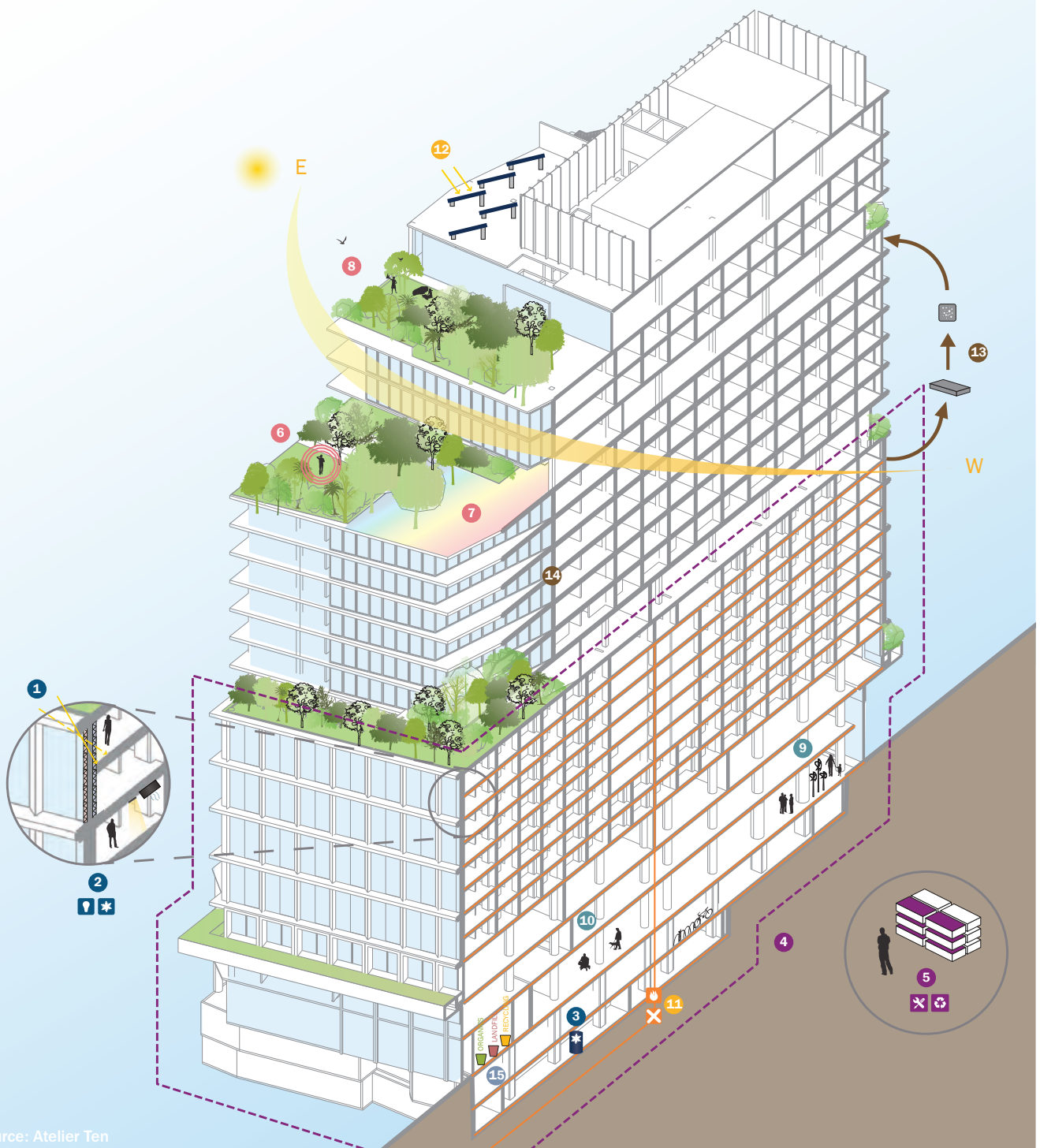


Attachment A2

Urban design report - Part 2

1. Improve facade performance
2. Provide controls for lighting & air-conditioning
3. Choose high performance chillers
4. Pioneer the retention and adaptive reuse of existing hotel buildings in Sydney
5. Adopt leading circular economy strategies
6. Connect place and Country
7. Mitigate urban heat island effect
8. Design rooftop & ground to connect to nature
9. Strengthen community & art culture through public art
10. Project is to be inclusive to a diverse range of people with different needs
11. Remove existing gas connections
12. Maximise on-site renewable energy
13. Specify low carbon materials
14. Target a zero waste landfill approach
15. Improve waste management



Hassell ©

ADAPTIVE REUSE APPROACH

SERVICES RETENTION METHODOLOGY

150 DAY STREET SERVICES ASSESSMENT



Asset	Service	Recommendations
Hydrant Water Storage Tank	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Booster Assembly	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Hydrant Pumps	Wet Fire	Replace to meet latest NCC Standards and to meet new increased demand
Hydrant landing Valves	Wet Fire	Relocate within fire egress stairs on each level within building. Alternatively, develop a performance solution to address maintaining the current hydrant locations outside the fire stairs.
Sprinkler Water Storage Tank	Wet Fire	Survey effective capacity of the existing sprinkler tank to confirm size.
Range Pipes	Wet Fire	Replace to meet latest NCC Standards
Fire Sprinkler Pumps	Wet Fire	Replace to meet new increased demand
Fire Hose Reel	Wet Fire	Replaced existing fire hose reels with new fire hose reels that incorporate a 36m hose. Develop a performance solution to remove all hose reels from all Class 5 areas of the building.
Dry Fire Cabling	Dry Fire	Replace to meet latest NCC Standards
Smoke Detectors	Dry Fire	Replace to meet latest NCC Standards
Fire Indicator Panel	Dry Fire	Replace with newer model
Fire Functional Control Panel	Dry Fire	Replace with newer model
EWIS Cabling	EWIS	Replace to meet latest NCC Standards
EWIS Speakers, Phones	EWIS	Replace to meet latest NCC Standards
Guest Lift 1,2,3	Vertical Transportation	Maintain usage for future scheme. Adequate design life until 2033.
Service Lift 4,5	Vertical Transportation	Complete replacement of these lifts with larger lift cars to suit the latest architectural scheme

Embodied Carbon.

Assessing the embodied carbon of implementing new services versus the operational carbon of retaining inefficient existing systems was a critical consideration for the project. This evaluation was underpinned by a full audit of existing services. As per the MEP consultant advice, it was proposed that all services were at the end of their life and required upgrading.

Electrification.

In this comprehensive audit by LCI, it was identified that many building services at the PARKROYAL Hotel are nearing the end of their life. This situation presents an opportunity to upgrade these systems to full electrification, eliminating reliance on gas and aligning the project with the City of Sydney's sustainability targets.

Co-location.

By co-locating the PARKROYAL and the proposed Pan Pacific hotels on a single site, the project enables shared systems for services, leading to significant operational efficiencies.

STRUCTURES RETENTION METHODOLOGY

150 DAY STREET SERVICES ASSESSMENT

1

EXTENT OF RETENTION OF EXISTING FABRIC

Extent of retention of existing fabric.

A thorough investigation of existing conditions, through site visits, drawings and a detailed 3D survey, revealed that significant strengthening works are necessary to accommodate the additional height being added to the building.

2

IMPACT OF STRENGTHENING & STRUCTURAL APPROACH

Impact of strengthening & structural approach.

To accommodate increased building height, structural elements require strengthening, including a typical jacketing approach for columns and enlarged pad footings extending above the finished floor level. Extensive work on non-typical floors necessitates a "strip to structure" strategy. However existing hotel rooms will remain unaffected as strengthening works will be within existing wall build-ups.

3

FACADE DESIGN

Facade design.

Following an audit that identified acoustic and thermal deficiencies in the existing façade's glazing, the project team has proposed to replace it with a new lightweight system. This solution not only addresses noise and heat gain issues, thereby reducing HVAC-related carbon emissions, but also aligns the building with NCC 2025 standards by enhancing thermal and acoustic performance and decreasing structural load.

EXTENT OF RETENTION OF EXISTING FABRIC



The existing structure must be strengthened in order to increase the height of the building and support additional loads.

Structural strengthening compromises spatial efficiencies as it reduces internal area around existing columns and footings.

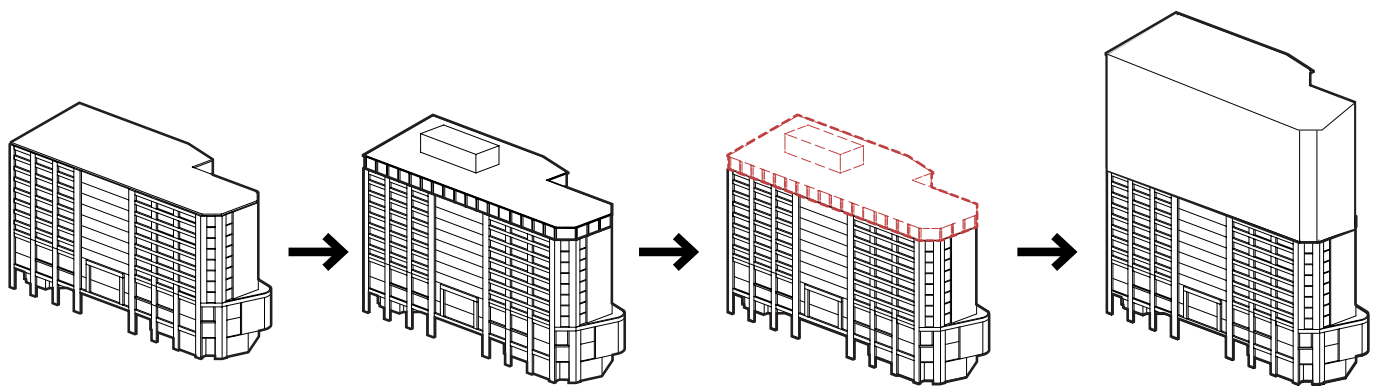
A comprehensive audit of the existing building, coupled with a detailed 3D survey, offered the design and coordination team an in-depth understanding of the current conditions.

The involvement of the original structural engineer from the 1988 project added significant value, as their extensive knowledge and familiarity with the building's design ensured the production of

all necessary documentation. This facilitated a precise evaluation of the structural elements and aided in making informed decisions for the project's development.

While the concrete frame remains in good condition, the addition of height to the existing building necessitates strengthening works to support the increased load. However, the strengthening works can compromise existing spatial layouts.

The design team conducted an in-depth analysis of the strengthening works implications, continuously evaluating them against the baseline case of maximising retention. This approach ensures that the upgrade works integrated into the design intentionally.



1988 Original construction.

10 storey, concrete frame building is constructed with concrete roof

1996 Upgrades to existing.

Steel roof added onto existing concrete roof to make Level 11 a habitable space

Columns at capacity once addition was constructed (100% loaded)

Footings at 80% capacity after addition

No additional floors can be added to existing 11 storeys

Columns and/or footings will need to be strengthened in any development scenario

Original core structure is not designed to modern earthquake provisions - even without increasing lift shaft heights, the core must be strengthened.

Proposal: Structural platform introduced.

Demolish Level 11 Steel roof structure in order to create a concrete platform for additional levels to be added

Proposal: Strengthened columns & footings.

Multiple additional levels

Column strengthening required

Footing strengthening required

Existing basement program compromised for footing expansions (parking and MEP area)

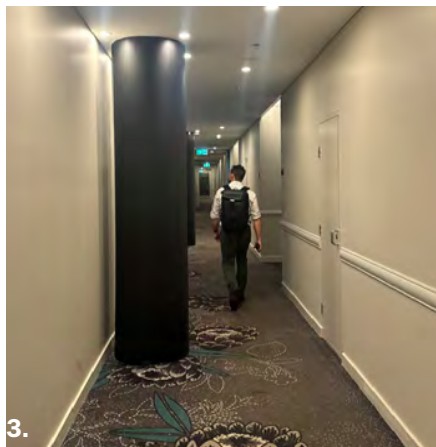
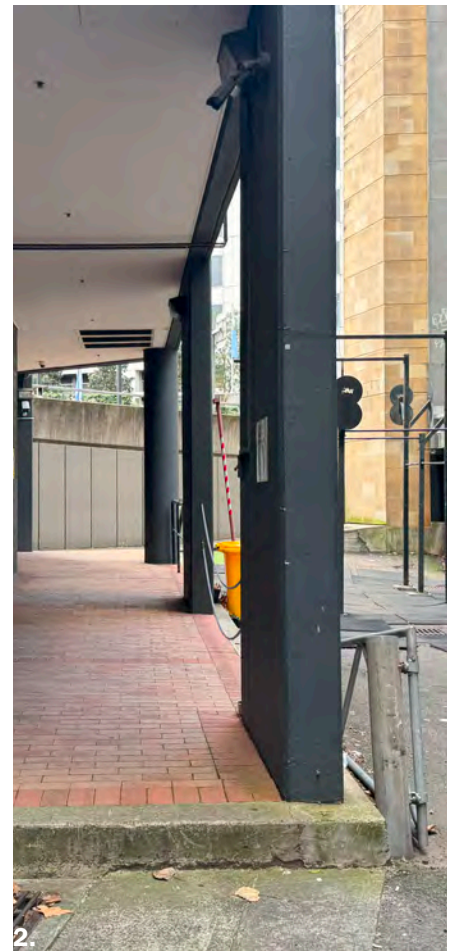
If existing building massing is doubled, footing volume doubles

2850mm Floor-to-floor in the existing building restricts the opportunities for adaptation from a Hotel function

IMPACT OF STRENGTHENING

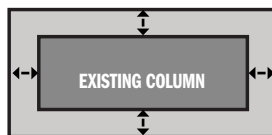
Columns

Both columns and footings of the existing building require strengthening to accommodate an increase in height. Typically, a "jacketing approach" is applied, encasing all sides of a column to support additional loads. However, variations occur in specific scenarios.



Images:

1. Columns on site boundary (Hassell)
2. Columns on site boundary (Hassell)
3. Columns impacting circulation (Hassell)
4. Columns impacting carpark (Hassell)



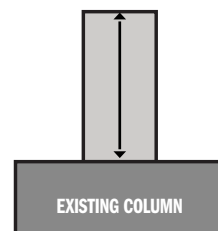
1. Typical jacketing approach.

The method of encasing all sides of a column is unsuitable for certain scenarios, such as columns against the site boundary on façades, within hotel rooms, or in unique situations where full encasement is impractical. On non-typical hotel floors, this approach can compromise spatial layouts, thus supporting a "strip to structure" approach where new layouts are proposed that work with the larger columns.



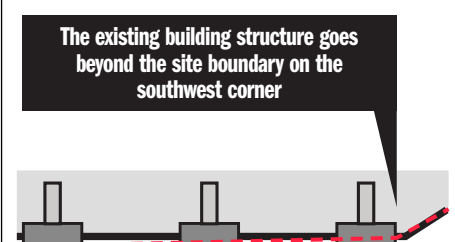
2. Columns between hotel rooms.

Where columns are located between hotel rooms, they can be extended in two directions within the party wall. This approach conceals the structural upgrade, minimising impact on existing rooms and supports the consideration for maximum retention of existing fabric.



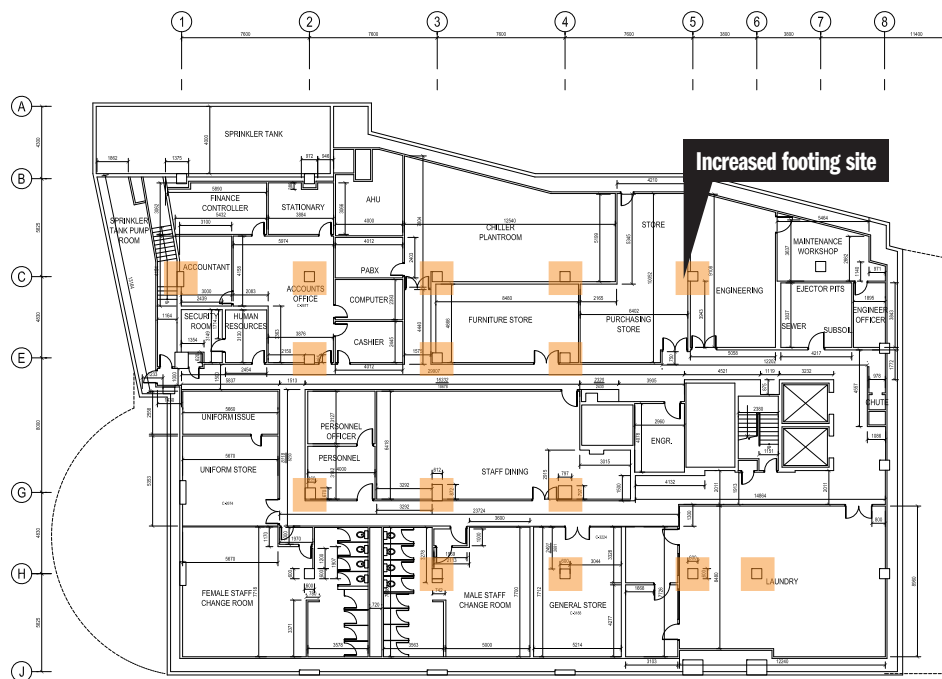
3. Facade columns.

For columns adjacent to the facade, they can be expanded in a "T" shape inward within the boundary. This expansion also remains concealed within the party wall of hotel rooms, preserving the wall thickness of hotel rooms, minimising impact & supporting maximum retention.

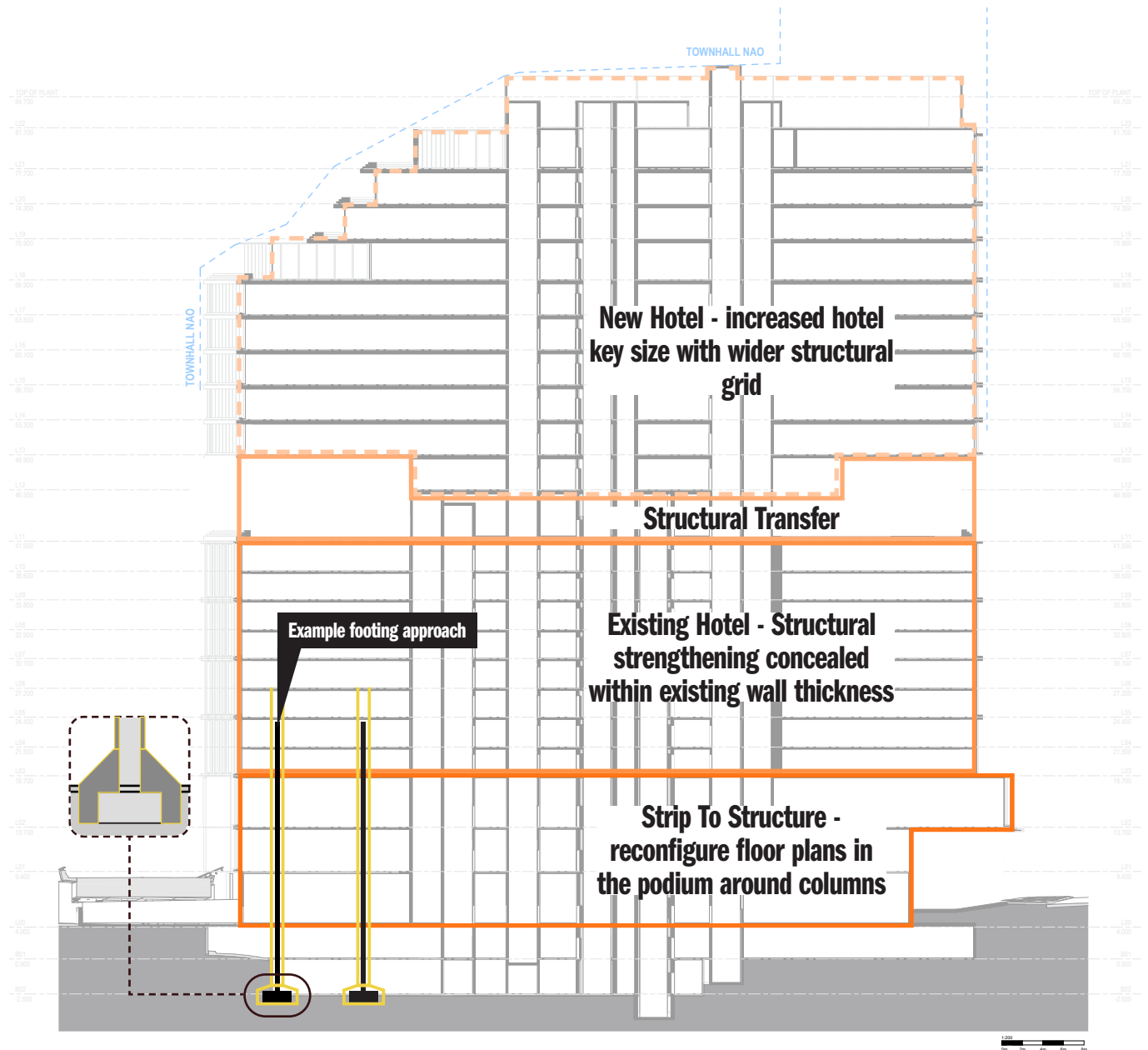


IMPACT OF STRENGTHENING

Footings

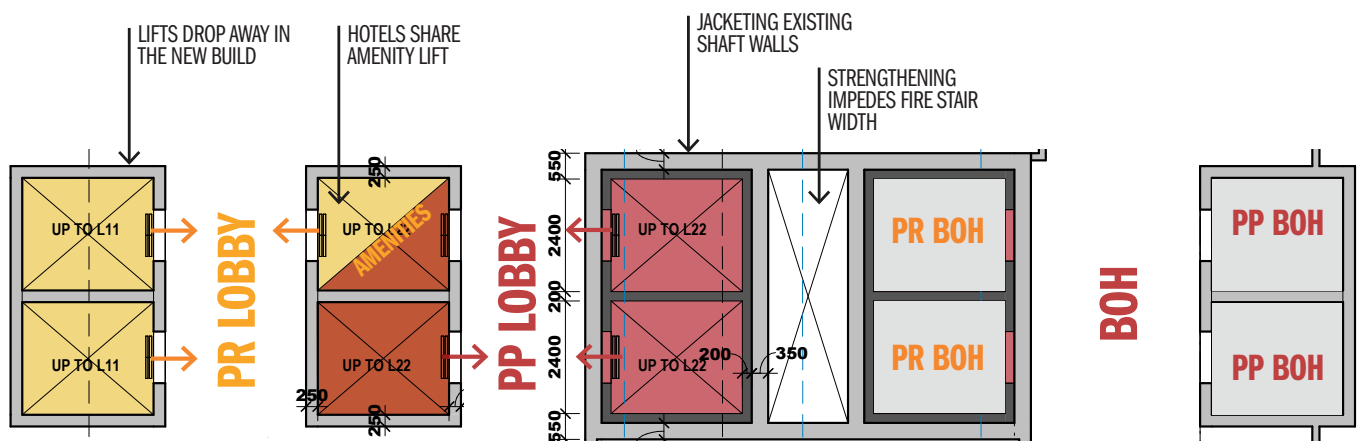


Extensive investigation and structural consultant advice has determined that the existing pad footings need strengthening to support the increased building height. This involves enlarging the pad footings, which will now extend above the finished floor level, affecting the spatial layout of the basement. These changes underscore the necessity for a "strip to structure" approach (in the podium only) and a comprehensive re-planning of the affected zones to maintain functionality and design integrity.



IMPACT OF STRENGTHENING

Core



Even without an additional height increase, the existing core requires strengthening to bring the concrete into compliance with the current earthquake code.

In determining how to structurally support the building's increased load, the approach to the lift core proved critical, given its role in accommodating both the structural demands and the increased population of the new hotel above. Initially, a complete demolition and reconstruction of the existing core was considered to optimise the new layout. However, this was dismissed due to its misalignment with the

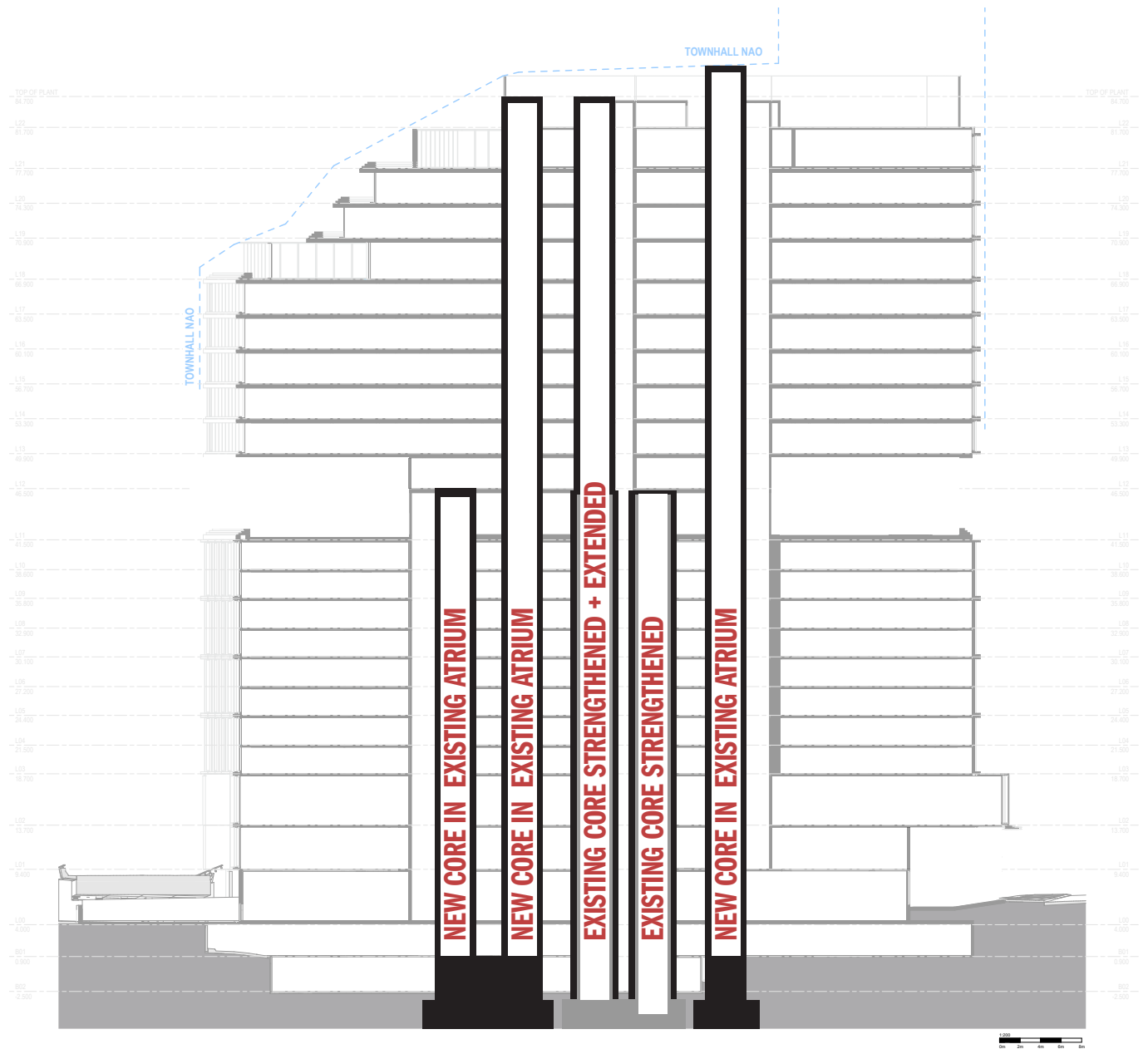
project's sustainability ambitions, as it would result in excessive embodied carbon and complex construction processes.

Services consultant evaluations indicated that the existing core could be upgraded to support new lift systems, consequently reducing operational carbon emissions.

Structurally, it was advised to employ a "jacketing" reinforcement approach,

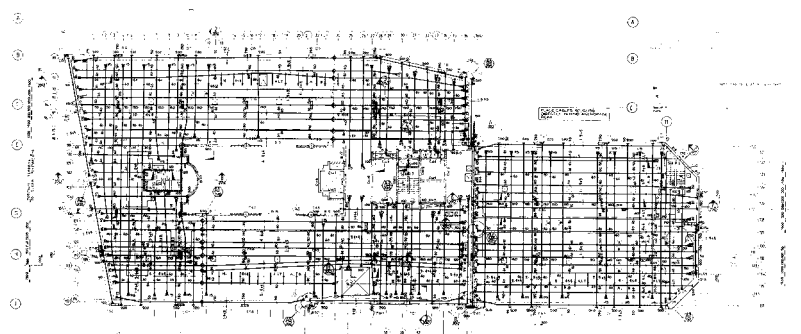
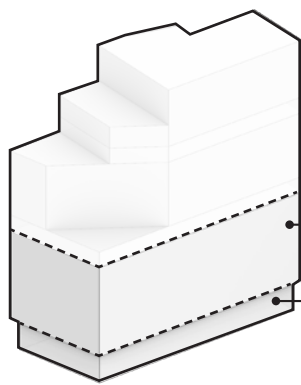
similar to the strengthening works of the columns. Even without additional height, this strengthening was necessary to comply with current earthquake codes. This enhancement also enabled the existing core to be extended vertically into the new build. However, this "jacketing" approach affected the width of the existing fire stairs, necessitating their conversion into a riser zone. As a result, the fire stair has been relocated, enabling an upgrade to meet the NCC 2025 standards.

For the additional lifts required, the existing atrium void has been utilised, minimising impact on the current structure and underscoring the project's commitment to retention and sustainability.

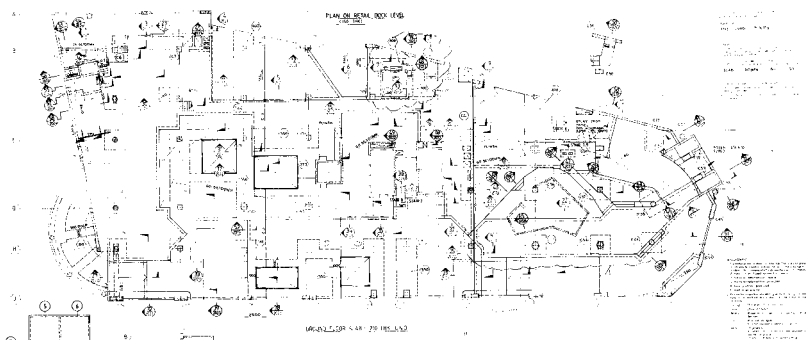


STRUCTURAL APPROACH

Exploration of Systems & Materials



Level 4-10 Slab Plan Post Tension Slab: Complex to vary



Ground Floor Slab Plan (Reinforced Concrete Slab)

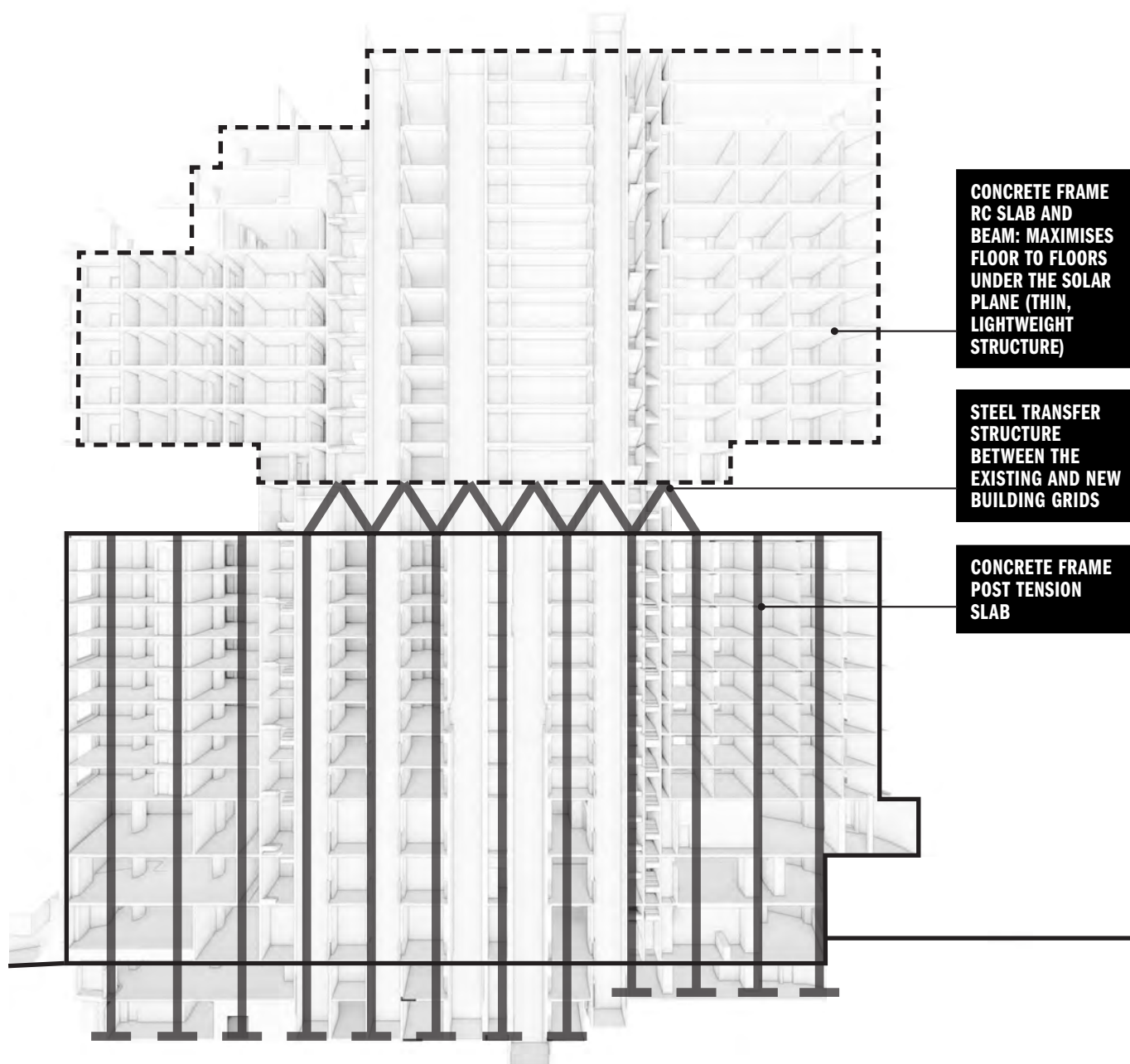
By preserving existing structures where applicable, this project creates a distinctive hotel arrival experience that showcases maximum retention.

Through an in-depth investigation of the existing materials and structural systems, it was found that Levels B01 to L02 are constructed using a traditional reinforced concrete slab, while the typical hotel floors from L03 to L10 use a post-tension slab

and concrete frame. Structural advice indicates that post-tension slabs are more challenging to demolish and rebuild due to the numerous tendons embedded within them. As a result, the design team has developed interventions that respect these

existing building conditions, opting for maximum intervention on the podium levels.

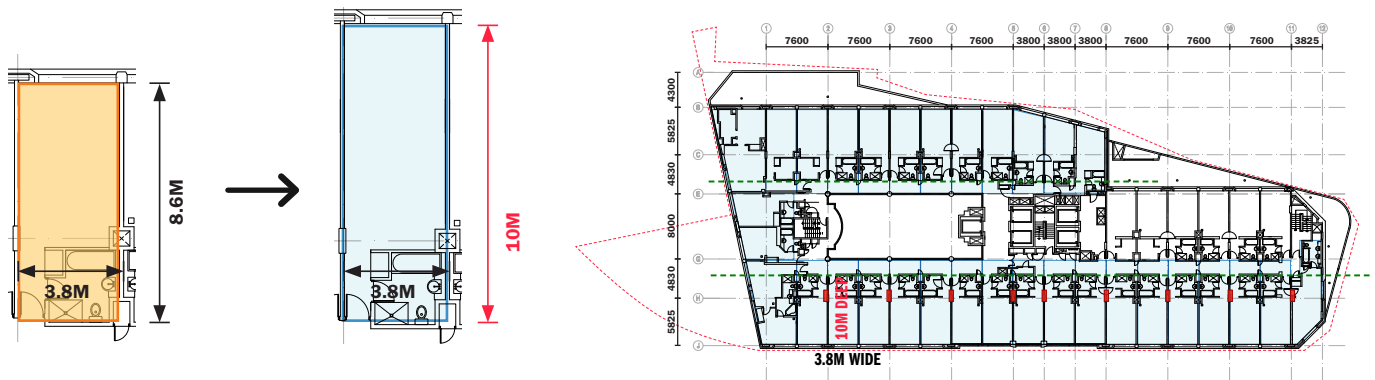
Guided by the structural consultant advice, the design team evaluated various structural systems to meet the project's sustainability goals and functional requirements. A primary objective was ensuring the massing appeared light atop the existing structure, optimising the structural integrity below and reducing embodied carbon. The post-tensioned flat plate system was selected for its ability to use less reinforcement, with thinner slabs and smaller columns, thereby minimising embodied carbon.



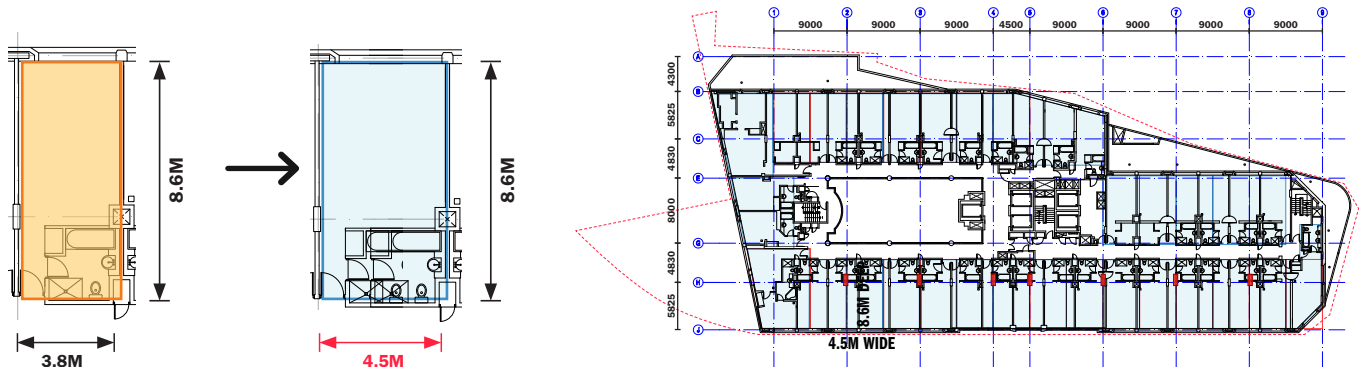
STRUCTURAL APPROACH

Transfer Structure

DISCOUNTED - NO TRANSFER



FINAL OPTION - TRANSFER



Structure is driven by the project's functional requirements. Increased contemporary hotel room area standards has prompted a re-evaluation of existing structural grids that dictate hotel room sizes.

In order to achieve increased room sizes in the new 5-star hotel product (PPHG), two structural options were considered: Extend the existing grid up through the new massing or Implement a transfer floor where a new grid can be created to optimise hotel room sizes.

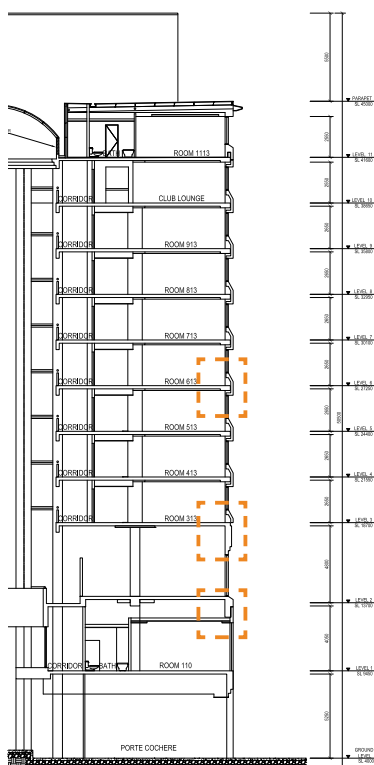
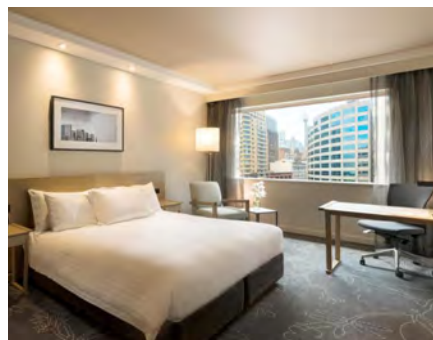
Option 1: Without a transfer structure, extending the existing structure upwards results in a room layout

where the new 38 sqm room is aligned with the current structural grid. This alignment leads to rooms that are too deep, making this approach unsuitable for continuing the current structure upwards.

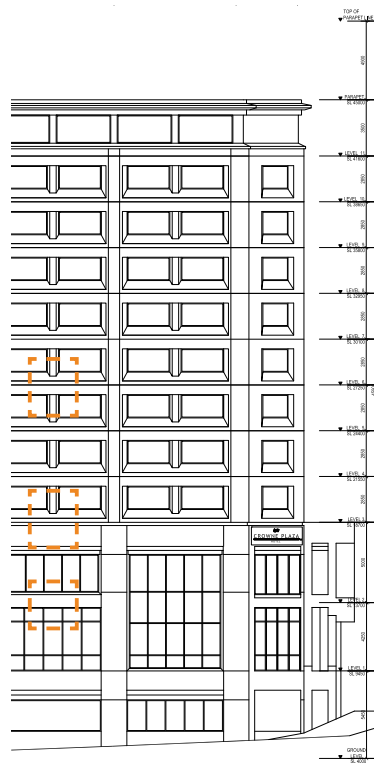
Option 2: This plan proposes a new structural grid for the upper hotel levels, creating a 38 sqm room with a wider frontage and a shallower layout. This is achieved through

a transfer structure at Level 11 which enables the loads from the upper grid to be supported. This configuration aligns better with the desired room proportions, offering a more functional design for the hotel's upscale offering. Additionally, this approach supports the project brief of maximum retention whereby the existing hotel rooms can undergo a finishes upgrade only with minimal upgrades to structures.

FACADE DESIGN



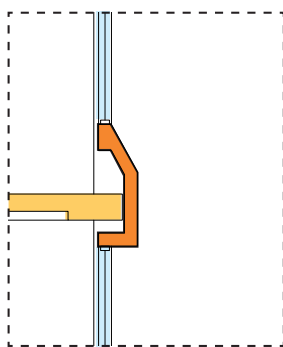
EXISTING HOTEL SECTION



EXISTING HOTEL ELEVATION

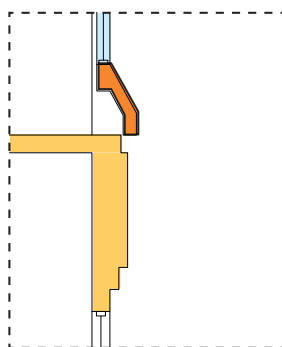
- The existing window openings are integrated into the precast cladding.
- Windows have required a secondary internal layer to address sound and heat issues in the existing building.
- Proposing a new facade with increased environmental performance and reduced operational energy, whilst re-using precast material in different ways on site.

Level 4 - Level 10
Precast Facade Cladding



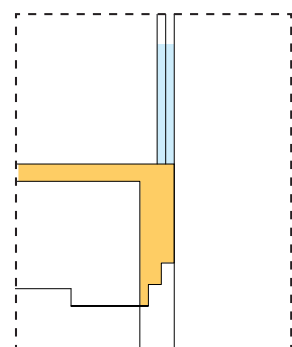
TYPICAL HOTEL

Level 3
Precast Facade Cladding



HOTEL MEETS PODIUM

Level 1
Cast in Place



PODIUM

■ Pre-Cast Cladding
■ Concrete Structure
■ Glazing

The project proposes to install a new facade; a lightweight system that enhances thermal and acoustic performance thus meeting NCC 2025 standards and lowering operational carbon.

The existing facade is constructed with precast concrete panels and inset glazing for hotel rooms, while a glazed curtain wall has been utilised for portions of the podium. An audit revealed that the glazing was under-performing, both acoustically and thermally. This led to the installation of a secondary glazing layer in each hotel room to minimise noise from the surrounding environment, such as

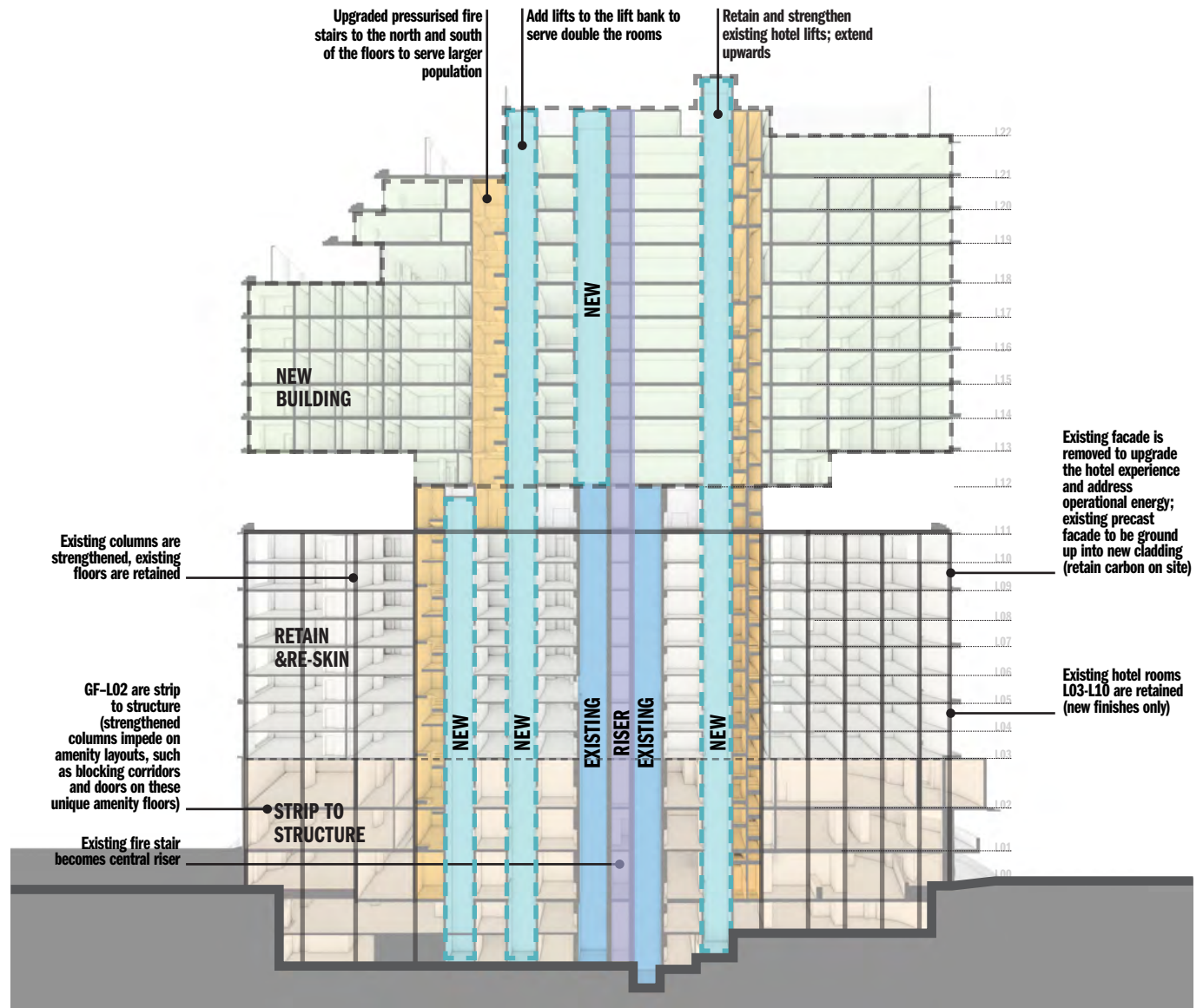
the Western Distributor. Additionally, the poor thermal performance resulted in excessive heat gain, resulting in higher operational carbon emissions due to increased HVAC usage.

It was initially proposed for minimal upgrades to the facade, involving updating the glazing to meet current thermal standards. However, further

investigation and consultation with facade engineers indicated that simply replacing the glazing wasn't sufficient. Such upgrades would also require an increased wall build-up, including insulation and waterproofing, to align the precast wall with NCC 2025 standards.

Ultimately, the project team has proposed to strip the facade back to its structure and install a new lightweight system. This approach reduces the weight on the existing structure (minimising strengthening works) whilst significantly improving both thermal and acoustic performance, aligning with NCC 2025 facade requirements. This approach does remove carbon from the building, but reduces carbon over the future life of the hotel. The project team propose to retain the facade on site, crushed into a new product.

ADAPTIVE REUSE OVERVIEW & NCC COMPLIANCE



This project showcases maximum retention and adaptive reuse by preserving the existing building structure, including the lift core and concrete frame, and integrating them into the new design. The design team has chosen to highlight retained structural features and re-purposing of the existing atrium for additional lifts. The project seeks to significantly reduce embodied carbon while sustaining operational efficiency.

1

FIRE COMPLIANCE STRATEGY

Consultant engagement.

The design team has collaborated with both a BCA consultant and a Fire Engineer to ensure that the layouts are compliant and that any necessary deviations are addressed through performance solutions. Engagement with the fire brigade is planned for the next phase.

The proposed structural system for the upper levels uses concrete to minimise fire risk, and a new facade is planned to meet compliance standards. Fire exit distances and fire stairs are compliant with the use of smoke doors in corridors.

2

STRUCTURAL COMPLIANCE STRATEGY

Concrete structure retained.

All existing structures will be strengthened to support the proposed massing above, ensuring compliance with current codes, such as the earthquake code, so that there are no structural non-compliances.

3

ENVIRONMENTAL PERFORMANCE & MEP COMPLIANCE STRATEGY

Services & facade upgrade.

Following the audit of all MEP systems conducted by the services consultant, it was determined that the existing services are at the end of their life and require upgrading to meet current code compliances. Additionally, the existing facade is proposed to be replaced due to the extensive work required to retain it, particularly to meet enhanced thermal standards. This replacement allows the facade to be upgraded to comply with the NCC.

4

SPATIAL PLANNING AND ACCESSIBILITY

Consultant engagement.

The design team has collaborated with a BCA consultant to ensure that the layouts are compliant with the NCC, from accessibility requirements to bathroom numbers. Any necessary deviations are to be addressed through performance solutions.

5

TRAFFIC AND CARPARK COMPLIANCE

Traffic compliance.

A traffic engineer has reviewed changes to the existing basement and confirmed that given the basement is not for public access, is only served by BOH lifts, and is valet only, that retaining the basement parking is acceptable. The additional plant required to service the new hotel has significantly reduced parking numbers. Bicycle parking is now proposed to be provided in the upgraded basement.

FLOOD APPROACH

ADAPTIVE REUSE: FLOOD LEVELS APPROACH OVERVIEW

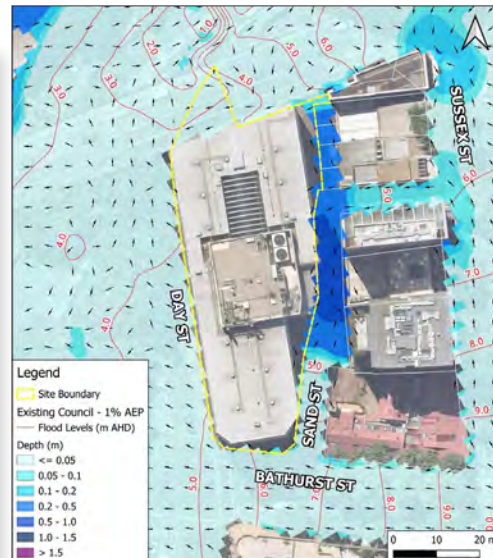
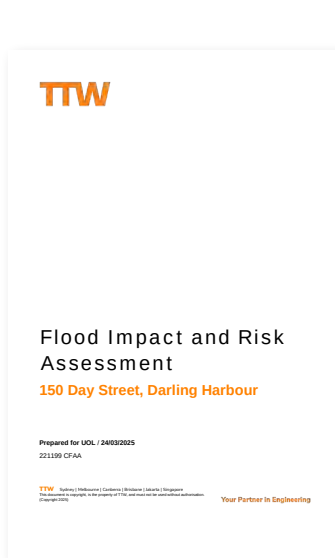


Figure 6: Existing Council 1% AEP Flood Depths and Levels

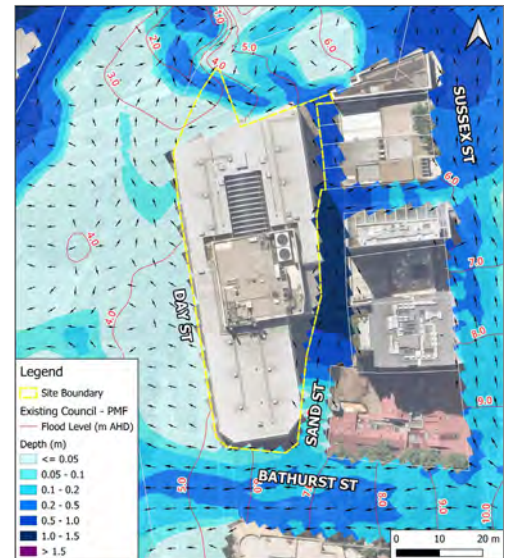


Figure 7: Existing Council PMF Flood Depths and Levels

Overview of Day Street Flooding Approach:

- The existing building is flood prone land with no protection for the ground floor or basement levels and inundation in the 1% AEP and PMF.
- The proposed extension is over an existing building (ie above the flood prone land and flood planning area with protection above the PMF). However the proposal also allows for flood mitigation to the existing building (including raised floor levels as high as possible and flood barriers where thresholds cannot be raised further).
- Under LPd 3(g) *The proposal must not 'result in a significantly increased requirement for government spending on emergency management services, flood mitigation and emergency response measures'*: The current building would require evacuation through external routes and high hazards that may rely on potential emergency services. Any mitigation as part of

this upgrade reduces government spending.

- The proposal allows for the building to be protected from flooding for all storms up to the PMF and shelter in place would be a suitable flood response that actively reduces the reliance on emergency services by protecting the building and creating a safe refuge from flooding within the building.

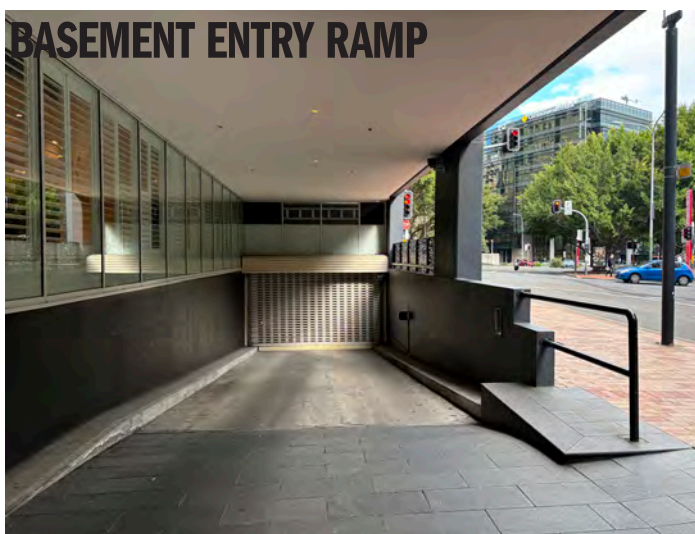
Overview of Flood Analysis:

- TTW have completed work on a Flood Impact and Risk Assessment (FIRA), notably updating the Council's flood model in the area, conducting a topographical survey and including the concrete wall adjacent to the Cross City Tunnel.
- The FIRA provides mapping for 1% AEP and PMF events and also includes assessment of flood risk in the existing as well as post development situation based on duration of flooding, depth & velocity, flood warning & evacuation time, period of isolation, frequency of inundation

and flood hazards for a full range of events up to and including PMF. The FIRA includes flood modelling in PMF for longer duration storms to determine period of isolation to assist in emergency management. The 5%, 1%, 0.2% AEP and PMF have been assessed as well as climate change scenarios.

- Post development does not change as there is no change to existing surface levels or building extent.
- Longer duration modelling has been completed for the Flood Emergency Management.
- Combined impacts of increased rainfall and sea level are also assessed.
- An assessment of freeboard against the increased climate change level and flood planning levels is also considered - we note that there is no planning requirement within the current Interim Floodplain Policy to allow increased flood levels associated with climate change to be used to set the flood planning levels.

The reference design looks to balance active frontages and safer city streets, with flood resilience. The current urban outcome at the site is not considered a good outcome for the city.



It is proposed to remove this ramp:

- Ramp causes vehicle and pedestrian crossover
- Creates an inactive, dark facade to Day street
- Significant flood risk to basement

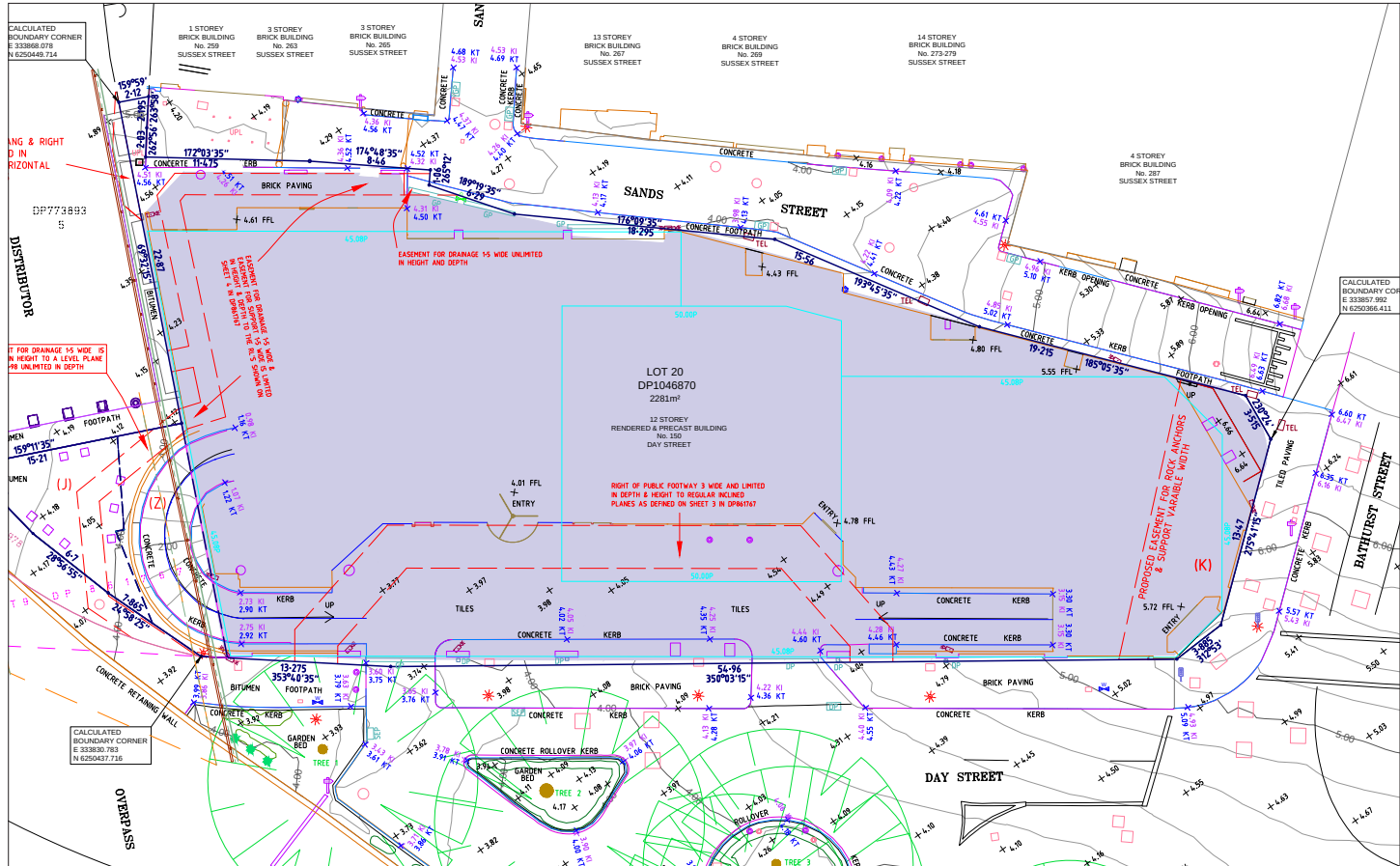
It is proposed to retain this ramp:

- Minimal impact to facade as it curves around the north elevation of the building
- Minimise existing openings to flood waters (this ramp is a smaller opening than the existing entry ramp)

EXISTING AND NEW FLOOR LEVELS

Approach to Flood Levels in Adaptive Reuse

Topography of Day Street around basement and pedestrian entrances:



Topography of Sands Street, and the multitude of existing loading bays:



1

Hotel Lobby: Existing FFL is raised to 4.4RL across the GF (the existing building has varied floor levels). The proposed GF is set above the climate change sensitivity level of 4.02. The proposal increases the varied floor levels to an FFL of 4.4RL. This level allows the project to continue to meet Australian equal access requirements by opening flush to Day Street, and allow the hotel to continue to meet practical requirements for a hotel lobby (with suitcases etc).

The process of lifting existing slab levels requires using void-former polystyrene formwork, a method chosen to mitigate the impact on structural loads while achieving an increased elevation. The ground floor levels have been worked through to minimise any demolition of existing slabs.

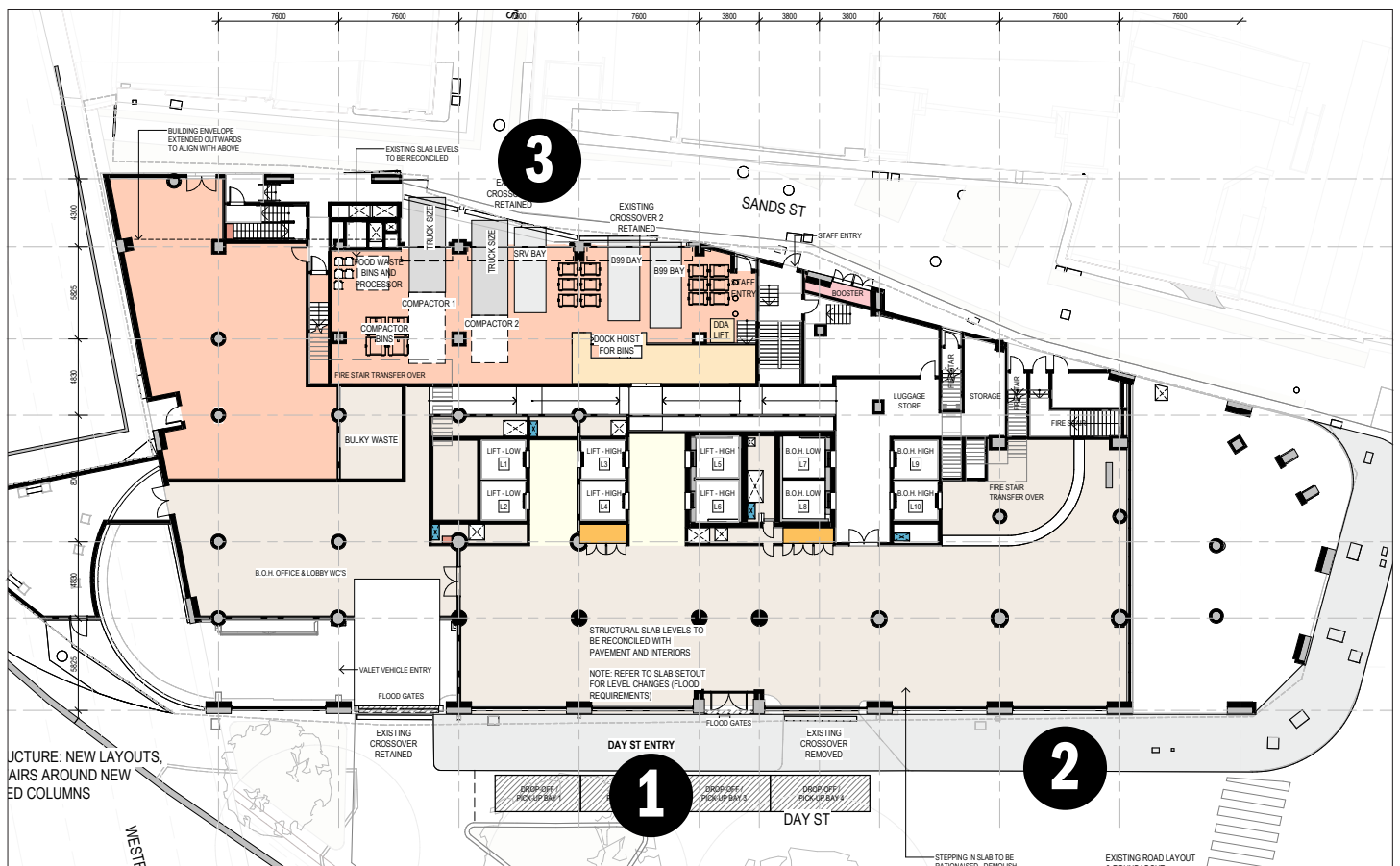
For areas where fire stairs provide egress from basement levels, the design routes the stairs up to reach the FFL before descending back down to the Sand Street laneway.

2

Existing Basements: The existing porte-cochere and entry/exit ramps to the basements sit lower than the proposed 4.4FFL of the lobby. It is proposed to remove the porte-cochere and the entry ramp to the basement and to raise the floor level at these points above the climate change sensitivity level of 4.02, up to 4.4. This improves the ground plane from the current building and reduces basement access to one opening (to be flood protected) rather than two. Given the existing carpark ramp is retained, a flood barrier is proposed to this existing ramp.

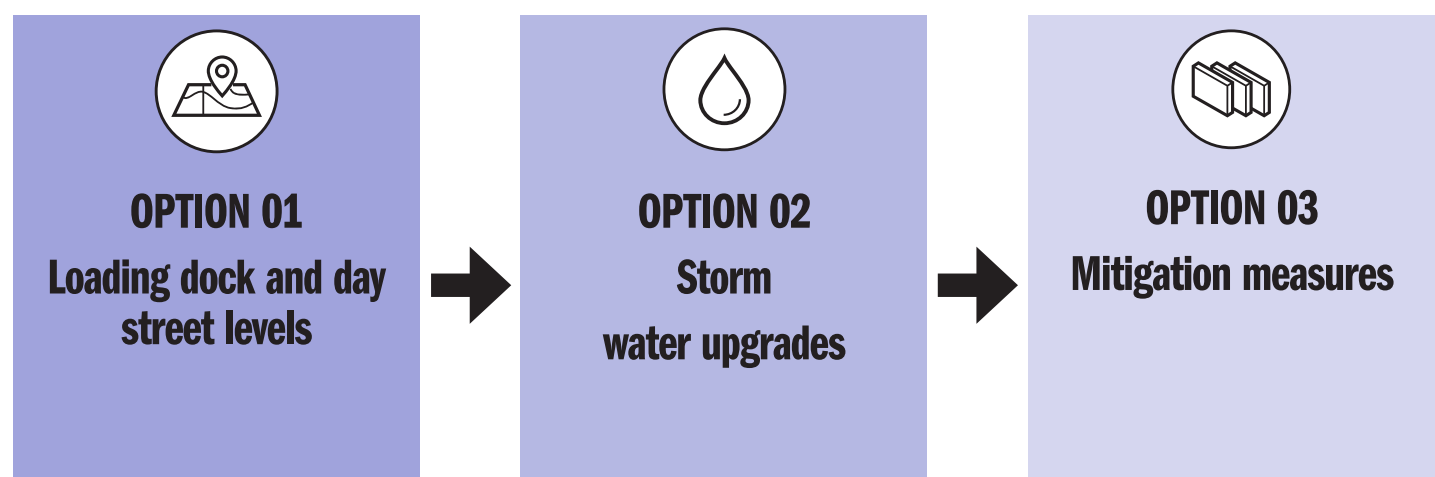
3

Existing Loading Dock: The existing loading dock sits at the level of Sands Street. Whilst there is clear height to increase the level of the loading dock and be able to fit trucks, there is not the depth within the site to ramp trucks upwards to a higher, flat loading dock level. It was considered operationally insufficient to propose trucks load on a slope. Sands Street itself could be raised at low points to enable flood compliant loading, however this would interrupt operations for other buildings along Sands Street. Therefore the loading dock FFL is proposed as per the existing level, with a new flood barrier to be installed in order to improve the current performance of the building.



FLOOD MITIGATION STRATEGIES:

Design process and outcomes



A Study of potential flood mitigation measures has been undertaken.

- Considering the level of inundation in Sands Street and the loading dock, the FIRA should recommends suitable measures to mitigate the risk rather than

suggesting flood proofing up to the Flood Planning Levels.

- The current reference design relies on flood gates to protect the ground floor and basement along Day Street. The City’s position on flood gates is that they are not permissible except where all other passive structural flood mitigation options, including design, have been explored and documented and Council is

satisfied that none of the options can be implemented.

- Detailed assessment of potential stormwater upgrades have been considered in the following pages.

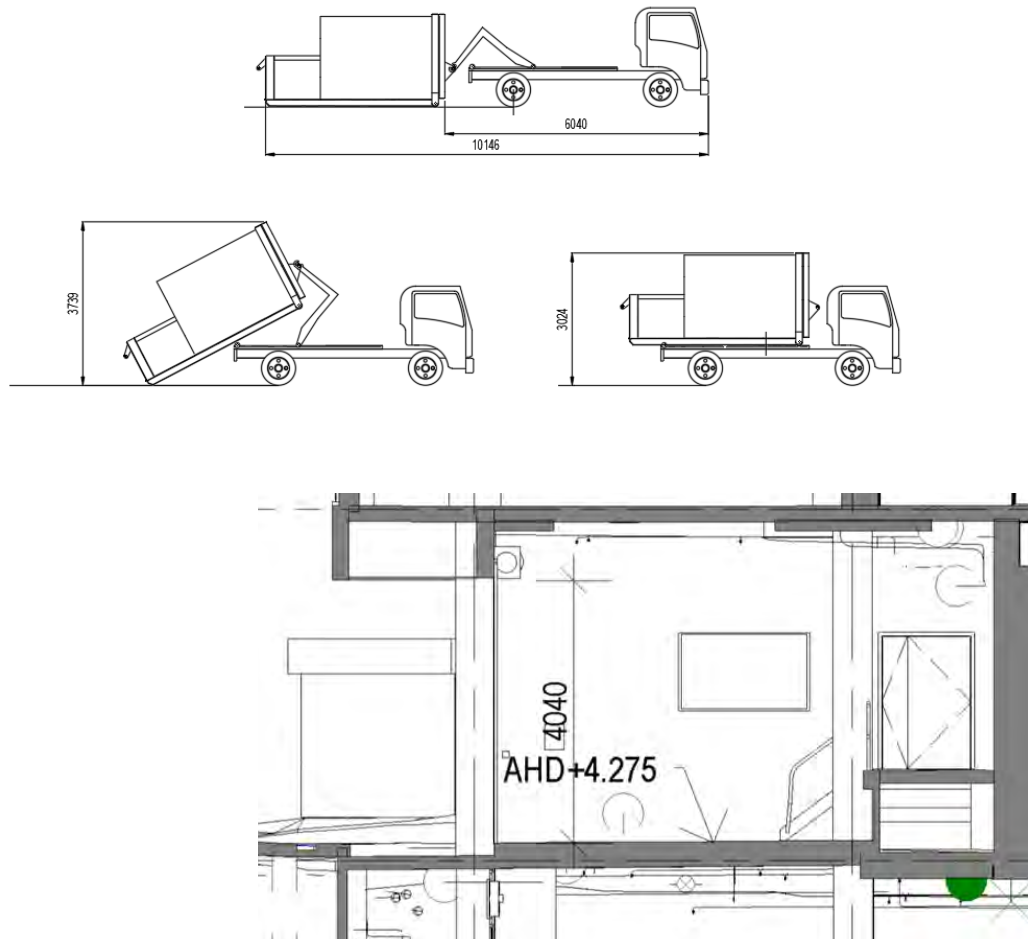
01 LOADING DOCK FFL

A - Preserving Clear Heights for a Compactor

AT90-100

10m Transportable AUGER Compactor

TRUCK WIDTH: 2300 mm
(2800 mm WITH MIRRORS)



- The initial flood mitigation strategy studied was the options to raise the floor levels to 4.58RL, above the most extreme flood level. As previously discussed the Lobby floor level has been raised above the climate change requirements however it does not exceed the worst case scenario flood level due to access requirements from the street into the hotel.
- Regarding the loading dock, it was considered to raise the loading

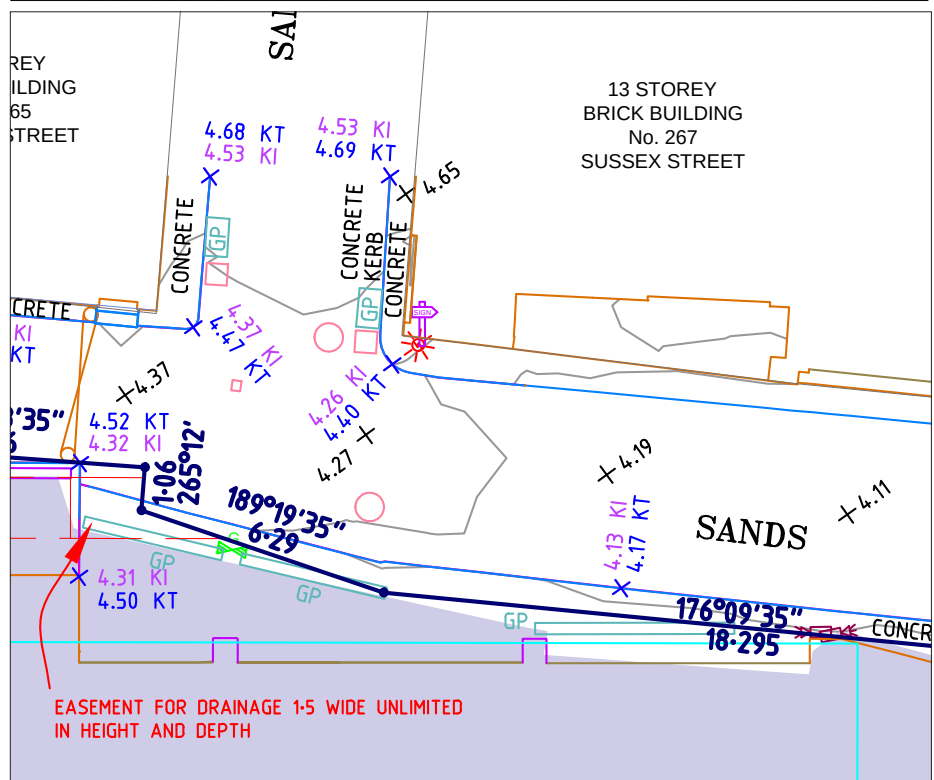
dock from 4.275 to 4.58, to avoid any stormwater upgrades. This will be an increase of 305mm to the loading dock FFL. This leaves 3,753 clear under the existing rollershutter and external soffit. A clear head height of 3750mm would be sufficient for the truck to enter / exit the loading dock with the compactor loaded (max 10m3 size). The compactor would not be loaded / unloaded at this point, it would load from within the dock

where there is a greater height clearance.

- However, for an SRV, the maximum rate of change is 1:12 (8.3%). Due to the existing Sands Street levels and the existing loading dock being so narrow, achieving a compliant gradient is not possible without causing operational issues - the truck would be unloading uphill.

B - Access To Loading Dock Slab Height Cannot Be Too Steep / All Lane Loading Uses The Full Lane Width (Changing Levels Must Not Undermine Neighbours Access)

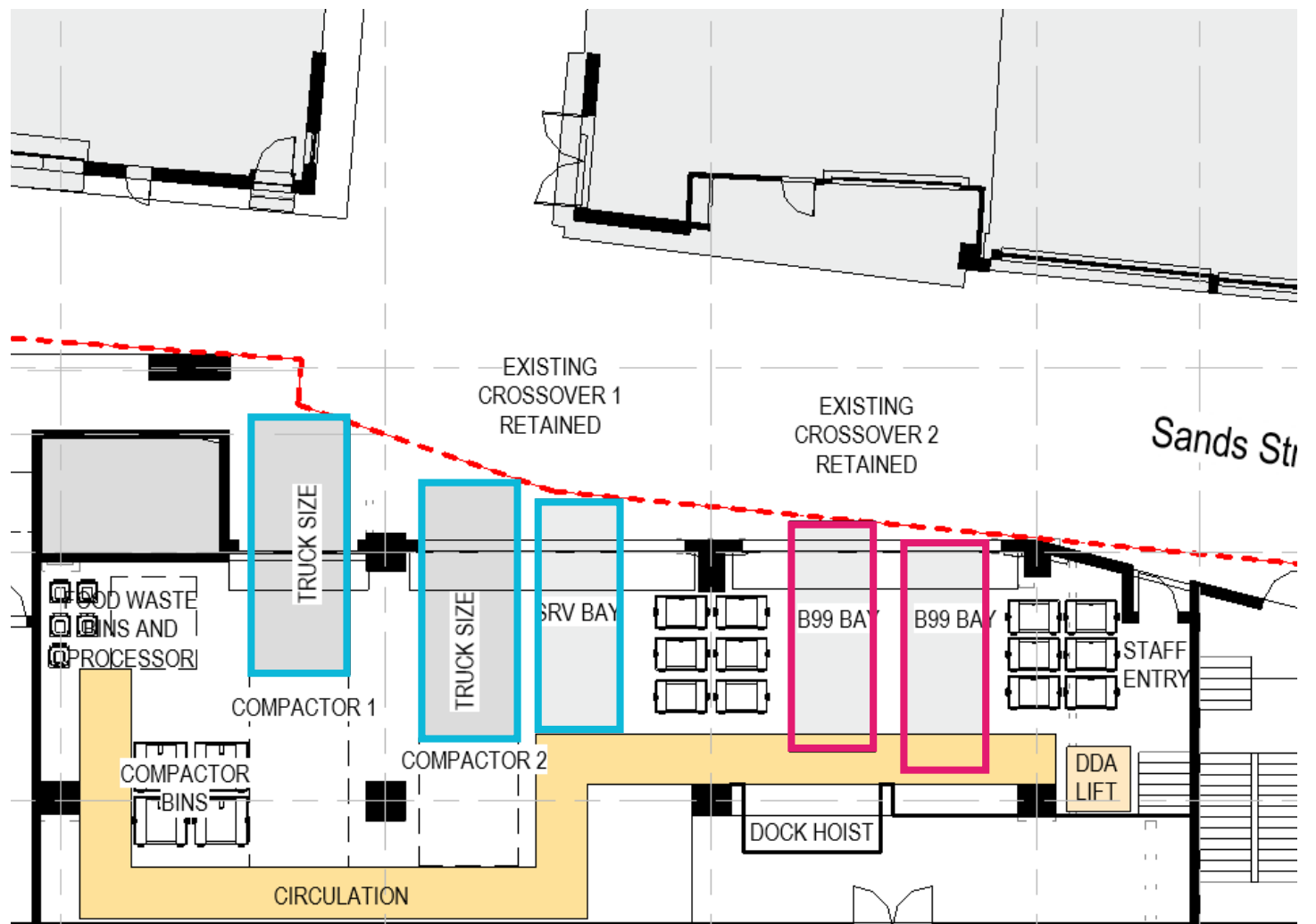
- 1% AEP flood level is 4.58m;
- External levels in Sand Street and adjacent docks are below flood levels (limiting scope for improving the dip in Sands Street);
- Loading entrance thresholds or floor level could be raised to 4.35FFL (to not impact stormwater dia.) however this creates gradient and cross over issues;
- An SRV can only ramp up a maximum 1:12 slope and cannot load at a gradient (there is no space for ramps from Sands Street, nor opportunity to alter Sand St without affecting adjacent loading docks and their truck movements);
- Vehicle turning space sets loading dock location for the SRVs and compactors - the loading dock has been designed around tracking.



B99 here - larger transition to building FFL

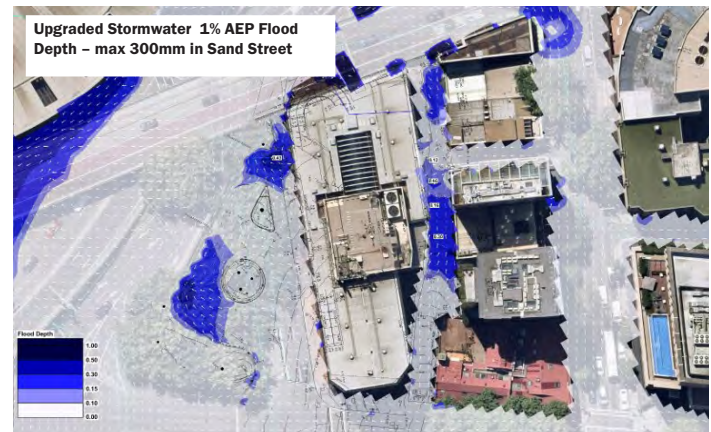
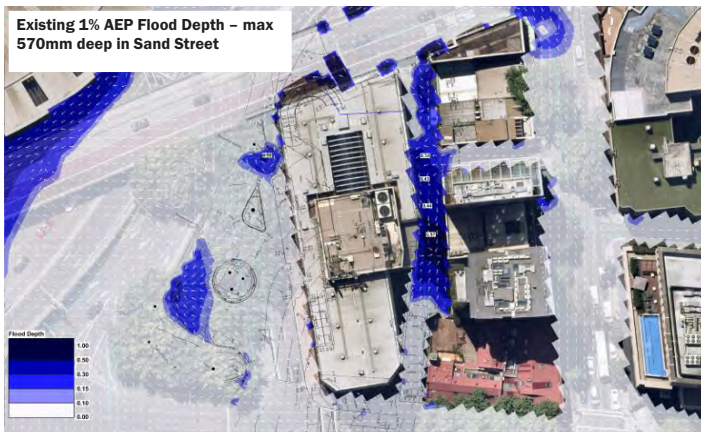
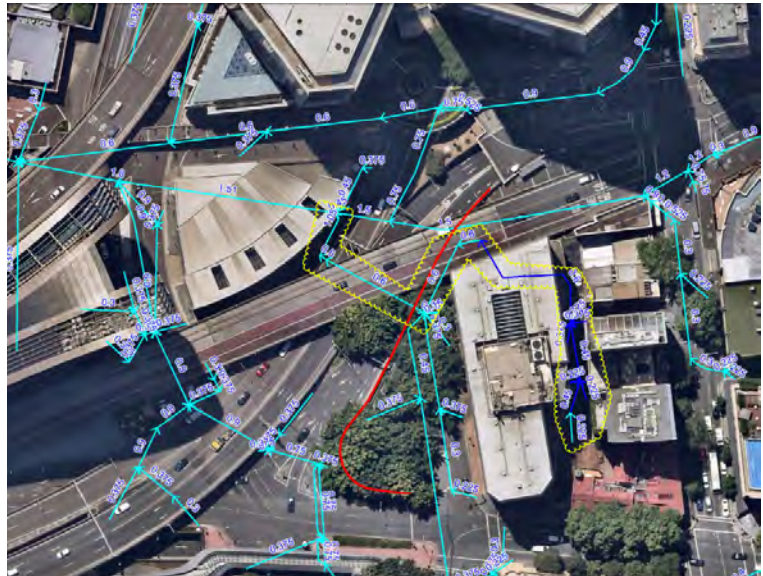
01 LOADING DOCK LAYOUT

C - Ramp gradient into the site limits raising the existing dock FFL



02 UPGRADE STORMWATER

Is the areas flood management improved through stormwater upgrades?



Overview of considerations to improve the stormwater network:

- Existing site easement: 600mm diameter stormwater pipe within a 1.5m easement (see photo);
- Based on this information, in order to achieve a 4.33 flood level at the site it would be required to double the capacity of the existing pipe (for example provide 2 x 600mm dia. pipes) - This can fit

within the existing easement;

- This easement then flows into overflow at Day Street (ie because water flows at Day Street aren't that significant this extra capacity for overflow provides relief from Sands st onto Day st);
- However, this solution requires upgrades to stormwater pits and pipes around Day Street and underpass (pipes from 200 to 400d, or 4 additional pits);
- Even with all these upgrades

within the site and to Day Street, there is no benefit to the urban realm or to other properties in the vicinity. It is very difficult to justify such extensive disruption to the existing streets for no benefit to the area. With all upgrades above, it still does not achieve a 1% AEP flood level below the loading dock level – minimum level achieved is 4.33m;

- With these upgrades the existing driveways in Sand Street are still below 1% AEP flood level.

03 MITIGATION MEASURES

Loading Dock Levels

" If a flood-proofed loading dock is not resolved through level changes or stormwater changes, the alternative option is a flood barrier or flood roller shutter door, and to design the loading dock to be a flood barrier to the building. "

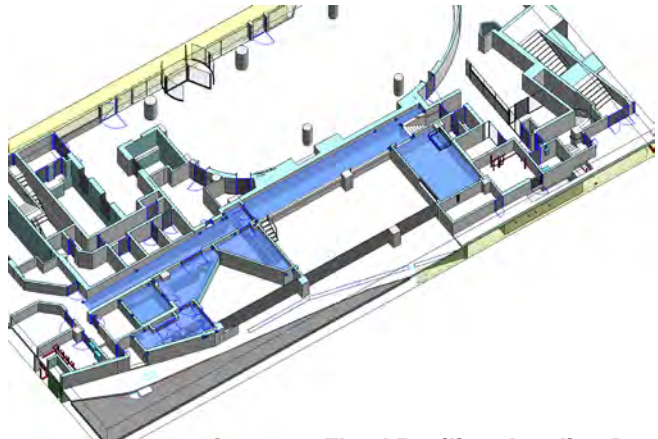
Flood Shutter

The Flood Shutter is an overhead self-closing automated barrier shutter system is suitable for domestic or commercial applications where flood protection is required.

The barrier can be integrated in to surrounding architectural elements for concealed appearance.

Stainless steel guide rails with light weight extruded aluminium panels which compress to form a water-resistant seal. System has a 99.5% water penetration resistance rating when flooding occurs.

[Contact us >](#)

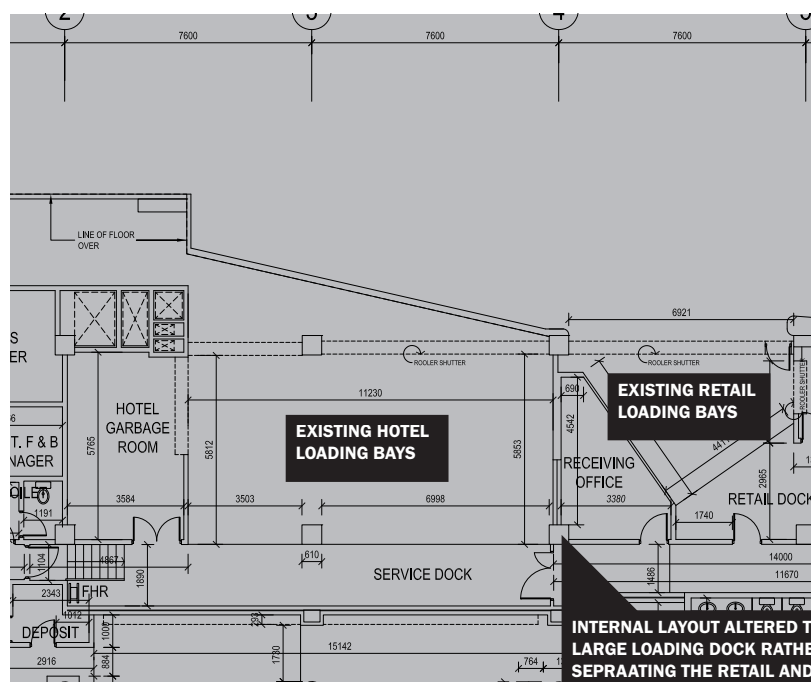
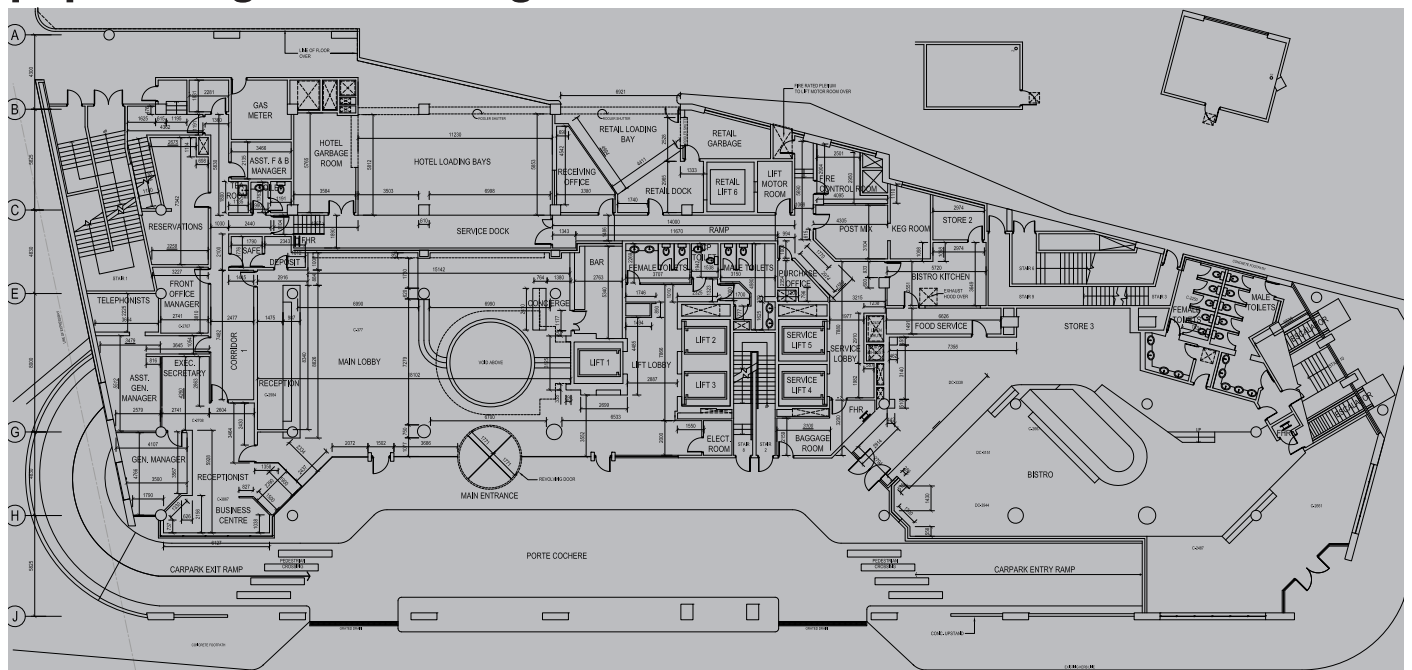


Concept: Flood Resilient Loading Dock

LOADING & SERVICING APPROACH

ADAPTIVE REUSE: LOADING AND SERVICING APPROACH

Existing Loading Dock Plans: This is an adaptive reuse project that does not propose changes to the loading dock location or cross-overs.



INTERNAL LAYOUT ALTERED TO CREATE A SINGLE LARGE LOADING DOCK RATHER THAN A WALL SEPARATING THE RETAIL AND HOTEL DOCKS