



NANAIMO EVENT CENTRE

Nanaimo, BC

February 20, 2017

Order of Magnitude Estimate # 2

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1.0 INTRODUCTION

The estimate presented in this report provides an assessment of the direct and indirect construction costs for the proposed Nanaimo Event Centre located in Nanaimo, BC.

The estimated costs contained in this report are based on schematic design drawings, schedules and reports prepared by Brisbin Brook Beynon Architects. The estimate is based on the BASE project as described by Brisbin Brook Beynon Architects and shown on the drawings in Appendix IV. The documents provided are not sufficiently detailed to allow the project to proceed for a fixed-price tender call. The estimate provides a reasonable cost envelope within which the project design can be developed. Further estimates based on more detailed design information may, however, vary from this baseline.

The estimate is for the hard construction cost only and it specifically excludes the project's "soft" costs. The soft costs on a project typically include: professional fees/disbursements, planning, administrative, financing costs, project commissioning, development cost levies, permits, testing, field analysis, site services connection fees, project management fee, owner's planning/administration cost, project insurance, furnishings, fittings & equipment, food services equipment, payable GST and soft cost contingency. A general rule of thumb is soft costs are 20% of the hard cost. With this rule of thumb; with a hard construction cost of \$58.2 million; the soft cost on this project would be approximately \$11.6 million. The estimate equates to an overall project cost of approximately \$69.8 million.

Detailed specifications are not completed at the conceptual design stage and therefore, cost assumptions for the anticipated final design products had to be made. As well, final design decisions will be made during the design process and preparation of tender documents. The order of magnitude estimate (Class D) estimate reflects those drawings and information made available at the time the estimate was prepared and may not totally reflect the final tender package.

A complete description of the work, including the associated cost, is summarized under the "Cost Plan" appendix in this report. The purpose of the cost plan is to identify to The City of Nanaimo and Brisbin Brook Beynon Architects (BBB Architects); the types, quality, quantity of materials and methods of construction utilized to produce the order of magnitude estimate (Class D). In simplicity, the cost plan is a large shopping list of construction items, materials, and methods. If items in the order of magnitude estimate are not required or desired, the items may be removed from the estimate/design and the cost will be reduced. If additional items are required or desired, which are currently not included in the estimate, then either additional funds will be required, or savings must be incorporated elsewhere in the design to offset the cost increase.

The estimate is not representative of the low bid that will be received at the time of tendering. An indication of the range of bids expected can only be estimated at the time of the tender based on the final contract documents, specific market conditions at the time of tender, including number of other projects out to tender at the same time, interest in project and availability of specified materials in local market. The current estimate represents a fair and reasonable value for what is currently shown on the conceptual drawings (appendix IV), design reports and those requirements as discussed with Brisbin Brook Beynon Architects: assuming adequate coverage from both the General Contractors and associated sub trades.

In order to maintain the budget parameters established in this report, BTY strongly recommends that a final cost estimates be prepared just prior to going to tender to review the final contract documents and current market conditions.



2.0 PROJECT DESCRIPTION

The arena will provide 5,350 seats and includes 22 private suites, 2 party suites, including all necessary services and installation required to host events. The ice rink will be able to transform easily to host shows, concerts sport competition, exhibitions, etc.

The following areas are tenant fit-out areas and included as shell space only in the estimate:

- Retail
- Concessions
- Open kitchens
- Restaurant/Bar

The complex will be a combination of structural concrete slabs and steel framed roof assembly. It is assumed a piled system with pile caps and grade beams will be used as the substructure. The seating will be interlinked individual chairs with backs, flip up seats & arms on precast concrete assemblies. The complex is three level structure with a 150 m² (1,500 sf) mechanical mezzanine, with the private/party suite occupying level three. There is also a non-public accessible level four technical platform, approximately 25m by 48m, or 1,228 m² (13,200 sf).

A complete finish schedule for the project listing the floor, ceiling and wall finish for each room/space can be found in Appendix II

The exterior is a combination of exterior cladding (metal cladding or equivalent) and glazing. The ratio used was 85% cladding and 15% glazing. The roofing to both the sloped and flat section is 2 ply SBS. The interior partitions to level 1 and 2 are concrete block, with a combination of concrete block and steel studs/HI drywall to level 3. There is two 3500 lb capacity hydraulic passenger elevators and one 4000 lb capacity hydraulic passenger/service elevator.

There is an approximately 100 car parking lot to the west of the event centre and an extension pedestrian plaza of 2,000m² (21,500 sf) is created at the east side of the complex.

Mechanical work included the plumbing and drainage system, fire protection system inclusive of sprinkler fire protection, standpipe & fire extinguishers, rink refrigeration system, heating, ventilation & air conditioning system and HVACs controls. Mechanical Site services included new storm system, sanitary system and water supply connected to the existing utility pipes.

The electrical scope includes, but not limited to a standby generator (with automatic transfer switches), a UPS system for security & other sensitive equipment, all lighting including rink, façade feature lighting and lighting controls, power for broadcast stations, power outlet for concert & trade shows, a complete fire alarm system, security system and a P.A./Sound system. The electrical site services includes hydro charge to cover the incoming hydro cables, an outdoor pad mounted H.V. transformer and all terminations, primary, secondary duct banks and secondary power feeders into the Arena, incoming Communications and duct bank, roadway & parking lot lighting & controls and outdoor CCTV cameras and duress alarm stations.



3.0 ADDITIONAL OPTIONS

Brisbin Brook Beynon Architects (BBB Architects) also sent us the following two options to review:

Option A:

This option increases the Event Centre's maximum capacity to 8,300 instead of 7,100 in the Base Project. The hockey capacity stays at 5,700, the same as in the Base Project. This option requires 2,200m² (23,680sf) of additional related guest services, including multi-purpose rooms for recreation, meetings, community initiatives, etc. This would augment the facility use as a recreational/community centre 365 days per year.

Option B:

This option upgrades the exterior and interior architecture including the addition of a large covered exterior entry activation porch/pavilion to make this a one-of-a-kind made-in-Nanaimo public assembly community centre. An initial concept is to turn this facility into the world's largest modern interpretation of a traditional Coast Salish First Nations Long House. Its primary exterior building materials would be stone, wood and glass. This option would also be an environmental showcase with a green roof and many other environmental initiatives. An exterior rendering of this option is attached in Appendix IV Documentation.

We concur with Brisbin Brook Beynon Architects (BBB Architects) recommendation to carry design/build allowances of \$8.0 million and \$6.0 million for Options A & B respectively. With a 20% soft cost factor; this would result in total allowances of \$9.6 million and \$7.2 million.

Therefore, the total estimated cost for the Base Project including Options A & B would be \$86.6M.



4.0 EXECUTIVE SUMMARY: PROJECT

The current estimated cost of the project may be summarized as follows:

Item			Estimated Cost	Percentage
A.	Land Cost (Excluded)		\$0	0%
B.	Construction		\$49,195,000	84%
C.	Allowances		\$7,085,000	12%
D.	Professional Fees & Disbursements		\$0	0%
E.	Municipal Fees, Testing & Field Analysis		\$0	0%
F.	Management & Overhead		\$0	0%
G.	Project Contingency		\$0	0%
H.	Furnishing, Fittings & Equipment		\$0	0%
I.	Harmonized Sales Tax	0.00%	\$0	0%
Total Project Cost			\$56,280,000	97%
<i>December 2016 Dollars</i>				
J.	Escalation	3.45%	\$1,940,000	3%
Escalated Project Cost			\$58,220,000	100%
<i>May 2018 Dollars</i>				

Please note that, where zero dollar values are stated, BTY has excluded these costs and the values should be carried in a separate budget (if applicable).

5.0 AREAS

The gross floor area of the project measured in accordance with the guidelines established by the Canadian Institute of Quantity Surveyors is:

Location	Area m ²	Area sf
Event Level 1	6,790 m ²	73,080 sf
Club Level 2	4,510 m ²	48,550 sf
Suites Level 3	3,201 m ²	34,450 sf
Mechanical Mezzanine	150 m ²	1,610 sf
Total Gross Floor Area	14,650 m²	157,690 sf



6.0 PROJECT COST ESTIMATE

The current estimated cost of the project is as follows:

Description		Total Cost	Percentage
A.	LAND COST	\$0	0%
	1 Land (Excluded)	\$0	
	2 Legal Fees (Excluded)	\$0	
B.	CONSTRUCTION	\$49,195,000	84%
	1 Building	\$45,369,000	
	2 Site Development	\$3,712,000	
	3 Demolition & Hazardous Material	\$114,000	
C.	ALLOWANCES	\$7,085,000	12%
	1 Design Allowance (Design & Program Changes)	\$4,920,000	
	2 Construction Allowance (Changes During Construction)	\$2,165,000	
D.	PROFESSIONAL FEES	\$0	0%
	1 Programming	\$0	
	2 Architectural	\$0	
	3 Structural	\$0	
	4 Mechanical	\$0	
	5 Electrical	\$0	
	6 Cost Consultant	\$0	
F.	7 Other Consultants and Disbursements	\$0	
	1 Project Management Fee	\$0	
	2 Owner's Planning and Administration Cost	\$0	
	3 Project Commissioning	\$0	
G.	PROJECT CONTINGENCY: 0% of items D to F	\$0	0%
	SUB-TOTAL	\$56,280,000	97%
H.	FURNISHING, FITTINGS & EQUIPMENT	\$0	0%
	1 Furnishings, Fittings & Equipment	\$0	
	2 Food Services Equipment	\$0	
	SUB-TOTAL	\$56,280,000	97%
I.	HARMONIZED SALES TAX 0.00%	\$0	0%
	TOTAL PROJECT COST December 2016 Dollars	\$56,280,000	97%
J.	ESCALATION	\$1,940,000	3%
	1 Escalation Reserve 3.45% of item A to G	\$1,940,000	
	2 FF&E Escalation 3.45% of item H	\$0	
	ESCALATED PROJECT COST May 2018 Dollars	\$58,220,000	100%



7.0 DEFINITIONS

The estimate for the project has been prepared and summarized in the following categories. Items A and D to I are considered "soft cost" and are specifically excluded from the current "hard" construction cost. The scope of work covered within each category is as follows:

A. Land Cost:

These costs include the acquisition of the site and associated fees, service obligations and property purchase tax.

B. Construction:

This category encompasses all direct and indirect construction costs including building(s), associated site development work and general contractor's general requirements and fee.

C. Allowances

Allowances for cost increases as the design is developed and/or the work is performed on site.

D. Professional Fees:

Within this section professional fees have been estimated for the primary design team consultants including: the architect, structural, mechanical & electrical engineers, and the cost consultant. Other specialist consultants and an allowance for disbursements are also included. Where available, all consultant fees have been calculated based on the current schedule of recommended charges published by professional associations.

E. Municipal & Connection Fees:

This section includes an estimate for all project related fees and charges required as part of the development by the city and other authorities having jurisdiction. These costs include Development Cost Charges (DCC's), Building Permits, levies and associated legal and survey fees. These costs are based on current city formulas and schedules.

F. Management & Overhead:

The project management fee is charged by a company or individual providing project management services. The Owner's Planning and Administrative cost covers the owner's project-related management costs. Provisions are also included for project insurance, commissioning the facility prior to handover and move-in costs.

G. Project Contingency:

This allowance is provided as an owner's contingency to cover changes to non-construction items.

H. Furnishings, Fittings & Equipment:

The Furnishings, Fittings & Equipment estimate for the project has been compiled using a combination of BTY Group's own historical cost data and information specific to this project.

I. Taxes

The amount is adjusted to reflect rebates available to certain types of project.

J. Escalation

This is an allowance for increases in prices of inputs to the project, occurring after the date of the estimate, on the final cost of the project. This allowance is calculated based on BTY's projected annual escalation rates as stated in this report.



8.0 CONSTRUCTION COST SUMMARY: LOCATION

The estimated construction cost of the project may be summarized as follows:

Description	Building	Site Development	Demolition & Hazardous	Total Cost
Base Cost	\$39,705,000	\$3,249,000	\$100,000	\$43,054,000
General Requirements	\$5,664,000	\$463,000	\$14,000	\$6,141,000
Net Construction Cost	\$45,369,000	\$3,712,000	\$114,000	\$49,195,000
Design Contingency	\$4,538,000	\$371,000	\$11,000	\$4,920,000
Change Order Allowance	\$1,997,000	\$163,000	\$5,000	\$2,165,000
Total Construction Cost	\$51,904,000	\$4,246,000	\$130,000	\$56,280,000
Escalation Allowance	\$1,790,000	\$146,000	\$4,000	\$1,940,000
Total Construction Cost	\$53,694,000	\$4,392,000	\$134,000	\$58,220,000
Gross Floor Area (m ²)	14,650 m ²	8,010 m ²	333 m ²	14,650 m²
Cost/m ² December 2016 Dollars	\$3,543/m ²	\$530/m ²	\$390/m ²	\$3,842/m²
Cost/sf December 2016 Dollars	\$329/sf	\$49/sf	\$36/sf	\$357/sf
Cost/m ² May 2018 Dollars	\$3,665/m ²	\$548/m ²	\$402/m ²	\$3,974/m²
Cost/sf May 2018 Dollars	\$340/sf	\$51/sf	\$37/sf	\$369/sf

9.0 CONSTRUCTION COST SUMMARY: DISCIPLINE

Discipline	Cost \$	Cost/m ²	Cost/sf	Percentage
Architectural	\$16,101,000	\$1,099.03	\$102.10	28%
Structural	\$13,952,000	\$952.34	\$88.47	24%
Mechanical	\$5,916,000	\$403.82	\$37.52	10%
Electrical	\$3,736,000	\$255.01	\$23.69	6%
Site Development	\$3,249,000	\$221.77	\$20.60	6%
Demolition & Hazardous Material	\$100,000	\$6.83	\$0.63	0%
General Requirements	\$6,141,000	\$419.18	\$38.94	11%
Net Construction Cost	\$49,195,000	\$3,357.98	\$311.96	84%
Design Contingency	\$4,920,000	\$335.83	\$31.20	8%
Change Order Allowance	\$2,165,000	\$147.78	\$13.73	4%
Escalation Allowance	\$1,940,000	\$132.42	\$12.30	3%
Total Construction Cost	\$58,220,000	\$3,974.01	\$369.19	100%



10.0 EXCLUSIONS

The estimate specifically excludes the following:

- Land costs
- Relocation of existing service lines, specifically 600mm sewer line (as per "1 Terminal Ave - 2015 Site Constraints Summary.pdf")
- Entrance road
- Removal of contaminated soil and/or rock excavation (if applicable)
- Site and/or building demolition
- Scoreboard
- Video screens
- Concession/kitchen equipment
- Loose furnishings and equipment
- Zamboni
- Unforeseen ground conditions/associated extras, off-site works
- Professional fees/disbursements, planning, administrative, financing costs and project commissioning
- Legal fees and expenses
- Phasing of the works and accelerated schedule
- Decanting & moving
- Cost escalation past: May 2018

11.0 TAXES

The estimate excludes payable Goods & Service Tax (H.S.T.)

12.0 PROJECT SCHEDULE & ESCALATION

For the purpose of identifying and quantifying the escalation allowance for this project, BTY has considered the following schedule:

Activity	Start	Finish	Duration
Design	December 2016	January 2018	14 months
Tender & Award	February 2018	March 2018	2 months
Construction	April 2018	November 2019	20 months

Based on the above schedule, the mid-point of construction is: May 2018

The number of months from the date of this estimate is: 18 months

On this basis, BTY has calculated the escalation for this project to be 3.45%

Our current projected escalation rates are shown below. In the event that there is slippage in the schedule, further escalation based on the projected escalation rate per annum should be included in the estimate.

Current BTY Group Forecast	2017	2018	2019
	2%	2%	3%



13.0 PRICING

The estimate has been priced at current rates taking into account the size, location and nature of the project. The unit rates utilized are considered competitive for a project of this type, bid under a stipulated lump-sum form of tender in an open market, with a minimum of five (5) bids, supported by the requisite number of sub-contractors.

The estimate allows for labour, material, equipment and other input costs at current rates and levels of productivity. It does not take into account extraordinary market conditions, where bidders may be few and may include in their tenders disproportionate contingencies and profit margins.

14.0 RISK MITIGATION

BTY Group recommends that the Owner, Project Manager and Design Team carefully review this document, including exclusions, inclusions and assumptions, contingencies, escalation and mark-ups.

Requests for modifications of any apparent errors or omissions to this document must be made to BTY Group within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

It is recommended that BTY Group design and propose a cost management framework for implementation. This framework would require that a series of further estimates be undertaken at key design stage milestones and a final update estimate produced which is representative of the completed tender documents, project delivery model and schedule. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. BTY Group is unable to reconcile bid results to any estimate not produced from bid documents including all addenda.

In order to maintain the budget parameters established in this report, BTY strongly recommends that further cost estimates are prepared at major design stage milestones to track and monitor the cost of the proposed design as it evolves. The major milestone estimates are typically carried out at the Program, Schematic Design, Design Development, 50% Working Drawings, 75% Working Drawings and 95% Working Drawings stages.

15.0 CONTINGENCIES

Design Allowance

A design contingency of Ten Percent (10%) or approximately \$4.9 million has been included in the estimate to cover modifications to the program, drawings and specifications during the design. This allowance should be re-considered as the design proceeds, being ultimately reduced to zero at the tender stage.

Construction Allowance

An allowance of Four Percent (4%) or \$2.2 million has been included in the estimate for changes occurring during the construction period of the project. This amount may be expended due to site conditions or if there are modifications to the drawings/specifications.

Project Contingency

As the soft cost have been excluded in this costing exercise, an allowance of Zero Percent (0%) of the soft costs has been included in the project cost plan to cover changes to non-construction items.



16.0 APPENDICIES



APPENDIX I : Elemental Analysis



ELEMENTAL COST ANALYSIS

Gross Floor Area 14,650 m²

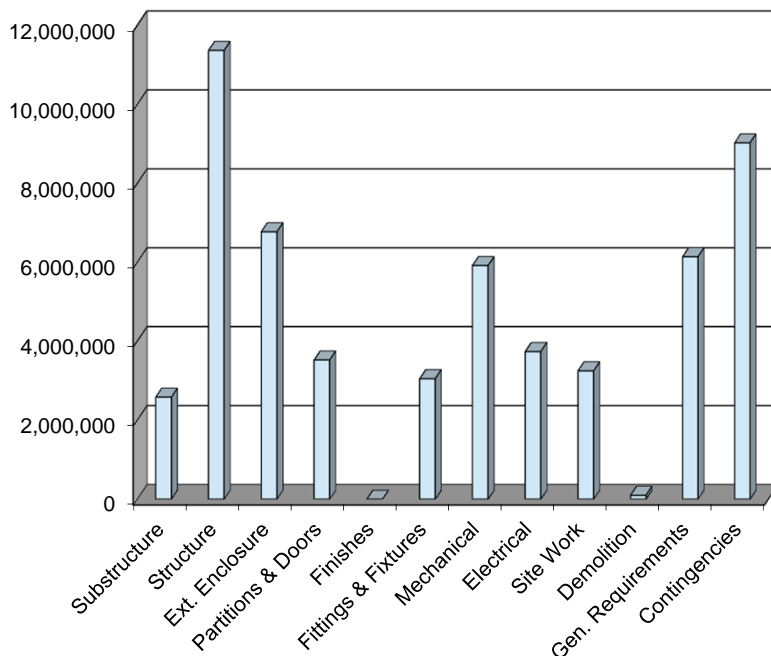
Element	Ratio G.F.A.	Element Quantity	Unit	Unit Rate	Amount \$	Total Cost \$	Cost/Floor Area \$/ m ²	%
A1 SUBSTRUCTURE						2,582,000	176.24	5.7%
A11.1 Standard Foundations	0.46	6,790	m ²	174.97	1,188,000		81.09	
A11.2 Special Conditions	0.46	6,790	m ²	200.01	1,358,000		92.70	
A12 Building Excavation	0.07	1,032	m ³	34.90	36,000		2.46	
A2 STRUCTURE						11,370,000	776.10	25.1%
A21 Lowest Floor Construction	0.46	6,790	m ²	197.95	1,344,000		91.74	
A22.1 Upper Floor Construction	0.64	9,406	m ²	432.91	4,072,000		277.95	
A22.2 Stair Construction	0.03	370	m ²	432.43	160,000		10.92	
A23 Roof Construction	0.62	9,136	m ²	634.19	5,794,000		395.49	
A3 EXTERIOR ENCLOSURE						6,773,000	462.31	14.9%
A31 Walls Below Grade	0.00	0	m ²	0.00	0		0.00	
A32.1 Walls Above Grade	0.38	5,587	m ²	677.69	3,786,000		258.43	
A32.2 Struct. Walls Above Grade	0.00	0	m ²	0.00	0		0.00	
A32.3 Curtain Walls	0.07	988	m ²	1,199.88	1,185,000		80.89	
A33.3 Doors	0.00	52	no	2,961.54	154,000		10.51	
A34.1 Roof Covering	0.54	7,877	m ²	187.01	1,473,000		100.54	
A34.2 Skylights	0.00	0	m ²	0.00	0		0.00	
A35 Soffits & Projections	0.05	700	m ²	250.00	175,000		11.95	
B1 PARTITIONS & DOORS						3,523,000	240.47	7.8%
B11.1 Fixed Partitions	0.74	10,798	m ²	260.59	2,814,000		192.08	
B11.2 Moveable Partitions	0.00	0	m ²	0.00	0		0.00	
B11.3 Structural Partitions	0.00	0	m ²	0.00	0		0.00	
B12 Doors	0.01	199	no	3,562.81	709,000		48.40	
B2 FINISHES						2,754,000	187.98	6.1%
B21 Floor Finishes	0.97	14,140	m ²	54.81	775,000		52.90	
B22 Ceiling Finishes	0.72	10,570	m ²	139.26	1,472,000		100.48	
B23 Wall Finishes	1.21	17,686	m ²	28.67	507,000		34.61	
B3 FITTINGS & EQUIPMENT						3,051,000	208.26	6.7%
B31.1 Metals	0.07	1,029	lm	306.03	315,000		21.50	
B31.2 Millwork	0.05	804	lm	579.60	466,000		31.81	
B31.3 Specialties	1.00	14,650	m ²	114.67	1,680,000		114.67	
B32.0 Equipment	0.10	1,535	m ²	149.84	230,000		15.70	
B33.0 Elevator	0.00	10	stop	36,000	360,000		24.57	
C1 MECHANICAL						5,916,000	403.82	13.0%
C11.1 Plumbing and Drainage	1.00	14,650	m ²	70.03	1,026,000		70.0	
C11.2 Rink Refrigeration	0.10	1,530	m ²	850.33	1,301,000		88.8	
C12 Fire Protection	1.00	14,650	m ²	40.00	586,000		40.00	
C14 HVAC & Controls	1.00	14,650	m ²	204.98	3,003,000		204.98	
C2 ELECTRICAL						3,736,000	255.01	8.2%
C21 Service and Distribution	1.00	14,650	m ²	75.02	1,099,000		75.02	
C23 Lighting and Power	1.00	14,650	m ²	115.02	1,685,000		115.02	
C25 Special Systems	1.00	14,650	m ²	64.98	952,000		64.98	
Z1 GENERAL REQUIREMENTS & FEES						5,663,000	386.55	12.5%
Z11 General Requirements	9.98%				3,961,000		270.37	
Z12 Profit	4.29%				1,702,000		116.18	
NET BUILDING COST						45,368,000	3,096.75	100.0%



ELEMENTAL COST ANALYSIS

Gross Floor Area 14,650 m²

Element	Ratio G.F.A.	Element Quantity	Unit	Unit Rate	Amount \$	Total Cost \$	Cost/Floor Area \$/ m ²	%
NET BUILDING COST						45,368,000	3,096.75	
D1 SITE WORK ALLOWANCE						3,249,000	221.77	
D11.1 Site Preparation	1.01	14,800	m ²	10.14	150,000		10.24	
D11.2 Hard Surfaces	0.41	6,020	m ²	206.98	1,246,000		85.05	
D11.3 Site Improvements	0.55	8,010	m ²	50.06	401,000		27.37	
D11.4 Landscaping	0.20	3,000	m ²	93.33	280,000		19.11	
D12 Mechanical Site Services	1.00	14,650	m ²	44.98	659,000		44.98	
D13 Electrical Site Services	1.00	14,650	m ²	35.02	513,000		35.02	
D2 DEMOLITION/HAZARDOUS MAT'L						100,000	6.83	
D21.1 Selective Building Demolition	0.00	0	m ²	0.00	0		0.00	
D21.2 Site Demolition	0.00	0	m ²	0.00	0		0.00	
D22 Hazardous Material	0.03	500	m ³	200.00	100,000		6.83	
Z1 GENERAL REQUIREMENTS & FEES						478,000	32.63	
Z11 General Requirements	9.98%				334,000		22.80	
Z12 Profit	4.29%				144,000		9.83	
NET CONSTRUCTION COST						49,195,000	3,357.98	
Z2 CONTINGENCIES						9,025,000	616.03	
Z21 Design Contingency	10.00%				4,920,000		335.83	
Z22 Construction Contingency	4.00%				2,165,000		147.78	
Z23 Escalation Contingency	3.45%				1,940,000		132.42	
TOTAL CONSTRUCTION COST						58,220,000	3,974.01	





APPENDIX II : Finish Schedule



FINISH SCHEDULE : PAVILION

Room	Area m ²	Perm. lm	Floor						Base				Ceiling					Walls	
			pft	cs	cpt	vsf	rt	vt	pwt	rb	cpt		wd	ex	expt	sat	sgb	pnt	pwt
Event Level 1																			
Main Entry Public Concourse	151	48	x						x				x					x	
Public Concourse	1,426	606		x					x				x					x	
Retail	215	69		x						x				x				x	
Food/Concessions	474	239				x					x					x		x	
Public Washrooms	337	178	x						x						x			x	x
Stairs	107	98		x						x					x			x	
Ticketing	186	69			x						x					x		x	
Home Team Locker Room	347	76					x			x						x	x	x	x
Home Team Wet Area	117	25	x						x								x	x	x
Visitor/Public Locker Room	151	51					x			x						x	x	x	x
First Aid	15	15						x		x						x		x	
Security/Staff Entrance	49	27						x		x						x		x	
Event Storage/Storage	356	142		x						x					x			x	
Official's/Stars Locker Rm	83	39								x									
Ice Resurfacing	49	66		x						x				x				x	
Garbage	29	23		x						x				x				x	
Rink	1,494			x										x					
Team Benches/Corridors	73			x										x					
Bleachers - row 1 to 5	640			x										x					
Club Level 2																			
Club areas/concourse/bar	1,201	244		x					x				x					x	
Open Kitchens	98	59				x					x					x		x	
Public Washrooms	117	85	x						x						x			x	x
Stairs	107	98		x						x					x			x	
Security Room	54	6,938						x		x						x		x	
Storage	239	98		x						x					x			x	
MEP	151	59			x						x					x		x	
Media/Media Suite	59	59			x						x					x		x	
Offices (3 no)	117	78			x						x					x		x	
Score/Sound Room	44	29			x						x					x		x	
Staff Areas	39	24			x						x					x		x	
Ice Plant	200	59		x						x				x					
Bleachers - rows 6 to 16	1,909			x										x					



FINISH SCHEDULE : PAVILION

Room	Area m ²	Perm. lm	Floor						Base				Ceiling					Walls	
			pft	cs	cpt	vsf	rt	vt	pwt	rb	cpt		wd	ex	expt	sat	sgb	pnt	pwt
Suites Level 3																			
Concourse	664	465		x					x				x					x	
Private Suites (22 no)	879	430			x					x						x		x	
Party Suites (2 no)	107	68			x					x						x		x	
Open Kitchen	146	54				x					x					x		x	
Pantries (2 no)	29	32				x					x					x		x	
Public Washrooms	249	137	x						x						x			x	x
Stairs	107	98		x						x					x			x	
MEP (2 no)	264	93			x					x						x		x	
Hockey Offices	234	68			x					x						x		x	
Admin Offices	117	49			x					x						x		x	
Restaurant/Bar	254	54				x					x					x			
Total	13,688	11,147																	

<u>Location</u>	<u>Area</u>	<u>N-G</u>	<u>Floor</u>	<u>Base</u>	<u>Ceiling</u>	<u>Walls</u>
Event Level 1	6,790	93%	pft: porcelain floor tile	pwt: porcelain tile	wd: wood panels	pt: paint
Club Level 2	4,510	96%	cs: concrete sealer	rb: rubber base	ex: exposed (unpainted)	pwt: tile
Suites Level 3	3,201	95%	cpt: carpet	cpt: carpet	expt: exposed painted	
			vsf: vinyl safety flooring	vsf: vinyl coved base	sat: susp. acoustic tile	
Gross Floor Area (m²)	14,500	94%	rt: rubber tile		sgb: susp. gyp. board	
Gross Floor Area (sf)	156,080		vt: vinyl tile			



APPENDIX III : Cost Plan



1.0 QUANTITIES AND UNIT RATES

Location / Description		Quantity	Rate	Cost
A11.1	Standard Foundations	6,790 m ²	\$175 /m ²	\$1,188,000
A11.2	Piling	6,790 m ³	\$200 /m ³	\$1,358,000
A12.2	Building Excavation: rink x 600mm deep	1,032 m ³	\$35 /m ³	\$36,000
A21	Lowest Floor Construction: rink	1,600 m ²	\$240 /m ²	\$384,000
A21	Lowest Floor Construction: remaining	5,190 m ²	\$185 /m ²	\$960,000
A22.1	Upper Floor Construction: Level 2 raked	2,549 m ²	\$525 /m ²	\$1,339,000
A22.1	Upper Floor Construction: Level 2 flat	2,427 m ²	\$358 /m ²	\$869,000
A22.1	Upper Floor Construction: Level 3 raked	225 m ²	\$547 /m ²	\$123,000
A22.1	Upper Floor Construction: Level 3 flat	2,827 m ²	\$390 /m ²	\$1,102,000
A22.1	Upper Floor Construction: mechanical mezzanine	150 m ²	\$430 /m ²	\$64,000
A22.1	Upper Floor Construction: Level 4 Technical Platform	1,228 m ²	\$468 /m ²	\$575,000
<i>25.50 x 48m x 50 kg/m2</i>				
A22.2	Stair Construction: exit stairs x 4 sets - level 1 to 3	260 risers	\$430 /riser	\$112,000
A22.2	Stair Construction: level 1 to rink bleachers x 11 no	110 risers	\$334 /riser	\$37,000
A22.2	Stair Construction: Level 1 end platform	10 risers	\$382 /riser	\$4,000
A22.2	Stair Construction: level 3 to mechanical mezzanine	19 risers	\$382 /riser	\$7,000
A23	Roof Construction: high arena sloped roof - steel	6,938 m ²	\$688 /m ²	\$4,771,000
A23	Roof Construction: high arena flat roof - steel	2,153 m ²	\$468 /m ²	\$1,007,000
A23	Roof Construction: level 3 east balcony	45 m ²	\$358 /m ²	\$16,000
A32.1	Walls Above Grade: Level 1 to level 3	4,522 m ²	\$690 /m ²	\$3,120,000
A32.1	Walls Above Grade: Gable end walls	519 m ²	\$690 /m ²	\$358,000
A32.1	Walls Above Grade: Clerestory at flat roof	546 m ²	\$565 /m ²	\$308,000
A32.3	Curtain Wall: say 15% of exterior wall	988 m ²	\$1,200 /m ²	\$1,185,000
A33.3	Exterior Doors: Aluminum - level 1	12 pair	\$5,500 /pair	\$66,000
A33.3	Exterior Doors: overhead 5.5m x 4.0m - level 1	1 no	\$13,200 /no	\$13,000
<i>marshalling</i>				
A33.3	Exterior Doors: overhead 3.0m x 4.0m - level 1	1 no	\$7,200 /no	\$7,000
<i>garbage</i>				
A33.3	Exterior Doors: Hollow metal - level 1	4 pair	\$3,400 /pair	\$14,000



1.0 QUANTITIES AND UNIT RATES

Location / Description		Quantity	Rate	Cost
<i>F&B storage, retail, home team locker, event storage</i>				
A33.3	Exterior Doors: Hollow metal - level 1	10 no	\$2,400 /no	\$24,000
<i>stairs (4 no), ticketing, visitor locker, marshalling, misc.</i>				
A33.3	Exterior Doors: Aluminum - level 3	4 pair	\$4,500 /pair	\$18,000
A33.3	Exterior Doors: Automatic door opener	4 no	\$3,000 /no	\$12,000
A34.1	Roof Covering: high arena sloped roof	7,104 m ²	\$190 /m ²	\$1,350,000
A34.1	Roof Covering: high arena flat roof	728 m ²	\$190 /m ²	
A34.1	Roof Covering: level 3 east balcony	45 m ²	\$190 /m ²	\$9,000
A34.1	Roof Parapet: high arena sloped roof	350 lm	\$150 /lm	\$53,000
A34.1	Roof Parapet: high arena flat roof	221 lm	\$150 /lm	\$33,000
A34.1	Roof Parapet: level 3 east balcony	25 lm	\$200 /lm	\$5,000
A34.1	Roof Junction: high arena flat roof & upper exterior wall	214 lm	\$75 /lm	\$16,000
A34.1	Roof Hatch	2 no	\$3,500 /no	\$7,000
A35	Soffits : sloped roof overhang	700 m ²	\$250 /m ²	\$175,000
B11.1	Interior Partitions: level 1 - concrete block	5,566 m ²	\$265 /m ²	\$1,475,000
B11.1	Interior Partitions: level 2 - concrete block	1,488 m ²	\$265 /m ²	\$394,000
B11.1	Interior Partitions: level 3 - concrete block	484 m ²	\$265 /m ²	\$128,000
B11.1	Interior Partitions: level 3 - drywall/steel stud	2,009 m ²	\$175 /m ²	\$352,000
B11.1	Interior Partitions: mech. mezzanine - concrete block	270 m ²	\$265 /m ²	\$72,000
B11.1	Interior Glazing: 10% of interior partitions	982 m ²	\$400 /m ²	\$393,000
B12	Interior Doors: Aluminum - level 1	2 pair	\$4,500 /pair	\$9,000
B12	Interior Doors: Hollow metal - level 1	5 pair	\$3,300 /pair	\$17,000
B12	Interior Doors: Hollow metal - level 1	60 no	\$2,300 /no	\$138,000
B12	Interior Doors: Concessions - rolling shutter - level 1	8 no	\$10,625 /no	\$85,000
B12	Interior Doors: Hollow metal - level 2	3 pair	\$3,300 /pair	\$10,000
B12	Interior Doors: Hollow metal - level 2	30 no	\$2,300 /no	\$69,000
B12	Interior Doors: Concessions - rolling shutter - level 2	4 no	\$10,300 /no	\$41,000
B12	Interior Doors: Hollow metal - level 3	2 pair	\$3,300 /pair	\$7,000
B12	Interior Doors: Hollow metal - level 3	45 no	\$2,300 /no	\$104,000
B12	Interior Doors: Concessions - rolling shutter - level 3	2 no	\$9,000 /no	\$18,000
B12	Interior Doors: Suites- rolling shutter - level 3	24 no	\$6,100 /no	\$146,000
B12	Interior Doors: Hollow metal - mech. mezzanine	2 no	\$2,300 /no	\$5,000



1.0 QUANTITIES AND UNIT RATES

Location / Description		Quantity	Rate	Cost
B12	Interior Doors: Automatic door opener	20 no	\$3,000 /no	\$60,000
B21	Floor Finishes: Polished concrete	3,370 m ²	\$55 /m ²	\$185,000
B21	Floor Finishes: Sealed concrete (incl. bleachers)	5,785 m ²	\$18 /m ²	\$104,000
B21	Floor Finishes: Porcelain Tile	995 m ²	\$160 /m ²	\$159,000
B21	Floor Finishes: Carpet tile	2,250 m ²	\$75 /m ²	\$169,000
B21	Floor Finishes: Vinyl safety flooring	1,025 m ²	\$90 /m ²	\$92,000
B21	Floor Finishes: Rubber flooring	595 m ²	\$100 /m ²	\$60,000
B21	Floor Finishes: Vinyl tile	120 m ²	\$50 /m ²	\$6,000
B22	Ceiling Finishes: Prefinished wood	3,525 m ²	\$250 /m ²	\$881,000
B22	Ceiling Finishes: Suspended acoustic tile	3,650 m ²	\$60 /m ²	\$219,000
B22	Ceiling Finishes: Suspended gypsum board - painted	366 m ²	\$130 /m ²	\$48,000
B22	Ceiling Finishes: Exposed structure - painted	1,940 m ²	\$20 /m ²	\$39,000
B22	Ceiling Finishes: Acoustics over arena	765 m ²	\$200 /m ²	\$150,000
B22	Ceiling Finishes: Gypsum board bulkheads (10%)	540 lm	10%	\$135,000
B23	Wall Finishes: Paint	16,327 m ²	\$15 /m ²	\$245,000
B23	Wall Finishes: e/o wall graphics	816 m ²	\$75 /m ²	\$61,000
B23	Wall Finishes: Porcelain Wall Tile	1,089 m ²	\$135 /m ²	\$147,000
B23	Wall Finishes: Acoustics (upper each end)	270 m ²	\$200 /m ²	\$54,000
B31.1	Metals: guardrails - exit stairs	107 lm	\$300 /lm	\$32,000
B31.1	Metals: handrail - exit stairs	107 lm	\$80 /lm	\$9,000
B31.1	Metals: handrail - level 1 to rink bleachers x 11 sets	66 lm	\$100 /lm	\$7,000
B31.1	Metals: guardrails - mezzanine stairs	16 lm	\$275 /lm	\$4,000
B31.1	Metals: guardrails -bleachers steps	138 lm	\$175 /lm	\$24,000
B31.1	Metals: guardrails - seating openings	190 lm	\$250 /lm	\$47,000
B31.1	Metals: guardrails - level 2 concourse rails	235 lm	\$275 /lm	\$65,000
B31.1	Metals: guardrails - level 3 concourse rails	60 lm	\$275 /lm	\$17,000
B31.1	Metals: guardrails - level 3 suites	130 lm	\$550 /lm	\$72,000
B31.1	Metals: guardrails - level 3 balcony	25 lm	\$650 /lm	\$16,000
B31.1	Metals: guardrails - seating steps to level 3 suites	50 lm	\$250 /lm	\$13,000
B31.1	Metals: ships ladder - elevator pits	5 lm	\$600 /lm	\$3,000



1.0 QUANTITIES AND UNIT RATES

Location / Description		Quantity	Rate	Cost
B31.1	Metals: ships ladder - roof access	7 lm	\$850 /lm	\$6,000
B31.2	Millwork : concession counters	120 lm	\$550 /lm	\$66,000
B31.2	Millwork : bar counters	40 lm	\$800 /lm	\$32,000
B31.2	Millwork : washrooms	78 lm	\$600 /lm	\$47,000
B31.2	Millwork : Private suites (22 no x say 8m per suite)	176 lm	\$700 /lm	\$123,000
	<i>say \$5,600 per suite</i>			
B31.2	Millwork : Party suites (2 no x say 10m per suite)	20 lm	\$700 /lm	\$14,000
	<i>say \$7,000 per suite</i>			
B31.2	Millwork : locker room benches	200 lm	\$300 /lm	\$60,000
B31.2	Millwork : player benches/penalty box	25 lm	\$350 /lm	\$9,000
B31.2	Millwork : Hockey stick racks	15 sets	\$1,000 /set	\$15,000
B31.2	Millwork : countertops with base cabinets	50 lm	\$800 /lm	\$40,000
B31.2	Millwork : countertops (open below)	20 lm	\$500 /lm	\$10,000
B31.2	Millwork : misc. millwork	60 lm	\$825 /lm	\$50,000
B31.3	Specialties: WC. Accessories - level 1	337 m ²	\$200 /m ²	\$67,000
	<i>including toilet partitions, urinal screens , etc. (typical)</i>			
B31.3	Specialties: WC. Accessories - level 2	117 m ²	\$200 /m ²	\$23,000
B31.3	Specialties: WC. Accessories - level 3	249 m ²	\$200 /m ²	\$50,000
B31.3	Specialties: signage/wayfinding	14,650 m ²	\$27 /m ²	\$391,000
B31.3	Specialties: seating	5,350 no	\$160 /no	\$856,000
B31.3	Specialties: misc. specialties	14,650 m ²	\$20 /m ²	\$293,000
B32.0	Equipment : dasher boards	1 set		\$230,000
B33.0	Passenger Elevator : 3 stop	2 no	\$100,000 /no	\$200,000
B33.0	Passenger/Service Elevator : 4 stop	1 no	\$160,000 /no	\$160,000
C11.1	Plumbing and Drainage	14,650 m ²	\$70 /m ²	\$1,026,000
C11.2	Rink Refrigeration	1,530 m ²	\$850 /m ²	\$1,301,000
C12	Fire Protection	14,650 m ²	\$40 /m ²	\$586,000
C14	HVAC	14,650 m ²	\$180 /m ²	\$2,637,000
C15	Controls	14,650 m ²	\$25 /m ²	\$366,000

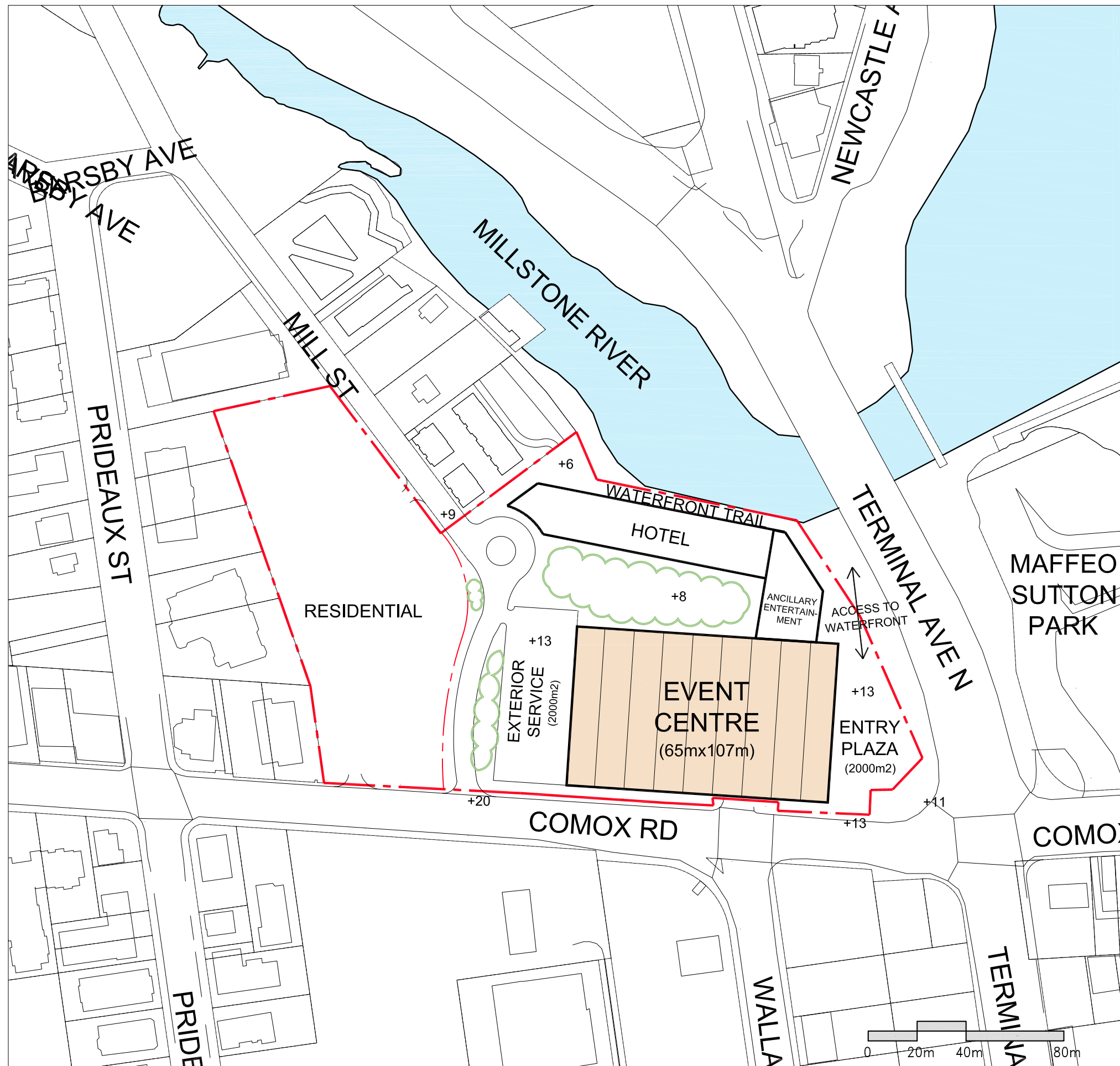


1.0 QUANTITIES AND UNIT RATES

Location / Description		Quantity	Rate	Cost
C21	Service and Distribution	14,650 m ²	\$75 /m ²	\$1,099,000
C23	Lighting and Power	14,650 m ²	\$115 /m ²	\$1,685,000
C25	Systems & Ancillaries	14,650 m ²	\$65 /m ²	\$952,000
D11.1	Site Preparation: grading/minor cut & fill	14,800 m ²	\$10 /m ²	\$150,000
D11.2	Hard Surfaces: asphalt paving	2,100 m ²	\$90 /m ²	\$189,000
D11.2	Hard Surfaces: curbs	260 lm	\$65 /lm	\$17,000
D11.2	Hard Surfaces: sidewalks	1,920 m ²	\$125 /m ²	\$240,000
D11.2	Hard Surfaces: entry plaza	2,000 m ²	\$400 /m ²	\$800,000
D11.3	Site Improvements	8,010 m ²	\$50 /m ²	\$401,000
D11.4	Landscaping: sodding	2,250 m ²	\$20 /m ²	\$45,000
D11.4	Landscaping: planting beds	750 m ²	\$200 /m ²	\$150,000
D11.4	Landscaping: trees	50 no	\$500 /no	\$25,000
D11.4	Landscaping: irrigation	3,000 m ²	\$20 /m ²	\$60,000
D12	Mechanical Site Services	14,650 m ²	\$45 /m ²	\$659,000
D13	Electrical Site Services	14,650 m ²	\$35 /m ²	\$513,000
D22	Contaminated Soil Removal Allowance	500 m ³	\$200 /m ³	\$100,000
Z11	General Requirements	10%		\$4,295,000
Z12	Profit	4%		\$1,846,000
Z21	Design Contingency	10.00%		\$4,920,000
Z22	Construction Contingency	4.00%		\$2,165,000
Z23	Escalation Contingency	3.45%		\$1,940,000
Total Estimated Cost		14,650 m²	\$3,974.01 /m²	\$58,220,000
Total Estimated Cost		157,695 sf	\$369.19 /sf	\$58,220,000



APPENDIX IV : Documentation



EVENT CENTRE

HOWARD JOHNSON SITE PLAN

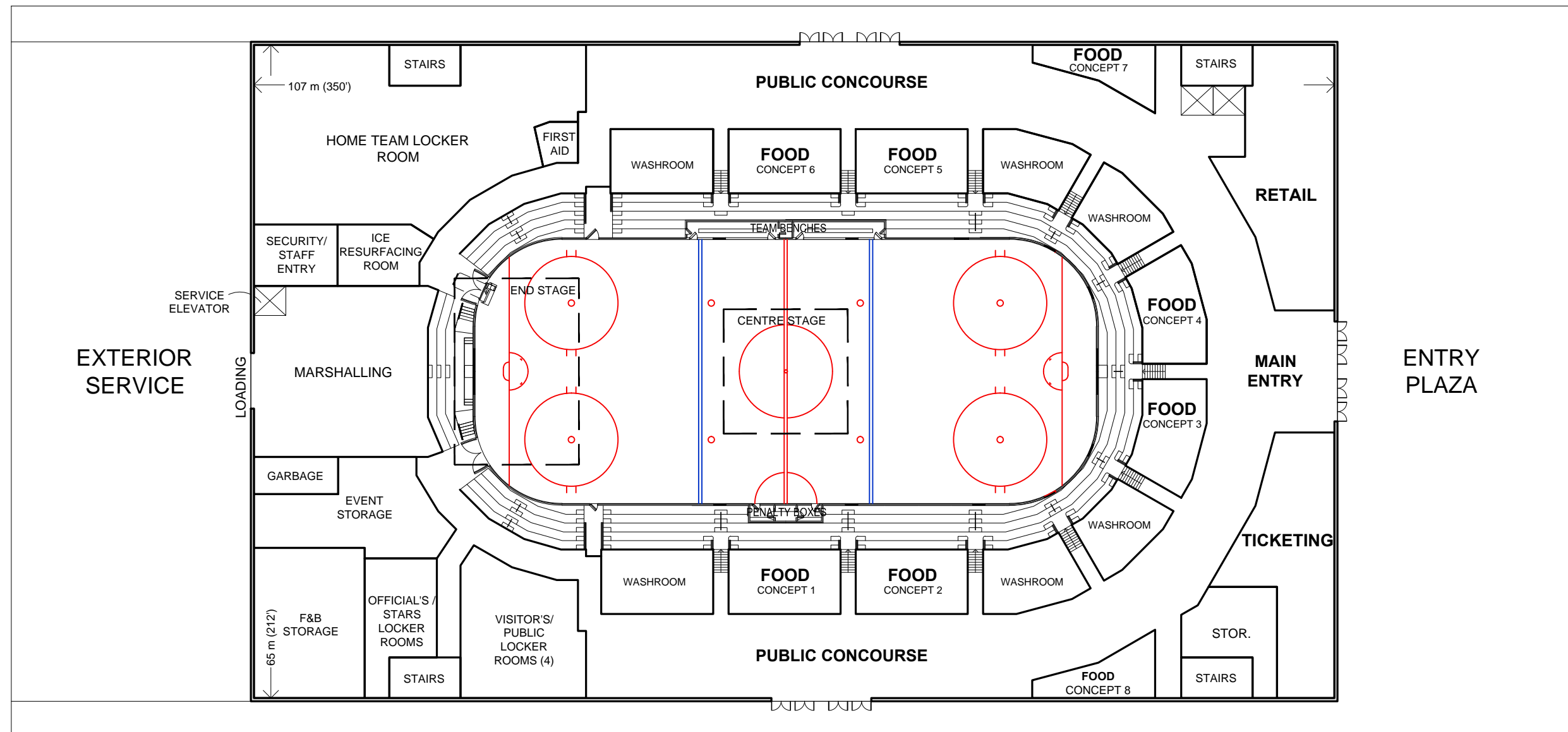
OPTION 2 - WITH ADDITIONAL LANDS

BRISBIN
BROOK
BEYNON
ARCHITECTS

OCTOBER 17, 2016

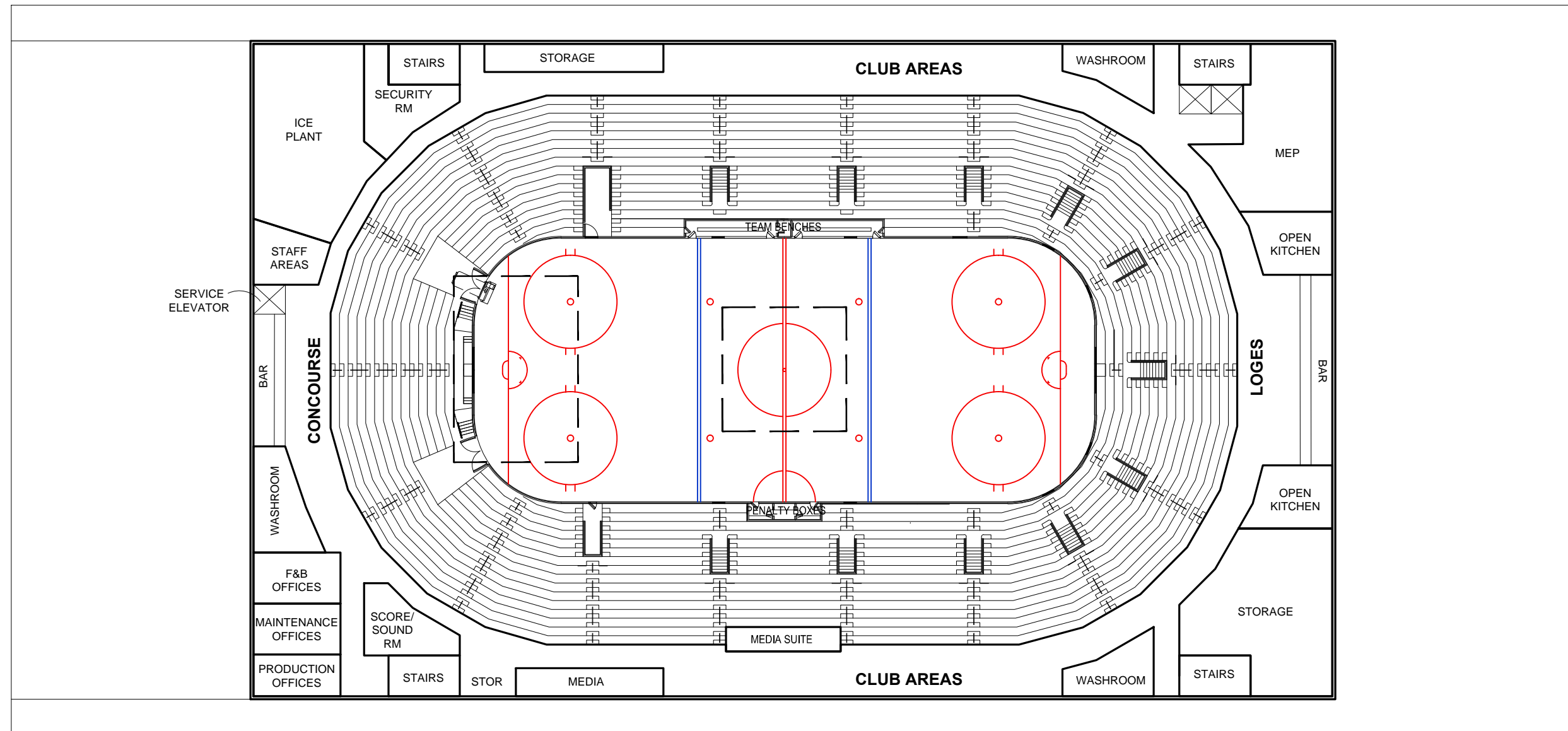
IN PROGRESS

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WILL CHANGE AS MORE INFORMATION
BECOMES AVAILABLE & AS THE DESIGN
DEVELOPS.



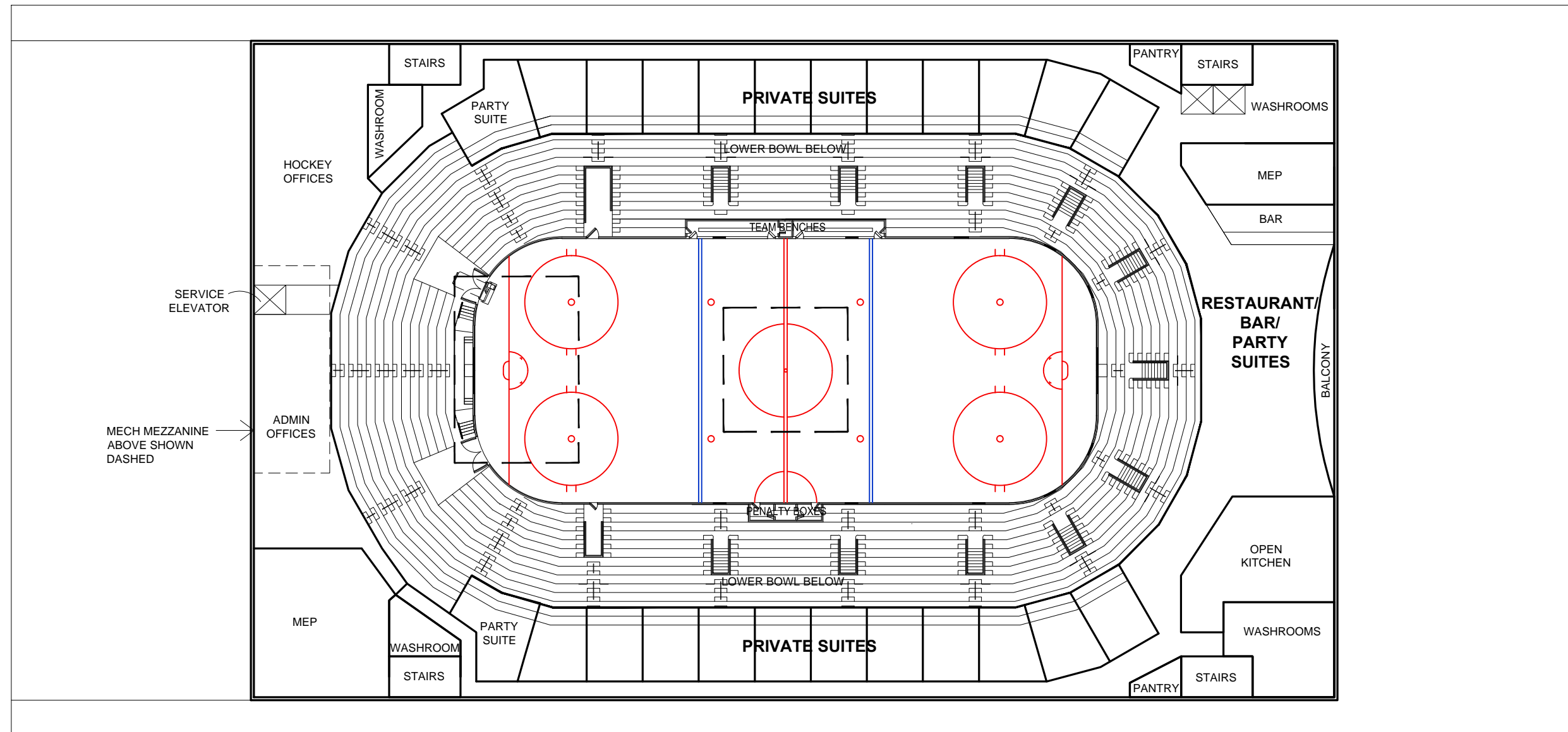
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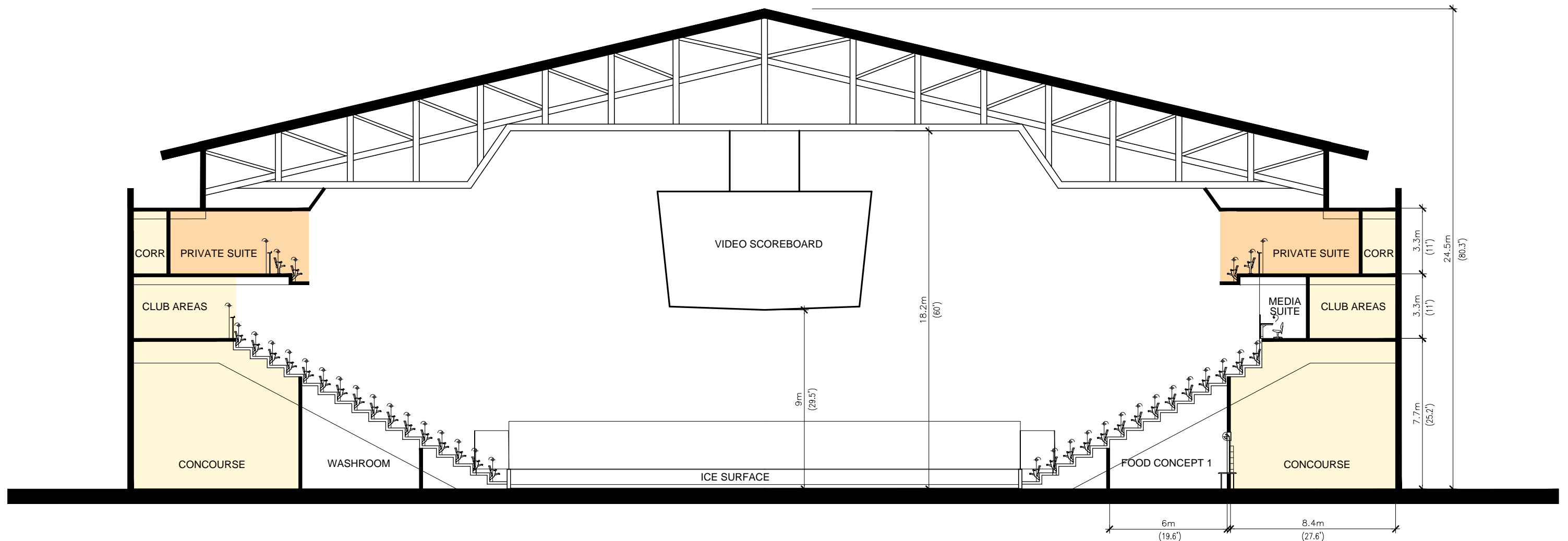
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DEVELOPS.



IN PROGRESS

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THAT WILL CHANGE AS MORE INFORMATION
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BTY Group

BTY is one of Canada's most successful and experienced Quantity Surveying and Cost Management consultancies.

Since 1977, BTY has earned a reputation for providing clients with professional and practical advice of the highest calibre. The diversity of our client base attests to our ability to apply critical analysis and thinking to the task at hand. We have provided support to clients for capital investment in the health, education, research, leisure, retail, residential and commercial sectors

We have provided consulting services for over \$50 billion of construction projects in the last forty years.

For all the services we offer, BTY listens to your current and upcoming needs. We provide innovative alternatives and consistently deliver the required solutions with cost-conscious creativity. Since we serve clients whose needs span the entire life of an asset, from needs assessment through asset delivery and beyond, we believe that BTY integrated approach represents a better way to deliver KNOWLEDGE TO BUILD WITH.

Resources

The current complement of the BTY offices is 100 technical staff and includes Quantity Surveyors, Construction Estimators and Professional Engineers, all of whom have detailed knowledge and understanding of the many factors affecting construction costs. As a full service Quantity Surveying practice, we have the background required to provide a full range of services including capital cost planning, estimating, life cycle costing, risk and sustainable design analysis.

We make extensive use of a variety of automated systems during the performance of our duties. These systems include cost estimating software, word processing, spreadsheet and project scheduling programs that are used for the preparation of cost reports and other documentation. Our quantity take-offs are prepared with the assistance of computer driven digitizers that run in conjunction with our proprietary estimating program.

In addition to the resources based in our Calgary office, we can also draw on the project experience and knowledge of our Canadian offices that are located in Vancouver, Edmonton, Calgary, Saskatoon, St. Catharines, Toronto, Ottawa, Montreal, our American offices located on Scottsdale, Orlando, Seattle, Los Angeles, Atlanta, Denver, Cleveland and our EMEA offices in Ankara, Turkey and Cairo, Egypt.



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