

# Mount Pleasant Pool Assessment

April 2015

# HCMA





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# Executive Summary

Hughes Condon Marler Architects (HCMA) were engaged in early 2015 by the Vancouver Board of Parks and Recreation to carry out a feasibility study related to the proposed addition of an outdoor pool to the recently designed Mount Pleasant Park, located at 15th Avenue and Ontario Street (refer to Figure 1). This proposal is, in part, related to interest expressed by some community members to replace the previous outdoor pool that was associated with the former Mount Pleasant Community Centre. The pool and centre were removed in 2010 after the community centre component was replaced by the new Mount Pleasant Community Centre located nearby at No. 1 Kingsway (Kingsway and Main Street).

HCMA carried out a preliminary site assessment study related to the addition of an outdoor pool at this site, including a site review to determine topography and existing features within the park (refer to photographs on pages 10 & 11) and a review of the existing park plan, shown in Figures 2 & 3. This review informed decisions regarding the possible siting options for the proposed new pool within the park context, with a focus on minimizing the impact on this well-used community park.

The study considered three conceptual options for a new outdoor pool and supporting change facilities, which are presented in Section 2. Each option considers a different pool typology, with associated change facilities, and proposes similar siting options in order to limit the impact on existing infrastructure and the fabric of the newly designed green and hardscape spaces of the park.

High level cost estimates were completed for each of the three conceptual options, and these are included in Section 3.

The purpose of this assessment was to study the site's potential to accommodate this use, and to provide high-level costing data associated with constructing the pool and the necessary supporting structures, and also to review the merit of adding a pool at this location - both within the context of the 2011 Pool Assessment study, and as compared to current trends related to outdoor aquatics. The assessment related to the merit of a stand-alone outdoor pool on this site are provided in Section 4.



Figure 1: Site Context

# 1

## Existing Site

### Site Location + Context

Mount Pleasant Community Park is located between 15th Avenue to the North and 16th Avenue to the south. It is bounded by Columbia St. and Ontario St to the West and East respectively.

The nearest major streets with public transportation are Broadway 6 blocks to the north and Main St. 2 blocks east. The Mount Pleasant Community Centre which opened in 2010 is approximately a 14 minute walk from the park. The Hillcrest Community Centre is located a 24 minute walk south of the park and offers programs in both indoor and outdoor pools.

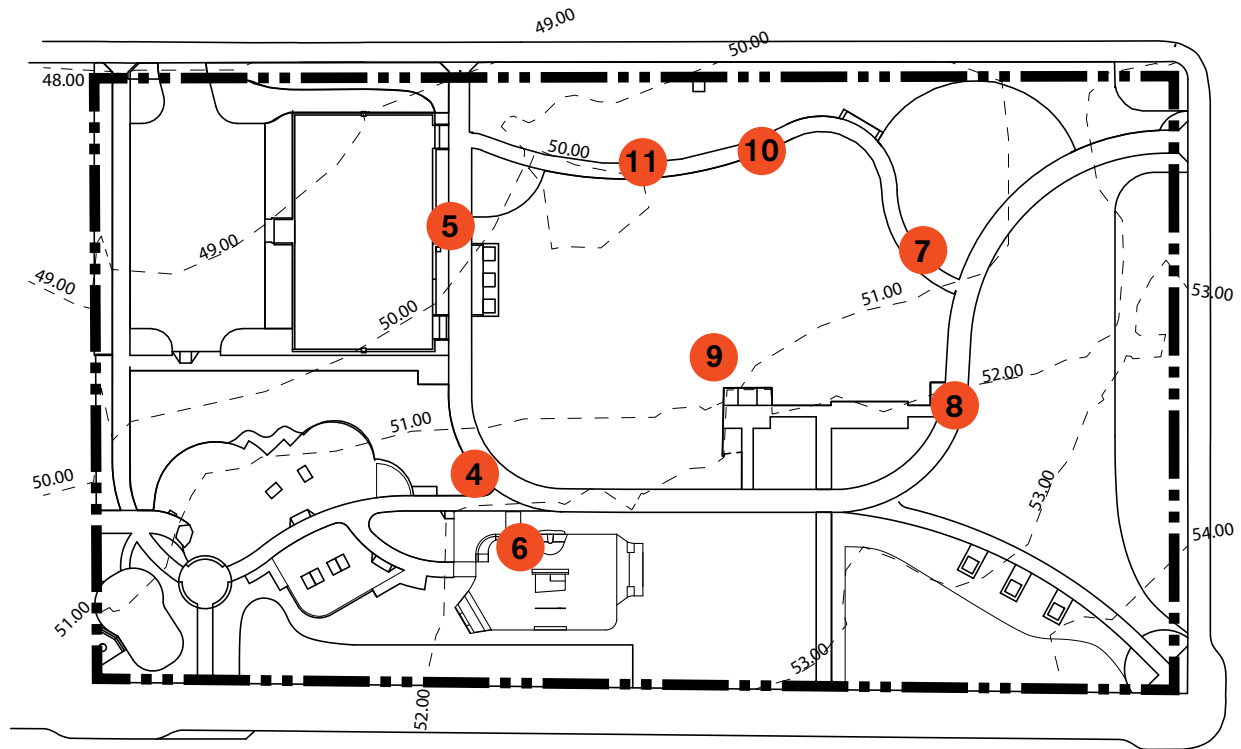


Figure 2: Existing Site, 1m Contours, Site Photo Locations

## Existing Features

As seen in Figure 2, the site has a dramatic slope, changing 6 meters in grade across the park. It slopes downward from the southeast corner toward the northwest parking lot. Across the central field there is a 2 meter grade change and is the location of the feasibility conceptual option study for pricing.

Figure 3 shows the existing amenities such as a playground, skate park, community garden and basketball court and natural features on the site including large trees which were maintained in the conceptual study options.

Photographs on the following pages were taken during a site review and show the main features on the site, as well as the existing topography on the central field used as the proposed area for the conceptual option study. Their location can be found on Figure 2 by referencing the coloured markers.

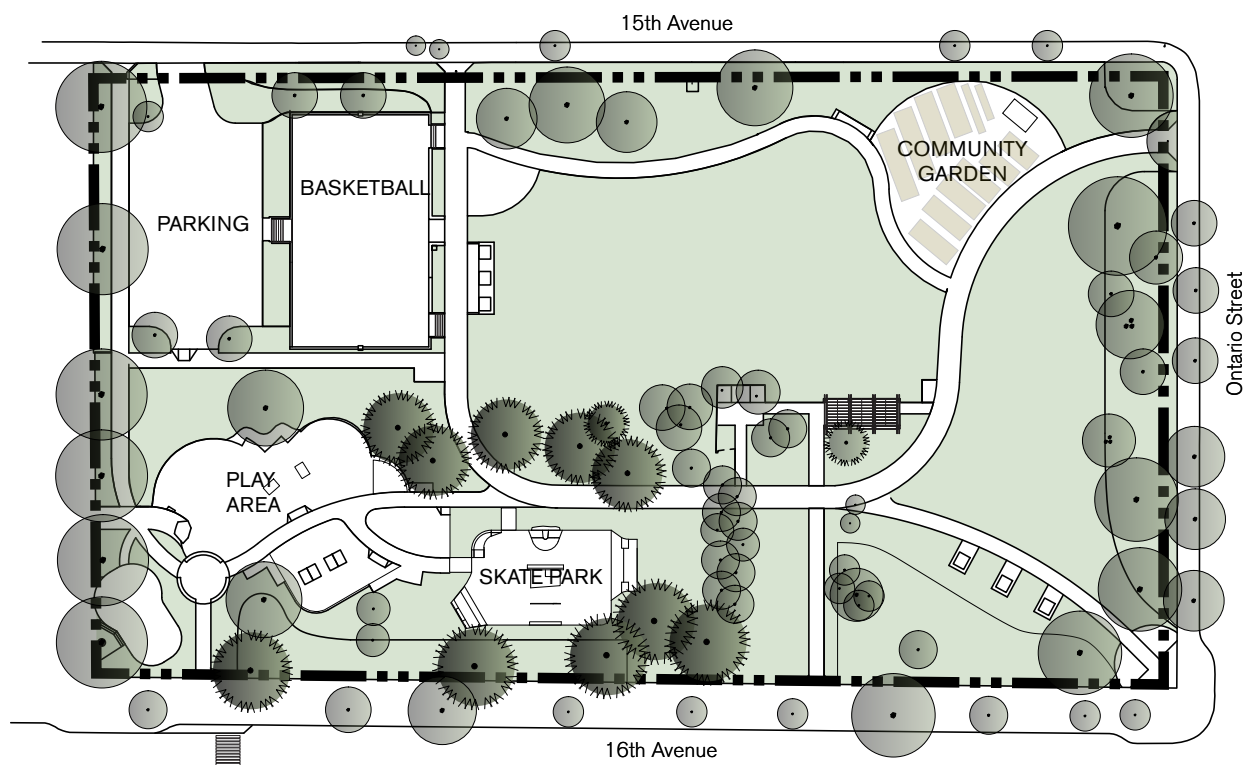


Figure 3: Existing Site Landscape & Features



Figure 4: View of Play Area



Figure 5: Basketball Court



Figure 6: Skate Park

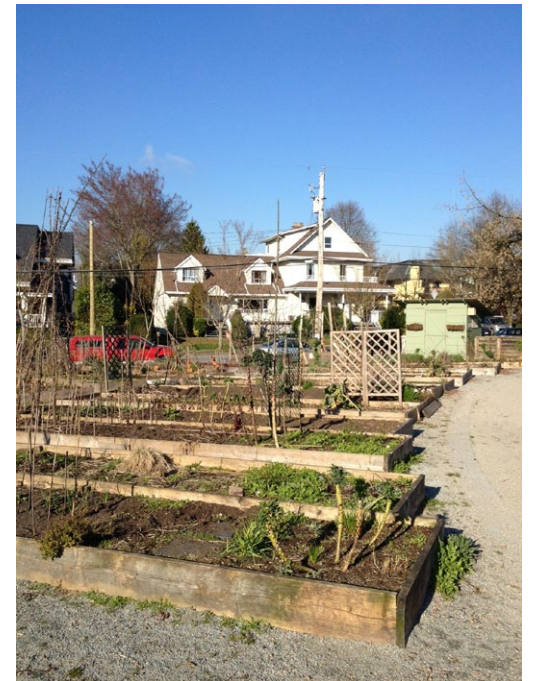


Figure 7: Community Garden



Figure 8: South Terrace



Figure 9: South Bench Platform



Figure 10: View of Green looking north



Figure 11: View of Green looking south

# 2

## Conceptual Options

Three conceptual design options were reviewed, encompassing a variety of pool and change room configurations on the site. Change rooms were oversized slightly to ensure they would facilitate possible bathing loads for the pool and hot pool sizes. Each diagram on pages 14-16 demonstrates preliminary layout studies, and lists the impacts on existing site features and pathways, as well as changes in green area from the existing park to conceptual design layout.

### **Option 1 Lap + Leisure**

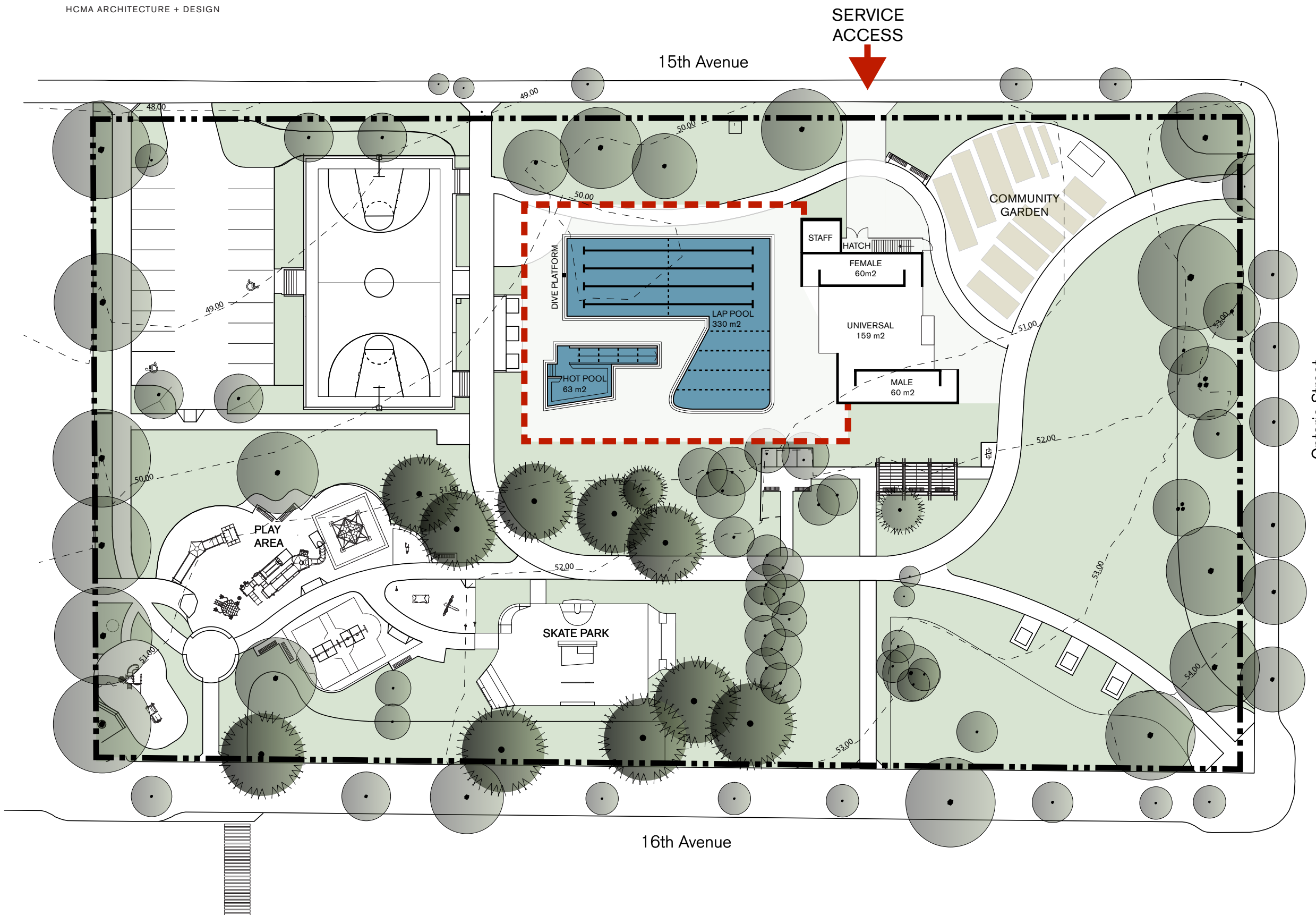
This option includes a 4 lane, 25m lap pool as well as beach access and a large hot pool.

### **Option 2 Lap Pool**

This option includes a 6 lane, 25m lap pool and is the most similar to the previous pool that existed on the site prior to 2010.

### **Option 3 Leisure**

This option focuses on leisure aspects of a public pool and is predominantly a shallow free-form pool with 2-25m lanes and a large hot pool.



Approx. Bathing Load: 264

- Remove North rock garden
- Re-Route North pathway
- Re-organize path and community garden for service access

Initial Open Area: 10,745 m<sup>2</sup>  
 Space of Pool: 1,396 m<sup>2</sup>  
 Final Green Area: 9,349 m<sup>2</sup>

— — — — — Indicates Fence Boundary

# Option 1

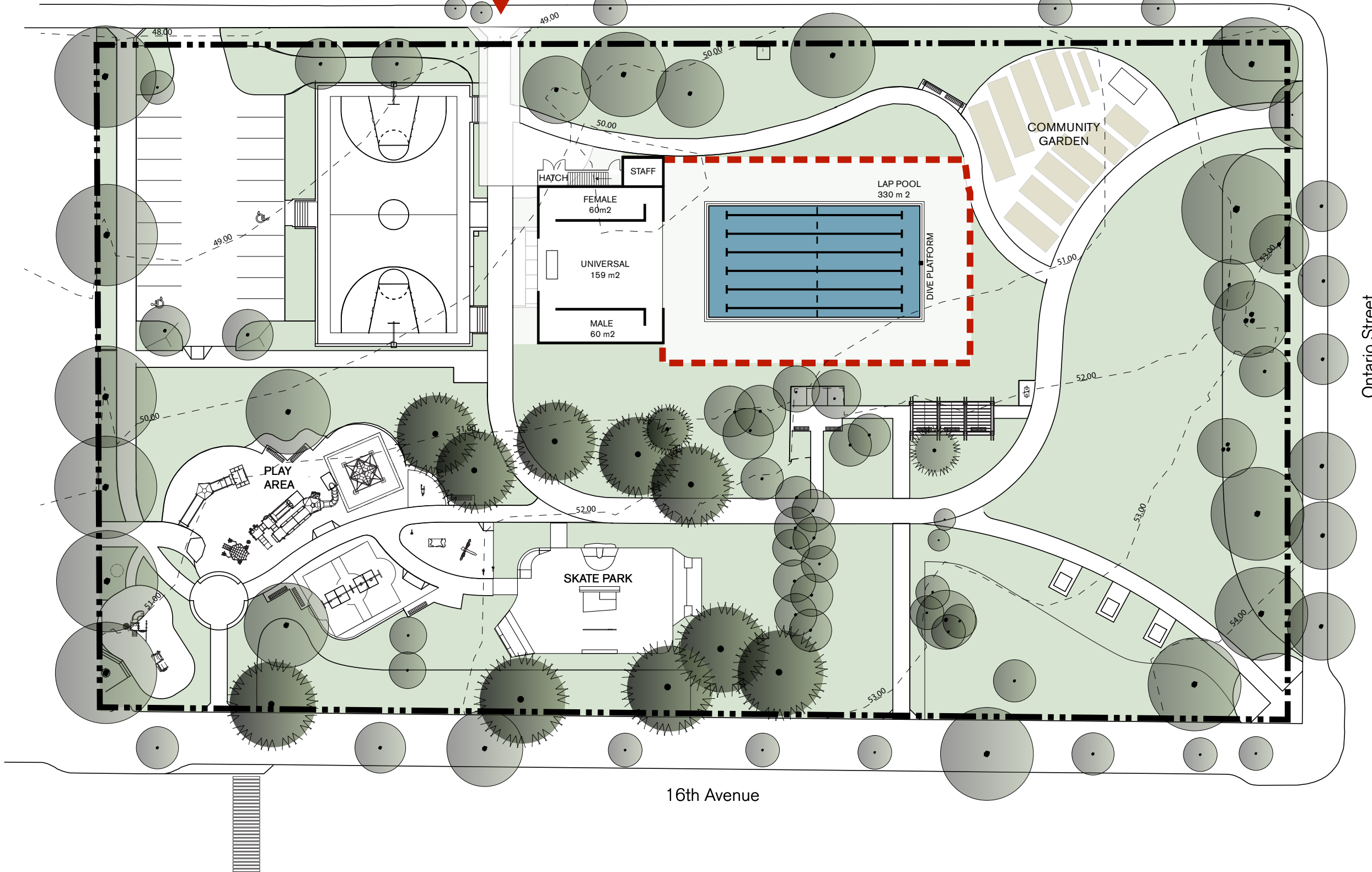
1:500  
 Lap + Leisure



SERVICE ACCESS



15th Avenue



Approx. Bathing Load: 264

- Remove West picnic tables
- Remove North rock garden

Initial Open Area: 10,745 m<sup>2</sup>  
 Space of Pool: 1,245 m<sup>2</sup>  
 Final Green Area: 9,500 m<sup>2</sup>

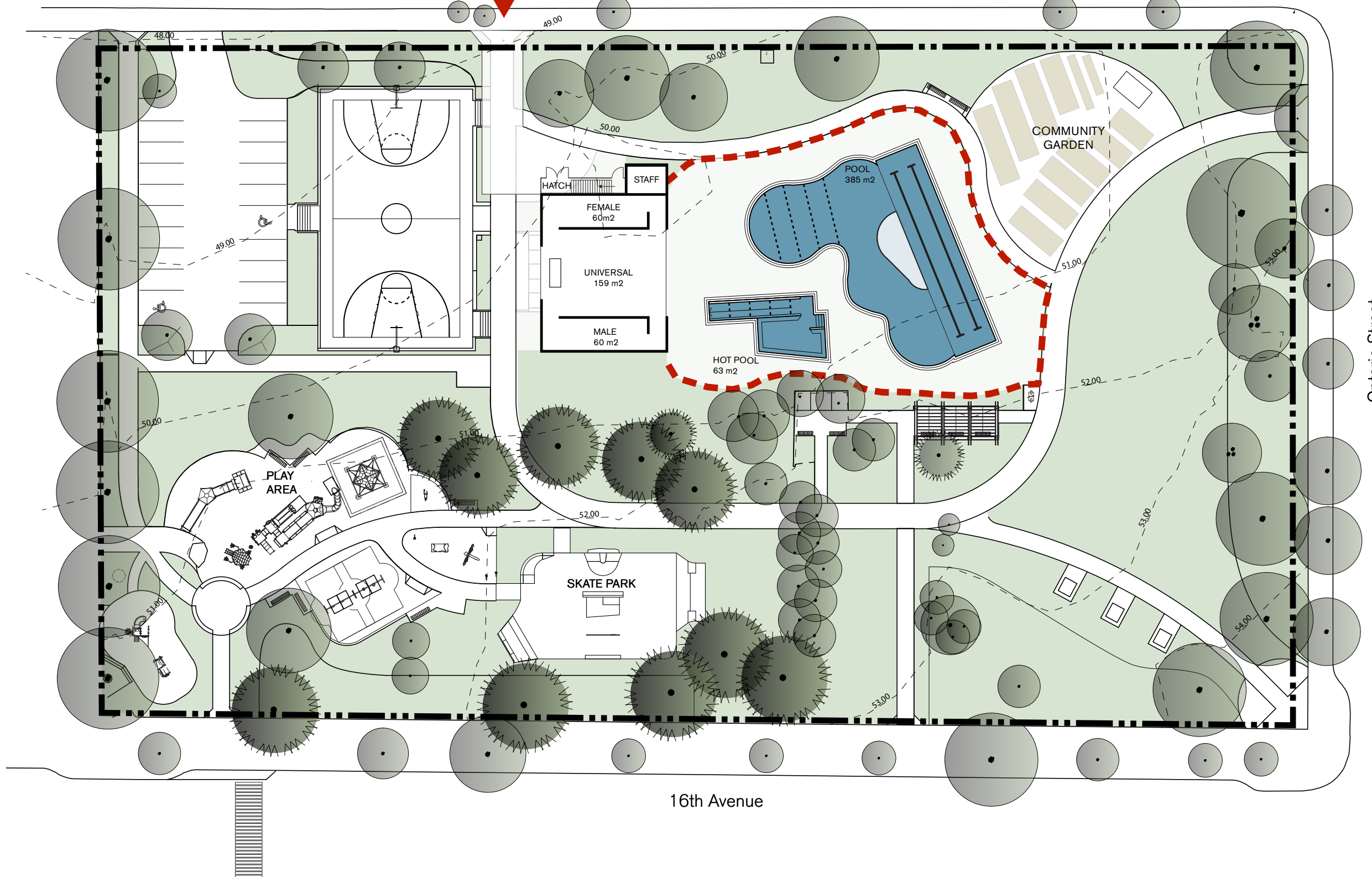
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**Option 2**  
 1:500  
 Lap

SERVICE ACCESS



15th Avenue



Ontario Street

16th Avenue

Approx. Bathing Load: 327

- Remove West picnic tables
- Remove North rock garden for service access

Initial Open Area: 10,745 m2  
 Space of Pool: 1,487 m2  
 Final Green Area: 9,258 m2

— — — — — Indicates Fence Boundary

# Option 3

1:500  
Leisure

# 3 Preliminary Cost Estimate Report

## Cost Breakdown Summary

	Construction Cost				Operating Cost**	Total
	Pool Deck	Change + Mech.	Soft Cost (30%)*	Sub Total		
<b>Option 1</b>	\$1,756,400	\$1,876,800	\$ 1,090,000	\$ 4,723,200	\$120,000	<b>\$ 4,843,200</b>
<b>Option 2</b>	\$1,577,200	\$1,876,800	\$ 1,036,200	\$ 4,490,200	\$120,000	<b>\$ 4,610,200</b>
<b>Option 3</b>	\$1,831,800	\$1,876,800	\$ 1,112,600	\$ 4,821,200	\$120,000	<b>\$ 4,941,200</b>

\*Includes consultant fees, construction contingency, development costs, City Project Mgmt., testing, goods & service tax.

\*\*Estimated seasonal operating costs provided by Vancouver Parks Board, based on existing outdoor pools and assuming approximate 16 week operating season.

James Bush & Associates Ltd. (JBA) reviewed the three conceptual options in section 2 to prepare a preliminary estimate for costing. The design organizations of Options 1, 2 and 3 were used for pricing and the standard of construction used was the same as the construction at Moody Park Outdoor Pool (opened 2009) in New Westminster for specific materials see the Outline Specification listed on pages 19 & 20.

JBA's report begins on page 21 and the results estimate a construction contract cost of \$3,633,200 excluding soft costs. With soft costs (estimated to be an additional 30% of construction contract cost) and operating costs added to JBA's estimates, the adjusted total cost is as follows: \$4,843,200 for Option 1 Lap + Leisure, \$4,610,200 for Option 2 Lap Pool, and \$4,941,200 for Option 3, Leisure with 3 lanes. A breakdown of construction costs can be seen in the summary tables on page 17.

## Outline Specification

### CIVIL:

- Connect to existing services in street. Assume they are adequate as-is as they served the former pool and community centre.
- Allow for crossing and loading bay to pool mechanical room.

### SITE WORK:

- Re-grade site.
- Assume soils are competent for new pool and change building.
- Assume no blasting.
- Allow for retaining on south side of pool (See Figure 2 for contours).
- Allow for re-building pathways and landscaping adjacent pool as required.

### FENCING+ GATE:

- Chain link fence 7' (2 m).
- Gates.

### POOL:

- Reinforced concrete tank.
- Painted finish (epoxy).
- Tile edge and flush gutter.
- Stainless steel handrails.
- Diving platform (3'), one only.

### POOL DECK:

- Slab on grade – broom finish sloped to drains.

### CHANGE BUILDING BASEMENT STRUCTURE:

- Basement mechanical and storage area.
- Reinforced concrete slab and walls – 10'-0" ceiling height.
- Access to basement sufficient to allow loading of chemicals and replacement of filter tanks.

### CHANGE ROOM STRUCTURE:

- Concrete block walls on concrete slab.
- Allow for 50% tile wall finish and 50% epoxy paint wall finish.
- Tile floors.
- Glulam/wood structure roof.
- Steel lockers.

### CHANGE ROOM FITTINGS:

- W.C. accessories – stainless steel.
- W.C. partitions – phenolic.
- Change room shower partition, phenolic.
- Lockers – stainless steel.
- Millwork – steel frame – laminate panels and tops.

### STAFF CHANGE & FRONT OFFICE KIOSK:

- Millwork – as above.
- Floor - polished concrete.
- Walls - painted concrete block.

### MECHANICAL - POOL:

- High rate sand filters.
- Liquid CL water sterilization.
- Boiler.
- W/C's, showers, lavatories, etc.

### MECHANICAL - SITE:

- Standard Drainage - assume no groundwater issues.
- Foundations.
- Surface.

### ELECTRICAL:

- New service.
- Panels, etc.
- Building lighting.
- Exterior lighting.
- In-pool lighting.
- Fire Alarm.
- Security.
- Data.

# MT. PLEASANT OUTDOOR POOL for City of Vancouver

design by HUGHES CONDON MARLER Architects

PRELIMINARY ESTIMATE  
 April 13, 2015



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## MT. PLEASANT OUTDOOR POOL for City of Vancouver

design by HUGHES CONDON MARLER Architects

### EXECUTIVE SUMMARY OF PROJECT COSTS

	Change Building & Mech Basement	POOL & deck OPTION 1	TOTAL
Gross Floor Area	355 m2	1,053 m2	
<b>Building Construction:</b>			
Demolition & Site Preparation, GC Own work	\$19,800	\$42,400	<b>\$62,200</b>
Earthwork, Backfilling, Shoring etc.	\$105,600	\$86,100	<b>\$191,700</b>
Landscaping & Site Work		\$44,000	<b>\$44,000</b>
Fencing & Gates		\$32,000	<b>\$32,000</b>
Concrete Work	\$211,000	\$373,700	<b>\$584,700</b>
Masonry Work	\$96,000		<b>\$96,000</b>
Miscellaneous Metals	\$17,000	\$19,200	<b>\$36,200</b>
Rough Carpentry	\$164,800		<b>\$164,800</b>
Roofing	\$84,800		<b>\$84,800</b>
Glazing & Entrances	\$138,100		<b>\$138,100</b>
Doors & Windows	\$25,200		<b>\$25,200</b>
Painting & Finishes	\$70,100	\$32,300	<b>\$102,400</b>
Fittings & Specialties	\$141,500		<b>\$141,500</b>
Special Construction / Pool Specialties	\$19,000	\$50,000	<b>\$69,000</b>
Electrical	\$115,000	\$75,000	<b>\$190,000</b>
Mechanical	\$192,000	\$578,300	<b>\$770,300</b>
General Contractor Overhead	\$210,000	\$193,300	<b>\$403,300</b>
Cash Allowances	\$15,000	\$0	<b>\$15,000</b>
Design Contingency	10%	\$162,500	<b>\$310,900</b>
Market Escalation	Allow 5%	\$89,400	<b>\$171,100</b>

<b>Reasonable Bid Price - Construction Contract</b> (Summer 2015 dollars, excl. GST)	\$1,876,800 \$491.15 /SF	\$1,756,400 \$154.96 /SF	<b>\$3,633,200</b>
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<b>Related Soft Costs:</b>		
Contingency for CHANGE ORDERS	5.0%	<b>\$182,000</b>
Consultant Fees & Expenses	12.0%	<b>\$436,000</b>
Development Cost Charges, Building Permits	2.5%	<b>\$91,000</b>
City Project Mngmt/Admin, Soft Costs, Testing, Insurance	7.0%	<b>\$254,000</b>
Payable Goods & Services Tax	3.5%	<b>\$127,000</b>

<b>TOTAL PROJECT COST</b> (Summer 2015 dollars, excl Payable GST)	<b>\$4,723,200</b>
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**SEPARATE PRICES:** (not included in above - add or delete to project cost) - SEE SEPARATE ESTIMATE

Pool Option 2 - single rectangular pool - no hot pool	-\$179,200	SAVING
Pool Option 3 - large shaped pool + hot pool	\$75,400	EXTRA COST



CONSTRUCTION COST ESTIMATE	Change Building & Mech Basement		
	GFA	Perimeter	
Basement	80 m2	45 m	
Main Floor	275 m2	86 m	
<b>TOTAL GROSS FLOOR AREA</b>	<b>355 m2</b>		
<b>Demolition &amp; Site Preparation, GC Own work</b>		<b>19,800</b>	
Hoarding & Temporary Protection & Site Access Premium for after hours work (demol/cutting/coring/material etc.)	200 m	17,000 Not required	
Site Demolition - existing pavement/site specialties etc		See Pool Deck	
GC Work cutting, coring mech/electrical		1,500	
GC Work - Firestopping new service penetrations		500	
Rough Carpentry - back framing, blocking for equip, elec bk bds		800	
<b>Earthwork, Backfilling, Shoring etc.</b>		<b>105,600</b>	
Bulk Excavation / dispose off site	807 m3	65.00	52,400
Shoring excavations - 1.5m max / Slope protection		Allowance	7,500
Detailed excavation footings	104 m3	85.00	8,900
Hand trimming		Item	3,500
Backfilling with import granular material	57 m3	54.00	3,100
Backfilling with granular drainage material - perimeter	338 m3	65.00	22,000
Imported granular slab base	77 m3	48.00	3,700
Labour, compaction / fine grade	100 hrs	45.00	4,500
<b>Concrete Work</b>	<b>573 m2</b>	<b>368.24</b>	<b>211,000</b>
<u>Foundations</u>			
• formwork foundations	86 m2	125.00	10,800
• formwork pits & trenches/shower bases		Item	5,500
• rebar	4,693 kg	1.95	9,200
• readimix	43 m3	205.00	8,700
• pumping & placing	43 m3	65.00	2,800
<u>Foundation Walls</u>			
• formwork	419 m2	125.00	52,400
• rebar	7,257 kg	1.95	14,200
• readimix	66 m3	205.00	13,500
• pumping & placing	66 m3	65.00	4,300
• waterproofing, drainage mat & protection board	209 m2	85.00	17,800
<u>Upper Floor Slab (over mechanical basement 300 flat slab)</u>			
• formwork	80 m2	372.50	
• rebar	80 m2	185.00	14,800
• readimix	3,024 kg	2.65	8,000
• pumping & placing	25 m3	215.00	5,400
• slab finishing - incl. Sealer	25 m3	65.00	1,600
	80 m2	18.00	1,400
<u>Slab on Grade</u>			
• formwork to perimeter	275 m2	109.45	
• rebar	86 m	30.23	2,600
• readimix - std mix	3,824 kg	2.65	10,100
• pumping & placing	42 m3	215.00	9,100
• slab finishing - incl. Sealer	42 m3	43.00	1,800
• embeds, blockouts, mech/elect cast-in items	275 m2	18.00	5,000
			1,500
<u>Miscellaneous Concrete</u>			
• Steps to basement	1 Fit	Item	8,000
• Equipment housekeeping pads etc		Item	2,500
<b>Masonry</b>			<b>96,000</b>
200mm concrete block walls - exterior	196 m2	245.00	48,000
200mm concrete block walls - interior	161 m2	220.00	35,400
100mm concrete block walls - interior	70 m2	180.00	12,600
<b>Miscellaneous Metals</b>			<b>17,000</b>
Galv railing / guardrail	5 m	508.56	2,500
Security Screens / Gates - Change Rooms		Item	6,000
Security screen - Entry		Item	6,000
Miscellaneous Metals, Access hatch, ladders, brackets etc.		Allow	2,500

CONSTRUCTION COST ESTIMATE	Change Building & Mech Basement		
	GFA	Perimeter	
<b>Rough Carpentry</b>			<b>164,800</b>
Roof Structure - Glulaminate, Wood Deck (incl. overhang)	369 m2	446.61	
• GL Structure	369 m2	350.00	129,200
• Wood deck	369 m2	85.00	31,400
• Perimeter Fascia	94 m	45.00	4,200
<b>Roofing</b>			<b>84,800</b>
SBS membrane roofing	369 m2	215.00	79,300
Perimeter fascia, flashings etc	94 m	35.00	3,300
Roof Hatch			2,200
<b>Glazing &amp; Entrances</b>			<b>138,100</b>
Exterior glazed walls	105 m2	1,020.00	107,100
Entrance Doors	2 Set	8,500.00	17,000
Auto operator		Item	5,500
Interior Glazing - control room, life guard		Item	6,000
Ticket windows		Item	2,500
<b>Doors/frames &amp; Hardware</b>			<b>25,200</b>
HM - Single Door & frame - galv	8 No.	1,250.00	10,000
HM - Double Door & frame - galv (incl. exterior)	2 Pr	2,480.00	5,000
Door Hardware	12 Lvs	850.00	10,200
<b>Painting &amp; Finishes</b>			<b>70,100</b>
Sealer to concrete	80 m2	18.00	1,400
Ceramic Tiles - Floors	275 m2	105.00	28,900
Ceramic Tiles - Shower/Urinal Walls to 2.1m	105 m2	140.00	14,700
Ceramic tile base	140 m	48.00	6,700
Epoxy Painting Walls	413 m2	15.50	6,400
Painting Doors and frames	12 Lvs	150.00	1,800
Clear sealer/Anitgraffiti - concrete soffit	94 m2	28.00	2,600
Painting exterior metals			2,500
Anti graffiti coating block walls	196 m2	26.00	5,100
<b>Fittings &amp; Specialties</b>			<b>141,500</b>
<u>Specialties</u>			
WC Accessories - SS	10 Sets	1,100.00	11,000
WC Partitions - Phenolic	8 No.	1,600.00	12,800
Shower Partitions/bench	4 No.	1,800.00	7,200
Change/Shower Partitions (universal)	16 No.	1,800.00	28,800
Accessible Washroom Accessories	2 Sets	1,200.00	2,400
Lockers - Stainless	100 No.	425.00	42,500
<u>Millwork:</u>			
• change benches, metal frame, wood top	40 m	450.00	18,000
• vanities	12 m	600.00	7,200
• office counter	6 m	1,100.00	6,600
• life guard		Item	5,000
<b>Special Construction</b>			<b>19,000</b>
Turnstiles	2 No.	9,500.00	19,000
<b>Electrical</b>	<b>355 m2</b>	<b>\$323.94</b>	<b>115,000</b>
New 600A/3Ph incoming service -incl. \$15000 Hydro Charge & civil work			35,000
Distribution Panels, Feeders, Breakers, Grounding Loop			12,000
Motor Control Panel			with Pool Equip
Building Lighting fixtures, switches, circuit wiring	275 m2	95.00	26,000
Exterior Lighting			5,000
Fire Alarm			7,000
Security			10,000
Data & Tel Communications (conduits/boxes/cabling)			12,000
Job cost / markup / Head Office			8,000

CONSTRUCTION COST ESTIMATE	Change Building & Mech Basement		
	GFA	Perimeter	
<b>Mechanical (Building Only)</b>	355 m2	\$540.85	192,000
Plumbing & Drainage / Pool Equipment			
• Equipment		incl.	
• Roof Drainage	369 m2	13.00	5,000
• Fixtures (12 WC,s 4 urinal, 12 Lav, 1 Sink, 6 shower)	35 m2	2,200.00	77,000
• Footing drainings	100 m	140.00	14,000
Sprinklers	355 m2		0
HVAC - heat & ventilation	275 m2	350.00	96,000
• Air Handling			
• heating Plant			
• piping			
• ductwork			
• Heating equipment			
• testing commissioning			
• controls			
Mechanical Site Services			See Site
<b>General Contractor Overhead</b>		15.0%	210,000
Direct Site Overhead (office, cleanup, garbage etc.)			94,500
Insurance, Bonding & Permits			45,500
Construction Manager Fee or Contractor Markup/Profit			70,000
<b>CASH ALLOWANCES</b>			15,000
Connection Fees, As Builts, Materials Testing		Cash Allowance	15,000
<b>Design Contingency</b>	10%		162,500
<b>Market Escalation</b>	5%		89,400
<b>Reasonable Bid Price - CONSTRUCTION</b>	355 m2	5,286.76	<b>\$1,876,800</b>

CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 1		
	GFA	Perimeter	
Main Pool	330 m2		96 m
Hot Pool	63 m2		42 m
<b>TOTAL GROSS POOL TANK AREA</b>	<b>393 m2</b>		<b>138 m</b>
<b>TOTAL POOL DECK AREA</b>	<b>660 m2</b>		
<b>Demolition &amp; Site Preparation</b>			42,400
Site Demolition - existing pavement/site specialties etc	1,600 m2	12.00	19,200
Remove organics to 200-300mm under construction site	400 m3	58.00	23,200
<b>Earthwork, Backfilling, Shoring etc.</b>			86,100
Bulk Excavation pool deck tank / dispose off site	1,182 m3	46.00	54,400
Detailed excavation services/drain		Item	5,000
Hand trimming slopes to drain	50 hrs	45.00	2,300
Backfilling with import granular material	129 m3	54.00	7,000
Backfilling with granular drainage material	32 m3	60.00	1,900
Imported granular slab base	211 m3	48.00	10,100
Labour, compaction / fine grade	120 hrs	45.00	5,400
<b>Landscaping &amp; Site Work</b>			44,000
Re/re existing grass, re-plant, make good all existing			15,000
New Trees & Planting - shrubs etc.			10,000
Asphalt Paving to rads	100.0 m2	35.00	3,500
Site paving/sidewalks	124.0 m2	85.00	10,500
Site Furniture - Bike Racks, Garbage Containers etc.			5,000
<b>Fencing &amp; Gates</b>			32,000
Chain link / Decorative Security fence - 7ft	108 m	285.00	30,800
Gates	1 Sets	1,200.00	1,200
<b>Concrete Work</b>			373,700
Pool Tank - incl. slab, foundations, walls etc.	393 m2	816.28	
• formwork walls - curved	30 m2	180.00	5,400
• formwork walls & foundations	644 m2	125.00	80,600
• formwork pits & trenches, step pockets		Item	18,000
• forming gutter/pool edge	138 m	90.00	12,400
• forming perimeter drain/slab detail	138 m	85.00	11,700
• forwork to steps			4,500
• rebar (epoxy)	31,393 kg	2.04	64,000
• readimix - std mix (slab, foundations)	128 m3	205.00	26,300
• readimix - KIM	202 m3	275.00	55,600
• pumping & placing	330 m3	43.00	14,200
• finishing incl. gutters	322 m2	35.00	11,300
• slab finishing	442 m2	18.00	8,000
• waterstop - Krystal		Item	6,000
• embeds, mech/elect cast-in items, sleeves, drains etc		Item	2,800
Pool Deck - cast in place 4" concrete patterned	660 m2	80.15	
• formwork pits & trench drain / steps		Item	6,500
• rebar	5,363 kg	1.95	10,500
• readimix - std mix	83 m3	205.00	16,900
• pumping & placing	83 m3	68.00	5,600
• slab / pool deck finishing - broom finish	660 m2	18.00	11,900
• embeds, mech/elect cast-in items			1,500
<b>Miscellaneous Metals</b>			19,200
Stainless top rail to ramp	20 m	475.75	9,500
Stainless pool step rails/guards	4 Sets	1,800.00	7,200
Miscell pool specialties			2,500
<b>Painting &amp; Finishes</b>			32,300
Painting pool tank incl. lines/graphics	715 m2	35.00	25,000
Clear sealer - concrete - deck	660 m2	11.00	7,300
<b>Special Pool Construction</b>			50,000
FFE allowance for 1M dive platform, perimeter drain grate, sockets pool specialties, lane ropes, life safety equipment, deck furniture etc.		Allowance	50,000

CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 1	
	GFA	Perimeter
<b>Electrical</b>		<b>75,000</b>
Electrical Distribution and Motor control for Pool Equipment	Item	20,000
Feeders/Breakers	Item	10,000
Mechanical connections	Item	25,000
Pool Lighting	Item	20,000
<b>Mechanical</b>		<b>578,300</b>
<b>Pool Equipment</b>		
PRV station & back-flow prevention	Item	5,000
air-compressor system - allowance	Item	20,000
expansion tanks	Item	1,000
pool heating equipment - allowance	Item	30,000
pool water heat-exchangers	Item	10,000
pool filtration (Wapotec system) - allowance	Item	100,000
pool circulation pumps - VSD's (approx. 6no.)	Item	45,000
auto-matic quality control equipment - allowance	Item	15,000
disinfection & chlorination equipment & storage tanks - allowance	Item	75,000
hydro air systems, pumps, valves, etc - allowance	Item	Excluded
footing drain sump, pump & backwater valve	Item	5,000
trench drains & specialist pool perimeter drainage systems	Item	29,000
mechanical room & pool pipework - allowance	Item	150,000
pool equipment room air-handling unit system - ???cfm	Item	15,000
<b>Controls</b>		
pumps, etc	6 no	550.00
pumps, etc - VSD's	5 no	1,500.00
mech equipment		10,000
<b>Service Connections</b>		
incoming water main - connection - allowance	Item	15,000
fire hydrant & pipework - allowance	Item	15,000
sanitary drainage & connection - allowance	Item	12,500
storm pipework & connection - allowance	Item	12,500
gas service - connection (minimal charge)	Item	2,500
<b>General Contractor Overhead</b>		<b>14.5%</b>
		<b>193,300</b>
Direct Site Overhead (office, cleanup, garbage etc.)		76,600
Insurance, Bonding & Permits		50,000
Construction Manager Fee or Contractor Markup/Profit		66,700
<b>CASH ALLOWANCES</b>		<b>0</b>
<b>Design Contingency</b>	<b>10%</b>	<b>148,400</b>
<b>Market Escalation</b>	<b>5.0%</b>	<b>81,700</b>
<b>Reasonable Bid Price - CONSTRUCTION</b>		<b>\$1,756,400</b>

**SUMMARY OF POOL CONFIGURATION OPTIONS**

	POOL & deck OPTION 1	POOL & DECK: Option 2	POOL & deck OPTION 3
Gross Floor Area	1,053	850 m2	1,155 m2
<b>Building Construction:</b>			
Demolition & Site Preparation, GC Own work	\$42,400	\$42,400	\$42,400
Earthwork, Backfilling, Shoring etc.	\$86,100	\$76,900	\$95,300
Landscaping & Site Work	\$44,000	\$37,800	\$37,800
Fencing & Gates	\$32,000	\$28,600	\$39,200
Concrete Work	\$373,700	\$305,500	\$417,600
Masonry Work			
Miscellaneous Metals	\$19,200	\$7,900	\$21,000
Rough Carpentry			
Roofing			
Glazing & Entrances			
Doors & Windows			
Painting & Finishes	\$32,300	\$27,000	\$33,500
Fittings & Specialties			
Special Construction / Pool Specialties	\$50,000	\$50,000	\$50,000
Electrical	\$75,000	\$75,000	\$75,000
Mechanical	\$578,300	\$546,300	\$578,300
General Contractor Overhead	\$193,300	\$173,700	\$201,500
Cash Allowances	\$0	\$0	\$0
Design Contingency	10%	\$148,400	\$132,900
Market Escalation	Allow 5%	\$81,700	\$73,200
<b>Reasonable Bid Price - Construction</b>	<b>\$1,756,400</b>	<b>\$1,577,200</b>	<b>\$1,831,800</b>
(Summer 2015 dollars, excl. GST)	\$154.96 /SF	\$172.38 /SF	\$147.34
<b>ADJUSTMENT FROM OPTION 1 (saving or extra)</b>		<b>-\$179,200</b>	<b>\$75,400</b>



CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 2		
	GFA	Perimeter	
Main Pool	330 m2	96 m	
Hot Pool			
<b>TOTAL GROSS POOL TANK AREA</b>	<b>330 m2</b>	<b>96 m</b>	
<b>TOTAL POOL DECK AREA</b>	<b>520 m2</b>		
<b>Demolition &amp; Site Preparation</b>	<b>42,400</b>		
Site Demolition - existing pavement/site specialties etc	1,600 m2	12.00	19,200
Remove organics to 200-300mm under construction site	400 m3	58.00	23,200
<b>Earthwork, Backfilling, Shoring etc.</b>	<b>76,900</b>		
Bulk Excavation pool deck tank / dispose off site	1,063 m3	46.00	48,900
Detailed excavation services/drains		Item	5,000
Hand trimming slopes to drain	45 hrs	45.00	2,000
Backfilling with import granular material	108 m3	54.00	5,800
Backfilling with granular drainage material	27 m3	60.00	1,600
Imported granular slab base	170 m3	48.00	8,200
Labour, compaction / fine grade	120 hrs	45.00	5,400
<b>Landscaping &amp; Site Work</b>	<b>37,800</b>		
Re/re existing grass, re-plant, make good all existing			15,000
New Trees & Planting - shrubs etc.			10,000
Asphalt Paving to roads	100.0 m2	35.00	3,500
Site paving/sidewalks	50.0 m2	85.00	4,300
Site Furniture - Bike Racks, Garbage Containers etc.			5,000
<b>Fencing &amp; Gates</b>	<b>28,600</b>		
Chain link / Decorative Security fence - 7ft	96 m	285.00	27,400
Gates	1 Sets	1,200.00	1,200
<b>Concrete Work</b>	<b>305,500</b>		
Pool Tank - incl. slab, foundations, walls etc.	330 m2	796.67	
• formwork walls - curved	m2	180.00	0
• formwork walls & foundations	557 m2	125.00	69,600
• formwork pits & trenches, step pockets		Item	18,000
• forming gutter/pool edge	96 m	90.00	8,600
• forming perimeter drain/slab detail	96 m	85.00	8,200
• forwork to steps			4,500
• rebar (epoxy)	25,184 kg	2.04	51,400
• readimix - std mix (slab, foundations)	98 m3	205.00	20,100
• readimix - KIM	167 m3	275.00	45,900
• pumping & placing	265 m3	43.00	11,400
• finishing incl. gutters	278 m2	35.00	9,700
• slab finishing	442 m2	18.00	8,000
• waterstop - Krystal		Item	5,000
• embeds, mech/elect cast-in items, sleeves, drains etc		Item	2,500
Pool Deck - cast in place 4" concrete patterned	520 m2	81.92	
• formwork pits & trench drain / steps		Item	5,800
• rebar	4,225 kg	1.95	8,200
• readimix - std mix	65 m3	205.00	13,300
• pumping & placing	65 m3	68.00	4,400
• slab / pool deck finishing - broom finish	520 m2	18.00	9,400
• embeds, mech/elect cast-in items			1,500
<b>Miscellaneous Metals</b>	<b>7,900</b>		
Stainless top rail to ramp	m	475.75	0
Stainless pool step rails/guards	3 Sets	1,800.00	5,400
Miscell pool specialties			2,500
<b>Painting &amp; Finishes</b>	<b>27,000</b>		
Painting pool tank incl. lines/graphics	608 m2	35.00	21,300
Clear sealer - concrete - deck	520 m2	11.00	5,700
<b>Special Pool Construction</b>	<b>50,000</b>		
FFE allowance for 1M dive platform, perimeter drain grate, sockets pool specialties, lane ropes, life safety equipment, deck furniture etc.		Allowance	50,000

CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 2		
	GFA	Perimeter	
<b>Electrical</b>	<b>75,000</b>		
Electrical Distribution and Motor control for Pool Equipment	Item	20,000	
Feeders/Breakers	Item	10,000	
Mechanical connections	Item	25,000	
Pool Lighting	Item	20,000	
<b>Mechanical</b>	<b>546,300</b>		
<b>Pool Equipment</b>			
PRV station & back-flow prevention	Item	5,000	
air-compressor system - allowance	Item	20,000	
expansion tanks	Item	1,000	
pool heating equipment - allowance	Item	30,000	
pool water heat-exchangers	Item	10,000	
pool filtration (Wapotec system) - allowance	Item	90,000	
pool circulation pumps - VSD's	Item	40,000	
auto-matic quality control equipment - allowance	Item	15,000	
disinfection & chlorination equipment & storage tanks - allowance	Item	70,000	
hydro air systems, pumps, valves, etc - allowance	Item	Excluded	
footing drain sump, pump & backwater valve	Item	5,000	
trench drains & specialist pool perimeter drainage systems	Item	27,000	
mechanical room & pool pipework - allowance	Item	140,000	
pool equipment room air-handling unit system - ???cfm	Item	15,000	
<b>Controls</b>			
pumps, etc	6 no	550.00	3,300
pumps, etc - VSD's	5 no	1,500.00	7,500
mech equipment			10,000
<b>Service Connections</b>			
incoming water main - connection - allowance	Item	15,000	
fire hydrant & pipework - allowance	Item	15,000	
sanitary drainage & connection - allowance	Item	12,500	
storm pipework & connection - allowance	Item	12,500	
gas service - connection (minimal charge)	Item	2,500	
<b>General Contractor Overhead</b>			<b>14.5%</b>
			<b>173,700</b>
Direct Site Overhead (office, cleanup, garbage etc.)			68,900
Insurance, Bonding & Permits			44,900
Construction Manager Fee or Contractor Markup/Profit			59,900
<b>CASH ALLOWANCES</b>	<b>0</b>		
<b>Design Contingency</b>	<b>10%</b>	<b>132,900</b>	
<b>Market Escalation</b>	<b>5.0%</b>	<b>73,200</b>	
<b>Reasonable Bid Price - CONSTRUCTION</b>			<b>\$1,577,200</b>

CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 3		
	GFA	Perimeter	
Main Pool	385 m2	105 m	
Hot Pool	63 m2	46 m	
<b>TOTAL GROSS POOL TANK AREA</b>	<b>448 m2</b>	<b>151 m</b>	
<b>TOTAL POOL DECK AREA</b>	<b>707 m2</b>		
<b>Demolition &amp; Site Preparation</b>	<b>42,400</b>		
Site Demolition - existing pavement/site specialties etc	1,600 m2	12.00	19,200
Remove organics to 200-300mm under construction site	400 m3	58.00	23,200
<b>Earthwork, Backfilling, Shoring etc.</b>	<b>95,300</b>		
Bulk Excavation pool deck tank / dispose off site	1,343 m3	46.00	61,800
Detailed excavation services/drains		Item	5,000
Hand trimming slopes to drain	50 hrs	45.00	2,300
Backfilling with import granular material	141 m3	54.00	7,600
Backfilling with granular drainage material	35 m3	60.00	2,100
Imported granular slab base	231 m3	48.00	11,100
Labour, compaction / fine grade	120 hrs	45.00	5,400
<b>Landscaping &amp; Site Work</b>	<b>37,800</b>		
Re/re existing grass, re-plant, make good all existing			15,000
New Trees & Planting - shrubs etc.			10,000
Asphalt Paving to roads	100.0 m2	35.00	3,500
Site paving/sidewalks	50.0 m2	85.00	4,300
Site Furniture - Bike Racks, Garbage Containers etc.			5,000
<b>Fencing &amp; Gates</b>	<b>39,200</b>		
Chain link / Decorative Security fence - 7ft	117 m	325.00	38,000
Gates	1 Sets	1,200.00	1,200
<b>Concrete Work</b>	<b>417,600</b>		
<b>Pool Tank - incl. slab, foundations, walls etc.</b>	448 m2	804.91	
• formwork walls - curved	168 m2	180.00	30,200
• formwork walls & foundations	570 m2	125.00	71,200
• formwork pits & trenches, step pockets		Item	18,000
• forming gutter/pool edge	151 m	125.00	18,900
• forming perimeter drain/slab detail	151 m	85.00	12,800
• forwork to steps			4,500
• rebar (epoxy)	34,616 kg	2.04	70,600
• readimix - std mix (slab, foundations)	143 m3	205.00	29,300
• readimix - KIM	221 m3	275.00	60,900
• pumping & placing	364 m3	43.00	15,700
• finishing incl. gutters	285 m2	35.00	10,000
• slab finishing	442 m2	18.00	8,000
• waterstop - Krystal		Item	7,500
• embeds, mech/elect cast-in items, sleeves, drains etc		Item	3,000
<b>Pool Deck - cast in place 4" concrete patterned</b>	707 m2	80.62	
• formwork pits & trench drain / steps		Item	7,500
• rebar	5,744 kg	1.95	11,200
• readimix - std mix	88 m3	205.00	18,100
• pumping & placing	88 m3	68.00	6,000
• slab / pool deck finishing - broom finish	707 m2	18.00	12,700
• embeds, mech/elect cast-in items			1,500
<b>Miscellaneous Metals</b>	<b>21,000</b>		
Stainless top rail to ramp	20 m	475.75	9,500
Stainless pool step rails/guards	5 Sets	1,800.00	9,000
Miscell pool specialties			2,500
<b>Painting &amp; Finishes</b>	<b>33,500</b>		
Painting pool tank incl. lines/graphics	733 m2	35.00	25,700
Clear sealer - concrete - deck	707 m2	11.00	7,800
<b>Special Pool Construction</b>	<b>50,000</b>		
FFE allowance for 1M dive platform, perimeter drain grate, sockets pool specialties, lane ropes, life safety equipment, deck furniture etc.		Allowance	50,000

CONSTRUCTION COST ESTIMATE	POOL & DECK: Option 3		
	GFA	Perimeter	
<b>Electrical</b>	<b>75,000</b>		
Electrical Distribution and Motor control for Pool Equipment	Item	20,000	
Feeders/Breakers	Item	10,000	
Mechanical connections	Item	25,000	
Pool Lighting	Item	20,000	
<b>Mechanical</b>	<b>578,300</b>		
<b>Pool Equipment</b>			
PRV station & back-flow prevention	Item	5,000	
air-compressor system - allowance	Item	20,000	
expansion tanks	Item	1,000	
pool heating equipment - allowance	Item	30,000	
pool water heat-exchangers	Item	10,000	
pool filtration (Wapotec system) - allowance	Item	100,000	
pool circulation pumps - VSD's (approx. 6no.)	Item	45,000	
auto-matic quality control equipment - allowance	Item	15,000	
disinfection & chlorination equipment & storage tanks - allowance	Item	75,000	
hydro air systems, pumps, valves, etc - allowance	Item	Excluded	
footing drain sump, pump & backwater valve	Item	5,000	
trench drains & specialist pool perimeter drainage systems	Item	29,000	
mechanical room & pool pipework - allowance	Item	150,000	
pool equipment room air-handling unit system - ???cfm	Item	15,000	
<b>Controls</b>			
pumps, etc	6 no	550.00	3,300
pumps, etc - VSD's	5 no	1,500.00	7,500
mech equipment			10,000
<b>Service Connections</b>			
incoming water main - connection - allowance	Item	15,000	
fire hydrant & pipework - allowance	Item	15,000	
sanitary drainage & connection - allowance	Item	12,500	
storm pipework & connection - allowance	Item	12,500	
gas service - connection (minimal charge)	Item	2,500	
<b>General Contractor Overhead</b>			<b>14.5%</b>
			<b>201,500</b>
Direct Site Overhead (office, cleanup, garbage etc.)			79,900
Insurance, Bonding & Permits			52,100
Construction Manager Fee or Contractor Markup/Profit			69,500
<b>CASH ALLOWANCES</b>	<b>0</b>		
<b>Design Contingency</b>	<b>10%</b>	<b>154,900</b>	
<b>Market Escalation</b>	<b>5.0%</b>	<b>85,300</b>	
<b>Reasonable Bid Price - CONSTRUCTION</b>			<b>\$1,831,800</b>

# 4

## Recommendations

The 2011 Pool Assessment Study, prepared by Hughes Condon Marler Architects, was an update of the Aquatics Services Review Study of 2001. The recommendations of the 2011 study were based on the state of the Vancouver aquatic facilities and services in 2011, noting developments and improvements that had been implemented since 2001. The recommendations were organized into five categories: **Investment, Capacity, Pool Typologies, Implementation and Synergies**, which will also be used for consistency of analysis in this document, to consider the merits and feasibility of proceeding with an outdoor pool at Mount Pleasant Park.

## INVESTMENT

Funding for the aquatic infrastructure was recommended to focus on the maintenance of the four main outdoor pools, continued maintenance of existing indoor pools and continuing the pool renewal/replacement program recommended in Phase II of the aquatic renewal strategy. In addition, it was recommended that any future outdoor pools be built in conjunction with an indoor pool. This recommendation was implemented at Hillcrest where an outdoor pool, with water area of 3000 square feet, was built with direct access from the main natatorium. This has proven to be an excellent investment given the number of swims generated by the outdoor pool, relative to its size and cost (approximately 35,000 annually). The previous Mount Pleasant pool had approximately 20,000 swims per season and even if that number increased with a new leisure oriented design, it lacks the synergies of an outdoor pool co-located with an indoor pool that would be likely to increase the annual swims significantly.

**CONCLUSION:** *The value for money, capital and operating costs, in terms of swims generated is poor for the proposed outdoor pool at Mount Pleasant Park.*

## CAPACITY

The Vancouver aquatic system currently has a swim per capita rate of 4.9 swims per person. This is based on the current population of 603,502 people and a combined indoor/outdoor swim total of 2,965,595 swims. In order to maintain that swim per capita rate and meet the higher target recommended in the 2011 report of 6 swims per person, the report indicated that two new indoor replacement pools will be required before 2022. On average, Vancouver's indoor pools achieve 60 swims per year per square foot of water versus the average of 3 swims per square foot of water per season for the outdoor pools.

**CONCLUSION:** *Given the current low average swim rates at existing outdoor pools, adding another stand-alone outdoor neighbourhood pool to Vancouver's aquatic infrastructure will have little to no impact on the swim per capita target and therefore is not considered to be an effective method in achieving the capacity/patronage targets set in the 2001-2011 reports.*

## POOL TYPOLOGIES + COVERAGE

Mount Pleasant Park is within a three kilometre radius of four pools, the Vancouver Aquatic Centre, Britannia pool, Kensington pool and the Hillcrest Aquatic Centre (Figure 12). Hillcrest is approximately two kilometres from Mount Pleasant Park, making it the closest of the four pools. The neighbourhood around Mount Pleasant Park is served by two city-wide destination pools (Vancouver Aquatic Centre and Hillcrest Aquatic Centre), a community pool (Britannia) and a neighbourhood pool (Kensington), all three of the pool typologies identified in the 2001/2011 reports. In fact, the eastern section of the Mount Pleasant neighbourhood is currently the best served area for aquatic services in the city. The attendance figures for Hillcrest and its outdoor pool reinforce the 2011 recommendation that all future outdoor pools be built in conjunction with an indoor pool.

**CONCLUSION:** *Building a stand-alone outdoor pool at Mount Pleasant Park is redundant as it not only doubles up on an already well served area, but does not take advantage of the synergies of co-location as exemplified by Hillcrest.*

## IMPLEMENTATION

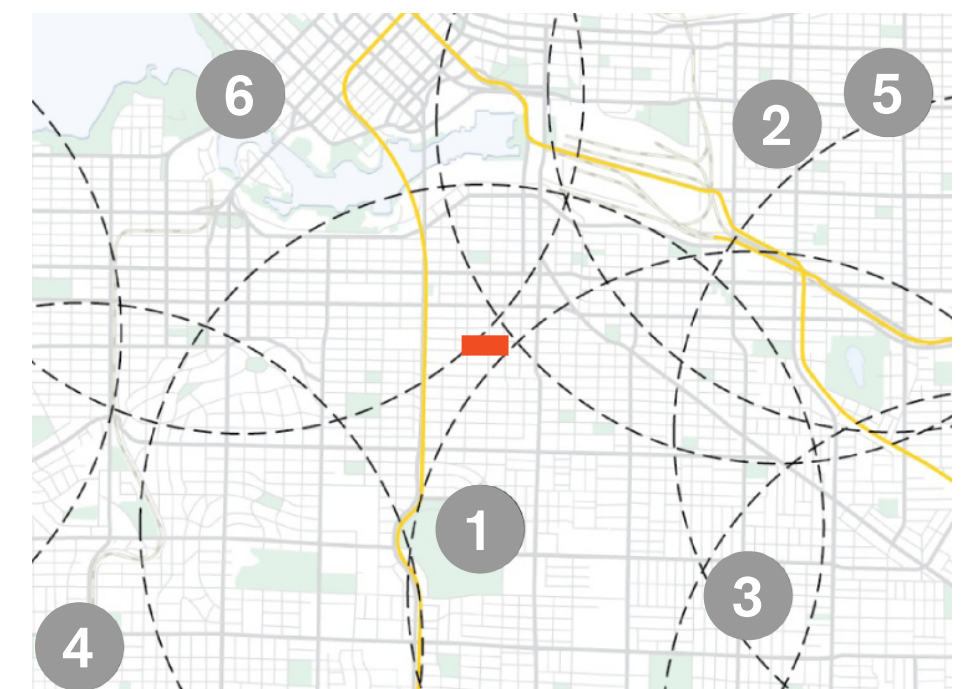
The 2011 report recommends the replacement of the Vancouver Aquatic Centre, Kerrisdale and Britannia pools for phase two of the replacement strategy. All of these pools will take pressure off Hillcrest and facilitate access to aquatic services across the city and in particular Mount Pleasant. The schematic design for the future Britannia pool includes an outdoor pool [subject to the land being made available by the VSB], and if Kerrisdale Community Centre is redeveloped as a destination facility it could have an outdoor component, or pool, attached to its new indoor pool. The VAC is a special opportunity and could well have an outdoor component taking advantage of its beachside location.

**CONCLUSION:** *Given these three potential and significant future outdoor pool opportunities, an outdoor pool at Mount Pleasant park is not considered to offer any notable benefits or enhancements to the overall aquatic strategy.*

## SYNERGIES

The 2011 report recommends that the City explore partnerships with other agencies such as the YM/YWCA to achieve coverage in underserved areas such as the South Slopes/ Marpole neighbourhood of Vancouver. New facilities should take advantage of transit and be located in close proximity to schools, libraries, health clinics and cultural facilities to create multipurpose centres of community. As mentioned previously new pool projects should take advantage of the synergies of co-locating outdoor pools with indoor pools. All of these strategies aim to maximize the use of public facilities for the benefit of all Vancouverites.

**CONCLUSION:** *The proposed new/replacement outdoor pool at Mount Pleasant park has poor potential for partnering, co-location and proximity to transit and other resources, its value as a new aquatic facility in the Vancouver context is considered to be minimal.*



**Figure 12:**  
City of Vancouver Indoor Pools  
3 km Radius

- 1: Aquatic Centre at Hillcrest Park
- 2: Britannia Pool
- 3: Kensington Pool
- 4: Kerrisdale Pool
- 5: Templeton Pool
- 6: Vancouver Aquatic Centre



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