

Part 1 General

1.1 TAXES

- .1 Pay all taxes properly levied by law (including Federal, Provincial and Municipal).

1.2 FEES, PERMITS and CERTIFICATES

- .1 Pay all fees and obtain all permits.
- .2 Provide authorities with plans and information for acceptance certificates.
- .3 Obtain inspection certificates as evidence that work conforms to requirements of Authority Having Jurisdiction.

1.3 WORK RESTRICTIONS

- .1 Use of Site and Facilities.
 - .1 Execute work with least possible interference or disturbance to the normal use of premises. Refer to paragraph 1.3.2 Special Scheduling Requirements below for work that must be done during "off hours".
 - .2 Maintain existing services to bridge and provide for pedestrian and vehicle access.
- .2 Special Scheduling Requirements.
 - .1 Carry out work during daylight hours only.
 - .2 Carry out noise generating work during between the following times:
 - .1 7:30 am to 9:00 pm Monday through Saturday.
 - .2 9:00 am to 7:00 pm Sunday and statutory holidays.
 - .3 Carry out work affecting traffic between one half hour past sunrise and one half hour before sunset.
- .3 Maintain a navigational clearance free of any obstruction, 6.4 m high by 48.4 m wide above the water level between piers, at all times.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 PWGSC will have a part-time Departmental Representative on site.
- .2 Project Meetings.
 - .1 Departmental Representative will schedule and administer project meetings throughout the progress of Work.

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- .2 Departmental Representative will prepare agenda for meetings and will distribute written notice of each meeting four days in advance of meeting date.
 - .3 Departmental Representative will preside at meetings, will record the meeting minutes, and will produce and distribute minutes of the meetings within 5 working days of meeting.
 - .4 The Contractor will provide local physical space and make arrangements for meetings.
 - .5 Departmental Representative will finalize the minutes upon review and comments from all parties.
 - .6 Representatives of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of the party they represent.
- .3 Start-up Meeting.
- .1 Within 10 working days after award of Contract, Departmental Representative will request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
 - .2 Relevant stakeholders and regulatory authorities, Departmental Representative, Contractor, and major Subcontractors will be in attendance.
 - .3 Departmental Representative will establish time and location of meeting and notify parties concerned a minimum 5 working days before meeting. The meeting will be held in PWGSC Gatineau offices.
- .4 Verify project requirements. Departmental Representative to prepare agenda. As a minimum Agenda to include:
- .1 Schedule of Work: in accordance with Article 1.5 Construction Progress Schedule below.
 - .2 Schedule of submission of shop drawings, samples, mock-ups. Submit submittals in accordance with Article 1.6 Submittal Procedures below.
 - .3 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in

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- accordance with Article 1.12 Construction Facilities below.
 - .4 Site security in accordance with Article 1.13 Construction Facilities below.
 - .5 Proposed changes, procedures, approvals required, administrative requirements.
 - .6 As-built/Record drawings in accordance with Article 1.18 Closeout Submittals below.
 - .7 Maintenance manuals in accordance with Article 1.18 Closeout Submittals below.
 - .8 Take-over procedures, acceptance, warranties in accordance with Article 1.18 Closeout Submittals below.
 - .9 Monthly progress claims, administrative procedures, photographs, hold backs.
 - .10 Appointment of inspection and testing agencies or firms.
 - .11 Insurances, transcript of policies
 - .12 Project Health and Safety requirements.
 - .5 Departmental Representative to record minutes of meetings and circulate to attending parties and affected parties not in attendance within four (4) days after meeting.
 - .4 Regular Project Meetings.
 - .1 During course of Work attend progress meetings every second week. Meetings to be held on-site. Attend additional scheduled meetings as required.
 - .2 Key contractor personnel, contractor site supervisor, Departmental Representative to attend.
 - .3 Departmental Representative to record minutes of meetings and circulate to attending parties and affected parties not in attendance within four (4) days after meeting.
 - .4 Departmental Representative to prepare agenda. As a minimum agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Use of Site, Safety and Security.
 - .4 Field observations, Site Reviews.
 - .5 Review of delivery schedules.
 - .6 Upcoming work and any Revisions to construction schedule.
 - .7 Review of submittal schedules: expedite as required.
 - .8 Review of any proposed changes for effect on construction schedule and on completion date.

1.5 CONSTRUCTION PROGRESS SCHEDULE

- .1 On award of contract submit bar chart construction schedule for work, indicating anticipated progress stages within time of completion. When the Departmental Representative has reviewed schedule, take necessary measures to complete work within scheduled time. Do not change schedule without notifying Departmental Representative.

1.6 CONSTRUCTION STAGING AREA

- .1 Prior to mobilization to site submit site plan showing the location of construction staging area and construction facilities. Do not change locations during the course of the work without prior approval of the Departmental Representative.

1.7 SUBMITTAL PROCEDURES

- .1 Submit promptly to Departmental Representative submittals listed for review, in orderly sequence to not cause delay in work.
- .2 Do not proceed with work affected by submittals until review is complete.
- .3 Provide inspection certificates as evidence that work conforms to requirements of Authority Having Jurisdiction.
- .4 Shop Drawings:
 - .1 Submit electronic copy of shop drawings and installation procedure: bearing stamp and signature of qualified Professional Engineer registered or licensed in Province of Ontario and Quebec.
 - .2 The review is for the sole purpose of ascertaining conformance with the general design concept, and does not mean approval of the design details inherent in the shop drawings, responsibility for which shall remain with the Contractor. Such review shall not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents.
 - .3 Commence manufacture or order materials only after shop drawings are reviewed.
 - .1 When requested by Departmental Representative, make changes to submitted shop drawings consistent with Contract Documents. Resubmit as directed by Departmental Representative.
- .5 Product Data:
 - .1 Submit electronic copy of product data: manufacturers' catalogue sheets, brochures, literature, performance

- charts and diagrams, used to illustrate standard manufactured products.
- .2 Cross reference product data information to applicable portions on Contract Documents.
- .3 Delete information not applicable to the Work.
- .4 Submit product data minimum 5 days before undertaking respective work.
- .6 Samples:
 - .1 Submit samples: examples of materials, equipment, quality, finishes and workmanship.
 - .2 Where colour, pattern or texture is criterion, submit full range of samples.
 - .3 Reviewed and accepted samples will become standard of material and workmanship, against which installed work will be verified.
- .7 Warranty:
 - .1 Submit a written warranty stating the that the installed bird deterrent system have been fabricated and installed such that they will perform satisfactorily without repairs for a period of two (2) years from completion.
 - .2 The warranty shall provide that, in the event of breakdown of the bird deterrent system within the period of the warranty, the replacement or repair of the bird deterrent system including related access and traffic control measures will be at no cost to the Departmental Representative.

1.8 REGULATORY REQUIREMENTS

- .1 References and Codes:
 - .1 Materials: new.
 - .2 Work to conform to minimum applicable standards of "References" indicated in specification sections, the latest versions of the Canadian Highway Bridge Design Code (CAN/CSA S6), the National Building Code of Canada (where applicable), the Canadian General Standards Board, the Canadian Standards Association and applicable Provincial and Municipal codes. In the case of conflict or discrepancy the most stringent requirement applies.
- .2 Verification of Site Dimensions:
 - .1 The Contractor is advised that all elevations and dimensions shown on the plans are approximate only. Verify all existing dimensions and grades before preparing and submitting shop drawings and before

planning and undertaking any construction work.
Immediately report all discrepancies, in writing, to
the Departmental Representative.

- .3 Hazardous Material Discovery:
 - .1 Stop work immediately when material resembling spray or trowel-applied asbestos, Polychlorinated Biphenyl (PCB), mould or other designated/hazardous substance is encountered.
 - .1 Take preventive measures and promptly notify Departmental Representative.
 - .2 Do not proceed until written instructions have been received from Departmental Representative.

1.9 FIRE SAFETY REQUIREMENTS

- .1 Comply with both the National Building Code of Canada [2015] and the National Fire Code of Canada [2015] for safety of persons in buildings in the event of a fire and the protection of buildings from the effects of fire, as follows;
 - .1 The National Building Code (NBC): for fire safety and fire protection features that are required to be incorporated in a building during construction.
 - .2 The National Fire Code (NFC):
 - .1 The on-going maintenance and use of the fire safety and fire protection features incorporated in buildings.
 - .2 The conduct of activities that might cause fire hazards in and around buildings.
 - .3 Limitations on hazardous contents in and around buildings.
 - .4 The establishment of fire safety plans.
 - .5 Fire safety at construction and demolition sites.
- .2 Welding and cutting:
 - .1 At least one week prior to commencing cutting, welding or soldering procedure, provide to Departmental Representative:
 - .1 Notice of intent, indicating devices affected, time and duration of isolation or bypass.
 - .2 Completed welding permit as defined in NFC.
 - .3 Return welding permit to Departmental Representative immediately upon completion of procedures for which permit was issued.
 - .2 Assign "Fire Watchers" as described in NFC when welding or cutting operations are carried out in areas where combustible materials within 15m may be ignited by conduction or radiation.

1.10 QUALITY ASSURANCE

- .1 Keep daily records of work progress for inspection by the Departmental Representative. Daily record to contain:
 - .1 Description of work activities performed;
 - .2 Photographic evidence of work progress.
- .2 Retain a Quality Verification Engineer licensed to practice in the Province of Ontario and the Province of Quebec.
- .3 At completion of work submit one (1) paper copy and one (1) electronic copy of a report, signed and sealed by the Quality Verification Engineer attesting all work has been completed in conformance with the Contract Documents.
- .4 Allow Departmental Representative access to Work.
- .5 Remove defective or non-conformance work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

1.11 HAZARDOUS MATERIALS

- .1 Hazardous Materials: product, substance, or organism that may cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
- .2 Comply with the requirements of the Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and the provision of Material Safety Data Sheets (MSDS).

1.12 TEMPORARY UTILITIES

- .1 Provide and maintain for the duration of the work:
 - .1 Temporary light, power and potable water to fulfill the requirements of the work.
- .2 Remove from site all temporary utilities after completion of the work.

1.13 CONSTRUCTION FACILITIES

- .1 Access Scaffold:
 - .1 Use mobile work platforms or scaffolding that is trailer or truck mounted. Remove at the end of each working day.
 - .2 Do not suspend or otherwise attach work platforms or scaffolding to the structure.
 - .3 Do not work in or from water.

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- .4 The existing catwalk may be used to facilitate access to do the work. Load on the existing catwalk shall not exceed 1.2 kilonewtons per square metre.
 - .5 Design, maintain, install and remove all other means of access necessary to do the work in accordance with CSA Z797 Code of Practice for Access Scaffold. Provide design drawings, signed and sealed by qualified Professional Engineer licensed in the province of Ontario and Quebec.
 - .2 Hoists and Cranes:
 - .1 Provide hoists and cranes required to carry out the Work in accordance with Infrastructure Health and Safety Association (IHSA) recommendations and the Occupational Health and Safety Act.
 - .2 Co-ordinate with Departmental Representative.
 - .3 Protect from damage, safety hazards and overloading of existing equipment.
 - .3 Site Storage:
 - .1 Equip and maintain the storage space assigned by Departmental Representative.
 - .2 Do not unreasonably encumber site with materials or equipment.
 - .3 Move stored products or equipment that interfere with operations of Departmental Representative.
 - .4 Obtain and pay for use of additional storage or work areas needed for operations.
 - .5 Do not load or permit to load any part of work with weight or force that will endanger work.
 - .4 Provide site trailer or off-site space, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
 - .5 Where security is reduced by work: provide temporary means to maintain security.
 - .6 Provide Sanitary Facilities for Workers. Sufficient portable chemical toilet conveniences, maintained in a sanitary condition, for use of all persons on site. Do not place toilets on bridge deck or within 5.0 m of the water's edge.
 - .7 Signage:
 - .1 Provide common-use signs related to traffic control, information, instruction, use of equipment, and public safety devices in both official languages or by the use of commonly understood graphic symbols and to approval of Departmental Representative.
 - .2 No advertising is permitted on this project.

- .3 Maintain approved signs and notices in good condition for duration of project and dispose of off-site, on completion of project or earlier, as directed by Departmental Representative.
- .4 Ensure all signs and notices are bilingual.

1.14 TEMPORARY BARRIERS AND ENCLOSURES

- .1 Maintain existing services to bridge and provide for resident, pedestrian, cyclist and vehicle access.
- .2 Provide dust control measures where work activities generate dust.
- .3 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders [and scaffolding], independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.
- .4 Protection:
 - .1 Protect work against damage until take-over.
 - .2 Protect adjacent work against the spread of dust and dirt beyond the work areas.
 - .3 Protect operatives and other users of site from hazards.
 - .4 Maintain and relocate protection until such work is complete.
- .5 Work zones:
 - .1 Work zone locations include: Entire bridge structure from Ontario to Quebec abutment including access areas at abutments

1.15 COMMON PRODUCT REQUIREMENTS

- .1 Quality of Work:
 - .1 Appoint a designated Site Supervisor.
 - .2 Ensure site supervisor is present and available at all times during construction.
 - .3 Carry out work using qualified licensed workers or apprentices in accordance with Provincial Act respecting manpower vocational training and qualification.
 - .4 Permit employees registered in Provincial apprenticeship program to perform specific tasks only if under direct supervision of qualified licensed workers.
 - .5 Determine permitted activities and tasks by apprentices, based on level of training attended and demonstration of ability to perform specific duties.

- .6 Carry out work using subcontractors who holds valid license issued by Province in which work is being contracted.
- .2 Storage, Handling and Protection:
 - .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions.
 - .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove packaging or bundling until required in work.
- .3 Manufacturer's Instructions:
 - .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions.
 - .2 Obtain written instructions directly from manufacturers.
 - .3 Do not rely on labels or enclosures provided with products.

1.16 EXAMINATION and PREPARATION

- .1 Examine site and conditions likely to affect work and be familiar and conversant with existing conditions.
- .2 Before commencing work, establish location and extent of services lines in area of work and notify Departmental Representative of findings.
- .3 Photograph surrounding properties, objects and structures liable to be damaged or be the subject of subsequent claims.

1.17 EXECUTION

- .1 Cut, Patch and Make Good:
 - .1 Cut existing surfaces as required to accommodate new work.
 - .2 Remove items so shown or specified.
 - .3 Patch and make good surfaces cut, damaged or disturbed, to Departmental Representative's approval. Match existing material, colour, finish and texture.
- .2 Unless otherwise specified, materials for removal become the Contractor's property. Take removed materials from site.

1.18 WASTE MANAGEMENT

- .1 Comply with Environmental Protection Act, Ontario Regulations: O. Reg. 102/94 - Waste Audits and Waste Reduction Work Plans; and O. Reg. 103/94 - Industrial,

Commercial and Institutional Source Separation Programs; for waste management on construction and demolition projects.

- .2 Conduct "waste audit" to determine what waste will be generated during construction and demolition operations. Prepare written "waste reduction work plan" and implement the principles to reduce, reuse and recycle materials to the extent that is possible.
- .3 Provide a "source separation program" to disassemble and collect in an orderly fashion the following "materials designated for alternative disposal" from the "general waste" stream:
 - .1 cardboard (corrugated);
 - .2 steel; and
 - .3 wood (not including painted, treated or laminated wood).
- .4 Submit complete records of all removals from site for both "materials designated for alternative disposal" and "general waste" including:
 - .1 time and date of removal;
 - .2 description of material and quantities; and
 - .3 proof that materials have been received at an approved Waste Processing Site or certified Waste Disposal Site as required.

1.19 CLOSEOUT SUBMITTALS

- .1 Operational and Maintenance Manuals:
 - .1 Two (2) weeks prior to any scheduled training, submit to Departmental Representative one (1) paper copy and one (1) electronic copy of approved Operations Data and Maintenance Manual in both official languages, compiled as follows:
 - .1 Bind data in vinyl hard cover 3 "D" ring type loose-leaf binders for 212 x 275 mm size paper. Binders must not exceed 75 mm thick or be more than 2/3 full.
 - .2 Enclose title sheet labelled "Operation Data and Maintenance Manual," project name, date and list of contents. Project name must appear on binder face and spine.
 - .3 Organize contents into applicable sections of work to parallel project specifications breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
 - .2 Include following information plus data specified:

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- .1 Maintenance instruction for finished surface and materials.
 - .2 Copy of hardware and paint schedules.
 - .3 Maintenance: use clear drawings, diagrams or manufacturers' literature which specifically apply and detail the following:
 - .1 lubrication products and schedules;
 - .2 trouble shooting procedures;
 - .3 adjustment techniques; and
 - .4 operational checks.
 - .4 Suppliers' names, addresses and telephone numbers and components supplied by them must be included in this section. Components must be identified by a description and manufacturers part number.
 - .5 Guarantees showing:
 - .1 name and address of projects;
 - .2 guarantee commencement date (date of Interim Certificate of Completion);
 - .3 duration of guarantee;
 - .4 clear indication of what is being guaranteed and what remedial action will be taken under guarantee; and
 - .5 signature and seal of Guarantor.
 - .6 Additional material used in project listed under various Sections showing name of manufacturer and source of supply.
- .3 Spare parts: list all recommended spares to be maintained on site to ensure optimum efficiency. List all special tools appropriate to unique application. All parts/tools detailed must be identified as to manufacturer, manufacturer part number and supplier (including address).
 - .4 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.
- .2 Records:
 - .1 As work progresses, maintain accurate records to show deviations from contract drawings. Just prior to Departmental Representative's inspection for issuance of final certificate of completion, supply to the Departmental Representative one (1) set of white prints with all deviations neatly inked in. The Departmental Representative will provide two sets of clean white prints for this purpose.
 - .2 Include one complete set of final shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

- .3 Guarantees and Warranties:
 - .1 Before completion of work collect all guarantees or warranties and deposit with Departmental Representative.
 - .2 Extend warranties to 24 months from the time of Substantial Completion of work for the following components:
 - Bird Deterrent System: against any defects such rips, tears, loose deterrent system, loose or broken connections or hardware, loss of adhesion.
 - .3 Coordinate and attend 10 month and 22 month warranty inspections with Departmental Representative.
 - .4 Correct all deficiencies to satisfaction of Departmental Representative after both 10 month and 22 month warranty inspections.
 - .5 Where time is required beyond the 24 month warranty to correct a deficiency, warranty to continue until deficiency is corrected to satisfaction of Departmental Representative.

1.20 CLEANING

- .1 Clean up as work progresses. At the end of each work period, and more often if ordered by the Departmental Representative, remove debris from site, neatly stack material for use, and clean up generally.
- .2 Upon completion remove scaffolding, temporary protection and surplus materials. Make good defects noted at this stage.
- .3 Clean areas under contract to a condition equal to what previously existed and to approval of Departmental Representative.

1.21 SECURITY CHECK

- .1 Not applicable.

1.22 SECURITY ESCORT

- .1 Not applicable.

1.23 COST BREAKDOWN

- .1 Before submitting first progress claim, submit breakdown of Contract Amount in detail as directed by Departmental Representative and aggregating the Contract Amount. After approval by Departmental Representative cost breakdown will be used as the basis of progress payments.

Part 2 Products

2.1 NOT USED

 .1 Not used.

Part 3 Execution

3.1 NOT USED

 .1 Not used.

END OF SECTION

1 GENERAL

1.1 REFERENCES

- .1 Federal Legislation
 - .1 Canada Labour Code, Part II, section 124 and 125. Canada Occupational Health and Safety Regulations
 - .2 Transportation of Dangerous Goods Act, 1992 (TDGA)
 - .3 Canada Consumer Product Safety Act
 - 1. Surface Coating Materials Regulations SOR/2005-109.
 - .4 Canadian Environmental Protection Act, 1999 (CEPA)
 - 1. PCB Regulations (SOR/2008-273)
 - 2. Federal Halocarbon Regulations, 2003 (SOR/2003-289)
- .2 Provincial Legislation
 - .1 Act Respecting Occupational Health and Safety, (Québec R.S.Q., Chapter S-2.1).
 - .2 Safety Code for the Construction Industry, Work Liabile to Produce Asbestos Dust Emissions (Québec R.S.Q., Chapter S-2.1, r.4, Section3.23).
 - .3 Regulation Respecting Occupational Health and Safety (QuébecR.S.Q., Chapter S-2.1, r.13)
 - .4 Ontario Occupational Health and Safety Act, R.S.O. 1990, 2010 edition.
 - 1. OntarioRegulation 490/09 -DesignatedSubstances (O.Reg. 490/09).
 - 2. Ontario Regulation 278/05 - Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations, (O.Reg. 278/05).
 - 3. Ontario Regulation 213/91 for Construction Projects (O.Reg. 213/91)
 - .5 Ontario Environmental Protection Act, R.R.O. 1990,
 - 1. Ontario Regulation 347/09, General - Waste Management (O.Reg. 347/09).
 - 2. Ontario Regulations 362/90 - Waste Management, PCBs (O.Reg. 362/90)
 - 3. Ontario Regulation 463/10, Ozone Depleting Substances and Other Halocarbons (O.Reg. 463/10).
- .3 Canadian General Standards Board (CGSB).
- .4 Canadian Standards Association (CSA International). CAN/CSA-Z94.4-11 -Respiratory Protection
- .5 Underwriters' Laboratories of Canada (ULC).

1.2 DESIGNATED SUBSTANCES

Confirm with the Departmental Representative that no additional designated substances have been brought to the project area prior to beginning work.

Additional designated substances and hazardous materials may exist outside the accessible survey areas but are beyond the scope of this project.

Should any additional material, suspected to be a designated substance, be encountered within the project area, any disturbance of such material must be stopped, precautionary measures taken, and the Departmental Representative must be notified immediately. Do not proceed until written instructions have been received.

1. ACRYLONITRILE: Not Identified
2. ARSENIC: Not Identified
3. ASBESTOS: Not Identified
4. BENZENE: Not Identified
5. COKE OVEN EMISSIONS: Not identified
6. ETHYLENE OXIDE: Not Identified
7. ISOCYANATES: Not Identified
8. LEAD: Suspected
 1. Painted components of the steel structure are suspected of containing lead, however, no lead paint samples or surface coatings were collected for lead content analysis, as paints/surface coatings encountered in the project areas were in good condition and sampling without matrix interference (i.e. removing the paint without the substrate material) would have proved difficult.
9. MERCURY: Not Identified
10. SILICA: Identified
 1. Based on the historic composition of building materials, silica is expected to be present in concrete materials.
11. VINYL CHLORIDE MONOMER: Not Identified
12. POLYCHLORINATED BIPHENYLS (PCBs): Not Identified
13. MOULD: Not Identified
14. HALOCARBONS: Not Identified

15. OTHER HAZARDOUS MATERIALS: Identified

1. Avian Wildlife and nests, including nests with eggs are present throughout the entire structure of the bridge.
2. Avian Fecal Matter is visibly contaminating bridge components including the access ladders and platforms, catwalk, railings and supports, flat concrete, structural steel between girders, bearings and bearing seats as well as the top of abutments and piers.

1.3 RECOMMENDATIONS

.1 LEAD

1. Follow both the CNESST document entitled: Guide de Prévention -L'exposition au plomb and the Occupational Health and Safety (OHS) Branch of the Ontario Ministry of Labour (MoL) document entitled: Guideline: Lead on Construction Projects. The MoL document classifies all disturbances of lead-containing materials as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, based on presumed airborne concentrations of lead generated during the work. The MoL assigns different levels of respiratory protection and work procedures for each classification. In the absence of specific legislation for lead on construction projects, these guidelines should be followed when disturbing lead-containing materials. In the event of conflict, the more stringent procedures should be applied to the project area as a whole (i.e. both Québec and Ontario sides of the Bridge).
2. Appropriate work practices, including adequate ventilation and respiratory protection must be utilized during work operations to ensure that allowable lead exposure concentrations as outlined in Québec's Regulation Respecting Occupational Health and Safety (Québec R.S.Q., Chapter S-2.1, r.13) (considered to be the most stringent when compared to equivalent Ontario regulatory requirements).
3. Even at low concentrations, there may be a potential for exposure to high concentrations of lead depending on the activities performed that disturb the lead-containing materials. At low lead concentrations, conducting a risk assessment to assess the potential for exposure is required to determine the need to follow precautionary measures.
4. The disposal of construction waste containing lead in Québec is dependent upon the result(s) of leachate test(s). The waste can be classified as "hazardous", "non-hazardous" or "registerable solid waste", depending on the results of the leachate test, in accordance with Regulation Respecting Hazardous Materials (O.C. 1310-97), under the Environmental Quality Act, R.S.Q., c. Q-2-(21).
5. The Federal Transportation of Dangerous Goods Act controls the transport of the waste to a disposal site.

.2 SILICA

1. Comply with Ontario Regulations O.Reg 490/09 when performing works that may disturb silica-containing materials. The regulation provides requirements for allowable exposure levels.
2. Silica dust can be generated through such processes as blasting, grinding, crushing, and sandblasting silica-containing material. Since silica is present in select materials at the building, appropriate respiratory protection and ventilation must be donned during the demolition and modifications of these structures. Appropriate work practices including adequate ventilation and respiratory protection must be utilized during work operations to ensure that allowable silica exposure levels, as outlined in Québec's Regulation Respecting Occupational Health and Safety (Québec R.S.Q., Chapter S-2.1, r.13) are not exceeded.
3. Follow recommendations provided in both the CNESST document entitled: Guide des bonnes pratiques - Prévention de l'exposition des travailleurs à la silice and the MoL Guideline entitled "Guideline: Silica on Construction Projects". The MoL document classifies all silica disturbances as Type 1, Type 2 or Type 3 work, and assigns different levels of respiratory protection and work procedures for each classification. These work procedures should be followed when performing work involving the disturbance of silica-containing materials. In the event of conflict, the more stringent procedures should be applied to the project area as a whole (i.e. both Québec and Ontario sides of the Bridge).

.3 AVIAN WILDLIFE

1. Fecal matter from animals has been associated with a variety of human health and safety concerns. Bird feces may contain moulds that may cause disease in humans. If the bird feces are disturbed, the toxic moulds may become airborne and pose a respiratory health risk. Workers performing cleaning operations should be aware of active roosting and nesting avian wildlife in sporadic areas of the bridge and conduct their cleaning accordingly.
2. It is recommended that animal droppings be removed using a combination of High Efficiency Particulate Aerosol (HEPA) filtered vacuum and wet cleaning (disinfecting) methods. Workers should use consider the use of appropriate respiratory protection and protective clothing in order to reduce exposure to mould when disturbing animal fecal matter or building materials contaminated with animal fecal matter.

2 PRODUCTS

2.1 NOT USED

.1 Not used.

3 EXECUTION

3.1 NOT USED

.1 Not used.

END OF SECTION

1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 01 55 26 - Traffic Control.

1.2 REFERENCE STANDARDS

- .1 Province of Ontario
 - .1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended.
- .2 Province of Quebec
 - .1 An Act Respecting Occupational Health and Safety, R.S.Q., c.S-2.1

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 00 10 - General Instructions.
- .2 Submit site-specific Health and Safety Plan: Within five (5) days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 - .1 Results of site specific safety hazard assessment.
 - .2 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
 - .3 Worker training certificates.
 - .4 Company information including subcontractors.
 - .5 Proof of liability insurance with a valid clearance certificate from the Workplace Safety Insurance Board (WSIB) and/or Commission des normes, de l'équité, de la santé et de la sécurité au travail (CNESST) (site specific, PWGSC named as certificate holder).
 - .6 Communication Plan
 - .7 Contact phone numbers.
 - .8 On-site Contingency and Emergency Response Plan addressing standard operating procedures to be implemented during emergency situations.
 - .9 Protection of the Public.
 - .10 Traffic Control Plan
 - .11 Respiratory Protection Plan
- .3 Submit one (1) copy of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative weekly.
- .4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .5 Advise the Departmental Representative of any accident, injury, near-miss incident, fire, explosion, or Chemical spill occurring at the Work site and any visit to the site by a governmental enforcement official. Provide a written report within 24 hours of any accident, injury, near-miss incident, fire, explosion or chemical spill.

- .6 Submit to the Departmental Representative for review, one complete Hazard Assessment Site Specific Health and Safety Plan (HASSSP) in an indexed format, and in a three-ring binder. Once the Departmental Representative has reviewed and accepts the HASSSP binder the Departmental Representative will return HASSSP for site use.
- .7 Submit WHMIS MSDS - Material Safety Data Sheets for all products used or stored on site to the Departmental Representative.
- .8 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within five (5) days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within two (2) days after receipt of comments from Departmental Representative.
- .9 Departmental Representative's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
- .10 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.4 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.5 SAFETY ASSESSMENT

- .1 Perform site specific safety hazard assessment related to project.

1.6 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to mobilizing to site.
- .2 During the same meeting mentioned under 1.6.1, or in a separate meeting, invite MOL and CNESST to discuss how health and safety will be delivered on the project and meet the Ontario and Quebec regulations prior to mobilizing to site.

1.7 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 00 10 - General Instructions.

1.8 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Bird Droppings.
 - .2 Steel and concrete surfaces.

1.9 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
- .2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .2 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.
- .3 Contractor shall be the Principal Contractor as described in the Quebec Act Respecting Health and Safety code for the Construction for only their scope and areas of work as defined and described this project specification.
- .4 Ensure the site supervisor is an employee of the constructor and that this person is present and available at all-time throughout the life of the project.
- .5 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.
- .6 Provide all necessary safety training and personal protective equipment as required to effect work while ensuring sub-contractors are equally compliant.

1.11 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

1.12 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.
- .2 Provide, documents as follows and post on site (if applicable): Safety Policy, Health and Safety Representative, Contractor's name, Material Safety Data Sheets, and all applicable legislative and regulatory requirements.

1.13 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

1.14 BLASTING

- .1 Blasting or other use of explosives is not permitted.

1.15 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.16 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

2 PRODUCTS

2.1 NOT USED

- .1 Not used.

3 EXECUTION

3.1 NOT USED

- .1 Not used.

END OF SECTION

1 GENERAL

1.1 RELATED REQUIREMENTS

- .1 Section 02 83 99 - Bridge Cleaning.

1.2 REFERENCE STANDARDS

- .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2008 Stipulated Price Contract.
- .2 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA 832/R-92-005-[92], Storm Water Management for Construction Activities, Chapter 3.
 - .2 EPA General Construction Permit (GCP) [2012].
- .3 Ontario Acts and Regulations
 - .1 Ontario Endangered Species Act, S.O. 2007, Chapter 6
 - .1 Species at Risk in Ontario List. O.Reg. 230/08
 - .2 Species at Risk in Ontario List. O.Reg. 72/10
 - .3 General. O.Reg. 242/08
 - .4 General. O. Reg. 293/11
 - .2 Ontario Environmental Protection Act, R.S.O. 1990, Chapter E.19
 - .1 Air Pollution - Local Air Quality. O.Reg. 419/05
 - .2 Classes of Contaminants - Exemptions. O.Reg. 339
 - .3 Classification and Exemption of Spills and Reporting of Discharges. O.Reg. 675/98
 - .4 General - Waste Management. O.Reg. 347
 - .5 Spills. O.Reg. 360
 - .3 Ontario Public Lands Act
 - .1 Work Permit - Construction. O. Reg. 453/96
 - .4 Ontario Water Resources Act, R.S.O. 1990, Chapter O.40
 - .1 Ontario's Water Taking Regulation O.Reg. 387/04

1.3 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.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 00 10 - General Instructions.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.

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- .2 Submit electronic copy of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
 - .3 Submit Environmental Protection Plan for review by Departmental Representative in time before Notice to Proceed. Allow five (5) business days for review.
 - .4 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
 - .5 Address topics at level of detail commensurate with environmental issue and required construction task[s].
 - .6 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.
 - .5 Erosion and sediment control plan 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 EPA 832/R-92-005, Chapter 3.
 - .6 Drawings indicating locations of proposed material storage areas, structures, sanitary facilities, and stockpiles of excess materials including methods to control runoff and to contain materials on site.
 - .7 Traffic Control Plans including measures to minimize amount of material transported onto paved public roads by vehicles or runoff.
 - .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
 - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
 - .9 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
 - .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
 - .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
 - .12 Contaminant Prevention Plan 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.
 - .13 Protection plan complying with requirements in Species at Risk Act (SARA), Fisheries Act and Migratory Birds Convention Act (MBCA).
 - .14 Waste Water Management Plan 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.

.15 Pesticide treatment plan to be included and updated, as required.

1.5 FIRES

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

1.6 DRAINAGE

.1 Develop and submit erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include 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, EPA 832/R-92-005, Chapter 3.

.2 Do not obstruct or alter drainage.

1.7 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties as indicated.

.2 Avoid storing any material or equipment within the critical root zone of any tree species within the project area.

.3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.

.1 Avoid unnecessary traffic, dumping and storage of materials over root zones.

.4 Minimize stripping of topsoil and vegetation.

.5 Make good any damage to grass to the satisfaction of Departmental Representative.

.6 Tree removal is not permitted.

1.8 WORK ADJACENT TO WATERWAYS

.1 Construction equipment to be operated on land only.

.2 Use waterway beds for borrow material only after written receipt of approval from Departmental Representative.

.3 Waterways to be kept free of excavated fill, waste material and debris.

.4 Do not allow waste water into watercourse, sewer or drainage systems.

.5 Clean equipment so as to prevent wash water from entering watercourse.

1.9 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this Contract.

.2 Control emissions from equipment in accordance with local authorities' emission requirements.

.3 Prevent sandblasting and other extraneous materials from contaminating air

- and waterways beyond application area.
- .1 Provide temporary enclosures where directed by Departmental Representative.
 - .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.
 - .5 Maintain vehicles and equipment in good working condition to avoid leaks and spills of hazardous materials.
 - .1 Keep emergency spill kit and copy of spill response plan on-site to respond quickly to spills if spills occur. Provide list of contents of spill kit and all applicable Technical Data Sheets (TDS) to Departmental Representative 5 days prior to beginning of work.
 - .2 Vehicles and equipment to arrive on-site in clean condition and maintained free of fluid leaks.
 - .3 Wash, refuel and service vehicles and equipment and store fuel away from water to prevent harmful substances from entering watercourse.
 - .6 Contact Departmental Representative and governing authority if spill occurs.
 - .1 Ontario: Ministry of Environment Spill Action Centre at 1-800-268-6060.
 - .2 Québec: Environmental Protection Operations Directorate at 1-866-283-2333.
 - .7 Use vehicles and equipment fitted with emission control systems, mufflers, exhaust system baffles and/or engine covers.
 - .8 Restrict noise in accordance with local municipal regulations.

1.10 ANIMAL PROTECTION

- .1 Departmental Representative will inform Contractor of Species at Risk present on-site prior to beginning of work.
- .2 Do work so as to not disturb habitat, including nesting and breeding grounds, of species identified in SARA, Fisheries Act and MBCA.

1.11 NOTIFICATION

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
 - .1 Take action only after receipt of written approval by Departmental Representative.

- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

2 PRODUCTS

2.1 NOT USED

- .1 Not Used.

3 EXECUTION

3.1 CLEANING

- .1 Maintain bridge site in tidy condition, free from accumulation of waste products and debris.
 - .1 Remove waste materials and leave Work area clean at end of each day.
- .2 Remove and dispose of waste and debris to an approved landfill site adhering to all municipal, provincial and federal environmental and health regulations.
- .3 Do not bury waste or debris materials on site.
- .4 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .5 No foreign materials including garbage, sand, debris, cleaning solvents or paint are to fall or be washed into watercourse or through deck drains.
- .6 Handle and dispose of hazardous or toxic materials in accordance with the Canadian Environmental Protection Act, Transportation of Dangerous Goods Act, Regional and Municipal regulations.
- .7 Waste Management: separate waste materials for reuse and recycling in accordance with municipal regulations.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

1 GENERAL

1.1 REFERENCE STANDARDS

- .1 Quebec Ministry of Transportation, Sustainable Mobility and Electrification of Transports (MTQ)
 - .1 MTQ Road Work Standards, Volume V, Traffic Control Devices, Dec., 2010.
- .2 Ontario Traffic Council
 - .1 Ontario Traffic Manual, Temporary Conditions (Book 7), 2016.

1.2 PROTECTION OF PUBLIC TRAFFIC

- .1 Comply with requirements of Acts, Regulations and By-Laws in force for regulation of traffic or use of roadways upon or over which it is necessary to carry out Work or haul materials or equipment.
- .2 When working on travelled way:
 - .1 Place equipment in position to minimize interference and hazard to travelling public.
 - .2 Keep equipment units as close together as working conditions permit and preferably on same side of travelled way.
 - .3 Do not leave equipment or materials on travelled way overnight.
- .3 Close lanes of road only after receipt of written approval from Departmental Representative.
 - .1 Before re-routing traffic erect suitable signs and devices to reference manuals indicated in Subsection 1.2.
- .4 Keep travelled way graded, free from pot holes and of sufficient width for required number of lanes of traffic.
 - .1 Provide 7 m wide minimum temporary roadway for traffic in two-way sections through Work and on detours.
 - .2 Provide 5 m wide minimum temporary roadway for traffic in one-way sections through Work and on detours.
- .5 Provide vehicles, cyclists and pedestrians with safe passage through work zone at all times.
- .6 Provide and maintain road access and egress to property fronting along Work under Contract and in other areas as indicated, except where other means of road access exist that meet approval of Departmental Representative.

1.3 INFORMATIONAL AND WARNING DEVICES

- .1 Provide and maintain signs, flashing warning lights and other devices required to indicate construction activities or other temporary and unusual conditions resulting from Project Work which requires road user response as prescribed in the applicable regulations and as noted in reference standards in subsection 1.2.
- .2 Supply and erect signs, delineators, barricades and miscellaneous warning devices to reference manuals indicated in Subsection 1.2.

- .3 Place signs and other devices in locations recommended in reference manuals indicated in Subsection 1.2.
- .4 Submit proposed Traffic Control and Management Plan (TCMP) to Departmental Representative for review 10 days prior to commencement of work. TCMP to include:
 - .1 Traffic control layout drawings.
 - .2 List of signs and other devices required.
 - .3 Installation and removal procedures.
 - .4 Inspection and maintenance procedures.
 - .5 Traffic control procedures for pedestrians and cyclists.
- .5 If situation on site requires change to traffic control and management plan, submit revised TCMP to Departmental Representative.
- .6 Continually maintain traffic control devices in use:
 - .1 Check signs daily for legibility, damage, suitability and location: Clean, repair or replace to ensure clarity and reflectance.
 - .2 Remove or cover signs which do not apply to conditions existing from day to day.
 - .3 Take action immediately to correct traffic control issues and notifying Departmental Representative.
- .7 Text on all signs is to be bilingual.

1.4 CONTROL OF PUBLIC TRAFFIC

- .1 Provide competent flag personnel, trained in accordance with, and properly equipped to reference manuals indicated in Subsection 1.2 for situations as follows:
 - .1 When public traffic is required to pass working vehicles or equipment that block all or part of travelled roadway.
 - .2 When it is necessary to institute one-way traffic system through construction area or other blockage where traffic volumes are heavy, approach speeds are high and traffic signal system is not in use.
 - .3 When workmen or equipment are employed on travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.
 - .4 Where temporary protection is required while other traffic control devices are being erected or taken down.
 - .5 For emergency protection when other traffic control devices are not readily available.
 - .6 In situations where complete protection for workers, working equipment and public traffic is not provided by other traffic control devices.
 - .7 At each end of restricted sections where pilot cars are required.
 - .8 Delays to public traffic due to contractor's operators: 15 minutes maximum.
 - .9 The use of remote controlled flagging devices is not permitted.
- .2 Where roadway, carrying two-way traffic, is restricted to one lane, for 24 hours each day, provide portable traffic signal system.

- .1 Adjust, as necessary, and regularly maintain system during period of restriction.
- .2 Ensure signal system meets requirements of reference manuals indicated in Subsection 1.2.

1.5 OPERATIONAL REQUIREMENTS

- .1 Maintain existing conditions for traffic throughout period of contract except that, when required for construction under contract and when measures have been taken as specified and approved by Departmental Representative to protect and control public traffic, existing conditions for traffic to be restricted.
- .2 Traffic Control Devices to be completely removed from bridge after each day or when not required for current work.
- .3 Traffic Control Devices may only be moved temporarily to side of roadway or sidewalk upon approval of Departmental Representative.

2 PRODUCTS

2.1 NOT USED

- .1 Not Used.

3 EXECUTION

3.1 NOT USED

- .1 Not Used.

END OF SECTION