PROPOSED OPEN AIR STAGE LeBOURDAIS PARK FOR THE CITY OF QUESIVEL

TO/N WEST-ARCHITECT



SPECIFICATION

DIVISION I. GENERAL REQUIREMENTS

1.0 Score

As part of his general responsibilities for the complete work, the Contractor shall take special responsibility for all items contained in this Division.

2.9 SETTING OUT OF THE WORK

The Contractor shall check alt dimensions on the Drawings against actual site dimensions and shall report any discrepancies to the Architect, in writing, before commencing the work.

3.0 GRADES, LINES & LEVELS

The Contractor shall locate all general reference points, shall construct batter boards, and take necessary action to prevent their destruction. He shall be responsible for all lines, elevations and measurements of work executed by him under this Contract. He must check all figures, notations, and dimensions on the drawings and report any discrepancies to the Architect. Errors resulting from failure to do this shall be his responsibility.

4.0 PROTECTION OF WORK

The Contractor shall provide temporary weather-tight enclosures for all exterior openings where required to protect the existing Museum Building finishes and contents.

The Contractor shall maintain insurance on the work as outlined in the General Conditions. He shall retain his copy of the insurance policy and confirm effective dates.

5.0 PROTECTION OF THE PUBLIC

The Contractor shall erect necessary barricades required by law, and keep all unauthorized persons from the site at all times.

5.0 TEMPORAYR SERVICES

Temporary Electrical Services - The Contractor shall have use of the electrical service on the site during construction, with the cost to be born by the City.

7.0 SHOP DRAWINGS

The Contractor shall furnish to the Architect for his approval four sets of detail shop drawings for all work for which such drawings are required. The Contractor will be responsible to check and confirm all dimensions on such drawings. The Architect's approval of these shop drawings will be for the design only, and errors due to dimensions or interferences with the work will be the responsibility of the Contractor. Any additional work necessary to bring the job to a satisfactory state of completion because of the above noted errors will be furnished by the Contractor at no additional cost to the Contract.

DIVISION 2: SITE WORK

1.0 SCOPE

The Contractor shall furnish all labour, equipment, and materials to provide complete excavating, backfilling and grading as indicated on the drawings and specified herein. Work shall include the following:

- (a) Excavation for : Footing and walls
 - Electrical connections.
- (b) Gravel Fill.
- (c) Backfilling, compacting and grading.
- (d) Protection of existing lawn and building.

2.0 NATURE OF THE SOIL

It shall be the Contractor's responsibility to acquaint himself with the nature of the soil and of the work required to commencement of the job. The start of the work shall signify that the Contractor accepts the site as satisfactory for this work and no claim will be recognized for defective work due to site conditions. Where the Contractor has any doubts about soil conditions, he shall notify the Architect who will arrange to have soil tests performed by qualified experts.

3.0 REMOVAL OF SOD

The Contractor shall, after staking out the site, cut and roll the existing sod from all areas where excavations are to be carried out. The sod shall be stockpiled and maintained in a healthy condition for re-use. He shall also remove the lawn sprinkler heads and piping and deliver them to the City forces for safekeeping.

4.0 EXCAVATION

Footings and walls - Excavate to elevations, grades, lines and levels, as indicated on the drawings or as may be required for all footings and slabs. Excavations shall be of sufficient with to allow for forming and proper working space. All footing excavations shall be carried down to firm and undisturbed bottom. No hand tamping permitted to bottoms of excavations. The Architect shall be notified at completion of the excavations, and an inspection shall be carried out by him before form work or placing of fill for slabs is carried out.

Existing Museum Building: Excavation against the existing foundation shall be done with extreme care, and shall not be carried below the depth of the existing footings. Should the conditions uncovered differ from those assumed in the details, advise the Architect prior to preparing the new footing.

Existing Services: Known services and their approximate locations have been noted on the site plan. During excavations the Contractor shall avoid damaging them and shall immediately report any additional underground services to the City.

5.0 GRAVEL FILL

Gravel will be required for fill as shown on the drawings and specified herein. It shall be to thickness of 4" of 3/4" Pit Run gravel, well graded, and free of all organic matter.

6.0 BACKFILL

Backfili against foundation wlls and footings shall be placed in layers not exceeding 12" thick, and well compacted to minimize settlement. Density of compacted fill shall be equivalent to 100% Proctor density.

7.0 GRADING

Grade and fill over that portion of the site noted to the levels shown. Remove all excess material from the site.

8.0 PROTECTION

The Contractor shall take all precautions to protect the adjacent property, and other public utility work. He shall take every precaution to protect and preserve the existing grounds. At completion of final grading the Contractor shall re-sod all disturbed lawn around the construction.

DIVISION 3: CONCRETE

1.0 SCOPE

The Contractor shall supply and place all plain and reinforced cast-inplace concrete work as shown on the drawings and specified herein. Work shall include the following:

- (a) Form work for plain and reinforced concrete.
- (b) Reinforcing steel bars and mesh.
- (c) Grouting under base plates.
- (d) Concrete foundation pads, footings, walls, steps and ramp.
- (e) Slab on grade.

2.0 MATERIALS AND STANDARDS

Formwork - Formwork and supporting falsework shall be designed and constructed in accordance with the requirements of the British Columbia Building Code. Assume full responsibility for the design and for the adequacy and safety of all form work and falsework.

Reinforcing Steel - Shall be new billet steel.

Bars shall be free from scale, oil and structural defects and shall be kept so on the job. All reinforcing steel within the limits of the days pour shall be in place and firmly wired before concreting starts. On exterior exposed work, no ties or spacers shall be permitted to remain within $1\frac{1}{2}^n$ of the finished surface. The Architect will approve all reinforcing steel in place. At least 24 hours is to be allowed for this before concrete is poured. Due notice is to be given before each concrete pour.

Concrete - Ready mixed concrete shall be used, and shall be mixed and transported in accordance with C.S.A. Standard A23.1.

Strengths shall be as follows:

	Compressive Strength 28th Day	Size Aggregate	Maximum Slump
Exterior Slab-on-grade	4,000 p.s.i.	1 1/4 inch	3½ inch
Footings	3,000 p.s.i.	2 inch	3½ inch
Walls & Piers	3,000 p.s.i.	1 1/4 inch	4 inch
Steps & Ramp	4,000 p.s.i.	1 1/4 inch	31/s inch

The slump for each portion of the work shall be decided by the Architect or Testing Agency, but shall not exceed what is indicated above.

If, because of the aggregate used, or for any other reason, the Testing Agency requires additional cement in the mix, such cement shall be added by the Contractor. Concrete shall have a total air entrainment of 3 to 5% by volume.

3.0 TESTING ENGINEER

The Testing Engineer, who must be authorized by the Architect, shall:

- (a) Supervise concrete placing.
- (b) Test concrete cylinders.
- (c) Determine percentage of entrained air in the concrete.

Tests shall be taken of the pours for the tootings, the foundation and the slab. The Contractor shall notify the Testing Engineer 24 hours in advance of any pour and pouring shall not proceed until arrangements to take test cylinders has been completed.

The Testing Engineer shall provide the Architect and Contractor with copies of the written report of each of these pours stating the quantity mixed, where concrete was placed, and the proportions and slump used.

The cost of the testing engineering work shall be paid by the Contractor.

4.0 PLACING

Formwork shall be systematically cleaned before use. Where concrete surfaces shall be exposed to view the plywood surfaces used shall be square edged, and smooth, in a true plane, free from holes or other surface markings or defects.

All reinforcing shall be to size and details noted on the drawings, and shall have minimum concrete protection as noted on the drawings.

Check all drawings for all bolt settings, and inserts required and ensure that they have been correctly placed in the formwork. Take delivery of all bolts and inserts for placement in the concrete.

Spread the reinforcing for these items, rather than cutting the steel bars.

Provide a 5" K-B joint filler strip at the slab on grade and the wall of the Museum Building.

Concrete shall be conveyed to the place of final deposit by methods which will prevent the segregating or loss of material.

Conveying and placing equipment shall be such that when conveting he once started, the depositing of the concrete shall be at such a rate and of such sequence that the concrete is at all times sufficiently plastic to ensure proper bonding of successive layers or panels.

DIVISION 3. CONCRETE (CONT'D.)

4.0 PLACING (Cont'd)

When concrete is being place it shall be consolidated thoroughly and uniformly by means of tamping, hand tools, vibrators or finishing machines to secure a dense, homogenous structure, close bond with reinforcement and smooth formed surfaces. Internal vibrators shall be used wherever practicable except that external type vibrators may be used where satisfactory surfaces cannot be obtained with the internal type only.

Internal vibrators shall be applied at the point of deposit in the areas of freshly placed concrete until they penetrate into the previous layer of concrete. They shall be withdrawn immediately at the same speed at which they sank, moved about one foot and the process repeated.

Extreme care shall be taken to ensure that internal type vibrators do not disturb the reinforcing steel or the forms.

Concret floor slabs shall be screeded to the proper shape and elevation, machine floated and finished by skilled mechanics to produce a smooth, dense surface, free from ridges, voids or machine marks. The flatness of the finished surfaces shall not exceed 1/8" deviation in 10 ft.

5.0 REMOVAL OF FORMWORK

Notify the Architect before removing the formwork. Do not remove forms, shores, and bracing until compressive test results indicate that the concrete has gained sufficient strength to carry its own weight along with construction and design loads which are liable to be placed upon it.

DIVISION 4: MASONRY

1.0 SCOPE

The Contractor shall furnish the material and labour to complete all masonry work as shown on the detail drawings.

2.0 MATERIALS

- .1 Masonry Units: Hollow, load bearing, concrete masonry units shall be 8" x 6" x 8", centre scored as shown on the drawings.
- .2 Mortar shall be Type S.
- .3 Reinforcing: Intermediate grade billet steel conforming to C.S.A. G. 30. 12.
- .4 Concrete fill: 3,000 p.s.i. minimum 28 day strength.

3.0 WORKMANSHIP

- .l Masonry units shall be handled and stored in such a way as to prevent damage both before and during installation.
- .2 Appearance eill be critical. Blocks with damaged edges shall not be used.
- .3 Joints shall be 3/8" raked at the front and ends; tooled at the back.
- .4 Vertical reinforcing shall be as noted with one 15 M reinforcing bar at 4' 0" centres for full height of the wall. Concrete fill the voids.
- .5 Reinforcing to the top lentil beam 2 15 M horizontal, and 3,000 p.s.i. concrete.
- .6 At completion of work thoroughly clean off masonry and concrete slab of any loose mortar.

DIVISION 5: METALS

1.0 SCOPE

The Contractor shall furnish all labour and materials to furnish the complete job of Metalwork as shown on the detail drawings and specified herein.

Work shall include the following:

- All bolts, nuts, screws, anchors and welds necessary to complete the work outlined in other trade divisions.
- The stair pipe rail to shop drawing approval.
- The supply and erection of the rolling shutter gates.

2.0 EXCLUSIONS

The following work is not included in this Division:

(a) All steel connections for Glulam to Glulam.

3.0 WORKMANSHIP

Measurements and sizes - all measurements shall be verified on the site and the Contractor will be responsible for the accuracy of these dimensions. The Contractor shall examine all drawings and specifications under various trade divisions for imformation regarding sizes and preparatory work by other trade divisons. The Contractor shall co-operate in all ways to ensure that all built-in items shall be supplied in ample time for incorporation into the work.

Fabrication - all work shall be fabricated to shape and size with sharp lines and angles and smooth surfaces. All welds shall be ground smooth on exposed surfaces and all connections securely welded, bolted or rivetted.

Unfinished bolt holes shall be drilled or punched to exact location 1/16" larger than the bolt size and shall register true upon erection.

Holes for turned bolts shall be 1/50" larger than the external diameter of the bolt. All drilling or reaming for turned bolts shall be done after the parts to be connected are assembled.

3.0 ROLLING GRILLES

- .1 Supply and install aluminum rolling metal grilles where shown on the drawings, as Richards Wilcox Model 49 410; complete with hardened steel horizontal bars for added strength. Operation to be manual push-up.
- .2 Shop drawings to be provided to describe preparation of opening and of attachment to the side walls, as well as the padlock slide bolt locking operation.

DIVISION 6: WOODWORK

SECTION 6A: ROUGH CARPENTRY

1.0 SCOPE

The Contractor shall supply all labour, materials, and equipment to provide a complete job of rough carpentry as shown on the drawings and specified herein. The work shall include the following:

- (a) Wood framing, for existing roof modifications.
- (b) Rough hardware.
- (c) Rough buck, braces and supports.
- (d) Roof decking.
- (e) Grounds for other trades.
- (f) Building paper and damp courses.

2.0 MATERIALS

Lumber Grades specified herein refer to Standard Grading Rules for Canadian Lumber as published by the National Lumber Grades Authority, 1980 Edition.

Notwithstanding the above, all rough carpentry materials delivered to the job site will have grade stamps of an agency approved by CLS.

Framing Lumber - Construction Spruce - Pine fir.

Rough Bucks, Braces and Supports - Construction Spruce - Pine - Fir.

Roof Decking - 3" x 6" select double T & G Kiln dried, v-joint spruce decking, 12% moisture content.

Damp Courses - 45 lb. smooth surface felt.

Building Paper - 15 lb. asphalt saturated felt.

Plywood - sheathing, exterior grade to thickness noted.

3.0 MATERIAL STORAGE AND PROTECTION

All materials shall be delivered to the site, and stored so as to remain in an undamaged state. All materials shall be stacked above the ground and kept covered at all times.

4.0 WORKMANSHIP

All carpentry shall be performed under supervision of experienced tradesmen, fully skilled in their respective jobs. All rough carpentry shall be plumb and true and all members shall be fastened together to provide the strength and rigidity necessary for the purpose intended.

Roof Decking - The Architect shall be notified 24 hours in advance of the start of this work to permit his attendance on the site while decking is in progress.

Planks shall be layed in random lengths with at least every third piece joined over a supporting member. All shall be double nailed at, the supports and splined at joints not over supports.

No planks shall have more than one joint in any span and no joints shall be closer than 12" apart.

Joints between the middle third of the span are to be avoided, and in any case shall not occur more than once in any five adjacent planks.

Decking shall be protected from the weather both before and after laying, by the use of heavy polyethylene sheets, securely fixed in place.

Rough Hardware - Provide and install all rough hardware and fastenings as shown on the drawings and specified herein or required for proper installation of work. Nails, spikes, screws, bolts and similae items shall be of sizes and types to rigidly secure members inplace.

Grounds For Other Trades - Provide wood grounds and blocking and furring of sizes and shape required for other trades, and securing wood where required to secure other work or equipment in place. Set grounds true to line, level or plumb and well secured in place.

Attendance On Other Trades - The Contractor is to make all necessary provisions for work of other trades, including framing of openings, cutting, blocking and making good, and shall notify others in sufficient time to enable delivery of materials or equipment to be built in.

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SECTION 6B : GLUED LAMINATED TIMBERS

1.0 SCOPE

The Contractor shall furnish all the labour, equipment and materials to provide all glued laminated beams as shown on the drawings and specified herein. Work shall include:

- (a) Design, production and aupply of all glued laminated timber beams.
- (b) Design and supply all steel connections for glulam to
- (c) Supply of shop drawings sealed by a Structural Engineer qualified in B.C.

2.0 GLULAM BEAMS

All glulam mambers shall be manufactured by a plant approved by the C.S.A.

Materials - Glulam timber shall be 24F stress grade Douglas Fir conforming to C.S.A. 0122, latest edition, and shall be of a quality appearance grade and shall be wrapped for shipment. Wrapping shall be polyethylene film and burlap or fibreen paper. Moisture content shall range between 7% to 10%.

Members shall NOT be treated with sealer coat but shall be left finish sanded and carefully wrapped. All members shall be suitably marked on the wrapping for identification on the site.

All steel connections shall be shop prime coated.

3.0 SHOP DRAWINGS

Four sets of shop drawings of steel connections and glued laminate members shall be submitted to the Architect for review and approval prior to fabrication commencing.

4.0 HANDLING AND STORAGE

Members are to be delivered to the site in their original wrappings with manufacturers labels and seals intact. Pile on site in a level position at least 6" off the ground. Place spacers vertically above bottom blocking. Wrapping shall be left in place as completely as possible until the roofing is completed.

SECTION 6C : FINISH CARPENTRY

1.0 SCOPE

The Contractor shall supply all labour, materials and equipment necessary to provide a complete job of finish carpentry as detailed and shown on the drawings and specifications. The work shall include the following:

(a) Finish Carpentry - Refinishing existing Museum wall. - Exterior fascias and trim.

2.0 MATERIALS

Finish Carpentry - Lumber grades specified herein refer to Standard Grading Rules for Canadian Lumber, as published by the NLGA., 1980 Edition.

3.0 DELIVERY, STORAGE AND PROTECTION

New millwork and finish carpentry materials shall not be delivered to the site until they are required for installation. They shall be stored in a dry, heated and ventilated area. No interior finish carpentry or millwork shall be installed until all rough carpentry within the building has been completed and all openings sealed sufficiently to avoid unsightly damage or swelling of joints in finished work.

4.0 WORKMANSHIP

Only skilled tradesmen will be used in this work. All interior and exterior finish carpentry shall be in accordance with the drawings.

Trim - All done in strict accordance with details. All wood trim shall be carefully cut and fitted. All corners, unless otherwise detailed, shall be mitred to fit tightly and

All finish carpentry shall be finished smooth, sanded, free from any scratches, machine or tool marks. All sharp edges rounded off by sanding.

DIVISION 7: MOISTURE PROTECTION

SECTION 7A : HOT ASPHALT PAVING

1.0 SCOPE

The Contractor shall supply all labour and material to perform a complete job of hot asphalt roofing and metal flashing.

2.0 REFERENCE STANDARD

The minimum standard of acceptance for the roofing application will be R.C.A.B.C. Specification 5W-1 for unprimed, uninsulated roof decks.

3.0 WARRANTY

Supply a R.C.A.B.C. 5 Year Guarantee from date of Substantial Performance.

4.0 PRODUCTS

- 1. Shall be supplied by one manufacturer. They shall be delivered to the site just prior to use and stored with the rolls upright in a dry condition.
- 2. 26 gauge prefinished sheet steel in dark brown colour.

5.0 ROOF PREPARATION

Inspect the surfaces to receive the roofing to ensure the following:

- 1. Positive slope to drain.
- 2. Deck is tightly nailed and the valley's rigid on solid backing.
- 3. Roof is dry and free of snow and ice. 4. All curbs and cants are in place and ready for the rooting application.

6.0 INSPECTION

- 1. Inspection and testing of the application will be carried out by an inspection agency recognized by the R.C.A.B.C. and approved by the Architect.
- 2. The full cost of the Inspection will be paid for by the Contractor.
- 3. The final Inspection Report and Proof of Roofing Guarantee must be supplied to the Architect before Substantial Performance of the work will be considered.

SECTION 7B: SKYLIGHTS

1.0 SCOPE

The Contractor shall supply all material and labour to install the skylight to detail.

2.0 SHOP DRAWINGS

1. Submit shop drawings to clearly indicate all components materials supplied and all rough opening dimensions.

3.0 MATERIALS

- 1. Horizontal and vertical glazing frames as supplied by Columbia Manufacturing, and to details drawn.
- 2. Glazing panels: as lexan 9034, clear transparent, 1/4 " thick.
- 3. Caulking Sealant: Dow Corning 781.

4.0 DELIVERY AND STORAGE

Components shall not be delivered to the site until they can be installed.

5.0 INSTALLATION

- 1. Installer shall inspect the work on which proper installation of his work depends and report any defects prior to commencing
- 2. All caulking and backpriming shall be neatly and thoroughly executed.
- 3. Work shall be carefully coordinated with the roofing Installation to fully guarantee a weathertight installation.

DIVISION 9: PAINTING

1.0 SCOPE

The Contractor shall supply all labour, equipment and material to deliver a complete job of painting as noted on the drawings and specified herein. Work shall include the following:

- (a) On site fire retardent treatments.
- (b) Staining to decks, beams, poles and trim.
- Painting structural steel connections and miscellaneous metal items.
- (d). Painting of concrete masonry wall.
- (e) Touchup to existing wall where disturbed.

2.0 MATERIALS

All materials shall be the best of their respective kinds and must be delivered to the site in their original containers with labels intact and seals unbroken.

All material used under this Contract shall be obtained from the approved manufacturer from the list enclosed in this Specification. In the event of application for approved alternates, samples and test data shall be required.

Colours shall be selected or approved by the Architect. The Contractor shall notify the Architect of his intention to proceed with the work in sufficient time to allow for the preparation of colour schedules, which shall be adhered to throughout the work.

The Paint Manufacturer shall be selected from the following List:

- (a) Benjamin Moore
- (b) General Paint
- (c) Cloverdale (d) Olympic Stains

Paints and Stains - Shall be used as instructed by the Manufacturer and must be suitable for the purpose. They shall be ready mixed and no tinting or thinning may be carried out except in accordance with the manufacturer's instructions.

Fire Retardent Treatment - Shall be a solution of borax and water, mix and proportion to be established on site with the Architect. 4.0 PAINTING SCHEDULE

Surface	Finish
Woodwork: Metals:	2 Coats Fire Retardent 2 Coats Semi-Transparent Stain
	1 Coat Structural Steel Primer 2 Coats Oil Base Low Gloss
Masonry:	1 Coat Block Filler 2 Coats Exterior Latex

The above Painting Schedule refers to the standards established b B.C. Master Painters and Decorators Association Manual for Custom and Premium.

DIVISION 9: PAINTING (CONT'D)

5.0 WORKMANSHIP

All work shall be carried out by fully qualified men in the best trade practices, and shall comply in all respects to the B.C. Master Painters and Decorators Guide Specifications for Painting and Finishings, Chapter 6 of the Manual.

6.0 CLEANUP

The Contractor shall upon completion of the work, remove all spilled or splashed paint from all surfaces including any fixtures, and shall touch-up all painting work as required prior to handing over. He shall remove from the site, all excess materials and rubbish and leave the whole in a workmanlike manner.

DIVISION 16: ELECTRICAL

1.0 SCOPE

The Contractor shall supply all the materials and labour required to provide a complete job of electrical work as specified herein. Work shall include the Following:

- (a) Duplex power receptacles
- (b) Lights
- (c) All permits and inspection charges.

2.0 WORKMANSHIP

All workmanship and materials shall comply with Code Standards.

3.0 CASH ALLOWANCE

The Contractor shall include in his tender a Cash Allowance of \$ 10,000.00 for the Complete Electrical Installation. Final location of slab and wall power outlets and of light fixtures will be established on the site.

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