

TAFE NSW Meadowbank

Car Parking Facility in connection with the Multi-Trades and Digital Technology Hub

SUPPLEMENTARY ARCHITECTURAL DESIGN STATEMENT – REV B

20 MAY 2020

GRAY PUKSAND



ISSUE STATUS

PROJECT

Phase 2.1 Combined Multi-Trades and Digital Technology Hub

CLIENT

TAFE NSW

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1.0 Executive Summary

EXECUTIVE SUMMARY

INTRODUCTION

In June 2018, the Premier and Member for Ryde unveiled plans for the Meadowbank Education and Employment Precinct, comprising new education facilities including a new primary school, high school and revitalised Meadowbank TAFE.

The NSW Government’s commitment to the Meadowbank Education and Employment Precinct provides a unique opportunity to:

- Create a flagship model for students to experience seamless pathways between school, VET, University, and jobs
- Enable community engagement and access to world class facilities
- Support the local economy through business partnerships and job creation

The most North Western corner of the original campus has now been divested to School Infrastructure New South Wales and the site cleared in preparation for construction works. TAFE NSW are proposing to undertake modernisation works across their campus, with the focus of this State Significant Development Application being a new Multi Trades and Digital Technology Hub.

The design has developed significantly for the proposal over the past months and the brief is developing a step closer to reality as the statutory approvals process progresses.

PURPOSE OF THIS REPORT

This report has been prepared by Gray Puksand to supplement the original State Significant Development application submission for the proposed Multi Trades and Digital Technology Hub Building and is provided as part of the response to Submissions.

As the design has developed and a true extent of the existing sub soil geo-technical site conditions to the proposed construction become apparent, the decision to undertake bulk excavation to provide car parking has been re examined.

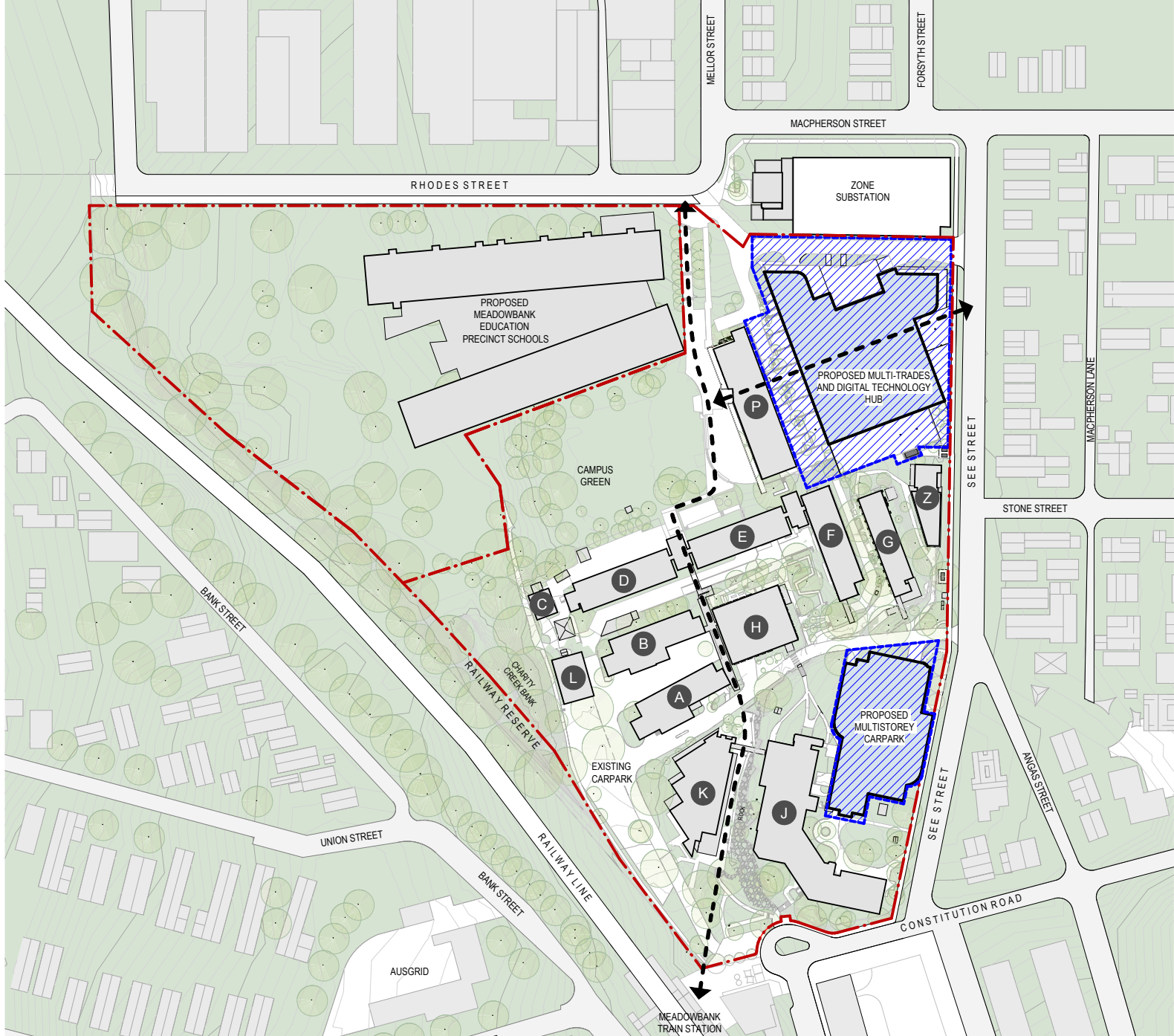
The extent of extraordinary hard rock presented TAFE with potential constructability issues during the excavation period, and considerations around rock breaking methodology and WHS lead TAFE NSW to pursue an alternative design solution.

A new, standalone 2 storey carparking structure is now proposed on the site, utilising the footprint of the existing carpark to the East of Building J as shown on the site plan adjacent.

The design has been developed in association with the relevant TAFE NSW Stakeholders and careful consideration with respect to ongoing master planning work by the Greater Sydney Commission that has influenced the location of the new structure within the site.

This report should be read in conjunction with all other supporting documentation as it reflects the work undertaken within a multidisciplinary design team.

SITE PLAN



2.0 Site Context

Existing Site Analysis

A full site context analysis has been undertaken as part of the original design statement submitted as part of the EIS.

Some relevant site specific context has been repeated below to reinforce the existing pedestrian and vehicular routes around the TAFE Meadowbank Campus, noting the existing use of the proposed site as a carpark.



AERIAL PHOTO

This recent Ortho Photographic view provides a succinct overview of the current site arrangements. The northern element of the original site that has been divested to School Infrastructure New South Wales has been cleared and is ready for the commencement of the construction of the new schools.



SITE PEDESTRIAN ACCESS

The Meadowbank Campus has five main pedestrian access points around the boundary of the site. The Northern most aspect from Rhodes Street has pedestrian access ways at two levels, directly to the campus green and at First Floor of Building P to the Student Service Centre.

Access points from See Street are spread along the Eastern boundary with three main points, the most northerly to the main carpark area, a central point via the main campus roadway and the third to Building J.

Pedestrian access from the Meadowbank Station is provided at the most southerly point of the site. Currently the access routes throughout the site running north to south are fragmented and wayfinding is an issue.

Future pedestrian access is also indicated on the GSC's Meadowbank Education and Employment Precinct Masterplan which includes a potential east-west underpass to link the TAFE campus and the western side of the railway corridor.



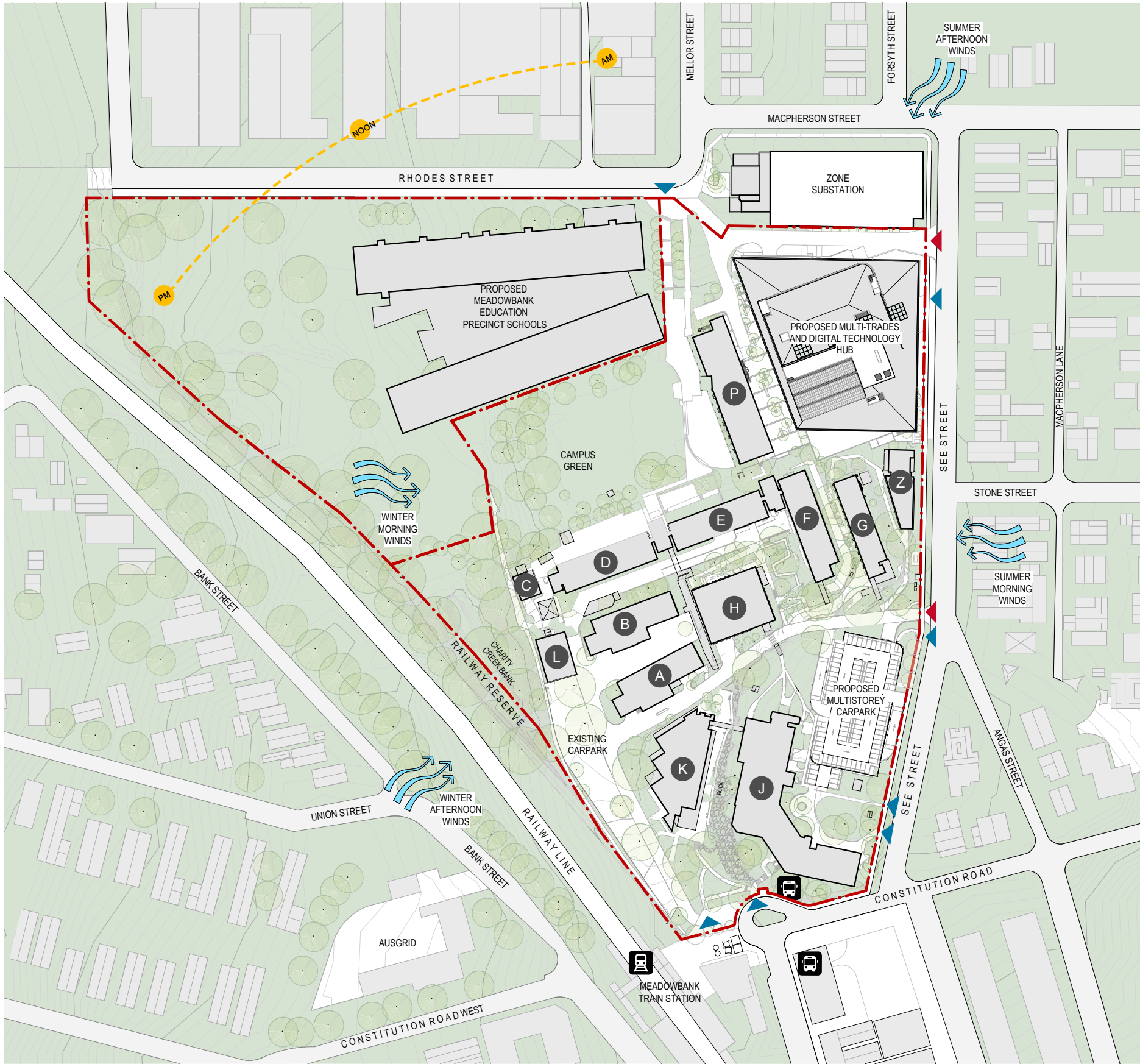
VEHICULAR ACCESS

The Meadowbank Campus currently has five vehicular access points. Rhodes Street provides an exit point from the main car park that has its entry from See Street.

The main East – West campus roadway provides strategic access from See Street through the campus linking several loading points, car parks and site infrastructure and also providing emergency access into the heart of the site.

There are various rights of carriage across the site that are explored in more detail below.

Proposed Site Analysis



LEGEND

- VEHICULAR ENTRY / EXIT
- PEDESTRIAN ENTRY / EXIT
- BOUNDARY LINE
- EXISTING BUILDING NAME

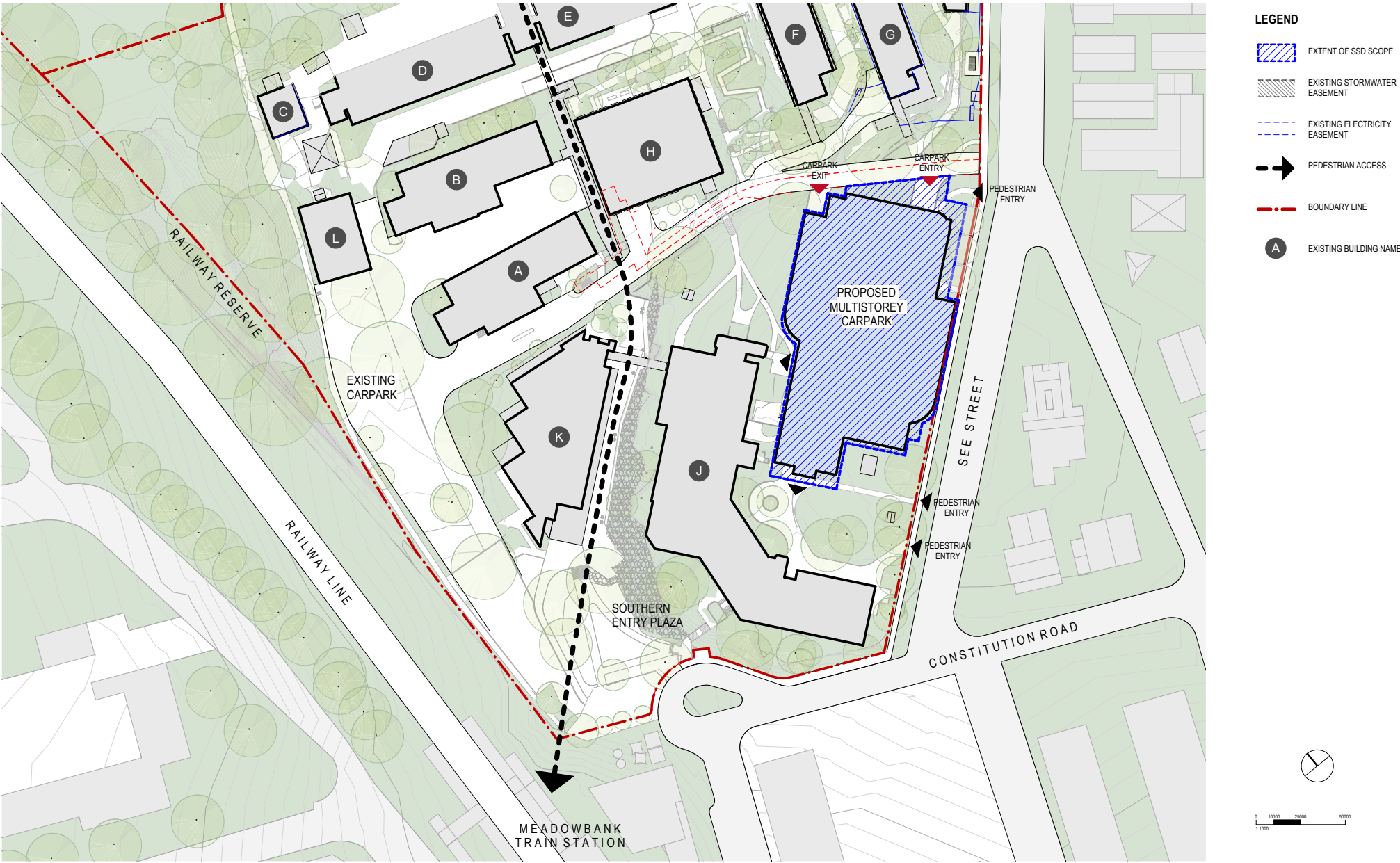
3.0 Project Brief

Project Brief

The primary design amendment that this report seeks to address is the reduction in sub terrain parking allocation to the Multi Trades and Digital Technology Hub.

A significant number of parking spaces, as summarised laster in this report, will be relocated to a new car parking structure to the South of the site, adjacent the existing Building J.

The change to the Multi-Trades and Digital Hub building is focused on the below-ground levels and will not result in any visible changes to the structure when viewed from See Street.



4.0 Design Response

DESIGN RESPONSE

DESIGN PROCESS – AN OVERVIEW

Gray Puksand have treated the design development of the new carpark structure with the same diligence and critical thinking applied to the development of the Multi Trades and Digital Technology hub, with the primary aesthetic treatment to be respectful of the existing streetscape and echo the architecture of the hub.

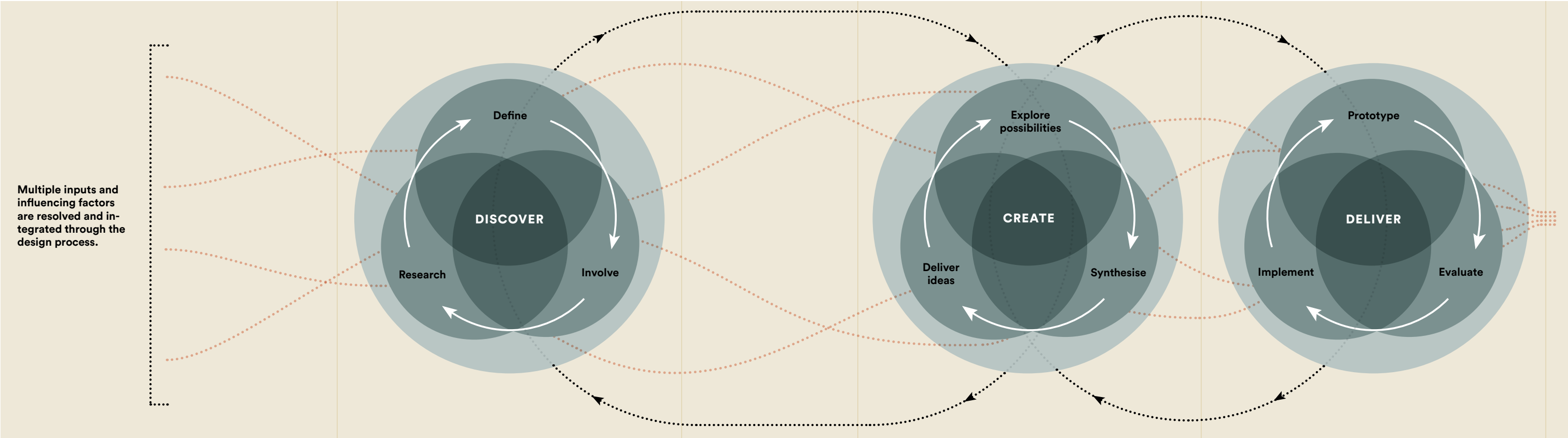
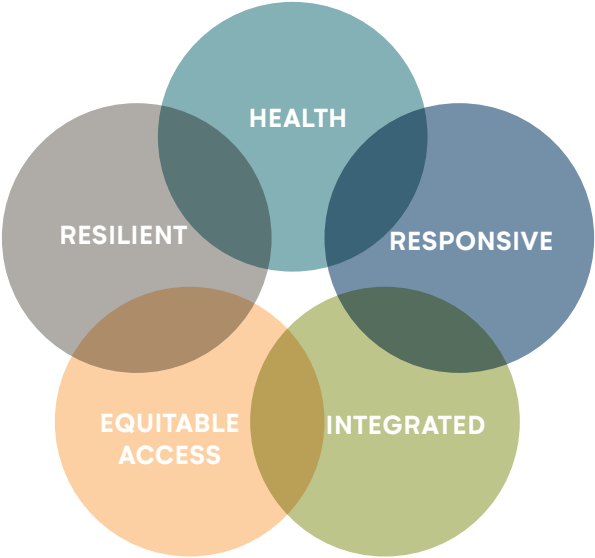
DESIGNING FOR PLACE

Gray Puksand have, in the same spirit as the design of the Hub Building, utilised the Government Architects Documents ‘Better Places an integrated design policy of the built environment of New South Wales” and reflected upon its key principles as a framework for the critical analysis of the design development.

THE DESIGN PROCESS

As noted in the previous submission, the over-arching design process has been succinctly described in the ‘Better Placed’ document. The process undertaken in this journey to date has been no different.

The stages of discovery and creativity are ongoing throughout the documentation of the development application and will continue to evolve into the schematic and detailed design phases



Better Placed – Design Objectives

TAFE's decision to pursue an alternative to the sub terrain car parking previously proposed to the Multi Trade and Digital Technology Hub has prompted the design of a new above ground car parking structure on the campus.

Consideration of the work currently being undertaken by the Greater Sydney Commission that has potential to affect the western area of the campus focused site selection to the existing carpark adjacent Building J.

The approach adopted is a simplistic form designed to produce a sustaining asset for the campus.

1. BETTER FIT – CONTEXTUAL, LOCAL AND OF ITS PLACE

The siting of the proposed car park building has been carefully considered both within the campus and immediate local context, responding to various existing site and suburb restraints including:

- Limited available space on the site considering potential Greater Sydney Commission potential master planning strategies for the east west underpass and grounds adjacent the existing railway line to the west of the campus;
- Reluctance to pursue bulk excavation on the higher side of the site due to the cost involved in the removal of extraordinary hard sub soil sandstone geology;
- Review of constructability issues faced in the excavation and removal of extraordinary hard sub soils and stone geology to the Multitrades and Digital Technology Hub Site.
- Respecting existing easements in place for site infrastructure;

The design of the building respects the residential premises to the east of the site, ensuring that overshadowing has minimal effect, maintain the amenity currently enjoyed by the residents.

The landscape design has been considered to ensure a softening of the intersection between the building and the ground plane, with materiality and façade composition to be resonant of the new Multi Trade and Digital Technology Hub to the North, without trying to mimic its architecture.

The building will have a presence on the street scape, designed as to minimise its aesthetic impact whilst achieving its functional intention, addressing the existing connections to campus whilst avoiding adding additional commercial driveways to See Street in utilising the existing vehicular access way.

2. BETTER PERFORMANCE – SUSTAINABLE, ADAPTABLE AND DURABLE

The new building is intrinsically designed to be a passive structure, avoiding mechanical systems by ensuring the façade provides fabric densities, whilst providing shade to the perimeter of the structure, is conducive to utilising the prevailing Sydney north westerly winds to ventilate and cool the structure adequately.

The regular structural grid enables efficient traditional construction methodologies, whilst combined with a generous floor to floor span of 3400mm, future proofs the structure for the possibility of conversion to educational or other accommodation, should this be pursued by TAFE NSW in the future.

3. BETTER FOR COMMUNITY – INCLUSIVE, CONNECTED AND DIVERSE

Responding to the wider campus masterplan, the building maximises the capital investment for the campus, ensuring essential infrastructure requirements are met in a feasible and sustainable manner.

The facility is readily accessible to all, with strong pedestrian connections to the remainder of the campus retained, further supported by a reduced allocation of parking remaining within the envelope of the proposed Multi Trade and Digital Technology Hub.

4. BETTER FOR PEOPLE – SAFE, COMFORTABLE AND LIVEABLE

The carpark building has been designed to embrace the key principles of Crime Prevention Thorough Environmental Design creating a safe and connected facility for all TAFE Patrons to utilise.

Clear site lines, open and well-lit spaces combine to provide an urban response that, supported by a considered landscaping approach, providing the users with a safe and welcoming interface between the public and campus realms.

5. BETTER WORKING – FUNCTIONAL, EFFICIENT AND FIT FOR PURPOSE

A pragmatic architectural approach to planning has produced a structure an efficient, yet aesthetically pleasing solution, working within the site restrictions and existing topography. Adherence to the requirements of the Australian Standard 2890 Series for off street parking ensures operational and functional adequacy is achieved.

The proposal lends itself to various functional uses with the 8.2m grid spacing opening the floor plates to various configurations and generous floor to floor spans, suitable for the integration of future mechanical, electrical and hydraulic servicing as required

6. BETTER VALUE – CREATING AND ADDING VALUE

Built over the existing on grade car parking area to the south of the site, the proposed structure maximises the capacity of this area, providing much needed parking infrastructure for the TAFE Students and Staff in a feasible manner.

Enabling the provision of such off street parking facilities provides added value for not only the campus, but the immediate suburb facility, safeguarding a potential for increased demand with respect to on street parking in the area.

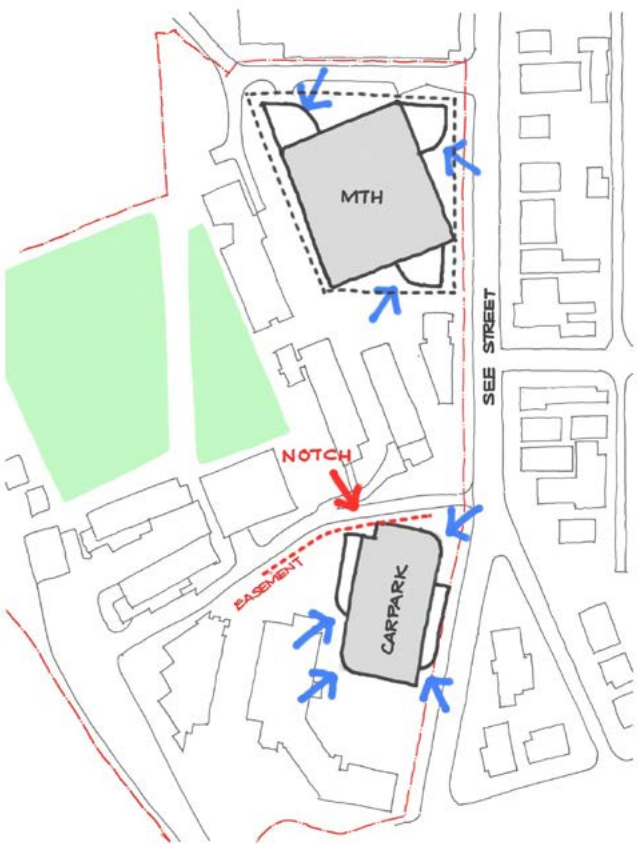
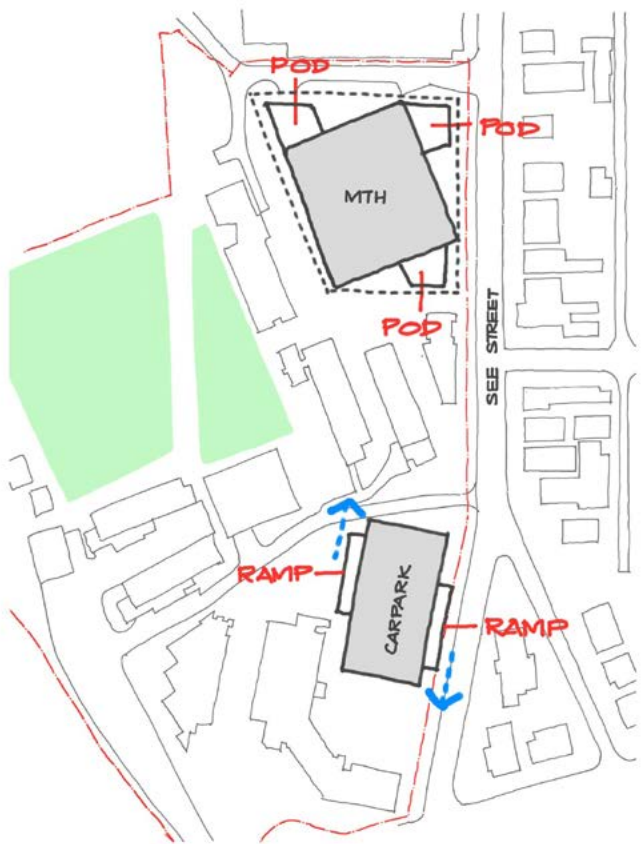
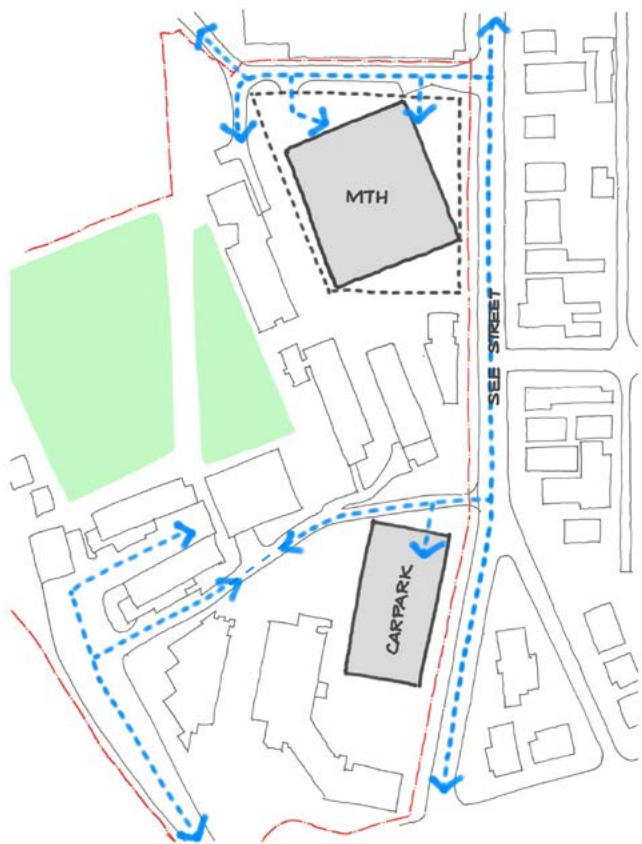
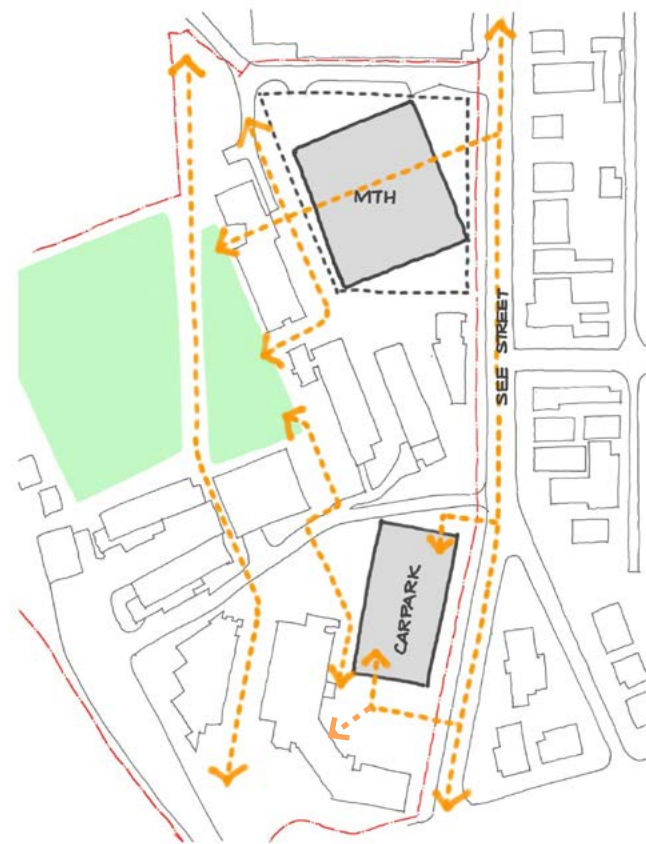
7. BETTER LOOK AND FEEL – ENGAGING, INVITING AND ATTRACTIVE

In a similar approach to the Multi Trade and Digital Technology Hub, our design for the car parking structure responds in an informed way within an emerging campus and suburb masterplan and educational precinct context.

The building’s design is sympathetic to its location and rather than imposing an eye-catching aesthetic the building responds to, and unifies the built environment of its context, creating a visually engaging presence, not shying away from its core functionality, softened with a peripheral landscape design that integrates to the existing green space to the south and the driveway on the northern aspect.



CONTEXTUAL RESPONSE



PEDESTRIAN CIRCULATION

New pedestrian pathways are created to provide access from See Street, as well as both Western and Southern interfaces with existing Building J.

As an existing car parking area on the site, the pedestrian routes and connections to the fabric of the campus are maintained and strengthened.

Access to Building J is unencumbered with a green forecourt maintained to the south of the new structure, respecting the arrival to the main entrance of the existing building.

VEHICULAR CIRCULATION

Vehicular access to the proposed carpark utilizes the existing driveway and crossover to the existing on-grade open carpark.

PLUG-IN FORMS

The proposed carpark features ramps located externally from the main rectangular form, expressed as an appended form, mimicking the MTH's 'plug-in' pods. These 'external' ramps create a variation in setback from the street alignment, and increase carpark yield. The plug-in forms further express architectural contrast through a tectonic shift in its positioning at opposite ends.

EDGE SOFTENING

The design motive of the 'square and rounded corner' in plan form is used to reference the Multi Trades building. This theme is deployed to both unify the design as part of a greater suite of buildings and to soften form and bulk.

The street facade has been designed with a variety of set backs and a modulation in facade heights. This will activate the civic frontage without overpowering the streetscape. It is supported by purpose designed landscaping and the preservation of significant trees.

ARCHITECTURAL RESPONSE

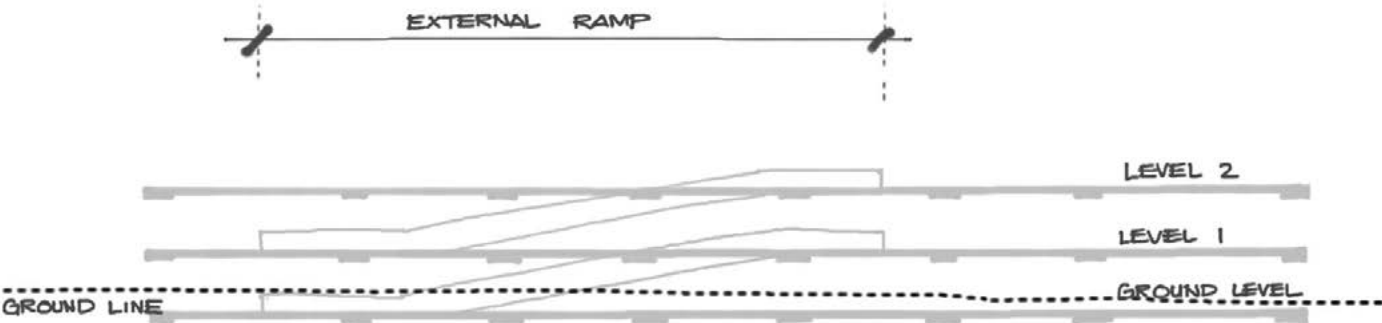


Diagram 1: Carpark levelling strategy relative to Natural Ground Level along See Street frontage

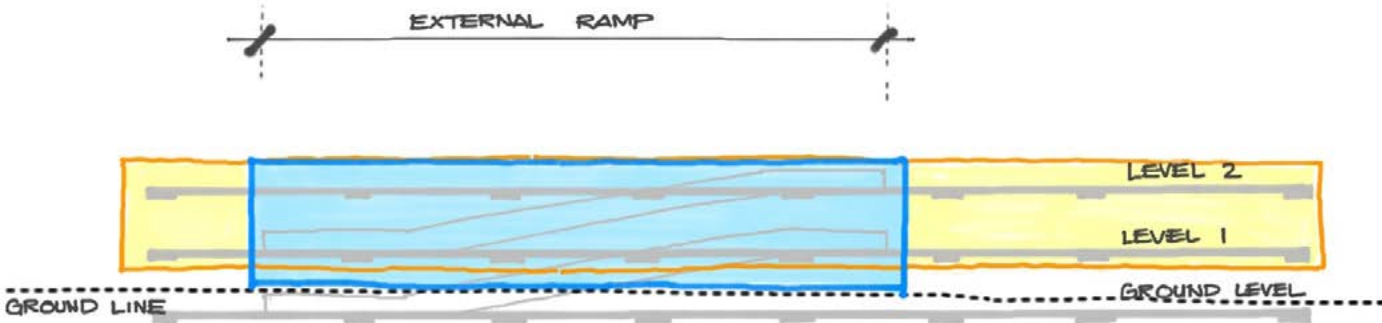


Diagram 2: Separating the ramp screening from the main façade cladding, to further add interest and grain to the streetscape. It also reinforces the variation in setback on the street frontage.

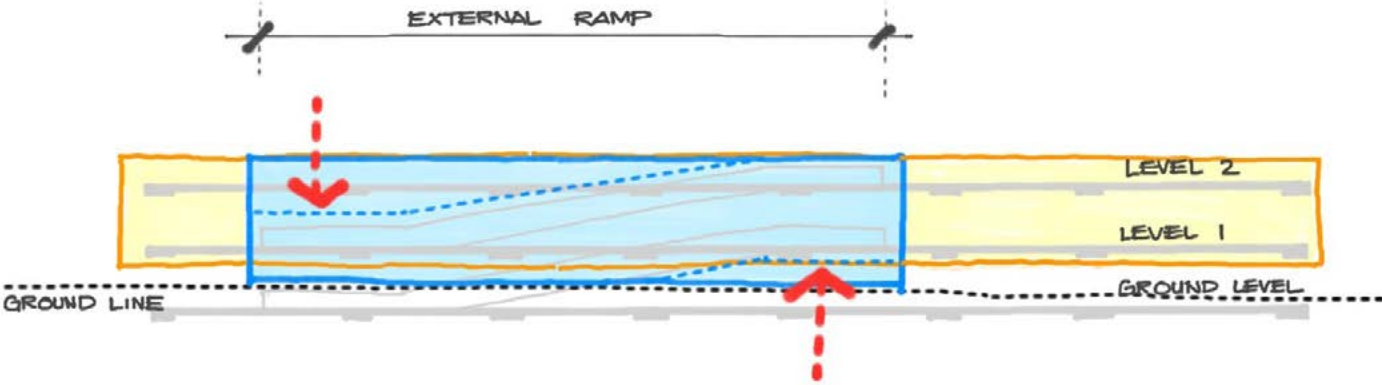


Diagram 3 & 4: The ramp screening is peeled back vertically to reflect the ramp slopes. Along with the variation in setback, this activates the civic frontage and creates a modulation in façade heights for visual interest and transition in building bulk

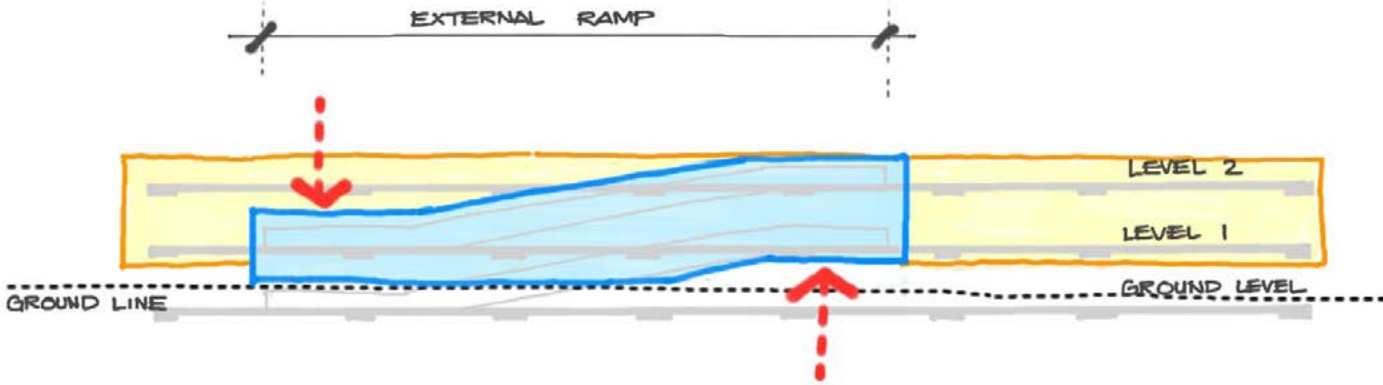


Diagram 4

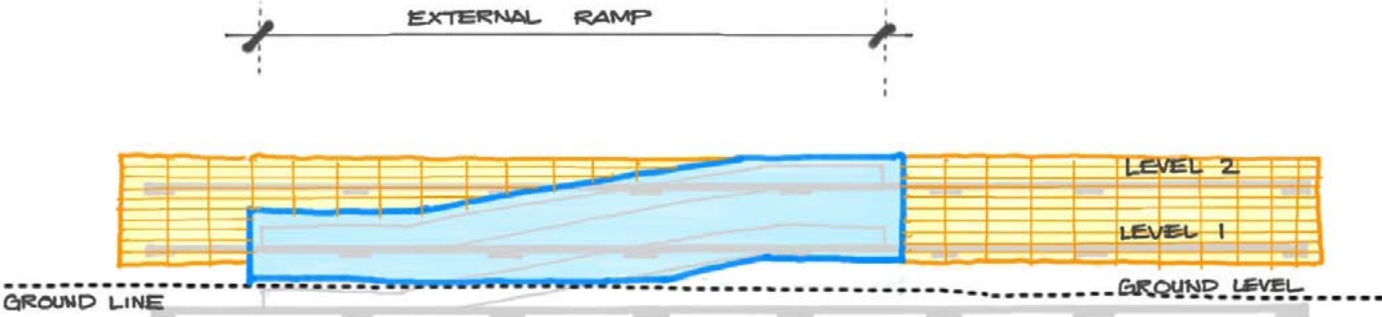


Diagram 5: Adding fine grains to the façade through thoughtful façade panel breakup. Materiality and the grid combine to support the design moves established in the Multi Trades and Digital Technology Hub. The result is consistency and variety as the campus continues to develop.

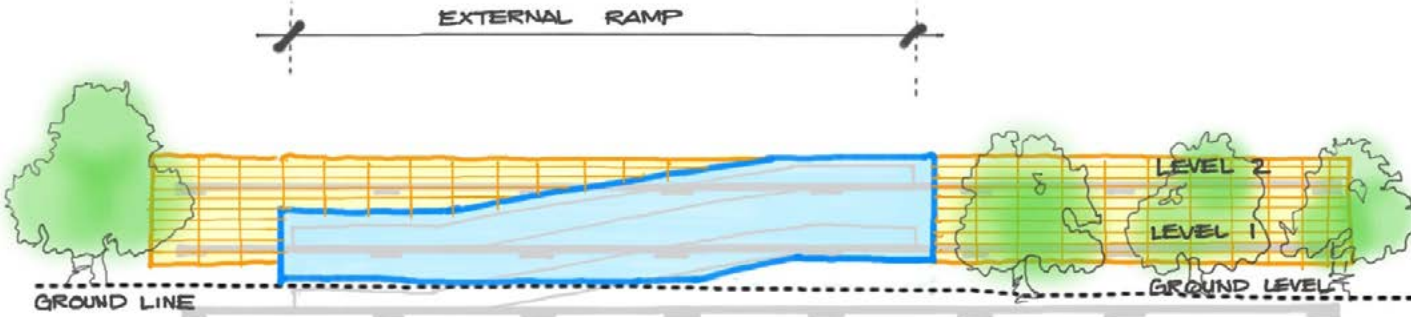


Diagram 6: The street frontage is further layered with landscaping strategy that compliments the existing retained significant trees. This further supports the civic frontage and softens the interfacing edges of the streetscape.

SIGNAGE AND WAYFINDING

The new carpark structure will be embellished by both vehicular and pedestrian wayfinding signage at strategic locations only, namely the main vehicular driveway at See Street and the primary pedestrian approaches to See Street, Building J and campus connection.

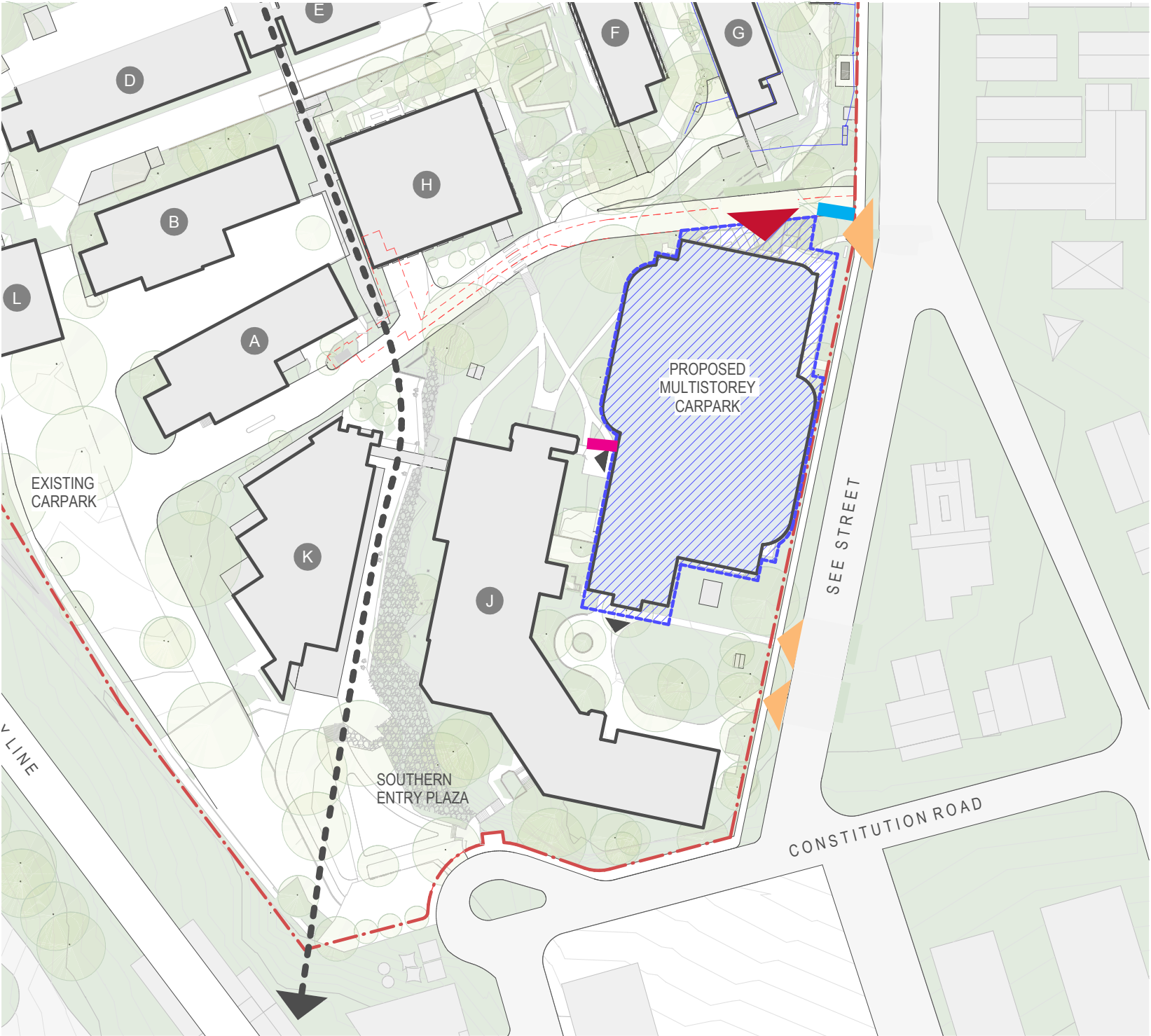
The original assessment of the signage proposal with respect to the requirements of the State Environmental Planning Policy N° 64 – Advertising and signage remains current, with the assessment of the following criteria all remaining valid for this proposal:

- Character of Area
- Special Areas
- Views and Vistas;
- Streetscape, Setting or Landscaping
- Site and Building
- Associated devices and Logos with Advertisements and Advertising Structures
- Illumination
- Safety

The signage associated with the car park will serve way finding purposes in strategic locations including those shown on the adjacent drawing.

The main external vehicular directional signage will be an upright pedestal type sign approximately 3.6m x 0.9m with no proposed back light.

Typical pedestrian wayfinding signage will be an upright pedestal type sign approximately 3.0m x 0.3m with no proposed back lighting.



LEGEND

- PEDESTRIAN ENTRY
- VEHICULAR ENTRY
- VEHICULAR WAYFINDING
- PEDESTRIAN WAYFINDING

EXTERNAL LIGHTING STRATEGY

The car parking structure and its peripheries will adopt the same strategies as the proposed Multi Trades and Digital Technology Hub proposal.

Street Entrance

The street entrance may include subtle illumination of wayfinding signage. The driveway may consist of pole lighting or low-level bollard lighting leading to the carpark to facilitate safe pedestrian and vehicular movement. For any use of light poles, the placement shall be facing away from residential properties to provide the required illumination to the road set out in AS/NZS1158(2010) Lighting for Roads and Public Spaces, with minimum light spill to adjacent properties.

As such, subsequent assessment shall be undertaken to ensure that lighting in this area is not providing a nuisance to neighbouring properties, and is compliant with AS4282.

Landscaped Areas

For landscape lighting will include low level intimate lighting concealed into the planting and urban fabric.

Building Facade

For facade lighting, should up-lighting be required- it will be rationalised and focused onto architectural surfaces thereby minimising spill unto the night skies. The use of luminaire accessories will be used to reduce and manage spill light and contain the effect within the building fabric.

Refer to the supplementary external lighting strategy report prepared by JHA Consulting Engineers forming part of this response to submissions.

Built Form and Urban Response

The proposed car parking structure has been carefully designed to provide maximum efficiency, whilst respecting how it relates to the adjoining residential area to the east of See Street.

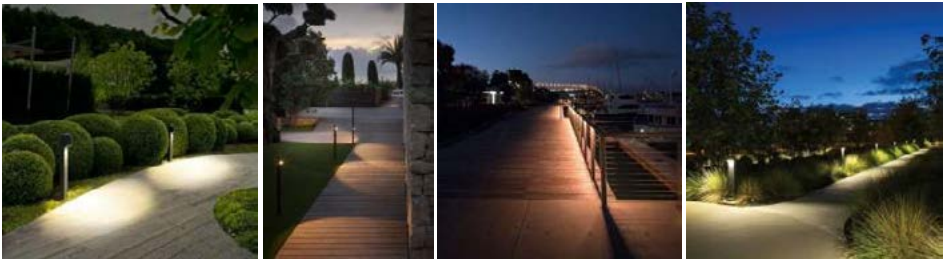
The decision to omit a roof structure to the two storey development has ensured it presents at a similar scale to the proposed Multi Trade and Digital Technology Hub to the North, echoing the architecture of the main building, as opposed to refashioning the conceptual approach.

This enables minimal impact to the amenity enjoyed by the adjoining residences, with overshadowing kept predominantly to See Street, utilising the favourable north to south orientation of the site.

POST TOP LUMINAIRES



BOLLARDS



ACCENT LIGHTING



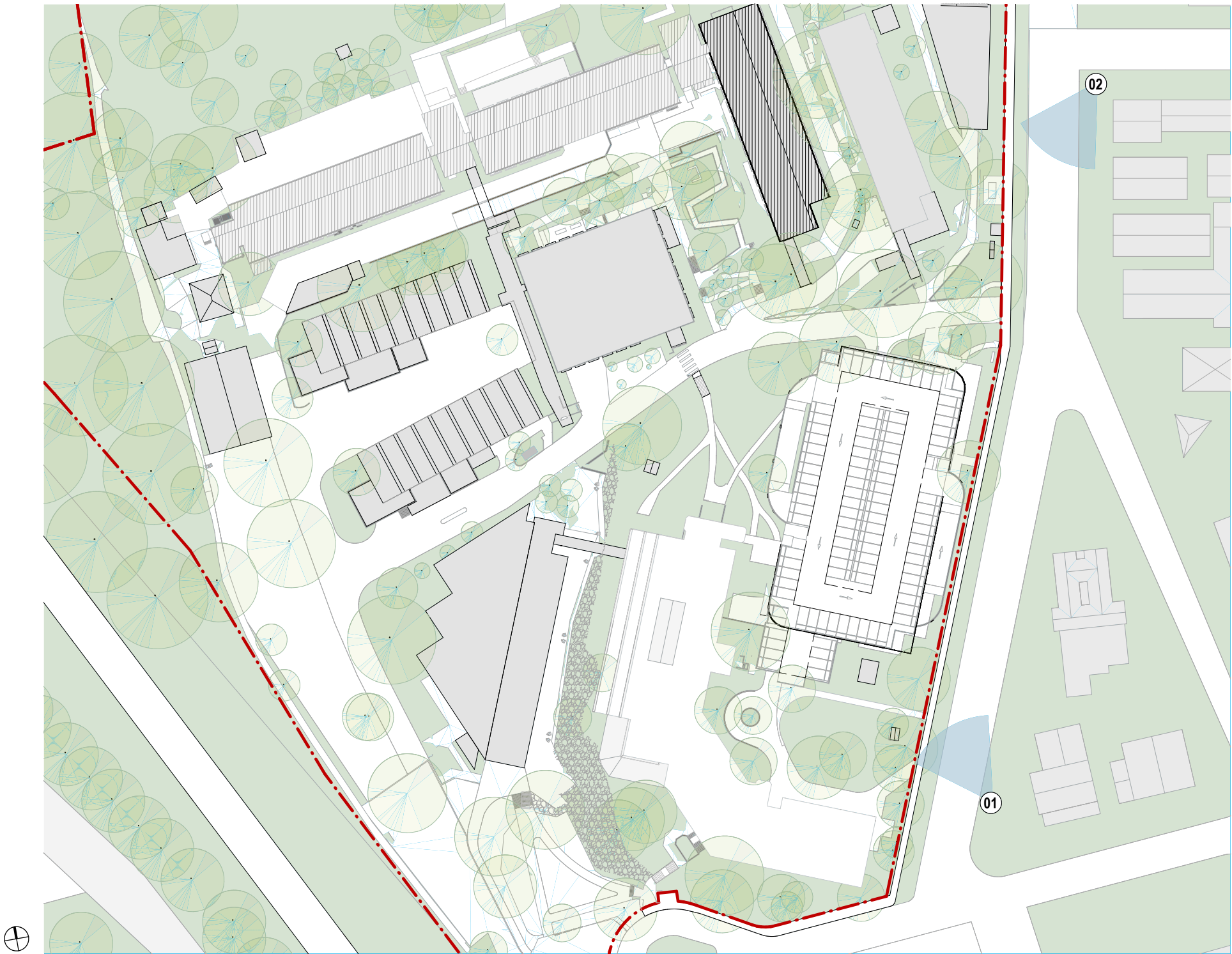
5.0 Built Form and Urban Response

BUILT FORM AND URBAN RESPONSE

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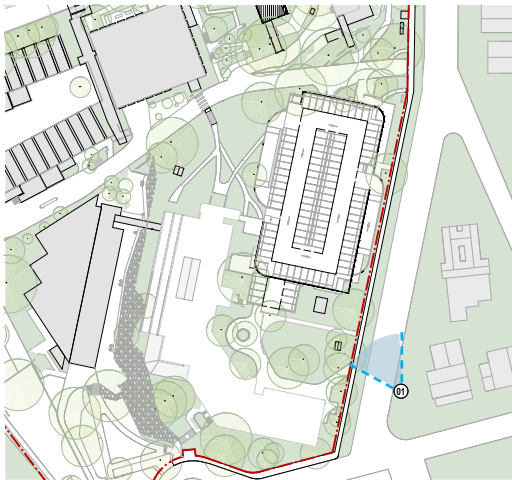
Key View 01_North



BEFORE



AFTER



KEY PLAN

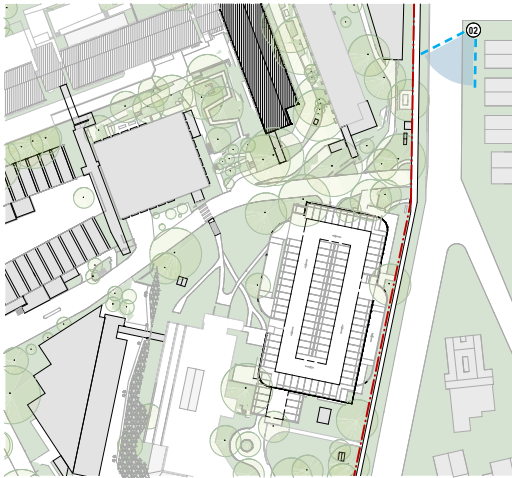
Key View 02_South



BEFORE



AFTER



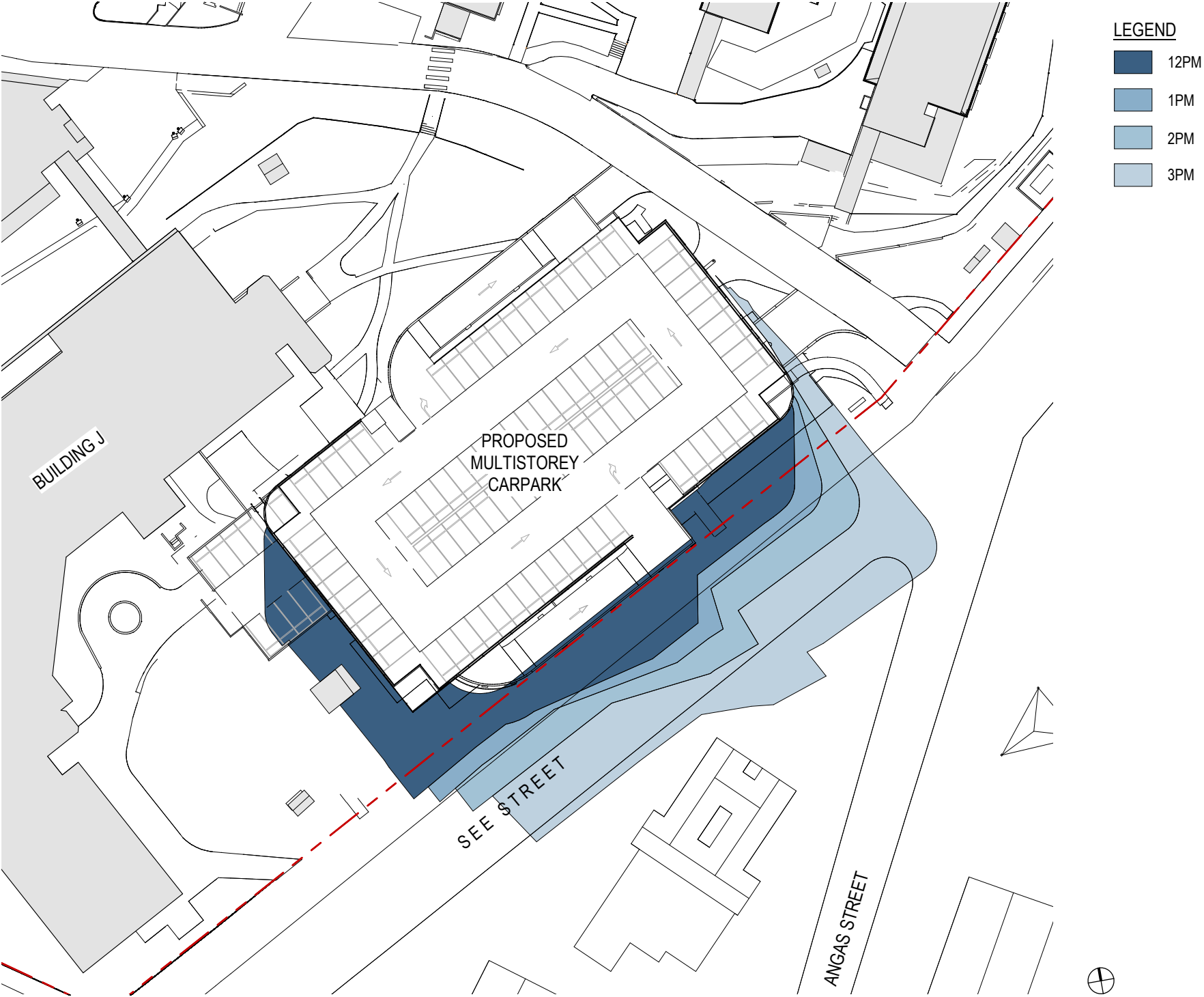
KEY PLAN

SHADOW ANALYSIS

A study of the potential overshadowing impact of the development has confirmed minimal impact to the residential properties to the East. Some additional overshadowing will occur from approximately 3.30pm in the afternoon as demonstrated on the diagram opposite on the Winter Solstice.

An hour by hour study shows the elongation of the shadows as the sun sets to the West, casting shadow predominantly onto See Street throughout the afternoon, with shadow only striking the most northerly residential boundary at the intersection with Angas Street, close to dark, with dusk averaging around 4.53pm. The other residential properties are not affected.

A favourable orientation ensures that all the residence maintain the minimum three hours direct solar access to all private open space required by Ryde Councils DCP.

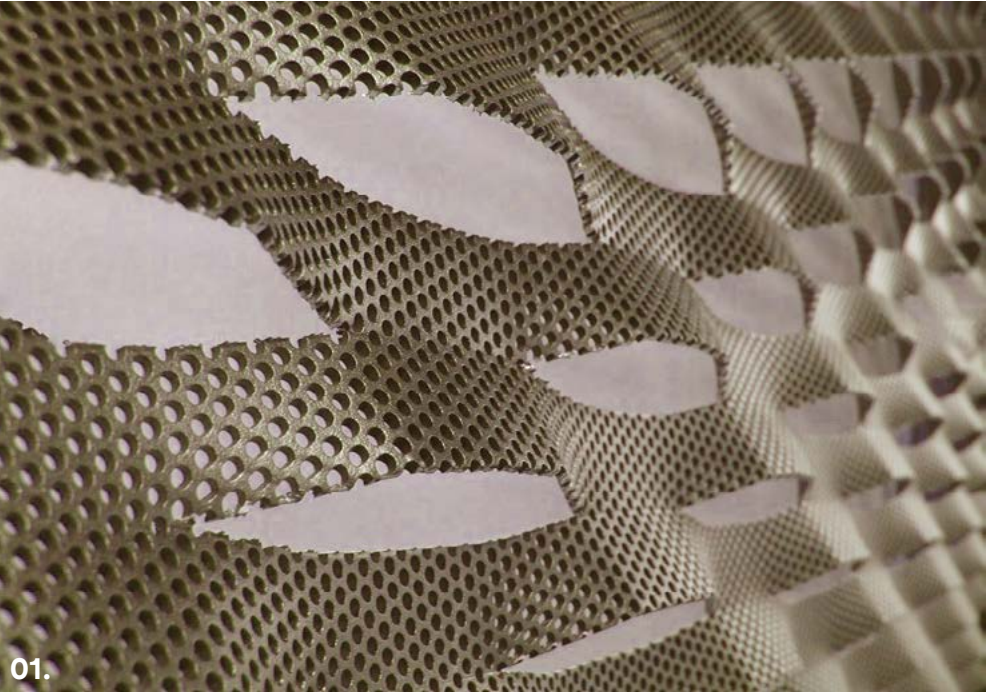


PERSPECTIVE LOOKING SOUTH ON SEE STREET



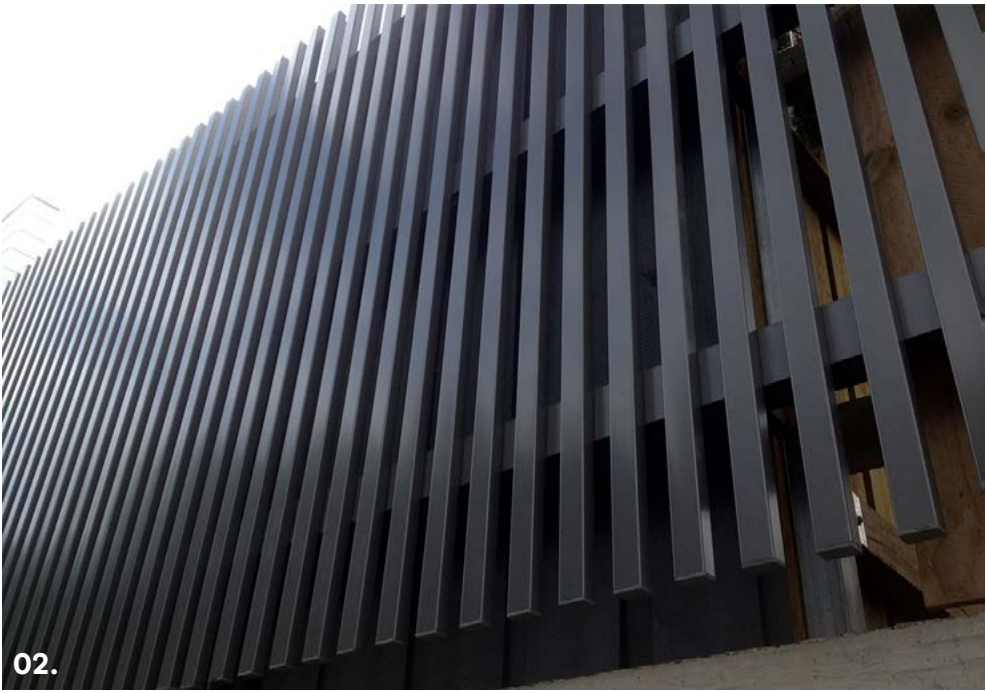
6.0 Materiality and Facade

DESIGN INTENT FOR EXTERNAL FINISHES



01.

01. Lasercut perforated mesh screen



02.

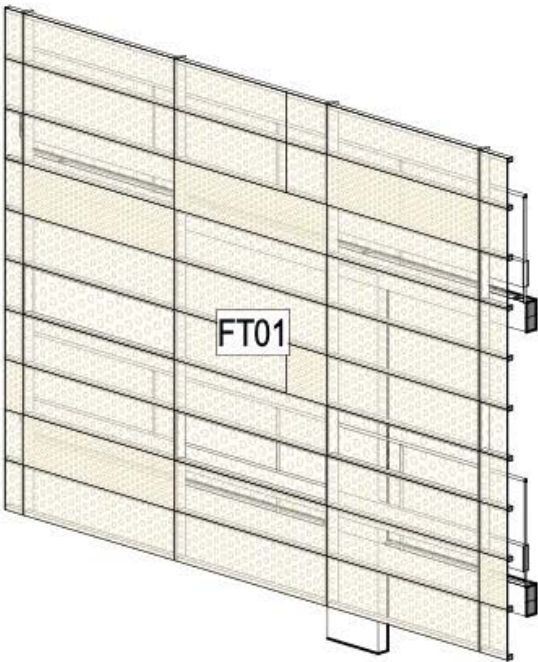
02. Dark powdercoated vertical screen

FACADE TYPE ANALYSIS

CFT01

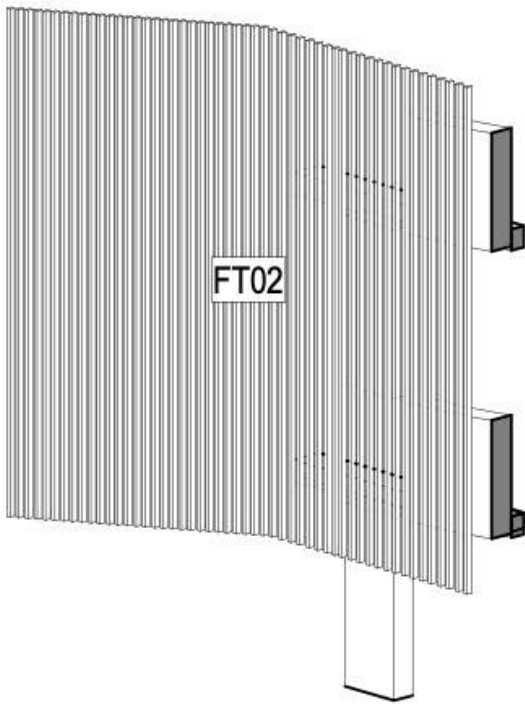
A simple segmental perforated metal screening system is proposed to the main façade of the building, providing suitable airflow to achieve the natural ventilation requirements to each enclosed floor plate. The fabric, by its nature will echo the modular cladding system and materialistic tones proposed to the Multi Trade and Digital Technology Hub adjacent.

It is not envisaged that the cladding would stem the entire vertical depth of the façade, moderating the interaction with the peripheral landscape and maintaining safe defence to the upper floor, without overburdening the structure in height.

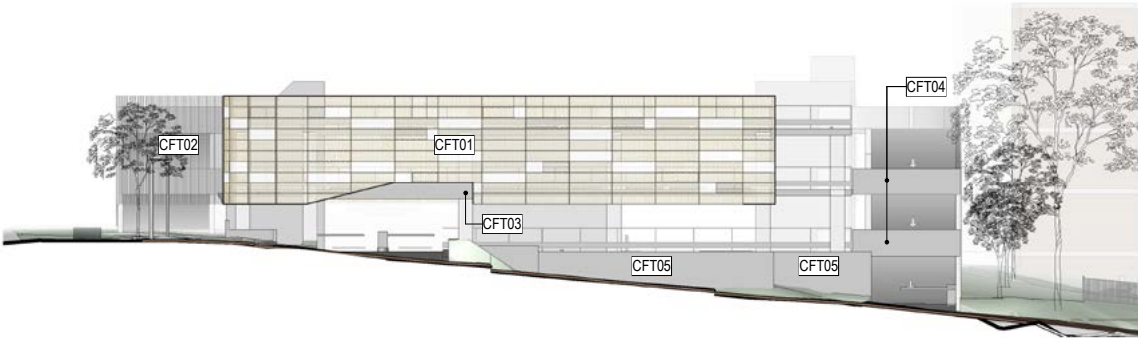


CFT02

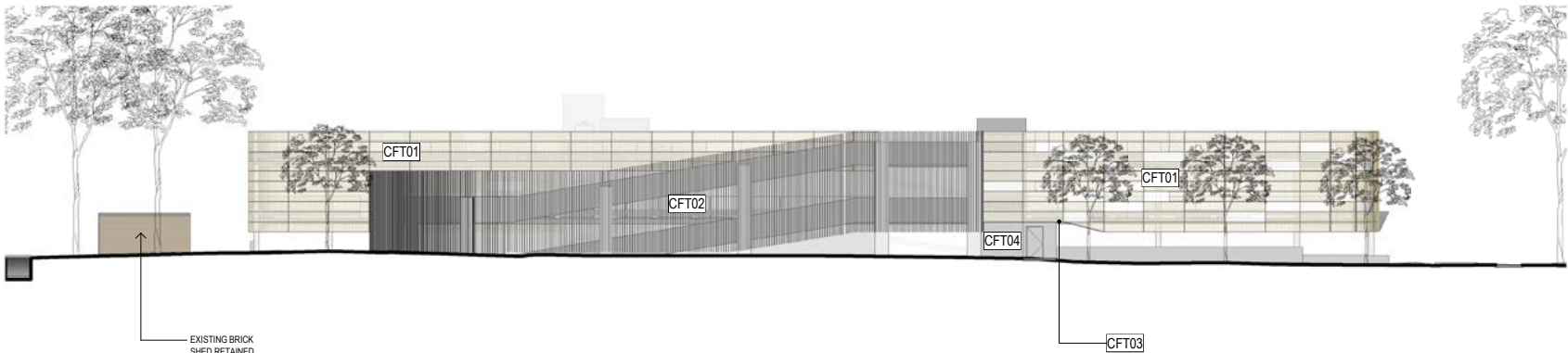
A feature vertical batten system with a dark powder coat finish will clad the main inter-floor ramps to the eastern See Street Elevation, creating a contrast the primary cladding and following the form of the ramps to anchor the structure on the southernmost touch point – the only place where the main building cladding will reach ground level.



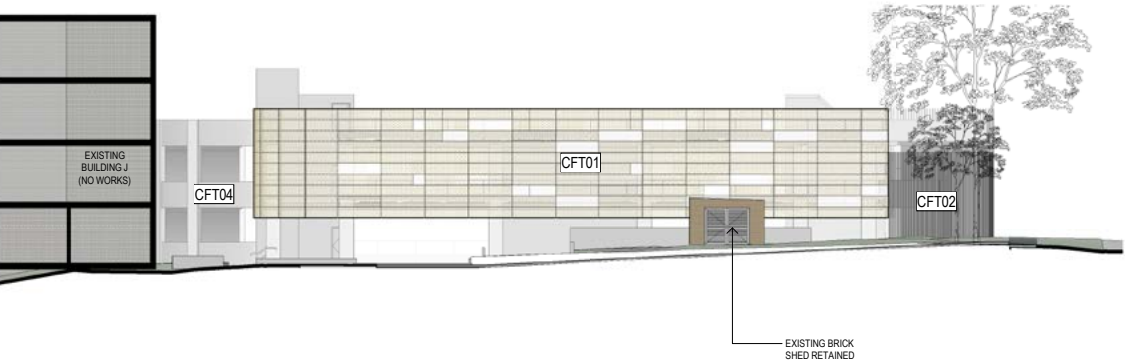
FACADE ELEVATIONS



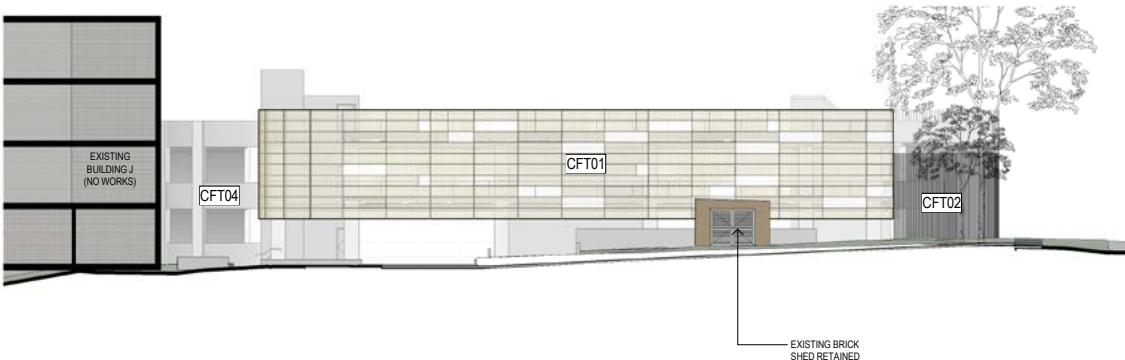
NORTH ELEVATION



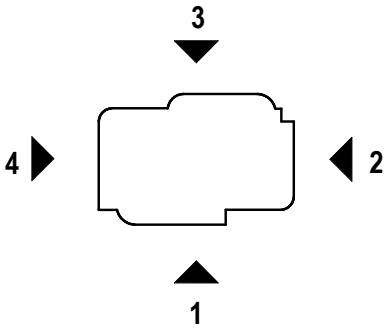
EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION



FACADE TYPE LEGEND

CFT01	PERFORATED METAL SCREEN MIN 50% PERFORATION TOTAL
CFT02	VERTICAL CLADDING BATTENS
CFT03	FOLDED METAL AWNING
CFT04	EXPOSED CONCRETE
CFT05	BLOCKWORK

7.0 Landscape Design

LANDSCAPE PLAN



8.0 Parking & Area Summary

TAFE PARKING & AREA ANALYSIS

CAR PARKING SUMMARY

The proposed amendments to the design will see the originally proposed 200 carparking spaces split between the Multi Trades and Digital Technology Hub and the new carparking structure. The site proposed for the new car parking building currently caters for 77 car parking spaces, this number will also be catered for in the new construction, requiring at total of 277 spaces between the two buildings.

MULTI TRADES AND DIGITAL TECHNOLOGY HUB

34 Standard Car Parking Spaces

2 Accessible Spaces

Total – 36 Spaces

NEW CARPARKING STRUCTURE

Ground Level – 71 standard car parking spaces; 6 Accessible Spaces

Level 1 – 75 Standard Car parking Spaces

Leve 2 – 89 Standard Carparking spaces

Total – 241 Spaces

GRAND TOTAL – 277 SPACES

AREA SUMMARY

MULTI TRADES HUB

The removal of the lower level of carparking to the original design submission of the Multi Trades and Digital Technology hub sees a reduction in the region of 3,800m² floor area.

The redesign of the upper level of carparking to accommodate 36 spaces sees a reduction in the region of 1400m² of floor area.

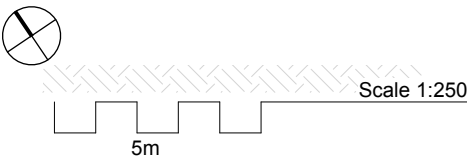
NEW CAR PARKING STRUCTURE

The floor plate areas of the new structure are approximately 2200m² per floor, excluding the connecting ramps, giving a total floor area in the region of 6600m².

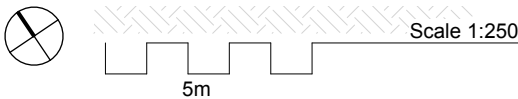
9.0 Architectural Drawings

AMENDED MULTI TRADES AND DIGITAL TECHNOLOGY HUB

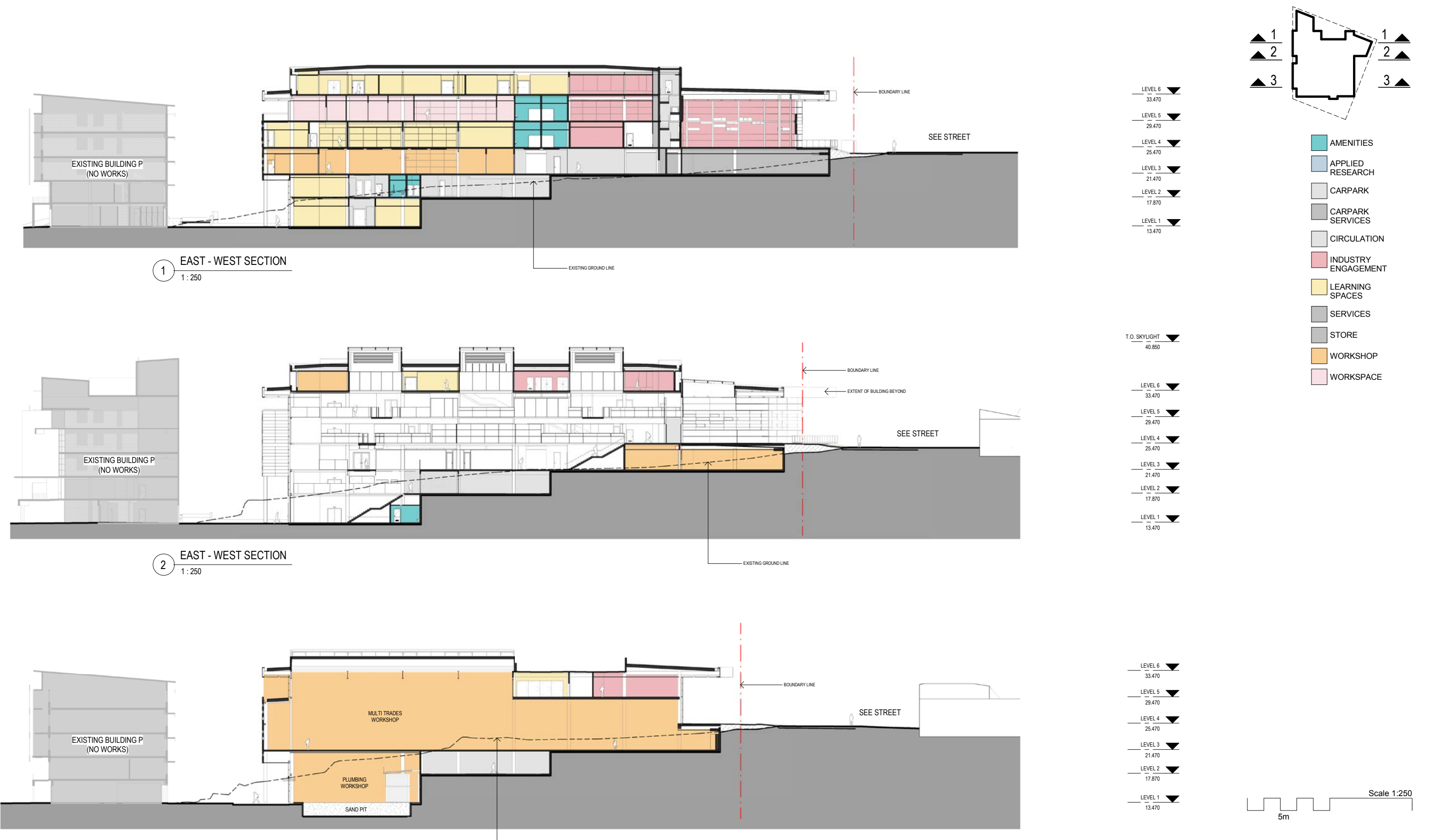
LEVEL 01 PLAN



LEVEL 02 PLAN



SECTIONS – EAST WEST



SECTIONS – NORTH SOUTH



1 SOUTH - NORTH SECTION
1 : 250



2 SOUTH - NORTH SECTION
1 : 250



T.O. SKYLIGHT ▼
40.850

LEVEL 6 ▼
33.470

LEVEL 5 ▼
29.470

LEVEL 4 ▼
25.470

LEVEL 3 ▼
21.470

LEVEL 2 ▼
17.870

LEVEL 1 ▼
13.470

T.O. SKYLIGHT ▼
40.850

LEVEL 6 ▼
33.470

LEVEL 5 ▼
29.470

LEVEL 4 ▼
25.470

LEVEL 3 ▼
21.470

LEVEL 2 ▼
17.870

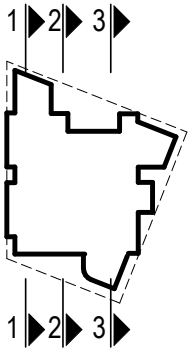
T.O. SKYLIGHT ▼
40.850

LEVEL 6 ▼
33.470

LEVEL 5 ▼
29.470

LEVEL 4 ▼
25.470

LEVEL 3 ▼
21.470



- AMENITIES
- APPLIED RESEARCH
- CARPARK
- CARPARK SERVICES
- CIRCULATION
- INDUSTRY ENGAGEMENT
- LEARNING SPACES
- SERVICES
- STORE
- WORKSHOP
- WORKSPACE

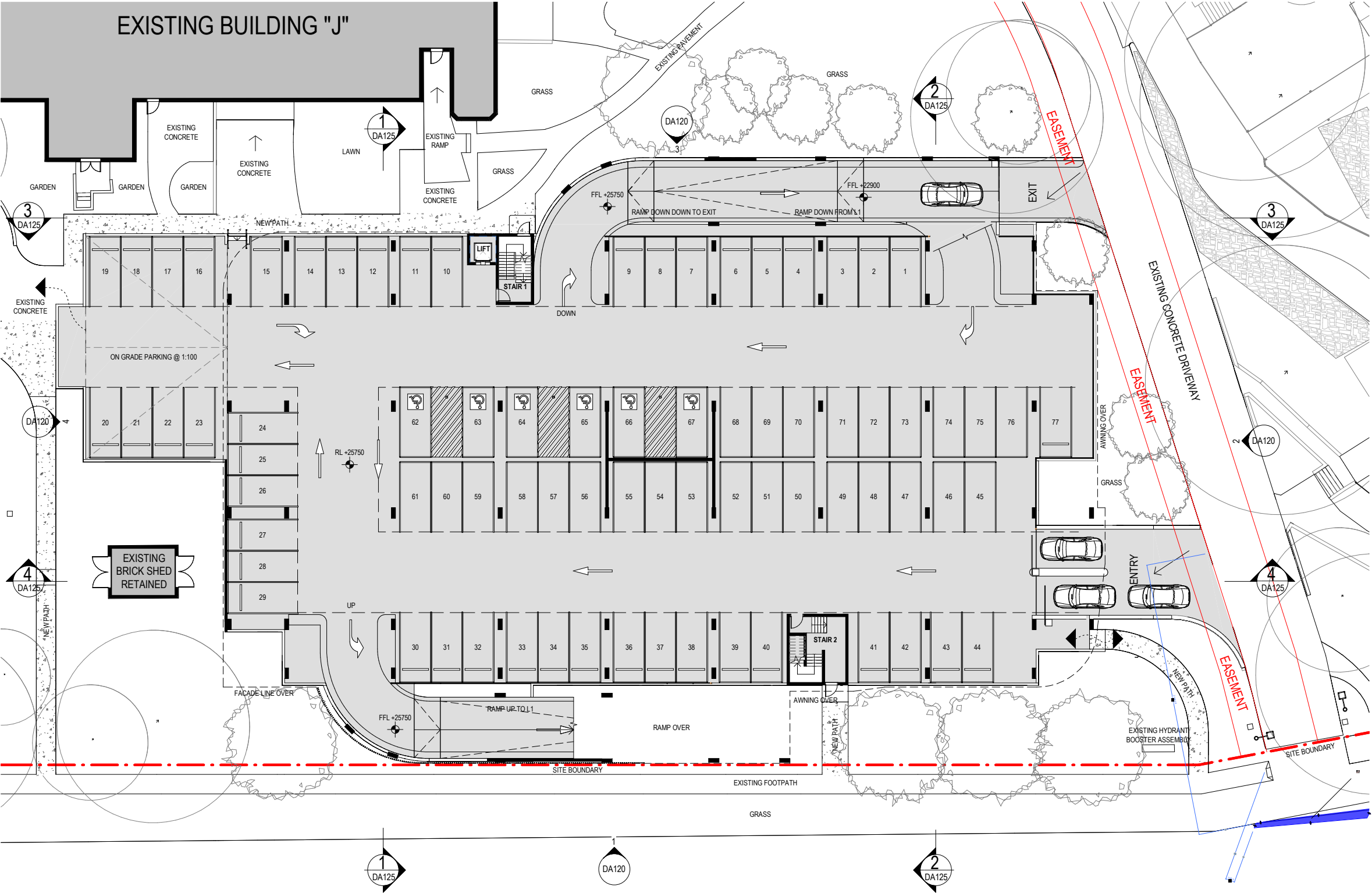
Scale 1:250

5m

10.0 Architectural Drawings

CAR PARKING

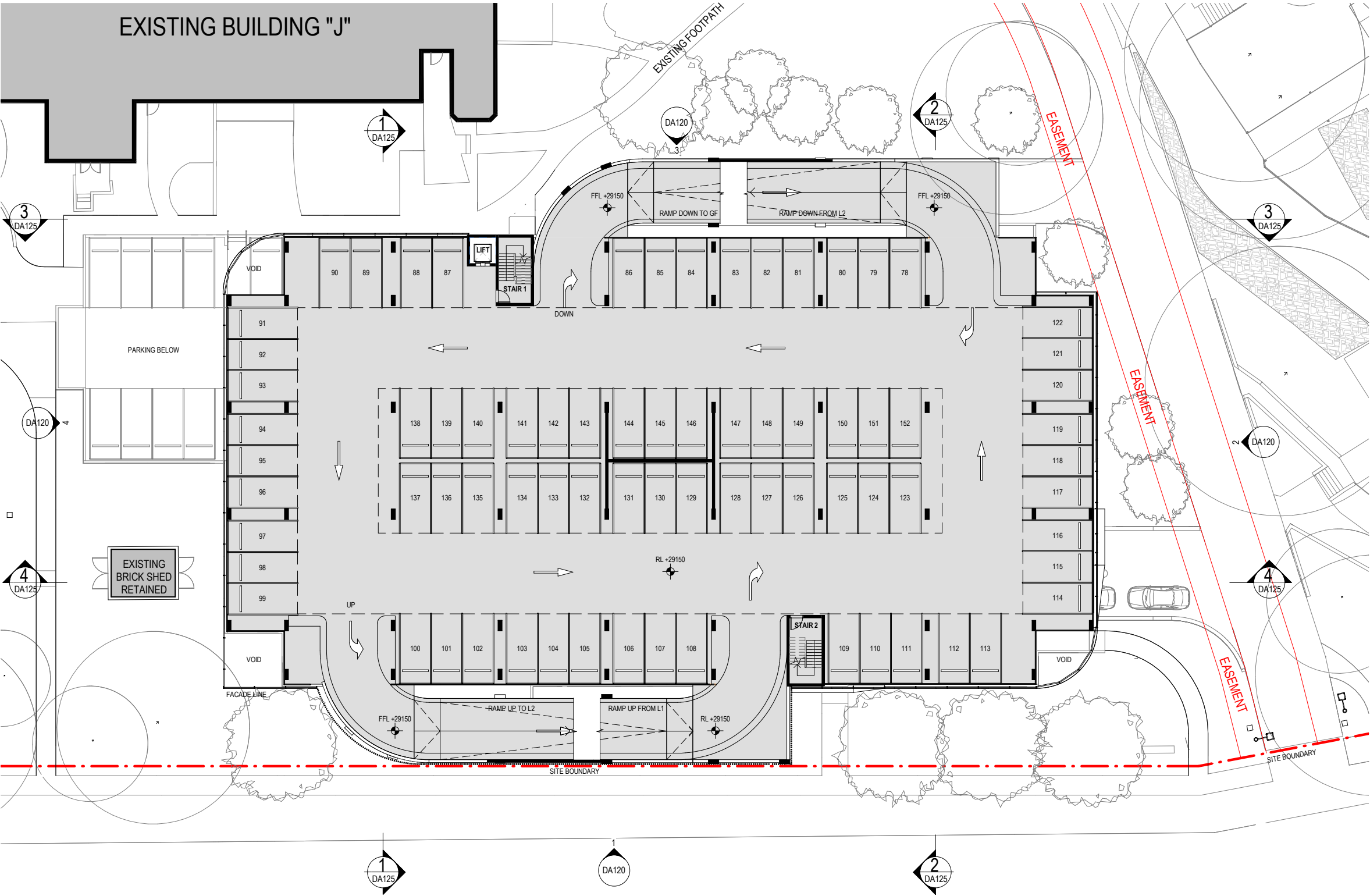
GROUND FLOOR PLAN



1 GROUND FLOOR CARPARK
C2000 SCALE 1:200

SEE STREET

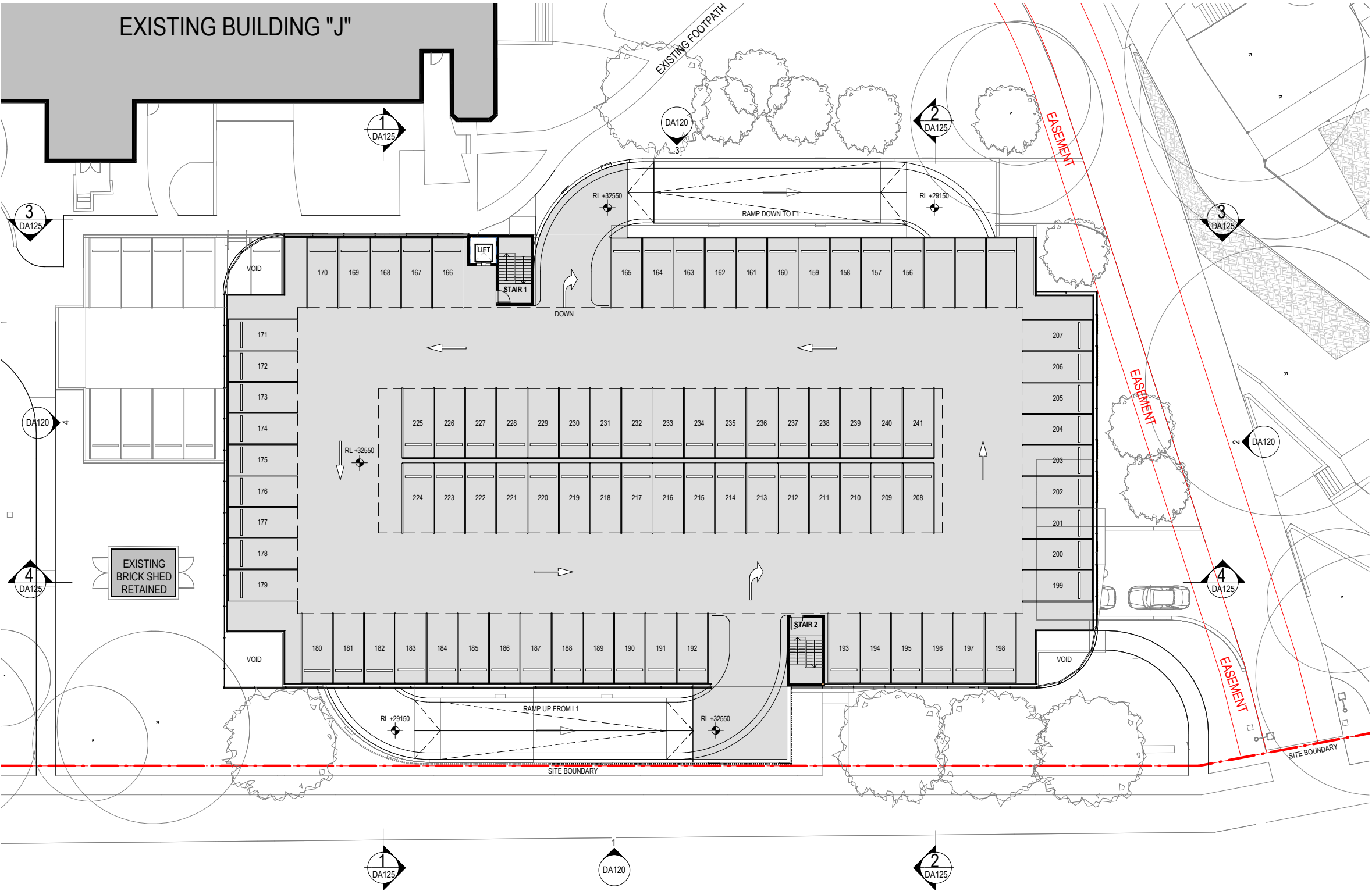
LEVEL 1 PLAN



1 LEVEL 1 CARPARK
C2000 SCALE 1:200



LEVEL 2 PLAN

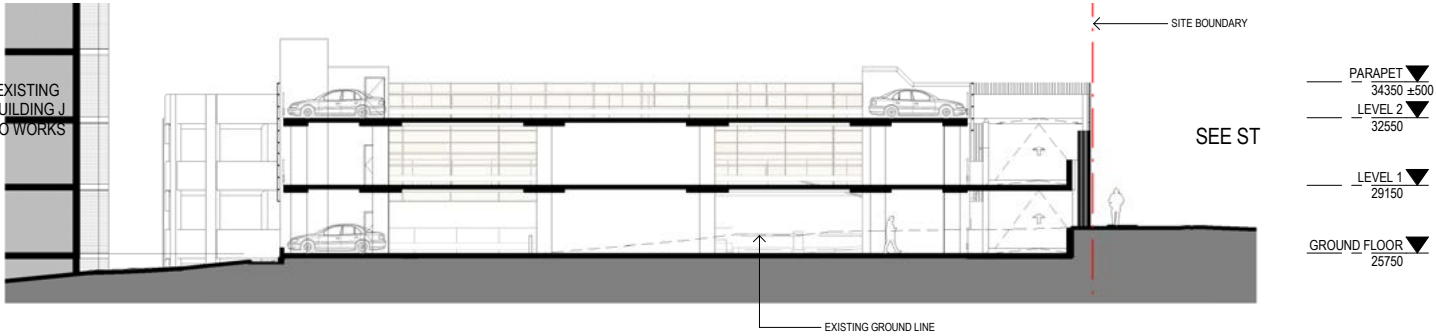


1 LEVEL 2 CARPARK
C2000 SCALE 1 : 200

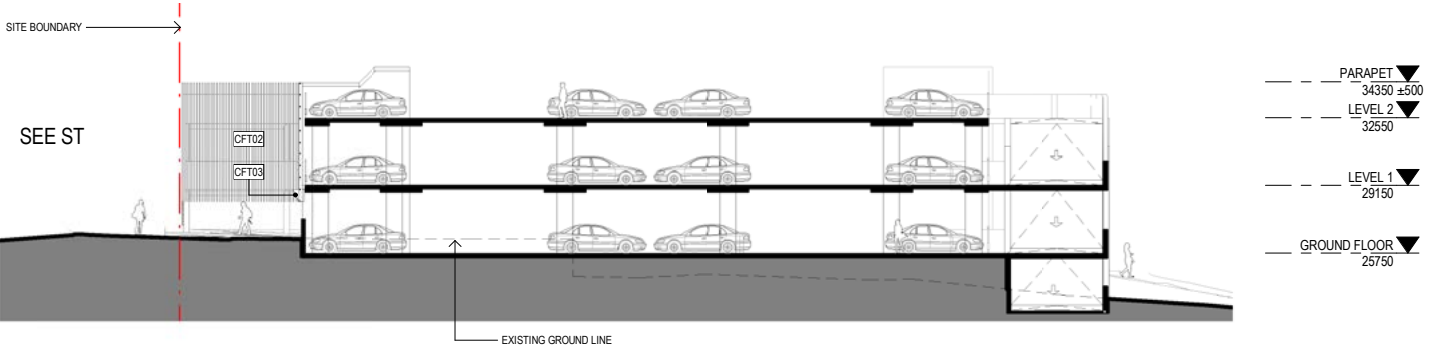
SEE STREET



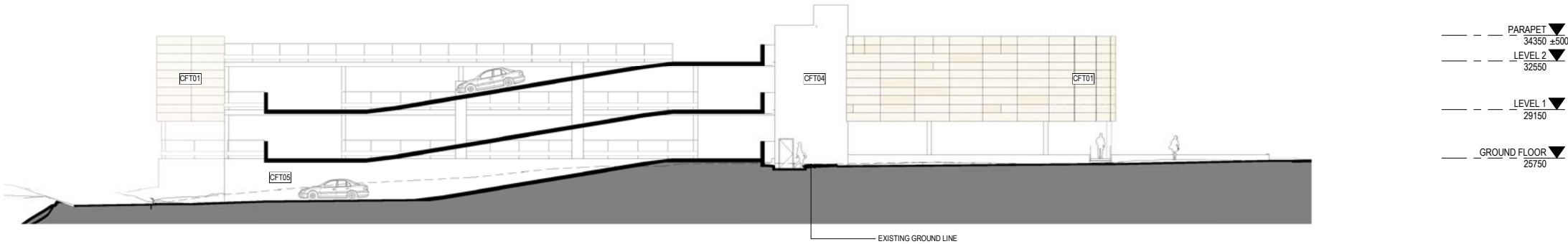
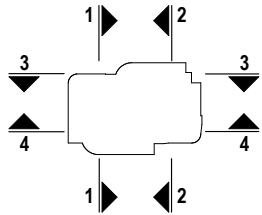
SECTIONS



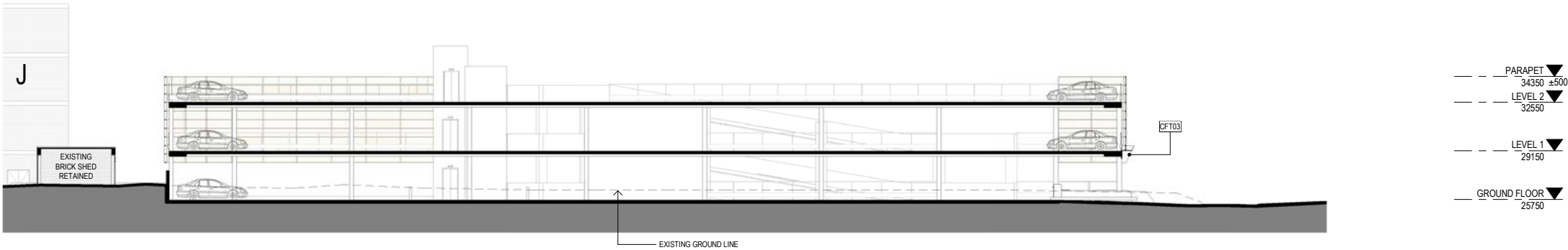
1 WEST-EAST SECTION
DA100 1 : 200



2 WEST-EAST SECTION
DA100 1 : 200



3 NORTH-SOUTH SECTION
DA100 1 : 200



4 NORTH-SOUTH SECTION
DA100 1 : 200

