



<b>SUBJECT</b>	<b>MACINNES FIELD UNDERGROUND PARKADE</b>
<b>MEETING DATE</b>	<b>SEPTEMBER 21, 2017</b>

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

**APPROVED FOR  
SUBMISSION**

Santa J. Ono, President and Vice-Chancellor

<b>DECISION REQUESTED</b>	<p><b>IT IS HEREBY REQUESTED that the UBC Board of Governors grant:</b></p> <p><i>i. BOARD 2 and BOARD 3 approval for the MacInnes Field Underground Parkade project with a funding release of \$11,935,000 to complete design and undertake and complete construction.</i></p> <p><i>ii. Approval for an internal loan from UBC Treasury of up to \$12,435,000 at 5.75% annual interest paid back over 25 years from parking revenue.</i></p> <table> <tr> <td>Capital Budget</td><td>\$12,435,000</td></tr> <tr> <td>Operating Budget</td><td>\$84,800</td></tr> <tr> <td>Program</td><td></td></tr> <tr> <td>Schedule</td><td></td></tr> <tr> <td>Complete working drawings and tender documents</td><td></td></tr> <tr> <td>Award construction contracts</td><td></td></tr> <tr> <td><b>Funding Release</b></td><td><b>\$11,935,000</b></td></tr> <tr> <td><b>Information</b></td><td></td></tr> <tr> <td>Expenses to date</td><td><b>75,000</b></td></tr> <tr> <td>Funding released to date</td><td><b>\$500,000</b></td></tr> </table>	Capital Budget	\$12,435,000	Operating Budget	\$84,800	Program		Schedule		Complete working drawings and tender documents		Award construction contracts		<b>Funding Release</b>	<b>\$11,935,000</b>	<b>Information</b>		Expenses to date	<b>75,000</b>	Funding released to date	<b>\$500,000</b>
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<b>Report Date</b>	<b>August 23, 2017</b>
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**Presented By** Andrew Simpson, Vice-President Finance & Operations  
 Louise Cowin, Vice-President Students  
 Philip Steenkamp, Vice-President External Relations  
 Debbie Harvie, Managing Director, University Community Services  
 John Metras, Managing Director, Infrastructure Development  
 Peter Smailes, Treasurer  
 Michael White, Associate Vice-President Campus & Community Planning  
 Aubrey Kelly, President & CEO, UBC Properties Trust

## EXECUTIVE SUMMARY

The MacInnes Field Parkade is proposed as a one-level underground parking facility to be constructed beneath the planned new MacInnes Field in the University Boulevard precinct. The new parkade, which will be operated by UBC Parking & Access Control Services, will address visitor parking demand for destinations such as the Aquatic Centre, Alumni Centre, AMS Nest, Bookstore and commercial sites along University Boulevard. A recently completed parking study indicates that an additional 175 parking spaces are required to meet projected visitor demand in this area.

The schematic design for the new parkade includes a total of 216 visitor parking spaces of which up to 20 spaces will be allocated to meet the visitor parking requirements for the adjacent Focal (“Site D”) mixed-use rental housing project on University Boulevard which is being developed concurrently by UBC Properties Trust. Bicycle parking will be provided in adjacent facilities such as the UBC Life Building (Old SUB). This will be sufficient to meet projected demand. If necessary, additional bicycle parking can be provided in the parkade in the future by converting parking spaces. Elevator access to the parkade will be designed to facilitate future bicycle use.

The parkade has been sized to address visitor needs but not to create an oversupply of parking in the precinct that would affect UBC’s very successful Transportation Plan direction to shift trips to transit, cycling and walking. The vehicle access ramp to the parkade will be from University Boulevard just to the southeast of the AMS Nest. The ramp entrance will be oriented and designed to minimize pedestrian-vehicle conflicts.

The capital cost for the facility is estimated at \$12.4 million. This cost is unchanged from Board 1 and is proposed to be internally financed over 25 years with debt service paid by Parking & Access Control Services from parking revenue. The Focal rental housing project budget will contribute up to \$1.2 million for the target of 20 parking spaces to be attributed to that development. The funds will be provided based on actual cost per space times the number of spaces attributed. If necessary the number of spaces assigned to Focal will be reduced to stay within the \$1.2 million cap.

The proforma for the parkade project is forecast to be cash flow positive in Year 6 of operation assuming a medium demand scenario. The negative cash flow in the first five years of operation averages \$13,275/year and can be covered within the system-wide Parking & Access Control Services operating budget. Sufficient liquidity is available to finance the loan.

The MacInnes Field Parkade project is an emerging priority made possible by the recent demolition of the old Aquatic Centre. An immediate window of opportunity is available to develop the facility prior to the commencement of work on the new MacInnes Field and in conjunction with Focal mixed-use rental housing project. A combined Board 2 + 3 approval is sought at this time in order to allow excavation work to proceed on both the parkade and the rental housing project in September, ahead of the rainy season.

UBC Properties Trust will manage the design and construction of the project. The project architect is GBL. Board 1 approval was received in June 2017. A public open house for the project is scheduled for September 6, 2017. The results will be shared with the Board of Governors Property and Finance Committees on September 12. Upon receipt of Board 2+3 approval a Development Permit for the project will be issued by Campus & Community Planning. Project completion is targeted for December 2018.

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**INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED**
☐ Learning

☐ Research

☐ Innovation

☒ Engagement  
(Internal / External)

☐ International

 or ☒ Operational
 

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**DESCRIPTION & RATIONALE**
**Facility Need**

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 (BC) Ltd. was undertaken in January 2017. The review identified a significant gap in 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 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.

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>1</sup>	208	236
Existing Available Parking Supply	38	61
<b>Recommended Additional Precinct Supply</b>	<b>170</b>	<b>175</b>

### Options Development and Evaluation

A range of options to address the visitor parking requirement was assessed against a set of evaluation criteria. These criteria included: 1) alignment with UBC-wide objectives and policies, 2) alignment with University Boulevard precinct design guidelines and neighbourhood plan, 3) ability to meet near-term parking and access needs while enabling adaptation to changing needs over time, and 4) cost effectiveness and best use of available resources.

Options assessed included: 1) optimization of existing parking supply, 2) leverage of new building site developments, 3) re-allocation of public space, 4) adding capacity to an existing parkade, and 5) options for one, two and three level underground parking beneath the planned new MacInnes Field.

### Preferred Option

Based on the evaluation, construction of a one-level MacInnes Field 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.

<sup>1</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.

- Estimated net revenue, after operating and debt service costs, of (\$0.85M) at low-demand projections to \$1.8M at high-demand. Because a one-level facility meets the demand for visitor parking, revenue estimates for two- and three-level options are comparable.
- Loan payback period from 10 years for high-demand projections to 21 years for moderate demand. The two- and three-level options only generate enough revenue to payback 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 TDM strategies

Detailed results of the evaluation were provided to the Board in April 2017.

### **Final Functional Program**

The new MacInnes Field is being designed to:

- accommodate on one level approximately 216 vehicles during periods of peak visitor demand (evenings) including 20 spaces to meet visitor parking requirements for the planned Focal ("Site D") mixed-use rental housing project on University Boulevard;
- be accessed by vehicle ramp off University Boulevard adjacent to the AMS Nest;
- include facilities for potential parking of bikes, carshare vehicles and facilities operations/service vehicles should the demand arise in the future and this can be feasibly managed within the financing proforma for the parkade;
- enable future adaptation for alternative uses, such as academic/commercial uses, in the interest of long-term resiliency (*e.g.* level floorplate, adequate ceiling heights, etc.);
- allow potential future connection to the Focal underground parking with a knock out panel on the north side of the Focal parkade;
- avoid conflicts with existing and planned transit infrastructure, including the new UBC Bus Exchange, Trolley Loop on University Boulevard, and future Rapid Transit.

A number of alternative access arrangements (off University Boulevard at the Nest; off Student Union Boulevard under Athlete's walk; and between Central and War Memorial Gym, off University Boulevard) were assessed to confirm feasibility and inform the original cost estimate. Vehicle access from University Boulevard adjacent to the AMS Nest has been determined through schematic design to provide the most direct and legible access for drivers.

The design of the parkade (including access ramp and vertical circulation such as stairs and elevators) is being closely coordinated with the design of MacInnes Field to ensure a high quality public realm experience per the University Boulevard Design Guidelines. The ramp entrance will be oriented and designed to minimize pedestrian-vehicle conflicts in this location, maximize public realm frontage along the east edge of the Nest and maintain continuous pedestrian circulation around MacInnes Field.

The two existing electric vehicle (EV) charging stations at the ramp entrance point will be relocated to the North Parkade. Provision will be made for EV stalls in the MacInnes Field Parkade. Accessible parking spaces are allowed for in the parkade.

Bicycle parking will be provided in adjacent facilities such as the UBC Life Building (Old SUB). This will be sufficient to meet projected demand. If necessary, additional bicycle parking can be provided in the parkade in the future by converting parking spaces. Elevator access to the parkade will be designed to facilitate future bicycle use.

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**BENEFITS**

Learning,  
Research,  
Financial,  
Sustainability &  
Reputational

The project will provide the following benefits:

- New visitor parking spaces to accommodate increasing demand for short-term parking in the University Boulevard precinct associated with new facilities such as the Aquatic Centre, Alumni Centre, AMS Nest, Bookstore, University Boulevard commercial uses. Adequate visitor parking is important to the on-going success of these public-facing facilities and businesses.
- Provision for future bicycle parking and carshare parking capacity should this be required to address increased demand.

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**RISKS**

Financial,  
Operational &  
Reputational

Potential project risks and risk mitigation strategies include:

- Capital Cost – Construction cost risks will be managed through provision of contingency and cost allowances as well as coverage under the Retained Risk policy, though current market conditions still contain risk until contracts are fixed.
  - Parking Occupancy – Occupancy risks associated with this project are limited as demand for visitor parking in the University Boulevard precinct is growing with completion of the above noted new facilities. An independent parking assessment by Bunt & Associates identified a shortfall of 170-175 spaces to meet short-term visitor parking needs in the precinct.
  - Financing Capacity – Treasury has confirmed that there is sufficient liquidity to provide internal financing for the project.
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**COSTS**  
Capital &  
Lifecycle Operating

**Capital Budget**

The total capital cost for the project is estimated at \$12.4m. This is unchanged from Board 1. The estimate was prepared by UBC Properties Trust based on a schematic layout prepared by Read Jones Christoffersen Engineers, a quantity survey estimate by James Bush & Associates and a construction estimate by Heatherbrae Builders.

<b>Project Capital Cost Breakdown</b>	<b>\$</b>
<b>Construction Costs</b>	
Construction	9,000,000
Public Realm	500,000
Site Servicing	150,000
Contingency	<u>450,000</u>
<b>Total Construction</b>	<b>10,100,000</b>
<b>Cash Allowances</b>	
FF+E	25,000
Security/Moving/Keying	25,000
Audio Visual	<u>25,000</u>
<b>Total Cash Allowances</b>	<b>75,000</b>
<b>Soft Costs</b>	
Consultant Budget	1,010,000
Project Management	560,000
Preconstruction/Permits/Insurance	<u>110,000</u>
<b>Total Soft Costs</b>	<b>1,680,000</b>
<b>Building Subtotal</b>	<b>11,855,000</b>
GST	<u>200,000</u>
<b>Building Total</b>	<b>12,055,000</b>
Construction Period Financing	260,000
Retained Risk	120,000
<b>Project Total</b>	<b>\$12,435,000</b>
Number of Stalls	216
Gross Building Area (sf)	65,000
Construction Cost per Stall	\$47,000
Project Cost per Stall	\$59,000
Project Cost per Square Foot	\$191

**Operating Budget**

Operating and maintenance costs as well as debt service costs for the facility will be covered by Parking & Access Control Services through parking revenue. The annual operations and maintenance cost is estimated at \$84,800.

**FINANCIAL Funding & Financing**

Funding Sources,  
Impact on Liquidity

The \$12.4m capital cost is proposed to be internally financed (5.75%, 25 years) with debt service (up to \$964,000/year) paid from parking revenue. The Focal rental housing project budget will contribute up to \$1.2 million for the target of 20 parking spaces to be attributed to that development. This is based on the current \$59,000 per parking space budget estimate. The funds will be provided based on actual cost per space times the number of spaces attributed. If necessary the number of spaces assigned to Focal will be reduced to stay within the \$1.2 million cap.

The project proforma becomes cash flow positive in Year 6 of operation in a medium demand scenario. The capital cost is paid back in Year 21. The negative cash flow in the first five years of operation averages approximately \$13,275/year (starting at \$32,300 in Year 1 and declining to \$1,600 in Year 5). This negative cash flow can be covered within the overall Parking and Access Control Services operating budget. Sufficient liquidity exists to finance the loan.

An additional capital outlay is assumed at Year 25 to replace the parkade roof membrane. Net operating revenue will be sufficient to repay a 5 year loan for the related capital cost. This work could be synergized with replacement of the overlaying MacInnes Field turf surface.

**SCHEDULE Schedule**

Implementation  
Timeline

Project Milestone	Completion Date
Executive Approval	Mar 28, 2017
Board Information Report	Apr 2017
Board 1	Jun 2017
Board 2+3	Sep 2017
Construction Start	Sep 2017
Completion/Occupancy	Dec 2018
Board 4	Sep 2020

**CONSULTATION Consultation**

Relevant Units,  
Internal & External  
Constituencies

A working group comprised of staff from Campus and Community Planning, Student Housing & Hospitality Services, Parking & Access Services, Athletics & Recreation and UBC Properties Trust was established to develop and evaluate a suite of potential strategies to address the visitor parking capacity gap identified by the Bunt & Associates parking study. The working group developed the multiple account evaluation framework used to evaluate the shortlist of options that emerged. Evaluation criteria were informed by UBC's strategic campus-wide and precinct-specific policy objectives, as articulated in the Land Use Plan, Vancouver Campus Plan, Transportation Plan, and University Boulevard Neighbourhood Plan.

The AMS has been consulted with respect to the parkade access ramp location. The Development Review Committee reviewed the project on August 24, 2017. A public open house will be held on September 6, 2017. The results will be communicated to the Board of Governors Property & Finance Committees on September 12, 2017 as part of the Board 2+3 approval presentation. Upon receipt of Board 2+3 approval a Development Permit for the project will be issued by Campus & Community Planning.

**Prior Approvals**

Executive approval to move forward with the MacInnes Field Parkade project was received on March 28, 2017. Initial Board support for the project was given in April 2017 subject to completion of the standard major capital project approval process. Board 1 approval was received in June 2017.

**Project Team**

UBC Properties Trust will provide project management services for the project. The architect (GBL Architects) and design team from the adjacent Focal mixed-use project will be assigned to this project by UBC Properties to ensure an efficient and integrated design.

<b>UBCPT COMMENTS</b>	Date of Review:	May 17, 2017	Signed off by:	Aubrey Kelly
Complete for all reports that include a property component	UBC Properties Trust supports this project including the proposal to combine the construction with the adjacent Focal mixed-use project.			

**Previous Report Date** June 14, 2017

**Decision** Board 1 approval with a funding release of \$500,000 to undertake schematic design.

**Action / Follow Up** Complete schematic design.

**Previous Report Date** April 13, 2017

**Decision** For Information (University Boulevard Sub-area Plan and Parking Update)

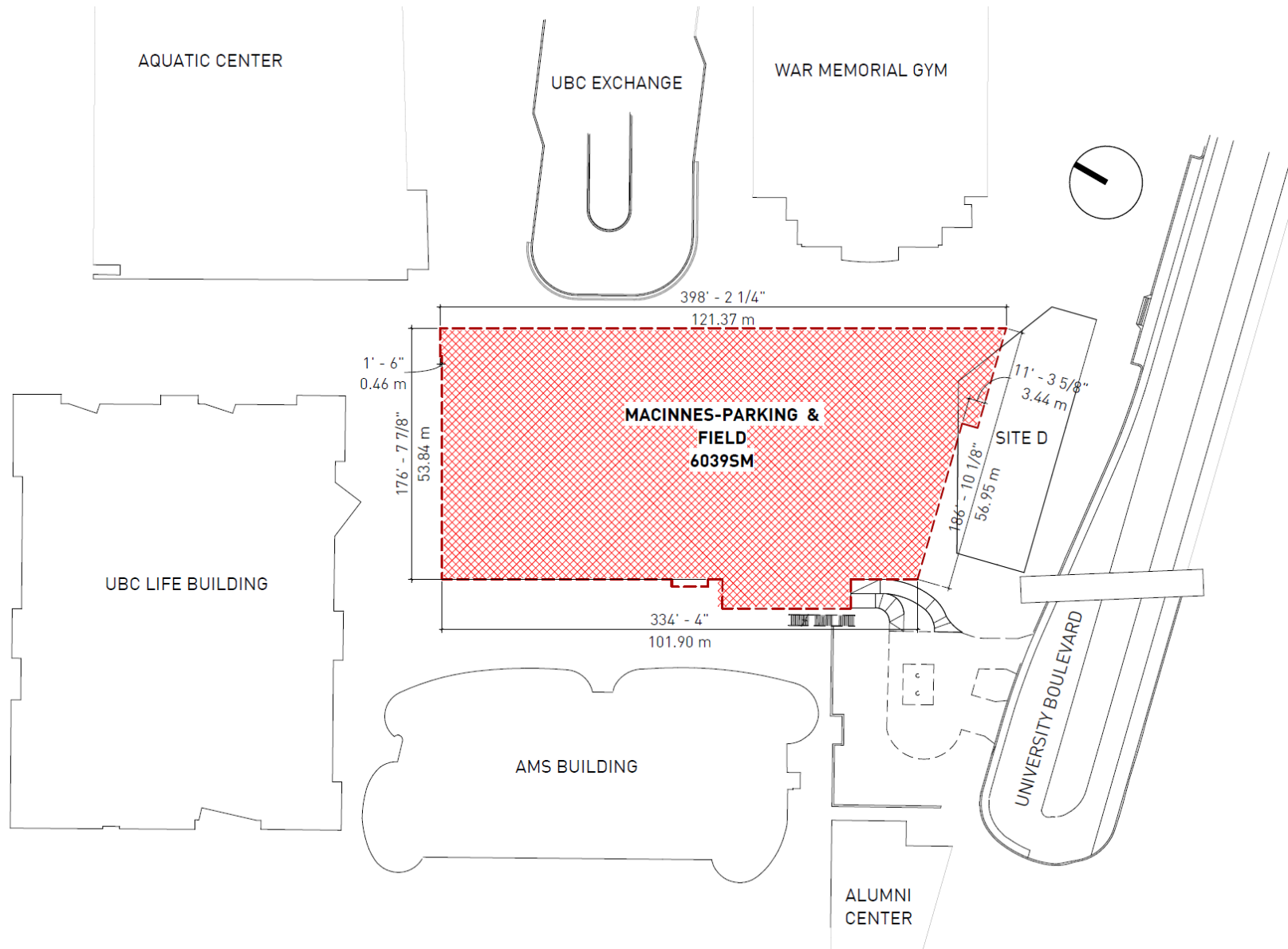
**Action / Follow Up** Prepare a Board 1 approval submission for the MacInnes Field Parkade project for presentation at the June 2017 Board of Governors meeting.

**Attachments**

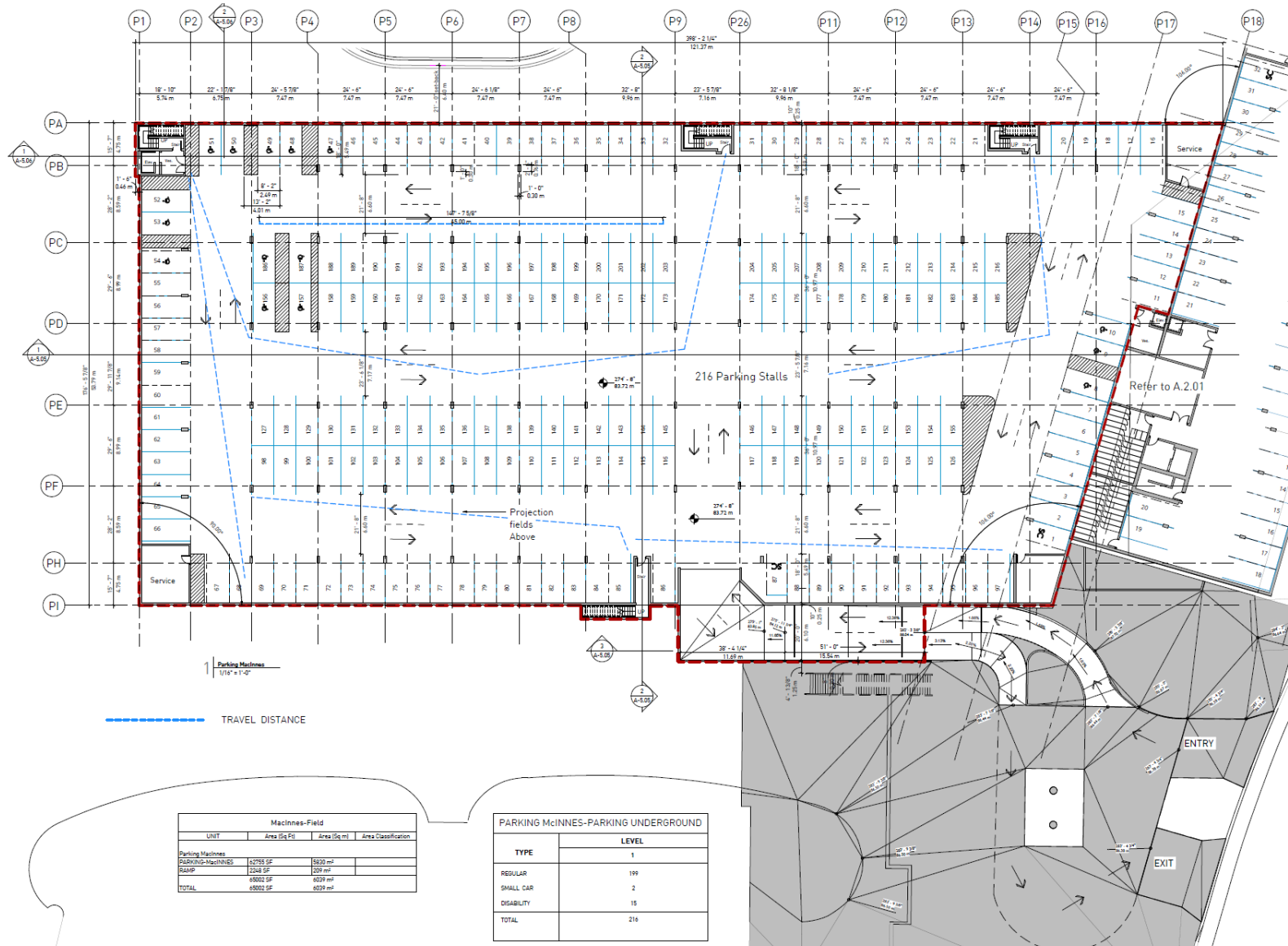
- 1) MacInnes Field Parkade Site
- 2) Schematic Design Layout
- 3) Schematic Design Renderings



## Attachment 1 – MacInnes Field Parkade Site within University Boulevard/Gage South Precinct



## Attachment 2 – Schematic Design Layout of MacInnes Field Underground Parkade



# Attachment 3 – Schematic Design Renderings showing Parkade Entrance, MacInnes Field and Focal Mixed-Use Rental Housing Building

