space with cover in place. If no hazard is detected the cover will then be removed.
 - .2 If oxygen deficient, combustible atmosphere, or toxic substances are detected, the space must not be entered until such time as the space is rendered safe through appropriate purging and ventilation.
 - .3 The entire space will then be tested for oxygen deficiency, combustibility and toxicity. Note: In the event the possibility exists for oxygen deficiency, combustible atmosphere or the presence of hazardous substances which could exceed allowable limits, despite purging and ventilation, these tests will only be conducted by a person who is wearing the required personal protective equipment (PPE) such as air supplied respirator, gloves/hand protection, harness, etc. (if tests are to be done in the confined space).
- .5 That verification, by means of tests, is conducted to ensure that the following specifications can be achieved and maintained during the duration of time the person will be in the confined space, namely:
 - .1 The concentration of any chemical agent, or combination of chemical agents in the confined space to which the person is likely to be exposed:
 - .1 will not result in a value exceeding the value for that chemical agent, or for any chemical agent in the combination of chemical agents, other than grain dust, as prescribed by reference No.2;
 - .2 will not result in an airborne grain dust, respirable and non respirable, in excess of 10 mg/m³, subject to para. 1.8.1.5.2; and

1.8 VERIFICATIONS
(Cont'd)

- .1 (Cont'd)
 - .5 (Cont'd)
 - .3 is less than 50 percent of the lower explosive limit of the chemical agent or combination of chemical agents, subject to para. 1.8.1.5.2.
 - .2 Where a source of ignition exists the concentration does not exceed 10 percent of the lower explosive limit of the airborne chemical agent or combination of airborne chemical agents.
 - .3 The concentration of airborne hazardous substances, other than chemical agents, in the confined space is not hazardous to the safety or health of the person.
 - .4 The percentage of oxygen in the air in the confined space is not less than 19.5 percent by volume and not more than 23 percent by volume, at normal temperature.
 - .6 The space has been purged and ventilated to provide and continue to provide a safe working atmosphere, and that in the event of ventilation equipment failure there is:
 - .1 Sufficient time available for the employee to escape the confined space hazard before contamination of the atmosphere.
 - .2 The ventilation equipment is either equipped with an approved alarm or monitored by an employee who is in constant attendance on the ventilation equipment and in constant contact with the worker(s) in the confined space.
 - .7 The qualified person must, in a signed report, set out the results of the preceding sections, including any test results and a list of test equipment used and must ensure these results are given to the Departmental Representative and Safety Officer.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- .1 All PPE identified on the area work permit must be utilized during entry into the confined space. The appropriate PPE depends upon the nature of the exposure, and may include goggles, hardhats, safety footwear, a complete body covering or suitable breathing apparatus. It is stressed that PPE is not a substitute for proper ventilation. Where the Hazard Assessment form deems it necessary, workers must wear an emergency five minute constant air flow self contained breathing apparatus (SKAT-PAK by SCOTT) and must have an air monitoring device with them at all times while in the confined space. Contractor will supply appropriate PPE for their employees.
- .2 A safety harness with an attached lifeline must be worn by all workers, entering a confined space: with only one manhole or opening at the top or where rescue may be difficult; or where dangerous gases, vapours, mists, fumes, dusts, oxygen deficiency or extremes of temperature are likely to be present; or where respiratory protection is necessary. The free end of the lifeline attached must be secured outside the enclosed space. The lifeline must be of sufficient length to reach from an outside support to any point of work inside the confined space, and must be of sufficient strength to bear the weight of the worker. A tripod hoist and lifting device (vertical use only) must be in place prior to and during work in the confined space. Appropriate positive pressure air supplied respiratory protection must be available at the site for use in the rescue/extraction of persons working in the space. Contractor will supply all required rescue equipment.
- .3 Minimum equipment requirement:
 - .1 Class A confined space:
 - .1 Ventilator, multi-gas detector, communication system, safety harness, retrieval system, SCBA or air line system (to be worn at all times), and duplicate equipment above kept at entrance of confined space for emergency rescue.
 - .2 Class B confined space:

2.1 EQUIPMENT
(Cont'd)

- .3 (Cont'd)
 - .2 (Cont'd)
 - .1 Ventilator, multi-gas detector, communication system, safety harness, retrieval system, and SCBA or air line system on hand at entrance of confined space for emergency rescue.
 - .3 Class C confined space:
 - .1 Multi-gas detector, communication system, and SCAT-PAK.

PART 3 - EXECUTION

3.1 CONDITIONS OF ENTRY

- .1 The following conditions must be met, prior to entry, so that response to any emergency can be made in the shortest time frame:
 - .1 A minimum of one person must be posted outside a confined space as an observer and must:
 - .1 have no other tasking which would detract from his function of observing the person(s) in the space;
 - .2 control the lifeline(s) attached to the person(s) in the space and ensure that the lifeline is attached to a solid object;
 - .3 be equipped with a safety harness;
 - .4 ensure continuous radio contact with the persons in the space or be able to observe the person(s) in the space (Note: radios are not to be used if combustible atmosphere is present);
 - .5 have a means of summoning assistance (qualified personnel) in case of an emergency situation; and
 - .6 be trained in rescue procedures and Standard First Aid.
 - .2 In addition to the observer, for Class A confined spaces, an additional individual (a rescuer) must be present at the entrance to the confined space. The individual must:

3.1 CONDITIONS OF ENTRY
(Cont'd)

- .1 (Cont'd)
- .2 (Cont'd)
 - .1 be wearing all required PPE including harness, lifeline and positive pressure air supplied respiratory protection (where required);
 - .2 be present at all times when person(s) are working in the confined space;
 - .3 be trained in rescue procedures and Standard First Aid; and
 - .4 must not enter the space unless to rescue the person(s) working in the space and only after additional assistance has been summoned and all required protective equipment is worn.
- .3 In the event that the observer or the additional person (rescuer, if present) is required to leave the entrance to the space, the space must be vacated by those working in it until such time as the observer and the additional person return. Before re-entering the confined space, the conditions set out in para 1.7 and 1.8 must be followed.
- .4 The minimum number of persons present during entry into and work in a confined space must be three(3) for Class A confined spaces (worker, observer, and rescuer) and two(2) for Class B and C confined spaces (the worker and the observer). Where conditions warrant, an additional person to respond in emergencies is required.
- .5 The contact for additional assistance will be DND Fire Department at local 902-427-3333.
- .6 No person will enter any confined space for the purpose of rescuing an individual until they are wearing all required PPE including positive pressure air supplied respiratory protection and an observer is on site.

3.2 TESTING &
MAINTENANCE OF
EQUIPMENT

- .1 All testing equipment, safety harnesses, lifelines, breathing apparatus, ventilation equipment and any other equipment used in connection with entry into a confined space by the Contractor will be inspected, maintained and tested by a qualified person as frequent as is necessary to ensure that it is in safe condition for use at all times, but not less frequent than is recommended by the manufacturer or as directed in writing by the Departmental Representative or Safety Officer.

3.3 REGULATIONS

- .1 In the event of conflict or discrepancy between this Section and the source documents (Canada Occupational Health and Safety Regulations, Part XI, the more stringent requirements will apply.

PART 1 - GENERAL

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than that caused by Owner or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by the Departmental Representative. Do not burn waste materials on site.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Solid waste materials that are generated within Halifax Regional Municipality (HRM) or the Cape Breton Regional Municipality (CBRM) and do not require specialized out of county disposal sites must be disposed of within the boundaries of the HRM or CBRM at a licensed or approved facility as per bylaw S-600 for HRM and S-300 for CBRM.
- .5 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

- | | | |
|----------------------------------------|----|---------------------------------------------------------------------------------------------------------------------|
| <u>1.2 FINAL CLEANING
(Cont'd)</u> | .2 | Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy. |
| | .3 | Inspect finishes, fitments and equipment and ensure specified workmanship and operation. |
| | .4 | Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds. |
| | .5 | Remove dirt and other disfiguration from exterior surfaces. |
| | .6 | Sweep and wash clean paved areas. |

PART 2 - PRODUCTS

- | | | |
|---------------------|----|-----------|
| <u>2.1 NOT USED</u> | .1 | Not used. |
|---------------------|----|-----------|

PART 3 - EXECUTION

- | | | |
|---------------------|----|-----------|
| <u>3.1 NOT USED</u> | .1 | Not used. |
|---------------------|----|-----------|

PART 1 - GENERAL

1.1 RELATED SECTION .1 Section 03 30 00 Concrete Repairs.

1.2 REFERENCE STANDARD .1 ASTM International

.1 ASTM A775/A775M, Standard Specification for
Epoxy-Coated Steel Reinforcing Bars.

.2 CSA International

.1 CSA A23.1/A23.2, Concrete materials and methods of
concrete construction/Test methods and standard practices
for concrete.

.2 CSA A23.3, Design of concrete structures.

.3 CSA G30.18, Carbon steel bars for concrete reinforcement.

.4 CSA G40.20/G40.21, General Requirements for Rolled or
Welded Structural Quality Steel/Structural Quality Steel.

.5 CSA W186, Welding of reinforcing bars in reinforced
concrete construction.

.3 Reinforcing Steel Institute of Canada (RSIC)

.1 RSIC, Reinforcing Steel Manual of Standard Practice.

1.3 QUALITY ASSURANCE .1 Mill Test Report:

.1 Upon request, provide Departmental Representative with
certified copy of mill test report of reinforcing steel,
showing physical and chemical analysis, prior to beginning
reinforcing work.

.2 Upon request submit in writing to Departmental
Representative of proposed source of reinforcement
material to be supplied.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Substitute different size bars only if permitted in writing by Departmental Representative.
- .2 Reinforcing steel:
 - .1 Billet steel, grade 400, deformed bars to CSA G30.18, unless indicated otherwise.
 - .2 Weldable low alloy steel deformed bars to CSA G30.18.
- .3 Epoxy Coating of non-prestressed reinforcement to ASTM A775/A775M.
- .4 Chairs, bolsters, bar supports, spacers to CSA A23.1/A23.2.
- .5 Mechanical splices subject to approval of Departmental Representative.
- .6 Plain round bars to CSA G40.20/G40.21.

2.2 FABRICATION

- .1 Fabricate reinforcing steel in accordance with CSA A23.1/A23.2 Reinforcing Steel Manual of Standard Practice by the Reinforcing Steel Institute of Canada.
- .2 Obtain Departmental Representative's written approval for locations of reinforcement splices other than those shown on placing drawings.
- .3 Upon approval of Departmental Representative, weld reinforcement in accordance with CSA W186.
- .4 Ship bundles of bar reinforcement, clearly identified in accordance with bar bending details and lists.

PART 3 - EXECUTION

3.1 FIELD BENDING

- .1 Do not field bend or field weld reinforcement except where indicated or authorized by Departmental Representative.

- | | | |
|------------------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>3.1 FIELD BENDING
(Cont'd)</u> | .2 | When field bending is authorized, bend without heat, applying slow and steady pressure. |
| | .3 | Replace bars, which develop cracks or splits. |
|
<u>3.2 PLACING
REINFORCEMENT</u> | .1 | Place reinforcing steel as indicated on placing drawings and in accordance with CSA A23.1/A23.2. |
| | .2 | Use plain round bars as slip dowels in concrete. |
| | .1 | Paint portion of dowel intended to move within hardened concrete with one coat of asphalt paint. |
| | .2 | When paint is dry, apply thick even film of mineral lubricating grease. |
| | .3 | Prior to placing concrete, obtain Departmental Representative's approval of reinforcing material and placement. |
| | .4 | Ensure cover to reinforcement is maintained during concrete pour. |
| | .5 | Ensure welded wire fabric is properly supported during concrete pour. Picking up mesh with rack, then walking on mesh is not acceptable. Mesh that ends up on bottom of slab will result in replacement of slab at no cost to the Crown. |
|
<u>3.3 FIELD TOUCH-UP</u> | .1 | Touch up damaged and cut ends of epoxy coated or galvanized reinforcing steel with compatible finish to provide continuous coating. |

PART 1 - GENERAL

1.1 RELATED SECTION

- .1 Section 03 20 00 - Concrete Reinforcing.

1.2 REFERENCE
STANDARDS

- .1 ASTM International
- .1 ASTM C260/C260M, Standard Specification for Air-Entraining Admixtures for Concrete.
- .2 ASTM C494/C494M, Standard Specification for Chemical Admixtures for Concrete.
- .3 ASTM D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort.
- .4 ASTM D1751, Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and resilient Bituminous Types).
- .2 CSA International
- .1 CSA A23.1/A23.2, Concrete materials and methods of concrete construction/Test methods and standard practices for concrete.
- .2 CSA A283, Qualification code for concrete testing laboratories.
- .3 CSA A3000, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

1.3 WORK INCLUDED

- .1 Work included but not limited to the following:
- .1 supply and use of safety equipment;
- .2 cleaning and surface preparation;
- .3 routing, chipping, waterblasting, "Blastracing", grinding, etc., to remove deteriorated concrete;
- .4 cleaning and preparation of reinforcing steel;

- 1.3 WORK INCLUDED
(Cont'd)
- .1 (Cont'd)
 - .5 application of primers and bonding agents;
 - .6 application of concrete repair mortars and patching compounds;
 - .7 application of concrete sealers and corrosion inhibitors;
 - .8 construction of form work to facilitate repair;
 - .9 removals of concrete, rebar and masonry units;
 - .10 removals of temporary structures, staging, formwork, etc;;
and
 - .11 cleanup.

PART 2 - PRODUCTS

- 2.1 MATERIALS
- .1 Portland Cement:
 - .1 To CSA A3001.
 - .2 Water:
 - .1 To CSA A23.1.
 - .3 Aggregates:
 - .1 To CSA A23.1/A23.2.
 - .4 Curing compound:
 - .1 To CSA A23.1/A23.2 white and Type 2.
 - .5 Premoulded joint fillers:
 - .1 Bituminous impregnated fibre board to ASTM D1751.
 - .6 Joint Sealant:
 - .1 Joint sealer must be rubberized asphalt joint sealing compound.

PART 3 - EXECUTION

3.1 PREPARATION

- .1 Obtain Departmental Representative's written approval before placing concrete.
 - .1 Provide 24 hours minimum notice prior to placing of concrete.
- .2 Place concrete reinforcing in accordance with Section 03 20 00 - Concrete Reinforcing.
- .3 During concreting operations:
 - .1 Development of cold joints not allowed.
 - .2 Ensure concrete delivery and handling facilitates placing with minimum of re-handling, and without damage to existing structure or Work.
- .4 Pumping of concrete is permitted only after approval of equipment and mix.
- .5 Ensure reinforcement and inserts are not disturbed during concrete placement.
- .6 Prior to placing of concrete obtain Departmental Representative's approval of proposed method for protection of concrete during placing and curing in adverse weather.
- .7 Apply bonding agents to existing concrete surfaces adhering strictly to manufacturer's recommendations.
- .8 Finish surfaces to within 3 mm in 3 m from line, level or grade as measured with a straight edge placed on surface.
- .9 Protect previous Work from staining.
- .10 Clean and remove stains prior to application for concrete finishes.
- .11 Maintain accurate records of poured concrete items to indicate date, location of pour, quality, air temperature and test samples taken.
- .12 In locations where new concrete is dowelled to existing work, drill holes in existing concrete.

<u>3.1 PREPARATION (Cont'd)</u>	.12	(Cont'd)
	.1	Place steel dowels of deformed steel reinforcing bars and pack solidly with epoxy grout to anchor and hold dowels in positions as indicated.
	.13	Do not place load upon new concrete until authorized by Departmental Representative.
<u>3.2 REMOVALS</u>	.1	Remove existing damaged or deteriorated walkways, curbs, slabs, etc. where indicated.
<u>3.3 GRADE PREPARATION</u>	.1	Construct embankments using excavated material free from organic matter or other objectionable materials.
	.2	Provide borrow material for fill when a deficiency or excavated material exists.
	.3	Place fill in 150 mm layers and compact to no less than 98% of maximum dry density in accordance with ASTM D698 method C.
<u>3.4 GRANULAR BASE</u>	.1	Obtain Departmental Representative's approval of subgrade before placing granular base.
	.2	Place granular base material to lines, widths, and depths indicated or directed.
	.3	Compact granular base to no less than 98% of maximum dry density in accordance with ASTM D698 method C.
<u>3.5 INSTALLATION / APPLICATION</u>	.1	Do cast-in-place concrete work to CSA A23.1/A23.2.
	.2	Sleeves and inserts:
	.1	Do not permit penetrations, sleeves, ducts, pipes or other openings to pass through joists, beams, column capitals or columns, except where indicated or approved by Departmental Representative.
	.2	Where approved by Departmental Representative, set sleeves, ties, pipe hangers and other inserts and openings as indicated or specified elsewhere.

3.5 INSTALLATION /
APPLICATION
(Cont'd)

- .2 (Cont'd)
 - .3 Sleeves and openings greater than 100 mm x 100 mm not indicated, must be reviewed by the Departmental Representative.
 - .4 Do not eliminate or displace reinforcement to accommodate hardware. If inserts cannot be located as specified, obtain written approval of modifications from Departmental Representative before placing of concrete.
 - .5 Confirm locations and sizes of sleeves and openings shown on drawings.
 - .6 Set special inserts for strength testing as indicated and as required by non-destructive method of testing concrete.
- .3 Anchor bolts:
 - .1 Set anchor bolts to templates in co-ordination with appropriate trade prior to placing concrete.
 - .2 Grout anchor bolts in preformed holes or holes drilled after concrete has set only after receipt of written approval from Departmental Representative.
 - .1 Formed holes: 100 mm minimum diameter.
 - .2 Drilled holes: 25 mm minimum diameter larger than bolts used and to manufacturer's recommendations.
 - .3 Protect anchor bolt holes from water accumulations, snow and ice build-ups.
 - .4 Set bolts and fill holes with epoxy grout.
 - .5 Locate anchor bolts used in connection with expansion shoes, rollers and rockers with due regard to ambient temperature at time of erection.
- .4 Drainage holes and weep holes:
 - .1 Install weep hole tubes and drains as indicated.
- .5 Finishing and curing:
 - .1 Finish concrete to CSA A23.1/A23.2.

3.5 INSTALLATION /
APPLICATION
(Cont'd)

- .5 (Cont'd)
 - .2 Use procedures as reviewed by CSA A23.1/A23.2 to remove excess bleed water. Ensure surface is not damaged.
 - .3 Use curing compounds compatible with applied finish on concrete surfaces. Provide written declaration that compounds used are compatible.
 - .4 Finish concrete floor to CSA A23.1/A23.2.
 - .5 Provide mechanical float or swirl-trowelled finish unless otherwise indicated.
- .6 Waterstops:
 - .1 Install waterstops to provide continuous water seal.
 - .2 Do not distort or pierce waterstop in way as to hamper performance.
 - .3 Do not displace reinforcement when installing waterstops.
 - .4 Use equipment to manufacturer's requirements to field splice waterstops.
 - .5 Tie waterstops rigidly in place.
 - .6 Use only straight heat sealed butt joints in field.
 - .7 Use factory welded corners and intersections unless otherwise approved by Departmental Representative.
- .7 Joint fillers:
 - .1 Furnish filler for each joint in single piece for depth and width required for joint, unless otherwise authorized by Departmental Representative.
 - .2 When more than one piece is required for joint, fasten abutting ends and hold securely to shape by stapling or other positive fastening.
 - .3 Locate and form isolation, construction, expansion, and joints as indicated.
 - .4 Install joint filler.

3.5 INSTALLATION /
APPLICATION
(Cont'd)

- .7 (Cont'd)
 - .5 Use 12 mm thick joint filler to separate slabs-on-grade from vertical surfaces and extend joint filler from bottom of slab to within 12 mm of finished slab surface unless indicated otherwise.
- .8 Dampproof membrane:
 - .1 Install dampproof membrane under concrete slabs-on-grade inside building.
 - .2 Lap dampproof membrane minimum 150 mm at joints and seal.
 - .3 Seal punctures in dampproof membrane before placing concrete.
 - .4 Use patching material at least 150 mm larger than puncture and seal.

3.6 SURFACE TOLERANCE

- .1 Concrete tolerance to CSA A23.1.

3.7 STRIPPING
FORMWORK

- .1 Let concrete stand a minimum 48 hours prior to stripping forms.

3.8 CURING AGENT

- .1 Apply curing agent adherent strictly to manufacturer's application instructions.

3.9 BACKFILL

- .1 Allow concrete to cure for seven (7) days prior to backfilling.
- .2 Backfill to designated elevations with suitable material, compact and shape to required contours as indicated or as directed by Departmental Representative.

3.10 PREVENTION

- .1 For freeze-thaw prevention, apply two (2) coats of one-to-one mixture of boiled linseed oil and kerosene by low pressure spray method at least two (2) weeks after placing.
- .2 Ensure all surfaces are clean and dry and air temperature is above 10°C. Allow first coat to completely dry before applying second coat.

3.11 RESTORATION

- .1 Restore all disturbed sodded areas as directed by the Departmental Representative with approved topsoil and sods to match adjacent surfaces.
- .2 Re-instate all asphalt, ground and gravelled areas to original profiles and conditions as directed by the Departmental Representative.
- .3 Seal between new curbs and asphalt sealant as indicated.

3.12 CLEANING

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
- .2 Waste Management:
 - .1 Provide appropriate area on job site where concrete trucks be safely washed.
 - .2 Do not dispose of unused admixtures and additive materials into sewer systems, into lakes, streams, onto ground or in other location where it will pose health or environmental hazard.
 - .3 Dispose of waste in accordance with applicable local, Provincial and National regulations.
- .3 Use trigger operated spray nozzles for water hoses.
- .4 Designate cleaning area for tools to limit water use and runoff.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 - General Instructions.
- .2 Section 01 35 73 - Confined Spaces Requirements.
- .3 Section 23 11 13 - Facility Fuel Oil Piping.
- .4 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .5 Section 33 56 13 - Fuel Storage Tanks.

1.2 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM D522/D522M, Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
 - .2 ASTM D610, Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces.
 - .3 ASTM D2369, Standard Test Method for Volatile Content of Coatings.
 - .4 ASTM D2794, Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
 - .5 ASTM D2832, Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
 - .6 ASTM D4060, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
- .2 The Master Painters Institute (MPI)
 - .1 Exterior Structural Steel and Metal Fabrications.
 - .1 EXT 5.1G, Polyurethane, Pigmented (over epoxy zinc rich primer and high build epoxy).
- .3 Federal Standard (FS)
 - .1 FED-STD-595B, Colours Used in Government Procurement.

1.2 REFERENCE
STANDARDS
(Cont'd)

- .4 The Society for Protective Coatings (SSPC)
- .1 SSPC-SP 1, Solvent Cleaning.
 - .2 SSPC-SP 2, Hand Tool Cleaning.
 - .3 SSPC-SP 3, Power Tool Cleaning.
 - .4 SSPC-SP 6/NACE No. 3, Commercial Blast Cleaning.
 - .5 SSPC-SP 7/NACE No. 4, Brush-off Blast Cleaning.
 - .6 SSPC-SP 10/NACE No. 2, Near White Blast Cleaning.
 - .7 SSPC-PA 1, Shop, Field, and Maintenance Painting of Steel.
 - .8 SSPC-PA 2, Measurement of Dry Coat Thickness with Magnetic Gauges.
 - .9 SSPC SP WJ-1/NACE WJ-1, Joint Surface Preparation Standard - Waterjet Cleaning of Metals - Clean to Bare Substrate.
 - .10 SSPC-Vis-1, Visual Standard for Abrasive Blast Cleaned Steel (Standard Reference Photographs) Editorial Changes September 1, 2000 (Steel Structures Painting Manual, Chapter 2 - Surface Preparation Specs.).
 - .11 SSPC Good Painting Practices, Volume 1, 4th Edition.

1.3 MEASUREMENT
PROCEDURES

- .1 Cleaning and preparation of metal surfaces and components, supply of paint, labels and incidental work will be included in lump sum bid.

1.4 ACTION AND
SUBMITTALS

- .1 Product Data:
- .1 Provide manufacturer's instructions, printed product literature and data sheets for painting exterior metal surfaces and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit 2 copies of WHMIS MSDS to the Departmental Representative.

1.4 ACTION AND
SUBMITTALS

(Cont'd)

- .2 Samples:
 - .1 Provide for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Upon request, Departmental Representative will furnish qualified products list of paints.
 - .4 Paints that do not appear on MPI Approved Products List must be approved by Departmental Representative before use on project.
- .3 Test Reports:
 - .1 Provide test reports showing compliance with specified performance characteristics and physical properties.
- .4 Manufacturer's installation instructions:
 - .1 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

- .1 Certificates:
 - .1 Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements for coatings that can be applied:
 - .1 at relative humidity up to 98 %;
 - .2 at temperatures between -6 and 49 degrees C; and
 - .3 without dew point restriction.
- .2 Meetings:
 - .1 Conduct meeting prior to work commencing to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Cleaner:

- .1 Areas with hydrocarbon staining and all areas around filler pipe and outlets, to be solvent wiped to ensure surface is hydrocarbon/contaminant free.

- .1 Acceptable products:

- .1 Wasser MC-Thinner or approved alternative.

.2 Paint:

- .1 Primer (for new and all bare metal areas):

- .1 Generic type:

- .1 Micaceous iron oxyde, zinc rich, single component moisture-cure urethane for corrosion resistance to provide galvanic and barrier protection.

- .2 Volume solids:

- .1 60 % minimum.

- .3 Pigment type:

- .1 Zinc and micaceous iron oxyde.

- .4 Film build:

- .1 3 mils DFT.

- .5 VOC limit:

- .1 Not to exceed 0.8 lb/gal (100 g/L).

- .6 Colour:

- .1 Grey.

- .7 Finish:

2.1 MATERIALS
(Cont'd)

.2 (Cont'd)

.1 (Cont'd)

.1 Flat.

.8 Acceptable products:

.1 Wasser MC-Miozinc 100 or approved alternative.

.2 Intermediate:

.1 Generic type:

.1 Single component moisture-cure urethane coating containing micaceous iron oxide and corrosion inhibiting pigments and resins.

.2 Volume solids:

.1 60 % minimum.

.3 Pigment type:

.1 Barrier protection.

.4 Film build:

.1 3 mils DFT.

.5 VOC limit:

.1 Not to exceed 0.8 lb/gal (100 g/L).

.6 Colour:

.1 White.

.7 Finish:

.1 Flat.

.8 Acceptable products:

.1 Wasser MC-CR 100 or approved alternative.

.3 Finish:

2.1 MATERIALS
(Cont'd)

.2 (Cont'd)

.3 (Cont'd)

.1 Generic type:

.1 Single component moisture-cure aliphatic urethane coating that is resistant to corrosion, UV, weathering and abrasion.

.2 Volume solids:

.1 60 % minimum.

.3 Pigment type:

.1 Organic and inorganic pigment.

.4 Film build:

.1 3 mils DFT.

.5 VOC limit:

.1 Not to exceed 0.8 lb/gal (100 g/L).

.6 Colour:

.1 White.

.7 Finish:

.1 Gloss.

.8 Acceptable products:

.1 Wasser MC-Luster 100 or approved alternative.

.3 Equivalent paint systems must have a minimum of two years field exposure on similar structures and meet ASTM Standards in paragraph 1.2.1.

.4 All coating products must be manufactured by the same manufacturer and be compatible with one another.

- | | | |
|-----------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>2.1 MATERIALS</u>
<u>(Cont'd)</u> | .5 | All coating products will be manufactured at the factory ready for application. The addition of any thinners or additives in excess of manufacturer's literature is not permitted. Field tinting will not be permitted. |
| | .6 | Paint coats must be contrasting in colour. |
| | .7 | All colours for coatings applications to be approved by the Departmental Representative prior to application. |
| | .8 | VOC limits not to exceed 0.8 lb/gal (100 g/L) per coating product. |

PART 3 - EXECUTION

- | | | |
|--------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>3.1 MANUFACTURER'S</u>
<u>INSTRUCTIONS</u> | .1 | Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets. |
| <u>3.2 EXAMINATION</u> | .1 | Verification of Conditions: |
| | .1 | Verify conditions of substrates previously installed under other Sections or Contracts are acceptable for painting exterior metal surfaces installation in accordance with manufacturer's written instructions. |
| | .2 | Visually inspect substrate in presence of the Departmental Representative. |
| | .3 | Carry out tests to determine existence of lead base paint on existing exterior metal surfaces. |
| | .4 | If lead exists stop work and report findings to Departmental Representative. |
| | .5 | Inform Departmental Representative of unacceptable conditions immediately upon discovery. |
| | .6 | Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative. |
-

3.3 PREPARATION

- .1 Remove existing loose and rusted paint from exterior metal surfaces.
- .2 New metal surfaces:
 - .1 Clean surfaces of new metal to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and foreign substances in accordance with the following:
 - .1 Waterjet Cleaning:
 - .1 To SSPC SP WJ-1/NACE WJ-1.
 - .2 Commercial Blast Cleaning:
 - .1 To SSPC-SP 6.
 - .3 Solvent Cleaning:
 - .1 To SSPC-SP 1.
 - .4 Hand Tool Cleaning:
 - .1 To SSPC-SP 2.
 - .5 Power Tool Cleaning:
 - .1 To SSPC-SP 3.
 - .6 Brush-off Blast Cleaning:
 - .1 To SSPC-SP 7/NACE No. 4.
 - .7 Near White Blast Cleaning:
 - .1 To SSPC-SP 10/NACE No. 2.
- .3 Metal surfaces to be repainted:
 - .1 Clean surfaces by removing loose, cracked, brittle or non-adherent paint, rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with following:
 - .1 Waterjet Cleaning:

3.3 PREPARATION
(Cont'd)

- .3 (Cont'd)
 - .1 (Cont'd)
 - .1 To SSPC SP WJ-1/NACE WJ-1.
 - .2 Commercial Blast Cleaning:
 - .1 To SSPC-SP 6.
 - .3 Brush-off Blast Cleaning:
 - .1 To SSPC-SP 7/NACE No. 4.
 - .4 Solvent Cleaning:
 - .1 Solvent cleaning: to SSPC-SP 1.
 - .5 Hand Tool Cleaning:
 - .1 To SSPC-SP 2.
 - .6 Power Tool Cleaning:
 - .1 To SSPC-SP 3.
 - .2 Bare metals surfaces to be prepared to a minimum of SSPC-SP 2, taking care not to polish the surface and spot prime.
 - .3 Commercial blast clean rusted and bare metal surfaces where existing paint system has failed.
 - .1 Blast cleaning must meet requirements of National Fire Code of Canada. Glass bead water vapour blasting is recommended blast cleaning process in order to meet NFCC requirements.
 - .4 Brush-off blast clean remaining metal surfaces to be painted.
 - .5 Scrape edges of old paint back to sound material where remaining paint is thick and sound, feather exposed.
- .4 Compressed air to be free of water and oil before reaching nozzle.

3.3 PREPARATION
(Cont'd)

- .5 Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes, by blowing with clean dry compressed air, or by vacuum cleaning.
- .6 Apply paint after prepared surfaces have been accepted by Departmental Representative.
- .7 Prior to starting paint application ensure degree of cleanliness of surfaces is to SSPC-Vis 1.
 - .1 Apply primer, paint, or pretreatment after surface has been cleaned and before deterioration of surface occurs.
 - .2 Clean surfaces again if rusting occurs after completion of surface preparation.
- .8 Mixing paint:
 - .1 Do not dilute or thin paint for brush/roller application. Use as received from manufacturer.
 - .2 Mix ingredients in container before and during use and ensure breaking up of lumps, complete dispersion of settled pigment, and uniform composition.
 - .3 Do not mix or keep paint in suspension by means of air bubbling through paint.
 - .4 If required, thin paint for spraying according to written instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Departmental Representative.
- .9 Number of paint coats:
 - .1 New metal surfaces (shop or field):
 - .1 one (1) primer coat to minimum dry film thickness of 3.0-5.0 mils or 76-127 microns per coat;
 - .2 one (1) aromatic urethane coat to a minimum dry film thickness of 3.0-4.0 mils or 76-102 microns per coat; and
 - .3 one (1) aliphatic urethane coat to a minimum dry film thickness of 2.0-4.0 mils or 51-102 microns.

3.3 PREPARATION
(Cont'd)

- .9 (Cont'd)
- .2 Repainting existing metal surfaces:
- .1 one (1) primer coat to minimum dry film thickness of 3.0-5.0 mils or 76-127 microns per coat to bare and commercial sand blasted areas;
 - .2 one (1) aromatic urethane coat to a minimum dry film thickness of 3.0-4.0 mils or 76-102 microns per coat; and
 - .3 one (1) aliphatic urethane coat to a minimum dry film thickness of 2.0-4.0 mils or 51-102 microns.
- .10 Environmental Guidelines:
- .1 During blasting operations, care must be taken to avoid contamination of local air and water. Specific methods to prevent the escape of dust and spent abrasives will be provided as required. Partial or full enclosures of the structure, if required will be subject to approval by the Departmental Representative.
 - .2 The Contractor must verify that the coatings used comply with Federal, Provincial and Municipal air pollution regulations.
- .11 All bolt holes must be solvent cleaned prior to abrasive blasting.
- .12 No acid washes, solvents or other cleaning solutions will be used on metal surfaces after blasting. This includes inhibitive washes intended to prevent rusting.
- .13 Mildew or fungal growth must be removed by scrubbing with the following solution: 100 ml bleach, 150 ml trisodium phosphate, 4 L water. Surface must be rinsed with fresh water after scrubbing.

3.4 GENERAL

- .1 When power wire brush or hand preparation is specified for repair of existing coatings, primer application must overlap the existing coating by 25-50 mm.

3.4 GENERAL
(Cont'd)

- .2 Painting done outdoors must be done in daylight hours and completed at least one hour prior to sundown. Indoor painting is allowed 24 hours a day if the specified metal and air temperatures and relative humidity requirements are met inside the building or vessel at all times during preparation, painting and curing.
- .3 Coating products must be kept covered, clean, protected and be furnished in manufacturer's new, unopened and labeled containers showing the following:
 - .1 manufacturer's name;
 - .2 exact title of the paint;
 - .3 date of manufacture (materials older than manufacturer's recommended shelf life must not be used);
 - .4 manufacturer's batch number, specification number and lot number if appropriate; and
 - .5 precautions concerning the handling and application of the paint.
- .4 All components will be thoroughly mixed for the time recommended in the manufacturer's data sheets. All mixing will be done in clean containers, free from traces of grease, other paints, or contaminants. Containers will be kept covered to prevent contamination by dust, dirt or rain.
- .5 Care must be exercised to prevent overspray, spillage or application of coatings to surfaces for which they are not intended. Skips, sags, runs and drips are to be avoided.
- .6 Dry Film Thickness (DFT):
 - .1 Film thicknesses are to be verified at the start of the work (until the painter is familiar with the paint and work) with a wet film thickness gauge.
 - .2 Subsequent wet film readings must be taken periodically during coating application. Thickness requirements must be met with each coat, and total thickness must not be "made up" in any one coat.
 - .3 All coating film thicknesses must be free of defects such as pinholes, voids and bubbles.

3.4 GENERAL
(Cont'd)

- .6 (Cont'd)
- .4 Prior to the application of any coat, all damage and defects in previous coats must be repaired.
- .5 Each coat (primer, intermediate and topcoat) will be inspected by the Contractor and may be inspected by the Departmental Representative before further coats are applied.
- .6 The specified coating system primer will be applied on the same day that surfaces are cleaned and before rusting, discoloration or surface contamination occurs.

3.5 APPLICATION

- .1 Manufacturer's Instructions:
- .1 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 All painting to be performed under this Standing Offer Agreement must be in accordance with the best practices of the trade, in conformance with the manufacturer's recommendations, and with applicable portions of the SSPC-PA 1.
- .3 Apply paint by spraying, brushing/roller, or combination. Use sheepskins or daubers when no other method is practical in places of difficult access.
- .4 Use dipping or roller coating method of application when specifically authorized by Departmental Representative in writing.
- .5 Where surface to be painted is not under cover, do not apply paint when:
- .1 air temperature is below 5 degrees C or when temperature is expected to drop to 0 degrees C before paint has dried;
- .2 temperature of surface is over 50 degrees C unless paint is specifically formulated for application at high temperatures;
- .3 fog or mist occur at site; it is raining or snowing; there is danger of rain or snow, relative humidity is above 85 %;
- .4 surface to be painted is wet, damp or frosted; and

3.5 APPLICATION
(Cont'd)

- .5 (Cont'd)
 - .5 previous coat is not dry.
- .6 Supply cover when paint must be applied in damp or cold weather. Supply, shelter, or heat surface and surrounding air to comply with temperature and humidity conditions specified. Protect until paint is dry or until weather conditions are suitable.
- .7 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
- .8 Apply each coat of paint as continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
- .9 Brush application:
 - .1 Work paint into cracks, crevices and corners and paint surfaces not accessible to brushes by spray, daubers or sheepskins.
 - .2 Brush out runs and sags.
 - .3 Remove runs, sags and brush marks from finished work and repaint.
- .10 Spray application:
 - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
 - .2 Provide traps or separators to remove oil and water from compressed air and drain periodically during operations.
 - .3 Keep paint ingredients properly mixed in spray pots or containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
 - .4 Apply paint in uniform layer, with overlapping at edges of spray pattern.
 - .5 Brush out immediately runs and sags.

3.5 APPLICATION
(Cont'd)

- .10 (Cont'd)
- .6 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray. In areas not accessible to spray gun, use brushes, daubers or sheepskins.
- .7 Remove runs, sags and brush marks from finished work and repaint.
- .8 Spraying units will be grounded and nonconductive hoses will be used. The Contractor must take all necessary precautions as required to avoid the build-up of static electricity.
- .9 Spray application will not be conducted when the wind speed exceeds 15 km/hr.
- .11 Shop painting (if applicable):
- .1 Do shop painting after fabrication and before damage to surface occurs from weather or other exposure.
- .2 Spray paint contact surfaces of field assembled, bolted, friction type joints with primer coat only. Do not brush primer after spraying.
- .3 Do not paint metal surfaces which are to be embedded in concrete.
- .4 Paint metal surfaces to be in contact with wood with either full paint coats specified or three shop coats of specified primer.
- .5 Do not paint metal within 50 mm of edge to be welded. Give unprotected steel one coat of approved primer after shop fabrication is completed.
- .6 Remove weld spatter before painting. Remove weld slag and flux by methods as specified in paragraph 3.3.3.
- .7 Protect machine finished or similar surfaces that are not to be painted but that do require protection, with coating of rust inhibitive petroleum, molybdenum disulphide, or other coating approved by Engineer.
- .8 Copy previous erection marks and weight marks on areas that have been shop painted.

3.5 APPLICATION
(Cont'd)

.12 Field painting:

- .1 Paint steel structures as soon as practical after erection.
- .2 Touch up metal which has been shop coated with same type of paint and to same thickness as shop coat. This touch-up to include cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas.
- .3 Field paint surfaces (other than joint contact surfaces) which are accessible before erection but which are not to be accessible after erection.
- .4 Apply final coat of paint after concrete work is completed or as directed by Departmental Representative. If concreting or other operations damage paint, clean and repaint damaged area. Remove concrete spatter and droppings before paint is applied.
- .5 Where painting does not meet with requirements of specifications, and when so directed by Departmental Representative remove defective paint, thoroughly clean affected surfaces and repaint in accordance with these specifications.

.13 Handling painted metal:

- .1 Handle painted metal after paint has dried, or when necessary for handling for painting or stacking for drying.
- .2 Scrape off and touch up paint which is damaged in handling, with same number of coats and kinds of paint as were previously applied to metal.

3.6 FIELD QUALITY
CONTROL

.1 Site Tests, Inspections:

- .1 Upon completion of the painting procedures test for dry film reading and evaluate the results as per SSPC-PA 2.

3.7 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.
- .2 Waste Management:

- 3.7 CLEANING
(Cont'd)
- .2 (Cont'd)
- .1 Divert unuseable coating materials from landfill through disposal at a special approved waste depot.
- .2 Unused coating materials that can be utilized at a later date, can be compiled and returned to DND for later use.
- 3.8 PROTECTION
- .1 Protect painted surfaces from damage during construction.
- .2 Protection of surfaces:
- .1 Protect surfaces not to receive paint.
- .2 Prevent contamination of cleaned surfaces by salts, acids, alkalis, corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats of paint. Remove contaminants from surface and apply paint immediately.
- .3 Protect cleaned and freshly painted surfaces from dust to approval of Departmental Representative.
- .3 Repair damage to adjacent materials caused by painting exterior metal surface application installation.

PART 1 - GENERAL

- | | | |
|----------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>1.1 WORK INCLUDED</u> | .1 | The supply and installation and repairs to the mechanical components of the various fuel tank systems as directed by the Departmental Representative and as per the supplied design and specification. |
| | .2 | Clean up. |
| <u>1.2 MANUFACTURER'S INSTRUCTIONS</u> | .1 | Unless otherwise specified, obtain and comply with manufacturer's latest printed instructions for materials and installation methods. |
| | .2 | Notify Departmental Representative in writing of any conflict between his/her instructions and the manufacturer's instruction. Departmental Representative will designate which document is to be followed. |
| | .3 | Provide a copy of appropriate manufacturer's instructions to the Departmental Representative prior to installing materials or equipment. |

PART 2 - PRODUCTS

- | | | |
|----------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>2.1 MATERIALS</u> | .1 | Provide all materials and materials and equipment as required to provide a complete and operational system as directed by the Departmental Representative and/or as per the supplied drawings and specifications. Use new materials and equipment unless directed otherwise by the Departmental Representative. Provide products of same make and model as existing materials and equipment. |
| | .2 | If such products are not readily available, the Departmental Representative may accept alternative products of quality and capability to perform at ratings equivalent to those published for original equipment for such products. Submit product data for the Departmental Representative to review and written approval. |
| | .3 | The Departmental Representative will inform the Contractor when any material or equipment removed has salvage value and will instruct the Contractor of location to deliver such. Details of salvage must be noted on the DRMIS Purchase Order Form "Call-up Against a Standing Offer". |

- | | | |
|-----------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>2.1 MATERIALS</u>
<u>(Cont'd)</u> | .4 | Material or equipment removed which the Departmental Representative deems to have no salvage value must be removed from the site by the Contractor at own expense. |
|-----------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|

PART 3 - EXECUTION

- | | | |
|---------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>3.1 GENERAL</u> | .1 | Install and/or repair all equipment or systems in accordance with the Departmental Representative's directions along with the referenced drawings and specifications, if available, and in accordance with the manufacturer's instructions. |
| | .2 | Install all plumbing in accordance with the Canadian Plumbing Code. |
| <u>3.2 EQUIPMENT</u>
<u>INSTALLATION</u> | .1 | Unions or flanges:

.1 Provide for ease of maintenance and disassembly.

.2 Provide space for servicing, disassembly and removal of equipment and components as recommended by manufacturer or as indicated.

.3 Equipment drains:

.1 Pipe to floor drains.

.4 Install equipment, rectangular cleanouts and similar items parallel to or perpendicular to building lines. |
| <u>3.3 ANCHOR BOLTS</u>
<u>TEMPLATES</u> | .1 | Supply and install anchor bolts and templates as per the equipment and bolt manufacturer's instructions. |
| <u>3.4 PROTECTION OF</u>
<u>OPENINGS</u> | .1 | Protect equipment and systems openings from dirt, dust, and other foreign materials with materials appropriate to system. |
| <u>3.5 ELECTRICAL</u> | .1 | Electrical work to conform to Section 26 05 00 - General Electrical including the following: |

3.5 ELECTRICAL (Cont'd)	.1	(Cont'd)
	.1	Control wiring and conduit is specified in Electrical Section except for conduit, wiring and connections below 50 V which are related to control systems specified in the Mechanical Section.
3.6 MOTORS	.1	Provide motors for mechanical equipment as specified or directed by the Departmental Representative.
	.2	If delivery of specified motor will delay delivery or installation of any equipment, install motor approved by the Departmental Representative for temporary use. Final acceptance of equipment will not occur until specified motor is installed.
3.7 SLEEVES	.1	Pipe sleeves:
	.1	At point where pipes pass through masonry, concrete or fire rated assemblies and as indicated.
	.2	Thin wall, stainless steel, galvanic or PVC fire rated.
	.3	Sizes:
	.1	Minimum 6mm clearance all around, between sleeve and uninsulated pipe or between sleeve and insulation.
	.4	Terminate sleeves flush with surface of concrete and masonry walls, concrete floors on grade and 25mm above other floors.
	.5	Fill voids around pipes:
	.1	Caulk between sleeve and pipe in foundation walls and below grade floors with waterproof fire retardant non-hardening mastic.
	.2	Where sleeves pass through walls or floors, provide space for fire stopping. Where pipes/ducts pass through fire rated walls, floors and partitions, maintain fire rated integrity.
	.3	Ensure no contact between copper tube or pipe and ferrous sleeve.

3.7 SLEEVES
(Cont'd)

- .1 (Cont'd)
- .5 (Cont'd)
 - .4 Fill future-use sleeves with lime plaster or other easily removable filler.
 - .5 Coat exposed exterior surfaces of ferrous sleeves with heavy application of zinc rich paint to SSPC-Paint 20.

3.8 PREPARATION FOR
FIRESTOPPING

- .1 Uninsulated unheated pipes not subject to movement:
 - .1 No special preparation.
- .2 Uninsulated unheated pipes subject to movement:
 - .1 Wrap with non-combustible smooth material to permit pipe to move without damaging firestopping material.
- .3 Insulated pipes and ducts:
 - .1 Ensure integrity of insulation and vapour barrier at fire separation.

3.9 ESCUTCHEONS

- .1 On pipes passing through walls, partitions, floors and ceilings in finished areas.
- .2 Chrome or nickel plated brass or type 302 stainless steel, one piece type with set screws.
- .3 Outside diameter to cover opening or sleeve.
- .4 Inside diameter to fit around finished pipe.

3.10 TESTS

- .1 Give 24 hours written notice of date for tests.
- .2 Insulate or conceal work only after testing and approval by Departmental Representative.
- .3 Conduct tests in presence of the Departmental Representative.
- .4 Bear costs including retesting and making good.
- .5 Piping:

3.10 TESTS

(Cont'd)

- .5 (Cont'd)
 - .1 Maintain test pressure without loss for 4 hours unless otherwise specified.
 - .2 Hydraulically test stream and hydronic piping systems at 1½ times system operating pressure or minimum 860 kPa, whichever is greater.
 - .3 Test drainage, waste and vent piping to National Building Code and authorities having jurisdiction.
- .6 Equipment:
 - .1 Test as specified in relevant sections and manufacturer's instructions.
- .7 Prior to tests, isolate all equipment or other parts which are not designed to withstand test pressures or test medium.

3.11 DIELECTRIC
COUPLINGS

- .1 General:
 - .1 to be compatible with and to suit pressure rating of piping system;
 - .2 where pipes of dissimilar metals are joined.
- .2 Pipes NPS 2 and under: Isolating unions.
- .3 Pipes NPS 2½ and over: Isolating flanges.

3.12 PAINTING REPAIRS
AND RESTORATION

- .1 Do painting in accordance with Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .2 Prime and touch up marred finished paintwork to match original.
- .3 Restore to new condition, finishes which have been damaged.

3.13 SHOP DRAWINGS AND
PRODUCT DATA

- .1 When requested by the Departmental Representative, shop drawings and product data must show:
 - .1 mounting arrangements;

3.13 SHOP DRAWINGS AND
PRODUCT DATA
(Cont'd)

- .1 (Cont'd)
- .2 operating and maintenance clearances (e.g access door swing spaces).
- .2 Shop drawings and product data must be accompanied by:
 - .1 as built for federally regulated tanks in equipment specification;
 - .2 detailed drawings of bases, supports, and anchor bolts;
 - .3 acoustical sound power data, where applicable;
 - .4 points of operation on performance curves;
 - .5 manufacturer to certify as to current model production; and
 - .6 certification of compliance to applicable codes.

3.14 CLEANING

- .1 Clean interior and exterior of all new systems.
- .2 In preparation for final acceptance, clean and refurbish all equipment and leave in operating condition.

3.15 PROTECTION

- .1 Protect equipment and systems openings from dirt, dust, and other foreign materials with materials appropriate to system.

PART 1 - GENERAL

1.1 RELATED
REQUIREMENTS

- .1 Section 01 11 00 - General Instructions.
- .2 Section 01 35 73 - Confined Spaces Requirements.
- .3 Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .4 Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .5 Section 33 56 13 - Fuel Storage Tanks.

1.2 REFERENCE
STANDARDS

- .1 Americam Petroleum Institute (API)
 - .1 API RP 651, Cathodic Protection of Aboveground Storage Tanks.
- .2 ASTM International
 - .1 ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - .2 ASTM B61, Standard Specification for Steam or Valve Bronze Castings.
- .3 Canadian Council of Ministers of the Environment (CCME)
 - .1 CCME PN 1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems for Petroleum Products and Allied Petroleum Products.
- .4 Canadian Environmental Protection Act (CEPA)
 - .1 Storage Tank Systems for Petroleum Products and Allied Petroleum Products and Allied Petroleum Products Regulations SOR/2008-197.
- .5 CSA International
 - .1 CSA B139, Installation code for oil-burning equipment.
 - .2 CSA B140.0, Oil-Burning Equipment: General Requirements.
 - .3 CSA-Z245.1, Steel pipe.

1.2 REFERENCE
STANDARDS
(Cont'd)

- .6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .7 National Association of Corrosion Engineers (NACE)
 - .1 NACE SP0169, Control of External Corrosion on Underground or Submerged Metallic Piping Systems.
 - .8 National Research Council Canada (NRC)
 - .1 National Building Code of Canada (NBC).
 - .2 National Fire Code of Canada (NFC).
 - .9 Underwriter's Laboratories of Canada (ULC)
 - .1 CAN/ULC S603.1, External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids.
 - .2 CAN/ULC S633, Flexible Underground Hose Connectors for Flammable and Combustible Liquids.
 - .3 CAN/ULC S660, Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.
 - .4 ULC ORD C536, Flexible Metallic Hose.
 - .5 ULC 842, Guide for the Investigation of Valves for Flammable and Combustible Liquids.
 - .6 ULC ORD-C58.12, Leak Detection Devices (Volumetric Type) for Underground Flammable Liquid Storage Tanks.
 - .7 ULC ORD-C58.14, Non-Volumetric Leak Detection Devices for Underground Flammable Liquid Storage Tanks.
- 1.3 QUALITY ASSURANCE
- .1 Ensure piping is installed or removed by a tank installer certified by the Province of Nova Scotia for the type of installation/removal.

PART 2 - PRODUCTS

<u>2.1 FILL VENT AND CARRIER PIPE</u>	.1	Materials as per CSA B139, CSA B140.0 CEPA SOR/2008-197, and NFCC.
	.2	Steel:
	.1	To ASTM A53/A53M, Schedule 40, continuous weld or electric resistance welded, screwed.
<u>2.2 STEEL PIPE COATING</u>	.1	Primers, paints and coating:
	.1	In accordance with manufacturer's recommendations for surface conditions.
	.2	As per Section 09 91 13.23 - Exterior Painting of Structural Steel.
<u>2.3 SHUT OFF VALVES</u>	.1	Comply with ULC 842.
	.2	At tank and building if greater than 10 feet.
	.3	Must have ability to lock.
<u>2.4 BALL VALVES</u>	.1	NPS 2 and under:
	.1	NPS 2 and under: Bronze body, screwed ends, TFE seal, hard chrome ball, 4 MPa.
<u>2.5 SWING CHECK VALVES</u>	.1	NPS 2 and under, screwed:
	.1	To MSS-SP-80, Class 125, 860 kPa, bronze body, bronze swing disc, or renewable composition disc suitable for oil service, screw in cap, regrindable seat.
<u>2.6 LUBRICATED PLUG COCKS</u>	.1	NPS 2 and under, screwed:
	.1	To ASTM B61, Class 150, 1 MPa, bronze body.

2.7 OIL FILTER .1 Duplex type replaceable cartridge type as recommended by oil burner manufacturer.

.2 Furnish spare filter cartridge.

2.8 CATHODIC PROTECTION .1 In accordance with CEPA SOR/2008-197.

PART 3 - EXECUTION

3.1 APPLICATION .1 Manufacturer's Instructions:

.1 Comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 PIPING .1 Install oil piping system in accordance with NFC, CSA B139 and CSA B140.0.

.2 Slope piping down in direction of storage tank unless otherwise indicated.

.3 Underground piping to be protected in conformance with CAN/ULC-S603.1.

.4 Above ground piping to be protected from physical impact due to impact (e.g. falling ice from building roof, vehicle impact, etc.).

.5 Piping inside building:

.1 Ensure piping in solid flooring is installed to CSA B139 and authority having justification.

.2 Use approved fitting to CSA B139 for steel, copper or brass piping.

.3 Install filter, valve, and fire valve at burners.

.6 Fill, vent, suction and return piping outside building:

.1 Steel piping welded throughout except at tanks where electrically isolating fittings are used.

3.2 PIPING
(Cont'd)

- .6 (Cont'd)
 - .2 Grading:
 - .1 Slope piping at 1 % minimum back to tanks.
 - .7 Install buried piping in outer casings or double-wall piping to CSA B139 and authority having jurisdiction.
 - .8 Piping at tanks:
 - .1 Suction:
 - .1 Terminate 150 mm from bottom of tank with foot valve and strainer.
 - .2 Return:
 - .1 Comply with CSA B139 and as per manufacturer's instructions.
 - .3 Comply with CSA B139, NFC and authority having jurisdiction for piping venting at tanks including venting whistle and venting alarm.
 - .4 Fill pipes:
 - .1 Install to comply with CSA B139 and NFC.
 - .2 Include vapour and liquid tight, tamperproof cover.
 - .3 Equip fill pipes on tanks with capacity greater than 5000 L with liquid and vapour tight connections.
 - .5 Dipstick:
 - .1 Extend tube to within 150 mm from bottom of tank. Terminate at grade with lockable cap and chain, and watertight cover.
 - .9 Clearly label piping runs in legible form indicating:
 - .1 piping product content;
 - .2 direction of flow; and

<u>3.2 PIPING (Cont'd)</u>	.9	(Cont'd)
	.3	identify transfer points in piping systems to CPPI Colour-Symbol Product Identification.
<u>3.3 VALVES</u>	.1	Install valves with stems upright or horizontal unless approved otherwise by Departmental Representative.
	.2	Install ball valves at branch take-offs, to isolate pieces of equipment and as indicated.
	.3	Install swing check valves on discharge of pumps and as indicated.
	.4	Install plug cocks as indicated.
	.5	Install anti-syphon valve on supply line at the tank.
<u>3.4 OIL TRANSFER PUMPS</u>	.1	Equip pumps with check valve installed below suction pump to permit contents of pipe to drain back to storage tank if suction is broken.
	.2	Install ball valves on inlet and discharge connections.
	.3	Install pressure gauge at pump discharge, compound gauge on pump inlet connection.
	.4	Install relief valve in pump discharge piping with relief valve discharge pipe to return line to tank and as indicated.
<u>3.5 OIL FILTERS</u>	.1	Install ULC approved in supply line to.
	.2	At time of acceptance, replace filter cartridge with new.
<u>3.6 OVERFILL AND SPILL PROTECTION</u>	.1	To CSA B139 and CEPA SOR/2008-197.
<u>3.7 LEAK DETECTION</u>	.1	Install line leak detector to ULC ORD-C58.14.
	.2	Install secondary containment systems that will allow leaks to accumulate in containment sump available for visual inspection.

3.8 CATHODIC PROTECTION
SYSTEM

- .1 Cathodic protection to CEPA and NACE SP0169.
- .2 Use electric isolating type fittings and electric isolating components for tank manhole covers supplied with fuel oil storage tanks to isolate piping from tanks.
- .3 Isolate buried piping into separate sections as indicated.
- .4 Isolate buried piping systems from remainder of system inside building.
- .5 Coat buried steel outer casing piping, before installation, with electrically resistant coating highly resistant to mechanical damage.
 - .1 Ensure 100 % coverage.
 - .2 Repeat after installation at joints and damaged parts only.
- .6 Inspect buried steel outer casing piping and repair damaged coatings using same materials as original coatings.

3.9 FIELD QUALITY
CONTROL

- .1 Site Tests/Inspection:
 - .1 Test system to CSA B139 and CSA B140.0 and authorities having jurisdiction.
 - .2 Isolate tanks from piping pressure tests.
 - .3 Maintain test pressure during backfilling.

3.10 CLEANING

- .1 Clean in accordance with manufacturer's written recommendations, supplemented as follows:
 - .1 Flush after pressure test with number 1 or number 2 fuel oil for a minimum of two hours. Clean strainers and filters.
 - .2 Dispose of fuel oil used for flushing out in accordance with requirements of authority having jurisdiction.
 - .3 Ensure vents from regulators, control valves are terminated in approved location and are protected against blockage and damage.

- 3.10 CLEANING
(Cont'd)
- .1 (Cont'd)
- .4 Ensure entire installation is approved by authority having jurisdiction.
- .5 Clean in accordance with Section 01 74 00 - Cleaning.

PART 1 - GENERAL

1.1 REFERENCE

- .1 CSA International
 - .1 CSA C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
 - .2 CSA C22.3 No. 1, Overhead systems.
 - .3 CSA C22.3 No. 7, Underground systems.

1.2 WORK INCLUDED

- .1 The supply and installation/repairs and/or wiring of various motors, controls, switches, etc. for various fuel tank systems.

PART 2 - PRODUCTS

2.1 WIRING

- .1 All wiring used on this requirement must be copper conductors complete with R90 insulation. Minimum size to be 12 AWG for all circuits of 120 V or higher. Wire sizing to be in accordance with the Canadian Electrical Code.

2.2 CONDUIT AND BOXES

- .1 For all repair or maintenance work on this requirement, the new conduit and boxes are to match existing unless otherwise directed by the Departmental Representative.
- .2 All new conduit that runs within 1 m of the floor level or where it might be exposed to water must be galvanized rigid conduit. All other conduit above 1 m and in dry locations can be Electrical Metallic Tubing (EMT) with steel set-screw couplings and connectors.
- .3 All boxes used must be of a type designed for the type of conduit being used.

2.3 CONTROLS

- .1 All controls such as timeclocks, motor starters and switches used on this requirement must be CSA approved and meet the requirements of the system they control.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Do complete installation in accordance with CSA C22.1 except where specified otherwise.
- .2 Do overhead and underground systems in accordance with CSA C22.3 No.1 and CSA C22.3 No. 7 except where specified otherwise.

3.2 NAMEPLATES AND LABELS

- .1 Ensure manufacturer's nameplates, CSA labels and identification nameplates are visible and legible after equipment is installed.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 - General Instructions.
- .2 Section 01 35 73 - Confined Spaces Requirements.
- .3 Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .4 Section 23 11 13 - Facility Fuel Oil Piping.
- .5 Section 33 56 13 - Fuel Storage Tanks.

1.2 REFERENCE
STANDARDS

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C117, Standard Test Method for Material Finer than 75-Micrometer (No. 200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C136/C136M, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- .2 Standard Specification for Municipal Services, compiled by the Joint Committee of Nova Scotia Road Builders Association and Nova Scotia Consulting Engineers Association.

1.3 DEFINITIONS

- .1 Topsoil:
 - .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
 - .2 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 mm in any dimension.
- .2 Waste material:
 - .1 Excavated material unsuitable for use in Work or surplus to requirements.
- .3 Borrow material:

<u>1.3 DEFINITIONS (Cont'd)</u>	.3	(Cont'd)
	.1	Material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.
<u>1.4 WORK INCLUDED</u>	.1	Provision of labour, materials, tools and equipment for excavation and backfilling as required during the installation or repairs of the fuel tank systems.
<u>1.5 EXCAVATION PERMIT</u>	.1	Obtain a properly completed excavation permit from the Departmental Representative prior to carrying out any excavations on site.
	.2	The excavation permit must be signed by all applicable shops and departments and approved by the Departmental Representative prior to doing any excavation work.
<u>1.6 SOIL TESTING</u>	.1	The Contractor must provide DND unlimited access at all times to the floor and walls of excavations for verification soil sampling in conformance with environmental procedures and federal and provincial policies and regulations. If the floor or walls of an excavation are contaminated, the Departmental Representative can request the Contractor to proceed with additional excavation of the designated soil.
<u>1.7 CONTAMINATED SOIL TRANSPORTATION MANIFEST</u>	.1	The Departmental Representative must supply and fill out the "Point of Departure" section of the manifest and hand over to the truck driver for completion of "Destination" section at the disposal site. Client copy of manifest and copy of delivery slip to be returned to the Departmental Representative.
<u>1.8 WEIGH BILL</u>	.1	The Contractor must supply two (2) copies of the weigh bill to the Departmental Representative for backfill and materials supplied.

PART 2 - PRODUCTS

<u>2.1 MATERIALS</u>	.1	Type 1 and Type 2 fill (gravel):
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2.1 MATERIALS
(Cont'd)

- .1 (Cont'd)
 - .1 Crushed, pit run or screened stone, gravel or sand consisting of hard durable particles free from clay lumps, organic material, frozen material and other deleterious materials and in accordance with the Nova Scotia Department of Transportation, Standard Specification Highway Construction and Maintenance.
 - .2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117.
- .2 Type 3 fill (surge):
 - .1 Pit run material removed from a pit approved by the Nova Scotia Department of Transportation.
 - .2 Graduations to be less than 20 % passing 75 mm (#200 sieve) and maximum size to be 150 mm (6 inches).
- .3 Type 4 fill (borrow):
 - .1 Selected material from excavation or other sources, approved by the Departmental Representative for use intended, unfrozen and free from rocks larger than 75 mm, cinders, ashes, sods, refuse or other deleterious materials.
- .4 Type 5 fill (sand):
 - .1 Hard, granular, sharp material, well graded from coarse to fine, free of impurities, chemicals or organic matter, and graded as follows:
 - .1 5 mm - 100 %;
 - .2 0.16 mm - 0-5 %.
- .5 Type 6 fill (clear stone):
 - .1 Crushed and screened, hard, durable stone, free from clay and organic matter, and graded as follows:
 - .1 28 mm - 95-100 %;
 - .2 14 mm - 25-60 %;
 - .3 5 mm - 0-10 %.

2.1 MATERIALS

(Cont'd)

.5

(Cont'd)

.1 (Cont'd)

.6

Type 7 fill (topsoil):

- .1 Topsoil for seeded or sodded areas to be a mixture of particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth.
- .2 Soil texture based on "The Canadian System of Soil Classification", to consist of 20-70 % sand, minimum 7 % clay, and contain 2-10 % organic matter by weight.
- .3 Contain no toxic elements or growth inhibiting materials.
- .4 Finished surface free from:
 - .1 debris and stones over 50 mm diameter;
 - .2 coarse vegetative material, 10 mm diameter and 100 mm length, occupying more than 2 % of soil volume.
- .5 Consistence: Friable when moist.

PART 3 - EXECUTION

3.1 TEMPORARY EROSION
AND SEDIMENTATION
CONTROL

.1

Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction, sediment and erosion control drawings, sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

.2

Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3

Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 SITE PREPARATION

- .1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

3.3 PREPARATION /
PROTECTION

- .1 Keep excavations clean, free of standing water, and loose soil.
- .2 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Departmental Representative's approval.
- .3 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
- .4 Protect buried services that are required to remain undisturbed.

3.4 STOCKPILING

- .1 Stockpile fill materials in areas designated by Departmental Representative.
 - .1 Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination.
- .3 Implement sufficient erosion and sediment control measures to prevent sediment release off construction boundaries and into water bodies.

3.5 DEWATERING AND
HEAVE PREVENTION

- .1 Keep excavations free of water while Work is in progress.
- .2 Protect open excavations against flooding and damage due to surface run-off.
- .3 Dispose of water in manner not detrimental to public and private property, or portion of Work completed or under construction.
 - .1 Provide and maintain temporary drainage ditches and other diversions outside of excavation limits.
- .4 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, watercourses or drainage areas.

3.6 EXCAVATION

- .1 Excavate to lines, grades, elevations and dimensions as required to perform the work in compliance with governing authorities.
- .2 Remove concrete, masonry, paving, walks, demolished foundations and rubble and other obstructions encountered during excavation.
- .3 Excavation must not interfere with bearing capacity of adjacent foundations.
- .4 Dispose of surplus and unsuitable excavated material off site.
- .5 Do not obstruct flow of surface drainage or natural watercourses.
- .6 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .7 Notify Departmental Representative when bottom of excavation is reached.
- .8 Obtain Departmental Representative's approval of completed excavation.
- .9 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Departmental Representative.

3.7 EXCAVATION OF
ADDITIONAL
CONTAMINATED SOIL

- .1 The excavation of contaminated soil is not limited to the designated excavation areas. It may also be required at other locations within the job site. The Departmental Representative has the authority, at any time, to request the Contractor to excavate and remove additional contaminated soil in the manner described in these technical specifications.

3.8 BACKFILLING

- .1 Do not proceed with backfilling operations until completion of following:
 - .1 Departmental Representative has inspected and approved installations.
 - .2 Departmental Representative has inspected and approved of construction below finish grade.
 - .3 Inspection, testing, approval, and recording location of underground utilities.

3.8 BACKFILLING
(Cont'd)

- .1 (Cont'd)
- .4 Removal of concrete formwork.
- .5 Removal of shoring and bracing; backfilling of voids with satisfactory soil material.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Compact the following materials to 95 % Standard Proctor density:
 - .1 Type 1, 2 and 5 fill:
 - .1 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
 - .2 Type 3 fill:
 - .1 Place backfill material in uniform layers not exceeding 300 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 Use fill of types as indicated or specified below. Densities are percentages of maximum compaction densities obtained from corrected maximum dry density, unless otherwise indicated.
 - .1 Exterior side of perimeter walls:
 - .1 Use type 4 fill to subgrade level. Compact to 95 %.
 - .2 Pavement substructures:
 - .1 Proof roll exposed subgrade to 100 % Standard Proctor.
 - .2 Place type 1 base as indicated. Compact to 100 %.
 - .3 Place type 3 fill in areas indicated. Compact to:
 - .1 85 % under landscaped areas;

3.8 BACKFILLING
(Cont'd)

- .5 (Cont'd)
- .3 (Cont'd)
- .2 95 % under paved areas.
- .4 Place type 6 fill (clear stone) in areas indicated. Compact to 70 % relative density.
- .6 Backfilling around installations.

3.9 COMPACTION TESTING

- .1 Contractor to allow access to the site for compaction testing by qualified third party Contractor.
- .2 DND will pay for the cost of compaction testing if the test is positive. If the test fails, the Contractor will pay for the cost of correcting the failure plus the cost of the initial test and additional testing until the test is positive.

3.10 HYDROCARBON
IMPACTED MATERIAL
REMOVAL AND DISPOSAL

- .1 Excavate, transport and dispose of hydrocarbon contaminated silt, sediment, organic matter and tank sludge to an approved site in accordance with the Nova Scotia Department of Environment regulations.
- .1 Before soil is taken off-site, the environmental quality of the soil must be disclosed to the owners of the receiving site. The owners of the receiving site must be provided with all required authorizations, permits and soil results for the type of soil being accepted. Written acceptance from the owners of the receiving site must be provided to the Departmental Representative.
- .2 Separate contaminated soil from reusable soil. Supply non-porous tarp or equivalent to stockpile and/or cover contaminated soil from leaching into surrounding soils.
- .3 Where hydrocarbon has migrated into soil under existing roadway or wherever roadway needs to be removed to access contaminated soils, supply unit price for replacement of compacted gravel base course and roadway finish.
- .4 All trucks used in the transportation of hydrocarbon impacted material to have tail gates with seals in good working order so as to prevent leakage of sludge or liquid material from truck.

3.10 HYDROCARBON
IMPACTED MATERIAL
REMOVAL AND DISPOSAL
(Cont'd)

- .5 Contractor must ensure that the truck box is watertight and no leakage occurs prior to or during transportation of material. Any vehicles failing to meet these requirements will be rejected.
- .6 In lieu of any spill during transportation, the Contractor will be responsible for the immediate clean up and must notify the Departmental Representative and appropriate authorities.
- .7 All trucks transporting hydrocarbon impacted material must be tarped using an asphalt tarp or approved equal.
- .8 All trucks must be cleaned at the soil disposal facility if not returning for reloading.
- .9 Contractor to be responsible for cleaning their own equipment.

3.11 IMPORTED FILL

- .1 The decision to import fill must be made in coordination with the Base Environmental Officer and the Departmental Representative.
- .2 The environmental condition of the soil must be confirmed prior to it being brought onto DND lands.
- .3 Due to the low risk of some activities and material, sampling is not required for the following:
 - .1 topsoil;
 - .2 imported fill less than 10 m³;
 - .3 gravel/aggregates larger than 2 mm;
 - .4 fines generated by the mechanical activity of crushing virgin rock (i.e. crusher dust); or
 - .5 gravel/aggregate material with less than 20 % fines by volume.
- .4 Imported fill must be from a virgin source and not be recycled material.
- .5 Sampling costs for quality of soil will be covered by the Departmental Representative.

PART 1 - GENERAL

1.1 REFERENCE
STANDARDS

- .1 American Association of State and Highway Transportation Officials, (AASHTO)
 - .1 AASHTO T 245, Standard Method of Test for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus.
- .2 ASTM International
 - .1 ASTM C117, Standard Test Method for Material Finer than 75-Micrometer (No. 200) Sieve in Mineral Aggregates by Washing.
 - .2 ASTM C127, Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate.
 - .3 ASTM C128, Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine Aggregate.
 - .4 ASTM C136/C136M, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .5 ASTM D244, Standard Test Methods and Practices for Emulsified Asphalts.
 - .6 ASTM D3203/D3203M, Standard Test Method for Percent Air Voids in Compacted Asphalt Mixtures.
 - .7 ASTM D4791, Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.
- .3 Canadian Standard Association (CSA)
 - .1 CSA A23.1/A23.2, Concrete materials and methods of concrete construction/Test methods and standard practices for concrete.
- .4 Nova Scotia Transportation and Infrastructure Renewal
 - .1 Standard Specification Highway Construction and Maintenance, February 1, 1997.

1.2 ASPHALT GENERAL

- .1 Asphalt concrete materials, mixing and method of work called for in this section must conform to the latest edition of the Nova Scotia Transportation and Infrastructure Renewal - Standard Specification Highway Construction and Maintenance (technical descriptions only). In case of conflict between the DND specification and the Department of Transportation specification, the DND specification will apply.

1.3 ASPHALT CONCRETE
DESCRIPTION

- .1 The asphalt concrete must be a dense graded paving material consisting essentially of a hot mix and hot laid, designed combination of dried mineral aggregate uniformly coated with asphalt, all mixed in an approved mixing plant as specified by the Province of Nova Scotia, Department of Transportation, Standard Specification, latest metric edition, Division 4, Section 4, mixture type "B" must be used for repair work.
- .2 Type "B" mixture must have an asphalt content between 4% and 9%. The mix must be approved by the Engineer prior to use.
- .3 Physical requirements must conform to the Province of Nova Scotia Department of Transportation, Standard Specification, latest metric edition, Division 4, Section 4, Table 4.4.1.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Aggregates:
- .1 Coarse aggregates, fine aggregates and mineral filler must conform to the requirements specified by the Province of Nova Scotia Department of Transportation, Standard Specification, latest edition, Division 4, Section 4, Table 4.4.2 and 4.4.4. Composition of asphalt Concrete Paving Mixtures, mixture type "B" or "C" as specified and must conform to the grading listed in the same table for the mixture.
- .2 Fine aggregate must not contain organic matter in excess of limitations as permitted in accordance with CSA A23.1/A23.2.

2.2 PRIME AND TACK
COATS

- .1 Tack coat:
 - .1 Emulsified asphalt to ASTM D244, grade RS-1, or cutback asphalt RC-70.
- .2 Prime coat:
 - .1 As per Nova Scotia Department of Transportation, Standard Specification Highway Construction and Maintenance and to ASTM D244, Grade RC-70.
- .3 Sand blotter:
 - .1 Clean granular material passing 4.75 mm sieve and free from organic matter or other deleterious materials.
- .4 Granular base coarse:
 - .1 To be gravel type 1 as specified by the Nova Scotia Department of Transportation, Standard Specification Highway Construction and Maintenance, Division 3.

2.3 LIQUID ASPHALT

- .1 For sealing cracks and tack coating, the liquid asphalt must conform to specifications for MC-70 and/or RS-1.

2.4 EQUIPMENT

- .1 Pavers:
 - .1 Mechanical grade controlled self-powered pavers capable of spreading mix within specified tolerances, true to line, grade and crown indicated.
- .2 Rollers:
 - .1 Sufficient number of type and weight to obtain specified density of compacted mix.
- .3 Vibratory rollers:
 - .1 Drum diameter:
 - .1 1200 mm minimum.
 - .2 Amplitude of vibration (machine setting):

2.4 EQUIPMENT
(Cont'd)

- .3 (Cont'd)
 - .2 (Cont'd)
 - .1 0.5 mm maximum for lifts less than 40 mm thick.
- .4 Haul trucks:
 - .1 Sufficient number and of adequate size, speed and condition to ensure orderly and continuous operation and as follows:
 - .1 boxes with tight metal bottoms;
 - .2 covers of sufficient size and weight to completely cover and protect asphalt mix when truck fully loaded;
 - .3 in cool weather or for long hauls, insulate entire contact area of each truck box;
 - .4 use only trucks which can be weighed in single operation on scales supplied.
- .5 Hand tools:
 - .1 Lutes or rakes with covered teeth for spreading and finishing operations.
 - .2 Tamping irons having mass 12 kg minimum and bearing area not exceeding 310 cm² for compacting material along curbs, gutters and other structures inaccessible to roller. Mechanical compaction equipment, when approved by Departmental Representative, may be used instead of tamping irons.
 - .3 Straight edges, 4.5 m in length, to test finished surface.

PART 3 - EXECUTION

3.1 PREPARATION OF
ASPHALT CEMENTS

- .1 The asphalt cement must be brought to a temperature within the limits before mixing with the aggregates in accordance with the Province of Nova Scotia Department of Transportation, Standard Specification Highway Construction and Maintenance.

3.2 TRANSPORTATION OF MIX

- .1 Transport mix to job site in vehicles cleaned of foreign material.
- .2 Paint or spray truck beds with lime water, soap or detergent solution, or non petroleum based commercial product, at least daily or as required.
 - .1 Raise truck bed and thoroughly drain, and ensure no excess solution remains in truck bed.
- .3 Schedule delivery of material for placing in daylight, unless Departmental Representative approves artificial light for night placing.
- .4 Deposit mix from surge or storage silo to trucks in multiple drops to reduce segregation.
 - .1 Do not dribble mix into trucks.
- .5 Deliver material to paver at uniform rate and in an amount within capacity of paving and compacting equipment.
- .6 Deliver loads continuously in covered vehicles and immediately spread and compact.
 - .1 Deliver and place mixes at temperature within range as directed by Departmental Representative, but not less than 135 degrees C.

3.3 PREPARATION

- .1 Reshape granular roadbed and asphalt pavement as required.
- .2 When paving over existing asphalt surface, clean pavement surface.
 - .1 When levelling course is not required, patch and correct depressions and other irregularities to approval of Departmental Representative before beginning paving operations.
- .3 Apply prime coat and tack coat in accordance with the Province of Nova Scotia, Department of Transportation, Standard Specification Highway Construction and Maintenance, Division 4 prior to paving.
- .4 Prior to laying mix, clean surfaces of loose and foreign material.
- .5 Tack coat:

3.3 PREPARATION
(Cont'd)

- .5 (Cont'd)
- .1 Where resurfacing areas start and stop and where existing pavement is badly worn, a tack coat of RC-70 asphalt must be applied at the rate of 0.14 L/m² at a liquid temperature between 40° C and 80° C.
 - .2 The tack coat must not be applied to a wet surface or when the air temperature is less than 10° C in the shade, without written approval from the Departmental Representative.
- .6 Prime coat:
- .1 Apply asphalt prime to granular base at rate not less than 1.00 L/m² nor more than 2.75 L/m².
 - .2 Apply on dry surface unless otherwise directed.
 - .3 Paint contact surfaces of curbs, gutters, headers, manholes and like structures with a thin, uniform coat of asphalt prime material.
 - .4 Do not apply prime when air temperature is less than 10° C in the shade or when rain is forecast within 2 hours.
 - .5 Allow primer to penetrate for such time as Departmental Representative directs. If asphalt primer fails to penetrate within time directed (usually 2 hours) spread sand blotter material in amounts required to absorb excess material. Sweep and remove excess blotter material.
 - .6 Prevent overlap at junction of spreads.
 - .7 Do not prime surfaces that will be visible when paving is complete.
 - .8 Correct areas not sufficiently covered.
 - .9 Keep traffic off primed areas until asphalt prime has cured.
 - .10 Permit prime to cure before placing asphalt paving mixture.

3.4 PROTECTION

- .1 During the spraying process, the Contractor must cover concrete walks, curbs, gutters, walks, grass, steps, building walls, and all such items that would be spoiled should asphalt be sprayed on them.

3.4 PROTECTION
(Cont'd)

- .2 All items so spoiled must be made good by the Contractor at no cost to the Departmental Representative.

3.5 PLACING

- .1 Obtain Departmental Representative's approval of base and existing surface, tack coat and prime coat prior to placing asphalt.
- .2 Place asphalt concrete to thicknesses, grades and lines as directed by Departmental Representative.
- .3 Placing conditions:
 - .1 Place asphalt mixtures only when air temperature is above 5 degrees C.
 - .2 When temperature of surface on which material is to be placed falls below 10 degrees C, provide extra rollers as necessary to obtain required compaction before cooling.
 - .3 Do not place hot-mix asphalt when pools of standing water exist on surface to be paved, during rain, or when surface is damp.
 - .4 Minimum 135 degrees C mix temperature required when spreading.
 - .5 Maximum 160 degrees C mix temperature permitted at any time
- .4 When the mixture is to be spread by hand, upon arrival of the work, it must be dumped near the area on which it is to be spread. Immediately thereafter the material must be deposited from the shovels into small piles which will be spread with lutes and rakes.
 - .1 The shovellers will not be allowed to spread the asphalt mix by broadcasting it over the surface to be covered.
 - .2 Any part of the mix that has formed into lumps and does not break down easily must be discarded.
 - .3 Loads must not be dumped any faster than they can be properly handled by the shovellers. The shovellers must not distribute the dumped load faster than it can be properly handled by the rakers.

3.5 PLACING
(Cont'd)

- .4 (Cont'd)
- .4 The rakers will not be permitted to stand in the hot mixture while raking it, except where necessary to correct errors in the first raking.
- .5 The raking must be carefully and skillfully done in such a manner that after the first passage of the roller over the raked mixture, a minimum amount of back patching will be required.

3.6 COMPACTING

- .1 Compaction of asphalt concrete must be by approved rollers, and in areas not accessible by rollers by approved and suitable tampers.
- .2 Do not change rolling pattern unless mix changes or lift thickness changes.
- .1 Change rolling pattern only as directed by Engineer.
- .3 Roll asphalt continuously to density not less than 98 % of blow Marshall density to AASHTO T 245.
- .4 General:
- .1 Provide at least 2 rollers and as many additional rollers as necessary to achieve specified pavement density. When more than 2 rollers are required, 1 roller must be pneumatic tired type.
- .2 Start rolling operations as soon as placed mix can bear weight of roller without excess displacement of material or cracking of surface.
- .3 Operate roller slowly initially to avoid displacement of material. Do not exceed 5 km/h for breakdown and intermediate rolling for static steel-wheeled and pneumatic tired rollers. Do not exceed 9 km/h for finish rolling.
- .4 Use static compaction for levelling coarse less than 25 mm thick.
- .5 For lifts 50 mm thick and greater, adjust speed and vibration frequency of vibratory rollers to produce minimum of 25 impacts per metre of travel. For lifts less than 50 mm thick, impact spacing not to exceed compacted lift thickness.

3.6 COMPACTING
(Cont'd)

- .4 (Cont'd)
- .6 Overlap successive passes of roller by minimum of 200 mm and vary pass lengths.
 - .7 Keep wheels of roller slightly moistened with water to prevent pick-up of material but do not over-water.
 - .8 Do not stop vibratory rollers on pavement that is being compacted with vibratory mechanism operating.
 - .9 Do not permit heavy equipment or rollers to stand on finished surface before it has been compacted and has thoroughly cooled.
 - .10 After traverse and longitudinal joints and outside edge have been compacted, start rolling longitudinally at low side and progress to high side.
 - .1 Ensure that all points across width of pavement receive essentially equal numbers of passes of compactors.
 - .11 When paving in echelon, leave unrolled 50 to 75 mm of edge which second paver is following and roll when joint between lanes is rolled.
 - .12 Where rolling causes displacement of material, loosen affected areas at once with lutes or shovels and restore to original grade of loose material before re-rolling.
- .5 Breakdown rolling:
- .1 Begin breakdown rolling with static steel wheeled roller or vibratory roller immediately following rolling of transverse and longitudinal and edges.
 - .2 Operate rollers as close to paver as necessary to obtain adequate density without causing undue displacement.
 - .3 Operate breakdown roller with drive roll or wheel nearest finishing machine. When working on steep slopes or super-elevated sections use operation approved by Engineer.
 - .4 Use only experienced roller operators.

3.6 COMPACTING
(Cont'd)

- .6 Intermediate rolling:
 - .1 Use pneumatic-tired, steel wheel or vibratory rollers and follow breakdown rolling as closely as possible and while paving mix temperature allows maximum density from this operation.
 - .2 Rolling to be continuous after initial rolling until mix placed has been thoroughly compacted.
- .7 Finish rolling:
 - .1 Accomplish finish rolling with two-axle or three-axle tandem steel wheeled rollers while material is still warm enough for removal of roller marks.
 - .1 If necessary to obtain desired surface finish, use pneumatic-tired rollers as directed by Departmental Representative.
 - .2 Conduct rolling operations in close sequence.

3.7 JOINTS

- .1 General:
 - .1 Remove surplus material from surface of previously laid strip.
 - .1 Do not deposit on surface of freshly laid strip.
 - .2 Construct joints between asphalt concrete pavement and Portland cement concrete pavement as indicated.
 - .3 Paint contact surfaces of existing structures such as manholes, curbs or gutters with bituminous material prior to placing adjacent pavement.
- .2 Transverse joints:
 - .1 Offset transverse joint in succeeding lifts by at least 600 mm.
 - .2 Cut back to full depth vertical face and tack face with thin coat of hot asphalt prior to continuing paving.

3.7 JOINTS

(Cont'd)

- .2 (Cont'd)
- .3 Compact transverse joints to provide smooth riding surface. Use methods to prevent rounding of compacted surface at joints.
- .3 Longitudinal joints:
 - .1 Offset longitudinal joints in succeeding lifts by at least 150 mm.
 - .2 Cold joint is defined as joint where asphalt mix is placed, compacted and left to cool below 100 degrees C prior to paving of adjacent lane.
 - .1 If cold joint can not be avoided, cut back by saw cutting previously laid lane, by at least 150 mm, to full depth vertical face, and tack face with thin coat of hot asphalt of adjacent lane.
 - .3 Overlap previously laid strip with spreader by 25 to 50 mm.
 - .4 Before rolling, carefully remove and discard coarse aggregate in material overlapping joint with lut or rake.
 - .5 Roll longitudinal joints directly behind paving operation.
 - .6 When rolling with static or vibratory rollers, have most of drum width ride on newly placed lane with remaining 150 mm extending onto previously placed and compacted lane.
- .4 Construct feather joints so that thinner portion of joint contains fine graded material obtained by changed mix design or by raking out coarse aggregate in mix.
 - .1 Place and compact joint to ensure joint is smooth and without visible breaks in grade.
 - .2 Locate feather joints as indicated.
- .5 Construct butt joints as indicated.

3.8 FEATHERING OUT

- .1 Where the overlay meets existing pavement, the joint must be feathered out over a distance of not less than 1.5 m.

3.8 FEATHERING OUT
(Cont'd)

- .2 Workers with hand shovels must remove fresh asphalt material from delivery trucks and must spread a thin layer of this material over the area. Other workers must then carefully remove all particles coarser than 10 mm using fine hand rakes and must spread the remaining loose material evenly over the surface to a loose depth of 3 mm.
- .3 The asphalt must then be rolled as specified to provide a tight water repellent surface, minimum thickness 25 mm of all points, except at tapers.
- .4 Where directed by the Departmental Representative, the asphalt overlay must be placed directly over the existing gutters, feathered from the specified thickness to a depth sufficient to maintain grade and permit adequate drainage.
- .5 Compaction of asphalt must be in accordance with paragraph 3.6 of this section.

PART 1 - GENERAL

1.1 RELATED SECTIONS

- .1 Section 01 11 00 - General Instructions.
- .2 Section 01 35 73 - Confined Spaces Requirements.
- .3 Section 09 91 13.23 - Exterior Painting of Structural Steel.
- .4 Section 23 11 13 - Facility Fuel Oil Piping.
- .5 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.2 REFERENCE
STANDARDS

- .1 American Petroleum Institute (API)
 - .1 API Std 650, Welded Tanks for Oil Storage.
 - .2 API RP 651, Cathodic Protection of Aboveground Petroleum Storage Tanks.
 - .3 API Std 653, Tank Inspection, Repair, Alteration, and Reconstruction.
- .2 Canadian Council of Ministers of the Environment (CCME)
 - .1 CCME-PN1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.
- .3 Canadian Standards Association (CSA)/CSA International
 - .1 CSA B139 SERIES, Installation code for oil-burning equipment.
 - .2 CSA B140.0, Oil-Burning Equipment: General Requirements.
- .4 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
 - .1 Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, SOR/2008-197.
- .5 Environmental Protection Agency (EPA)

1.2 REFERENCE
STANDARDS
(Cont'd)

- .5 (Cont'd)
 - .1 EPA 530/UST-90/004 through EPA 530/UST-90/010, Standard Test Procedures for Evaluating Various Leak Detection Methods.
- .6 The Master Painters Institute (MPI)
 - .1 Architectural Painting Specification Manual.
- .7 National Fire Protection Association (NFPA).
 - .1 NFPA 329, Recommended Practice for Handling Releases of Flammable and Combustible Liquids and Gases.
- .8 National Research Council Canada (NRC)
 - .1 National Fire Code of Canada (NFC).
- .9 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .10 Underwriters' Laboratories of Canada (ULC)
 - .1 ULC ORD C142.21, Aboveground Used Oil Systems.
 - .2 ULC ORD C536, Flexible Metallic Hose.
 - .3 CAN/ULC S601, Standard for Shop Fabricated Steel Aboveground Tanks for Flammable and Combustible Liquids.
 - .4 CAN/ULC S602, Standard for Aboveground Steel Tanks for Fuel Oil and Lubricating Oil.
 - .5 ULC S603, Standard for Steel Underground Tanks for Flammable and Combustible Liquids.
 - .6 CAN/ULC S603.1, External Corrosion Protection Systems for Steel Underground Tanks for Flammable and Combustible Liquids.
 - .7 ULC S615, Standard for Fibre Reinforced Plastic Underground Tanks for Flammable and Combustible Liquids.

1.2 REFERENCE
STANDARDS
(Cont'd)

- .10 (Cont'd)
- .8 CAN/ULC-S652, Standard for Tank Assemblies for the Collection, Storage and Removal of Used Oil.
- .9 CAN/ULC-S653, Standard for Aboveground Horizontal Steel Contained Tank Assemblies for Flammable and Combustible Liquids.
- .10 CAN/ULC S660, Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.
- .11 CAN/ULC S661, Standard for Overfill Protection Devices for Flammable and Combustible Liquid Storage Tanks.
- .12 CAN/ULC S663, Standard for Spill Containment Devices for Flammable and Combustible Liquid Aboveground Storage Tanks.
- .13 ULC 664, Standard for Containment Sumps, Sump Fittings, and Accessories for Flammable and Combustible Liquids.
- .14 CAN/ULC S668, Standard for Liners Used for Secondary Containment of Aboveground Flammable and Combustible Liquid Tanks.
- .15 ULC ORD-C58.12, Leak Detection Devices (Volumetric Type) for Underground Flammable Liquid Storage Tanks.
- .16 ULC ORD-C58.14, Non-Volumetric Leak Detection Devices for Underground Flammable Liquid Storage Tanks.
- .11 MARLANT Storage Tank Management Plan.

1.3 GENERAL
REQUIREMENTS

- .1 An aboveground or underground storage tank system must be removed or installed by a company or individual that is authorized by the authority having jurisdiction.
- .2 All MARLANT fuel storage tanks installations, removals, repairs or testing must be performed in accordance with federal regulations, codes, guidelines and directives.
- .3 Contractor must have a spill kit on site while working on or near storage tanks.

4. Dates of references or standards regulations require that the version of the standard that exists at time tank is manufactured be used.

PART 2 - PRODUCTS

2.1 LEAKAGE DETECTION SYSTEM

- .1 To NFPA 329.
- .2 Leak-detection devices or methods designed, built, certified and operated in conformance with ULC ORD-C58.12, ULC ORD-C58.14 and EPA 530/UST-90/007.
- .3 Line leak detectors:
 - .1 Designed, built and certified in conformance with ULC ORD-C58.14 and, as minimum, provide level 3 or level 4 leak detection.
- .4 Underground Piping:
 - .1 To ULC ORD-C58.14
 - .2 To specifications of authority having jurisdiction.

2.2 CORROSION PROTECTION

- .1 Corrosion protection in conformance with CAN/ULC S603.1
- .2 Cathodic protection installed to API RP 651.

2.3 DAMAGED / REPAIRED TANKS

- .1 Repair done in conformance with API Std 653, special acceptance procedures of ULC.

2.4 OVERFILL PROTECTION DEVICES

- .1 Overfill protection devices to CAN/ULC S661.

2.5 SPILL CONTAINMENT DEVICES

- .1 Spill containment devices to ULC 664.
- .2 Dispenser sumps to ULC 664.

PART 3 - EXECUTION

3.1 INSTALLATION

- .1 Install tank in accordance with CSA B139 SERIES, CEPA SOR/2008-197, National Fire Code of Canada, CCME PN 1326 and manufacturer's recommendations.
- .2 Position tank using lifting lugs and hooks, and where necessary use spreader bars. Do not use chains in contact with tank walls.
- .3 Install/remove tanks using installers certified by the Province of Nova Scotia.
- .4 Provide certification of installation to Departmental Representative.

3.2 FIELD QUALITY CONTROL

- .1 Test tank for leaks to requirements of manufacturer's instructions and in presence of authority having jurisdiction.
- .2 Test system in accordance with CSA B139 and CSA B140.0 and authorities having jurisdiction.
- .3 Test tank for corrosion protection after backfill is filled in to top of storage tank, but before excavation is closed in and paved over.
- .4 Isolate tanks from piping pressure tests.
- .5 Provide the Departmental Representative with the following information for any storage tank system component that has been tested or inspected for leaks:
 - .1 test or inspection date;
 - .2 Environment Canada storage tank identification number;
 - .3 type of petroleum product or allied petroleum product stored in the system;
 - .4 test or inspection results;
 - .5 testing method; and
 - .6 name and address of the company or individual who performed the test or inspection.

3.3 TANK REPLACEMENTS
AND REPAIRS

- .1 Tank replacements and repairs involving any of the components listed on the DND Storage Tank Commissioning Form (Appendix 2 of this specification or Annex C of the MARLANT Storage Management Plan) the Contractor certified tank installer must complete and sign applicable sections of the DND Storage Tank Commissioning Form. Submit to the Departmental Representative within 15 days of re-commissioning.
- .2 Tank permanent withdrawals and removals, the Contractor certified tank installer must complete and sign applicable sections of the DND Certificate of Removal and Disposal (Appendix 1 of this specification or Annex E of the MARLANT Storage Tank Management Plan). Submit to Departmental Representative within 15 days of the removal.
 - .1 Affix a label or sign to the fill pipe stating:
 - .1 "DO NOT FILL. TANK SYSTEM PERMANENTLY WITHDRAWN FROM SERVICE"
 - .2 Date:
 - .3 Contact: RPOS(H) Fuel Tank Manager
 - .4 Phone: 902-722-4050
 - .2 The sign must be signed by the person affixing the sign.
 - .3 Affix sign to the fill pipe or locked fill box.
 - .4 Tank systems used for vehicle refuelling, the tank's nozzle and fuel supply hoses are also to be locked out to prevent use during the withdrawal from service. Lockout/tagout procedures are to be followed in accordance with applicable legislation.
- .3 Tank system temporarily taken out of service to facilitate repairs will be affixed with a sign stating:
 - .1 Affix a label or sign to the fill pipe stating:
 - .1 "DO NOT FILL. TEMPORARILY OUT OF SERVICE."
 - .2 Date:
 - .3 Contact: RPOS(H) Fuel Tank Manager

3.3 TANK REPLACEMENTS
AND REPAIRS
(Cont'd)

- .3 (Cont'd)
- .1 (Cont'd)
- .4 Phone: 902-722-4050
- .2 The sign must be signed by the person affixing the sign.
- .3 Affix sign to the fill pipe or locked fill box.

3.4 TEMPORARY TANKS

- .1 Any tanks that are installed for temporary use must be placed on level ground in an area that offers protection against physical damage as well as minimizes the environmental risk in the event of a release (avoid locating adjacent to storm sewer manholes, nearby water bodies, etc.).
- .2 Temporary tanks are to be aboveground storage tanks not exceeding 2,400 litres in capacity and are not to be filled to more than 85 % of their total capacity.
- .3 Temporary use tanks must have secondary containment that consists of either a double wall tank or a tank within a containment system that provides 110 % of the tank volume. The secondary containment system for a shop fabricated storage tank must be in conformance with the approved standards outlined in CCME Code of Practice.
- .4 The product transfer area must be provided with spill containment in the event that a spill occurs during fuelling.
- .5 Document visual inspections of the tank on each work day to confirm that tank system is free of leaks or damage that may result in a leak. Visual inspection documentation must be provided when requested by Departmental Representative.
- .6 If temporary use tanks trigger the CEPA requirements, they must be designed and installed in accordance with CSA B139, NFC, CEPA, CCME PN 1326 and manufacturer's recommendations, as applicable.

3.5 TANK CLEANING

- .1 The following cleaning requirements must be performed prior to tank removals:
- .1 Drain and flush piping contents into tank.
- .2 Pump out liquid from tank.

3.5 TANK CLEANING
(Cont'd)

- .1 (Cont'd)
- .3 Use an explosion proof, air driven or hand pump.
- .4 Pressure wash interior of tank to remove sludge.
- .5 Dispose of oily water, product and sludge in accordance with provincial regulations using waste disposal carrier licensed by the Province of Nova Scotia. Provide all disposal manifests to the Departmental Representative.
- .6 Remove vapours using one of the following methods:
 - .1 Purging:
 - .1 Purge vapours to less than 10 % of the lower flammability limit (LFL).
 - .2 Verify with a combustible gas meter that vapours are less than the 10 % of the lower explosive limit (LEL).
 - .2 Inerting:
 - .1 Displace oxygen to levels below necessary to sustain combustion.
 - .2 Verify with a combustible gas meter that vapours are less than the 10 % LEL.
 - .3 Water method:
 - .1 Fill tank with water to expel vapours.
 - .2 Remove and dispose of contaminated water in accordance with regulations after tank is removed from site.
 - .3 Verify with a combustible gas meter that vapours are less than the 10 % LEL.
 - .4 Dry ice method:
 - .1 Add 1.85 gm of solid carbon dioxide (dry ice) for each 100 litres capacity.

3.5 TANK CLEANING
(Cont'd)

- .1 (Cont'd)
- .6 (Cont'd)
 - .2 Crush and distribute ice evenly over greatest area to secure rapid evaporation. Avoid skin contact.
 - .3 Verify dry ice has vapourized.
 - .4 Verify with a combustible gas meter that vapours are less than the 10 % LEL.
- .5 Air method:
 - .1 Ventilate tank with air using small gas exhaustor operated with compressed air or other suitable means.
 - .2 Air to enter opening at one end and to exit opening at other end to quickly remove vapour.
 - .3 Verify with a combustible gas meter that vapours are less than the 10 % LEL.
- .7 Disconnect supply and return piping (if applicable).
- .8 Disconnect monitoring equipment (if applicable).
- .9 Contact the Departmental Representative immediately if there is evidence of contamination. Report findings to the Departmental Representative in writing.

3.6 TOUCH-UP

- .1 Where coating is damaged, touch-up with original coating material.

3.7 LEVEL GAUGE SYSTEM

- .1 Provide leak and vapour proof caulking at connections.
- .2 Shield capillary and tubing connections in heavy duty 50 mm polyethylene pipe.
- .3 Calibrate system.

3.8 LEAK DETECTION
SYSTEM

- .1 Install in accordance with manufacturer's recommendations.

- | | | |
|------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>3.9 PIPING</u> | .1 | Install oil piping system in accordance with CEPA, NFC, CSA B139 and CSA B140.0 and as specified in Section 23 11 13 - Facility Fuel Oil Piping. |
| <u>3.10 OVERSPILL PROTECTION DEVICES</u> | .1 | Install in accordance with manufacturer's recommendations. |
| <u>3.11 PURGING</u> | .1 | Purge system after pressure test and ensure system is operational. |
| <u>3.12 FLUSHING AND CLEANING</u> | .1 | Flush after pressure test with number 1 or 2 fuel oil. Clean strainers and filters. |
| | .2 | Dispose of fuel oil used for flushing out in accordance with requirements of authority having jurisdiction. |

CERTIFICATE OF REMOVAL AND DISPOSAL

THIS IS TO CERTIFY THAT ON

(DATE)

(TYPE NAME OF TANK REMOVER AND NS Certification #)

(COMPANY NAME)

HAS PERMANENTLY WITHDRAWN & REMOVED

(TANK AO# # AND LOCATION)

WITH _____
(ENVIRONMENT CANADA ID#)

IN ACCORDANCE WITH SECTIONS 42 & 44 (1 – 3) OF SOR/2008-197*.

(LEL BEFORE CUTTING and DATE)

(NAME OF DISPOSAL FACILITY)

(SIGNATURE OF TANK TECHNICIAN)

(SIGNATURE FROM DISPOSAL FACILITY REP)

(PRINT NAME OF TANK TECHNICIAN)

(PRINT NAME OF DISPOSAL FACILITY REP)

DISTRIBUTION:

A) ORIGINAL AND DISPOSAL MANIFEST (CONFIRMING CONTENTS SENT TO APPROVED DISPOSAL FACILITY) TO RPOS (H) TANK COORDINATOR THROUGH CONTRACT INSPECTOR; AND B) COPIES OF BOTH TO BE PLACED ON PROJECT FILE. * SOR/2008-197 refers to the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*

Supporting Documents Checklist:

- ☐ A photo of the tank with a min 300 mm x 300 mm hole cut in the tank in the vicinity of and showing the AO# label.
- ☐ A letter from the receiving facility confirming destruction of the tank and weight slips from the approved C&D Waste Recycling Facility showing receipt of the tank.
- ☐ Written confirmation from the contractor that the tank and/or system was cleaned prior to disposal including the vapour readings that confirm the cleaning is completed properly prior to destruction.

CFB Halifax, NS

Record of Tank Commissioning

Rev.2 20190705

DCC Project Coordinator

Name of Company		
Name of Tank Installer		
Nova Scotia Certification #		
Completed Stamped "as built" drawings given to RPOS(H) Project Manager		
	Date Y-M-D:	
Risk Evaluation Form completed and given to RPOS(H) Tank Coordinator.		
	Date Y-M-D:	
Give this form "Record of tank Commissioning" with completed information by the Project Coordinator and Contractor Information to RPOS(H) Tank Coordinator.		
	Date Y-M-D:	

Contractor

Tank Manufacturer			
Year Manufactured			
Tank ULC			
Tank Capacity			
Tank Product			
Tank Serial #			
Yr. Tank was Made			
	Y/N	Date (Y-M-D)	Initials
Is overfill protection device installed (B139 1.1)			
Is the Spill box and Vent pipe installed outside of Genset? If Not, Have spill box and vent pipe installed outside. 2" fill line with 2" vent pipe w/ whistle.			
Is Spill Kit Installed as per SOW			
Is the tank free of damage or Visual defects			

Continued Contractor			
Is Traffic Protection Installed			
Does all exposed metal surfaces have corrosion protection (3 part Urethane Paint) as per SOW			
Is all Electronic monitoring installed, Require Make/Model and Serial#			
Is tank on a concrete spill containment pad, drain hole/Plug at lowest point in containment pad.			
Is all piping securely supported as per B139 Installation code			
All piping securely supported as per B139 Installation Code			
RPOS(H) Tank Coordinator			
	Y/N	Date(Y-M-D)	Initials
Received Tank Commissioning Form from DCC Project Coordinator.			
Fill out and submit DND Tank registration Form			
Give new AO#/Product/ capacity and Environment Canada Tank # to the DCC Project Coordinator			
Received Risk Evaluation Form from DCC Project Coordinator			
Complete Emergency Response Plans and put in Spill Kit			
Have Environment Canada Tag made and install it on spill box			
Name of Tank Operator			
Contact # of Tank Operator			
Title of Tank Operator			

Project Coordinator Final Tank Commissioning			
	Y/N	Date(Y-M-D)	Initials
Coordinator and arrange a date and time to observe the following items:			
Confirm all tank labelling is installed as per SOW to include AO#, Product and Capacity x 2 (4" yellow tape with 2.5" black numbers and Lettering. If tank is separate from Genset, Product and directional arrows on supply and Return pipes			
Order fuel for testing ensure fuel delivery company is aware the tank is being commissioned. (Level indicator/ Vent			
Confirm Electronic level and Mechanical level device match fuel truck metered amount of fuel			
Confirm all electronic sensors and alarms are working as per SOW			
Confirm Vent whistle works (stops at 85%)			
Confirm all exterior surfaces of tank and piping do not leak			
Confirm Spill Box and Vent pipes are installed outside Genset			
Confirm Contractor's checks were met			
Confirm Overfill Protection device works (90%)			
Ensure completed "Record of Tank Commissioning" Form is typed/ signed and given to Tank Coordinator			
Tank Commissioned by:			
Name and Company:	Signature:	Date(Y-M-D)	

Record of Tank Commissioning

Rev.2 20190705

DCC Project Coordinator

Name of Company	
Name of Tank Installer	
Nova Scotia Certification #	
<p>Give this form "Record of tank Commissioning" with completed information by the Project Coordinator and Contractor Information to RPOS(H) Tank Coordinator.</p>	
Date Y-M-D:	

Contractor

Tank Manufacturer			
Year Manufactured			
Tank ULC			
Tank Capacity			
Tank Product			
Tank Serial #			
Yr. Tank was Made			
	Y/N	Date (Y-M-D)	Initials
Generator sets on a concrete pad			
Install overfill protection device on tank (B139 1.1)			
<p>Install Spill box and Vent Whistle outside of Genset. Spill box to have 2" male camlock fitting with a 2" camlock cap. Vent pipe to be 2" pipe with vent whistle and 2" vent pipe cap. Vent whistle to be set for 85% full</p> <p>Is all exposed metal ,piping and nipples painted w/ 3 part Urethane Paint</p>			
Is the completed tank free of damage or Visual defects			
Is tank level gauge visible from fill point? If not overfill protection is required.			
Is Traffic Protection Installed			

CFB Halifax, NS

All piping securely supported as per B139 Installation Code

RPOS(H) Tank Coordinator

	Y/N	Date(Y-M-D)	Initials
Receive Commissioning Information from Project Coordinator			
Complete DND Tank Registration Form			
Name of Tank Operator			
Title of Tank Operator			
Contact # of Tank Operator			
Office Location			
Once the tank is registered, the AO# is given to the Project Coordinator			
Update MARLANT Tank Program and DRMIS			

Project Coordinator Final Tank Commissioning

	Y/N	Date(Y-M-D)	Initials
Contact RPOS(H) Project Manager and RPOS(H) Tank Coordinator and arrange a date and time to observe the following items:			
Confirm all tank labelling is installed as per SOW to include AO#, Product and Capacity x 2 (4" yellow tape with 2.5" black numbers and Lettering. If tank is separate from Genset, Product and directional arrows on supply and Return pipes			
Order fuel for testing insure fuel delivery company is aware the tank is being commissioned. (Level indicator/ Vent whistle)			
Confirm Mechanical Level device works			
Confirm Vent whistle works (stops at 85%)			
Confirm all exterior surfaces of tank and piping do not leak			
Confirm Spill Box and Vent pipes are installed outside Genset			
Confirm Overfill Protection device is installed			
Tank Commissioned by:			

Name and Company:	Signature:	Date(Y-M-D)

<u>Record of Tank Commissioning</u> <small>Rev.4 20210519</small>			
<u>DCC Project Coordinator</u>			
Name of Company			
Name of Tank Installer			
Nova Scotia Certification #			
Completed Stamped "as built" drawings given to RPOS(H) Project Manager			
	Date Y-M-D:		
Risk Evaluation form completed and given to RPOS(H) Tank Coordinator			
	Date Y-M-D:		
Give this form "Record of tank Commissioning" with completed information by the Project Coordinator and Contractor Information to RPOS(H) Tank Coordinator.			
	Date Y-M-D:		
<u>Contractor</u>			
Tank Manufacturer			
Year Manufactured			
Tank ULC			
Tank Capacity			
Tank Product			
Tank Serial #			
Yr. Tank was Installed			
	Y/N	Date (Y-M-D)	Initials
Install overfill protection device (B139 1.1)			
Install Spill box and Vent Whistle outside of tank			
Spill Kit Installed as per SOW			
Is the completed tank free of damage or Visual defects			
Install Traffic Protection Installed			
All piping securely supported as per Installation Code			
Make and model # of Electronic Monitoring System			
Install Electronic Monitoring and calibrate system			
Name and certification # of Electronic Monitoring installer:			

RPOS(H) Tank Coordinator			
	Y/N	Date(Y-M-D)	Initials
Complete DND Tank Registration Form			
Received Tank Commissioning Form from Project Coordinator w/ Tank Registration Information			
Name of Tank Operator			
Title of Tank Operator			
Contact # of Tank Operator			
Office Location			
Once the tank is registered, the AO# is given to the Project Coordinator			
Project Coordinator Final Tank Commissioning			
	Y/N	Date(Y-M-D)	Initials
Contact RPOS(H) Project Manager and RPOS(H) Tank Coordinator and arrange a date and time to observe the following items:			
Confirm all tank labelling is installed as per SOW to include AO#, Product and Capacity x 2 (4" yellow tape with 2.5" black numbers and Lettering. Product and directional arrows on supply and Return pipes			
Order fuel for testing, insure fuel delivery company is aware the tank is being commissioned. (Level indicator/ Vent whistle working)			
Confirm Electronic monitoring is calibrated and alarms and sensors are working			
Confirm all exterior surfaces of tank and piping do not leak			
Confirm Overfill Protection device is installed			
Tank Commissioned by:			
Name and Company:	Signature:	Date(Y-M-D)	

SECURITY REQUIREMENTS CHECK LIST (SRCL)

LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine		2. Branch or Directorate / Direction générale ou Direction CFB Halifax	
3. a) Subcontract Number / Numéro du contrat de sous-traitance		3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant	
4. Brief Description of Work / Brève description du travail To provide repairs and installation of fuel tanks and associated equipment at various areas of CFB Halifax. As specified in Contract W684-22-0088.			
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?		<input checked="" type="checkbox"/> No Non	
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?		<input checked="" type="checkbox"/> No Non	
6. Indicate the type of access required / Indiquer le type d'accès requis			
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)		<input checked="" type="checkbox"/> No Non	
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.		<input type="checkbox"/> No Non	
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit?		<input checked="" type="checkbox"/> No Non	
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès			
Canada <input type="checkbox"/>		NATO / OTAN <input type="checkbox"/>	
Foreign / Étranger <input type="checkbox"/>			
7. b) Release restrictions / Restrictions relatives à la diffusion			
No release restrictions Aucune restriction relative à la diffusion		All NATO countries Tous les pays de l'OTAN	
Not releasable À ne pas diffuser			
Restricted to: / Limité à : Specify country(ies): / Préciser le(s) pays :		Restricted to: / Limité à : Specify country(ies): / Préciser le(s) pays :	
7. c) Level of information / Niveau d'information			
PROTECTED A PROTÉGÉ A		NATO UNCLASSIFIED NATO NON CLASSIFIÉ	
PROTECTED B PROTÉGÉ B		NATO RESTRICTED NATO DIFFUSION RESTREINTE	
PROTECTED C PROTÉGÉ C		NATO CONFIDENTIAL NATO CONFIDENTIEL	
CONFIDENTIAL CONFIDENTIEL		NATO SECRET NATO SECRET	
SECRET SECRET		COSMIC TOP SECRET COSMIC TRÈS SECRET	
TOP SECRET TRÈS SECRET			
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT)			
		PROTECTED A PROTÉGÉ A	
		PROTECTED B PROTÉGÉ B	
		PROTECTED C PROTÉGÉ C	
		CONFIDENTIAL CONFIDENTIEL	
		SECRET SECRET	
		TOP SECRET TRÈS SECRET	
		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT)	



PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?

Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?

☒ No ☐ Yes
Non Oui

If Yes, indicate the level of sensitivity:

Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?

Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

☒ No ☐ Yes
Non Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :

Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis



RELIABILITY STATUS
COTE DE FIABILITÉ



CONFIDENTIAL
CONFIDENTIEL



SECRET
SECRET



TOP SECRET
TRÈS SECRET



TOP SECRET- SIGINT
TRÈS SECRET - SIGINT



NATO CONFIDENTIAL
NATO CONFIDENTIEL



NATO SECRET
NATO SECRET



COSMIC TOP SECRET
COSMIC TRÈS SECRET



SITE ACCESS
ACCÈS AUX EMPLACEMENTS

Special comments:

Commentaires spéciaux : Escort will be provided as required IAW site USS security protocol.

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.

REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?

Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?

☒ No ☐ Yes
Non Oui

If Yes, will unscreened personnel be escorted?

Dans l'affirmative, le personnel en question sera-t-il escorté?

☐ No ☐ Yes
Non Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?

Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

☒ No ☐ Yes
Non Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?

Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

☒ No ☐ Yes
Non Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?

Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

☒ No ☐ Yes
Non Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?

Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

☒ No ☐ Yes
Non Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?

Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

☒ No ☐ Yes
Non Oui



PART C - (continued) / PARTIE C - (suite)

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.

Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.

Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category Catégorie	PROTECTED PROTÉGÉ			CLASSIFIED CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL CONFIDENTIEL	SECRET	TOP SECRET TRÈS SECRET	NATO RESTRICTED	NATO CONFIDENTIAL	NATO SECRET	COSMIC TOP SECRET COSMIC TRÈS SECRET	PROTECTED PROTÉGÉ			CONFIDENTIAL	SECRET	TOP SECRET
							NATO DIFFUSION RESTREINTE	NATO CONFIDENTIEL			A	B	C			
Information / Assets Renseignements / Biens Production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Media / Support TI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IT Link / Lien électronique	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?

La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☒ No
Non

☐ Yes
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".

Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?

La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☒ No
Non

☐ Yes
Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).

Dans l'affirmative, classifiez le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).



PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)
WO Dan Sperry

Title – Titre
Contracts 2 I/C

Signature
SPERRY,
DANIEL 304

Digitally signed by
SPERRY, DANIEL 304
Date: 2022.07.19 07:50:24
-03'00'

Telephone No. - N° de téléphone
902 722-4906

Facsimile No. - N° de télécopieur
-

E-mail address - Adresse courriel
Daniel.Sperry@forces.gc.ca

Date

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)

Sasa Medjovic

Title – Titre
Senior security analyst

Signature
MEDJOVIC,
SASHA 234

Digitally signed by MEDJOVIC, SASHA 234
DN: C=CA, O=GC, OU=DND-MDN,
OU=Personnel, OU=INTERN, CN=MEDJOVIC, SASHA 234
Reason: I am the author of this document
Location: your signing location here
Date: 2022.07.25 10:20:35-04'00'
Foxit PDF Editor Version: 11.2.2

Telephone No. - N° de téléphone
613-996-0286

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel
sasa.medjovic@forces.gc.ca

Date

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?

Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?



No
Non



Yes
Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)

Title – Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)

Title – Titre

Signature

Telephone No. - N° de téléphone

Facsimile No. - N° de télécopieur

E-mail address - Adresse courriel

Date