PORT AUTHORITY OF NEW SOUTH WALES

Overseas Passenger Terminal Vertical Transport Upgrade

Review of Environmental Factors

Document no. Rev 0

24 March 2026

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Disclaimer

PROJECT 311015-00727: Overseas Passenger Terminal Vertical Transport Upgrade - Review of Environmental Factors

Rev	Description	Originator	Reviewer	Worley Approver	Revision Date	Customer Approver	Approval Date
Rev A	Draft for Client Review	C. Jones	K. Newton	-	17 March 2026	N/A	N/A
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Certification

This Review of Environmental Factors (REF) has been prepared in accordance with the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act), the Environmental Planning and Assessment Regulation 2021 (NSW) (EP&A Regulation) and the Guidelines approved under section 170 of the EP&A Regulation; the information in this document is neither false nor misleading.

Signed:	
Name:	Claire Jones
Position:	Principal Environmental Planner, Worley Services Pty Ltd
Qualifications:	Bachelor of Planning (Honours Class 1), University of New South Wales
	Graduate Diploma in Heritage Conservation, University of Sydney
	NSW Registered Environmental Assessment Practitioner
Date:	24 March 2026

Certification

I certify that I have reviewed and endorsed the contents of this REF document, and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation, and the Guidelines approved under section 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

Signed:	Signed by: Fiona McKay 2D4CD7456CB64D8... 26-03-2026 | 8:19 AM AEDT
Name:	Fiona McKay
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Qualifications:	Bachelor of Environmental Science, University of Newcastle
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Date:	24 March 2026

Terms and Acronyms

Acronym/term	Definition
BC SEPP	State Environmental Planning Policy (Biodiversity and Conservation) 2021
the Contractor	Company to be engaged by Port Authority to undertake construction works
CEMP	Construction Environmental Management Plan
DDA	*Disability Discrimination Act 1992* (Commonwealth)
DPE	NSW Department of Planning and Environment
Eastern Harbour City SEPP	State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021
ESD	Ecologically Sustainable Development
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning & Assessment Act 1979* (NSW)
EPA	Environment Protection Authority (NSW)
EP&A Regulation	Environmental Planning & Assessment Regulation 2000 (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPI	Environmental planning instrument
LGA	Local Government Area
MNES	Matter of National Environmental Significance
MSZ	Maritime Security Zones
OPT	Overseas Passenger Terminal
Port Authority	Port Authority of New South Wales
PS SEPP	State Environmental Planning Policy (Planning Systems) 2021
the Regulation	Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017
REF	Review of Environmental Factors
RH SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
S170 Register	Section 170 Heritage and Conservation Register
SCRA	Sydney Cove Redevelopment Authority
SEPP	State Environmental Planning Policy
SHI	NSW State Heritage Inventory
SHR	State Heritage Register
TI SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021

1. Introduction

Worley Services Pty Ltd (Worley) has been engaged by Port Authority of New South Wales (Port Authority) to prepare a Review of Environmental Factors (REF) for proposed works to upgrade and replace lifts 1-6 and Escalators 1 and 2 (the proposed activity) in the Overseas Passenger Terminal (OPT) at The Rocks (the site) in Sydney, New South Wales (NSW).

1.1 Purpose of the REF

This REF has been prepared by Worley on behalf of Port Authority. For the purposes of the proposed activity, Port Authority is the proponent and the determining authority under Division 5.1 of the EP&A Act.

The purpose of this REF is to describe the proposed activity, to document and assess the likely impacts on the environment, and to detail any mitigation and management measures to be implemented.

The description of the proposed activity and assessment of associated environmental impacts has been undertaken in context of Section 171 and 171A of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation) and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In doing so, the REF helps to fulfil the requirements of Section 5.5 of the EP&A Act including that Port Authority (from 21 March 2026) examine and consider only those environmental matters that are proportionate to the nature and risks of the proposed activity.

2. Need and Options Considered

2.1 Strategic Need for the Activity

The OPT is the premier cruise ship hub in Sydney with a dedicated passenger terminal for embarkation/disembarkation for international and domestic vessels with over 220 cruise ships berthed each year, as well as a significant space for events and restaurants.

Installed externally in 1988 and relocated within the terminal in 2000, Escalators 1 and 2 are now approximately 37 years old and have exceeded their original 25-year design life. While they remain operational, their continued use is reliant on frequent reactive and planned maintenance, and a number of critical components are now obsolete or increasingly difficult to source.

Lifts 1 to 6 are approximately 25 years old and have also reached the end of their nominal design life.

In January 2023, Port Authority engaged Thomson Elevator Consulting to undertake a comprehensive condition assessment of these vertical transport assets (refer Appendix A). The assessment reviewed asset condition, lifecycle expectancy, reliability, and fault trends, and has informed Port Authority's planning for future capital upgrades and further investigations, as outlined in Section 2.3 of this REF.

2.2 Proposal objectives

The lifts and escalators are critical to the safe and efficient operation of the OPT, which functions as a major international and domestic cruise terminal and supports associated hospitality and event uses. To mitigate the increasing risk of asset failure, maintain operational continuity, and support the long-term strategic role of the OPT, targeted works are required to upgrade and/or replace the existing lift and escalator assets.

Proposal objectives are to:

- Improve the reliability and availability of lift and escalator assets to support uninterrupted terminal operations during cruise, event, and hospitality activities.
- Reduce the risk of unplanned outages and asset failure by replacing end-of-life equipment and eliminating reliance on obsolete components.
- Enhance safety outcomes for passengers, staff, and contractors through compliance with current codes, standards, and statutory requirements.
- Improve passenger flow, accessibility, and vertical circulation efficiency within the terminal, particularly during peak embarkation and disembarkation periods.
- Support a consistent and high-quality customer experience aligned with the OPT's role as a premier international and domestic cruise terminal.
- Reduce ongoing reactive maintenance requirements and whole-of-life costs by transitioning to modern, maintainable, and supportable systems.

- Ensure the upgraded assets align with Port Authority's long-term asset management strategy and planned capital investment framework.
- Where practicable, improve energy efficiency and environmental performance through contemporary lift and escalator technologies.
- Minimise impacts to the heritage significance of the OPT by prioritising upgrade solutions that limit fabric removal, avoid external façade modifications, and confine works to existing or non-significant internal spaces wherever practicable.
- Enable the creation of compliant, habitable office space through rationalisation of existing plant and service areas, improving staff accommodation and operational efficiency without compromising heritage values or terminal operations.
- Minimise impacts to existing OPT operations including cruise, tenancies, functions and events.

2.3 Alternatives and Options Considered

In developing the preferred option, the following were taken into consideration:

- Requirement to maintain terminal operations year-round.
- Constraints in the building structure, limiting works within the existing lift and escalator envelope.
- Legislative and Code requirements: Building Code of Australia (BCA) and *Disability Discrimination Act 1992* (Commonwealth) (DDA).

Hydraulic Passenger Lifts 1, 2 and 3, alongside the escalators, primarily serve the Maritime Security Zones (MSZ) and function as the main embarkation and debarkation vertical transport for cruise passengers, accommodating high pedestrian volumes within the terminal. Consideration was given to retaining and refurbishing the existing hydraulic lifts; however, this option would not adequately address ongoing reliability risks, energy inefficiencies, or the long-term operational requirements of these critical assets. Accordingly, consideration has been given to the full replacement of these lifts with new, energy-efficient machine-room-less (MRL) electric lifts. This approach allows lift equipment to be housed within the lift shafts, enabling the existing lift motor room at Level 0 to be vacated. The vacated space is intended to be repurposed as habitable office space, supporting increased staff capacity within an already constrained and congested terminal environment.

Hydraulic Goods Lifts 4 and 5 are comparatively less utilised and have limited customer interface. Consideration was given to full replacement; however, this was assessed as unnecessary given their operational role and usage profile. A targeted hydraulic refurbishment and upgrade was therefore considered the most appropriate option, enabling the lifts to be brought up to current operational and compliance standards while extending their service life in a cost-effective manner, without the disruption and expense associated with full replacement.

Hydraulic Passenger Lift 6 primarily services high end restaurant tenancies at the northern end of the OPT. While full replacement was considered, the lift was assessed as functionally adequate and not subject to the same operational demands as the primary passenger lifts. A full replacement was therefore deemed unnecessary. Instead, a full hydraulic refurbishment was selected including replacement of internal lift car and door finishes, and improvements to the lift lobby interface, to enhance visual presentation and align the lift with the quality expectations of the premium tenancies it serves.

In March 2024, RP Infrastructure completed a Buildability and Programme Report (Appendix B) for Port Authority, which assessed construction methodologies for the replacement of Escalators 1 and 2 and identified three potential solutions: full replacement, on-site stick build, and in-truss modernisation. Consideration was given to both the full replacement and on-site stick build options; however, both approaches required removal and replacement of the existing escalators and associated steel trusses. These options presented significant construction, program, and approval risks due to the internal location of the escalators within the terminal and the presence of a fire-rated plant room directly beneath Escalators 1 and 2. In addition, both options would require temporary removal of sections of the terminal façade, which would pose challenges from a heritage perspective, including potential impacts on the heritage fabric, increased approval complexity, and heightened risk to the visual and historical integrity of the building.

In-truss modernisation was identified as the preferred option as it avoids the need for façade removal and minimises disruption to terminal operations and the existing heritage envelope. This option involved retaining the existing escalator steel trusses, subject to detailed inspection and survey, and undertaking structural strengthening, repairs, recoating, and subsequent structural certification. While retention of the existing trusses is intended, it is acknowledged that their full condition cannot be confirmed until the existing escalators are decommissioned and dismantled. To mitigate this risk, Schindler Lifts was engaged to undertake a detailed 3D survey to confirm that new escalators can be custom-designed to suit the geometry of the existing trusses.

In the event that the existing steel trusses are found to be unsuitable for upgrade or unable to achieve BCA compliance, the full replacement and on-site stick build options may require further consideration despite their associated heritage, constructability, and program risks. Due to the constraints of the existing building and the requirement to maintain terminal operations, all works were required to be undertaken within the existing lift and escalator envelope.

Other than a ‘do nothing’ option, which was discounted as it does not address the current condition, safety, or operational risks associated with the lifts and escalators, no further major alternatives were identified. It is noted that various options have been considered separately for the Lift 6 façade and entrance area, with tiling (rather than painting) anticipated as the preferred treatment, selected to remain sympathetic to the surrounding finishes.

3. Site Description

The OPT is located at the private road Circular Quay West and is within the City of Sydney Local Government Area (LGA). The site is located on land legally known as Lot 1 DP876516 and Lot 2 DP 1258699. The site is owned by Port Authority with the location shown in Figure 3-1. Photographs of the site are shown in Figure 3-2 to Figure 3-4.

The OPT is a rectangular four storey building located on the western side of Circular Quay. The OPT plays a significant role as an international and domestic Port for cruise ships as well as activating Sydney Harbour and Circular Quay with a range of restaurants and hosting of temporary events. In addition, the OPT provides public access along the foreshore linking Circular Quay to Campbell's Cove. Existing internal lift and escalator layouts are shown in Figure 3-5 and Figure 3-6.

Vehicular access to the site is via two locations. The Hickson Road access leads to a two-way service road elevated above Circular Quay West, providing access to taxi parking (during cruise ship arrival, docking and departure days) and car parking (during non-cruise ship days) at Level 3 of the OPT. The George Street access services Circular Quay West providing access to the OPT for service vehicles and car parking (during non-cruise ship days) that is available on both sides of the road. Both accesses are controlled by boom gates and security personnel.

The surrounding locality includes retail, commercial, tourist and cultural facilities within The Rocks such as the Museum of Contemporary Art (to the south) and Campbell's Stores (to the north-west). The site is also within walking distance of Circular Quay to the south, Sydney Harbour Bridge to the north, the Sydney Opera House to the east and the northern end of the Sydney Central Business District.

Figure 3-1 GIS map showing an outline (in light blue) of the Lot and DP at the OPT owned by Port Authority (Source: Port Authority, Bentley viewer, 30 September 2024).

Figure 3-2 View looking west to the OPT from Sydney Harbour (Source: Worley, 2024)

Figure 3-3 Photographs of external areas of the OPT (Source: Worley, 2026)

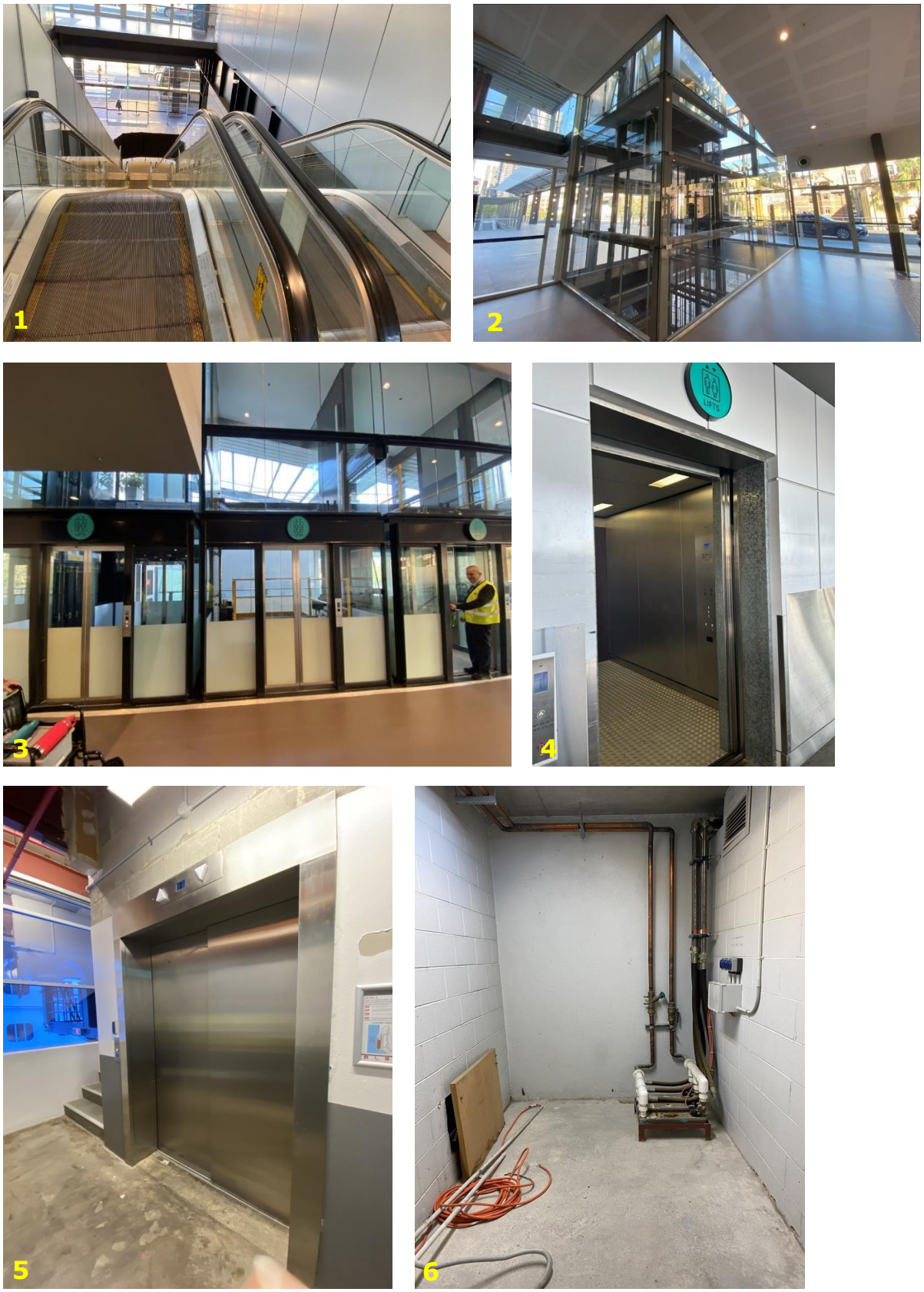

Figure 3-4 Photo 1 Escalators from Level 2 to ground floor (Level 1), Photo 2 Lifts 1-3, view from Level 2 internal, Photo 3 Lifts 1-3 ground floor internal (Level 1), Photo 4 Lift 4 from Level 2 internal, Photo 5 Lift 5 internal and Photo 6 Lift motor room (Source: Port Authority, 2025)

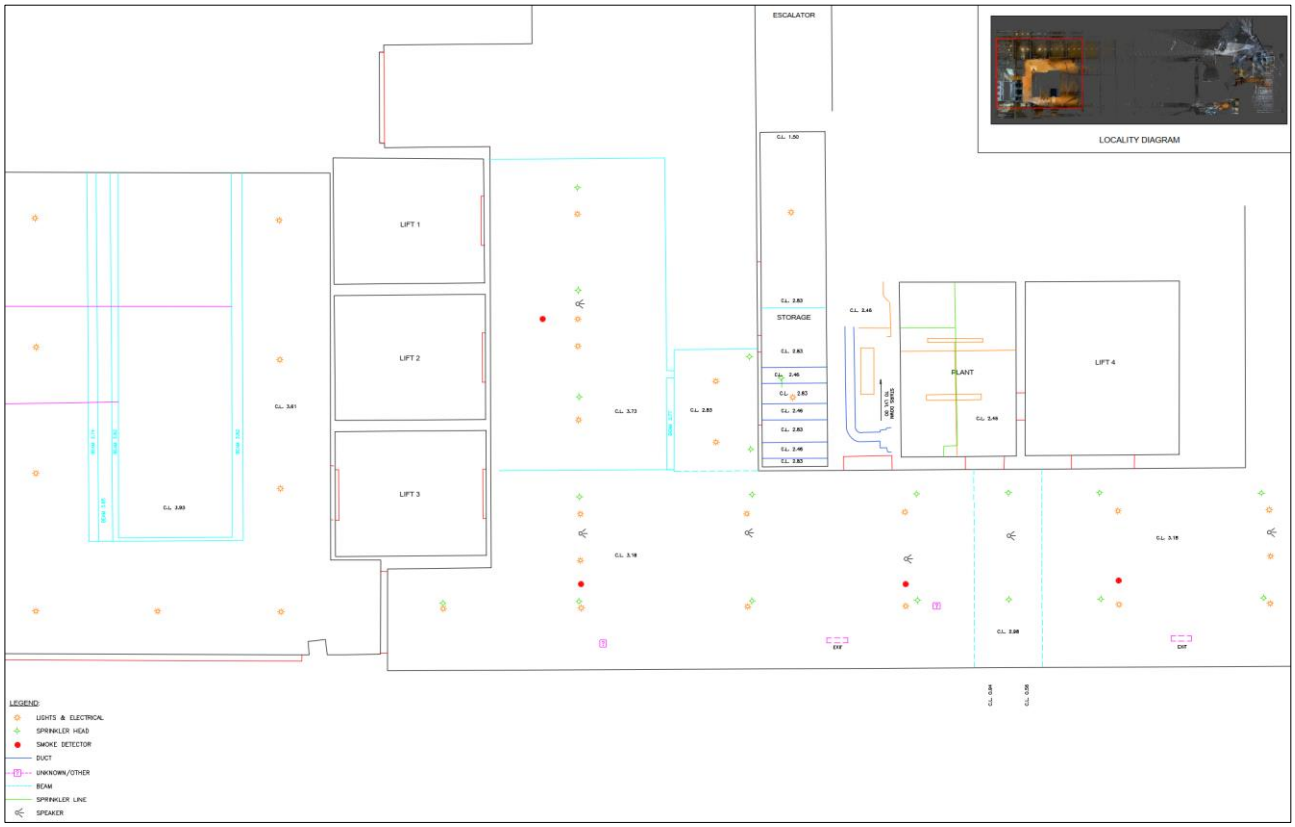

Figure 3-5 Layout of lift wells and escalators Lifts 1-4 (southern side) (Source: Rygate, 2024)

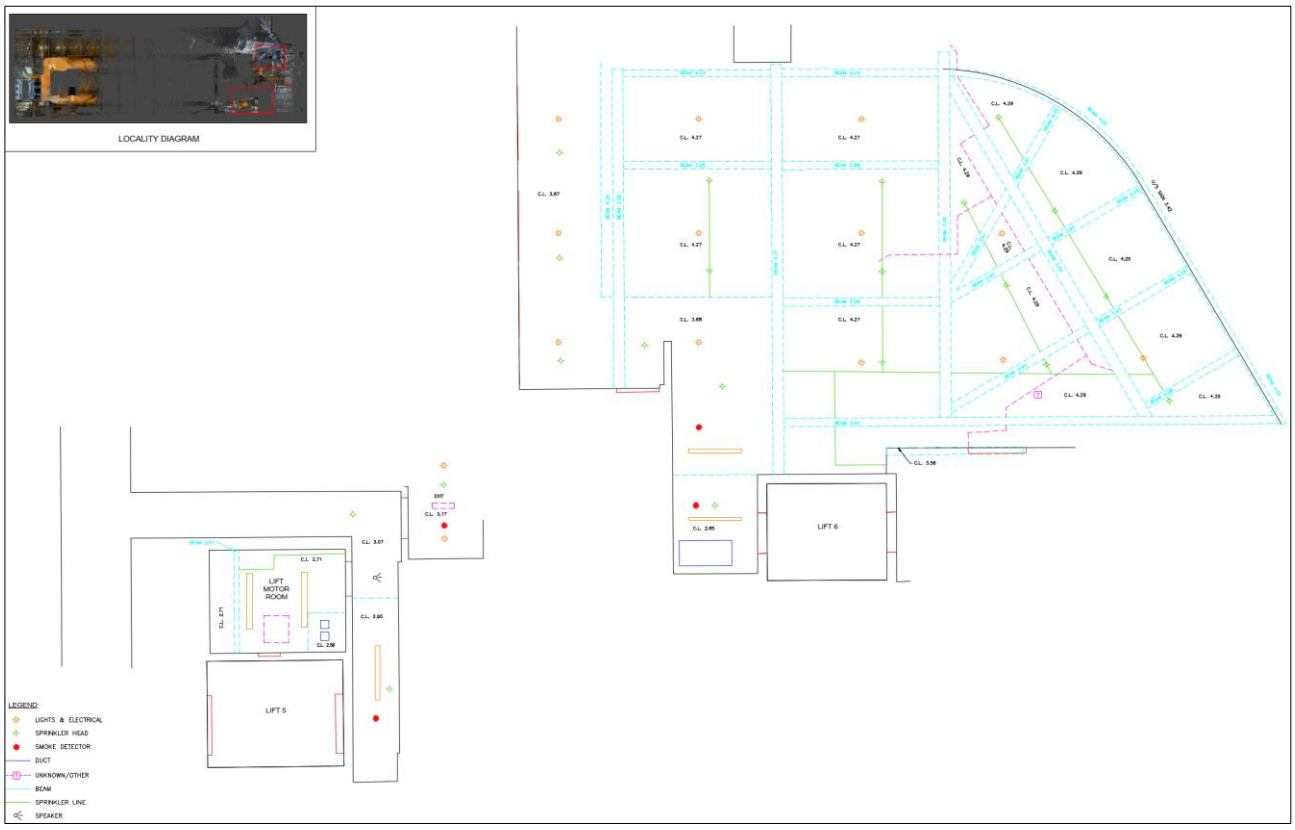

Figure 3-6 Layout of lift wells and motor rooms, Lifts 5-6 (northern side) (Source: Rygate, 2024)

4. Description of the Activity

4.1 Overview

The proposed works would include:

1. Lifts 1-3 replacement of lifts (southern end of OPT, with external and internal access):
    a. Removal of existing hydraulic lift equipment from Lifts 1-3.
    b. Removal of existing redundant services in Lift Motor Room for Lifts 1-3 (including electrical board to be located outside plant motor room).
    a. Conversion of old plant motor room for lifts 1, 2 and 3 on level 0 into a habitable office space, which is a change of use activity including installation of building services to make room habitable.
    c. Installation of new electrical machine–room-less type Lifts 1-3.
    d. NB: No structural changes are required.
2. Lifts 4-6 refurbishment of hydraulic system and lift fittings:
    a. Lift 4 (internal goods lift in the centre of the building) – modernisation of internal finishes and equipment including hydraulic system refurbishment and electrical works in compliance with standards.
    b. Lift 5 (internal goods lift) – modernisation of internal finishes and equipment including hydraulic refurbishment and electrical works in compliance with standards.
    c. Lift 6 (external/internal public lift, servicing tenants Squires Landing and former Quay Restaurant) – hydraulic refurbishment and full lift car finishes refurbishment including new fire rated glass doors
    d. NB: No structural changes are required.
3. Construction of new storerooms and foyer to entrance to current Lift Motor Room to level 0, and Lift 4.
4. Construction of new storeroom on Level 01 between ramps on north side of baggage hall (internal).
5. Provision of new finishes including:
    a. Lift indicator signs and boards – Level 01 Lifts 1-3 (external and internal).
    b. Lift 6 Lobby Façade upgrades on Level 1 – renew exterior facade including new lighting to make area aesthetically pleasing.
6. In-truss modernisation of Escalators 1 and 2 and provision of surrounding finishes.
7. Ongoing maintenance of Vertical Transport (Lifts 1-6, and escalators 1 and 2) from the date of each vertical transport item taken offline until the conclusion of the Defect Liability Period.
8. Provision of temporary access upgrades to allow for disabled access to tenant (Squires Landing) during the Lift 6 works – Access to be DDA compliant. Access through internal pathway using Port Authority staff to bring patrons to Lift 5, then in lift up to level 2 using fire door to access Squires. Works include:
    a. Temporary lighting in internal hallway.
    b. Repainting.

4.2 Construction Activities

4.2.1 Overview

Construction is to be undertaken by a suitably qualified contractor in accordance with the final design specifications and a site-specific Construction Environmental Management Plan (CEMP) or similar document, covering all aspects of environmental management and performance, including all commitments and mitigation measures in this REF.

Hence, the works are to comprise the following staging and activities:

- Site establishment including establishing any ancillary/storage facilities.
- Transport of plant, equipment and materials to site to perform the construction works.
- Removal and disposal of existing equipment identified for upgrade and/or replacement.
- Testing and commissioning of the upgraded lifts and escalators equipment.
- Decommissioning of ancillary facilities and site demobilisation.

4.2.2 Plant and Equipment

Various small scale machinery, handheld tools and other equipment would likely be utilised. The final selection is to be determined by the Contractor during construction planning. There would be small stockpiling of removed material and temporary storage of construction materials. Waste storage bins are also expected to be placed in the vicinity of the works.

4.2.3 Construction Duration and Hours

The works are proposed to be undertaken from June 2026 to March 2027, staged to minimise impacts on tenants, events and site operations.

Standard working hours are proposed for the construction phase are as follows:

- For activities associated with Lifts 5 and 6 (impacting Squires Landing and Quay Restaurant):
    - If the following workday is a non-ship day, site working hours are 11 PM to 10 AM, Monday to Friday.
    - If the following workday is a ship day, site working hours are 11 PM until the scheduled ship arrival time in accordance with the Planned Shipping Schedule, Monday to Friday.
- For all other activities (excluding Lifts 5 and 6):
    - If the following day is a non-ship day, site working hours are 6 PM to 6 AM, Monday to Friday.
    - If the following day is a ship day, site working hours are 6 PM up to a minimum of 2 hours prior to ship arrival in accordance with the Planned Shipping Schedule, Monday to Friday.

For any required work outside of these hours, the Contractor is required to prepare an application, including consideration of potential noise and vibration impacts and appropriate mitigations for approval by Port Authority.

4.2.4 Traffic Management and Access

Traffic and pedestrian management would be required within the site. Contractors are able to access the site via the existing accesses. Temporary fencing and access and establishing any ancillary/storage facilities within a suitable location within the site are to be set up to ensure the safety of construction personnel, OPT tenants and the public.

An indicative Site establishment and staging plan is provided in Appendix C.

5. Statutory Planning Framework

5.1 Commonwealth Legislation and Regulations

5.1.1 Environment Protection and Biodiversity Conservation Act 1999

Under the Commonwealth EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on Matters of National Environmental Significance (MNES) or the environment of Commonwealth land. The proposed activity would not have a significant impact on any MNES or Commonwealth land. Therefore, a referral is not required.

5.1.2 Other Commonwealth Legislation and Regulations

The proposed activity ensures that the OPT continues to comply with the DDA by providing upgraded lift access to the premises and the facilities and services that are currently in operation at the site. The proposed activity would not trigger any other relevant Commonwealth legislation and regulations.

5.2 NSW Legislation and Regulations

5.2.1 Environmental Planning and Assessment Act 1979

Section 5.5 of the EP&A Act requires determining authorities, when assessing an activity under Part 5, to examine and take into account matters affecting or likely to affect the environment by reason of that activity in a manner that is proportionate to the nature and risk of the proposed activity. Section 7 of the REF contains an assessment of the proposed activity against the requirements of Section 5.5 of the EP&A Act.

Port Authority is to obtain a certificate for Crown building work under Section 6.28 of the EP&A Act prior to works commencing.

5.2.2 Environmental Planning and Assessment Regulation 2021

Part 8, Section 171 of the EP&A Regulation provides that the determining authority "must take into account the environmental factors specified in the environmental factors guidelines that apply to the activity" for the purposes of Part 5 of the EP&A Act. These requirements are considered in Table 5-1.

Section 171A of the EP&A Regulation requires:

"*(1) When considering the likely impact on the environment of an activity proposed to be carried out in a regulated catchment, a determining authority must take into account—*

(a) the matters a consent authority must consider under State Environmental Planning Policy (Biodiversity and Conservation) 2021, sections 6.6(1), 6.7(1), 6.8(1) and 6.9(1), and

(b) the matters of which a consent authority must be satisfied under State Environmental Planning Policy (Biodiversity and Conservation) 2021, sections 6.6(2), 6.7(2), 6.8(2) and 6.9(2).

4) When considering the likely impact on the environment of an activity proposed to be carried out in the Sydney Harbour Catchment, the determining authority must, in addition to the matters referred to in subsection (1), take into account the matters a consent authority must consider under State Environmental Planning Policy (Biodiversity and Conservation) 2021, section 6.28(1)."

The site is located within the Sydney Harbour Catchment which is a regulated catchment. Section 5.3.5 of this REF provides an assessment of the proposed activity in accordance with the abovementioned sections of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BC SEPP).

Table 5-1 Section 171 of EP&A Regulation considerations

Factor	Impacts
(a) the environmental impact on a community	The proposed activity is not anticipated to cause any adverse environmental impact upon its community and surrounds. All minor impacts can be reasonably mitigated provided the mitigation measures contained herein and any other relevant environmental management plan is implemented.
(b) the transformation of the locality	There would be a minor transformation of the locality through the construction of the proposed activity.
(c) the environmental impact on the ecosystem of the locality	There are no environmental impacts on local ecosystems based on the scope of the proposed works.
(d) reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality	Construction of the proposed activity would see a temporary reduction in the aesthetic quality including construction of temporary works, and presence of construction equipment and fencing around the construction site.
(e) the effects on any locality, place or building that has – (i) aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance, or (ii)other special value for present or future generations	The proposed activity is considered to have a positive socio-economic benefit for both present and future generations in the region and also aligns with the ecologically sustainable development (ESD) principles. The proposed activity would have adverse impacts on the cultural heritage significance of the OPT, and significance of heritage items, heritage conservation areas and historical archaeological potential located in the vicinity during construction and operation; this has been addressed in Section 7.1.
(f) the impact on the habitat of protected animal, plant or other form of life, whether living on land, in water or in the air	There are no direct and indirect impacts expected to flora and fauna habitats from the proposed activity.
(g) the endangering of a species of animal, plant or other form of life, whether	The construction and operation of the proposed activity would not result in the endangering of any species present at the site.

Factor	Impacts
living on land, in water or in the air	
(h) long-term effects on the environment	The proposed activity is considered to have a positive long-term benefit to the environment through the upgrade of the vertical transport that services the OPT.
(i) degradation of the quality of the environment	There would be no construction and operational impacts that would substantially degrade the quality of the environment.
(j) risk to the safety of the environment	The proposed activity is unlikely to cause any safety risks to the environment provided the adoption and implementation of safe work practices and the provisions of the proposed CEMP and any mitigation measures outlined herein are adopted.
(k) reduction in the range of beneficial uses of the environment	Nil.
(l) pollution of the environment	The proposed activity is unlikely to generate any significant pollution risks to the environment.
(m) environmental problems associated with the disposal of waste	The proposed activity is unlikely to cause any adverse environmental impacts associated with the disposal of waste. All waste is to be disposed thoughtfully and at an appropriately licensed waste facility.
(n) increased demands on natural or other resources that are, or are likely to become, in short supply	Nil.
(o) the cumulative environmental effect with other existing or likely future activities	There is unlikely to be any cumulative environmental impacts between the proposed activity and any future projects at the OPT.
(p) the impact on coastal processes and coastal hazards, including those under projected climate change conditions	Nil. The proposed activity is not anticipated to have any significant impacts to coastal processes and coastal hazards, including those under projected climate change conditions.
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	The proposed activity is consistent with the Eastern City District Plan (Greater Sydney Commission, March 2018) (Plan), which recognises the established cruise tourism facilities at the OPT in Sydney Harbour. As per Section 3.9 of the EP&A Act, the City Plan 2036: Local Strategic Planning Statement (30 March 2020) must be consistent with the Eastern City District Plan. The site is located within the City of Sydney LGA, but is not subject to any City of Sydney Council planning controls.
(r) other relevant environmental factors	Nil.

The EP&A Regulation (Section 171(4)) requires publication of a REF for activities with:

- An estimated development cost of more than $5 million or,
- An approval or permit for activity that requires approval under:
    - *Fisheries Management Act 1994* (NSW) sections 144, 201, 205 or 219, or
    - *Heritage Act 1977* (NSW) section 57, or
    - *National Parks and Wildlife Act 1974* (NSW) section 90 or
    - *Protection of the Environment Operations Act 1997* (NSW) sections 47-49 or 122, or
- That is being carried out under the TI SEPP, section 2.61A or 3.37A, or
- If the determining authority considers it to be in the public interest.

The proposed activity has an estimated development cost of more than $5 million. The determined REF is to be published on Port Authority's website.

5.2.3 Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017 (the Regulation)

The applicable adopted environmental planning instrument (EPI) for land that falls within The Rocks is the Sydney Cove Redevelopment Authority (SCRA) Scheme. The SCRA Scheme was prepared under the former *Sydney Cove Redevelopment Authority Act 1968* and operates under the saving provisions in the Regulation. It therefore has the same effect as an EPI.

The SCRA Scheme prescribes building height limits, envelopes and permitted uses. The site is located within Site XLV1. Development within The Rocks area must be consistent with the relevant controls of the SCRA Scheme. Schedule 1, Clause 29(2) of the Regulation allows development to be carried out on that land without development consent under any SEPP. Therefore, the provisions of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (TI SEPP) are applicable to the proposed activity.

5.2.4 Other NSW Legislation

The proposed activity does not require any permits, licences or approvals from other NSW legislation and regulations.

5.3 State Environmental Planning Policies

5.3.1 State Environmental Planning Policy (Transport and Infrastructure) 2021 (TI SEPP)

The TI SEPP aims to facilitate the effective delivery of infrastructure across the State. Section 2.80(1) of the TI SEPP allows for development without consent for the purposes of "port facilities". This includes the undertaking of "construction works" and "alteration…of a local heritage item" when in connection with development for the above purposes.

The proposed activity is to be carried out by Port Authority, therefore it can be assessed under Division 5.1 of the EP&A Act. Consequently, development consent is not required. In accordance with Section 2.7 of the TI SEPP, in the event of any inconsistency between the TI SEPP and any other EPI, the provisions of the TI SEPP prevail to the extent of the inconsistency.

Part 2.2 of the TI SEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by TI SEPP (where applicable), is discussed in Section 6 of this REF.

5.3.2 State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021 (Eastern Harbour City SEPP)

The site is identified within The Rocks on the Sydney Harbour Foreshore Sites Map. The provisions of the Eastern Harbour City SEPP are not applicable as development consent from the City of Sydney Council is not required pursuant to Section 2.12 of the Eastern Harbour City SEPP.

5.3.3 State Environmental Planning Policy (Planning Systems) 2021 (PS SEPP)

The proposed activity is not declared to be State Significant Development under Schedule 2, Section 6 for development in The Rocks as it does not have an estimated development cost of more than $10 million and is consistent with the approved SRCA scheme.

The proposed activity is not considered to be State Significant Infrastructure under Schedule 3 of the PS SEPP and therefore would not trigger an Environmental Impact Statement (EIS); the proposed activity can be assessed and determined under Division 5.1 of the EP&A Act.

5.3.4 State Environmental Planning Policy (Resilience and Hazards) 2021 (RH SEPP)

The proposed activity is located within a "coastal use area" and "coastal environment area". However, under Section 2.10(3) and Section 2.11 (2) of the RH SEPP, the development requirements for the coastal environment and coastal use area do not apply to land within the Foreshores and Waterways Area within the meaning of the BC SEPP.

In accordance with Chapter 4 of the RH SEPP, a consent authority must not consent to the carrying out of any development on land unless it has considered whether the land is

contaminated and, if the land is contaminated, it is satisfied that the land is suitable in its contaminated state for the purpose for which the development is proposed to be carried out. There are no known site contamination issues that would affect the carrying out of the proposed activity.

5.3.5 State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BC SEPP)

Part 6.2 of the BC SEPP applies to development in regulated catchments including the Sydney Harbour Catchment and Part 6.3 applies to Sydney Harbour Foreshores and Waterways Area. Part 6.3 of the BC SEPP covers all the waterways of Sydney Harbour, the foreshores and entire catchment.

Construction and operation of the proposed activity does not involve any interaction with the waterway. Once completed, the proposed activity does not change existing public access to the OPT. Therefore, there would be no impacts in relation to following sections of the BC SEPP:

- Section 6.6 Water quality and quantity.
- Section 6.7 Aquatic ecology.
- Section 6.8 Flooding.
- Section 6.9 Recreation and public access.
- Section 6.28 General.

6. Consultation

6.1 Consultation

Port Authority is carrying out ongoing engagement with OPT stakeholders (cruise, tenants, events, commercial, property and security) regarding the timing and staging of the construction activities. Due to the works being predominantly at night, local residents and businesses would be notified of the works prior to construction and for any changes or particularly noisy periods of activity.

No targeted consultation has been undertaken with government agencies for the REF.

6.2 Transport and Infrastructure SEPP Consultation

Part 2.2 General, Division 1 of the TI SEPP prescribes consultation to be undertaken by a public authority prior to the commencement of certain activities. A review of the TI SEPP consultation requirements identified that no consultation is required under this Part.

7. Environmental Assessment

This section provides a description of the potential impacts (construction and operation). For each likely impact, an assessment is undertaken to ascertain how the proposed activity would impact the existing environment with mitigation measures to alleviate the impacts included in Section 8. This environmental impact assessment has been undertaken in accordance with Section 171 of the EP&A Regulation. A checklist of the Section 171 factors and how they have been specifically addressed in this REF is included at Section 5.2.2.

7.1 Heritage and Visual Amenity

An assessment of the heritage and visual impacts, if any, of the proposed activity on the heritage significance of the heritage items within and in the vicinity of the site as well as any potential historical and Aboriginal archaeological impact(s) is included in this REF.

7.1.1 Existing Environment

7.1.1.1 History of the Site

The NSW State Heritage Inventory (SHI) Form for the "Overseas Passenger Terminal" provides details on the history of the site including earlier development at the site. The following is a summary of key modifications dates since opening of the OPT:

- 1960 – Sydney Cove Passenger Terminal was officially opened by the J B Renshaw, MLA, Deputy Premier, Treasurer and Minister for Lands on the 20 December 1960.
- 1987-88 – substantial modifications including restaurants and café additions took place as part of the Bicentennial celebrations.
- 2009 – Parallel elevated gangway installed.
- 2014 – Extension of upper deck south, internal fitout changes and upgrade of vertical passenger flow systems.
- 2018 – Replacement of seaward and landward rail beam and rail track.
- 2019 – Replacement of three former gangways (2) telescopic, and (1) parallel elevated gangway, with two new self-supporting gangways.
- 2018/19 – Alterations to balconies on northern end and construction of a separate 'brew pod' structure associated with the restaurant tenancy on the ground and 1st floors.

7.1.1.2 Heritage Listings

Table 7-1 identifies the statutory listed heritage items and conservation areas located on and in the vicinity of the site. The curtilage of The Rocks Conservation Area is shown in Figure 7-1. The Opera House - Buffer Zone that is inscribed on the World Heritage List is shown in an extract in Figure 7-2. The location of heritage items in the vicinity of the site is presented in Figure 7-3.

Table 7-1 Statutory heritage listings

Item Name	Listing	Significance
Heritage items / conservation areas on the site		
Overseas Passenger Terminal	Port Authority Section 170 Heritage and Conservation Register (S170 Register)	Local
The Rocks Conservation Area	Placemaking NSW S170 Register	State
Sydney Opera House - Buffer Zone	World Heritage List	World
Heritage items in the vicinity of the site		
Campbells Stores	State Heritage Register (SHR) No. 01536 Placemaking NSW S170 Register	State
Railings, Sydney Cove	SHR No. 01572 Placemaking NSW S170 Register	State, Local
Sydney Cove West Archaeological Precinct	SHR No. 01860	State
ASN Co Building	SHR No. 01526 Placemaking NSW S170 Register	State, Local
Mariners' Church	SHR No. 01559 Placemaking NSW S170 Register	State, Local
Coroner's Court (former) - Shops & offices	SHR No. 01541 Placemaking NSW S170 Register	State, Local
Sailor's Home (former)	SHR No. 01576 Placemaking NSW S170 Register	State, Local
Cadman's Cottage, grounds, trees, space	SHR No. 01546 National Parks and Wildlife Service Historic Site	State, Local
Museum of Contemporary Art	Property NSW Section 170 Heritage and Conservation Register	Local
Police Station (former)	Property NSW Section 170 Heritage and Conservation Register	Local
Sydney Opera House	World Heritage List National Heritage List (ID 105738) SHR No. 01685 Sydney Local Environmental Plan 2012 (Item No. 1064)	World, National, State, Local

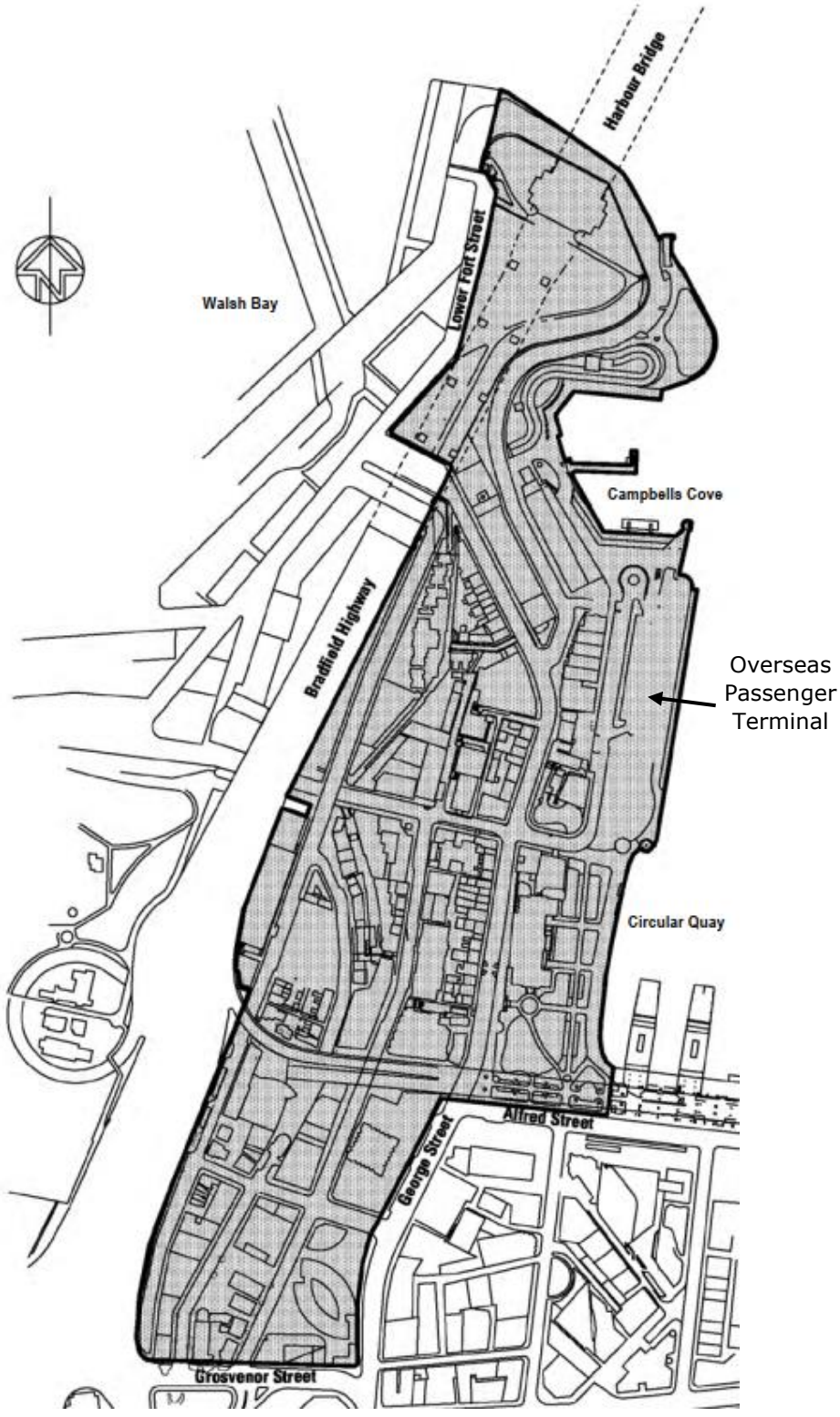

Figure 7-1 The Rocks Conservation Area Map (Source: Sydney Harbour Foreshore Authority, 2010)

Figure 7-2 Protected Matters Search Map (Source: DCCEEW, 2024)

Figure 7-3 Heritage items located in vicinity of the site, SHR curtilages in blue hatching (Source: NSW Planning Portal, 2025)

7.1.1.3 Statements of Significance

Overseas Passenger Terminal

The Statement of Significance from the NSW SHI Form is as follows:

> *"The Overseas Passenger Terminal is a significant building on the shores of Sydney Harbour. The site is important for its ongoing historical use as a commercial and passenger shipping facility and its early role as a public gateway to the city.*
>
> *The building displays a twentieth century approach to adaptive re-use in response to changing community needs and, in its fabric, illustrates layers of its own history and use.*
>
> *The original building constructed in 1958-60 has historical associations with the changing needs of international travel. As the first point of entry for many immigrants during the post-World War II period in Australia, the building also possesses social value. The architecture of the building is representative of the utilitarian approach to terminal design at the time with its 'functionalist' character influenced by international trends.*
>
> *The 1988 modifications to the building by Lawrence Nield and Peter Tonkin form part of the Bicentennial works that focused on improving the urban design character of Sydney Cove. The building responded to a desire for increased public access to the foreshore and an enhanced interrelationship with open spaces including First Fleet Park and Campbells Cove Plaza. The architecture is of aesthetic significance for its successful adaptive re-use and reductionalist approach and reinterpretation of the robust steel portal frame structure. With its maritime imagery and use of strong visual devices, including the northern tower, the building is of landmark value from Sydney Harbour.*
>
> *The site has archaeological potential arising from the likely subsurface presence of remains of early wharfage, the nineteenth century seawall and the original shoreline deposits. The building is also important for its ability to demonstrate an early use of concrete caisson technology as foreshore reinforcement."*

The Rocks Conservation Area

The Statement of Significance (short form) from the NSW SHI entry is:

> "*The Rocks, with its complex layering of significant fabric, uses and associations, is a precinct of national cultural significance. The Rocks is valued as a place of major social history, reflecting more than two centuries of significant activity; including European invasion, early contact between Aboriginal people and European settlers, and colonial settlement. The drama of cross-cultural encounters reflects The Rocks' focal location as a place linking continental, colonial, city and maritime histories. The Rocks was saved through fierce battles for its conservation, and by government ownership. Despite ongoing incremental change in The Rocks, continuity and authenticity remain major themes, manifest in increasingly rare and fragile relics of original topography and built fabric, remnants of history and a living community."*

7.1.1.4 Gradings of Significance

Grading of the heritage significance of elements within the site (Table 7-3) was undertaken in accordance with the *Assessing heritage significance* guidelines (Department of Planning and Environment (DPE), 2025) (Table 7-2).

Table 7-2 NSW Grading of Significance (Source: DPE, 2025)

Grading	Justification
Exceptional	Rare or outstanding element directly contributing to a place or object's significance
High	High degree of original fabric. Demonstrates a key element of the place or object's significance. Alterations do not detract from significance.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the place or object.
Little	Alterations detract from significance. Difficult to interpret.
Intrusive	Damaging to the place or object's heritage significance

Table 7-3 Grading of the site's elements

Element	Grading	Justification
1960 Modernist building construction including steel framework, coloured glass inserts on the upper levels and Hickson Road bridge and elevated roadway	High	The architecture of the 1960 building construction is representative of the utilitarian approach to terminal design at the time with its 'functionalist' character influenced by international trends. The remaining elements from this period retain a high degree of fabric and demonstrate the site's historical significance as a shipping facility and therefore are of "High" significance.
1988 Post-War International style building additions including restaurants and cafes	Moderate	The 1988 additions form part of the Bicentennial works which focused on improving the urban design character of Sydney Cove. The architecture represents a successful adaptive re-use of the site. The addition of the northern tower enhanced the landmark value of the site on Sydney Harbour. The additions collectively contribute to the overall significance of the site and therefore are of "Moderate" significance.
Post-1988 building alterations (various internal and external works)	Moderate	The building has undergone many alterations after 1988. These alterations contribute to the efficient operation of the site as a commercial and passenger shipping facility; however, these do not comprise significant fabric and therefore are of "Moderate" significance.

7.1.2 Potential Impacts

Table 7-4 contains an assessment of the proposed works against the matters for consideration contained in the *Guidelines for preparing a statement of heritage impact* (DPE, 2023) with reference to the relevant Articles of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (ICOMOS Australia, 2013).

Table 7-4 Assessment against the matters for consideration

Matter	Assessment
Fabric and spatial arrangements	The construction works are proposed to mainly internally accessed areas of the site, in which the existing fabric is graded of "Moderate" significance as the vertical passenger flow systems were last upgraded in 2014. The works involving Lifts 1-3 replacement and Lifts 4-6 refurbishment of hydraulic system and lift fittings and associated works would have minimal impact on the heritage significance of the "Overseas Passenger Terminal" as it respects the historical, aesthetic and social values of the site in terms of the location and design features. There are no changes to the overall spatial arrangements of the site.
Setting, views and vistas	Article 8 of The Burra Charter outlines that "*Conservation requires the retention of an appropriate setting. This includes retention of the visual and sensory setting, as well as the retention of spiritual and other cultural relationships that contribute to the cultural significance of a place*". Construction of the proposed works would have minimal, indirect visual impacts to the heritage item, "Overseas Passenger Terminal" due to the presence of construction plant and equipment operating on the site, however, all works are short-term in duration and would be contained to Port Authority land including the location of any Contractor established ancillary/storage facilities. Post-construction, the proposed mainly internal changes to the site would not alter the existing the setting and visual amenity of the site or its landmark values on Sydney Harbour. The proposed works would not change the existing views and vistas between the Sydney Opera House and the site and other public places within the buffer zone.
Landscape	No landscaping work is proposed.
Use	No change of use is proposed. The proposed works contribute to the site's ongoing historical use as a commercial and passenger shipping facility by improving vertical transport within the building.
Demolition	Minor demolition/replacement works are limited to the building areas as identified in the description of the proposed works in Section 3. The works do not involve significant fabric and would not have a detrimental effect on the heritage significance of the heritage item, "Overseas Passenger Terminal".
Curtilage	The proposed works do not involve any changes to the curtilage of the heritage item, "Overseas Passenger Terminal".
Moveable heritage	There are no impacts to listed moveable heritage.
Aboriginal cultural heritage	There are no impacts to Aboriginal cultural heritage due to the past history of site disturbance from land reclamation and other port construction activities and further no excavation works are proposed.
Historical archaeology	There are no excavation works proposed that would impact potential historical archaeology at the site, i.e. remains of early wharfage, the nineteenth century seawall and the original shoreline deposits.
Natural heritage	No areas of listed natural heritage are impacted by the proposed activity.
Conservation areas Other heritage items in the vicinity	Construction of the proposed works would have minimal, indirect visual impacts to the OPT portion of the overall The Rocks Conservation Area and to heritage items in the vicinity (as identified in Table 7-1) due to the presence of construction plant and equipment operating on the site, however, all works are short-term in duration and would be contained to Port Authority land only. The proposed works are consistent with the requirements and polices of the non-statutory, The Rocks Heritage Management Plan: Volume 1 (Sydney Harbour Foreshore Authority, 2010), including:

Matter	Assessment
	• 4.1.5 Minimise Heritage Impacts – Activities which have an adverse impact on the heritage value of The Rocks should be actively managed to avoid or minimise such impacts. • 5.4.1 Retention of Significance – Heritage conservation should underpin other operational and management objectives affecting the urban fabric, uses and activities within The Rocks. Heritage conservation includes all processes for looking after a place so as to retain cultural significance, including maintenance, preservation, restoration, reconstruction and adaptation. • 5.4.3 Conservation: Tangible and Intangible – The visual and historic setting of The Rocks and the current urban structure, including subdivision and characteristic built form, should be maintained.
Cumulative impacts	The site has a long history of alterations and additions to support its ongoing historical use. The proposed works are unlikely to have any adverse, long-term cumulative impacts to the heritage significance of the "Overseas Passenger Terminal".
Commonwealth/ National heritage significance	No Commonwealth listed heritage items would be impacted. The proposed works would have no impact on the National Heritage listed Sydney Opera House.
World Heritage significance	The proposed works would not change the existing views and vistas between the World Heritage listed Sydney Opera House (and its buffer zone) and the site.

In summary:

- Construction of the proposed activity would have minimal, indirect visual impacts to the "Overseas Passenger Terminal", The Rocks Conservation Area and to heritage items located in the vicinity of the site.
- The proposed activity would overall have no more than a minimal impact on the heritage significance of the "Overseas Passenger Terminal" as it respects the historical, aesthetic and social values of the site.

7.2 Other Impacts

A discussion on other potential impacts is provided in Table 7-5.

Table 7-5 Other impacts

Factor	Existing Environment	Potential Impacts
Noise and vibration	The OPT includes existing restaurants which are internal noise sensitive receivers. The OPT is surrounded by a mix of commercial and residential properties located in The Rocks. The closest external noise sensitive receivers are commercial and tourist accommodation premises along George Street and Hickson Road and the Museum of Contemporary Art. Previous noise monitoring by AECOM in 2014, and later review undertaken by EMM (2016), noted the generally high background ambient noise levels from the city environment of The Rocks, which is dominated by road traffic noise and general urban hum with notable constant extraneous noise such as from	The proposed activity is likely to generate minor, direct and short-term noise and vibration impacts during the construction phase from the use of equipment. These impacts may be perceptible to internal receivers of the OPT (including tenants and site workers) given their proximity to the works. The construction works are to be staged and managed to minimise impacts on tenants and site operations for this reason most works would be undertaken at night. Further, best use practices and equipment are recommended to alleviate any potential short-term noise impacts in accordance with the Interim Construction Noise Guideline (DECC, 2009)

Factor	Existing Environment	Potential Impacts
	mechanical plant.	The short-term noise and vibration impacts of construction works are not anticipated to impact the surrounding (external) locality due to the largely internal nature of works and the existing noise environment, which has relatively high baseline noise levels. The proposed activity would not generate any additional noise emissions during operation.
Traffic and access	The Hickson Road access leads to a two-way service road elevated above Circular Quay West, providing access to taxi parking (during cruise ship arrival, docking and departure days) and car parking (during non-cruise ship days) at Level 3 of the OPT. The George Street access services Circular Quay West providing access to the site as well as the OPT for service vehicles and car parking that is available on both sides of the road. Both accesses are controlled by boom gates and security personnel. Existing traffic and pedestrian movements and management details for cruise ship and non-cruise ship days are described in the Traffic Management Plan Overseas Passenger Terminal (OPT) Precinct (JJ Ryan Consulting, 2018). Pedestrian and bicycle access is available throughout The Rocks and the OPT including the existing lifts and escalators. The OPT is well serviced by nearby public transport including bus, ferry, light and heavy rail services available at Circular Quay.	The proposed activity is anticipated to generate a low number of Contractor and delivery vehicles to undertake the construction works, which would not impact existing road network performance. Traffic and pedestrian management would be required whilst the construction works occur at the site. Contractors are able to access the OPT via the existing accesses. Temporary fencing and access and establishing any ancillary/storage facilities would be within a suitable location to ensure the safety of construction personnel, OPT tenants and the public. The operation of the proposed activity would not generate any additional vehicular traffic. It would have a positive, direct impact by upgrading access via the lifts and escalators that support the function of the OPT as an international and domestic Port for cruise ships along with restaurants and event uses.
Hazardous materials	A hazardous material report (Hazmat) for the OPT was prepared by Risktech in June 2024, which identified some asbestos in the building. A subsequent Hazmat testing report specifically focusing on the escalators was undertaken by EDP in February 2026 (Appendix D). Asbestos was found in the escalator friction pads and lead paint was found in the escalator orange paint. Testing of the lift shafts was unable to be undertaken.	Small amounts of asbestos and lead paint in the escalators would be impacted during construction and potentially during maintenance. Further hazardous materials may be present within the lift shafts and would be identified during the works. With the implementation of the measures any risks would be appropriately mitigated.
Waste	OPT construction waste would be collected separately from standard waste on the site.	Key waste streams during construction include materials removed from existing lifts and escalators and excess construction materials that cannot be returned to the supplier, such as steel offcuts, timber pallets and packaging. With the implementation of the measures the risk would be appropriately mitigated. No operational impacts are expected.

8. Summary of Mitigation Measures

The proposed mitigation measures to be implemented for the proposed activity are summarised in Table 8-1.

Table 8-1 Summary of mitigation measures

No.	Issue	Environmental Safeguard	Responsibility	Timing
1	Construction environmental management	A CEMP or similar document is to be prepared to Port Authority's satisfaction prior to works commencing to describe how the works will be managed through the construction phase in order to minimise and manage potential environmental impacts including but not limited to noise and vibration, traffic and access.	Contractor / Port Authority	Pre-construction / Construction
2	Approvals	Obtain a certificate for Crown building work under Section 6.28 of the EP&A Act prior to works commencing	Contractor / Port Authority	Pre-construction
3	Briefing on heritage significance	The Contractor must be briefed by the Port Authority Project Manager on any site-specific heritage matters/issues prior to works commencing. If there is a change of Contractor during each works component, a further site briefing is required.	Contractor / Port Authority	Pre-construction
4	Protection of significant fabric	The Contractor is to identify and implement construction methods in a CEMP or similar document that minimise potential impacts from construction plant, equipment and vehicles to heritage items on and in the vicinity of the construction works.	Contractor	Pre-construction / Construction
5	Reporting of accidental damage	Care must be exercised during construction to ensure that unnecessary damage to heritage items is avoided. Any accidental damage to heritage items must be reported immediately to the Port Authority Project Manager. Damage is to be made good in accordance with specialist heritage advice.	Contractor	Construction
6	Repainting of building elements	Any repainting or façade upgrade works are to use colours that are selected from samples submitted to the Port Authority Project Manager for approval. The colours are to be generally consistent with the existing building colour schemes or surrounding buildings to maintain the aesthetic values of the site.	Contractor / Port Authority	Construction
7	Asbestos removal	If hazardous waste or special waste (e.g. asbestos) is encountered, it will be handled and managed in accordance with relevant legislation, codes of practice and Australian standards.	Contractor	Construction and Maintenance

No.	Issue	Environmental Safeguard	Responsibility	Timing
		When asbestos removal works are required, the person that commissions the works must ensure that this is undertaken by an appropriately licensed asbestos contractor. The asbestos removal works must be conducted under controlled asbestos removal conditions and the following must be considered: • Engage a Class A (friable) or Class B (non-friable) licensed asbestos contractor to remove all non-friable Asbestos-Containing Material (ACM) within the site prior to planned refurbishment or demolition works under controlled conditions. • When non-friable asbestos removal works are to be conducted within or adjacent to a highly sensitive area or public locations, a Licensed Asbestos Assessor (LAA) or asbestos hygienist is engaged to undertake airborne asbestos fibre monitoring along the boundary of the works and within the work area on completion of the works.		
8	Lead paint removal	Disturbing paint with lead content as low as 0.1% w/w requires control measures and personal protective equipment considerations (NB: Exposure risk remains for paint below 1% w/w lead content). • If the Lead-containing paint (LCP) is flaking or in a poor/unstable condition, repainting is recommended as soon as practicable. The surface may be prepared by using wet sanding techniques. Take care not to generate dust or contaminate the immediate workplace or environment with water from the wet-sanding process. • Painting over LCP is a temporary solution limited by the life of the paint. Alternatives to painting or the removal of LCP include encapsulating the paint with other materials. • LCP in good condition to be left in place, unless major renovation and/or comprehensive refurbishment works are planned. • Prior to demolition works, LCP may be disposed of attached to the substrates as long as they are in good condition. If the LCP are chalking or delaminating, the paint residues should be removed from the substrates in accordance with AS/NZS 4361.2:2017 and the waste must be disposed of as a lead-containing	Contractor	Construction and Maintenance

No.	Issue	Environmental Safeguard	Responsibility	Timing
		material in accordance with the NSW Environment Protection Authority (EPA) requirements. • An occupational hygienist should be engaged to conduct lead dust air monitoring during the removal works to ensure airborne lead concentrations do not exceed the current occupational exposure standard of 0.05 mg/m^3.		
9	Waste management	The CEMP will include waste management procedures prepared using the principles of waste avoidance, waste reduction and waste re-use or waste recycling.	Contractor	Construction
10	Waste management	Waste will be managed using the waste hierarchy principles of: • Avoidance of unnecessary resource consumption to reduce the quantity of waste being generated • Recovery of resources for reuse on-site or off-site for the same or similar use, without reprocessing • Recovery of resources through recycling and reprocessing so that waste can be processed into a similar non-waste product and reused • Disposal of residual waste. All waste will be assessed, classified, managed, transported and disposed of in accordance with the NSW EPA Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Contractor	Construction
11	Waste management	Construction waste will be minimised by accurately calculating materials brought to the site and limiting materials packaging.	Contractor	Construction
12	Waste management	Waste streams will be segregated to avoid cross-contamination of materials and maximise reuse and recycling opportunities.	Contractor	Construction
13	Waste management	Maintain all spaces on the property clean and free of litter, especially in areas bordering and visible from public spaces and roads.	Contractor	Construction
14	Community engagement	Local residents and businesses to be notified of the works prior to construction and for any changes or particularly noisy periods of activity at night.	Port Authority	Construction

9. Conclusion

This REF has been prepared in accordance with Section 5.5 of the EP&A Act, Section 171 and 171A of the EP&A Regulation and other relevant legislation and EPIs, by examining and considering only those environmental matters that are proportionate to the nature and risk of the proposed activity.

Based on the environmental assessment carried out in Section 7 of this REF, the potential construction and operation impacts of the proposed activity on heritage, visual amenity and noise and vibration, traffic and access, waste and hazardous materials, are considered to be no more than minor. The potential impacts can be reasonably mitigated and managed through adoption of best practices and adherence to accepted industry guidelines and standards, as outlined in Section 8 of the REF.

This REF has considered and assessed these impacts in accordance with Sections 171 and 171A of the EP&A Regulation and the requirements of the EPBC Act. Based on the assessment contained in this REF, it is considered that the activity is not likely to have a significant impact upon the environment or any threatened species, populations or communities or their habitats. Accordingly, an Environmental Impact Statement (EIS), or Species Impact Statement and/or Biodiversity Development Assessment Report is not required, nor is the approval of the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.

10. References

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Appendix A. 2023 Audit Report

THOMSON
ELEVATOR CONSULTANCY SERVICES

LIFT & ESCALATOR AND MOVING WALK AUDIT REPORT

January 2023

OVERSEAS PASSENGER TERMINAL

PORT AUTHORITY
OF NEW SOUTH WALES

PO Box 468 Baulkham Hills NSW 2153
Phone 9680 2883 Mobile 0423 076 625
Email stephen@thomsonelevator.com.au

OVERVIEW

The Overseas Passenger Terminal (OPT) at Circular Quay has ten (10) lifts, four (4) escalators and two (2) moving walks all located in the main building.

This report will look at the lifts, escalators and moving walks which are maintained by Liftronic Pty Ltd under the terms and conditions of the current Comprehensive maintenance agreement.

The lift installations, as inspected, consisted of the following basic configurations:

Lifts 1, 2 & 3 – Passenger Lifts

NUMBER AND TYPE OF LIFTS	:	Lifts 1 - 3 – Passenger Lifts
MANUFACTURER	:	Deve Hydraulic Lifts
DATE INSTALLED	:	1990s Upgrade by Liftronic approximately 2017
FLOORS SERVED	:	1, 2 & 3
POWER SYSTEM	:	Direct acting hydraulic
CONTROL SYSTEM	:	ECD Microprocessor Control. Simplex
DOOR TYPE	:	Centre Opening
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	40 Persons / 2750kg
SPEED	:	0.40 metres/second

Lift 4 - Passenger Lift

NUMBER AND TYPE OF LIFTS	:	Lift 4 – Passenger Lift
MANUFACTURER	:	Deve Hydraulic Lifts
DATE INSTALLED	:	1990s. Upgrade by Liftronic approximately 2014
FLOORS SERVED	:	Levels 1, 2 & 3
POWER SYSTEM	:	Hydraulic Direct Acting.
CONTROL SYSTEM	:	ECD Microprocessor Control. Simplex.
DOOR TYPE	:	Centre Opening
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	44 Persons / 3000kg
SPEED	:	0.40 metres/second

Lift 5 - Passenger Lift

NUMBER AND TYPE OF LIFTS	:	Lift 5 – Passenger Lift
MANUFACTURER	:	Dover Lifts (USA)
DATE INSTALLED	:	1990 (approx.) Upgrade by Liftronic approximately 2014
FLOORS SERVED	:	Levels 1, 2 & 3
POWER SYSTEM	:	Direct Acting Hydraulic.
CONTROL SYSTEM	:	ECD Microprocessor Control. Simplex.
DOOR TYPE	:	2-Panel Side Opening. Entrances at both ends of the lift car
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	19 Persons / 1292kg
SPEED	:	0.50 metres/second

Lift 6 - Passenger Lift

NUMBER AND TYPE OF LIFTS	:	Lift 4 – Passenger Lift
MANUFACTURER	:	Deve Hydraulic Lifts
DATE INSTALLED	:	1990s. Upgrade by Liftronic approximately 2014
FLOORS SERVED	:	Levels 1, 2 & 3
POWER SYSTEM	:	Hydraulic Direct Acting.
CONTROL SYSTEM	:	ECD Microprocessor Control. Simplex.
DOOR TYPE	:	Centre Opening
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	44 Persons / 3000kg
SPEED	:	0.40 metres/second

Lifts 7 & 8 - Passenger Lifts

NUMBER AND TYPE OF LIFTS	:	Lifts 7 & 8 – Passenger Lifts
MANUFACTURER	:	Kleeman
DATE INSTALLED	:	2014
FLOORS SERVED	:	1, 3 & 4
POWER SYSTEM	:	Gearless VVVF Machine Roomless
CONTROL SYSTEM	:	Kleeman “Lisa” Microprocessor Control.
DOOR TYPE	:	4-Panel Centre Opening
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	46 Persons / 3500kg
SPEED	:	1.00 metres/second

Lifts 9 & 10 - Passenger Lifts

NUMBER AND TYPE OF LIFTS	:	Lifts 9 & 10 – Passenger Lifts
MANUFACTURER	:	Kleeman
DATE INSTALLED	:	2014
FLOORS SERVED	:	Levels 1, 2 & 3
POWER SYSTEM	:	Gearless VVVF Machine Roomless
CONTROL SYSTEM	:	Kleeman “Lisa” Microprocessor Control.
DOOR TYPE	:	4-Panel Centre Opening
DOOR PROTECTION	:	Electronic infra-red scanners
CAPACITY	:	46 Persons / 3500kg
SPEED	:	1.00 metres/second

Moving Walks 1 & 2

MANUFACTURER	:	SJEC – Installed by Liftronic Pty Ltd
NUMBER AND TYPE	:	1 & 2
FLOORS SERVED	:	Lower and upper concourse
POWER SYSTEM	:	Constant Speed Synchronous AC
CONTROL SYSTEM	:	Key Operated Up or Down
BALUSTRADE TYPE	:	Glass
CAPACITY	:	7000 to 9000 persons per hour
STEPS	:	Cast Aluminium
SPEED	:	0.5 metres/second

Escalators 1 & 2

MANUFACTURER	:	Thyssen – Installed by Boral Elevators
NUMBER AND TYPE	:	1 & 2
FLOORS SERVED	:	Levels 1 & 2
POWER SYSTEM	:	Constant Speed Synchronous AC
CONTROL SYSTEM	:	Key Operated Up or Down
BALUSTRADE TYPE	:	Glass
CAPACITY	:	7000 to 9000 persons per hour
STEPS	:	Cast Aluminium
SPEED	:	0.5 metres/second

Escalators 3 & 4

MANUFACTURER	:	SJEC – Installed by Liftronic Pty Ltd
NUMBER AND TYPE	:	1 & 2
FLOORS SERVED	:	Levels 2 & 3
POWER SYSTEM	:	Constant Speed Synchronous AC
CONTROL SYSTEM	:	Key Operated Up or Down
BALUSTRADE TYPE	:	Glass
CAPACITY	:	7000 to 9000 persons per hour
STEPS	:	Cast Aluminium
SPEED	:	0.5 metres/second

Lifts

Lifts 1 to 6 are the older lifts in this complex. They are all hydraulic lifts and were installed in the 1990s (approximately). They have had some minor upgrade works undertaken over the years.

Lifts 7 to 10 are the newer glass lifts and were installed around 2014 by Kleeman. These lifts are machine roomless traction lifts meaning most of the equipment is installed inside the lift shafts.

There are some anomalies with the control systems on the lifts which are located together in the building in that they all appear to operate as simplex units – they have individual landing call buttons and do not operate via a group despatch system. This is a very inefficient way of operating these lifts as passengers will tend to push all the buttons meaning the lifts are “chasing” themselves to answer calls which could already have been answered by the other lift next to it.

Lifts 1, 2 & 3 operate like this as do lifts 7 & 8 and lifts 9 & 10. More on this later in the Recommendations section.

The lifts are generally in good condition however there are issues in the lit shaft with regards access to some of the electronic equipment. The VVVF drive units and the emergency evacuation units on lifts 7 -10 are not accessible due to being too far from the top of the lift car and as such are not able to be serviced or easily replaced.

None of the automatic evacuation systems on lifts 7-10 are operational and whilst they need to be fixed, it is easy to see why they have not been. Any failure of the VVVF drive units would require significant effort and down time to enable safe access for the technicians.

Escalators & Moving Walks

The 2 moving walks were installed by Liftronic Pty Ltd around 2014 and are in good condition. These units are in good condition and appear to be as installed.

Escalators 1 & 2 were originally installed outside the main building around 1990 (approximately). As part of the upgrade to OPT these were moved inside the building around 2014. These escalators were manufactured by Thyssen and installed by Boral Elevators.

Escalators 3 & 4 were manufactured by SJEC and installed by Liftronic Pty Ltd around 2014 at the same time the older escalators were relocated inside the main building.

The escalators are operating within acceptable performance levels considering the type of equipment and technology.

The economic life expectancy should be 20-25 years or more from these types of escalators and moving walk systems.

The economic life expectancy should be 20-25 years or more from this type of lift system however this can be affected by parts obsolescence especially with regards electronic components.

MAINTENANCE AND OPERATION

Overall, the standard of maintenance being provided on all the lifts and escalators is acceptable.

The regular service mechanics appear to be doing a good job with regards housekeeping.

Most of the lift pits and tops of the lift cars are clean and tidy.

The pits and top machine spaces for the escalators and moving walks are also clean and tidy.

All the safety switches on the escalators and moving walks were checked and found to be operational.

Lifts 7, 8, 9 & 10 are fitted with automatic emergency evacuation units which will drive the lift to the next floor in the event of a power failure. None of these units are operational and need to be repaired. As previously mentioned, the location of these units is an issue as they are very difficult to get to from the top of the lift car and should be relocated for service and maintenance purposes.

Several lifts have faulty lift car emergency lighting systems which need to be fixed ASAP.

The following maintenance items were found to be requiring attention on the lifts and escalators:

Lifts 1 - 3

1. Remove all redundant equipment etc from the lift machine room
2. Clean oil off the hydraulic tank units
3. Clean the machine room floor

Lift 4

1. Rectify the fault with the lift car emergency telephone – it is not connecting to the call centre.
2. Replace the faulty RCD for the lift car light and power circuit in the machine room (trip function does not work)
3. Make the lift car emergency lights operational

Lift 5

1. Rectify the fault with the lift car emergency telephone – it is not connecting to the call centre.
2. Replace the faulty lift shaft light in the middle of the lift shaft
3. Clean the lift pit, remove excess oil, and degrease the pit floor
4. Replace the seals in the hydraulic cylinder
5. Empty the oil trays in the lift pit

Lift 6

1. Make the lift car emergency lights operational
2. Make the lift car alarm bell operational
3. Rectify the problem with the lift car emergency telephone – it is inoperative when on battery power.
4. Clean the lift machine room

Lifts 7 & 8

1. Make the automatic emergency evacuation systems operational on both lifts
2. Lift 7 – replace the damaged Stop/Run switch on top of the lift car
3. Refit the cover to the automatic evacuation unit
4. Refit the cover to the VVVF drive unit
5. Replace the perished rubber isolation block on the rope bottles at the top of the lift shaft
6. Fit regulation electrical notices to the lift controller doors
7. Make the emergency lights operational (both lifts)
8. Top up the counterweight rail oilers

Lifts 9 & 10

1. Make the automatic emergency evacuation systems operational on both lifts
2. Fit regulation electrical notices to the lift controller doors
3. Lift 10 – replace the damaged/faulty lift controller door lock

Moving Walks 1 & 2

1. Both – make the skirting lights operational
2. #1 – fit the missing step guard in the pit area

Escalators 1 & 2

1. Both – make the comb plate lights operational
2. Both - Fit identification numbers to the escalators

Escalators 3 & 4

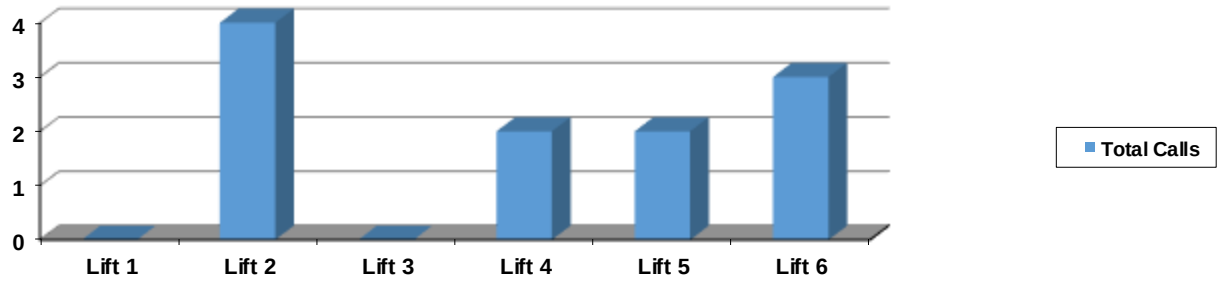
1. Both – repair the faulty sections of skirt lighting

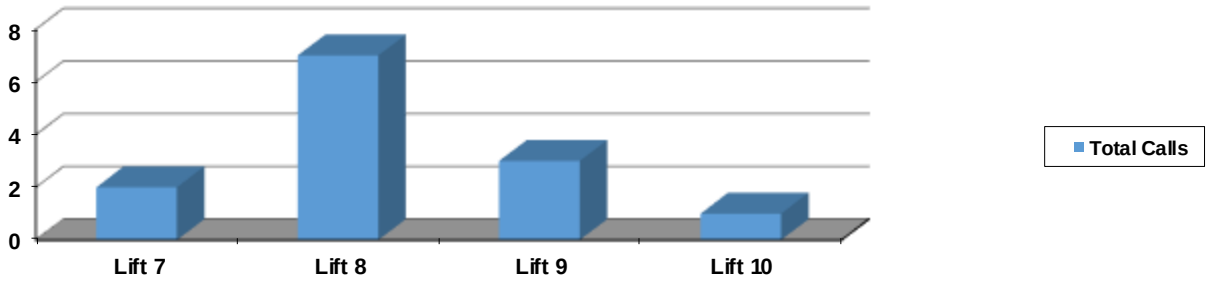
There were some other items noted which are not the responsibility of the lift contractor but need attention:

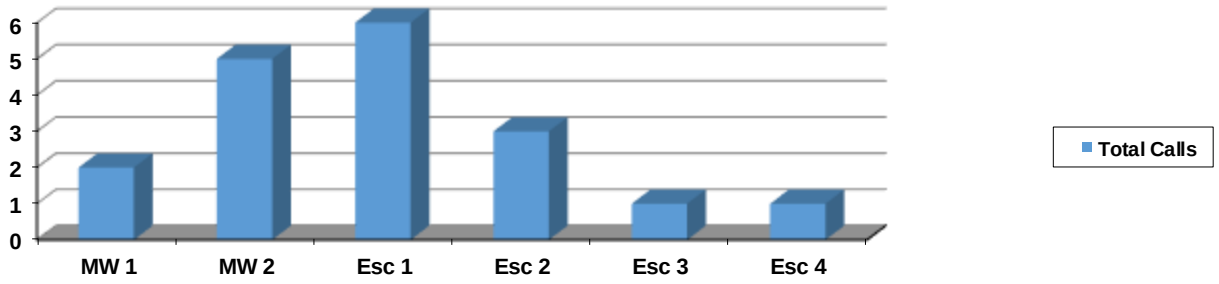
- Lift 5 – the entry to the machine room is slightly lower than the corridor outside the machine room floor and is a potential trip hazard
- Lift 6 – the machine room is inside the kitchen area and needs to be kept clear at all times
- Lift 9 – the lift car floor tiles are damaged and need to be repaired/replaced

RELIABILITY

A detailed review of all lift malfunctions has been carried out over the previous 12-month period to January 2012. This review revealed the following statistics:



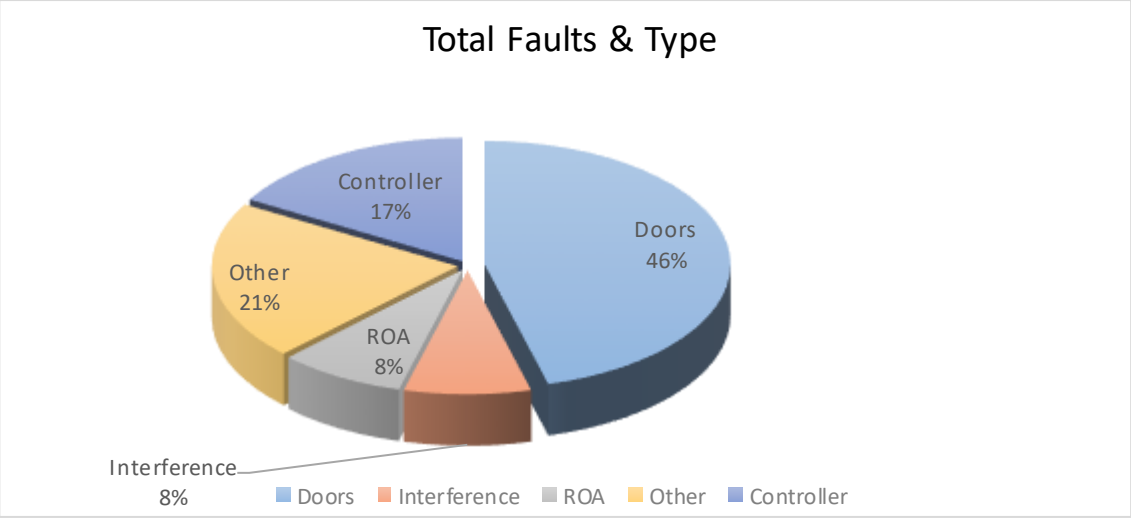




TOTAL 42 Faults

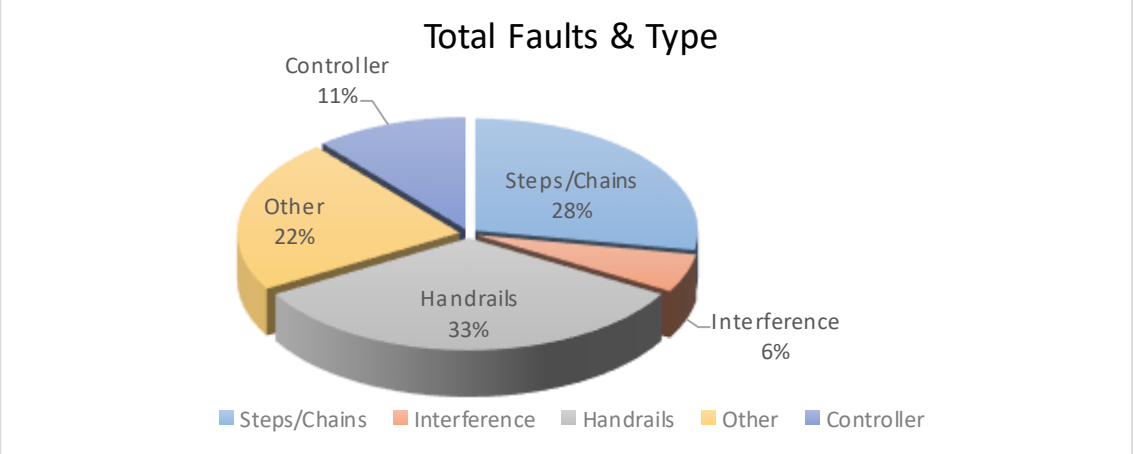
These overall statistics were then further redefined, in greater detail, into the following specific areas:

Lifts 1 – 10



Lift No.	Doors	Interference	R O A	Controller	Other	Total per Lift
Lift 1						0
Lift 2	2		1		1	4
Lift 3						0
Lift 4	1				1	2
Lift 5	1				1	2
Lift 6	2				1	3
Lift 7	1			1		2
Lift 8	3	1	1	1	1	7
Lift 9	1	1		1		3
Lift 10				1		1
Total	11	2	2	4	5	24

Escalators and Moving Walks



Lift No.	Steps/ Chains	Interference	Handrails	Controller	Other	Total per Lift
Moving Walk 1	2					2
Moving Walk 2	1	1	1		2	5
Escalator 1	2		2		2	6
Escalator 2			1	2		3
Escalator 3			1			1
Escalator 4			1			1
Total	5	1	6	2	4	18

Definition of terms

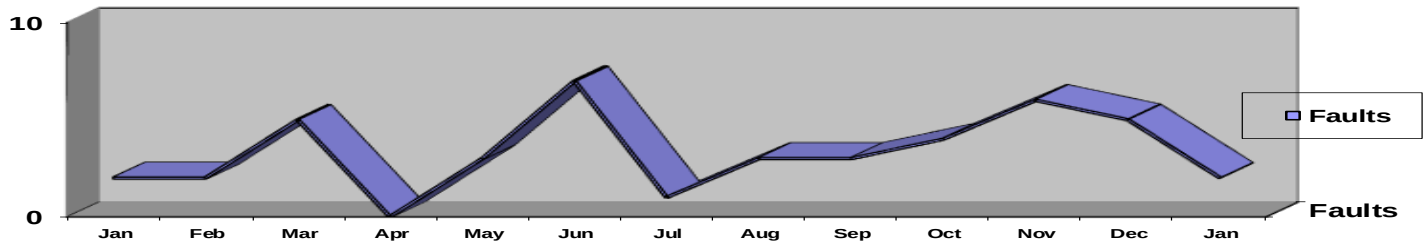
- **Controller.** These are faults directly attributed to the control system such as fuses, processor lock up, drive faults, etc.
- **Doors.** Any fault attributed to the door such as out of mesh, timed out, scanner faults, locks, etc.
- **Interference.** These are faults that cannot be controlled by the lift contractor and are often charged to the client as additional work. Wilful damage by others, incorrect use by others, power failure, etc.
- **ROA. Running On Arrival.** When a mechanic attends a breakdown, and the unit is working correctly it is known as an ROA. There may have been no problem to begin with or there may be an intermittent fault that may only appear infrequently.
- **Other.** This can be anything other than the items listed. Often there had not been any apparent problems and no fault could be found. Very similar to an ROA.
- **Steps & chains**. Any fault attributed to the pallets & chains such as noise, rollers, rust, crabbing, step gaps, etc.
- **HR.** Handrail. Any fault attributed to the handrail, its drive, noise, tension, monitor, inlets, etc.

The reliability of a lift, escalator or moving walk is expressed as the numbers of faults per unit per month. Obviously the lower the number of faults the better. The number of faults will vary with the age and usage of the equipment as well as the type of unit and standard of maintenance applied. Interference calls are not counted as they as outside of the control of the maintenance contractor.

Unit No.	Faults/Month
Lift 1	0.00 Faults/Month
Lift 2	0.33 Faults/Month
Lift 3	0.00 Faults/Month
Lift 4	0.16 Faults/Month
Lift 5	0.16 Faults/Month
Lift 6	0.25 Faults/Month
Lift 7	0.16 Faults/Month
Lift 8	0.58 Faults/Month
Lift 9	0.25 Faults/Month
Lift 10	0.08 Faults/Month
Moving Walk 1	0.16 Faults/Month
Moving Walk 2	0.42 Faults/Month
Escalator 1	0.50 Faults/Month
Escalator 2	0.25 Faults/Month
Escalator 3	0.08 Faults/Month
Escalator 4	0.08 Faults/Month

Average for All Units: 0.21 Faults Per Month

Fault Trend Chart – January 2022 to January 2023



Fault Summary

We usually recognise the fault rate as the "bottom line" in assessing the standard of maintenance on a site. Based on the fault rate above we advise the current maintenance is satisfactory.

A call rate of 0.21 faults/month for the lifts, escalators and moving walks in this complex is a good result

Lifts 1 & 3 had not recorded breakdowns in the last 12 months.

The information for the fault report tables and summary was obtained from the lift company's own records.

POTENTIAL UPGRADES AND IMPROVEMENTS

Lifts 1-6

Lifts 1-6 are all electro-hydraulic lifts which are very slow and have high energy requirements.

Some upgrades on the controllers and some tank units have been undertaken in the last 10 years, however this does not affect speed or efficiency.

Lifts 1-3 appear to operate as three separate lifts even though they are located side by side and are not operated via a group despatch system. This is a very inefficient way to have these lifts and should be changed.

The door systems are now dated, and the power door operators have none of the inherent safety features of modern equipment.

There are some non-compliances with regards the Lift Code, Statutory Authority and WH&S Regulations. The lifts would have complied when installed, however changes to the Codes over the years now sees them non-compliant.

Some of these items are:

- No lift pit inspection control station
- No emergency lighting on top of the lift car

Lifts 7-10

Although only around 9 years old, there are some obsolete components on lifts 7, 8, 9 & 10 for which replacement should be considered.

The VVVF drive units are now a couple of generations out of date and this particular brand is known for bringing out new models of their equipment on a regular basis. Unfortunately, support for the superseded equipment becomes limited reasonably quickly however they do have kits available which allow a relatively easy upgrade to the new versions.

If the current maintenance agreement does not cover obsolescence, then should this fail the replacement costs will all be the responsibility of the Port Authority of NSW.

As mentioned above, the positioning of both the VVVF drive units and the emergency evacuation systems at the top of the lift shafts is also a problem. These are virtually inaccessible without fixing the lift in position at the top of the shaft and building temporary access decking to allow technicians to get to the equipment. It should have been positioned above the door entrances when new and this would have allowed far better and easier access.

Lifts 7 & 8 and lifts 9 & 10 appear to operate as separate lifts although they are located side by side and do not operate via a group despatch system. This is a very inefficient way to have these lifts and should be changed.

There are some non-compliances with regards the Lift Code, Statutory Authority and WH&S Regulations. The lifts would have complied when installed, however changes to the Codes over the years now sees them non-compliant.

Some of these items are:

- No lift pit inspection control station
- No emergency lighting on top of the lift car

Escalators and Moving Walks

Escalators 1 & 2 are now around 30 years old and do not have the same safety and operational features available on modern equipment. These escalators also do not have automatic power saving by slowing during periods of inactivity.

Whilst they are operating reasonably well, parts are getting harder to source due to age.

Escalators 3 & 4 and Moving Walks 1 & 2 are in good condition.

LIFECYCLE ESTIMATION

Equipment	Make	Year Installed	Condition Rating (1-5)		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Comments
			Year		1	2	3	4	5	6	7	8	9	10	
					Estimated Costs (1)										
Lift 1	Deve	1990s	2			$160k (5)									
Lift 2	Deve	1990s	2			$160k (5)									
Lift 3	Deve	1990s	2			$160k (5)									
Lift 4	Deve	1980s	2			$160k (5)									
Lift 5	Dover	1990s	2			$160k (5)									
Lift 6	Deve	1990s	2			$160k (5)									
Lift 7	Kleeman	2014	4		$60k (2)		$15k (3)								
Lift 8	Kleeman	2014	4		$60k (2)		$15k (3)								
Lift 9	Kleeman	2014	4		$60k (2)		$15k (3)								
Lift 10	Kleeman	2014	4		$60k (2)		$15k (3)								
Moving Walk 1	SJEC	2014	3				$25k (4)								
Moving Walk 2	SJEC	2014	3				$25k (4)								
Escalator 1	Thyssen	1990s	2				$190 (5)								
Escalator 2	Thyssen	1990s	2				$190k (5)								
Escalator 3	SJEC	2014	4				$25k (4)								
Escalator 4	SJEC	2014	4				$25k (4)								

Notes

(1) It is assumed major component replacement on the escalators such as step chains etc would be covered by the Comprehensive Maintenance Agreement. No monetary values have been shown for maintenance costs – only additional costs have been shown
(2) Upgrade and relocation of VVVF drive and auto emergency evacuation unit
(3) Lift Code and WH&S Upgrade
(4) Liftronic have previously identified the escalator step chains as requiring replacement in 2025. These are covered under the terms of the Maintenance Agreement and should be provided at no additional cost. There will be an associated down time of around 4-5 days per escalator.
(5) Complete Replacement

Condition Rating Definition

- Priority 1 = End of Life
- Priority 2 = Poor
- Priority 3 = Good
- Priority 4 = Excellent
- Priority 5 = New

CONCLUSION AND RECOMMENDATIONS

General Observations

The lifts, escalators and moving walks at the Overseas Passenger Terminal Circular Quay are crucial to the effective operation of the building.

The condition of the units varies. The newer escalator and moving walks are in reasonably good condition however escalators 1 & 2, which are around 30 years old, are showing their age and are very worn.

The older lifts (1 to 6) are only in poor to fair condition as most of the components are now around 30 years old.

Lifts 7-10 are in reasonably good condition however need some work to make them serviceable and improve their appearance. The tops of the lift cars and other steelwork in the lift shafts requires cleaning and repainting – the lifts do not present well and with most of the equipment on show due to the glass shafts and doors, the appearance should be improved. The appearance of the building's infrastructure is obviously important and even more so in a heavily tourist orientated facility like OPT.

Operational issues such as the grouping of the lifts which operate side by side we believe would improve the functionality of the lifts especially when used during heavy traffic periods.

Obsolescence is an issue with some of the electronic equipment on lifts 7-10 and this should be addressed to minimise downtime in the event of a failure.

The breakdown rate is acceptable and Liftronic Pty Ltd are providing an acceptable level of maintenance.

The general housekeeping of lift and escalator pits, tops of lift car etc is acceptable.

Recommendations - Maintenance

The inoperative evacuation units, emergency lighting and telephones need to be fixed immediately.

The other maintenance related items above should be completed within the next 6 weeks.

Recommendations - Upgrades

The Lifecycle Estimation table above is intended to be used as a guide for future planning.

We believe the Comprehensive Maintenance Agreement should cover most items on the newer escalators and the moving walks in the short term with consideration needed to be given to completely replacing escalators 1 & 2 in the next few years.

The issues with the location of the VVVF drives and evacuation units on lifts 7-10 should be addressed as soon as practicable.

Recommendations - Replacements

Consideration should be given to the complete replacement of lifts 1-6 with new machine roomless lifts.

These lifts are around 30 years old and not operating as would be expected in a major passenger terminal.

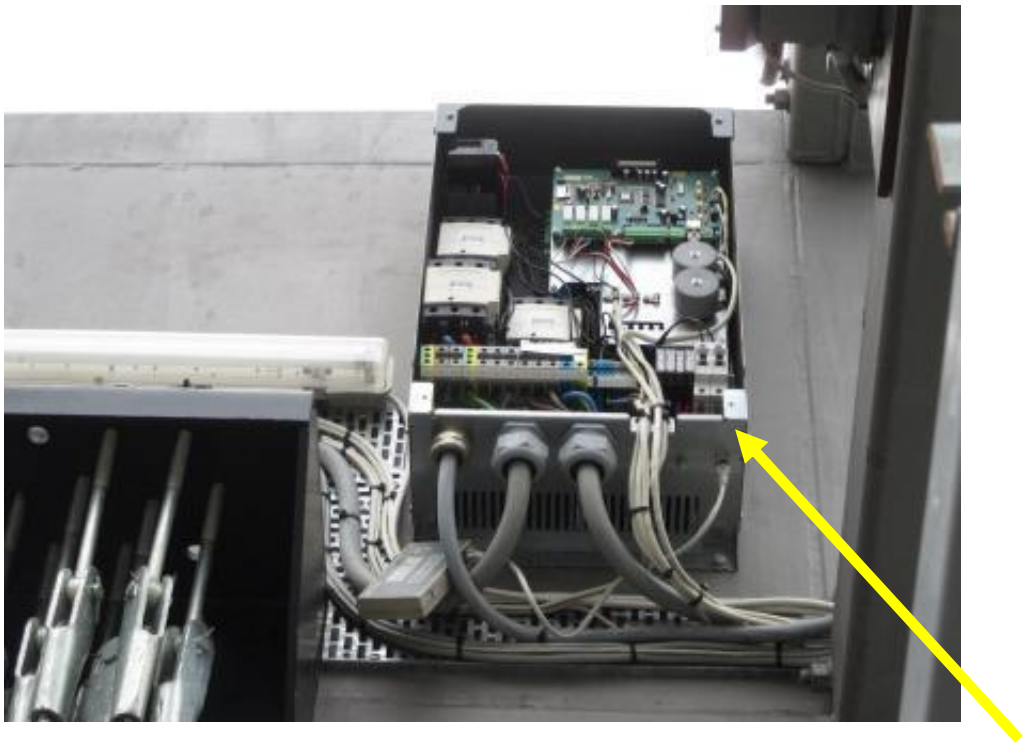
We thank you for the opportunity to undertake this audit and provide a report.

Should you have any enquiries please contact us at any time.

Stephen Williams
14 February 2023

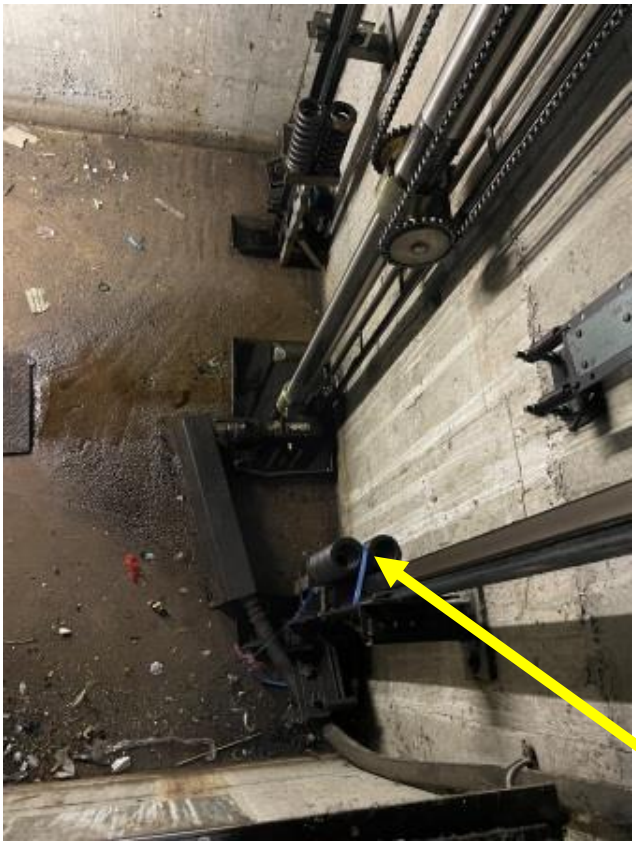
PHOTOS

The top of lift 7 showing the surface rust, scratches etc which should be repainted to provide a much better aesthetic



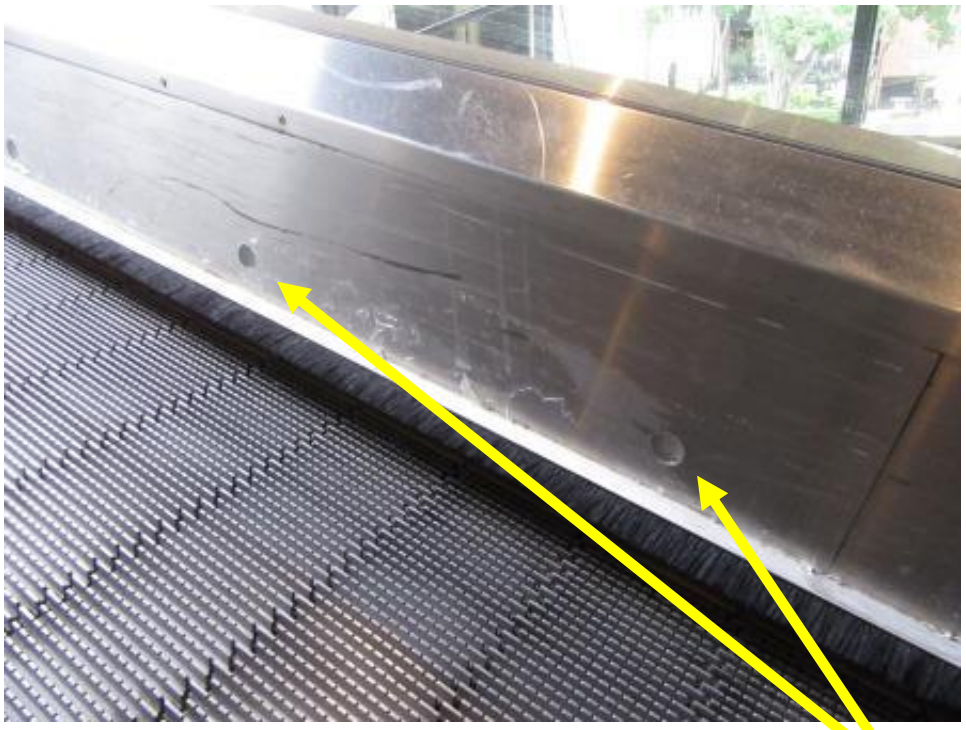
The VVVF drive units and emergency evacuation units on lifts 7-10 are virtually inaccessible and should be relocated

Lifts 7-10. Regulation electrical warning notices are required on the lift controller doors

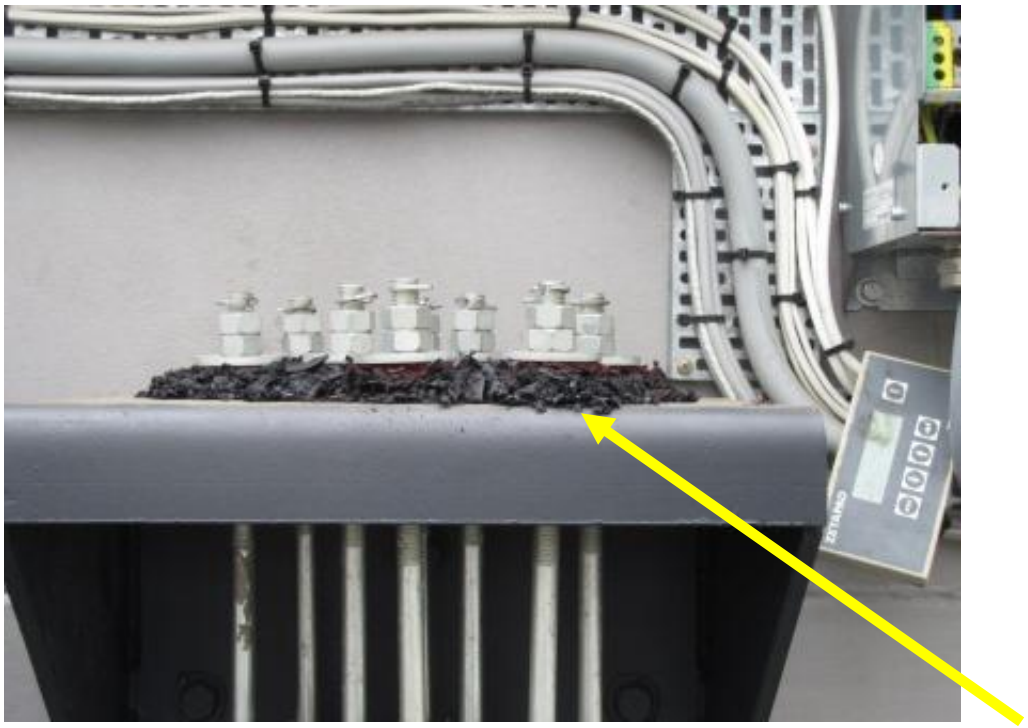


Lift 5 – excess oil needs to be cleaned from the lift pit floor and the floor degreased. The hydraulic ram needs new seals.

Lift 9 – the lift car floor tiles are damaged and need to be replaced



The skirting lighting on the moving walks is inoperative



Lift 7 - The perished isolation rubber on the lifting rope bottles needs to be replaced ASAP

Escalators 1 & 2 were relocated from outside the main building to inside it around 9 years ago. These units are now around 30 years old.

Appendix B. 2024 Buildability and Programme Report

RP INFRASTRUCTURE

Overseas Passenger Terminal Vertical Transport Replacement

Buildability & Programme Report (Draft Rev 1)

19 March 2024

Date	Revision	Prepared	Approved
February 2024	Rev 1	AP	CC

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RP Infrastructure Pty Ltd
ABN 62 065 072 193

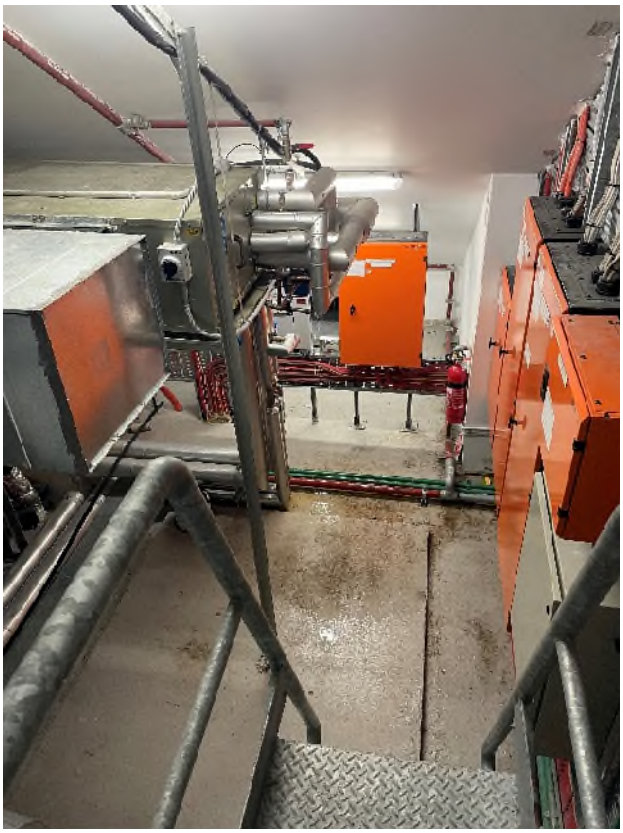
Contents

EXISTING SITE CONDITION

Escalator 01 & 02 is an existing escalator that provides vertical transport from Level 01 through to Level 03. The Escalator was previously installed to the exterior of the building, until it was relocated internally in its current position. The previous drawings for the relocation works of this Escalator note that it weighs 10 tonnes and was installed through a series of access holes provided through the concrete slabs from the levels immediately above.
Due to a series of upgrade works that have occurred since this initial relocation, this same method cannot be applied again due to the close proximity of critical services rooms and neighbouring vertical transport.

The 2013 upgrade works to the Overseas Passenger Terminal has seen the introduction of a Plant Room on Level 02 and a Switch Room on Level 01. These two services rooms are located immediately beneath Escalator 01 & 02 and require constant access from maintenance staff to ensure the building remains operational.

Additionally, the new Escalator 03 was installed directly adjacent to the South of Escalator 01 & 02. This

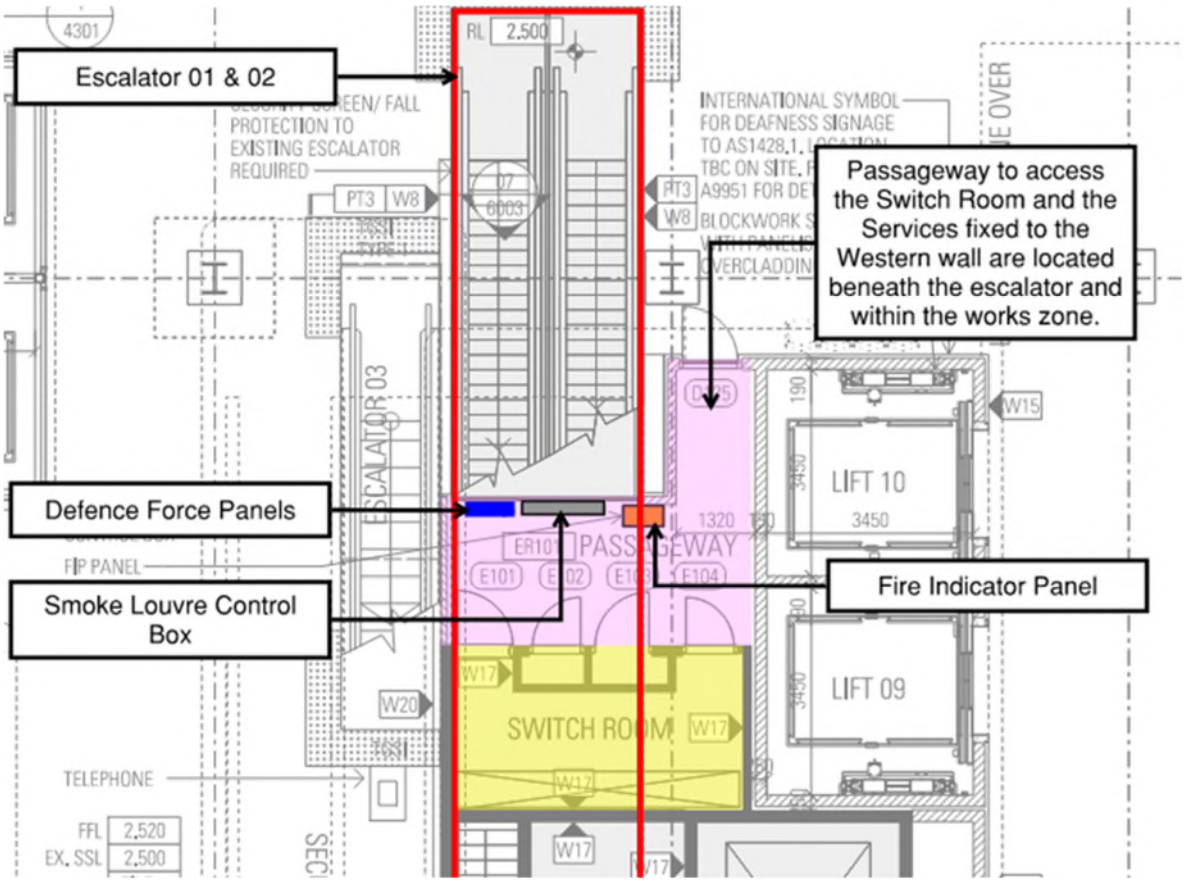


Escalator serves Level 01, Level 02 and Level 03 and occupies a much smaller footprint than Escalator 01 & 02 as it returns back on itself. This escalator is installed tight to Escalator 01 & 02 and will restrict the ability to manoeuvre the escalators in a Southern direction or utilise any mobile plant to assist with the removal and the new installation.

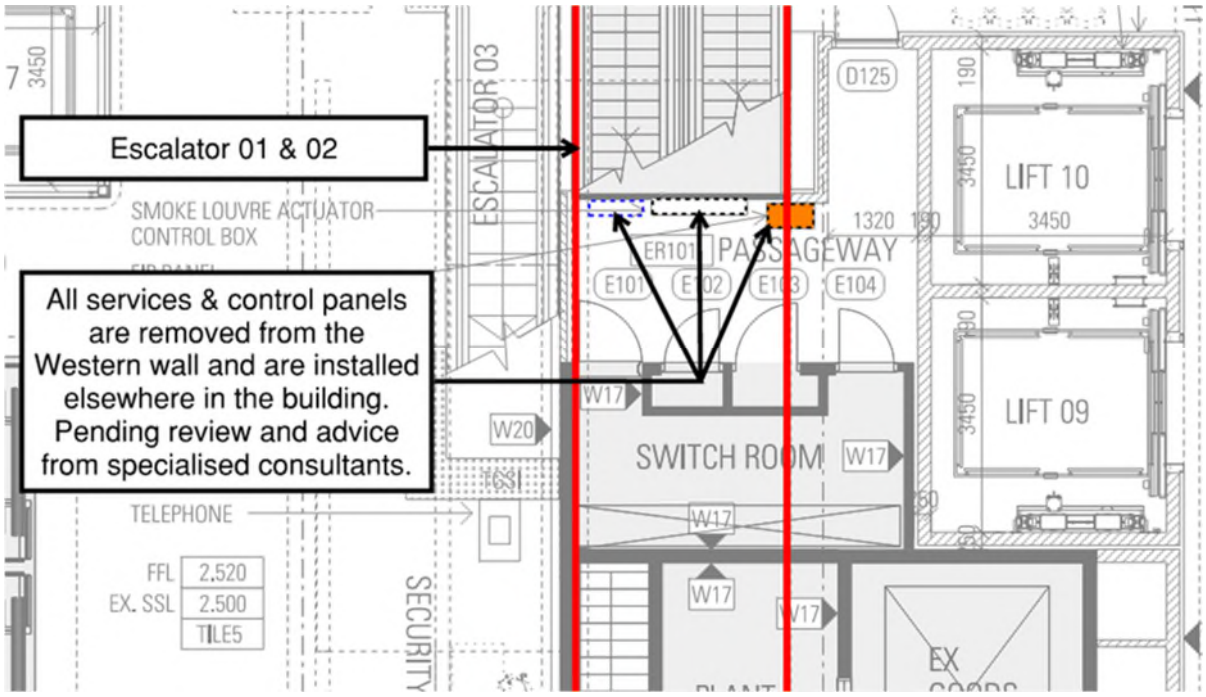
OPTION 1 – FULL REPLACEMENT

Switch Room & Other Essential Services on Level 01

The Switch room was constructed during the 2013 upgrade works and is located directly beneath Escalator 01 & 02. The accessway that leads to the switch room also hosts essential building and security services immediately south of the Switch Room, including Defence Force equipment, the Fire Indicator Panel and the Smoke Louvre Control Box.

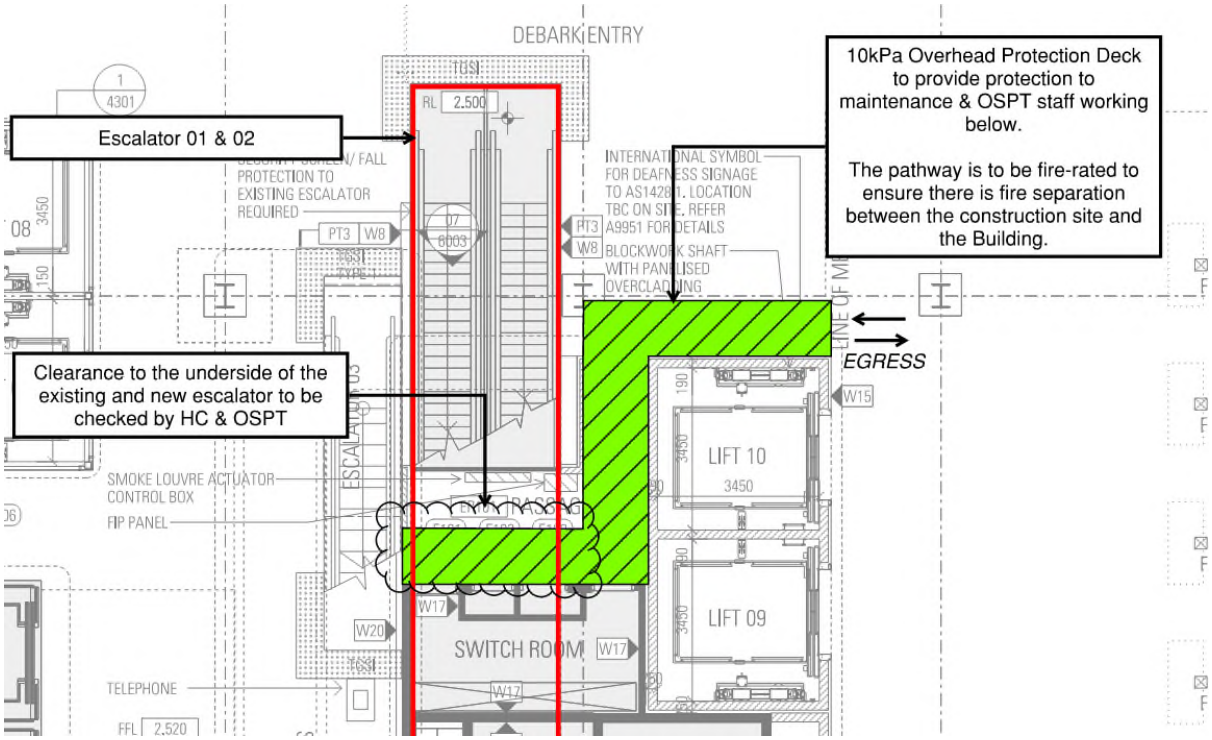


The services affixed to the Western Blockwork wall will need to be removed and relocated to another location within the building to ensure the escalator can be safely removed. This will require professional input and advice from specialised consultants to ensure that these service items can be relocated from their current installed position.



Decommissioning and relocating the switch room would be a monumental task that would require the building to be out of operation for an extended period of time. To maintain the switch room in its current location, a 10kPa overhead protection walkway can be installed to provide protected accessway so that maintenance workers can access the switch room through the construction site without works halting. This 10kPa overhead protection pathway will need to be fire-rated to provide fire separation between the building and the construction site (and vice-versa). It's pathway location can be altered and discussed with the Head Contractor but the proposal below utilises the existing access route.

Careful consideration is required around the western elevation of the walkway to ensure that it does not foul the vertical clearance required to remove and install the escalators.



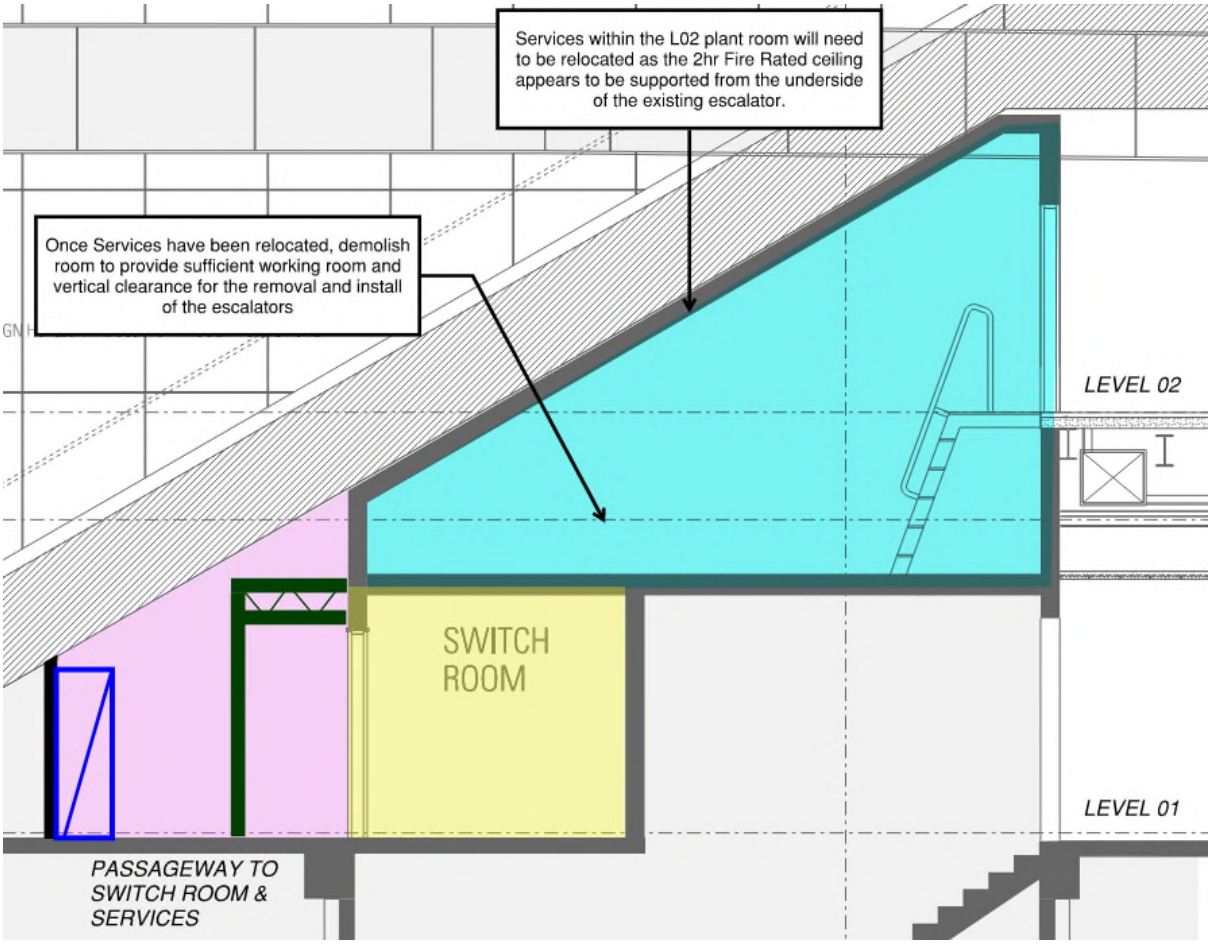
Plant Room Level 02

The Plant Room is located on Level 02 and similarly to the Switch Room on Level 01, the Plant Room is positioned directly beneath the escalator. Due to the profile of the escalator impeding the vertical clearance in the room, the Plant Room floor is lower than the finished floor level of Level 02. As a result, maintenance personnel are required to descend down a ladder to access the plant room.

The 2hr fire rated ceiling is supported off the underside of the escalator. This fire compartment will be breached during the removal works. The Plant Room and all the services contained within need to be relocated to enable the escalator replacement works to proceed.

The room would the be required to be demolished to enable the escalator to be removed and installed. This will provide the Head Contractor and their installation crews with sufficient working space to undertake both the removal and installation works.

If required, the Plant Room can be reinstated in its current position following the installation of the new escalator. Noting that its eventual replacement at the end of its life cycle will result in another Plant Room relocation.



Approach

The approach for this installation is to utilise the same method for both the removal of the existing escalators and the installation of the new escalators. This will allow for a more efficient procedure as it will eliminate differing set-ups with multiple works crews.

Due to the close proximity of the Switch and Plant rooms located immediately beneath the escalator, the lifting procedure is technical and complex. Once the escalators have been decommissioned, they will be required to be lifted vertically to be released from their installation positions, and then shifted West to avoid contact with the Services Room on Level 01, and the be lowered back down to the Level 01 floor to clear the Western floor of Level 03 at the edge of the void. These movements will need to be performed while the escalator is hoisted in the air.

Mobile plant cannot be used as the sole method for the removal and installation of the escalators. The space available on Level 01 and Level 03 floors is too restrictive, and the when the lifting radius is increased, the machines will need to be sized accordingly to carry a large load at a greater radius. This results in either the plant not having the real estate to set-up on a floor (level 03) or the machines at too great a weight for the concrete slab loadings (both level 01 and level 03).

Mobile plant can be used at times to assist with lifting or manoeuvring the escalators.

Electric Chain Hoists

Electric Chain Hoists are proposed to be utilised to carry out both the removal and installation works of the escalators. The electric chain hoists allow for movement in two planes, vertically and horizontally (East/West) as required. This addresses the multiple movements that is required to be undertaken when the Escalator is suspended in the air. The chain hoists are typically fitted with their own guide rail systems, that allows the hoists to be freely driven along their pathway.

These hoists have a capacity of up to 5tonnes in lifting capacity and will be required to be fed with 3 phase power. Due to the challenges associated with this lifting procedure, multiple hoists may need to be installed to perform the works efficiently and safely.

The hoists will need to be performed by a certified crane driver and/or qualified rigger. The machines are driven through a wireless remote that allows the user to control the movements from a safe position.

Structural Steel Portal Frame

A structural steel portal framing system will need to be introduced to provide both a structure for the guide rails of the hoists to be fixed to, but also to provide sufficient structural support to lift the both the existing and new escalators. The structural steel portal frame is to bridge the entire width of the void, from the West to the East. The upper roadway to the West can be utilised as a way to deliver the steel to the Level 03 floor without the need for large plant of machinery.

A birdcage scaffolding system will need to erected within the void and on top of the escalators to enable access to the structural steel portal frame. The portal frame will be required to be located at a height that will allow for ease of movement for the chain hoists to be manoeuvre freely and sufficient vertical clearance so the Escalators can be removed. Due to the close proximity of the adjacent Escalators 03 & 04, the birdcage scaffold would be required to be erected on top of the escalators. This is typically not advised, but due to the limited space available this is unavoidable. As a result, props may be needed to be installed beneath the escalators to assist with transferring the load to the concrete slab and not the escalator.

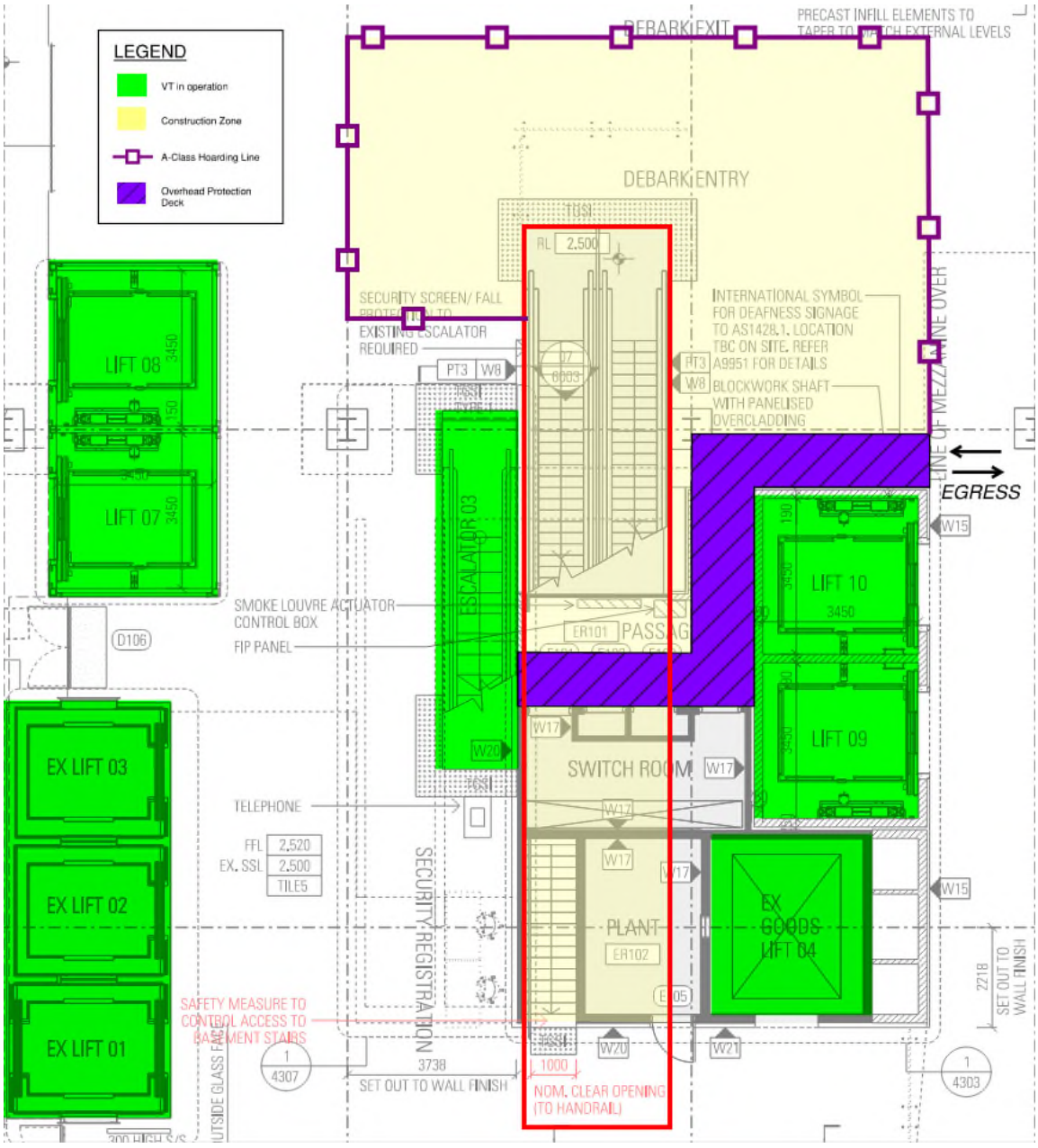
Ideally, two structural steel portal frames would be needed to remove and install each of the escalators as the chain hoists would need to be operating directly above the lifting points. To reduce on costs, programme time and the additional procurement of steel, a method for how one portal frame can be used and then reinstated immediately adjacent for the next escalator should be further investigated with the head contractor and the structural engineer.

Methodology

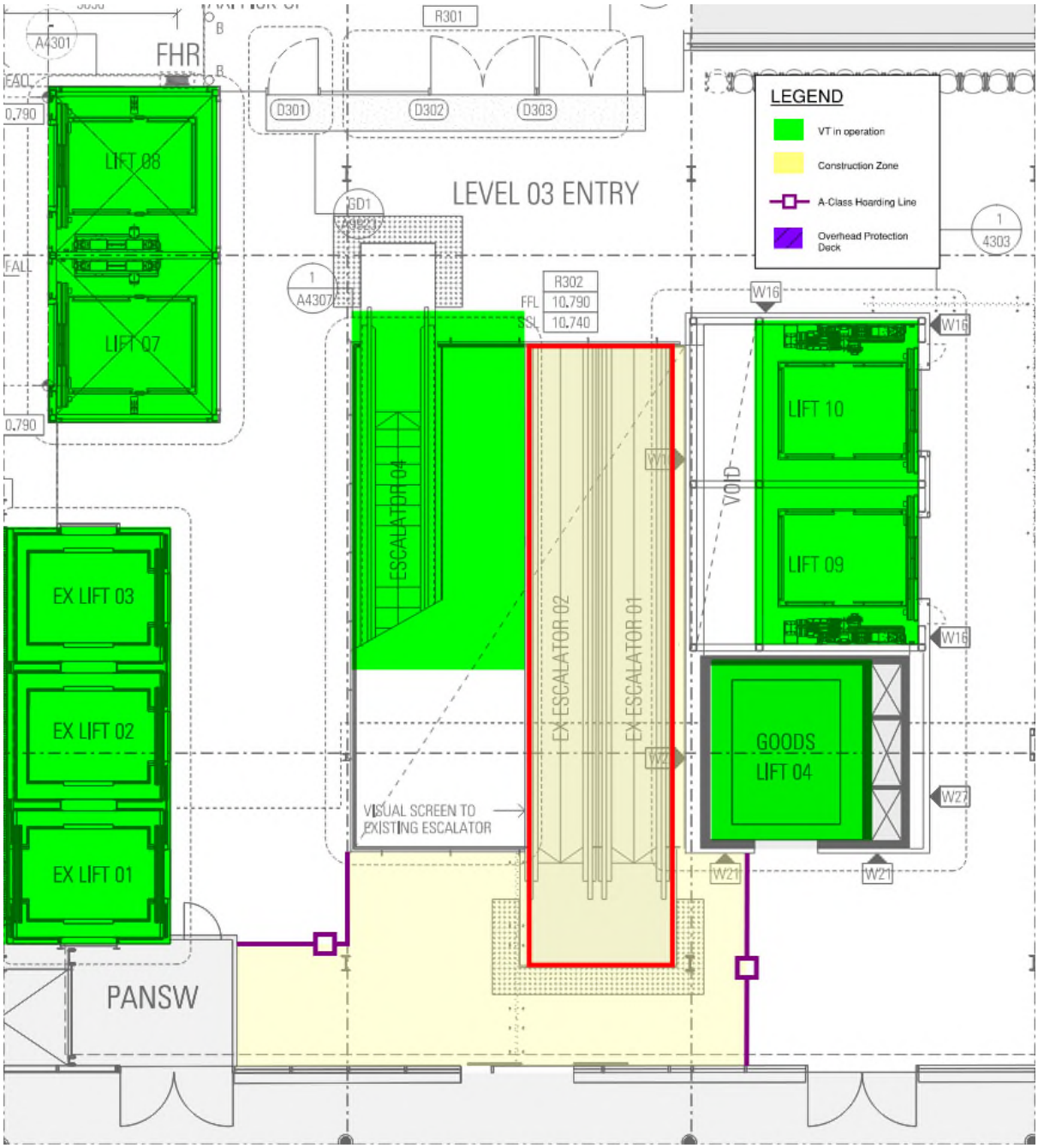
Exclusion Zones – Low Risk Work

The low-risk work that is involved with this project will enable the construction work to be performed during operating hours and will only need a small dedicated work site. These works will include the minor demolition works to the Level 01 services passageway, relocation works and any prep works that are required to prepare the escalator for removal.

Level 01



Level 03

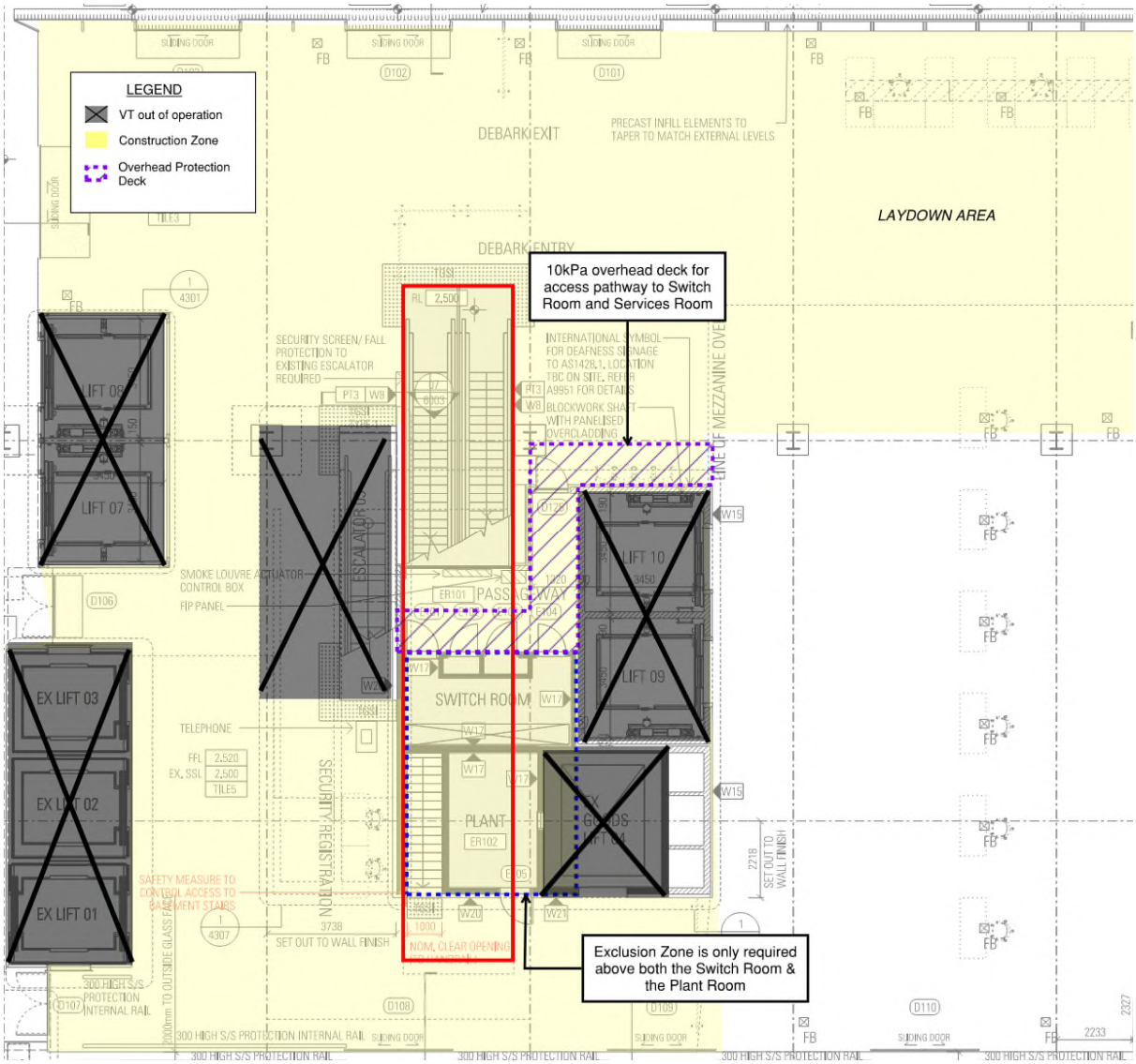


Exclusion Zones – High Risk Work

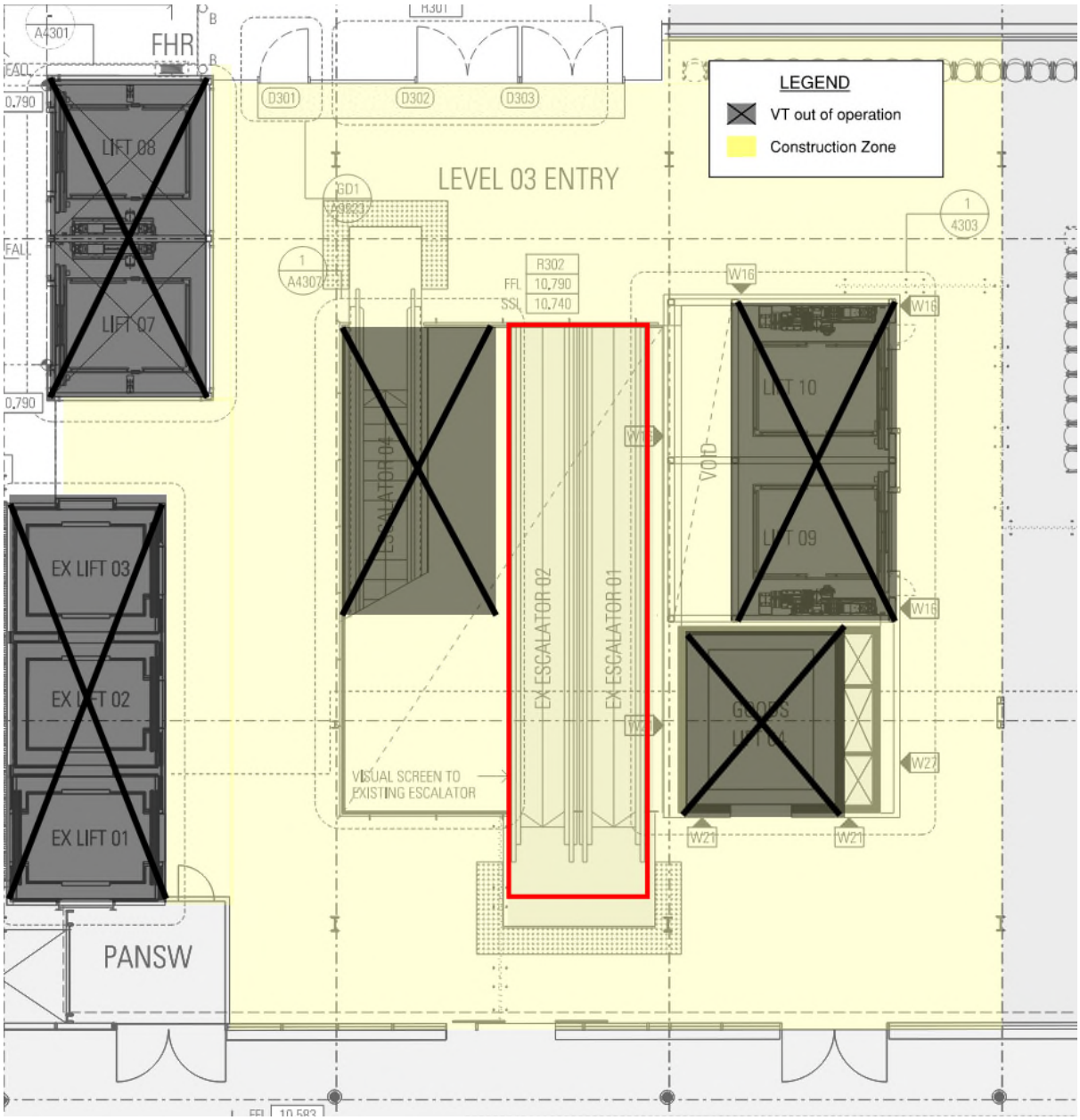
The high-risk work involves any work that is in relation to the physical removal or install of the escalators. As the area of the work site is naturally tight with other services rooms and vertical transport, it is advised that the head contractor is provided with a greater working area. These works should be conducted out-of-hours without the presence of the public and non-essential staff.

The proposed exclusion zones are to be finalised with the Head Contractor and the client. The below does not account for any site accommodation, site facilities or construction storage.

Level 01



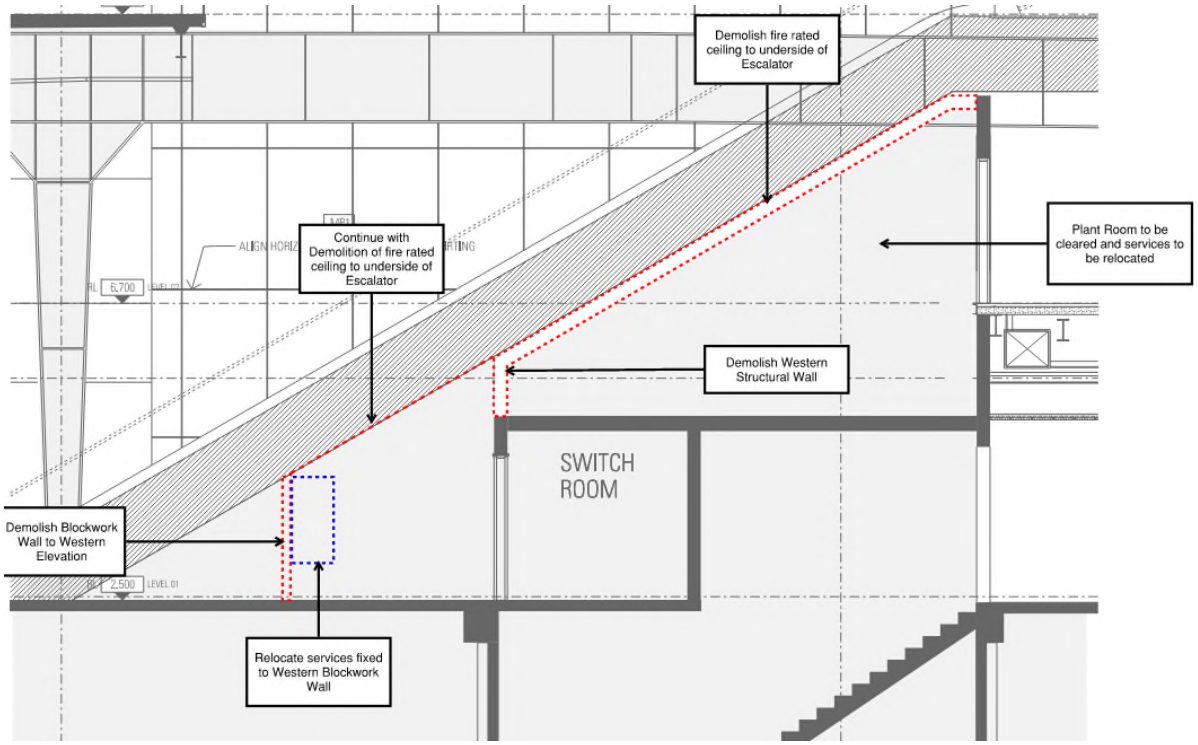
Level 03



Phase 1.1 – Demolition & Services Relocation Works

Following site establishment, the Plant Room on Level 02 needs to commence decommissioning and relocation works. Once the services have been successfully relocated and have been recommissioned, the ceiling to the underside of the escalator and the western wall can be demolished.

On Level 01, the services that are located on the western wall are to be decommissioned and relocated. This includes the Defence Force controls system, the fire indicator panel and the smoke louvre control box. Once removed and recommissioned, the works crew can carry out the demolition work required to the ceiling supported from the escalator and the demolish the blockwork wall to the West.

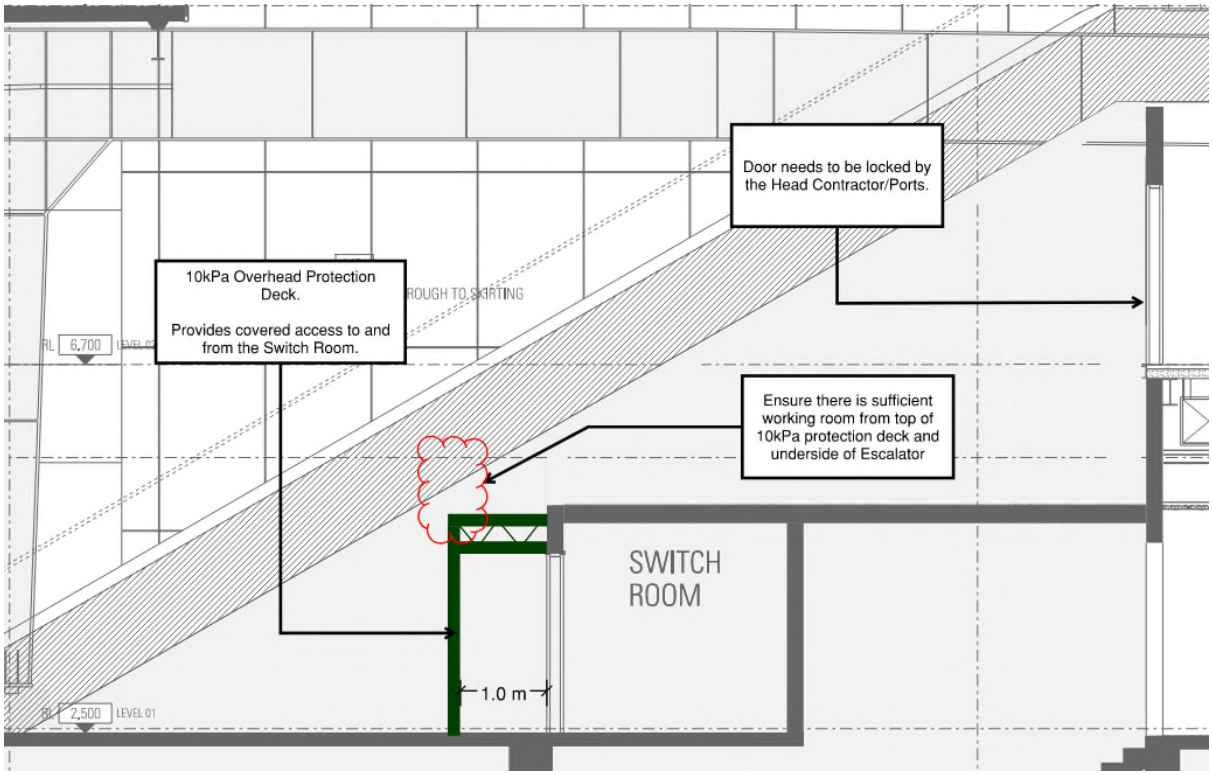


Phase 1.2 – Access & Overhead Protection

The 10kPa overhead protection walkway is to be installed to provide a safe and compliant access way to the Switch room. This will be required to be fire rated to ensure there is fire separation between the construction site and the building. The head contractor needs to ensure that there is sufficient vertical clearance present between the underside of the escalator to the top of the 10kPa overhead protection walkway.

This passageway now provides a compliant walkway from the public accessible areas on the Level 01 floor to the Switch Room.

Furthermore, the Plant Room on Level 02 is now redundant and should be locked to prevent access into the construction site.

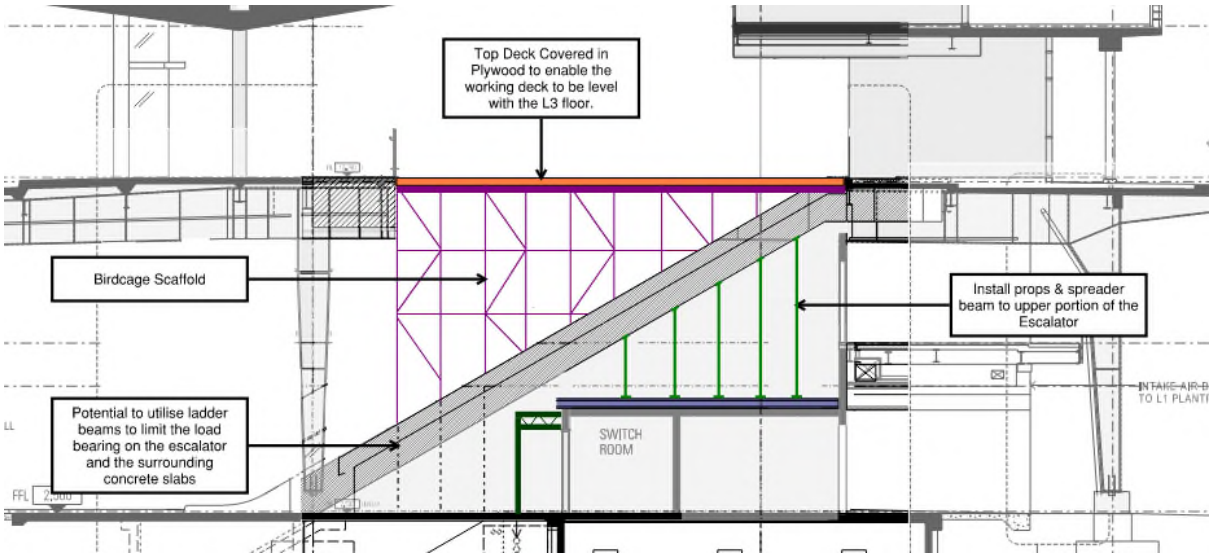


Phase 2.1 – Birdcage Scaffold Build

A birdcage scaffold system is required to be installed to the height of the Level 03 floor. The scaffold is to be based out on the escalator as there is no space to place the scaffolding legs elsewhere. A vertical transport expert may suggest that the underside of the escalator is propped due to the leg load penetrated onto the treads.

Props will be able to be installed to the now redundant Plant Room space on Level 02. These props will be required to be installed over a spreader beam due to the light-weight concrete slab. There is also potential to utilise ladder beams to limit the load bearing on the escalator the lower end of the escalator to assist with transferring the leg loads to the structure.

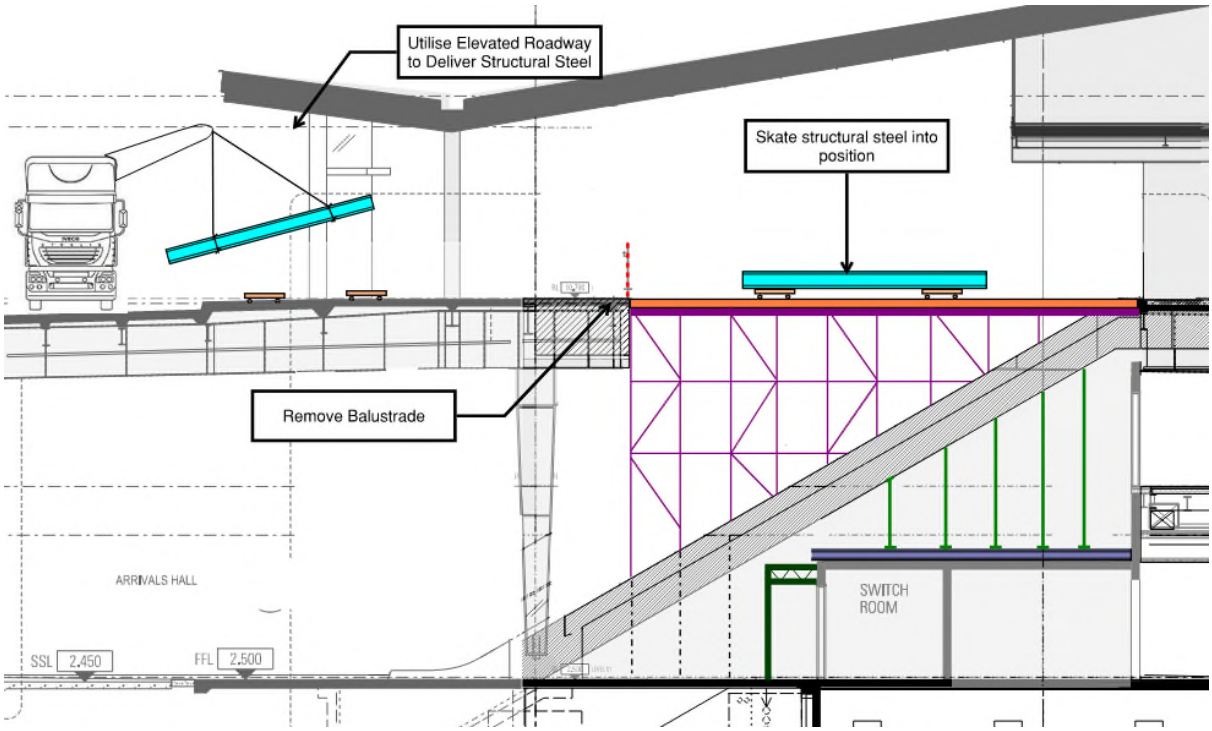
The top platform deck is to be constructed out of plywood to create a level working ground with the adjacent Level 03 finish floor levels.



Phase 2.2 – Delivery & Transfer of Gantry System

The structural steel gantry system will be delivered via the use of the elevated roadway that allows direct access to Level 03. The structural steel will then be positioned on dolleys (or similar) and then skated into position ready for install.

The structural steel is to be designed by a structural engineer and will require consultation with both the Head Contractor and their rigging specialist.



Phase 2.3 – Erection of Gantry System & Installation of Electric Chain Hoists

The structural steel gantry system will need to be installed from both the birdcage platform deck and the Level 03 floor. Due to the load capacity of a scaffold system, it is advised that mechanical lifting aids are used on the platform deck. The concrete slabs will allow for mobile plant to assist with this install.

It is preferred that the main beam spans the entire width of the void (11m+) to ensure the electric chain hoists can traverse along the beam without interruption. Similarly, the 3 phase power that powers both units need to be reticulated in a way that it does not foul the travel path of either of the hoists. The power sources should be located in a ceiling nearby.

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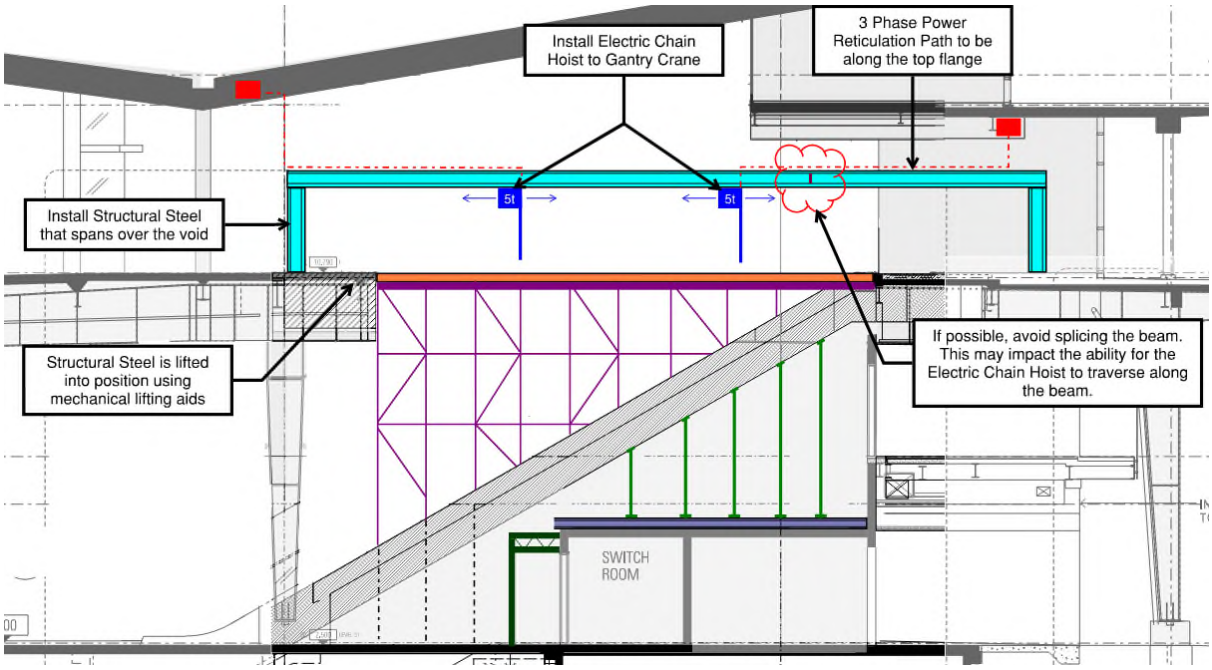
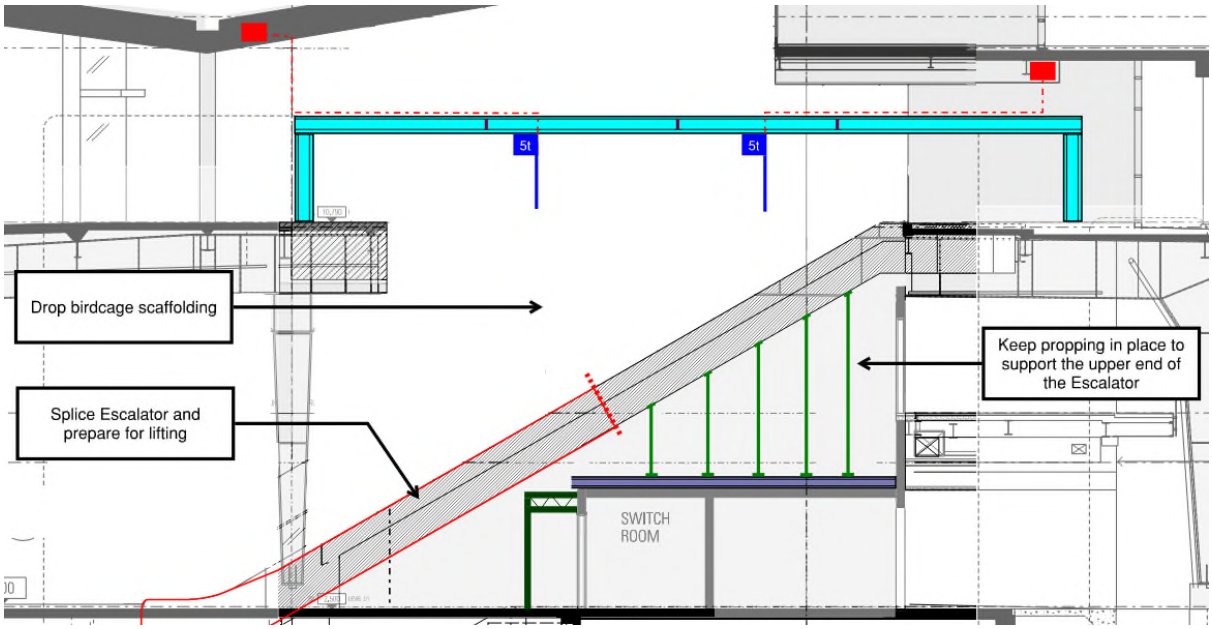


Phase 2.4 – Scaffold Drop & Splice Escalator

Following the commissioning of the electric chain hoists, the bird cage scaffold is dropped to expose the escalator. The propping at the Eastern end of the escalator is to remain in place.

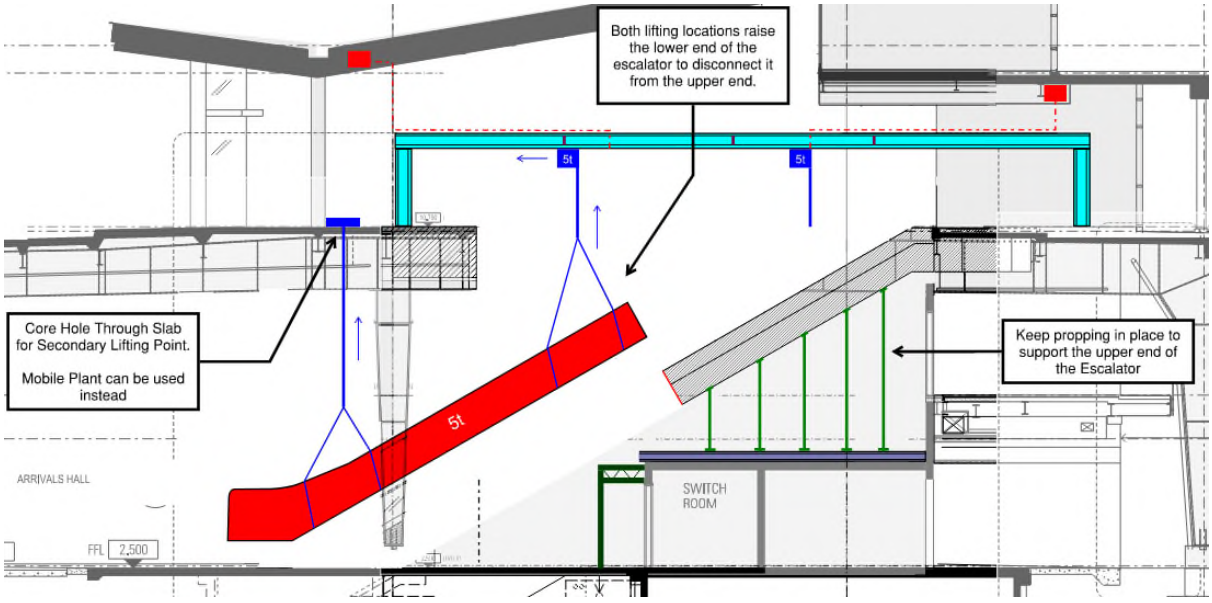
The escalator is then spliced into two ready for its removal.



Phase 2.5 – Bottom Splice Removal

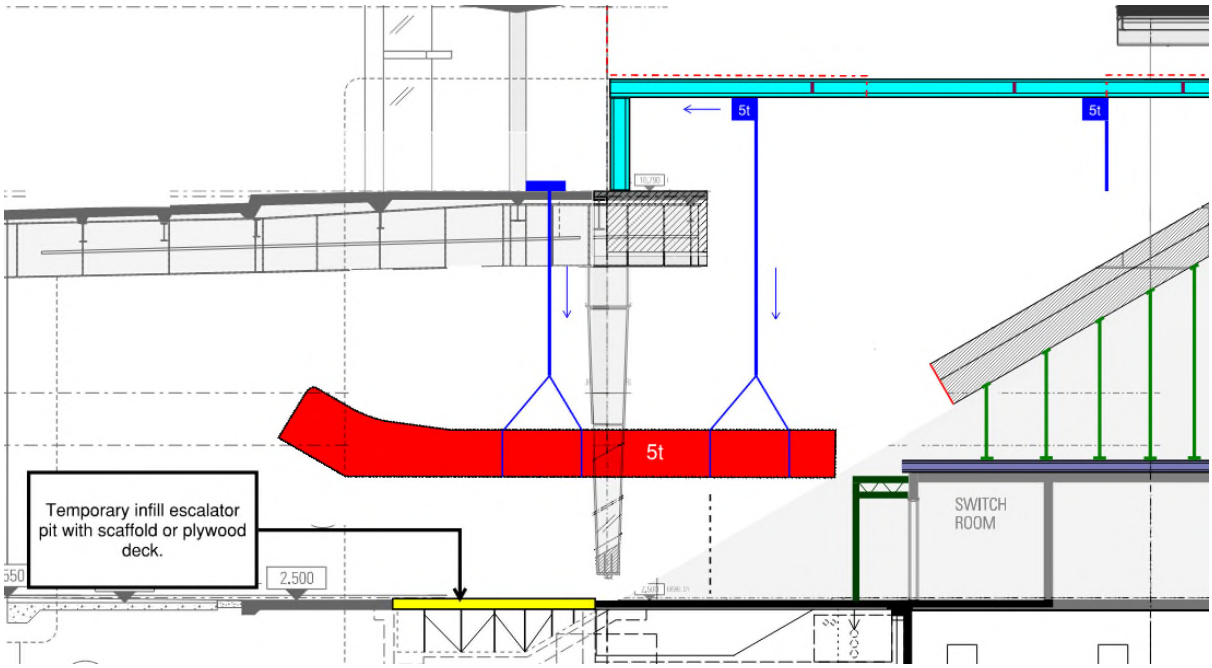
A core hole can be utilised through the Level 03 slab on the Western end to assist with the retrieval. Mobile plant can also be used if that is preferred.

The most western electric chain hoist is rigged to the escalator with the through-slab chains also being connected. The electric chain hoist can assist with shifting a beam away from its installed position and away from the services rooms towars the east. Mobile plant can be used to assist with the careful and considered movement of the escalator.



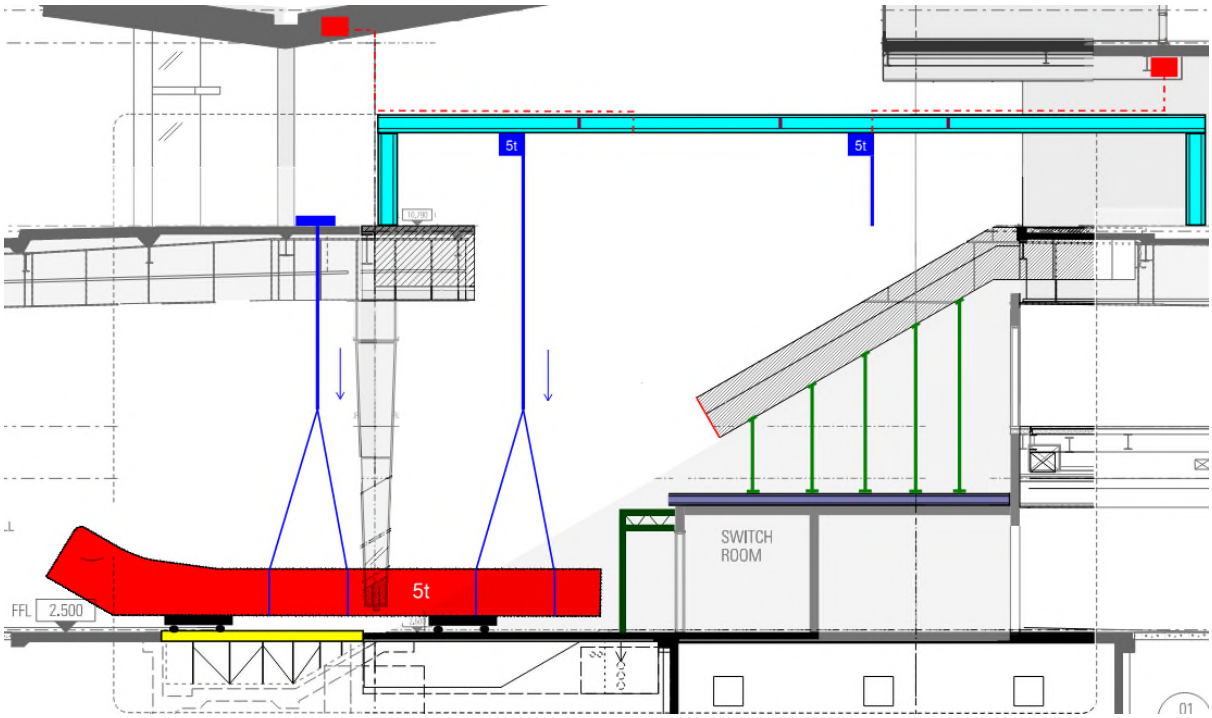
Phase 2.6 – Bottom Splice Removal (continued)

When ready, the escalator is now altered in air so it is horizontal. This is preparing the escalator ready for landing.
The escalator void will required to be filled to allow for the escalator to be retrieved to the Western elevation of the building. The void will need to be built to withstand the loading of the escalator and other mobile plant.



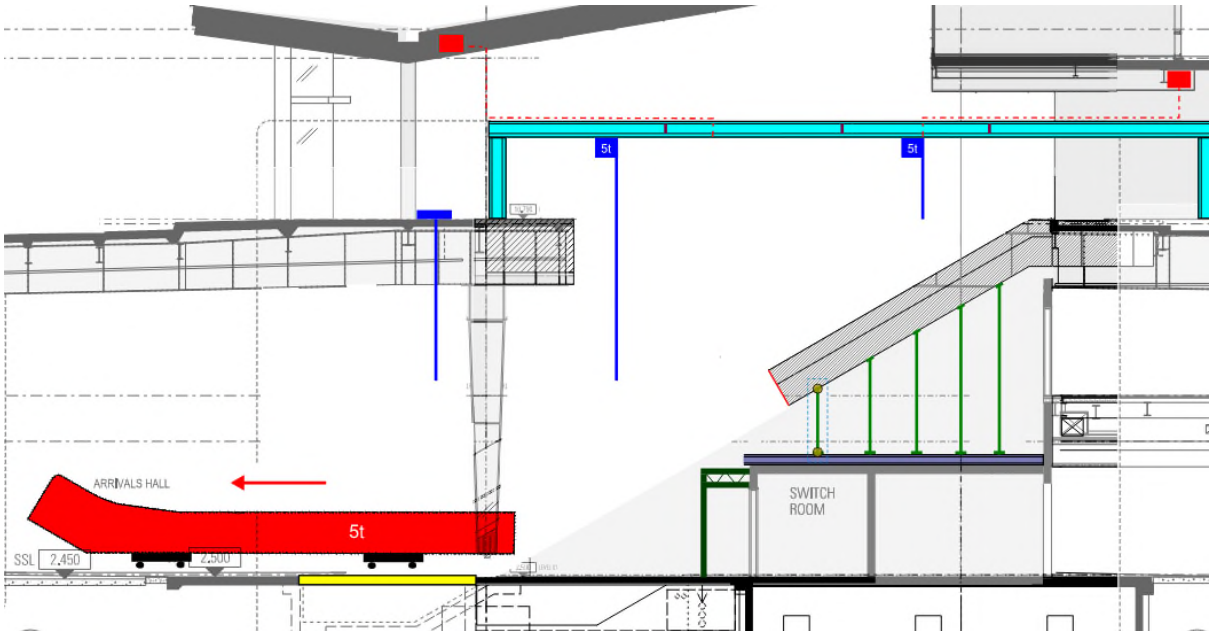
Phase 2.7 – Bottom Splice Removal (continued)

The escalator is then gently lowered onto platform skates/dolleys. At this point, the load is now transferred from the lifting hoists to the skates/dolleys.



Phase 2.7 – Bottom Splice Removal Completed

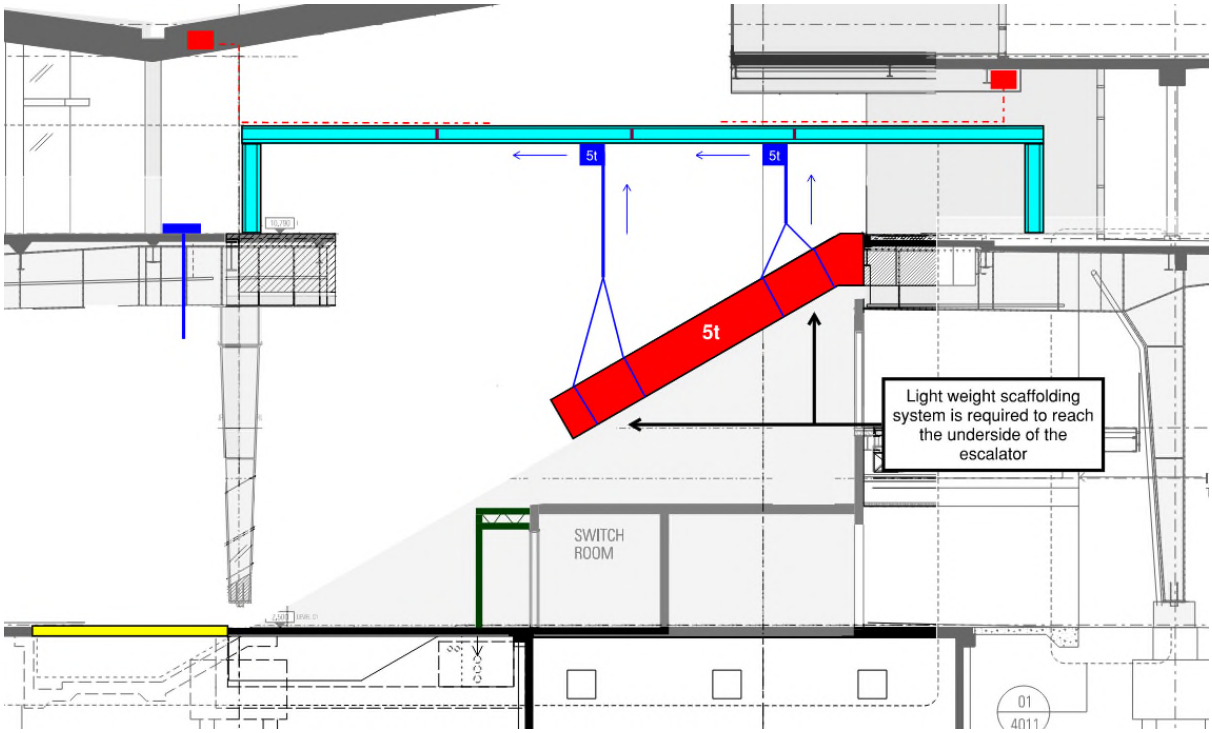
The bottom splice of the escalator can now be removed from site. This can be achieved through load out on street level.



Phase 2.8 – Top Splice Removal

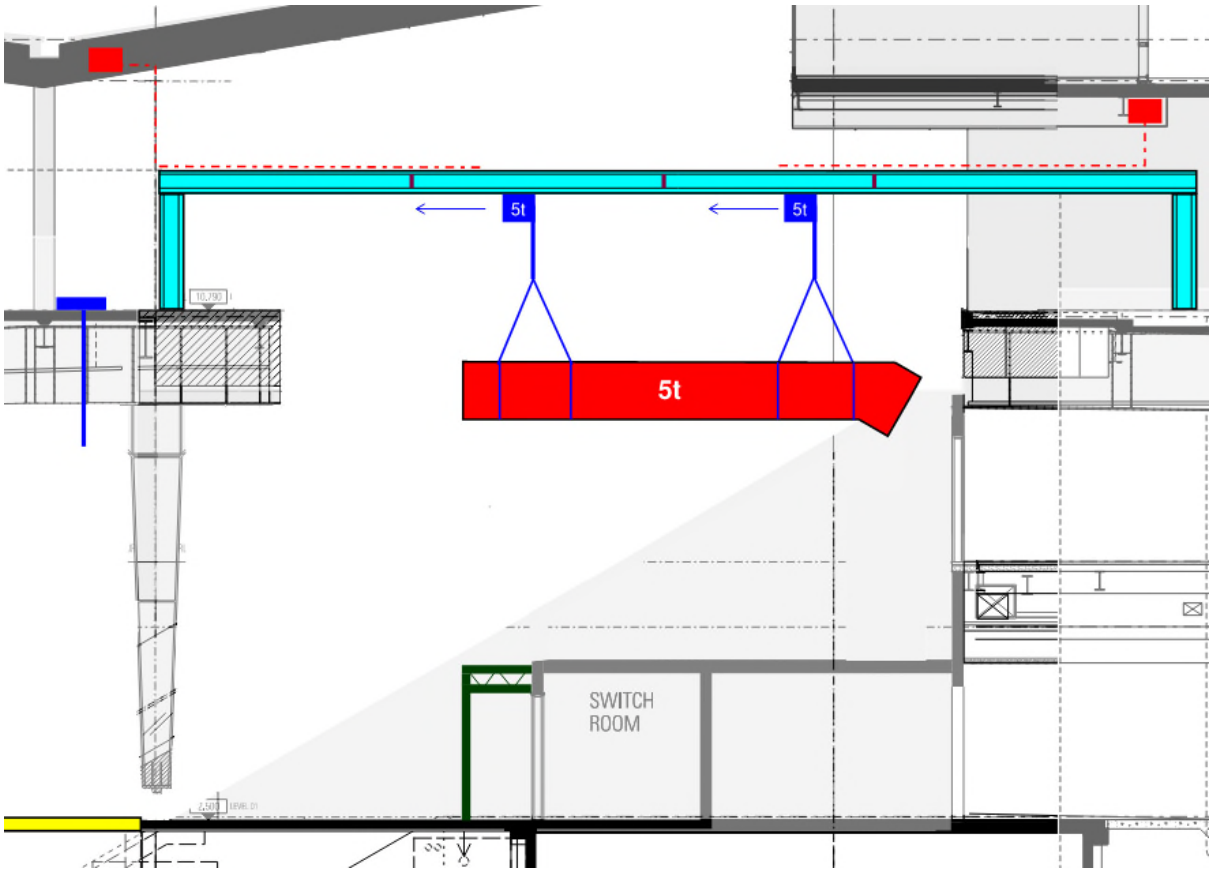
The top splice of the escalator is now ready to be removed. Due to limited access at the Eastern end of the escalator, a light-weight/mobile scaffold system will need to be introduced to provide access for the rigging crews to reach the top end of the escalator.

Once the load has been successfully rigged up, the props supporting the escalator can be removed.



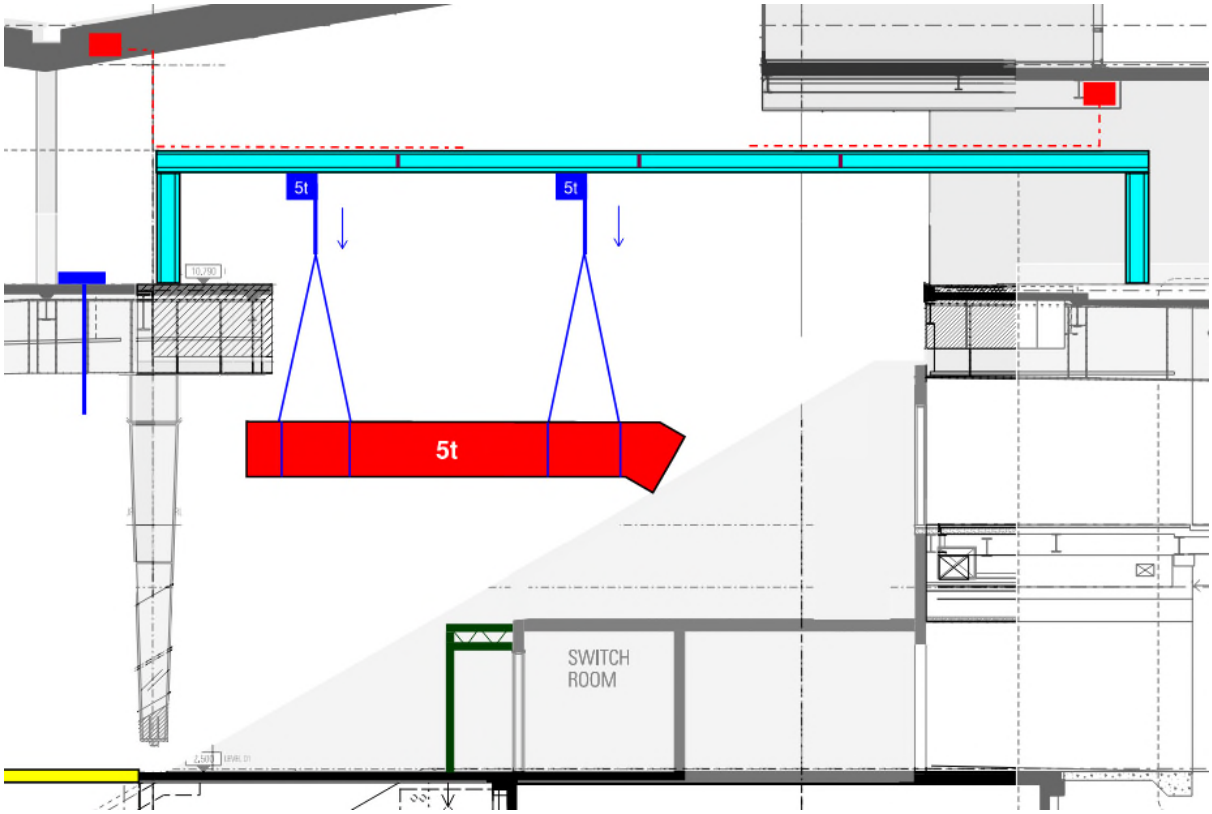
Phase 2.9 – Top Splice Removal (continued)

The escalator is then rotated in the air so it is horizontal with the Level 01 surface. This is achieved through altering the chain heights of the two electric chain hoists. The two hoists will then slowly traverse the escalator towards the Western end of the gantry system ready for lowering.



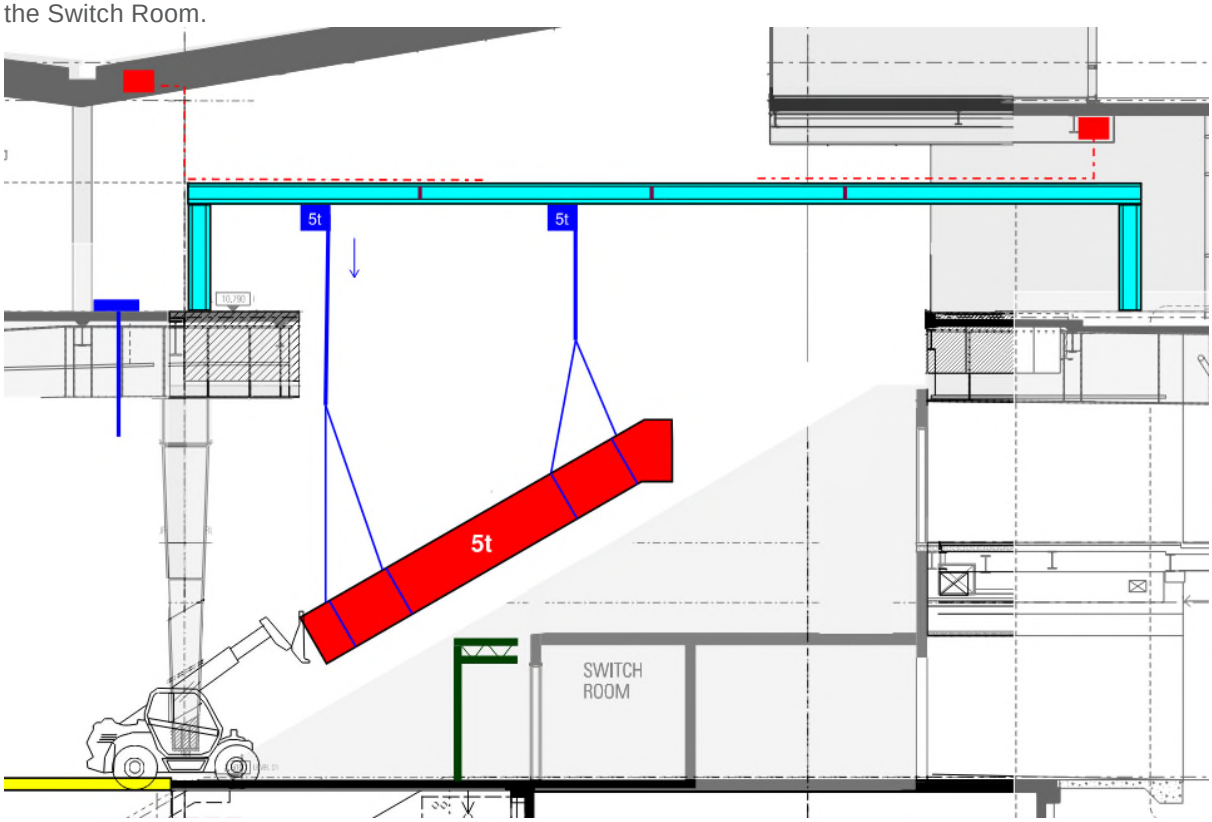
Phase 2.10 – Top Splice Removal (continued)

The escalator is then lowered when the Eastern hoist is nearing the Level 03 slab edge.



Phase 2.11 – Top Splice Removal (continued)

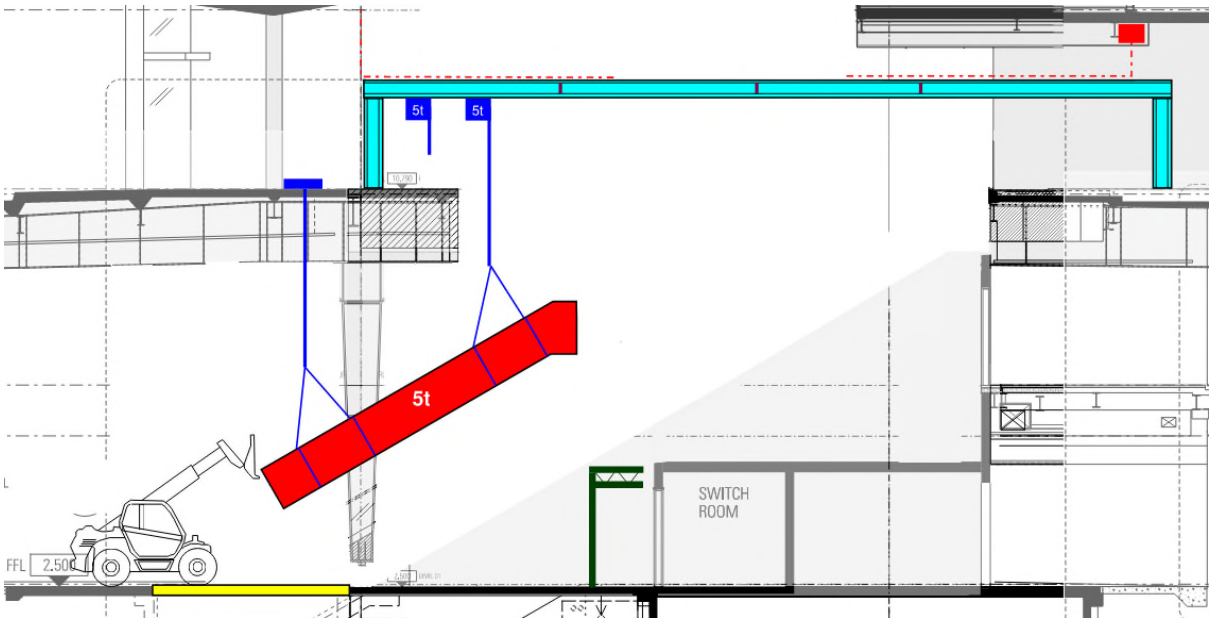
A Manitou (or similar mobile plant) will assist in manoeuvring the escalator beneath the Level 03 slab and above the Switch Room.



Phase 2.12 – Top Splice Removal (continued)

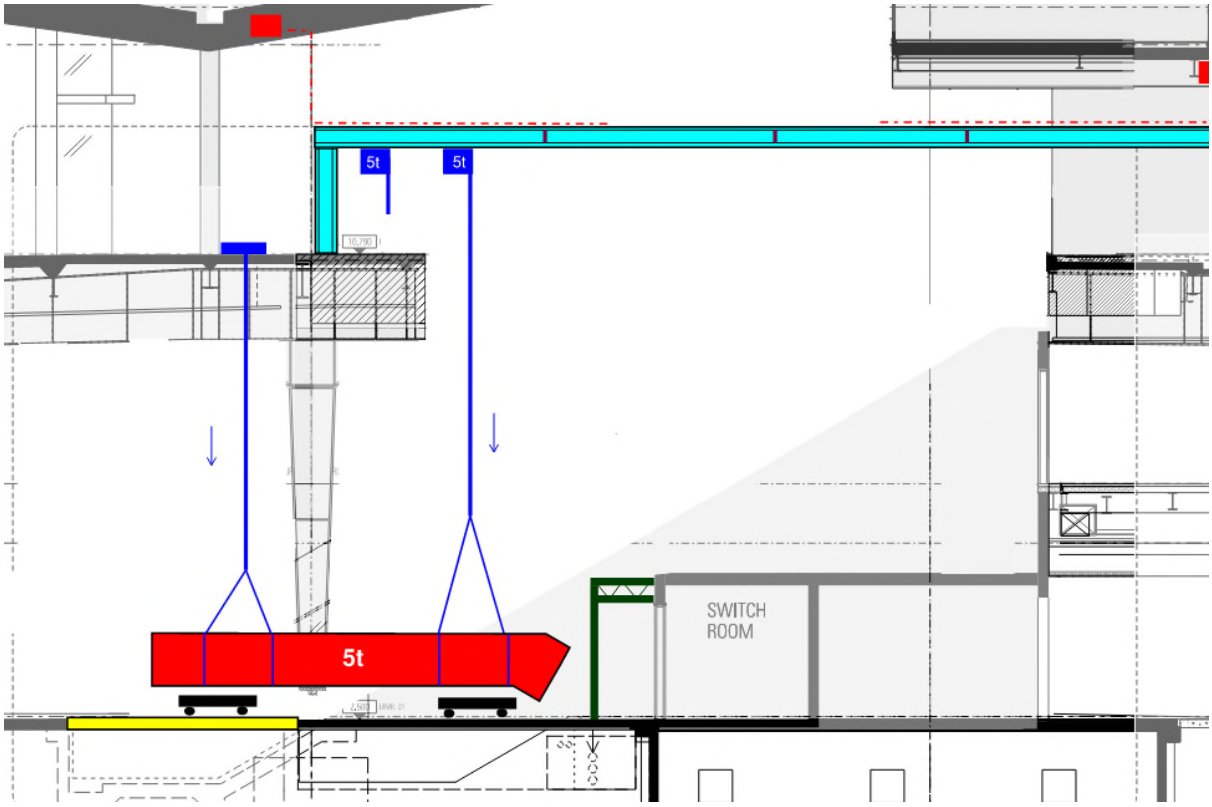
The Manitou will continue to assist in guiding the beam to the core hole where the manual lifting chains are located. To enable the escalator to get closer to this core hole, the most Eastern hoist can be detached to allow for the Western hoist to drive the Escalator tighter to the slab and the core hole. The Manitou assist with this process.

Once the chains through the core is attached. The Manitou can standby.



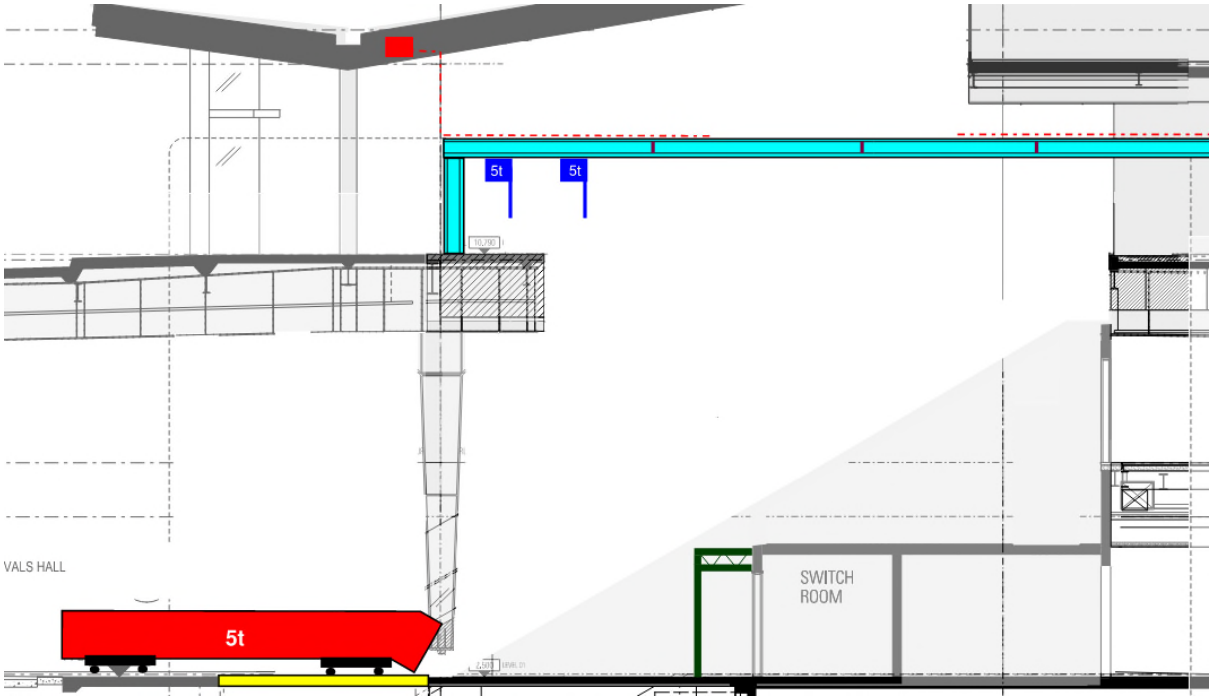
Phase 2.13 – Top Splice Removal (continued)

The top splice of the escalator is then rotated again so it is horizontal to the Level 01 floor. This is to allow the escalator to be lowered onto the platform skates. At this moment, the load is now bearing on the skates and not the hoists. They can now be detached.



Phase 2.14 – Top Splice Removal Completed

The top splice of the escalator can now be removed from site. This can be achieved through load out on street level.



1.1.1

Phase 2.16 – Removal of Adjacent Escalator

The same process is now performed for the escalator directly adjacent.

Phase 2.17 – Installation of New Escalators

The same procedure is applied for the installation of the new escalators. This is carried out in reverse of the removal procedure.

OPTION 2 – ON-SITE STICK BUILD

Method

An alternative that may be considered is to perform a stick-build of the escalator. This would essentially result in transferring the “factory assembly” work to the site. This would mean that the steel framework that forms the body of the escalator would required to be built on site as opposed to delivering the escalator unit as a complete piece.

This would require various staging of a multi-level access system (i.e. scaffold) to allow the works crew to construct the escalator from the ground up. This will also require numerous proposing stages to support the escalator during the construction until the escalator body is fixed at both Level 1 and Level 3 and the load is shared to the building structure.

The removal of the escalator would also be done in smaller and more manageable size pieces to allow for lifting with smaller mobile plant that fit within the site footprint. This could be a time consuming process.

The plant room & service rooms on Level 01 & Level 02 will still need to be dealt with as per the advice provided in Option 1.

OPTION 3 – MODERN REFURBISHMENT

Method

This method would involve maintaining the existing steel framework of the escalator and fitting out the new build of the escalator within the existing body of the currently installed escalator. As the original body of the escalator is maintained, the services and plant rooms located on Level 01 and Level 02 below would not be impacted as the unit remains in position. This also potentially results in smaller exclusion zones for the works contractor which enables the building to remain in operation during the project works.

The integrity of the structure would need to be assessed prior to the commencement of works. This is to ensure that the existing escalator is performing as required structurally as the new works contractor would be responsible for the delivery of this installation.

This method would require a fair amount of up-front engagement with a Vertical Transport contractor about the feasibility of achieving this method. As the physical body of the escalator is defined and the installation of newer and more advanced technologies would need fit within the current arrangement. Considering the benefits that this method provides it would be worth fulfilling.

The link below demonstrates this methodology.

https://www.schindler.com/en/escalators-moving-walks/modernization/intruss-escalator.html

PORTS ACTIONS

Options 1 & 2

Plant Room on Level 02

- This plant room needs to be relocated to enable the removal/installation works to be performed. Is this possible? I can't see the project proceeding without this.
- New location for plant room?
- Confirm timing so RPI can programme.

Switch Room on Level 01

- Relocate existing services. New location?
- Confirm timing so RPI can programme.

Structural Engineer

- Overhead Installation System needs to be engineered. The RPI proposal is one method, but an alternative overhead solution (i.e. through the roof) could be achieved. Few things to note;
  - Confirm all loads that are required to be lifted
    - Old Esc & New Esc
  - Fixing Location to Existing Structure
- Alternative Solution? Can we utilise the existing roof structure?
- Design of Timber Deck to Void
  - Due to everything being so tight – this is the only method of retrieval.
- Slab Loading Queries for;
  - Scaffolding on slabs
  - Scaffolding on escalator
  - Mobile Plant usage on Level 01
  - Truck usage on overhead roadway on Level 03
- Alternatives to avoid leg loads on escalator treads (notable an issue to remove the structural steel)

Option 3

VT Consultant

- Advice on installation. (in truss modernisation)

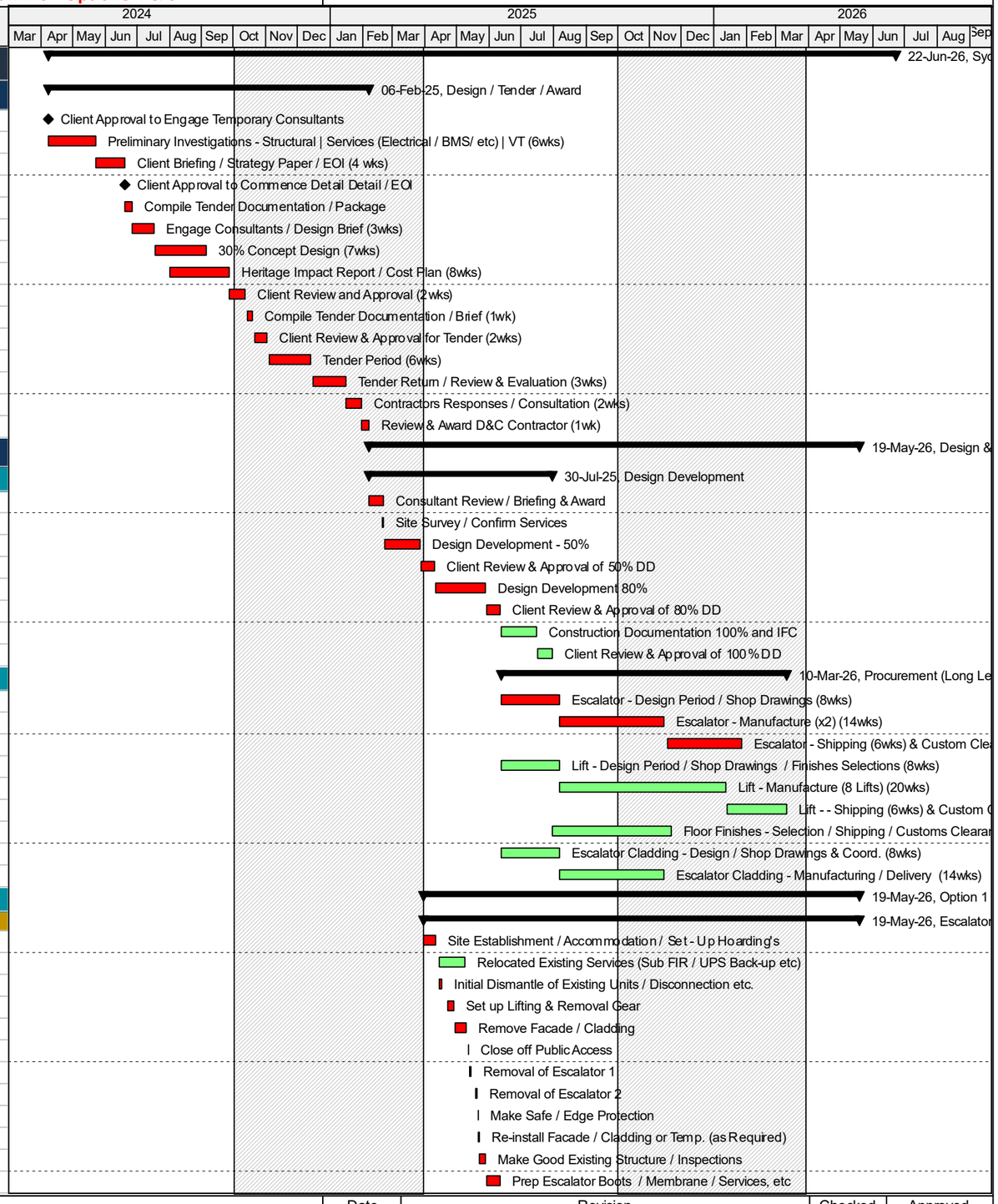
Attachment 1

Programme

Syd Port Master
RPI-SydPort; RMG-Syd_Port

Sydney Port Authoirty
Oversea Passenger Teminal (OPT)
VT Upgrade - Draft Programme - Options 1 & 3

Activity ID	Activity Name	Dur	Start	Finish
Syd Port Master		540	08-Apr-24	22-Jun-26
Design / Tender / Award		205	08-Apr-24	06-Feb-25
SYDPORT-1345	Client Approval to Engage Temporary Consultants	0	08-Apr-24*	
SYDPORT-1350	Preliminary Investigations - Structural | Services (Electrical / BMS/ etc) | VT (6wks)	30	08-Apr-24	22-May-24
SYDPORT-1355	Client Briefing / Strategy Paper / EOI (4 wks)	20	23-May-24	19-Jun-24
SYDPORT-1358	Client Approval to Commence Detail Detail / EOI	0		19-Jun-24
SYDPORT-1359	Compile Tender Documentation / Package	5	20-Jun-24	26-Jun-24
SYDPORT-1360	Engage Consultants / Design Brief (3wks)	15	27-Jun-24	17-Jul-24
SYDPORT-1380	30% Concept Design (7wks)	35	18-Jul-24	05-Sep-24
SYDPORT-1480	Heritage Impact Report / Cost Plan (8wks)	40	01-Aug-24	26-Sep-24
SYDPORT-1500	Client Review and Approval (2wks)	10	27-Sep-24	11-Oct-24
SYDPORT-1520	Compile Tender Documentation / Brief (1wk)	5	14-Oct-24	18-Oct-24
SYDPORT-1540	Client Review & Approval for Tender (2wks)	10	21-Oct-24	01-Nov-24
SYDPORT-1560	Tender Period (6wks)	30	04-Nov-24	13-Dec-24
SYDPORT-1580	Tender Return / Review & Evaluation (3wks)	15	16-Dec-24	15-Jan-25
SYDPORT-1600	Contractors Responses / Consultation (2wks)	10	16-Jan-25	30-Jan-25
SYDPORT-1620	Review & Award D&C Contractor (1wk)	5	31-Jan-25	06-Feb-25
Design & Construction		311	07-Feb-25	19-May-26
Design Development		120	07-Feb-25	30-Jul-25
SYDPORT-1640	Consultant Review / Briefing & Award	10	07-Feb-25	20-Feb-25
SYDPORT-1645	Site Survey / Confirm Services	2	19-Feb-25	20-Feb-25
SYDPORT-1660	Design Development - 50%	25	21-Feb-25	27-Mar-25
SYDPORT-1680	Client Review & Approval of 50% DD	10	28-Mar-25	10-Apr-25
SYDPORT-1700	Design Development 80%	30	11-Apr-25	28-May-25
SYDPORT-1720	Client Review & Approval of 80% DD	10	29-May-25	11-Jun-25
SYDPORT-1740	Construction Documentation 100% and IFC	25	12-Jun-25	16-Jul-25
SYDPORT-1760	Client Review & Approval of 100% DD	10	17-Jul-25	30-Jul-25
Procurement (Long Lead Items Only)		180	12-Jun-25	10-Mar-26
SYDPORT-1780	Escalator - Design Period / Shop Drawings (8wks)	40	12-Jun-25	06-Aug-25
SYDPORT-1800	Escalator - Manufacture (x2) (14wks)	70	07-Aug-25	14-Nov-25
SYDPORT-1820	Escalator - Shipping (6wks) & Custom Clearance (2wks)	40	17-Nov-25	27-Jan-26
SYDPORT-1840	Lift - Design Period / Shop Drawings / Finishes Selections (8wks)	40	12-Jun-25	06-Aug-25
SYDPORT-1860	Lift - Manufacture (8 Lifts) (20wks)	100	07-Aug-25	12-Jan-26
SYDPORT-1880	Lift - - Shipping (6wks) & Custom Clearance (2wks)	40	13-Jan-26	10-Mar-26
SYDPORT-1900	Floor Finishes - Selection / Shipping / Customs Clearance (16wks)	80	31-Jul-25	21-Nov-25
SYDPORT-2740	Escalator Cladding - Design / Shop Drawings & Coord. (8wks)	40	12-Jun-25	06-Aug-25
SYDPORT-2760	Escalator Cladding - Manufacturing / Delivery (14wks)	70	07-Aug-25	14-Nov-25
Option 1 - Construction		275	31-Mar-25	19-May-26
Escalator		275	31-Mar-25	19-May-26
SYDPORT-1090	Site Establishment / Accommodation / Set - Up Hoarding's	10	31-Mar-25*	11-Apr-25
SYDPORT-1100	Relocated Existing Services (Sub FIR / UPS Back-up etc)	15	14-Apr-25	08-May-25
SYDPORT-1240	Initial Dismantle of Existing Units / Disconnection etc.	4	14-Apr-25	17-Apr-25
SYDPORT-1920	Set up Lifting & Removal Gear	4	22-Apr-25	28-Apr-25
SYDPORT-1940	Remove Facade / Cladding	8	29-Apr-25	09-May-25
SYDPORT-1960	Close off Public Access	1	12-May-25	12-May-25
SYDPORT-1980	Removal of Escalator 1	2	13-May-25	14-May-25
SYDPORT-2000	Removal of Escalator 2	2	19-May-25	20-May-25
SYDPORT-2020	Make Safe / Edge Protection	1	21-May-25	21-May-25
SYDPORT-2040	Re-install Facade / Cladding or Temp. (as Required)	1	22-May-25	22-May-25
SYDPORT-2060	Make Good Existing Structure / Inspections	4	23-May-25	28-May-25
SYDPORT-2080	Prep Escalator Boots / Membrane / Services, etc	10	29-May-25	11-Jun-25



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

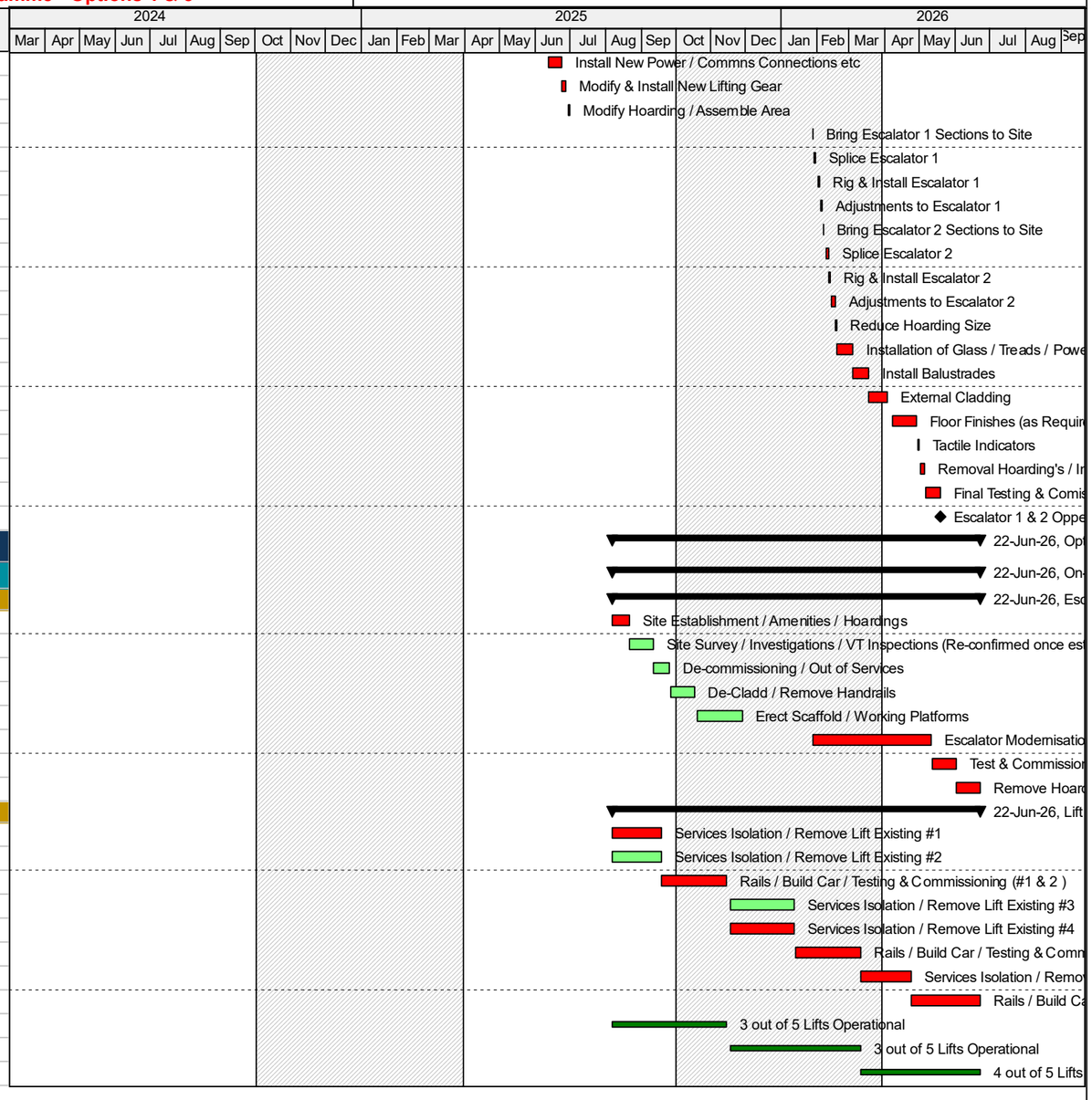
Data Date: 13-Nov-23; Print Date: 01-Mar-24

Date	Revision	Checked	Approved
17-Nov-23	Syd Port - OPT Draft Rev 1	DS	
01-Mar-24	Syd Port - OPT Draft Rev 2 - Option 1 & 3	DS	

Syd Port Master
RPI-SydPort; RMG-Syd_Port

Sydney Port Authoirty
Oversea Passenger Teminal (OPT)
VT Upgrade - Draft Programme - Options 1 & 3

Activity ID	Activity Name	Dur	Start	Finish
SYDPORT-2100	Install New Power / Commns Connections etc	8	12-Jun-25	23-Jun-25
SYDPORT-2120	Modify & Install New Lifting Gear	4	24-Jun-25	27-Jun-25
SYDPORT-2135	Modify Hoarding / Assemble Area	1	30-Jun-25	30-Jun-25
SYDPORT-2140	Bring Escalator 1 Sections to Site	1	28-Jan-26	28-Jan-26
SYDPORT-2160	Splice Escalator 1	2	29-Jan-26	30-Jan-26
SYDPORT-2180	Rig & Install Escalator 1	2	02-Feb-26	03-Feb-26
SYDPORT-2200	Adjustments to Escalator 1	2	04-Feb-26	05-Feb-26
SYDPORT-2220	Bring Escalator 2 Sections to Site	1	06-Feb-26	06-Feb-26
SYDPORT-2240	Splice Escalator 2	2	09-Feb-26	10-Feb-26
SYDPORT-2260	Rig & Install Escalator 2	2	11-Feb-26	12-Feb-26
SYDPORT-2280	Adjustments to Escalator 2	2	13-Feb-26	16-Feb-26
SYDPORT-2300	Reduce Hoarding Size	1	17-Feb-26	17-Feb-26
SYDPORT-2320	Installation of Glass / Treads / Power	10	18-Feb-26	03-Mar-26
SYDPORT-2340	Install Balustrades	10	04-Mar-26	17-Mar-26
SYDPORT-2360	External Cladding	12	18-Mar-26	02-Apr-26
SYDPORT-2380	Floor Finishes (as Required)	15	07-Apr-26	28-Apr-26
SYDPORT-2400	Tactile Indicators	2	29-Apr-26	30-Apr-26
SYDPORT-2420	Removal Hoarding's / Install Low Height for Testing	2	01-May-26	05-May-26
SYDPORT-2440	Final Testing & Comissioning	10	06-May-26	19-May-26
SYDPORT-2460	Escalator 1 & 2 Opperational	0		19-May-26*
Option 3		210	07-Aug-25	22-Jun-26
On-Site - Construcrtion		210	07-Aug-25	22-Jun-26
Escalator		210	07-Aug-25	22-Jun-26
SYDPORT-2480	Site Establishment / Amenities / Hoardings	10	07-Aug-25	21-Aug-25
SYDPORT-2500	Site Survey / Investigations / VT Inspections (Re-confirmed once establishment)	15	22-Aug-25	11-Sep-25
SYDPORT-2520	De-commissioning / Out of Services	10	12-Sep-25	25-Sep-25
SYDPORT-2540	De-Cladd / Remove Handrails	15	26-Sep-25	17-Oct-25
SYDPORT-2560	Erect Scaffold / Working Platforms	30	20-Oct-25	28-Nov-25
SYDPORT-2580	Escalator Modernisation & Cladding (14wks)	70	28-Jan-26	11-May-26
SYDPORT-2600	Test & Commissioning	15	12-May-26	01-Jun-26
SYDPORT-2620	Remove Hoardings / Make Good Surrounding Finishes	15	02-Jun-26	22-Jun-26
Lift		210	07-Aug-25	22-Jun-26
SYDPORT-1260	Services Isolation / Remove Lift Existing #1	30	07-Aug-25	18-Sep-25
SYDPORT-1280	Services Isolation / Remove Lift Existing #2	30	07-Aug-25	18-Sep-25
SYDPORT-1285	Rails / Build Car / Testing & Commissioning (#1 & 2)	40	19-Sep-25	14-Nov-25
SYDPORT-1300	Services Isolation / Remove Lift Existing #3	30	17-Nov-25	12-Jan-26
SYDPORT-1320	Services Isolation / Remove Lift Existing #4	30	17-Nov-25	12-Jan-26
SYDPORT-1325	Rails / Build Car / Testing & Commissioning (#3 & 4)	40	13-Jan-26	10-Mar-26
SYDPORT-1340	Services Isolation / Remove Lift Existing #5	30	11-Mar-26	23-Apr-26
SYDPORT-1400	Rails / Build Car / Testing & Commissioning (#5)	40	24-Apr-26	22-Jun-26
SYDPORT-1420	3 out of 5 Lifts Operational	70	07-Aug-25	14-Nov-25
SYDPORT-1440	3 out of 5 Lifts Operational	70	17-Nov-25	10-Mar-26
SYDPORT-1460	4 out of 5 Lifts Operational	70	11-Mar-26	22-Jun-26



Remaining Level of Effort | Remaining Work | Summary
Actual Level of Effort | Critical Remaining Work
Actual Work | Milestone

Data Date: 13-Nov-23; Print Date: 01-Mar-24

Date	Revision	Checked	Approved
17-Nov-23	Syd Port - OPT Draft Rev 1	DS	
01-Mar-24	Syd Port - OPT Draft Rev 2 - Option 1 & 3	DS	

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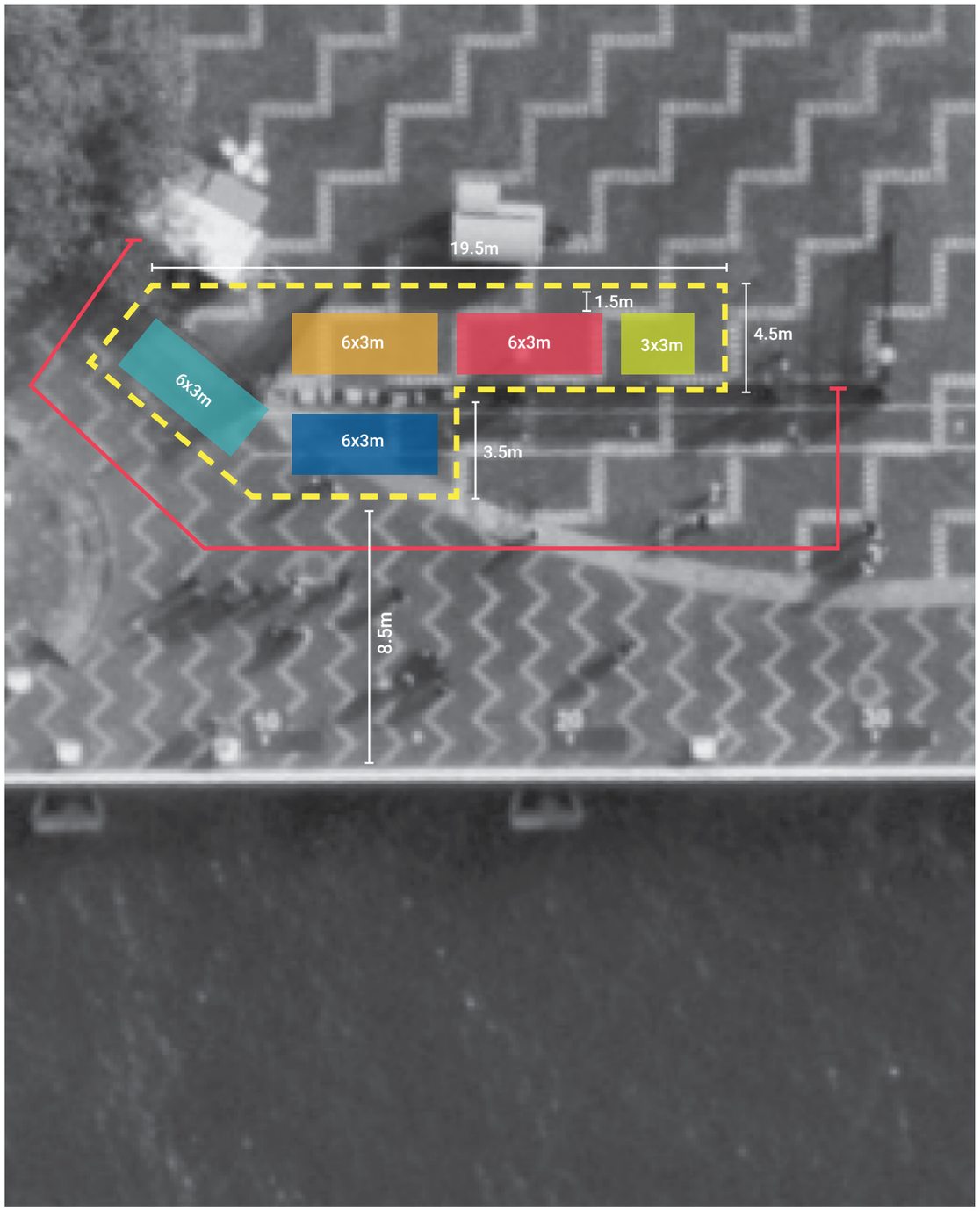
Appendix C. Site Establishment Plans

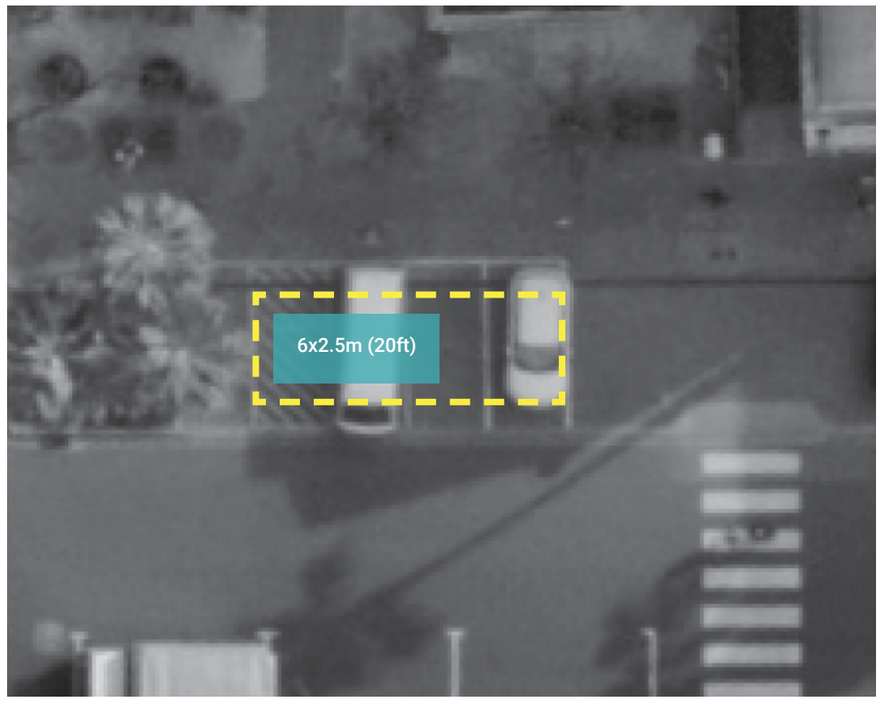
KEY

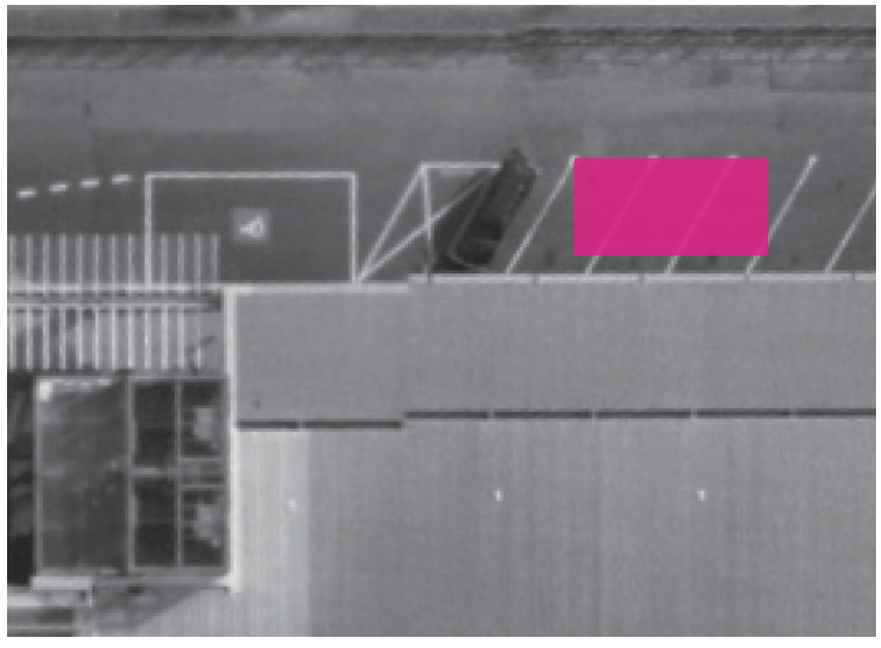
- Site Compound
- Site Storage Containers
- Man and Material Pathways
- Hoardings
- Security gate to remain open with clear access path for pedestrians around site compound

KEY

- Overnight materials deliveries for escalator works to Level 3
- Man and Material Pathways







KEY

- Site Office
- Site Lunch Room
- Ablution Block
- Storage Container
- Provisional Storage
- Overnight materials deliveries for escalator works to Level 3
- Hoardings
- Security gate to remain open with clear access path for pedestrians around site compound

Image A

Image B

Image C

KEY

IMAGE A:

Site Compound Location with hoarding.

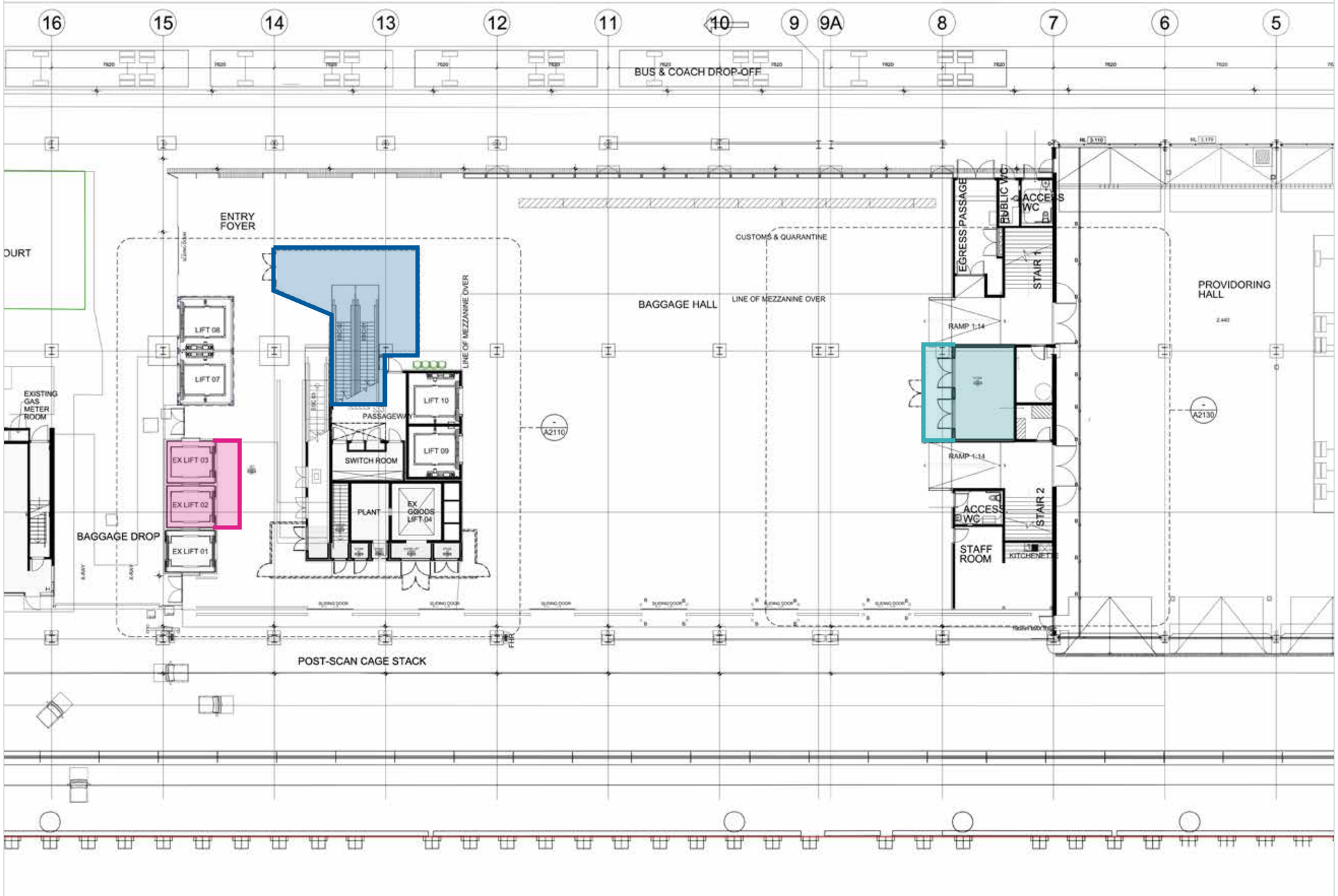
IMAGE B:

Site Compound Set Up:
- Two 6 x 3 metre site sheds
- One 3 x 3 site amenities block

IMAGE C:

1 x 20ft container

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 1 HOARDING PLAN: 29TH JUNE 2026 - 27TH AUGUST 2026
LIFTS 2 AND 3 MRL UPGRADE AND ESCALATOR 1 AND 2 WORKS BEGIN



Key - Level 1

Stage 1: Lift 2 & 3
29/06/2026 - 27/08/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

Stage 1: Escalator 1 & 2
07/07/2026 - 01/12/2026

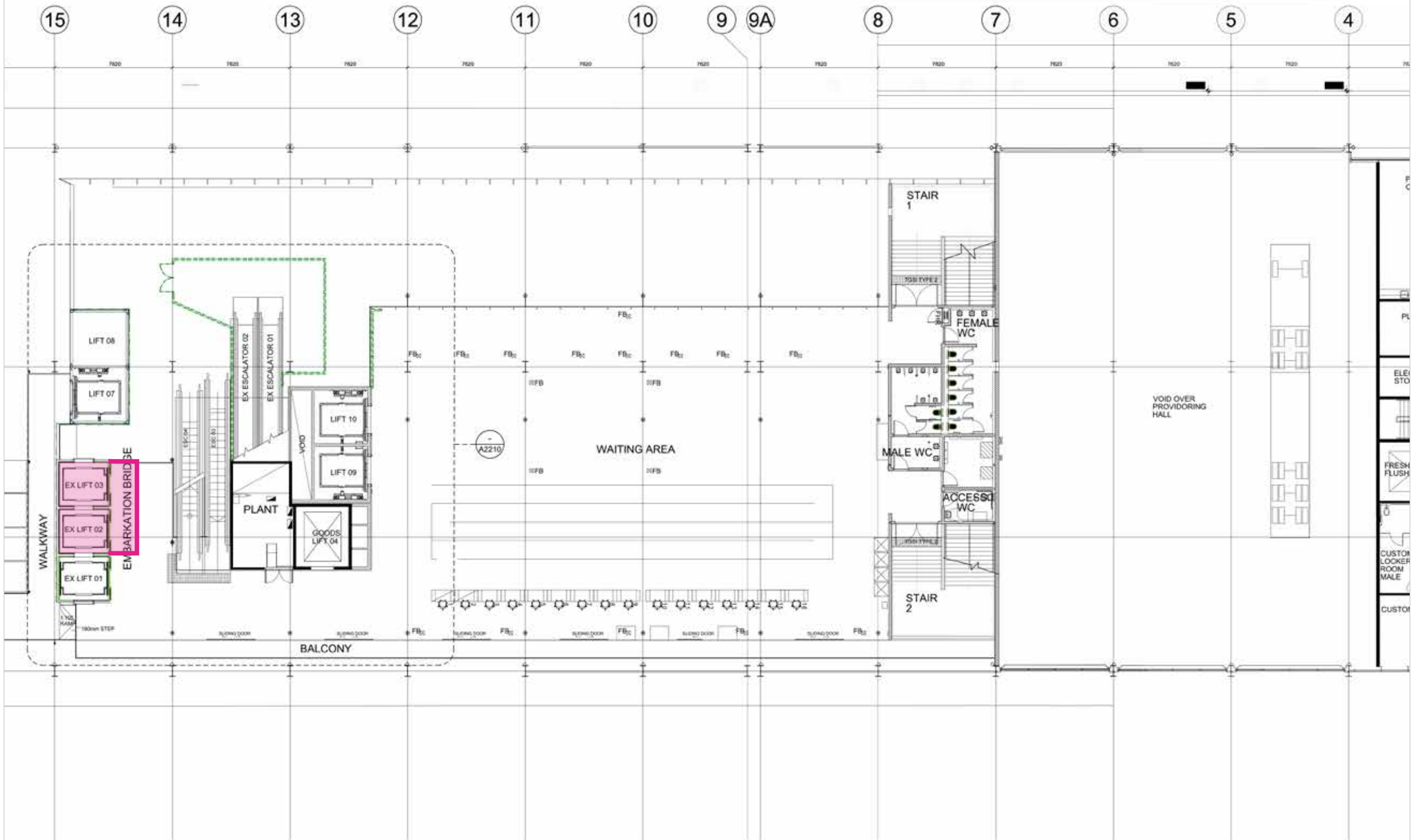
- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

Stage 1: Store 3
29/06/2026 - 25/08/2026

- Hoarding - Store 3
- Work Zone - Store 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 1 HOARDING PLAN: 29TH JUNE 2026 - 27TH AUGUST 2026

LIFTS 2 AND 3 MRL UPGRADE AND ESCALATOR 1 AND 2 WORKS BEGIN



Key - Level 2

Stage 1: Lift 2 & 3

29/06/2026 - 27/08/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 1 HOARDING PLAN: 29TH JUNE 2026 - 27TH AUGUST 2026
LIFTS 2 AND 3 MRL UPGRADE AND ESCALATOR 1 AND 2 WORKS BEGIN

Key - Level 3

Stage 1: Lift 2 & 3
29/06/2026 - 27/08/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

Stage 1: Escalator 1 & 2
07/07/2026 - 01/12/2026

- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 2 HOARDING PLAN: 28TH AUGUST 2026 - 20TH NOVEMBER 2026
LIFT 1 MRL UPGRADE, LIFT 6 REFURBISHMENT AND ESCALATOR 1 AND 2 WORKS ONGOING

Key - Level 1

Stage 2: Lift 1
27/08/2026 - 04/11/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

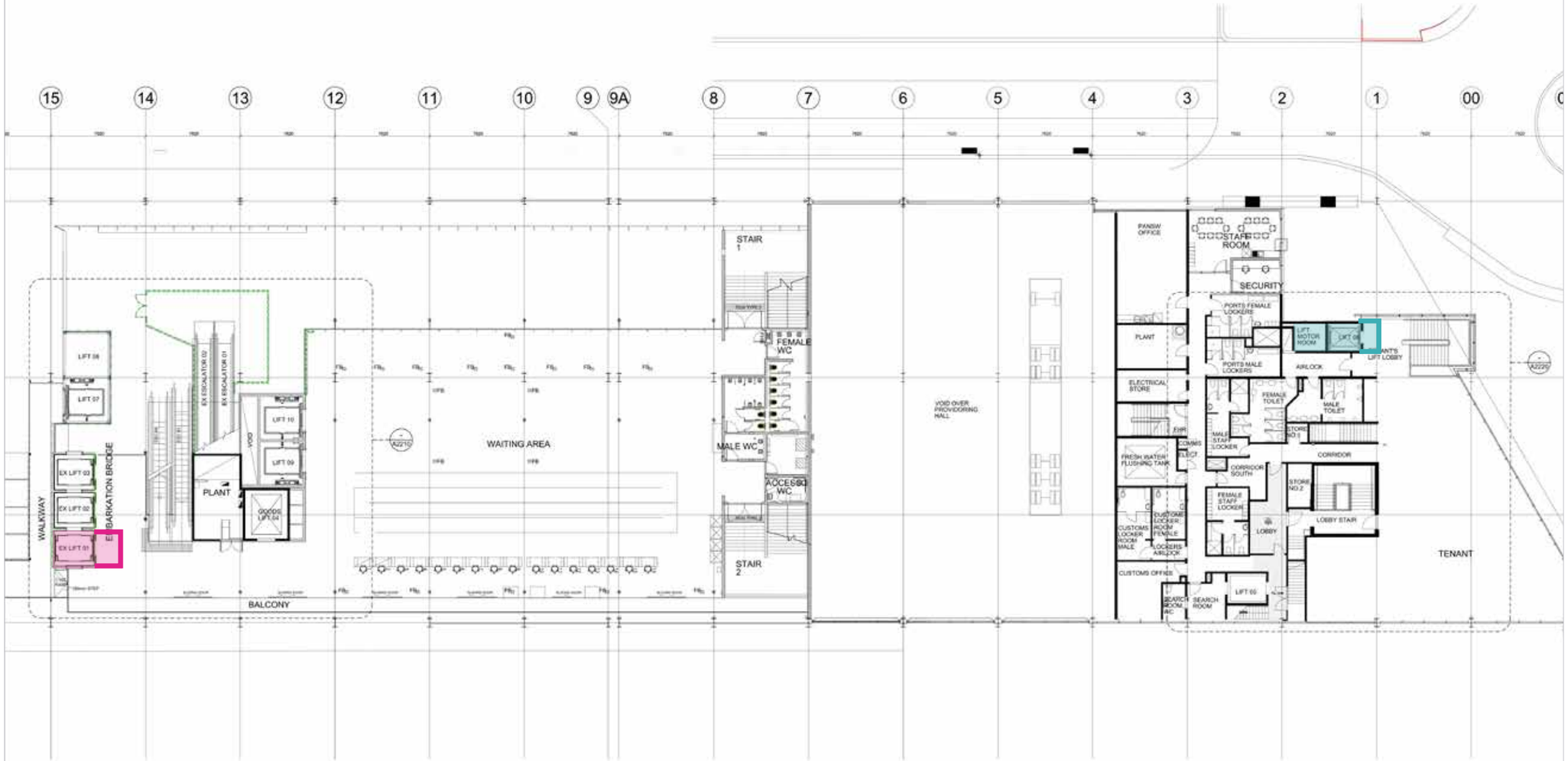
Stage 2: Escalator 1 & 2
27/08/2026 - 20/11/2026

- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

Stage 2: Lift 6
27/08/2026 - 20/11/2026

- Hoarding - Store 3
- Work Zone - Store 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 2 HOARDING PLAN: 28TH AUGUST 2026 - 20TH NOVEMBER 2026
LIFT 1 MRL UPGRADE, LIFT 6 REFURBISHMENT AND ESCALATOR 1 AND 2 WORKS ONGOING



Key - Level 2

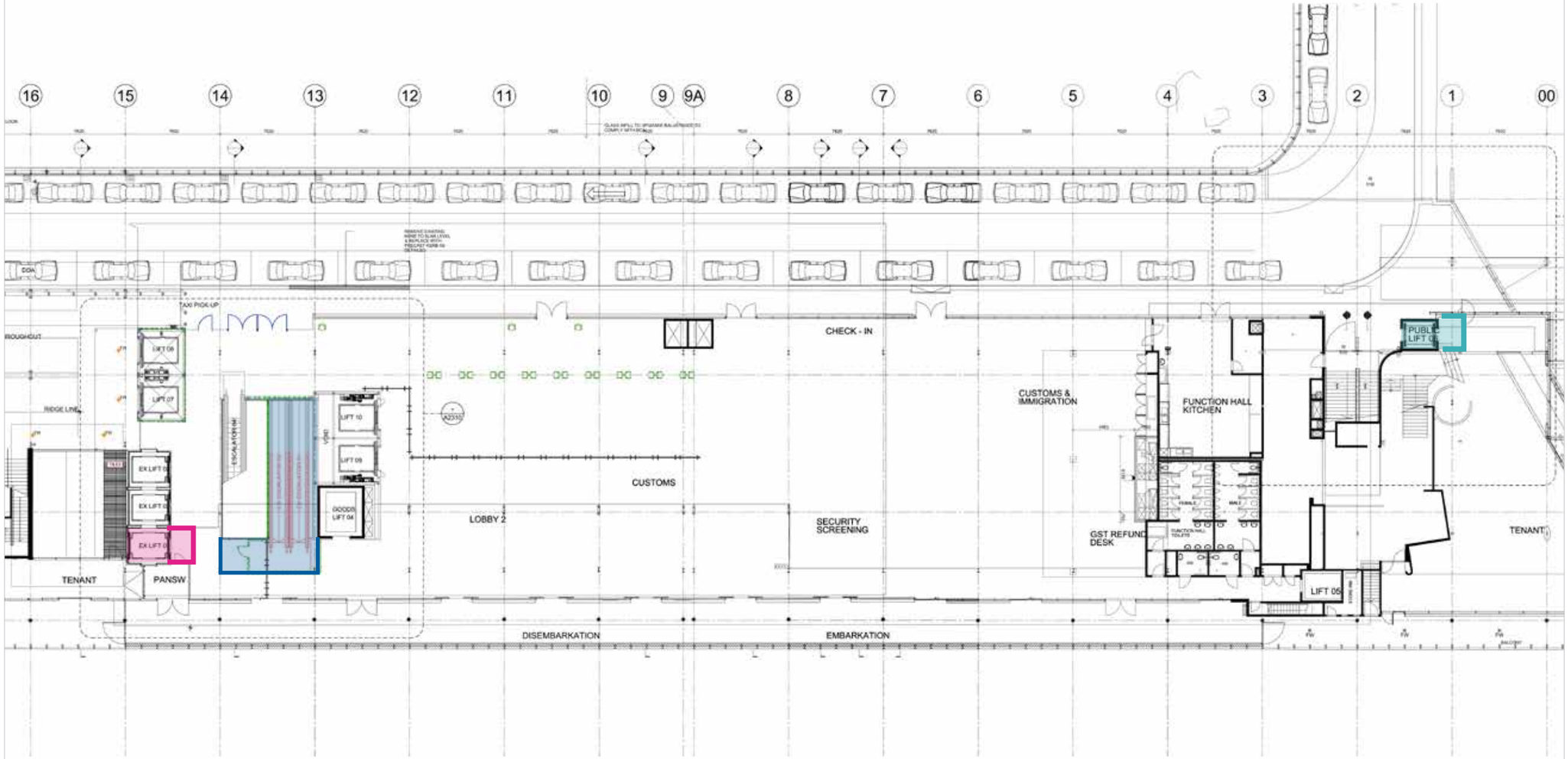
Stage 2: Lift 1
27/08/2026 - 04/11/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

Stage 2: Lift 6
27/08/2026 - 20/11/2026

- Hoarding - Store 3
- Work Zone - Store 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 2 HOARDING PLAN: 28TH AUGUST 2026 - 20TH NOVEMBER 2026
LIFT 1 MRL UPGRADE, LIFT 6 REFURBISHMENT AND ESCALATOR 1 AND 2 WORKS ONGOING



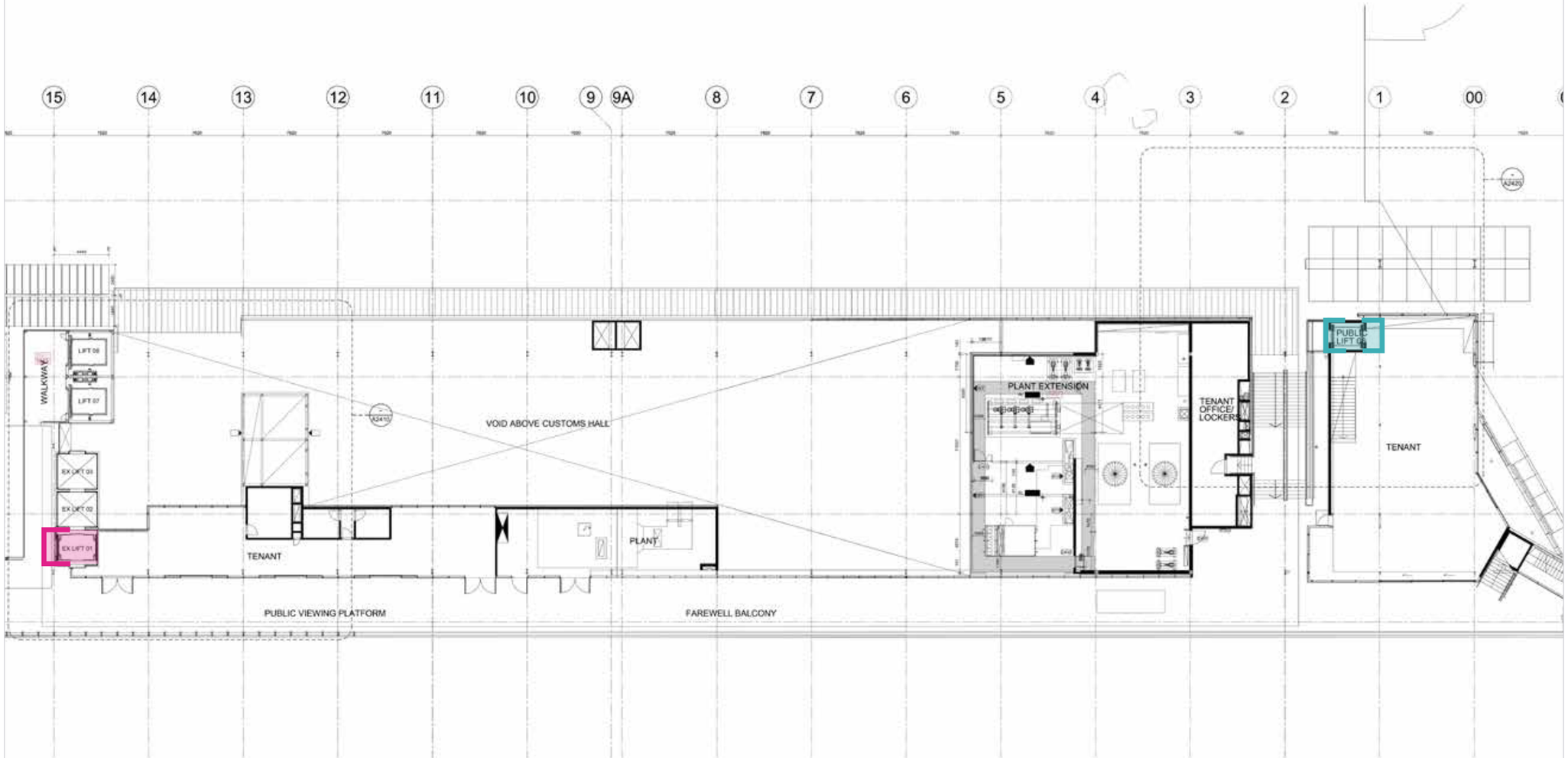
Key - Level 3

Stage 2: Lift 1
27/08/2026 - 04/11/2026
- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

Stage 2: Escalator 1 & 2
27/08/2026 - 20/11/2026
- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

Stage 2: Lift 6
27/08/2026 - 20/11/2026
- Hoarding - Store 3
- Work Zone - Store 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 2 HOARDING PLAN: 28TH AUGUST 2026 - 20TH NOVEMBER 2026
LIFT 1 MRL UPGRADE, LIFT 6 REFURBISHMENT AND ESCALATOR 1 AND 2 WORKS ONGOING



Key - Level 4

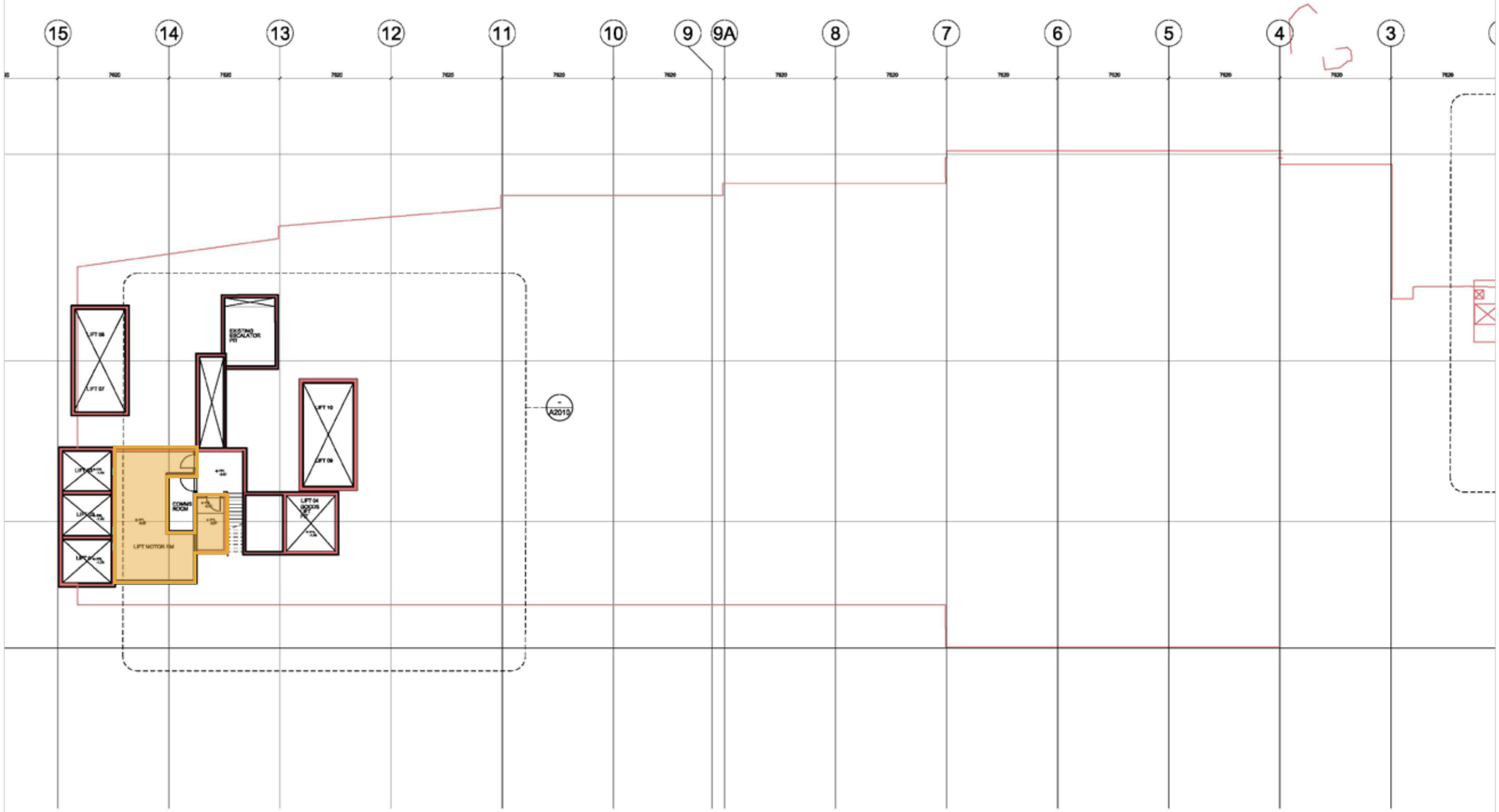
Stage 2: Lift 1
27/08/2026 - 04/11/2026

- Hoarding - Lift 2 & 3
- Work Zone - Lift 2 & 3

Stage 2: Lift 6
27/08/2026 - 20/11/2026

- Hoarding - Store 3
- Work Zone - Store 3

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 3 HOARDING PLAN: 20TH NOVEMBER 2026 - 24TH FEBRUARY 2027
LIFTS 4 AND 5 REFURBISHMENT AND COMPLETION OF ESCALATORS 1 AND 2 ON 1ST DECEMBER 2026



Key - Level 0

Stage 3: Lift 4, New Office and Services Upgrade
04/12/2026 - 15/02/2027

- Hoarding - Lift 4, New Office and Services Upgrade
- Work Zone - Lift 4, New Office and Services Upgrade

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 3 HOARDING PLAN: 20TH NOVEMBER 2026 - 24TH FEBRUARY 2027
LIFTS 4 AND 5 REFURBISHMENT AND COMPLETION OF ESCALATORS 1 AND 2 ON 1ST DECEMBER 2026

Key - Level 1

Stage 3: Escalator 1 & 2
20/11/2026 - 01/12/2026

- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

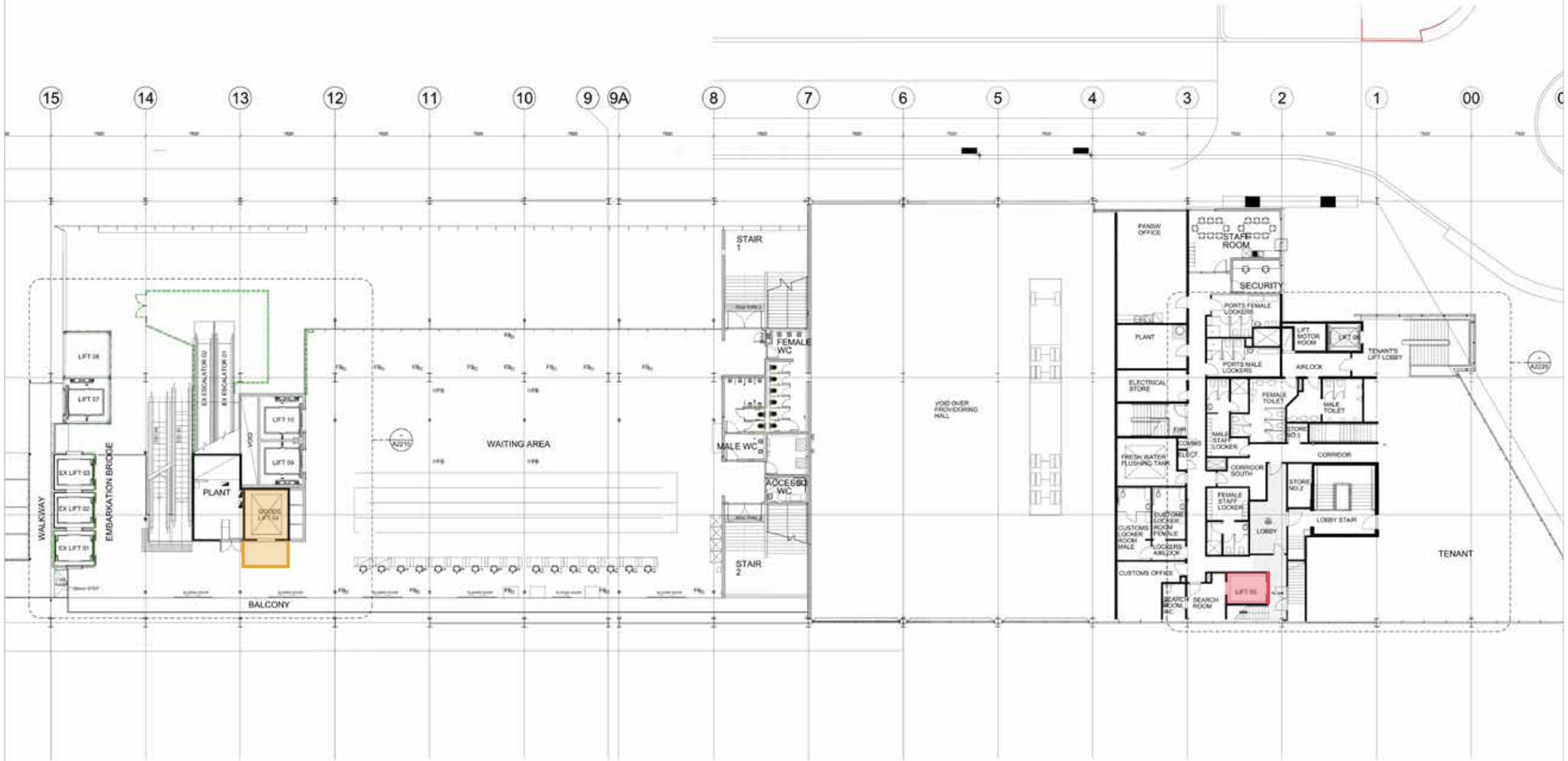
Stage 3: Lift 4, New Storage and Services Cupboards
04/12/2026 - 15/02/2027

- Hoarding - Lift 4, New Storage and Services Cupboards
- Work Zone - Lift 4, New Storage and Services Cupboards

Stage 3: Lift 5
04/12/2026 - 15/02/2027

- Hoarding - Lift 5
- Work Zone - Lift 5

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 3 HOARDING PLAN: 20TH NOVEMBER 2026 - 24TH FEBRUARY 2027
LIFTS 4 AND 5 REFURBISHMENT AND COMPLETION OF ESCALATORS 1 AND 2 ON 1ST DECEMBER 2026



Key - Level 2

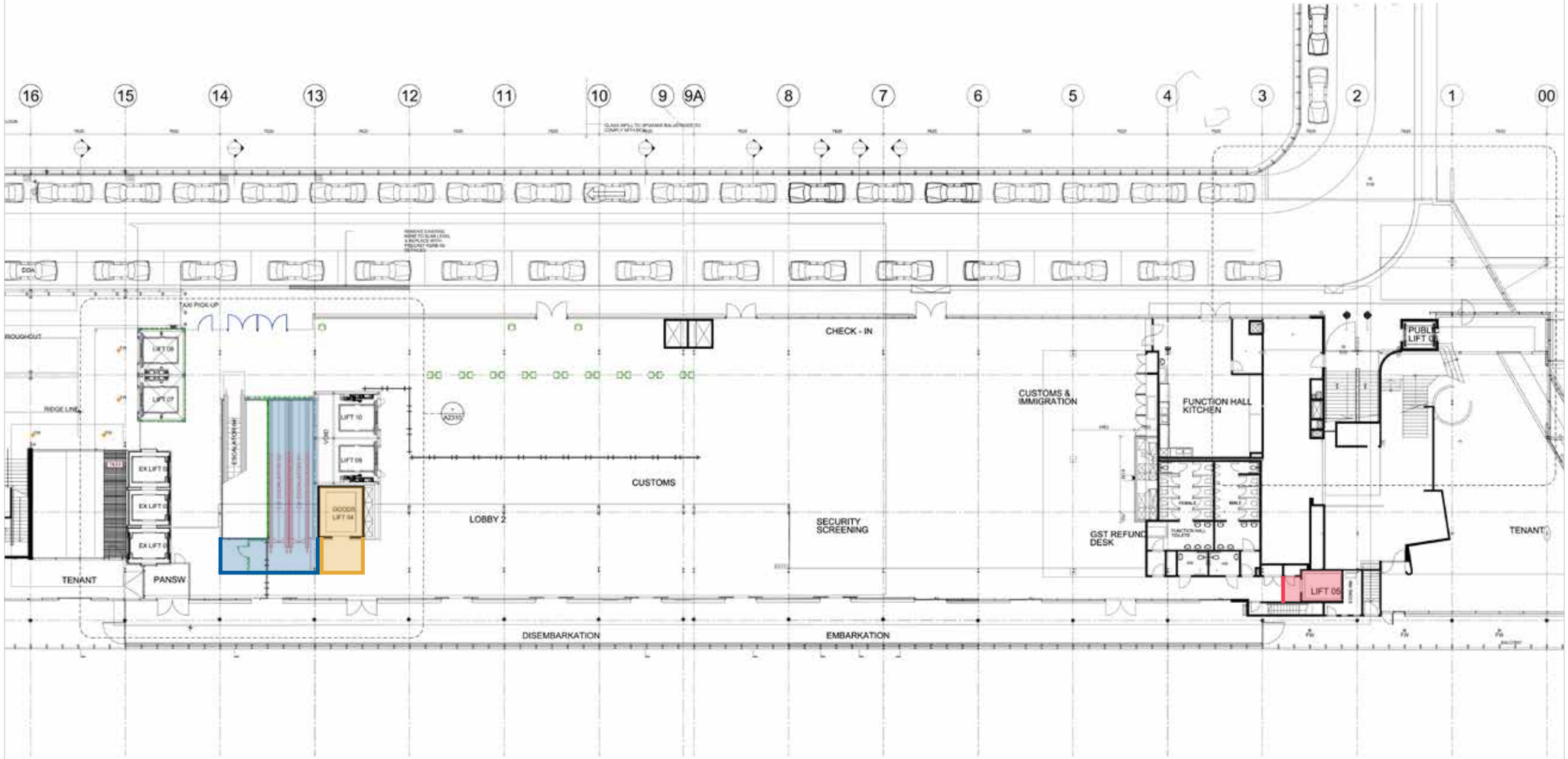
Stage 3: Lift 4
04/12/2026 - 15/02/2027

- Hoarding - Lift 4
- Work Zone - Lift 4

Stage 3: Lift 5
04/12/2026 - 24/02/2027

- Hoarding - Lift 5
- Work Zone - Lift 5

OPT - LIFTS AND ESCALATOR UPGRADES STAGE 3 HOARDING PLAN: 20TH NOVEMBER 2026 - 24TH FEBRUARY 2027
LIFTS 4 AND 5 REFURBISHMENT AND COMPLETION OF ESCALATORS 1 AND 2 ON 1ST DECEMBER 2026



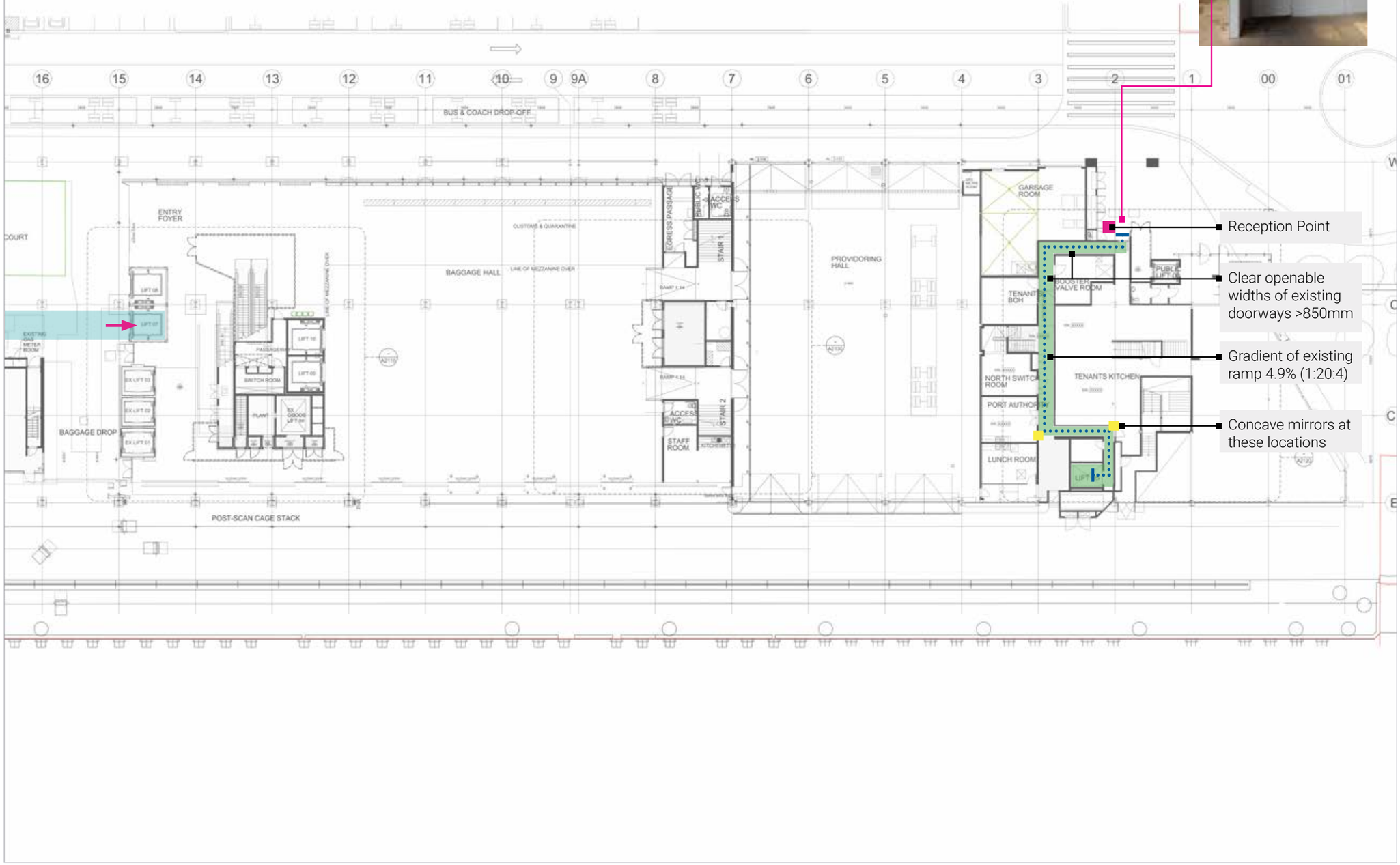
Key - Level 3

Stage 3: Escalator 1 & 2
20/11/2026 - 01/12/2026
- Hoarding - Esc 1 & 2
- Work Zone - Esc 1 & 2

Stage 3: Lift 4
04/12/2026 - 15/02/2027
- Hoarding - Store 3
- Work Zone - Store 3

Stage 3: Lift 5
20/11/2026 - 24/02/2027
- Hoarding - Lift 5
- Work Zone - Lift 5

ACCESS PLAN: STAGE 2 - LEVEL 1



Key

- Access path to ex-Quay Restaurant
- Access path to Squire's Landing
- Blue dashed line indicates assisted accessible path of travel
- Door Entry

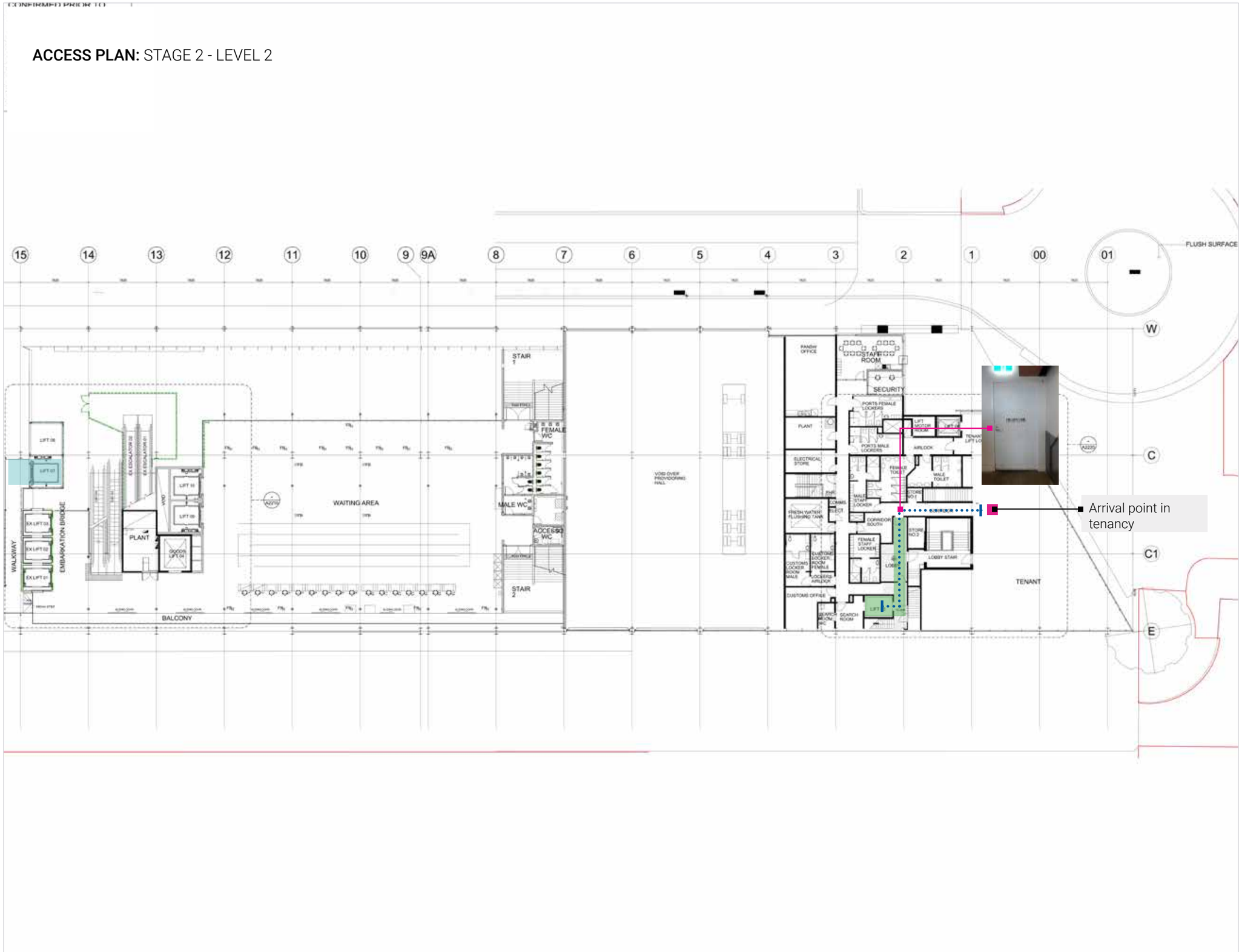
Door:

Provide call button to alert reception.

Provide Braille tactile sign above intercom. Field colour of sign to achieve 30% luminous contrast with wall colour.

Paint both sides of door. Ensure 30% luminous contrast between door and adjacent wall surface

ACCESS PLAN: STAGE 2 - LEVEL 2



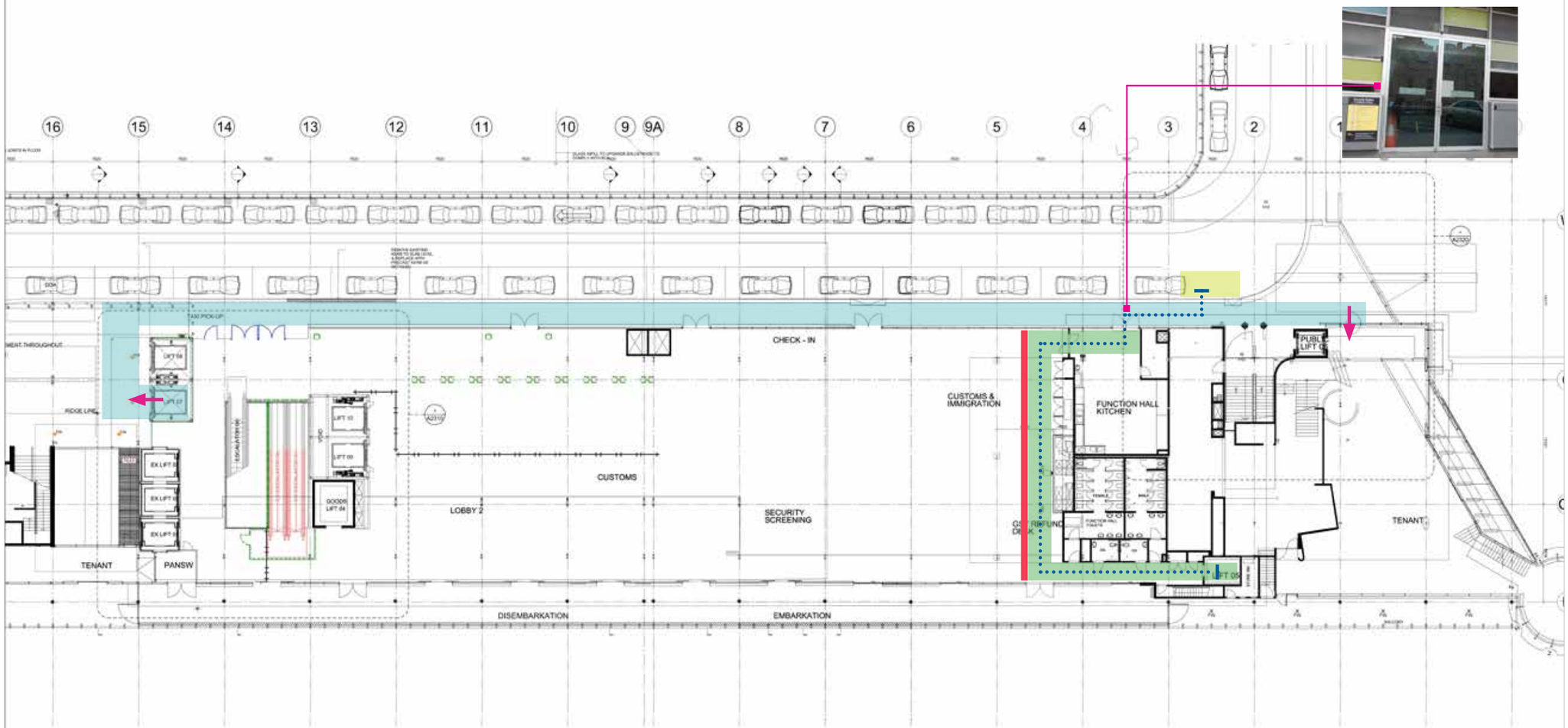
Key

- Access path to ex-Quay Restaurant
- Access path to Squire's Landing
- Blue dashed line indicates assisted accessible path of travel
- Door Entry

Door:

Paint both sides of door. Ensure 30% luminous contrast.

ACCESS PLAN: STAGE 2 - LEVEL 3



Key

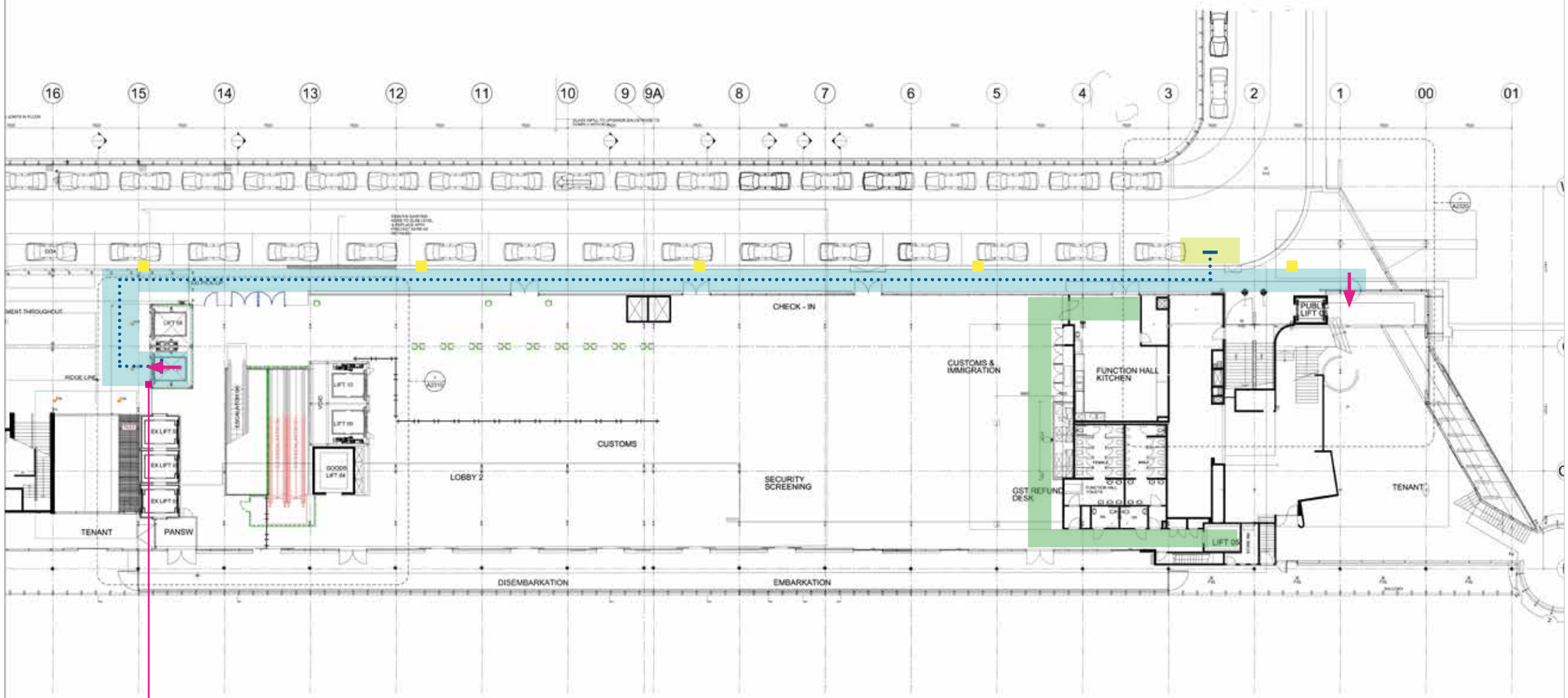
- Access path to ex-Quay Restaurant
- Access path to Squire's Landing
- Blue dashed line indicates assisted accessible path of travel
- Door Entry
- Nominate 7800 x 3200 accessible parking zone for setdown adjacent to existing kerb ramp. This can be achieved with sign posting
- If a barrier needs to be installed on ship days, the minimum width of the passage is to be 1m clear however 1800mm is preferred to allow for 2 people to walk side by side

Door:

Provide Braille tactile sign above intercom. Field colour of sign to achieve 30% luminous contrast with wall colour.

Provide intercom to call for assitance.

ACCESS PLAN: STAGE 2 - LEVEL 3



Key

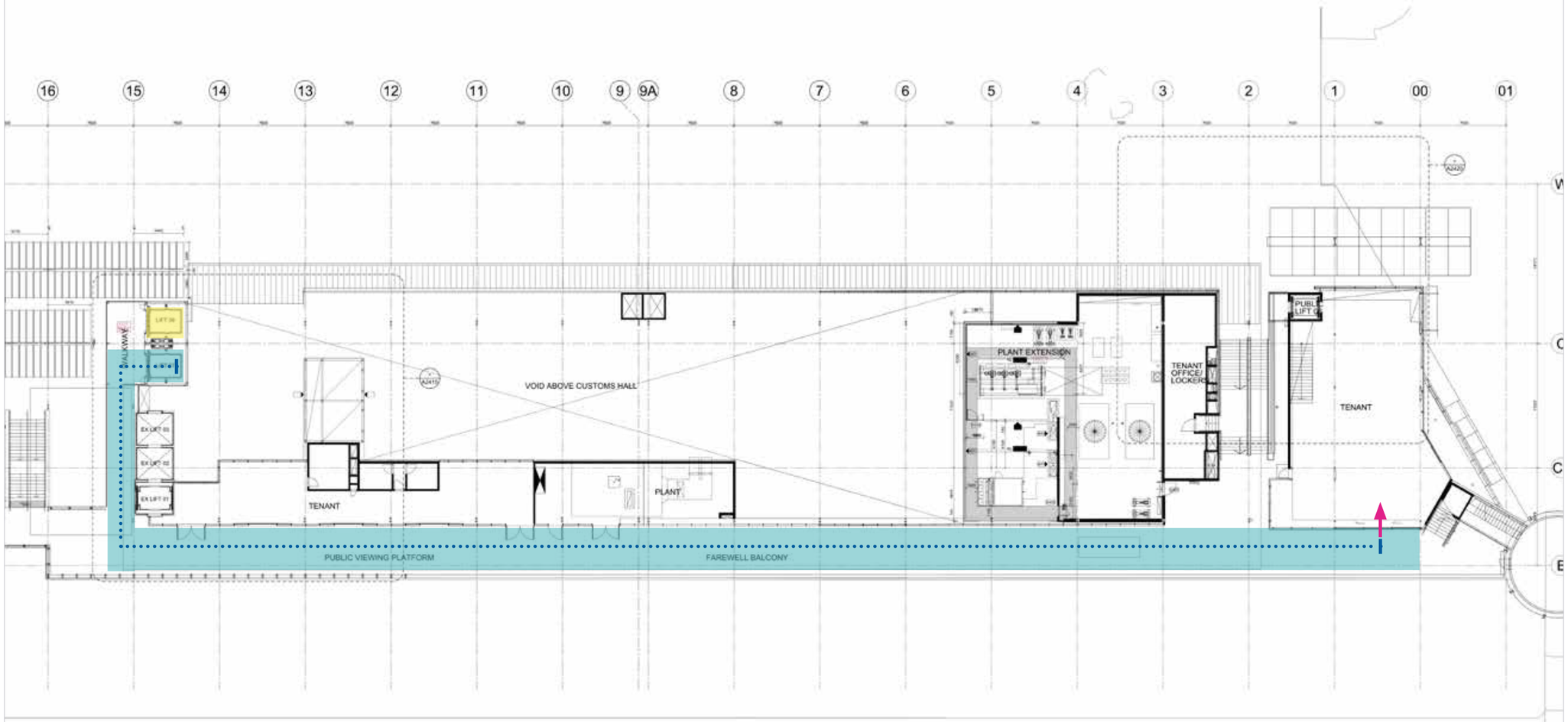
- Access path to ex-Quay Restaurant
- Access path to Squire's Landing
- Blue dashed line indicates assisted accessible path of travel
- Door Entry
- Nominate 7800 x 3200 accessible parking zone for setdown adjacent to existing kerb ramp. This can be achieved with sign posting
- Provide temporary directional signage to lift location

Door:

Provide Braille tactile sign above intercom. Field colour of sign to achieve 30% luminous contrast with wall colour.

Provide intercom to call for assitance.

ACCESS PLAN: STAGE 2 - LEVEL 4



Key

- Access Path to ex-Quay Restaurant
- Lift 6 (Offline)
- Blue dashed line indicates assisted accessible path of travel
- Door Entry

Appendix D. Hazmat Testing Analysis for Escalators

Mettle Projects Pty Ltd

Hazardous Materials Assessment Sydney Overseas Passenger Terminal, 130 George St, The Rocks NSW 2000

Purpose:

The objective of the assessment was undertaken to fulfil legislative requirements for identifying HBM as part of the day to day management of the site.

Prepared for:

Mettle Projects Pty Ltd

Document Date:

04 February 2026

Reference:

S-10064.HMA.001

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DOCUMENT CONTROL

Project Details:	
Report Name:	Hazardous Materials Assessment – Sydney Overseas Passenger Terminal, 130 George St, The Rocks NSW 2000
Client Name:	Mettle Projects Pty Ltd
Reference:	S-10064.HMA.001
Prepared by:	Calum Connaughton (LAA001617)
Reviewed by:	Abbie Walsh
Technical Review:	Ben Thombs (Competent Person)

Revision No.:	Revision Date:	Reason for Issue:	Authorised:	
			Name and Position:	Signature:
001	04/02/2026	First issue to client	Ben Thombs Principal Consultant	

EXECUTIVE SUMMARY

EDP Consultants Pty Ltd (EDP) was engaged by Mettle Projects Pty Ltd (the client) to undertake a hazardous materials assessment (assessment) of the Sydney Overseas Passenger Terminal located at 130 George St, The Rocks NSW (the site), to identify specific hazardous building materials (HBM) at the site. The materials which were inspected as part of the assessment are as follows:

- Asbestos-Containing Materials (ACM);
- Lead-Containing Paint (LCP);
- Lead-Containing Dust (LCD);
- Synthetic Mineral Fibre (SMF) materials;
- Polychlorinated Biphenyls (PCB) containing capacitors in fluorescent light fittings; and
- Ozone-Depleting Substances (ODS).

The objective of the assessment was undertaken to fulfil legislative requirements for identifying HBM as part of the day to day management of the site.

The following tables summarise the results of the assessment:

Table 1: Risk Assessment Scores

High Risk (P1)	Medium Risk (P2)	Low Risk (P3)	Very Low Risk (P4)
5	0	0	0

Table 2: Findings

Location:	Non-Friable ACM:	Friable ACM:	LCP:	LCD	SMF:	PCB:	ODS:
Overseas Passenger Terminal	✓	-	✓	✓	-	-	-

It should be noted that the above tables are summaries only and the entire assessment report should be read in conjunction with this Executive Summary.

CONTENTS

1. INTRODUCTION

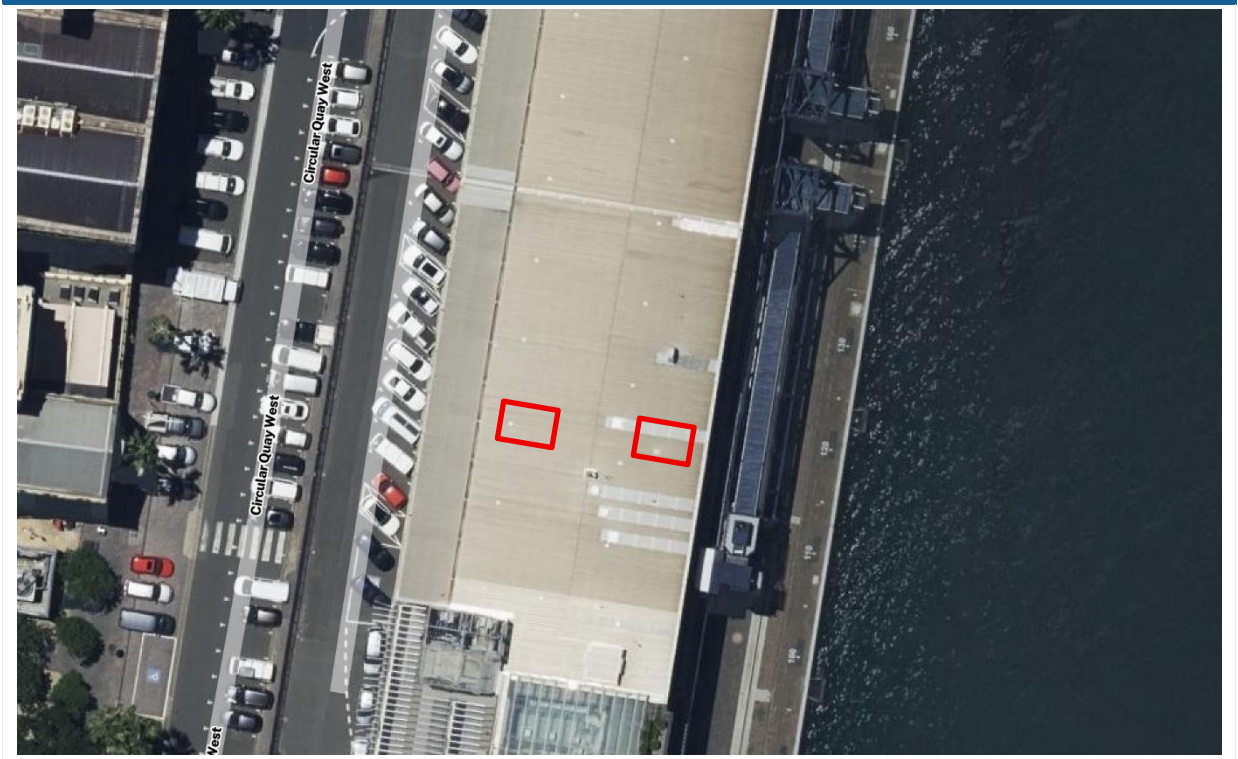
EDP Consultants Pty Ltd (EDP) was engaged by Mettle Projects Pty Ltd (Mettle) to undertake a hazardous materials assessment (assessment) of the property located at 130 George St, The Rocks NSW (the site), to identify specific hazardous building materials (HBM) at the site. Calum Connaughton of EDP conducted the assessment on the 21 January 2026 at the request of Hayden Duncan of Mettle.

2. SITE DETAILS

2.1 Site Details

The following table summarises the details of the site and all buildings included within the assessment:

Table 3: Site Details

Site Details:	
	
Description of Site:	Sydney Overseas Passenger Terminal, Elevator pits
Number of Buildings on Site:	1
Approximate Age of Buildings:	1950's
Approximate Area (m^2):	3200
Number of Levels:	2

Source: Image courtesy of https://portal.spatial.nsw.gov.au/explorer/index.html

3. OBJECTIVE

The objective of the assessment is to identify specific HBM associated with the site and provide an assessment report outlining findings and recommendations for the management of identified HBM as per legislative requirements.

4. SCOPE OF WORKS

4.1 Detailed Scope of Works

The scope of the assessment included the accessible internal and external areas of the site, specifically, EDP were requested to undertake the following scope for the assessment:

- Conduct the assessment during normal business hours whilst the site was unoccupied;
- Inspect the site for the following specific HBM:
  - Asbestos-Containing Materials (ACM);
  - Lead-Containing Paint (LCP);
  - Lead-Containing Dust (LCD);
  - Synthetic Mineral Fibre (SMF) materials;
  - Polychlorinated Biphenyls (PCB) containing capacitors in fluorescent light fittings; and
  - Ozone-Depleting Substances (ODS).
- Collect suspected samples for asbestos and lead and have these analysed at an external National Association of Testing Authorities (NATA), Australia accredited laboratory; and
- Document the nature, location and condition of the HBM and include a risk assessment and photographic evidence within a report and include an HBM Register providing full details and recommendations for any HBM at the site.

4.2 Specific Location of Works

The investigation was limited to the following areas and these were checked for HBM only as directed by Mettle.

Table 4: Location of Works

Location:
Sydney Overseas Passenger Terminal
Elevator Pits 1 & 2, lower and upper pits

5. METHODOLOGY

5.1 Site Works

The assessment comprised a review of relevant site information made available to EDP, a visual inspection of any accessible areas and sampling of materials (sampling methodology detailed in **Appendix B**). The assessment was conducted in accordance with the following:

- NSW *Work Health and Safety Act 2011*;
- NSW *Work Health and Safety Regulation 2017*;
- Code of Practice: *How to Manage and Control Asbestos in the Workplace 2022*;
- Code of Practice: *How to Safely Remove Asbestos 2022*;
- Safe Work Australia's *Minor contamination' of asbestos-containing dust or debris fact sheet 2013*;
- Australian Standard (AS) 4964:2004 *Method for the Qualitative Identification of Asbestos in Bulk Samples*;

- Code of Practice: *Demolition Work 2019*;
- AS 2601-2001 *The demolition of structures*;
- AS 4361.2:1998 *Guide to Lead Paint Management; Part 2 Residential and Commercial Buildings;*
- Australian and New Zealand Standard (AS/NZS) *Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings* (AS/NZS 4361.2:2017);
- *Code of Practice for the safe use of Synthetic Mineral Fibres* [NOHSC:2006 (1990)];
- Australian and New Zealand Environment and Conservation Council (ANZECC) *Identification of PCB-containing capacitors, 1997*;
- Montreal Protocol on Substances that Deplete the Ozone Layer;
- United Nations Environment Programme's Division of Technology, Industry and Economics (UNEP DTIE) Inventory of Trade Names of Chemical Products Containing Ozone Depleting Substances and their Alternatives;
- Australian Institute of Refrigeration Air Conditioning and Heating Inc (AIRAH) *Air Conditioning and Refrigeration Industry Refrigeration Selection Guide 2003*;
- Ozone Protection and Synthetic Greenhouse Gas Management Amendment Regulation 2012; and
- AS 1319:1994 *Safety Signs for the Occupational Environment*.

5.2 Samples Collected

The following table shows the number of samples collected and the number of positive results:

Table 5: Samples Collected

Type:	Collected Samples:	Positive Samples:
Asbestos-Containing Materials:	3	0
Lead-Containing Paint:	2	1
Lead-Containing Dust:	2	2

Please refer to **Appendix D** for full sample analysis results.

5.3 Areas Not Accessed

Site specific areas or rooms that were not accessed during EDP's assessment which were deemed likely to contain HBM are also listed in **Appendix A**. Areas that are generally not accessed as part of EDP's assessments are listed in **Appendix C**.

6. FINDINGS

6.1 Document Review and Interviews

As part of this assessment, EDP requested copies of previous documentation pertaining to HBM at the site.

No documentation was made available for this assessment or none were known to exist by Mettle and/or the site contact.

6.2 Summary of High-Risk Site Findings

The findings of this assessment are presented in tabulated format in **Appendix A** of this assessment Report. HBM that have been photographed are detailed in **Appendix A** of this assessment report. **Table 6** summarises any high-risk items identified during the assessment:

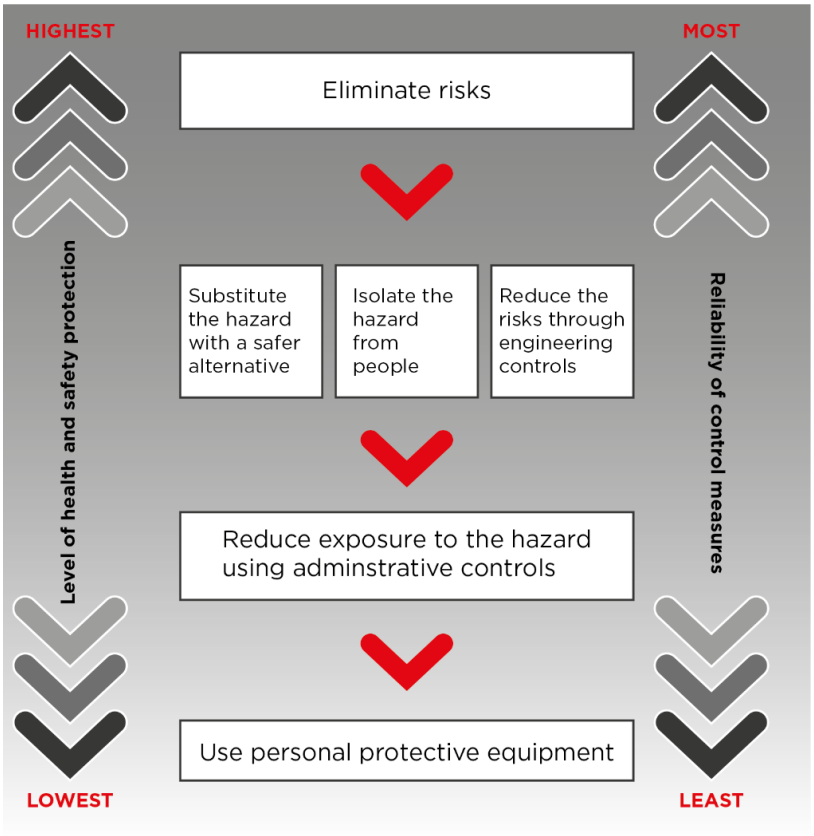
Table 6: Summary of High-Risk Items

Material Location:	Material Type:	Recommendation:
Overseas Passenger Terminal, internal, escalator, upper pit, motor, internal brake pads	Friction pads	Confirm status and maintain in current condition if to remain in-situ. Remove under controlled non-friable asbestos removal conditions prior to refurbishment or demolition works by a Class A (friable) or Class B (non-friable) licensed asbestos removal contractor.
Overseas Passenger Terminal, internal, escalator, upper pit, to plant	Orange coloured paint system	Remove under controlled conditions in accordance with AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings prior to renovation or demolition works.
Overseas Passenger Terminal, internal, escalator, upper pit, horizontal surfaces	Dust	Accumulated dust and debris was below the adopted AS4361.2:1998 criteria of 1 mg/m². Monitor accumulations of dust and debris with periodic samples to detect any increase in lead content in dust and debris throughout the site where required.
Overseas Passenger Terminal, internal, escalator, lower pit, to plant	Orange coloured paint system	Remove under controlled conditions in accordance with AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings prior to renovation or demolition works.
Overseas Passenger Terminal, internal, escalator, lower pit, horizontal surfaces	Dust	Accumulated dust and debris was below the adopted AS4361.2:1998 criteria of 1 mg/m². Monitor accumulations of dust and debris with periodic samples to detect any increase in lead content in dust and debris throughout the site where required.

Refer to **Appendix A** for full details of any HBM listed above from the assessment.

7. MANAGEMENT OPTIONS

As per state legislation, all materials suspected of containing asbestos must be identified and recorded in a register. Furthermore, a risk assessment must be conducted of each hazardous building material and appropriate control measures implemented. The control measures have been determined based on reducing the risk of exposure, so far as is reasonably practicable. The control measures, which were determined by a competent person and/or hygienist, need to reflect the hierarchy of control outlined in specific state legislation and is as follows:



Source: Image courtesy of Code of Practice: How to manage work health and safety risks, 2018

- **Elimination/removal** (most preferred);
- **Substitution**;
- **Isolation**, such as erection of permanent enclosures encasing the material;
- **Engineering controls**, such as negative air pressure enclosures for removal works, HEPA filtration systems;
- **Administrative controls** – including the incorporation of registers and management plans, the use of signage, personnel training, safe work procedures, regular re-inspections and registers; and
- The use of **Personal Protective Equipment** (PPE) (least preferred).

To manage the HBM, a combination of the above techniques may be required.

8. SITE SPECIFIC RECOMMENDATIONS

Based on the findings of this assessment, it is recommended that the following control measures be adopted as part of the management of HBM at the site. Recommendations for specific items of HBM are also presented in **Appendix A** of this assessment report.

8.1 Removal Strategy Recommendations

8.1.1 Asbestos-Containing Materials

When asbestos removal works are required, the person that commissions the works must ensure that this is undertaken by an appropriately licensed asbestos contractor. The asbestos removal works must be conducted under controlled asbestos removal conditions and the following must be considered:

- Engage a Class A (friable) or Class B (non-friable) licensed asbestos contractor to remove all non-friable ACM within the site prior to planned refurbishment or demolition works under controlled conditions.
- When non-friable asbestos removal works are to be conducted within or adjacent to a highly sensitive area or public locations, EDP recommend that an LAA or asbestos hygienist is engaged to undertake airborne asbestos fibre monitoring along the boundary of the works and within the work area on completion of the works.

8.1.2 Lead-Containing Paint

- Exposure risk remains for paint below 1% w/w lead content. Disturbing paint with lead content as low as 0.1% w/w requires control measures and personal protective equipment considerations. Further risk assessment required prior to maintenance or refurbishment works.
- If the LCP is flaking or in a poor/unstable condition, repainting is recommended as soon as practicable. The surface may be prepared by using wet sanding techniques. Take care not to generate dust or contaminate the immediate workplace or environment with water from the wet-sanding process.
- Painting over LCP is a temporary solution limited by the life of the paint. Alternatives to painting or the removal of LCP include encapsulating the paint with other materials.
- LCP in good condition should be left in place, unless major renovation and/or comprehensive refurbishment works are planned.
- Prior to demolition works, LCP may be disposed of attached to the substrates as long as they are in good condition. If the LCP are chalking or delaminating, the paint residues should be removed from the substrates in accordance with AS/NZS 4361.2:2017 and the waste must be disposed of as a lead-containing material in accordance with the NSW Environmental Protection Authority (EPA) requirements.
- An occupational hygienist should be engaged to conduct lead dust air monitoring during the removal works to ensure airborne lead concentrations do not exceed the current occupational exposure standard of 0.05 mg/m^3.

8.2 Management Strategy Recommendations

- An Asbestos Management Plan (AMP) must be created or a Hazardous Materials Management Plan (HMMP) and maintained for all ACM or HBM that remain at the site to assist with the management of these materials. The AMP or HMMP must ensure that suitable control measures are implemented to prevent site personnel and others from being exposed to airborne asbestos fibres or potentially disturbing other HBM at the site.
- Make available this report or specifically the hazardous materials register to all workers, contractors or maintenance staff whom may have the potential to disturb or work with the HBM identified at the site.
- Schedule periodic reassessment of all ACM (as a minimum) remaining on-site to monitor their condition so that the site management can be alerted if any ACM or HBM require remedial works. Any reviews or inspections should be updated within the register so that it remains current.
- All ACM on-site should be labelled in accordance with the NSW *Work Health and Safety Regulation 2017* and in line with AS 1319-1994 to warn people of the dangers of potentially disturbing these materials.

- Undertake a destructive hazardous building materials survey prior to any demolition or refurbishment works. Any HBM identified within the survey should be removed or managed prior to the commencement of any works that may cause disturbance as per legislation.

8.3 Inaccessible Areas Management Strategy

The following recommendations are provided for the management of any HBM that were inaccessible at the time of the Assessment taking place:

- Engage a competent person or (LAA) to confirm the status of any suspected ACM or HBM that was unable to be sampled or inspected at the time of this Assessment, prior to any planned demolition or refurbishment works.
- Should suspect ACM or HBM be identified during future works that are not identified within the HBM Register, the material should be inspected, sampled and sent for analysis by a NATA accredited laboratory if possible.
- Works with the potential to disturb any suspect materials are likely to occur, the works are to cease, and the area is to be made safe until an assessment can be made. If the suspect material has already been disturbed, then the overarching provisions of the AMP or HMMP, is to be followed, including advice sought from a competent person or LAA.
- Prior to planned demolition or refurbishment works, a Destructive HBM Audit must be undertaken as per AS 2601:2001 *The demolition of structures* and the Code of Practice: *Demolition work 2019*.

9. REPORT LIMITATIONS

Permitted Purpose

This report ('Report') has been prepared in response to specific instructions from Mettle Projects Pty Ltd ('Client'), in accordance with EDP's proposal dated 09 December 2025 and agreement with the Client dated 10 December 2025 (together the 'Agreement').

The Report has been prepared solely for the purpose described in the Agreement. The Report should only be relied upon by the Client and those parties expressly referred to in the introduction of the Report (the 'Intended Recipients'). EDP, its employees, agents and contractors do not accept any liability for any use of the Report other than as described in the Agreement, or by anyone other than an Intended Recipient.

The Report should not be altered, amended, separated or reproduced in part, without EDP's prior written consent. If other stakeholders are affected by the issues addressed in the Report, EDP should be retained to provide separate advice to those stakeholders.

Qualifications and Assumptions

The Report relates only to the scenarios, site areas and/or buildings detailed within **Section 2** of the Report. It does not provide any advice or recommendation (inferred or otherwise) for any other scenarios, sites, site areas and/or buildings.

The Report has been prepared with reference to industry standards and practices generally accepted at the time of the Report. The Report has also been prepared based on information and data collected at that time. The standards, practices, information or data may change at any time. EDP is not liable for any loss or damage incurred as a result of changes which occur after the date of the Report.

Some information used in the preparation of the Report was provided by the Client and other third parties ('Information'). The Report has been prepared on the assumption that the Information is reliable, adequate, accurate and complete. Whilst no indications of Information inaccuracy were found during our work, the Client indemnifies EDP for any loss, claim or liability EDP incurs from any inaccuracies or omissions in the Information.

The opinions, conclusions and any recommendations in the Report are based on the conditions encountered, analytical results, inspection findings and Information provided at the time of the preparation of the Report. Site conditions may change at any time. In the event of changes EDP should be engaged to prepare an updated Report.

Any areas, volumes, tonnages or other quantities noted in the Report are estimates only and should not be relied upon. A certified Quantity Surveyor should be engaged if quantities are to be relied upon.

No warranty, expressed or implied, is made as to the professional advice included in the Report.

Recommendations for Further Works

The findings of this Report may include recommendations for further investigation, analysis or management. The decision to accept these recommendations and associated costs will be at the sole discretion of the Intended Recipients. EDP does not accept any liability for losses incurred as a result of the Intended Recipients not accepting the recommendations made within this Report.

Appendix A: Hazardous Materials Registers

Key to Photographs:

 = Negative HBM

 = Positive LCP, LCD, SMF, ODS and PCB

 = Positive ACM

ASBESTOS MATERIALS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐

JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026

SURVEYOR: Calum Connaughton

edp an RSK company

Material Location and Type	Sample ID	Material Status	Friability	Approx. Quantity, Area or Extent	Condition	Disturbance Likelihood	Risk Rating	Recommendations / Comments:	Photographs
Overseas Passenger Terminal, internal, escalator, upper pit, horizontal surfaces - dust	EDP Sample: S-10064.HMA.001-AS001	**Non-asbestos (No asbestos detected)**	-	-	-	-	-	Nil recommendations.	
Overseas Passenger Terminal, internal, escalator, upper pit, gaskets to motor - gasket material	EDP Sample: S-10064.HMA.001-AS002	**Non-asbestos (No asbestos detected)**	-	-	-	-	-	Nil recommendations.	
Overseas Passenger Terminal, internal, escalator, upper pit, motor, internal brake pads - friction pads	Not sampled: enclosed unit	**Suspected Positive**	Non-Friable	1 unit	Fair	Highly Likely	**High P1**	Confirm status and maintain in current condition if to remain in-situ. Remove under controlled non-friable asbestos removal conditions prior to refurbishment or demolition works by a Class A (friable) or Class B (non-friable) licensed asbestos removal contractor.	

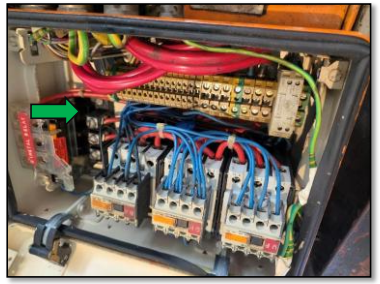
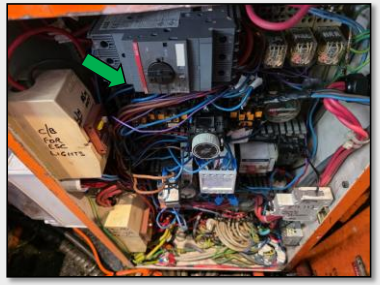
ASBESTOS MATERIALS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐

JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026

SURVEYOR: Calum Connaughton

Material Location and Type	Sample ID	Material Status	Friability	Approx. Quantity, Area or Extent	Condition	Disturbance Likelihood	Risk Rating	Recommendations / Comments:	Photographs
Overseas Passenger Terminal, internal, escalator, upper pit, west side electrical box - No items suspected to contain asbestos	-	-	-	-	-	-	-	Nil recommendations.	
Overseas Passenger Terminal, internal, escalator, upper pit, east side electrical box - No items suspected to contain asbestos	-	-	-	-	-	-	-	Nil recommendations.	
Overseas Passenger Terminal, internal, escalator, lower pit, horizontal surfaces - dust	EDP Sample: S-10064.HMA.001-AS003	**Non-asbestos (No asbestos detected)**	-	-	-	-	-	Nil recommendations.	

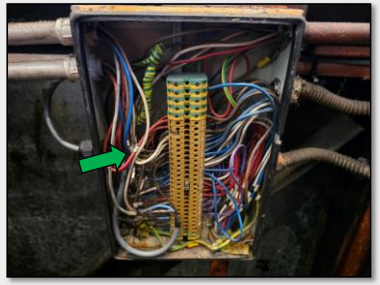
ASBESTOS MATERIALS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐

JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026

SURVEYOR: Calum Connaughton

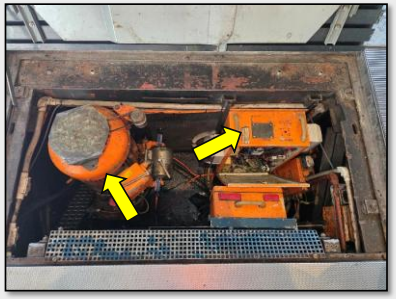
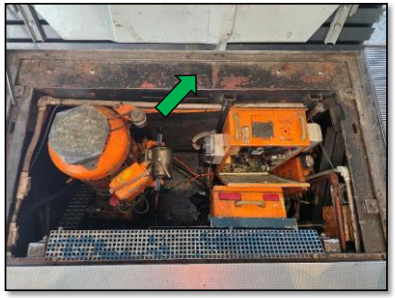
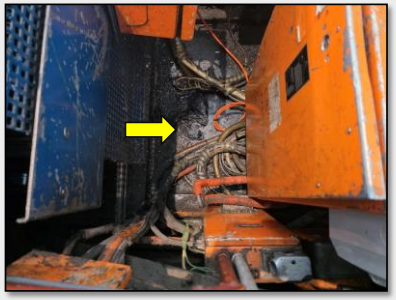
Material Location and Type	Sample ID	Material Status	Friability	Approx. Quantity, Area or Extent	Condition	Disturbance Likelihood	Risk Rating	Recommendations / Comments:	Photographs
Overseas Passenger Terminal, internal, escalator, lower pit, west side electrical box - No items suspected to contain asbestos	-	-	-	-	-	-	-	Nil recommendations.	

End of Asbestos Materials Register

LEAD MATERIALS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐
JOB NUMBER: S-10064.HMA.001

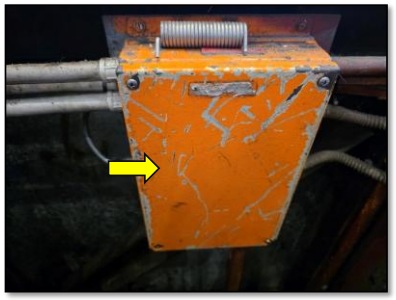
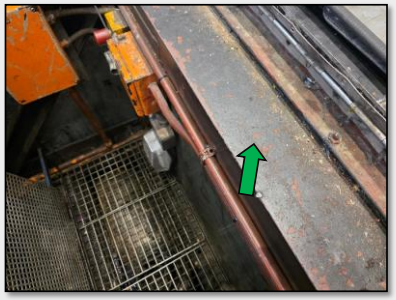
SURVEY DATE: Wednesday, 21 January 2026
SURVEYOR: Calum Connaughton

Material Location and Description	Sample ID	Material Status	Approx. Quantity, Area or Extent	Condition	Disturbance Likelihood	Risk Rating	Recommendations / Comments:	Photographs
Overseas Passenger Terminal, internal, escalator, upper pit, to plant - orange coloured paint system	EDP Sample: S-10064.HMA.001-LS001	**Lead-containing (3.9 % w/w)**	2 m sq	Fair	Highly Likely	**High P1**	Remove under controlled conditions in accordance with AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings prior to renovation or demolition works.	
Overseas Passenger Terminal, internal, escalator, upper pit, walls - black coloured paint system	EDP Sample: S-10064.HMA.001-LS002	**Non-lead containing (<0.01 % w/w)**	-	-	-	-	Not lead-containing paint (≤0.1% w/w) as described in AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings.	
Overseas Passenger Terminal, internal, escalator, upper pit, horizontal surfaces - dust	EDP Sample: S-10064.HMA.001-LD001	**Lead-containing (48 mg/m2)**	5 m sq	Poor	Highly Likely	**Very High P1**	Accumulated dust returned above the adopted AS4361.2:1998 criteria of 1 mg/m². Remove the accumulated dust by an experienced contractor under controlled conditions and engage an occupational hygienist to conduct lead dust air monitoring and a clearance inspection.	

LEAD MATERIALS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐
JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026
SURVEYOR: Calum Connaughton

Material Location and Description	Sample ID	Material Status	Approx. Quantity, Area or Extent	Condition	Disturbance Likelihood	Risk Rating	Recommendations / Comments:	Photographs
Overseas Passenger Terminal, internal, escalator, lower pit, to plant - orange coloured paint system	Visually similar to: S-10064.HMA.001-LS001	**Lead-containing (3.9 % w/w)**	<1 m sq	Fair	Highly Likely	**High P1**	Remove under controlled conditions in accordance with AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings prior to renovation or demolition works.	
Overseas Passenger Terminal, internal, escalator, lower pit, walls - black coloured paint system	Visually similar to: S-10064.HMA.001-LS002	**Non-lead containing (<0.01 % w/w)**	-	-	-	-	Not lead-containing paint (≤0.1% w/w) as described in AS/NZS 4361.2:2017 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings.	
Overseas Passenger Terminal, internal, escalator, lower pit, horizontal surfaces - dust	EDP Sample: S-10064.HMA.001-LD002	**Lead-containing (62 mg/m2)**	5 m sq	Poor	Highly Likely	**Very High P1**	Accumulated dust returned above the adopted AS4361.2:1998 criteria of 1 mg/m². Remove the accumulated dust by an experienced contractor under controlled conditions and engage an occupational hygienist to conduct lead dust air monitoring and a clearance inspection.	

End of Lead Materials Register

SMF REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐ SURVEY DATE: Wednesday, 21 January 2026

JOB NUMBER: S-10064.HMA.001 SURVEYOR NAME: Calum Connaughton

Material Location and Description	Visually Confirmed / Sample ID	Material Status	Quantity, Area or Extent	Material Condition	Disturbance Likelihood	Risk	Re-Inspection Timeframe	Recommendations / Comments:	Photographs
No items suspected of containing SMF identified at the time of assessment.									

End of SMF Materials Register

PCB REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐

JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026

SURVEYOR NAME: Calum Connaughton

Material Location and Description	Material Status	Quantity	Material Condition	Disturbance Likelihood	Risk	Re-Inspection Timeframe	Recommendations / Comments:	Photographs
No items suspected of containing PCB identified at the time of assessment.								

End of PCB Materials Register

ODS REGISTER

DETAILS: Sydney Overseas Passenger Terminal - 130 George St, The Rocks NSW 2000☐

JOB NUMBER: S-10064.HMA.001

SURVEY DATE: Wednesday, 21 January 2026

SURVEYOR NAME: Calum Connaughton

Material Location and Description	Refrigerant Type	ODS Status	Quantity	Material Condition	Disturbance Likelihood	Risk	Recommendations / Comments:	Photographs
No items suspected of containing ODS identified at the time of assessment.								

End of ODS Register

Appendix B: Sampling Methodology and Risk Assessment Factors

Sampling Methodologies

Asbestos-Containing Materials

Suspected ACM were sampled by EDP in accordance with AS 4964:2004. Where collected, representative samples were placed into clip-lock plastic bags and analysed by an external NATA-accredited laboratory, for the presence of asbestos by polarised light microscopy and dispersion staining techniques.

Lead-Containing Paint

Suspected LCP were sampled by EDP in accordance with AS/NZS 4361.2:2017. Where collected, representative samples of paint were placed in a clip-lock plastic bags and then analysed by Eurofins Australia an external NATA-accredited laboratory, for determination of lead concentration by inductively coupled plasma atomic emission spectroscopy techniques.

AS/NZS 4361.2:2017 defines lead content greater than 0.1 percent by weight of the dry film determined by laboratory testing to be LCP. Results were expressed in percent weight per weight (%w/w).

Lead-Containing Dust

For the purposes of this Audit and interpretation of results, samples collected were compared to 1 mg/m² clearance criteria as indicated by section 5.0 of AS 4361.2:1998. If suspected LCD was identified elsewhere on the site, alternative criteria may be applicable.

Please note: Levels have been adopted from AS 4361.2:1998 until such time updated acceptance limits are published by SafeWork NSW in line with the new AS/NZS 4361.2:2017.

Synthetic Mineral Fibre Materials

The assessment of SMF materials was carried out by EDP through visual identification of SMF materials with reference NOHSC:2006(1990).

Polychlorinated-Biphenyls

Fluorescent light fixtures were disassembled, where safe to do so, as part of the Audit. The assessment for the potential presence of PCB capacitors was made based on a visual assessment of the age and condition of light fixtures. Furthermore, the PCB capacitor serial numbers were cross referenced with ANZECC Identification of PCB-containing Capacitors, 1997.

Ozone-Depleting Substances

This component of the assessment comprised a visual inspection of air conditioning units and any chillers (if applicable) at the site and included a review of the air conditioners' refrigerant types.

Risk Assessment Factors

To assess the health risk posed by the presence of HBM, all relevant factors must be considered. These factors that are taken into consideration are as follows:

- Product type;
- Condition;
- Disturbance potential;
- Friability of the material;
- Proximity to direct air stream; and
- Surface treatment (if any).

Where these factors have indicated that there is a possibility of exposure, this provides the consultant with a risk priority rating and the ability to provide the most appropriate recommendations for repair, maintenance or abatement of the material. The following risk factors are defined to assist in determining the relative health risk posed by each item.

Condition of the Material

The condition of the HBM identified during the assessment is reported as being good, fair or poor.

- *Very Good* refers to a material being undamaged and in an original condition with no deterioration and sealed i.e. no exposed asbestos fibres.
- *Good* refers to a material that is in sound condition with no or very minor damage or deterioration.
- *Fair* refers to a material that is generally in a sound condition, with some areas of damage or deterioration.
- *Poor* refers to a material that is extensively damaged or deteriorated.

Disturbance Potential

HBM can be classified as having low, medium or high disturbance potential:

- *Low (unlikely) disturbance* potential describes materials that have very little or no activity in the immediate area with the potential to disturb the material. Low accessibility is considered as monthly occupancy or less, or inaccessible due to its height or its enclosure.
- *Medium (likely) disturbance* potential describes materials that have moderate activity in the immediate area with the potential to disturb the material. Medium accessibility is considered weekly access or occupancy.
- *High (highly likely) disturbance* potential describes materials that have regular activity in the immediate area with the potential to disturb the material.

Friability of the Material

The friability of a material describes the ease by which the material can be crumbled, which in turn, can increase the release of fibres into the air. Therefore, friability is only applicable to asbestos and SMF.

- *Friable asbestos* can be crumbled, pulverised, or reduced to powder by hand pressure, which makes it more dangerous than non-friable asbestos.
- *Non-friable asbestos* or more commonly known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a non-asbestos matrix. If accidentally damaged or broken these ACM may release fibres initially but will not continue to do so.
- *Bonded SMF* describes a synthetic fibrous material which has a specific designed shape and exists within a stable manufactured product. Un-bonded SMF is a loosely packed synthetic fibrous material which has no adhesive or cementitious binding properties.

Table 7: Health Risk Status

Condition:	Likelihood of Disturbance:		
	High (highly likely)	Medium (likely)	Low (unlikely)
Poor	Very High	High	Medium
Fair	High	Medium	Low
Good	Medium	Low	Low
Very Good	Low	Low	Very Low

Health Risk Status

The risk factors described above are used to grade the potential health risk ranking posed by the presence of the materials. These risk rankings are described below:

- A *very low health risk* describes a material that poses a very low health risk to workers, contractors and the general public as the material in very good condition and is unlikely to be disturbed.
- A *low health risk* describes a material that poses a negligible or low health risk to occupants of the area due to the materials not readily releasing fibres (or other toxic/hazardous constituents) unless seriously disturbed.
- A *medium health risk* describes a material that poses a moderate health risk due to the material status and activity in the area.
- A *high health risk* describes a material that poses a high health risk to personnel or the public in the area of the material.
- A *very high risk* describes a material that poses a very high risk of exposure to workers, contractors and the general public working in the area of the material and therefore the area is not suitable for occupancy. Urgent remediation is required of the material. There is an imminent risk of harm to the health of persons in proximity of the material. Sites that require demolition or undergoing refurbishment works and the material identified will be impacted warrant a very high-risk rating.

ACM Priority Rating System for Control Recommendations

While an assessment of the health risk has been made, our recommendations have been prioritised based on the practicability of a required remedial action. In determining a suitable priority ranking, consideration has been given to the following:

- Level of health risk posed by the ACM;
- Potential commercial implications of the finding; and
- Ease of remediation.

As a guide the recommendation priorities have been given a timeframe as follows:

Priority 1 (P1): ACM with Very High or High Risk Potential - Requiring Immediate Action

Status: ACM which are either damaged or are being exposed to continual disturbance. Due to these conditions there is an increased potential for exposure and/or transfer of the material to other parts of the property if unrestricted use of the area containing the material is allowed.

Recommendation: If the ACM is in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions to the affected area should be applied, air monitoring should be considered, and removal is recommended as soon as practicable using an appropriately licensed asbestos removalist.

Priority 2 (P2): ACM with Medium Risk Potential – May Require Action in the Short Term

Status: ACM with a potential for disturbance due to the following conditions:

- Material has been disturbed or damaged and its current condition, while not posing an immediate risk, is unstable.
- The material is accessible and can, when disturbed, present a short-term exposure risk.
- The material could pose an exposure risk if workers are in close proximity.

Recommendation: If the ACM is easily accessible but in a stable condition, removal is preferred. However, if removal is not immediately practicable, short-term control measures (i.e. restrict access, sealing, enclosure etc.) may be employed until removal can be facilitated as soon as is practicable. Minor health risks are anticipated if material remains undisturbed under the control of an AMP.

Priority 3 (P3): ACM with Low Risk Potential – May Require Action in the Medium Term

Status: ACM with a low potential for disturbance due to the following conditions:

- The condition of any friable ACM is stable and has a low potential for disturbance i.e. is encased in metal cladding.
- The ACM is in a non-friable condition, however further disturbance or damage is unlikely other than during maintenance or service and does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

Recommendation: Negligible health risks are anticipated if the material is left undisturbed under the control of an AMP. Consider removal or encapsulation within 12 months of the damaged non-friable ACM being identified.

Priority 4 (P4): ACM with Very Low (negligible) Risk Potential - Requiring Ongoing Management or Longer-Term Remedial Action

Status: The ACM is in a non-friable form and in good condition. It is unlikely that the material can be disturbed under normal circumstances. Even if it were subjected to minor disturbance the ACM poses a minor health risk.

Recommendation: These ACM should be left in a good and stable condition, with ongoing maintenance and periodic inspection. It is advisable that any remaining identified or suspected ACM should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health.

Appendix C: Areas Not Accessed

Areas Not Accessed

Given the constraints of practicable access encountered during this assessment, the following areas were not inspected. Assessments are restricted to those areas that are reasonably accessible at the time of our assessment with respect to the following:

- Without contravention of relevant statutory requirements or codes of practice.
- Without placing the EDP consultant and/or others at undue risk.
- Without demolition or damage to finishes and structure.
- Excluding plant and equipment that was 'in service' and operational.

Documented below are the areas where the EDP consultant encountered access restrictions during the assessment:

Areas Not Accessed:
Underneath the concrete slab of all building structures at the site.
Exposed soils surrounding the building structures of the site.
Energised services, gas, electrical, pressurised vessel and chemical lines.
Within cavities that cannot be accessed by the means of a manhole or inspection hatch.
Within voids or internal areas of plant, equipment, air-conditioning ducts etc.
Within service shafts, ducts etc., concealed within the building structure.
Within those areas accessible only by dismantling equipment.
Within totally inaccessible areas such as voids and cavities present but intimately concealed within the building structure.
All areas outside the Scope of Work.

Note:

If proposed works entail possible disturbance of any suspect materials in the above locations, or any other location not mentioned in **Appendix A: Hazardous Materials Register** or this report, further investigation may be required as part of a HBM management and abatement program prior to the commencement of such works.

The presence of residual asbestos insulation on steel members, concrete surfaces, pipe work, equipment and adjacent areas remaining from prior removal works cannot normally be determined without extensive removal and damage to existing insulation, fixtures and fittings at the site.

Appendix D: NATA Accredited Sample Analysis Results

Job Reference: S-10064.ASA.001

Hayden Duncan
HDuncan@mettle.au
Mettle Projects Pty Ltd
502/55 Miller Street
Pyrmont NSW

email: info@rsklabs.com.au
web: www.rsklabs.com.au
office: +61 2 9418 9151

Thursday, 22 January 2026

Asbestos Bulk Identification Certificate of Analysis

Site Details: Sydney Overseas Passenger Terminal, 130 George St, The Rocks NSW

Sampled By: Calum Connaughton

Date(s) Sampled: 21/01/2026 **Date Received:** 21/01/2026 **Date(s) Analysed:** 21/01/2026

Sampling Details: Sampling not covered by the scope of NATA accreditation. RSK Labs does not accept responsibility for the representation of the samples submitted in relation to its source. Only samples submitted for analysis have been considered in presenting these results.

Test Method: Samples analysed by polarised light microscopy with dispersion staining techniques in accordance with in-house test method *EDPLMS-04*, with reference to *AS4964:2004 Method for the qualitative identification of asbestos in bulk samples* and *ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories*.

Laboratory: RSK Labs: Unit 3, 41-43 Higginbotham Road, Gladesville NSW
Accredited for compliance with ISO/IEC 17025:2017 – Testing
NATA Accreditation Number: 2515

Analysed By: Sneha Shakya

Authorised By:

Sneha Shakya
Approved Signatory

Sample No.	Sample Location - Material Type	Sample Description / Size	Result
AS001	Escalator, top pit, horizontal surfaces - dust	Grey dust and debris. Approximate weight 2 g.	No asbestos detected at reporting limit of 0.1 g/kg. Organic fibres detected.
AS002	Escalator, top pit, gaskets to motor - gasket material	Black gasket. Approximate weight 1 g.	No asbestos detected. Organic fibres detected.
AS003	Escalator, lower pit, horizontal surfaces - dust	Grey fibrous dust with plant matter debris. Approximate weight 2 g.	No asbestos detected at reporting limit of 0.1 g/kg. Organic fibres detected.

The results displayed in this report relate only to the items tested.

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Certificate of Analysis

EDP Consultants
Level 4, 38 Oxley Street
St Leonards
NSW 2065

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Ben Thombs**

Report **1314560-A**
Project name S-10064.HMA.001
Project ID S-10064.HMA.001
Received Date Jan 21, 2026

Client Sample ID			**S-10064.HMA.001-LD001**	**S-10064.HMA.001-LD002**
Sample Matrix			**Wipes**	**Wipes**
Eurofins Sample No.			**S26-Ja0037741**	**S26-Ja0037742**
Date Sampled			**Jan 21, 2026**	**Jan 21, 2026**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	1	Total ug	480	620

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Jan 21, 2026	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

web: www.eurofins.com.au
email: EnviroSales@eurofinsanz.com

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6 Monterey Road
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+61 3 8564 5000
NATA# 1261
Site# 1254

Geelong
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Grovedale
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+61 3 8564 5000
NATA# 1261
Site# 25403

Sydney
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Girraween
NSW 2145
+61 2 9900 8400
NATA# 1261
Site# 18217

Canberra
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Mitchell
ACT 2911
+61 2 6113 8091
NATA# 1261
Site# 25466

Brisbane
1/21 Smallwood Place
Murarrie
QLD 4172
+61 7 3902 4600
NATA# 1261
Site# 20794 & 2780

Newcastle
1/2 Frost Drive
Mayfield West
NSW 2304
+61 2 4968 8448
NATA# 1261
Site# 25079

Perth
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Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Company Name: EDP Consultants
Address: Level 4, 38 Oxley Street
St Leonards
NSW 2065

Project Name: S-10064.HMA.001
Project ID: S-10064.HMA.001

Order No.:
Report #: 1314560
Phone: 02 8484 5810
Fax:

Received: Jan 21, 2026 2:52 PM
Due: Jan 29, 2026
Priority: 5 Day
Contact Name: Ben Thombs

Eurofins Analytical Services Manager : Irem Haskara

Sample Detail						Lead	Lead (% w/w)
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	S-10064.HMA.001-LS001	Jan 21, 2026		Paint	S26-Ja0037739		X
2	S-10064.HMA.001-LS002	Jan 21, 2026		Paint	S26-Ja0037740		X
3	S-10064.HMA.001-LD001	Jan 21, 2026		Wipes	S26-Ja0037741	X	
4	S-10064.HMA.001-LD002	Jan 21, 2026		Wipes	S26-Ja0037742	X	
Test Counts						2	2

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Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	**mg/L:** milligrams per litre	**ppm:** parts per million
µg/L: micrograms per litre	**ppb:** parts per billion	**%:** Percentage
org/100 mL: Organisms per 100 millilitres	**NTU:** Nephelometric Turbidity Units	**MPN/100 mL:** Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	**Colour:** Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Lead	Total ug	< 1			1	Pass	
LCS - % Recovery							
Heavy Metals							
Lead	%	99			80-120	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Nileshni Goundar	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

EDP Consultants
Level 4, 38 Oxley Street
St Leonards
NSW 2065

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
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Attention: **Ben Thombs**

Report **1314560-A**
Project name S-10064.HMA.001
Project ID S-10064.HMA.001
Received Date Jan 21, 2026

Client Sample ID			**S-10064.HMA.001-LD001**	**S-10064.HMA.001-LD002**
Sample Matrix			**Wipes**	**Wipes**
Eurofins Sample No.			**S26-Ja0037741**	**S26-Ja0037742**
Date Sampled			**Jan 21, 2026**	**Jan 21, 2026**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	1	Total ug	480	620

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Jan 21, 2026	28 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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Site# 25403

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NATA# 1261
Site# 18217

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NATA# 1261
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NATA# 1261
Site# 20794 & 2780

Newcastle
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Mayfield West
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NATA# 1261
Site# 25079

Perth
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Welshpool
WA 6106
+61 8 6253 4444
NATA# 2377
Site# 2370 & 2554

Company Name: EDP Consultants
Address: Level 4, 38 Oxley Street
St Leonards
NSW 2065

Project Name: S-10064.HMA.001
Project ID: S-10064.HMA.001

Order No.:
Report #: 1314560
Phone: 02 8484 5810
Fax:

Received: Jan 21, 2026 2:52 PM
Due: Jan 29, 2026
Priority: 5 Day
Contact Name: Ben Thombs

Eurofins Analytical Services Manager : Irem Haskara

Sample Detail						Lead	Lead (% w/w)
Sydney Laboratory - NATA # 1261 Site # 18217						X	X
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
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7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

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QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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NOTE: pH duplicates are reported as a range, not as RPD

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PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

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5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
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Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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Lead	Total ug	< 1			1	Pass	
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Heavy Metals							
Lead	%	99			80-120	Pass	

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Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Nileshni Goundar	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal

Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

edp
an RSK company

Phone: +61 2 8484 5810 | Email: enquiries@edp-au.com | Website: www.edp-au.com | ABN: 13 624 867 509