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DIVISION 01 – GENERAL REQUIREMENTS

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END OF SECTION

1.1 WORK OF THIS CONTRACT

- .1 *Work* of this *Contract* comprises the following:
 - a. Utilities for temporary firehall buildings
 - b. Demolition of existing firehall including hazardous materials abatement
 - c. Construction of new firehall
 - d. Associated sitework and utilities
- .2 Municipal Address: 230 Hobbs Road, Qualicum Beach, B.C.
- .3 Legal Description: Lot 1, District Lot 80, Newcastle District, Plan 41282

1.2 DIVISION OF WORK

- .1 Division of the *Work* among *Subcontractors* and *Suppliers* is solely *Contractor's* responsibility. *Consultant* and *Owner* assume no responsibility to act as an arbiter to establish subcontract limits between Sections or Divisions of the *Work*.

1.3 SPECIFICATIONS LANGUAGE AND STYLE

- .1 These specifications are written in the imperative mood and in streamlined form. The imperative language is directed to *Contractor*, unless stated otherwise.
- .2 Complete sentences by reading "shall", "*Contractor* shall", "shall be", and similar phrases by inference. Where a colon (:) is used within sentences and phrases, read the words "shall be" by inference.
- .3 Fulfill and perform all indicated requirements whether stated imperatively or otherwise.
- .4 When used in the context of a *Product*, read the word "provide" to mean "supply and install to result in a complete installation ready for its intended use".

1.4 CONTRACT DOCUMENTS FOR CONSTRUCTION PURPOSES

- .1 *Owner* will supply *Contractor* with a complete set of *Contract Documents* in electronic form before commencement of the *Work*. *Contractor* may print hard copies for construction purposes as required.

1.5 DOCUMENTS AT THE SITE

- .1 Keep the following documents at *Place of the Work*, stored securely and in good order and available to *Owner* and *Consultant* in hard copy form:
 - .1 Current *Contract Documents*, including *Drawings*, *Specifications* and addenda.
 - .2 *Change Orders*, *Change Directives*, and *Supplementary Instructions*.
 - .3 Reviewed *Shop Drawings*, *Product* data and samples.

- .4 Field test reports and records.
- .5 Construction progress schedule.
- .6 Meeting minutes.
- .7 Manufacturer's certifications.
- .8 Permits, inspection certificates, and other documents required by authorities having jurisdiction.
- .9 Current as-built drawings.
- .10 Material Safety Data Sheets (MSDS) for all controlled *Products*.

1.6 CONTRACTOR'S USE OF PREMISES

- .1 Except as otherwise specified, *Contractor* has unrestricted use of *Place of the Work* from time of *Contract* award until *Substantial Performance of the Work*.
- .2 Confine *Construction Equipment*, *Temporary Work*, storage of *Products*, waste products and debris, and all other construction operations to limits required by laws, ordinances, permits, and *Contract Documents*, whichever is most restrictive. Do not unreasonably encumber *Place of the Work*.

END OF SECTION

1.1 RESTRICTIONS ON USE OF PREMISES

Limit use of site for *Work*, for storage, and for access, to allow;

- .1 Continued, unimpeded operation of the temporary firehall buildings.
- .2 Coordinate use of site under direction of *Owner* and *Consultant*.

1.2 WORK SEQUENCE

- .1 Schedule and construct *Work* in stages to accommodate *Owner's* continued use of site during construction.
 - .1 The Dashwood Volunteer Firehall will remain operational, from temporary onsite buildings, during the duration of demolition and construction. The Contractor shall not impede the operation of the firehall.
 - .2 The temporary firehall building will be installed onsite, by others, prior to the start of *Work*. See attached diagram for approximate location of temporary firehall buildings.
- .2 Required stages:
 - .1 Install temporary power and communication utilities to temporary firehall buildings. This includes coordination with BC Hydro for supply of permanent 3-phase power to the site. This process has been started by the *Owner*.
 - .2 Once temporary firehall is operational, begin demolition of existing firehall including hazardous materials abatement.
 - .3 Proceed with construction of new firehall.
 - .4 Coordinate with *Owner* for removal of temporary buildings once *Ready for Takeover* has been achieved. Removal by others.

1.3 OWNER OCCUPANCY

- .1 *Owner* will occupy site during entire construction period.
- .2 Cooperate with *Owner* in scheduling operations to minimize disruptions and to facilitate *Owner* usage.

END OF SECTION

1.1 CASH ALLOWANCES FOR SUPPLY AND INSTALLATION OF PRODUCTS

- .1 Amount of each cash allowance includes:
 - .1 All costs to provide the specified *Products*, including supply, installation, and related costs, excluding *Value Added Taxes*.
 - .2 *Subcontractor's* and sub-*Subcontractor's* overheads and profits related to the cash allowance.
- .2 Amount of each cash allowance does not include *Contractor's* overhead and profit, and other related costs, which shall be included in the *Contract Price* and not in the cash allowance.
- .3 Allow the stipulated sum of **\$15,000.00** for the supply and installation of exterior signage.

1.2 EXPENDITURE OF CASH ALLOWANCES

- .1 *Owner*, through *Consultant*, will provide *Contractor* with documentation required to permit pricing of a cash allowance item.
- .2 *Owner*, through *Consultant*, may request *Contractor* to identify potential *Suppliers* or *Subcontractors*, as applicable, and to obtain at least three competitive prices for each cash allowance item.
- .3 *Owner*, through *Consultant*, may request the *Contractor* to disclose originals of all bids, quotations, and other price related information received from potential *Suppliers* or *Subcontractors*.
- .4 *Owner*, through *Consultant*, will determine by whom and for what amount each cash allowance item will be performed. Obtain *Owner's* prior written approval in the form of a *Change Order* before entering into a subcontract, amending an existing subcontract, or performing own forces work included in a cash allowance. Upon issuance of the *Change Order*, the *Contractor's* responsibilities for a cash allowance item shall be the same as for other work of the *Contract*.

END OF SECTION

1.1 CONSTRUCTION START-UP MEETING

- .1 Promptly after *Contract* award, *Contractor* shall establish the time and location of a construction start-up meeting to review and discuss administrative procedures and responsibilities. *Contractor* shall notify *Consultant* and *Owner* at least 5 *Working Days* before the meeting.
- .2 Senior representatives of *Owner*, *Consultant*, subconsultants, and *Contractor*, including *Contractor*'s project manager and site superintendent, and major *Subcontractors*, shall be in attendance.
- .3 *Contractor*'s representative will chair the meeting and record and distribute the minutes.
- .4 Agenda will include following:
 - .1 Appointment of official representatives of *Owner*, *Contractor*, *Subcontractors*, *Consultant*, and subconsultants.
 - .2 *Project* communications.
 - .3 *Contract Documents* for construction purposes.
 - .4 Documents at the site.
 - .5 *Contractor*'s use of premises.
 - .6 *Owner*-supplied *Products*.
 - .7 Work restrictions.
 - .8 Cash allowance.
 - .9 Construction progress meetings.
 - .10 Construction progress schedule, including long lead time items.
 - .11 Submittals schedule and procedures.
 - .12 Quality requirements, including testing and inspection procedures.
 - .13 *Contractor*'s mobilization.
 - .14 Temporary utilities.
 - .15 Existing utility services.
 - .16 Construction facilities.
 - .17 Temporary barriers and enclosures.
 - .18 Field engineering and layout of work.
 - .19 Site safety.
 - .20 Site security.
 - .21 Cleaning and waste management.
 - .22 Closeout procedures and submittals.
 - .23 Other items.

1.2 CONSTRUCTION PROGRESS MEETINGS

- .1 Schedule regular bi-weekly construction progress meetings for the duration of the *Work*. *Contractor* shall prepare meeting agendas, chair the meetings, and record and distribute the minutes.
- .2 Arrange for and provide physical space for meetings.
- .3 *Contractor* shall record in the meeting minutes significant decisions and identify action items and action dates by attendees or the parties they represent.

- .4 *Contractor* shall distribute copies of minutes within Three (3) Working Days after each meeting-to-meeting attendees and any affected parties who may not be in attendance.
- .5 Ensure that *Subcontractors* attend as and when appropriate to the progress of the *Work*.
- .6 Agenda for each meeting shall include the following, as a minimum:
 - .1 Work progress since previous meeting.
 - .2 Field observations, including any problems, difficulties, or concerns.
 - .3 Construction progress schedule, including a two-week look-ahead.
 - .4 Submittal schedule.
 - .5 Proposed changes in the *Work*.
 - .6 Requests for information.
 - .7 Site safety issues.
 - .8 Other business.

END OF SECTION

1.1 SUMMARY

- .1 This Section specifies *Contractor's* responsibilities for preparation and submission of schedules and other documentation related to tracking construction progress.
- .2 The purpose of submitting progress schedules is to:
 - .1 inform *Owner* and *Consultant* of actual progress versus planned progress, and
 - .2 provide assurance that scheduling issues are being proactively identified and addressed in a timely manner, and that planned progress is being maintained as closely as possible.

1.2 CONSTRUCTION PROGRESS SCHEDULE

- .1 Format and Content:
 - .1 Prepare schedule in the form of a Critical Path Method (CPM) Gantt chart using Microsoft Project.
 - .2 Provide a work breakdown structure identifying key activities, work packages, and major milestones, including long delivery *Products*, inspection and testing activities, preparation and review of mock-ups, demonstration and training activities, and similar items, at a sufficient level of detail to effectively manage construction progress.
 - .3 Indicate milestone dates for *Ready-for-Takeover* and *Substantial Performance of the Work*.
- .2 Submission:
 - .1 Submit initial schedule to *Owner* and *Consultant* within 10 *Working Days* after *Contract* award.
 - .2 Submit schedule via e-mail as .pdf and Microsoft Project files.
 - .3 *Owner* and *Consultant* will review format and content of initial schedule and request necessary changes, if any, within 5 10 *Working Days* after receipt.
 - .4 If changes are required, resubmit finalized initial schedule within 5 *Working Days* after return of review copy.
 - .5 Submit updated progress schedule monthly to *Owner* and *Consultant*, indicating actual and projected start and finish dates with report date line and progress, critical path, and baseline comparison to current progress.

1.3 SUBMITTALS SCHEDULE

- .1 Format and Content:
 - .1 Prepare schedule identifying all required *Shop Drawing*, *Product* data, and sample submissions, including samples required for testing.
 - .2 Prepare schedule in electronic format.
 - .3 Provide a separate line for each required submittal, organized by *Specifications* section names and numbers, and further broken down by individual *Products* and systems as required.
 - .4 For each required submittal, show planned earliest date for initial submittal and latest date for return of reviewed submittal without causing delay.
 - .5 Allow time in schedule for resubmission of submittals, should resubmission be necessary.
- .2 Submission:
 - .1 Submit initial schedule to *Owner* and *Consultant* within 15 *Working Days* after *Contract* award.
 - .2 Submit schedule via e-mail as .pdf files.
 - .3 Consultant will review format and content of initial schedule and request necessary changes, if any, within 5 *Working Days* after receipt.
 - .4 If changes are required, resubmit finalized schedule within 5 *Working Days* after return of review copy.
 - .5 Submit updated submittals schedule bi-weekly to *Owner* and *Consultant*.

1.4 SCHEDULE MANAGEMENT

- .1 A schedule submitted as specified and accepted by *Consultant* shall become the baseline schedule and shall be used as the baseline for updates.
- .2 At each regular progress meeting, review and discuss current construction progress and submittals schedules with *Consultant* and *Owner*, including activities that are behind schedule and planned measures to regain schedule slippage in key areas on or near the critical path.
- .3 Activities considered behind schedule are those with start or completion dates later than the dates shown on the baseline schedule.

1.5 RECORDING ACTUAL SITE CONDITIONS ON AS-BUILT DRAWINGS

- .1 Obtain a hard copy set of construction *Drawings* for the purpose of creating as-built drawings. Record information and maintain as-built drawings in clean, dry and legible condition.
- .2 Clearly label each drawing as “AS-BUILT DRAWING”. Record information concurrently with construction progress. Do not conceal *Work* until required information is recorded.
- .3 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 pipes, ducts, conduits, outlets, fixtures, access panels, and appurtenances, referenced to visible and accessible features of construction.
 - .4 Field changes of dimension and detail.
 - .5 Changes made by *Change Orders* and *Supplemental Instructions*
 - .6 References to *Shop Drawings*, where *Shop Drawings* show more detail.
- .4 Do not use as-built drawings for construction purposes.

END OF SECTION

1.1 TEMPORARY UTILITIES - GENERAL

- .1 Provide temporary utilities as specified and as otherwise necessary to perform the *Work* expeditiously.
- .2 Provide temporary utilities for operation of the temporary Firehall buildings onsite.
- .3 Remove temporary utilities after use.

1.2 TEMPORARY WATER SUPPLY

- .1 Connect to and use *Owner's* existing water supply, from the existing hydrant on site, for temporary use during construction, subject to existing available volume and pressure. Install a water meter and backflow prevention as per water provider requirements.
- .2 Arrange and pay for necessary water supply connections and disconnections.
- .3 Provide a firehose connection for the temporary Firehall use.

1.3 TEMPORARY HEATING AND VENTILATION

- .1 Arrange and pay for temporary heating and ventilation required during construction.
- .2 Vent construction heaters in enclosed spaces to the outside or use flameless type of construction heaters.
- .3 Provide temporary heat for the *Work* as required to:
 - .1 Facilitate progress of *Work*.
 - .2 Protect the *Work* against dampness and cold.
 - .3 Prevent moisture condensation on surfaces, freezing, or other damage to finishes or stored *Products*.
 - .4 Maintain specified minimum ambient temperatures and humidity levels for storage, installation and curing of *Products*.
- .4 Provide temporary ventilation for the *Work* as required to:
 - .1 Prevent accumulations of fumes, exhaust, vapours, gases and other hazardous, noxious, or volatile substances in enclosed spaces, as required to maintain a safe work environment meeting applicable regulatory requirements.
- .5 Do not use permanent building heating and ventilation systems during construction.
- .6 New permanent building heating and ventilation systems may be used during construction, at *Contractor's* option. If used during construction:
 - .1 *Contractor* shall pay utility costs resulting from the use of permanent systems.

- .2 Operate systems in a non-wasteful and energy efficient manner. Be responsible for any system damage.
- .3 Just prior to *Ready-for-Takeover*, replace filters, clean ductwork, and perform other required maintenance to ensure systems are in as near as new condition as possible.
- .4 Ensure that systems manufacturers' warranties do not commence until the date of *Ready-for-Takeover* or, if manufacturers' warranties do commence earlier when systems are put into use, arrange for necessary extension of manufacturers' warranties, or provide equivalent coverage under *Contractor's* warranty.

1.4 TEMPORARY ELECTRICAL POWER AND LIGHTING

- .1 Connect to and use *Owner's* existing electrical supply for temporary use during construction. Reimburse *Owner's* utility costs based on metered usage. Install a sub-meter for this purpose at *Contractor's* cost.
- .2 *Contractor* responsible for all work and costs associated with installation and connection of temporary power distribution equipment, including, but not limited to wiring/cabling, breakers, panels, and disconnects.
- .3 *Contractor* responsible for all work and costs associated with providing necessary temporary power supply to the temporary Firehall buildings, including wiring/cabling, breakers, panels, and disconnects. See Appendix A attached for temporary buildings locations and electrical requirements.
- .4 Existing maximum power supply of 230 V, single-phase, 200 amp, is available for temporary use during construction.
- .5 The future, permanent power supply to the property line, as shown in the *Drawings*, is currently under design by BC Hydro. The *Contractor* shall be responsible for coordination with BC Hydro to ensure limited power disruption to the site during change-over from the existing single-phase power supply to the permanent 3-phase supply.
- .6 Arrange and pay for necessary connections and disconnections of temporary power and lighting in accordance with regulatory requirements.
- .7 New permanent building power and lighting systems may be used during construction, at *Contractor's* option. If used during construction:
 - .1 *Contractor* shall pay utility costs resulting from the use of permanent systems.
 - .2 Operate systems in a non-wasteful and energy efficient manner. Be responsible for any system damage.
 - .3 Just prior to *Ready-for-Takeover*, replace lamps which have been used for more than 2 months.
 - .4 Ensure that systems manufacturers' warranties do not commence until the date of *Ready-for-Takeover* or, if manufacturers' warranties do commence earlier when

systems are put into use, arrange for necessary extension of manufacturers' warranties, or provide equivalent coverage under *Contractor's* warranty.

END OF SECTION

1.1 CONSTRUCTION FACILITIES - GENERAL

- .1 Provide temporary construction facilities as necessary for performance of the *Work* and in compliance with applicable regulatory requirements.
- .2 Maintain temporary construction facilities in good condition for the duration of the *Work*.
- .3 Remove temporary construction facilities from *Place of the Work* when no longer required.

1.2 CONSTRUCTION PARKING

- .1 Limited parking will be permitted at *Place of the Work* at locations indicated on *Drawings*.
- .2 No parking will be permitted on the south side of the *Place of Work*, as continued, uninterrupted operation of the Firehall must be maintained.

1.3 VEHICULAR ACCESS

- .1 Provide and maintain adequate access to *Place of the Work*.
- .2 Existing roads at *Place of the Work* may be used for access to *Place of the Work*, provided *Contractor* assumes responsibility for any damage caused by construction traffic, and prevents or promptly cleans up any mud tracking or material spillage.

1.4 SITE OFFICES

- .1 Provide a temperature controlled and ventilated office, with suitable lighting, of sufficient size to accommodate site meetings.
- .2 Temporary Firehall buildings:
 - .1 Provide power, internet, and telephone services to the temporary Firehall buildings on site.
 - .2 The power, internet, and telephone services to the existing Firehall building must be transferred to the temporary Firehall buildings prior to the start of demolition of the existing Firehall.
 - .3 Temporary firehall buildings will consist of three (3) 20'x40' fabric covered buildings with 3-phase electric heaters, one (1) 10'x52' office trailer, and one (1) small washroom building.

1.5 SANITARY FACILITIES

- .1 Provide sanitary facilities for workers.
- .2 Do not use permanent washroom facilities during construction.
- .3 Keep sanitary facilities clean and fully stocked with the necessary supplies.

1.6 FIRE PROTECTION

- .1 Provide and maintain temporary fire protection systems and equipment during construction.

1.7 PROJECT IDENTIFICATION SIGNS

- .1 Provide one *Project* identification sign. Graphics and text shall indicate name of *Project*, name and logo of *Owner*, *Consultant*, and *Contractor*.
- .2 Submit *Shop Drawing* for *Project* identification sign including graphics and text.
- .3 Erect sign within four weeks of *Contract* award in a location directed or approved by *Owner*.
- .4 No other signs or advertisements, other than safety, warning, or directional signs, are permitted without *Owner's* prior approval.

END OF SECTION

1.1 BARRIERS AND ENCLOSURES - GENERAL

- .1 Provide temporary barriers and enclosures necessary to protect the public and building occupants and to secure *Place of the Work* during performance of the *Work*.
- .2 Comply with applicable regulatory requirements.
- .3 Maintain temporary barriers and enclosures in good condition for the duration of the *Work*.
- .4 Remove temporary barriers and enclosures from *Place of the Work* when no longer required.

1.2 FENCING

- .1 Erect temporary security and safety site fencing of type and height determined by *Contractor*, subject to applicable regulatory requirements.
- .2 Provide lockable access gates as required to facilitate construction access.

1.3 FIRE ROUTES

- .1 Maintain fire access routes, including overhead clearances, for use by emergency response vehicles.

1.4 PROTECTION OF BUILDING FINISHES

- .1 Provide necessary temporary barriers and enclosures to protect completed or partially completed finished surfaces from damage during performance of the *Work*.

END OF SECTION

1.1 SURVEYOR QUALIFICATIONS

- .1 Engage a registered land surveyor, licensed to practice in *Place of the Work*.

1.2 SUBMITTALS

- .1 Submit name and address of registered land surveyor performing survey work.
- .2 Submit to *Owner* and *Consultant* the survey of the *Work* prepared and issued by a registered land surveyor on completion of the building footings and foundations, as required by authorities having jurisdiction, and on completion of the *Work*.

1.3 SURVEY REFERENCE POINTS

- .1 Locate and confirm permanent reference points prior to starting site work. Preserve and protect permanent reference points on site during construction.
- .2 Do not change or relocate reference points without prior written notice to *Consultant*.
- .3 Report to *Consultant* when a reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations. Require registered land surveyor to replace reference points in accordance with original survey.

1.4 SURVEY REQUIREMENTS

- .1 Establish sufficient permanent benchmarks on site, referenced to established benchmarks by survey control points.
- .2 Confirm that existing survey reference points are in accordance with *Owner's* survey and property limits.
- .3 Establish initial lines and levels for building layout.
- .4 Maintain a complete, accurate log of control and survey work as it progresses. Record locations with horizontal and vertical data in project record documents.

1.5 EXISTING UTILITIES AND STRUCTURES

- .1 Before commencing excavation, drilling or other earthwork, establish or confirm location and extent of all existing underground utilities and structures in work area.
- .2 Promptly notify *Consultant* if underground utilities, structures, or their locations differ from those indicated in *Contract Documents* or in available project information. *Consultant* will provide appropriate direction.
- .3 Record locations of maintained, re-routed and abandoned utility lines.

1.6 VERIFICATION OF EXISTING CONDITIONS

- .1 Where work specified in any Section is dependent on the work of another Section or Sections having been properly completed, verify that work is complete and, in a condition,

suitable to receive the subsequent work. Commencement of work of a Section that is dependent on the work of another Section or Sections having been properly completed, means acceptance of the existing conditions.

- .2 Verify that ambient conditions are suitable before commencing the work of any Section and will remain suitable for as long as required for proper setting, curing, or drying of *Products* used.
- .3 Ensure that substrate surfaces are clean, dimensionally stable, cured and free of contaminants.
- .4 Notify *Consultant* in writing of unacceptable conditions.

END OF SECTION

1.1 SUMMARY

- .1 Demonstrate and provide training to *Owner's* personnel on operation and maintenance of equipment, building envelope, and systems prior to scheduled date of *Ready-for-Takeover of the Work*.
- .2 *Owner* will provide list of personnel to receive training and will coordinate their attendance at agreed upon times.
- .3 Coordinate and schedule demonstration and training provided by *Subcontractors* and *Suppliers*.

1.2 SUBMITTALS

- .1 Submit proposed dates, times, durations, and locations for demonstration and training of each item of equipment and each system for which demonstration and training is required. Allow sufficient time for training and demonstration for each item of equipment or system, or time as may be specified in technical *Specifications*.
- .2 *Consultant* and *Owner* will review submittal and advise *Contractor* of any necessary revisions.
- .3 Submit report(s) within 5 *Working Days* after completion of demonstration and training:
 - .1 identifying time and date of each demonstration and training session,
 - .2 summarizing the demonstration and training performed, and
 - .3 including a list of attendees.

1.3 PREREQUISITES TO DEMONSTRATION AND TRAINING

- .1 Testing, adjusting, and balancing has been performed in accordance with *Contract Documents*.
- .2 Equipment and systems are fully operational.
- .3 Copy of completed operation and maintenance manual is available for use in demonstration and training.
- .4 Conditions for demonstration and training comply with requirements specified in technical *Specifications*.

1.4 DEMONSTRATION AND TRAINING

- .1 Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, and maintenance of each item of equipment and system.
- .2 Review operation and maintenance manual in detail to explain all aspects of operation and maintenance.
- .3 Prepare and insert additional information in operation and maintenance manual if required.

END OF SECTION