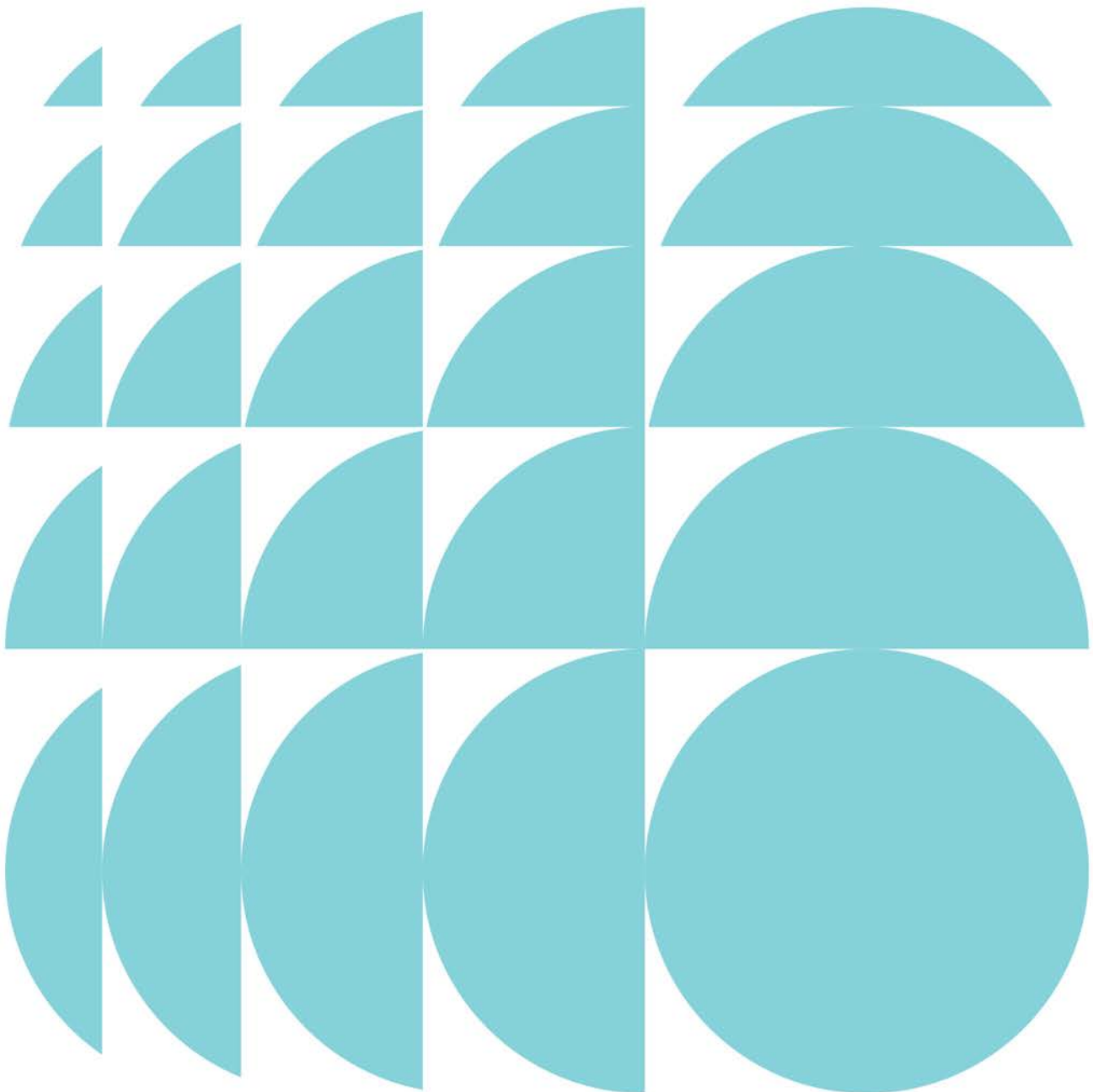


Bays 1-4a Locomotive Workshop,
Australian Technology Park, Eveleigh

Submitted to Department of Planning &
Environment

On behalf of Mirvac Projects Pty Ltd

07 June 2018 | 17068



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Executive Summary

In November 2017, two Environmental Impact Statements (EIS) were prepared in support of two State Significant Development Applications (SSDA 8517 and SSDA 8449) that related to the eastern and western portions of the Locomotive Workshop, at the Australian Technology Park, Eveleigh.

These EISs and accompanying documents were concurrently placed on exhibition for a period of 31 days inclusive between 16 November 2017 and 15 December 2017. Public exhibition occurred in accordance with the requirements of the *Environmental Planning & Assessment Act 1979*.

Submissions were received from 78 separate parties in response to the public exhibition of both applications. Whilst the two applications are to be considered separately and some parties provided separate submissions to each application, aspects of the submissions related to both and have therefore been included in the response to submissions for both SSDA 8517 and 8449. The breakdown of submissions received is set out below.

	Specific only to SSD 8517 (Bays 1-4a)	Relating to both SSD 8517 (Bays 1-4a) and SSD 8449 (Bays 5-15)
Government agency/ authority	0	8
Independent bodies	0	6
Public	14	50
TOTAL	14	64

In addition, the Department of Planning and Environment (the Department) issued a letter on 21 December 2017, requesting additional information and outlining the key issues associated with both proposals.

The key issues raised generally relate to the following areas:

- Heritage Interpretation and Impacts on the Heritage Fabric;
- Detailed Design elements;
- Interaction of land uses within Bays 1 & 2;
- The loading dock in Bays 1 & 2; and
- Parking and Loading Management.

In refining the exhibited State Significant Development Application, Mirvac has considered all the public and agency submissions, undertaken indicative detailed design exercises and considered advice from the Department, Heritage Council and City of Sydney. In light of this, Mirvac proposes to amend and clarify aspects of the previously exhibited scheme as set out below.

Construction

- Provision of an indication of the construction works program;
- Extension of the scope of demolition activities to include:
 - openings within the Bays 2/3 wall; and
 - removal of localised areas of existing floor slab for new footings and lift pits.

Post approval submission

- Outline of the intended timing for the submission of the detailed drawings for the base build elements;
- Outline of an approval strategy for the detailed design elements, such as operation and fit-out of tenanted spaces, and signage; and
- Define the fit-out design strategy and establish a set of guiding principles to inform fit-out design.

Amendments to the proposed design

- Increase to the maximum quantum of gross floor space (GFA) that can be built within Bays 1-4a by 194m²;
- Reconfiguration of the loading dock design;
- Revision of the design of the loading dock wall;
- Repurpose of the use Mezzanine Level in Bays 1 & 2;
- Relocation of the principal heritage exhibition and interpretation space to the Ground Floor level;
- Extension of the area that will be used for retail purposes within the southern portion of Bays 1 and 2 north;
- Amendment to the concept design of the heritage display barriers;
- Removal of portions of the wall between Bays 2 and 3 and providing in-fill glazed windows;
- Co-location of the lift and stair access to the Mezzanine Level in Bays 1 & 2 and Level 1 in Bays 3-4a and providing new a heritage interpretation zone and tunnel-like structure;
- Provision of a new Blacksmith viewing platform; and
- Relocation of the public amenities within Bay 4a.
- Recladding of the service towers on the roof of Bay 4 and Bay 4a and addition of a new roof maintenance access system;
- Revision to the Public Domain design and the removal of one tree in Innovation Plaza;
- Provision of outdoor seating areas within Innovation Plaza and Locomotive Street; and
- Revision of the proposed on-street parking provision for small delivery vehicles, accessible parking, taxi and drop off.

Land uses

- Extension to the range of uses for which approval is sought, through the inclusion of 'educational establishment' uses within the proposed list and clearly identifying where the proposed land uses will be approved on the Land Uses Plans and Temporary Land Uses Plans.

Further detailing of concepts

- Provision of details to describe the proposed floor treatments.

Updating and improving the heritage

- Updates to the key Heritage Interpretation concepts, to reflect the updated design concepts proposed with Locomotive Workshop.

Notwithstanding the extent of proposed changes, all environmental impacts of the amended development remain generally consistent with those addressed within EIS as confirmed in Section 5.

Given the merits, and the significant public benefits associated with the proposed development, it is recommended that this application be approved.

1.0 Introduction

Environmental Impact Statements (EIS) were prepared in support of State Significant Development Applications (SSD 17_8517 and SSD 17_8449) for the adaptive reuse and redevelopment of the Locomotive Workshop (being Bays 1-15).

These EISs and accompanying documents were placed on exhibition for a period of 31 days inclusive between 16 November 2017 and 15 December 2017. Public exhibition occurred in accordance with the requirements of the EP&A Act.

As set out in **Table 1**, in total, 78 submissions were received in response to the public exhibition of both EISs (SSD 8517 and SSD 8449), and 14 were submitted that just related to SSDA 8517, however aspects of the other submissions related to both applications.

Table 1 Submission Breakdown

	Specific only to SSD 8517 (Bays 1-4a)	Relating to both SSD 8517 (Bays 1-4a) and SSD 8449 (Bays 5-15)
Government agency/ authority	0	8
Independent bodies	0	6
Public	14	50
TOTAL	14	64

In addition, the Department of Planning and Environment (the Department) issued a letter on 21 December 2017, requesting additional information and outlining the key issues associated with both proposals.

The proponent, Mirvac Projects Pty Ltd (Mircvac) and its specialist consultant team has reviewed and considered all of the issues raised. This report, prepared by Ethos Urban on behalf of the proponent, sets out the responses to the issues in accordance with Clause 85A of the *Environmental Planning and Assessment Regulation 2000* (EP&A Reg) and provides details of any necessary amendments to SSD 8517 for which approval is sought. Any amendments to the applications are made by Mirvac pursuant to Clause 55 of the EP&A Reg, including changes to address matters raised in the submissions.

This report and the Appendices provide a detailed response to all of the issues raised by the various government agencies, independent bodies and the general public.

2.0 Key Issues - Department of Planning, City of Sydney and Heritage Council

This section of the report provides a detailed response to the key issues collectively raised by the Department, the City of Sydney Council and Heritage Council during the public exhibition of SSDA 8517. In addition, a response to each of the individual issues is provided in the tables at **Appendix A** and **Appendix B**.

2.1 Strategy for the on-going management of the Locomotive Workshop

The Department has asked for further information in regard to the strategy to achieve the heritage conservation and management objectives for the Locomotive Workshop. Furthermore, the Heritage Division requires further information on how the Heritage Interpretation will inform the detailed design and Public Domain design.

Response

Mirvac's strategy to achieve heritage conservation and management objectives of the Locomotive Workshop is as follows:

1. The principal aim of this SSDA is to gain approval for the following concepts and a works programme for the base build elements as set out in **Section 4.4**:
 - Demolition of all the internal and external elements as outlined on the demolition plans;
 - Land uses;
 - Relocation and removal of in-situ and moveable heritage items;
 - Construction of the base build elements and associated structural works associated with the following:
 - the loading lock and the loading dock wall;
 - the Travelator including:
 - excavation;
 - construction of a concrete shell to house the travelator between Bay 4 and the Site boundary of this application;
 - installation of a travelator within the concrete shell;
 - and embellishment of the travelator tunnel in accordance with the Heritage Interpretation Strategy.
 - Construction of a new edge between the Ground Floor Heritage Interpretation Space and the Blacksmith/Hard Arts space;
 - Modifications to the block wall between Bays 2 and 3;
 - Construction of the corner retail annex that incorporates the Bay 1 Annex;
 - Construction of intertenancy walls at Ground Floor and first floor of Bays 3-4a, stairs, lifts, back of house areas and public amenities service pods;
 - Enhancement of the exterior entrances and openings;
 - Roof upgrade works including the insertion of natural day light slots in Bays 3 to 4a and addition of a new roof maintenance access system;
 - Installation of roof mounted fans that penetrate the Bay 2 roof;
 - Plant platforms;
 - Public Domain and landscaping improvements;
 - Installation of external lighting;
 - Establishment of out-door seating zones; and
 - Signage zones.

2. A detailed framework has been established in **Section 4.4** and **Section 4.5**. This sets out the list of documents that will be commissioned to guide and inform the detailed design elements within Bays 1-4a.
3. Separate applications will be submitted for the detailed signage designs and the operation and fit-out of the tenancies within Bays 1-4a as clearly set out in **Section 4.4.3**. The future development applications will be required to ensure that the fit-out works demonstrate consistency with the design framework guiding documents.

With regard to the heritage interpretation within the Public Domain, the Stage 2 Heritage Interpretation strategy for the Public Domain is a requirement under the development consent issued for the commercial campus currently being developed within the ATP Precinct (SSDA 7317). Curio Projects has been commissioned by Mirvac to prepare the Stage 2 Heritage Interpretation Strategy for the both the broader ATP Public Domain and the Locomotive Workshop. Trigger Design has similarly been commissioned to design the physical interpretative elements for both the Stage 2 Heritage Interpretation Strategies. Furthermore, Aspect were commissioned by Mirvac to prepare the Public Domain landscape design for SSDA 7317 and has also been commissioned to prepare the Public Domain/landscaping plans for the Locomotive Workshop development (refer to **Appendix D**).

Curio Projects, Trigger Design, Aspect along with Mirvac, and all other relevant stakeholders are working in close consultation to ensure the interpretation being developed for the ATP in its entirety is authentic, consistent and captures the key significance of the place, as described in detail in Curio Projects Heritage Response to Submissions report (herein referred to as the Heritage Response Report) (**Appendix E**).

2.2 Heritage Interpretation Strategy

The Department has asked for further consideration of the design framework that will guide the co-ordination of the heritage interpretation works between SSDAs 8449 and 8517 and future applications. In addition, the Heritage Division has asked for details of the interpretation and requested that the Stage 2 Heritage Interpretation Strategy to be developed in consultation with the Heritage Division, include the Public Domain, lighting and signage within its detailed design and clearly integrate into the projects overall detailed design.

Response

As noted in the EIS for SSD 8517 and 8449, and in Section 2.1 above, Curio Projects and Trigger Design have been commissioned by Mirvac to prepare the Stage 2 Heritage Interpretation Plan and design the interpretive elements for the Locomotive Workshop as well as the Stage 2 Heritage Interpretation Plan for the broader ATP Public Domain. The Stage 2 Heritage Interpretation Plan will cover the entire Locomotive Workshop and will include all interpretation requirements, including the base build elements, such as the travelator and the requirements for tenancy fit-outs. A suggested condition of consent is included within **Appendix G** that requires the Stage 2 Heritage Interpretation Plan for the Locomotive Workshop to be prepared in consultation with the Heritage Council and other stakeholders, including former workers, Aboriginal stakeholders, volunteers, the local community and relevant railway associations.

The Heritage Response Report (**Appendix E**) provides information in regard to:

- The anticipated content of the Stage 2 Heritage Interpretation Strategy;
- The proposed design framework for guiding the co-ordination of the heritage interpretation works between SSDAs 8517 and 8449, and the future applications for fit-out of individual tenancies;
- The framework for how the Stage 2 Interpretation Strategy for the Locomotive Workshops will manage and integrate the moveable heritage collection into the proposed outcomes of the Stage 2 Interpretation Strategy;
- The inter-relationship between the landscaping and Public Domain design work, construction of Buildings 1,2 and 3, the redevelopment of the Locomotive Workshop and the design and implementation of the public art strategy; and
- A framework showing how all the interpretation strategies across the entire ATP site are interrelated with one another, to ensure that there is a consistent, comprehensive interpretation program and design. This framework is replicated in **Appendix F**.

2.3 Conservation Works

The Department has asked for confirmation of Mirvac's commitment to conservation works.

Response

Mirvac has commissioned a series of reports that includes an audit of all the heritage items and the building integrity, especially in regard to required building maintenance works, including identification of cyclical maintenance works. This review includes input from specialist professionals, including structural engineers, heritage consultants and other relevant experts.

Mirvac suggests that the following conditions of consent be included within the Instrument of Approval to demonstrate its commitment to the conservation of the building:

Ongoing curation, interpretation and conservation

Prior to the issue of the last occupation certificate, the proponent must prepare a strategy in consultation with the Heritage Council in regard to the on-going management of the cultural heritage tourism initiatives including curatorial programs, interpretation updates, and repairs and maintenance to moveable heritage assets.

2.4 Heritage Exhibition Space – public accessibility

The Department has requested clear delineation of publicly accessible areas and the heritage items/ space as well as confirmation of the accessibility to the proposed exhibition space and publicly accessible exhibits.

Response

The revised Architectural Plans (**Appendix C**) illustrate that the primary Heritage Exhibition Space previously proposed at Mezzanine Level in Bays 1 and 2 has been relocated to the Ground Floor level of Bays 1 and 2 as illustrated in **Figure 7**. The primary reasons for this relocation are:

- to make the heritage exhibition space more accessible from the ground plane for people walking through the Locomotive Workshop;
- to provide improved integration of the heritage exhibition space with the Blacksmith area and retail areas at Ground Floor; and
- to create opportunities for the heritage interpretation to be integrated with the retail area in Bays 1 and 2 north.

Furthermore as described in **Section 4.26** and in the Heritage Response Report (**Appendix E**), a number of Heritage Interpretation zones (as indicatively illustrated in **Section 4.26**) are proposed throughout Bays 1-4a. It is intended that the exact extent of the publicly accessible areas, heritage items/ space and parameters of the times and areas that will be publicly accessible within Bays 1-4a will be undertaken after:

- the consultation process in regard to the preparation of the Stage 2 Heritage Interpretation Strategy and finalisation of the strategy and detailed design of the interpretative elements; and
- the confirmation of the curation strategy for the heritage interpretation areas and exhibits.

2.5 Mezzanine Level access

The City of Sydney has recommended that the lift and stairs that access the Mezzanine Level be co-located adjacent to each other to provide equitable access options from the Ground Floor to the interpretation space on the first floor, they also request the co-location of the access options must avoid or minimise material and heritage impact on the physical fabric and on the quality of significant spaces. In addition, the Heritage Council also requested the co-location of the stairs and lift but propose that the facilities should be provided in Bay 2.

Response

Mirvac has reviewed the location of the stairs leading up to the Mezzanine Level above the loading dock in light of the comments made by the City of Sydney and the Heritage Council. In reviewing the potential options, it was considered too great an impact to provide a lift within Bays 1 and 2 as suggested by the Heritage Council. It was determined therefore, that the preferred option would be to provide a stair adjacent to the public lift in Bay 3.

Mirvac's design team then reviewed the potential to make a feature of the new stairs and expand the vision for this space. As described in **Section 4.20**, the revised design provides a new stair and walkway that will incorporate a heritage interpretation zone and provide access to the Mezzanine Level but also a new viewing platform over the Blacksmith area in Bay 2.

2.6 Heritage Exhibition Space – curation

The Department has requested a concept for the operation and management of the proposed heritage exhibition space.

Response

As noted in **Section 4.15**, the primary Heritage Exhibition Space previously proposed at Mezzanine Level in Bays 1 and 2 has been relocated to the Ground Floor level of Bays 1 and 2 and a series of other heritage interpretation zones will also be provided across Bays 1-4a, however it is too premature to provide a concept for the operation and management of the exhibition space, its curatorial program and the cultural heritage tourism strategy. Notwithstanding this, Mirvac are likely to partner with a suitable entity, or a number of suitable entities to undertake the curation and cultural heritage tourism management and operation(s). As set out within the Moveable Heritage Framework (Table 2 in the Heritage Response Report), these details will be included within Stage 2 Heritage Interpretation Plan for the Locomotive Workshop.

2.7 Temporary uses

The Department has requested clear delineation of the areas proposed for temporary uses.

Response

As outlined within the EIS for SSD 8517 and **Section 4.7.2**, approval is sought for temporary community events to be held within Bays 1-4a and Innovation Plaza. Given the exact nature and detail of the fit-out design and heritage interpretation design for Bays 1-4a is unknown at this point in time, Mirvac request that the Department enable 'temporary community uses' to be approved across the entirety of the Bays 1-4a and Innovation Plaza as shown on the Temporary Uses Land Use Plan included at **Appendix C**. This is simply to enable Mirvac to exercise their ability to utilise the Exempt and Complying SEPP provisions and would therefore be subject to the limitations in the SEPP.

2.8 Signage zones on the Service Towers at Bays 4 and 4A

The Department, City of Sydney and Heritage Council have all made comment in regard to the signage zones placed on the northern elevation of the service towers located on the roof of Bays 4 and 4a. The Department and Heritage Council have requested that the signage plan be incorporated as part of the design framework that guides the Heritage Interpretation Strategy for the Locomotive Workshop and request further consideration of the visual dominance of the signage on the proposed service towers and its location in general, as it is considered that it has the potential to have adverse impacts on the building aesthetic. The City of Sydney consider that given signage on the service towers will not have a direct connection with particular tenancies they should be deleted.

Response

As outlined at **Section 4.31** approval is sought for signage zones only and separate applications will be submitted for the detailed signage design and content, materiality and illumination. Notwithstanding this, the signage zone plan has been developed to provide more detail and is included within the Architectural Plans (**Appendix C**). Whilst the signage shown on the plans is indicative only, the detailed design for the signage zones on the service towers will be prepared in line with the following principles:

- The service tower signage will be carefully designed to ensure it is of an appropriate scale, material and finish to be compatible with the aesthetics of the Locomotive Workshop.
- The extent of the detailed signage design will not exceed the extent of the proposed signage zones.
- The service tower signage will comprise individual laser cut letters that will be fixed to sit no more than 150mm proud of the service tower walls and will not have a solid background.
- The signs will be backlit in order to provide a softer aesthetic.

The proposed signage on the service towers provide a unique opportunity to enable train users to be able to identify the Locomotive Workshop.

The key to the success of Bays 1-4a is activation. People need to be able to easily know where the Locomotive Workshop is and what it is. Mirvac's aim is to invite people into the ATP precinct, provide a central meeting place for the community, a link to the past and tell its historical stories. The entire redevelopment of the Locomotive Workshop is based on the premise that the building is to be revitalised in a manner that celebrates its rich history.

The ATP precinct and especially the Locomotive Workshop is under-utilised and has a low visitation rate, people generally don't know what it is and that it is open to the public. The ATP appears to be business-like and closed off to the community.

Signage provides a direct connection between the people and the identification of retail premises. This is an imperative factor to drive the activation of the locality and to ensure the community are aware of the amenity that the precinct provides. This inclusion of visually interesting signage, yet sympathetic to the heritage building will ensure a more welcoming 'alive' and 'open' atmosphere to the building.

Whilst a range of media to promote the Locomotive Workshop is envisaged, simple elegant signage on the service towers will provide a sympathetic and sophisticated marker that will define the Locomotive Workshop and reach out to visitors and bring it to life. Illustrative images of the design intent of the proposed signage detail is included in **Figure 1** and **Figure 2**.



Figure 1 Design intent for proposed Service Tower signage

Source: Sissons:



Figure 2 Design intent for proposed Service Tower signage

Source: Sissons

2.9 Geotechnical and Structural Impacts

The Department has requested further consideration of the geotechnical and structural impacts associated with the proposed travelator connecting to Building 2 and Bay 4 including assessment of associated archaeological and heritage impacts.

Response

Mirvac has commissioned Arcadis to undertake the structural engineering for the project. Furthermore, a Section 96(1A) application was submitted to the Department on 25th January 2018 to seek approval for the excavation and construction of a concrete shell to house the travelator between the boundary of SSDA 7317 and Building 2. This application included letters from Enstruct (the structural engineer for Building 2) and Arcadis that assesses the structural requirements for the concrete base structure beneath Locomotive Street, the shoring details for the connection to the Locomotive Workshop and Building 2. These letters are included at **Appendix H**.

At the request of the Department, further details in regard to the shoring concepts and other structural works required to protect the stability of the Locomotive Workshop and Building 2 have since been provided. With regard to Building 2, Enstruct has advised that:

“the piled wall adjacent to the travelator tunnel is its own structure and is detached from the Building 2 structure. Therefore adjusting the piled wall to accommodate the travelator tunnel will not have any impact on the Building 2 structure.”

With regard to the Locomotive Workshop, Arcadis has provided a Structural Plan (included at **Appendix H**), to illustrate the shoring concept and structural works required for the Locomotive Workshop.

With regard to heritage and archaeological impacts of the proposed travelator, including the necessary excavation and structural works, a detailed assessment was included within the Heritage Impact Statement (HIS) for Locomotive Workshop (Bays 1-4a) as submitted with the EIS. The assessment concluded that the risk of finding in-situ Aboriginal archaeological sites are considered low-nil and it would be unlikely that European Archaeology would be found. A proposed strategy that should be undertaken should unexpected archaeological resources be found during the works was also recommended.

The HIS also examined the potential to impact the substructure foundations including the brick arch footings that support the building along the southern elevation. Further information is provided within **Section 4.23** and **Appendix H** in regard to the proposed strengthening that is required to be undertaken to support the brick arched footings and protect them. It is therefore considered that the structural works associated with the travelator would have a minimal impact.

Suggested conditions of consent in relation to archaeology and the reveal of any subterranean structure are included in **Appendix G**.

2.10 Interaction of Land Uses within Bays 1 and 2

The Department and Heritage Council have raised concerns regarding the suitability of the proposed land uses and the interface issues that may arise with the heritage fabric and existing Blacksmiths use. In particular the Heritage Council has requested clarification as to whether physical separation between the Blacksmiths use and other proposed uses are required in terms of reducing noise and fumes whilst noting that it is important that a strong sensory and experiential connection is maintained between the Blacksmith area and the broader space.

Response

Mirvac's vision for Bays 1 and 2 is underpinned by the retention of the Blacksmith operation and the activation of the space so that more people are drawn to the Locomotive Workshop to experience this sensory and experiential connection to past activities.

In order to 'test-fit' the existing Blacksmiths operation and the proposed 'retail' land uses within Bays 1 and 2, Mirvac appointed The Buchan Group to design an indicative retail operation fit-out for Bays 1 and 2 north. This is illustrated in the 3D Design images included at **Appendix I**. Whilst this won't be the layout for the tenancy, the exercise demonstrated how the future tenant could potentially utilise the space and interact with general industrial areas located in Bays 1 and 2 south.

Throughout this process, The Buchan Group consulted with Curio Projects and Trigger Design, Mirvac's Heritage Specialist and Heritage Interpretation Designer to ensure that the indicative 'fit-out' design was able to incorporate and work with the moveable heritage collection, the in-situ heritage machinery and the Blacksmith's operation within Bays 1 and 2.

The Buchan Groups indicative fit-out design demonstrates that the proposed retail uses, and in particular a food and beverage operator can co-locate with the Blacksmith's operation within Bays 1 and 2 and integrate with the heritage interpretation displays. Specifically, the test fit-out demonstrates that fully enclosed areas can be incorporated within Bays 1 and 2 north, should the future tenant wish to provide a controlled environment for food preparation purposes in line with the requirements of Australian Standard AS 4674-2004 "*Design, Construction and fit-out of food premises*" and other relevant State and local food authority guidelines and regulations.

The fit-out design guideline principals (refer to **Section 4.5.2**) requires any of the food preparation areas to be designed in accordance with the relevant provisions of AS 7674-2004 and other State and local food authority guidelines and regulations.

Furthermore, as confirmed within the statements prepared by JBS&G (**Appendix J**), Norman Disney & Young (**Appendix K**) and Arup (**Appendix L**), the operation of the Blacksmith will not give rise to any adverse air quality, acoustic or fume/ airborne contamination impacts upon users or staff within the retail operations.

2.11 Principles of reversibility

The Department has asked for principles and/ or typical details to demonstrate the impacts and the reversibility of the proposed service / public utility pods, mezzanine floor, structural supports, escalator and elevator installation.

Response

The proposed design is based on the premise that all new structures are to be of lightweight steel framed construction that can be bolted together and are generally self-supporting. Similar to the existing modern infill fit-out, the proposed structures will be designed and engineered to be able to be removed in the future without having any undue impacts on the existing heritage fabric or its structure.

2.11.1 Reversibility of in-ground works

As illustrated in **Appendix M**, following demolition, a series of inground works will be undertaken. These involve the excavation and construction of the lift pits and the travelator pit and the construction of footings and piles. The intention is to utilise the existing footings where possible, however where the existing footings are found not to be structurally adequate, new footings will be required in limited areas. These will be sensitively designed to ensure there is minimal disruption to any affected heritage fabric.

For structural members to utilise the original footings, localised areas of the existing slab will be opened up and made good after installation. Accordingly, the location and number of new columns required to be installed has been carefully considered to ensure a minimum number of interventions are required.

New sewer lines or pipes may also be required to be located inground, beneath the existing floor structure. The exact location of the sewer pipes will be minimised where possible by running secondary pipework through the new wall cavities, behind toilet pans and sinks, however, if any new sewer lines or pipes are required to be provided inground, these will only need to be provided in localised areas.

The Heritage Impact Statement submitted with the EIS, states that the internal floor surfaces would have once been soil, and the majority of this was excavated during the 1990s redevelopment of the Site for decontamination purposes and to enable the laying of new (now existing) concrete floors¹. The concrete floor slab is therefore not actual fabric. Accordingly, the Heritage Impact Statement confirms that the Locomotive Workshop has nil to low potential for archaeological relics to survive within the footprint of the extant building. Furthermore the Heritage Response Report (**Appendix E**) confirms that the penetrations into the concrete floor for the proposed in-ground works (i.e. new footings and piles (where required), lift pits and the travelator pit will only have a minimal and acceptable impact in those localised positions given the existing floor is to be protected and covered.

It is considered that, if necessary the proposed penetrations could be filled in, if future works to the building, remove or relocate the lifts, travelator, structural supports or in ground services.

2.11.2 Reversibility of new floor over the existing concrete floor

As discussed in **Section 4.12**, the existing concrete floor slab in Bays 1 and 2 north, the central spine and public circulation area in Bays 3 to 4a is to remain and will be covered with composite floor build up comprising protective membrane sheet under insulation board which is then covered with a topping slab that will provide the finished surface. Small diameter cabling and pipework will then be reticulated in this zone.

If necessary, the new floor could be removed in future leaving the existing concrete floor below.

2.11.3 Reversibility of the public amenities pod in Bay 4a

The public amenities pod at Ground Floor Level in Bay 4a will be a self-contained structure comprising light weight wall construction and will utilise the new concrete floor build up to reticulate smaller diameter pipes and cables. Much like the existing 'fit-out' elements, if required in the future the public amenities could be removed.

2.11.4 Reversibility of mezzanine floors

As addressed within the Response to Submissions Package, prepared by Sissons (**Appendix M**), the first floor inserts are to be constructed using Bondek, a permanent formwork product which is installed using a profiled metal sheet, onto which concrete is poured in-situ. The Bondek sheet will be connected to the new self-supporting new steel structures and then remains in place once the concrete is cured. This allows for the efficient and non-invasive construction of floor slabs, which would readily be removed in future if required.

2.11.5 Reversibility of vents, flues and structural members through the roof

Where vents, flues and structural members (to support the roof platforms) are required to penetrate the roof, they will be positioned in locations that will cause minimal impact to the localised area of the heritage roof sheet but will not impact upon the original roof trusses and will be set back from the façade to reduce visibility wherever possible.

Should these be required to be removed in future, the localised areas of roof sheeting could be patched.

¹ Refer to Section 5.2.3 of the Heritage Impact Statement – Locomotive Workshops, Bays 1-4a SSDA, prepared by Curio Projects

2.12 Accommodation of Major Service needs

The Department has asked for further information in regard to the major service needs, such as connections to roof plants, lifts installation, etc, particularly for the supermarket.

Response

As noted in the Response to Submissions Package, prepared by Sissons (**Appendix M**), throughout the Locomotive Workshop, the majority of the pipework and cabling will be reticulated through a consolidated service run around the perimeter of the building, similar to the existing situation. Services required to be reticulated from the new roof plant platforms over Bays 3-4a will do so via a service riser located within the northern wall between Bays 3 and 4. **Figure 3** illustrates the maximum extent of the service riser zone, which corresponds to the back (northern boundary) of the retail tenancy in Bays 3-4a north. Whilst it is anticipated that the riser will be boxed in by a dry wall system, the exact location of the service riser, the materials that will use to box it in and the end appearance of this zone will be determined in conjunction with the fit-out design for the retail tenancy. The provision of the service riser will be designed to minimise any impact upon the northern heritage wall physically.

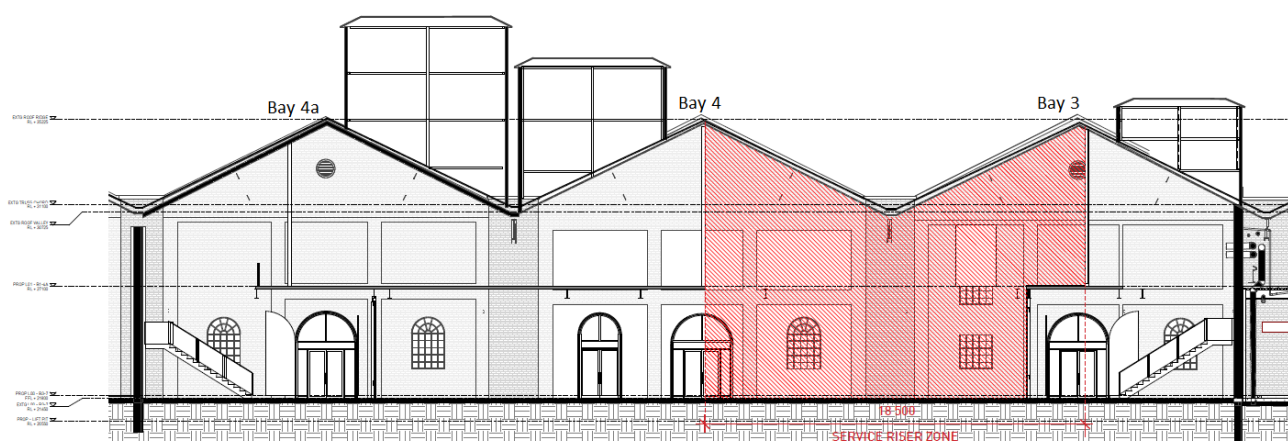


Figure 3 Maximum extent of the service riser zone

Source: Sissons

2.13 Design resolutions for ESD commitments

The Department has asked for further information in regard to the options to resolve any potential conflicts between the proposed ESD commitments and any heritage design framework, including materiality and construction. Furthermore, the Heritage Council has asked for clarification on whether any existing external walls are to be upgraded to meet requirements of Section J of the BCA and has requested that any upgrades must ensure that significant fabric is not impacted and undertaken in consultation with the nominated heritage consultant.

Response

As set out within the ESD report that was submitted with the EIS, the ESD strategy for the Locomotive Workshop has been based upon the principles of the Green Star rating system in order to improve the environmental performance of the building, including water and energy efficiency, however NDY have confirmed that the Green Star strategy is limited, because its basis is the preservation of the heritage elements of the building rather than attempting to modify the existing fabric to achieve compliance.

In regard to compliance with Section J of the BCA, NDY have confirmed in correspondence with Mirvac that the proposed solution does not require changes or upgrade to the existing uninsulated walls and only insulation is being provided within the roof.

In line with the Heritage Council's comment, the following condition of consent (as replicated in **Appendix G**) is proposed:

BCA Compliance

The proposed works must comply with the applicable performance requirements of the BCA so as to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity for the ongoing benefit of the community. Compliance with the performance requirements can only be achieved by:

- a) Complying with the deemed to satisfy provisions, or*
- b) Formulating an alternative solution which:*
 - a. Complies with the performance requirements, or*
 - b. Is shown to be at least equivalent to the deemed to satisfy provision, or*
 - c. A combination of a) and b).*

All new structural works are to comply with the BCA including structural, building services, acoustic, fire protection and access upgrades are to be designed and integrated into the Locomotive Workshop in a manner that maximises the conservation and enhancement of its historic spatial qualities and the conservation and exposure of significant heritage fabric. Alternate solutions are to be proposed, wherever these are necessary to ensure the most sympathetic heritage outcome.

The proposed designs and strategies must be prepared in consultation with the appointed Heritage Specialist to ensure adverse impacts are minimised.

2.14 Roof Lantern Louvres

The Heritage Council has noted that a number of the original roof lantern louvres are proposed to be removed throughout the building and replaced with smoke attenuation louvres. They have requested that consideration be given to reducing the number of original lantern louvres to be removed and a range of considered options be prepared and reviewed prior to issuing approval for any stated fire solutions.

Response

It is Mirvac's intention to retain the existing roof lantern louvres in-situ wherever possible. The maximum extent of louvres that may potentially be removed to achieve compliance is illustrated in the Architectural Drawings at **Appendix C** and the Response Package at **Appendix M**. Testing of systems will continue during the development of the design to try to reduce the maximum number if deemed possible (as illustrated).

Notwithstanding this, a suggested condition of consent is included at **Appendix G**, that requires any removed roof lantern louvres to be securely stored for future use.

2.15 Detailed Design

The Department and Heritage Council requested further details in regard to a number of aspects that relate to the detailed design resolution and construction methodology. The key comments relate to:

- materials, methods and finishes for all the internal additions;
- materials and finishes of the proposed service pods;
- the proposed 'wrapping' of the cast iron columns located within the service pod footprint;
- the travelator, its balustrade design and details of how the escalator interacts with the existing southern wall of the Locomotive Workshop;
- the proposed construction of the loading dock and the Mezzanine Level, the introduction of new structure and how the significant fabric/ columns are to be protected (internally and externally) from impact of large vehicles;
- the introduction of additional structural support (if necessary) for the roof;
- external enclosures, such as the sub-stations;
- the introduction of new structure for the roof plants; and
- the design of back of house, storage areas, retail, interpretation and the Blacksmiths area.

However, the Heritage Council has also noted that in respect to each of these aspects, the design details are to be provided to the Heritage Council for assessment prior to the approval of this project.

Response

Additional information to support the concepts has been prepared by Sissons in their Response to Submissions Package (**Appendix M**) in relation to the following elements:

- Loading Dock;
- Roof Plant and Roof Upgrade;
- Floor transitions;
- Travelator;
- Signage on the Service Towers;
- Back of House wall treatment;
- Materials;
- The Central Spine;
- Amenities Pods;
- Smoke Attenuation Louvres; and
- Service Reticulation.

As set out in **Section 2.1**, the principal aim of this SSDA is to gain approval for the key concepts, as listed. However, where possible the revised development description at **Section 4.0** provides greater detail and **Section 4.4** clearly sets out the items where detailed design and the materiality details will be provided either as part of the construction certificate documentation or within a separate application. Suggested conditions of consent in relation to this strategy are included within **Appendix G**.

A further condition of consent is also suggested that requires the input from a suitably qualified and experienced heritage consultant with regard to the detailed design and the demolition and removal of material.

2.16 Intertenancy Walls – Fire Separation

The Heritage Council has asked that further consideration be given to utilizing alternative design solutions such as fire curtains or concealed fire doors within the intertenancy wall design between Bays 2 and 3, Bays 4a and 5 and Bays 7 and 8 for fire compartmentalisation purposes. They also note that if these are not suitable, a reduction in framing is recommended to make the intertenancy walls as transparent as possible, in order to retain the east-west access view line.

Response

The intertenancy wall proposed between Bays 2 and 3 are not proposed to be fire separated. As discussed in the Response Package, prepared by Sissons (**Appendix M**), the fire rating strategy for the entire Locomotive Workshop requires fire separation based on the change of use. Therefore Bays 1-4a is treated as a single fire compartment and fire separation is only required between Bays 4a and 5. No fire separation is required between Bays 2 and 3 or Bays 7 and 8.

The design of the intertenancy wall proposed between Bays 4a and 5 has been reconsidered and reduced framing is proposed. The design continues to be a framed, glazed structure which is in keeping with the style of the new windows and doors proposed throughout the building. As discussed in the Response to Submissions Package, prepared by Sissons (**Appendix M**) a fully retractable door system is currently being explored to provide fire separation between Bays 4a and 5, which will allow the central spine to be completely open at ground level, unless in the event of a fire. The retractable door system will maximise the view lines along the east-west central spine and create a sense of openness as indicatively illustrated in **Figure 4**.

Notwithstanding the above, the exact fire separation concept for the intertenancy wall between Bays 4a and 5 will be given further consideration and the exact details will be provided within the construction certificate documentation submitted to the PCA for Construction Certificate CC4 – Services and Base Building Fit-Out.



Figure 4 Indicative illustration of the wall between Bays 4a and 5

Source: Sissons

2.17 Loading Dock – Alternative Locations

The Department has asked for further analysis of the alternative locations for the loading dock and options to upgrade the existing loading facilities and/ or accommodate/ share the loading facilities in Building 2 or other buildings.

Response

The provision of the loading dock in its proposed location, is the culmination of the consideration of a significant number of factors. These are explained below.

In 2014, the NSW Government considered that there was significant potential to provide a better outcome than the existing situation (at that time) within the ATP precinct and the Locomotive Workshop. This was demonstrated by the fact that the ownership of the land and the development rights were transferred to Mirvac.

In addition, the development controls that apply to the Locomotive Workshop also demonstrate that it has significant development potential by allowing up to 42,055m² GFA to be developed.

Mirvac originally anticipated that the redevelopment of the Locomotive Workshop would form part of SSDA 7317, however as the preparation of the development application progressed, it became apparent that the adaptive re-use of the Locomotive Workshop needed considerable additional time to develop the redevelopment and design concepts and establish the appropriate mix of uses. This is demonstrated by the fact that the EIS's for SSDAs 8517 and 8449 were lodged almost two years after the SEARs request was submitted for SSDA 7317 and approximately 1 year after the approval of SSDA 7317 was issued.

Mirvac's vision for the entire ATP precinct is to create a vibrant new precinct that combines world class work, retail and community spaces. It is evident however, that since its closure in 1988, the ATP has become a soulless and isolated business park which turns its back on the local community. The strategic need for the proposal and especially the critical mass of proposed retail floorspace has been demonstrated in Sections 2.6.1 and Section 6.7 of the EIS as well as Section 4.2 of the Architectural Design Report and the Economic Impact Assessment and Factors to Success reports submitted with the EIS.

However, to re-iterate and clarify, a critical mass of retail floorspace must be delivered within the ATP precinct to ensure that it's redevelopment is successful. To ensure quality retailers are attracted to the Locomotive Workshop (being the critical mass) as well as the retail floorspace within Buildings 1, 2 and 3 it is imperative that a key anchor, such as an everyday retail offer (i.e. supermarket) is situated within the ATP Precinct.

It is noted that the provision of a supermarket was originally proposed within Building 2, however following approval of SSDA 7317, the proposed size of the supermarket and its surrounding retail floorspace was considered not large enough to provide the critical mass that has since been established to be needed for the ATP precinct. The Locomotive Workshop redevelopment, therefore provides a unique opportunity to provide this critical mass.

Furthermore, MacroPlanDimasi has provided additional justification (at **Appendix N**) that sets out the critical success factors that must be met in order to ensure a key everyday retail offer anchor tenant is attracted to the Locomotive Workshop. In particular MacroPlanDimasi specifically set out that these factors are all inter-related and must all be met in order to deliver and operate a precinct that will attract quality tenants and operators, resonate and appeal to residents, workers and visitors and generate increased exposure to the cultural and heritage value of the Locomotive Workshop.

One of the key critical factors is the *'ability to load and service retail tenancies'* and the *'provision of operational components that are in accessible and functional locations'*, as otherwise, MacroPlanDimasi believe that retailers and operators will not want to locate at the Locomotive Workshop.

Section 4.4 of the Architectural Design Report submitted with the EIS demonstrates that significant thought has been given to the positioning of the loading dock and the retail floorspace within the Locomotive Workshop. This has also been reinforced by the extensive analysis within the Heritage Impact Statement submitted with the EIS that included extensive discussion on the options, analysis of the resulting changes to Bays 1 & 2 north from a heritage impact perspective and the assessment of the physical and visual heritage impacts of the loading dock on Bays 1 & 2 north.

However to reinforce these assessments, and in direct response to the Department's query, an assessment of alternative locations is provided in **Table 2** below.

Table 2 Assessment of alternative locations for the loading dock

Alternative Location	Assessment
Shared Loading Dock in Building 2 or other buildings within the ATP.	<ul style="list-style-type: none"> Approval to establish the retail floorspace within the proposed location within the Locomotive Workshop is the basic premise of this SSDA. The reason why Bays 1-4a is considered the best location for the retail floorspace within the Locomotive Workshop are provided within the Architectural Design Report submitted with the EIS. Not providing direct loading or servicing facilities adjacent to a key anchor tenancy would be considered a major operational constraint and is considered by MacroplanDimasi (Appendix N) to significantly limit the commercial viability of any retail offer within the Locomotive Workshop. The movement of produce and stock, as well as waste across Locomotive Street between the Building 2 loading dock or other Buildings in the ATP and the Locomotive Workshop would result in a poor outcome as these back of house activities are generally not wanted to be seen by workers and visitors and the presence of these activities would be detrimental to the intended look and feel of the ATP precinct as well as the experiential qualities of the upgraded public domain that will incorporate high quality public art and heritage interpretation. The provision of loading and servicing facilities within a building that is significantly separated from the critical mass of the retail floorspace that is would service would increase operational costs, decrease efficiency and therefore be uneconomical for retailers. They simply would not be attracted to the Locomotive Workshop and want to locate their operation there.
Other Bays within the Locomotive Workshop	<ul style="list-style-type: none"> For loading trucks to enter the building rather than park within the public domain of Locomotive Street, a large format opening within the elevation of the building is required. The creation of a new large format opening on the elevation of the Locomotive Workshop will have unacceptable negative heritage impacts. Bays 7 and 13 are the only other Bays facing Locomotive Street, that have an existing large format opening. However if the loading dock were to be located within these Bays, a significantly larger floorspace area will be required overall to provide loading and servicing facilities to the retail tenancies. Additional servicing floorspace will then likely be required for the transportation of goods and waste, cutting through multiple Bays, to connect Bays 7 or 13 to the retail tenancies within Bay 1. This will not only significantly reduce the available floorspace for commercial and retail tenancies, but will have extremely detrimental effects to the spatial qualities and groupings of the Bays. As such locating the loading dock in an alternative Bay would be extremely detrimental to the overall development, both architecturally, and commercially. Not providing, direct loading or servicing facilities adjacent to a key anchor tenancy would be considered to be a major operational constraint, and operationally inefficient.
On-street loading on Locomotive Street	<ul style="list-style-type: none"> Whilst some on-street loading spaces have been provided within this application on Locomotive Street, these are not large enough to accommodate the 10m trucks that will utilise the proposed loading dock. Restricting a key anchor tenant to small servicing vehicles would also limit the commercial viability of the retail offer and they would not be attracted to the Locomotive Workshop. A greater number of small service vehicles on Locomotive Street, would also be inefficient and detrimental to the intended look and feel of Locomotive Street.

Furthermore, the concept of the loading dock's location has been presented at the initial consultation meeting with the Heritage Sub-Panel that included representatives of the Heritage Council and City of Sydney. There has been a total of 8 Heritage Sub-Panel meetings, since the original meeting and whilst the Heritage Council and City of Sydney has requested that further design details are provided, no objection to the proposed location as a concept from either agency is included within their submissions.

It is believed therefore that the proposed location of the loading dock is the best outcome for the proposed development. Notwithstanding this, provisions have been put in place through the suggested conditions of consent (**Appendix G**) that will ensure that the Heritage Council and City of Sydney has the opportunity to review and provide comment on the details relating to the final design of the loading dock wall and Heritage Interpretation Strategy and design within Bays 1 and 2 north.

2.18 Travelator

The Heritage Council has noted that the rationale for the travelator is based on economic arguments and considers that there are other options to provide access from the car park that will not impact the Locomotive Workshop/

Response

It is acknowledged that the rationale for the travelator is based on economic arguments and importantly the critical success factors (refer to **Appendix N**) that must be met in order to ensure that the proposed Locomotive Workshop redevelopment within Bays 1-4a is successful, activates the building and the wider ATP precinct and provides an exceptional experience for the future workers and visitors.

Along with the loading dock, the provision of the travelator is one of the key aspects of the proposed development that has been discussed extensively at the numerous Heritage Sub-Panel meetings with the representatives of the Heritage Council and the City of Sydney. Whilst the proposed location of the travelator requires additional strengthening to the brick arched footing of the Locomotive Workshop, its location also presents a unique opportunity to create an interpretive experience that will explain the significance of the foundry and its relationship to the Locomotive Workshop.

The Heritage Response Report (**Appendix E**) also notes:

"It is important to remember that when historic buildings are no longer able to be used for their original intent, such as the Locomotive Workshops, there is a need to create an adaptive reuse that not only preserves the fabric of the building but ensures its long-term viability. In order to ensure that historic buildings remain viable, and 'in use', there is usually the need to introduce new elements, such as equitable access (i.e. lifts, disabled toilets), fire and other BCA upgrades, services and infrastructure to meet with current legislative requirements and to satisfy visitor expectations.

In terms of the addition of the travelator within Bays 3-4a of the Locomotive Workshop to ensure that the proposed retail use is viable (as per the Retail Strategy), the impacts of the travelator will generally be limited. The majority of the impacts will be subterranean and will have a limited visual and physical impact within the ground floor space of the Locomotive Workshop."

Furthermore, in line with other significant interventions, provisions have been put in place through the suggested conditions of consent (**Appendix G**) that will ensure that the Heritage Council and City of Sydney has the opportunity to review and provide comment on the details relating to the final design. It is therefore considered that the provision of the travelator provides a significant number of benefits in addition to just providing an all-weather direct access to visitor car parking.

2.19 Parking and Loading Management

The Department has asked for further information in regard to the time restrictions, access route and frequency of use of the proposed loading facilities and the associated impacts on the main pedestrian route from Redfern Station to the Locomotive Workshop via the northern end of Innovation Plaza.

Furthermore, the City of Sydney note that the preferred loading access is via Margaret Street, however large vehicles proposed (8.8m and 12.5m long) cannot be accommodated within the existing road network design of without requiring changes to the surrounding road network, which are not supported. The City of Sydney state that a solution should rely on the existing conditions of the site and the surrounding road infrastructure, however the Shared Zone in Marian Street should not be used by delivery/ service vehicles and a condition to this effect should be imposed on any consent, and/ or the Loading Management Plan.

Response

Following lodgement of the EIS, Mirvac commissioned SLR to progress discussions with the City of Sydney in regard to the provision of a satisfactory access route for delivery trucks and waste/ refuse collection trucks to access the new loading dock proposed within Bays 1 and 2 north. As set out within its Traffic and Transport Response to Agency Submissions Statement (Traffic Response Statement) at **Appendix O**, SLR undertook their own swept path assessment of both the Margaret Street and Marian Street routes for the following truck designs:

- RCV – Rear lift Roll-on/ Roll-off Refuse Compactor Collection Vehicle (ACCO 2350| 10.2m); and
- LRV – Large Rigid Vehicle (Tenant specified Mercedes Benz 2324L| 10.15m).

The use of the previously proposed 12.5m HRV design vehicle was also discounted and Mirvac is in agreement with the imposition of this restriction.

The SLR swept path assessment showed that the Margaret Street option was physically possible without the need to modify existing road kerbs along the route, and both the RCV and LRV can negotiate the left turn from Rosehill Street into Margaret Street when clear of permanent obstructions. However, left turning trucks would conflict with the Rosehill Street unrestricted kerbside parking spaces opposite Margaret Street.

During a meeting held on 16th February 2018, Mirvac representatives and City of Sydney technical officers discussed this conflict and potential options for mitigation. Mirvac and SLR suggested that the 'No stopping zone' currently in place on Rosehill Street could be extended by approximately 11.5-12m, which is the equivalent of two car spaces.

The City of Sydney, as managers of Rosehill Street, raised concerns in regard to the loss of two parking spaces and that there is potential for motorists to disregard the 'No Stopping' regulation and potentially block the truck access route.

In response, SLR consider that there are engineering options available that could offset the loss of the two parking spaces. However, ultimately it is a decision for the City of Sydney to make as to whether the 'No stopping zone' is to be extended and if it is whether additional spaces are to be provided at other locations on Rosehill Street.

As an alternative, SLR also investigated the Marian Street option. The swept path analysis showed that both the LRV and RCV can physically negotiate the Marian Street route clear of obstructions including parked cars, can legally be traversed by trucks and is not subject to any existing vehicle limits or regulation.

Given that the Marian Street option would require trucks to travel through an approximate 90m segment of Marian Street that is currently sign posted as a 10km/ hour shared zone and that approximately 30m of this shared zone length directly relates to pedestrian movements travelling between the ATP and Redfern Station, Mirvac accepts that if the Marian Street option is utilised, the movement of trucks would be avoided during high pedestrian utilisation, such as morning and afternoon commuter peak periods.

Overall, whilst it is Mirvac's preference to utilise the Margaret Street access route, this requires the City of Sydney Council implementing changes to the existing kerbside car parking arrangements in Rosehill Street. Should the City of Sydney not accept this, then the Locomotive Workshop and the proposed new loading dock can suitably be serviced via Marian Street. Due to the fact that only two options are available, and the preferred Margaret Street option relies on the City of Sydney, it is considered unacceptable for the City of Sydney to also seek to prevent the Marian Street option to be utilised as it has suggested in the submission.

It is intended that a Loading Dock Management Plan (LDMP) will be provided for the development once a greater understanding of the anchor retail tenant would be. Details that would be included within the LDMP would include timing restrictions and the frequency of services. A suggested condition of consent is included at **Appendix G**.

3.0 Key Issues – Independent Bodies and the General Public

A response to each of the individual issues raised by the Independent Bodies is included within **Appendix A** and a response to the issues raised by members of the general public is provided in **Appendix B**.

However, the Heritage Response Report included at **Appendix E**, provides a detailed response to all heritage related matters.

4.0 Revised Description of Development - Bays 1-4a

4.1 Modifications to the original Description of Development

In refining the exhibited State Significant Development Application, Mirvac has considered all the public and agency submissions, undertaken indicative detailed design exercises and considered advice from the Department, Heritage Council and City of Sydney. In light of this, Mirvac proposes to amend and clarify aspects of the previously exhibited scheme as set out below.

Construction

- Providing an indication of the construction works program;
- Extension of the scope of demolition activities to include:
 - openings within the Bays 2/3 wall; and
 - removal of localised areas of existing floor slab for new footings and lift pits.

Post approval submission

- Outline of the intended timing for the submission of the detailed drawings for the base build elements;
- Outline of an approval strategy for the detailed design elements, such as operation and fit-out of tenanted spaces, and signage; and
- Define the fit-out design strategy and establish a set of guiding principles to inform fit-out design.

Amendments to the proposed design

- Increase to the maximum quantum of gross floor space (GFA) that can be built within Bays 1-4a by 194m²;
- Reconfiguration of the loading dock design;
- Revision of the design of the loading dock wall;
- Repurpose of the use Mezzanine Level in Bays 1 & 2;
- Relocation of the principal heritage exhibition and interpretation space to the Ground Floor level;
- Extension of the area that will be used for retail purposes within the southern portion of Bays 1 and 2 north;
- Amendment to the concept design of the heritage display barriers;
- Removal of portions of the wall between Bays 2 and 3 and providing in-fill glazed windows;
- Co-location of the lift and stair access to the Mezzanine Level in Bays 1 & 2 and Level 1 in Bays 3-4a and providing new a heritage interpretation zone and tunnel-like structure;
- Provision of a new Blacksmith viewing platform; and
- Relocation of the public amenities within Bay 4a.
- Recladding of the service towers on the roof of Bay 4 and Bay 4a and addition of a new roof maintenance access system;
- Revision to the Public Domain design and the removal of one tree in Innovation Plaza;
- Provision of outdoor seating areas within Innovation Plaza and Locomotive Street; and
- Revision of the proposed on-street parking provision for small delivery vehicles, accessible parking, taxi and drop off.

Land uses

- Extension to the range of uses for which approval is sought, through the inclusion of 'educational establishment' uses within the proposed list and clearly identifying where the proposed land uses will be approved on the Land Uses Plans and Temporary Land Uses Plans.

Further detailing of concepts

- Provision of details to describe the proposed floor treatments.

Updating and improving the heritage

- Updates to the key Heritage Interpretation concepts, to reflect the updated design concepts proposed with Locomotive Workshop.

The following sub-sections of **Section 4.0** set out the proposed description of development (as revised).

4.2 Overall Design Principles

The proposed design for the adaptive re-use and redevelopment of Bays 1-4a within the Locomotive Workshop has undergone a detailed, robust and iterative design development from project inception to finalisation of the Response to Submissions documentation. From the outset, the proposed design has been based on the following principles:

- **Activation:** Contribute to an active and enlivened precinct through the revitalisation of a significant heritage building.
- **Technology:** Reimagine the Locomotive Workshop as a hub for contemporary technology and innovation that sensitively responds to the heritage elements which give the Building its unique character.
- **Community:** Integrate the ATP with the surrounding local community and meet the needs of the new worker population.
- **Transparency:** Use an independent, removable structure within the existing shell to provide transparency and openness to the Locomotive Workshop's fabric.
- **Interpretation:** Conserve, celebrate and interpret the in-situ elements.
- **Authenticity:** Conserve the authentic industrial character.

The concept design for the Locomotive Workshop, as revised by this Response to Submissions Report, is based on the following architectural design principles:

Activation:

- Provide the canvas for the opportunity to curate outdoor activities and local events in Innovation Plaza regularly throughout the year.
- Ensure the public is free to enter and circulate through the Locomotive Workshop.
- Provide spaces that will foster interaction, transparency and flexibility within the interior design of spaces.

Community:

- Remove existing barriers to the ATP, open its doors and reintegrate it with the surrounding neighbourhood.
- Create a social destination that celebrates its heritage significance and unique sense of place.

Transparency:

- Where possible ensure that new internal structures will be independent of the existing fabric and allow the new development to maintain a minimum impact on this significant heritage site.
- Provide for interaction and visual connectivity both within the existing heritage building fabric and the Public Domain for both building tenants and the wider community.
- Provide open atria and a central access spine that incorporates an interpretation of the former railway tracks guiding pedestrians through the building along an east-west axis.

Interpretation:

- Provide retail spaces that are sympathetic to the overall heritage fabric and that facilitate the opportunity to provide the theatre of on-site food manufacture and production display.
- Maintain important physical aspects of the existing heritage building, including the inspiring sense and size of the internal volume and careful interpretation of the Locomotive Workshop's previous uses.
- Ensure new building work is detailed in a contemporary manner and touches the building lightly.

Authenticity:

- Retain and integrate a Blacksmith operation and provide opportunities for heritage interpretation exhibitions.
- Ensure all new materials introduced to the building are distinctly new but take their lead from the existing elements and use glazing and other transparent materials to ensure legibility of heritage items and the scale of the building.

4.3 Overview of the Proposal

This SSDA seeks approval for the following:

- demolition works;
- adaptive reuse of the Bays 1-4a and two annex structures for a mix of uses including, retail premises, function centre, information and education facility, educational establishment, general industrial uses, and recreation facility (indoor) uses;
- use of Bays 1-4a and Innovation Plaza for temporary community events;
- establishment of maximum quantum of 11,676m² GFA to be provided within Bays 1-4a;
- construction of the base build internal and external alterations to Bays 1-4a;
- excavation and construction of a travelator between the Locomotive Workshop and Building 2;
- construction of a new retail annex adjacent to the southern façade of Bay 1;
- relocation of moveable and in-situ heritage items;
- heritage interpretation and conservation works;
- Public Domain improvements to Locomotive Street and Innovation Plaza;
- removal of 1 tree and landscaping within Innovation Plaza;
- provision of outdoor seating in Innovation Plaza and on Locomotive Street;
- provision of loading spaces, accessible car spaces, taxi and drop off spaces along Locomotive Street;
- provision of an external building illumination system;
- signage zones; and
- associated utilities and infrastructure.

The following detailed description of the proposal is based on the revised Architectural Plans prepared by Sissons Architects and the Public Domain Response Package, prepared by Aspect (**Appendices C and D**).

4.4 Approval Strategy

This application seeks consent for the base building alterations and works illustrated on the Architectural Plans (**Appendix C**) prepared by Sissons, the Public Domain Response Package prepared by Aspect (**Appendix D**) and the land uses, as outlined in **Section 4.7**.

4.4.1 Works Program

The adaptive reuse of the Locomotive Workshop is an extremely complex process requiring significant work and co-ordination to inform the final details of the design. The general works program is targeting receipt of the development consent for SSDA 8517 by mid 2018, with the commencement of the demolition works, during Q4 2018 and the commencement of the construction of the base build elements, that are proposed within SSDA 8517 in February 2019.

It is proposed that staged construction certificates will be obtained for the six key development stages:

- CC1 - Demolition
- CC2 - Foundations, excavation, in-ground works and services
- CC3 - Structure
- CC4 – Services and Base Building Fit-Out
- CC5 – Façade and Roof
- CC6 - Public Domain

The main intent of obtaining staged construction certificates is to enable a smooth construction process and minimise the extent of conditions that must be satisfied in order to commence works as soon as practicable following the issue of the development consent.

4.4.2 Base build detail strategy

In line with the six key construction stages as identified in **Section 0**, whilst the general intent of the base build elements are set out within the following sections of this report, documentation to illustrate the construction details of the following elements will be submitted to the Heritage Council and City of Sydney for comment prior to the issue of the nominated Construction Certificate in **Table 3**.

Table 3 Strategy for the provision of detail

Documentation	Construction Certificate
Detailed drawings and proposed construction of the loading dock, loading dock wall protection, loading dock wall design and barriers to protect the Davy Furnace and significant heritage fabric.	CC3 - Structure
Details of the floor finishes within the Bays 1 & 2 north, the central spine, Blacksmith area in Bays 1 and 2, and the public circulation areas within Bays 3-4a that do not sit within a tenancy.	CC4 – Services and Base Building Fit-Out
Detailed plans of the fit-out for Bay1-2 south (i.e. Blacksmith and Hard Arts area).	CC4 – Services and Base Building Fit-Out
Detailed design of the Ground Floor heritage interpretation and exhibition space and barrier between the blacksmith / hard arts space.	CC4 – Services and Base Building Fit-Out
Details of the proposed materiality of the display barriers.	CC4 – Services and Base Building Fit-Out
Detailed plans of the proposed materials and finishes of the Bay 2/3 wall.	CC4 – Services and Base Building Fit-Out
Detailed plans of the Bay 4/5 wall, lift, stair and tunnel structure in Bay 3, and Blacksmith viewing platform.	CC3 - Structure
Detailed plans of the proposed materials and finishes of the new corner retail annex adjacent to Bay 1.	CC3 - Structure
Detailed plans of the travelator design, its balustrade design and heritage interpretation design.	CC3 - Structure
Details of the proposed construction of the public amenities and Mezzanine Levels and the methods of protection to significant heritage fabric.	CC3 - Structure
Details of the extent of existing heritage superstructure that will be removed.	CC3 - Structure

Documentation	Construction Certificate
Details of the materials to be used for recladding the roof, and roof level service tower and details of the exact location and extent of the removal of the existing smoke attenuation louvres.	CC5 – Façade and Roof
Details of the roof platforms and their structural supports.	CC3 - Structure
Details of the external lighting.	CC4 – Services and Base Building Fit-Out

4.4.3 Approval strategy for the detailed design

Separate applications will be submitted for approval (by the relevant authority) for the following:

- operation and fit out of tenancies within Bays 1 and 2 north at Ground Floor and Mezzanine Level;
- operation and fit out of tenancies in Bays 3-4a at Ground Floor and first floor;
- operation and fit out of the corner retail annex adjacent to Bay 1;
- detailed signage design for:
 - signs behind the upper glazed panels of the entrance doorways along the eastern, southern and northern elevations of the Locomotive Workshop;
 - signs behind the glazing line of the upper level of the corner retail annex adjacent to Bay 1 on its eastern and southern elevations;
 - the signage within the allocated zones (described in **Section 4.31**) on the service towers located on the northern elevation of Bays 4 and 4a;
 - a sign on the brick heritage fascia of the southern elevation of Bay 4 off Locomotive Street;
 - a sign on the brick heritage fascia of the eastern elevation of Bay 1 above the main central entrance off Innovation Plaza; and
 - signage within the Public Domain areas within Innovation Plaza and Locomotive Street as per the broader wayfinding strategy which will include but not limited to new Bay identification signs.

Accordingly, Mirvac suggest that the following condition of consent (as included in **Appendix G**) is included within the Instrument of Approvals:

Limits of Consent

This consent does not approve the following components of the development:

- a) *operation and fit out of tenancies within Bays 1 and 2 north at ground floor and mezzanine level;*
- b) *operation and fit out of tenancies in Bays 3-4a at ground floor and first floor;*
- c) *operation and fit out of the corner retail annex adjacent to Bay 1;*
- d) *detailed signage design for:*
 - i) *signs behind the upper glazed panels of the entrance doorways along the eastern, southern and northern elevations of the Locomotive Workshop;*
 - ii) *signs behind the glazing line of the upper level of the corner retail annex adjacent to Bay 1 on its eastern and southern elevations;*
 - iii) *the signs within the allocated zones on the northern elevation of the service towers located the roof of Bays 4 and 4A;*
 - iv) *a sign on the brick heritage fascia of the southern elevation of Bay 4 off Locomotive Street;*
 - v) *a sign on the brick heritage fascia of the eastern elevation of Bay 1 above the main central entrance off Innovation Plaza;*

- vi) *signage and way finding signage within the Public Domain areas within Innovation Plaza and Locomotive Street.*

4.5 Detailed design framework

4.5.1 Fit-out design strategy

Given the highly significant heritage nature of the Locomotive Workshop, and in particular the sensitivities that surround Bays 1 and 2, in order to guide and inform the detailed design elements within the Bays 1-4a, Mirvac will commission the following documents to be prepared in consultation with the Heritage Division, the City of Sydney and other relevant stakeholders as necessary:

- Stage 2 Heritage Interpretation Strategy;
- Fit-out Guidelines for Bays 1 and 2 north (Ground Floor and Mezzanine Level);
- Fit-out Guidelines for Bays 3-4a north (Ground Floor);
- Fit-out Guidelines for Bays 3-4A north (first floor); and
- Fit-out Guidelines for Bays 3-4A south (Ground Floor and first floor).

Accordingly, Mirvac suggest that the following conditions of consent (as included in **Appendix G**) are included within the Instrument of Approval:

Heritage Interpretation

Prior to the issue of the first Occupation Certificate for Bays 1 and 2, the Applicant shall submit a Stage 2 Heritage Interpretation Plan for the Locomotive Workshop to the satisfaction of and approval by the Secretary. This plan shall be prepared in accordance with the Stage 1 Heritage Interpretation Plan for the ATP, prepared by Curio Projects dated November 2016, the ATP Conservation Management Plan and the relevant NSW Heritage Division guidelines and in consultation with the Heritage Council and other stakeholders, including former workers, Aboriginal stakeholders, volunteers, the local community and relevant railway associations, and document the findings and recommendations raised.

Prior to the issue of the last Occupation Certificate for SSDA 8517, the Applicant shall implement the proposals and recommendations of the approved Stage 2 Heritage Interpretation Plan that relate to Bays 1-4a.

Future development applications shall ensure that fit-out works demonstrate consistency with the approved Stage 2 Heritage Interpretation Strategy.

Fit-out guidelines

Prior to the issue of CC4 – Services and Base Build Fit-Out, fit-out design guidelines for the following areas within Bays 1-4a within the Locomotive Workshop are to be prepared in consultation with the Heritage Council and to the satisfaction of the Secretary:

- *Bays 1 and 2 north (ground floor and mezzanine level);*
- *Bays 3-4a north (ground floor);*
- *Bays 3-4a north (first floor);*
- *Bays 3-4a south (ground floor and first floor);*

The tenant fit-out guidelines are to be drafted to ensure that they make tenants aware of the cultural significance of the Locomotive Workshop and the requirements for their on-going conservation and management.

Future development applications shall ensure that fit-out works address the approved fit-out design guidelines.

4.5.2 Tenant Fit-out Guiding Principals

It is intended the fit-out design guidelines will be prepared and finalised prior to the issue of the Construction Certificate CC4 – Services and Base Build Fit-Out. However, in order to create a memorable retail experience within this unique destination, Mirvac has undertaken extensive research and consultation into the history of the Locomotive Workshop and with the help of former workers, the local community, the City of Sydney and the Heritage Council, the following guiding principals have been formulated. These will be used as a basis to ensure that the future tenancy design within all areas of the Locomotive Workshop provides an appropriate, coherent and sympathetic aesthetic which showcases the significant heritage fabric of the building.

Design Principles for Bays 1 and 2

The general principles defining the arrangement within Bays 1 and 2 north at ground level will:

- combine the functional areas with the heritage interpretation space, heritage interpretation display areas and incorporate heritage interpretation within the design of the fixtures and furniture;
- pay homage to the history and function of the Locomotive Workshop and ensure that the history and heritage of the existing structure is paramount;
- include reversible insertions that are positioned amongst the heritage interpretation displays and in-situ machinery in an arrangement which encourages visitors through the space, engage with the Locomotive Workshop and participate in a food and beverage experience within a cultural heritage space;
- include new tenancy structures that will be aesthetically complimentary to the heritage space;
- ensure that the spatial character of the building is retained;
- ensure any food preparation areas are designed in accordance with the relevant provisions of AS 7674-2004 *“Design, Construction and fit-out of food premises”* and other State and local food authority guidelines and regulations;
- ensure that any heritage items that are utilised or relocated to form new design elements, such as decorative elements or functional furniture, do not undergo permanent change and the new design elements can be dismantled and the work is reversible. Such elements may include but are not limited to:
 - the relocation of the outriggers that are repurposed as internal awning supports;
 - the repurposing of the moustache brackets as table legs;
 - the relocation of tools hung along new vertical frames; and
 - the repurposing of Sutho’s office through the insertion of an internal protective skin to ensure the space is compliant with health, safety and food regulations, but preserves the external façade;
- ensure that Mirvac’s heritage specialist team is consulted and involved with the merger and utilisation of heritage pieces that are used in the assembly of furniture and the fit-out design in general.

Design Principles for Bays 3 to 4a

The general principles defining the arrangement within Bays 3-4a will:

- pay homage to the history and function of the Site and ensure that the history and heritage of the existing structure is paramount;
- ensure that new insertions are reversible and suitably positioned amongst the significant heritage fabric;
- include new tenancy structures that will be aesthetically complimentary to the heritage space;
- ensure that the branding and identity of the tenant branding is cohesive with the overall aesthetic vision for the Locomotive Workshop and gives special consideration to the shop-front design and the display of goods/merchandise (if applicable);

4.6 Numerical Overview

The key numeric development information is summarised in **Table 4**.

Table 4 Key Development Information

Component	Proposal
Footprint area (Bays 1-4a only)	9,870m ²
Existing GFA (Bays 1-4a only)	12,731m ²
Gross Floor Area Total <ul style="list-style-type: none"> • Ground Floor • Level 1 	<ul style="list-style-type: none"> • 11,676m² • 7,770m² • 3,906m²
Maximum Height	RL 35.225 (existing height of the Building to the top of the ridge) (excluding vents and flues)
Car Parking	5 on-street loading, 4 accessible spaces, 2 taxi, 2 drop-off and 1 Fire Brigade stand
Bicycle Spaces	46 visitor spaces

4.7 Proposed Land Use and Operations Flexibility

Approval is sought for a maximum quantum of 11,676m² GFA within Bays 1-4a. The future tenants of the majority of the spaces in Bays 1-4a are unknown at present. Accordingly, as illustrated on the Land Use Plans, prepared by Sissons included at **Appendix C**, approval is sought for the following uses within these spaces:

- Retail premises (i.e. shops, food and beverage etc).
- Function centre uses (i.e. events space).
- Information and education facility uses (i.e. art gallery, library, visitor information centre etc).
- Educational establishment.
- Recreation facility (indoor) (i.e. gymnasium).

4.7.1 The Blacksmith

The Architectural Plans (**Appendix C**) identify the southern portion of Bays 1 and 2 as the Blacksmith/ Hard Arts area. It is considered that a Blacksmith is defined as a 'general industrial' use under the *Standard Instrument – Principal Local Environmental Plan*. Therefore Bays 1 and 2 south will continue to be used for 'general industrial' purposes as defined on the Land Use Plans at **Appendix C**.

4.7.2 Temporary Events

Bays 1-4a within the Locomotive Workshop are intended to include two types of 'offer':

- The Core proposition – the permanent everyday offer provided by the retail tenancies and permanent uses as part of the overall ATP retail strategy
- The Temporary offer – an offer that supplements and refreshes the permanent offer, providing a flexible and temporary point of interest for key stakeholder groups.

As part of the activation of the Locomotive Workshop and the 'refreshment' of the permanent offer, Mirvac continue to seek approval to host various short term and temporary events within Bays 1-4a and within Innovation Plaza as identified on the Temporary Land Use Plan included at **Appendix C**. Potential event types may include small scale events such as cooking classes, soft arts workshops and larger convention type events such as International Blacksmithing conventions, larger meetings and social events as well as market type events in Innovation Plaza.

Clause 17 of Part 5, Schedule 3 within *State Environmental Planning Policy (State Significant Precincts) 2005*, refers to Exempt Development within the Redfern-Waterloo 'specified site'. This includes:

- the temporary use of the land for community events that are open to the general public, including public gatherings, ceremonies, sporting events or outdoor exhibitions;
- the erection and use of temporary structures, having minimal visual impact, for the purposes of, or in connection with, any such community event; and
- the erection and use of outdoor seating, tables and similar furniture located in the Public Domain and associated with cafes, restaurants, bars and other similar development,

However, *State Planning Policy (State Significant Precincts) 2005* provides that the forms of exempt development listed can only be carried out on the Redfern-Waterloo land, if:

- if it is of minimal environmental impact; and
- it complies with the criteria set out in the guidelines prepared by the Redfern-Waterloo Authority (and approved by the Minister and made publicly available).

To our knowledge, guidelines prepared by the Redfern-Waterloo Authority or UrbanGrowth NSW that relate to exempt development in general or the individual forms of exempt development listed do not exist.

However, *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* (Exempt and Complying SEPP) specifies that temporary uses and structures are classified as exempt development under Division 3 - Temporary Uses and Structures Exempt Development Code. For temporary uses and structures to be undertaken and constructed within the Locomotive Workshop and within Innovation Plaza, and classified as 'exempt development', the development needs to:

- meet the various requirements and standards specified in the Exempt and Complying SEPP; and
- have been granted an exemption under section 57(2) of the *Heritage Act 1977*, or is subject to an exemption under section 57 (1A) or (3) of that Act.

Site specific [heritage] exemptions 16 and 24 listed in NSW Government Gazette No 22 of 13 March 2015 allow the following to be undertaken without a development consent or notification to the Heritage Council:

- installation of temporary and reversible structures for the operation of special events and activities lasting less than one month duration (e.g. trade fairs, exhibitions etc.); and
- removal and replacement of temporary (three months duration) internal signs and decorations, such as flags, rigging, banners, merchandising, holiday livery and associated decorations where works will have no adverse impact on heritage significance.

Furthermore, the Exempt and Complying SEPP requires an **"approval for the use of the land related to the purpose of the temporary structure"**.

Given there is already a site-specific heritage exemption and that the Exempt and Complying SEPP requires an approval to be in place for the use of the land that relates to the purpose of a temporary structure, and therefore there is no other mechanism open to gain approval for the temporary use of the land for community events that are open to the public, Mirvac seek approval for temporary community events within Bays 1-4a and Innovation Plaza within this SSDA.

4.7.3 Hours of Operation

It is intended that Bays 1-4a will be publicly accessible and the proposed tenancies will be also operational between the following hours:

- 6am- 12am (midnight) on Mondays-Saturdays;
- 6am- 10pm on Sundays and Public Holidays.

4.8 Renaming the Bays

Until the 1990's the Bays within the Locomotive Workshop were numbered 1-4, 4a and 5-15. They are currently named Bays 1-16. Mirvac wishes to re-instate the numbering of the Bays, back to their original sequence in order to provide the most historical and interpretative context for the Locomotive Workshop within its broader Eveleigh Railway Workshops Setting. As set out in **Section 4.9** the current high level and ground level signs that identify the different Bays are to be removed as part of the demolition works. New signage that identify the revised bay numbers will be provided, however approval for these signs will be the subject of a separate application (as discussed in **Section 4.4.3**).

4.9 Demolition

Demolition plans are included within the Architectural Plans provided at **Appendix C**. As shown and outlined within **Table 5**, the proposed development will remove the following existing elements.

Table 5 Description of proposed demolition

Floor Level	Proposed Demolition Works
Ground Floor	<ul style="list-style-type: none"> • Openings within the intertenancy wall between Bays 2 and 3. • Enlarging the opening within the heritage wall between Bays 4a and 5. • Removal of existing internal commercial fit-out within Bays 3 to 4a. • Removal of existing barriers surrounding existing heritage collection in Bays 1 & 2. • Removal of localised areas of existing floor slab for new footings and lift pits.
First Floor	<ul style="list-style-type: none"> • Enlarging the opening within the heritage wall between Bays 4a and 5. • Openings within the intertenancy wall between Bays 2 and 3. • Removal of existing internal non-heritage floors, partitions and ceilings fit-out within Bays 3 to 4a.
Second Floor	<ul style="list-style-type: none"> • Enlarging the opening within the heritage wall between Bays 4a and 5. • Removal of existing internal non-heritage floors, partitions and ceilings fit-out within Bays 3 to 4a.
External	<ul style="list-style-type: none"> • Removal of existing cladding to substations fronting Locomotive Street. • Removal of existing external building signage. • Reinstatement of bricked up opening and window in 3 locations of the eastern elevation. • Removal of existing modern openings on the eastern elevation. • Removal of existing doorways fronting Locomotive Street into Bays 4 and 4a. • Removal of existing doorways into Bay 4 openings to the northern access way. • Removal of existing lean-to positioned over the proposed corner retail annex adjacent to the Bay 1 Annex.
Roof	<ul style="list-style-type: none"> • Removal of the existing polycarbonate, and portions of metal sheeting of the roof structure on Bays 3 to 4a. • Removal of existing roof cladding and service tower cladding.

4.9.1 Hazardous Materials Removal

A Hazardous Materials Survey has been prepared by JBS&G (submitted with the EIS) which confirms the following materials are in existence within the Locomotive Workshop:

- lead based paint;
- lead dusts;
- asbestos containing materials; and
- synthetic mineral fibres.

During the demolition phase of the development all hazardous materials will be removed by suitably licenced contractors in accordance with the relevant legislative requirements, codes and practice guidelines, as recommended in the Hazardous Materials Report and the Remedial Action Plan, prepared by JBS&G as submitted with the EIS.

Furthermore, in line with the recommendations within the report, areas that are currently inaccessible will be inspected and surveyed for hazardous materials as the demolition progresses. If hazardous materials are observed, confirmation of the presence or absence of hazardous materials will be confirmed through laboratory testing.

4.10 Structural Works

The proposed development incorporates structural modifications to the Locomotive Workshop in the form of new built elements and potential upgrades to the existing structure. Structural design recommendations for the new built and existing structure upgrades as well as the works relating to the construction of the travelator between the Locomotive Workshop and Building 2, are specified within the Structural Design Report, prepared by Arcadis that was submitted with the EIS.

Furthermore, Arcadis have provided a statement (refer to **Appendix H**) that confirms that the structural design intent as outlined in the Structural Design Report that was submitted with the EIS is not required to be altered by the proposed changes made in the revised Architectural Drawings.

Accordingly, all structural systems proposed within the development will be designed to satisfy the provisions of relevant Australian Standards, and the National Construction Code of Australia, and in accordance with the accepted practice and principles of structural engineering. Where there is no relevant Australian Standard or Code, appropriate overseas standards or recognised methods of analysis, design or testing will be used.

Appendix G includes a suggested condition of consent that amongst other things, requires that the proposed works to comply with the applicable performance requirements of the BCA so as to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity and that all new structural works comply with the BCA in a manner that maximises the conservation and enhancement of its historic spatial qualities. This was also set out in **Section 2.9**.

4.11 Bays 1-4a Design

As explained in the Architectural Design Report (submitted with the EIS) during the evolution of the design, Sissons undertook multiple studies of the entire Locomotive Workshop. One of the studies involved an exercise whereby the grouping of the Bays for the entire Building were re-organised as illustrated in **Figure 5**.

The revised grouping then evolved to form the arrangement that was submitted with the EIS as illustrated in **Figure 6** and **Figure 8**. However, the arrangement has been further refined as a result of the consideration of the submissions. The revised arrangement is illustrated in **Figure 7** and **Figure 9**.

The updated general arrangement for Bays 1-4a therefore comprises:

- Bays 1 and 2, which will be occupied at Ground Floor level by:
 - heritage exhibition and interpretation space adjacent to the central spine and Blacksmith/ Hard Arts area;
 - the existing Blacksmith operation and other complementary hard arts, and the existing in-situ and moveable heritage items within Bays 1 and 2 south;
 - in-situ heritage items within the southern portion of Bays 1 and 2 north;
 - one retail tenancy integrated with and around the in-situ heritage items within the southern portion of Bays 1 and 2 north;
 - a loading dock, containing waste storage rooms, a compactor and three loading bays within the northern portion of Bays 1 and 2 north;
 - the Davy furnace and surrounding heritage exhibition space in the north-eastern corner of Bay 1;

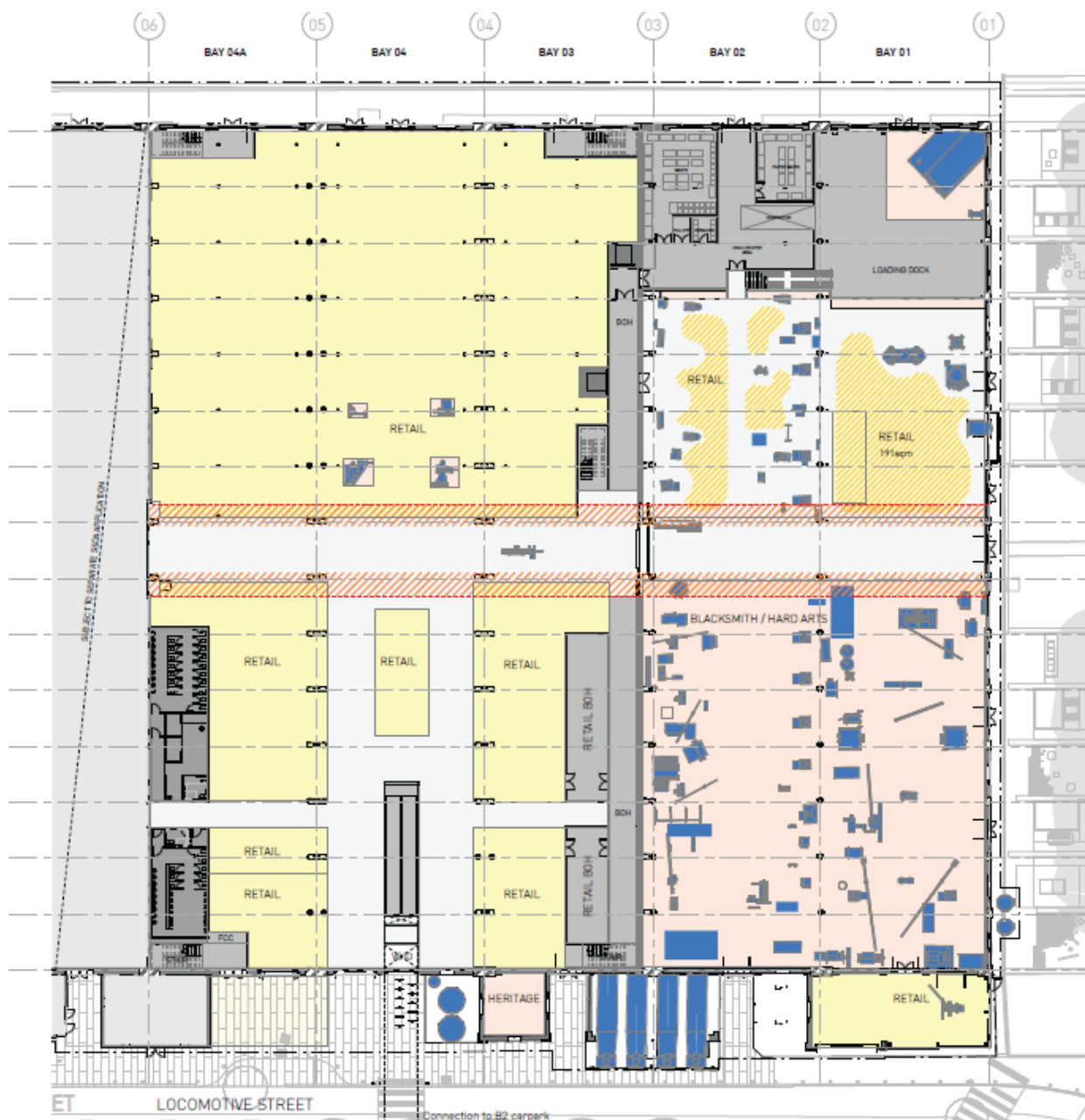


Figure 6 Proposed Ground Floor plan for Bays 1-4a – EIS submission

Source: Sissons

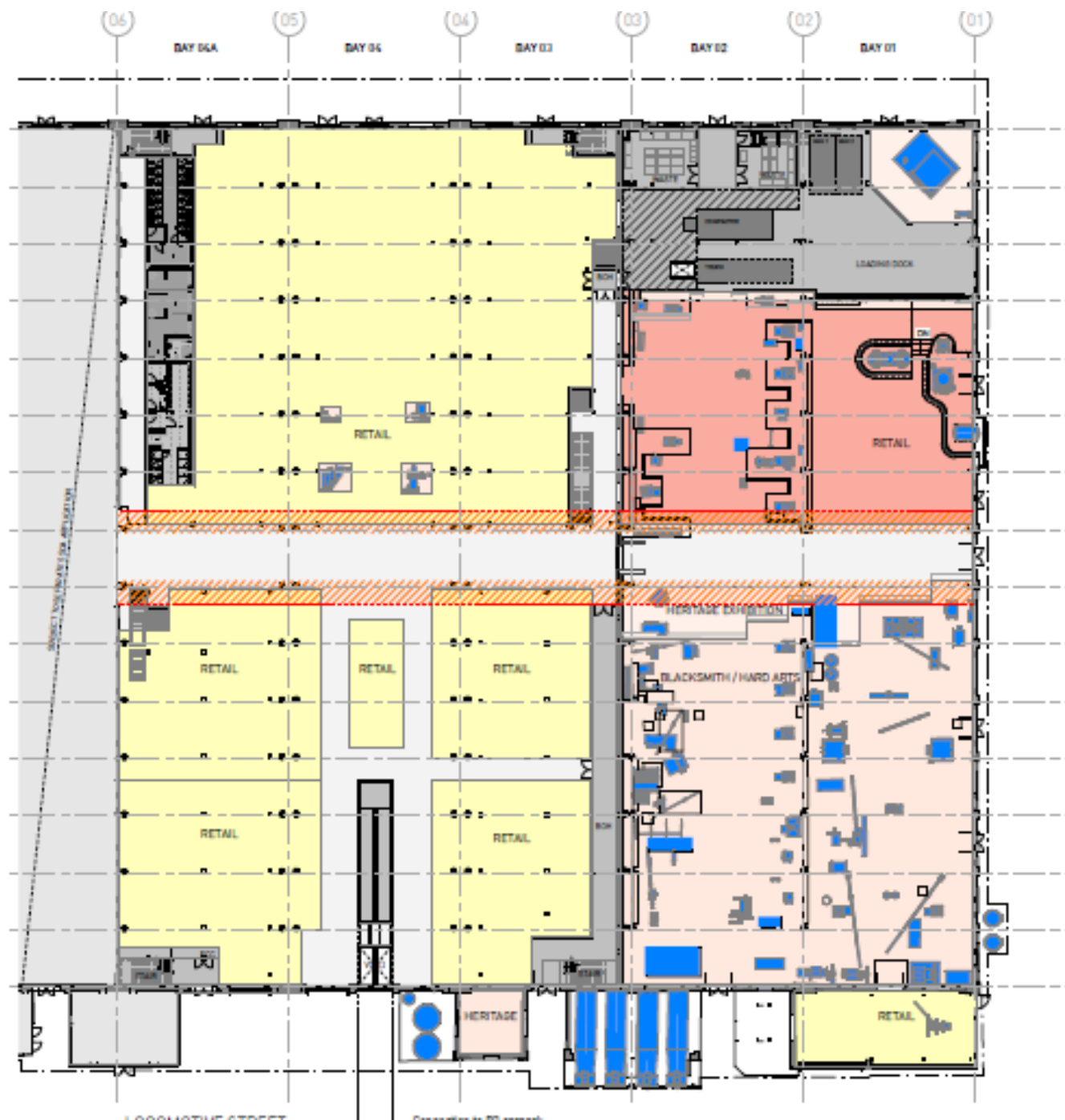


Figure 7 Proposed Ground Floor plan for Bays 1-4a – RTS submission

Source: Sissons



Figure 8 Proposed Level 1/ Mezzanine Level plan for Bays 1-4a – EIS submission

Source: Sissons



Figure 9 Proposed Level 1/ Mezzanine Level plan for Bays 1-4a – RTS submission

Source: Sissons

A summary of the proposed physical works is outlined in **Table 6**. Details of the key elements are provided in the Architectural Design Report submitted with the EIS and in **Sections 4.12 to 4.29**.

Table 6 Summary of proposed physical works

Bay	Proposed Development
Building Interior Bays 1-2	<ul style="list-style-type: none"> Heritage interpretation and conservation works Relocation of moveable heritage items Enhancements of entrances and openings including the enlargement of the opening between Bays 2 and 3 and new opening in the Bay 2 and 3 north wall Construction of a new viewing platform over the Blacksmiths workshop within Bay 2 Construction of a loading dock with new mezzanine above Construction of concrete barriers between the Ground Floor heritage exhibition space and the Blacksmith/ Hard Arts area Construction of the partitions located around the Davy Press, and other in-situ heritage items in Bays 1 and 2 Provision of new floor treatments Construction of heritage interpretation area adjacent to the central spine Upgrade to the arrangement of the Blacksmith/ Hard Arts space in Bays 1 and 2 south
Building Interior Bays 3-4a	<ul style="list-style-type: none"> Removal of existing 'modern' infill features Construction of tenancy divisions, mezzanine floors, plant and equipment rooms, amenities and services pods, fire stairs and lift cores Construction of new stairs, lift and walkway in Bay 3 north for public access to Level 1 and the Mezzanine Level in Bays 1 and 2 Construction of new stairs and lift to Bay 4a south for access to the southern Level 1 tenancies Construction of access stairs leading from Level 1 to roof level Construction of the travelator Enhancements of entrances Provision of a new floating floor over the original
Building Exterior Bays 1-4a	<ul style="list-style-type: none"> Installation of external lighting to enhance the building façade Public Domain improvements to Innovation Plaza and Locomotive Street Construction of the new retail annex adjacent and its integration with the existing Bay 1 annex
Roof	<ul style="list-style-type: none"> Roof upgrade - installation of insulation, upgrade of existing conditions (if required), insertion of natural daylight 'slots' in Bays 3-4a, incorporation of smoke attenuation louvres where required and recladding if necessary Construction of new plant platforms within the roof valleys of Bays 3-4a and 4-4a Addition of a new roof maintenance access system
Bay 3 Annex	<ul style="list-style-type: none"> No works proposed

4.12 Floor Treatments

4.12.1 Bays 1 & 2 north and Central Spine

A new floor slab is to be built over the original substrate within the central spine, heritage exhibition space and retail tenancy in Bays 1 and 2 north. Its purpose is to protect the original floor finish. The new floor slab will be constructed of concrete, it will include decorative inlays which form part of the interpretation works to tell the story of the Locomotive Workshop.

The exact details of the floor finishes will be determined in consultation with Mirvac's heritage consultant and confirmed within the detailed documentation that will be submitted with Construction Certificate CC3 – Structure.

4.12.2 Blacksmith

Within Bay 2 south, the current flooring and its materiality is considered not appropriate for the function and operation of the Blacksmith and the machinery in Bay 2. Mirvac intends to return the Blacksmith floor that surrounds the machinery in Bay 2 back to its original industrial floor finish by providing a mix of sand and gravel in allocated areas. A concrete circulation pathway through the Blacksmith area in Bay 2 south is also proposed to be provided. This is intended to connect the main (southern) Blacksmith entrance to other functional areas, such as a demonstration zone, office and shop-front. The exact arrangement within the Blacksmith area and the materiality of the floor finishes will be confirmed prior to the issue of Construction Certificate CC4 – Services and Base Build Fit-Out.

4.12.3 Bays 3-4a

Ground Floor

A new floor slab is to be built over the original substrate public circulation areas in Bays 3 to 4a being the central spine, the access ways in Bays 3-4a north, and circulation space surrounding the retail tenancies and travelator in Bays 3-4a south. Its purpose is to protect the original floor finish and conceal hydronic heating and cooling. The slab will be a composite floor build up comprising a protective membrane sheet under insulation board, which is then covered with a topping slab that will provide the finished surface. Replicating the floor treatment in Bays 1 and 2, the new floor slab will be constructed of concrete and will include decorative inlays.

In addition, a bridge (refer to **Figure 10**) will be provided over a small portion of the travelator pit within Bay 4. Its purpose is to provide a link between from the main entrance into Bay 4 from Locomotive Street to the retail unit within the south eastern portion of Bay 3.

The exact details of the floor finishes will be determined in consultation with Mirvac's heritage consultant and confirmed within the detailed documentation that will be submitted with Construction Certificate CC3 – Structure.

Furthermore, the floor finishes at ground level within the tenancies will be determined within the fit-out documentation and will be subject to a separate approval.

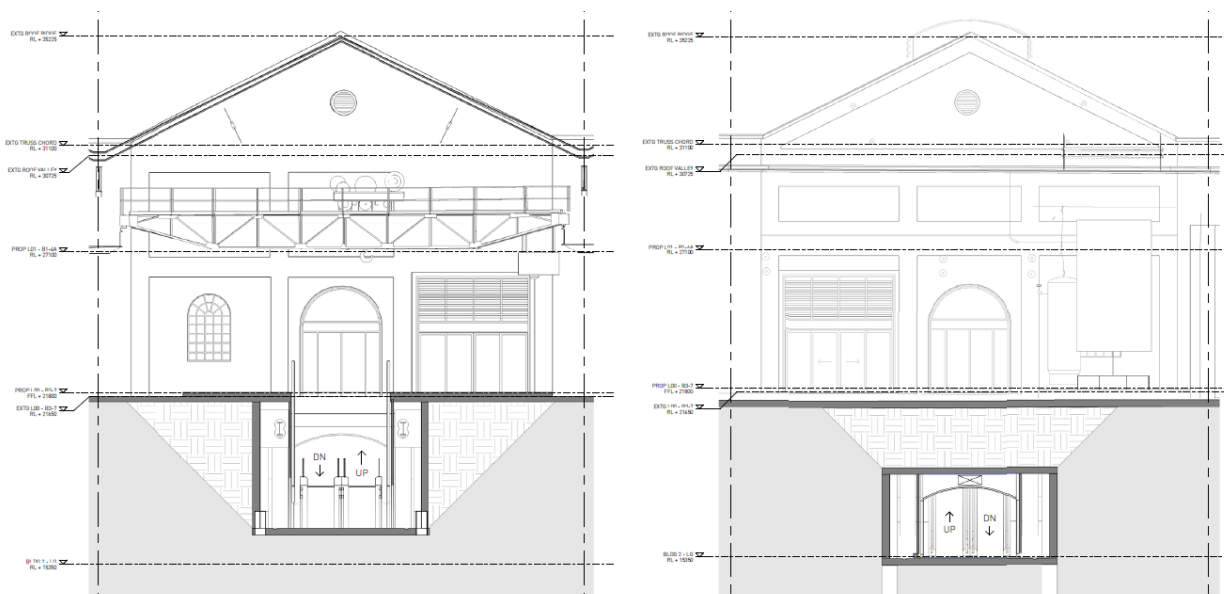


Figure 10 Sectional drawings of the travelator with bridge over

Source: *Sissons*

Level 1

The public circulation areas at Level 1 floor will be complimentary to the look and feel of the Ground Floor.

The floor finishes at Level 1 within the tenancies will be determined within the fit-out documentation and will be subject to a separate approval.

4.13 Loading Dock

One of the critical success factors identified by MacroPlan Dimasi (submitted with the EIS) in establishing a contemporary retail offer at the Locomotive Workshop and for the retail offer to trade efficiently, effectively and successfully was the appropriate provision of back of house facilities, a loading dock, access and functionality. The ability to load and service the retail tenancies and a functional back of house, that incorporates storage is imperative to a successful operation and is key to attracting retailers.

As detailed within the Architectural Design Report (submitted with the EIS) there was a design challenge to find a suitable location for the loading dock that would have only minimal impact upon the original building and would be able to incorporate the waste management requirements for both the commercial and retail components of the overall Locomotive Workshop redevelopment. A wide number of alternatives for the loading dock location were considered and reconsidered as part of the Response to Submissions process, but after a thorough review of the existing equipment and machinery in Bays 1 and 2 and confirmation of the ability to utilise the existing large format opening located along the north-eastern façade of the building, the location for the loading dock was determined.

Practically, the loading dock will service the proposed retail uses within Bays 1-4a, as well as the commercial uses within Bays 5-15 (that is subject to the separate SSDA 8449). The loading dock design has been revised in response to issues raised in the submissions and the revised layout is shown in **Figure 11**.

As illustrated it will now comprise:

- one (1) loading bay for a large rigid vehicle (LRV); and
- two (2) loading bays for small rigid vehicles (SRV).

The vehicle parking zones within the loading dock have been relocated to ensure that parked vehicles will not obstruct views from the southern portion of Bay 1 north, through the loading dock wall, to the Davy Furnace. Furthermore, as previously proposed an opening in the block wall between Bays 2 and 3 is proposed to provide access directly from the loading dock and waste storage area to the back of house facilities in Bay 3 and the goods lift.

Waste storage rooms and a compactor continue to be provided within the portion situated within Bay 2 and will be out of sight from the publicly accessible areas. Where back of house loading dock areas are bounded by heritage walls, a new protective wall lining is proposed on the dock side to protect the heritage fabric from wear and tear.

Illustrative details of the back of house wall treatment is included in the Response to Submission Package prepared by Sisson at **Appendix M**.

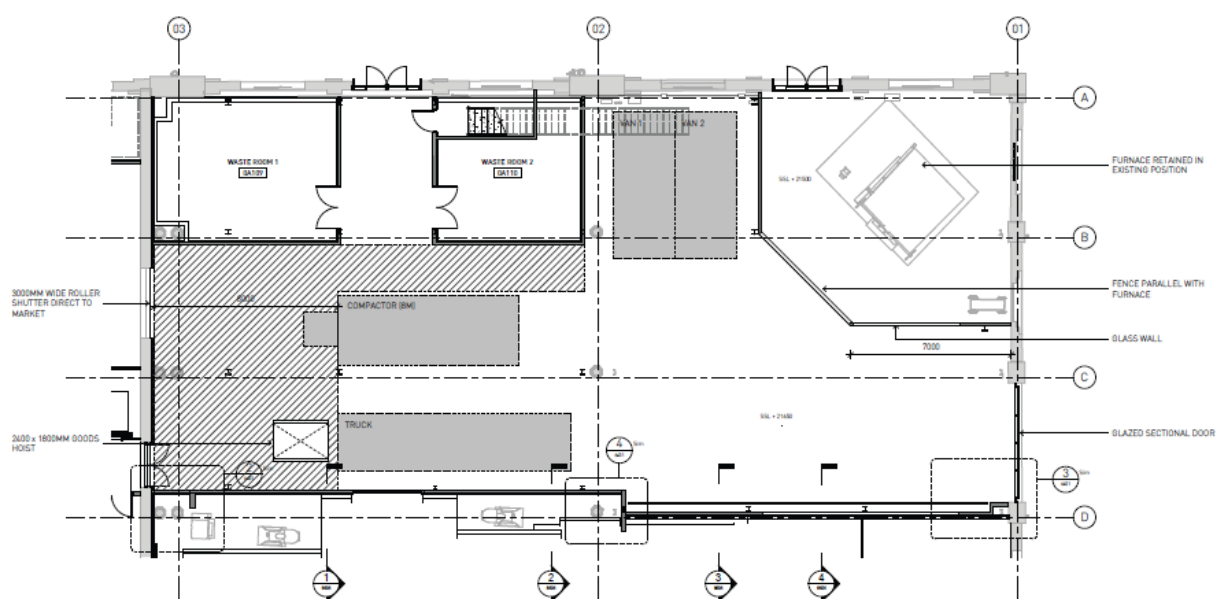


Figure 11 Loading Dock configuration

Source: Sissons

4.13.1 Loading Dock Wall

The design of the loading dock and in particular its interface with the southern portion of Bays 1 and 2 and the significant collection of in-situ and moveable heritage machinery and tools was the focus of many of the stakeholder engagement sessions that were undertaken for the preparation of the EIS documentation. In considering the issues raised within the submissions, this detail has also been revisited.

The revised design for the loading dock wall continues to be visually recessive, and allow views through to the Davy furnace that is located and will be retained within the north-eastern corner of Bay 1. The other solid portions of the wall are to be utilised as a backdrop to showcase the heritage equipment and structure within Bays 1 and 2. Furthermore, as discussed in **Section 4.20** the previously proposed central stair leading up to the Mezzanine Level has been removed.

The portion of the loading dock wall within Bay 1 is to be entirely glazed to provide maximum vision from the Davy Press through the loading dock wall to the Davy Furnace. Given the functionality of the loading dock, protective barriers will be placed on the dock side of the glazed wall to protect the walls, heritage machinery and people from vehicles utilising the loading dock. The barriers will utilise railing elements and be designed to be as minimal as possible.

The portion of the wall within Bay 2 will have a solid back to conceal the back of house facilities and will be clad in a mesh, to enhance the gritty and industrial feel of Bays 1 and 2. The solid portion of the wall will also act as a backdrop to display some of the moveable heritage tools.

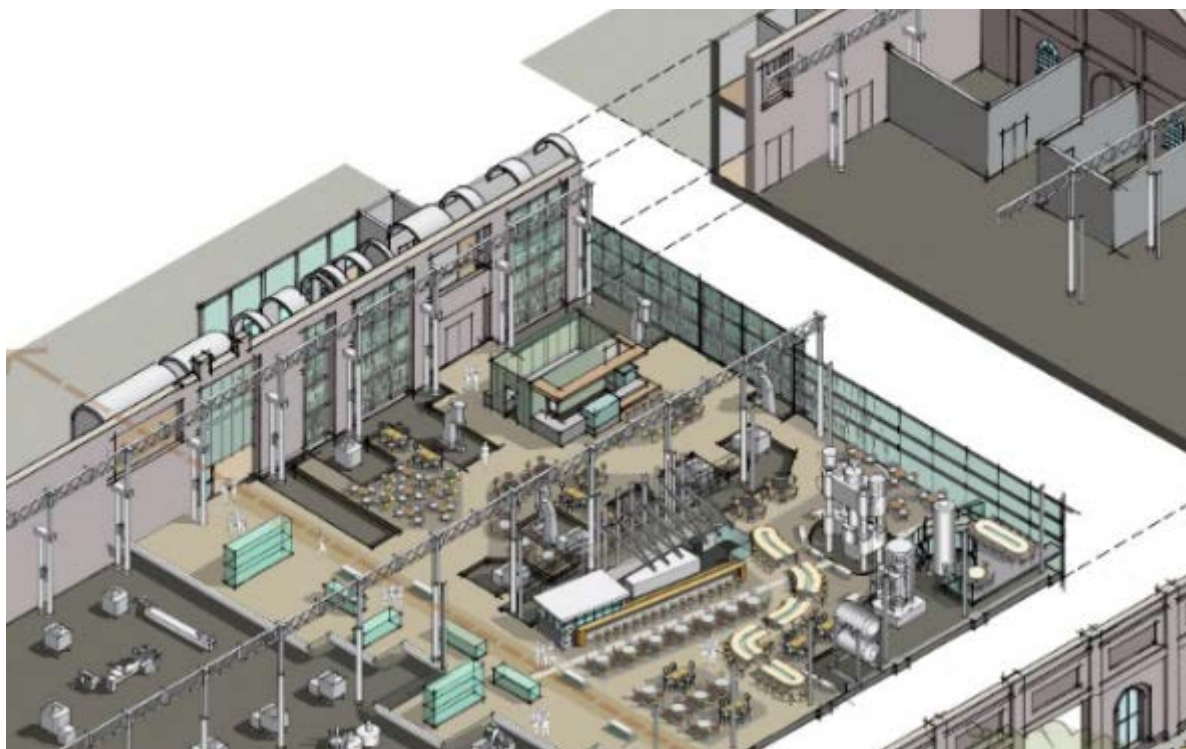


Figure 12 3D model extract to show the loading dock wall concept and indicative fit out of Mezzanine and Ground Floor levels

Source: Sissons

4.14 Mezzanine Level - Bays 1 and 2

The space above the loading dock is proposed to be occupied by a tenant that will also occupy the Ground Floor level of Bays 1 and 2 north. The vision for this space is that it is to be used as back of house, training areas that may involve food preparation or short educational courses, such as barista or cooking classes. However, the ultimate use of the space will be determined by the future occupant and any structural works within this space will be the subject of a future development application. The only exception being the provision of a contemporary glazed balustrade along the mezzanine edge.

Mirvac has carefully examined the impacts and implications of this space being predominantly utilised by a tenant and not as the main heritage interpretation/ exhibition space. As discussed in **Section 4.15** the relocation of the primary Heritage Interpretation and Exhibition space to the Ground Floor is a better outcome. Further, it is intended that:

- the area located to the south of the void above the Davy Furnace will be used as an informal heritage interpretation space (as shown in **Figure 30**) which may be incorporated into the future tenant fit-out; and
- members of the public will be able to look over the Ground Floor areas of Bays 1 and 2 from the Heritage Interpretation space and other locations within Bays 1 and 2, but the exact viewing locations will be determined within the fit-out development application, when the details of the fit-out have been determined.

4.15 Ground Floor Heritage Interpretation and Exhibition Space

In response to a number of issues raised in the submissions, Mirvac has relocated the principal Heritage Interpretation and Exhibition Space from the Mezzanine Level to the Ground Floor of Bays 1 and 2. The design rationale for the heritage exhibition space has been amended since lodgement of the EIS and instead of providing one large mezzanine space in one location, a number of different spaces throughout Bays 1-4a each with their own character/ themes and storyline are to be provided.

The reasons for locating the principal Heritage Interpretation and Exhibition space to the Ground Floor level are as follows:

- On entering the Locomotive Workshop from the east, visitors and workers will encounter the heritage exhibition space immediately and therefore be immersed in the history and stories of the Site and the Locomotive Workshop instantly.
- Access to the Heritage Exhibition space in its previous location was considered to be convoluted and hard for people to get to. Having the principal Heritage Exhibition space its previous location also meant that it could potentially become just a static display that did not integrate with the Ground Floor in-situ and moveable machinery displays.
- The proposed Ground Floor location will enable integration with the Blacksmiths/ Hard Arts operation and will provide the opportunity for viewing demonstrations and the formation of a 'shop front' for the Blacksmith.
- The proposed location will enable integration with the retail space and each of the heritage display stations that will be integrated within the retail space.
- The relocated Heritage Interpretation and Exhibition Space is intended to encourage visitors to meander through the space, explore the Site and engage with the Locomotive Workshop.

Notwithstanding the above, a smaller experiential space is retained within the mezzanine area, (as explained in **Section 4.14**) which will provide visitors an elevated viewing platform with uninterrupted views across the workshop and allow visitors to realise the large volume and scale of the space below.

4.16 Ground Floor Retail Tenancy – Bays 1 and 2 north

The vision for the Ground Floor retail space in Bays 1 and 2 has evolved since the submission of the EIS. It is now proposed to be a hybrid of retail/ functional food and beverage areas and heritage interpretation display areas that incorporate heritage interpretation within the design of the fixtures and furniture.

The revised Architectural Plans (**Appendix C**) and **Figure 13** and **Figure 14** further illustrate that the proposed retail area within Bays 1 and 2 north has been amended to cover the area that incorporates the in-situ heritage items and displays.

The EIS submission identified that the retail area should be positioned in between the heritage displays and in-situ machinery locations, and while this is still the intent, on review it was determined that it is not practical to define the area as shown in the EIS and it would be more practical to prepare and implement a fit-out design guideline that guides how the heritage machinery and displays can be integrated within a retail operation as well as how the retail operation can be integrated with the Blacksmith/ Hard Arts operation.



Figure 13 EIS submission – Retail tenancy extent

Source: Sissons

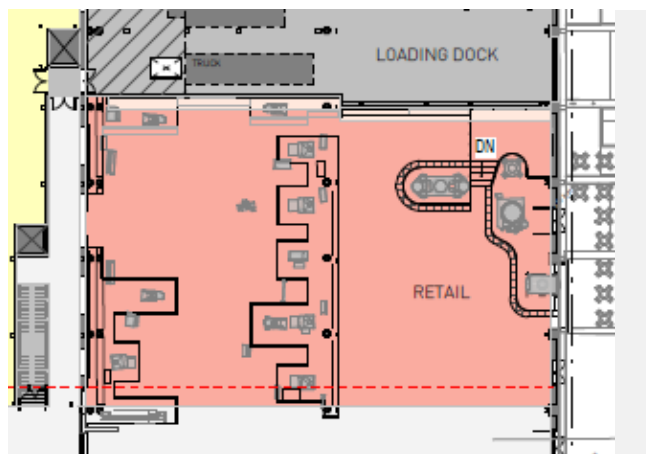


Figure 14 RTS submission – Retail tenancy extent

Source: Sissons

Having conducted an indicative ‘fit-out’ test-fit for this retail area, a greater understanding of the following was gained:

- how the space could be used by a food and drink operator;
- how the heritage displays and in-situ machinery collections could be incorporated in to the heritage Interpretation design and the fit-out design; and
- how the Blacksmith and retail uses could co-exist in the space.

Following the ‘fit-out’ test-fit, Mirvac determined that approval would no longer be sought for the small scale, low height retail pods that were previously proposed in the EIS submission and any structure would seek approval under the future fit-out development applications.

Artistic Impressions of how the retail space in Bays 1 and 2 north can potentially be fitted out are included at **Figure 15** and **Figure 16**. These images demonstrate how an indicative future tenant can celebrate the space, the heritage displays and in-situ items.

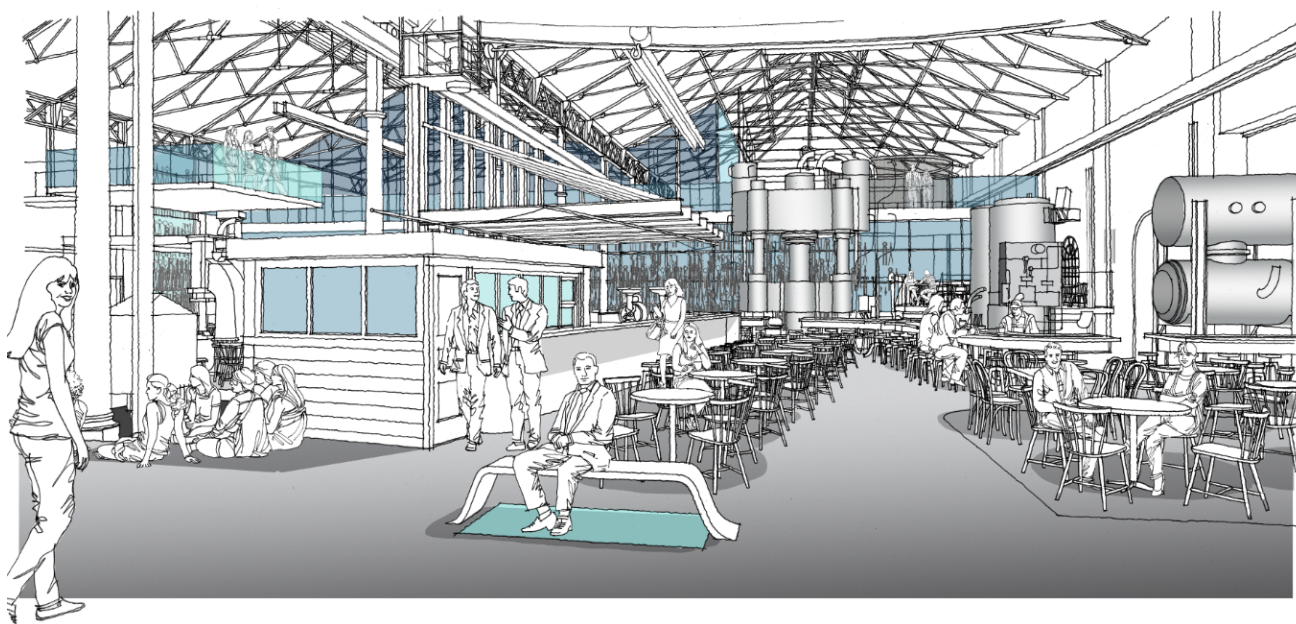


Figure 15 Artist Impression of Bay 1 retail area and loading dock wall

Source: The Buchan Group

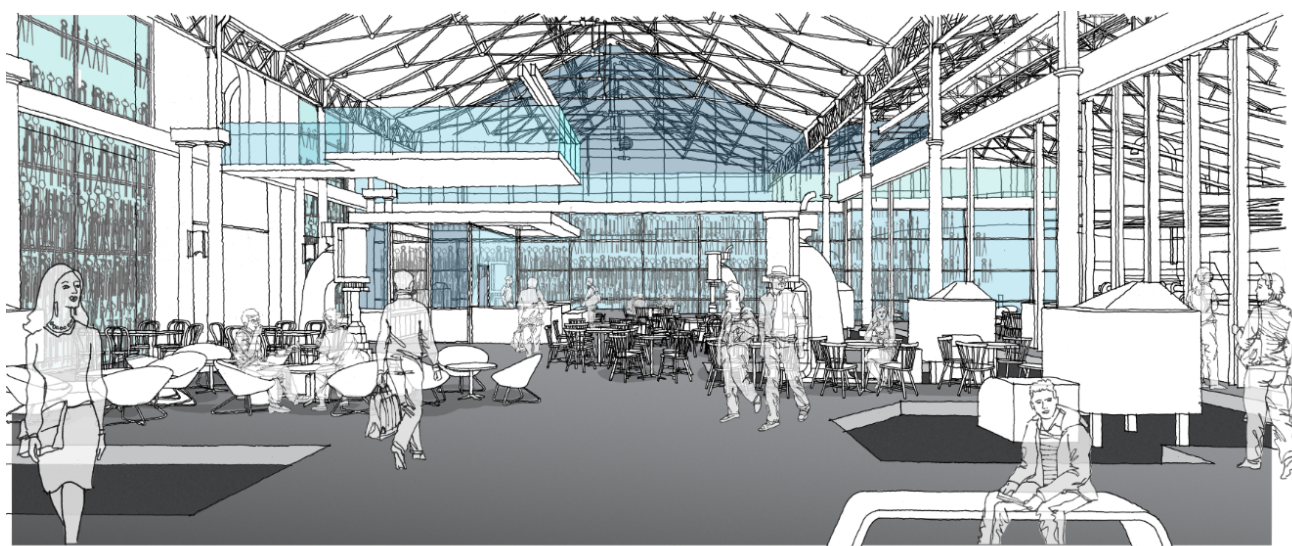


Figure 16 Artistic Impression of Bay 2 retail area and loading dock wall

Source: The Buchan Group

4.17 Display Barriers

Low level mesh upturns as illustrated in **Figure 17** are proposed to be constructed around the heritage displays and key in-situ machinery items in order to provide a light weight barrier to protect the heritage items and displays and to also prevent people from entering to the space. The light weight nature of the barriers will also ensure that sightlines to the display areas are maintained. The proposed materiality details and method of construction will be documented in the construction certificate documentation for Construction Certificate 4 – Services and Base Build Fit-Out.

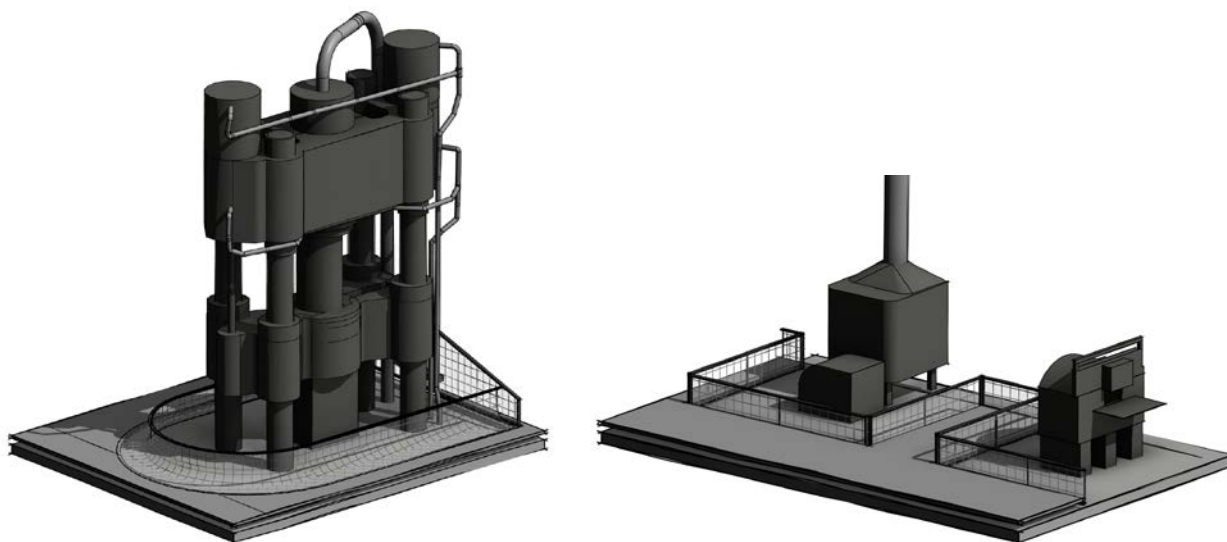


Figure 17 Proposed low-level mesh upturns

Source: The Buchan Group

4.17.1 Ground Floor Heritage Interpretation/ Blacksmith Edge

As noted in the EIS a new edge will be provided along the northern side of the Blacksmith/ Hard Arts area to provide safe separation between the publicly accessible heritage interpretation space and the operational Blacksmith/ Hard Arts space, without restricting the operational space. Whilst the exact design of the 'edge' will be provided as part of the detailed design documentation included within the construction certificate documentation for CC 4 – Services and Base Build Fit-Out, the concept underpinning the design continues to be based on the provision of a specially formed 'fold-up' concrete floor, that is located at irregular intervals as illustrated in the Architectural Drawings at **Appendix C** and in **Figure 18**.

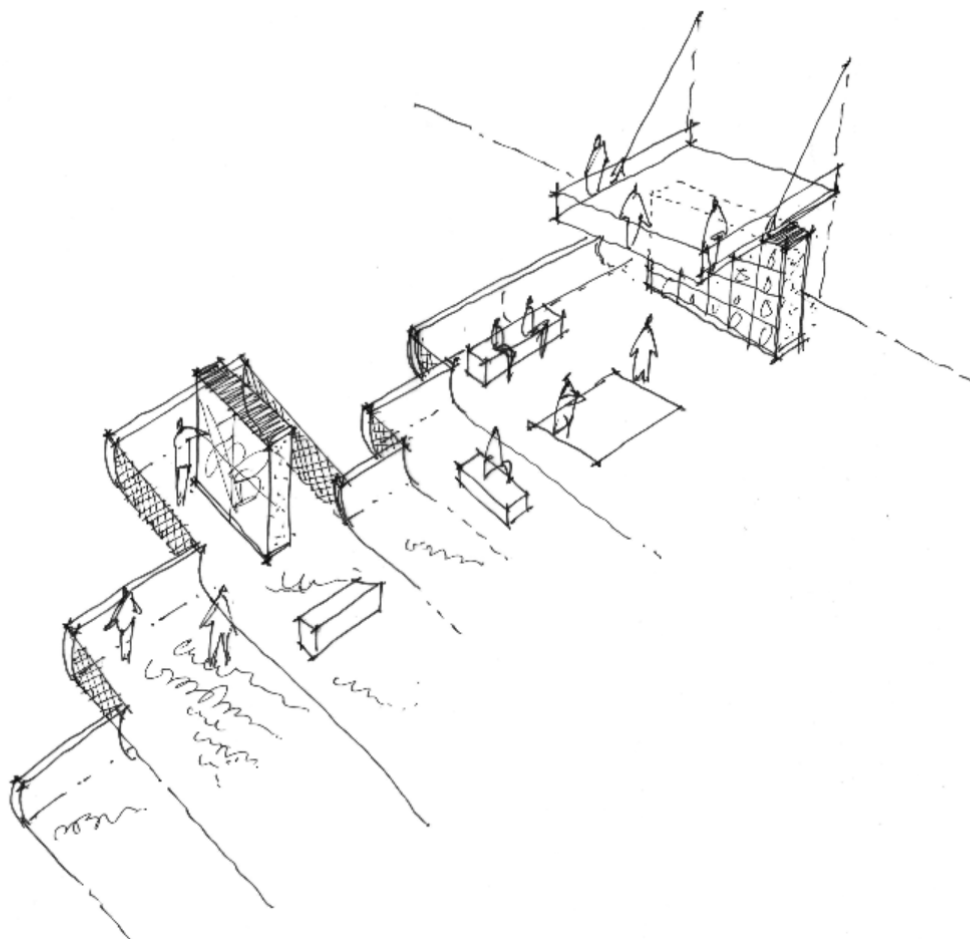


Figure 18 Indicative sketch of the Ground Floor Heritage Interpretation/ Blacksmith edge

Source: Trigger Design

4.18 Blacksmith reorganisation

It is intended to re-organise the layout of Bays 1 and 2 south, to provide clearly marked out areas for demonstrations, office and shop-front to support the integration of the Blacksmith operation with the Heritage Interpretation area. The exact arrangement will be agreed with the Blacksmith operation and any other future tenants and details will be confirmed prior to the issue of Construction Certificate CC4 – Services and Base Build Fit-Out.

4.19 Internal Walls

4.19.1 Bay 2 and Bay 3 Wall

Within the EIS, the proposed development sought to enlarge the existing internal opening between Bays 2 and 3. Whilst this enlargement is still proposed, the revised proposal also seeks to remove portions of the existing modern blockwork wall between the northern part of Bays 2 and 3 at both Ground Floor and Level 1. The opened portions will then be in-filled with large glazed windows that will enhance the sightlines between the bays and provide glimpses of the heritage equipment and tools in Bay 2 from Bay 3 as illustrated in **Figure 19**, **Figure 20** and **Figure 24**.

The proposal to punch through the existing modern blockwork walls will not only create extended sightlines throughout the bays, it will also encourage site users to move between all of the bays and provide new opportunities for regular site users to engage with the interpretation zones within Bays 1 and 2.

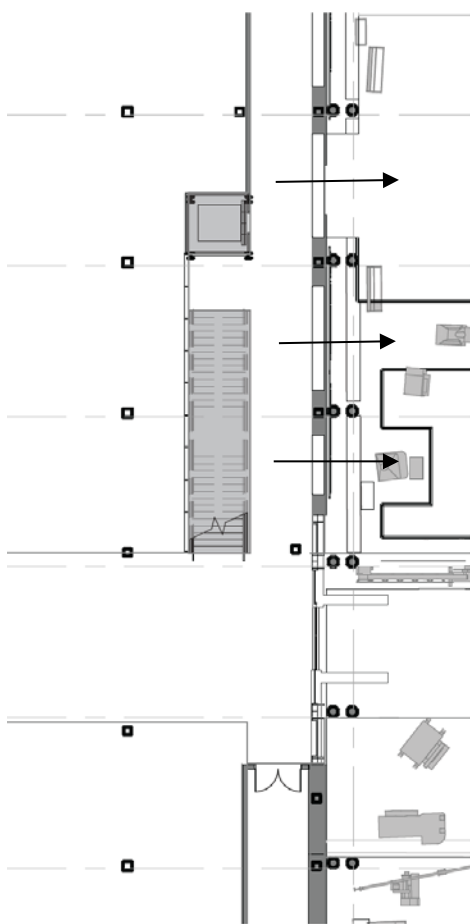


Figure 19 Proposed Bay 2 & 3 Wall - Ground Floor

Source: Sissons

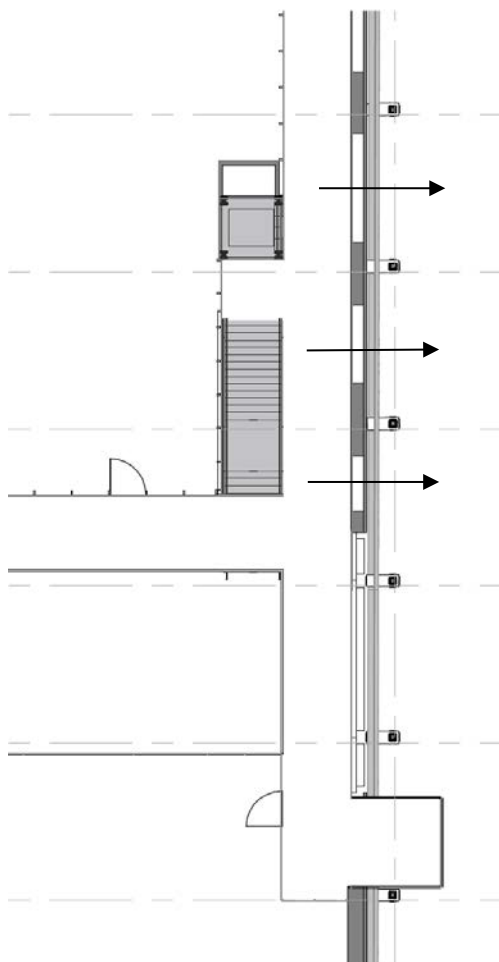


Figure 20 Proposed Bay 2 & 3 Wall - Level 1

Source: Sissons

4.19.2 Bay 4a and Bay 5 Wall

The enlargement of the central opening between Bay 4a and Bay 5 is still proposed as part of the revised design. In order to broaden sightlines and views down the central spine the existing modern blockwork wall is to be retracted by approximately 2m on either side. Whilst the exact details of the internal wall openings and proposed doorways will be submitted with the Construction Certificate documentation for CC3 – Structure, it is intended that the wall between Bays 4a and 5 will be a framed, glazed structure in keeping with the style of the new windows and doors throughout the building as discussed in **Section 2.16**.

The concept currently being explored for the fire separation door between Bays 4a and 5 is a fully retractable door system, allowing the central spine to be completely open (as illustrated in **Figure 21**) at ground level except in the case of a fire. This will ensure that vision along the central spine is maximised and the feeling of openness and democratic space is retained. Options currently being considered include large sliding panel doors, or a horizontal roller shutter system, both of which would be contained in a cavity and therefore not visible within the space when not in use.



Figure 21 Illustrative view from Bay 4a towards Bay 5 and beyond

Source: Sissons

In addition, as annotated on the Ground Floor Plan at **Appendix C**, a Visual Sight Line zone (refer to **Figure 22** has been established. Within this 'zone' all balustrades will be designed to be semi-framed glazing. Further, the tenant fit-out design guidelines for any tenancy that encroaches in the zone will seek to ensure that:

- any tenancy walls and fit-outs within this 'zone' will be low height (maximum of 1200mm) open or transparent;
- tenancy walls are glazed and any of the heritage collection items are integrated into and feature as part of the fit-out;
- fit-out items must not cover or obscure the heritage structure or equipment; and
- full height walls on Level 1 will be avoided where possible or glazed if they are proposed.

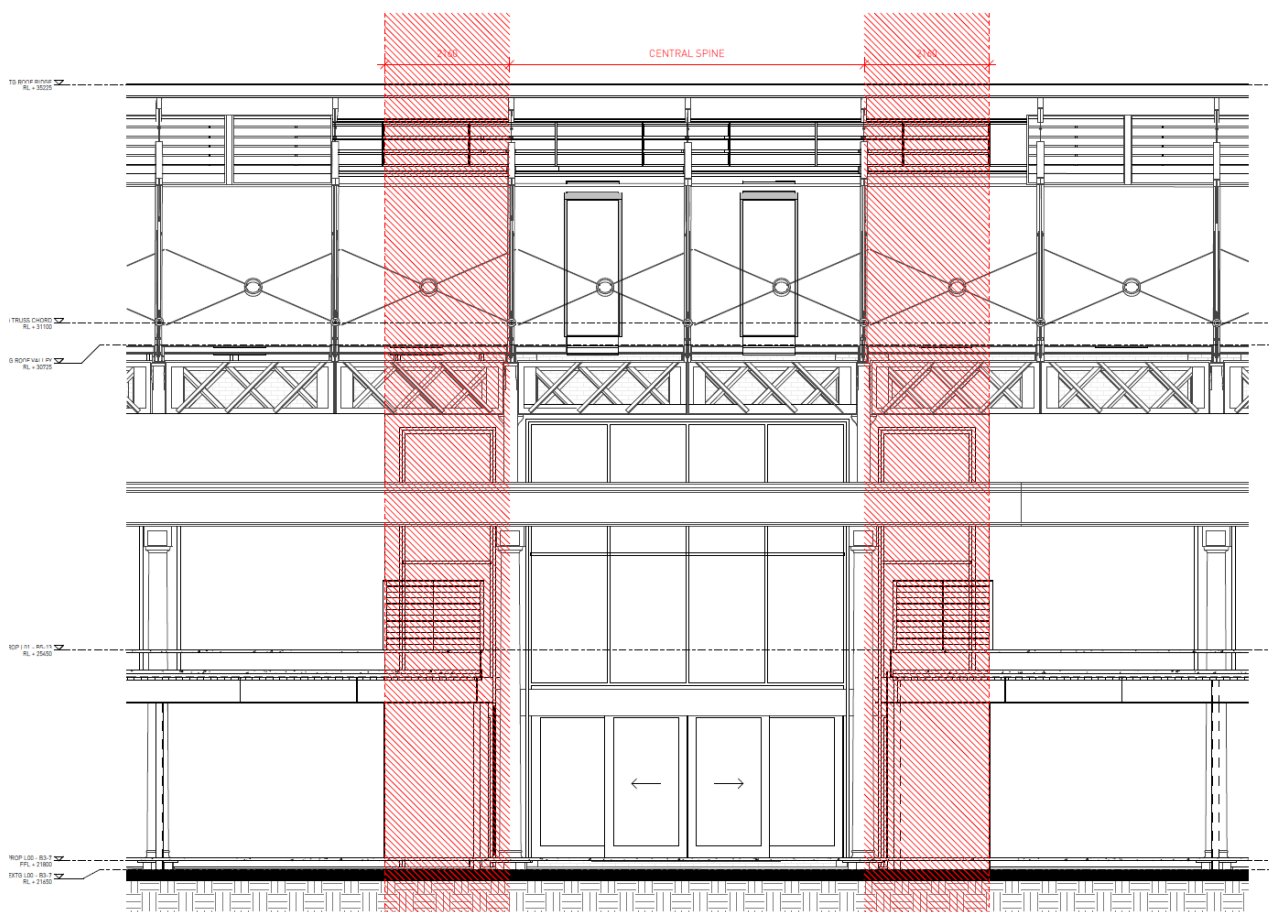


Figure 22 Visual Sightline zone

Source: Sissons

4.20 Public accessibility to the Mezzanine Level in Bays 1 & 2 and Level 1 in Bays 3 to 4a

In response to submissions from the Heritage Council and City of Sydney requesting that the lift and stair access to the Mezzanine Level in Bays 1 & 2 and Level 1 in Bays 3 to 4a be co-located, the publicly accessible pathway to these areas has been revised.

The revised design provides a generous new 'feature' stair and access lift (within Bay 3) that is adjacent to the wall between Bays 2 and 3. Both the stair and lift are accessed directly from the central spine in Bay 3 and will be clearly visible on approach from either direction.

The proposed stair and the walkway at both Ground Floor and Level 1 in Bay 3 is also proposed to become a heritage interpretation zone, that includes an interpretive backdrop as illustrated in the artist impressions are **Figure 23** and **Figure 24**.

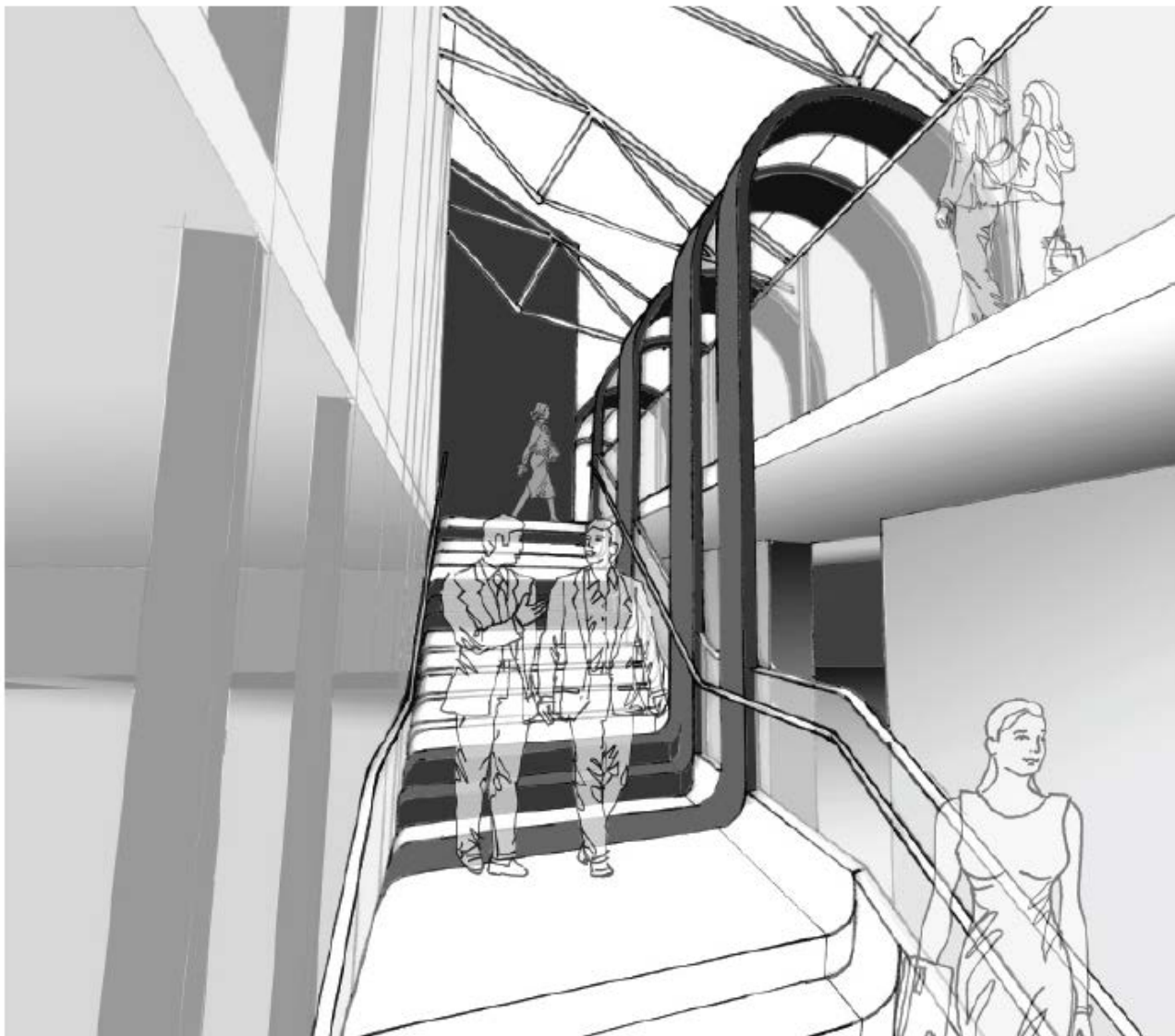


Figure 23 Artistic Impression of the new access stair with an interpretive backdrop

Source: The Buchan Group

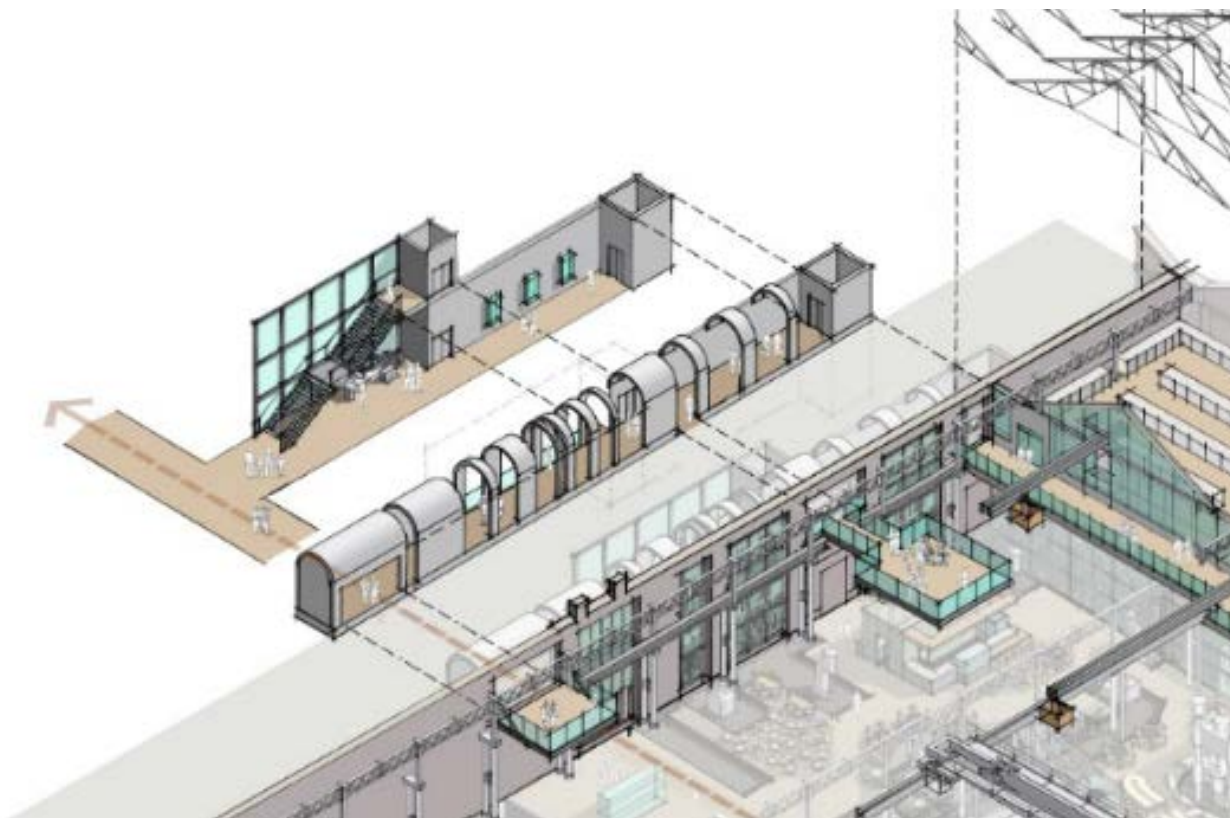


Figure 24 Illustrative image of the Bay 2 and 3 wall, the heritage interpretation backdrop within Bay 3 and the Blacksmith viewing platform

Source: The Buchan Group

4.21 Blacksmith viewing platform

The revised design incorporates a small viewing platform (illustrated in **Figure 24**) located directly above the north western corner of the Blacksmith workshop to provide visitors a bird's eye view of the activity below. It should be noted that the larger platform shown above Bay 2 north, is illustrative only as a feature or the 'test-fit' fit out and is not proposed at this time. This Blacksmith viewing platform will connect to the Level 1 walkway as discussed in **Section 4.20**, and therefore, in order to access the platform, visitors must pass through the exhibition space, further encouraging visitor exploration.

4.22 Corner Retail Annex

As proposed in the EIS, to facilitate activation and a vibrant Public Domain, the existing lean-to annex at the south-eastern corner of the Locomotive Sheds is proposed to be demolished and in its place Mirvac will construct a contemporary steel framed, glazed retail annex that will integrate with the existing brick Bay 1 annex. The guillotine currently located within this space is to be retained as a major feature of the space.

In association with the construction of the retail annex, the eastern wall of the existing brick Bay 1 annex will be opened to integrate with the new structure and a new steel framed large format glazed doorway will be provided on its southern façade. **Figure 25** provides an illustration of the proposed design.

The documentation to illustrate the proposed construction details will be provided within the Construction Certificate documentation for CC5 – Façade and Roof.



Figure 25 Proposed Corner Retail Annex

Source: *Sissons*

4.23 Travelator

One of the critical success factors for the ATP identified by MacroPlan Dimasi in the Economic Report submitted with the EIS was the need to provide connected car parking to broaden the reach into the community. Given the heritage constraints of the Site, and that the provision of car parking beneath the Locomotive Workshop would cause too many significant heritage impacts, the following strategy to provide connected parking has been proposed as it is considered the method with the least impact:

- Allocate 232 car spaces within the Channel 7 Building for use by the CBA employees within Buildings 1 and 2.
- Allocate the car parking spaces at the lower ground level of Building 2 for use by visitors to the ATP and the Locomotive Workshop. This is proposed within SSD 7317 MOD 6 which is currently being assessed.
- Connect the Locomotive Workshop to the lower ground car parking level in Building 2 by the provision of a travelator.

Accordingly, this SSDA continues to seek approval for the construction of a travelator that runs between Bay 4 within the Locomotive Workshop, beneath Locomotive Street to Building 2². The design of the travelator and the extent of excavation is illustrated in the Architectural Plans, prepared by Sissons (**Appendix C**). **Figure 26** provides a 3D cross section perspective.

The location of the travelator has been determined in consultation with Curio Projects, the heritage specialist for the project, in order to ensure that the level of intervention to the existing fabric is minimal and the existing arched footing to the southern external wall is retained.

Figure 27 provides an illustration of the proposed section through the southern wall, the existing arched footing and indicative structural reinforcement that will be put in place to strengthen the existing arch.

² It is noted that Mirvac has submitted an application pursuant to Section 96 (1a) of the EP&A Act to modify SSDA 7317 to enable Mirvac to construct the concrete shell to house the travelator between Building 2 and the edge of the SSDA 7417 site boundary that SSDA 7317 – REF: SSDA 7317 MOD 5.

In addition, the travelator tunnel is to also act a heritage interpretation space which may feature elements from the former Foundry, as well as visual and audio-visual displays. As discussed in **Section 4.26** the exact details of the heritage interpretation design will be determined within the Stage 2 Interpretation Strategy for the Locomotive Workshop.

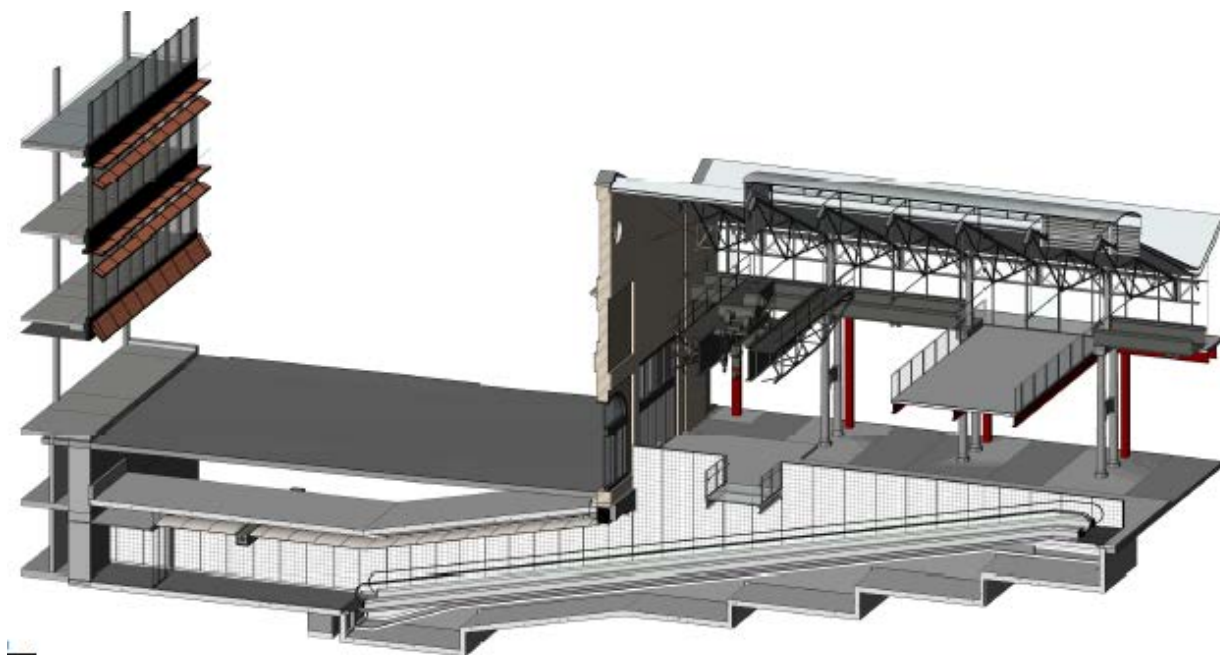


Figure 26 Proposed travelator connecting to Bay 4

Source: Sissons

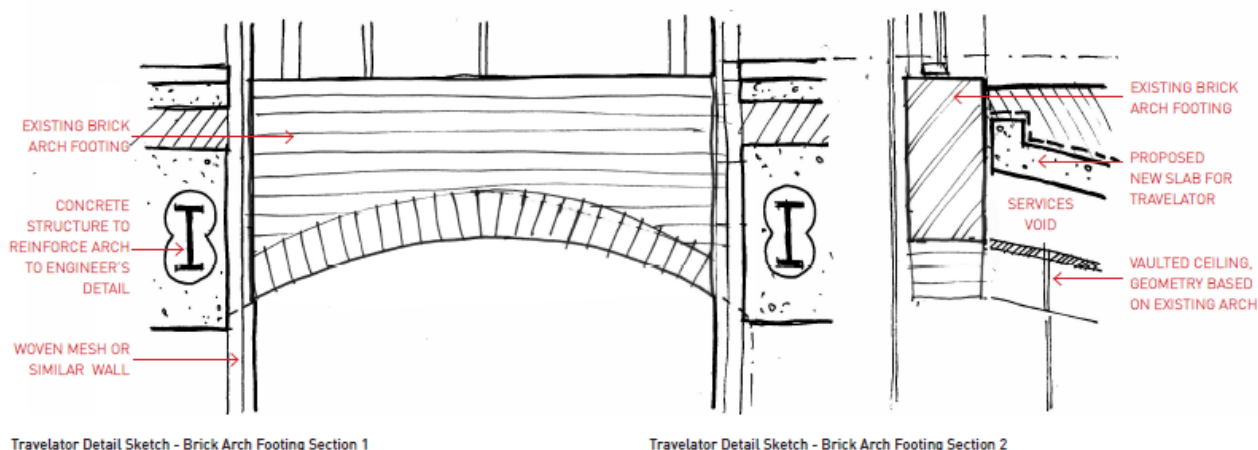


Figure 27 Proposed reinforcement for Southern Wall arched brick footings

Source: Sissons

4.24 Public Amenities Pod in Bay 4a

The proposed public amenities pod in Bay 4a has been relocated from the southern portion of the Bay to the northern portion. Smaller diameter pipes and cables are likely to be reticulated within the 150mm new floor slab and larger pipework (i.e. any new sewer pipes that are required) will be located in ground, beneath the existing floor structure. However, the extent of new sewer lines will be minimised where possible by running secondary pipework through wall cavities behind the toilet pans and sinks. The Response to Submission Package (**Appendix M**) provides a detailed layout of the proposed public amenities pod.

4.25 Relocation of In-Situ and Moveable Heritage Collection

As indicated in the EIS, approval is sought for the relocation of three furnaces within the loading dock area to the Blacksmith area. Whilst they are required to be relocated in order to enable the loading dock to be constructed, Eveleigh Works, the Blacksmith operation has indicated that the three furnaces are needed to replace existing non-functioning furnaces within Bay 2 south.

In addition, approval is also sought for the concept to relocate non-provenanced heritage items and machinery and the moveable heritage collection within Bays 1-4a to more appropriate locations in conjunction with the implementation of the Stage 2 Heritage Interpretation Strategy.

4.26 Heritage Interpretation Strategy

The Interpretation Strategy for the entire ATP, including the Locomotive Workshop, was prepared by Curio Project in November 2016. It was approved by the NSW Heritage Division in February 2017 and provides an overarching framework for heritage interpretation at the ATP including the key themes, stories, interpretive products and opportunities. The Interpretation Strategy forms Stage 1 of a three-staged interpretive planning process.

As clearly set out within the Heritage Response report, (**Appendix E**), Curio Projects has been commissioned by Mirvac to prepare the Stage 2 Interpretation Strategy for the Locomotive Workshop and well as the Stage 2 Interpretation Plan for the broader ATP precinct. Trigger Design has been commissioned to design the physical interpretive elements within the Locomotive Workshop, and also the broader ATP Public Domain.

Since lodgement of the EIS for SSDA 8517, Curio Projects and Trigger Design have been working in close consultation with Mirvac, Sissons, The Buchan Group and other relevant stakeholders to ensure that the heritage interpretation being developed for the Locomotive Workshop and ATP Public Domain is authentic, consistent across the whole of the ATP precinct and captures the key significance of the place. The revised concepts that will be developed as part of the finalisation of the Stage 2 Interpretation Strategy for the Locomotive Workshop are as follows:

- **Provide a new, exciting arrival entry experience from Innovation Plaza into Bays 1 and 2**, by removing barriers and obstacles to the heritage collection.
- **Remove all the barriers** that prevent closer access to and interaction with the in-situ industrial machinery and replace with alternate, less intrusive protection throughout Bays 3-4a.
- **Provide, specially formed protection along the Blacksmith edge** to allow machinery to be protected without creating fences or barriers around the items. This design will allow for specialist up-lighting and interpretive wording to be included in the display.
- **Provide low level protection** to allow key objects to be protected as illustrated in **Figure 17**. The design will allow for specialist uplighting and interpretive wording to be included in the display.
- **Relocate non-provenanced moveable heritage items** to more relevant contextual locations, where possible.
- **Rotate moveable heritage collections in Bays 1 and 2.**
- **Provide multiple interpretive display spaces** (as indicatively illustrated in **Figure 28** and **Figure 29**) each with their own character, themes and storylines, including the creation of a new refreshable interpretive space at ground level, spaces that better allow connections into the Blacksmith Workshop. Some of the interpretive display areas will have a rotating curatorial program rather than a static display. Mirvac is investigating partnerships with institutions and cultural heritage place managers for curation of the displays, to ensure the space is a rigorous interpretive focused facility, providing for a creative and exciting approach to interpretive design that is relevant and engaging.
- **Focus on cultural heritage tourism**, that will integrate Bays 1-4a and 5-15 within the Locomotive Workshop with each other and integrate the Locomotive Workshop with the remainder of the ATP. Mirvac is working in partnership with the NSW State Government's 'Heritage Near Me' program to develop a unique digital platform for the ATP to create closer connections with the community and to allow the key stakeholders to tell their stories, and the stories of the Site through virtual reality and augmented reality treatments. It will also form part of a key network of journeys both within the Locomotive Workshop and beyond to allow people to engage with and enjoy the significance of the Site using the latest digital technology and prototypes.

- **Improve the internal and external reading of the original function** of the Locomotive Workshop through the redevelopment and its associated improvements to the heritage ambience, external and internal lighting, revised bay numbering (i.e. returning to the original numbering), inlays throughout the internal central spine and on Locomotive Street and a clearer communication of the heritage significance of the Site using a variety of media and other techniques.
- **Create a multi-functional interpretive surface and display along the loading dock wall** that frames views of heritage machinery.
- **Revitalise the interpretation of the key external elements along the southern façade**, including the Pumphouse and the Boiler House.
- **Interpret the in-situ guillotine within the new corner retail annex adjacent to Bay 1.**
- **Tell key stories of the Locomotive Workshop, the ATP site and enhance the telling of stories of the different work stations.** For example, the continuity of 130 years of blacksmithing in Bays 1 and 2 south, other activities, people and uses of the Locomotive Workshop as well as iconic stories related to the Industrial Revolution, Aboriginal Activism, the role of the female worker, the migrant worker, War Efforts and the decline of Eveleigh.



Figure 28 Indicative Heritage Interpretation Zones – Ground Floor

Source: Trigger Design

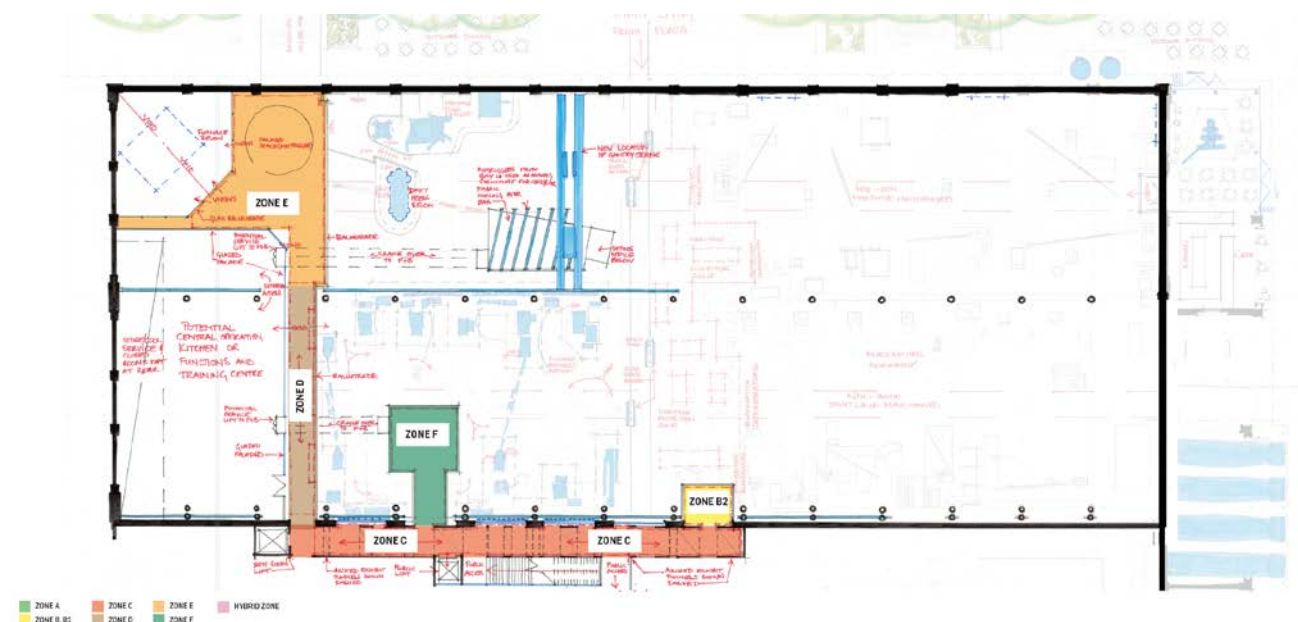


Figure 29 Indicative of heritage Interpretation Zones – Mezzanine Level

Source: Trigger Design

4.27 Roof Works

The current roof structure comprises two layers of sheet metal. The exterior comprises a contemporary layer of corrugated sheet metal and polycarbonate that was added in the 1990's and beneath this is the original roof trusses and other associated historic fabric which is visible internally.

The proposed roof works seek to improve the thermal and daylight performance and will include the following:

- retention of the original structure of the roof and its interior heritage fabric including trusses, soffits and other associated fabric, including the majority of the historic louvres;
- removal of the contemporary outer sheet metal layer in Bays 1-4a (including the service towers on the roof of Bays 4 and 4a) and modern polycarbonate cladding over the curved lanterns in Bays 3-4a to allow for the installation of new insulation and then the installation of a new outer layer of metal sheeting that has a consistent colour, fabric and profile to that of the existing external roof;
- insertion of skylight 'slots' within the new exterior cladding layer along the central spine within Bay 3 and 4a and replacement of the polycarbonate cladding over the curved lantern in Bays 4 to provide daylight penetration;
- installation of operable smoke attenuation louvres to meet the BCA fire safety and smoke management regulations in bays 1-4a; and
- the addition of a new roof maintenance access system.

However, as set out in the Response to Submissions Package, prepared by Sissons (**Appendix M**) the intention is to retain existing smoke attenuation louvres on the roof where possible and only remove sections of the existing louvres in order to achieve compliance with the relevant BCA requirements and Australian Standards. Testing will be undertaken during the design development stage to ascertain the exact locations and extent that will be impacted.

4.27.1 Roof Maintenance Access System

The roof maintenance access system within the Locomotive Workshop is to be upgraded. This includes the provision of new roof stairs and safety handrails to the roof as illustrated within the Architectural Plans at **Appendix C** and in **Figure 30**. The proposed stairs and hand rails are to be set back from the northern façade line and will be connected using clips and screw connections to mechanically fit to the top roof sheet material. The exact detail of the proposed roof maintenance access system will be provided within the documentation submitted for Construction Certificate CC5 – Façade and Roof.

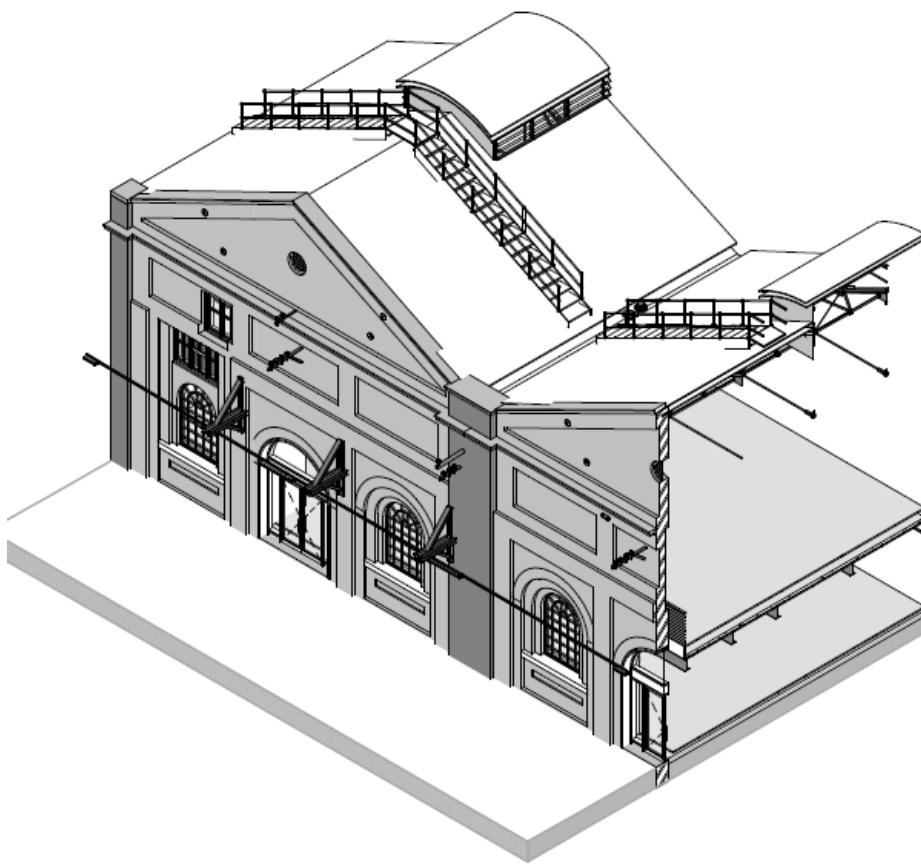


Figure 30 3D view of the proposed roof maintenance access system

Source: Sissons

4.28 Roof Plant and Platforms

The revised design continues to include new platforms to support roof plant for the supermarket and retail tenants within the roof valleys between Bays 3 and 4 and 4 and 4a. They are to be accessed via new access stairs that will lead from the fire egress stairs in Bays 3 and 4a and will be of steel construction, supported by new columns that will transfer the load to bear on the supports for the new Level 1 floor structure (refer to **Figure 31**). The detailed design drawings of the roof platforms and their structural supports will be included within the construction certificate documentation for CC3 – Structure.

Within the EIS, the plant platforms were proposed to be supported by columns that ran to the ground, however the revised design will eliminate the requirement for additional groundworks.

The positioning of the plant platforms has been carefully considered to ensure that they are located where visibility is limited from street level or from people on passing trains.

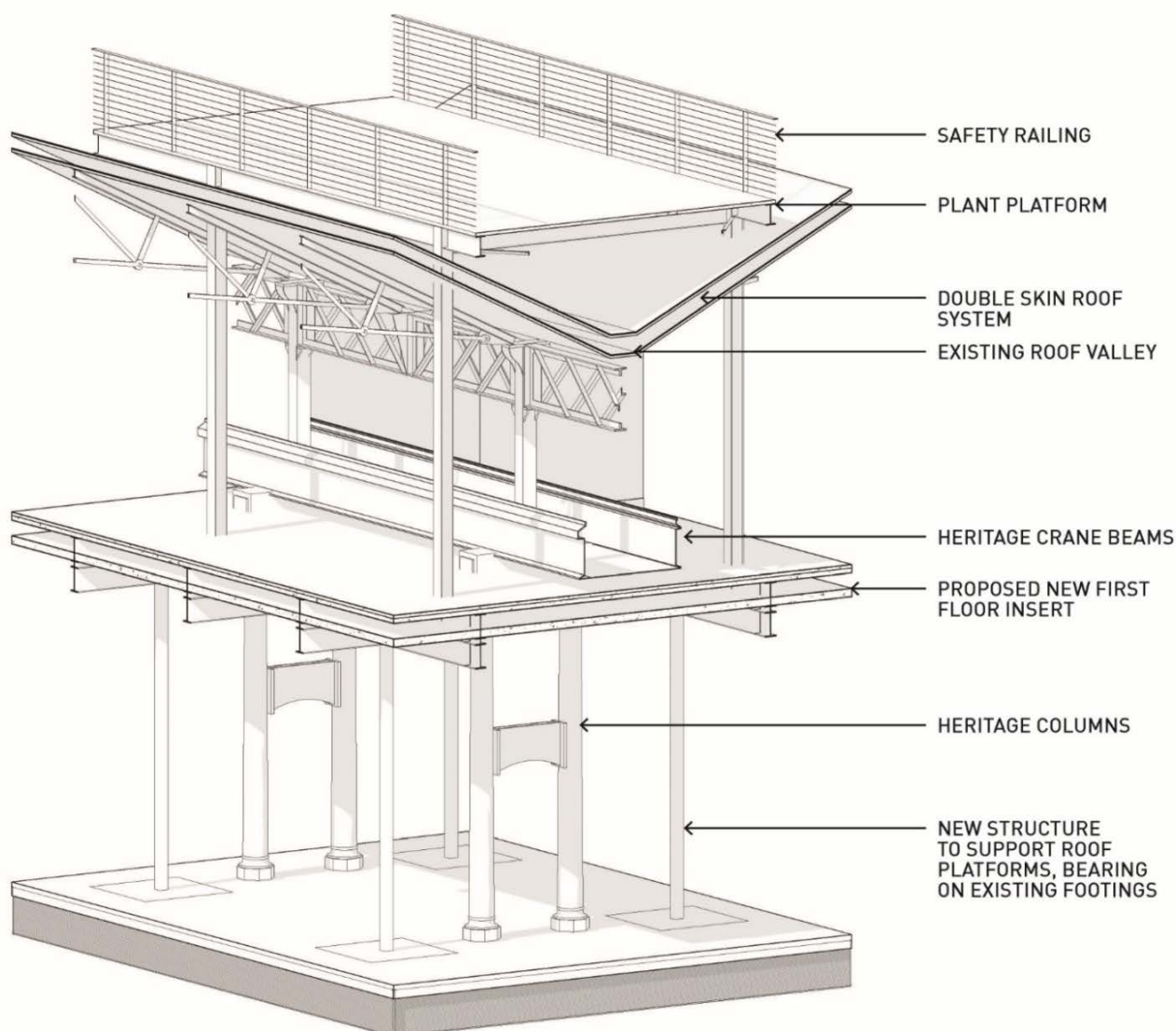


Figure 31 3D sectional view of the proposed Plant Platforms

Source: Sissons

4.29 Building Entrances and Windows

The proposed works to the building entrances and windows have not been amended. The proposal therefore seeks to remove and replace all modern glass doors fronting Locomotive Street and Innovation Plaza. Furthermore, the existing painted timber doors will be retained and fixed in an open position internally, in front of new contemporary lightweight glazed doorways. The large format modern roller door with glass panels in the north-eastern corner of Bay 1 that will be used as the loading dock entrance will also be replaced with a contemporary glazed door, that is similar in design to the existing.

In terms of glazing requirements, acoustic and thermal requirements for the southern façade are minimal, and therefore minimal intervention is required. Existing glass will be retained where possible, but where it is required to be replaced it will be changed to a new clear glass. New doors and windows will be single glazed.

On the northern façade, higher noise levels from trains and higher heat loads require two panes of glass to be provided. Existing single panes will be made good and sealed to meet the expectations of a new single glazed unit and a second skin of glazing will be installed which is to be a magnetite or similar glazing solution. New doors and windows will be double glazed.

On the eastern façade, as Bays 1 and 2 are not proposed to be air conditioned, they are not required by the BCA to comply with thermal requirements. The architectural preference is therefore to leave the glazing as a single pane.

4.30 Exterior Material Palette

The exterior material palette will be determined as the detailed design progresses, however it will be in-keeping with the original appearance of the Locomotive Workshop and will retain all original features where possible. An updated indicative material palette for the external works is included in the Response to Submissions Package, prepared by Sissons (**Appendix M**) however, the exact materials that will be used for each element will be determined in consultation with Mirvac's heritage consultant and specified within the construction certificate documentation.

4.31 Signage

The revised Architectural Drawings included at **Appendix C**, provides an updated signage zone plan. As illustrated on the plan, approval is sought for signage zones in the following locations:

- behind the upper glazed panels of the entrance doorways along the eastern, southern and northern elevations of the Locomotive Workshop;
- behind the glazing line of the upper level of the corner retail annex on its eastern and southern elevations;
- the northern elevation of the service towers located on the roof of Bay 4 and Bay 4a;
- the brick heritage fascia of the southern elevation of Bay 4; and
- the brick heritage fascia of the eastern elevation of Bay 1 above the main entrance doorway.

The dimensions of the signage zones are as follows:

Table 7 Signage zones

Sign Type	Height (approximately)	Length (approximately)
Tenant signage zone, behind glazing above modern entrances	1.62 m	4.1m
Tenant signage zone, behind glazing above arched heritage entrances	0.92m or to infill the panel above door	2.7m to infill the panel above the door
Locomotive Workshop signage on the heritage brick fascia on Bay 4 southern elevation and Bay 1 eastern elevation	1.3m to infill the brick inlet feature set into the building	To infill the brick inlet feature set into the building
Locomotive Workshop signage on the northern elevation of the Service Tower of Bay 4a	4m	6.8m
Tenant signage zone on the northern elevation of the Service Tower of Bay 4	2.1m	6.5m

It should be noted that the signage zones on the northern elevation of the service towers of Bays 4 and 4a will be designed in accordance with the following principles to ensure that the detailed design will be sympathetic to the design and heritage significance of the building:

- The service tower signage will be carefully designed to ensure it is of an appropriate scale, material and finish to be compatible with the aesthetics of the Locomotive Workshop.
- The extent of the detailed signage design will not exceed the extent of the proposed signage zones.

- The service tower signage will comprise individual laser cut letters that will be fixed to sit no more than 150mm proud of the service tower walls and will not have a solid background.
- The signs will be backlit in order to provide a softer aesthetic.

Notwithstanding the above, as clearly stated in the EIS, approval for all the detailed signage designs, their materiality and illumination will be the subject of a separate application.

4.32 Illumination Strategy

A conceptual Lighting Design Strategy, prepared by Point of View was submitted with the EIS. It set out guiding principles, luminaire typology and design concepts for the external facades, elements and signage and interiors. For ease of reference, the general approach which will be adopted to determining the detailed external and interior lighting design is set out in **Sections 4.32.1** and **4.32.2** below.

4.32.1 Exterior Lighting

The general approach that will be adopted for the southern façade of Bays 1-4a includes:

- linear in ground uplights to graze the pilasters;
- inground uplights to accent the doorways;
- luminaire mounted window ledges to light the window reveals;
- linear LEDs to uplight the façade pediment;
- signage with integrated lighting;
- linear LEDs located above the entrance portals;
- uplighting to heritage artefacts and the corner retail annex;
- uplighting to heritage boiler house; and
- low glare and non-obtrusive signage lighting that is sympathetic to the heritage facades.

The general approach that will be adopted for the eastern façade of Bay 1 includes:

- linear in ground uplights to graze the pilasters;
- inground uplights to accent the doorways;
- luminaire mounted window ledges to light the window reveals;
- linear LEDs to uplight the façade parapet;
- wall lights located over the doorways;
- uplighting to heritage artefacts; and
- low glare and non-obtrusive signage lighting that is sympathetic to the heritage facades.

Along the northern façade, the strategy proposes linear LEDs to uplight the faced pediment and pendants suspended from the existing steel brackets.

4.32.2 Interior Lighting

The general interior lighting strategy proposes the following:

- in ground uplights with low glare to light the columns;
- track and spot lighting to light the gantry;
- a series of high bay luminaires within the high ceiling spaces to provide general lighting to the space below. The look and feel will be of traditional heritage style;
- surface mounted luminaires in areas where the ceilings are lower;
- track and spot lighting throughout to provide accent lighting to architectural elements and zones;

- floor mounted lighting, table lighting and localise task lighting in break-out areas;
- accent lighting to heritage artefacts.

As part of the construction certificate documentation for CC 5 – Façade and Roof, a consolidated and detailed lighting design for both the external facades and internal base build elements will be formulated for the entire Locomotive Workshop.

In addition, the tenant fit-out guidelines will specify that all specialist lighting provided by tenants is in keeping with Mirvac's proposed overall vision for the Locomotive Workshop and enhances the significant heritage fabric. Tenants will be required to submit their lighting scheme for review and comment by Mirvac's appointed design team as part of the land owners consent process.

4.33 Public Access & Circulation

The revised design has not altered that proposed primary pedestrian access points into the Locomotive Workshop. As set out within the EIS, they will be provided at the following locations:

- From Locomotive Street into:
 - Bay 3;
 - Bay 4; and
 - Bay 4a.
- From Innovation Plaza into Bay 1.

Other doorways along the southern, eastern and northern facades of the Locomotive Workshop will also be openable and be utilised according to the requirements of the tenants.

The retail and heritage exhibition annexes will have access independent of the Bays and have access directly from Locomotive Street.

In terms of internal circulation space, the revised design maintains the central circulation spine that runs from Bay 1 to Bay 7. This central spine will provide access for the general public and future workers within hours of operation. The southern portion of Bay 4 acts as the key north-south pedestrian access and circulation space within Bays 3-4a. This will provide linkages with the key retail tenant offer in Bays 3-4a with Locomotive Street.

The proposed travelator within Bay 4 will also provide a direct weather protected pedestrian linkage to the lower ground car parking area in Building 2.

The exact extent of the publicly accessible areas and parameters of the times will be determined after the finalisation of the Stage 2 Heritage Interpretation Strategy. Notwithstanding this, as set out in the EIS, general public access to the Blacksmith/ Hard Arts spaces will not be permitted unless by prior arrangement, however members of the public will be to view the activities in this space from the Ground Floor Heritage Interpretation zone and the Blacksmith viewing platform.

4.34 Public Domain

The design of the Public Domain area along Locomotive Street and within Innovation Plaza has been revisited by Aspect, in order to provide co-ordinated approach to the Public Domain design for the entire ATP precinct. Accordingly, approval for all the Public Domain works within the curtilage of the Locomotive Workshop (including the area to the south of Bays 5-15) is now sought under SSD 8517, the subject of this Response to Submissions report.

A revised set of Public Domain plans, prepared by Aspect are included at **Appendix D**.

The revised landscape strategy for the area is based on the following three key principles:

- Provision of pedestrian priority streets;

- Celebrate the heritage through materials; and
- Public activation/ comfort.

The revised plan for the Public Domain area within the curtilage of the Locomotive Workshop and within Innovation Plaza incorporates and specifies locations for the following:

- 46 visitor bicycle spaces;
- five loading spaces, four accessible parking spaces, 2 taxi spaces, 2 drop off spaces and a fire brigade stand/ shared zone;
- out-door dining areas associated with the proposed retail uses along Locomotive Street and within Innovation Plaza; and
- pole top lighting.

4.34.1 Tree removal

Due to the confirmation of the swept path requirements for trucks that will utilise the proposed loading dock, 1 existing tree (*Platanus* x *Hybrida* (London Plan Tree) within Innovation Plaza is required to be removed as illustrated in **Figure 32**. Furthermore, pruning to the Port Jackson Fig tree located at the entrance of the ATP site leading from Cornwall Street.

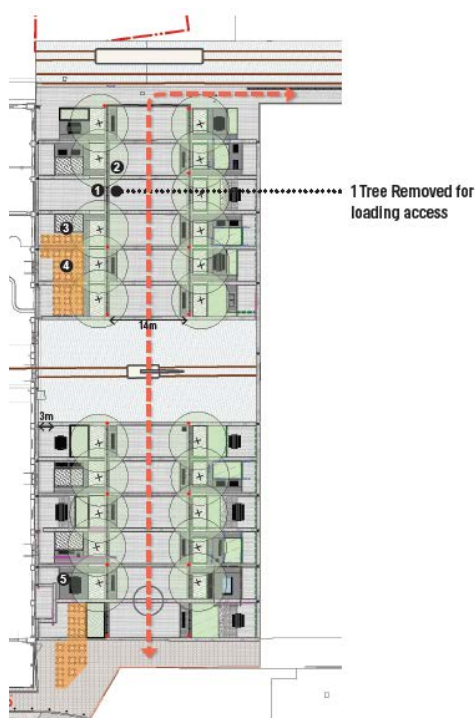


Figure 32 Location of tree to be removed

Source: Aspect

4.34.2 Lowering of the western turntable on Locomotive Street

As part of the proposed Public Domain works, Mirvac propose to remove the 'informal' roundabout that is centred on the existing western turntable outside of Bays 14 and 15 in Locomotive Street. However in order to ascertain whether this is possible the steep capping is to be removed and the actual fabric of the turntable below is to be investigated to ascertain whether it exists at a lower level. If this is the case, Mirvac propose to lower the existing roundabout to sit flush with the surrounding ground level.

If the existing turntable is found to be commensurate with the existing levels then ramping down from the existing roundabout edges will be provided to make the turntable trafficable, which is currently not the case. The fabric will also be reinforced to mitigate any potential impacts that may arise from cars traversing over the capping.

4.35 Vehicle Access, Loading and Car Parking

4.35.1 Vehicle Access

Vehicular access to Bays 1-4a will continue to be provided via Locomotive Street. However, vehicular access to the loading dock is proposed to be provided via one of two options.

In preparation of this Response to Submissions report, Mirvac appointed SLR to review the proposed loading vehicle access arrangements and provide a response to the traffic and parking related issues raised within the submissions (**Appendix O**).

Within its report, SLR confirm that there are two possible routes that can be used by trucks to access the proposed loading dock. These are:

- Option 1: Rosehill Street- Margaret Street- Site; and
- Option 2: Rosehill Street – Marian Street – Cornwallis Street – Site.

These two options are illustrated in **Figure 33** and **Figure 34**.



Figure 33 Loading Access Option 1

Source: GTA



Figure 34 Loading Access Option 2

Source: GTA

As discussed in detail within SLRs report and in **Section 2.19**, whilst Option 1 is Mirvac's preferred option, the ability for the trucks to utilise this access route is subject to the City of Sydney's agreement to extend the 'No Stopping' zone on Rosehill Street to enable trucks to turn into Margaret Street.

Should, the City of Sydney not agree to the extension of the 'No stopping' zone, Mirvac proposes to use Option 2, which City of Sydney representatives have confirmed (at the meeting on 16th February 2018) is legal and physically possible, despite both Mirvac and the City of Sydney agreeing that trucks travelling via Marian Street is undesirable.

4.35.2 Car Parking

As stated in **Section 4.34**, approval for all the Public Domain works within the curtilage of the Locomotive Workshop (including the area to the south of Bays 5-15) are now sought under SSD 8517. This includes the provision of on-street loading spaces, accessible parking spaces, taxi spaces and drop off spaces which are illustrated on the Public Domain plans (**Appendix D**).

Previously the provision of these spaces was sought under SSD 8449 which relates to Bays 5-15. The Response to Submissions Report for SSDA 8449 confirms that approval for the provision of the on-street spaces is no longer sought under that development application. Notwithstanding this, **Table 8** illustrates the proposed changes to the parking numbers:

Table 8 Proposed changes to parking provision

Parking Space Type	Previously proposed in SSDA 8449	Proposed in RTS submission in SSDA 8517
On-street Loading	8	5
Accessible	4	4
Taxi	2	2
Drop Off	1	2
Fire Brigade Stand (when required)	0	1

No additional standard car parking is proposed as part of this development or SSD 8449.

Mirvac has submitted a modification application to SSD 7317 that proposes to provide a total of 201 car parking spaces for visitors to the ATP and Locomotive Workshop at lower Ground Floor of Building 2 and in turn will allow 232 of the 350 car spaces within the Channel 7 visitor car parking area to be used by the Commonwealth Bank of Australia. Therefore, in addition to the 201 car parking spaces within Building 2, 118 visitor spaces will continue to be provided within the Channel 7 visitor car parking area.

4.35.3 Bicycle Parking

As stated within the EIS, no bicycle parking or end of trip facilities are included within Bays 1-4a. However as addressed in the Response to Submissions report for SSDA 8449, the revised design for Bay 15 provides a total of 184 bicycles and associated end of trip facilities for all staff within the Locomotive Workshop.

However, as outlined in **Section 4.34** above, a total of 46 spaces will be provided within the Public Domain area that surrounds the Locomotive Workshop to meet the needs of the Locomotive Workshop visitors. Overall, a total of 83 visitor bicycle spaces are intended to be provided across the ATP precinct, given a minimum of 37 are being provided under SSDA 7317.

4.35.4 Loading and Servicing

The revised design proposes that loading and servicing for the Locomotive Workshop will be provided in two ways:

- five on-street loading bays provided adjacent to the southern façade of the Locomotive Workshop, as illustrated in the Public Domain plans included at **Appendix D**; and
- within the loading dock located within the northern part of Bays 1 and 2.

On-street loading

The proposed five on-street loading spaces provided as part of SSDA 8517 (as discussed above) will be principally used for small vehicle deliveries and couriers etc. They have been strategically located along the northern side of the Locomotive Street adjacent to the building façade so as to not impact upon its future pedestrian friendly aesthetic.

Loading Dock

A loading dock is proposed to be located within the northern portion of Bays 1 and 2 as described in **Section 4.13**. It will service Bays 1-15 of the Locomotive Workshop and be used for major deliveries and waste servicing. The revised design will provide three loading spaces (instead of 5, as proposed previously) along with two waste storage rooms and compactors.

Given the loading dock is separated from Bays 5-15, the northern accessway will be utilised to transport waste and/or major deliveries between the loading dock and the various tenancies.

4.36 Operational Management

An Operational Plan of Management prepared by Mirvac was appended to the EIS to explain how Bays 1-4a within the Locomotive Workshop will be operated to meet its obligations associated with Mirvac's management policies and other relevant requirements. The public access details have since been revised as discussed in **Section 4.33**, however the proposed amendments do not alter the Operational Management details in regard to:

- Site Management;
- Number of Staff; and
- Waste Management.

4.36.1 Site Management

Mirvac's Facilities Management team are currently located in Bay 7 within the Locomotive Workshop. However, following the redevelopment of Bays 5-15, the Facilities Management offices will be located on Level 2 of Bay 15. They will be staffed Monday to Friday between 8am and 5pm. Out of these hours, on-site security personnel will be the point of contact. The Facilities Management team will be responsible for the management of the entire Locomotive Workshop including Bays 1-4a.

Furthermore, Facilities Management will be responsible for offering and managing the following services to tenants:

- Lost and Found; and
- End of Trip Facilities

Facilities Management will also engage a private contractor to manage cleaning throughout the Locomotive Workshop, including all communal areas and individual tenancies, if specified under the leasing agreement.

4.36.2 Staff

The Facilities Management team will comprise of approximately 4 staff. However, the total number of staff employed within Bays 1-4a across all tenancies will be approximately 250.

4.36.3 Waste Management

As discussed in the EIS, the overall strategy for loading and servicing, including waste collection and storage within the Locomotive Workshop continues to be based on the provision of a loading dock located within the north-eastern corner of Bays 1 and 2. The proposed development, as amended by this report, does not alter this strategy.

The loading dock will service the proposed retail uses within Bays 1-4a, as well as the commercial uses within Bays 5-15 (subject to separate SSDA 8449), and waste management will be undertaken in line with the management measures outlined in the Operational Waste Management Plan, prepared by Waste Audit submitted with the EIS

4.37 Environmentally Sustainable Development

Mirvac is committed to redeveloping the Locomotive Workshop to maximise energy efficiency and create a sustainable working environment for future tenants and visitors. The proposed amended design continues to target the following sustainability benchmarks and certifications:

- 5 Star Green Star 'Design & As Built' v1.1 rating;
- 5 Star NABERS Office Energy (Base Building) rating;
- 4 Star NABERS Water (Whole Building) rating; and
- NCC Section J Compliance

In order to meet these benchmarks the ESD initiatives (as set out within the Ecologically Sustainable Development Report, prepared by NYD within the EIS) will be considered and incorporated (where possible) into the detailed design and operation of the Locomotive Workshop.

4.38 Infrastructure and Services

A Stormwater and Hydraulic Infrastructure Report prepared by NDY and an Electrical Services Report prepared by IGS were submitted with the EIS. These reports assess whether the proposed development will require the upgrade or augmentation of the existing utility infrastructure that service the Site. The proposed amendments to the development do not alter the description of Infrastructure and Services contained within the EIS regarding:

- Sewer, Water and Gas;
- Electricity;
- Telecommunications;
- Stormwater Management; and
- Electrical and Mechanical Engineering.

5.0 Environmental Assessment

The exhibited EIS provided a robust assessment of the environmental impacts of the proposed development and addressed all the matters for consideration set out in the SEARs being:

- compliance with the EP&A Act, relevant planning policies and environmental planning instruments;
- design excellence;
- built form;
- heritage impacts;
- economic and social impacts;
- traffic, parking & access;
- public access;
- waste management;
- contamination;
- noise and vibration;
- accessibility;
- BCA compliance;
- services and utilities management;
- water cycle management;
- railway infrastructure impacts;
- construction management;
- ecologically sustainable development;
- development contributions;
- site suitability; and
- public interest.

Ethos Urban has reviewed each of the detailed reports and assessments that supported the development proposed within the EIS and consider that the revised elements, as outlined in **Section 4.0**, do not change the original assessment of the following matters:

- compliance against the objects of the EP&A Act and matters for consideration listed in Section 4.15 of the EP&A Act;
- consistency with relevant strategies, policies and guidelines (as set out in the SEARs);
- compliance with the following State Environmental Planning Policies (SEPPs):
 - SEPP (State and Regional Development) 2011;
 - SEPP 55 – Remediation of Land;
 - SEPP 64 – Advertising and Signage;
 - SEPP (Infrastructure) 2007; and
 - SEPP (Urban Renewal) 2010.
- design excellence;
- economic and social impacts;
- public access;
- waste management;

- contamination;
- services and utilities management;
- railway infrastructure impacts;
- social and economic benefits;
- construction management;
- ecologically sustainable development;
- developer contributions;
- site suitability; and
- public interest.

Where it has emerged that further assessment is necessary, either through proposed changes to the design or in response to submissions, this has been undertaken. The following specialist technical statements have therefore been prepared to reflect and assess the additional issues and/ or proposed design changes:

- Architectural Drawings prepared by Sissons Architecture (**Appendix C**)
- Public Domain plans (**Appendix D**);
- Heritage Response Report (**Appendix E**);
- Structural Design Statements (**Appendix H**);
- Ambient Air Assessment (**Appendix J**);
- Mechanical – Exhaust Ventilation Statement (**Appendix K**);
- Blacksmith Acoustic Survey (**Appendix L**);
- Traffic and Transport Response to Agency Submissions Report (**Appendix O**);
- Arborist Assessment (**Appendix P**);
- Accessibility Statement (**Appendix Q**); and
- BCA Statement (**Appendix R**).

The relevant matters that require specific detailed assessment are further discussed below.

5.1 Consistency with SEPP (State Significant Precincts) 2005

SEPP (State Significant Precincts) 2005 is the principal planning instrument applying to the site. The revised design for Bays 1-4a continues to be consistent with the provisions set out within Part 5 of Schedule 3 of the SEPP.

Matters that require additional assessment against the relevant development controls within Part 5 of Schedule 3 of the SEPP are set out in **Table 9**.

Table 9 Summary of consistency with Schedule 3, Part 5 of SEPP SRD

Relevant Provision	Consistency
Clause 7 – Land Use Zones & Clause 8 – Business Zone – Business Park	The revised design proposes to include ‘educational establishment’ amongst the list of uses proposed within Bays 1-4a of the Locomotive Workshop. Pursuant to Clause 8, ‘educational establishment’ uses are permissible with consent within the Business Zone - Business Park. All other proposed uses, as listed in Section 4.7 continue to be permissible with development consent.
Clause 12 – Recreation Zone – Public Recreation	<p>Innovation Plaza is zoned Recreation Zone – Public Recreation.</p> <p>The revised Public Domain Drawings Package (Appendix D), propose outdoor seating areas within Innovation Plaza that will be associated with the retail uses proposed within the Locomotive Workshop.</p> <p>Whilst ‘retail premises’ uses are prohibited within the Recreation Zone – Public Recreation, by virtue of Section 4.38(3) of the EP&A Act, development consent for</p>

Relevant Provision	Consistency
	<p>State Significant development, “<i>may be granted despite the development being partly prohibited by an environmental planning instrument</i>”.</p> <p>Furthermore, the provision of outdoor seating associated with the retail uses, within Innovation Plaza is consistent with the objectives of the Recreation Zone – Public Recreation in that:</p> <ul style="list-style-type: none"> the adaptive re-use of the Locomotive Workshop and in particular the uses proposed within Bays 1-4a will provide enjoyment for the community; the provision of outdoor seating areas within Innovation Plaza will contribute to the revitalisation of the Public Domain surrounding the Locomotive Workshop; and the provision of outdoor seating within Innovation Plaza will provide the opportunity for visitors to sit and enjoy the visual and aesthetic values of the upgraded Public Domain areas and the heritage significance of the Locomotive Workshop and the other heritage items within its vicinity.
Clause 21 (2A) – Gross Floor Area	<p>The revised maximum total GFA within Bays 1-4a is 11,676m².</p> <p>The existing GFA of Bays 5-15 is 23,229m².</p> <p>Should Bays 5-15 not be developed as proposed in SSD 8449, the total GFA within the Locomotive Workshop will be 34,905m². However, if Bays 5-15 are developed as proposed in the Response to Submissions report submitted for SSDA 8449, then the total GFA across the Locomotive Workshop will be 39,134m².</p> <p>The above demonstrates that the revised development will not exceed the maximum GFA control for the Locomotive Workshop of 42,055m².</p>
Clause 23 – Car Parks	<p>The revised design does not seek to provide any additional parking on the site, with the exception of the provision of 4 accessible spaces that simply replace those that currently exist. This minor amendment will not result in the provision of more than 1,600 spaces being provided within the Business Zone – Business Park.</p>
Clause 27 – Heritage conservation	<p>The revised design proposes a number of minor amendments that may move and alter elements within the State Heritage Listed Locomotive Workshop. An assessment of the proposed additional heritage impacts are included in Appendix E.</p>
Clause 28 – Preservation of trees or vegetation	<p>A development control plan does not apply to the ATP precinct. However, the proposed removal of one (1) tree in Innovation Plaza is assessed in Section 5.4.</p>

5.2 Built Form

The revised designs for both the eastern and western portions of the Locomotive Workshop, as described in detail within **Section 4.0** of each of the respective Response to Submissions reports have continued to be developed together to provide one integrated building that comprises a number of different, but inter-connected functions. **Figure 35** to **Figure 36** demonstrate that the overall layout of the Locomotive Workshop continue to work together.

Furthermore, the overall design principles for the project have generally remained the same as those set out in the EIS's submitted for SSDAs 8517 and 8449, and the proposed Approval Strategy and the Detailed Design Framework for both applications adopt similar processes and protocols.

Overall the design quality of the proposal, continues to be to an extremely high standard and carefully seeks to convert Bays 1-4a into a spectacular destination that celebrates and enhances the significant heritage fabric and its industrial history.

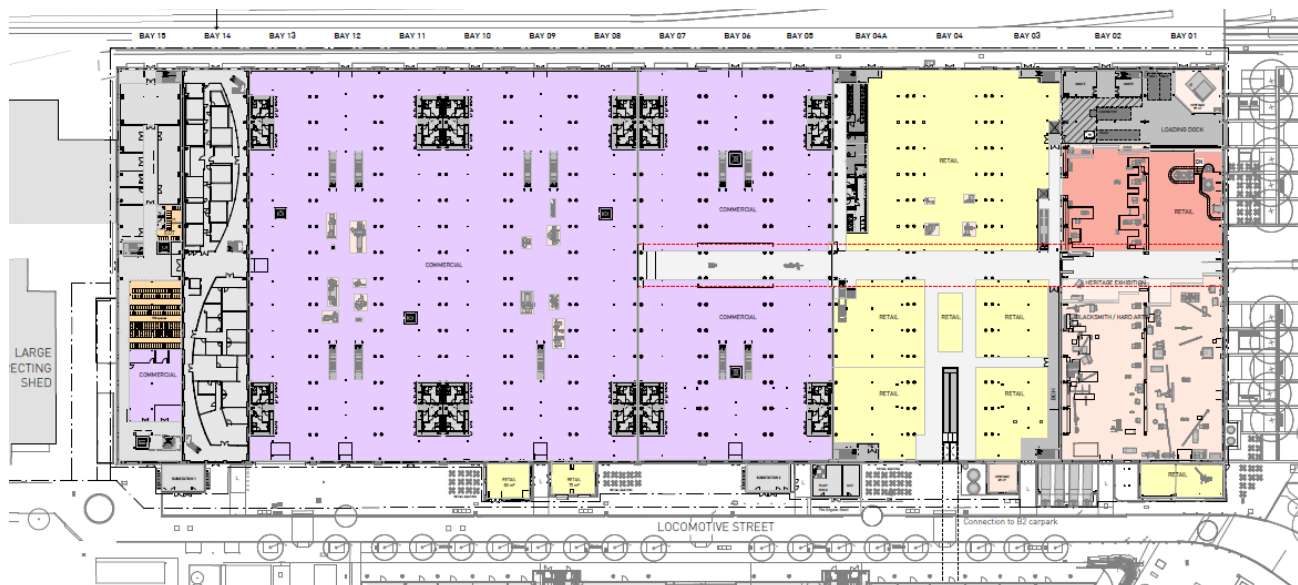


Figure 35 Proposed Ground Floor of the Locomotive Workshop

Source: Sissons

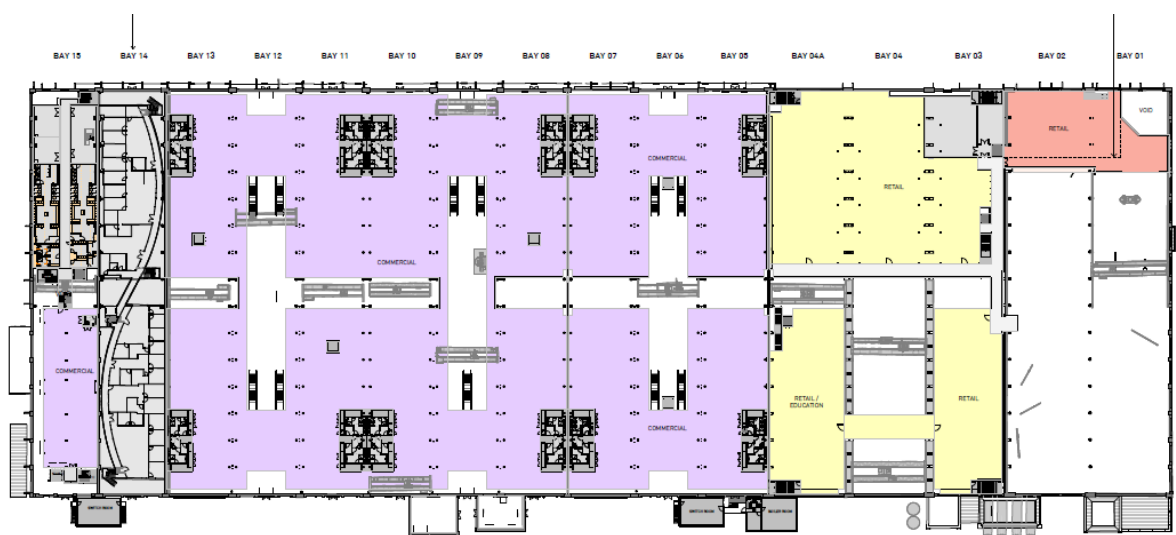


Figure 36 Proposed Level 1 of the Locomotive Workshop

Source: Sissons

5.3 Heritage Impacts of Additional Works

The heritage impacts associated with the proposed changes to the exhibited scheme are addressed within the Heritage Response to Submissions Report, prepared by Curio Project (**Appendix E**).

5.4 Tree Removal and Tree Pruning

The swept path plans for the proposed development confirms that for trucks to enter Innovation Plaza in a forward gear, stop and reverse into the proposed loading dock, one tree will be required to be removed from Innovation Plaza and the other trees in Innovation Plaza and the Port Jackson Fig tree at the intersection of Cornwallis Street and the ATP site entrance are required to be pruned. Accordingly an Arborist Assessment has been prepared by Lee Hancock Consulting Arborist (Lee Hancock) (**Appendix P**) that provides an assessment of the trees and recommendations for potential transportation and pruning.

Lee Hancock has confirmed that the tree that is required to be removed in Innovation Plaza is semi mature and in good health and vigour, with sound branch attachments and that the other trees located in Innovation Plaza are also considered to be semi mature and in good health. The Port Jackson Fig is structurally stable and in good form and vigour.

Given the constraints of the site and the need for the loading dock to be located in the northern portion of Bays 1 and 2 (as discussed in **Section 2.17**), the removal of the tree in Innovation Plaza is absolutely necessary. The removal of the tree is not considered a significant environmental impact considering its semi-mature nature and that the loss of the tree is significantly offset by the significant Public Domain improvements that are proposed within this SSDA and currently being undertaken by Mirvac throughout the entire ATP precinct. In order to ensure that the tree removal does not give rise to any further impacts, it will be undertaken in accordance with the relevant Australian Standards.

The pruning of the trees in Innovation Plaza will only be selective in nature, however crown lifting of the lower branches of the Port Jackson Fig tree to a height of 5m clearance will need to be undertaken.

The proposed pruning is considered acceptable given that it will be undertaken with due care and regard to the future health of the trees and in accordance with the following recommendations as set out in the Arborist Assessment Report:

- Pruning will be compliant with relevant Australian standards.
- All pruning and removal works to be supervised by the project arborist.
- Installation of tree guards.
- No exceedance of a maximum 100mm diameter for branches removed.

5.5 Noise Impacts from the Blacksmith Operation

A memorandum addendum to the Acoustic Impact Assessment submitted with the EIS has been prepared by ARUP and is included at **Appendix L** in response to the question of whether other potential land uses would be co-located with the Blacksmith operation in Bays 1 and 2. Accordingly, Arup conducted an operational noise survey of the existing Blacksmith operation.

The recorded sound levels for the existing Blacksmith operations were found to exceed relevant Occupational Health and Safety requirements, and as such any acoustic treatment measures will be primarily based on commercial tenant consideration and dependant on the proposed usage and tenant operations and its expectations, and not Australian standard requirements. As explained in the EIS, Mirvac's vision is to ensure that people are able to experience the Blacksmith Experience, unencumbered, therefore at this time, no new acoustic attenuation measures are required to be provided within Bays 1 and 2 south.

Any future tenant fit-out and acoustic treatments will be further assessed as part of future tenant fit-out development applications, in accordance with the approvals strategy outlined within **Section 4.4** and Tenant Fit-Out Guidelines outlined in **Section 4.5**.

Noise assessment for building plant services, including the proposed ventilation systems outlined within the Mechanical Statement at **Appendix K**, was included within Section 6.12 the EIS.

5.6 Air Quality

In order to assess whether the existing Blacksmith operation would give rise to any impacts that would impact on the ability to co-locate a potential food and beverage operator in the southern portion of Bays 1 and 2 north, JBS & G have prepared an Ambient Air Assessment (**Appendix J**) to determine suitability of the proposed integration.

The assessment tested the potential for volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and/or heavy metal emissions occurring from the Blacksmithing operations, in accordance with relevant guidelines by NSW Environmental Protection Authority (EPA) and Safe Work Australia.

The results of the airborne sampling and analysis concluded that the Blacksmithing activities do not pose a potential health risk to proposed retail uses occurring in proximity, including food handling and distribution.

Notwithstanding this, a number of roof mounted fans are to be located above the Blacksmith area that will exhaust air from the space, as outlined within the Mechanical Statement and **Appendix K**. These will mitigate the spread of smells/fumes and potential airborne contaminants generated by the Blacksmith to the remainder of the space within Bays 1 and 2.

In addition, the proposition of allocated portions of the floor within Bays 1 and 2 south to a mix of sand and gravel in has the potential to give rise to additional dust generation. Before the exact floor finishes are confirmed in the construction certificate documentation for CC4 – Services and Base Build Fit-Out, the potential air quality impacts that may result from the different types of materials will be assessed to ensure that no adverse environmental impacts are generated by the proposed floor changes.

5.7 Accessibility

Morris Godding has undertaken a review of the revised Architectural Drawings (**Appendix C**). Following the review Morris Godding have provided a statement (**Appendix Q**) which confirms that the revised design, in particular the relocation of stairs from Bay 1 (north) to Bay 3, the location of the accessible car parking bays and internal ramping of the Locomotive Workshop, is able to achieve the accessibility design requirements.

On this basis, the recommendations made within the Accessibility Report submitted with the EIS are considered relevant to the development. In order to ensure that the proposed development meets the relevant statutory requirements and standards, the recommendations will be incorporated into the detailed design of the development and submitted with the construction certificate documentation.

5.8 BCA

Philip Chun has reviewed the revised Architectural Drawings, as included at **Appendix C**, and confirm in its statement at **Appendix R** that they are consistent with the intent of the previous BCA report (that was submitted with the EIS). Furthermore, Philip Chun confirm that it is confident that the proposed works can comply with either Deemed-to-Satisfy provisions of the BCA or the Performance Requirements of the BCA (subject to Fire Safety Engineering) and all recommendation in the previous report, remain the same.

6.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 10** below. These measures have been derived from the previous assessment in the EIS and **Section 5.0**.

Table 10 Mitigation Measures

Mitigation Measures
Heritage Impacts <ul style="list-style-type: none"> All works will be undertaken in accordance with the recommendations and proposed strategies outlined within the Heritage and Archaeological Impact Statement and Heritage Response Report. A Stage 2 Heritage Interpretation Strategy for the Locomotive Workshop will be prepared in consultation with NSW Heritage Division and the City of Sydney to provide guidance on the curation of the moveable heritage items. Should any unexpected archaeological artefacts be found, then works will cease in the immediate area and archaeological advice sought.
Accessibility <ul style="list-style-type: none"> In order to ensure equal access is provided throughout the proposed development, the detailed design of the proposal will need to ensure compliance with the relevant accessibility provisions of the BCA 2015 and other applicable legislation.
Construction Noise and Vibration <ul style="list-style-type: none"> Implementation of mitigation measures in the Acoustic Assessment (submitted with the EIS) Implementation of mitigation measures in the Preliminary Construction Environmental Management Plan (submitted with the EIS) Preparation of a detailed construction Noise and Vibration Management Plan, prior to construction certificate.
Operational Noise <ul style="list-style-type: none"> Acoustic assessment of mechanical services equipment will be undertaken during the detail design phase of the development to ensure that noise of all equipment does not exceed the applicable noise criteria. Development consent conditions typically require detailed assessment of mechanical plant and equipment prior to construction.
Operational Waste Management <ul style="list-style-type: none"> Comply with the waste management processes outlined within the Operational Plan of Management (submitted with the EIS) or Operational Waste Management Plan (submitted with the EIS).
Contamination <ul style="list-style-type: none"> Implement the measures and the recommendations as described in the RAP relevant to the Locomotive Workshop.
BCA <ul style="list-style-type: none"> The detailed design of the development must ensure that it complies with the current provisions of the BCA 2016 or appropriate alternative solutions should be developed and verified by a qualified BCA Consultant or Fire Safety Engineer.
Environmental and Construction Management <ul style="list-style-type: none"> Works are to be carried out in accordance with the Preliminary Construction Environmental Management Plan, which details mitigation measures to manage environmental impacts (submitted with the EIS). Works are to be carried out in accordance with the Heritage and Archaeological Impact Statement, which details mitigation measures to manage heritage impacts (submitted with the EIS). Works are to be carried out in accordance with the Arborist Report (Appendix P), which details mitigation measure for proposed tree removal and protection of existing trees.

Suggested conditions of consent in relation to the proposed development and outlined mitigation measures are further detailed within **Appendix G**.