



**SUBJECT** UPDATE ON UNIVERSITY BOULEVARD SUB-AREA PLAN AND PARKING STRATEGY

**MEETING DATE** APRIL 13, 2017

Forwarded to the Board of Governors on the Recommendation of the President

**APPROVED FOR SUBMISSION**

Santa J. Ono, President and Vice-Chancellor

**DECISION REQUESTED** IT IS HEREBY REQUESTED that *the UBC Board of Governors:*

- I. Receive for information an update on the Gateway / War Memorial Gym Sub-Area Plan as described in this report to:
 
  - a. Plan for a new student recreation facility and rebuilt War Memorial Gym, subject to Board approval of UBC GamePlan: 20-year Athletics and Recreation Facilities Strategy and in accordance with the standard Board capital approval process;*
  - b. Continue planning for a mixed-use academic / housing development (targeted to faculty and staff) for the Gateway South site, subject to a UBC Land Use Plan amendment;**
- II. Receive for information a summary of the MacInnes Field Parking Feasibility Study; and,*
- III. Approve in principle the recommendation for a one-level parkade under MacInnes Field to address visitor parking needs in the precinct that is in alignment with UBC's successful Transportation Plan goals to shift daily trips to transit, cycling and walking; and, direct staff to undertake further detailed layout and costing, as well as analysis of funding, financing and operating options, as a basis for a Board 1 approval submission in June 2017.*

**Report Date** March 29, 2017

**Presented By** Louise Cowin, Vice-President Students  
 Philip Steenkamp, Vice -President External Relations  
 Andrew Simpson, Vice-President Finance & Operations  
 Michael White, AVP, Campus and Community Planning  
 Peter Smalles, Treasurer, UBC Treasury  
 John Metras, Managing Director, Infrastructure Development  
 Debbie Harvie, Managing Director, University Community Services  
 Aubrey Kelly, President & CEO, UBC Properties Trust

**EXECUTIVE SUMMARY**

When the Board adopted the University Boulevard Neighbourhood Plan amendments and the Precinct Design Guidelines in 2015, they directed staff to report back on plans for the sub-area that includes the War Memorial Gym and Gateway sites (formerly known as the GSAB site). This report presents plans for the sub-area that reflect recommendations from the GamePlan process for a new recreation

## UPDATE ON UNIVERSITY BOULEVARD SUB-AREA PLAN AND MACINNES FIELD PARKING STRATEGY

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centre on the Gateway North site and a renewed or rebuilt War Memorial Gym. It also provides an update on the evolving concept for the Gateway South site to reflect the Board's direction in 2015 to create a bold architectural expression at the gateway to campus that will accommodate academic program as well as housing targeted to faculty and staff.

At the request of the Chair of the Property Committee, the report also recommends proceeding with detailed planning for a one-level parking facility under MacInnes Field, to address visitor parking demand for destinations such as the Aquatic Centre, Alumni Centre, AMS Nest, Book Store, and commercial sites along University Boulevard. Key to this recommendation is to address visitor need without oversupplying parking in the precinct, which would impact pedestrians, cyclists and transit within the U Boulevard area and compromise UBC's very successful Transportation Plan goals to shift trips to transit, cycling and walking.

The recommendation for a one-level facility is the result of a feasibility analysis that evaluated a range of options for meeting the stated parking demand in the precinct against a number of objectives, including policy alignment, neighbourhood fit, and business case viability.

Based on the feasibility analysis, construction of a one-level parkade is recommended for the following reasons:

- Sufficient visitor parking would be supplied in the precinct with a one-level structure, strengthening gateway role and viability of a diversity of local businesses and UBC facilities.
- Central/consolidated nature of visitor parking may improve legibility and UBC's relationship to broader community.
- Estimated capital cost of \$12.4M compared to \$18.9M a two-level and \$26.6M three-level option.
- Estimated net revenue, after operating and debt service costs, of (\$0.6M) at low-demand projections to \$1.8M at high-demand.
- Loan payback period from 9 years for high-demand projections to 21 years for moderate demand. The two- and three-level options only generate enough revenue to pay back higher capital costs under high-demand scenarios that would not meet UBC's other transportation objectives (payback periods of 14 and 22 years, respectively).
- **Cost-effectively addresses the core problem without undermining broader mode share objectives and transportation demand management strategies.**

Subject to Board approval, staff will undertake more detailed work on access locations, layout and integration of the one-level parkade with other precinct projects, and return to Board with Board 1 approval submission in June 2017.

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### INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED

✓ Learning

✓ Research

Innovation

✓ Engagement  
(Internal / External)

International

or ✓ Operational

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**DESCRIPTION Gateway / War Memorial Gym Sub-Area Plan**

**& RATIONALE** The University Boulevard Precinct Design Guidelines and Neighbourhood Plan establish the precinct vision of “supporting the academic experience by creating a vibrant academic and social hub, contributing to UBC’s complete community as a mixed-use core and serving as a welcoming ‘front door’ for the University.”

Implementation of this vision has continued through various redevelopment and infrastructure projects over the past decade including the new AMS Nest, Alumni Centre, Aquatic Centre, University rental housing along University Boulevard (Central and Focus), the new UBC Bus Exchange and Exchange Student Residences, and future housing targeted to faculty and staff. Most of these projects have been completed or are planned for completion by the end of 2019.

Sites remaining to complete the precinct vision include MacInnes Field, D.H. Copp mixed-use faculty-staff rental housing, the Gateway North and South (formerly GSAB) sites and War Memorial Gym, each of which plays an important role in the precinct.

Gateway North

The original concept presented in the University Boulevard Precinct Design Guidelines for the Gateway North site envisioned approximately 85,000 SF of faculty-staff housing in a five-storey wood-frame building over a one-storey concrete ground floor of academic space.

The evolving concept for the Gateway North site responds to a number of needs and opportunities identified through UBC GamePlan: 20-Year Athletics and Recreation Facility Strategy (presented under a separate report cover). With regard to GamePlan, the Board directed staff to undertake more detailed technical and financial analysis on a combined recreation and varsity facility extending over the War Memorial Gym site and the ‘Gateway North’ site. As a result, the final concept includes a connected and integrated project across the two sites that could be implemented either as a single project, or in two phases, dependent upon funding.

The proposed program for the Gateway North building is three gymnasium courts, 45,000 SF of fitness space, and approx. 10,000 SF of office and support space. Additionally, approximately 85,000 SF of academic space (e.g. Kinesiology) could be accommodated either on the Gateway North site, or in a rebuilt War Memorial Gym.

Gateway South

The future development of this site responds to a number of inter-related needs: achieving a bold architectural expression at the corner of University Boulevard and Wesbrook Mall; provide a mix of academic uses and housing targeted for faculty and staff; and ensure that the site be developable in two phases so that access can be provided to for future War Memorial Gym construction.

The program could include:

- Up to 90,000 SF of academic uses in a five- to six-storey building (to match the height of the David Strangway Building) across the east and north part of the site

with a strong academic street edge onto Wesbrook Mall. This includes 75,000 SF of core academic space with up to 15,000 SF of tiered classroom space to meet a variety of program needs.

- Between 60,000 SF and 85,000 SF of mid-rise residential development, targeted to faculty-staff housing, on the southwest portion of the site, with the potential to rise to a 10-storey tower at the northwest portion. The overall site density would optimize residential development given its proximity to transit.
- Provision would be made for ground floor commercial space along the University Boulevard elevation to activate the street frontage.

The above planning concept is based on preliminary program, urban design and economic analysis conducted by staff, with the aim of balancing the various needs of the precinct. Attachment A provides a visual imagery of the evolving concept for the precinct to support the GamePlan Strategy.

Additional key considerations for implementation of the proposed concept include:

- Concrete (steel or mass timber) construction is necessary for the Gateway South site to achieve a bold architectural expression at the gateway corner. Concrete allows for a more dynamic building massing, higher floor to ceiling heights, double-storey spaces, greater building height and large areas of glazing than with wood-frame construction.
- Institutional quality architecture detailing (glazing, finishes, material, graphics, etc.) is necessary for creating the dignified, inspiring gateway expression sought.
- Financial options need to be developed to address the premium that is associated with the bolder architectural expression at the gateway and takes advantage of the eventual arrival of rapid transit.
- The Gateway South site is a significant, prominent site and therefore well suited for pursuing donor funding.
- Tower development needs to be approached with care. As the prevailing height of the immediate area is mid-rise institutional, any tower element should be set back from the street edge and shaped to minimize visual impact. Additionally, tower design needs to optimize residential liveability through appropriate orientation and distance to surrounding academic uses.

### Land Use Plan Implications

UBC's Land Use Plan designates the majority of the Gateway South site Academic. The provision of rental housing on the Gateway South site would be subject to amendments to the University Boulevard Neighbourhood Plan and UBC Land Use Plan, both of which require extensive public consultation and approvals that could take up to 18 months. Land Use Plan amendments could likely be incorporated with potential Land Use Plan amendments related to the future Stadium Neighbourhood Plan (as outlined in the GamePlan Strategy, summarized under a separate report cover). Staff

will report back to the Board with a detailed planning process encompassing all of these elements, in September 2017.

### **MacInnes Field Parkade Feasibility Study & Precinct Parking Review**

In response to evolving visitor parking and access demands within the University Boulevard precinct, a review of parking and access requirements by Bunt & Associates Engineering Ltd was undertaken in January 2017, which included a series of stakeholder interviews and intercept surveys at various facilities and demand analysis based on available data and industry standards. The review identified a significant gap in the supply of proximate, short-term visitor parking for convenient access to the multitude of community-facing UBC facilities and commercial businesses planned for the precinct. This lack of nearby short-term parking has potential implications on operational and financial viability of both UBC and non-UBC facilities in the area.

The scope of this review was focused on precinct-specific parking and access needs, however a number of broader issues related to the supply and management of parking on campus were raised at the working group. These issues include the need for proximity parking near new buildings, access for service vehicles and space for pick-up and drop off around new facilities. Campus and Community Planning will continue to work with Parking and Access Services to address these issues and explore the need for an integrated campus-wide parking strategy.

### Policy Context

UBC is dedicated to promoting sustainable transportation options for the university community. The Board-approved 2014 Transportation Plan includes the following important targets to ensure accountability, shape decision making and inspire the community to act in ways to achieve UBC's campus vision as articulated in the UBC's Land Use Plan and Campus Plan:

- by 2040 at least two-thirds of all trips to/from UBC will be made by walking, cycling or transit;
- maintain at least 50% of all trips to/from the campus on public transit;
- reduce single occupant vehicle (SOV) travel by 20% from 1996 levels;
- maintain at least 30% reduction from 1997 levels in daily SOV trips per person to/from UBC; and
- maintain daily private automobile traffic at or less than 1997 levels.

Parking availability and pricing for daily trips are the biggest influences on driving mode share. UBC has a relatively constrained parking supply that will decrease in coming years as surface parking lots continue to be converted to new academic and housing facilities, as described in the Vancouver Campus Plan. Campus parking prices will continue to be used to influence parking demand. This will make alternative modes of transportation such as transit more cost-effective and attractive, helping to reduce driving to and from UBC on a daily basis.

Precinct Parking and Access Demand

The demand review was informed by information interviews with operators and intercept surveys of users from a number of facilities within the precinct, including Alumni Centre, AMS Nest, War Memorial Gym, Aquatic Centre, and UBC Bookstore. Estimated visitor parking needs for these facilities were informed by observed vehicle occupancy rates and mode shares from the UBC Vancouver Transportation Status Report. Industry standards were also applied towards estimates of commercial parking demand associated with current and planned mixed-use buildings in the precinct.<sup>1</sup>

The review concluded that a deficiency is anticipated in the supply of proximate, short-term public/visitor parking for convenient access to community-facing UBC facilities and commercial premises in the University Boulevard Precinct. On-street and at-grade parking within the precinct is inadequate to meet the combined needs of these facilities, threatening their viability and undermining the precinct’s vision as a vibrant, complete community that serves as the gateway to campus. Space for up to an additional 175 public/visitor vehicles is expected to be required upon full build-out of the precinct, during periods of peak visitor demand (evenings).

Table 1 illustrates the results of this review and recommended supply of short-term public/visitor parking.

**Table 1 – Summary of Precinct Short-term Parking Demand Analysis**

Use	Midday Peak Parking Demand (# of spaces)	Evening Peak Parking Demand (# of spaces)
Total Precinct Demand <sup>2</sup>	208	236
Existing Available Parking Supply	38	61
<b>Recommended Additional Precinct Supply</b>	<b>170</b>	<b>175</b>

Evaluation Criteria

Evaluation criteria were developed based on a set of agreed objectives (see Attachment B for Evaluation Criteria). Options for meeting the projected demand were assessed against each criterion on a qualitative basis based on quantitative metrics where available (e.g. high-level cost estimates). The results of this evaluation are summarized in the following section.

<sup>1</sup> Industry standards applied are based primarily on data from suburban development contexts and that research suggests that parking requirements within an urban context.

<sup>2</sup> Figure includes a +15% uplift, which is typically applied for high turnover “transient” parking, to allow for drivers to find a stall without excessive search time.

### Options Development

The following options were evaluated against the evaluation criteria.

1. **Optimize Existing Parking Supply** using existing and planned parking infrastructure and parking management practices to respond to changing demands (i.e., through dynamic pricing and methods to redistribute users of existing parking facilities and maximize utility of available on-street and structured parking).
2. **Leverage New Development(s)** by including additional short-term public/visitor parking within supplied development-specific parking (i.e., Gateway South, D.H. Copp, future recreation / varsity facilities).
3. **Reallocate Public Space** by identifying spaces adjacent to key facilities to be repurposed as managed, short-term public/visitor parking.
4. **Construct One-Level MacInnes Field Parkade** of up to 220 consolidated, highly accessible short-term public/visitor parking in close proximity to the various UBC facilities and commercial entities in the precinct.
5. **Construct Two-Level MacInnes Field Parkade** of up to 420 consolidated, highly accessible short-term public/visitor parking in close proximity to the various UBC facilities and commercial entities in the precinct.
6. **Construct Three(+)-Level MacInnes Field Parkade** of between 600 - 1000 consolidated, highly accessible short-term public/visitor parking in close proximity to the various UBC facilities and commercial entities in the precinct.
7. **Add Capacity to Existing Parkade(s)** within walking distance of the precinct (e.g. North Parkade and/or Health Sciences Parkade) by constructing up to 3 additional levels on top. This approach could add anywhere from 200 to 1200 spots within a 400m radius of the precinct.

### Evaluation Results

Based on the evaluation, construction of a one-level parkade performed best against the criteria for the following reasons:

- Sufficient visitor parking is supplied in the precinct with a one-level structure, strengthening gateway role and viability of a diversity of local businesses and UBC facilities.
- Central/consolidated nature of visitor parking may improve legibility and UBC's relationship to broader community.
- Estimated capital cost of \$12.4M compared to \$18.9M a two-level and \$26.6M three-level option.
- Estimated net revenue, after operating and debt service costs, of (\$0.6M) at low-demand projections to \$0.8M at high-demand. Because a one-level facility meets the demand for visitor parking, revenue estimates for two- and three-level options are comparable.

List of Attachments

Attachment A: University Boulevard Sub-area Plan – Design Concept and Principles

Attachment B: MacInnes Field Parkade Options Evaluation Criteria and Summary

Attachment C: MacInnes Field Parkade Preliminary Access / Egress Options

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**BENEFITS**  
Learning,  
Research,  
Financial,  
Sustainability &  
Reputational

**Gateway / War Memorial Gym Sub-Area Plan**

The proposed concepts for the Gateway / War Memorial Gym sites support the objectives for the University Boulevard Precinct to:

- Serve a welcoming, academic gateway;
- Create a vibrant academic and social hub; and
- Contribute to UBC’s complete community as a mixed-use core.

The consolidation of recreation, varsity and athletic uses in the campus core will benefit students, faculty, staff and visitors to campus with facilities focused on health, wellness, sport and recreation, in close proximity to other student services and transit.

**MacInnes Field Parkade**

The provision of one level of parking under MacInnes Field will support the need for accessible, short term visitor parking within the campus core without compromising UBC’s Transportation Plan and demand management policies. By limiting the facility to one level it will also minimize impacts on the pedestrians, cyclists, and transit along University Boulevard.

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**RISKS**  
Financial,  
Operational &  
Reputational

**Gateway / War Memorial Gym Sub-Area Plan**

If implementation of the Gateway North site occurs as a first phase of development, future construction of War Memorial Gym requires the northwestern portion of the Gateway South site to be undeveloped to allow sufficient access and staging space during construction. This would risk a delay to the construction of rental housing until War Memorial Gym construction is complete.

Another risk that has been previously acknowledged is the requirement to undertake a Land Use Plan amendment to permit rental housing on the Gateway South site (currently designated Academic in the Land Use Plan). There is a risk that the campus community does not support this change. This risk is manageable given that housing has long been included in the vision for the University Boulevard area, and the provision of a critical mass rental housing close to transit, commercial services and the academic core supports the University’s goal of creating a complete, sustainable community.

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**MacInnes Field Parkade**

Delivery of previously approved projects (New MacInnes Field, Focal rental building) could be delayed by construction of a one-level parkade. This risk will be mitigated by coordinating planning, design and feasibility analysis with parallel projects to ensure timely delivery of all projects.

Increasing parking supply risks compromising UBC’s successful Transportation Plan and demand management policies and impacting pedestrian and cyclist comfort and safety in the campus core. This risk is being managed through the strategic supply of one level of parking to meet the specific needs of visitors and users of central campus amenities. As discussed in this report, the provision of more than one level of parking significantly increases this risk by creating an oversupply of parking that impacts pedestrians and cyclists and reduces the financial viability of the capital investment.

**COSTS**  
Capital &  
Lifecycle  
Operating

**Gateway / War Memorial Gym Sub-area Plan**

Capital and operating costs for future projects will be presented to the Board as part of the approval submissions for those projects.

**MacInnes Field Parkade**

Capital Cost

Table 2 shows UBC Properties Trust’s preliminary (Class D) project cost estimates for the one-, two- and three-level parkade options. Further design development (including vehicular access, bike access & storage, vertical circulation, potential integration with residential parking for future rental buildings – Focal and Central) will be undertaken at the next stage to refine cost implications.

**Table 2 – MacInnes Field Parkade Capital Cost Estimates<sup>3</sup>**

Cost Element	1-Level Parkade (210 stalls)	2-Level Parkade (390 stalls)	3-Level Parkade (605 stalls)
<b>Estimated Capital Cost:</b>	<b>\$12.4M</b>	<b>\$18.9M</b>	<b>\$26.6M</b>

Operating Cost & Revenues

Operating cost estimates for the parkade options were developed based on input from UBC Parking Services and advice from Bunt & Associates. Operating cost estimates reflect building maintenance, lighting and electricity, heating and ventilation, parking management, security, etc.

As Table 3 shows, applying a range of usage and rate assumptions, combined with the strategic supply of parking to match the precinct’s specific demands, there is limited financial benefit to building more than one level of parking.

<sup>3</sup> Costs includes all construction-related costs, and escalation contingencies totalling 15%. The estimate excludes demolition and site preparation costs, and construction costs associated with MacInnes Field itself.

**Table 3 – MacInnes Field Parkade Operating Cost / Revenue Estimates**

Cost Element		1-Level Parkade (210 stalls)	2-Level Parkade (390 stalls)	3-Level Parkade (605 stalls)
Annual Operating Cost		\$0.04M	\$0.06M	\$0.08M
Annual Debt Servicing		\$0.97M	\$1.48M	\$2.08M
SUBTOTAL: Annual Costs		\$1.01M	\$1.53M	\$2.16M
SUBTOTAL: Projected Annual Revenue*		\$0.4M-\$1.8M	\$0.4M-\$1.95M	\$0.4M-\$1.95M
<b>ANNUAL TOTAL</b>		<b>(\$0.61M)-\$0.79M</b>	<b>(\$1.13M)-\$0.42M</b>	<b>(\$1.76M)-(\$0.21M)</b>
Cash Flow Positive Year* (by demand scenario)	Low	-	-	-
	Med	6	-	-
	High	1	1	8^
Payback Year* (by demand scenario)	Low	-	-	-
	Med	21	-	-
	High	9	14	22^

*\*Note: Projected revenue reflects Year 1. Revenue, cash flow positive timing, and payback period are a range based on different scenarios of parking demand, utilization, and parking rates.*

**FINANCIAL Gateway / War Memorial Gym Sub-Area Plan**

Funding Sources, Impact on Liquidity

Funding for individual projects will be determined on a project basis and presented to the Board as part of project approval submissions.

Financing for the rental housing portion of the Gateway South site and associated ground-level retail components will be secured externally by UBC Properties Trust with debt service funded through rental revenue. UBCPT will own and operate this mixed use rental housing development.

**MacInnes Field Parkade**

The MacInnes Field parkade could be funded by an internal UBC loan and, potentially, an equity contribution from UBC Properties Trust. The range of projected revenue would pay off a \$12.4M internal loan in 9 to 21 years, depending on demand. After paying off the loan, UBC could receive excess revenue as part of Parking Services annual dividend. UBC has sufficient liquidity to accommodate the full loan over this period.

A UBCPT equity contribution would lower the required loan and shorten the payback period. An equity contribution would reflect the parkade’s benefits for University Boulevard commercial tenants. Further exploration with UBCPT is required on this concept.

The Board of Governors has approved using UBC’s Infrastructure Impact Charges (IICs) to fund the completed Aquatic Centre demolition and the completed MacInnes

## UPDATE ON UNIVERSITY BOULEVARD SUB-AREA PLAN AND MACINNES FIELD PARKING STRATEGY

Field on top of the parkade. IICs are charges collected from campus residential development to pay for campus-wide infrastructure and services.

Staff will confirm projected capital costs and revenues for the parkade, along with funding sources, as part of the Board 1 Approval submission.

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<b>SCHEDULE</b>	<b>Gateway / War Memorial Gym Sub-area Plan</b>
Implementation	Implementation of the Gateway / War Memorial Gym Sub-Area Plan is subject to GamePlan approval and in accordance with the standard Board capital approval process.
Timeline	Implementation of the Gateway South site is subject to capital funding approval per standard Board approval processes, however, as stated in this report, development of the northwest portion of the site must be left unencumbered until completion of the War Memorial Gym renewal or rebuild.
	<b>MacInnes Field Parkade</b>
	The implementation timeline for delivery of a MacInnes Field Parkade is as follows:
	<ul style="list-style-type: none"><li>▪ Board 1 Approval (June 2017)</li><li>▪ Detailed Design &amp; Development Permit (Fall 2017)</li><li>▪ Project Delivery &amp; Construction (Spring 2018 to Fall 2019)</li></ul>

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<b>CONSULTATION</b>	<b>Gateway / War Memorial Gym Sub-area plan</b>
Relevant Units, Internal & External Constituencies	Development of the Sub-area plan occurred in parallel with the GamePlan process (covered under a separate report).
	<b>MacInnes Field Parkade</b>
	The MacInnes Field Parkade Feasibility Study was advanced by an interdepartmental working group overseen by the University Boulevard Steering Committee. The working group included representation from:
	<ul style="list-style-type: none"><li>• Campus &amp; Community Planning</li><li>• Infrastructure Development</li><li>• Parking &amp; Access Services</li><li>• Treasury</li><li>• Athletics &amp; Recreation</li><li>• Student Housing &amp; Hospitality Services</li><li>• UBC Properties Trust</li></ul>
	The project would be developed by Properties Trust and Infrastructure Development through established project-delivery processes, including engagement with relevant internal and external stakeholders.

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<b>UBCPT COMMENTS</b>	Date of Review: <b>March 29, 2017</b>	Signed off by: <b>Aubrey Kelly, President &amp; CEO</b>
Complete for all reports that include a property component	UBCPT endorses and supports the recommendation for MacInnes Field underground parking outlined in this report. We would favour a fast-track design process to expedite the start of construction.	

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## UPDATE ON UNIVERSITY BOULEVARD SUB-AREA PLAN AND MACINNES FIELD PARKING STRATEGY

**Previous Report Date** June 9, 2015

**Decision**

- Approve in principle the planning concept for the North and South GSAB sites [now referred to as Gateway sites], as referenced in the University Boulevard Design Guidelines, and direct staff to report back on the future planning process for this sub-area including War Memorial Gym, and further exploration of cost neutral development options for [Gateway] South that create a bold architectural expression at the campus gateway.

**Action / Follow Up**

# University Boulevard Sub-area Plan Update and MacInnes Field Parkade Feasibility Study

## ATTACHMENT A: University Boulevard Sub-area Plan – Design Concept and Principles

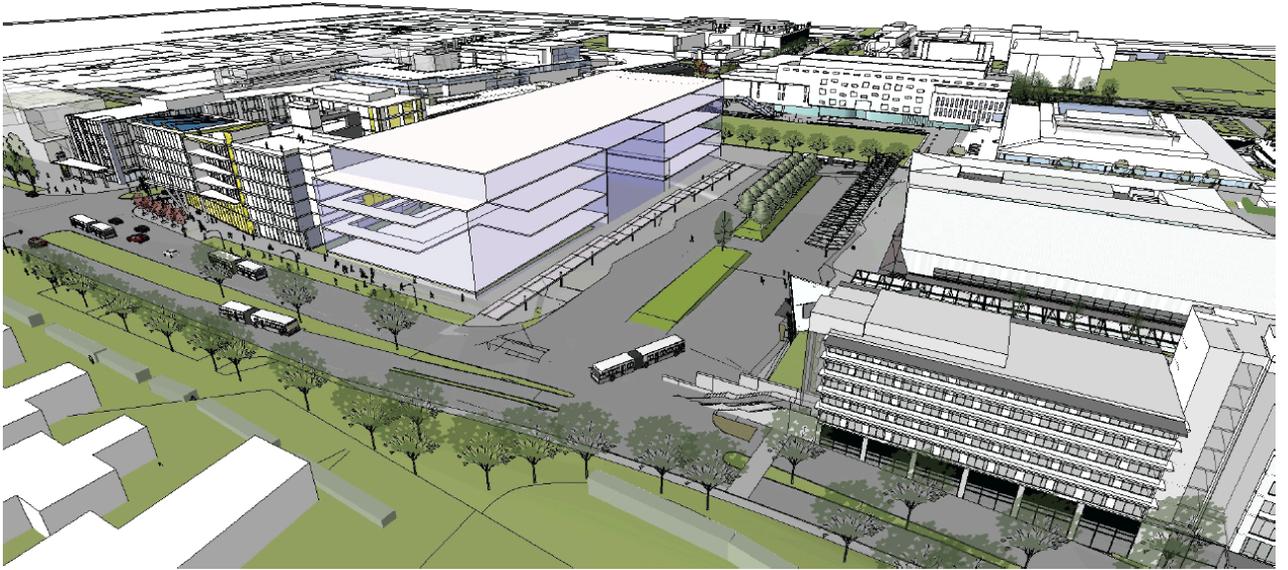
### DESIGN CONCEPT



*Gateway South and Gateway North sites in the foreground with renewed War Memorial Gym behind*



*Proposed Recreation Fitness Centre with War Memorial Renewal*



*Proposed Recreation Fitness Centre with rebuilt War Memorial Gym*

## **GATEWAY SOUTH DESIGN PRINCIPLES**

### **1. District Compatibility**

Continue the established design continuity and strong street wall along both sides of University Boulevard through building scale, massing modulation, and façade detailing that reflects the residential qualities of the Central and Focal rental buildings along University Boulevard.

Develop design compatibility between Gateway North and South, creating an architectural presence on Wesbrook Mall that is bolder than the finer scale expressed on University Boulevard.

### **2. University Gateway**

Complete the University Boulevard gateway established by the Strangway building with a complementary massing and unique expression. Emphasize the stature and dignity of the site with a pronounced corner massing.

### **3. Visible Academic Expression**

Focus the academic program elements at the gateway corner and along Wesbrook Mall, and showcase academic activity within through transparency and connection to the public realm.

## **University Boulevard Sub-area Plan Update and MacInnes Field Parkade Feasibility Study**

### **4. Phased and Flexible Program**

Enable phasing of the building with the first phase being academic and the second phase adding the residential program. Utilize building massing and modulation to express the differences in interior program with the final build-out reading as a single structure.

### **5. Environmental Considerations**

Create a responsive design to improve both the natural and human environments through:

- Maximizing solar access for residential units by orienting them east or west facing and configure building heights to limit shading.
- Attenuating street noise for residential units by locating them away from the activity of the University Boulevard/Wesbrook Mall intersection.
- Providing the opportunity for green roofs that mitigate storm water runoff and create additional outdoor space for building occupants.
- Emphasizing adjacency to public transit and walkability within the district and the greater campus area to reduce reliance on private vehicle use.

## University Boulevard Sub-Area Plan Update and MacInnes Field Parkade Feasibility Study

### ATTACHMENT B: MacInnes Field Parkade Options Evaluation Criteria and Summary

#### Evaluation Criteria

Objective	Criteria
The strategy aligns with <b>UBC-wide objectives and policies</b> (e.g. Strategic Plan, Land Use Plan, Vancouver Campus Plan, Transportation Plan and TDM Strategy.)	Effects on <b>UBC's ability to engage</b> with students, faculty, staff, alumni and the wider community
	Effects on <b>sustainable travel mode share</b> to/from campus
	Effects on <b>private auto traffic</b> on campus
	Effects on role and function of <b>UBC Bus Exchange, Trolley Loop and future rapid transit</b>
The strategy aligns with <b>University Blvd Precinct Design Guidelines and Neighbourhood Plan</b>	Effects on the precinct's role as a <b>university gateway</b>
	Effects on the <b>vibrancy</b> of the precinct as an academic and social hub of campus
	Effects on the <b>completeness</b> of the precinct community
	Effects on <b>pedestrian and cyclist circulation</b> , including transit users
	Effects on <b>design and programming opportunities at UBC facilities and services</b> in/near the precinct (e.g. Athletics & Rec, MacInnes Field, etc.)
The strategy addresses near-term <b>parking and access needs</b> while enabling adaptation to changing needs over time	Effects on <b>parking supply</b>
	Effects on <b>access and convenience</b>
	<b>Adaptability</b> to future needs/trends
The strategy is <b>cost-effective</b> and makes best use of available resources	Associated <b>capital cost</b>
	Associated <b>operating costs</b> (net of revenue)
	Effects on UBC's ability to <b>cost-effectively make use of our land and infrastructure</b>

#### Evaluation Summary

The following table summarizes key benefits and tradeoffs differentiating each of the alternatives, as well as their overall relative performance in the evaluation (measured against a status quo scenario).

	Objective	Score
<b>1: Optimize Existing Parking Supply</b>		
<ul style="list-style-type: none"> <li>Would not provide adequate immediately proximate parking for visitors and users of nearby UBC facilities and commercial premises</li> </ul>	UBC Strategic Objectives	-2
	Precinct Objectives	-4
	Parking and Access Needs	+2
	Cost-Effectiveness	0
	<b>Overall</b>	<b>-4</b>

## University Boulevard Sub-area Plan Update and MacInnes Field Parkade Feasibility Study

2: Leverage New Development(s)		
<ul style="list-style-type: none"> <li>Potential for adequate supply, strengthening viability of local businesses and facilities</li> <li>Distributed nature of visitor parking increases complexity of parking operations, increases potential conflicts with pedestrian/cyclist/ transit movements, and limits perceptions of precinct as gateway.</li> <li>Limits potential for alternative design/programming and use of below-grade space within new developments</li> </ul>	UBC Strategic Objectives	-3
	Precinct Objectives	+1
	Parking and Access Needs	+4
	Cost-Effectiveness	-1
	<b>Overall</b>	<b>+1</b>
3: Reallocate Public Space		
<ul style="list-style-type: none"> <li>Would not provide adequate immediately proximate parking for visitors and users of nearby UBC facilities and commercial premises</li> <li>Would reduce at-grade space available for a diversity of uses, including walking and cycling, landscaping and public realm improvements</li> </ul>	UBC Strategic Objectives	-2
	Precinct Objectives	-9
	Parking and Access Needs	+3
	Cost-Effectiveness	0
	<b>Overall</b>	<b>-8</b>
4: Construct One-Level MacInnes Field Parkade		
<ul style="list-style-type: none"> <li>Sufficient visitor parking is supplied in the precinct, strengthening gateway role and viability of a diversity of local businesses and UBC facilities</li> <li>Central/consolidated nature of visitor parking may improve legibility and UBC's relationship to broader community</li> <li>Estimated capital cost of \$10.9M and incremental annual revenue of \$360,000–\$1,800,000/yr (minimum payback period of 8 years)</li> <li><b>Cost-effectively addresses the core problem without undermining broader mode share objectives and TDM strategies</b></li> </ul>	UBC Strategic Objectives	0
	Precinct Objectives	+9
	Parking and Access Needs	+7
	Cost-Effectiveness	0
	<b>Overall</b>	<b>+16</b>
5: Construct Two-Level MacInnes Field Parkade		
<ul style="list-style-type: none"> <li>Sufficient visitor parking is supplied in the precinct, as well as some longer term commuter parking, strengthening gateway role and viability of a diversity of local businesses and UBC facilities</li> <li>Central/consolidated nature of visitor parking may improve legibility and UBC's relationship to broader community</li> <li>Central/consolidated visitor and commuter parking for the wider campus may strengthen precincts role as social hub</li> <li>Estimated capital cost of \$17.7M and incremental revenue of \$340,000–\$1,900,000/yr (minimum payback period of 12 years)</li> <li><b>Risks undermining broader strategic objectives and TDM strategies through over-supply of parking</b></li> </ul>	UBC Strategic Objectives	-3
	Precinct Objectives	+10
	Parking and Access Needs	+7
	Cost-Effectiveness	-2
	<b>Overall</b>	<b>+13</b>

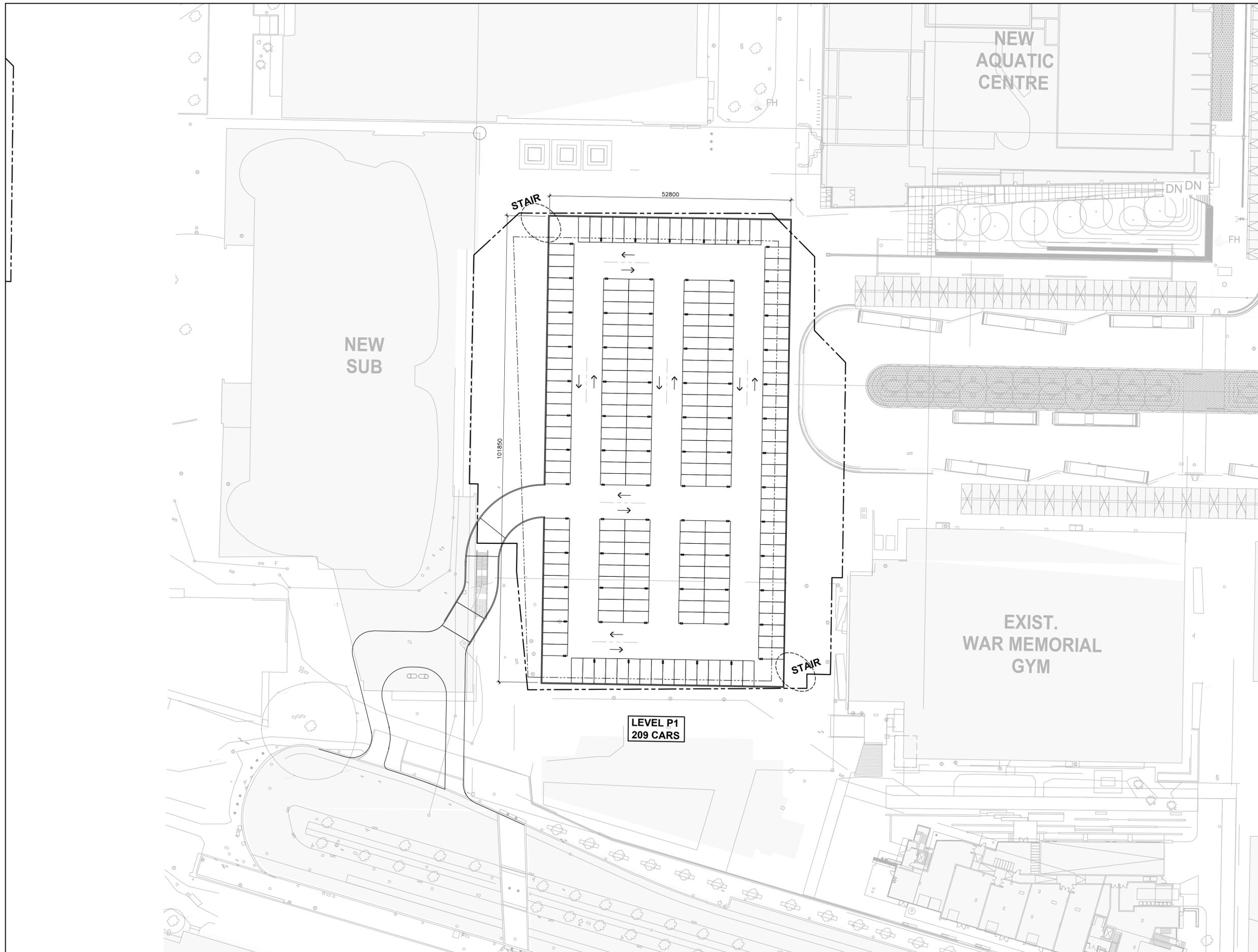
**University Boulevard Sub-area Plan Update and MacInnes Field Parkade Feasibility Study**

<b>6: Construct Three(+)-Level MacInnes Field Parkade</b>		
<ul style="list-style-type: none"> <li>Sufficient visitor parking is supplied in the precinct, as well as some longer term commuter parking, strengthening gateway role and viability of a diversity of local businesses and UBC facilities</li> <li>Central/consolidated nature of visitor parking may improve legibility and UBC's relationship to broader community</li> <li>Central/consolidated visitor and commuter parking for the wider campus may strengthen precincts role as social hub</li> <li>Estimated capital cost of \$22.5+M and incremental revenue of \$320,000–\$1,900,000/yr (minimum payback period of 17 years)</li> <li><b>Significant risk of undermining broader strategic objectives and TDM strategies through over-supply of parking</b></li> </ul>	UBC Strategic Objectives	-5
	Precinct Objectives	+10
	Parking and Access Needs	+7
	Cost-Effectiveness	-2
	<b>Overall</b>	<b>+10</b>
<b>7: Add Capacity to Existing Parkade(s)</b>		
<ul style="list-style-type: none"> <li>Would not provide adequate immediately proximate parking for visitors, users of nearby UBC facilities and commercial customers</li> </ul>	UBC Strategic Objectives	-5
	Precinct Objectives	-4
	Parking and Access Needs	+1
	Cost-Effectiveness	0
	<b>Overall</b>	<b>-8</b>



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fax 604-738-1107



No.	Revision	Date	By

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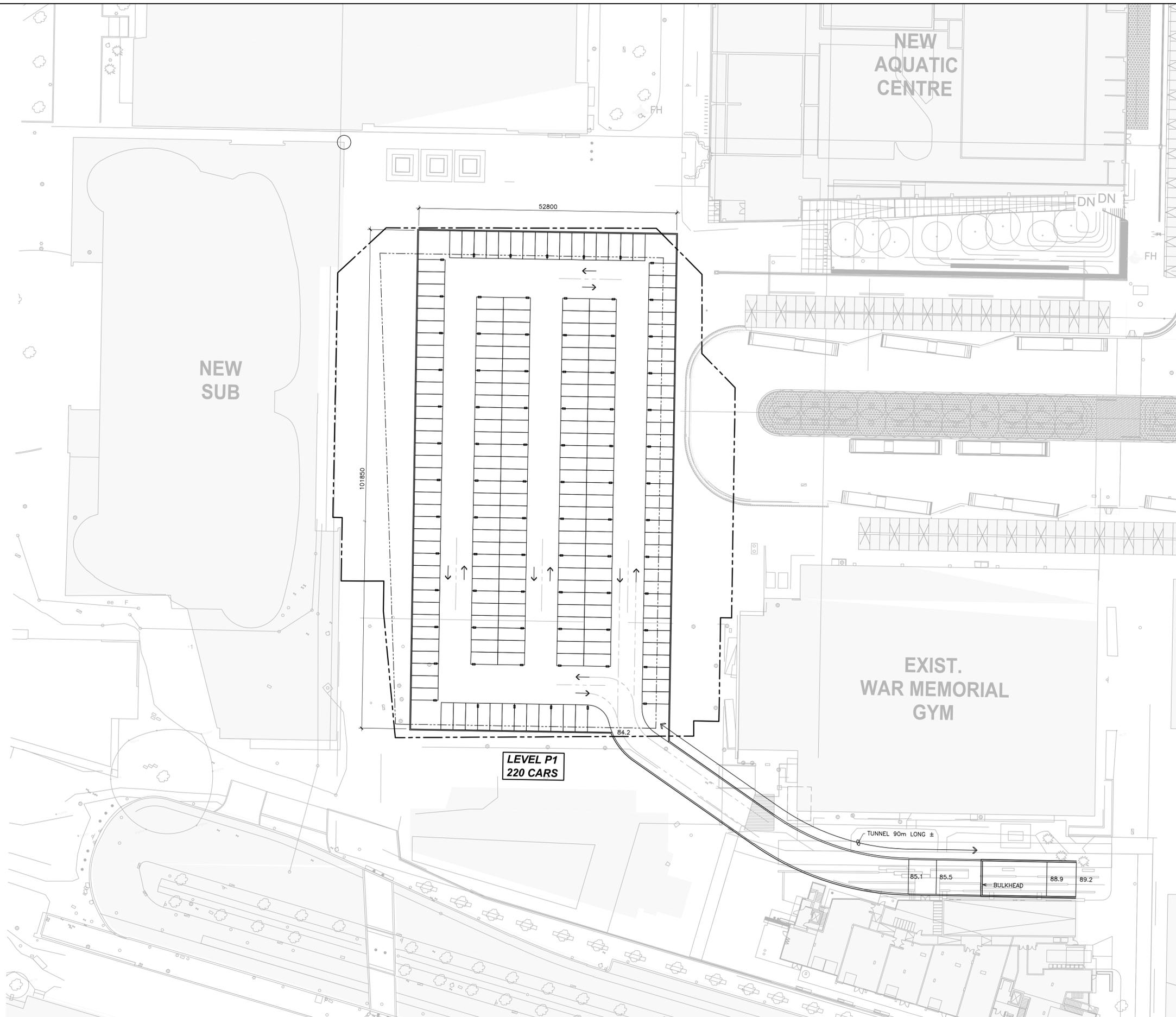
Seal

Project Name  
**UBC MacINNES FIELD UNDERGROUND PARKING FEASIBILITY STUDY**

Sheet Title  
**1 LEVEL  
209 CARS TOTAL**

Drawn By **BE** Scale  
Designed By **BE** Date **FEB. 2017**  
RJC Project Number **VAN.039779.0004**

Sheet Number **SW2-1** Revision



No.	Revision	Date	By

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Seal

Project Name

**UBC MacINNES FIELD  
UNDERGROUND PARKING  
FEASIBILITY STUDY**

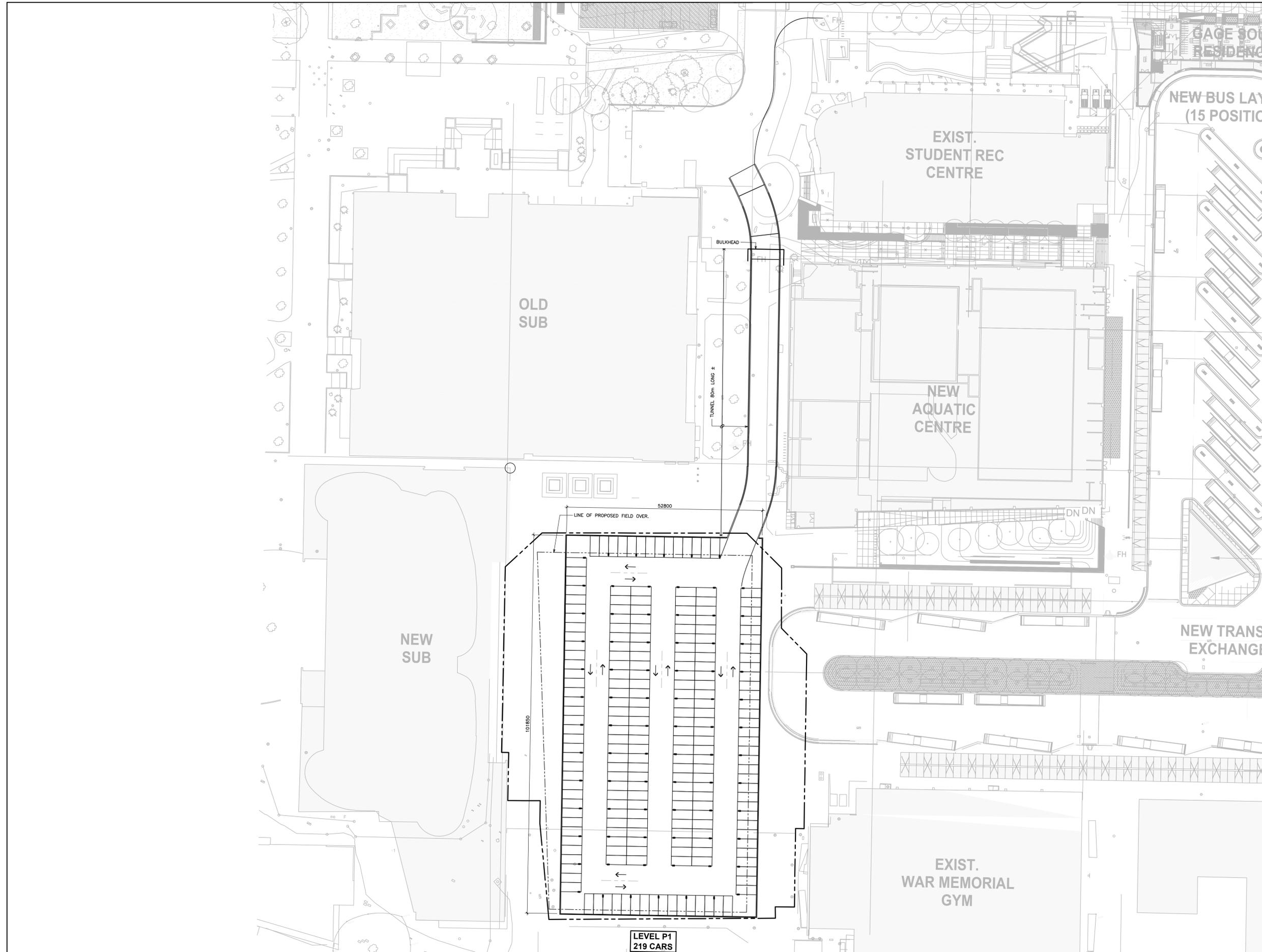
Sheet Title

**1 LEVEL  
220 CARS TOTAL**

Drawn By **BE** Scale  
Designed By **BE** Date **FEB. 2017**  
RJC Project Number **VAN.039779.0004**

Sheet Number Revision

**SE1-1**



No.	Revision	Date	By

**Drawing Notes**

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Seal

Project Name

**UBC MacINNES FIELD  
UNDERGROUND PARKING  
FEASIBILITY STUDY**

Sheet Title

**SITE**

Drawn By **BE** Scale  
Designed By **BE** Date **FEB. 2017**  
RJC Project Number **VAN.039779.0004**

Sheet Number Revision

**NE1**