EJE architecture

THE INNOVATION HUB + SCHOOL OF CREATIVE INDUSTRIES

The University of Newcastle, Honeysuckle

SSD Report

15th July 2019 (Rev.D)

Contents

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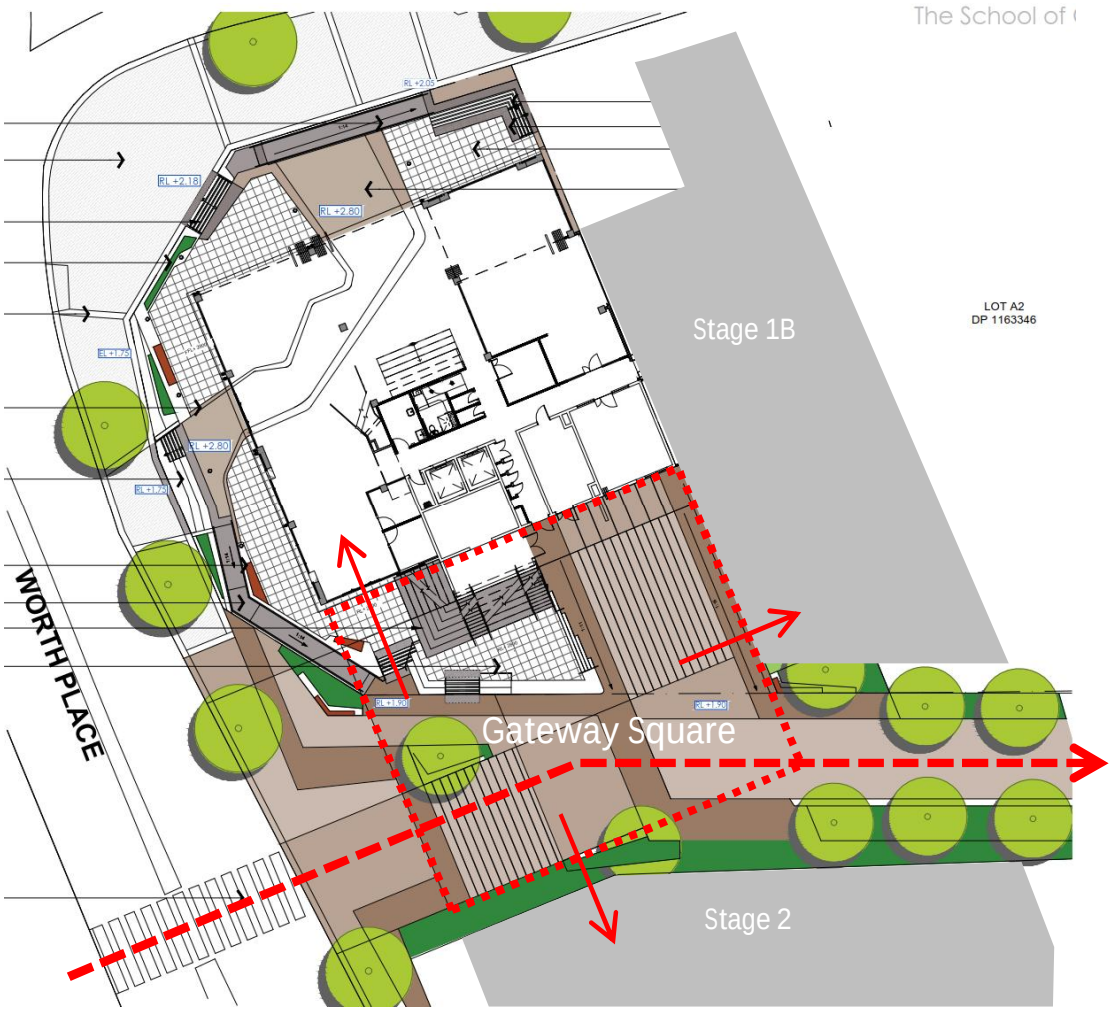
DESIGN EXCELLENCE

The Design has been presented to the Design Excellence Panel over three sessions. The Concept was presented at Session 1 (Sep 2018), whilst a preliminary Schematic design was presented during Session 2 (Nov 2018) with a more developed Schematic design presented during Session 3 (8th May 2019). The panel provided a largely supportive appraisal consistent with the design intent for Better Places over the first two sessions however sought revision to several areas, particularly with respect to the ground plain and its response to context and the future University Masterplan.

As a result of Session 3 a number of changes have been made to the design. The panel summarised their feedback into three base principles to which commentary has been prepared to outline the resulting design responses. The following is intended to read in conjunction with Rev B of this Report which proceeds the response to Session 3.

Resolve the public domain design and demonstrate a single coherent space framed by buildings 1A, 1B and 2, which also takes account of the university spine and servicing route.

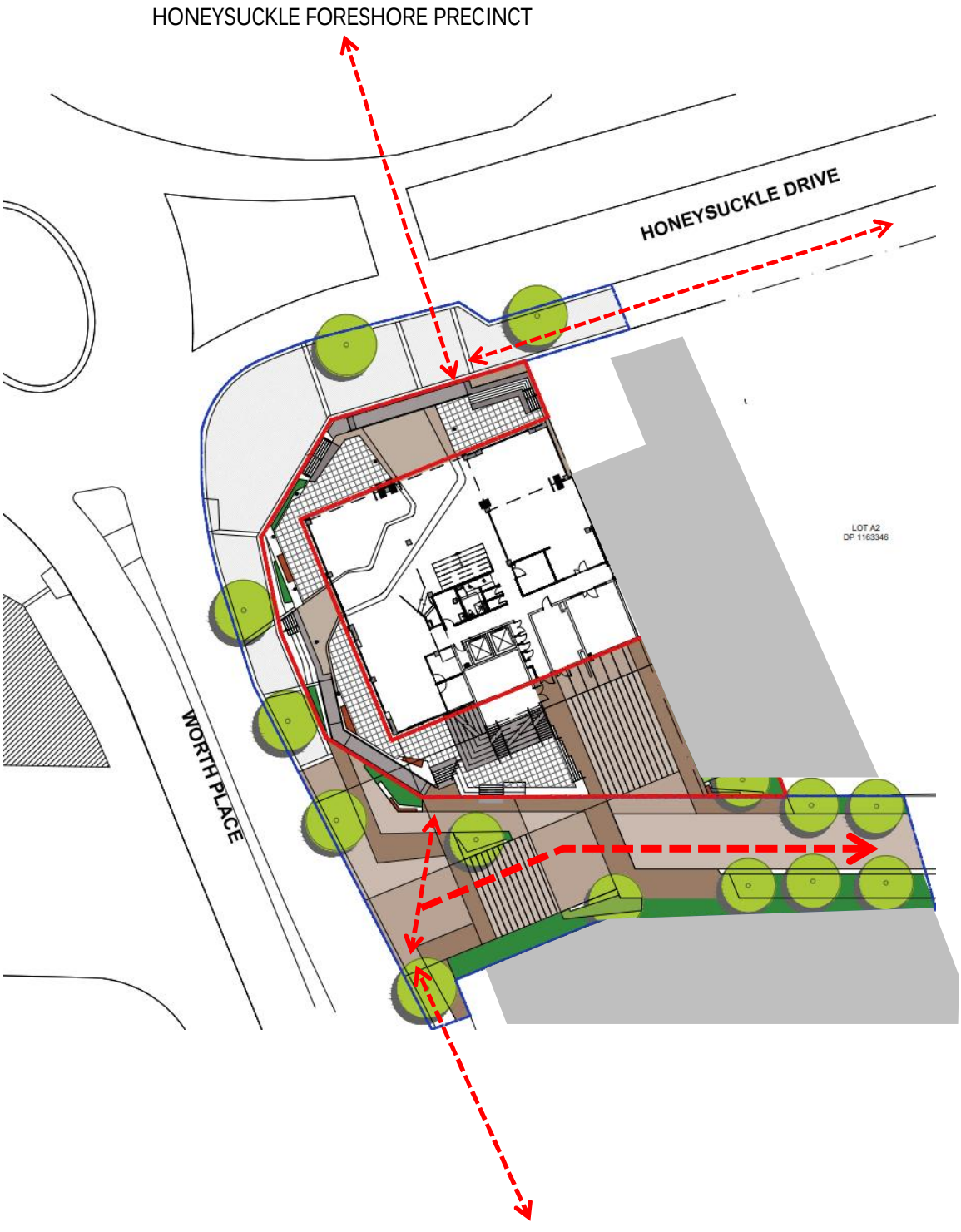
A design has been developed for a new southern square which provides the starting point for the future pedestrian spine from Worth Place. The square encompasses a large portion of Stage 1a and has been shaped by the edge of Stage 1b and Stage 2, and proportioned to match the ground floor plan of Stage 1A. The internal program of Stage 1a has been adjusted to increase activity along the southern boundary, and together with a new southern building entry and external program activate the Gateway Square.



Resolve the public domain design and demonstrate inclusivity (both in terms of DDA access from key approaches, and how the building embraces its civic role, the 'stage in the city').

The landscape podium design in concert with the reconfigured internal ground floor program seek to improve connections with its context. Disability access ramps and stairs are located off the key pedestrian approaches from the Honeysuckle Foreshore precinct to the north and Hunter Street to the south, and lift pedestrians onto the landscape podium.

A new southern entry, relocated maker space to the southern façade support the main western building entry and operable northern facade and their activation of ground floor plain and surrounding context inviting people into the activity of the building. A new external tiered external learning space within the new Gateway Square extends the 'stage in the city' concept outside of the building.



A new approach has been undertaken in conjunction with the University in relation to servicing of the building to minimise vehicular movements within Wright Lane.

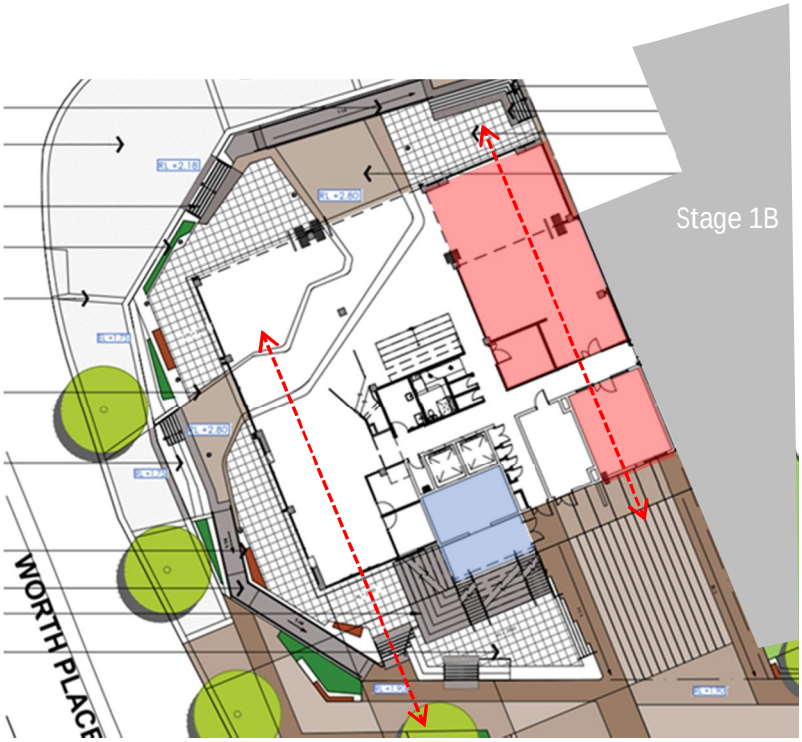
The relocation of the Honeysuckle Drive access ramp in concert with the existing short-term loading zone (noted in red) provide an opportunity for deliveries to the building, including student works or receipting and returning equipment.

A temporary waste enclosure has been located on Site 1B (to be absorbed into the future development of Site1B, along with the secure bike store). Waste bins have been sized to be wheeled to the Worth Place kerbside for pick up.

The above initiatives seek to minimise vehicular movements within the new Gateway Square to emergency services or maintenance vehicles only..

Further iterate the ground floor interfaces, particularly the southern façade;

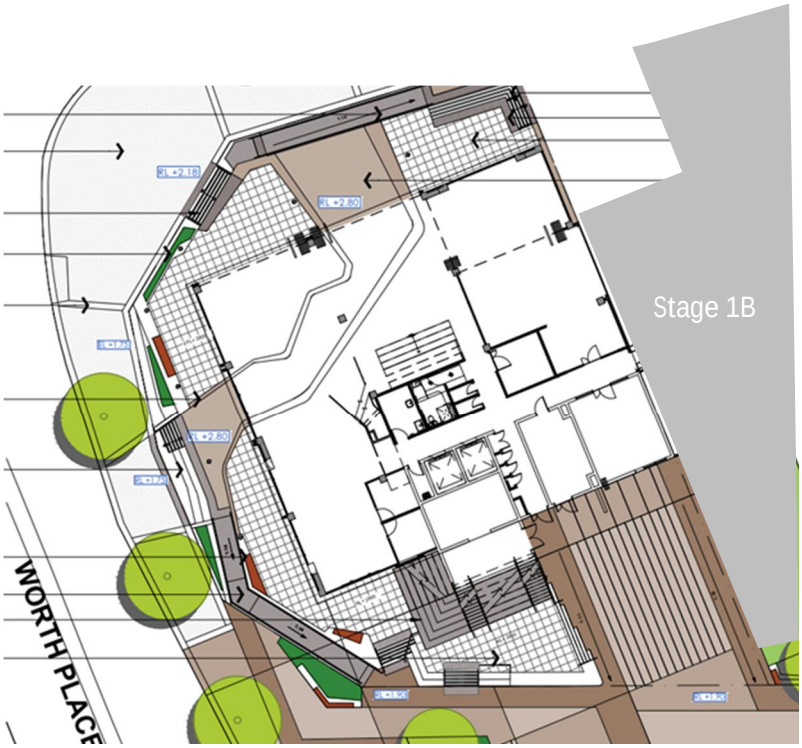
The internal ground floor program has been adjusted to provide activity along the southern street frontage and the future University pedestrian spine. Several building services rooms such as toilet amenities, sprinkler pump and main electrical rooms have been relocated away from the eastern edge of the ground floor to enable the Maker Space program to reside along the whole eastern boundary linking the north and southern facades. The maker space program (indicated in red) now opens directly out onto the southern public square. In addition, the relocated sprinkler pump room (indicated in blue) has been concealed by a new tiered outdoor space, providing further interest along the southern façade and activating the Gateway Square.



A new southern building entry has been developed to address the approach from Hunter Street and expansive view to the southern building frontage via the light rail realignment curtilage. The southern entry also contributes to the Gateway Square, that serves as the western gateway to the campus.

Further iterate the ground floor interfaces, particularly opportunities for interstitial and outdoor learning spaces;

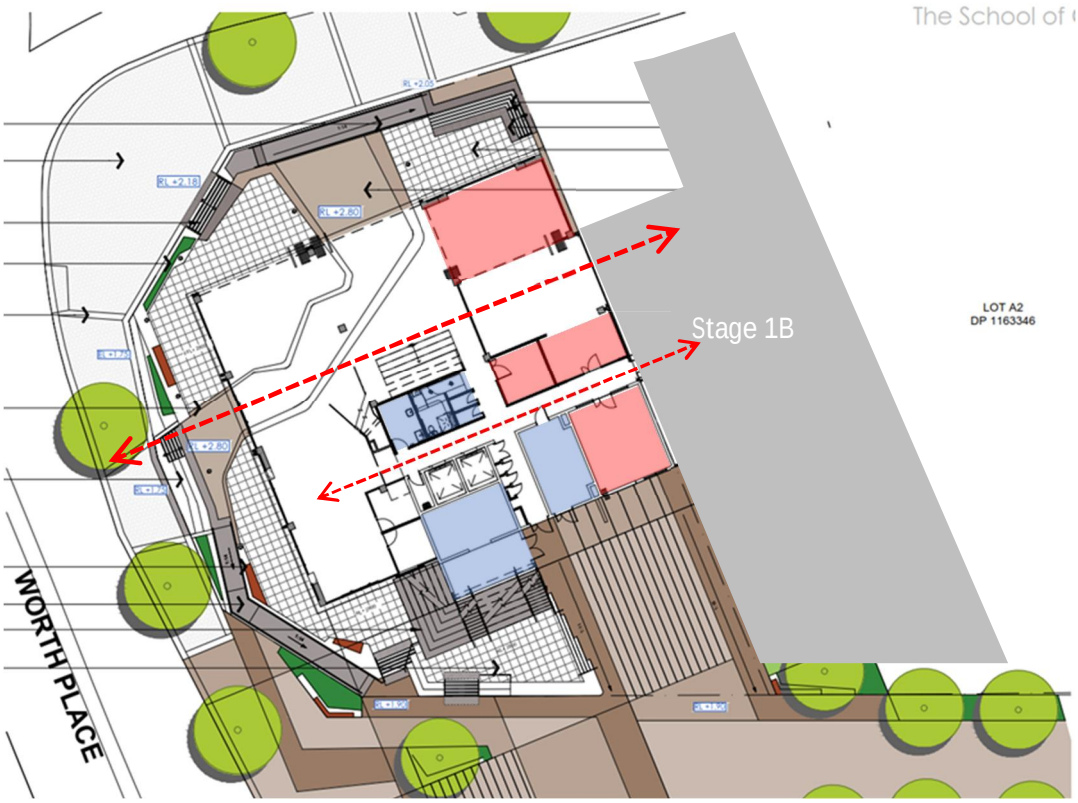
Several building services rooms such as the sprinkler pump and main electrical rooms have been relocated along the southern boundary to facilitate connection of the Maker Space program with the southern square. The sprinkler pump room now resides under the fire stair which stops at the mezzanine level and discharges to a series of exterior stairs which descend to ground level. The two exit stairs are linked and expanded to develop an external tiered seating space that conceals the sprinkler pump room from view and provides an outdoor learning space. The top landing is afforded services to facilitate a mixing and lighting desk, whilst the bottom landing has been expanded to form a stage.



Services have now been provisioned such that the Western Façade as well as the southern façade can be projected onto. The content is intended to be curated by the School of Creative Industries to showcase student and staff work, as well as offer the Innovative Hub to celebrate member innovations When not in use for broadcasting images, the projectors may simply project coloured light to highlight significant awareness campaigns or provide a vivid installation within the city. The inclusion of the of the Western Façade seeks to contribute activity to the newly developed Gateway Square, which serves as the future gateway to campus.

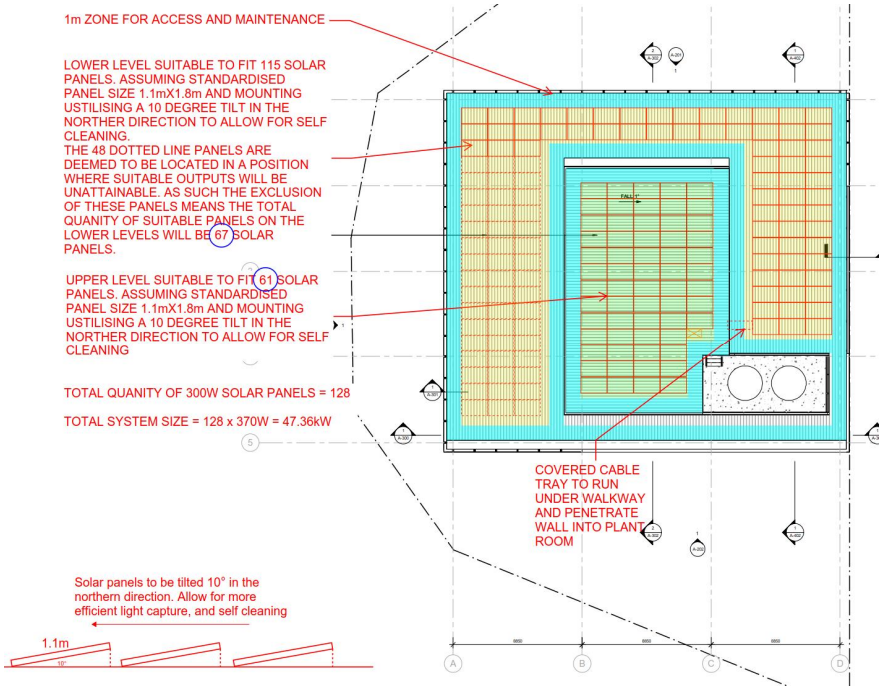
Further iterate the ground floor interfaces, particularly opportunities for the relationship and connections to building 1B;

The internal ground floor program has been adjusted to improve future thoroughfares to Site A2. Several building services rooms such as toilet amenities, sprinkler pump and main electrical rooms (highlighted in blue) have been relocated away from the eastern edge of the ground floor to provide a flexible spatial use and improve opportunities for future connections. In addition, the maker space program (indicated in red) that resides along the eastern boundary has been divided into several zones including an infrastructure intensive machinery room which is anchored to the one end of the boundary under the core. The residual studio maker space functions can be further divided to provide a future generous thoroughfare extending the main building foyer and gathering space through to Site 1B. A secondary pathway off the lift foyer to Stage 1b remains.



Demonstrate resolution of the sustainability strategy, and, in particular the roof plane;

The building design is seeking minimum 5 Star Greenstar Design and as-built. The approach to sustainability has been multifaceted and encompasses significant initiatives with respect to structure adopting CLT, through to a high tech solar controlled thermal façade and a services design which adopts a hybrid heating and cooling solution. The AC system has an economy cycle and together with oversized ductwork allow ambient air to be drawn into the building when suitable using variable speed control fans powered by an expansive solar panel farm on the roof top.



The Ground floor teaching and learning spaces are afforded the opportunity to be natural ventilated via large operable walls and openings within the façade, that also allow the spaces to bleed out onto the surrrounding ground plain.

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The building footprint has been shaped and sited to provide opportunities for Site A2 to address the western approach to the precinct along Honeysuckle Drive and Wright Lane.

The floor to floor heights of the building have been adjusted to provide for flexible distribution of function vertically within the building. This has allowed the black box studio to relocated to the Level 1 and avail ground floor footprint for more activated and engaging functions, including the Flexible Event Space, 'Innovation Common' and Maker Space. The Flexible Event Space allows for public gatherings including celebrations, exhibitions and presentations facilitated by tiered seating element that conceals a meeting and store room.

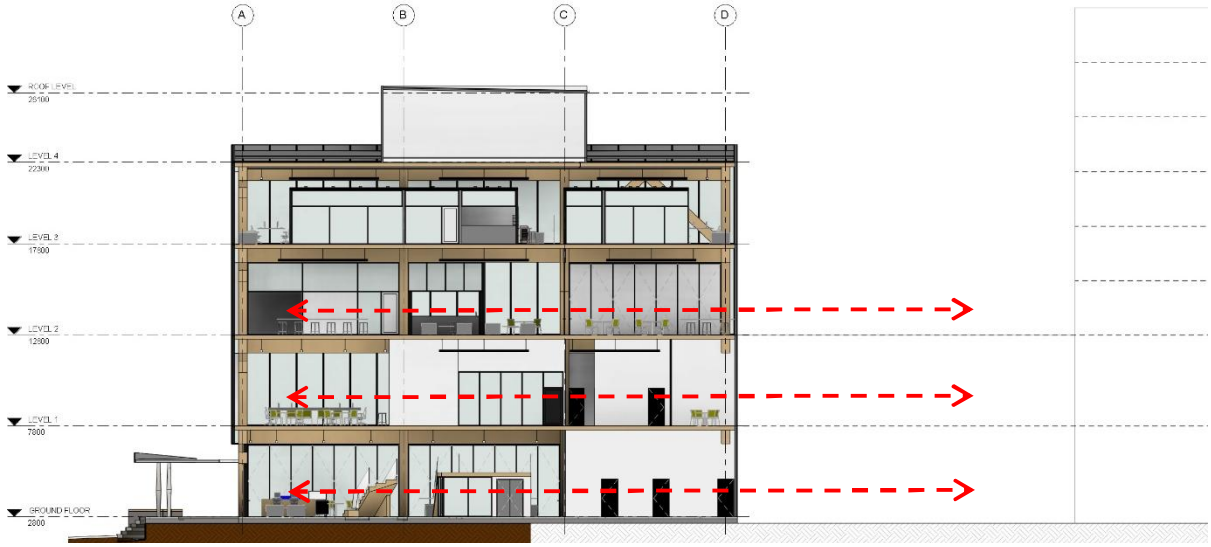
Level 1 is dedicated to black box studio spaces including film and animation. Internal walls are set back from the façade to the north and east to create window boxes to facilitate exhibition. A student common is allocated to the western side of the building to provide transparency of activity to the western gateway to the campus. Solar and heat gain is controlled through active tinting to the glass, which is activated as required by solar conditions.

Resolution of the Ground Floor interface, in terms of façade, program and access.

The ground floor program has been allocated to functions within the project brief that foster engagement with the surrounding public domain visually and physically.

The program allows for the Flexible Event Space to open and expand into the public domain. The Maker Space has been located such that is can facilitate future activation of a public square (formerly referred to as Black Box Square). The Makerspace can alternatively be reduce in footprint to allow a broad internal avenue through to the square or an adjoining podium of Stage 1B.

The southern landscape space in designed as an external interactive sculpture and artefact garden, forming an engaging external gateway to the campus. The space expands the curtilage afforded to the south western corner of the building by the realignment of the light rail and the resulting public open space.



Stage 1A Section and plan indicating Stage A2 Conncections

Active tinting provides solar control to the building façade, allowing the façade to remain as transparent as possible throughout the day and night. The façade is intentional minimal in part to provide a canvas for afterhours illumination and image broadcasting on the outer skin of the building, allowing user disruption of the building's appearance.

The awning has been reshaped to provide a more identifiable main entry off Worth Place. The curved forms of the awning witnessed in plan have also been introduced in elevation, creating a greater three dimensional presence in combination with the contours of the ground plane. A variation in material at the entry provides a point of difference, whilst ensuring to maintain the amenity of protection and shade.

The glazing line of the ground floor has been located to expose the timber under the protection of the external awning.

Further resolution of the sustainability strategy, and in particular the roof plane.

An HVAC strategy has been developed which decentralises plant rooms to the floor they serve. This in turn minimises the size of rooftop plant and maximise the available main roof area for PV.

An accessible roof was considered with the client however it was believed based on experience with similar height assets in the city to be underutilised due to adverse weather conditions largely caused by wind. Further it was deemed to present an unacceptable risk by the client of potential failure of waterproof membranes due to the inherent movement of the timber structure. In addition, there is also a desire by the client to minimise concealed downpipes within the main timber framed footprint which would result by draining a flat accessible roof. As a result, a mono pitch framed metal roof has been designed to distribute stormwater to the concrete core.

Mixed mode HVAC has been designed into the ground floor allowing large expanses of the façade to open onto the landscape and draw in natural air during periods when the façade is opened up for events or take advantage of the weather conditions.

The upper levels of the façade are sealed to minimise leakage. However, an economy cycle system has been designed to draw large volumes of fresh air into the building, and only tempering when comfort levels require. In addition, CO2 sensors have been allocated to internal spaces to allow air volumes to be demand driven.

BETTER PLACES

Better Places are created by a well-designed built environment that is healthy, responsive, integrated, equitable and resilient through excellent design processes that are iterative, collaborative, circular and intertwined and based on research analysis and precedents that discover, create and deliver.

Innovation comes from a desire and aspiration for our future, using creative intelligence, lateral thinking and collective information that is inclusive.

EJE Architecture has imagined a new School of Creative Industries & Innovation Hub for the University and City of Newcastle that fits its local context and is of its place but stands as a national and international beacon of creative and innovative thinking.

The overarching design is one of Showcasing. Showcasing that is sustainable, adaptable and durable and is for creative people and a creative community with the emphasis on innovation and quality.

A Place that is better for working. A place that is inclusive, safe and comfortable yet efficient functional and fit for its purpose. A place that creates value and continues to add value through environmental and economic benefits for the communities of the University and the City of Newcastle.

EJE Architecture's design for SOCI & IH is an interactive explosion of activity on the ground plane creating a place that interacts with the public realm with energy and vibrancy that allows expression and performance to dominate the spaces created.

A ground floor has been created to pay respect to the place upon which this new building sits. A midden of indigenous culture represented by a polished concrete floor incorporating shells and deposits from local archaeological excavations representing tens of thousands of years of Awabakal and Worimi people's occupation of these lands.

The tower floor plate is adaptable to enable future reconfiguration. The location of the core provides an access to natural light and outlook, for the well being of users. The form of the tower provides interest in the skyline particularly as a canvas for afterhours displays.

In summary we believe the revised concept design meets the criteria set down by the NSW Government Better Places.

BUILT FORM AND URBAN DESIGN

(ref. Appendix E – UoN Honeysuckle City Campus Development – Design Guidelines)

As the western gateway and first stage of the Honeysuckle Campus, the project provides an opportunity for the University to host 'performance and innovation'.

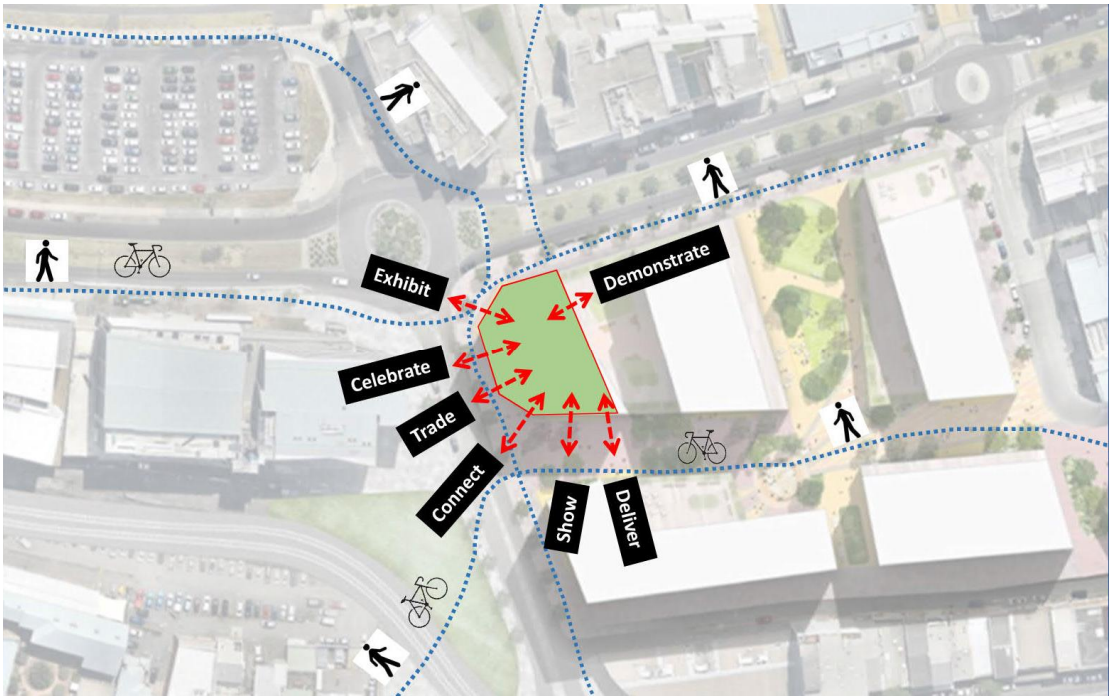
The vision for the proposed design of the Stage 1A project was conceived as a 'Stage within the City' to expose the theatre of creation and innovation.

The design solution seeks to overturn *"the 1960s and 70s movement where regional arts institutions appeared to be more concerned with the construction of grand buildings that testified to their own importance than with the vagaries of artistic development".* It seeks to place the creator, artist and innovator at the centre.

The resulting design is a working gallery that showcases the activities within and serves as an artistic installation within the urban fabric, providing a contemporary canvas for light and display.

The design has been fine-tuned in concert with the brief to produce an efficient building with built in flexibility to adapt to future accommodation needs. The core is spatially economical and located to maximise free space within the floor plate. Similarly, the structural grid design coupled with generous floor to floor heights facilitates future size and shape of spaces, from large open studios and workspaces to smaller enclosed structured spaces.

The refined building footprint and siting provides for a generous external urban space bounding the three street frontages. The landscape provides an interstitial zone for activity to extend beyond the façade line and affords an opportunity for initial interaction between the University and the community. Using the existing level changes within the site to form tiers, troughs and steps, the landscape design incorporates a series of external rooms providing for meetings, presentations, markets, performance and informal workspaces. The forms have been generated using converging lines of the original riverbank, like ripples in the water to form organic lines contrasting the efficiency of the orthogonal building footprint.



North Western Street Frontages

South Western Street Frontages

BUILT FORM

The building form is separated into a podium and tower element. The podium has been designed to generate activity at street level and is envisaged as an extension of the urban setting. Its materiality is largely transparent along the street frontages. The podium exposes the structure at the façade line and affords connections to the external awning that weaves around the building podium.

The tower however is minimalistic and provides a high-level canvas for students, teachers and innovators to project digital representations of their diverse work outward to the city for public viewing. Furthermore, it affords the University a permanent 'Vivid' installation, allowing lighting to alter the visual condition of the building.

An awning mirroring the lines within the landscape wraps the street frontages to provide cover for functions including market stalls for creators to work, exhibit and sell their works. The awning provides an opportunity to harness energy through potential use of PV impregnated glazing, providing filtered light, like the leaves in a tree. In addition, the awning provides for future kinetic and static lighting installation that alter in intensity, colour and pattern.

The façade of the building is designed to be highly transparent to communicate the inner workings of the building to the community. Its minimalist appearance seeks to contrast the richness of the activities within and in doing so provides a canvas for the artist, creators and inventors to utilise for future digital installations including light and animation. Equally the façade can be internally furnished to block out the external environment as user function requires such as the Black Box Studio, through the creation of "a box within a box." The contemporary digital veil allows the primary building façade to be a sophisticated energy efficient membrane free of appendages that may disrupt views of the inner workings of the innovative and creative endeavours within. On dusk it has the ability to transform into a vibrant kinetic display or gallery.

In summary the design for the building provides a warm timber scaffold wrapped within a contemporary sophisticated digital canvas supporting an agile brief for now and into the future both within the façade line as wells as its curtilage where the community meets the institution.

Active street frontages encourage visual engagement and connection with the public domain

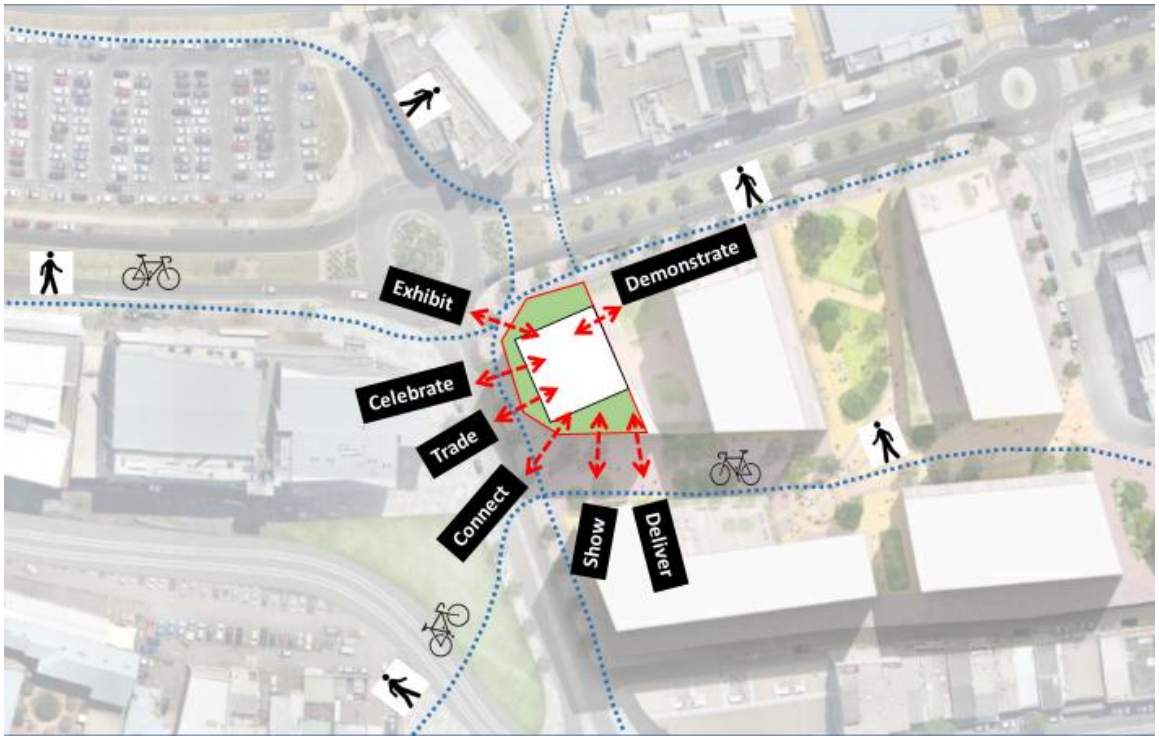
PUBLIC DOMAIN

Located at the western gateway to the Honeysuckle Campus, the design seeks to activate all three street frontages including Honeysuckle Drive (North), Worth Place (West) and Wright Lane (South). The eastern edge of the site provides for the future A2 project and as a result the internal podium program facilitates expansion of the building into Stage A2. An opportunity exists to establish an additional outdoor public space east along Honeysuckle in the vacant A2 site.

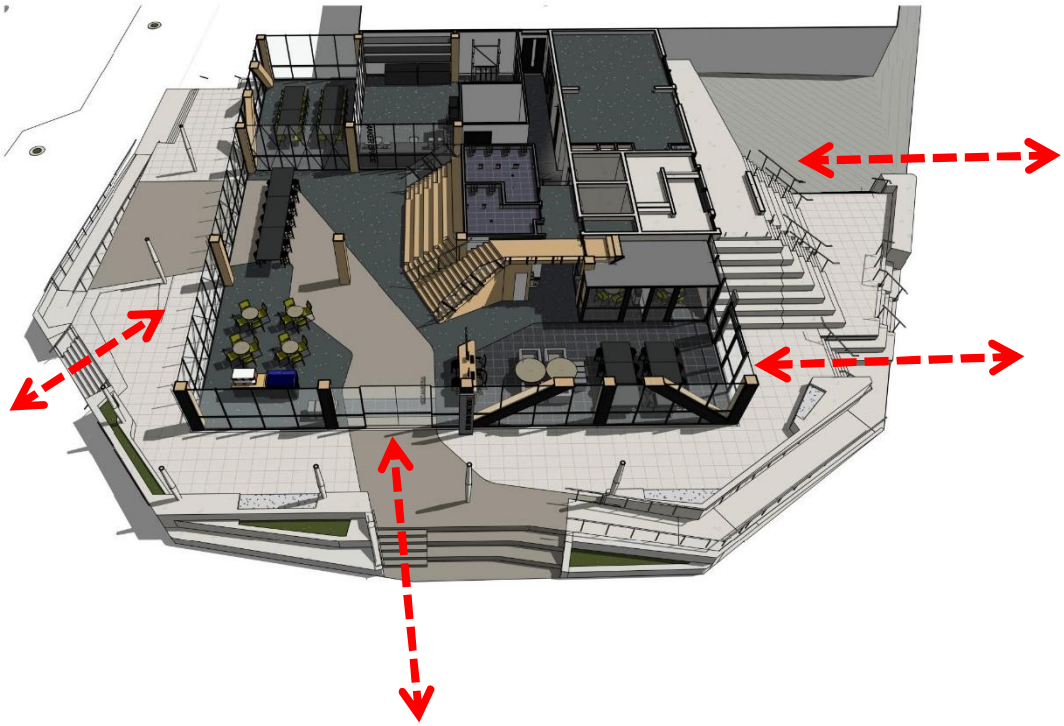
Each adjacent street, lane and public space has its own unique characteristic. Honeysuckle Drive is a bustling vehicular thoroughfare separating the site from the Harbour front. However, two existing pedestrian crossings together with breaks in the existing built landscape adjacent the A1 site provide a visual and physical connection with the harbourside pedestrian promenade.

Worth Place has been established as a vehicular link between Hunter Street and Honeysuckle Drive and is envisaged to become a popular vehicular, cycling and pedestrian thoroughfare between the Civic Precinct and Honeysuckle.

The new Masterplan is seeking to establish Wright Lane as the pedestrian boulevard through the campus. We have envisaged it as a lane dominated by pedestrians and cyclists, however like any lane, allow the intermittent use of service vehicles.



Active street frontages encourage visual engagement and connection with the public domain

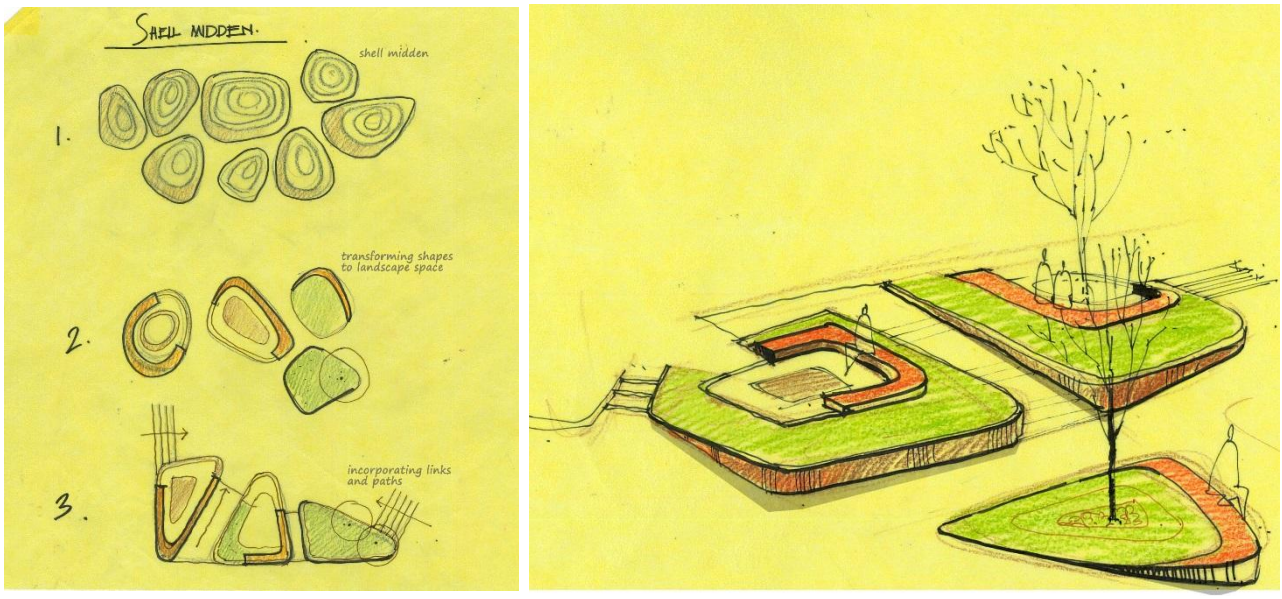


Active street frontages encourage visual engagement and connection with the public domain

LANDSCAPING

The landscape design has been developed through the Schematic phase. The generous curtilage provides an interstitial zone for activity to extend beyond the façade line and affords an opportunity for initial interaction between the University and the community. Using the existing level changes within the site to form tiers, troughs and steps, the landscape design incorporates a series of external rooms providing for meetings, presentations, markets, performance and informal workspaces. The forms have been generated using converging lines of the original riverbank, liken to the ripples in the water to form organic lines contrasting the efficiency of the orthogonal building footprint. In addition, the midden of the former riverbanks are represented in the landscape within the shaping of the seating.

The landscape design affords an opportunity for the implementation of University led environmental research and initiatives. The University's soft plastic recycling initiative has resulted in the fabrication of building materials which are proposed to used in the construction of external bench seating. In addition, examples of student research can be represented. For example Engineering student Charlie Mathers is researching a brick using recycled disused content from aluminium production which has been developed to stage where it can be implemented in low load minor installations such as garden walls or edging. Located around the perimeter of the building the 'Learning Lab' Landscape provides an opportunity for installations that provide a tactile interaction with the public as well as easy access for renewing if required.



Evolution of landscape forms derived from the sites natural heritage (images courtesy Terra Landscape Architects)

INDIGENOUS HERITAGE

The ground on which the project resides in Awabakal Land. A ground floor has been created to pay respect to the place upon which this new building sits. The design proposes a midden of indigenous culture represented by a polished concrete floor incorporating shells and deposits from local archaeological excavations representing tens of thousands of years of Awabakal and Worimi people's occupation of these lands.

Consultation with the Wollotuka Institute have been scheduled through Developed Design phase to consolidate the initial design approach.

NATURAL HERITAGE

The natural heritage of the site has been represented in the landscape design for the project. The site is located on reclaimed land within the original Hunter River alignment. The lines of the original river bank converge on the site to generate the organic shaping of the tiers, troughs and stairs as well as material changes, to deliver a sense of historical natural history and place making on the site.

EUROPEAN HERITAGE

Previous European uses of the site include railway engineering workshops. The buildings were dominated by brick with their functions scaffolded in steel. Several workshop buildings reside in the precinct including the adaptive reuse for the Newcastle Museum.

The proposed use of brick in the landscape design continues the lower strata of the surrounding streetscape, whilst the steel framed awning that extends the ground floor interior supports the artistic controlled environments of the Entry Foyer and Event Space. The overall aesthetic of the podium level seeks to communicate a story of the recent past whilst servicing the creation of the future.

BUILDING USE – (PROGRAM)

Ground Floor

The ground floor program is pivotal around Entry Foyer and Flexible Event Space, onto which the Fast Lab/Clean Tech Maker Space and Innovation Common expand. The angled open stair that funnels entrants upwards into the upper floors separates and defines the Innovation Common from the Flexible Event Space. A 'genius bar' has been included in the brief for ground level and provides a space for staff and students to interact. The ground floor is also consumed by back of house facilities including Main Switch room as well as Waste Store and amenities.

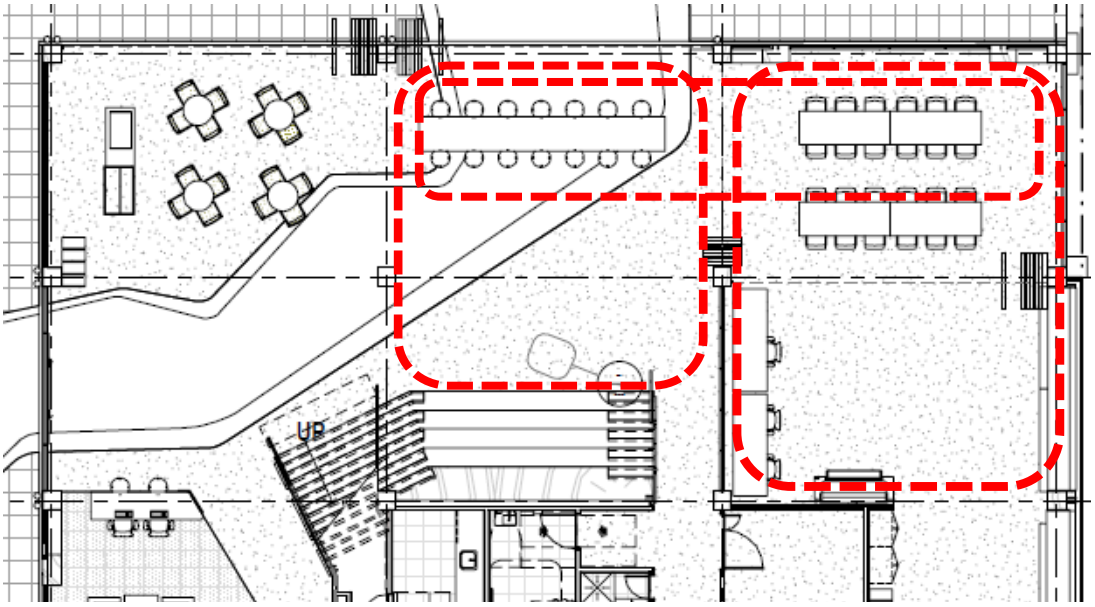
A mobile café is proposed to provide flexible service, and a point of interaction with the building, both internally and externally. The open feature stair leads to level one which has been allocated to the Creative Studio Suite, including student social and critique space, as well as the Black Box Studio and Animation Studio. A meeting room is afforded the south western corner overlooking the generous public space created by the light rail realignment, with an adjacent enclosed office for HDRs.

The Entry Foyer and adjoining Flexible Event Space has been located along the majority of the Worth Place Street Front, however building entry opportunities exist on all three street frontages. The operable glass façade provides an active shop front to Worth Place for the Innovation HUB and School of Creative Industries, opening to support opportunities for commerce between creators and inventors and the community. In addition, its transparency and porosity provide the first of the 'stages within the city' to demonstrate the theatre of creativity and invention as you approach the campus gateway from the west. The Masterplan identifies opportunities for deliveries to the site from Worth Place, which the industrial size openings afford, facilitating larger scale receipt directly into the Flexible Event Space.

Ground Floor Foyer / Event Space

The Fast Lab/Clean Tech Maker Space has been located adjacent the Entry Foyer and Flexible Event Space and resides along Honeysuckle Drive. The siting of the Lab enables it to be opened to the east to a potential new public square on the undeveloped A2 site for outdoor demonstrations. It seeks to play a valuable contribution to an active street front along the adjacent Harbour front, visibly and physically linked to the A2 public square, which may result in a permanent condition within the Masterplan.

To increase the level of flexibility within the Flexible Event Space the café is proposed to be mobile, allowing it to reside in the building or around the podium. A tiered seating area is located in the heart of ground floor and provides for both formal presentations in the event space adjacent the lab. In addition, it provides an elevated space for users to dwell overlooking Honeysuckle drive and through to the harbour. Adjacent, an open stair is the only angled element within the space and draws those entering the foyer upward to the floors above. A Loading entry point completes the Wright Lane street front, located shortly upon entering Wright Lane.

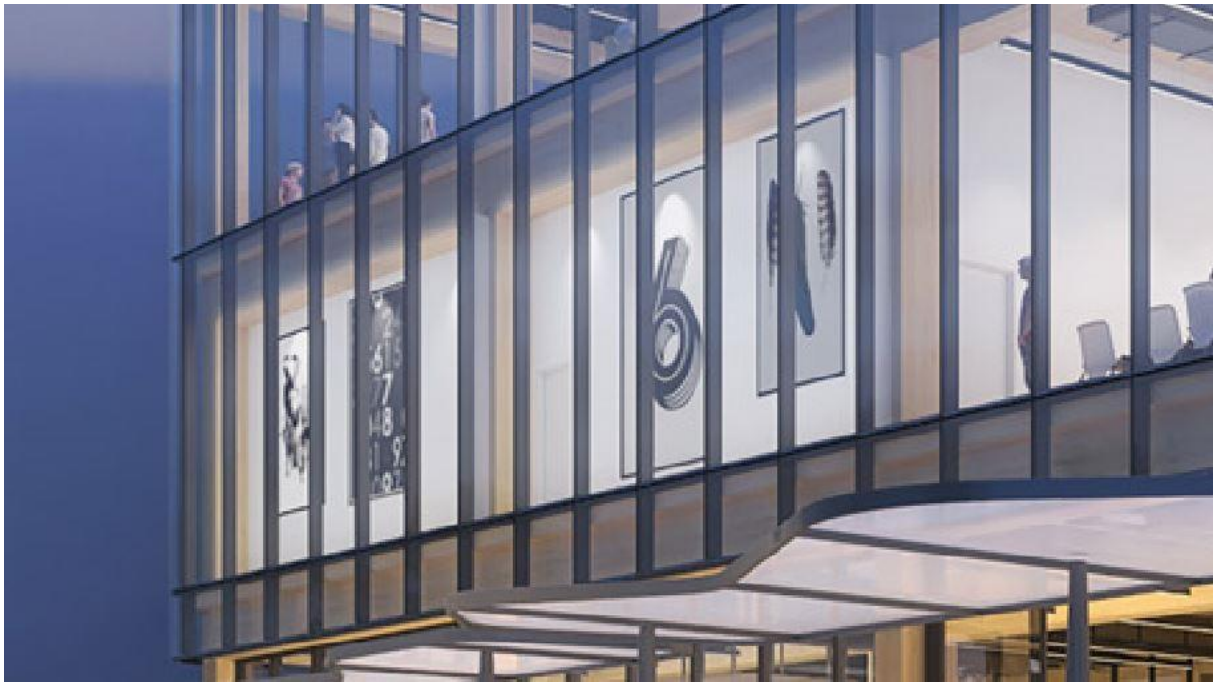


The ground floor plan offers opportunity for expansion and overlap between programs

Level 1

Level 1 houses a mix of specialised SOCI workspace and informal learning, along with adjacent social and breakout space. The specific acoustic and lighting conditions required of programs such as animation and film require a dedicated design response. By insulating these spaces from the external envelope, cavities are created in which to house an ever changing rotation of art and design, creating a gallery within the façade. The proximity between social amenity and informal learning facilitates a natural sharing of ideas, and an accessible hive activity with which to engage.

Level 1 combines a mix of social amenity and informal learning, along with specialised teaching space

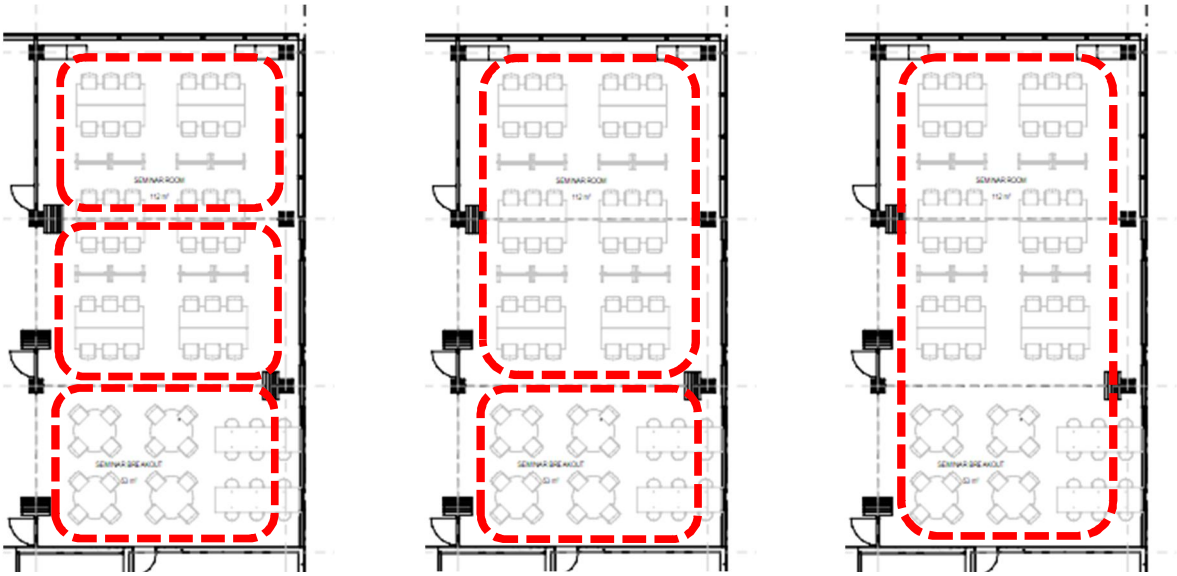


A secondary skin insulating specialised teaching spaces provides opportunity for displaying art

Level 2

The Creative Studio Suite expands into Level two via the open stair which continues its journey from ground and tracks the southern façade. The multipurpose studio is supported by Academic and Technical staff workplace, as well as another meeting room on the south western corner. A series of Seminar rooms, with an adjoining breakout area are located along the eastern façade, providing a future opportunity to access to the podium roof top of Site A2. The seminar rooms have been laid out to facilitate varying size gatherings, as well as a private break out space for commercial function hire.

Level 2 Breakout, with adjacent Seminar Rooms

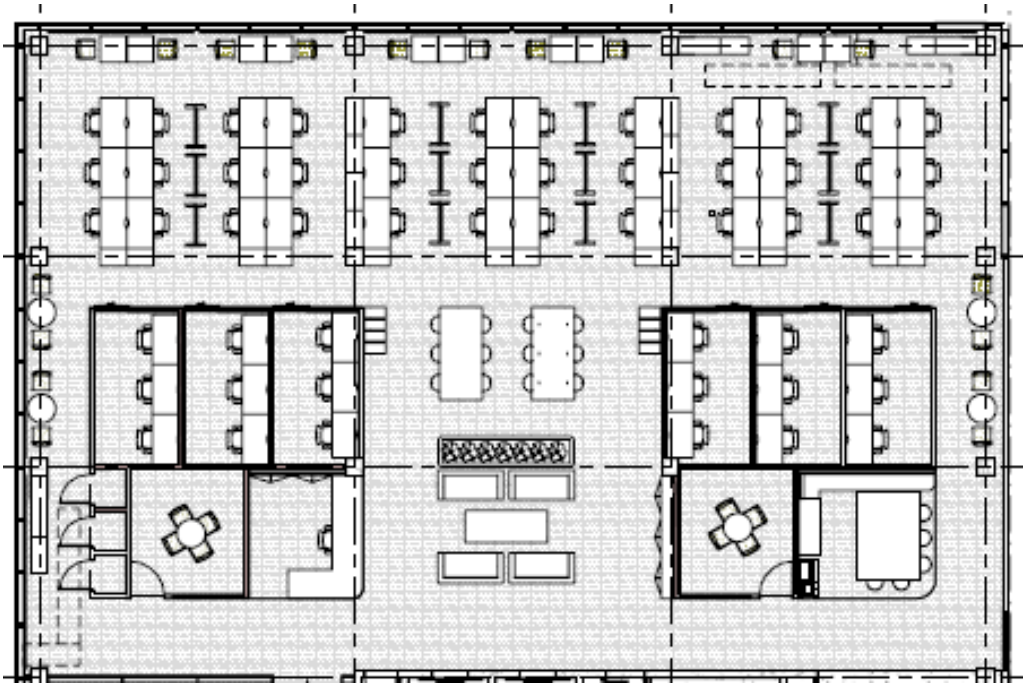


Operable wall between seminar spaces offer a flexible range of configurations and potential uses

Level 3

The building is topped out with Innovation Hub Workplace which accommodates the whole of Level 3. Through user consultation the allocation of the whole floor plate provides flexibility in the distribution of area between the varying levels of workplace, from the initial incubation of individual desking through to acceleration and clustering of team members. The floor is supported by a large kitchen which serves as the informal meeting place, whilst a large store room has been provided for the triaging of unused furniture pieces. User workshops have indicated that a balance of enclosed and unenclosed workspace and meeting space is required, of varying sizes to support varying size teams from 2-6pp. Open space will be concentrated to the perimeter with enclosed structured spaces will focussed toward the centre of the floor plate. Configurations will be developed further during developed design.

Innovation Hub Workspace



Level 3 provides a mix of open and closed workspace, developed in consultation with users

ACCOMMODATION SCHEDULE

(ref. Appendix B – Accommodation Schedule)

An analysis was undertaken of the competition accommodation schedule during Concept Design. This has been further tested during schematic design with SoCI stakeholders including a city precinct wide overview of spaces versus course delivery to identify gaps which can be filled in Stage 1A. Each building within the precinct was characterised by their particular spatial sizes and types based on existing building constraints. Whilst buildings such as the Conservatorium and University House were more conducisve to smaller enclosed spaces, Building Stage 1A fills the gap where larger spaces with higher ceiling spaces are required.

As a result it confirmed the requirement for four large studios which have been are provided across three levels connected by an open stair. The four studios include a the Fast Lab/Clean Tech Maker Space on ground level with access to external space and on grade equipment deliveries, the Black Box Studio and Animation Studio which are located on level 1 with the multipurpose studio located on level 3. Support spaces such as the two edit suites and AV presentation theatrette have been located on level 1, with technical staff accommodation and adjoining central store located on level 2. Break out spaces are interspersed between the studios on the upper levels including student kitchen and informal learning settings for waecos and macs on level 1 and smaller informal settings on level 2. A meeting room and enclosed office are located on each of the upper studio levels.

The two Seminar rooms and adjoiing Seminar break out space are located on level 2 with level 3 allocated to the Innovation Workspace. The final make up of Innovation workspace will be finalised through Developed Design.

The following table is the measured Gross Floor Area of the HCCD Stage 1A DA drawings, and is measured in accordance with the Newcastle Local Environmental Plan (LEP). This defines GFA as the following: gross fl oor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the fl oor, and includes:

(a) the area of a mezzanine, and

(b) habitable rooms in a basement or an attic, and

(c) any shop, auditorium, cinema, and the like, in a basement or attic,

but excludes:

(d) any area for common vertical circulation, such as lifts and stairs, and

(e) any basement:

(i) storage, and

(ii) vehicular access, loading areas, garbage and services, and

(f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and

(g) car parking to meet any requirements of the consent authority (including access to that car parking), and

(h) any space used for the loading or unloading of goods (including access to it), and

(i) terraces and balconies with outer walls less than 1.4 metres high, and

(j) voids above a fl oor at the level of a storey or storey above."

GFA SCHEDULE	
LEVEL	Area
Ground Floor	643m2
Level 1	590m2
Level 2	590m2
Level 3	650m2
Total	2473m2

Total Building Footprint m2 = 750m2

Total Site Area m2 = 1385m2

Building Site Coverage % = 54%

ACCESS / HOURS OF OPERATION

The building design affords several opportunities for ground floor entries, including the entry foyer, Fast Lab/Clean Tech Maker Space as well as the Innovation Common if required. The central stair and lift core, as well as the café are located in the heart of entry foyer allowing the Innovation Common, Flexible Event Space and Lab to be operated independently if required.

The central stair accesses ground through to Level 2 and the lifts programmed preventing access by others after hours.

No separate 24-hour access has been allocated, however the multiple building entry opportunities can be allocated for this purpose. Should the Lab and adjoining Event Space need to be separated for specific event large internal sliding walls can be activated.

Teaching Space hours of operation will typically be 9am - 5pm Monday to Friday during semester hours. It is assumed these will be booked for 75% of the operational time.

Innovation Hub hours of operation will typically be 8am - 6pm Monday to Friday all year around, minus major holiday periods. In addition there will be out of hour's events and seminars (weekday evenings and weekends) for all Hub spaces, and it is envisioned that Hub members will have access to the top floor and innovation common 24/7.

FLOOR PLATE DESIGN

The design of the typical upper level floor plate for the building has been developed to maximise flexible configuration. Whilst functions have been configured and allocated to specific levels within the concept design, it is plausible to reconfigure and reallocate different floor levels as required without altering the design of the floor plate.

In concert with the location of the highly efficient simplified core, the overlaying structural grid facilitates future reconfiguration of the interior program, providing for both large open spaces and more intimate enclosed spaces.

STRUCTURE

The structural grid supports the adoption of a timber framed approach to the structural design. The benefits of timber construction are well documented including minimising emissions due to the use of sustainable timbers, through to the creation of healthy interiors. The design provides an opportunity for the University to develop Newcastle's first timber framed multistorey building, representing their endeavour for innovation.

In the spirit of *'making changes in something established'* the use of engineered sustainable timber in a multistorey structure as opposed to traditional concrete and steel visually represents a challenge to the status quo.

The timber structure is exposed within, including the soffit of the timber slab floors. An increasing body of research is beginning to show that timber interiors have positive effects on the body, the brain and the environment, suggesting the natural warmth of timber has the effect of lowering blood pressure and heart rates, reducing stress and anxiety and increasing positive social interactions. Furthermore, timber interiors have also been shown to improve indoor air quality by moderating humidity.

Timber has also been selected as it affords the building to be more flexible in the event of earthquake or Mines subsidence and provides a lighter building overall in comparison to traditional multistorey structures.

ESD

(Below extract as per attached ESD Schematic Report prepared by WSP (ref. Appendix D)

WSP have identified and assessed the University of Newcastle's HCCD - Stage 1A development against the projects targeted mandatory and voluntary sustainability targets. A sustainability strategy has been developed to address the requirements of these targets in the design phase of the project. The identified targets include:

— National Construction Code 2016, Part J Energy Efficiency

— Green Star Design and As Built 5 Star Rating

This report demonstrates that sustainability initiatives have driven design decisions within the schematic design phase of the development and that the proposed development is on path to demonstrate Australian excellence within sustainable building design. It is expected that as the design progresses the strategies will be implemented during detailed design.

NCC PART J2 GLAZING

The development is taking a performance solution approach (Verification Method JV3). The strategy brings the following benefits to the project:

— Avoids the need to comply with onerous "Deemed to Satisfy" requirements;

— Provides more flexibility in glass type, glass system selection and design flexibility;

— Allows a consistent glass type to be used across the development, allowing the project to achieve its design intent; and,

— Results in a more energy efficient and optimized outcome compared with a "Deemed to Satisfy" building design.

The project includes large areas of glazing, and as such will provide a high-performance glazing product to ensure compliance is achieved. Currently, the project is anticipating an electrochromic glazed system to provide a high-performance solution that enables building occupant comfort, energy efficiency and increased visual amenity within the project (See Section 2.3.1 for further detail).

GREEN STAR

The University of Newcastle's HCCD - Stage 1A development project will target a 5 Star rating under the Green Building Council of Australia's Green Star Design and As Built V1.1 rating tool. This target demonstrates Australian Excellence in sustainability and is ambitious for a project of this size and location. Initial analysis, modelling, design and planning for the rating has been undertaken, ensuring the target is achievable and embedded within the design of the project.

GROUND FLOOR MIXED MODE OPERATION

The proposed design includes a mixed mode ground floor operation. The mixed mode operation will operate when large doors are opened on ground floor for major events. The mixed mode will work by firstly operating in full natural ventilation mode, with outside air passing through the large doors and louvres to the south of the ground floor. If conditions are too warm, the air conditioning system will operate in 100% economy mode to provide cooler outside air and encourage air movement in the space. Ceiling fans can be considered to further improve mixed mode comfort conditions

ELECTROCHROMIC GLAZING

Electrochromic glazing has been proposed within the HCCD - Stage 1A development as an innovative feature to address matters of sustainability within the façade design. The glazing is currently proposed on the western façade.

Electrochromic glazing is an electronically tintable glazing solution that provides the ability to adjust the transparency and solar heat gain coefficient of the glazing to control the heat and visual light transmittance, and hence glare experienced within the building. This function allows increased occupant comfort, maximised access to daylight and external views and reduced energy consumption.

It is recommended that radiation sensors be utilised alongside this technology to enable an automated response to solar radiation experienced upon the façade, ensuring that the glazing is operating at optimised performance levels thermally.

The system can be controlled manually for special events or via other sensors connected to the BMS.

POTABLE WATER

The water consumption of the development has been estimated through the use of the Green Star 'Potable Water Calculator' and has identified that the proposed design presently achieves water efficiency in comparison to a 'best practice' benchmark through the use of water efficient fixtures/fittings and a rainwater capture system.

ROOFTOP PV SYSTEM

The energy strategy for the building relies heavily on a high capacity, high efficiency rooftop PV system. As much PV as possible should be placed on the roof for maximum generation and in line with University of Newcastle's current aspirations for carbon reductions.

(Source: *ESD Schematic Design Report prepared by WSP – Appendix D)*

ADDITIONAL APPROACHES

Another in built ESD principle of the design is the simplified floor plate and generous floor to floor heights as they support future reconfiguration into the future whilst minimising alterations to the building and use of resources. The design of the typical upper level floor plate for the building has been developed to maximise habitable rooms on the perimeter, with access to outlook, and daylight.

The ground floor canopy provides an additional opportunity for the use of solar integrated glazing, to generate and store energy.

VISUAL AND AMENITY IMPACTS

Overshadowing – Refer Appendix A (DWG. A-030 – Shadow Diagrams)

- Stage 1A poses no overshadowing of neighbouring residential properties, or critical areas of human activity within the public domain. The most prominent extents of overshadowing occur across area of vehicular traffic, such as Worth Place, and circulation within the precinct, such as Wright Lane.

Wind Impact – Refer Appendix C (Pedestrian and Wind Environment Statement)

The Wind Impact Assessment undertaken against Stage 1A notes –

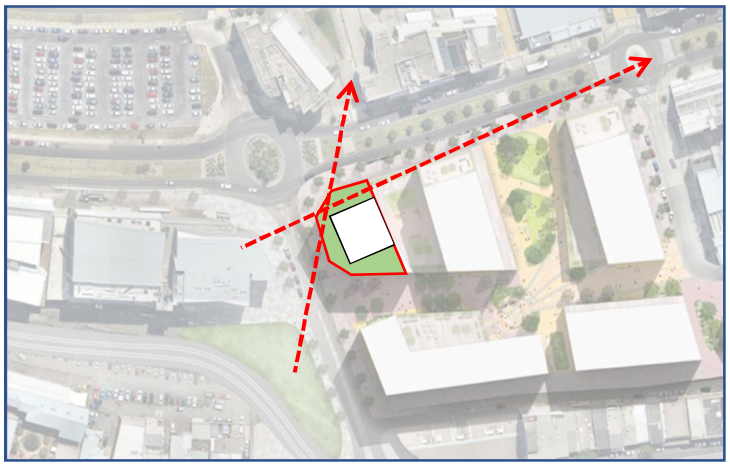
The pedestrian footpaths along the various street frontages of the site benefits from the shielding provided by the subject and the existing surrounding mid-rise buildings to direct wind effects where the buildings are located upstream of the prevailing wind direction. Note the remaining staged buildings of the Honeysuckle Campus to the east and south of the site, when completed are expected to provide additional shielding to the prevailing north-easterly and southerly winds onto the pedestrian footpath along Wright Lane. Down-wash wind effects off the building façade are not expected to be an issue for the pedestrian footpaths due to the low overall height and orientation of the building to the prevailing wind direction. The proposed impermeable awning as indicated in the architectural drawings is expected to be effective in deflecting any potential down-wash wind effects away from the pedestrian footpath, hence it is recommended to be retained in the final design of the development.

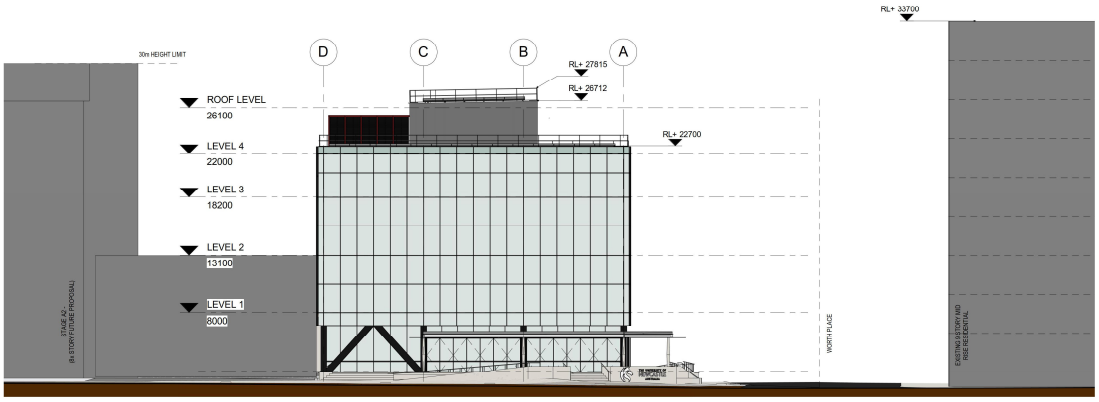
Due to the east to west and north-west to south-east alignments of Honeysuckle Drive and Worth Place respectively, the pedestrian footpaths along these street frontages however are susceptible to the prevailing west-north-westerly and southerly winds which will tend to flow along these streets. It should be noted that this is an existing wind effect for the site, and the inclusion of the street trees and densely foliating vegetation such as trees, shrubs or hedge planting along the pedestrian footpath as indicated in Figure 4 are expected to be effective in further enhancing the local wind conditions.

Hence with the inclusion of the abovementioned treatment strategies into the design of the development, the wind conditions along the various pedestrian footpaths around the subject development are expected to be suitable for its intended uses. Note the densely foliating vegetation is recommended to be of an evergreen species to ensure their effectiveness in wind mitigation throughout the year.
(Windtech Consultants Ptl.Ltd)

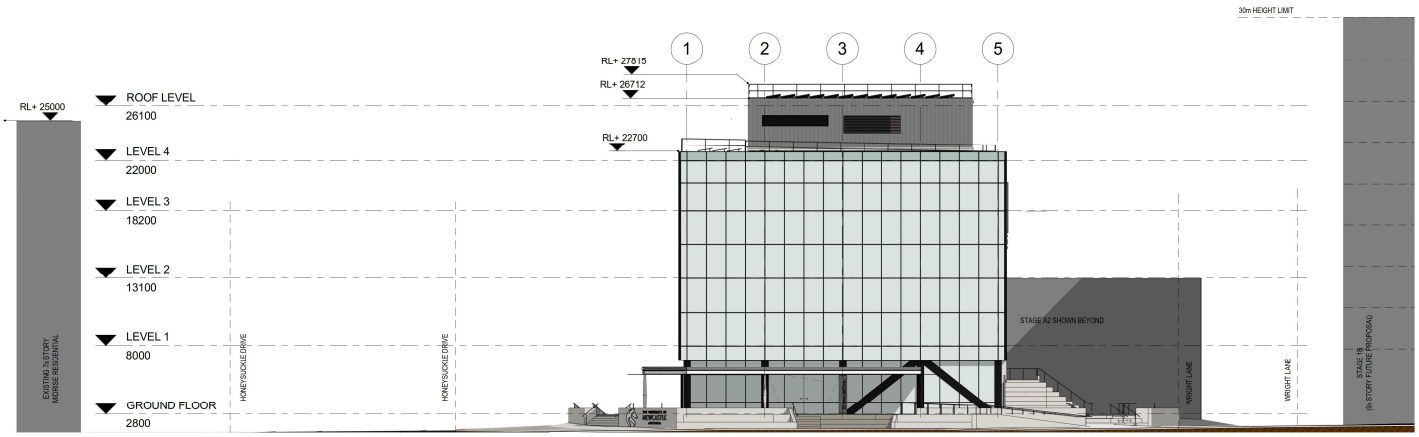
Visual Impact

The generous setbacks of the building from the site boundary provides an interstitial zone for activity to extend beyond the façade line, and affords an opportunity for initial interaction between the University and the community. This further reduces the scale of visual impact from key vantage points, and maintains existing visual connections across the site.





Northern Site Elevation, indicating existing residential building to the West, and future adjoining Stage A2 proposal



Western Site Elevation, indicating existing residential building to the North, and future Stage 1B proposal to the South

South Western Perspective, indicating sightlines maintained between neighbouring mid-rise structures.

North Western Perspective, indicating sightlines maintained along Honeysuckle Drive

Dynamic Facade

The Western façade is envisaged act as a vibrant kinetic canvas, on which to project user generated content, representative of the buildings creative and innovative functions.

The façade will provide illumination of the immediate forecourt, and an engaging backdrop to activity and events. The use of projection can also function as a future implementation to the project.

The intensity of the illumination, and type of imagery can be controlled by the operator. In addition, any visual impact upon neighbouring residencies / amenities is to be mitigated through rigorous consultation around how and when the projection can utilised to avoid unwanted disruption, and provide positive activation of the space.

Reflectivity

The City of Newcastle DCP does not outline specific requirements around glare control, however, reflectivity from the façade will be mitigated through a glazing system which achieves less than 20% glare, as noted within the City of Sydney DCP requirements. This will ensure no unwanted glare to pedestrians, motorists, or occupants of surrounding buildings

NOISE AND VIBRATION

(Ref Appendix F: SSD Noise and Vibration Impact Assessment, for detailed noise and vibration assessment and proposed mitigation measures)

This report presents the results of a Noise and Vibration Impact Assessment of the proposed HCCD Stage 1A development located at 16B Honeysuckle Drive, Newcastle. Operational noise emission from the development has been assessed with consideration to the project noise trigger levels established in accordance with the NSW NPfI and measured noise levels at the development site. The impact of noise emission from new developments can be widespread when noise issues are not correctly considered, however, this assessment indicates that standard amelioration strategies will sufficiently treat noise emission to meet the project noise trigger levels and, as such, will minimise possible acoustic impacts on neighbouring areas.

Noise and vibration intrusion to the development form road and light rail traffic has been assessed and complies with the criteria established in accordance with AVATG, AS/NZS 2107:2016 and Development Near Rail Corridors and Busy Roads – Interim Guideline. Traffic generation as a result of the proposed development is minimal and predicted traffic noise increases will comply with the applicable criteria outlined in the NSW Road Noise Policy. Construction noise has been assessed in accordance with the EPA's Interim Construction Noise Guideline. Worst case construction scenarios have been considered. Construction works will be undertaken during standard hours. The level and number of exceedances of the construction noise management levels are provided in Section 7.1.3. It should be noted that the exceedances presented are the highest at each receiver during the HCCD Stage 1A construction phase. Based upon this assessment documented above, all environmental noise and vibration impacts can be appropriate managed in accordance with the relevant guidelines and standards.

(*SSD Noise and Vibration Impact Assessment, AECOM 20 Feb 2019)*

ACCESS

(Refer Appendix H for Detailed Access Report. Executive Summary below, as prepared by LPA Access Consultants)

Architectural documentation for the HCDD Stage 1A, located at 16B Honeysuckle Drive Newcastle has been reviewed against the requirements of the Building Code of Australia 2016 and The Disability Discrimination Act 1992 with regard to access for persons with a disability. The requirements of the Disability Standards for Access to Premises (Buildings) and the Access Code for Buildings have also been addressed.

We consider that the drawings presented for assessment, for the purposes of a state significant development application, generally comply with The Building Code of Australia 2016 and the intent of the Disability Discrimination Act 1992, subject to the recommendations made in this report being implemented during the construction process.

(LPA Access, 12 Feb 2019)

SERVICING AND WASTE

Refer to separate Waste report.

CONCLUSION

The proposed design for the Innovation HUB/SOCI project is a contemporary highly flexible building for creation and innovation that is grounded in the Indigenous and European culture of the City of Newcastle. A building that respects its place and creates a better environment within the context of the Honeysuckle Precinct. The design will create a gateway and landmark for the new City Campus of the University of Newcastle.

The Schematic Design is the development of a series of ideas developed in isolation during the Design Competition and it has been the iterative process to date with the client and GA Panel that has generated and refined enhanced the translation of those ideas into a Schematic Design.

Anthony Furniss

Director / Architect

Appendix A

Accommodation Schedule

HONEYSUCKLE STAGE 1A - ACCOMMODATION SCHEDULE

ITEMS INCLUDED IN THE DEVELOPED DESIGN

Description	Population	Notes	Developed Design Areas		
			Space Area m2	#	Total Area m2
GROUND FLOOR					
Circulation/Entrances/Exits					
UON (SOCI) Main Building Entrance			Included		
Innovation Hub Main Building Entrance			Included		
Secondary / Education Seminar Building Entrance (24HR)			Included		
Back-of-House Building Entrance			Included		
Fire Escape Stair (vertical circulation)			As required		
Open stair to SOCI spaces (vertical circulation)			Determined by Architect		
Open stair to IHub spaces (vertical circulation)			Determined by Architect		
Lift/s (vertical circulation)			Determined by Architect		
Circulation (horizontal)			As required		
Public Zone					
Entry Foyer/Flexible Event Space		200ppl standing	208	1	208
Concierge Point		Included in Innovation Common			
Fast Lab (Maker Space Clean/High tech)	30	30ppl	130	1	130
Machine Room/Workshop			32	1	32
Innovation Common	20		66	1	66
Innovation Common Meeting Rooms	8	2x4ppl	9	2	18
Retail Zone					
Retail Space - Café Cart		Included in Entry Foyer/Flexible Event Space	0	0	0
Retail Space - Storage Area		Shared with Main Building Store	0	0	0
Common Facilities					
First Aid Room / Security Base		First Aid amenity located within Parents Room	0	0	0
Parents Room	1		9	1	9
Drinking Fountains		Included in Foyer adjacent lifts	0	1	0
End of Trip Facilities		Incl. accessible toilet / shower + 2x individual shower cubicles	12	1	12
Toilets/ Amenities		Located on Ground Floor and Mezzanine	As required		
Back of House					
Waste Store		Located in an external annex	22	1	22
Secure Bike Store		Located in an external annex	29	1	29
Main Cleaners Room			3	1	3
General Building Store			13	1	13
Plant Room		Included Pump and MSB Rooms, plus plant located on Mezzanine	131	1	131
Service Risers			As required		
Service Cupboards (each level)			As required		
	59		Ground Level Area Subtotal		643

HONEYSUCKLE STAGE 1A - ACCOMMODATION SCHEDULE

ITEMS INCLUDED IN THE DEVELOPED DESIGN

Description	Population	Notes	Developed Design Areas		
			Space Area m2	#	Total Area m2
LEVEL 1					
Innovation Hub					
SOCI					
Black Box Studio	20		71	1	71
Studio Store			13	1	13
Animation Lab	20	20ppl	73	1	73
Main Control room	20	20ppl	39	1	39
Tech Support Office & Equipment Vending / Store	3	3ppl	51	1	51
Academic Office (shared)	4	4 workstations	21	4	84
Staff/ HDR student lockers		located on ground floor adjacent service entry	10	1	10
Small Meeting Room	8	2 x 4ppl	9	2	18
Student Kitchen/Social Hub / Informal Learning MAC/WACOM Zone	44		166	1	166
Print/Utility/Store		Located within Corridor		1	0
Common Facilities					
Toilets/ Amenities			As required		
Drinking fountains		Chilled water located at Kitchens	0	0	
Back of House					
Network/Comms Room			10	1	10
Cleaners store (each level)		Minimum 4sqm (3sqm provided)	As required		
Service Risers			As required		
Service Cupboards (each level)			As required		
Circulation / Lifts					
Horizontal Circulation - Corridors			As required		
Vertical Circulation - Lifts / Stairs			As required		
	119		Level 1 Area Subtotal		590

LEVEL 2					
SOCI					
Flexi Studio (Formerly Dry Studio/Lab)	30	30ppl	106	1	106
Dry Studio Store		Includes was trough	4	1	4
AV Presentation Suite		Includes amenity for Edit Suite and control desk for Flexi Studio	32	1	32
AV Edit Suites	12	2 rooms - 3 - 6ppl each	8	2	16
HDR office	4		18	1	18
Informal Learning / Breakout	16		99	1	99
Student Lockers		located on ground floor adjacent service entry	0	2	0
Education Seminar Foyer		ability to be used as an additional Seminar Room	52	1	52
Education Seminar Rooms	60	Min. dimensions each room 5.5m x 11m (6m x 9m provided)	56	2	112
Meeting Room	6	4 - 6ppl	19	1	19
Medium Meeting Room	10		30	1	30
Common Facilities					
Toilets/ Amenities			As required		
Drinking fountains		Chilled water located at Kitchens		1	0
Back of House					
Network/Comms Room			9	1	9
Cleaners store (each level)		Minimum 4sqm (3sqm provided)	As required		
Service Risers			As required		
Service Cupboards (each level)			As required		
Circulation / Lifts					
Horizontal Circulation - Corridors			As required		
Vertical Circulation - Lifts / Stairs			As required		
	138		Level 2 Area Subtotal		590

HONEYSUCKLE STAGE 1A - ACCOMMODATION SCHEDULE

ITEMS INCLUDED IN THE DEVELOPED DESIGN

Description	Population	Notes	Developed Design Areas		
			Space Area m2	#	Total Area m2
LEVEL 3					
Innovation Hub					
Innovation Hub Foyer / Reception / Mailboxes			12	1	12
Flexible Waiting Area/Informal Work zone	20	Includes Mailboxes	65	1	65
Incubation Co Working - Workstations	36	36 Workstations provided plus 18 informal work settings	172	1	172
Incubation Co Working - Printing / Bins	8	Includes Informal breakout	0	1	0
Incubation Co Working - Lockers		Located within Innovation Hub Co-working Kitchen	15	0	0
Acceleration Co Working - Medium Co-Working Module	18	10 sqm module is 3p office	10	6	60
Small Meeting Room	8	4-5ppl	11	2	22
Quiet Room	3	1ppl (telephone boothes)	2	3	4.5
~~Quiet Room (accessible)~~		(deleted from brief - intention for small meeting room to be accessible)	3	0	0
~~Acceleration Co Working - Large Co-Working Module~~		28sqm module is 6p office or 14p m.room (deleted from brief)	20	0	0
Acceleration Co Working - Printing / Bins		Located within Kitchen	6	0	0
Innovation Hub - Co Working Kitchen	20	Includes Printing/Bins and Lockers	71	1	71
Innovation Hub Board Room	14	14ppl	60	1	60
Innovation Hub - Furniture Store			10	1	10
Common Facilities					
Toilets/Amenities			As required		
Back of House					
Cleaners store (each level)		Minimum 4sqm (3sqm provided)	As required		
Service Risers			As required		
Service Cupboards (each level)			As required		
Circulation / Lifts					
Horizontal Circulation - Corridors			As required		
Vertical Circulation - Lifts / Stairs			As required		
	127		Level 3 Area Subtotal		650
Total Area (Ground, L1, L2 and L3)					2473

OTHER ITEMS / AREAS

ROOF LEVEL					
Total Roof Area					
Access / Circulation			As required		
Plant (external /roof)			194	1	194
Solar Panels					

EXTERNAL - GROUND LEVEL					
External - Street Level Undercroft to Entrance			Determined by Architect		
Street Level hard landscaping (covered)			175	1	175
Street Level activity landscaping (uncovered) - SOCI Outdoor Workshop			50	1	50
Street Level general soft landscaping (uncovered)			0	0	0
Street Level general hard landscaping (uncovered)		Includes Soft landscaping	342	1	342

OTHER					
Rain Water Storage Tank		Underground	As required		
Storm Water on-site detention		Underground	As required		
Loading Dock driveway / Service Vehicle Parking off Worth Place			117	1	117