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1 GENERAL

- .1 This portion outlines the payment for construction mobilization and demobilization.
- .2 The Contractor shall enter a price in the Schedule of Unit Prices to cover the costs of mobilization and demobilization.
- .3 The price entered for this item shall be consistent with the costs involved but shall not, in any event, exceed 10 percent (10%) of the total price.
- .4 If this item's Bid price is in excess of 10 percent (10%) of the total Bid price, the Owner shall, in preparing Contract Documents based upon the Bid, reduce the price for the said item to an amount not exceeding 10 percent (10%) of the total price and shall add the amount of the reduction to the price for another lump sum item so that the total Bid price shall not be affected.
- .5 The lump sum price entered for this item will include the cost of transportation of all personnel, construction equipment, fuel and other items which shall not become part of the permanent works. The transportation costs of materials incorporated into the works is to be included in the unit price proposed for its related item.
- .6 60 percent (60%) of the price for the mobilization and demobilization item shall be considered as relating to mobilization and the balance to demobilization.
- .7 The payment for mobilization shall be included in the first Payment Certificate issued for the Contract subject to the Engineer being satisfied that full mobilization has been carried out. If the Engineer is not satisfied, they shall allow a payment which, in their opinion, reflects the degree of mobilization effected to date.
- .8 The payment for demobilization shall become due following Preliminary. Acceptance of the works and subject to the Engineer being satisfied that full demobilization has been carried out. The Engineer may, in their discretion, allow partial payment for demobilization before full demobilization has been affected.

END OF SECTION

1 GENERAL

1.01 PURPOSE

- .1 To ensure that both the construction project and the institutional operations may proceed without undue disruption or hindrance and that the security of the Institution is maintained at all times.

1.02 DEFINITIONS

- .1 "Contraband" means:
 - .1 An intoxicant, including alcoholic beverages, drugs and narcotics.
 - .2 Tobacco or associated tobacco products.
 - .3 An igniting device, lighter or matches.
 - .4 A weapon or a component thereof, ammunition for a weapon, and anything that is designed to kill, injure or disable a person or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization.
 - .5 An explosive or a bomb or a component thereof.
 - .6 Currency over any applicable prescribed limit, \$25 when possessed by an inmate, visitor or contractor without prior authorization.
 - .7 Any item not described in paragraphs 1.02.1.1 to 1.02.1.6 that could jeopardize the security of a Penitentiary or the safety of persons, when that item is possessed without prior authorization.
- .2 "Unauthorized Smoking and related Items" means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco, cigarette making machines, matches and lighters.
- .3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction project.
- .4 "CSC" means Correctional Service Canada.
- .5 "Project Authority" means, Director, Warden or Superintendent of the Institution as applicable.

- .6 "Construction Employees" means persons working for the General Contractor, the sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.
- .7 "Departmental Representative" means the project manager from Correctional Services Canada.
- .8 "Perimeter" means the fenced or walled area of the Institution that restrains the movement of the inmates.
- .9 "Construction Limits" means the area as shown on the contract drawings that the Contractor will be allowed to work. This area may or may not be isolated from the security area of the Institution.

1.03 PRELIMINARY PROCEEDINGS

- .1 Prior to the commencement of work, the Contractor shall meet with the Project Authority or his/her representative to:
 - .1 Discuss the nature and extent of all activities involved in the Project.
 - .2 Establish mutually acceptable security procedures in accordance with this instruction and the institution's particular requirements.
- .2 Contractor shall:
 - .1 Ensure that all Construction Employees are aware of the security requirements.
 - .2 Ensure that a copy of the security requirements is always prominently on display at the job site.
 - .3 Co-operate with institutional personnel in ensuring that security requirements are observed by all Construction Employees.

1.04 CONSTRUCTION EMPLOYEES

- .1 Submit to the Project Authority a list of the names with date of birth of all Construction Employees to be employed on the construction site and a security clearance form for each employee.
- .2 Submit a copy of photo ID with CPIC clearance form for each employee. Contractor responsible to pay for and provide their own CPICs. Employees will not be admitted to the Institution without a valid security clearance in place and a recent picture identification

such as a provincial driver's license. Security clearances obtained from other CSC Institutions are not valid at this Institution.

- .3 The Project Authority may require that facial photographs may be taken of Construction Employees and these photographs may be displayed at appropriate locations in the Institution or in an electronic database for identification purposes. The Project Authority may require that Photo ID cards be provided for all Construction Employees. ID cards will then be left at the designated entrance to be picked upon arrival at the institution and shall be displayed prominently on the Construction Employees' clothing at all time while Construction Employees are in the institution.
- .4 Construction Employees are to report to the Principal Entrance building anytime they enter or leave the institution.
- .5 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .6 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
 - .1 Appear to be under the influence of alcohol, drugs or narcotics.
 - .2 Behave in an unusual or disorderly manner.
 - .3 Are in possession of contraband.
- .7 Smoking is prohibited anywhere on CSC property.

1.05 VEHICLES

- .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks shall be locked and keys removed. The keys shall be securely in the possession of the owner or an employee of the company that owns the vehicle.
- .2 Gas caps on all vehicles and motorized equipment shall be lockable.
- .3 The Project Authority may limit at any time the number and type of vehicles allowed within the institution.
- .4 Drivers of delivery vehicles for material required by the project will not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution. The Project Authority will require that these vehicles be escorted by Institutional Staff or Commissionaires while in the Institution.

- .5 If the Project Authority permits trailers to be left inside the secure perimeter of the Institution, these trailer doors will be locked at all times. All windows will be securely locked when left unoccupied. All trailer windows shall be covered with expanded metal mesh. All storage trailers inside and outside the perimeter shall be locked when not in use.

1.06 PARKING

- .1 Parking area(s) to be used by Construction Employees will be designated by the Project Authority. Parking in other location will be prohibited and vehicles may be subject to removal.

1.07 SHIPMENTS

- .1 All shipments of project material, equipment and tools shall be addressed in the Contractor's name to avoid confusion with the Institution's own shipments. The Contractor must have his/her own employees on site to receive any deliveries or shipments. CSC staff will NOT accept receipt of deliveries or shipments of any material, equipment or tools.

1.08 TELEPHONES

- .1 There will be no installation of telephones, facsimile machines and computers with internet connections permitted within the perimeter of the Institution unless prior approval of the Project Authority is received.
- .2 The Project Authority will ensure that approved telephones, facsimile machine and computers with internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an internet connection to unauthorized personnel.
- .3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, Blackberries, telephone used as two-way radios, are not permitted within the Institution unless approved by the Project Authority. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.
- .4 The use of two-way radios are not permitted.

1.09 WORK HOURS

- .1 Work hours within the Institution are: Monday to Friday, 08:00hrs to 16:00 hrs.
- .2 Work will not be permitted during weekends and statutory holidays without the permission of the Project Authority. A minimum of seven (7) days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waived by the Project Authority.

1.010 OVERTIME WORK

- .1 No overtime work will be allowed without permission of the Project Authority. Give a minimum forty-eight (48) hours advance notice when overtime work on the construction project is necessary and approved. If overtime work is required because of an emergency such as work to make the construction safe and secure, the Contractor shall advise the Project Authority as soon as this condition is known and follow the directions given by the Project Authority. Costs to the Crown for such events may be attributed to the Contractor.
- .2 When overtime work, weekend, or statutory holiday work is required and approved by the Project Authority staff members may be posted by the Project Authority or his/her designate, to maintain the security surveillance. The Departmental Representative may post extra staff for inspection of construction activities. The actual cost of this extra staff may be subject to reclamation by the Crown.

1.011 TOOLS AND EQUIPMENT

- .1 Maintain a complete list of all tools and equipment to be used during the construction project. Make this inventory available for inspection when required.
- .2 Throughout the construction project maintain up-to-date the list of tools and equipment specified above.
- .3 Keep all tools and equipment under constant supervision, particularly power-driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
- .4 Store all tools and equipment in approved secure locations.
- .5 Lock all toolboxes when not in use. Keys to remain in the possession of the employees of the Contractor. Scaffolding shall be secured and locked when not erected and when erected, will be secured in a manner agreed upon with the Institutional designate.
- .6 All missing or lost tools or equipment shall be reported immediately to the Project Authority.
- .7 The Project Authority will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
 - .1 At the beginning and conclusion of every construction project.
 - .2 Weekly, when the construction project extends longer than a one-week period.

- .3 The Contractor may be subject to random checks by security staff to ensure proper storage and security of tools throughout the project.
- .8 Certain tools / equipment such as cartridges and hacksaw blades are highly controlled items. The Contractor will be given at the beginning of the day, a quantity that will permit on day's work. Used blades / cartridges will be returned to the Project Authority's representative at the end of each day.
- .9 If propane or natural gas is used for heating the construction, the Institution will require that an employee of the Contractor supervise the construction site during non-working hours.
- .10 If torches or grinders are required tools to perform Work, Contractor must complete a Hot Work Permit as supplied by CSC. Completed original form(s) are copied and posted on the work site in a conspicuous location. Original documents are to remain with the Institutional Fire Chief.

1.012 KEYS

- .1 Keys:
 - .1 The Contractor will use standard construction cylinders for locks for his/her use during the construction period.
 - .2 The Contractor will issue instructions to his employees and sub-trades, as necessary to ensure safe custody, of the construction set of keys.
 - .3 Upon completion of each phase of the construction, the CSC representative will, in conjunction with the lock manufacturer:
 - .1 Prepare an operational keying schedule.
 - .2 Accept the operational keys and cylinders directly from the lock manufacturer.
 - .3 Arrange for removal and return of the construction cores and install the operational core in all locks.
- .2 Upon putting operational security keys into use, the CSC construction escort shall obtain these keys as they are required from the Security Maintenance Officer (SMO) and open doors as required by the Contractor. The Contractor shall issue instructions to his/her employees advising them that all security keys shall always remain with the CSC construction escort.

1.013 PRESCRIPTION DRUGS

- .1 Employees of the Contractor who are required to take prescription drugs during the workday shall obtain approval of the Project Authority to bring a one-day supply only into the Institution.

1.014 SMOKING RESTRICTIONS

- .1 Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors within the perimeter of a correctional facility and must not possess unauthorized smoking items within the perimeter of a correctional facility.
- .2 Contractors and construction employees who are in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist, will be directed to leave the institution.
- .3 Smoking is only permitted outside the perimeter of a correctional facility in an area to be designated by the Project Authority.

1.015 CONTRABAND

- .1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on Institutional Property.
- .2 Discovery of Contraband on the construction site and the identification of the person(s) responsible for the Contraband shall be reported immediately to the Project Authority.
- .3 Contractors shall be vigilant with both their staff and the staff of their sub-contractors and suppliers that the discovery of Contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.
- .4 Presence of arms and ammunition in vehicles of Contractors, sub-contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

1.016 SEARCHES

- .1 All vehicles and persons entering Institutional property may be subject to search.
- .2 When the Project Authority suspects, on reasonable grounds, that an employee of the Contractor is in possession of Contraband or unauthorized items, he/she may order that person to be searched.

- .3 All employees entering the Institution may be subject to screening of personal effects for traces of Contraband drug residue.

1.017 ACCESS TO AND REMOVAL FROM INSTITUTION PROPERTY

- .1 Construction personnel and commercial vehicles will not be admitted to the Institution after normal working hours, unless approved by the Project Authority.

1.018 MOVEMENT OF VEHICLES

- .1 Escorted commercial vehicles will not be allowed to enter or leave the Institution after normal working hours, unless approved by the Project Authority.
- .2 Construction vehicles shall not leave the Institution until an inmate count is completed.
- .3 The Contractor shall advise the Project Authority twenty four (24) hours in advance to the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .4 Vehicles being loaded with soil or other debris, or any vehicle considered impossible to search, must be under continuous supervision by CSC Staff or Commissionaires working under the authority of the Project Authority.
- .5 Commercial Vehicles will only be allowed access to Institutional property when their contents are certified by the Contractor or his/her representative as being strictly necessary to the execution of the construction project.
- .6 Vehicles shall be refused access to Institutional property if, in the opinion of the Project Authority, they contain any article which may jeopardize the security of the Institution.
- .7 Private vehicles of Construction Employees will not be allowed within the security wall or fence of medium or maximum security Institutions without the permission of the Project authority.
- .8 With prior approval of the Project authority, a vehicle may be used in the morning and evening to transport a group of employees to the work site. This vehicle will not remain within the Institution the remainder of the day.
- .9 With the approval of the Project authority, certain equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The project authority may require that the equipment be secured with a chain and padlock to another solid object.

1.019 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

- .1 Subject to the requirements of good security, the Project authority will permit the contractor and his/her employees as much freedom of action and movement as is possible.
- .2 However, notwithstanding paragraph above, the Project authority may:
 - .1 Prohibit or restrict access to any part of the Institution.
 - .2 Require that in certain areas of the Institution, either during the entire construction project or at certain intervals, Construction Employees only be allowed access when accompanied by a member of the CSC security staff.
- .3 During the lunch and coffee / health breaks, all employees will remain within the construction site. Employees are not permitted to eat in the officer's lounge and dining room.

1.020 SURVEILLANCE AND INSPECTION

- .1 Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.
- .2 CSC staff members will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among Construction Employees and maintained throughout the construction project.

1.021 STOPPAGE OF WORK

- .1 The Project authority may request at any time that the Contractor, his/her employees, sub-contractors and their employees not enter or leave the work site immediately due to a security situation occurring within the Institution. The Contractor's site supervisor shall note the name of the staff member making the request and the time of the request and obey the order as quickly as possible.
- .2 The Contractor shall advise the Departmental Representative within 24 hours of this delay to the progress of the work.

1.022 CONTACT WITH INMATES

- .1 Unless specifically authorized, it is forbidden to come into contact with inmates, to talk to them, to receive objects from them or to give them objects. Any employee doing any of the above will be removed from the site and his/her security clearance revoked.

1.023 COMPLETION OF CONSTRUCTION PROJECT

- .1 Upon completion of the construction project, or when applicable, the takeover of facility, the Contractor shall remove all remaining construction material, tools and equipment that are not specified to remain in the Institution as part of the construction contract.

2 PRODUCTS

2.01 NOT USED

- .1 Not used.

3 EXECUTION

3.01 NOT USED

- .1 Not used.

END OF SECTION

1 GENERAL

1.01 DEFINITIONS

- .1 Environmental Pollution and Damage: 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: prevention/control of pollution and habitat or environment disruption during construction.

1.02 REFERENCES

- .1 Canadian Construction Documents Committee (CCDC)
- .2 CCDC 2-2008, Stipulated Price Contract.
- .3 U.S. Environmental Protection Agency (EPA)/Office of Water
- .4 EPA 832/R-92-005-[92], Storm Water Management for Construction Activities, Chapter 3.
- .5 EPA General Construction Permit (GCP) [2012].
- .6 Canadian Environmental Protection Act and associated Regulations
- .7 Storage Tank Systems for Petroleum Products and Allied Petroleum Products
- .8 Fisheries Act and associated Regulations
- .9 Impact Assessment Act and associated Regulations
- .10 Correctional Service of Canada Commissioner's Directive 318 "Environmental Programs" and associated Environmental Protection Manual
- .11 Species at Risk Act and associated Regulations, Recovery Strategies, etc.
- .12 Migratory Birds Convention Act and associated Regulations
- .13 Treasury Board Greening Government Strategy
- .14 Federal Sustainable Development Strategy

1.03 ENVIRONMENTAL EXPECTATIONS

- .1 The protection of the environment is a shared responsibility. The Contractor and their employees and subcontractors are responsible for:
 - .1 Complying with all local, provincial, and federal regulations and CSC's Environmental Policy;
 - .2 Using equipment, devices, facilities and clothing for protecting the environment and/or safeguarding human health and safety;
 - .3 Taking all reasonable precautions to ensure their safety and the safety of other persons on the Work, the protection of the environment and the protection of the Public; and,
 - .4 Informing promptly their management of any activity in which they believe there may be an adverse environmental effect and report any environmental concerns they observe.
- .2 The Contractor responsibilities, at a minimum, include:
 - .1 Ensure that the Work performed by its forces and sub-contractors, the equipment supplied, and all services carried out on the Work are in a manner so as to reasonably minimize impacts on the environment.
 - .2 Ensure that the Work performed, the equipment supplied, and all services carried out on project comply with all applicable provincial and federal regulatory requirements.
 - .3 Ensure that all personnel are trained and qualified to undertake work and supervised by qualified and competent management staff.
 - .4 Provide all onsite materials necessary to implement all environmental controls, including contingency measures.
 - .5 The Contractor is required to fill out the Environmental Mitigation Measures Form prior to execution of the scope of work and shall submit a copy to the Engineer for review and approval.

1.04 Submittals

- .1 Prior to commencing construction activities or delivery of materials to site and within fifteen (15) Working Days of the Effective Date, submit Contractor Environmental

Protection Plan for review and acceptance by the CSC Representative. Contractor to allow for a minimum of ten (10) Working Days for review.

- .2 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction, and is to include, at a minimum, the items identified in the environmental Mitigation Measures Report Form developed for the project or Environmental Review (an example form has been included for reference as **Appendix A** – note that it is subject to change). A copy of the completed Mitigation Measure Report form must be forwarded to the CSC Project Manager, and upon completion of the project.
- .3 Address topics at level of detail commensurate with environmental issue and required construction task[s].
- .4 Include in Environmental Protection Plan:
 - .1 Name[s] of person[s] responsible for ensuring adherence to Environmental Protection Plan.
 - .2 Name[s] and qualifications of person[s] responsible for manifesting hazardous waste to be removed from site.
 - .3 Name[s] and qualifications of person[s] responsible for training site personnel.
 - .4 Descriptions of environmental protection personnel training program and how they will provide proof.
 - .5 Erosion and sediment control procedures identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations [and US EPA 832/R-92-005, Chapter 3].
 - .6 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .7 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .8 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance, including potential leaks from service vehicles.

- .9 Non-Hazardous and hazardous solid and liquid waste disposal procedures identifying methods and locations for waste disposal including clearing debris, and providing proof of disposal of all streams.
- .10 Air pollution control procedures detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .11 Contaminant Prevention procedures identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .12 Waste Water Management procedures identifying methods and procedures for management [and] [or] discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .13 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- .14 Pesticide treatment procedures to be included and updated, as required.
- .15 List of project activities and potential environmental impacts.
- .16 the Mitigation Measures Matrix and/or Mitigation Matrix Framework from the Environmental Effects Evaluation or Environmental Review.
- .17 Description of specific ways that mitigation measures will be implemented (can be done by completing the mitigation matrix).
- .18 Submit proof of how mitigation measures are applied.
- .19 Description of how Petroleum Storage Tank Regulations will be complied with, if applicable.
- .20 Description of how training on Species at Risk will be logged and submitted.

1.05 Environmental Commitment

- .1 A key aspect of the Project is the protection of the natural environment from construction-related effects and to ensure that areas beyond the controlled perimeters of the Work are not unduly impacted.
- .2 The Contractors Responsibilities include:
 - .1 Ensuring that the Work performed by the Contractor, the equipment, devices, facilities and clothing supplied, and all services carried out on project are in a manner so as to reasonably minimize impacts on the environment and/or safeguarding human health and safety.
 - .2 Ensuring that Work performed by the Contractor, the equipment supplied, and all services carried out on the project comply with all applicable municipal, provincial and federal regulatory requirements.
 - .3 Archaeological discoveries training program includes: heritage protection; recognition of archaeological finds; stop work and notification procedures.
- .3 Ensuring that all personnel are trained and qualified to undertake work and are supervised by qualified and competent management staff.
- .4 Providing all onsite materials necessary to implement all environmental controls, including contingency measures.
- .5 Promptly inform their management of any activity in which they believe there may be an adverse environmental effect and report any environmental concerns they observe.
- .6 Spill Prevention and Contingency Plan developed in accordance with O. Reg. 224/07, include:
 - .1 Names and contact information of qualified spill response company.
 - .2 Names and contact information of emergency services and regulatory agencies.
 - .3 Responsible person(s) for implementing, directing and supervising contingency measures.
 - .4 Procedures, instructions, and reports to be used in event of spills.

1.06 Environmental Protection Requirements

.1 The primary purpose of the environmental protection program is to ensure that construction will be consistent with CSC's environmental protection requirement and to ensure compliance with all regulatory requirements. The purpose of the program is to clearly outline what measures will be put in place to protect the environment and to mitigate any adverse environmental effects that may be caused by the project / construction activities. Environmental protection requirements include the following:

.1 Construction Waste Management

.1 The Contractor's will maintain a plan for construction waste management that includes the following requirements:

.2 Applicable environmental and waste management laws and regulations that will be followed.

.3 All waste records for materials disposed or recycled will be retained.

.4 Indication of type of waste expected to be generated, expected volumes, method of storage while onsite and method of disposal.

.2 Aquatic Habitat Management

.1 The Contractor to submit an aquatic habitat environmental protection plan specific to the intake head replacement activity.

.2 Aquatic based activities to included the use of moon pools / silt curtains to mitigate the propagation of silt during the intake installation activities.

.3 Fuels and Lubricants Management

.1 The Contractor will include a site-specific Spill Response and Prevention Plan written in accordance with O.Reg. 224/07 for CSC's review and acceptance. The Contractor will include the following information:

.2 Awareness training of workers on the effective management of fuels, lubricants and chemicals.

.3 Operational training of workers in contaminated fuel, lubricants and chemical management procedures and principles.

.4 Restricted access to chemicals, fuels and lubricants storage area to personnel qualified and designated to handle such materials.

- .5 Appropriate number, location and accessibility of first aid kits, fire protection equipment and spill control devices are available particularly in areas of storage and re-fuelling application.
- .6 Contractor shall ensure all vehicles are equipped with spill kits.
- .7 Maintenance of all related Safety Data Sheets (SDS) onsite.
- .8 Use and storage of all chemicals, fuels and lubricants in accordance with applicable regulatory requirements.
- .9 Equipment maintenance and re-fuelling in the designated areas and over secondary containment.
- .10 Mechanical equipment is in good working repair and free of oil, hydraulic fluid, grease and fuel leaks.
- .11 Disposal of all greasy or oily rags or materials in appropriate receptacles.
- .12 Offsite disposal of all waste products including used oils and lubricants associated with equipment maintenance in accordance with applicable regulations.
- .13 Reporting of all spills or discharges to the CSC Representative, regardless of size.
- .14 Compliance with Technical Standards and Safety Authority (TSSA) regulations and local fire codes.
- .15 Inspection and monitoring of the work site on an on-going basis for compliance with this Plan.
- .16 Maintenance of all equipment and features associated with fuels and lubricants.
- .17 Daily inspections of all vehicles and onsite mechanical equipment for evidence of leaks.
- .18 Maintenance of a daily log of conditions and response actions relative to this Plan.
- .19 Submission of all fuels, lubricants, solvents, chemicals and related materials to be used onsite for the Work. Identification of onsite storage location and storage method.

.4 Emergency and Spill Response.

.1 The Contractor will include an Emergency and Spill Response Plan that meets the following requirements:

- .1 Transportation, fire and medical emergencies will be included.
- .2 Inclusion of appropriate spill response procedures.
- .3 A list of first-responders and local Emergency Services contacts.
- .4 Inclusion of incident forms.
- .5 Notifications of different agencies and CSC.
- .6 Clear labeling of all drums, containers, tanks and storage cabinets labeled in accordance with WHMIS requirements.
- .7 Appropriate spill kits, including equipment log/list and containment materials at all storage and use locations, including where fuel-containing equipment is operating. Antitamper seals to be used for all spill kits to ensure they are being properly stocked/re-stocked after each use.
- .8 Provide a containment basin to store hazardous products that is protected from precipitation, wind, and other natural elements.
- .9 Maintenance of storage areas as required by applicable regulations and regular inspections of storage areas to ensure compliance.
- .10 Training of onsite personnel in spill prevention and response procedures.

.5 Noise and Vibration Management.

.1 The Contractor's will maintain a Noise and Vibration Control Plan that meets the following requirements:

- .1 All construction equipment shall comply with the emission standards outlined in NPC-115 of the Ontario Model Municipal Noise Control Bylaw.
- .2 Construction activities are done in accordance with current Municipal Noise Bylaws and with these Specifications.

- .3 All vehicles using public roads must be verified to be in compliance with applicable Transport Canada Regulations, Noise Emissions (Standard 1106 and/or NPC-118).

END OF SECTION

1 GENERAL

1.01 SCOPE

- .1 This section outlines measures to be taken to ensure that existing water treatment flows are maintained until expansion and upgrades to the existing WTP are completed “put on-line” (*Start-up Period & Performance Testing are completed*).
- .2 During the period that work is underway, the existing water treatment plant processes at this facility must be maintained in its present form. Not only shall the same degree of flow, pressure and water quality be provided but it shall be provided automatically in a manner identical to the present system in place.
- .3 The Contractor will be required to set-up temporary piping arrangement to ensure the raw water supply and treated water processes, water distribution and fire protection to the community are maintained in its present form and method of control until the Start-Up Period & Performance Testing on the new WTP upgrades have been successfully completed. This will also include but not limited to all electrical and HVAC systems.
- .4 The Contractor will provide measures necessary to ensure that the temporary piping system is protected inside and outside of the facility. Due to timing of work, it may be necessary to insulate and heat trace the piping system installed.
- .5 Prior to commencing work, submit to Engineer for review the proposed temporary piping system chosen along with:
 - .1 Data on the temporary pumps including pump curves.
 - .2 Temporary piping size, layout and arrangement.
 - .3 Wiring schematics indicating how power and control wiring will be modified.
- .6 The Contractor shall co-ordinate this work with the Engineer and the Joyceville Institution Operator.

END OF SECTION

1 GENERAL

1.01 RELATED WORK

- .1 Applicable sections within the project Contract Drawings.

1.02 GENERAL DESCRIPTION OF WORK

- .1 This section sets out requirements for the following components of the existing raw water intake:
 - .1 Removal and replacement (supply and installation) of existing intake screen and connection header port.
 - .2 Removal and replacement of chlorine feed line (25mm dia.) for zebra mussel control, injection port and miscellaneous work related to the work described above.
 - .3 Chlorine feed line outer carrier pipe (75 mm dia.), inspection and assessment report (ONLY).
- .2 Complete all works in compliance with Transport Canada – Navigable Waters Branch requirements for intake structure maintenance, the Ministry of Natural Resources requirements (Land Use Permit – Dredge & Fill of Shorelands) and any other applicable federal regulation requirements.

1.03 SHOP DRAWINGS AND MAINTENANCE DATA

- .1 Submit shop drawings for intake screen, chemical feed line, connections, etc., for review and approval.
- .2 Submit operating and maintenance data for review and approval in accordance with the requirements of the contract.

1.04 MEASUREMENT FOR PAYMENT

- .1 Payment will be on a lump sum basis under the appropriate item in the Schedule of Items and Prices.

2 PRODUCTS

2.01 INTAKE SCREEN

- .1 The intake screen shall be rated for 25 L/s, 0.15m/s maximum slot velocity, Z-alloy material, 3mm slot size, with a minimum collapse rating of 4.33 PSI. The intake screen should be compatible with the turbidity conditions at the site. Outlet flange shall match AWWA C-207 class D 10-inch PS with pipe connect or otherwise shown on the Contract Drawings.

2.02 MATERIALS

- .1 Pipe:
 - .1 To be HDPE Pipe Polyethylene (HDPE) in accordance with CSA B137.0 AND B137.1, ASTM 03035 AND 03350, and CGSB-41-CP- 25M.
 - .1 Chlorination Feed Line: 25 mm dia. (I.D.) IPS DR 11
 - .2 All pipe to be tested in accordance with ULC or equivalent guidelines.
 - .2 Pipe Fittings:
 - .1 All off-shore and underwater fittings to be 304 L stainless steel with flanged ends to CSA 8131.9 1978 or as otherwise shown on the drawings.
 - .3 Refer to Drawings for other materials to be used for construction.
 - .4 Backfill with approved excavated material or granular material as shown on the drawings.
 - .5 Intake screen and appurtenances to be as detailed on Contract Drawings. Supply shop drawings for review and approval by the Engineer.
 - .6 Provide dielectric isolators between all dissimilar metals to prevent sacrificial corrosion.

3 EXECUTION

3.01 ENVIRONMENTAL MEASURES

- .1 Siltation Curtain:
 - .1 Prior to beginning marine work, the Contractor must supply and install a silt curtain / boom around existing intake crib structure to prevent suspended silt migration. The silt boom shall float on the surface and the fabric shall extend to the lake bottom where it shall be weighted to prevent movement. The silt boom shall be equivalent to turbidity screen S1960 complete with chain pocket (bottom) and

floatation insulation (top) as supplied by Layfield, Vaughan, Ontario 289-966-2889 or approved equal.

3.02 INSTALLATION OF NEW INTAKE SCREEN AND CHLORINATION FEED LINE

- .1 Contractor shall dismantle existing raw water intake crib to allow access to the intake inlet structure and chlorine feed line connections.
- .2 Contractor shall carefully remove all existing intake components deemed to be replaced with new components as specified within the Contract.
- .3 Following installation of the new intake components, the Contractor shall arrange and provide the Engineer with a CCTV video record of the underwater work completed on the intake structure screen, connections, and internal and external record of the chlorine carrier pipe feed line.
- .4 The CCTV video record shall be turned over to the Engineer for review as soon as possible after installation and shall become the property of the Owner. Contractor shall allow sufficient time after installation prior to taking video to ensure water turbidity does not affect quality. The Contractor shall make all necessary repairs to the marine works as required by the inspection and complete subsequent photo inspection to ensure the installation meets the contract requirements. A copy of subsequent video inspections shall be provided to the Contract Administrator for approval of the installation.

3.03 CHLORINE FEED LINE (OUTER CARRIER PIPE)

- .1 Contractor shall complete a detailed interior and exterior CCTV inspection and assessment report of the existing 75mm dia. chlorine outer carrier pipe casing to confirm the integrity of the existing pipe to accept the new 25 mm dia. chlorine feed line from the pumphouse to the intake crib. This assessment shall also include hydrostatic testing of the piping system to confirm system integrity. It is noted that one end of the containment pipe is submerged.

3.04 TESTING

- .1 Demonstrate operation of the newly installed components using water.
- .2 Engineer will supervise testing by the Contractor. Provide assistance and materials as required.
- .3 Line(s) will be flushed and demonstrated to be free of blockages.

3.05 CLEANING AND DISINFECTION

- .1 Contractor to ensure all new components installed are to be properly cleaned, flushed of any contaminants, disinfected and rinsed with potable water prior to installation within the marine environment.

END OF SECTION

1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- .1 Applicable Sections as indicated in the Contract Drawings.

1.02 SHOP DRAWINGS AND MAINTENANCE DATA

- .1 Submit shop drawings for review and approval.
- .2 Submit operating and maintenance data for review and approval.

1.03 RESPONSIBILITY

- .1 Items listed under this section are to be supplied, installed and wiring modifications completed as required by the Contractor.
- .2 Contractor shall determine the extent of the equipment supply and shall provide all labour material and equipment necessary for completion of the work.
- .3 Contractor shall also as part of this work, remove the existing chemical feed system components (as designated on the contract drawings) and provide to the Client.
- .4 Contractor shall also as part of this work, remove and replace all existing (corroded) anchors supporting the existing chemical feed pumps.
- .5 Contractor shall install a duplex sodium hypochlorite dosing system complete with components listed under 2 – Products of this section.
- .6 Contractor to complete control wiring (design and installation) and SCADA integration of chemical feed system.

1.04 MEASUREMENT FOR PAYMENT

- .1 Payment will be on a lump sum basis under the appropriate item in the Schedule of Items and Prices.

1.05 COMMISSIONING, START-UP AND WARRANTY PERIOD

- .1 The Contractor shall provide manufacturer's / supplier's representation for the commissioning, start-up and warranty period. Contractor to make provision for two (2) full days of integration support for integration of chemical injection systems (to support the SCADA integrator). Include all costs associated with manufacturer's representation within the Schedule of Unit Prices.

2 PRODUCTS

2.01 CHEMICAL FEED PUMPS

- .1 Quantity: Two (2) pumps for sodium hypochlorite feed system.
- .2 Material Pumped: Sodium hypochlorite.
- .3 Capacity: 7.5 L/hr @ 150 psi back pressure.
- .4 Drive size: Suitable for 120 or 240 V/1-pH/60 Hz.
- .5 Controls: Microprocessor based, programmable pump. Adjustment of the output per stroke shall be via an adjustment knob. Pumps to have minimum 3.0 m electrical cord capable of being plugged into 120 or 240 V/60 Hz wall receptacle. Stroke length to be set and displayed digitally from 1 to 100%, with increments of 1%.
- .6 Chemical feed pumps and control system will have flow-pacing capability.
- .7 The liquid end shall be acrylic, self de-gassing designed to open at low pressure to allow off-gas to be discharged.
- .8 Feed pumps to be provided with pre-mounted panel as described in Item 2.2.1. Provide one (1) pre-mounted panel for sodium hypochlorite system (Two (2) pumps) to be installed in the chemical room.
- .9 Acceptable Product: One (1) Duty and One (1) Standby **Sodium Hypochlorite Chemical Feed System**. Pumps and equipment listed in Item 2.02 are to be assembled on panels by one (1) supplier.

2.02 OTHER EQUIPMENT

- .1 Each of the two (2) feed pump systems shall be provided complete with a pre-mounted panel to include the following:
 - .1 Backpressure valve(s).
 - .2 Pressure relief valve(s).
 - .3 Isolating ball valve(s).
 - .4 Pressure gauge(s) c/w diaphragm isolator.
 - .5 Check valve(s) and drain valve(s).

- .6 100 mL calibration column.
- .7 One (1) flow monitoring sensor per pump c/w fault annunciating relay.
- .8 Pump panel to provide Duty/Standby feed pump operation with automatic switchover and fault re-transmission for systems (sodium hypochlorite). **Process chemical feed system to be mounted on HDPE back board.**

- .2 Accessories:
 - .1 Foot valve for each pump suction.
 - .2 Polyethylene suction tubing.
 - .3 Injector assembly for each system.
 - .4 Low Level Switch.

- .3 Spare Parts (for each pump size if parts differ):
 - .1 One (1) set spare gaskets.
 - .2 One (1) spare parts kit.
 - .3 One (1) spare diaphragm assembly.

- .4 Electrical & Controls Requirements:
 - .1 Contractor will utilize existing electrical infrastructure for chemical injection power – 120 or 240 VAC/60 Hz power cord with plug.
 - .2 Contractor to specify and submit control wiring design specific to chemical injection pump control for review and approval.
 - .3 Contractor to complete SCADA integration under provided programming allowance.

- .5 Operation Sequences:
 - .1 System shall operate automatically. Facility SCADA shall exchange control and operation signals. SCADA integration to be completed by contractor under the provisions of the provided allowance. Control wiring for noted signal to **Raw Water Pumphouse** control panel to be completed in support of the control system.

- .2 SCADA control system has spare provisions available for the following signals that are to be integrated from chemical injection pump skid.
 - .1 Analog outputs (4-20 mA) – one (1) each per pump for flow rate / speed control.
 - .2 Discrete inputs with control power from chemical pumps for pump status; Off (0), On (1); maintained – one (1) each per pump.
 - .3 Discrete outputs to be provided complete with dry contacts for pump start / stop functionality; Off (0), On (1); maintained.
- .3 Operation (general):
 - .1 Command for the metering pump to start and speed reference signal are issued.
 - .2 Control system starts the feed pump and responds to pump speed reference signal changes.
 - .3 Command is issued for the feed pump to stop.

END OF SECTION