

1 GENERAL

1.01 RELATED REQUIREMENTS

- .1 Scope of Work provided in Bidding and Contract Requirements.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work of this Contract comprises the removal of existing ceramic tile in the pool tank, on the pool deck, and in the pool supervisor's office; and the installation of new tile in the same areas. The existing starting blocks will be relocated to the pool deck adjacent to the deep end; new lane rope anchors will be installed; new 3 m diving boards and two (2) new lifeguard stairs will be installed. Existing pendant lights will be replaced.

1.03 WORK BY OTHERS

- .1 Cooperate with other Contractors in carrying out their respective works and carry out instructions from Departmental Representative.
- .2 Coordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Departmental Representative, in writing, any defects which may interfere with proper execution of Work.

1.04 WORK SEQUENCE

- .1 Construct Work in stages to accommodate Canadian Coast Guard College's Staff and Students' continued use of premises during construction.
- .2 Coordinate Progress Schedule and coordinate with Departmental Representative and College Staff and Students' Occupancy during construction.
- .3 Required stages:
 - .1 Demolition.
 - .1 Remove items to be salvaged for re-use during renovation phase.
 - .2 Drain pool and remove existing ceramic tile from pool deck, pool-tank walls, and pool-tank floor.
 - .3 Pressure wash /light sandblast pool deck, pool-tank floor, and pool-tank walls to remove existing dry pack mortar bed to expose existing cast-in-place concrete slabs and walls.
 - .4 Epoxy inject all visible cracks in the concrete surface of the pool-tank floor and walls.
 - .5 Fill pool tank with tempered water (15° Celsius) to 150 mm below top of pool deck. Let sit for twenty-four (24) hours. If water level holds, drain pool and prepare for waterproofing installation and installation of new fittings and equipment.
 - .2 Renovation.
 - .1 Install new fittings and equipment in pool tank and walls and pool deck.
 - .2 Install specified waterproofing on pool-tank floor and walls.
 - .3 Fill pool tank with tempered water (15° Celsius) to 150 mm below top of pool deck. Let site for twenty-four (24) hours. If water level holds, drain pool tank

- and prepare for tile installation.
- .4 Install new porcelain tile on pool tank floor, walls, and edge and deck, as specified.
- .5 Coordinate tile installation with installation of swimming-pool accessories and existing equipment to be reinstalled.

- .4 Maintain fire access/control.

1.05 CONTRACTOR USE OF PREMISES

- .1 Restricted use of site until Substantial Performance.
- .2 Limit use of premises for Work, for storage, and for access, to allow:
 - .1 Partial Departmental Representative occupancy.
 - .2 Work by other Contractors.
- .3 Coordinate use of premises under direction of Departmental Representative.
- .4 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .5 Remove or alter existing work to prevent injury or damage to portions of existing work that remains.
- .6 Repair or replace portions of existing work that have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.
- .7 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.06 DEPARTMENTAL REPRESENTATIVE OCCUPANCY

- .1 College Staff and Students will occupy premises during entire construction period for execution of normal operations.
- .2 Cooperate with Departmental Representative in scheduling operations to minimize conflict and to facilitate usage by Staff and Students.

1.07 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to building operations and occupants, and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.08 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative forty-eight (48) hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to pedestrian, vehicular traffic, and

College operations.

- .3 Provide alternative routes for personnel, pedestrian, and vehicular traffic.
- .4 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.
- .5 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .6 Provide temporary services when directed by Departmental Representative, to maintain critical building and tenant systems.
- .7 Provide adequate bridging over trenches that cross sidewalks or roads to permit normal traffic.
- .8 Where unknown services are encountered, immediately advise Departmental Representative, and confirm findings in writing.
- .9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .10 Record locations of maintained, re-routed and abandoned service lines.
- .11 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.09 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of Outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other Modifications to Contract.
 - .8 Field Test Reports.
 - .9 Copy of Approved Work Schedule.
 - .10 Health and Safety Plan and Other Safety Related Documents.
 - .11 Other documents as specified.

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 RELATED REQUIREMENTS

- .1 Section 01 52 00 – Construction Facilities.
- .2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.02 ACCESS AND EGRESS

- .1 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.

1.03 USE OF SITE AND FACILITIES

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Departmental Representative will assign sanitary facilities for use by Contractor's personnel. Keep facilities clean.
- .5 Closures: protect work temporarily until permanent enclosures are completed.

1.04 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

- .1 Execute work with least possible interference or disturbance to building operations, occupants, public, and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.05 EXISTING SERVICES

- .1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative forty-eight (48) hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for personnel, pedestrian, student, and vehicular traffic.
- .4 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.06 SPECIAL REQUIREMENTS

- .1 Carry out noise generating Work Monday to Friday from 18:00 to 07:00 hours, and on Saturdays and Sundays, and statutory holidays.

- .2 Submit schedule in accordance with Section 01 32 17 – Construction Progress Documentation.
- .3 Ensure that Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.
- .5 Deliver materials outside of peak traffic hours 17:00 to 07:00 and 13:00 to 15:00 unless otherwise approved by Departmental Representative.
- .6 Review work schedule with the Departmental Representative. For the purposes of this Contract, "College hours" are defined generally as the period between 0800 and 1700, local time, Monday through Friday, inclusive, while College is in session. "College hours" may be redefined by the Departmental Representative, depending on the nature and location of the construction activity, the day of the week, and the time of the year. The Departmental Representative may restrict the Contractor's activities to specific areas of the work at certain hours, at the discretion of the Departmental Representative.
- .7 Keep within the limits of work and avenues of ingress and egress.
- .8 Provide and maintain corridors for secure, safe passage of the public and staff, twenty-four (24) hours per day. Temporary corridors must protect pedestrians from the hazards of construction activity, weather, and exposure to dust and noise.
- .9 Do not compromise or modify the College's electronic security system during the performance of the Work. Notify the Departmental Representative, in advance, of any work affecting security systems.
- .10 Deliver materials outside of peak traffic hours, as determined by the Departmental Representative, unless otherwise approved by the Departmental Representative.

1.07 KEYS

- .1 Keys necessary for access to restricted areas may be issued at the discretion of the Departmental Representative. Follow all instructions from the Departmental Representative regarding use, care, and disposition of all keys so issued.
- .2 Do not make duplicates of keys issued by the Departmental Representative.
- .3 At the end of the Project, return, to the Departmental Representative, all keys issued. The Departmental Representative will deduct, from the final contract payment, twenty-five dollars (\$25) for each key not returned.
- .4 Immediately report any lost, stolen, or destroyed keys to the Departmental Representative.

1.08 SECURITY

- .1 Security Escort:
 - .1 Personnel employed on this project must be escorted when executing work in non-public areas during normal working hours. Personnel must be escorted in all areas after normal working hours.
 - .2 Submit an escort request to Departmental Representative at least fourteen (14) days before service is needed. For requests submitted within time noted above, costs of

security escort will be paid for by Departmental Representative. Cost incurred by late request will be Contractor's responsibility.

- .3 Any escort request may be cancelled free of charge if notification of cancellation is given at least four (4) hours before scheduled time of escort. Cost incurred by late request will be Contractor's responsibility.

- .4 Calculation of costs will be based on average hourly rate of security officer for minimum of eight (8) hours per day for late service request and of four (4) hours for late cancellations.

1.09 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions. Smoking is not permitted.

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 GENERAL

- .1 The Lump Sum prices are full compensation for the work necessary to complete each item in the Contract in the Form of Tender. The prices bid are complete and separate from other related bid items.
- .2 In the case of a conflict between the instructions for measurement and payment contained in Section 01 22 00 and another Section of the Specifications, the requirements of Section 01 22 00 shall govern.
- .3 No separate payment will be made for:
 - .1 Unauthorized work beyond the limits shown.
 - .2 Contractor's specified Quality Control Testing.
 - .3 Layout of work.

1.02 LUMP SUM WORK

- .1 The tendered price lump sum work includes all items listed within the Specifications and Drawings. Price includes all labour, materials, and equipment for complete supply and installation of the work.
- .2 Mobilization/Demolition, including all equipment, temporary facilities, security, maintenance, cleaning of site, securing all necessary regulatory permits, insurance and bonding, and establishing health and safety protocol.
- .3 All demolition, material disconnection/reconnection, site excavation, construction, building renovation, repairs and improvements, and site restoration and landscaping, as contained in the specifications.

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 RELATED REQUIREMENTS

.1 Division 01 Specifications – General Conditions.

1.02 REQUIREMENTS

.1 Referenced specification Sections stipulate pertinent requirements for products and methods to achieve Work stipulated under each Alternative.

.2 Coordinate affected related Work and modify surrounding Work to integrate Work under each Alternative.

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 RELATED REQUIREMENTS

- .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Departmental Representative are specified under various sections.

1.02 APPOINTMENT AND PAYMENT

- .1 Departmental Representative will appoint and pay for services of testing laboratory except as follows:
 - .1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
 - .2 Inspection and testing performed exclusively for Contractor's convenience.
 - .3 Testing, adjustment and balancing of conveying systems, mechanical and electrical equipment and systems.
 - .4 Mill tests and certificates of compliance.
 - .5 Tests specified to be carried out by Contractor under supervision of Departmental Representative.
 - .6 Additional tests, as specified.
- .2 Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Departmental Representative to verify acceptability of corrected work.

1.03 CONTRACTOR'S RESPONSIBILITIES

- .1 Provide labour, equipment and facilities to:
 - .2 Provide access to Work for inspection and testing.
 - .3 Facilitate inspections and tests.
 - .4 Make good Work disturbed by inspection and test.
 - .5 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
- .2 Notify Departmental Representative, forty-eight (48) hours minimum, sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test(s).
- .3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
- .4 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by Departmental Representative.

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 COORDINATION

- .1 Coordinate all construction activities, as required, to ensure efficient and orderly installation of each part of the Work.
- .2 Coordinate progress schedules, submittals, use of site, temporary utilities, construction facilities, and construction Work, with progress of Work of other Contractors and Subcontractors. Where installation of one part of the Work is dependent on installation of other components, schedule and coordinate construction activities in the sequence required to obtain the best results.
- .3 Make adequate provisions to accommodate items schedules for later installation.
- .4 Supervise construction activities to ensure that no part of the Work, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

1.02 CONSTRUCTION ORGANIZATION AND START-UP

- .1 Within ten (10) days after award of Contract, request a meeting of parties in Contract, to discuss and resolve administrative procedures and responsibilities. Schedule meeting in compliance with Section 01 31 19 - Project Meetings.
- .2 Establish time and location of meetings, and notify parties concerned, a minimum of five (5) days before meeting.
- .3 Agenda to include the following:
 - .1 Appointment of official representative of participants in work.
 - .2 Schedule of Work, progress scheduling in accordance with Section 01 32 17 - Construction Progress Documentation.
 - .3 Schedule of submission of Shop Drawings, samples, colour chips, and other required material/documents, in accordance with Section 01 33 00 - Submittal Procedures.
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, and fences, in accordance with Section 01 51 00 - Temporary Utilities.
 - .5 Delivery schedule of specified equipment.
 - .6 Site security in accordance with Section 01 52 00 - Construction Facilities.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, and administrative requirements.
 - .8 Record drawings in accordance with Section 01 78 00 - Closeout Submittals.
 - .9 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
 - .10 Takeover Procedures, acceptance, and warranties, in accordance with Section 01 77 00 - Closeout Procedures, and Section 01 78 00 - Closeout Submittals.
 - .11 Monthly Progress Claims, administrative procedures, photographs, and holdbacks.
 - .12 Appointment of inspection and testing agencies or firms, in accordance with Section 01 45 00 - Quality Control.
 - .13 Insurances and transcript of policies.
- .4 Comply with Departmental Representative's allocation of mobilization areas of site; for field offices and sheds; for access, traffic, and parking facilities.

- .5 During construction, coordinate use of site and facilities through Departmental Representative's procedures for intra-project communications: Submittals, reports and records, schedules, coordination of drawings, recommendations, and resolution of ambiguities and conflicts.
- .6 Comply with instructions of Departmental Representative for use of temporary utilities and construction facilities.
- .7 Coordinate field engineering and layout work with the Departmental Representative.

1.03 SCHEDULES

- .1 Submit preliminary construction progress schedule, in accordance with Section 01 32 17 - Construction Progress Documentation.
- .2 After review, revise and resubmit schedule, to comply with revised Project Schedule.
- .3 During progress of Work, revise and resubmit, as directed by the Departmental Representative.

1.04 SUBMITTALS

- .1 Make submittals in compliance with Section 01 33 00 - Submittal Procedures.
- .2 Submit Progress Claim in compliance with Section 01 22 00 – Measurements & Payments.
- .3 Submit requests for interpretation of Contract Documents, and obtain instructions through the Departmental Representative.
- .4 Process substitutions and Change Orders through the Departmental Representative.
- .5 Submit closeout submittals in compliance with Section 01 78 00 - Closeout Submittals.

1.05 COORDINATION DRAWINGS

- .1 Provide information required by the Subcontractors for preparation of Coordination Drawings.
- .2 Review and approve revised Coordination Drawings, for submittal to the Departmental Representative.

1.06 ON-SITE DOCUMENTS

- .1 Maintain at job-site one copy of each of the following:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda/Clarifications.
 - .4 Reviewed Shop Drawings.
 - .5 List of outstanding Shop Drawings.
 - .6 Change Orders.
 - .7 Other modifications to Contract.
 - .8 Field test reports.
 - .9 Copy of approved Work Schedule.
 - .10 Health and Safety Plan and other Safety-related documents.
 - .11 Manufacturers' installation and application instructions.
 - .12 Labour conditions and wage schedules.

.13 Other documents as specified.

1.07 CLOSEOUT PROCEDURES

- .1 Closeout Procedures to be in compliance with Section 01 77 00 - Closeout Procedures.
- .2 Notify the Departmental Representative when Work is considered ready for Substantial Performance.
- .3 Accompany the Departmental Representative on preliminary inspection, to determine items listed for completion and/or correction.
- .4 Comply with the Departmental Representative's instructions for correction of items of work listed in executed Certificate of Substantial Performance, and for access to Owner-occupied areas.
- .5 Notify the Subcontractors regarding any instructions for completion of items of Work determined in the Departmental Representative's final inspection.

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 ADMINISTRATIVE

- .1 Schedule and administer project meetings throughout the progress of the work, at the call of Departmental Representative.
- .2 Prepare agenda for meetings.
- .3 Distribute written notice of each meeting four (4) days in advance of meeting date to Departmental Representative.
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meetings.
- .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7 Reproduce and distribute copies of minutes within three (3) days after meetings and transmit to meeting participants, affected parties not in attendance, and the Departmental Representative.
- .8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.02 PRECONSTRUCTION MEETING

- .1 Within fifteen (15) days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Departmental Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum five (5) days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
- .5 Agenda to include:
 - .1 Appointment of official representative of participants in the Work.
 - .2 Schedule of Work: in accordance with Section 01 32 17 - Construction Progress Documentation.
 - .3 Schedule of submission of shop drawings, samples, colour chips. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .4 Requirements for temporary facilities, site sign, offices, storage sheds, utilities, fences in accordance with Section 01 52 00 - Construction Facilities.
 - .5 Delivery schedule of specified equipment.
 - .6 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.
 - .7 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
 - .8 Departmental Representative provided products.

- .9 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .10 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.
- .11 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.
- .12 Appointment of inspection and testing agencies or firms.
- .13 Insurances, transcript of policies.
- .14 Required Safety, Fall-Arrest, and Occupational Health & Safety (OH&S) Manuals and documentation.

1.03 PROGRESS MEETINGS

- .1 During course of Work and two (2) weeks prior to project completion, schedule progress meetings bi-weekly.
- .2 Contractor, major Subcontractors involved in Work, and Departmental Representative are to be in attendance.
- .3 Notify parties minimum four (4) days prior to meetings.
- .4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within three (3) days after meeting.
- .5 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.
 - .12 Other business.

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 SCHEDULES

- .1 Submit schedules as follows:
 - .1 Construction Progress Schedule.
 - .2 Submittal Schedule for Shop Drawings and Product Data.
 - .3 Submittal Schedule for Samples.
 - .4 Product Delivery Schedule.
 - .5 Shutdown, Closure Activity, or Special Activities as specified in Section 01 14 00 – Work Restrictions.
 - .6 Commissioning and Start-up Procedures to be coordinated with Departmental Representative.
- .2 Schedule Format:
 - .1 Prepare schedule in form of a horizontal Gantt Bar Chart.
 - .2 Provide a separate bar for each major item of work or operation.
 - .3 Split horizontally for projected and actual performance.
 - .4 Provide horizontal time scale identifying first working days of each week.
 - .5 Format for listings: chronological order of start of each item of work.
- .3 Schedule Submission(s):
 - .1 Submit initial format of schedules within seven (7) working days after Award of Contract.
 - .2 Submit schedules in electronic format, forward through email as .pdf files, plus two (2) hard copies to Departmental Representative.
 - .3 Departmental Representative will review schedule and return reviewed copy within five (5) working days after receipt.
 - .4 Resubmit finalized schedule with five (5) days after return of reviewed copy.
 - .5 Submit revised progress schedule with each application for payment.
 - .6 Distribute copies of revised schedule to:
 - .1 Departmental Representative.
 - .2 Job site office.
 - .3 Subcontractors.
 - .4 Other concerned parties.
 - .7 Instruct recipients to report to Contractor within five (5) working days if any problems anticipated by timetable shown in schedule.

1.02 SUBMITTAL(S) SCHEDULE

- .1 Include schedule for submitting shop drawings, project data, and samples. Refer to Section 01 33 00 – Submittal Procedures.
- .2 Indicate and jointly review with Departmental Representative, dates for submitting, review time, resubmission time, and last date for meeting fabrication schedule.

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 RELATED REQUIREMENTS

- .1 Section 01 32 17 – Construction Progress Documentation.
- .2 Section 01 45 00 – Quality Control.
- .3 Section 01 77 00 – Closeout Procedures.
- .4 Section 01 78 00 – Closeout Submittals.

1.02 ADMINISTRATIVE

- .1 Submit to Departmental Representative submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are coordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.
- .10 Keep one (1) reviewed copy of each submission on site.

1.03 SHOP DRAWINGS AND PRODUCT DATA

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Nova Scotia, Canada.

- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow seven (7) days for Departmental Representative's review of each submission.
- .5 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.
- .6 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative, in writing, of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each shop drawing, product data and sample.
 - .5 Other pertinent data.
- .8 Submissions include:
 - .1 Date and revision dates.
 - .2 Project title and number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Details of appropriate portions of Work as applicable:
 - .1 Fabrication.
 - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
 - .3 Setting or erection details.
 - .4 Capacities.
 - .5 Performance characteristics.
 - .6 Standards.
 - .7 Operating weight.
 - .8 Wiring diagrams.
 - .9 Single line and schematic diagrams.
 - .10 Relationship to adjacent work.
- .9 After Departmental Representative's review, distribute copies.
- .10 Submit six (6) copies and one (1) electronic copy of Shop Drawings for each requirement requested in specifications Sections and as Departmental Representative may reasonably request.
- .11 Submit six (6) copies and one (1) electronic copy of product data sheets or brochures for

requirements requested in specification Sections and as requested by Departmental Representative, where shop drawings will not be prepared due to standardized manufacture of product.

- .12 Submit six (6) copies and one (1) electronic copy of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - .2 Testing must have been within three (3) years of date of contract award for project.
- .13 Submit six (6) copies and one (1) electronic copy of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
 - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit six (6) copies and one (1) electronic copy of manufacturers instructions for requirements requested in specification Sections and as requested by Departmental Representative.
 - .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit six (6) copies and one (1) electronic copy of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Submit three (3) copies and one (1) electronic copy of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.
- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.
- .21 The review of shop drawings by Public Works and Government Services Canada (PSPC) is for sole purpose of ascertaining conformance with general concept.
 - .1 This review shall not mean that PSPC approves detail design inherent in shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting requirements of construction and Contract Documents.
 - .2 Without restricting generality of foregoing, Contractor is responsible for dimensions to be

confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for coordination of Work of sub-trades.

1.04 SAMPLES

- .1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Departmental Representative's business address, or, if requested, to Project Site Office.
- .3 Notify Departmental Representative, in writing, at time of submission, of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative, prior to proceeding with Work.
- .6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.05 MOCK-UPS

- .1 Erect mock-ups in accordance with 01 45 00 - Quality Control.

1.06 PHOTOGRAPHIC DOCUMENTATION

- .1 Submit electronic and hard copy of colour digital photography in pdf-file format, standard resolution, monthly with progress statement, and as directed by Departmental Representative.
- .2 Project identification: Name and number of project and date of exposure indicated.
- .3 Number of viewpoints: Number of locations to be determined by Departmental Representative.
 - .1 Viewpoints and their location as determined by Departmental Representative.
- .4 Frequency of photographic documentation: Bi-weekly, or as directed by Departmental Representative.
 - .1 Upon completion of: Excavation, foundation, framing and services before concealment of Work, and as directed by Departmental Representative.

1.07 CERTIFICATES AND TRANSCRIPTS

- .1 Immediately after award of Contract, submit Workers' Compensation Board status.
- .2 Submit transcription of insurance immediately after award of 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 REFERENCES

- .1 National Building Code of Canada - 2015.
- .2 National Fire Code of Canada – 2015.
- .3 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .4 Province of Nova Scotia:
 - .1 Occupational Health and Safety Act, S.N.S., Updated 2013, and Regulations including, but not limited to, the following:
 - .1 Fall-Protection and Scaffolding Regulations.
 - .2 First-Aid Regulations.
 - .3 Workplace Hazardous Material Information System Regulations.
 - .4 Occupational Safety General Regulations.
 - .5 Workers' Compensation Act.
 - .6 Fire Protection Act.
 - .7 Nova Scotia Fire Safety Act.
 - .8 Dangerous Goods Transportation Act.
 - .9 Nova Scotia Smoke-Free Places Regulations.
- .5 Canadian Standards Association (CSA) latest editions of the following:
 - .1 CSA-S269.1, Falsework for Construction Purposes - latest edition.
 - .2 CAN/CSA-S269.2, Access Scaffolding for Construction Purposes - latest edition.
 - .3 CAN/CSA-Z259.1, Safety Belts and Lanyards.
 - .4 CAN/CSA-Z259.10, Full Body Harnesses.
 - .5 CAN/CSA-Z259.11, Shock Absorbers for Personal Fall Arrest Systems.
 - .6 CAN/CSA-Z259.2, Fall Arresting Devices, Personnel Lowering Devices and Lifelines.
 - .7 FCC No. 301, Standard for Construction Operations - latest edition.
 - .8 FCC No. 302, Standard for Welding and Cutting - latest edition.
- .6 In case of conflict and/or discrepancy, the more stringent requirement(s) shall apply.
- .7 Where reference is made to jurisdictional authorities, it shall mean all authorities who have, within their constituted powers, the right to enforce the laws of the place of the building.

1.02 ACTION AND INFORMATION SUBMITTALS

- .1 Make Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide, after close of bid period, but before award of Contract, when requested by the Departmental Representative, a copy of the following documents:
 - .1 Valid Letter of Good Standing of the Certificate of Recognition Program, issued to the Bidder by the Nova Scotia Construction Safety Association, indicating that the Bidder's current standing falls into one of the following categories:
 - .1 Certificate of Recognition.
 - .2 Audit Pending.
 - .2 Evidence of coverage under the Workers' Compensation Act, R.S.N.S., and a Clearance Certificate indicating that the Bidder is in good standing.

- .3 Submit Post-Bid Submissions requested by the Departmental Representative, within forty-eight (48) hours of request, in order to be eligible to receive award of Contract.
- .3 Subcontractors shall provide, to the Contractor, a copy of the following documents:
 - .1 Valid Letter of Good Standing of the Certificate of Recognition Program, issued to the Bidder by the Nova Scotia Construction Safety Association, indicating that the Subcontractor's current standing falls into one of the following categories:
 - .1 Certificate of Recognition.
 - .2 Audit Pending.
 - .2 Evidence of coverage under the Workers' Compensation Act, R.S.N.S., and a Clearance Certificate indicating that the Bidder is in good standing.
- .4 Submit site-specific Health and Safety Plan: Within ten (10) 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 Specific information detailing the methods and procedures to be implemented by the regulations, and any other contractual requirements specified in this Section, and to ensure the following:
 - .1 The health and safety of all persons at or near the Work, including the public.
 - .2 Compliance with requirements of the regulatory agencies.
 - .3 All Employers, contractors, Constructors, Suppliers, Employees, Self-Employed Persons, Owners, Providers of Service, Architects and Engineers performing Work under this Contract comply with the requirements of all applicable regulatory agencies.
- .5 Where changes to the work require changes to the OH&S methods and procedures, modify and resubmit the OH&S Document to the Departmental Representative, prior to implementing the changes.
- .6 Organize OH&S Document in the form of a typed instructional manual, using 8-1/2" x 11" paper, with tabbed sections headings. Document to be titled 'OH&S Document - (Project Title).'
 - .1 Where drawings are included within the safety document, provide with reinforced, punched binder tab. Bind in with text; fold in larger drawing(s) to size of text pages.
- .7 Arrange the contents under the following headings:
 - .1 Employee OH&S Training:
 - .1 Include a statement indicating that all Employees, including Subcontractors working on this specific project, have met their respective company-specific training requirements, and training requirements of the OH&S Act and Regulations; and, as such, are deemed competent by their Employer to perform their duties. Include proof of designated competence, where required by the OH&S Act.
 - .2 Company Safety Policy:
 - .1 Provide the company's Occupational Health and Safety Policy. Include information pertaining to the Employees' rights under the OH&S Act, and provide details on the assignment of responsibility and accountability of Managers, Supervisors, and Employees.
 - .3 Company Safety Rules:
 - .1 Provide company general safety information applying to every work environment where the company has staff, and indicating compliance with the policy on items

- including, but not limited to, use of personal protective equipment, CSA approval on such items, and use of alcohol and/or non-prescription drugs. Include company disciplinary policy for violations of company rules, and violations of OH&S Act and/or Regulations, including policy for dealing with violations of Subcontractors.
- .4 Hazard Identification System:
- .1 Provide details on the system to be used to evaluate the Project, to identify potential hazards, as well as details on the Project-specific hazards identified from said assessment. Include information on procedures and schedules for regular inspections, procedures for ensuring the reporting of hazards, and the accountability of persons responsible for the correction of hazards. Describe the scheduling and recording of informal inspections, formal written inspections, written hazard assessments, and include each in the assessment. Indicate how ongoing hazard assessments, and the methods to control these new hazards, will be communicated to all persons on the Project. Identify the Subcontractor's responsibilities for hazard assessments and inspections of their own Work and Employees.
- .5 Supervision:
- .1 Identify, in the submission, the General Contractor's employee designated to control and oversee all OH&S-related matters on the Project; including the monitoring of all activities of all persons on the Project, and the methods and procedures to be used by this Employee to ensure compliance with OH&S Act and Regulations.
- .6 Emergency Action Plan:
- .1 Provide the following information:
- .1 First-aid services: Include location of first-aid stations, attendants, services, supplies, and the posting of first-aid information.
- .2 Posting of information: Include information identifying Trained Emergency-Response Staff, phone location for emergency use, project address, and all necessary emergency-service phone numbers and locations.
- .3 Fire Protection: Advise local fire-Fighting Authority in the area of Work, of Project start-up date; and provide Fire-Fighting Authority access to, and a tour of, the Project, prior to commencement of Work. Advise the Fire-Fighting Authority, during the Project, of any Work that would impede fire apparatus response; including, but not limited to, reduced overhead clearances, erecting of fences/gates/barricades, and digging of trenches. Include procedures for reporting of fires.
- .4 Work Stoppage: Provide information on the securing of areas during emergencies, and how information is communicated to persons present on site during such emergencies.
- .7 Joint Occupational Health and Safety Committee (JOHSC):
- .1 Provide rules of procedure under which the JOHSC will operate, including, but not limited to, membership details, meeting schedules, posting of meeting minutes, chairing of meetings, and the role of the JOHSC on the Project. Provide information on Safety Representatives' roles and responsibilities on the Project, during periods where a JOHSC is not in place.
- .8 Project Security/Access Plan:
- .1 Provide a site plan, including, but not limited to, vehicle access, employee access, gates, fencing, hoarding, and general site security.
- .9 Communication of Information:

- .1 Describe methods to be used to communicate all OH&S-related information to all persons on the Project. Information is to include, but not be limited to, the posting of first-aid information, JOHSC Members names, JOHSC meeting minutes, copies of the OH&S Act and Regulations, copies of ongoing inspections and hazard assessments, etc.
- .8 Submit two (2) copies of Contractor's authorized representative's work-site health and safety inspection reports to the Departmental Representative on a monthly basis.
- .9 Submit copies of reports or directions issued by federal, provincial, and territorial health and safety inspectors.
- .10 Submit copies of incident and accident reports.
- .11 Submit WHMIS MSDS (Material Safety Data Sheets).
 - .1 Comply with requirement of workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of material safety data sheets, acceptable to the Departmental Representative.
 - .2 Deliver copies of WHMIS data sheets to the Departmental Representative, on delivery of materials.
- .12 Submit two (2) copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative on a weekly basis.
- .13 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .14 Submit copies of incident and accident reports.
- .15 Submit WHMIS MSDS - Material Safety Data Sheets as required by 01 33 00 – Submittal Procedures.
- .16 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within seven (7) days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within seven (7) days after receipt of comments from Departmental Representative.
- .17 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.
- .18 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.

1.03 FILING OF NOTICE

- .1 File Notice of Project with Provincial authorities, prior to beginning of Work.
- .2 Contractor shall be responsible and assume the Principal Contractor role for each work zone location and not the entire complex. Contractor shall provide a written acknowledgement of this responsibility with 3 weeks of contract award

- .3 Work zone locations include:
 - .1 Canadian Coast Guard College's D'Iberville Building Swimming Pool, Supervisor's Office, Stairs, Mechanical Room, and Mechanical Tunnel.
- .4 Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.04 SAFETY ASSESSMENT

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

1.05 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative, prior to commencement of Work.

1.06 REGULATORY REQUIREMENTS

- .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.07 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.

1.08 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 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.09 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act, Occupational Safety General Regulations, N.S.
- .2 Comply with R.S.Q., c. S-2.1, an Act respecting Health and Safety, and c. S-2.1, r.4 Safety Code for the Construction Industry.
- .3 Comply with current Occupational Health and Safety Regulations.
- .4 Comply with current Occupational Health and Safety Act, General Safety Regulations, O.I.C.
- .5 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.10 UNFORSEEN HAZARDS

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction, and advise Departmental Representative verbally and in writing.
- .2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Health and Safety Coordinator and/or Safety Officer, and follow procedures in accordance with Acts and Regulations of Province having jurisdiction, and advise Departmental Representative verbally and in writing.

1.11 HEALTH AND SAFETY COORDINATOR

- .1 Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
 - .1 Have site-related working experience specific to activities associated with construction projects.
 - .2 Have working knowledge of occupational safety and health regulations.
 - .3 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 - .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 - .5 Be on site during execution of Work and report directly to and be under direction of Site Supervisor.
- .2 Should material resembling hazardous materials, other than those identified with the Contract Documents, including, but not limited to spray- or trowel-applied asbestos, be encountered in the course of Work, stop Work immediately. Do not proceed until written instructions have been received from the Departmental Representative.
- .3 Where Work entails the use, storage, and/or disposal of toxic and/or hazardous materials, chemicals, and/or explosives, or otherwise creates a hazard to life, safety, health, and/or the environment, Work shall be in accordance with the jurisdictional authority.

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.

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.

1.17 ELECTRICAL LOCK-OUT

- .1 Ensure that electrical lockout procedures are in place, and that a Guarantee of Isolation is obtained, before starting work on any electric circuit and/or facility.
- .2 Provide the Departmental Representative with a written copy of the lockout procedures, before any electrical work commences on this project.
- .3 The electrical lockout procedures shall be in accordance with requirements and regulations of the Provincial Government, Workers' Compensation Board, and Municipal Statutes and Authorities; and shall include lockout tags, a written record of all events (signed off), etc.
- .4 All Guarantees of Isolation and copies of all lock-out tags shall be turned over to the Departmental Representative, when the work and/or live test for which the Guarantee of Isolation was issued, is completed.
- .5 Ensure that all individuals working on electrical circuits and facilities are aware of the electrical lock-out procedures; and that the procedures are legibly typed and posted at the site, at a location accessible to, and frequented by, all Workers.

1.18 FIRE-SAFETY REQUIREMENTS

- .1 Enforce fire-protection methods, good housekeeping, and adherence to local and underwriter's fire regulations including, but not limited to, Fire Protection Act, and the Provincial Building Code Act. Provide UL-approved fire extinguishers, and other fire-fighting equipment services and equipment, except where more explicit requirements are specified as the responsibility of individual Sections.
- .2 Advise the Fire Chief in the area of Work, of any Work that would impede fire-apparatus response; including, but limited to, violation of minimum overhead clearance as prescribed by the Fire Chief, and/or the erection of barricades.
- .3 Fire Separations:
 - .1 Ensure that fire separations are installed to maintain total integrity, and that they are not breached by Work following their installation.
 - .2 Replace fire separations which have suffered a lessening of their required rating during construction.
- .4 Ensure that nothing subverts the integrity of fire protection provided for the building structure.

- .5 Coordinate Work of all Sections so that they do not encroach on space required for fire protection and its installation. Ensure that fire protection damaged during construction is totally replaced.
- .6 All persons performing welding and/or cutting operations must be qualified to, at least, provincial legislation. See Technical Specifications to determine if more stringent qualifications are specified.
- .7 Welding and/or cutting operations shall not be undertaken without prior authorization, in the form of a written permit from the Departmental Representative.
- .8 The permit shall be completed in full; one (1) copy being retained by the Departmental Representative, and one (1) copy by the Worker/Workers. The permit shall be signed by the Departmental Representative, before Work can be started; and by the Worker/Workers, when the Work has been completed. The Contractor is to submit, to the Departmental Representative, a copy of the permit, signed by the Workers after completion of the Work.
- .9 Prior to the issuance of the permit, the Departmental Representative shall inspect the Work site to ensure that fire-protection equipment is in place before welding or cutting operations take place.
- .10 All welding equipment and torches shall be of an approved type.

1.19 FIRE PROTECTION AND ALARM SYSTEMS

- .1 Fire protection and alarm systems shall not be:
 - .1 Obstructed.
 - .2 Shut off.
 - .3 Left inactive and the end of a working day or shift.
- .2 Fire hydrants, standpipes, and hose systems shall not be used for other than fire-fighting equipment.
- .3 The Contractor is liable for all costs incurred by the Fire Department and the Departmental Representative, resulting from setting off false alarms.

1.20 REPORTING FIRES

- .1 Know the location of the nearest fire-alarm box and telephone, including the emergency phone number.

1.21 CONFINED SPACES

- .1 All work in confined spaces shall be carried out in compliance with the Occupational Health and Safety Act, and related regulations.
- .2 The Contractor shall provide and maintain all equipment, as required by any person, to enter and/or perform work in a safe manner.
 - .1 At the Departmental Representative's request, the Contractor agrees to provide to Department Employees and/or its Consultants, all necessary equipment to enter the confined space; and this Contractor acknowledges that he/she is responsible for the safety and efficacy of this equipment.
- .3 The Contractor shall provide and maintain training, as required by the latest edition of the Occupational Health and Safety Act.

- .1 The Contractor and his/her Employees shall provide proof of training and qualifications, when requested by the Departmental Representative.
- .4 The Contractor shall provide the Departmental Representative with a copy of an “Entry Permit” for each and every entry into the confined space, to ensure compliance therein.
- .5 The Contractor shall have a hazardous assessment of the confined space performed.
 - .1 This Contractor is to provide the Departmental Representative with a copy of the hazardous assessment.
- .6 For the purposes of this Contract, “confined space” means an enclosed or partially-enclosed space that:
 - .1 Is not designed or intended for human occupancy, except for the purpose of performing work.
 - .2 Has restricted means of access and egress.
 - .3 May become hazardous to an Employee entering it due to:
 - .1 Its design, construction, location, and/or atmosphere.
 - .2 The materials and/or substances in it.
 - .3 Any other condition relating to it.

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 REFERENCE STANDARDS

- .1 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA Construction and Development Effluent Guidelines and Standards 40 CFR Part 450 (2015), and the EPA Effluent Guidelines Plan for 2016.
 - .2 EPA General Construction Permit (GCP) 2012.

1.02 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. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material, as well as other pollutants.
- .3 The following reference documents form a part of these Specifications:
 - .1 Sulphide Bearing Material Disposal Regulations and Guidelines for Development of Slate Sites in Nova Scotia.
 - .2 Nova Scotia Environment construction and Demolition Debris Disposal Site Guidelines - latest edition.
 - .3 Nova Scotia Department of Transportation and Infrastructure Renewal (NSDTIR) - Erosion and Sediment Control for construction and Building Sites - latest edition.
 - .4 NSDTIR Standard Specification for Highway Construction - latest edition.
 - .5 Province of Nova Scotia Special Places Act.

1.03 PERMITS AND APPROVALS

- .1 Obtain copies of any permits or approvals issued by approval agencies. Review and comply with all conditions contained in permit or approval.
- .2 Where permits or approval are required and not obtained at time of bidding, be responsible for obtaining permits or approvals. The Activity Designation Regulations made under the Nova Scotia Environment Act list all activities which require an approval from the Nova Scotia Environment and Nova Scotia Department of Labour.
- .3 Ensure that all Staff and Subcontractors are aware of all terms and conditions.

1.04 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .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.

- .2 Submit two (2) copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures.
- .3 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .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 Construction and Development Effluent Guidelines and Standards (2015), and Effluent Guidelines Plan for 2016.
 - .6 Drawings indicating locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
 - .7 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
 - .1 Plans to include 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 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.
 - .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural

resources, biological resources and wetlands.

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

1.05 FIRES

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

1.06 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 Construction and Development Effluent Guidelines and Standards, the EPA Effluent Guidelines Plan for 2016, and EPA General Construction Permit (GCP) 2012.
- .2 Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sediment control plan.
- .3 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .4 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements. Use siltation fences, sedimentation ponds, diversion ditches, silt curtains, sedimentation blankets, slope stabilization, and the like, in accordance with required environmental regulations, permits, or approvals, and requirements and regulations of authorities having jurisdiction.
- .6 Provide temporary drainage and pumping, as necessary, to keep excavations and site free from water.
- .7 Do not pump water containing suspended materials into waterways, sewer, or drainage systems.

1.07 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties as indicated.
- .2 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.
- .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 Restrict tree removal to areas designated by Departmental Representative.

1.08 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 Design and construct temporary crossings to minimize erosion to waterways.
- .5 Do not skid logs or construction materials across waterways.
- .6 Avoid indicated spawning beds when constructing temporary crossings of waterways.
- .7 Do not blast under watercourses or within 91.44 m of spawning beds, without obtaining necessary permits and approvals.
- .8 Provide a buffer zone in combination with appropriate erosion and sedimentation control when working adjacent to watercourse(s). Consult with regulatory agencies.

1.09 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant 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.

1.10 HISTORICAL/ARCHAEOLOGICAL CONTROL

- .1 Provide historical, archaeological, cultural resources, biological resources, and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on project site: and identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in area are discovered during construction.
- .2 Plan: Include methods to assure protection of known or discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.

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

2.01 NOT USED

- .1 Not Used.

3 EXECUTION

3.01 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Bury rubbish and waste materials on site where directed after receipt of written approval from Departmental Representative.
- .3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .5 Waste Management: Separate waste materials for reuse and/or recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION

1 GENERAL

1.01 REFERENCES AND CODES

- .1 Perform Work in accordance with National Building Code of Canada (NBC) 2015, including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.02 HAZARDOUS MATERIAL DISCOVERY

- .1 Asbestos: Demolition of spray- or trowel-applied asbestos is hazardous to health. Stop work immediately when material resembling spray- or trowel-applied asbestos is encountered during demolition work. Notify Departmental Representative. Do not proceed with Work until written instructions have been received from the Departmental Representative.
- .2 PCB: Polychlorinated Biphenyl: Stop work immediately when material resembling Polychlorinated Biphenyl is encountered during demolition work. Notify Departmental Representative. Do not proceed with Work until written instructions have been received from the Departmental Representative.
- .3 Mould: stop work immediately when material resembling mould is encountered during demolition work. Notify Departmental Representative. Do not proceed with Work until written instructions have been received from the Departmental Representative.

1.03 BUILDING SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions and municipal by-laws.

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 RELATED REQUIREMENTS

- .1 Section 01 31 00 – Project Coordination.
- .2 Section 01 33 00 – Submittal Procedures.

1.02 INSPECTION

- .1 Allow Departmental Representative access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
- .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
- .4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination, such work is found to not be in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found to be in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.03 INDEPENDENT INSPECTION AGENCIES

- .1 Independent Inspection/Testing Agencies will be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.
- .2 Allocated costs: To Section 01 22 00 – Measurements & Payments, and Specifications Section 01 29 83 – Payment Procedures for Testing Laboratory Services.
- .3 Provide equipment required for executing inspection and testing by appointed agencies.
- .4 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.
- .5 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and reinspection.

1.04 ACCESS TO WORK

- .1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.
- .2 Cooperate to provide reasonable facilities for such access.

1.05 PROCEDURES

- .1 Notify appropriate agency and Departmental Representative, in advance of requirement for tests, in order that attendance arrangements can be made.
- .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.
- .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.06 REJECTED WORK

- .1 Remove defective 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.
- .2 Promptly make good other Contractor's work damaged by such removals or replacements.
- .3 If, in the opinion of Departmental Representative, it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

1.07 REPORTS

- .1 Submit four (4) copies of inspection and test reports to Departmental Representative.
- .2 Provide copies to subcontractor of work being inspected or tested and the manufacturer or fabricator of material being inspected or tested.
- .3 Include, in Operation & Maintenance Manuals, a copy of all inspection and test reports.

1.08 TESTS AND MIX DESIGNS

- .1 Furnish test results and mix designs as requested.
- .2 Cost of tests and mix designs beyond those called for in Contract Documents or beyond those required by law of Place of Work will be appraised by Departmental Representative, and may be authorized as recoverable.

1.09 MOCK-UPS

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of Sections required to provide mock-ups.
- .2 Construct in locations acceptable to Departmental Representative, as specified in specific Section.
- .3 Prepare mock-ups for Departmental Representative's review with reasonable promptness and in orderly sequence, to not cause delays in Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for extension of Contract Time, and no claim for extension by reason of such default will be allowed.

- .5 If requested, Departmental Representative will assist in preparing schedule fixing dates for preparation.
- .6 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.
- .7 Reviewed and accepted mock-ups will become standards of workmanship and material against which installed work will be verified.

1.10 MILL TESTS

- .1 Submit mill test certificates as requested, and as required by specification Sections.

1.11 EQUIPMENT AND SYSTEMS

- .1 Submit adjustment and balancing reports for mechanical, electrical and building-equipment systems.
- .2 Mechanical to be coordinated with Mechanical Division.
- .3 Electrical to be coordinated with Electrical Division.

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 RELATED REQUIREMENTS

- .1 Section 01 52 00 – Construction Facilities.
- .2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.02 REFERENCE STANDARDS

- .1 U.S. Environmental Protection Agency (EPA)/Office of Water.
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
 - .2 EPA Construction and Development Effluent Guidelines and Standards (2015), and Effluent Guidelines Plan for 2016.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.04 INSTALLATION AND REMOVAL

- .1 Provide temporary utilities controls in order to execute work expeditiously.
- .2 Remove from site all such work after use.

1.05 DEWATERING

- .1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.06 WATER SUPPLY

- .1 Provide continuous supply of potable water for construction use.
- .2 Arrange for connection with appropriate utility company, and pay costs for installation, maintenance and removal.

1.07 TEMPORARY HEATING AND VENTILATION

- .1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.
- .2 Construction heaters used inside building must be vented to outside or be non-flameless type. Solid fuel salamanders are not permitted.
- .3 Provide temporary heat and ventilation in enclosed areas as required to:
 - .1 Facilitate progress of Work.
 - .2 Protect Work and products against dampness and cold.
 - .3 Prevent moisture condensation on surfaces.
 - .4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

- .5 Provide adequate ventilation to meet health regulations for safe working environment.
- .4 Maintain temperatures of minimum 10° Celsius in areas where construction is in progress.
Maintain relative humidity at less than 55% in areas where construction is in progress.
- .5 Ventilating:
 - .1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.
 - .2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.
 - .3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - .4 Ventilate storage spaces containing hazardous or volatile materials.
 - .5 Ventilate temporary sanitary facilities.
 - .6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.
- .6 Permanent heating system of building is not to be used when available. Be responsible for damage to heating system if use is permitted.
- .7 Ensure that Date of Substantial Performance and Warranties for heating system do not commence until entire system is in as near original condition as possible and is certified by Departmental Representative.
- .8 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
 - .1 Conform to applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- .9 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.08 TEMPORARY POWER AND LIGHT

- .1 Temporary power during construction for temporary lighting and operating of power tools, to a maximum supply of 230 volts 30 amps, is available on site, and is to be coordinated with Departmental Representative.
- .2 Temporary power for electric cranes and other equipment requiring in excess of above is responsibility of Departmental Representative.
- .3 Provide and maintain temporary lighting throughout project. Ensure that the level of illumination on all floors and stairs is not less than 162 lx.
- .4 Power supply to be determined by Departmental Representative, and will be provided for construction use at no cost. Connect to existing power supply in accordance with Canadian Electrical Code.
- .5 Electrical power and lighting systems installed under this Contract may be used for construction requirements only with prior approval of Departmental Representative, provided that guarantees are not affected. Make good damage to electrical system caused by use under this Contract.

Replace lamps which have been used for more than three (3) months.

1.09 TEMPORARY COMMUNICATION FACILITIES

- .1 Provide and pay for temporary telephone necessary for own use and use of Departmental Representative.

1.10 FIRE PROTECTION

- .1 Provide and maintain temporary fire-protection equipment during performance of Work, as required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .2 Burning rubbish and construction waste materials is not permitted on site.

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 RELATED REQUIREMENTS

- .1 Section 01 35 29.06 – Health and Safety Requirements.
- .2 Section 01 51 00 – Temporary Utilities.
- .3 Section 01 56 00 – Temporary Barriers and Enclosures.

1.02 REFERENCE STANDARDS

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB 1.189-2000, Exterior Alkyd Primer for Wood.
 - .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-A23.1-14/A23.2-14, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-O121-08(R2013), Douglas Fir Plywood.
 - .3 CAN/CSA-S269.2-16, Access Scaffolding for Construction Purposes.
 - .4 CAN/CSA-Z321-96(R2006), Signs and Symbols for the Occupational Environment.
- .3 Public Works Government Services Canada (PSPC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In effect as of: May 14, 2004.
- .4 U.S. Environmental Protection Agency (EPA)/Office of Water.
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.
 - .2 EPA Construction and Development Effluent Guidelines and Standards (2015), and EPA Effluent Guidelines Plan for 2016.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.04 INSTALLATION AND REMOVAL

- .1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.
- .2 Identify areas which have to be gravelled to prevent tracking of mud.
- .3 Indicate use of supplemental or other staging area.
- .4 Provide construction facilities in order to execute work expeditiously.
- .5 Remove from site all such work after use.

1.05 SCAFFOLDING

- .1 Scaffolding in accordance with CAN/CSA-S269.2-16.
- .2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, and temporary stairs, in a rigid, secure, and safe manner.

1.06 HOISTING

- .1 Provide, operate and maintain hoists and/or cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.
- .2 Hoists and cranes to be operated by qualified operator.

1.07 SITE STORAGE/LOADING

- .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- .2 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.08 CONSTRUCTION PARKING

- .1 Parking will be permitted on site, provided it does not disrupt performance of Work.
- .2 Provide and maintain adequate access to project site.
- .3 Parking for labour and on-site construction forces will be on site, in an area designated by the Departmental Representative, and enforced by the Contractor's Site Supervisor.

1.09 SECURITY

- .1 Refer to Specifications Section 01 14 00 – Work Restrictions.

1.10 EQUIPMENT, TOOL AND MATERIALS STORAGE

- .1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- .2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.11 SANITARY FACILITIES

- .1 On-site sanitary facilities for work force in accordance with governing regulations and ordinances to be coordinated with Departmental Representative.
- .2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.12 PROTECTION AND MAINTENANCE OF TRAFFIC

- .1 Provide access and temporary relocated roads as necessary to maintain traffic. Clear snow, as required, to maintain free, clear, and safe access to and from the project site.

- .2 Maintain and protect traffic on affected roads during construction period, except as otherwise specifically directed by Departmental Representative.
- .3 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- .4 Protect travelling public from damage to person and property.
- .5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- .6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor is responsible for repair of damage to roads caused by construction operations.
- .7 Construct access and haul roads necessary.
- .8 Haul roads to be constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- .9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- .10 Dust control must be adequate to ensure safe operation at all times.
- .11 Location, grade, width, and alignment of construction and hauling roads are subject to approval by Departmental Representative.
- .12 Lighting required to ensure full and clear visibility for full width of haul road and work areas during night work operations.
- .13 Provide snow removal during period of Work.
- .14 Remove, upon completion of work, haul roads designated by Departmental Representative.

1.13 CLEAN-UP

- .1 Remove construction debris, waste materials, and packaging material from work site daily.
- .2 Clean dirt or mud tracked onto paved or surfaced roadways.
- .3 Store salvageable materials resulting from demolition activities.
- .4 Stack stored new or salvaged material not in construction facilities.

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 RELATED REQUIREMENTS

- .1 Section 01 14 00 – Work Restrictions.
- .2 Section 01 51 00 – Temporary Utilities.
- .3 Section 01 52 00 – Construction Facilities.

1.02 REFERENCE STANDARDS

- .1 Canadian General Standards Board (CGSB)
 - .1 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
 - .2 CAN/CGSB 1.189-2000, Exterior Alkyd Primer for Wood.
- .2 Canadian Standards Association (CSA International)
 - .1 CSA-O121-08(R2013), Douglas Fir Plywood.
- .3 Public Works Government Services Canada (PSPC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In effect as of: May 14, 2004.

1.03 INSTALLATION AND REMOVAL

- .1 Provide temporary controls in order to execute Work expeditiously.
- .2 Remove from site all such work after use.

1.04 GUARD RAILS AND BARRICADES

- .1 Provide secure, rigid guardrails and barricades around deep excavations, open shafts, open stairwells, open edges of floors and roofs, and pool edge.
- .2 Provide as required by governing authorities.

1.05 WEATHER ENCLOSURES

- .1 Provide weather-tight closures to unfinished door and window openings, tops of shafts, and other openings in floors and roofs.
- .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- .3 Design enclosures to withstand wind pressure and snow loading.
- .4 Erect enclosures to allow access for installation of materials and for working inside enclosure.

1.06 DUST TIGHT SCREENS

- .1 Provide dust-tight screens or insulated partitions to localize dust-generating activities, and for protection of workers, finished areas of Work, and public.

- .2 Maintain and relocate protection until such work is complete.

1.07 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.
- .2 Build and maintain temporary roads where indicated or directed, and provide snow removal during period of Work.
- .3 If authorized to use existing roads for access to Project site, maintain such roads for duration of Contract, and make good damage resulting from Contractor's use of roads.

1.08 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

1.09 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles. Clean snow as required.

1.10 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.11 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work. Protect metal decking to remain.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Departmental Representative locations and installation schedule, three (3) days prior to installation.
- .4 Be responsible for damage incurred due to lack of or improper protection.

1.12 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling, in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

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 RELATED REQUIREMENTS

- .1 Section 01 45 00 – Quality Control
- .2 Section 01 73 00 – Execution.

1.02 REFERENCE STANDARDS

- .1 Within text of each specifications section, reference may be made to reference standards
- .2 Conform to reference standards, in whole or in part as specifically requested in specifications.
- .3 If there is question as to whether products or systems are in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
- .4 Cost for such testing will be born by Departmental Representative, in the event of conformance with Contract Documents or by Contractor in the event of non-conformance.

1.03 QUALITY

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of best quality for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Procurement policy is to acquire, in cost-effective manner, items containing highest percentage of recycled and recovered materials practicable consistent with maintaining satisfactory levels of competition. Make reasonable efforts to use recycled and recovered materials and in otherwise utilizing recycled and recovered materials in execution of work.
- .3 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense, and be responsible for delays and expenses caused by rejection.
- .4 Should disputes arise as to quality or fitness of products, decision rests strictly with Departmental Representative, based upon requirements of Contract Documents.
- .5 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
- .6 Permanent labels, trademarks, and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.04 AVAILABILITY

- .1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Departmental Representative of such, in order that substitutions or other remedial action may be

authorized in ample time to prevent delay in performance of Work.

- .2 In event of failure to notify Departmental Representative at commencement of Work, and should it subsequently appear that Work may be delayed for such reason, Departmental Representative reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.05 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 when applicable.
- .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
- .3 Store products subject to damage from weather in weatherproof enclosures.
- .4 Store cementitious products clear of earth or concrete floors, and away from walls.
- .5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.
- .6 Store sheet materials, lumber, and porcelain-tile products on flat, solid supports, and keep clear of ground. Slope to shed moisture.
- .7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
- .8 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative.
- .9 Touch-up damaged factory-finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over nameplates.

1.06 TRANSPORTATION

- .1 Pay costs of transportation of products required in performance of Work.
- .2 Transportation cost of products supplied by Departmental Representative will be paid for by Departmental Representative. Unload, handle, and store such products.

1.07 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify Departmental Representative, in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative will establish course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

1.08 QUALITY OF WORK

- .1 Ensure that Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
- .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves the right to require dismissal from site, workers deemed incompetent or careless.
- .3 Decisions as to standard or fitness of Quality of Work, in cases of dispute, rest solely with Departmental Representative, whose decision is final.

1.09 COORDINATION

- .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
- .2 Be responsible for coordination and placement of openings, sleeves, and accessories.

1.10 CONCEALMENT

- .1 In finished areas, conceal pipes, ducts, and wiring in floors, walls and ceilings, except where indicated otherwise.
- .2 Before installation, inform Departmental Representative if there is interference. Install as directed by Departmental Representative.

1.11 REMEDIAL WORK

- .1 Refer to Specifications Section 01 73 00 – Execution.
- .2 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
- .3 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12 LOCATION OF FIXTURES

- .1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- .2 Inform Departmental Representative of conflicting installation. Install as directed.
- .3 Locate equipment, fixtures, and distribution systems to provide minimum interference and maximum usable space, and in accordance with manufacturer's recommendations for safety, access, and maintenance.
- .4 Submit field drawings to indicate relative position of various services and equipment, when required by the Departmental Representative.

1.13 FASTENINGS

- .1 Provide metal fastenings and accessories in same texture, colour, and finish as adjacent materials,

unless indicated otherwise.

- .2 Prevent electrolytic action between dissimilar metals and materials.
- .3 Use non-corrosive, hot-dip, galvanized-steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- .4 Space anchors within individual load limit or shear capacity and ensure that they provide positive permanent anchorage. Wood, or any other organic material plugs, are not acceptable.
- .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- .6 Fastenings which cause spalling or cracking of material to which anchorage is made, are not acceptable.
- .7 Use fastenings of standard commercial sizes and patterns, with material and finish suitable for service.
- .8 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for pool areas.
- .9 Bolts may not project more than one (1) diameter beyond nuts.
- .10 Use plain type washers on equipment, and sheet-metal and soft-gasket lock-type washers where vibrations occur. Use resilient washers with stainless steel.

1.14 FASTENINGS - EQUIPMENT

- .1 Use fastenings of standard commercial sizes and patterns, with material and finish suitable for service.
- .2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- .3 Bolts may not project more than one diameter beyond nuts.
- .4 Use plain type washers on equipment, and sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 PROTECTION OF WORK IN PROGRESS

- .1 Prevent overloading of parts of building. Do not cut, drill, or sleeve load-bearing structural member, unless specifically indicated, without written approval of Departmental Representative.
- .2 Protect Work completed or in progress. Work damaged or defaced due to failure to provide such protection, is to be removed and replaced, or repaired, as directed by the Departmental Representative, at no increase in Contract Price.

1.16 EXISTING UTILITIES

- .1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, building occupants, and pedestrian and vehicular traffic.

- .2 Protect, relocate, or maintain existing active services. When services are encountered, cap off in a manner approved by authority having jurisdiction. Stake and record location of capped service.

1.17 SELECTION OF MATERIAL AND EQUIPMENT

- .1 Material and equipment will be specified in the Tender Documents, and selected by the Contractor, by one or more of the following methods:
 - .1 Specification by reference to a relevant Standard, such as CSA, ASTM, ULC, etc. Select any material or equipment that meets or exceeds that specified.
 - .2 Specification by reference to an accepted product evaluation publication, such as the CGSB "Qualified Products List," or CCMC Registry of Product Evaluations." Select any manufacturer's product so listed.
 - .3 Specification by Prescriptive or Performance specification. Select any material or equipment meeting or exceeding specification.
 - .4 Specification by identification of one or more Manufacturer's specific product(s) as an "Acceptable Product," along with a listing of other manufacturers who may offer equivalent products. Select any product so named, or select from equivalent product(s) of other listed manufacturers.
- .2 "Acceptable Product" is deemed to be a complete and working commodity as described by a manufacturer's name, catalogue number, trade name, or any combination thereof, and will constitute the minimum standard of acceptance.
- .3 When material or equipment is specified by a Standard, Prescriptive, or Performance specification, upon request of the Departmental Representative, obtain from the manufacturer an independent laboratory reporting showing that material or equipment meets or exceeds the specified requirements.

1.18 SUBSTITUTION OF MATERIAL AND EQUIPMENT

- .1 Prior to Tender Closing, Bidders may propose addition of other manufacturer's names to those listed in the Tender Documents, providing that requests are made in writing in accordance with Tender Instructions and Division 01 Specifications.
 - .1 Where no manufacturer's names are listed, the onus is on the Contractor to provide material and equipment to meet performance specification.
- .2 After Contract Award, substitutions of material and equipment, other than as selected by the Contractor from those specified, will be considered by the Departmental Representative, only if:
 - .1 Material or equipment selected from those specified are not available.
 - .2 Delivery date of material or equipment selected from those specified would unduly delay completion of the Contract; or
 - .3 Alternative material or equipment to those specified, provided they are determined by the Departmental Representative to be equivalent to or better than those specified, will result in a credit to the Contract Amount.
- .3 Requests for substitutions after Contract Award must be accompanied by sufficient information in the form of Shop Drawings, manufacturer's literature, samples, or other data to permit proper investigation of the substitutes used. Requests must also include statements of respective costs of material or equipment originally specified, and the proposed substitution.
- .4 Should a proposed substitution be accepted after Contract Award, either in part or in whole,

assume full responsibility and costs when substitution affects other work on the Project. The Contractor is to pay for design or drawing changes required as a result of the substitution.

- .5 Amounts of all credits arising from approval of substitutions after Contract Award will be determined by the Departmental Representative, and the Contract Amount will be reduced accordingly.

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 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 78 00 – Closeout Submittals.

1.02 FAMILIARIZATION WITH SITE

- .1 All Bidders, before submitting their Tender, shall inspect and examine the Site and its surroundings, and shall satisfy themselves as to the form and nature of the Work and materials necessary for the completion of the Works; the means of access to the Site; the accommodations they may require; and, in general, shall themselves obtain all necessary information as to risks, contingencies, and other circumstances which may influence or affect their Tender. All Bidders shall familiarize themselves with the scope and limits of the Contract Documents, and the limits thereto for this Contract. No allowance shall be made subsequently in this connection on account of error or negligence to properly observe and determine the conditions that will apply.
- .2 Obtain prior permission from the Departmental Representative, before carrying out such site inspection.
- .3 Due to privacy and security restrictions, Contractors cannot tour the proposed areas of Work unescorted at any time.
- .4 The cost for such testing will be borne by the Departmental Representative in the event of conformance with Contract Documents, or by the Contractor in the event of non-conformance.

1.03 EXISTING SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of Work, and notify Departmental Representative of findings.
- .2 Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by Departmental Representative.
- .3 Where Work involves breaking into or connecting to existing services, carry out Work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic.

1.04 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Departmental Representative of impending installation, and obtain approval for actual location.

- .4 Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

1.05 RECORDS

- .1 Maintain a complete, accurate log of control and survey work as it progresses.
- .2 On completion of foundations and major site improvements, prepare a certified survey showing dimensions, locations, angles and elevations of Work.
- .3 Record locations of maintained, re-routed and abandoned service lines.

1.06 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit name and address of Surveyor to Departmental Representative.
- .2 On request of Departmental Representative, submit documentation to verify accuracy of field-engineering work.
- .3 Submit certificate signed by surveyor certifying and noting those elevations and locations of completed Work that conform and do not conform with Contract Documents.

1.07 SUBSURFACE CONDITIONS

- .1 Promptly notify Departmental Representative, in writing, if subsurface conditions at Place of Work differ materially from those indicated in Contract Documents, or a reasonable assumption of probable conditions based thereon.
- .2 After prompt investigation, should Departmental Representative determine that conditions do differ materially, instructions will be issued for changes in Work as provided in Changes and Change Orders.

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 RELATED REQUIREMENTS

- .1 Section 01 33 00 – Submittal Procedures.
- .2 Section 01 61 00 – Common Product Requirements.
- .3 Section 07 92 00 – Joint Sealants.
- .4 Individual Product Sections: Cutting and patching incidental to, and as outlined in, the Work description of the Section. Notify the Departmental Representative, in advance, of Work required by other Sections.

1.02 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals: In accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit written request in advance of cutting or alteration which affects:
 - .1 Structural integrity of elements of project.
 - .2 Integrity of weather-exposed or moisture-resistant elements.
 - .3 Efficiency, maintenance, or safety of operational elements.
 - .4 Visual qualities of sight-exposed elements.
 - .5 Work of Departmental Representative or separate contractor.
- .3 Include in request:
 - .1 Identification of project.
 - .2 Location and description of affected Work.
 - .3 Statement on necessity for cutting or alteration.
 - .4 Description of proposed Work, and products to be used.
 - .5 Alternatives to cutting and patching.
 - .6 Effect on Work of Departmental Representative or separate contractor.
 - .7 Written permission of affected separate contractor.
 - .8 Date and time that work will be executed.

1.03 MATERIALS

- .1 Required for original installation.
- .2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

1.04 PREPARATION

- .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
- .2 After uncovering, inspect conditions affecting performance of Work.
- .3 Beginning of cutting or patching means acceptance of existing conditions.
- .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to

protect other portions of project from damage.

- .5 Provide protection from elements for areas which are to be exposed by uncovering work; maintain excavations free of water.'
- .6 Obtain Departmental Representative's approval before cutting, boring, or sleeving load-bearing elements.

1.05 EXECUTION

- .1 Execute cutting, fitting, and patching, including excavation and fill, to complete Work.
- .2 Fit several parts together, to integrate with other Work.
- .3 Uncover Work to install ill-timed Work.
- .4 Remove and replace defective and non-conforming Work.
- .5 Remove samples of installed Work for testing.
- .6 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.
- .7 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- .8 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.
- .9 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on concrete or masonry work without prior approval.
- .10 Restore work with new products in accordance with requirements of Contract Documents.
- .11 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .12 At penetration of fire-rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.
- .13 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
- .14 Conceal pipes, ducts and wiring in floor, wall, and ceiling construction of finished areas, except where indicated otherwise.
- .15 Make cuts with clean, true, smooth edges.
- .16 Where new Work connects with existing, and where existing Work is altered, cut, patch, and make good to match existing Work.

1.06 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling, in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

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 GENERAL REQUIREMENTS

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile waste in covered metal containers, and remove from premises at the end of each working day.
- .3 Provide adequate HEPA filtration ventilation during the use of volatile or noxious substances. The use of building ventilation systems is not permitted for this purpose.
- .4 Prevent accumulation of waste, which creates hazardous conditions.

1.02 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Departmental Representative or other Contractors.
- .2 Remove waste materials from site at daily, regularly scheduled times, or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .3 Clear snow and ice from access to building, and bank/pile snow in designated areas only.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked, separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7 Dispose of waste materials and debris off site.
- .8 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris, and other contaminants will not fall on wet, newly painted surfaces, nor contaminate building systems.

1.03 FINAL CLEANING

- .1 When Work is Substantially Performed, remove surplus products, tools, construction machinery, and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery, and equipment.
- .4 Remove waste products and debris, including that caused by Departmental Representative or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times, or dispose of as directed by Departmental Representative. Do not burn waste materials on site.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched, or disfigured glass.
- .8 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture, fitments, walls, and floors.
- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Vacuum clean and dust building interiors, behind grilles, louvers, and screens.
- .11 Wax, seal, shampoo, or prepare floor finishes, as recommended by manufacturer. This shall be in addition to final floor cleaning by Flooring Trades.
- .12 Inspect finishes, fitments, and equipment, and ensure specified workmanship and operation.
- .13 Broom clean and wash exterior walks, steps, and surfaces; rake clean other surfaces of grounds.
- .14 Remove dirt and other disfiguration from interior and exterior surfaces.
- .15 Sweep and wash clean paved areas.
- .16 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .17 Clean roofs, downspouts, and drainage systems.
- .18 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .19 Remove snow and ice from access to building.

1.04 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling, in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

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 WASTE MANAGEMENT GOALS

- .1 Prior to start of Work conduct meeting with Departmental Representative to review and discuss PSPC's waste management goal and Contractor's proposed Waste Reduction Workplan for Construction, Renovation and/or Demolition (CRD) waste to be project generated.
- .2 PSPC's waste management goal: To divert a minimum of 75 percent of total Project Waste from landfill sites. Prior to project completion, provide Departmental Representative with documentation certifying that waste management, recycling, and reuse of recyclable and reusable materials have been extensively practiced.
- .3 Minimize amount of non-hazardous solid waste generated by project, and accomplish maximum source reduction, reuse, and recycling of solid waste produced by CRD activities.
- .4 Protect environment and prevent environmental pollution damage.

1.02 REFERENCE STANDARDS

- .1 Canadian Construction Association (CCA)
 - .1 CCA 81 (2001): A Best Practices Guide to Solid Waste Reduction.
- .2 Nova Scotia's Construction and Demolition Debris Disposal Site Guidelines.
- .3 Public Works and Government Services Canada (PSPC)
 - .1 2002 National Construction, Renovation and Demolition Non-Hazardous Solid Waste Management Protocol.
 - .2 CRD Waste Management Market Research Report (available from PSPC's Environmental Services).
 - .3 Sustainable Development Strategy 2007-2009: Target 2.1 Environmentally Sustainable Use of Natural Resources.
 - .1 Real Property projects over \$1 million and in communities where industrial recycling is supported, implementation of CRD waste management practices will be completed, with waste materials being reused or recycled.
 - .2 Contractually ensure that resources used in construction or maintenance are consumed and recovered in a sustainable manner.

1.03 DEFINITIONS

- .1 Approved/Authorized recycling facility: Waste recycler approved by applicable provincial authority or other users of material for recycling approved by the Departmental Representative.
- .2 Class III: Non-hazardous waste - construction renovation and demolition waste.
- .3 Construction, Renovation and/or Demolition (CRD) Waste: Class III solid, non-hazardous waste materials generated during construction, demolition, and/or renovation activities
- .4 Inert Fill: Inert waste - exclusively asphalt and concrete.
- .5 Waste Source Separation Program (WSSP): Implementation and coordination of ongoing

activities to ensure designated waste materials will be sorted into pre-defined categories and sent for recycling and reuse, maximizing diversion and potential to reduce disposal costs.

- .6 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .7 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .8 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .9 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
 - .1 Salvaging reusable materials from remodelling projects, before demolition stage, for resale, reuse on current project, or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .10 Salvage: Removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .11 Separate Condition: Refers to waste sorted into individual types.
- .12 Source Separation: Act of keeping different types of waste materials separate beginning from the point they became waste.
- .13 Waste Management Coordinator (WMC): Contractor representative responsible for supervising waste-management activities, as well as coordinating required submittal and reporting requirements.
- .14 Waste Reduction Workplan (WRW): Written report which addresses opportunities for reduction, reuse, or recycling of materials generated by project. Specifies diversion goals, implementation and reporting procedures, and anticipated results and responsibilities. Waste Reduction Workplan (Schedule B) information acquired from Waste Audit.

1.04 DOCUMENTS

- .1 Post and maintain in visible and accessible area at job site, one copy of following documents:
 - .1 Waste Reduction Workplan (Schedule B).

1.05 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Prepare and submit following prior to project start-up:
 - .1 One (1) copy and one (1) electronic copy of completed Waste Reduction Workplan (WRW): Schedule B.
- .3 Prepare and submit on bi-weekly basis throughout project, or at intervals agreed to by Departmental Representative, the following:
 - .1 Receipts, scale tickets, waybills, and/or waste disposal receipts that show quantities and types of materials reused, recycled, or disposed of.

- .2 Written bi-weekly summary report detailing cumulative amounts of waste materials reused, recycled, and landfilled, and brief status of ongoing waste management activities.
- .4 Submit prior to final payment the following:
 - .1 Waste Diversion Report, indicating final quantities by material types salvaged for reuse, recycling, or disposal in landfill and recycling centres, re-use depots, landfills and other waste processors that received waste materials.
 - .2 Provide receipts, scale tickets, waybills, and waste disposal receipts that confirm quantities and types of materials reused, recycled or disposed of and destination.

1.06 WASTE REDUCTION WORKPLAN (WRW)

- .1 Prepare and submit WRW (Schedule B) at least ten (10) days prior to project start-up.
- .2 WRW identifies strategies to optimize diversion through reduction, reuse, and recycling of materials; and comply with applicable regulations, based on information acquired from WA.
- .3 WRW should include but not limited to:
 - .1 Applicable regulations.
 - .2 Specific goals for waste reduction, identify existing barriers and develop strategies to overcome them.
 - .3 Destination of materials identified.
 - .4 Deconstruction/disassembly techniques and schedules.
 - .5 Methods to collect, separate, and reduce generated wastes.
 - .6 Location of waste bins on-site.
 - .7 Security of on-site stockpiles and waste bins.
 - .8 Protection of personnel, sub-contractors.
 - .9 Clear labelling of storage areas.
 - .10 Training plan for contractor and sub-contractors.
 - .11 Methods to track and report results reliably (Schedule D).
 - .12 Details on materials handling and removal procedures.
 - .13 Recycler and reclaimer requirements.
 - .14 Quantities of materials to be salvaged for reuse or recycled and materials sent to landfill.
 - .15 Requirements for monitoring on-site waste-management activities.
- .4 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.
- .5 Post WRW or summary, where workers at site are able to review content.
- .6 Monitor and report on waste reduction by documenting total volume (in tonnes) and cost of actual waste removed from project (Schedule D).

1.07 USE OF SITE AND FACILITIES

- .1 Execute Work with minimal interference and disturbance to normal use of premises.
- .2 Maintain security measures established by facility provide temporary security measures approved by Departmental Representative.

1.08 WASTE PROCESSING SITES

- .1 Contractor is responsible to research and locate waste diversion resources and service providers.

Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.

1.09 QUALITY ASSURANCE

- .1 After award of Contract, a mandatory site examination will be held for this Project for Contractor and sub-contractors responsible for construction, renovation demolition/deconstruction waste management.
 - .1 Date, time, and location will be arranged by Departmental Representative.
- .2 Waste Management Meeting: Waste Management Coordinator is to provide an update on status of waste diversion and management activities at each meeting. Written bi-weekly Waste Diversion Report summary to be provided by Waste Management Coordinator.

1.10 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled, and salvaged in locations as directed by Departmental Representative.
- .2 Unless specified otherwise, materials for removal become Contractor's property.
- .3 Protect, stockpile, store, and catalogue salvaged items.
- .4 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Protect structural components not removed and salvaged materials from movement or damage.
- .6 Support affected structures. If safety of building is endangered, cease operations and immediately notify Departmental Representative.
- .7 Protect surface drainage, mechanical, and electrical from damage and blockage.
- .8 Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .9 Separate and store materials produced during project in designated areas.
- .10 Prevent contamination of materials to be salvaged and recycled, and handle materials in accordance with requirements for acceptance by designated processing facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off site processing facility for separation.
 - .3 Obtain waybills, receipts, and/or scale tickets for separated materials removed from site.
 - .4 Materials reused on-site are considered to be diverted from landfill, and, as such, are to be included in all reporting.

1.11 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of waste, volatile materials, mineral spirits, oil, or paint thinner into waterways, storm, or sanitary sewers.

- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Remove materials on-site as Work progresses.
- .5 Prepare project summary to verify destination and quantities on a material-by-material basis, as identified in the waste audit.

1.12 SCHEDULING

- .1 Coordinate Work with other activities at site, to ensure timely and orderly progress of Work.

2 PRODUCTS

2.01 NOT USED

- .1 Not Used.

3 EXECUTION

3.01 APPLICATION

- .1 Do Work in compliance with WRW and WSSP.
- .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.

3.02 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling, in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site, and dispose of materials at appropriate facility.
 - .2 Source separate materials to be reused/recycled into specified sort areas.

END OF SECTION

1 GENERAL

1.01 ADMINISTRATIVE REQUIREMENTS

- .1 Acceptance of Work Procedures:
 - .1 Contractor's Inspection: Contractor: Conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Departmental Representative, in writing, of satisfactory completion of Contractor's inspection, and submit verification that corrections have been made.
 - .2 Request Departmental Representative's inspection.
 - .2 Departmental Representative's Inspection:
 - .1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
 - .3 Completion Tasks: Submit written certificates in English that tasks have been performed as follows:
 - .1 Work: Completed and inspected for compliance with Contract Documents.
 - .2 Defects: Corrected and deficiencies completed.
 - .3 Equipment and systems: Tested, adjusted and balanced, and fully operational.
 - .4 Certificates required by Boiler Inspection Branch, Fire Commissioner, Utility companies: Submitted.
 - .5 Operation of systems: Demonstrated to Departmental Representative's personnel.
 - .6 Work: Complete and ready for final inspection.
 - .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Departmental Representative and Contractor.
 - .2 When Work is deemed to be incomplete according to Departmental Representative, complete outstanding items and request re-inspection.
 - .5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
 - .6 Commencement of Lien and Warranty Periods: Date of Departmental Representative's acceptance of submitted declaration of Substantial Performance to be date for commencement for warranty period and commencement of lien period, unless required otherwise by lien statute of Place of Work.
 - .7 Final Payment:
 - .1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 When Work is deemed to be incomplete by Departmental Representative, complete outstanding items and request re-inspection.
 - .8 Payment of Holdback: After issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.02 RE-INSPECTION

- .1 Should status of the Work require re-inspection by Departmental Representative, due to failure of Work to comply with Contractor's claims for inspection, the Departmental Representative's compensation for re-inspection services will be deducted from payment to Contractor.

1.03 FINAL CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools, and equipment.
- .2 Waste Management: Separate waste materials for reuse and recycling, in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

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 REFERENCE STANDARDS

- .1 Canadian Environmental Protection Act (CEPA)
 - .1 SOR/2008-197, Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations.

1.02 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Warranty Meeting:
 - .1 Convene meeting one (1) week prior to contract completion, with Contractor's Representative and Departmental Representative, in accordance with Section 01 31 19 - Project Meetings, to:
 - .1 Verify Project requirements.
 - .2 Review manufacturer's installation instructions and warranty requirements.
 - .2 Departmental Representative to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
 - .3 Contact information for bonded and licensed company for warranty work action: Provide name, telephone number, and address of company authorized for construction warranty work action.
 - .4 Ensure that contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Three (3) weeks prior to Substantial Performance of the Work, submit to the Departmental Representative, three (3) final copies of operating and maintenance manuals in English.
- .3 Provide spare parts, maintenance materials, and special tools of same quality and manufacture as products provided in Work.
- .4 Provide evidence, if requested, for type, source and quality of products supplied.

1.04 FORMAT

- .1 Organize data as instructional manual.
- .2 Binders: Vinyl, hard covered, 3 'D' ring, loose leaf (219 x 279) mm, with spine and face pockets.
- .3 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
- .4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project, and identify subject matter of contents.

- .5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- .6 Provide tabbed flyleaf for each separate product and system, with typed description of product and major component parts of equipment.
- .7 Text: Manufacturer's printed data, or typewritten data.
- .8 Drawings: Provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.
- .9 Provide 1:1 scaled CAD files in dwg and pdf format on CD.

1.05 CONTENTS - PROJECT RECORD DOCUMENTS

- .1 Table of Contents for Each Volume: Provide title of project.
 - .1 Date of submission; names.
 - .2 Addresses, and telephone numbers of Consultant and Contractor, with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
- .2 For each product or system:
 - .1 List names, addresses, and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- .3 Product Data: Mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- .4 Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- .5 Typewritten Text: As required to supplement product data.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.
- .6 Training: Refer to Section 01 79 00 - Demonstration and Training.

1.06 AS-BUILT DOCUMENTS AND SAMPLES

- .1 Maintain, in addition to requirements in General Conditions, at site, for Departmental Representative, one (1) record copy of:
 - .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Change Orders and other modifications to Contract.
 - .5 Reviewed shop drawings, product data, and samples.
 - .6 Field test records.
 - .7 Inspection certificates.
 - .8 Manufacturer's certificates.
- .2 Store record documents and samples in field office apart from documents used for construction.
 - .1 Provide files, racks, and secure storage.
- .3 Label record documents and file in accordance with Section number listings in List of Contents of

this Project Manual.

- .1 Label each document "PROJECT RECORD" in neat, large, printed letters.
- .4 Maintain record documents in clean, dry and legible condition.
 - .1 Do not use record documents for construction purposes.
- .5 Keep record documents and samples available for inspection by Departmental Representative.

1.07 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

- .1 Record information on set of black-line opaque drawings, and in copy of Project Manual, provided by Departmental Representative.
- .2 Use felt-tip marking pens, maintaining separate colours for each major system, for recording information.
- .3 Record information concurrently with construction progress.
 - .1 Do not conceal Work until required information is recorded.
- .4 Contract Drawings and shop drawings: Mark each item to record actual construction, including:
 - .1 Measured depths of elements of foundation in relation to finish first floor datum.
 - .2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - .3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by change orders.
 - .6 Details not on original Contract Drawings.
 - .7 Referenced Standards to related shop drawings and modifications.
- .5 Specifications: Mark each item to record actual construction, including:
 - .1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
 - .2 Changes made by Addenda and change orders.
- .6 Other Documents: maintain manufacturer's certifications, inspection certifications, and field test records, required by individual specifications sections.
- .7 Provide digital photos, if requested, for site records.

1.08 EQUIPMENT AND SYSTEMS

- .1 For each item of equipment and each system include description of unit or system, and component parts.
 - .1 Give function, normal operation characteristics and limiting conditions.
 - .2 Include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.
- .2 Panel-board circuit directories: Provide electrical service characteristics, controls, and communications.
- .3 Include installed colour-coded wiring diagrams.

- .4 Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences.
 - .1 Include regulation, control, stopping, shut-down, and emergency instructions.
 - .2 Include summer, winter, and any special operating instructions.
- .5 Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- .6 Provide servicing and lubrication schedule, and list of lubricants required.
- .7 Include manufacturer's printed operation and maintenance instructions.
- .8 Include sequence of operation by controls manufacturer.
- .9 Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- .10 Provide installed control diagrams by controls manufacturer.
- .11 Provide Contractor's coordination drawings, with installed colour-coded piping diagrams.
- .12 Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- .13 Include test and balancing reports as specified in Section 01 45 00 - Quality Control.
- .14 Additional requirements: As specified in individual specification sections.

1.09 MATERIALS AND FINISHES

- .1 Building products, applied materials, and finishes: Include product data, with catalogue number, size, composition, and colour and texture designations.
 - .1 Provide information for re-ordering custom manufactured products.
- .2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .3 Moisture-protection and weather-exposed products: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- .4 Additional requirements: As specified in individual specifications sections.

1.10 MAINTENANCE MATERIALS

- .1 Spare Parts:
 - .1 Provide spare parts, in quantities specified in individual specifications sections.
 - .2 Provide items of same manufacture and quality as items in Work.
 - .3 Deliver to site; place and store where directed by Departmental Representative.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Departmental Representative.
 - .2 Include approved listings in Maintenance Manual.

- .5 Obtain receipt for delivered products and submit prior to final payment.
- .2 Extra Stock Materials:
 - .1 Provide maintenance and extra materials, in quantities specified in individual specifications sections.
 - .2 Provide items of same manufacture and quality as items in Work.
 - .3 Deliver to site; place and store as directed by Departmental Representative.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Departmental Representative.
 - .2 Include approved listings in Maintenance Manual.
 - .5 Obtain receipt for delivered products and submit prior to final payment.
- .3 Special Tools:
 - .1 Provide special tools, in quantities specified in individual specifications section.
 - .2 Provide items with tags identifying their associated function and equipment.
 - .3 Deliver to site; place and store as directed by Departmental Representative.
 - .4 Receive and catalogue items.
 - .1 Submit inventory listing to Departmental Representative.
 - .2 Include approved listings in Maintenance Manual.

1.11 DELIVERY, STORAGE AND HANDLING

- .1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- .2 Store in original and undamaged condition, with manufacturer's seal and labels intact.
- .3 Store components subject to damage from weather in weatherproof enclosures.
- .4 Store paints and freezable materials in a heated and ventilated room.
- .5 Remove and replace damaged products at own expense and for review by Departmental Representative.

1.12 WARRANTIES AND BONDS

- .1 Develop warranty-management plan to contain information relevant to Warranties.
- .2 Submit warranty-management plan, thirty (30) days before planned pre-warranty conference, to Departmental Representative's approval.
- .3 Warranty-management plan to include required actions and documents to assure that Departmental Representative receives warranties to which it is entitled.
- .4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- .5 Submit, warranty information made available during construction phase, to Departmental Representative for approval prior to each monthly pay estimate.
- .6 Assemble approved information in binder, submit upon acceptance of work, and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

- .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten (10) days after completion of applicable item of work.
- .4 Verify that documents are in proper form, contain full information, and are notarized.
- .5 Co-execute submittals when required.
- .6 Retain warranties and bonds until time specified for submittal.
- .7 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- .8 Conduct joint four (4) month and nine (9) month warranty inspection, measured from time of acceptance, by Departmental Representative.
- .9 Include information contained in warranty-management plan as follows:
 - .1 Roles and responsibilities of personnel associated with warranty process, including points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers, or suppliers involved.
 - .2 Listing and status of delivery of Certificates of Warranty for extended warranty items, to include, where applicable, roofs, HVAC balancing, pumps, motors, transformers, and commissioned systems such as fire protection, alarm systems, sprinkler systems, lightning-protection systems, and other project systems.
 - .3 Provide list for each warranted equipment, item, feature of construction, or system indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses, and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: Include one-year overall warranty of construction. Indicate items that have extended warranties, and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.
 - .9 Summary of maintenance procedures required to continue warranty in force.
 - .10 Cross-Reference to specific, pertinent Operation and Maintenance Manuals.
 - .11 Organization, names, and phone numbers of persons to call for warranty service.
 - .12 Typical response time and repair time expected for various warranted equipment.
 - .4 Contractor's plans for attendance at four (4) and nine (9) month post-construction warranty inspections.
 - .5 Procedure and status of tagging of equipment covered by extended warranties.
 - .6 Post copies of instructions near selected pieces of equipment, where operation is critical for warranty and/or safety reasons.
- .10 Respond in timely manner to oral or written notification of required construction warranty repair work.
- .11 Written verification to follow oral instructions.
 - .1 Failure to respond will be cause for the Departmental Representative to proceed with action against Contractor.

1.13 WARRANTY TAGS

- .1 Tag, at time of installation, each warranted item. Provide durable, oil- and water-resistant tag approved by Departmental Representative.
- .2 Attach tags with copper wire, and spray with waterproof silicone coating.
- .3 Leave date of acceptance until project is accepted for occupancy.
- .4 Indicate following information on tag:
 - .1 Type of product/material.
 - .2 Model number.
 - .3 Serial number.
 - .4 Contract number.
 - .5 Warranty period.
 - .6 Inspector's signature.
 - .7 Construction Contractor.

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 RELATED REQUIREMENTS

- .1 Section 01 78 00 – Closeout Submittals.

1.02 ADMINISTRATIVE REQUIREMENTS

- .1 Demonstrate scheduled operation and maintenance of equipment and systems to Departmental Representative's personnel, two (2) weeks prior to date of substantial performance.
- .2 Departmental Representative: Provide list of personnel to receive instructions, and coordinate their attendance at agreed-upon times.
- .3 Preparation:
 - .1 Verify conditions for demonstration and instructions, and comply with requirements.
 - .2 Verify that designated personnel are present.
 - .3 Ensure that equipment has been inspected and put into operation.
 - .4 Ensure that testing, adjusting, and balancing has been performed, and equipment and systems are fully operational.
- .4 Demonstration and Instructions:
 - .1 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, and maintenance of each item of equipment at agreed-upon times, at the designated location.
 - .2 Instruct personnel in phases of operation and maintenance using operation and maintenance manuals as basis of instruction.
 - .3 Review contents of manual, in detail, to explain aspects of operation and maintenance.
 - .4 Prepare and insert additional data in operations and maintenance manuals, when needed during instructions.
- .5 Minimum time period for manufacturer's personnel to be on site for training is specified in each section, and to be included in Contract. If a longer period is required by the manufacturer, then the extra time shall also be included at no additional cost to Departmental Representative.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit schedule of time and date for demonstration of each item of equipment and each system, two (2) weeks prior to designated dates, for Departmental Representative's approval.
- .3 Submit reports within one (1) week after completion of demonstration, that demonstration and instructions have been satisfactorily completed.
- .4 Give time and date of each demonstration, with list of persons present.
- .5 Provide copies of completed operation and maintenance manuals, for use in demonstrations and instructions.

1.04 QUALITY ASSURANCE

- .1 When specified in individual Sections requiring manufacturer to provide authorized representative to demonstrate operation of equipment and systems:
 - .1 Instruct Departmental Representative's personnel.
 - .2 Provide written report that demonstration and instructions have been completed.

2 PRODUCTS

2.01 NOT USED

- .1 Not Used.

3 EXECUTION

3.01 NOT USED

- .1 Not Used.

END OF SECTION