



Meeting attachments

Ordinary Meeting of Council

Wednesday 20 December 2023 6pm

Part 1

fremantle.wa.gov.au



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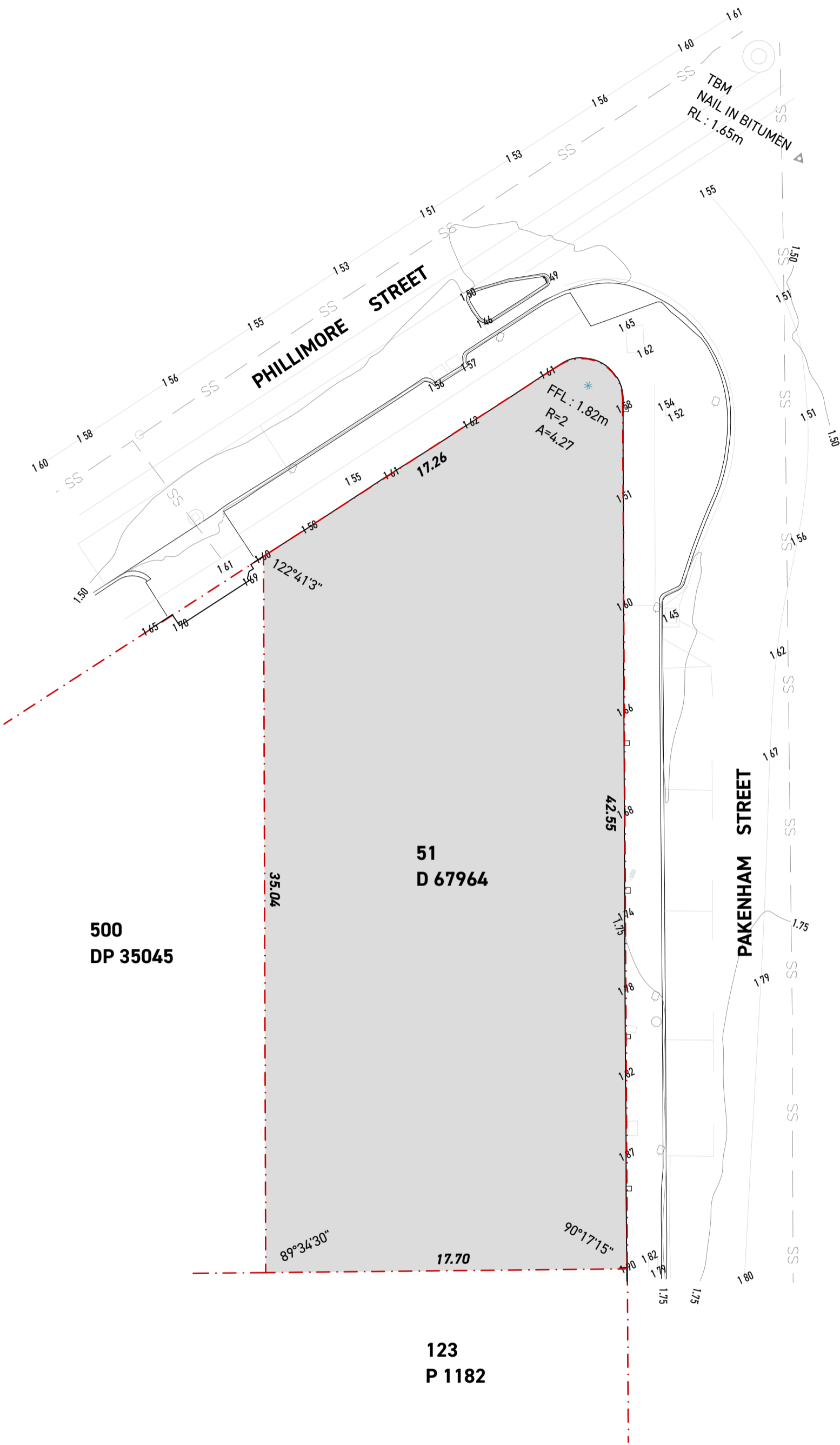
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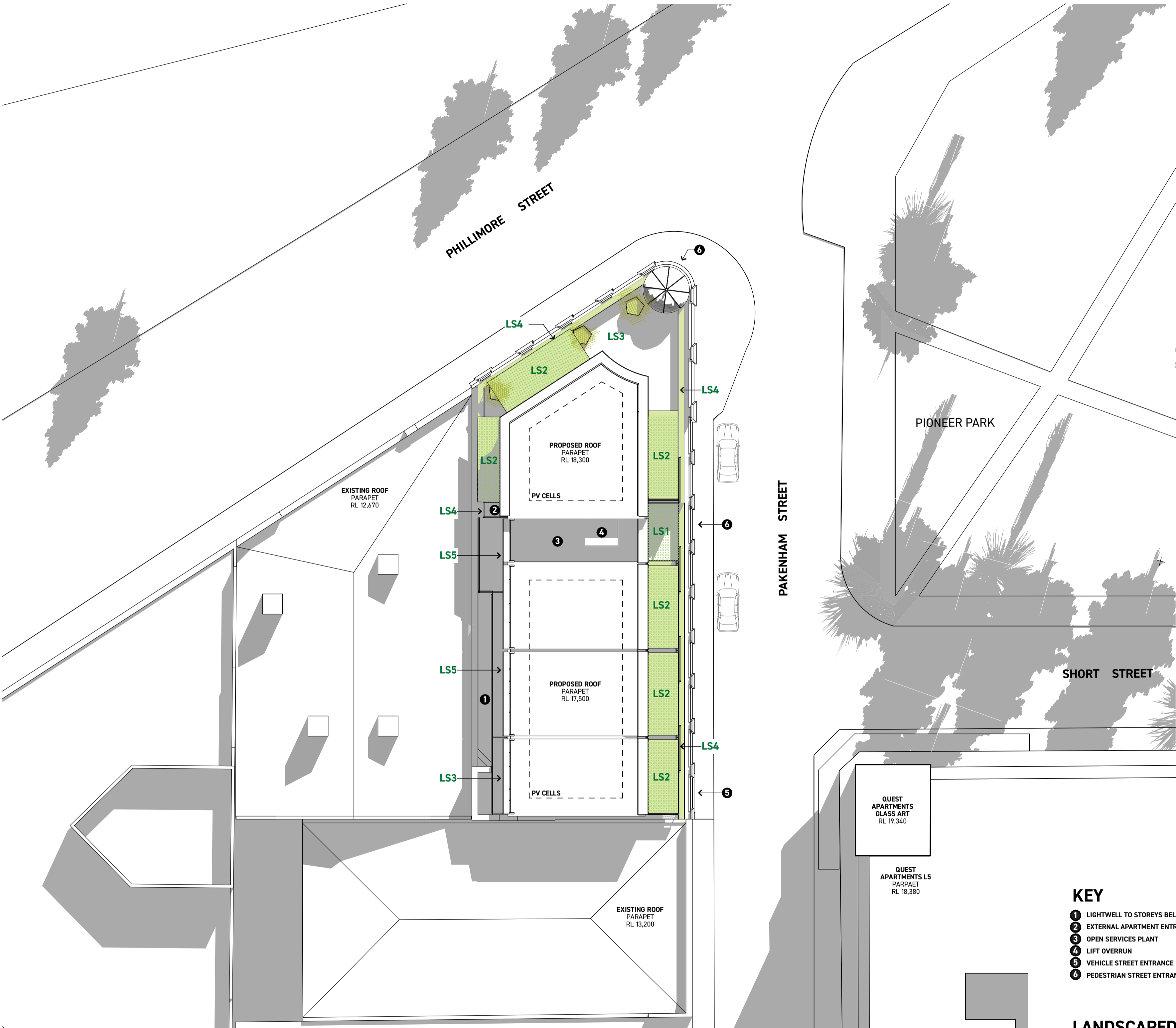
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APPENDIX J

**PROPOSED ARCHITECTURAL
DRAWINGS**



SITE SURVEY



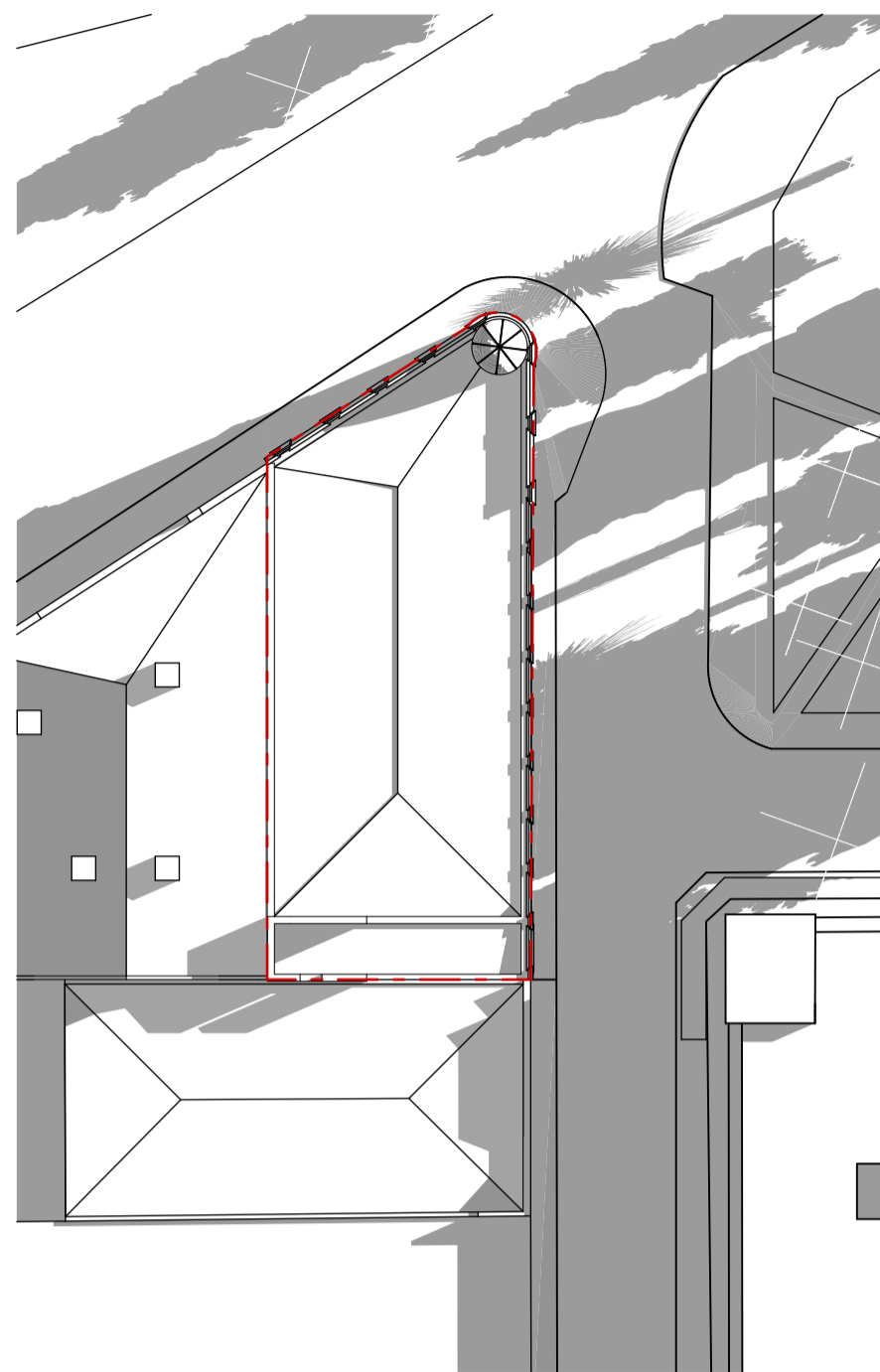
SITE PLAN

- KEY**
- 1 LIGHTWELL TO STOREYS BELOW
 - 2 EXTERNAL APARTMENT ENTRY
 - 3 OPEN SERVICES PLANT
 - 4 LIFT OVERRUN
 - 5 VEHICLE STREET ENTRANCE
 - 6 PEDESTRIAN STREET ENTRANCES

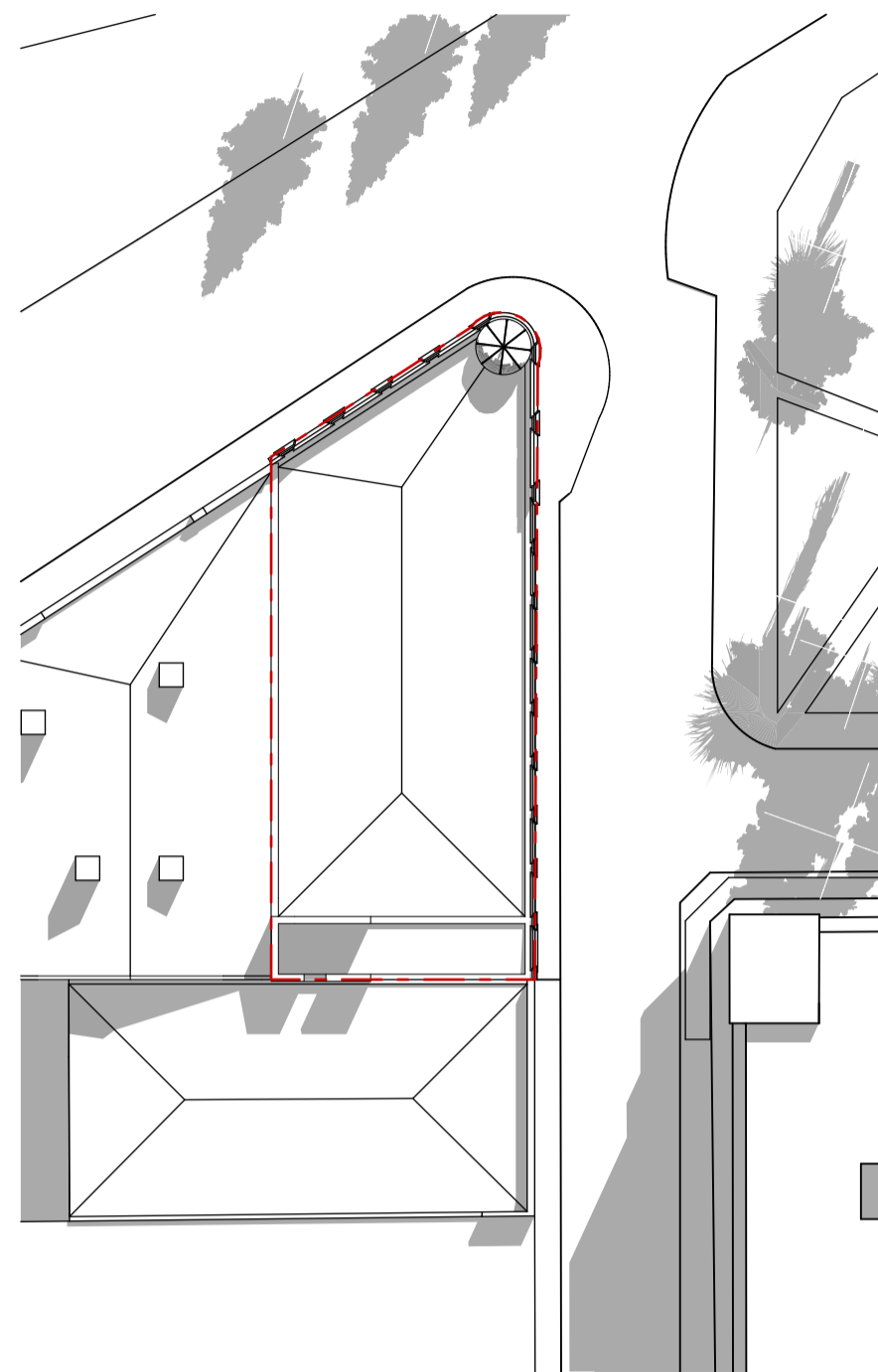
- LANDSCAPED AREAS**
- LS1: GARDEN BED (17m² POTTED LANDSCAPING)
 - LS2: TERRACE LANDSCAPE SHADING
 - LS3: APARTMENT PAVED TERRACE WITH POTTED LANDSCAPING
 - LS4: LANDSCAPE EDGE PLANTERS
 - LS5: PAVED TERRACE WITH POTTED LANDSCAPING

NOTE: REFER TO LANDSCAPE DRAWINGS.

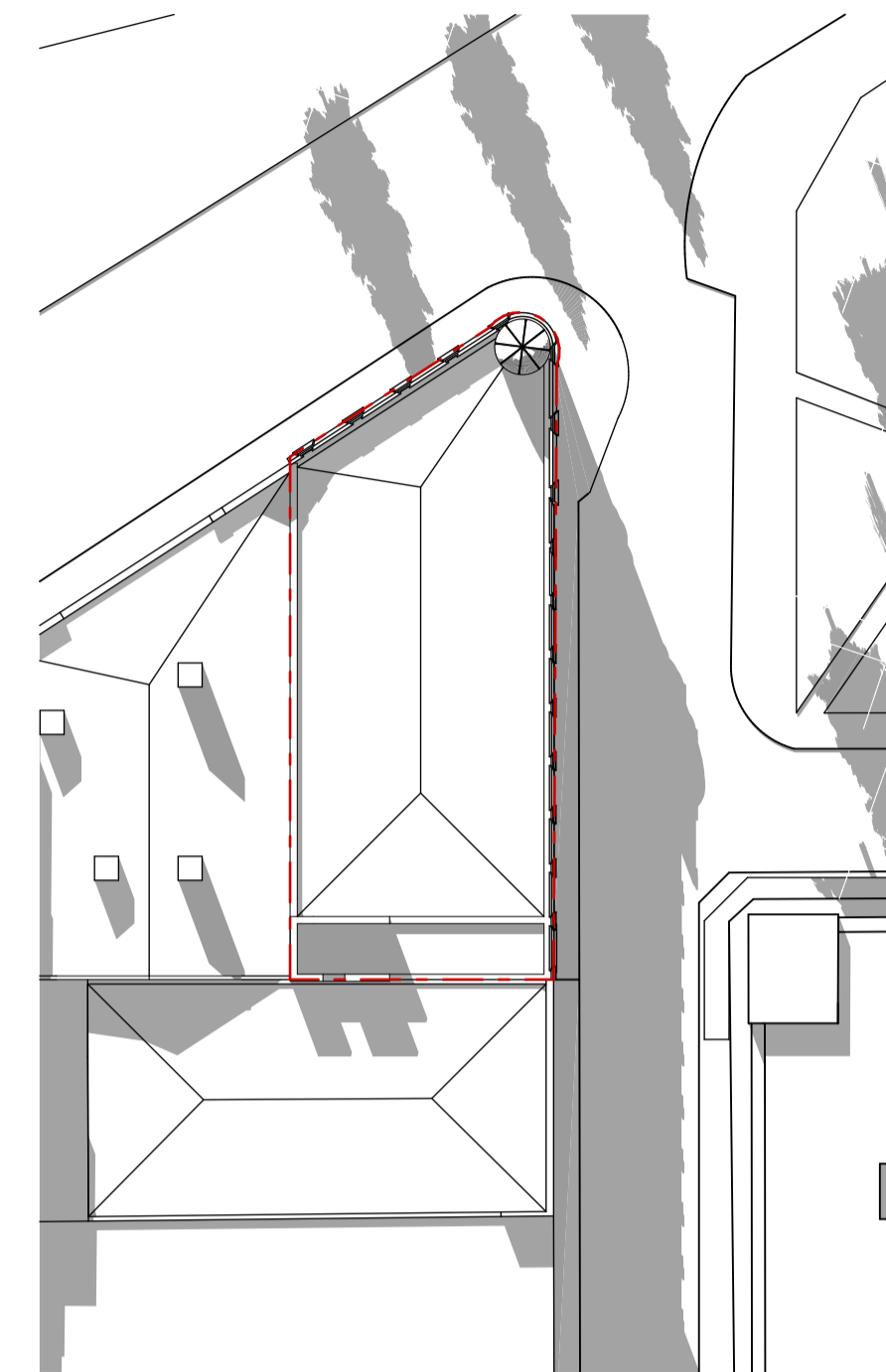




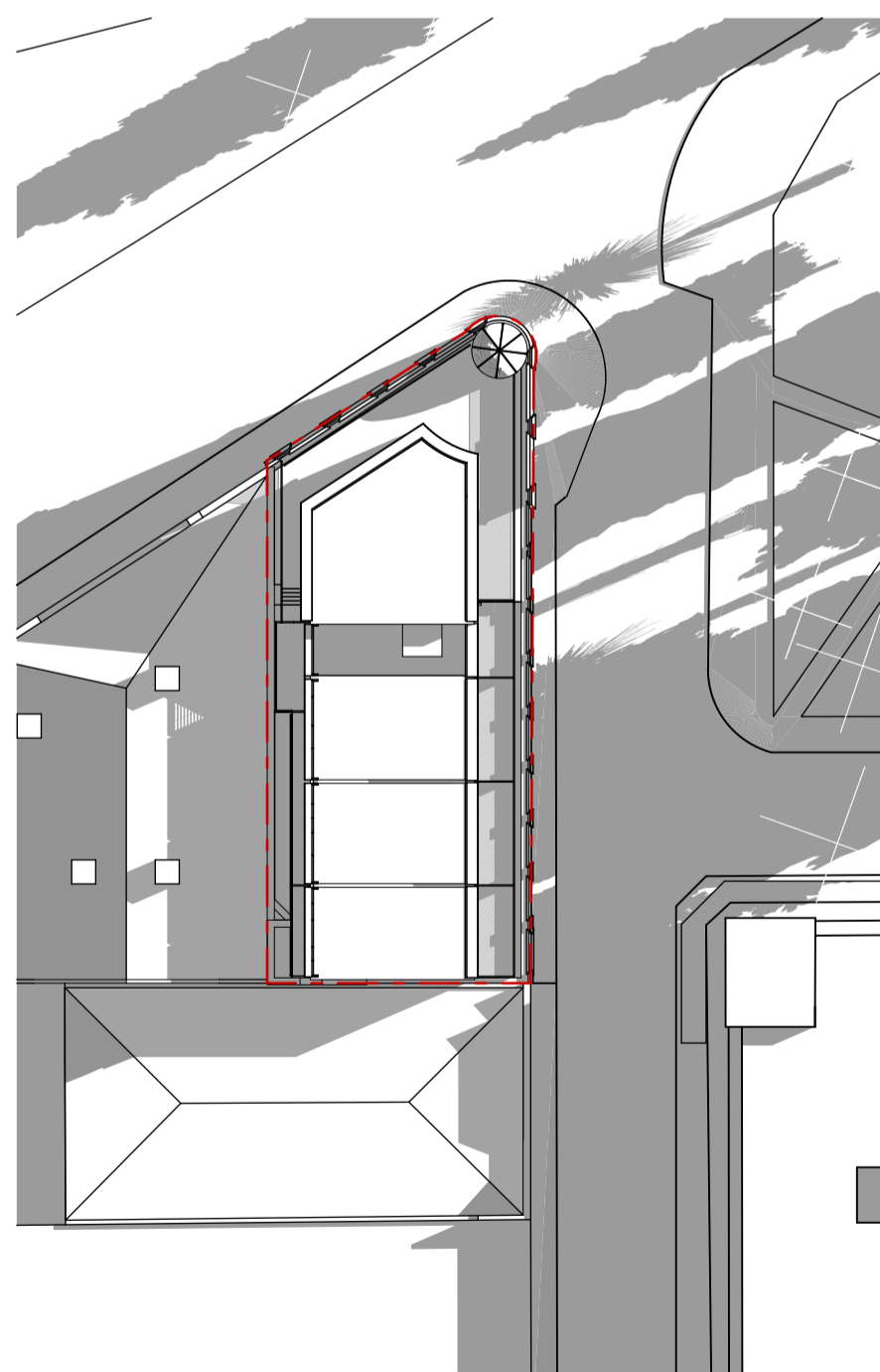
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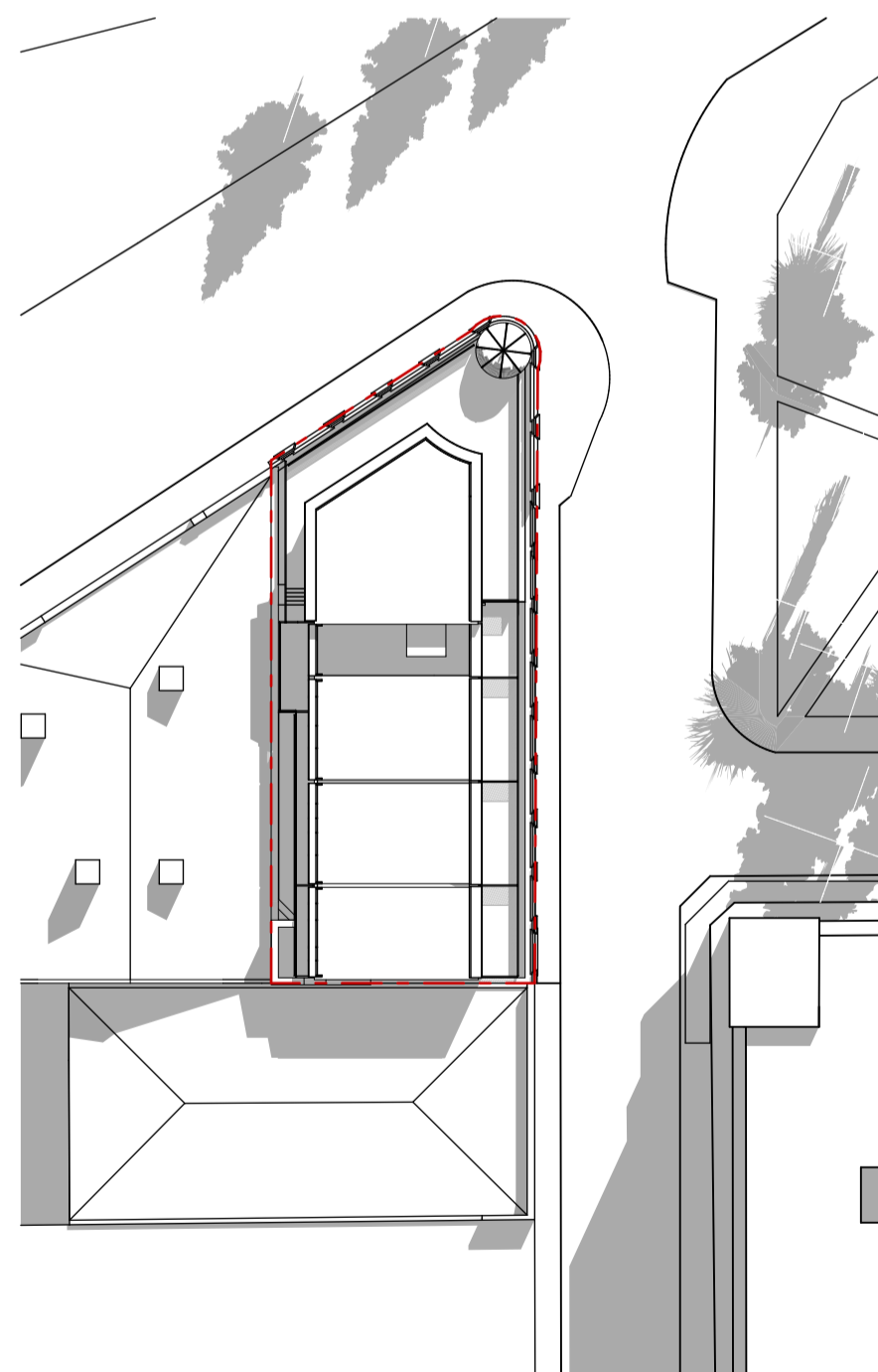
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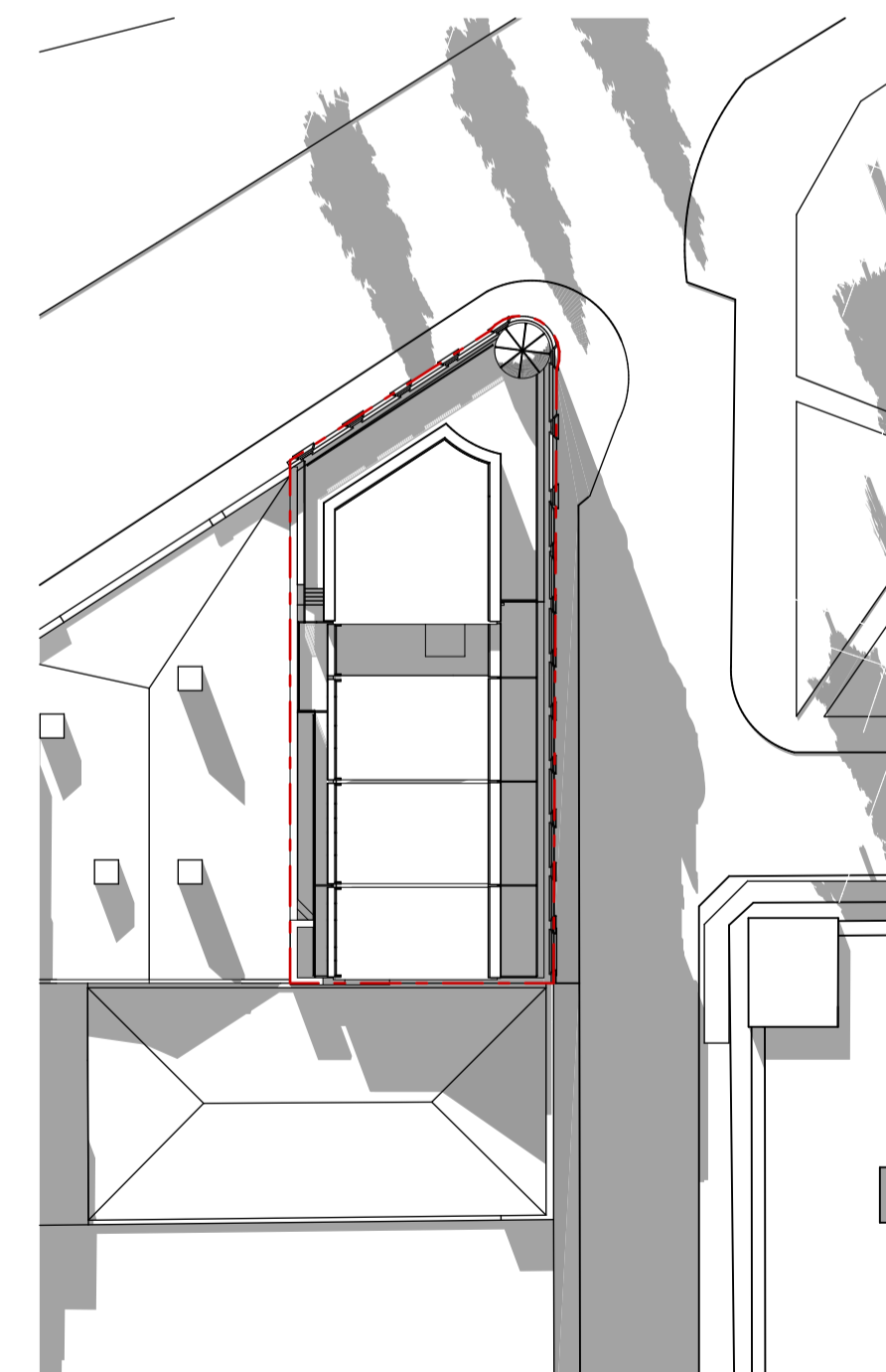
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PROPOSED - 21 JUN at 0900h



PROPOSED - 21 JUN at 1200h



PROPOSED - 21 JUN at 1500h

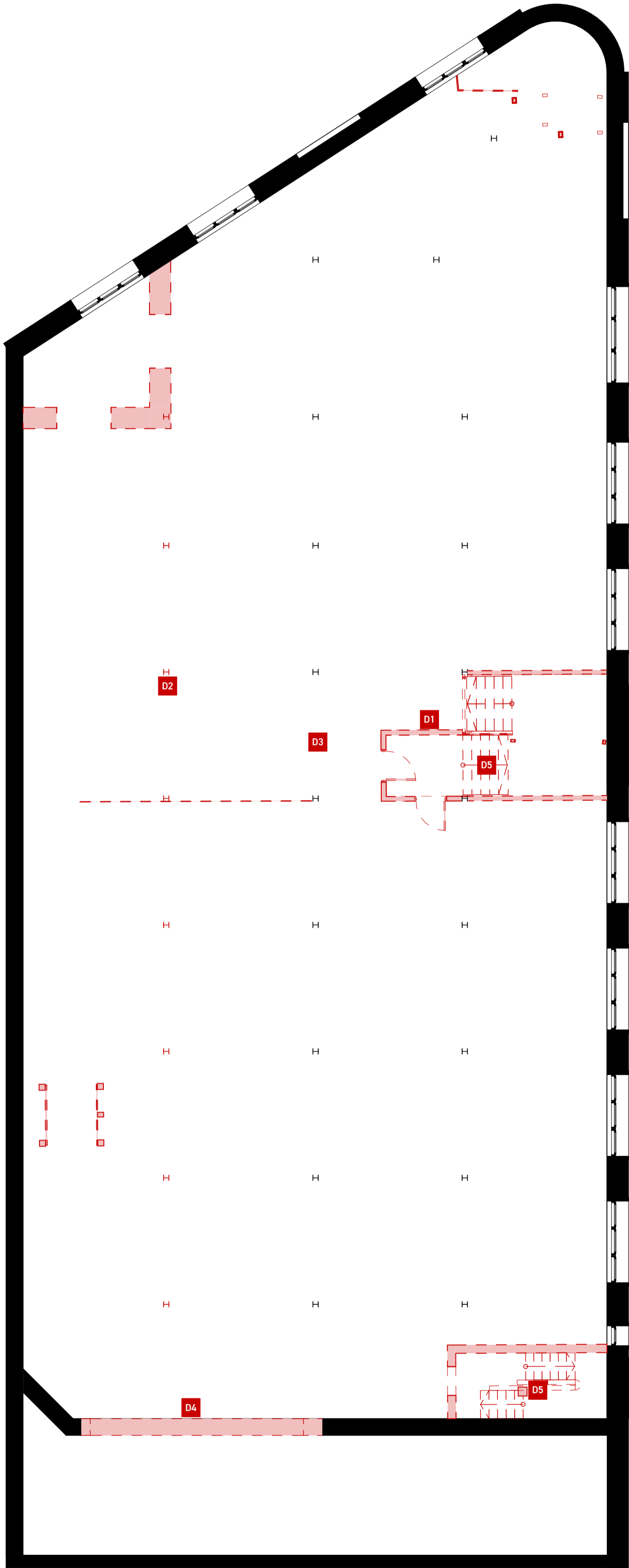
DEMOLITION LEGEND

INTERNAL:

- D1 ALL INTERIOR PARTITIONS AND ASSOCIATED DOORS, WINDOWS, & FIXTURES TO BE DEMOLISHED
- D2 STEEL COLUMNS TO BE DEMOLISHED FOR DRIVE AISLE CLEARANCE
- D3 FLOOR AND ASSOCIATED FRAMING TO BE DEMOLISHED
- D4 NEW OPENING WITHIN MASONRY WALL
- D5 STAIR TO BE DEMOLISHED
- D6 COLUMN ENCLOSURE TO BE DEMOLISHED, STEEL COLUMN TO BE RETAINED

EXTERNAL:

- D11 PARTIAL BRICKWORK WALL TO BE DEMOLISHED
- D12 TIN ROOF AND ASSOCIATED ROOF FRAMING TO BE DEMOLISHED
- D13 LATER ADDITION WINDOW REPLICAS TO BE DEMOLISHED
- D14 LATER ADDITION ENTRY DOOR TO BE DEMOLISHED
- D15 BRICKWORK RECESS TO BE DEMOLISHED TO PROVIDE GREATER VISUAL PERMEABILITY TO THE INTERIOR SPACES
- D16 LATER ADDITION ENTRY DOOR TO BE DEMOLISHED FOR BOOSTER ASSEMBLY



BASEMENT



GROUND FLOOR



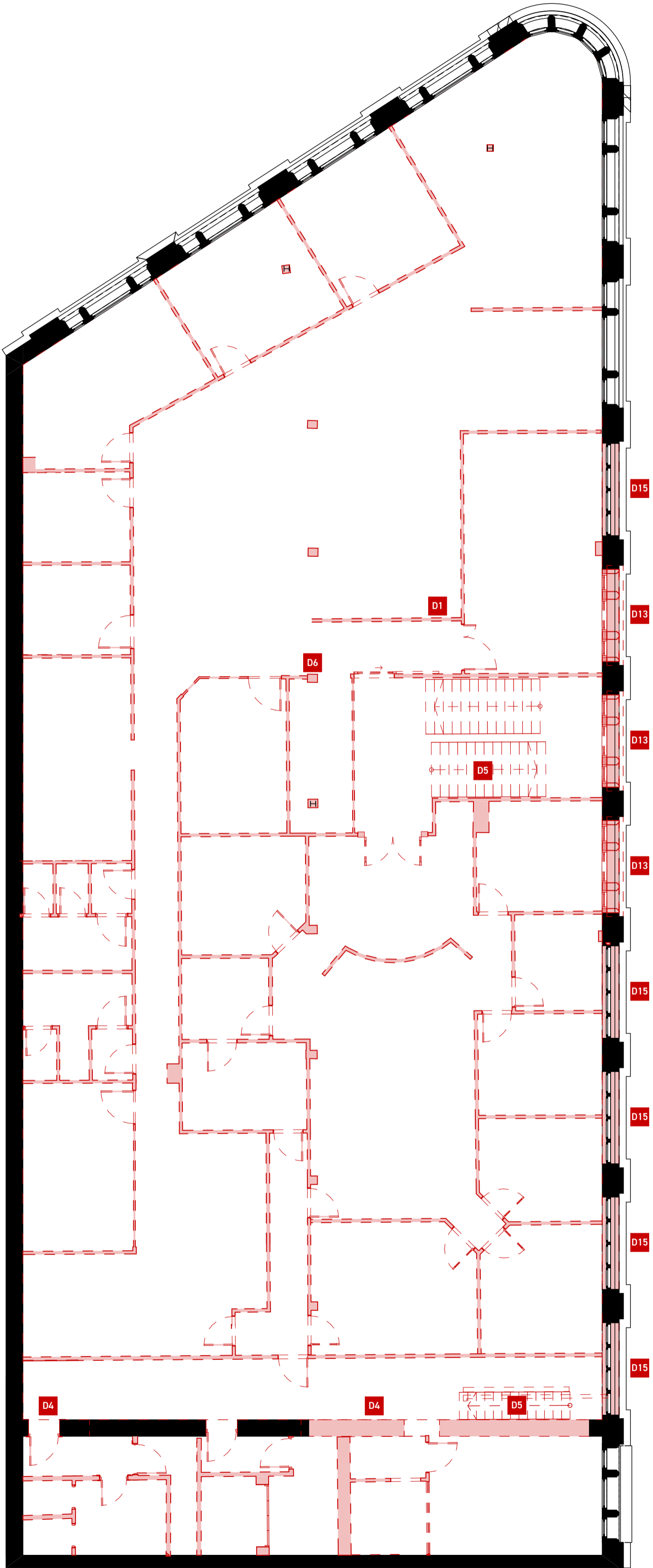
DEMOLITION LEGEND

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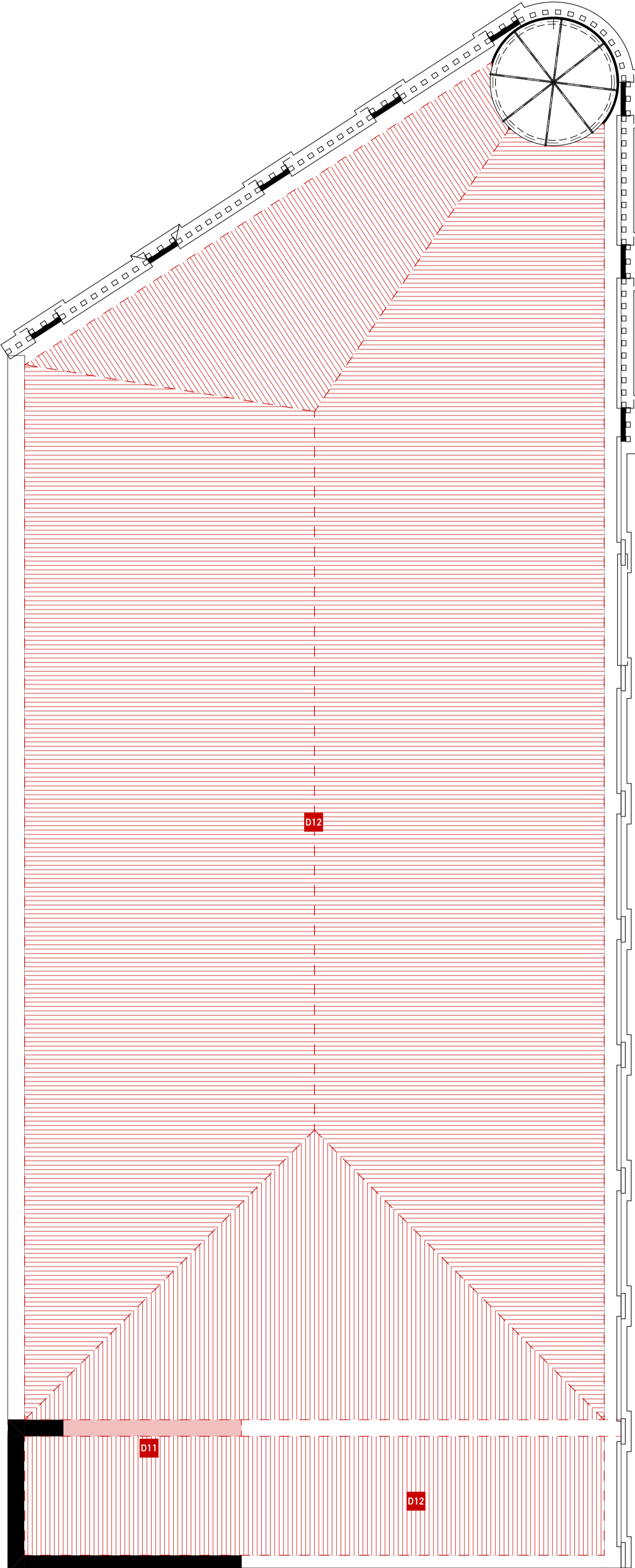
- D1 ALL INTERIOR PARTITIONS AND ASSOCIATED DOORS, WINDOWS, & FIXTURES TO BE DEMOLISHED
- D2 STEEL COLUMNS TO BE DEMOLISHED FOR DRIVE AISLE CLEARANCE
- D3 FLOOR AND ASSOCIATED FRAMING TO BE DEMOLISHED
- D4 NEW OPENING WITHIN MASONRY WALL
- D5 STAIR TO BE DEMOLISHED
- D6 COLUMN ENCLOSURE TO BE DEMOLISHED, STEEL COLUMN TO BE RETAINED

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- D16 LATER ADDITION ENTRY DOOR TO BE DEMOLISHED FOR BOOSTER ASSEMBLY



LEVEL 1



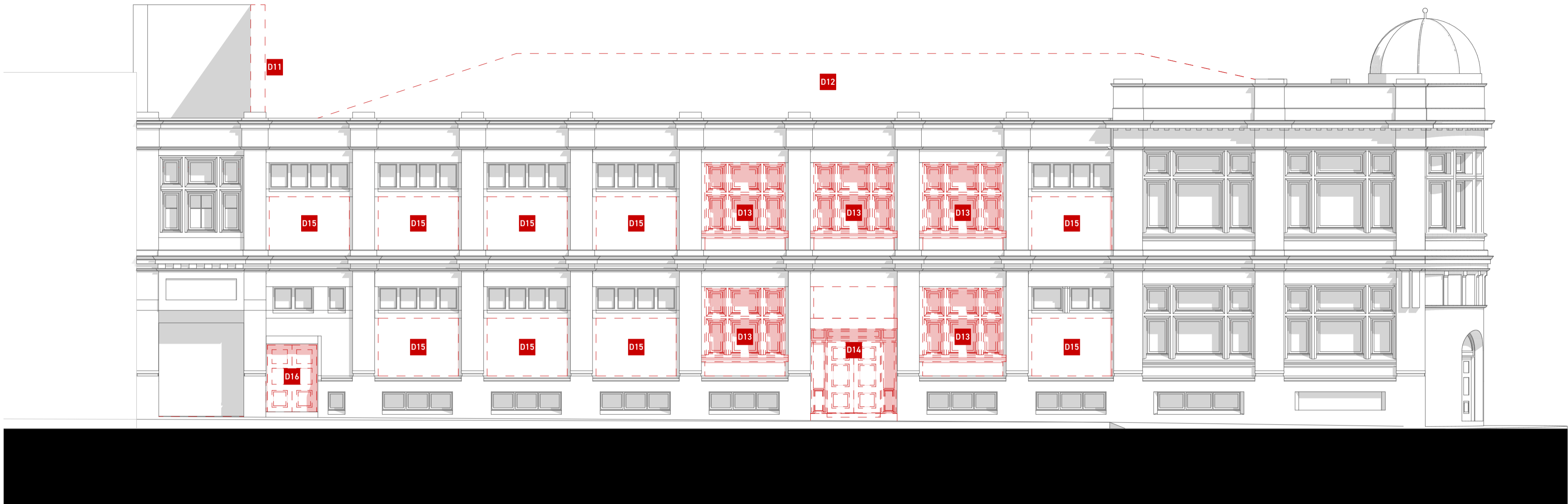
LEVEL 2 (EX ROOF)



DEMOLITION LEGEND

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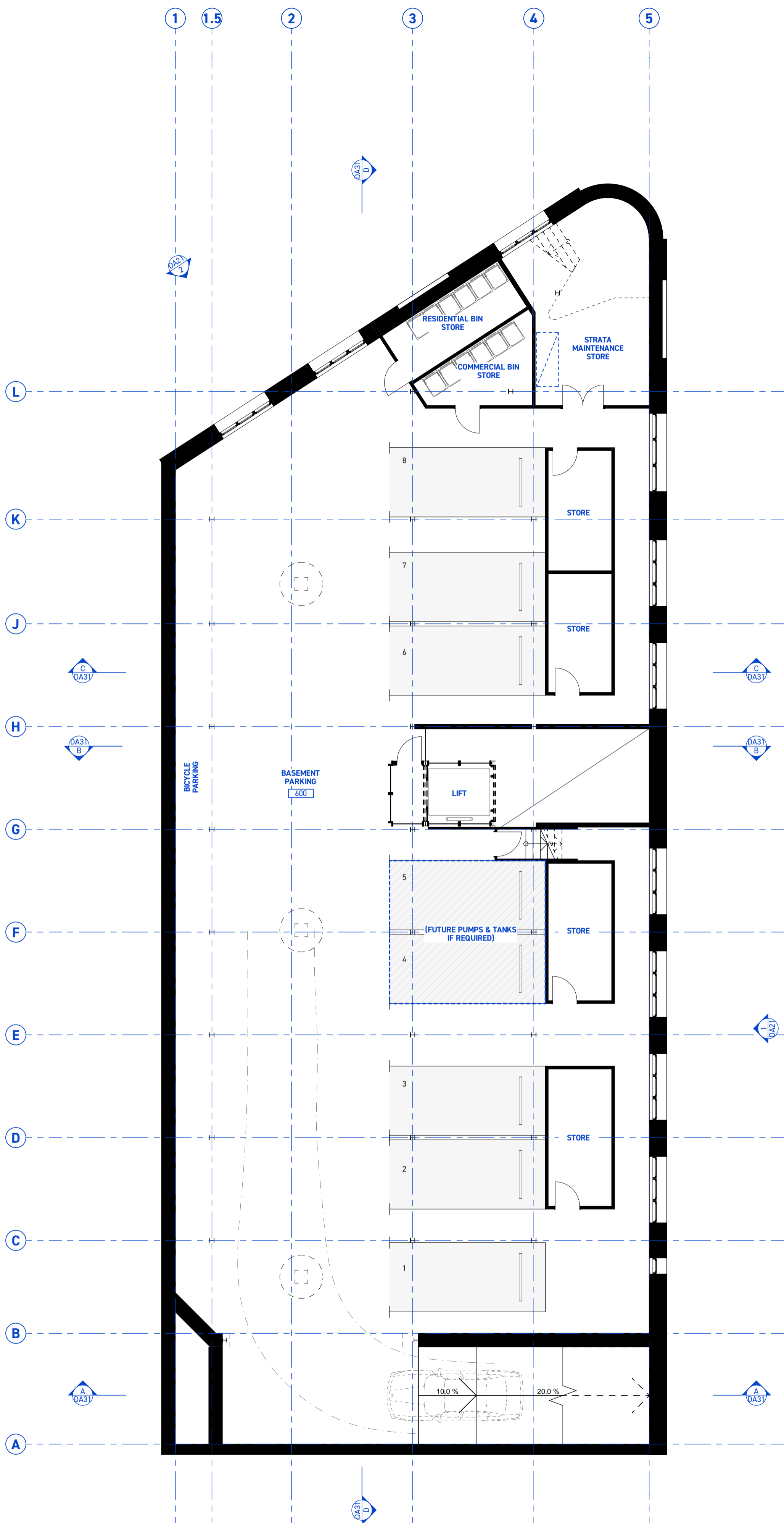
- D11 PARTIAL BRICKWORK WALL TO BE DEMOLISHED
- D12 TIN ROOF AND ASSOCIATED ROOF FRAMING TO BE DEMOLISHED
- D13 LATER ADDITION WINDOW REPLICAS TO BE DEMOLISHED
- D14 LATER ADDITION ENTRY DOOR TO BE DEMOLISHED
- D15 BRICKWORK RECESS TO BE DEMOLISHED TO PROVIDE GREATER VISUAL PERMEABILITY TO THE INTERIOR SPACES
- D16 LATER ADDITION ENTRY DOOR TO BE DEMOLISHED FOR BOOSTER ASSEMBLY



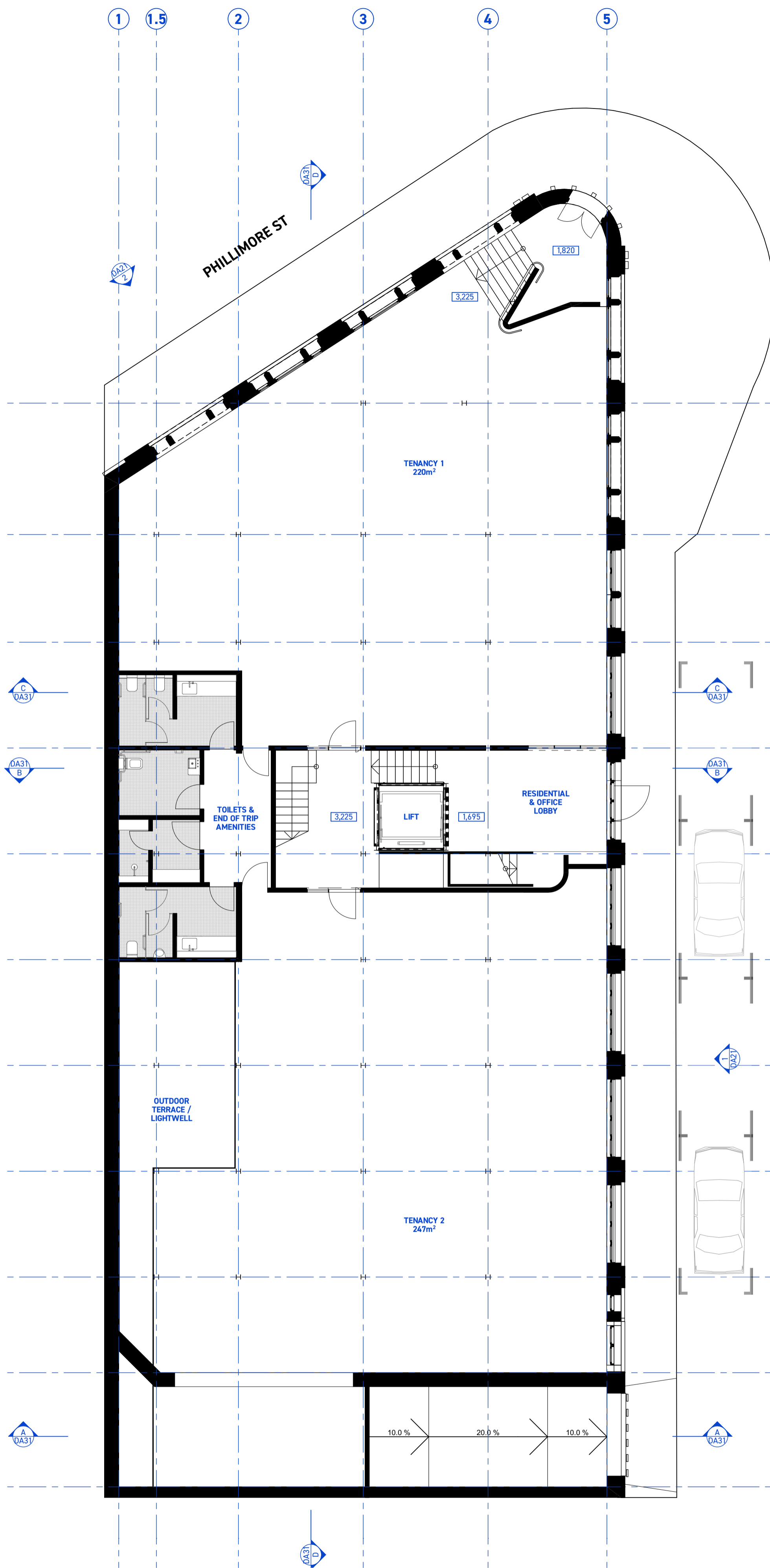
EAST ELEVATION



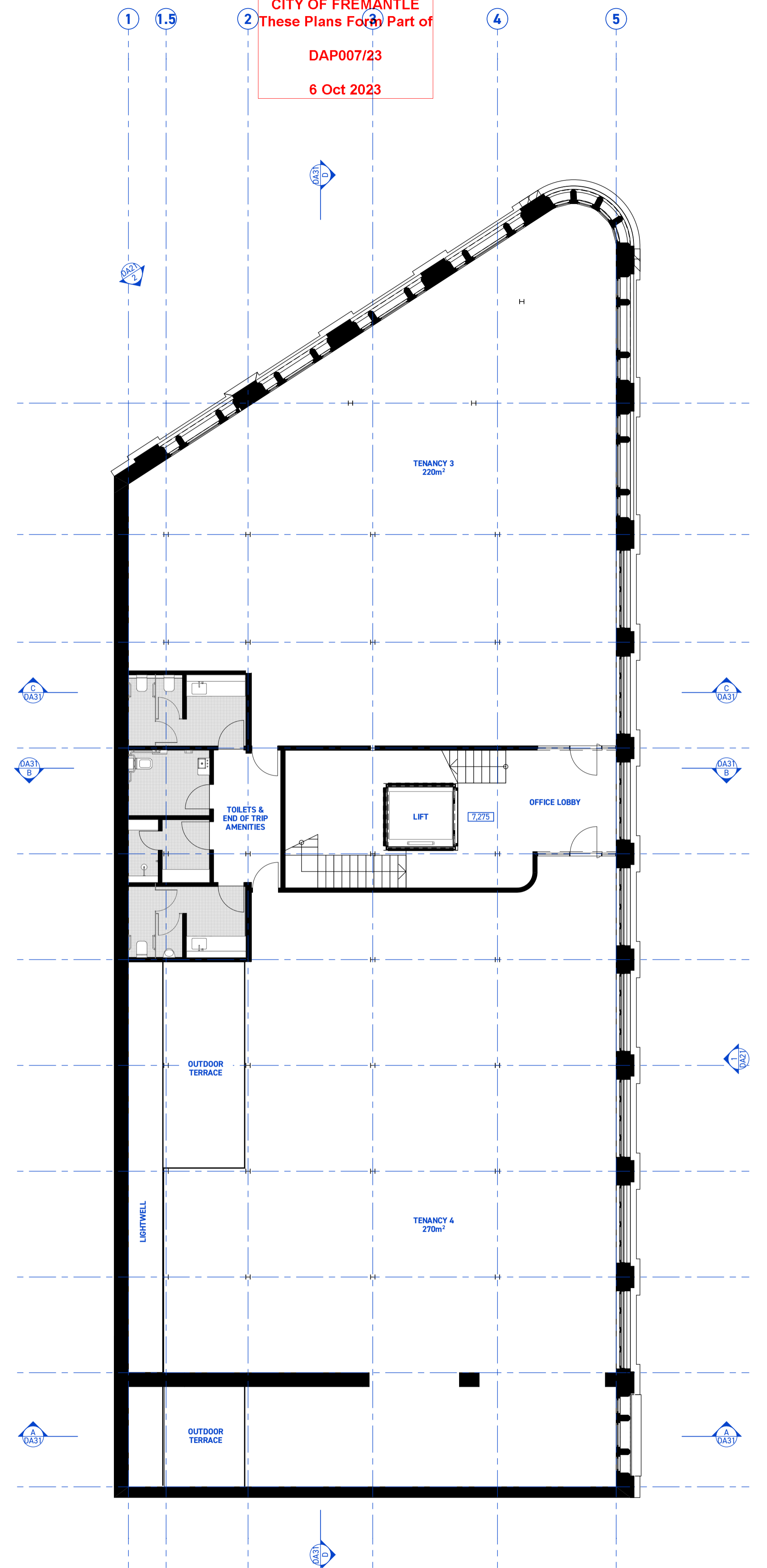
NORTH ELEVATION



BASEMENT



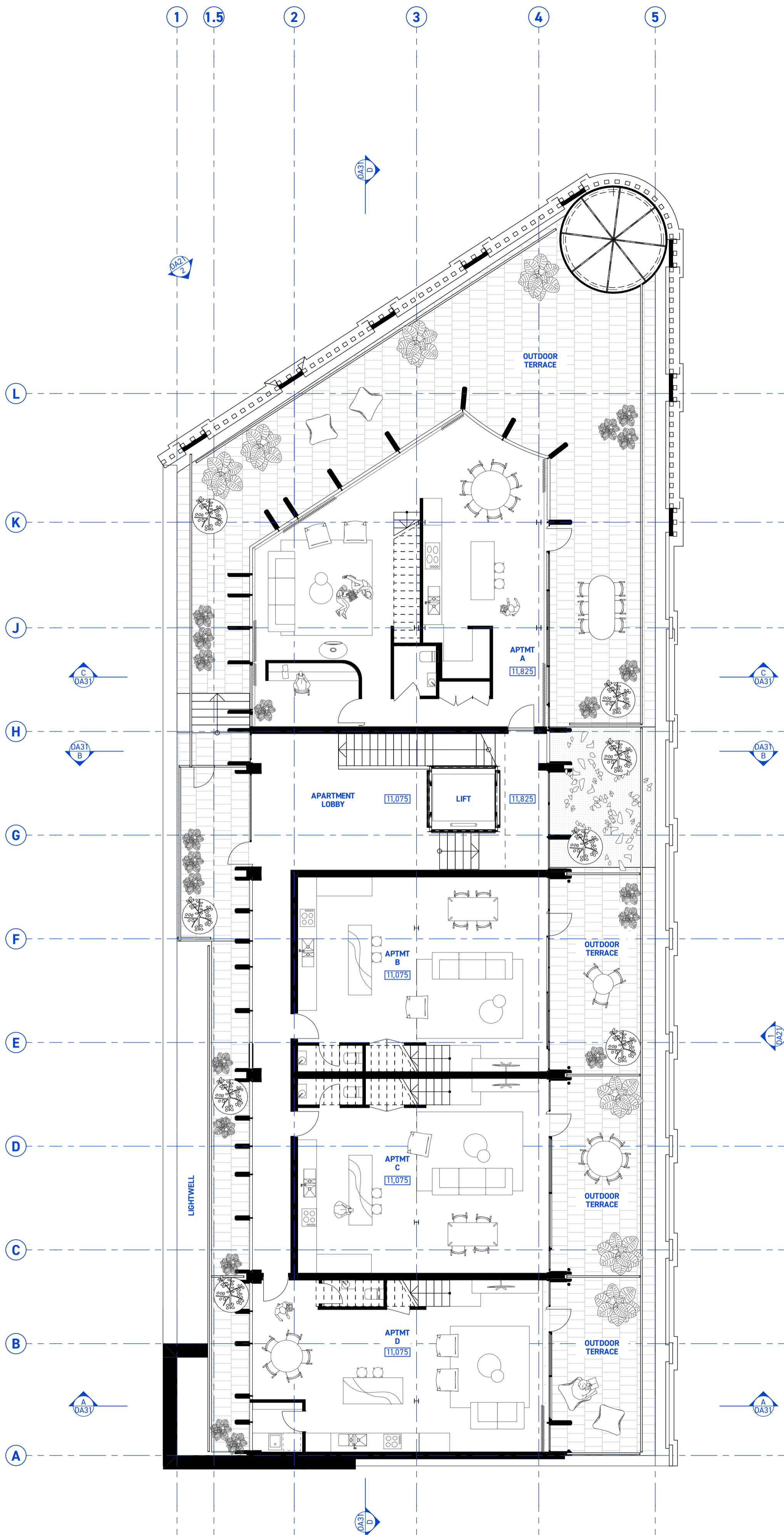
GROUND FLOOR



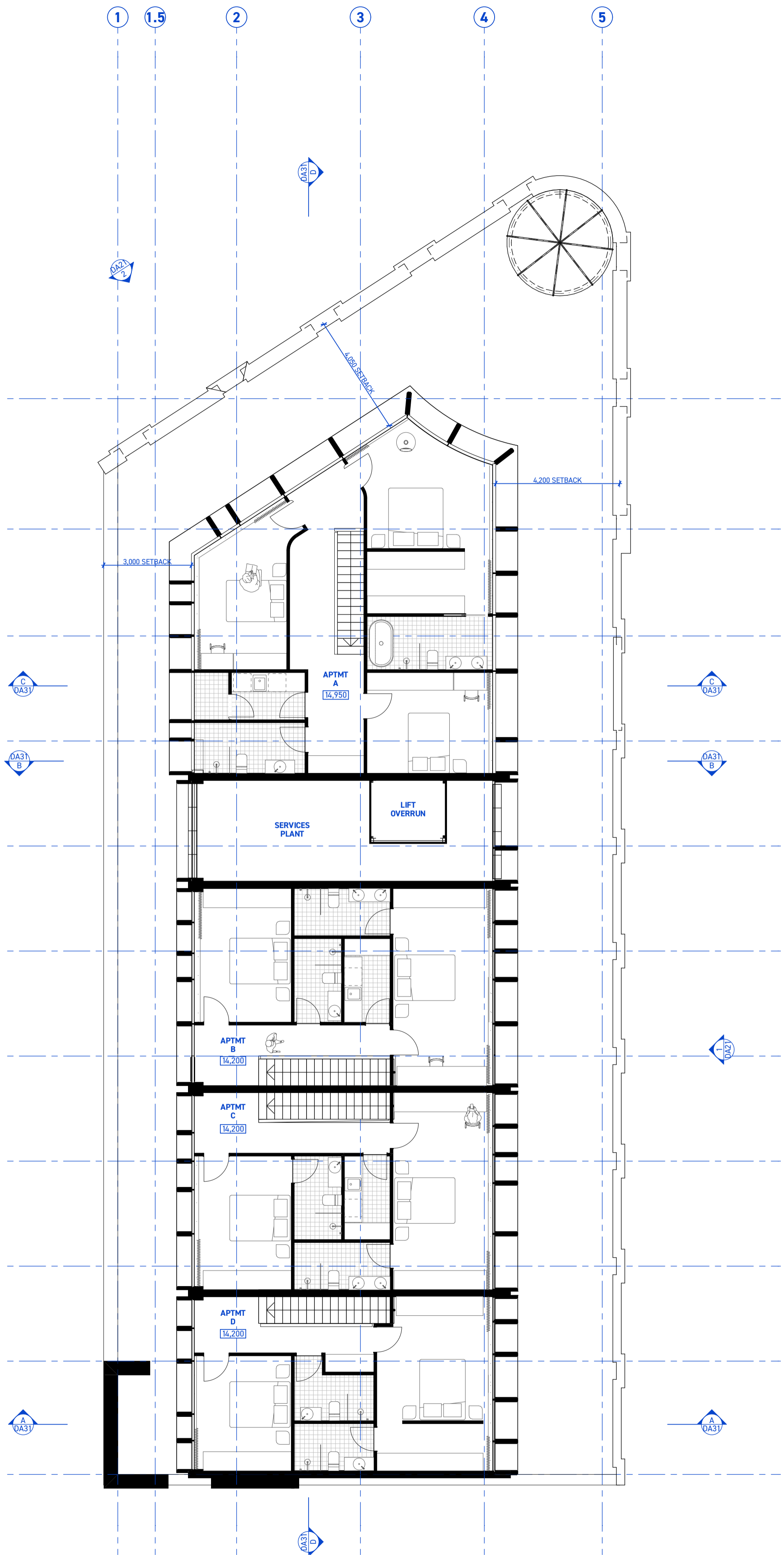
LEVEL 1

CITY OF FREMANTLE
These Plans Form Part of
DAP007/23
6 Oct 2023

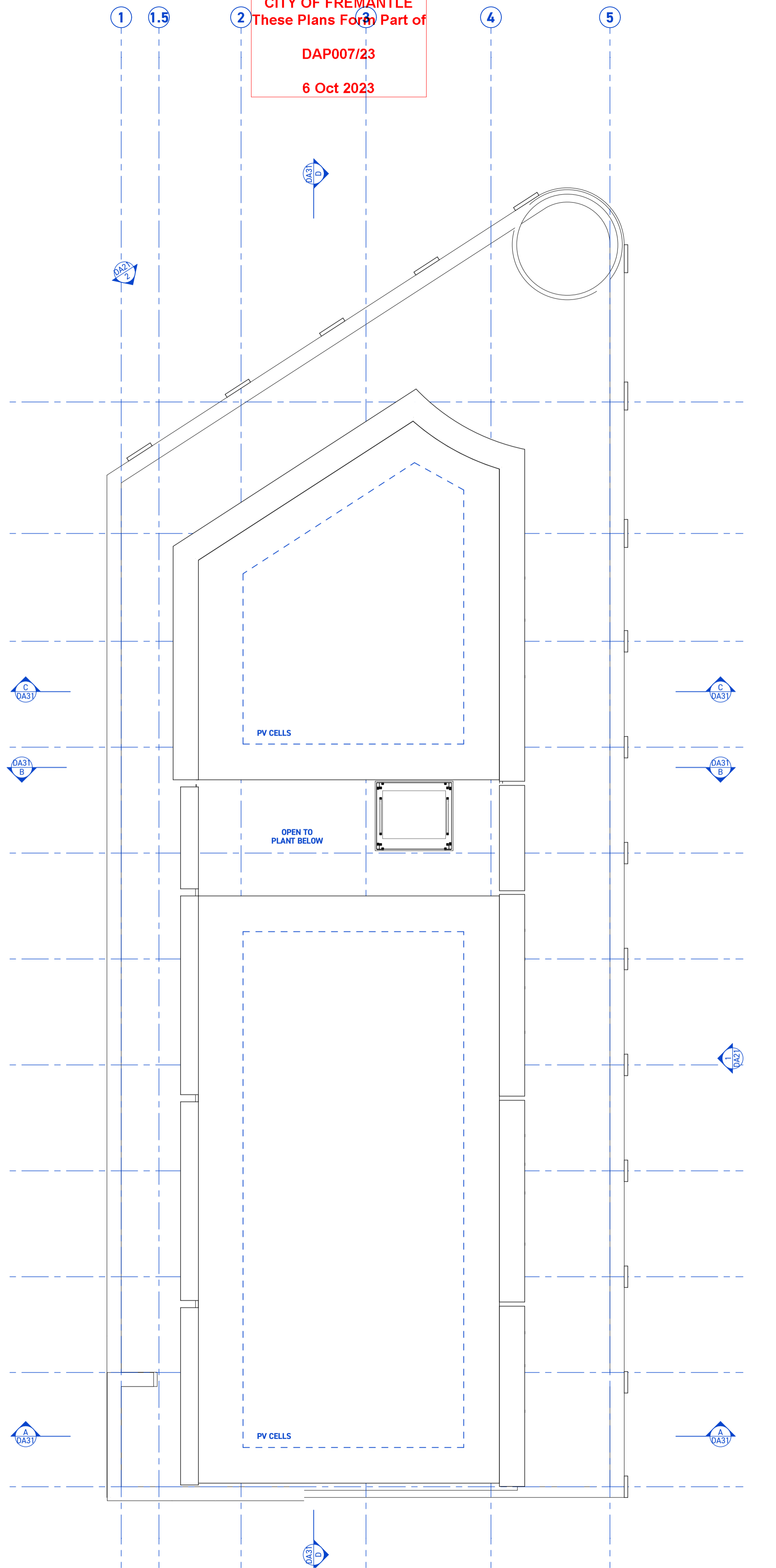




LEVEL 2



LEVEL 3



ROOF

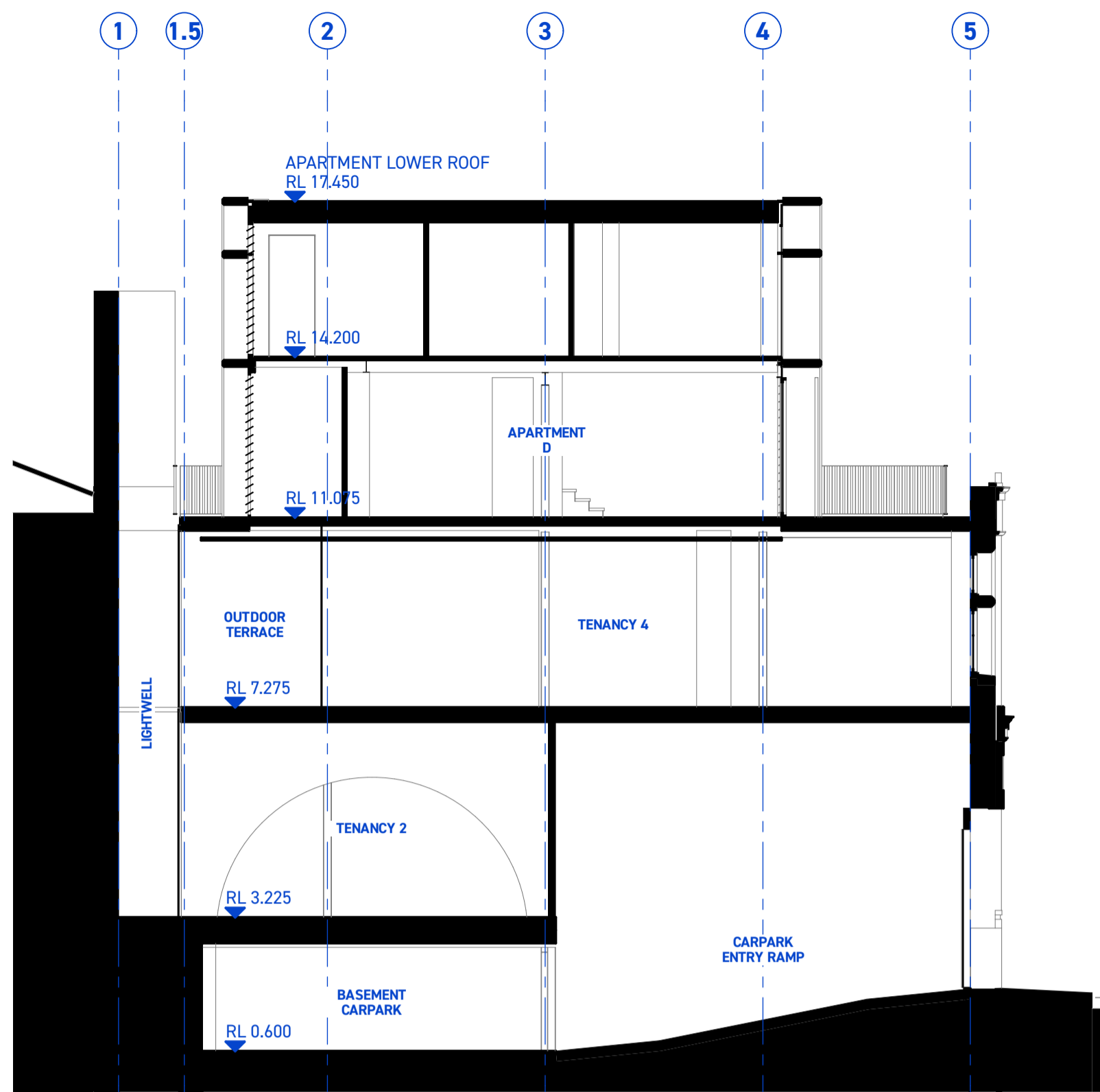
- A METAL CLADDING
- B LANDSCAPE TRELLIS
- C METAL BALUSTRADE
- D GLASS FACADE WITH OPERABLE GLASS LOUVRES
- E POWDERCOATED LOUVRES
- F NEW GLASS WINDOWS RECESSED INTO MASONRY
- G RECESSED BOOSTER ASSEMBLY
- H NEW GLASS ENTRY WINDOW AND DOOR
- I REINSTATED HIGH LEVEL WINDOWS



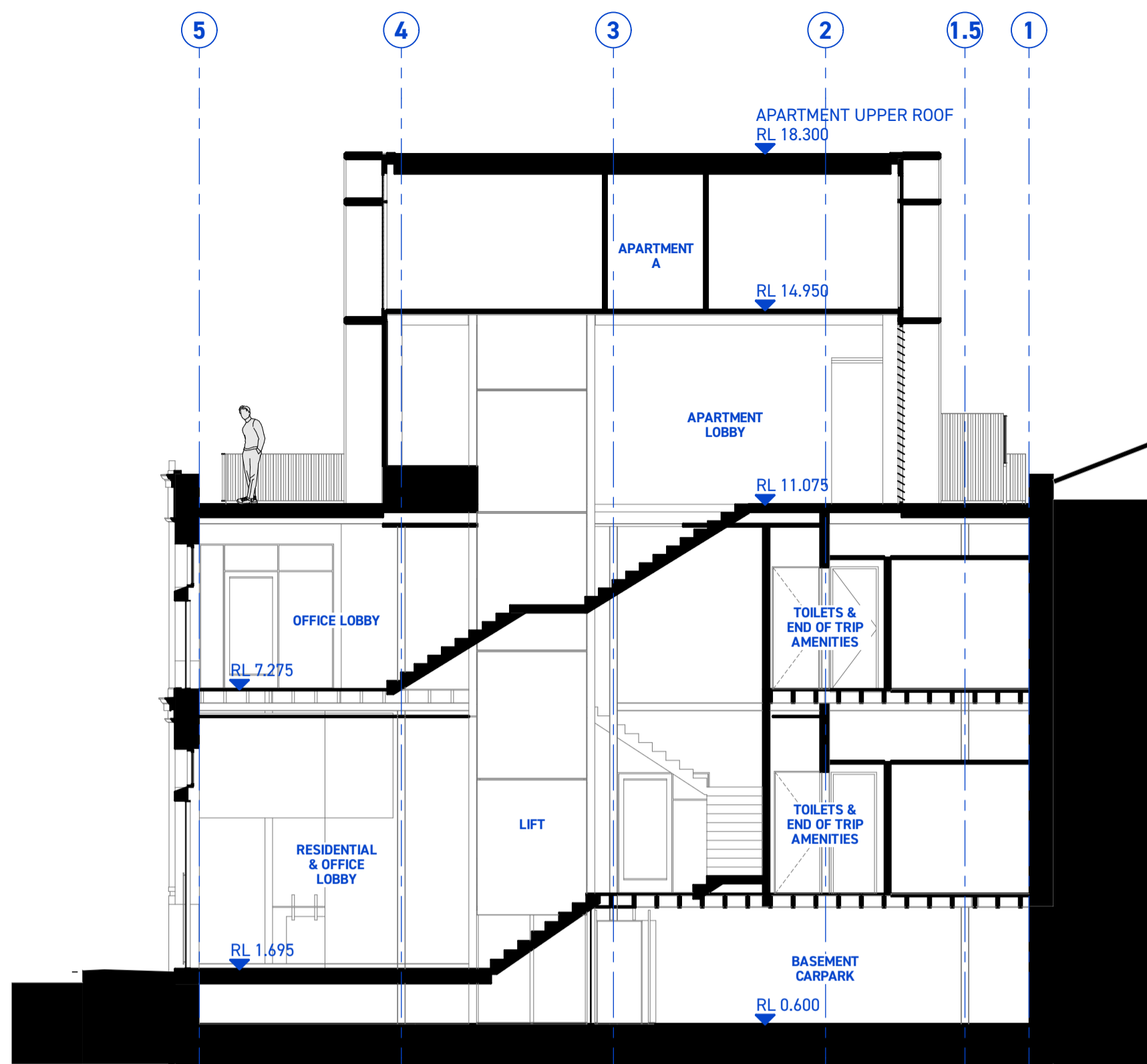
1 EAST ELEVATION



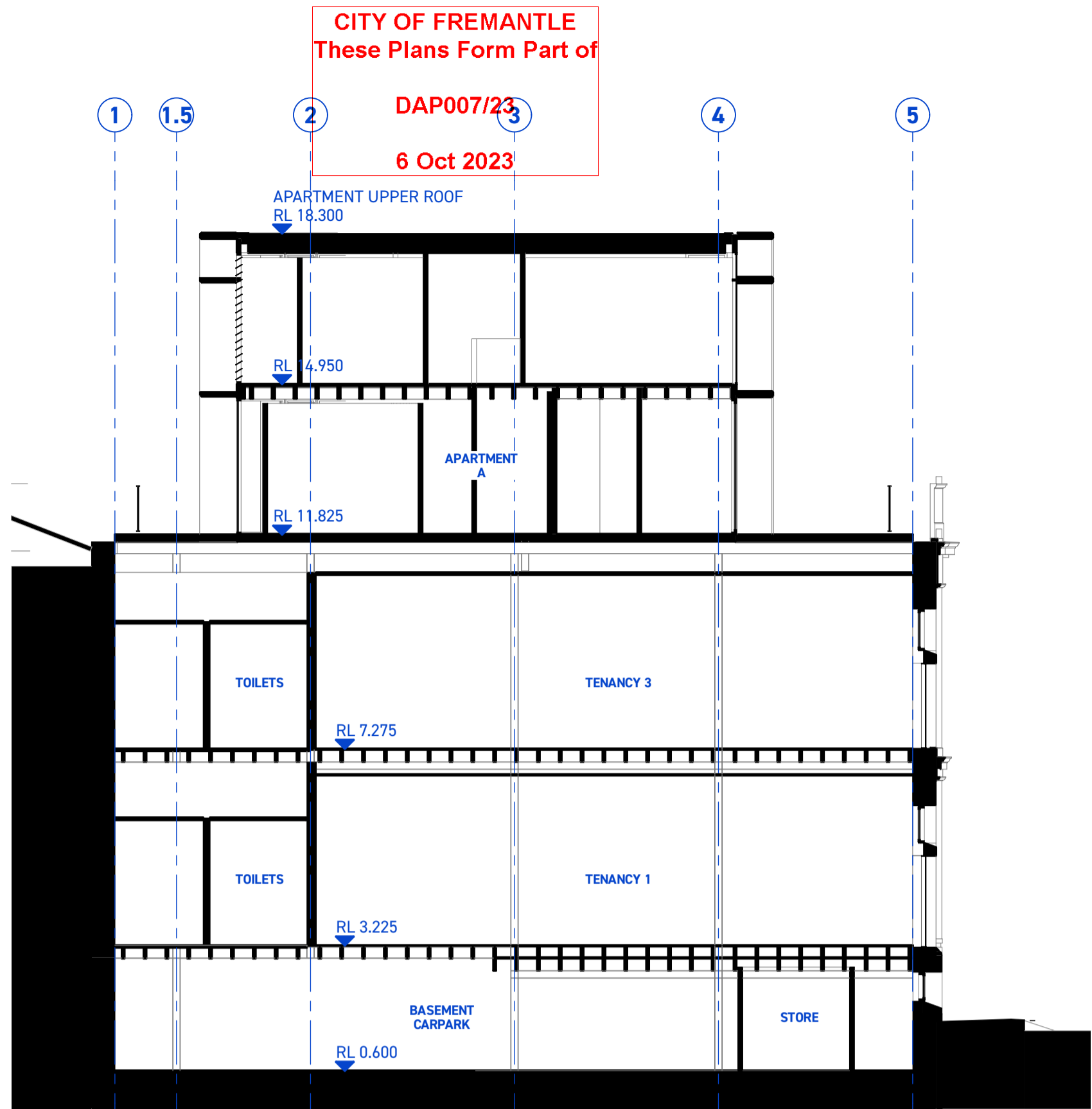
2 NORTH ELEVATION



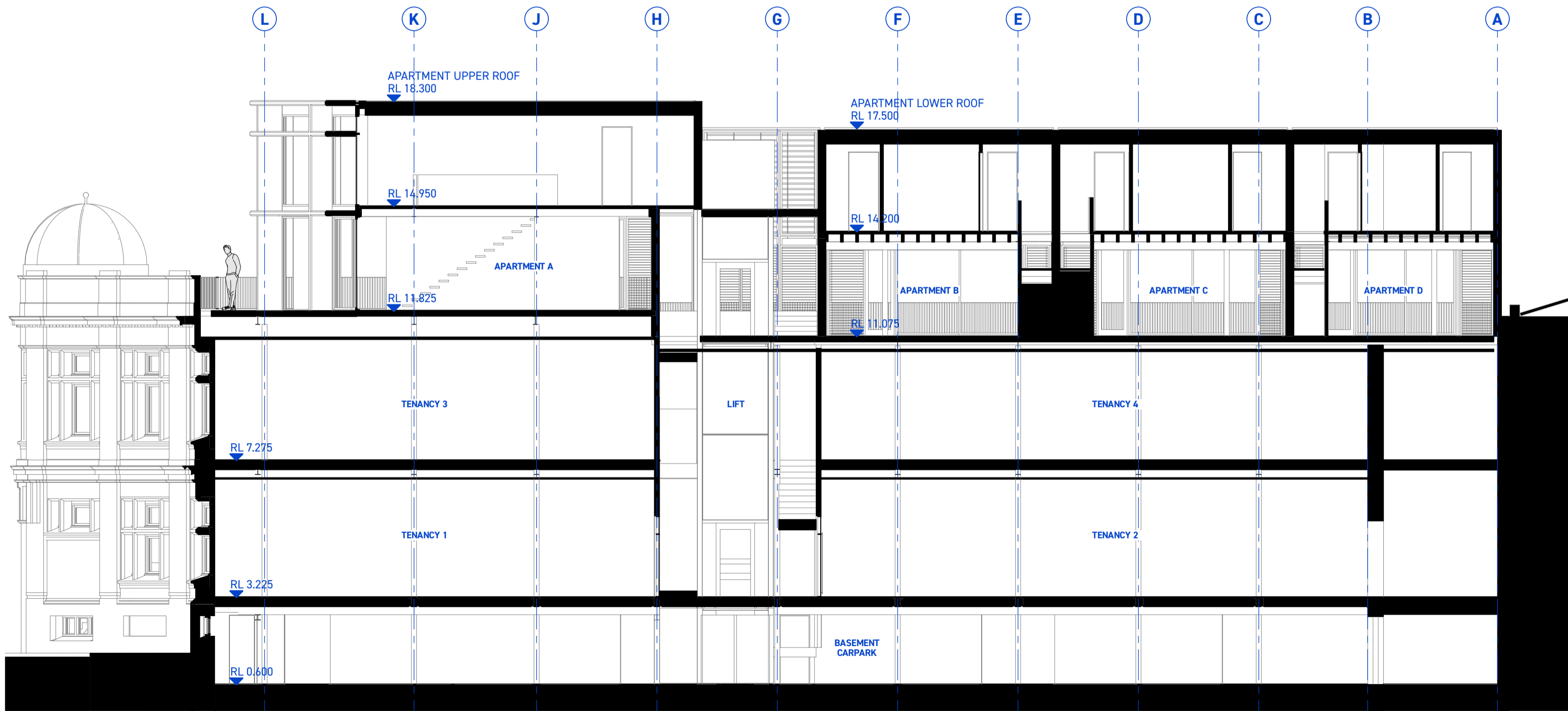
SECTION A



SECTION B



SECTION C



SECTION D

CITY OF FREMANTLE
These Plans Form Part of
DAP007/23
6 Oct 2023

APPENDIX B HERITAGE IMPACT STATEMENT

HERITAGE IMPACT STATEMENT

Proposed conservation and development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle



Name	Robert Harper Building		
Address	49 Phillimore Street, Fremantle		
Date	3 October 2023		
Prepared by	Heritage Intelligence (WA)		
Prepared for	spaceagency		
Heritage Listings	49 Phillimore Street:	Heritage Council:	inHerit database No. 0984 Not individually Registered
	Fremantle West End:	Heritage Council:	Register of Heritage Places. inHerit database No. 25225
	City of Fremantle:	Local Heritage Survey Heritage List Local Planning Scheme No.4 Local Planning Policy 3.21	West End Heritage Area Precinct C: Quay Edge Heritage Areas-maps (2022) Central Fremantle West End
Statement of Significance	<p>inHerit statement of Significance: 49 Phillimore Street Fremantle</p> <p><i>The place is of historic significance as an example of a commercial building in the Old Port City of Fremantle dating from the gold boom period in the late nineteenth and early twentieth century.</i></p> <p><i>The place is of aesthetic significance as a fine example of a substantial commercial building in the Inter-War Stripped Classical style.</i></p> <p><i>The place is a significant landmark in the Old Port City of Fremantle.</i></p> <p><i>The place is of social significance as evidenced by its classification by the National Trust.</i></p> <p>Heritage Council Register documentation: Fremantle West End</p> <p><i>West End, Fremantle, has cultural heritage significance due to, among other things:</i></p> <p><i>its rarity in Western Australia as a highly intact port city business district. It retains a range of buildings dating predominately from the gold rush period (1890s -1900s), together with some evidence of earlier and later periods, that retain an ongoing connection with maritime industries;</i></p> <p><i>its very fine collection of predominantly Federation era buildings in a variety of classically influenced styles, many of which retain substantial original features, which together form a cohesive precinct featuring common detailing, scaling, siting, construction materials and historical functions, and includes many individually significant buildings;</i></p> <p><i>its association with Fremantle's maritime operations from 1829 to the present and, through the range of premises in the precinct, demonstrates the operations of a port city including banks, customs, import and export businesses, ship-related trades, policing, accommodation, unions and migrant services.</i></p>		

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

1

The context

Phillimore Street is integral to the West End of Fremantle, on the Fremantle City side of the Port of Fremantle opposite Fremantle Railway Station. Phillimore Street extends from the railway crossing at the southwest end along the southeast side of Victoria Quay to the intersection with Elder Place and Market Street, along the northwest side of Pioneer Reserve.

The acute corner of Phillimore and Pakenham streets is the domed landmark of the Robert Harper Building that extends along both street frontages. It is integral to the consistency of form, rhythm, scale and architecture of the West End precinct, evidencing common construction materials and detailing, and historical functions associated with the port.

The forecourt of Fremantle Railway Station arrival in Fremantle opens on to the Pioneer Reserve with Robert Harper Building forming a background. Immediately opposite Robert Harper Building in Pakenham Street, on the west corner of Short Street, is a contemporary development of a two-storey building with a striking contemporary art element on west corner.

Individually registered places located in Phillimore Street, are the Fremantle Railway Station and the Fremantle Fire Station (former No.2), at number at 18. Robert Harper Building is not within streetscape views of either of those registered places.

The place

Occupying an acute angle corner, with a curved entry on that corner, and metallic dome, the former warehouse and office has primary street frontages flanking the corner, with the more austere warehouse frontage along most of its Pakenham Street facade. Robert Harper Building is a landmark element in Phillimore and Pakenham streets.

It is one of the predominant Federation era buildings in the West End of Fremantle that is typified by the form, construction materials, detailing, and its location in close proximity to the port and railway, facilitating the warehouse functions of the place.

The Federation Warehouse architectural style¹ of Robert Harper Building comprises a double storey face brick building with a half-floor basement above ground level, two stories above and the remains of a water tank stand on the roof at the southeast end of the Pakenham Street frontage.

The main entrance is located on the curved truncated corner of Phillimore and Pakenham streets with a secondary entry c.1950s, midway along the Pakenham Street frontage, and the cartway access at the southeast end.

The building is a face brick structure with rendered detailing. It has been painted several times. Externally there has been interventions to the warehouse bays along the Pakenham Street frontage, with three of the original blank brick bays infilled with windows to match the office section bays that comprise sets of three windows as evidenced on the frontages that flank the corner to both street fronts.

A brick structure remains on the roof, likely the remains of a water tower.

The interior evidences considerable interventions of office partitioning, ablution facilities, central staircase, suspended ceilings and floor coverings that provide no concept of the original offices and warehouse, other than boxed structural

¹ Apperley, R, Irving, R, Reynolds, P, *A Pictorial Guide to Identifying Australian Architecture Styles and Terms from 1788 to Present*. Angus & Robertson. 2002.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

2

The proposal

columns in a grid pattern at the ground and first floors.

The expansive basement under the entire building has a concrete floor, steel posts, and herringbone timber-braced floor structure to the ground floor. Metal grilled openings are central on the bays along the street frontage at the half floor basement at footpath level, and the and rear (southwest) wall.

Conservation and development of Harpers Building

The proposal is to restore and repurpose Robert Harper Building and add two levels of residential space in the form of four apartments at the roof level.

Remove:

- the several coatings of paint from the exterior masonry surfaces and timber framing
- intrusive c.1980s window interventions to bays on the Pakenham Street frontage
- the existing Pakenham Street pedestrian entry and internal staircase associated with that entry
- interior partitioning, ceiling linings (not the original pressed metal), ablution facilities and other fixtures and fittings throughout the ground and first floors
- box coverings to the structural grid columns on the ground floor and first floor
- the concrete floor of the cart bay at the southeast end of the Pakenham Street frontage to access the basement

Consolidate:

- Basement: infrastructure, services, floor level, and ceiling beams/structure in some locations.
- Lift the ground floor to accommodate the height clearances to the basement. Refer attached section extract for clarification.
- Services compliance throughout
- Universal access from Pakenham Street

Restore:

- Retain external and interior original fabric as a priority
- Reinstate the external masonry walls of contrasting red face-brick and mortar, rendering and stucco detail
- Undertake conservation works to the dome roof
- Attention all timber framed original windows, restore or reconstruct elements as required, and re-glaze where necessary
- Retain and restore the corner entry within minimal intervention. Universal access entry will be from Pakenham Street
- Reinstate the high-level windows that have infills on the Pakenham Street frontage
- Conserve the grilled half-floor basement openings along Pakenham and Phillimore streets

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

3

Retain the existing floor to ceiling heights

Retain and conserve the existing pressed metal ceilings of the ground floor level

Design and construct:

Introduce new openings along Pakenham Street, while maintaining highlight windows and stucco sill detail. Further replacing the 1990's intervention with the same to return the warehouse to a uniform expression with a scale, rhythm, and grain that more closely matches the original. albeit modified to accommodate a different program.

Interior of existing building

Installation of a universal access primary street level entry on the Pakenham Street frontage (replacing the previous c.1950s intervention to be removed).

Install glazed panels in the bays along Pakenham Street frontage that will reinstate the rhythm of the original façade.

The expansive foyer will comprise a central core with an "open lift" from the ground floor down to the basement and up to the first floor and roof top. Stairs wrap the central lift core.

Partitioned areas on the expansive floors at ground and first floor, to be determined by the client/potential lessees.

Installation of ablution facilities.

The basement will be converted to residence carparking, and storage. The existing cart opening in the bay at the southeast end of the building will be ramped down from Pakenham Street level, to the basement carpark. Works to the floor level, moisture ingress, ceiling height (along the Western drive aisle) will be raised to accommodate the required height clearance.

New development: apartments on the roof of the existing building

The contemporary apartments of steel and glass construction, have been designed to maximise the roof top views over Fremantle Harbour, the City and Pioneer Reserve with climate responses to the exposed position.

The apartments reflect the rhythm of the corner office windows in a contemporary manner.

The double storey apartments with internalised stairs will be set back from the parapet on all sides, sited along the centre of the roof plane.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

4

Response To Local Planning Policy 3.21 West End Heritage Area

Urban Structure

Robert Harper Building is located in precinct C: the Quay Edge, one of the six discernible precincts within the historic urban structure of the West End. Robert Harper Building typifies the warehouses and commercial headquarters constructed in the vicinity of Victoria Quay during the Goldrush period.

Robert Harper Building is integral to the urban grain of Phillimore and Pakenham streets emphasised by the rhythmic building elements along both street frontages, particularly the extensive warehouse frontage on Pakenham Street.

The proposal to restore and repurpose Robert Harper Building, including roof-top apartments, will retain the existing building and enhance its role as a mixed-use service centre within the historic vicinity of Victoria Quay.

Land Use

The traditional land use of Robert Harper Building was office-based functions symmetrical about the curved corner entry, on at least the ground floor level, and the warehouse function for the majority of the building, as evidenced along the Pakenham Street frontage.

The customer-based functions of the original office and warehouse will be significantly enhanced with a universal access entry on the Pakenham Street frontage of Robert Harper Building, and a lift (and stairs) in the foyer off that entry, that will facilitate access to the original offices and warehouse of the basement, entire ground-floor, first-floor and the roof top apartments.

As the lift serves both sides, the lobby from Pakenham Street is lowered to create level access to the street.

The internal floor level at the ground floor will be lifted to accommodate the height clearances to the basement to facilitate the basement carpark.

The proposed roof-top apartments on Robert Harper Building respond to the City's desire for the reintroduction of residential uses into the West End, integrating conservation and revitalisation of a significant building.

The proposed roof-top apartments have been designed to setback from the parapet with landscape detailing.

The proposed apartments contemporary in design with form and details that reflect the configuration of the original window sets of Robert Harper Building, with respect, in a proportion that serves to facilitate the dominance of the original building and relate to the roof-top developments in close proximity in Pakenham Street.

The proposal includes the provision of car parking on site, in the existing basement area with access through the existing traditional cartway entry at the southwest end of the Pakenham Street frontage. The entry will ramp down to the basement. The provision of carparking is integral to the apartment proposal, minimising the already limited availability of street-parking impact and providing an important amenity for the residents.

Roofscape, Views and Skyline

Robert Harper Building is integral to the West End streetscape presenting a parapeted frontage to both street frontages, with the dome topping the landmark curved corner in an oblique view encompassing multiple buildings along Phillimore and Pakenham Streets. The proposed roof-top apartments, setback from the parapets along those street frontages (and the other sides), will be a secondary element, contemporary, complementing the heritage significance of Robert

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

5

Harper Building in the streetscape views, and providing outstanding views from the rooftop to the harbour and Fremantle City.

Facades

The façades of Robert Harper Building will be restored as an integral part of the proposal. Removing layers of paint over the original face brick work and detailing to reveal the original building. Intrusions will be removed and reinstate the rhythm of the warehouse along the Pakenham Street frontage. The classical hierarchy of elements on the Federation facades will be retained and enhanced by the restoration.

The human scale, as it exists in Robert Harper Building will be enhanced by the reworked entry on Pakenham Street that will provide universal access, unlike the corner entry, that will be retained and conserved to retain the integrity and authenticity of that element.

Voids and openings

A large light well void with terraces is located on the western edge. It will provide amenity for the office tenants and responds to the original high-level windows that provided natural light across this western façade, prior to the infill development abutting that boundary.

The c.1950s entry is proposed for the removal and a new universal entry in its place, and the cartway entry retained for access to the basement carpark.

Building Type

Robert Harper Building is a fine example of the warehouses in the West End that were constructed when the processing, storage and distribution of export and import commodities took place in the vicinity of the harbour. It typifies the commercial office with large open warehouse storage spaces behind accessed by a cartway.

In line with the opportunity to utilise the existing cartways, the proposal is to establish a basement carpark utilising the cartway access from Pakenham Street.

Details and Materials

The proposal is to restore, with no intention to impact the form and mass or architectural detail of Robert Harper Building. The proposal includes removal of layers of paint, including the 1980s acrylic for the America's Cup and another coating at a later time, as currently presented, from the original facades and restoration of the face brick and stucco detailing, as well as restoring the metal clad dome.

An early 1920's photograph demonstrates the original face brick and unpainted stucco detail. A 1950s photograph shows the extent of face brick work, that will be restored.

The materials and colour scheme of the roof-top apartments will be complimentary to historic fabric of Robert Harper Building.

Structural and other engineering specialists have been engaged.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

6

Heritage Impact Statement

How will the proposed works affect the cultural significance of the place and the Heritage Area?

The proposal to restore and repurpose Robert Harper Building, including roof-top apartments, will retain the existing building and enhance its role as a mixed-use service centre within the vicinity of Victoria Quay.

The much-needed conservation works to the exterior and interior will have a significant positive impact on the building's exterior fabric, with the removal of the intrusive c.1970s partitions from the interior, and retaining the original floor to ceiling heights, facilitating its long-term viability.

Robert Harper Building is integral to the urban grain of Phillimore and Pakenham streets emphasised by the rhythmic elements along both street frontages. That rhythm will be enhanced with the removal of the intrusive 1980s bay infills on Pakenham Street frontage.

The proposed roof-top apartments facilitate the reintroduction of residential uses into the West End, integrating conservation and revitalisation of a significant building with innovative designed apartments setback from, and partly obscured by landscaping and the parapets. The apartments offer a unique residential opportunity of views over the harbour and city, with the amenity of onsite basement carparking, and the aesthetic contribution to the West End.

The basement carparking, utilising the cartway access from Pakenham Street, will minimise the already limited availability of street-parking and provide an important amenity for the residents of Robert Harper Building.

The proposal responds to, and enhances, the existing streetscape by way of the external restoration with the positive impact of paint removal, remediation of the Pakenham Street bays, and conservation of the original fabric. The restoration and re-purposing of the interior and the construction of the roof-top apartments further contribute to the integrity and long-term conservation of Robert Harper Building.

The architectural expression of the roof-top apartments maintains the formal rhythm of the original building facades, providing a contextual link in a contemporary response.

The proposal to restore and repurpose Robert Harper Building and construct roof-top apartments will have a significant positive impact on the cultural significance, integrity, long term conservation, amenity and activation of the place, and its contribution to the Quay Edge precinct in the West End and the broader City of Fremantle.

What measures (if any) are proposed to ameliorate any adverse impacts?

The only perceived adverse impact to the proposed conservation and addition of apartments to the Robert Harper Building could be the height of the apartments. The apartments and roof top landscaping will provide an aesthetic and passive surveillance of the immediate context.

There are several examples of similar and greater height top-floor additions (Quest development opposite in Pakenham Street) and new builds behind facades of original buildings in Pakenham Street and the former Customs building in Phillimore Street.

Will the proposal result in any heritage conservation benefits that might offset any adverse impacts?

The heritage conservation benefits of the proposal are substantial. Robert Harper Building evidences a high degree of authenticity despite various interventions. There are no perceived adverse impacts relevant to the proposal, but very significant conservation outcomes.

Removal of the painted external fabric and restoration of the original face-brick and contrasting rendered and stucco elements, the windows, and the dome, will highlight the original and celebrate its contribution to the West End of Fremantle, as it was prior to the building being painted in the 1950s and the 1980s. Removing the paint also allows the building fabric to breathe and minimise, if not negate entirely, the dampness issues and damage to this building and many others in the West End.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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The removal of the intrusive window frames in three bays along the warehouse section of Pakenham Street frontage will be removed and the bays infilled with glazed panels will reinstate the rhythm of the original warehouse frontage.

Together with the universal access, the upgrade of the entire building and functions ensures up to date compliance on all issues, facilitating its long-term viability.

Opening the basement for parking is a benefit for residents and provides a considerable level of availability to the place. The installation of the lift provides universal access to all areas, further enhancing the options and viability for various uses in the building.

The construction of apartments at the roof-top will enhance the residential opportunities in the West End, and further highlight the landmark building. The amenity of the roof-top views for the apartments and the associated outdoor space is outstanding. The apartments further reinforce the viability and long-term conservation of Harpers Building.

The proposal is consistent with the predominant height patterns of adjoining properties and the locality generally, where there is a similar development in Pakenham Street, and higher new builds behind original facades in Pakenham and Phillimore streets.

The restoration of the street frontages will have a significant visual impact on the place, and the Quay Edge precinct in the West End.

Summary

Robert Harper Building is a fine example of the West End warehouses in the vicinity of the harbour typifying the commercial office with large open warehouse storage spaces behind, that is accessed by a cartway.

Despite the painted exterior, some interventions and interior partitioning, it has a high degree of authenticity making a considerable contribution the West End.

The proposal to restore, repurpose with compatible uses, and construct roof-top apartments will enhance the building's integrity and amenity, for the long-term conservation, viability and positive contribution to the West End.

With reference to the objectives of Local Planning Policy 3.21, the proposal addresses all of the objectives of the policy;

It will make a considerable contribution to the urban grain of the West End and more specifically the Quay Edge precinct.

The requirements for land use diversity and mixed-use character will be achieved with the interior re-purposing, roof-top apartments and basement carpark facilitating innovative opportunities and activation.

The height of the roof-top apartments is consistent with examples in Pakenham Street and new buildings behind parapets in Phillimore and Pakenham streets.

The proposal for the conservation, repurposing and roof-top apartments of Robert Harper Building provides a significant opportunity to active the Quay Edge precinct and make a significant contribution to the West End's social, cultural and economic vibrancy as a traditional multi-purpose urban centre of the Fremantle City Centre.

Support for the proposal is recommended.

Photographs July 2023: hereunder

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: View southeast across the railway line from Victoria Quay.



Harpers Building: View south from arrival at the Fremantle Railway Station.



Harpers Building: View to southwest from just south of Fremantle Railway Station.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: View to southwest from Pioneer Reserve.



Harpers Building: View to southwest.



Harpers Building: View south down Pakenham Street.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: View south down Pakenham Street.



Harpers Building: View north up the southwest side of Pakenham Street.



Harpers Building: Facade on the southwest side of Pakenham Street showing a new build behind at greater height.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: View to northwest up Pakenham Street.



Harpers Building: View to northwest up Pakenham Street, showing the Quest building (right).



Harpers Building: View showing the Quest building in Pakenham Street.

HERITAGE IMPACT STATEMENT

Proposed development

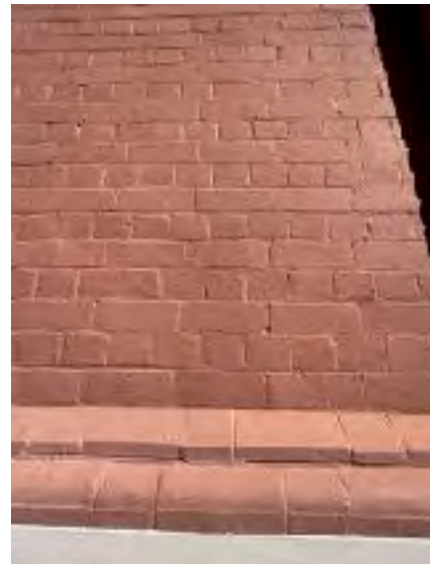
ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

12



Harpers Building: The corner element, and detail of the existing main entry.



Harpers Building: The dome, and detail of the painted face brick external walls.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: Views of the centre of the northeast Pakenham elevation showing the existing entry.



Harpers Building: Views of an original warehouse bay, and the original office section window set.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: View to southwest showing the Pakenham Street (left) and Phillimore Street.



Harpers Building: Phillimore Street elevation (northwest).



Harpers Building: Phillimore Street view looking northeast to Fremantle Railway Station (far left).

HERITAGE IMPACT STATEMENT

Proposed development

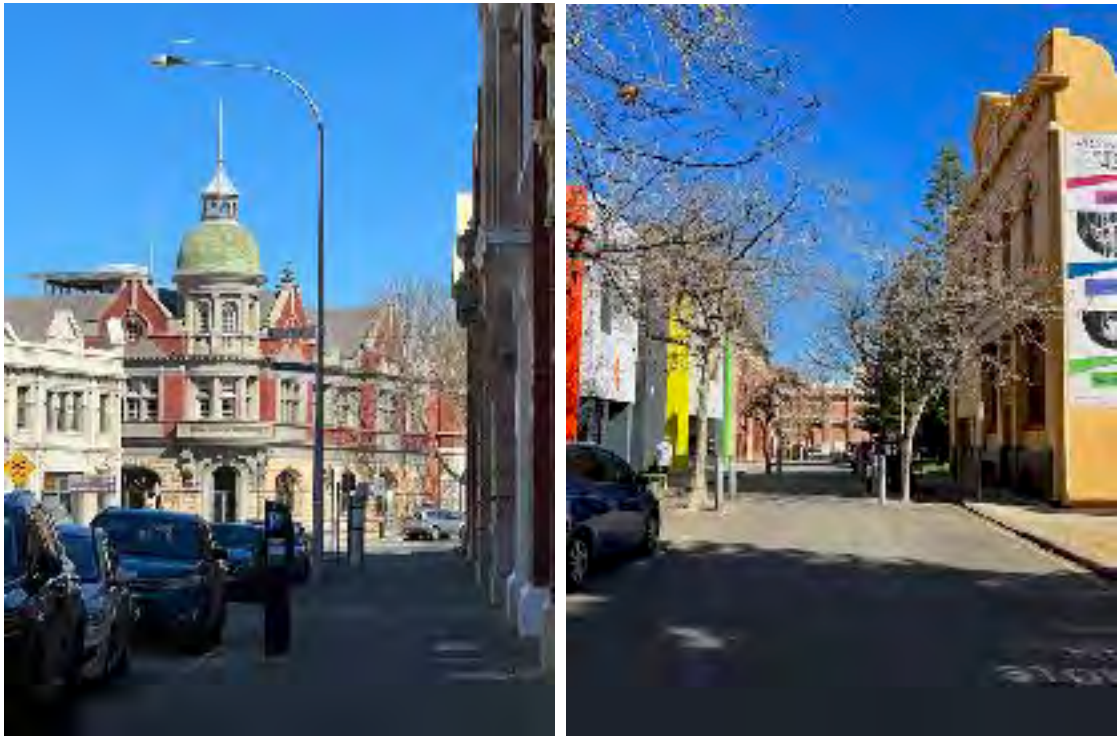
ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

15



Phillimore Street view looking northeast showing Customs House façade with a new build behind. Robert Harper Building(left).



Phillimore Street view showing building heights, and a view southwest down Short Street to Harpers Building.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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Harpers Building: Rooftop views to the northeast showing the Quest building in Pakenham Street.



Harpers Building: Rooftop views due north to Victoria Quay and to the west.



Harpers Building: Roof top views.

HERITAGE IMPACT STATEMENT

Proposed development

ROBERT HARPER BUILDING

49 Phillimore Street Fremantle

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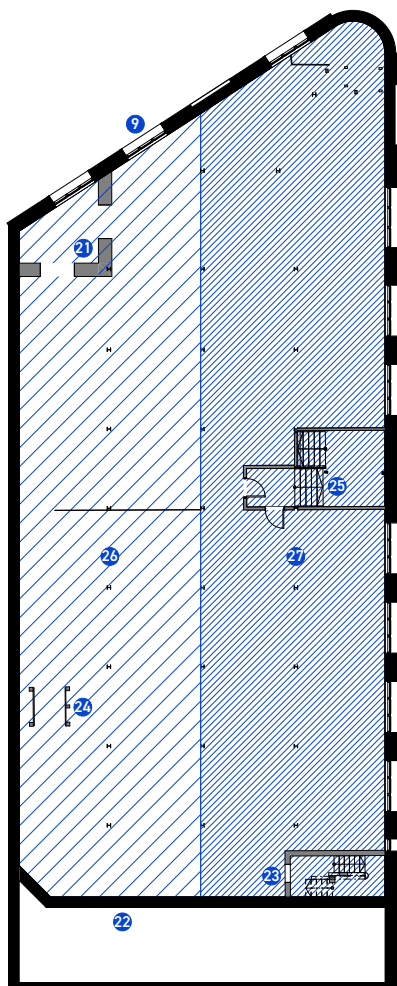
APPENDIX K SCHEDULE OF WORKS



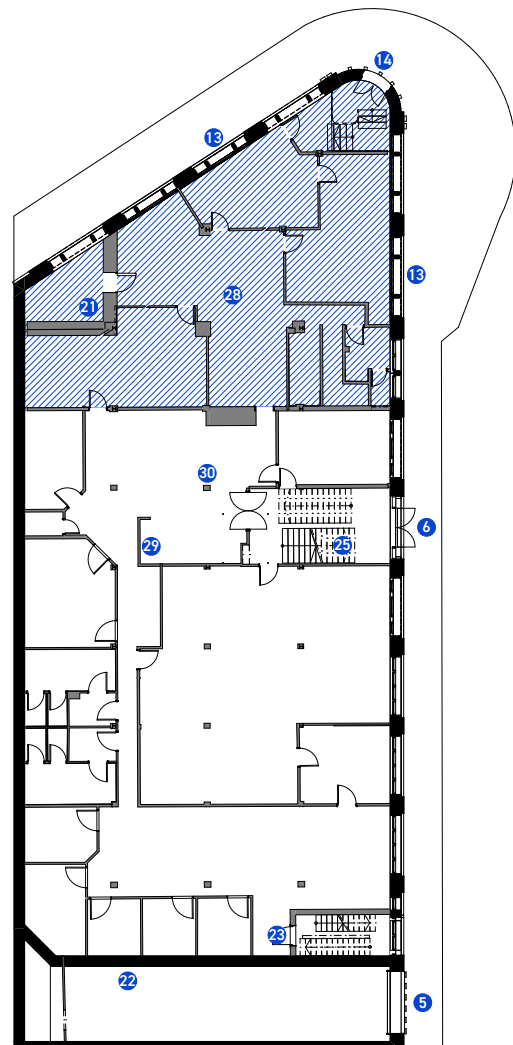
EAST ELEVATION



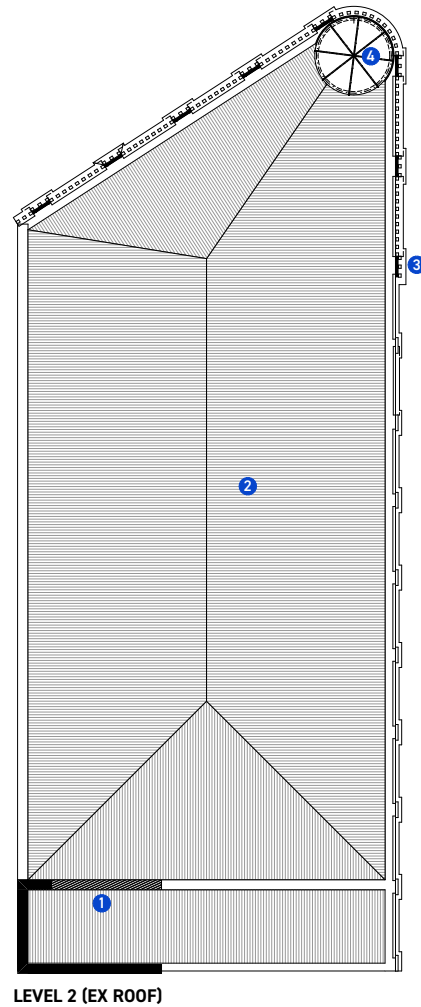
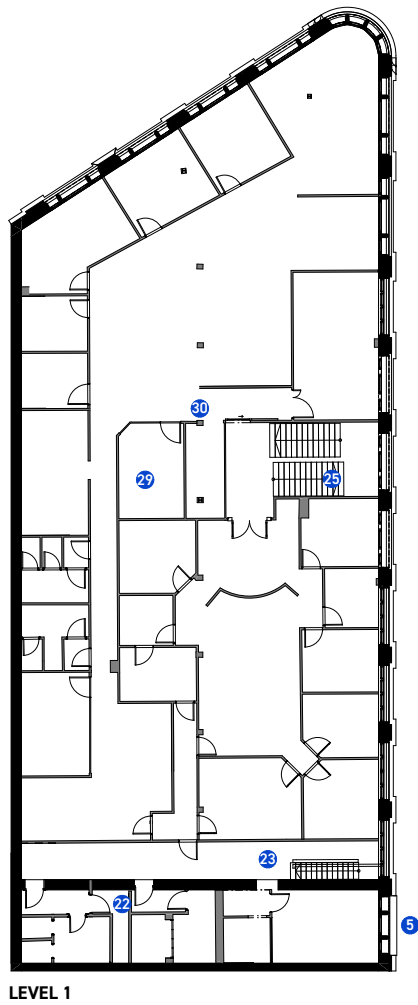
NORTH ELEVATION



BASEMENT



GROUND FLOOR



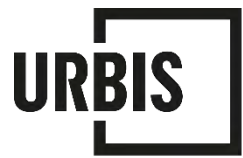
Schedule of Elements and Proposed Works

Building Element	Proposed Works	Significance	Impact
EXTERNAL WORKS			
1 - Brick support structure for water tank	To be retained with some modification.	<p>Little significance</p> <p>A remnant of a long demolished high level water tank, that is barely visible from anywhere but the roof.</p>	<p>Minor Impact</p> <p>Sufficient material maintained to log height+ dimension</p>
2 - Corrugated metal roof	To be demolished.	<p>Little significance</p> <p>Not visible from anywhere.</p>	<p>Minor Impact</p> <p>Compensated by the apartment development at that level.</p>

Building Element	Proposed Works	Significance	Impact
3 - Stucco Banding	Removal of paint and stucco to be restored.	High level of significance	Major Beneficial Positive impact removing intrusive paint and restoring the original fabric.
4 - Cupola	To be restored with like for like materials.	High level of significance & evidence of likely original fabric. A landmark element to the building.	Major Beneficial Positive impact and makes a considerable contribution to the project.
5 - Cartway entry and ornate windows	Retain and restore as required. Cartway entry to be repurposed as access to basement car parking	The cartway entry has a high level of significance	Major Beneficial The cartway entry will be retained.
6 - 1990s windows and shopfronts	Removal and reinstatement of high level windows and sills with singular panel beneath Building entrance will be retained for providing universal access.	Intrusive elements	Major Beneficial The removal of the c.1990s windows and the proposed remediation will reinstate the high-level windows and rhythm of the bays along the Pakenham Street's utilitarian warehouse facade. Reinstating the differentiation of the corner office and expansive warehouse.
7 - Recessed brick panels	Form new openings under stucco sill, install singular glazed panel to achieve uniform expression throughout, akin to the original elevation	High level of significance. Material change justified by adaptation to new use, mediated by a return to the uniformity of scale and rhythm of the original warehouse. The significance of which has been deteriorated due to the 90's alterations.	Moderate Impact The installation of glazing in the recessed panels, will reinstate the rhythm of the wall, provide passive surveillance from the building's occupants and activate the street.
8 - Double door to Southern end	A later addition, doors are to be removed and recess will be utilised for exposed booster equipment as required by DFES.	Intrusive elements Likely built mid 1950's.	Moderate Beneficial Utilising the existing fabric, albeit a later intrusive addition, for a practical necessity to service the buildings operation and safety.
9 - Basement high level windows	Windows retained and restored. Paint to be removed from stucco sills and restored as required.	High level of significance	Moderate Beneficial Positive impact in removing intrusive paint and restoring the original fabric.
10 - Deleted			

Building Element	Proposed Works	Significance	Impact
11 - Ground & First Floor high level windows	Windows retained and restored. Paint to be removed from stucco sills and restored as required. Introduction of operable sash panels for natural ventilation.	High level of significance	Moderate Beneficial Positive impact in removing intrusive paint and restoring the original fabric.
12 - External Brickwork	Paint removed and be repointed.	High level of significance	Moderate Beneficial Removal of the paint returns building to its original material expression. Critical to the long term conservation of the fabric.
13 - Office windows and ornate surrounds	Windows retained and restored. Paint to be removed from stucco surrounds and restored as required.	High level of significance	Moderate Beneficial Removal of the paint returns building to its original material expression. Critical to the long term conservation of the fabric.
14 - Corner Entry with leadlight window	Window retained and restored. Paint to be removed from stucco surrounds and restored as required. Reinstatement of curved door leafs.	High level of significance	Moderate Beneficial Removal of the paint and replacement of original door detail returns building to its original detail and material expression. Critical to the long term conservation of the fabric.
INTERNAL WORKS			
21 - Internal masonry walls	Part to be demolished.	Little significance	Minor Impact Important to the repurposing of the interior spaces.
22 - Internal masonry walls originally supporting water tank above roof	To be retained, new openings to accommodate proposed uses.	Little significance	Minor Impact Important to the repurposing of the interior spaces.
23 - Stair and enclosure to South	To be demolished.	Intrusive elements Likely built mid 1950's.	Minor Beneficial Later addition not part of original fabric.
24 - Pump enclosure	To be demolished.	Intrusive elements	Minor Beneficial Later addition not part of original fabric.

Building Element	Proposed Works	Significance	Impact
25 - Main stair and enclosure	To be demolished.	Intrusive elements Likely built mid 1990's.	Major Beneficial The removal of the intrusive unoriginal entry provides for a universal access to the building, and the interior installation of a lift and stairs in an expansive central foyer addressing all areas of the building. Important functionality to ensure viability.
26 - (Partial) Columns and exposed jarrah floor joists with herringbone bracing	To be demolished to provide vertical height access for primary drive aisle of basement.	High level of significance	Moderate Impact Loss of original fabric- countered by providing a functional space that is a critical element to the development. A considerable area of the same fabric will be retained. Refer Item 27
27 - (Partial) Columns and exposed jarrah floor joists with herringbone bracing	To be retained and left exposed with intumescent paint as required for fire safety.	High level of significance	Major Beneficial Positive impact that minimises the area to be demolished. Retains original structural fabric and still providing a functional space that is a critical element to the development.
28 - Metal Pressed Ceilings	To be exposed and retained. Full extent to be confirmed on site.	High level of significance	Major Beneficial Retains original fabric that formed part of the delineation between office and warehouse.
29 - Internal lightweight partition walls and ceilings	To be demolished.	Intrusive elements	Major Beneficial Positive impact in removing intrusive elements and providing greater opportunity to express original fabric.
30 - Internal original columns	Plasterboard enclosures to be removed and columns to be exposed with intumescent paint as required for fire safety.	High level of significance	Major Beneficial Positive impact in removing intrusive elements and opportunity to reveal the original structure.



APPENDIX E LANDSCAPE PLAN

49 PHILLIMORE STREET

Landscape Architecture

Concept Report

29.08.2023

See Design Studio

CITY OF FREMANTLE
These Plans Form Part of

DAP007/23

6 Oct 2023



49 Phillimore Street

1/21

41/615

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Planting	17



THE SITE

Site Imagery

49 Phillimore Street is positioned in the heart of Fremantle. This heritage building reflects Fremantle's port city history.

The site sits opposite Pioneer Park with its mature ficus, palm and Norfolk Island pine trees. It looks out onto the port, trains carrying shipping containers as well as Fremantle Train Station.



Site Context



CONCEPT

Design Principles



Design Principles



Private realm

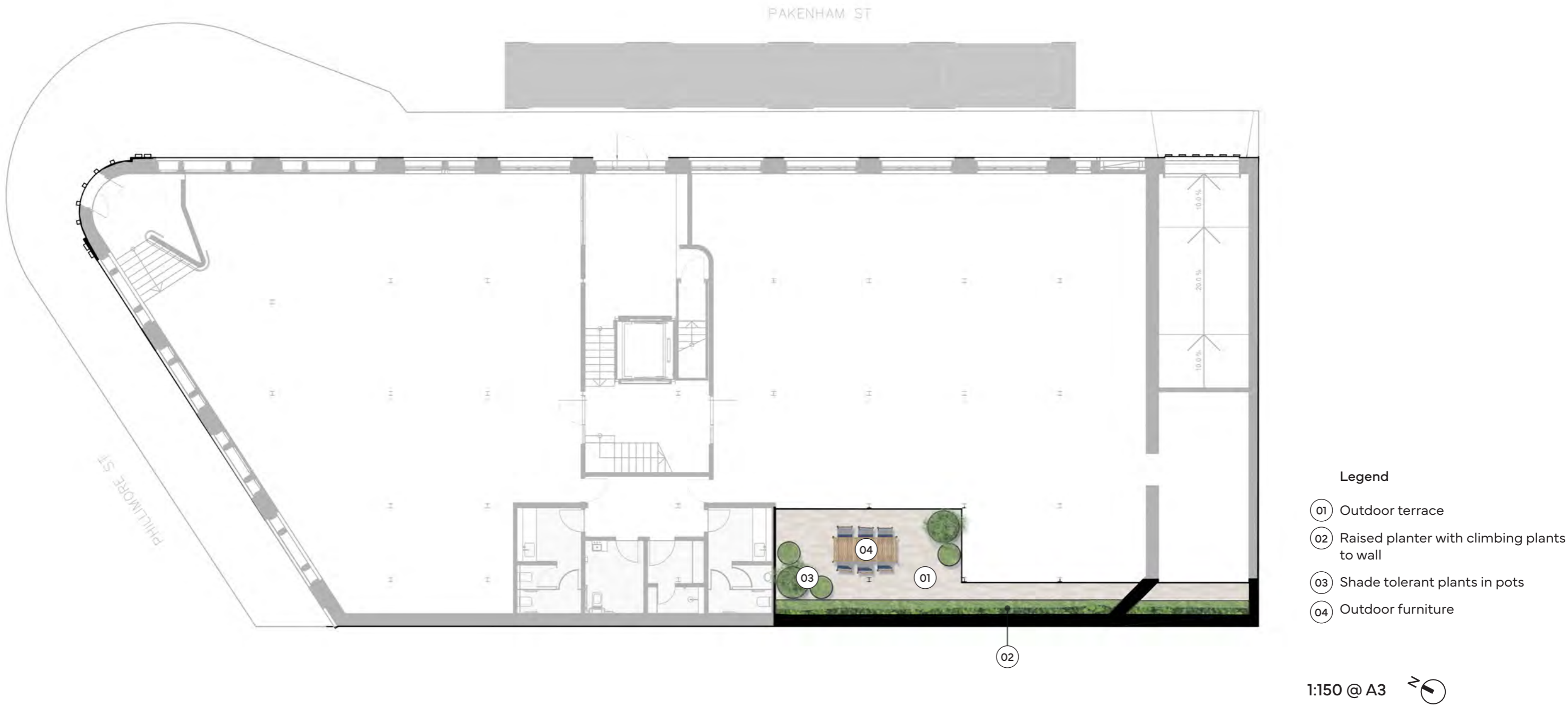
- Private terraces create a green space for residents to use.
- They improve passive solar outcomes, reduce urban heat island effect and provide habitat for native birds and insects.

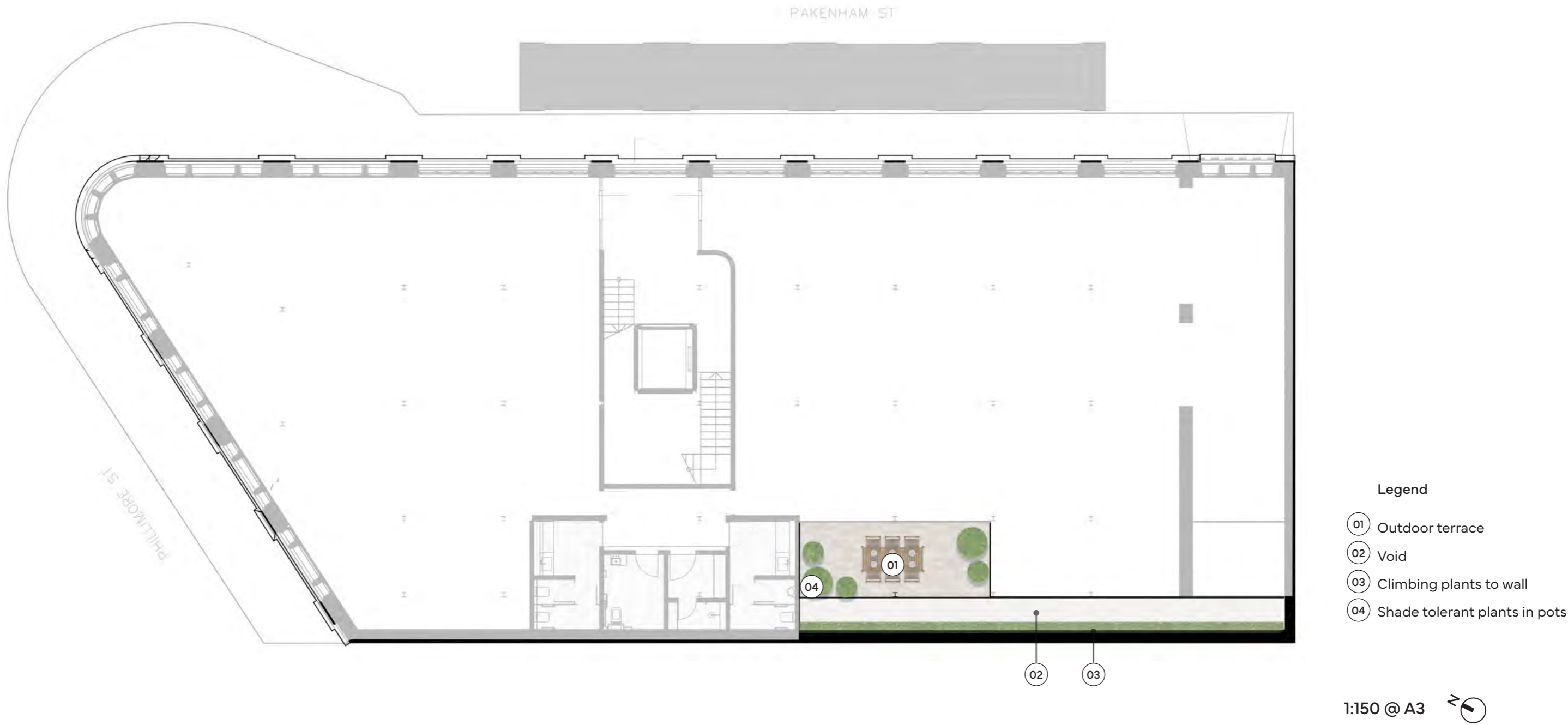
Local public realm

- Pioneer park is located directly opposite the site.
- The green terraces will provide a visual link between the locations

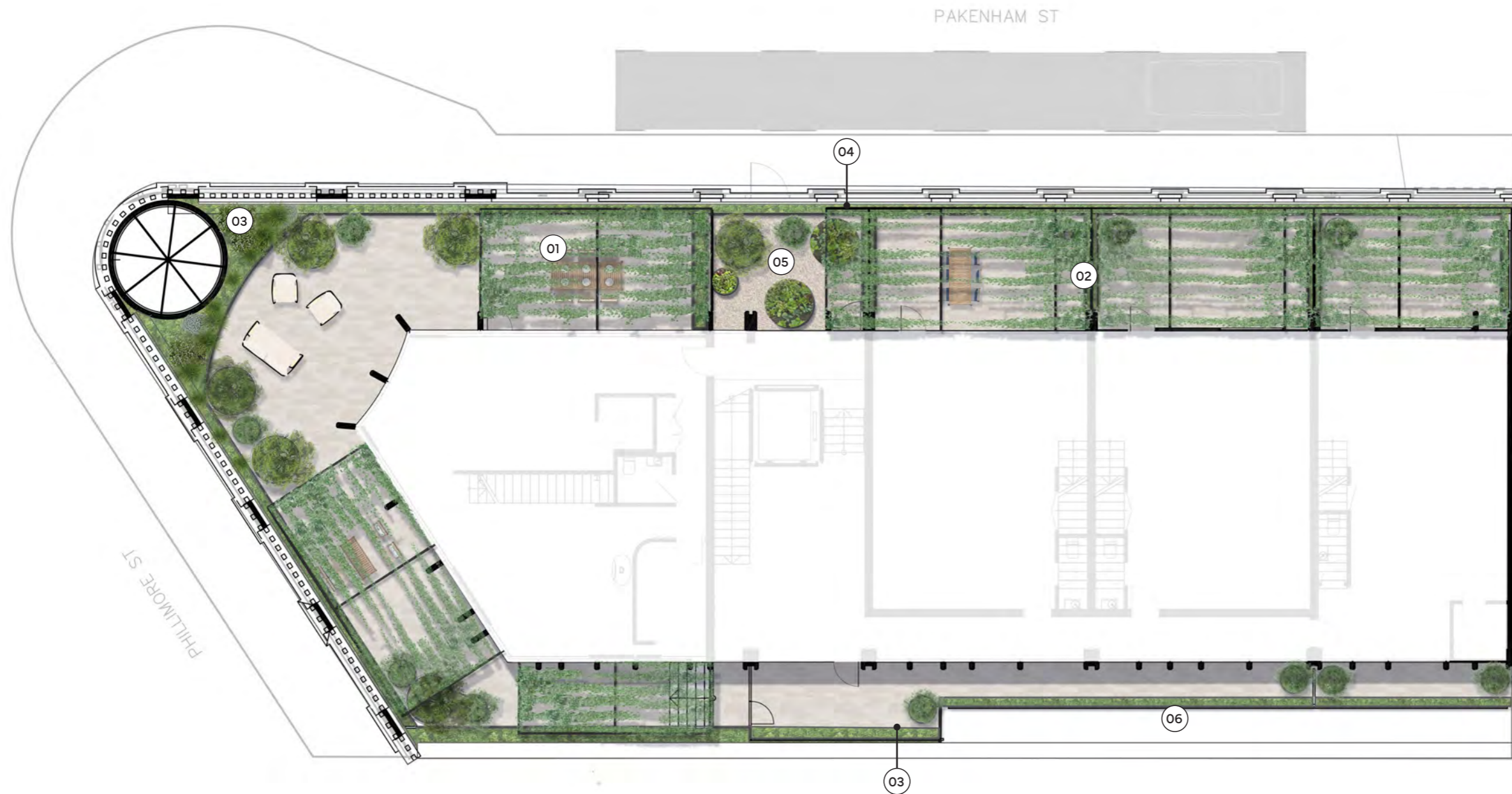
The Fremantle landscape

- 49 Phillimore Street looks outward to the port and train lines. View of this quintessentially Fremantle landscape are framed from the building.
- Looking back at Phillimore Street from a distance, the terraces will be vibrant green pops of colour in the urban environment.





Terrace Plan



Legend

- 01 Arbour with climbing plants
- 02 Privacy screens with climbing plants
- 03 Raised planter
- 04 Balustrade
- 05 Community herb garden
- 06 Void

1:150 @ A3



Phillimore Street View

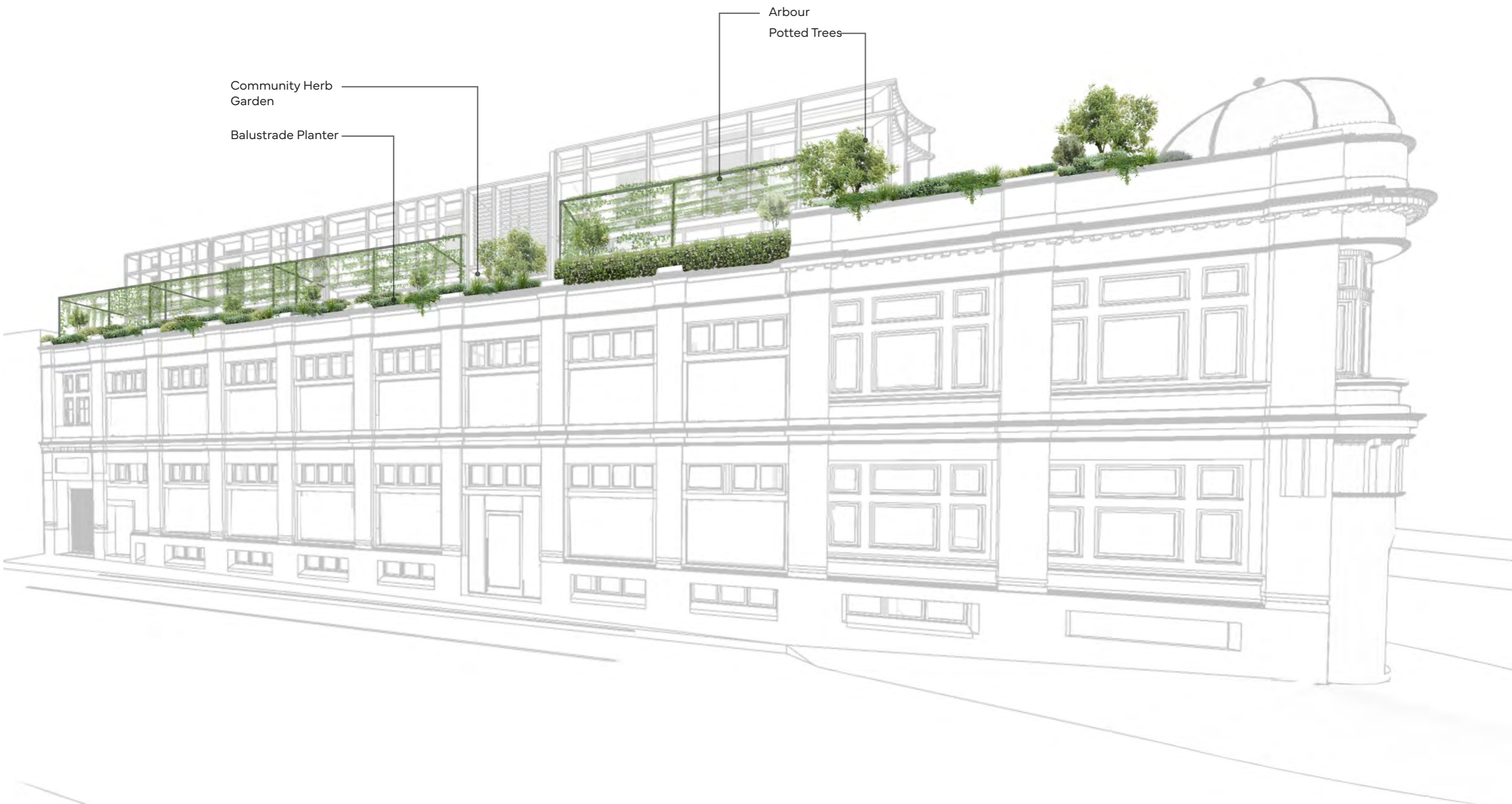


Pakenham Street View

Community Herb
Garden

Balustrade Planter

Arbour
Potted Trees



Urban Greening

A green roof garden can have a significant visual impact on it's surrounds. Fremantle's West End heritage precinct is a dense urban environment with limited green spaces within it.

49 Phillimore Street gives us the opportunity to add a verdant green terrace that wraps around the building providing visual green ammenity to the street below and it's surrounding built form.



Look & Feel

arbour & passive cooling



texture and colour



sense of shelter



green edge

planters



Arbour Concept



Responding to the heritage architecture

The arbour takes inspiration from the verticality in the heritage facade.

The light-weight structure ties the heritage building together with the new architecture above.

These arbours will improve the passive solar outcome for the residences, create comfortable outdoor living spaces and a highly visible green space connection from the street below.

Arbour perspective

PLANTING

Plant Palette

Ground covers and shrubs



Dichondra repens



Dichondra argentea 'Silver Falls'



Rosmarinus 'Tuscan Blue'



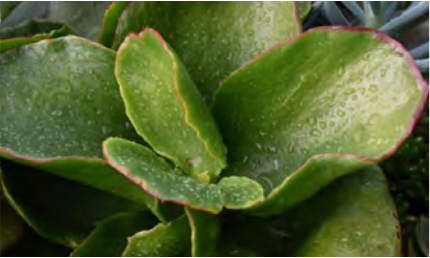
Westringia fruticosa 'Grey Box'



Leptospermum 'Fore Shore'



Viola hederacea



Cotyledon macrantha



Olearia axillaris 'Little Smokie'
1m x 1m



Myoporum parvifolium 'alba'
0.5m x 1.5m



Lomandra 'Wingarra'
0.3m x 0.3m



Kalanchoe 'silver spoons'



Cotyledon 'silver waves'



Chalk sticks

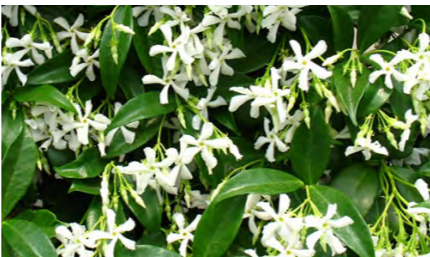
Climbing plants



bougainvillea 'white cascade'



Hardenbergia 'white out'



Trachelospermum jasminoides



Ficus pumila



Olea europaea



Metrosideros 'silver glory'

Trees

Edible garden



Chives



Chamomile



Rosmarinus 'Tuscan Blue'



Sage



Oregano



Dill



Chives



Globe artichoke



Lemongrass



Tarragon



Perennial basil



Parsley

Urban Greening

The sensitive nature of the heritage building excludes the option to include deep soil areas.

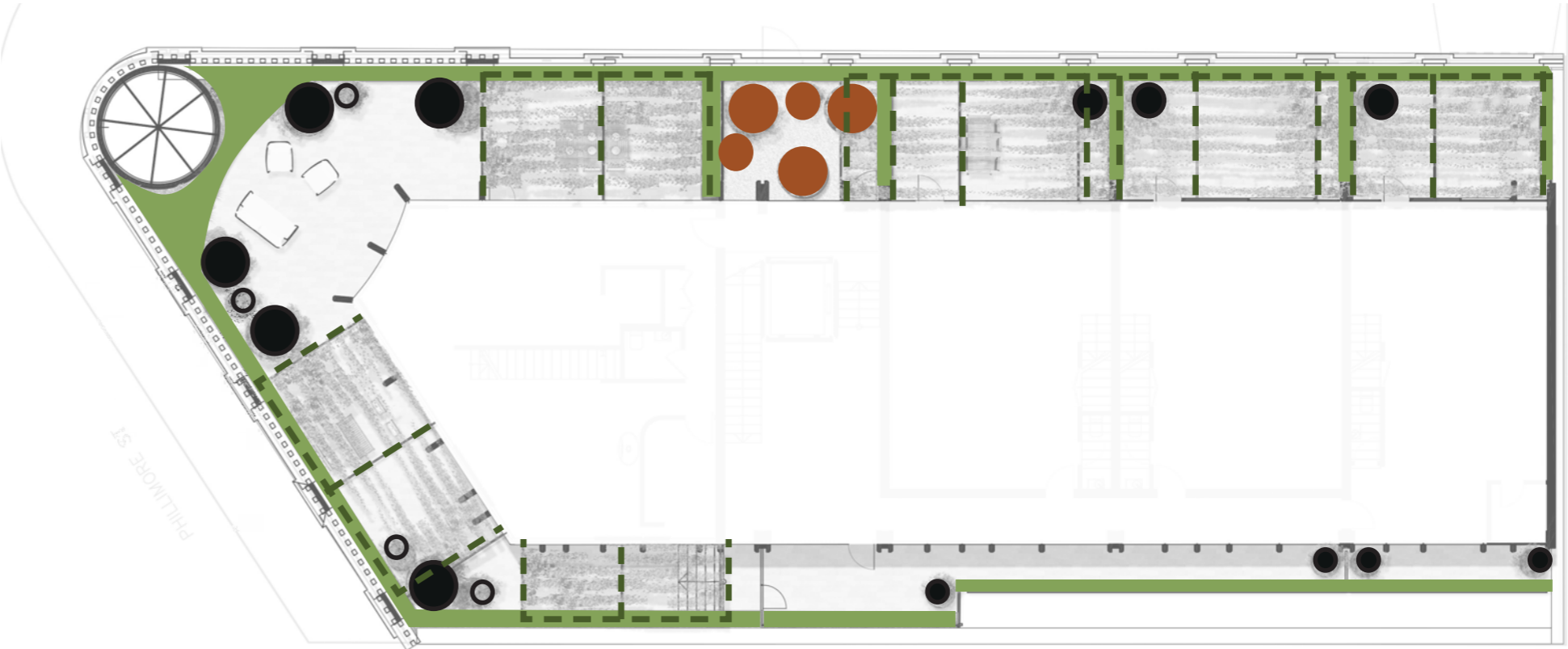
We have used planters, small trees and vertical greening to create a lush, green terrace.

Trees and gardens make a significant contribution to the ecology, character and amenity of neighborhoods. They provide habitat for fauna, shade, micro-climate benefits, as well as improve apartment outlook and privacy.

Garden Bed Total	
Total Site Area	714 sqm
Garden bed, planting on structure	50 sqm
Trees	16

 Garden bed planter on structure Community garden planter Vertical planting Metrosideros 'silver glory' Olea europa

Ground Floor



Second Floor Plan

See Design Studio
Landscape Architects

Please feel free to contact us with any inquires.

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Waste Management Plan

49 Phillimore Street, Fremantle

Prepared for 49 Phillimore Pty Ltd

4 October 2023

Project Number: WMP23059

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer	Approver
1.0	First Approved Release	29/08/2023	MA	AB	AB
2.0	Second Approved Release	4/10/2023	MA	DP	DP

Approval for Release

Name	Position	File Reference
Dilan Patel	Project Manager – Waste Management Consultant	WMP23059-02_Waste Management Plan_2.0
Signature		

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Executive Summary

49 Phillimore Pty Ltd is seeking development approval for the proposed mixed-use development located at 49 Phillimore Street, Fremantle (the Proposal).

To satisfy the conditions of the development application the City of Fremantle (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method are provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Residential Bin Storage Area					
Refuse	260	240	Three	Fortnightly	City of Fremantle
Recycling	210	240	Two	Fortnightly	City of Fremantle
FOGO	180	240	One	Once each week	City of Fremantle
Commercial Bin Storage Area					
Refuse	479	240	Two	Once each week	City of Fremantle
Recycling	479	240	Four	Fortnightly	City of Fremantle

The City will collect refuse, recyclables and FOGO from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Presentation Area on Pakenham Street.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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Diagram 2: Bin Presentation Area

Diagram 3: Bin Tug Location

Figures

Figure 1: Locality Plan

1 Introduction

49 Phillimore Pty Ltd is seeking development approval for the proposed mixed-use development located at 49 Phillimore Street, Fremantle (the Proposal).

To satisfy the conditions of the development application the City of Fremantle (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by Phillimore Street to the north, Pakenham Street to the east, and commercial properties to the south and west, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse, recyclables and FOGO) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Areas, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse, recyclables and FOGO is based on the number of apartments and the floor area (m²) of the commercial tenancies at the Proposal. The Proposal consists of the following:

Residential:

- Two Bedroom Apartments – 3; and
- Three Bedroom Apartments – 1.

Commercial:

- Tenancy 1 – 220m²;
- Tenancy 2 – 247m²;
- Tenancy 3 – 220m²; and
- Tenancy 4 – 270m².

2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Vincent's *Waste Guidelines for New Developments* (2020) and the Western Australian Local Government Association's (WALGA) *Commercial and Industrial Waste Management Plan Guidelines* (2014).

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

Table 2-1: Waste Generation Rates

Tenancy Use Type	Guideline Reference	Refuse Generation Rate	Recycling Generation Rate	FOGO Generation Rate
Residential				
Two Bedroom Apartments	Vincent – >12 Dwellings 2 Bed	60L/week	40L/week	40L/week
Three Bedroom Apartments	Vincent – >12 Dwellings 3 Bed	80L/week	90L/week	60L/week
Commercial				
Tenancy 1 – 4	WALGA – Offices	10L/100m ² /day	10L/100m ² /day	-

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Residential Waste

Residential waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-2. It is estimated that the residential apartments at the Proposal will generate 260L of refuse, 210L of recyclables, and 180L of FOGO each week.

Table 2-2: Estimated Waste Generation – Residential

Residential Apartments	Number of Apartments	Waste Generation Rate (L/week)	Waste Generation (L/week)
Refuse			
Two Bedroom Apartments	3	60	180
Three Bedroom Apartments	1	80	80
Total			260
Recyclables			
Two Bedroom Apartments	3	40	120
Three Bedroom Apartments	1	90	90
Total			210
FOGO			
Two Bedroom Apartments	3	40	120
Three Bedroom Apartments	1	60	60
Total			180

2.3.2 Commercial Waste

Commercial waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-3. It is estimated that the commercial tenancies at the Proposal will generate 479L of refuse and 479L of recyclables each week.

Table 2-3: Estimated Waste Generation – Commercial

Commercial Tenancies	Area (m ²)	Waste Generation Rate (L/100m ² /day)	Waste Generation (L/week)
Refuse			
Tenancy 1	220	10	110
Tenancy 2	247	10	124
Tenancy 3	220	10	110
Tenancy 4	270	10	135
Total			479
Recyclables			
Tenancy 1	220	10	110
Tenancy 2	247	10	124
Tenancy 3	220	10	110
Tenancy 4	270	10	135
Total			479

3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas, as shown in Diagram 1, and discussed in the following sub-sections.

3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, the residential apartments will have room to accommodate two under counter/kitchen bins for the separate disposal of refuse and recyclables, and a kitchen caddy for FOGO waste. Waste from these internal bins will be transferred by residents directly to the Residential Bin Storage Area and deposited into the appropriate bins.

The commercial tenancies will also have a minimum of two internal bins to facilitate the separate disposal of refuse and recyclables. The contents of these internal bins will be transferred by staff or cleaners to the Commercial Bin Storage Area and deposited into the appropriate bins, as required.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist residents, visitors, staff and cleaners to dispose of their separate waste materials in the correct bins.

3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes
	240L
Depth	0.730
Width	0.585
Height	1.060

Reference: SULO Bin Specification Data Sheets

3.3 Bin Storage Area Size

3.3.1 Residential Bin Storage Area Size

To ensure sufficient area is available for storage of the residential bins, the amount of bins required for the Residential Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on the collection of refuse and recyclables once each fortnight and FOGO once each week.

Based on the results shown in Table 3-2 the Residential Bin Storage Area has been sized to accommodate:

- Three 240L refuse bins;
- Two 240L recycling bins; and
- One 240L FOGO bin.

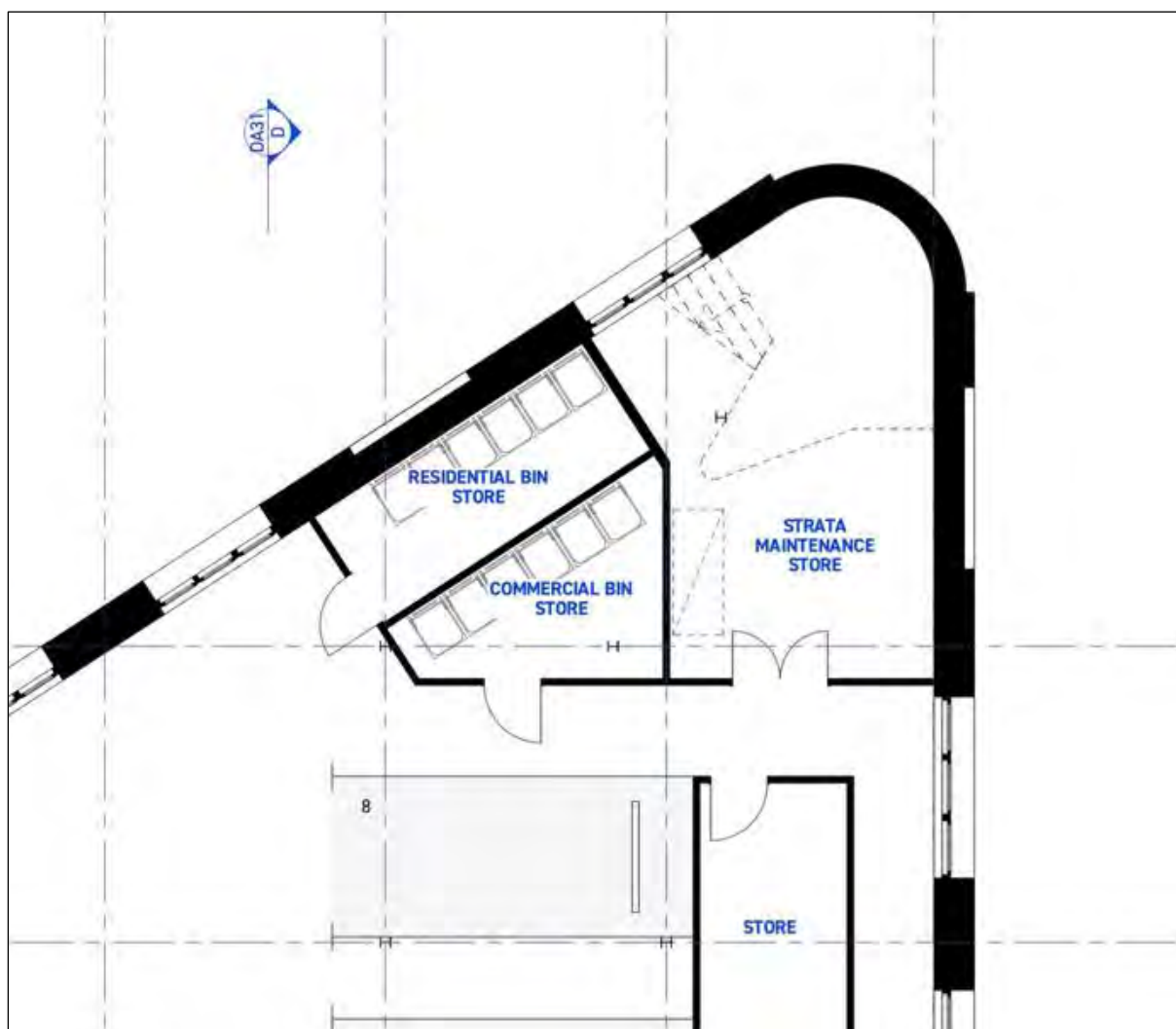
6 Oct 2023

Table 3-2: Bin Requirements for Bin Storage Area – Residential

Waste Stream	Waste Generation (L/week)	Number of Bins Required
		240L
Refuse	260	3
Recycling	210	2
FOGO	180	1

The configuration of these bins within the Residential Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each fortnight of refuse and recyclables and one collection each week of FOGO.

Diagram 1: Residential and Commercial Bin Storage Area



3.3.2 Commercial Bin Storage Area Size

To ensure sufficient area is available for storage of the commercial bins, the amount of bins required for the Commercial Bin Storage Area was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 3-1 and based on collection of refuse once each week and recyclables once each fortnight.

Based on the results shown in Table 3-3 the Commercial Bin Storage Area has been sized to accommodate:

- Two 240L refuse bins; and
- Four 240L recycling bins.

Table 3-3: Bin Requirements for Bin Storage Area – Commercial

Waste Stream	Waste Generation (L/week)	Number of Bins Required
		240L
Refuse	479	2
Recycling	479	4

The configuration of these bins within the Commercial Bin Storage Area is shown in Diagram 1. It is worth noting that the number of bins and corresponding placement of bins shown in Diagram 1 represents the maximum requirements assuming one collection each week of refuse and one collection each fortnight of recyclables.

3.4 Bin Storage Area Design

The design of the Bin Storage Areas will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

4 Waste Collection

The City will service the residential and commercial waste from the Proposal and provide the below bins and collection frequencies:

Residential

- Three 240L refuse bins, collected once each fortnight;
- Two 240L recycling bins, collected once each fortnight; and
- One 240L FOGO bin, collected once each week.

Commercial

- Two 240L refuse bins, collected once each week; and
- Four 240L recycling bins, collected once each fortnight.

The City will service the bins from the Bin Presentation Area on Pakenham Street utilising its side loader waste collection vehicle, as shown in Diagram 2.

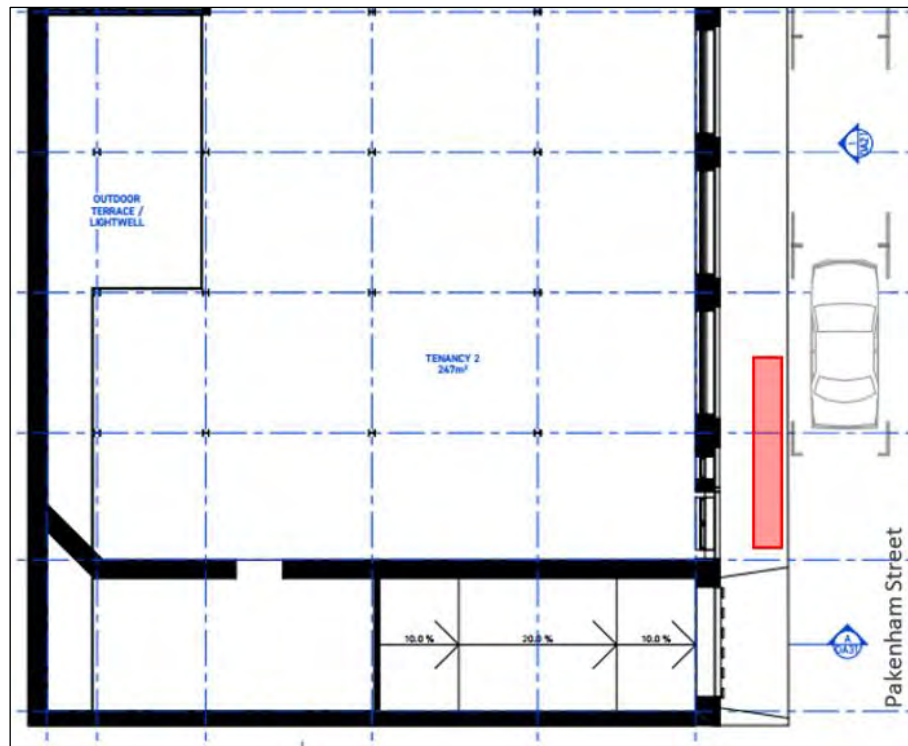
The bins will remain clear of obstructions such as power poles, signs and street trees, as will be placed so as to not obstruct pedestrians, footpaths or bike lanes. Bins will be placed neatly to facilitate collection by the City's waste collection vehicle.

The building manager/caretaker will transfer bins to and from the respective Bin Storage Area and the Bin Presentation Area visitor bays the night before collection days, likely by utilising a bin tug. The travel path between the Bin Storage Areas and the Bin Presentation Areas will be kept free of obstacles.

Signage advising when street parking bays should be kept clear will be installed adjacent to the bays. The building manager/caretaker will place traffic cones within the required bays on collection days to ensure that bays are clear of vehicles.

The building manager/caretaker will return the bins to the respective Bin Storage Area on the same day following collection.

Diagram 2: Bin Presentation Area



4.1 Bulk and Speciality Waste

Given the streetscape adjacent to the Proposal, placement of bulk waste on the verge for collection would be considered undesirable. Instead, bulk waste materials will be removed from the Proposal as they are generated.

Storage areas have been allocated in the Basement of the Proposal for the temporary storage of residential bulk wastes. The building manager/caretaker will liaise with residents on procedures for bulk waste disposal within the Proposal, as required. The City also provides residents with six tip passes to the Fremantle Recycling Centre to dispose of bulky wastes, on presentation of valid identification.

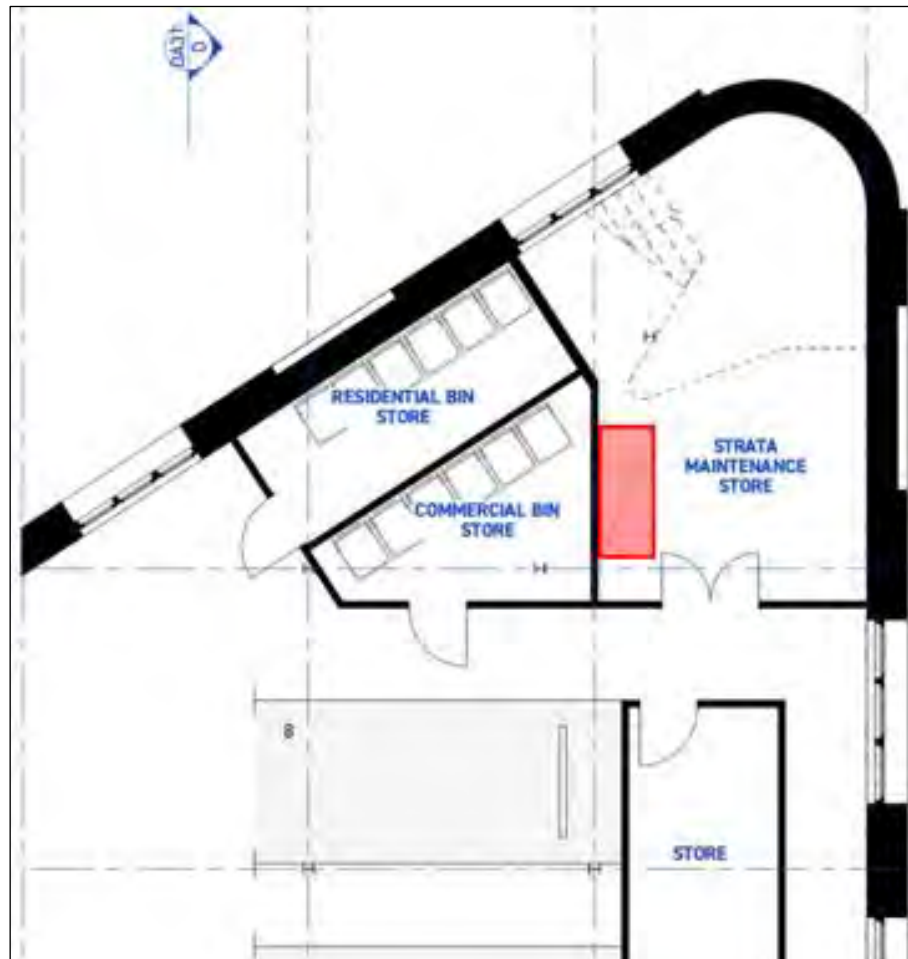
Adequate space may also be allocated throughout the Proposal for the placement of cabinets/containers for collection and storage of commercial specialty wastes that are unable to be disposed of within the bins in the Commercial Bin Storage Area. These materials will be removed from the Proposal once sufficient volumes have been accumulated to warrant disposal, with assistance from the building manager/caretaker. These may include items such as:

- Refurbishment wastes from fit outs;
- Batteries and E-wastes;
- White goods/appliances;
- Cleaning chemicals; and
- Commercial Light globes.

4.2 Bin Tug

To assist with the ferrying of bins between the Bin Storage Areas and the Bin Presentation Area and to mitigate occupational health and safety risks, a bin tug can be accommodated at the Proposal as shown in Diagram 3.

Diagram 3: Bin Tug Location



5 Waste Management

A building manager/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Areas;
- Cleaning of bins and Bin Storage Areas, when required;
- Ferrying of bins to and from the Bin Storage Areas and Bin Presentation Area on collection days;
- Ensure all residents/tenants at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor resident/tenant behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist with its removal, as required;
- Regularly engage with residents/tenants to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the City to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides sufficiently sized Bin Storage Areas for storage of refuse, recyclables and FOGO, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that adequately designed Bin Storage Areas have been provided, and collection of refuse, recyclables and FOGO can be completed from the Proposal.

The above is achieved using:

Residential:

- Three 240L refuse bins, collected fortnightly; and
- Two 240L recycling bins, collected fortnightly; and
- One 240L FOGO bin, collected once each week.

Commercial:

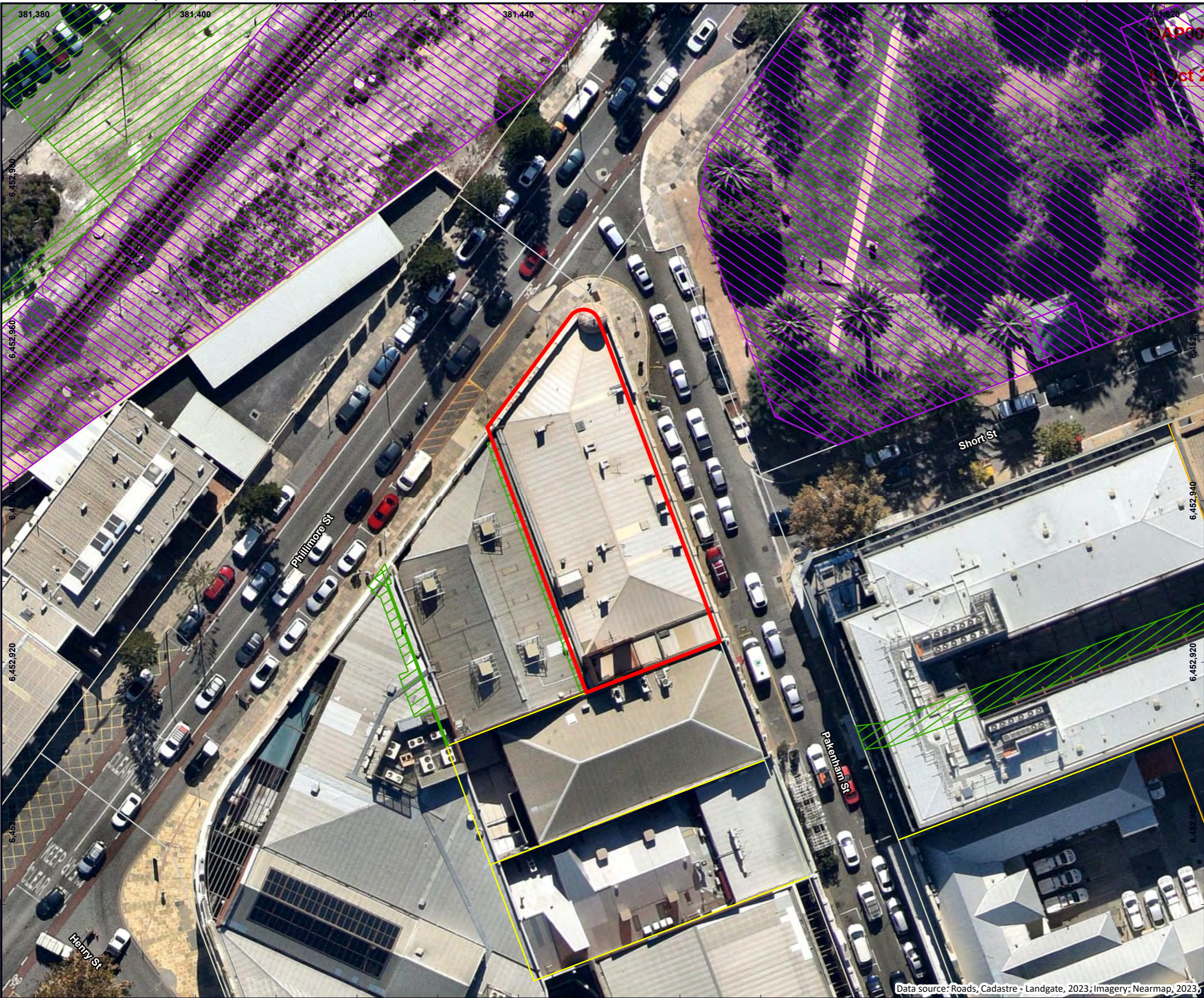
- Two 240L refuse bins, collected once each week; and
- Four 240L recycling bins, collected fortnightly.

The City will collect refuse, recyclables and FOGO from the Proposal utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Presentation Area on Pakenham Street.

A building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

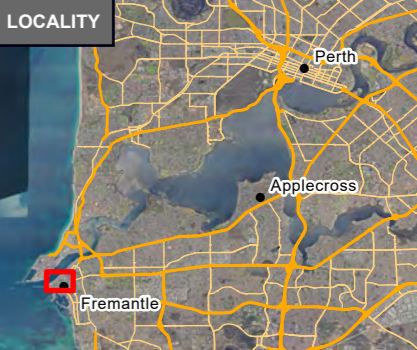
Figure 1: Locality Plan



LEGEND

- Site Boundary
- Cadastral
- Crown Allotment
- Freehold
- Road
- Easement
- Reserve

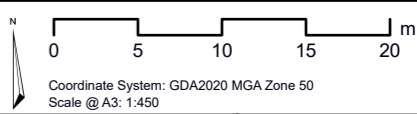
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LOCALITY

49 Phillimore Street
Fremantle WA 6160

spaceagency



Prepared:	E Jackson	Date:	7/08/2023
Reviewed:	A Brouwer	Revision:	A
Project:	WMP23059		



Figure 01

Data source: Roads, Cadastre - Landgate, 2023; Imagery: Nearmap, 2023



Assets | Engineering | Environment | Noise | Spatial | Waste

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APPENDIX G ACOUSTIC ASSESSMENT

49 Phillimore Street Fremantle

Acoustics Development Application Report



12 September 2023

Ref: 301251600

PREPARED FOR:

49 Phillimore Pty Ltd

PREPARED BY:

Ben Martis

Revision Schedule

Revision No.	Date	Description	Prepared by	Quality Reviewer	Independent Reviewer	Project Manager Final Approval
001	12 Sep 2023	Development Application Issue	BEM	IK	IK	IK
002	12 Sep 2023	Development Application Issue	BEM	IK	IK	IK

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Executive Summary

Stantec have been engaged to conduct an acoustic assessment and prepare an acoustic report in support of the development application for a mixed-use development at 49 Phillimore Street, Fremantle.

As part of the development approval process for the mixed-use development, an acoustic assessment has been carried out in order to satisfy the requirements stated in the relevant policies and guidelines applicable to the project. This includes:

- Western Australian *Environmental Protection (Noise) Regulations 1997 (EPNR)*;
- Australian and New Zealand Standard AS/NZS 2107:2016 - *Acoustics – Recommended design sound levels and reverberation times for building interiors (AS2107)*;
- National Construction Code 2022 Volume 1, Building Code of Australia (NCC 2022);
- WAPC/DPLH, State Planning Policy 5.4 – Road and Rail Noise, Sep 2019 (SPP 5.4);
- City of Fremantle, Local Planning Policy 2.18 – New Residential Developments in the City Centre Zone – Noise From an Existing Source;
- City of Fremantle, Local Planning Policy 2.3 – Fremantle Port Buffer Area Development Guidelines; and
- Green Star Buildings – Version 1 Revision B.

This acoustic report has been prepared for submission to City of Fremantle and demonstrates that the project is taking into consideration all acoustic aspects pertinent to the project. Recommendations are provided in this report to address and mitigate any acoustic issues identified.

Rail Noise Intrusion

As per the SPP 5.4 requirements, a rail noise assessment has been carried out. Freight through Fremantle Inner Harbour and the Fremantle passenger train line have been considered and the minimum recommended external façade constructions have been provided in the form of glazing and wall configurations.

The predicted noise levels at the building façades were obtained through the use of the 3D noise modelling software package SoundPLAN v8.2 and benchmarked against Stantec measured freight rail noise on other projects in Perth. As the SPP 5.4 *Implementation Guidelines Noise Exposure Forecast Table 2* indicate that freight rail noise at 50m is 11 dB higher than passenger rail noise at 150m, assessment of the passenger rail has been excluded.

Traffic noise has been assessed through attended noise monitoring in order to obtain the ambient noise levels at the project site. The glazing configurations to achieve the design internal noise levels have been summarised below:

Area	Living / Bedroom	Glazing Configuration	R _w
Apartment A	Bedrooms - Phillimore St	6mm glass / 12mm air gap / 12.38mm laminated glass	42
	Bedroom - Pakenham St	6mm glass / 12mm air gap / 6.38mm laminated glass	38
	Living Areas	6mm glass / 12mm air gap / 6.38mm laminated glass	38
Apartments B,C,D	Bedrooms & Living Areas	6mm glass / 12mm air gap / 6mm glass ⁽¹⁾	36
Commercial Tenancies	—	Min. 6mm glass (new glazing) ⁽¹⁾	31
		Min. 3mm glass (existing glazing)	—

1. New glass should be a 'toughened safety glass' as per the requirements City of Fremantle – Local Planning Policy 2.3. Where this is not possible the glass needs to be changed to a laminated glass.



The performance requirements outlined in this Report to achieve the design criteria including SPP 5.2 and AS 2107:2016, that the intent of Local Planning Policies 2.18 and 2.3 is met or exceeded. In Stantec's professional opinion this demonstrates the alternative design approach of SPP 2.18 Clause 1.3.

Mechanical Services

It is expected that the following mechanical services are expected within the development:

- FCU's, condensers and fans serving the residential development and commercial tenancies.

When the full mechanical equipment schedule has been provided a detailed noise assessment will be conducted prior to the issue of Building Permit. Specific acoustic treatments will be provided to achieve compliance to the relevant EPNR assigned noise levels at nearest noise sensitive receivers.

Waste Collection

Under the EPNR Regulation 14A, the assigned noise levels of Regulation 7 do not apply to waste collection (both domestic and commercial sources), provided certain conditions are met.

Generally, local councils cannot confirm collection times for residential waste collections, however it is recommended to conduct waste collection during the hours 0700 – 1900 hr Monday to Saturday in accordance with the WA Department of Environmental Regulation's *Draft Guide to Management of Noise from Waste Collection and Other Works (December 2014)*.



1. Introduction

1.1 Overview

Stantec have been engaged to conduct an acoustic assessment and prepare an acoustic report in support of the development application for a mixed-use development proposed for 49 Phillimore Street, Fremantle.

The proposed development will consist of the following major architectural volumes:

- Basement – Car parking
- Ground Floor & Level 1 – Office tenancies
- Level 2 & 3 – Apartments

This acoustic report has been prepared for submission to as part of the Development Application and demonstrates that the project is taking into consideration all acoustic aspects pertinent to the project. Recommendations are provided in this report to address and mitigate any acoustic issues identified.

1.2 Information Sources

As part of the development approval process for the mixed-use development, an acoustic assessment has been carried out in order to satisfy the requirements stated in the relevant policies and guidelines applicable to the project. This includes:

- Western Australian *Environmental Protection (Noise) Regulations 1997 (EPNR)*;
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- City of Fremantle, Local Planning Policy 2.3 – Fremantle Port Buffer Area Development Guidelines; and
- Green Star Buildings – Version 1 Revision B.

1.3 Site Description

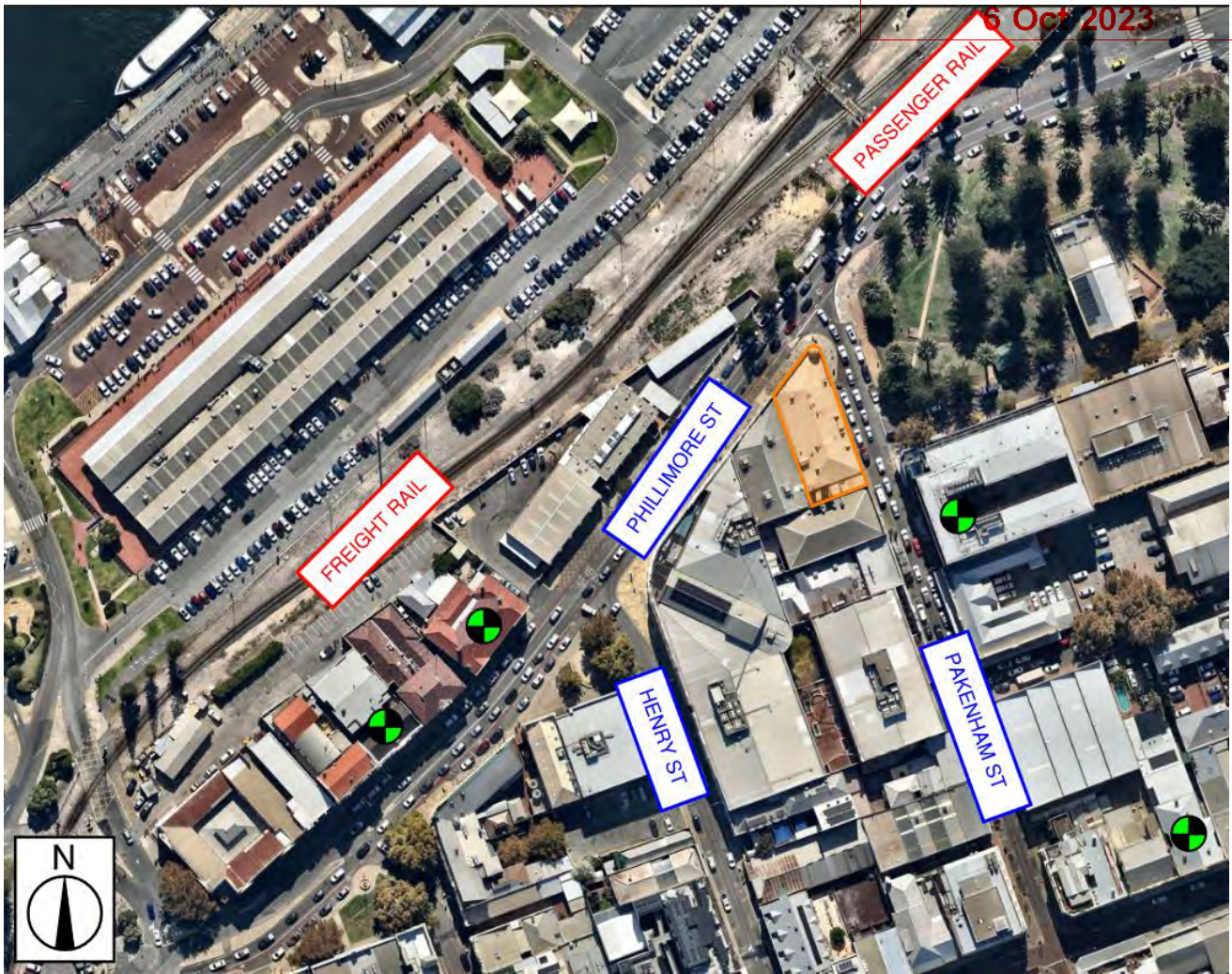
The existing heritage brick building at 49 Phillimore St is to be refurbished for commercial office tenancies, with new 2-storey residential apartments added above the existing roof.

Figure 1 presents the project location and the nearest sensitive noise receivers. The “City Centre” zoned surrounds contain established noise sensitive uses, with 5 existing short-stay accommodation / apartments within 150m of the site.

The project site is located approximately 200m from Fremantle Ports Victoria Quay Berth C and 50m from the port freight rail line and as such requires acoustic design input for the building envelope.



6 Oct 2023



Source: NearMap

Figure 1: Project Site (Orange) and Existing Noise Sensitive Uses (Green)

2. Acoustic Criteria

2.1 WA Environmental Protection (Noise) Regulations 1997

Environmental noise impacts resulting from the noise emissions from the project are addressed through the Environmental Protection Act 1986, with the regulatory requirements detailed in the Environmental Protection (Noise) Regulations 1997 (EPNR).

The EPNR establishes the maximum permissible noise emission levels (assigned levels) to be received at all adjacent noise-sensitive premises during specific periods of the day as a result of the cumulative noise emissions from all sources proposed for the project site. Compliance to relevant noise limits outlined in the EPNR is compulsory.

The EPNR states noise emissions from any premises are considered not to *significantly contribute to* the noise at a receiver if the noise emissions are 5 dB or below the assigned levels.

In brief, the assigned levels are determined by considering of the amount of commercial and industrial zones, as well as main transport corridors and sporting venues surrounding the noise sensitive premises. The assigned levels apply at premises receiving the noise (noise sensitive receiver) and not to areas within the project site or lot. In addition, the Environmental Protection (Noise) Regulations 1997 identify the following in Schedule 3, clause 2A.

"If the land within either of the circles is categorised on the land use map as land in respect of which mixed uses are permitted, the use of that land that results in the highest influencing factor is to be used in the determination of the influencing factor."

The nearest noise sensitive receiver has been identified as:

- Quest Fremantle Hotel, 1/8 Pakenham St, Fremantle;

The current local planning schemes (LPS4 and MRS) was accessed via City of Fremantle website.

The traffic data available from Main Roads WA (MRWA) TrafficMap website has been presented in Table 1.

Table 1: Traffic count data (MRWA)

Transport Corridors	EPNR Classification ¹⁾	Average Daily Traffic Volumes					
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Marine Tce (North of South St)	Secondary	12,353	—	10,911	—	—	—
Elder Pl (South of Parry St)	Secondary	—	—	—	8,824	—	—

1) As defined by the EPNR. Secondary roads have between 6,000-15,000 vehicles per day. Major roads have greater than 15,000 vehicles per day.

2.1.1 Influencing Factor

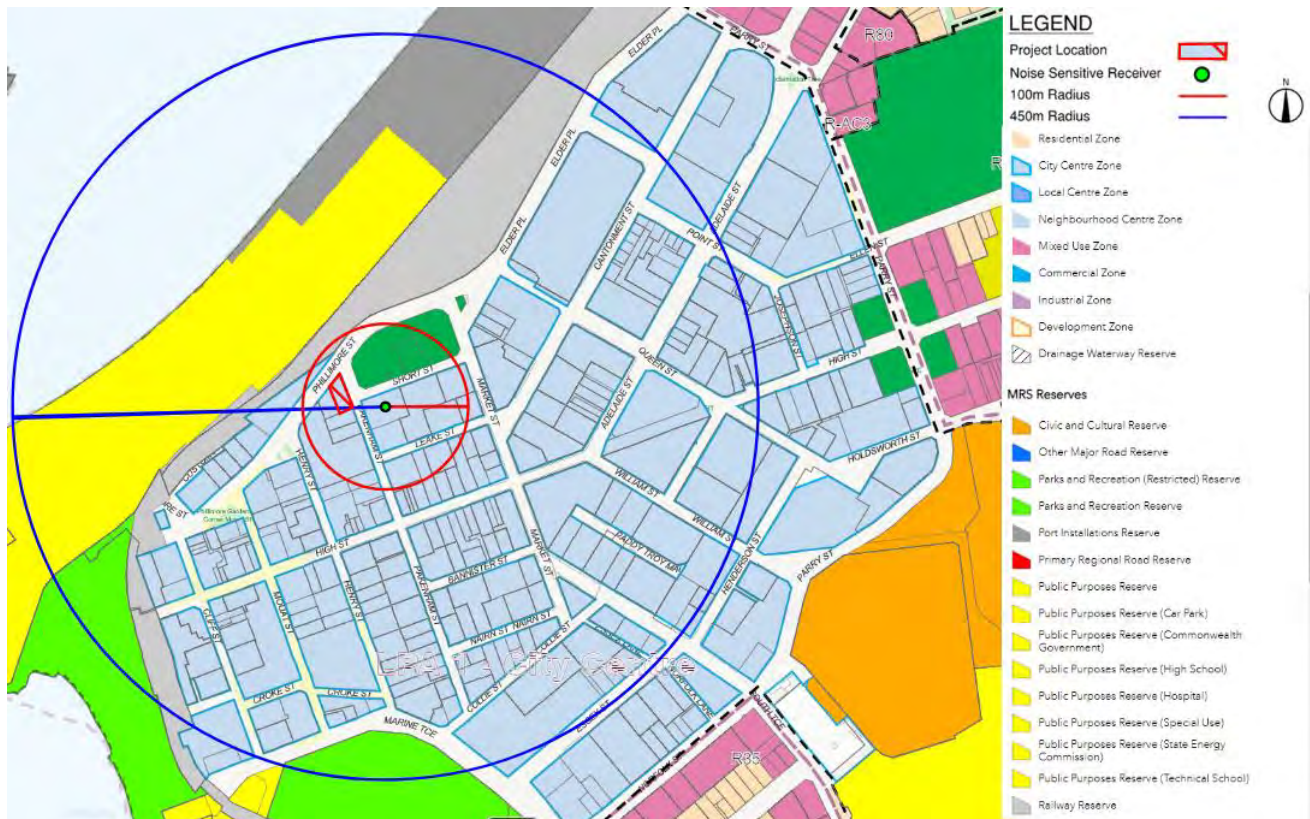
The influencing factor results from identifying major roads, commercial and industrial areas for all nearest noise sensitive receivers.

The influencing factor assessment is summarised in Table 2 and the planning maps indicating the land use type (obtained from Intramaps) for 1/8 Pakenham St has been marked up in Figure 2.

Table 2: Influencing factor (IF) at noise sensitive receivers.



Noise Sensitive Premises	Commercial Zones	Industrial Zones	Transport Corridors	Influencing Factor
1/8 Pakenham St, Fremantle	57 % within a 100 m radius 41 % within a 450 m radius	5 % within a 450 m radius (Fremantle Port)	No Major roads within 450m	5 dB



Source: City of Fremantle Online Mapping System

Figure 2: Zoning Map of Areas Surrounding 1/8 Pakenham St, Fremantle

2.1.2 Assigned Noise Levels for Nearest Sensitive Receiver

Table 3 summarizes the assigned levels at the nearest noise sensitive premises. It is required that all noise emissions from the development are below the assigned level for all defined periods of the day and at the lot boundary of the receiver or 15m from any associated building. It is noted that the EPNR assigned levels only apply at the premises receiving the noise only and not to noise within the site.

Table 3: Assigned levels for 1/8 Pakenham Street, Fremantle

Type of premises receiving noise	Time of day	Assigned Level (dB)		
		LA10	LA1	LAmix
Noise sensitive premises: Highly sensitive area	0700 to 1900 hours Monday to Saturday	50	60	70
	0900 to 1900 hours Sunday & public holidays	45	55	70
	1900 to 2200 hours all days	45	55	60

Type of premises receiving noise	Time of day	Assigned Level (dB)		
		LA10	LA1	L _{Amax}
	2200 hours on any day to 0700 hours Monday to Saturday, and 0900 hours Sunday & public holidays	40	50	60
Noise sensitive premises: any area other than highly sensitive areas	All Hours	60	75	80
Commercial premises	All Hours	60	75	80
Industrial and utility premises	All Hours	65	80	90

2.1.3 Noise Character Adjustments

Regulation 7 states that the noise character must be “free” of annoying characteristics, namely —

- Tonality, e.g. whining, droning;
- Modulation, e.g. like a siren; and
- Impulsiveness, e.g. banging, thumping.

Regulation 9 (1) establishes the methodology for determining noise characteristics. If these characteristics cannot be reasonably and practicably removed, a series of adjustments to the measured levels are required, indicated in Table 4.

Table 4: Noise character adjustment

Adjustment where noise emission is not music these adjustments are cumulative to a maximum of 15 dB			Adjustment where noise emission is music	
Where tonality is present	Where modulation is present	Where impulsiveness is present	Where impulsiveness is not present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

2.1.4 Noise Emissions from Mechanical Services

Typically, projects of this type involve noise emissions from mechanical services such as cooling towers, heat pumps, air handling units, condensers and exhaust fans.

It is important that noise emissions from the site do not present any form of tonality, modulation or impulsiveness (as defined by the EPNR).

Given that data from mechanical plant manufacturers is generally limited to broadband data or in 1/1 octave band value, it is not possible to objectively determine tonality, as it is described in the EPNR. 1/3 octave band data is required yet is typically unavailable.

Therefore, a +5 dB correction shall be conservatively assigned when assessing noise emissions from mechanical equipment. In summary, Noise emissions from mechanical equipment shall comply with L_{A10} 42 dB at the nearest noise sensitive receivers.



2.2 State Planning Policy 5.4

The project is also required to comply with the State Planning Policy 5.4 – Road and Rail Noise (SPP 5.4).

The SPP 5.4 establishes the indoor and outdoor noise criteria that apply to a noise sensitive land use due to noise emissions from road and rail transport. The project location is within the SPP 5.4 trigger zone for the Fremantle Inner Harbour freight rail and passenger rail line trigger zone.

The noise criteria provided in Table 5 applies to new noise-sensitive development proposals at 1m from the most exposed, habitable façade.

Table 5: Noise target criteria for SPP5.4

Proposal	New/Upgrade	Noise Targets		
		Outdoor		Indoor
		Day (L_{Aeq} (Day) dB) (6am - 10 pm)	Night (L_{Aeq} (Night) dB) (10pm - 6am)	L_{Aeq} dB
Noise-Sensitive land-use and/or development	New noise-sensitive land-use and/or development within the trigger distance of an existing/proposed transport corridor	55	50	Day: L_{Aeq} 40 (living and work areas) Night: L_{Aeq} 35 (Bedrooms)

The policy requires outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines.

As it would not be reasonable and practical to design the building to achieve compliance to the outdoor noise levels at each balcony (including those facing the rail line), internal noise levels have been targeted for the residential elements. There is no outdoor common area.

2.3 City of Fremantle – Local Planning Policy 2.18

1.1 New residential development in the City Centre zone that is, in the view of Council, in close proximity to recognised existing non-residential land use(s) shall be required to be designed and constructed in such a manner that noise levels from activities associated with the existing non-residential land use(s) can be successfully attenuated.

Noise attenuation measures, include internal and external design measures that address sound attenuation and include vibration protection and compliance with the Environmental Protection (Noise) Regulations 1997. The City of Fremantle recommends that any proposed residential development in the City Centre engages an acoustic consultant to consult on effective noise attenuation design measures.

1.2 Any proposed development identified in clause 1.1 above, shall demonstrate it meets the design measure requirements of each of the three design measure categories in appendix one of this policy.

1.3 Variation to the requirements of clause 1.2 may be considered, at Council's discretion, subject to an acoustic engineer's report being submitted as part of the application that demonstrates alternate noise attenuation design measures that achieve the same, or higher, noise attenuation outcome.

The Design Measures are summarised in Appendix 1 of the Local Planning Policy 2.18:

1. EXTERNAL OPENINGS (WINDOWS AND DOORS)

1.1 In every instance external window and door frames in a development shall contain airtight rubber seals to provide acoustic protection.

1.2 A proposed development shall also demonstrate compliance with the following design measures, in regards to windows and glazed doors:



- Sliding windows shall be substituted with awning windows as they are able to achieve a positive compression seal; and
- Standard 6mm glass shall be substituted with sealed thickened laminated glass (no less than 10mm); or
- Standard 6mm glass shall be substituted with acoustic double glazing incorporating a 12mm thick pane of laminated glass set in a sealed metal frame with a 100mm air gap to the other pane of glass.

2. EXTERNAL WALLS

2.1 A proposed development shall demonstrate compliance with the following design measure, in regards to external walls:

- The external walls achieve a sound rating of R_w 45 dB or greater.

3. FLOORS AND CEILINGS

3.1 A proposed development shall demonstrate compliance with the following design measures, in regards to floors and ceilings:

- A 150mm thick concrete slab with either carpet or acoustically installed timber flooring or tiles; or
- Installing high density insulation batts into the cavity of a lightweight, suspended and floating ceilings or floors to absorb sound; or
- Building components are isolated using resilient compounds such as rubber, neoprene or silicone for the purpose of reducing the transfer of noise.

2.4 City of Fremantle – Local Planning Policy 2.3

City of Fremantle Local planning policy 2.3 indicates the proposed project site is within the Buffer Area 2 of the Fremantle Port Buffer area. As per the buffer area guidelines following considerations are to be made as part of the design.

Potential Risk and Amenity Considerations

The potential impacts in Area 2 are not as great as in Area 1. Nevertheless, consideration is given to the following potential impacts:

- c) Noise transmission emanating from the Port (attenuation in the order of 30dB(A) is required),

Built Form Requirements

The following built form requirements shall apply to the following categories of development:

- a) All residential development other than alterations and additions to existing dwellings.
- b) All non-residential development other than refurbishment / renovations (not involving a nett increase in floor area) to existing buildings and non-residential change of use proposals.

Within Area 2, buildings shall be designed so as to incorporate all of the design and construction features outlined as follows:

Windows and openings

- a) Any glass used for windows or other openings shall be laminated safety glass of minimum thickness of 6 mm or "double glazed" utilising laminated or toughened safety glass of a minimum thickness of 3 mm.
- b) All safety glass shall be manufactured and installed to an appropriate Australian Standard.

2.5 Internal Noise Levels – AS2107:2016

The internal noise level criteria detailed in this section are based on the recommendations provided in the Australian / New Zealand Standard AS/NZS 2107:2016 'Acoustics – Recommended design sound levels and reverberation times for building interiors' (AS2107).

AS2107 provides recommended internal noise levels (defined as the equivalent continuous A-weighted sound pressure level — $L_{Aeq,t}$) for optimising the acoustic amenity in occupied spaces. The level of noise in an enclosed space typically consists of noise from building services and/or noise intrusion due to external sources (e.g. traffic).

The relevant internal noise level criteria and reverberation times have been outlined in Table 6.

Table 6: Recommended internal noise levels from AS2107

Type of occupancy/activity	Recommended design sound level, L_{eq} dB(A)	Recommended reverberation time (T) ,s
RESIDENTIAL BUILDINGS - Houses and apartments in Suburban areas or near minor roads —		
Sleeping areas (night-time)	30 – 35	-
Living areas	30 – 40	-
Work (study) areas	35 – 40	-
Apartment common areas (e.g. foyer, lift lobby)	45 – 50	See note 1
Enclosed Carpark	< 65	-
Open Plan Office	40 – 45	0.4 (See Note 1)
General Office Areas	40 – 45	0.4 to 0.6

1) Reverberation time should be minimised as far as practicable for noise control.

The internal noise level criteria in AS2107 refer to the continuous equivalent (L_{Aeq}) levels for background noise. This document is a common reference for establishing satisfactory goals for quasi-static mechanical and external traffic noise ingress.

2.6 Sound Transmissions and Insulation — National Construction Code 2022

The acoustic requirements for inter-tenancy walls, floors etc. in residential buildings are outlined in the National Construction Code 2022 Volume 1, Building Code of Australia Class 2, 3 and 9c Buildings (NCC 2022). The acoustic requirements outlined in NCC 2022 are summarised in Table 7.

Table 7: Sound insulation requirements in accordance with NCC 2022

Construction	Condition	Deemed-to-Satisfy Requirements	Verification Requirements
Walls	<u>Airborne Sound Insulation</u>		
	Between sole-occupancy units	Minimum $R_w + C_{tr}$ 50	Minimum $D_{nT,w} + C_{tr}$ 45
	Between a sole-occupancy unit and a plant room, lift shaft, stairway corridor, public corridor or the like	Minimum R_w 50	Minimum $D_{nT,w}$ 45



Construction	Condition	Deemed-to-Satisfy Requirements	Verification Requirements
	<u>Impact Sound Insulation</u>		
	Between a laundry, kitchen, bathroom or sanitary compartment in a sole-occupancy unit, and a habitable room in an adjoining unit	Discontinuous construction ¹⁾	As deemed to satisfy
	Between a sole-occupancy unit and a plant room or lift shaft	Discontinuous construction ¹⁾	As deemed to satisfy
Floors	<u>Airborne Sound Insulation</u>		
	Between sole-occupancy units and between sole occupancy unit and lift shaft, stairway or public corridor	Minimum $R_w + C_{tr}$ 50	Minimum $D_{nT,w} + C_{tr}$ 45
	<u>Impact Sound Insulation</u>		
	Between sole-occupancy units and between sole occupancy unit and lift shaft, stairway or public corridor	Maximum $L_{n,w}$ 62	Maximum $L_{nT,w}$ 62
Services	<u>Airborne Sound Insulation</u>		
	Between a habitable room (other than a kitchen) in a sole-occupancy unit and a duct, soil, waste or water supply pipe duct (if the duct or pipe is located in a wall or floor cavity and serves or passes through more than one sole-occupancy unit)	Minimum $R_w + C_{tr}$ 40	N/A
	Between a kitchen or non-habitable room in a sole-occupancy unit and a duct, soil, waste or water supply pipe duct (if the duct or pipe is located in a wall or floor cavity and serves or passes through more than one sole-occupancy unit)	Minimum $R_w + C_{tr}$ 25	N/A
	If a storm water pipe passes through a sole-occupancy unit (habitable room other than kitchen)	Minimum $R_w + C_{tr}$ 40	N/A
	If a storm water pipe passes through a sole-occupancy unit (kitchen or non-habitable room)	Minimum $R_w + C_{tr}$ 25	N/A

1) For the purposes of this Part, "discontinuous construction" means a wall having a minimum 20 mm cavity between two separate leaves.

2.7 Green Building Council of Australia (GBCA) Green Star Buildings

The project is targeting a 4-star Green Star equivalency (non-formal) based on the Green Star Buildings – Version 1 Revision B dated 10 December 2021.

As part of the Minimum Expectations of the guidelines, an Acoustic Comfort Strategy will need to be prepared during the design stages.

The Sustainability Consultant is to advise if Acoustic credit points are being targeted.



3. Noise Survey

3.1 Overview

Typically, the two main sources of noise considered in noise intrusion assessments are transportation (i.e. road, rail or aircraft noise) and mechanical services noise from within the same or adjoining developments.

Attended short-term noise measurements were undertaken at the project site to ascertain the typical noise levels at the proposed development. This section provides discussion of the measurement methodology and summary of measured noise levels.



Figure 3: Attended Measurement Location

3.2 Measurement Methodology

3.2.1 Equipment Details

Measurements have been conducted using instrumentation equivalent to an integrating sound level meter equipped with one octave and one-third octave band filters, and an omni-directional condenser microphone. All instrumentation meets Type 1 specifications as per ANSI S1.4 and ANSI S1.43.

All sound level meters were calibrated by an authorised NATA (National Association of Testing Authorities) laboratory less than 2 years ago and have successfully passed all IEC 61672- 2019, IEC 61260-2019, DIN 45657-2005, and ISO/IEC 17025-2018 standards and specifications.

The time constant for the RMS detector were set to a slow response (1 sec) for all measurements. The sound level meter was calibrated before and after each measurement session using a Type 1 acoustic calibrator. The calibrator was also calibrated less than 2 years ago and is in compliance with AS IEC 60942-2004.

A complete schedule of equipment used during for acoustic measurements is provided in Table 8. A copy of calibration certificates for the relevant instrumentation may be provided upon request.

Table 8: Equipment and calibration details

Manufacturer / Model	Serial Number
Brüel & Kjær 4231 – Calibrator	3005155
Brüel & Kjær 2250 – Sound Level Meter	3002096

3.3 Noise Survey Results

Local traffic was observed at approximately 65 dB(A) for individual car passing events.

The Fremantle passenger railway station is located 150m from the project site. Being at the end of the line, no trains were observed moving further towards the project site. In the daytime passenger trains leaving the station 150m away were generally inaudible over local traffic.

Based on the *SPP 5.4 Implementation Guidelines Table 2 Noise Exposure Forecast*, the expected passenger train noise level at the site, including 20-year future growth, is 51 dB(A). As this is significantly lower than freight train and local traffic noise, assessment of the Fremantle passenger rail line is excluded.

While the test engineer was on site, no freight train activity occurred. Stantec have instead benchmarked the noise modelling results against measurements of similar freight trains previously recorded.

4. Noise Intrusion Assessment

4.1 Assessment Methodology

The noise environment surrounding the proposed development was assessed using Sound PLAN v8.2 to determine the predicted noise effects on the receivers within the development. The noise assessment takes into consideration the current and future freight rail volumes that the receivers will be exposed to. The results from the assessment were then used to determine the noise intrusion into apartments.

Noise levels for the proposed redevelopment were modelled at a distance of 1 m from the building façade at 1.4m above each floor level. Receiver noise levels predicted at the building façade also include a +2.5 dB façade correction as per the SPP 5.4 requirements. The relevant sections of the SPP5.4 Noise Modelling Checklist has been complied with and provided in Appendix C.

For the Commercial Tenancies, Open Plan Office / General Office Areas are targeted. Placement of enclosed rooms against the façade may not meet the same internal noise criteria.

4.1.1 Noise Modelling Inputs

Topography and Ground Condition

Terrain contours were sourced from *Geoscience Australia, Digital Elevation Model (DEM) 5 Metre Grid of Australia derived from LiDAR, 2015*.

To suit the current conditions of the project location, a ground condition of 0 has generally been used in the model, which is a reflective ground condition. Vegetated areas east of the project site were modelled as 0.6, between hard (0) and soft (1) ground condition.

Freight Rail Traffic

The freight rail noise assessment has been conducted based on the methodology described by the Nordic Noise Prediction Method (NORD2000:2006).

This algorithm considers the following parameters:

- Volume of rail traffic, 16hr day and 8hr night, in line with SPP 5.4 requirements;
- Length and speed of trains;
- Source Sound Power Levels for diesel freight locomotives and goods carriages in 1/3 Octave centre frequency bands from 25 Hz to 10 kHz;
- Height of each individual noise source (wheels, rail and exhaust);
- Weather conditions (down-wind 3m/s was used for worst-case propagation).

Freight rail noise source heights were incorporated into the noise model in accordance to the description detailed by NORD2000. The modelled heights of vehicle “strings” are provided below:

- Wheels/rail at 0.01m above rail
- Wheels/rail at 0.35m above rail
- Wheel/rail at 0.7m above rail
- Engine/exhaust at 2.5m above rail

The predicted average daily traffic volumes for 2023 were obtained from the Fremantle Ports website (accessed 12 June 2023) <https://www.fremantleports.com.au/landside/rail>, which states that 6-7 freight trains per day transit Fremantle Harbour, being up to 700m long.



The SPP 5.4 Implementation Guidelines state that “for the purpose of assessing freight trains only, day and night noise levels must be assessed on the basis of each period having a minimum of one train per hour or the actual number of train movements per day, whichever is the higher.”

As a worst-case assumption and as per the requirements of SPP 5.4, 1 freight train per hour (24 per day) has been used in the assessment.

As the SPP 5.4 *Implementation Guidelines Noise Exposure Forecast Table 2* indicate that freight rail noise at 50m is 11 dB higher than passenger rail noise at 150m, assessment of the passenger rail has been excluded.

4.2 Noise Modelling Results

The results of the SoundPLAN noise model show that the noise levels are the highest for the for future rail scenario (2043) at the façade.

The highest predicted noise levels are consistent with the *SPP 5.4 Implementation Guidelines Noise Exposure Forecast Table 2*:

- 62 dB(A) along Phillimore St during freight train passes.

Refer to Appendix B for detailed façade noise maps which show the varying noise levels across the façade of the development.

As it would not be reasonable and practical to design the building to achieve compliance to the outdoor noise levels at each balcony (including those facing the rail line), internal noise levels have been targeted for the residential elements. There is no outdoor common area. Details of recommended façade configurations have been provided in the sections below.

4.3 External Envelope

Noise intrusion calculations were undertaken following the methodology described in British Standard BS EN 12354:2000 and by utilising the worst case (i.e. highest predicted) noise levels predicted at each façade to determine suitable glazing to achieve the required internal noise levels. Appropriate corrections were applied to the linear spectral noise levels to compensate for potential losses due to flanking paths and façade correction.

4.3.1 External Walls

The noise intrusion has been calculated for all façade elements, which is relative to their surface area.

It is noted in the latest architectural drawings that the majority of apartment façades will be comprised of glazed elements.

Stantec recommends solid wall elements have a minimum performance of $R_w 50$. It is assumed that this will be achieved by the existing double-brick walls.

Where lightweight construction is proposed, this will result in reduced acoustic performance specifically in the lower frequencies.

The following construction detailed in Table 9 is recommended if lightweight walls are to be used, to ensure compliance with the recommended internal noise levels for residential units.

Table 9: Façade wall element configuration

Configuration	Wall Performance
	R_w
One row of 92mm studs (0.55BMT) at 600mm centres with –	50



Configuration	Wall Performance
<ul style="list-style-type: none"> Min. 90mm thick glass wool insulation (min. density 14kg/m³) positioned between row of studs; One layer 9mm thick fibre cement sheet (min. surface mass 14kg/m²) to outside face; and Two (2) layers 13mm thick standard plasterboard (min. surface mass 8.4kg/m²) fixed to the other side of the row of studs. 	R _w

4.3.2 Glazing

Glazing systems and entryway elements typically provide lower airborne sound insulation performance than external walls, forming weak acoustic links in the building envelope.

To satisfy internal noise level design targets, glazed elements located at the façades are determined based on the composite sound reduction index (i.e. the combined sound insulation performance of all façade elements relative to their surface area).

Glazing types for each noise sensitive space located at each façade of the proposed development have been comparatively assessed against the noise levels detailed in this report. The table below provides the glazing performance and proposed locations required to satisfy internal noise level design targets.

The performance ratings outlined in Table 10 are required for compliance to internal noise level design targets and apply to the glazing system as a whole (i.e. frame, seals and window hardware), with a maximum allowable deviation of 2-3dB only.

Table 10: Façade Glazing Configuration

Location	Glazing Configuration	R _w	Spectrum Sound Transmission Loss (dB)						
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
Apartment A Bedrooms – Phillimore St	6 /12/ 12.38mm laminated glass	42	25	26	27	39	44	48	53
Apartment A Bedroom – Pakenham St; and Living Areas	6 /12/ 6.38mm laminated glass	38	22	24	24	35	43	44	49
Apartments B,C,D Living Areas & Bedrooms	6 /12/ 6mm glass ¹	36	25	27	28	32	38	38	43
Commercial Tenancies (New glazing)	6mm glass ¹	31	15	19	23	28	32	30	35

Note:



1. The nominated glass is required to be a 'toughened safety glass' as per the requirements City of Fremantle Local Planning Policy 2.3. where this is not possible the glass needs to be changed to a laminated glass.
2. Glazing performance provided for glass only. Overall performance of the glazing system including the frames and seals shall not degrade by more than 3 dB as per the performance requirement stated.

4.3.3 Roof Construction

Whilst it is not a mandatory requirement of the NCC, rain noise intrusion shall be considered with a view of ensuring an adequate level of amenity for occupants.

Additionally, roof construction should be adequately designed to control external noise intrusion from noise sources identified in this report, to satisfactorily provide internal noise levels which are compliant with the criteria established in section 2.5. The following construction is adequate to fulfil the requirements:

- One layer of Colorbond sheet metal or similar (0.42 mm);
- 75 mm thick high-density Anti-con insulation hard fixed to the underside of roof and over steel purlins;
- Suspended light weight steel framing system; and
- Min. 50 mm thick glass wool insulation (min. 14kg/m³) one layer of 13 mm standard plasterboard.

4.4 Separating Floors

Lightweight floors (likely to be timber structure) are proposed for the development. The apartments are required to achieve the NCC 2022 airborne sound insulation and impact sound isolation criteria stated in Section 2.6.

The proposed system is Builditeco Supafloor with a fire-rated ceiling.

The following configurations per Table 11 are recommended to the apartment floors (~420mm deep spatial allowance):

Table 11: Floor Constructions – NCC Requirements and Recommendations

Location	Floor Configuration
Ground Floor (Tenancy over Basement)	<ul style="list-style-type: none"> • 20mm floor covering per Architect's detail, allow for 5mm thick acoustic underlay including in wet areas; • 53mm Supafloor (surface mass 19kg/m²);
First Floor (Tenancy over Tenancy)	<ul style="list-style-type: none"> - 10mm High Strength Supaboard; - 37mm EPS core; - 6mm Supaboard;
Second Floor (Apartment over Tenancy) – NCC Requirement	<ul style="list-style-type: none"> • 250mm deep timber joist; <ul style="list-style-type: none"> - 100mm thick glass wool insulation (density 14kg/m³) within the ceiling cavity; • 70mm suspended ceiling on resilient mounts to underside of joists; • 2 layers of 16mm fire-rated plasterboard ceiling (surface mass 12.5 kg/m² per layer).



Third Floor
(within double-storey Apartment)

As above, ceiling can be a single layer of 16mm fire-rated plasterboard.



5. Noise Emissions

The proposed development is expected to incorporate the following noise sources:

- Mechanical services;
 - Rooftop Plant Deck (air conditioning condenser units);
 - FCU's, condensers and fans serving the residential development and commercial tenancies.

The identified noise sources above are required to comply with the WA Environmental Protection (Noise) Regulations 1997 at the nearest noise sensitive receivers.

5.1 Mechanical Plant

Information from the architect indicates that the rooftop plant deck serving the development is proposed to incorporate conventional air conditioning condenser units with screens/louvres enclosing the plant as required.

When the full mechanical equipment schedule has been provided a detailed noise assessment will be conducted prior to the issue of Building Permit. Specific acoustic treatments will be provided to achieve compliance to the relevant EPNR assigned noise levels at nearest noise sensitive receivers.

5.2 Waste Collection

Under the EPNR Regulation 14A, the assigned noise levels of Regulation 7 do not apply to waste collection (both domestic and commercial sources), provided:

- The works are carried out in the quietest reasonable and practicable manner;
- The equipment used to carry out the works is the quietest reasonable available; and
- In the case where a noise management plan is required (e.g. works are to occur outside of 0700 – 1900 hours Monday through Saturday or 0900 – 1900 hours Sundays and public holidays), the plan is submitted and approved, with works carried out according to the plan.

Generally, local councils cannot confirm collection times for residential waste collections, however they endeavour to conduct waste collection during the hours 0700 – 1900 hr Monday to Saturday in accordance with the WA Department of Environmental Regulation's Draft Guide to Management of Noise from Waste Collection and Other Works (December 2014).

6. Conclusion

Stantec have been engaged to conduct an acoustic assessment and prepare an acoustic report in support of the development application for a mixed-use development proposed for 49 Phillimore Street, Fremantle.

This acoustic report has been prepared for submission to City of Fremantle and demonstrates that the project is taking into consideration all acoustic aspects pertinent to the project. Recommendations are provided in this report to address and mitigate any acoustic issues identified.

Rail noise assessment has been carried out and the minimum recommended external façade construction has been provided in the form of glazing, roof and wall configurations. The predicted noise levels at the building façades were obtained through the use of the 3D noise modelling software Package, SoundPLAN v8.2. Attended noise monitoring was conducted in order to obtain the ambient noise levels at the project site.

When the full mechanical equipment schedule has been provided a detailed noise assessment will be conducted prior to the issue of Building Permit. Specific acoustic treatments will be provided to achieve compliance to the relevant EPNR assigned noise levels at nearest noise sensitive receivers.



Appendices

Appendix A Glossary of Acoustic Terms

NOISE	
Acceptable Noise Level:	The acceptable LAeq noise level from industrial sources, recommended by the EPA (Table 2.1, INP). Note that this noise level refers to all industrial sources at the receiver location, and not only noise due to a specific project under consideration.
Adverse Weather:	Weather conditions that affect noise (wind and temperature inversions) that occur at a particular site for a significant period of time. The previous conditions are for wind occurring more than 30% of the time in any assessment period in any season and/or for temperature inversions occurring more than 30% of the nights in winter).
Acoustic Barrier:	Solid walls or partitions, solid fences, earth mounds, earth berms, buildings, etc. used to reduce noise.
Ambient Noise:	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Assessment Period:	The period in a day over which assessments are made.
Assessment Location	The position at which noise measurements are undertaken or estimated.
Background Noise:	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L90 noise level.
Decibel [dB]:	The units of sound pressure level.
dB(A):	A-weighted decibels. Noise measured using the A filter.
Extraneous Noise:	Noise resulting from activities that are not typical of the area. Atypical activities include construction, and traffic generated by holidays period and by special events such as concert or sporting events. Normal daily traffic is not considered to be extraneous.
Free Field:	An environment in which there are no acoustic reflective surfaces. Free field noise measurements are carried out outdoors at least 3.5m from any acoustic reflecting structures other than the ground
Frequency:	Frequency is synonymous to pitch. Frequency or pitch can be measured on a scale in units of Hertz (Hz).
Impulsive Noise:	Noise having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
Intermittent Noise:	Level that drops to the background noise level several times during the period of observation.
LAmx	The maximum A-weighted sound pressure level measured over a period.
LAmn	The minimum A-weighted sound pressure level measured over a period.
LA1	The A-weighted sound pressure level that is exceeded for 1% of the time for which the sound is measured.
LA10	The A-weighted sound pressure level that is exceeded for 10% of the time for which the sound is measured.
LA90	The A-weighted level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
LAeq	The A-weighted "equivalent noise level" is the summation of noise events and integrated over a selected period of time.

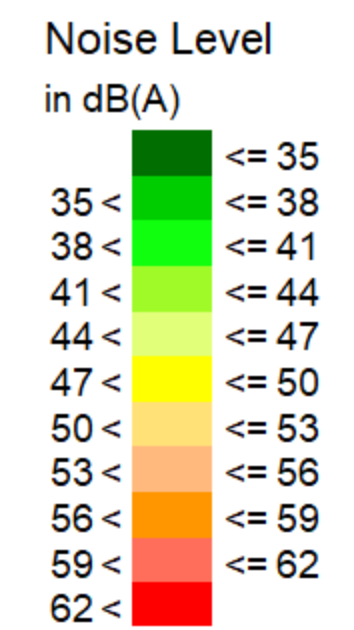
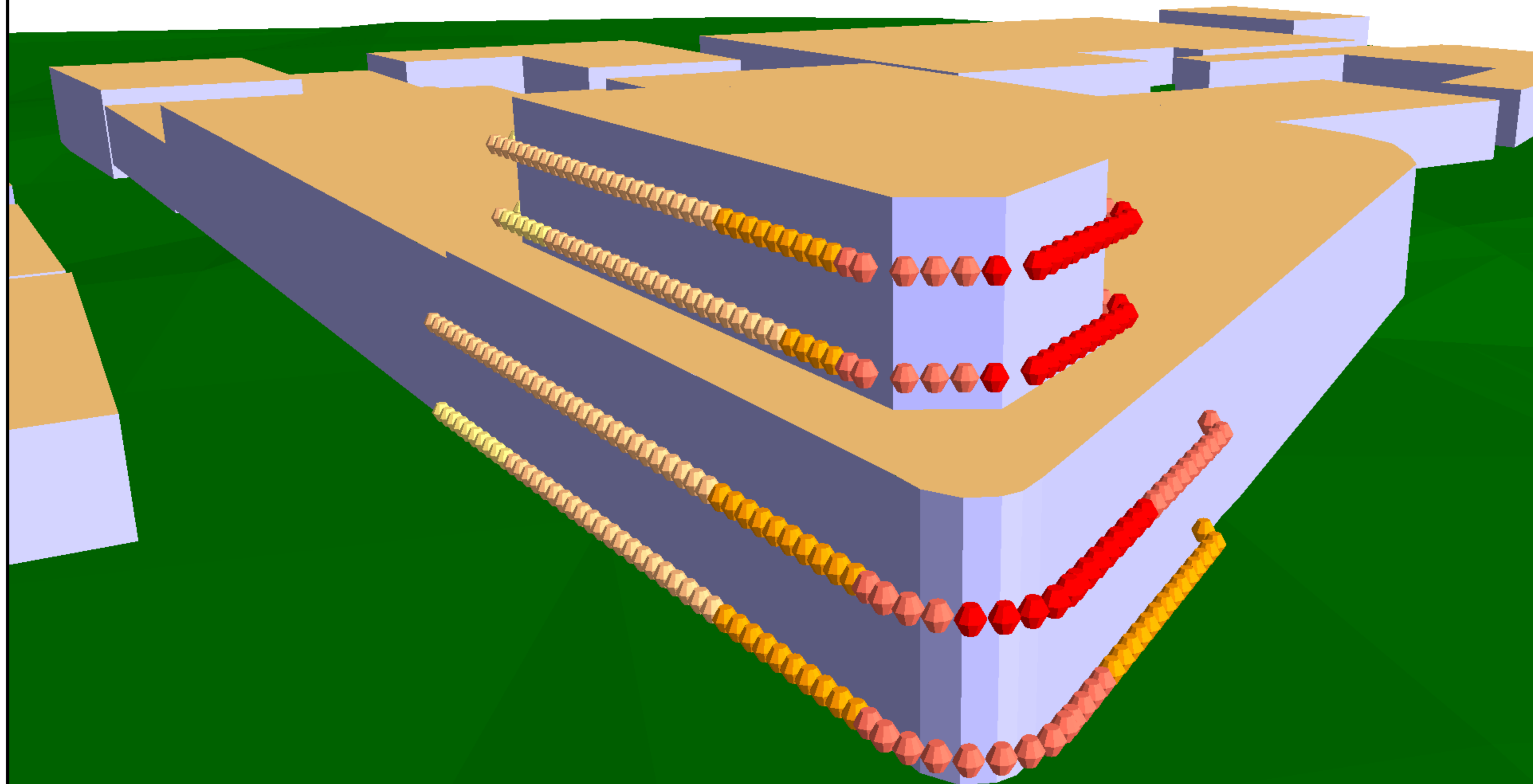
LAeqT	The constant A-weighted sound which has the same energy as the fluctuating sound of the traffic, averaged over time T.
Reflection:	Sound wave changed in direction of propagation due to a solid object met on its path.
R-w:	The Sound Insulation Rating R-w is a measure of the noise reduction performance of the partition.
SEL:	Sound Exposure Level is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound Absorption:	The ability of a material to absorb sound energy through its conversion into thermal energy.
Sound Level Meter:	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound Pressure Level:	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
Sound Power Level:	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
Tonal noise:	Containing a prominent frequency and characterised by a definite pitch.

Appendix B Noise Contours



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BEM

DA - FREIGHT RAIL
FACADE NOISE MAP,
FUTURE SCENARIO



Appendix C SPP 5.4 Noise Modelling Checklist

Checklist item		Action
Noise prediction corrections		
Train noise emissions	Has the assessment described how the following have been calibrated in the rail noise calculations?	
	The various train classes in use on the rail line	Freight
	Train speed	max. 80 km/h
	Train length	max. 700m
Track features	Based on the localised track features have the following noise emission corrections been appropriately considered?	
	Mechanical/uneven joints	+3 dB
	Curve radius less than 600 m	+3 dB
	Turnout	+6 dB
	Curve radius less than 300 m	+8 dB
	Diamond crossing	+10 dB
	If appropriate has the assessment described how other noise sources such as bridges, brake noise, car bunching, blowers and air compressors been accounted for?	NA
Receptor façade	Has a +2.5 dB building façade correction been applied?	Y
Checklist item		Action
Rail traffic input data		
Rail line name	[insert rail line name]	Fremantle Inner Harbour - Freight
	16-hr daytime passenger rail movements	NA
	16-hr daytime freight rail movements	16
	8-hr daytime passenger rail movements	NA
	8-hr daytime freight rail movements	8
Rail traffic heights	Have the rail noise sources been modelled at the appropriate heights?	Y
Rail line speed	What is the modelled rail traffic speed?	80 km/h
Accuracy / calibration	How does the proposal account for variation in actual noise levels from that predicted?	Noise model has been benchmarked against Stantec measurements of freight rail in Perth
Rail noise barriers		
Noise barriers	Have noise barriers been modelled as being fully reflective?	NA
	If noise barriers have not been modelled as being fully reflective, have absorptive barrier designs been considered?	NA
Environmental inputs		
Receivers	Were receiver heights modelled at 1.4 m above floor level?	Y
	Have noise levels been predicted at the most affected façade/s?	Y
Rail noise predictions		
Predicted noise levels	Have noise levels been predicted at all floors of the development?	Y
	Have the noise predictions considered the 20-year planning horizon?	Y

DAP007/23

6 Oct 2023

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APPENDIX C

TRAFFIC ASSESSMENT

Document Number 81113-851-FLYT-TEN-0002

Project 49 Phillimore Street – Basement Car Park and Ramp Assessment

Date Issued 5/10/2023

Flyt have undertaken an assessment of the basement and ground floor drawings, with particular emphasis on the entry crossover, ramp, and general compliance of the car park with AS 2890.1 Off-street car parking.

Entry Crossover

To ensure vehicles exiting from a crossover have adequate visibility of pedestrians or other footpath users, AS 2890.1 requires a sightline of 2m wide x 2.5m long in advance of the property line. SPP 7.3 R Codes Vol 2 - Apartments requires a 1.5m x 1.5m truncation for residential vehicle access.

No sight triangles are possible at the property boundary.

The onus should be on drivers of vehicles entering and exiting the development crossover to drive cautiously, be alert for, and give way to, any footpath user. It is recommended that a 'look out for pedestrians' text and symbol pavement marking be installed on the ramp in advance of the property line, similar to what the City of Vincent use for the shared path along the northern side of Vincent St, as illustrated in Figure 1. In this case the symbol is proposed inside the property and not on the path. Instead of the bike logo a pedestrian symbol can be used, and either white or yellow paint can be used, as long as there is a visual contrast to the ramp surface. The green paint in Figure 1 is used to make the message stand out more against the brickwork.



Figure 1 Potential crossover treatments

In addition to the ramp pavement marking, ceiling mounted signage could also be installed, subject to there being adequate overhead clearance.

Ramp Slope and Transitions

The ramp gradient at 1:5 with 2m transition lengths at 1:10 is compliant with AS2890.1.

The exact overhead clearance at the sag transition at the bottom of the ramp should be checked given the transition length is less than the wheelbase of a B85 or B99 design vehicle. This causes the vehicle to sit higher, as shown in Figure 2.

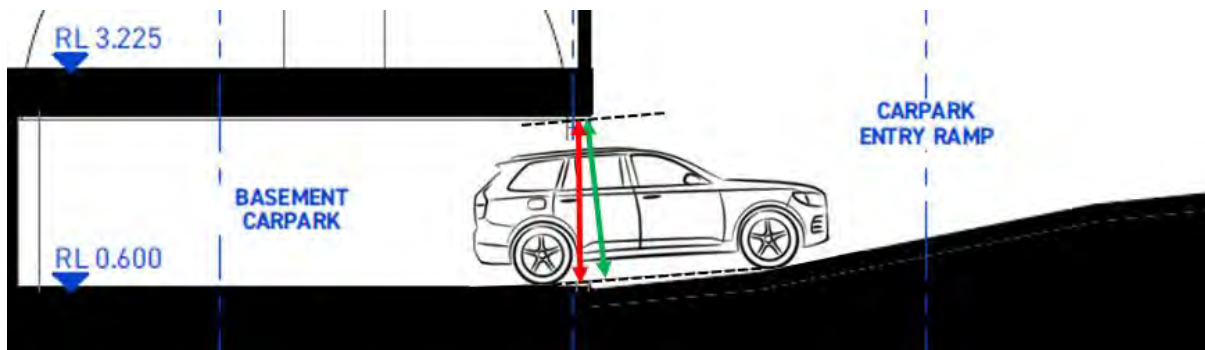


Figure 2 Measurement of overhead clearance at sag ramp transition

One-way Control Measures

The ramp's restricted width means it can only be used in one direction of travel at a time. The nature of the control measure for the ramp will depend on the volume of traffic predicted to use the ramp.

The WAPC's Transport Impact Assessment Guidelines Volume 5 – Technical Guidance suggest peak hour trip rates for residential land uses. The residential trip rates are based on the Perth and Regions Travel Surveys (PARTS) data averaged over the range of dwelling types. The recommended rate for residential land use is 0.8 vehicle trips per dwelling for the AM and PM peak hours. These rates are considered high, given they represent an average of the entire Metropolitan area and include a high proportion of detached dwellings rather than apartments.

Flyt have previously undertaken surveys of traffic to and from apartment developments within inner and middle suburbs for the Department of Lands Planning and Heritage (DLPH). Trips rates were calculated by the number of apartments and the number of parking bays. Peak hour vehicle trip rates ranged between 0.13 and 0.34 peak hour trips per dwelling, and 0.1 and 0.28 trips per car parking bay, as shown in Table 1.

Table 1 also lists the Walk Score and Transit Score for each development surveyed so that the walkability and public transport accessibility of each site can be compared to that of the proposed development. The surveyed sites have a Walk Score range of 57 - 96 (compared to 80 for the development site, so the development site has a similar level of walkability to the average of the surveyed sites) and a Transit Score

range of 53 - 99 (compared to 72 for the development site, so the development site has a similar level of public transport accessibility).

Table 1 Apartment peak hour trip rates from DLPH surveys

Development	Address	Inner/ Middle	Walk Score	Transit Score	No. Apartments	No. Car Bays	Peak Hr Trip Rate (per unit)	Peak Hr Trip Rate (per bay)
Eastgate	76 Newcastle Street, Perth	Inner	96	99	53	65	0.226	0.185
x 2	143 Adelaide Terrace, Perth	Inner	86	81	200	328	0.125	0.105
Depot	65 Brewer Street, Highgate	Inner	91	93	35	39	0.314	0.282
Lakeside	134 Mounts Bay Road, Perth	Inner	57	92	30	31	0.133	0.129
Abode	6 Campbell Street, West Perth	Inner	94	86	86	76	0.128	0.145
Rivershores	2 Doepel Street, North Fremantle	Middle	65	53	58	122	0.345	0.164
Average of all developments							0.212	0.168

With 4 apartments and 8 parking bays, the proposed development is forecast to generate between 0.85 and 1.34 trips in the peak hour. Given this very low level of traffic, the probability of two vehicles meeting while travelling along the ramp in opposite directions will also be very low.

Passive rather than active control is therefore considered to be appropriate for the ramp, with a convex mirror recommended to be installed in the southwest corner of the basement, as shown in Figure 3. The mirror should be positioned to be visible to drivers inside vehicles driving down the ramp and driving towards the ramp in the basement.

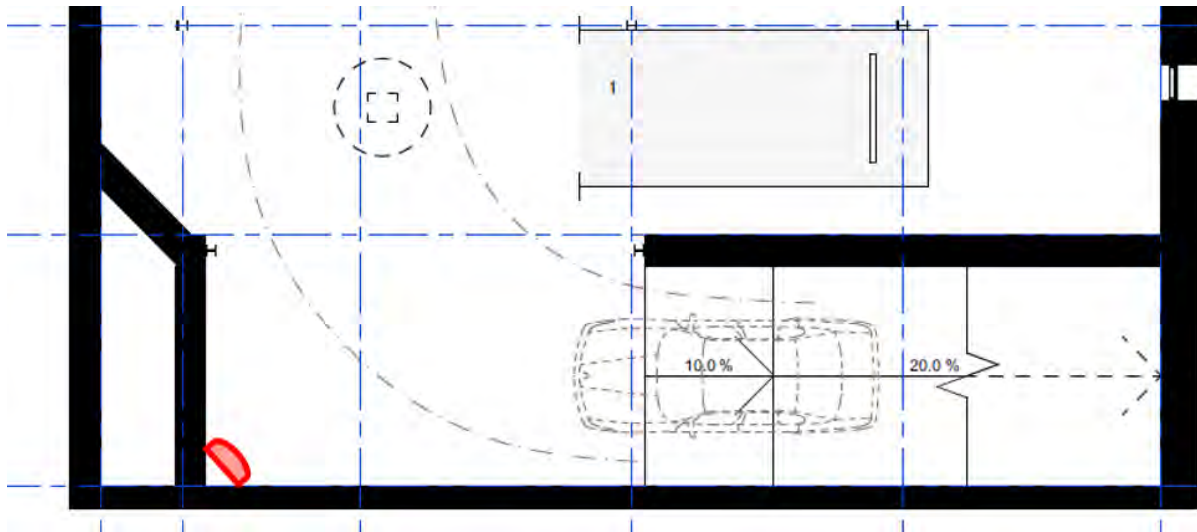


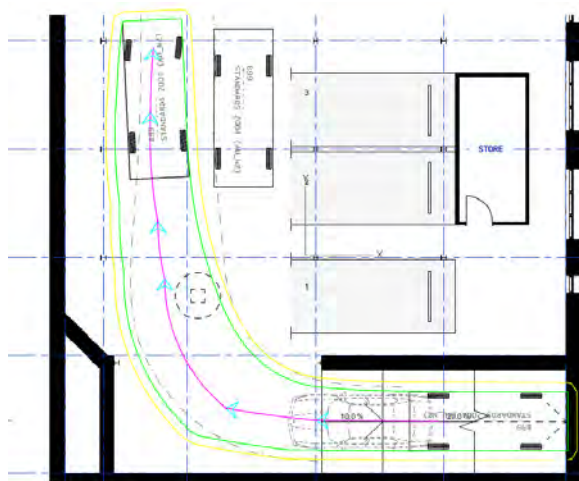
Figure 3 Proposed location of convex mirror

Vehicle Swept Paths

Swept paths have been checked for the movement between the car park and the ramp, and the reverse manoeuvre from Bay 8. Swept paths have been checked using a B99 design vehicle, which is the 99.8th percentile sized vehicle in the Australia passenger vehicle fleet, and a similar size to an Audi Q8.

The swept path for the movement between the ramp and the basement car park is shown in Figure 4. This demonstrates that the entire width of the ramp and aisle are required to complete the turn in either direction.

Enter Car Park from Ramp



Exit Car Park to Ramp

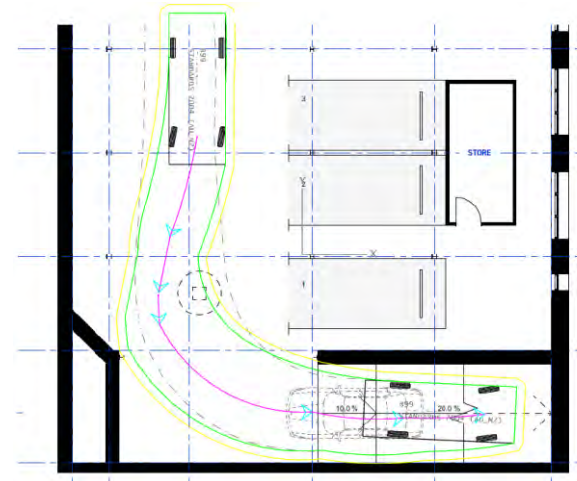


Figure 4 B99 Swept paths of car park entry and exit

Bay 8 has been assessed because it is the end bay along a blind aisle. To ensure there is sufficient reversing space for a vehicle parked in an end bay, AS2890.1 requires the aisle to extend for 1m beyond the edge of the end bay, and for the bay to be 300mm wider than it otherwise would be. The existing basement structure with

the currently proposed column grid does not allow a 1m extension for the full 6m aisle width, rather for 4.6m, as shown in Figure 5.

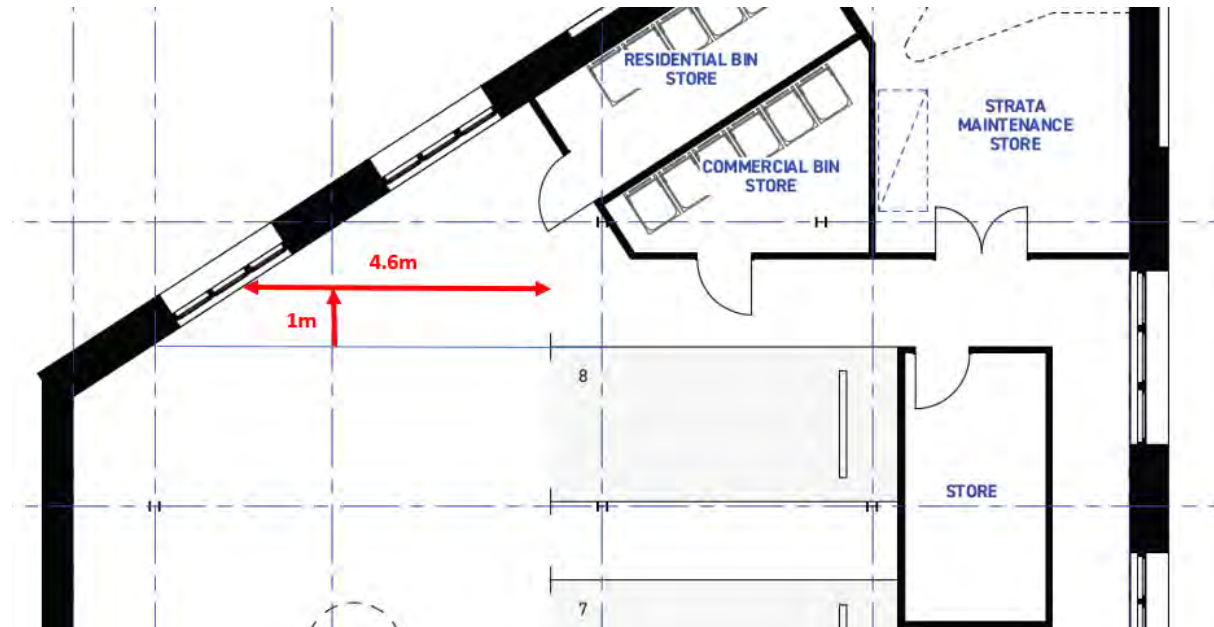
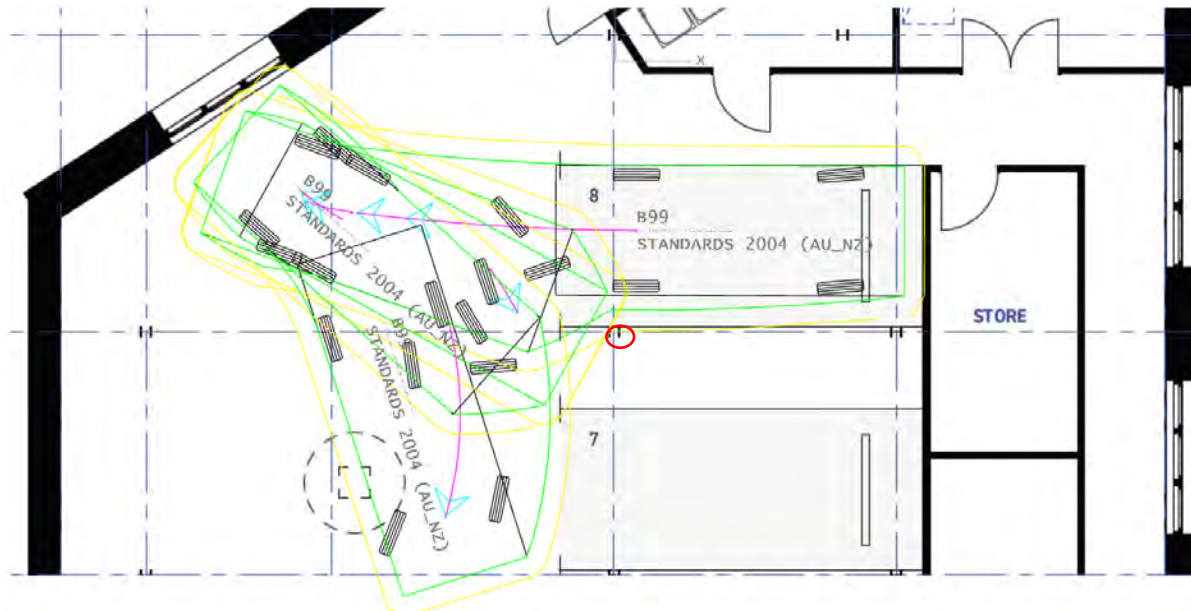


Figure 5 Extent of 1m aisle extension beyond edge line of bay 8

Two options for the swept path of the reversing manoeuvre are presented in Figure 6, both involving 4 point manoeuvres (reverse, forward, reverse and then drive towards the ramp). The first option has the reversing vehicle turn left once clear of the column circled in red, while the second option has the vehicle reverse straight out of the bay until it nears the wall.

While a 4 point manoeuvre may seem excessive, the parking bays have been designed as Class 1A bays, which as described in AS2890.1 Table 1.1 are for “residential, domestic and employee parking” and require “three-point turn entry and exit into 90° parking spaces”. Class 1A bays are not meant to be accessed in a single manoeuvre.

Reverse from Bay 8 at Blind Aisle – 4 point manoeuvre Option 1



Reverse from Bay 8 at Blind Aisle – 4 point manoeuvre Option 2

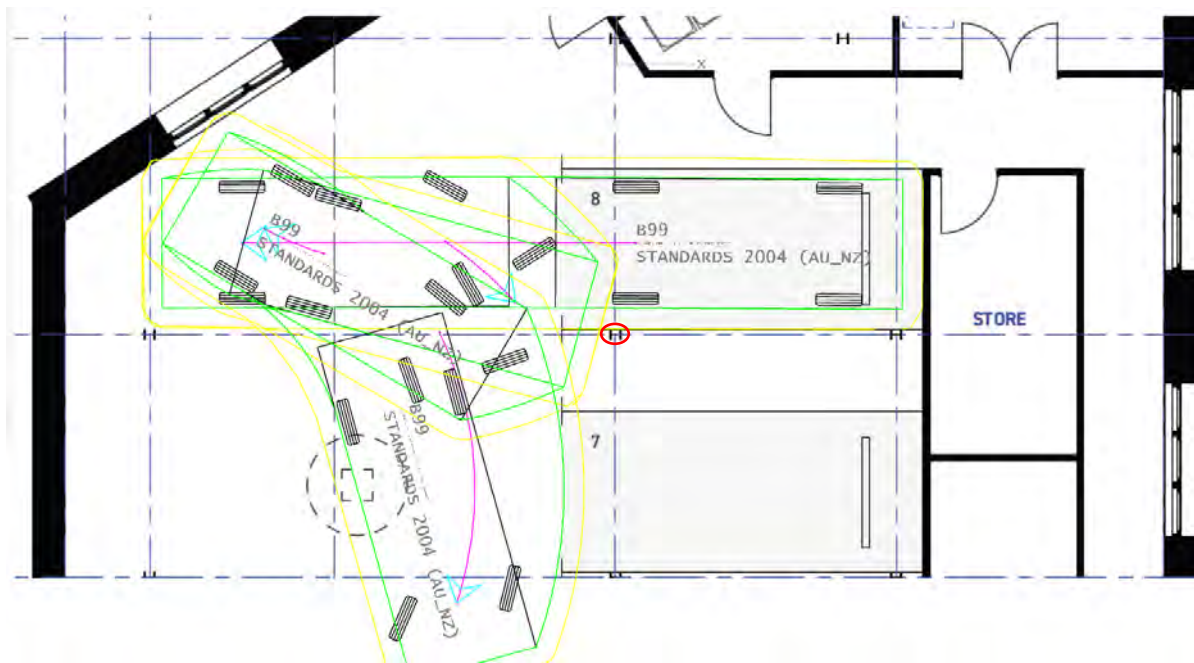


Figure 6 Swept paths of reverse manoeuvre from bay 8

While bay 8 does not comply with AS2890.1, it is a usable bay, as demonstrated by the swept paths in Figure 6.

Car Park Compliance

The bays are compliant with AS2890.1's requirements for Class 1A (minimum dimensions of 2.4m wide by 5.4m long with a 5.8m aisle). Areas of non-compliance include:

- Bay 8 as the end bay of a blind aisle requires a 1m aisle extension (Clause 2.4.1 (c)).

The 1m aisle extension is available for 4.6m of aisle width. The bay is usable as demonstrated by swept path analysis.

- The aisle is single sided and is required to have an additional 300mm width (Clause 2.4.1 (d)). With Class 1A bays the minimum aisle width is 5.8m, so an additional 300mm gives 6.1m. The architects have conformed a width of 6.1m is available to the columns.

The aisle width is compliant.

- Even as a one-way ramp, a minimum width of 3.6m is required (3m minimum width plus 300mm either side for clearance to the side walls as per Clause 2.5.2 (a)).

The swept paths demonstrate the ramp can work at its proposed width.

Waste Collection

The on-street waste collection could occur from Pakenham Street or Phillimore Street. Both areas identified have sufficient manoeuvring space to allow an 11m truck access the bay and then depart, with the swept paths shown in Figure 7. An 11m truck was selected as the design vehicle as it covers the entire range of waste collection vehicle sizes which typically range from 7.8m to 10.8m in length.

The area identified along Pakenham Street is currently on-street car parking, while the area on Phillimore Street is an existing loading zone. Rubbish would be collected on Tuesdays and the issue would be ensuring the on-street space was available for the rubbish truck to access the bins.



Figure 7 Swept paths of 11m truck into potential on-street rubbish collection areas

APPENDIX F SUSTAINABILITY ASSESSMENT

49 Phillimore Street

Sustainable Design Report

Spaceagency

Job No: 1039311
Doc Ref: 1039311-RPT-SY-001
Revision: B
Revision Date: 05 October 2023






Project title	49 Phillimore Street	Job Number
Report title	Sustainable Design Report	1039311

Document Revision History

Revision Ref	Issue Date	Purpose of issue / description of revision
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Signed by: Hill, Stefan	Signed by: Grimaldi, Oliver	Signed by: Grimaldi, Oliver

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Executive Summary

This report outlines the Ecological Sustainable Design (ESD) strategy for the proposed 49 Phillimore Street development. This development consists of refurbishing and upgrading 2 storeys of heritage office space as well as the construction of 4, 2-storey apartments above.


The development is to be located in the City of Fremantle, within the “Central Fremantle Heritage Area” and specifically within the “West End Heritage Area”, and hence must conform to the Local Planning Policy 2.13 (LPP 2.13) as well as relevant heritage area policy. This policy establishes sustainable building design requirements for all new developments within the City of Fremantle.

Table 1 below confirms that the proposed Phillimore Street development will respond to these requirements and outlines which sections of this report are relevant for each requirement.

The Sustainable Design Report has been undertaken by Cundall, who are qualified sustainability consultants, and outlines the pathway to achieving its sustainability goals.

Table 1 – LPP 2.13 requirements

Policy	Requirement fulfilled?	Section in this Report for further detail / comments
Policy 2.13 – Sustainable Buildings Design Requirements		
1. All development subject to this policy shall be designed and constructed in such a manner so as to demonstrate: <ul style="list-style-type: none"> a) A rating not less than 4 Star Green Star using the relevant Green Building Council of Australia Green Star rating tool, or its equivalent demonstrated through a report provided by a suitably qualified professional*. <p>* This may include a One Planet Living Action Plan that is certified by Bioregional Australia or a One Planet Living Integrator.</p>	✓	See Appendix A for the Green Star Equivalent Scorecard
2. Council may exercise discretion to waive or vary the requirements of the policy in the case where: <ul style="list-style-type: none"> a) Development involves refurbishment of a building included on the Heritage List or in a Heritage Area where, in the opinion of the Council, adherence to the requirements of clause 1 would detrimentally impact on the heritage values of the building or area; and/or b) No suitable sustainability rating tool has yet been developed for assessment of the type of development proposed but it demonstrates a higher than standard energy and water efficiency. 	N/A	
3. An application subject to this policy shall be accompanied by an outline of how the policy will be met.	✓	This report shows the various initiatives that will be implemented to achieve this policy's requirements.
4. Unless the Council waives any particular requirement, an application subject to this policy may be made subject to a condition of approval that: <ul style="list-style-type: none"> a) Prior to the issue of a building permit, the applicant/owner is to submit a copy of documentation from the Green Building Council of Australia or a suitably qualified professional stating how the development will achieve a Green Star rating of at least 4 Stars or equivalent, to the satisfaction of the City of Fremantle. and 	✓	The project intends to demonstrate 4-Star Green Star equivalent compliance with a suitably qualified professional.

Policy	Requirement fulfilled?	Section in this Report for further detail / comments
b) Prior to occupation, the applicant/owner is to submit a copy of documentation from the Green Building Council of Australia or a suitably qualified professional stating that the development as constructed achieves a Green Star rating of at least 4 Stars or equivalent, to the satisfaction of the City of Fremantle.		The project intends to demonstrate 4-Star Green Star equivalent compliance with a suitably qualified professional.

In addition to the requirements listed above, the building is also targeting a minimum 5.5-star NatHERS, average 7-star NatHERS rating for the residential components of the development and a 5-Star Energy under NABERS for Office for the office component of the development.

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1.0 Introduction

This report outlines the key Ecological Sustainable Design (ESD) initiatives for the proposed Phillimore Street development, to be located at 49 Phillimore Street, Fremantle.

The development will be located within the boundary of the City of Fremantle, approximately 16 km south-west of Perth's CBD. The proposed site area is approximately 500m from Bathers Beach and 200m from Fremantle Harbour at a central location within Fremantle. The Transperth Blue Cat route features a stop that is a less than a 1-minute walk from the location and is less than a 5-minute walk from Fremantle Train Station.

The proposed building is within the City of Fremantle and therefore must conform to the Local Planning Policy 2.13 (LPP 2.13). This policy establishes sustainable building design requirements within the city of Fremantle. A key part of this policy is the integration of sustainable strategies and design into all new buildings. Along with this, given that the development resides in the heritage West End Development Area, the Local Planning Policy (LPP3.21) must also be adhered to. Finally, the development is also to follow the City of Fremantle Local Planning Scheme No.4 for general development requirements.

The proposed plan includes two additional levels to the existing structure in the form of 4 residential apartments. The residential development seeks to maintain the heritage format of the ground and first floor office spaces, as well as introduce elevated outdoor space in the form of balconies and outdoor terrace space.



Figure 1 – Render image of the proposed development

1.1 City of Fremantle Local Planning Policy 2.13

The proposed building is within the City of Fremantle and therefore must conform to the Local Planning Policy 2.13 (LPP 2.13). This policy establishes sustainable building design requirements within the city of Fremantle. An extract of the policy is provided below:

1. *All development subject to this policy shall be designed and constructed in such a manner so as to demonstrate:*
 - b) *A rating not less than 4 Star Green Star using the relevant Green Building Council of Australia Green Star rating tool, or its equivalent demonstrated through a report provided by a suitability qualified professional*.*
** This may include a One Planet Living Action Plan that is certified by Bioregional Australia or a One Planet Living Integrator.*
2. *Council may exercise discretion to waive or vary the requirements of the policy in the case where:*
 - c) *Development involves refurbishment of a building included on the Heritage List or in a Heritage Area where, in the opinion of the Council, adherence to the requirements of clause 1 would detrimentally impact on the heritage values of the building or area; and/or*
 - d) *No suitable sustainability rating tool has yet been developed for assessment of the type of development proposed but it demonstrates a higher than standard energy and water efficiency.*
3. *An application subject to this policy shall be accompanied by an outline of how the policy will be met.*
4. *Unless the Council waives any particular requirement, an application subject to this policy may be made subject to a condition of approval that:*
 - c) *Prior to the issue of a building permit, the applicant/owner is to submit a copy of documentation from the Green Building Council of Australia or a suitably qualified professional stating how the development will achieve a Green Star rating of at least 4 Stars or equivalent, to the satisfaction of the City of Fremantle. and*
 - d) *Prior to occupation, the applicant/owner is to submit a copy of documentation from the Green Building Council of Australia or a suitably qualified professional stating that the development as constructed achieves a Green Star rating of at least 4 Stars or equivalent, to the satisfaction of the City of Fremantle.*

1.2 Sustainability targets

The development is being designed to fulfil the requirement in terms of sustainable design and the LPP 2.13. A number of initiatives are being incorporated into the development that comprise the overall strategy, and the development is targeting the following:

- Achieve a minimum equivalent standard of 4-Stars via the Green Star Buildings v1 rating tool.
- Targeting minimum 5.5-star NatHERS, average 7-star NatHERS rating for the residential components of the development.

This report has been developed in three key sections as noted below. Each section will focus on a key concern for the development and provide an insight as to how these items will be addressed throughout the design process.

- **Resource consumption** – this section of the report provides information into the methodologies to be investigated to ensure that energy, water and materials consumption is minimised throughout construction, operation and demolition.
- **Creating spaces for people** – this section of the report outlines how the internal and external spaces will be optimised for occupant health, wellbeing and comfort.
- **Codes and ratings** – describing how the building will comply with relevant voluntary and mandatory codes and rating schemes.

2.0 Resource consumption

Buildings consume considerable natural resources in their construction, operation and demolition. This section of the report will provide details about the potential impacts caused by the proposed building and how these impacts could be reduced when compared to typical buildings of this nature. The proposed building should aim to reduce the total embodied energy and carbon considered in the construction and aim to maximise the operational efficiency of the building's services to provide and enhance tenant provisions for the minimum amount of energy and water. Furthermore, methods for maintaining operational efficiency should be investigated to ensure that the benefits are maximised over the life of the building.

2.1 Energy reduction strategies

The construction industry is responsible for around 20% of Australia's carbon footprint. These emissions include embodied energy and water consumption that go into a building during construction as well as operational energy and water usage of a completed building, maintenance during the life span and the demolition at the end of a building's life. This section sets out possible strategies to reduce the building's energy demand and greenhouse gas emissions.

2.1.1 High performance glazing



A high-performance glazing to all facades should be implemented to provide good solar control to prevent summer heating while allowing useful passive solar heating in winter.

A low U-Value is also recommended as it would minimize the conductive loss or gain. These result in an improved energy rating of apartments as well as a reduced overall carbon footprint of the development.

2.1.2 Awnings and shade screens

All glazed openings, particularly to northern, eastern and western facades will be equipped with vertical screens/fins. The awnings and screens to living spaces and bedroom windows have been designed to provide decent levels of shading along the northern, eastern and western facades, while still allowing for enough transparency to enjoy views and maximise daylight access.

The shading on the eastern, western and northern façades are to help to reduce heat gains inside the apartments during the hot summer months minimising the need for air conditioning.

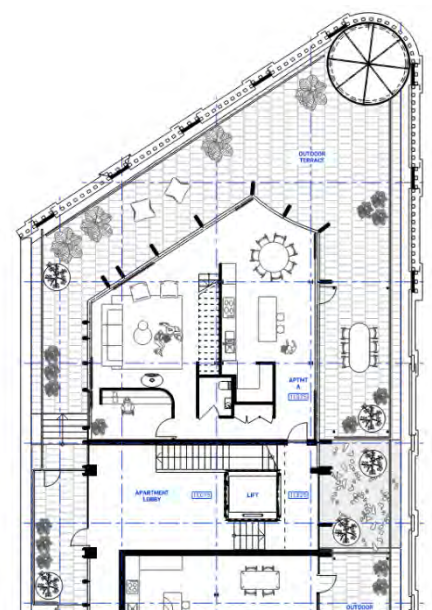


Figure 2 – Typical façade awnings and vertical screens

2.1.3 Natural ventilation

All living rooms and bedrooms of the apartments and townhouses contain glazing elements which may be operable, pending final glazing selection. These façade elements are intended to promote natural ventilation and allow for purging warm air at night.

When closed during the day, cool air can be stored within the apartment to reduce or eliminate the need for air conditioning.

Openings to all living spaces would also enable occupants to make use of the favourable outdoor conditions which prevail in Perth for 20% of the time, again reducing the need for mechanical heating or cooling during these times.

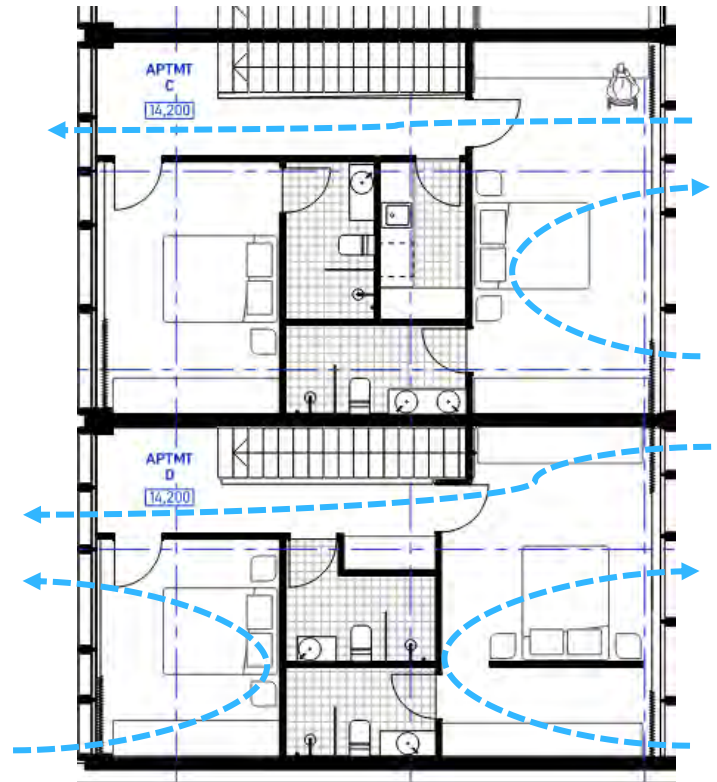


Figure 3 – Potential natural ventilation in a typical apartment

2.1.4 Light fittings

All light fittings are to be considered as LED (or similar low energy) fittings including lighting in the 'communal' corridors, stairwells, parking garage and external lighting. Additionally, downward facing fittings are to be included for the external landscaped areas as these reduce the negative effects of light pollution. All common area lighting is to incorporate light sensing such as occupancy sensing (PIRs) to reduce lighting consumption when lighting is not required.



2.2 Potable Water strategies

The water consumption of Western Australian households is the second highest in Australia with an average of 241,000 litres, well above the Australian average of 190,000 litres [1]. A reduction of water usage does not only alleviate pressure from the local water supply but also means reduced costs of living for households in WA.

The following measures to reduce water consumption should be considered in the Phillimore Street design development.

2.2.1 Sanitary fittings

Occupant consumption is a major contributor to potable water usage. The following water fixture WELS ratings are to be specified in the development design to ensure the efficient use of potable water by building occupants:

Table 2 – Target WELS ratings

Fixture / Equipment Type	WELS Rating
Taps	6 Star
Toilets	4 Star
Showers	3 Star
Clothes Washing Machine	5 Star
Dishwashers	6 Star

2.2.2 Irrigation

A major amount of potable water usage goes back to landscape irrigation. To reduce the amount of water used for the landscaped areas on the ground floor, first floor and apartment terraces the installation of a drip system with moisture sensor control is being considered for irrigation.



2.2.3 Fire systems

Where a fire sprinkler system is installed, water from the fire system testing procedures are to be re-used within the building to offset water consumption. The fire sprinkler system should be designed so that all test and drain down water is reduced and potentially captured (minimum 80%).

2.3 Transparent consumption

2.3.1 Water metering and leak detection

A system that both monitors and manages water consumption is to be incorporated. Water metering is to be provided to all major water uses within the building with connections to the provisions for smart metering ensuring immediate and effective monitoring of water consumption and leakages for simple rectification.

2.3.2 Smart metering

Provision of smart metering for the energy and water usage recording, tracking with user interface would be a novel feature to this type of development. This might be a web-based system that residents can log in to view their own apartment's energy consumption.

The software could also provide a snapshot view of how the building is performing and highlight apartments which are faring better than others for benchmarking. This would provide a means to inform the residents as well as engage them in a sustainable lifestyle.



2.4 Building materials and resource minimisation

In 2014-15 Australia produced the equivalent of 565kg per capita of municipal waste and 831kg of construction and demolition waste. While around 60% of this waste is recycled, a large part still goes to landfill [2]. A reduction of both construction and operational waste is therefore an important target of the development.

2.4.1 Construction and demolition waste



The design team is to actively target a reduced carbon footprint during construction and an in form of embodied energy within building materials. One of the core principles of the design is its repurposing of an existing heritage building, by utilising existing materials for a significant portion of the development. The team will also aim to specify at least 60% of the steel used for reinforcing bar and mesh having been produced using energy-reducing manufacturing methods. All timber used for construction works is to be either certified as responsibly sourced or recycled material.

Additionally, 'Designing out Waste' principles should be applied where possible. These principles are:

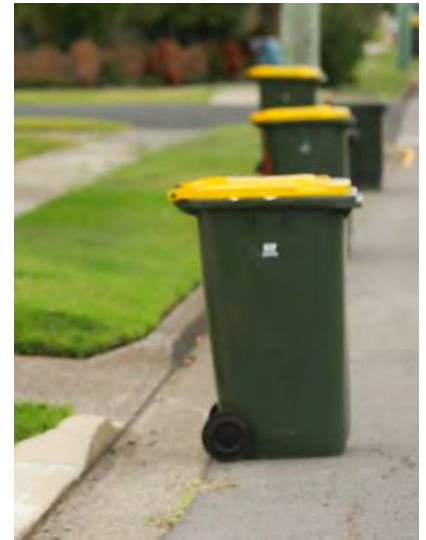
- Design for reuse and recovery
- Design for off-site construction
- Design for materials optimisation
- Design for waste efficient procurement; and
- Design for deconstruction and flexibility

2.4.2 Operational waste

A dedicated waste storage area will be provided for the separation and storage of recyclable waste during operation, allowing for the different waste streams to be separated to match the local recycling scheme.

Throughout project design, operation and construction, principles of resource recovery will be applied, so that materials and products are recovered and reused where possible, reducing landfill and saving money. Some strategies that will be investigated include:

- Waste separation and collection strategies to allow materials to be isolated for reuse;
- A purchasing policy which aims to minimise waste from products and packaging, encourage the use of products which have minimum environmental impact;
- Manufacturers and suppliers will be encouraged to take full responsibility for the life cycle impact of products including ownership at end of life.



2.5 Embodied carbon

While building operations such as the use of electricity or water generate greenhouse gases, carbon and carbon equivalent gases are also emitted through the production and delivery of products and materials for construction.

For example, to produce Portland cement, a main ingredient in concrete, raw materials are crushed and then heated to over 1400 degrees Celsius. This requires a significant amount of energy and emits large amounts of greenhouse gases during this production process. These gases are accounted as carbon equivalents in form of 'embodied carbon' in a building.

The following measures should be considered throughout the design development to reduce the amount of embodied carbon in the Phillimore Street development:

Sub-structure	Maximising recycled content of materials in structural components.
Super-Structure	Maximising recycled content in concrete and formwork. Use of lightweight and reusable materials where possible
Envelope	Adopting a low-carbon, lightweight approach; Considering the necessity of massing elements; Considering composite materials or dual function elements. Considering the use of recycled materials

Internal Walls	Considering the necessity of internal walls; Considering recycled content or reused materials; Considering low carbon steel framing. Designing for flexibility and future proofing to reduce renovation efforts
Internal Finishes	Considering setting a recycled content target for all finishes; Considering long life and highly durable finished is areas of high foot traffic; Considering Carbon Neutral certified products;

3.0 Creating spaces for people

With the development aiming to build households for residents who spend considerable time within the building, it is essential that the building provides a comfortable and healthy environment for everyone. The development team is to investigate several initiatives to enhance the indoor environment through a multitude of different technologies and design features.

The team is to also explore different opportunities to foster healthy and low-carbon lifestyle outside the building investigating measures to promote walkability, cycling and electric vehicles.

3.1 Daylight and views

Appropriate daylighting is essential for users' wellbeing, connection to the outdoors and for energy efficiency. However, excessive daylight can cause glare which is a major indoor environment quality (IEQ) concern and should be avoided.

Every living space is to be designed to have large, glazed doors to the terrace spaces in addition to large windows, maximising daylight levels while the fins and louvers will help to reduce excessive glare.

The following design opportunities should be considered throughout the detailed design process to maximise the daylighting potential:

- Glass selection: given the extent of proposed glazing, glass with a moderate visual light transmittance (VLT) should allow sufficient daylight to penetrate the space.
- Light internal colours to improve daylight penetration.

In addition to the generous daylight access, the location and design of the development offers scenic views over Fremantle Port, Pioneer Park and Fremantle City Centre for most of the proposed apartments enhancing internal comfort further and establishing a strong visual connection to the outdoors.

The ground floor offices are designed for a lightwell to allow natural daylight within the spaces.

3.2 Connection to outdoors

Whilst it is difficult to achieve connections to the outdoors in a multi-storey building, Pioneer Park is across the road from the site and both Bathers Bay and the Esplanade are approximately 400 meters away from the proposed development. All three of these locations provide extensive opportunities for not only active recreational activities but also for rest and relaxation, whilst increased glazing to the heritage façade enhances the building inhabitants' connection to the adjacent park.

The office spaces' shared outdoor terrace on Levels 1 and 2 will provide occupants with an extensive communal space for socialising and other activities.

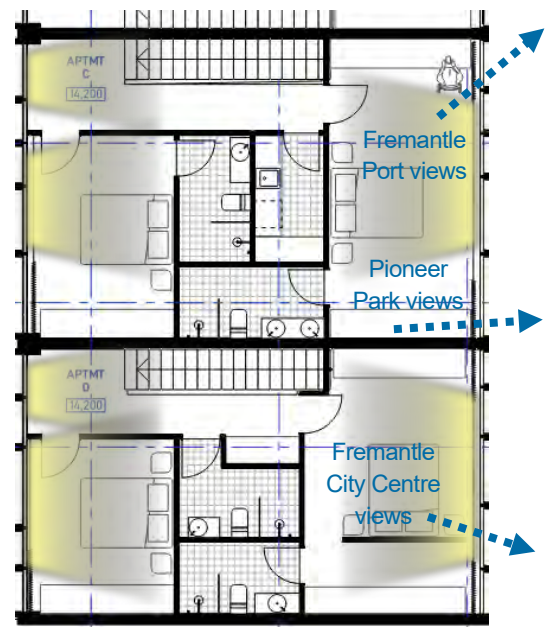


Figure 4 – Daylight access and views for a typical apartment

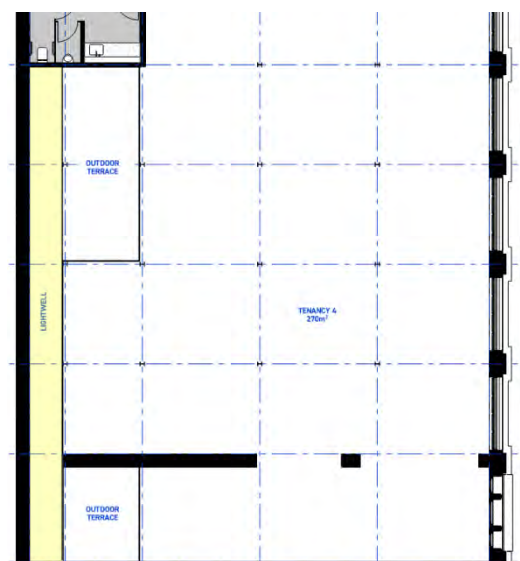


Figure 5 – Daylight access via a lightwell for one of the tenancies



Figure 6 – Pioneer Park

3.3 Indoor Environment Quality (IEQ)

In addition to the building form based indoor environment quality improvements noted above, the following items should be considered throughout the detailed design of the development.

3.3.1 Emissions & Toxicity

Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors than outdoors. VOCs are emitted by a wide array of products numbering in the thousands (typically paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers). The development will aim to specify materials with a low emissions content including low-VOC and low formaldehyde content to avoid unnecessary contamination of indoor air.

3.3.2 Thermal comfort

The human body regulates its core temperature via the hypothalamus within a narrow range of 36 to 38 degrees. An indoor environment that is too hot or too cold can affect mood, performance and productivity. However, at which temperature a resident feels comfortable varies significantly from person to person. To control internal comfort and minimise excessive heat loss in winter and heat gains in summer, a number of strategies are to be investigated for the proposed development:

- Facade design and glass selection is very important; heat gains and losses must be moderated, and thermal bridging should be avoided. Double glazing should be considered for this development to improve the thermal performance of the building envelope.
- Good performance glazing will additionally help to manage acoustic disturbances from outdoors. Separated parting walls between apartments will also reduce noise impacts from neighbouring flats.
- The facade should be well sealed to avoid draughts and air leakage which can cause significant heat losses and increase occupant discomfort.

3.4 Sustainable Transport and Active Living

3.4.1 Walkable Neighbourhood

Residents within the proposed development can seek active recreation along the nearby riverfront or beach and in the neighbouring Pioneer Park.

The nearest food store and gym are less than a 300m walk from the proposed development site.



Figure 7 – Access to recreational and local amenities

3.4.2 Cyclist Facilities and Active Living

In Perth 48% of all car trips are less than 5km distance. Cars produce an average of 0.3kg of CO₂ per km travelled, whereas, a cyclist emits negligible greenhouse or other pollution. For each kilometre a person cycles instead of driving, approximately 0.3 kg of CO₂ are saved from being emitted to the environment.

The proposed building encourages residents and the general public to use bikes for shorter distances and recreational purposes with secure bike storage areas on the ground floor.

3.4.3 Access to Public Transport

The proposed development is a 2-minute walk from Fremantle Station and less than 1 minutes' walk to a Perth Cat Bus route which circles central and South Fremantle at no cost.

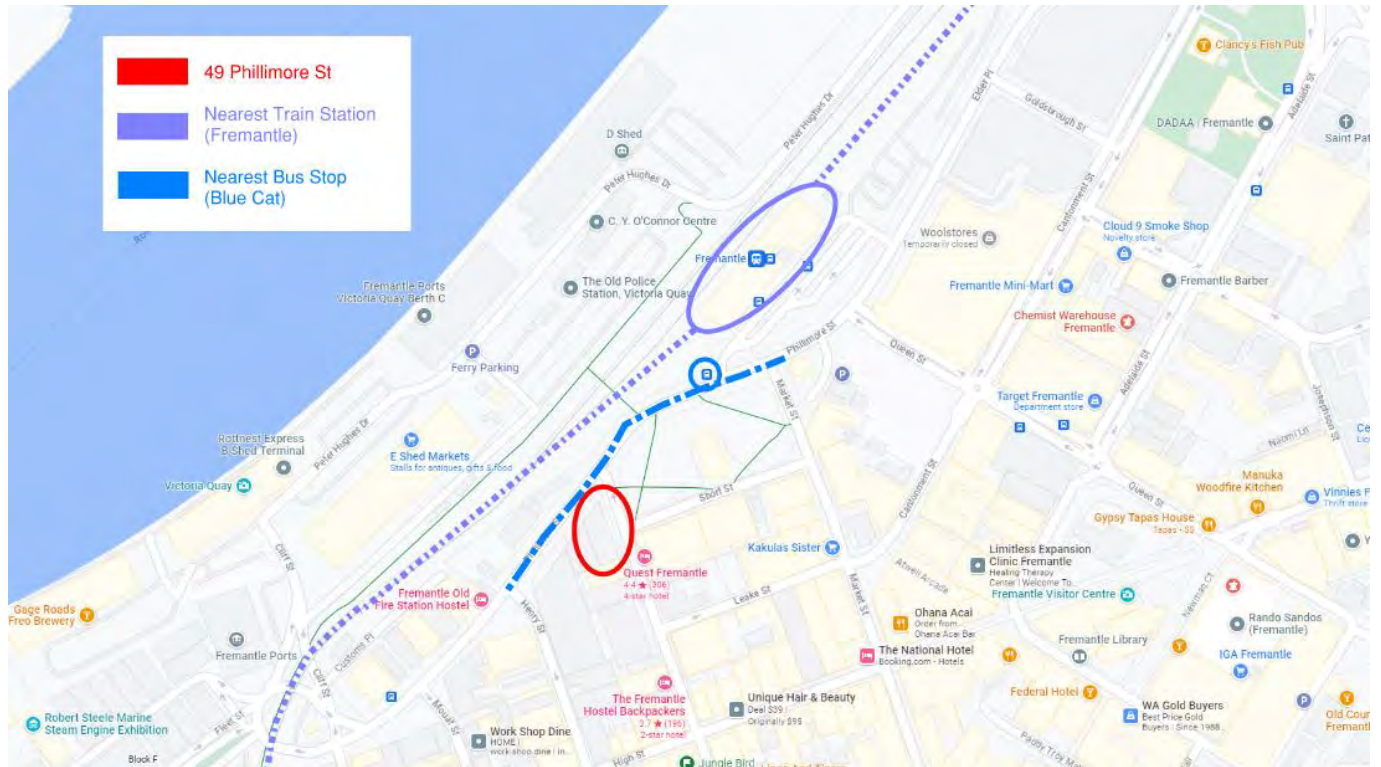


Figure 8 – Access to public transport

3.4.4 Electric Vehicles

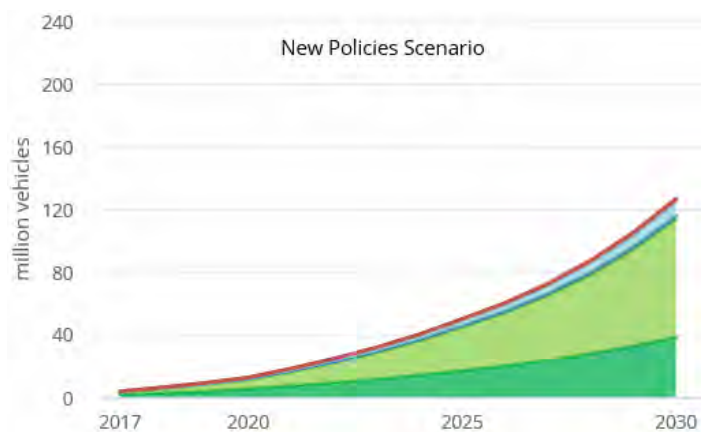


Figure 9 – Estimated global electric vehicle deployment by 2030

The number of electric cars on the road grew to 3 million worldwide between 2016 and 2017. This is an expansion of 56%.

With further expected exponential growth, the number of electric cars on the roads will reach between 125 and 220 million by 2030 according to the International Energy Agency [3].

The proposed development is to be designed to support the uptake of low-emissions and electric vehicles.

4.0 Codes and Ratings

The building will be subject to voluntary and mandatory building codes and metrics to measure the performance of the rating. This section of the report outlines the main codes and ratings and identifies the projects response.

4.1 National Construction Code – Section J 2019

The development is required to comply with the National Construction Code (NCC) Section J 2019 for Energy Efficiency. NCC Section J covers items including:

- Building fabric;
- External glazing;
- Building sealing;
- Air movement;
- Air conditioning;
- Artificial lighting and power;
- Hot water supply;
- Access to maintenance.

4.2 NatHERS

Residential building compliance is achieved through a thermal modelling process defined as the Nationwide House Energy Rating Scheme (NatHERS). This process requires a minimum star rating to be achieved for the thermal comfort of the building, which informs the energy efficiency of the building.

The Nationwide House Energy Rating Scheme (NatHERS) is a tool to assess the energy usage of residential dwellings. For a multi-residential project as the Phillimore Street development, every apartment is investigated as a separate unit with its own rating before an overall average rating is calculated. The NatHERS tool considers a wide range of parameters like orientation, glazing, insulation, size of rooms and door openings, shading and awnings and ceiling fans.

The National Construction Code (NCC) requires a minimum of a 5-star NatHERS rating for the worst performing apartment in the complex and an overall average NatHERS rating of 6-stars. The proposed development is designed to exceed these requirements.

Table 3 – NatHERS target

	Minimum NCC Requirement	49 Phillimore Street
Worst case NatHERS rating	5-stars	5.5-stars
Overall average NatHERS rating	6-stars	7-stars
Estimated Average Energy Usage	70 MJ/m ²	40 MJ/m ²

4.3 Green Star

The development is being designed to meet requirements in terms of Ecologically Sustainable Design (ESD) and is aiming to achieve a 4-star Green Star equivalent standard against the Building v1 tool. Green Star is a comprehensive sustainability design tool that assesses the environmental impact of a building over a range of environmental indicators, from management and ecology to energy and water use, material selection and waste production.

A 4-star Green Star equivalent standard requires a total of 15 points to be achieved in the aforementioned categories. Sufficient weighted credits have been selected to achieve this equivalent rating requirement, and further opportunities will be pursued during the design stages of the project.

Based on the proposed design response, the predicted performance in each respective environmental category is tabulated in the Scorecard in **Appendix A**. The sustainability strategy of this development demonstrates how the development is proposing to achieve the 4-star Green Star benchmark.

Table 4.4 Green Star target

Total available points	Minimum points required for 4-star rating	Points target for the proposed development
110 Points	15 Points	19 Points (4-star with 4 points buffer)

4.4 NABERS

The office component of this development is targeting 5-Stars Energy under the National Australian Built Environment Rating System (NABERS) for Office rating tool. There is no minimum requirement for this tool, however there is mandatory reporting for buildings over 2 years old and over 1000m² that are seeking to sell, rent or lease the space.

NABERS Energy for Office - Minimum Requirement	NABERS Energy for Office - Target
No minimum requirement	5-Star

5.0 References

- [1] Australian Bureau of Statistics, “4610.0 - Water Account, Australia 2015-16,” 2017. [Online]. Available: <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4610.0Main%20Features32015-16?opendocument&tabname=Summary&prodno=4610.0&issue=2015-16&num=&view=>. [Accessed 05 10 2018].
- [2] J. Pickin and P. Randell , “Australian National Waste Report 2016,” Department of the Environment and Energy and Blue Environment Pty Ltd, Docklands, Vic 3008, 2017.
- [3] International Energy Agency, “Global EV Outlook 2018,” International Energy Agency , 2018. [Online]. Available: <https://www.iea.org/gevo2018/>. [Accessed 05 10 2018].
- [4] GHD, Canning Bridge Structure Plan Project Working Group, “Canning Bridge Activity Centre Plan,” City of Melville, City of South Perth, Government of Western Australia, Booragoon/South Perth, 2016.

Appendix A – Green Star Equivalent Scorecard

Please see overleaf.

Green Star Scorecard - 4-Star Equivalent Project

Core points targeted	19	Minimum expectations met	Yes
Leadership points targeted	0	Green Star rating targeted	4 Star
Total points targeted	19	Climate Positive Pathway met	No

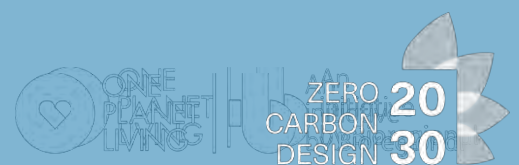
Credit	Minimum Expectation	Credit Achievement	Exceptional Performance	Total points available	Targeted performance level	Total points targeted	Comments
Responsible				17			
1 Industry Development		1		1	Credit Achievement	1	
2 Responsible Construction	•	1		1	Credit Achievement	1	
3 Verification and Handover	•	1		1	Minimum Expectation	•	
4 Operational Waste	•			0	Minimum Expectation	•	
5 Responsible Procurement		1		1		0	
6 Responsible Structure		3	2	5		0	
7 Responsible Envelope		2	2	4		0	
8 Responsible Systems		1	1	2		0	
9 Responsible Finishes		1	1	2		0	
					Total	2	
Healthy				14			
10 Clean Air	•	2		2	Credit Achievement	2	
11 Light Quality	•	2	2	4	Credit Achievement	2	
12 Acoustic Comfort	•	2		2	Credit Achievement	2	
13 Exposure to Toxins	•	2		2	Minimum Expectation	•	
14 Amenity and Comfort		2		2		0	
15 Connection to Nature		1	1	2		0	
					Total	6	
Resilient				8			
16 Climate Change Resilience	•	1		1	Minimum Expectation	•	
17 Operations Resilience		2		2		0	
18 Community Resilience		1		1		0	
19 Heat Resilience		1		1	Credit Achievement	1	
20 Grid Resilience		3		3		0	
					Total	1	
Positive				30			
21 Upfront Carbon Emissions	•	3	3	6	Minimum Expectation	•	
22 Energy Use	•	3	3	6	Credit Achievement	3	
23 Energy Source	•	3	3	6	Credit Achievement	3	
24 Other Carbon Emissions		2	2	4		0	
25 Water Use	•	3	3	6	Minimum Expectation	•	
26 Life Cycle Impacts		2		2		0	
					Total	6	

Places					8		
27	Movement and Place	•	3		3	Credit Achievement	3
28	Enjoyable Places		2		2		0
29	Contribution to Place		2		2		0
30	Culture, Heritage and Identity		1		1		0
					Total		3
People					9		
31	Inclusive Construction Practices	•	1		1	Credit Achievement	1
32	Indigenous Inclusion		2		2		0
33	Procurement and Workforce Inclusion		2	1	3		0
34	Design for Inclusion		2	1	3		0
					Total		1
Nature					14		
35	Impacts to Nature	•	2		2	Minimum Expectation	•
36	Biodiversity Enhancement		2	2	4		0
37	Nature Connectivity		2		2		0
38	Nature Stewardship		2		2		0
39	Waterway Protection		2	2	4		0
					Total		0
Leadership					0		
40	Market Transformation				0		0
41	Leadership Challenges				0		0
					Total		0

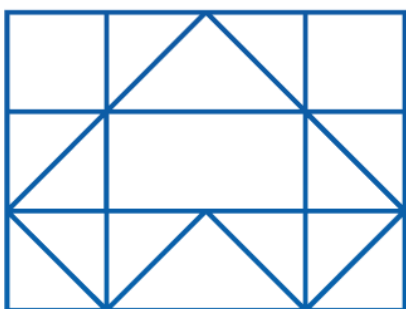
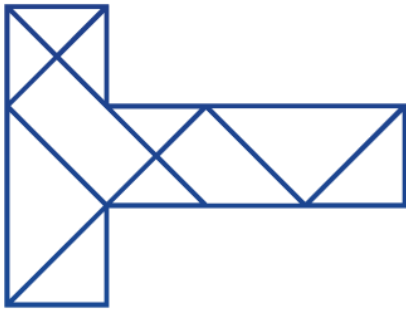
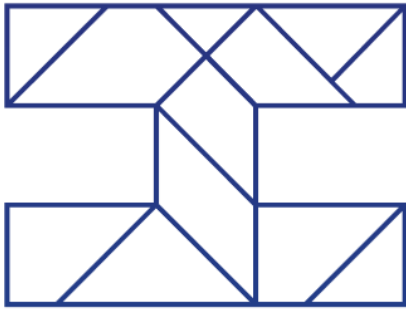
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APPENDIX H STRUCTURAL CONCEPT REPORT



PROJECT

49 PHILLIMORE ST

STRUCTURAL CONCEPT REPORT

ARCHITECT

SPACE AGENCY

DISCIPLINES

STRUCTURAL

PROJECT No.

23-169




DOCUMENT PREPARED BY

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A	16/08/23	CONCEPT REPORT	SC	MD	



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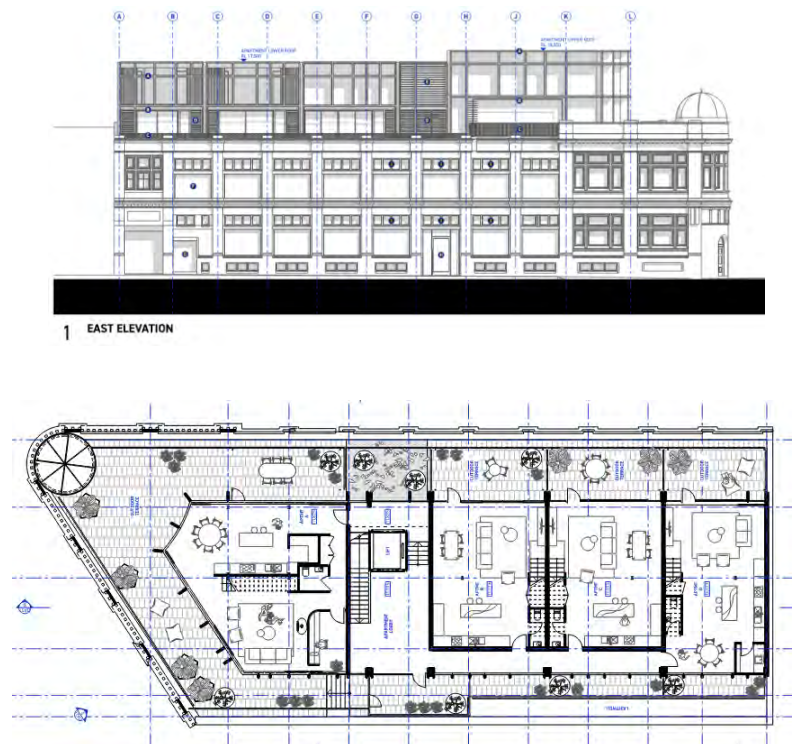
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1 INTRODUCTION

FORTH Consulting have been engaged by Fini group to complete the design and documentation of 49 Phillimore Street, Fremantle.

The project consists of refurbishments and additions to the existing Robert Harper heritage listed building, which will convert the current offices into new office tenancies and create 2 floors of new apartments supported by the existing structure.



The works include:

- Refurbishment of basement into carparking with new access from Pakenham Street
 - New lift to all levels with alterations to internal stair access
 - Demolition of existing column grid,
 - Addition of new column grid
 - Strengthening with new transfer beams.
- Alterations to ground and level 1 structure, provide new suspended floor over driveway.
- New structure for second and third floor apartments.
 - 600m² at current roof level (Second Floor Level)
 - 400m² at new third floor level
- New steel roof



2 SITE & GROUND CONDITIONS

2.1 SITE CONTEXT

The site is located on the corner of Phillimore street and Pakenham street, adjacent to the E Shed markets and B Shed terminals. The site measures approx 40m x 18m, with lot area of 714sqm, and is within 200m of the port coast line.



Figure 1 - Site Location

The property is bound by existing buildings on 2 sides

- West: 45 Phillimore street – 2 storey brick building. This building appears to be of a similar period as 49 Phillimore and may share a common boundary wall. Careful consideration must be given to this building during construction to limit potential damage from vibrations or demolitions
- South: 1 Pakenham St – heritage listed building – Does not share boundary walls – constructed prior to 49 Phillimore.

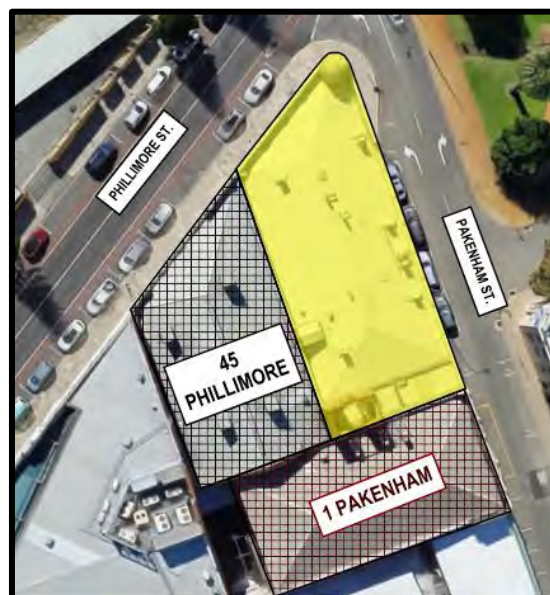


Figure 2 - Site Boundaries



2.2 GROUND CONDITIONS

A geotechnical investigation has not yet been carried out for the site, so final design parameters are not known. This investigation will be completed in the next stages of the project.

FORTH have undertaken numerous projects in the surrounding areas, and therefore have some understanding of the expected conditions, which likely consist of:

- Fill sand,
- Overlying Sand,
- Overlying inferred Limestone.

The groundwater in Fremantle is near the surface, and since the existing site contains a semi-basement, the level is very close to the existing floor, and in fact has been reported to seasonally exceed the basement levels and track into the existing basement from below at the northern end of the site.

The Perth Groundwater Atlas infers that the maximum groundwater level of the site is approx. +0.05m AHD, and proposed basement level is approx. -0.20m AHD. This creates ongoing risk of water ingress into the basement, therefore new waterproof slab and drainage systems will be proposed and are discussed in subsequent sections.

Outputs from PGA are shown below.

Depths

#	Natural Surface (mAHD)	Base Aquifer (mAHD)	Depth to MAX Groundwater (mbgl)	Depth to MIN Groundwater (mbgl)	Aquifer Thickness MAX (m)	Aquifer Thickness MIN (m)	Water table MAX (mAHD)	Water table MIN (mAHD)	Year Calculated	Area(m ²)
1	1.69	-30.00	1.64	1.65	30.05	30.04	0.05	0.04	2019	N/A

Groundwater Salinity

#	TDS mg/L	Area(m ²)
1	500-1000	N/A

Surface Geology

#	Geological description	Area(m ²)
1	Tamala Limestone: Aeolian calcarenite, variably lithified, leached quartz sand	N/A

Figure 3 – Perth Groundwater Atlas Summary



3 EXISTING STRUCTURE

The existing structure is the heritage listed Robert Harper Building, constructed from thick masonry external walls, internal steelwork columns and beams, and timber flooring. A metal dome clad in lead sheets is installed on the roof corner – this is to be repaired as required and retained.

The building was constructed by 1920, with some records indicating construction as early as 1890.



Figure 4 - Historical Photos c1950

Historical records indicate that a fire destroyed a large area of the building in 1922 which was subsequently repaired, however it is not clear the extent or if any structure was required to be replaced.



ROBERT HARPER AND CO. LTD.

The Fremantle branch of this Company has been established in this State for a period of thirty years. Three years ago the premises which the Company occupied in Phillimore-street were completely destroyed by fire and the photo appearing above of the handsome premises since erected. The well-known manufactures of this company are distributed throughout the State and include "Empire" self-raising flour, "Pioneer" table jellies, Avena rolled oats, "Silver Star" starch, etc.

Figure 5 - The Weekly Herald. Vol. II, no. 196. Fremantle, Western Australia. 22 December 1925. p. 5.



The original use of building was as a combination of office and warehouse space, as such the structural design is robust and provides favourable capacities for reuse and additions.

There are no existing drawings or details of the structure. Initial site measurement of primary elements have been completed where possible for the purpose of concept design and verification.

The existing structure has been assessed for the new loading of the proposed development, and at this stage, we believe that it is sufficient as built without further strengthening. Some remedial work is still expected to repair corrosion or degradation of the structure due to its age.

The primary elements of the existing structure are summarised below:

3.1 FOUNDATION

Details of the foundations were not able to be determined from a non intrusive inspection. Further testing will be undertaken in subsequent project stages

3.2 BASEMENT SLAB

The basement slab is concrete on grade. The slab depth is not known, however the slab shows significant signs of damage and water ingress, as well as uneven surfaces and cracking.

The slab is to be demolished and replaced with new. The level of the slab will be maintained at a similar level to existing as it cannot be lowered further into the water table without significant additional cost/works, or raised higher without compromising the available basement head room.

3.3 EXTERNAL WALLS

The external walls consist of thick masonry piers, spandrels and solid elements, varying in thickness between 400mm – 600mm. It is not known whether there are any internal steelwork or built in columns, and this will be further investigated.

The masonry appears in fair condition however is likely to require some remediation will be required to the external façade and internal basement to ensure ongoing durability.

The lintels and window frame structural details are not known; however, it is likely these are concrete or encased steelwork due to the spans. This is to be further investigated in subsequent stages via intrusive works.

Material testing of the masonry and mortar will also be undertaken to confirm compressive strength and composition.



Figure 6 - External Wall Pier, Spandrel, Windows

3.4 STEEL FRAME

The steel structure consists of columns and beams on a regular grid of approx. 3.6m x 4.2m with variations around the building corner. The close spaced grid is likely to support the heavy loading arising from the original warehouse use.

The columns and beams are both tapered flange sections, which are no longer in production. It is likely the steelwork is from the antiquated standard British sizes, or from a specific **manufacturers'** handbook. From site measurements, the closest match to available data is from Dorman Long & Company Ltd, which would suggest steelwork was manufactured in Middlesbrough, UK.

The columns measure approx. 150mm x 200mm (6" x 8"), and beams 360mm x 150mm (14" x 8"), and are depicted below:

62

DORMAN, LONG & COMPANY, LIMITED, MIDDLESBROUGH.

Distributed Loads in Tons for different spans, Coefficients a b & c

SPAN	TONS Coefficients a b c
10 ft	52 39 31
12	44 33 26
14	37 28 22
16	33 24 19
18	29 22 17
20	26 19 15
22	24 18 14

Standard spacing for holes

* G 6

PLATE	N° OF SECTION	WEIGHT PER FOOT IN POUNDS	NORMAL SIZES IN INCHES	DIMENSIONS IN INCHES	SQUARE INCHES RESISTANCE	MOMENTS OF INERTIA	VERTICAL MOMENTS OF INERTIA	HORIZONTAL MOMENTS OF INERTIA	DISTRIBUTED LOADS IN TONS THAT ONE FOOT WILL CARRY. COEFFICIENTS OF STRESS. SEE PAGE 1.
									a b c
Stock	G 6	57	14 x 6	14 x 6-09	51	16-17	74-38	520-65	30-73 528-91 396-38 317-34
Also	G 6 ^c	82	14 x 6	14 x 6-10	51	16-17	74-38	520-65	30-73 528-91 396-38 317-34

special section for Piles.

Lengths usually kept in stock 14 to 45 feet.

BEAMS

DORMAN, LONG & COMPANY, LIMITED, MIDDLESBROUGH.

Distributed Loads in Tons for different spans, Coefficients a b & c

SPAN	TONS Coefficients a b c
6 ft	33 24 19
8	24 18 14
10	19 14 11
12	16 12 9
14	14 10 8

Standard spacing for holes

* G 14

PLATE	N° OF SECTION	WEIGHT PER FOOT IN POUNDS	NORMAL SIZES IN INCHES	DIMENSIONS IN INCHES	SQUARE INCHES RESISTANCE	MOMENTS OF INERTIA	VERTICAL MOMENTS OF INERTIA	HORIZONTAL MOMENTS OF INERTIA	DISTRIBUTED LOADS IN TONS THAT ONE FOOT WILL CARRY. COEFFICIENTS OF STRESS. SEE PAGE 1.
									a b c
Stock	G 14	35	8 x 6	8 x 6-11	55	10-3	27-89	111-59	22-005 198-37 148-78 118-03
Also	G 14 ^c	33	8 x 6	8 x 6-10	55	10-3	27-89	111-59	22-005 198-37 148-78 118-03
Stock	G 15	34	8 x 5	8 x 5-145	545	61	9-97	23-46	93-86 12-74 166-86 125-14 100-11
Also	G 15 ^c	29	8 x 5	8 x 5-14	545	61	9-97	23-46	93-86 12-74 166-86 125-14 100-11

Lengths usually kept in stock 10 to 40 feet.

COLUMNS

Figure 7 - REFERENCE: DORMAN, LONG & COMPANY, LIMITED, MIDDLESBROUGH, STEELWORK HANDBOOK, 1895



The tensile strength specified by Dorman Long in the handbook is 28-32 tons per square inch, and is comparable to modern structural steel, therefore design yield strength may be conservatively assumed as 275 MPa to assess the structure to current design codes.

In subsequent stages, physical specimens will be taken from various elements to verify by material testing that the strength is as expected.

The beams are connected to the columns via steel angles each end. The angles are approx. 200x200x13mm thk and fixed with 2 no. bolts to the beam flange, and 4 no. rivets to the column flange.

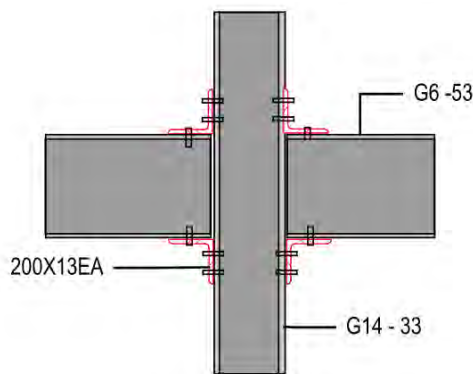


Figure 8 - Beam-Column Joint

3.5 FLOORING

The flooring typically consists of plywood/floorboards over timber joists. The joists are of hardwood construction – most likely Jarrah – and are spaced at 400mm centres. The joists are 240mm deep by 70mm wide, and span approx. 3.6m to adjacent beams. At the midpoint of the span, the joists are braced together with herringbone struts.

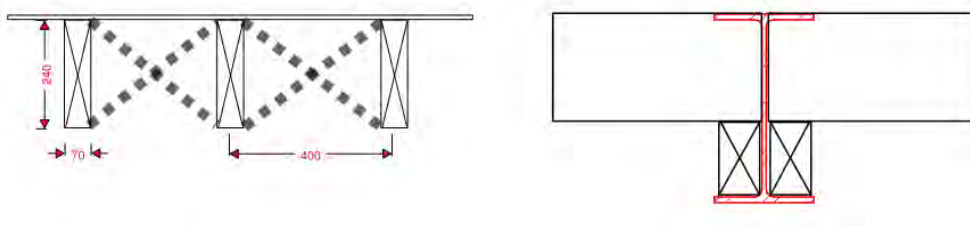


Figure 9 - Joist Details

The ply/floorboard flooring is to be assessed and may be replaced if required for fire compliance or if condition is no longer suitable. At level 1, the southern end of the building is reinforced concrete slab/beams. This is to be assessed and retained.



3.6 ROOF

The roof was not able to be inspected, however is expected to be timber rafters/battens. As part of the redevelopment, the roof is to be demolished and replaced by a new steel floor.

There are remains of existing walls that supported the old water tower, and another small popup structure that is to be demolished. Since these are on the boundary with adjacent buildings, careful consideration to methodology of demolition will be required.

There may be a concrete slab that supports the metal dome on the northeast corner – to be investigated.

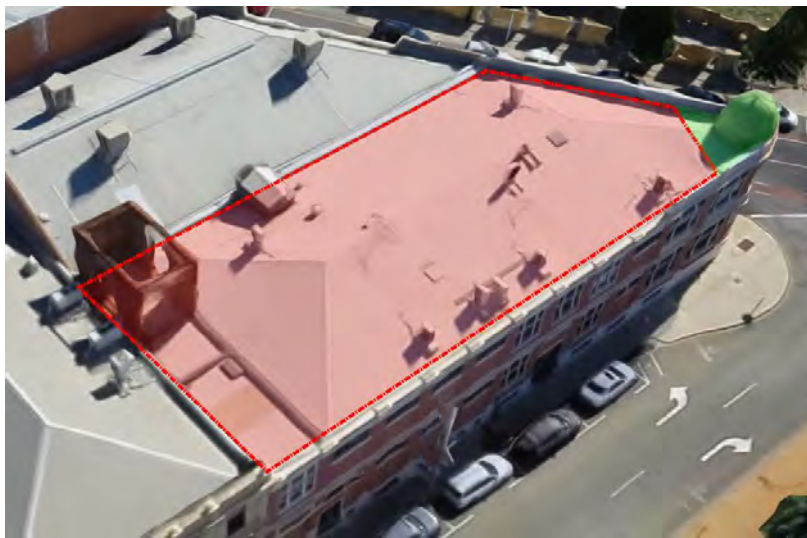


Figure 10 - Existing roof to be demolished. Dome to be retained

4 PROPOSED STRUCTURE

The primary new elements and considerations are described in the following sections. Refer also to Appendix B – Concept Sketches

4.1 BASEMENT

The basement will facilitate a new car park for the building, with a ramp created from Pakenham Street on the southern end of the building.

The following works are proposed to the basement

- Investigations to confirm existing structure (refer section 6), and any strengthening/remediation required following these investigations
- New 200 Slab on ground – this is installed to replace the degraded existing slab and provide a barrier of waterproofing against the water table. This slab will have 2 layers of reinforcement and a waterproofing admixture (no joints).
- Supplementary drainage system. Whilst the new slab will be adequate to resist water ingress over the majority of the basement, it is unlikely to be capable of sealing water ingress at the interface with the existing basement walls.
 - A cavity drained system may be installed around the perimeter, such that if any water does pass through the slab or wall, it may be collected, drained and pumped
 - This system is to be further developed in subsequent project stages
- Works associated with new ramp. This may require unpinning of adjacent property wall, construction of new retaining wall, and new ramp slab on grade. Refer to SK-01
- New column grid to be installed on west of drive aisle
- Installation of screw piles and shallow pile caps to support new lift, and new column grid
- Demolition and strengthening of current southern basement wall – a large opening must be created to allow drive aisle + ramp to access the basement
- Demolition of existing column grid – required to allow drive aisle in carpark

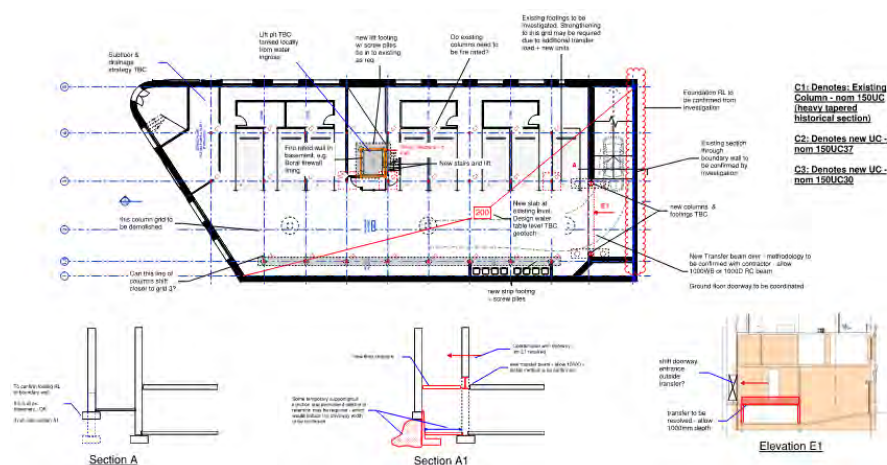


Figure 11 - Basement Works (SK01)



4.2 LIFT CORE

A new lift core is required to provide access to all levels, and is also utilised as a structural stability element to provide additional lateral strength to the building.

- The lift is proposed as structural steel (UC) construction, installed as a welded box
- Founded on new screw piles and shallow pile cap. The lift pit will be tanked and cast into the new basement slab
- Infill stud is envisaged around the steelwork with fire rated board
- Diagonal struts are required where there are no door opening obstructions

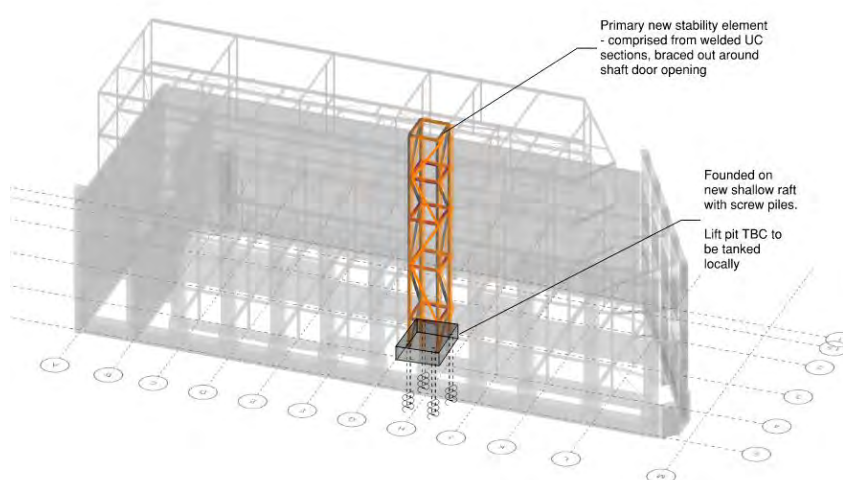


Figure 12 - Lift Core

4.3 GROUND FLOOR

The ground floor will function as new office spaces, with the following modifications

- Investigations to confirm existing structure (refer section 6), and any strengthening/remediation required following these investigations
- New opening in floor for lift
- New flooring on southern end over end of ramp
- New transfer beams to span over drive aisle below. The beams will be installed at a higher level than existing beams, in order to create compliant headroom in the basement
- Joists reinstalled to span between new transfer beams (at higher level)
- New raised floor over eastern section of floor to reconcile floor level difference
- New strengthening/structure over entrance to carpark (where wall is to be demolished below). This is to be developed and may be a reinforced arch structure
- New stairs + associated support steelwork

4.4 LEVEL 1

Level 1 will function as new office spaces, with the following modifications

- Investigations to confirm existing structure (refer section 6), and any strengthening/remediation required following these investigations
- New opening for stair void and lift core
- New stairs + associated support steelwork
- New trimmer steel to support new openings
- New opening for skylight/void on southwest edge of building
- New flooring to fill in existing stair void, new support steel as required

4.5 LEVEL 2

Level 2 is currently at the existing roof level – which is to be removed. A new steel floor will be installed that supports the proposed 2 storey building over, and also transfers lateral loads to the perimeter walls and lift core

- Steel columns to be extended as required to u/s Level 2 via welding
- New steel floor as shown in SK04. A new perimeter steel PFC to be installed to existing masonry walls to tie+restrain wall – details to be developed
- Metal dome existing structural support and new interfacing to be investigated
- New timber joists and flooring installed to steelwork
- Waterproofing, fireproofing, acoustic treatments, landscaping etc.

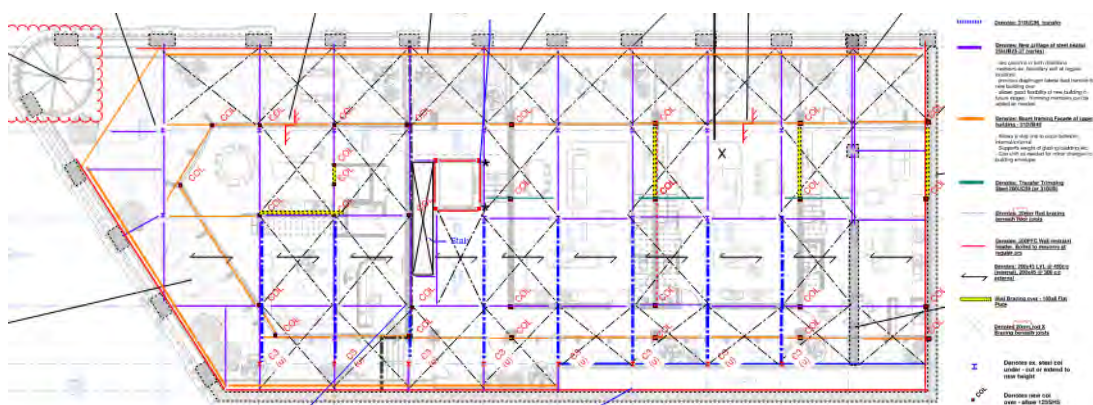


Figure 13 - New L2 Floor



4.6 LEVEL 3

New storey of proposed apartment building, consisting of steel beams, timber joists and ply/CFC flooring.

The façade is to be developed and will be supported by a perimeter steel box section

4.7 ROOF

New steel roof, consisting of rafters, light gauge purlins and metal sheeting.

The façade is to be developed and will be supported by a perimeter steel box section



5 CONSTRUCTION CONCEPT

It is expected that detailed construction methodology will be developed in conjunction with an experienced contractor prior to finalising the structural design.

At concept stage, the below outline strategy may form a baseline for further discussion as the project develops.

Stage A – Intrusive opening up works + Investigations – (Prior to site possession)

- Engage geotechnical engineer to complete desktop study and provide advice on testing, design water table, dewatering strategy etc.
- Remove portions of floorboards, stud walls, masonry walls, ceiling etc. to confirm junction details
- Cut out portions of basement slab + dig trial pits to confirm foundation details
- Take material samples for laboratory testing – steelwork, masonry, concrete slabs
 - o Investigation brief to be developed in next stage
 - o Works to be carried out by subcontractor
- Refer to section 6 for further discussion

Stage B – Internal Stripping

- Strip all non-structural elements e.g., partitions, column cladding, ceilings etc., to leave only structural elements in place and clearly visible
- Final inspection of structural elements, and specification/completion of remedial works to steel/masonry in conjunction with specialist subcontractor
- Complete geotechnical site testing as required – along existing southern driveway at ground level

Stage 1 – Basement Works

- Underpin 1 Pakenham Street as required, construct any new retaining walls/strengthening
- Demolish existing asphalt and excavate for new ramp
- Complete wall strengthening, temp works and new foundations (as required) for opening to drive aisle on southern basement wall (grid B)
- Cut opening in wall – provides basement access
- Complete final geotechnical testing within basement (if required)
- Complete dewatering works as/if required
- Demolish basement slab
- Install new screw piles in basement using low clearance rig
- Pour new pile cap footings/lift cap

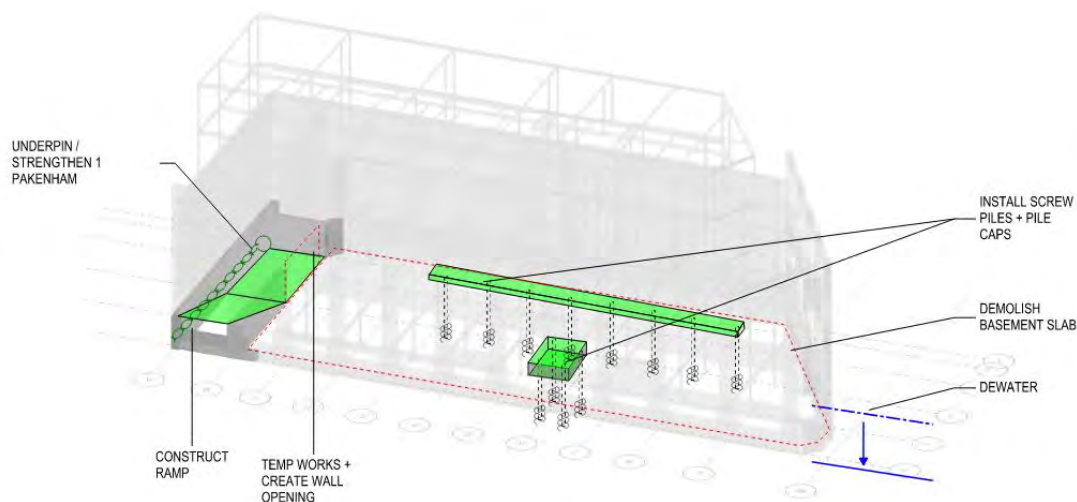


Figure 14 - Stage 1



Stage 2 – Ground Transfer

- Demolish existing roof + temp brace external walls
- Create floor opening in Ground Floor & Level 1 approx. at new lift+stair core location
- Install lift core – crane in as fully welded assembly
- Install new basement columns grid 1.5 (Crane in from street through floor void)
- Weld brackets to existing beams/columns, install new ground floor transfer beams
- Remove and reinstall ground floor joists at higher level (west side)
- Demolish existing columns on grid 2
- Pour new basement slab
- Complete drainage system
- Recharge water table

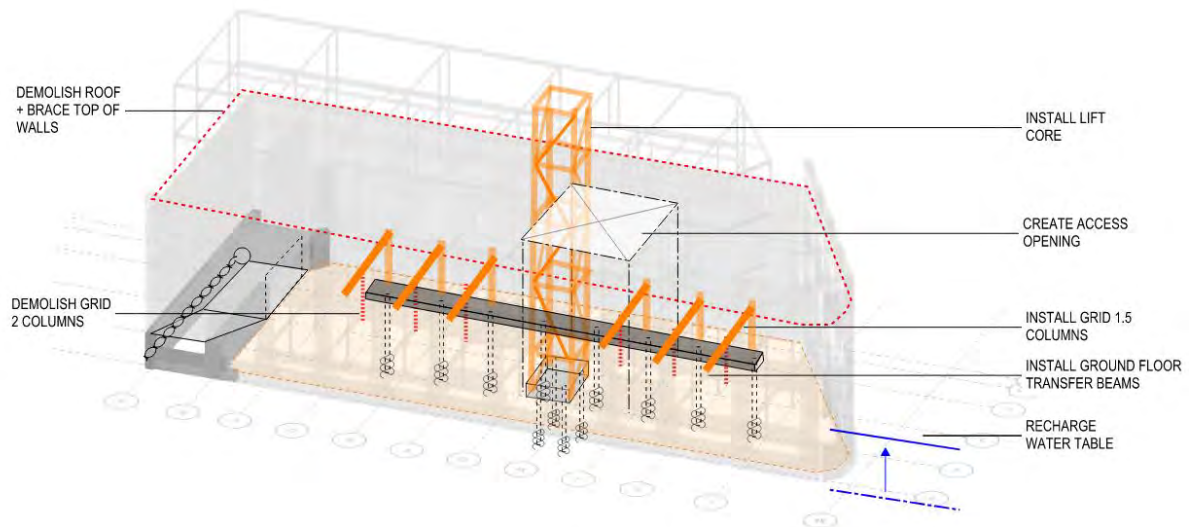


Figure 15 - Stage 2

Stage 3 – Level 2 Envelope

- Install internal small tower crane (TBC)
- Install steel columns extensions as required to u/s level 2
- Complete Level 2 steelwork
- Complete waterproofing and seal building envelope below L2

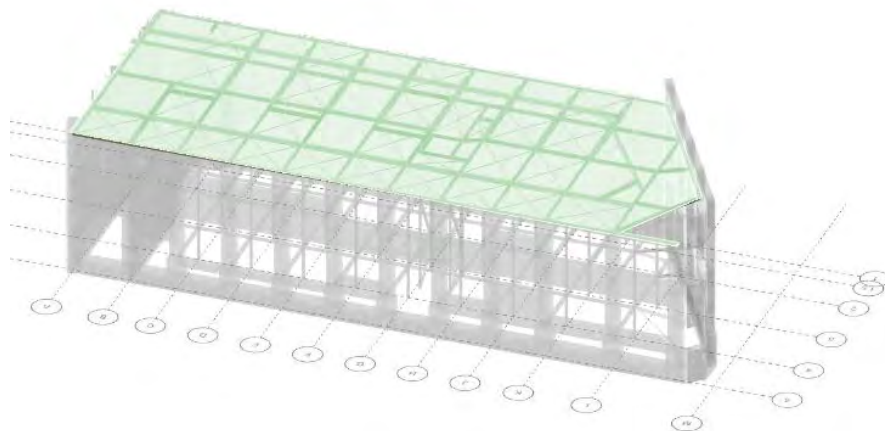


Figure 16 - Stage 3



Stage 4 – New Building

- Complete further alterations to Basement, Ground floor, Level 1
- Complete new building above L2
- Complete Fit out

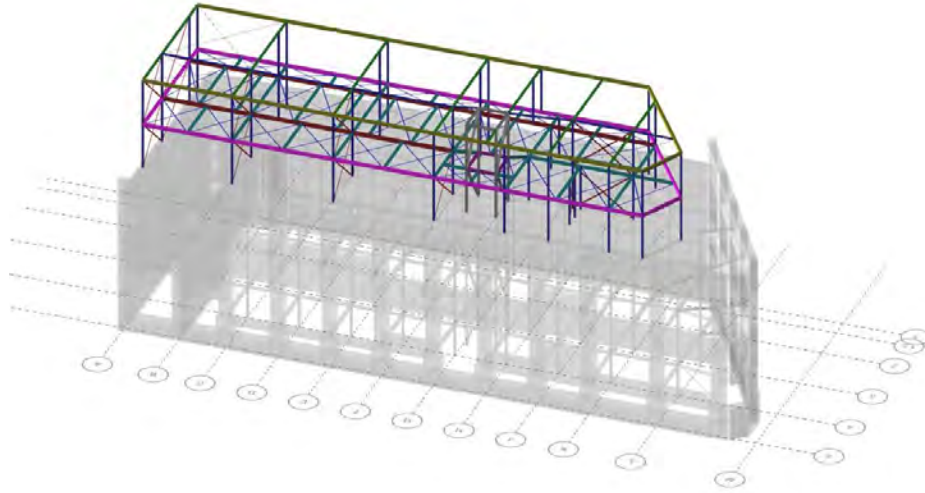


Figure 17 - Stage 4



6 ITEMS TO RESOLVE

The following is a list of items and details that are to be resolved in subsequent stages. It is not intended to be a complete or exhaustive list and is provided as a reference and for information only.

High Risk Items

1. Dewatering Strategy

- As discussed in the previous sections, the water table level is known to be high and will likely need to be lowered via dewatering in order to construct the new foundations and basement slab
- Since the existing building extends to the boundary and ground floor clearance is low, in order to dewater the site it may require **discharging into the cities' stormwater system**.
- This would require a dewatering management plan and dewatering license, as well as authority approvals e.g. Council, Swan River Trust, etc.
- The DMP may be produced by a geotechnical consultant, or by a dewatering contractor however this would require early contractor engagement
- In order to address this, we recommend engaging a geotechnical consultant engineer early in the next project phase

2. Pakenham St. Ramp Works

- The footing founding level of the existing 1 Pakenham st. boundary wall that is adjacent the new ramp is not known.
- This presents a risk, since if it is higher than the 49 Phillimore basement, the footing may encroach into the ramp space. Cutting this footing would be complex and may require significant temporary/permanent works. Similarly, there does not appear to be space to reduce the ramp width to accommodate any encroachment.
- It is recommended the footing level be confirmed early in the next phase.

General

- Engage Geotechnical engineer to undertake desktop study to assess ground conditions, design water table, dewatering strategy
- Develop opening up works brief
- Confirm demolition GA plan extents with Architect

Basement

- Confirm typical footing plan dimension, depth. Attempt scan for reinforcement, take core sample for testing
- Confirm basement footing width, depth
- Confirm Southwest corner details, stepped wall
- Confirm 1 Pakenham St. southern boundary wall founding depth, intrusions to 49 Phillimore St.
- Dewatering strategy – back into existing network?
 - Watercorp + council approval required?
- Geotechnical testing



- Grout injection and temporary works to Pakenham
- Skirting detail of new slab to existing basement wall
- Basement drainage strategy to perimeter
- Temporary works and strategy to large opening in existing southern wall grid B
- Screw pile installation – confirm headroom, sequencing
- New concrete basement slab pour – confirm pumping strategy, placement
- Lift pit – tanking requirements. Check clashes with existing footings on site
- Lift – splice locations, connection details to cap
- Confirm existing internal structural walls in basement if present and/or to be retained
- Confirm northeast corner details, levels, structure to retain
- Carpark ventilation strategy – confirm if any alterations to basement wall required
- Fire water tanks?
- Services in basement – distribution around joists

Ground Level

- Transfer beam connection details. Confirm installation sequencing/methods with contractor
- Arch or lintel details over drive aisle entrance
- New floor details to southwest over ramp
- Fire rating to floor joists over basement
- Northeast corner framing details
- Corner stair – to be retained?
- New stair construction type and details – steel stringers + infill concrete in pans?
- Raised floor details to east section
- Steel trimmers+detail and new openings around new stair voids
- Confirm services

Level 1

- New skylight. Void detail + restraint to western masonry wall
- Temporary works to support existing concrete slab to south
- Assess condition concrete floor – scan reinforcement. Remedial details as required
- Permanent support details of concrete slab and interface with new
- Infill details and support to existing stair void
- Fire treatment + details to walls around stair core
- Confirm services (hydraulic, mech, elec) distribution and coordination
- Confirm termination height of internal masonry walls to be retained. Connection and restraint details interface with L2
- New external terrace- details of creating setdown in existing floor – e.g. remove joists + replace
- New connection of beams to western masonry wall at higher level – details



Level 2

- Waterproofing membrane to external areas. Section detail around perimeter
- New façade base support details
- Steel beam details for internal/external steps
- Waterproofing to thresholds
- Connection detail new steel to existing masonry wall – and confirmation of embedded steelwork
- Connection detail of new column over to existing boundary walls and interfacing
- Interface section detail with 45 Pakenham at L2
- Interface section detail with 1 Pakenham at L2
- Parapet stability
- Planter + planter wall details and connection to steelwork
- Drainage to terrace area – downpipes + falls
- Confirm services (hydraulic, mech, elec) distribution and coordination
- Details of existing dome and support
- New skylight. Void detail + restraint to western masonry wall
- Dome details, interfacing with existing/new
- Remedial details to dome – specialist ?

Existing Steel Framing

- Take sample for material testing – strength, composition
- Assessment of corrosion
- Remedial details
- Fire rating requirements to be confirmed
- Fire rating system (paint, spray, board) to be confirmed
- Confirm termination height of all existing columns
- Confirm existing splice detail of columns
- New details for columns extensions

Masonry

- Take samples for material testing of mortar, bricks
- Confirm if embedded steel, concrete
- Confirm new connection details of L2 diaphragm to perimeter walls, with positive tie connectivity to comply with seismic requirements of AS1170.4
- Confirm existing connection details of built in beams if present
- Confirm existing lintel details and window jambes/piers
- Confirm foundation type and size
- Alterations details to façade, new windows etc.
- Additional strengthening requirements following testing/detailed analysis



New Apartment Building

- Mech plant loads and details – plinths etc.
- Façade type and details
- Confirm lateral sway on northern end is acceptable
- Setdown details in joists
- Floor buildup – fire, acoustic, thermal
- Drainage of roof and discharge – soakwell? Into network?



APPENDIX A – DESIGN CRITERIA



7 DESIGN CRITERIA

7.1 ACTS, DESIGN CODES AND STANDARDS

This project shall be designed in accordance with the Building Code of Australia, the relevant Australian Standards and Deemed to Comply Standards where applicable.

Specifically, the relevant acts, design codes and standards include, but are not limited to, the following:

GENERAL

NCC 2019 BCA Volume 1 National Construction Code 2019: Building Code of Australia Volume 1

LOADING CODES

AS/NZS 1170 Part 0	Structural Design Actions - General Principles
AS/NZS 1170 Part 1	Structural Design Actions - Permanent, Imposed and Other Actions
AS/NZS 1170 Part 2	Structural Design Actions – Wind Actions
AS 1170 Part 4	Structural Design Actions - Earthquake Actions in Australia

MATERIAL DESIGN CODES

AS 4100	Steel Structures
AS 4600	Design of cold-formed Steel Structures
AS 3600	Concrete Structures
AS 3700	Masonry Structures
AS2870	Residential slabs and footings - construction

OTHER STANDARDS

AS 2312-2014.1	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings – Paint Coatings
AS 4678-2002	Earth Retaining Structures



7.2 DESIGN ACTIONS

7.2.1 TERMINOLOGY /ABBREVIATIONS

Loadings for the project have the following designations:

- Self-Weight of Structure (SW)
- Superimposed Dead Load (SDL)
- Dead Load (G)
- Live Load (Q)
- Wind (W)
- Earthquake (E)

7.2.2 SELF-WEIGHT OF STRUCTURE

25 kN/m³ shall be used for all normal weight concrete. Steel members shall have their lengths multiplied by their unit weight per metre to determine their self-weight. Other materials and proprietary products shall have self weight assessed by available data and accepted values as per AS1170.1

7.2.3 SUPERIMPOSED DEAD LOADS

Area	Uniformly Distributed Actions	Comments
TBD	TBD	TBD

7.2.4 LIVE LOADS

Area	Uniformly Distributed Actions	Concentrated Action	Comments
Platforms, Stairs & Ground Slabs	5 kPa	4.5 kN	AS 1170.1
Balustrades and Handrails	AS 1170.1 Table 3.3, Occupancy Type C3: Areas without obstacles for moving people		
Roof	0.25 kPa	1.4 kN	To be in accordance with AS 1170.1 Table 3.2
Office Floors	3 kPa	4.5 kN	
Unit Floors	1.5 kPa	1.8 kN	



7.2.5 WIND ACTIONS

Wind loads shall be determined in accordance with AS/NZS 1170.2. The following parameters are nominated inputs for determining the wind loads:

Importance Level:	2
Design Life:	50 years
Annual Probability of Exceedance Design Event for Strength:	1/500
Design Event for Serviceability:	1/25
Wind Speed Region:	A1 (Cyclonic)
Regional Wind Speed:	
– Design for Strength:	VR = 45 m/s
– Design for Serviceability:	VR = 37 m/s
Height of Structure:	15m
Terrain Category:	2
Terrain/Height Multiplier:	M _{Z,cat} = 1
Shielding Multiplier:	M _s = 1.0
Topographic Multiplier:	M _t = 1.0
Climate Change Multiplier	M_c = 1.0
Wind Direction Multiplier, M _d :	in accordance with Table 3.2 AS1170.2
External Pressure coefficients (C _{pe}):	in accordance with Section 5 AS1170.2
Internal Pressure coefficients (C _p):	in accordance with Section 5 AS1170.2.

Local pressure coefficients for cladding and their immediate supports shall be in accordance with Section 5 AS1170.2.



7.2.6 SEISMIC DESIGN

Seismic loading shall be determined based on the design procedure outlined in AS 1170.4.

Importance Level:	2
Design Life:	50 years
Annual Probability of Exceedence:	1/500
Probability Factor:	$K_p = 1.0$ (Table 3.1)
Hazard Factor:	$Z = 0.09$
Structure Height:	$h_n \leq 50\text{m}$
Structural System:	TBD
Structural Ductility Factor:	$\mu = \text{TBD}$
Structural Performance Factor:	$S_p = \text{TBD}$
Site Sub-soil Class:	TBD
Earthquake Design Category:	EDC II (Table 2.1)

7.3 LOAD FACTORS

Load factors in accordance with AS/NZS 1170.0.

Load combinations and classifications are to be determined in accordance with AS/NZS 1170.0 for all elements.

7.4 GEOTECHNICAL PARAMETERS

A geotechnical investigation for the site has yet to be undertaken and will be completed in the schematic design phase.



7.5 MATERIAL PROPERTIES

Forth shall ensure that all structural elements have a 'time to first maintenance' of at least 20 years and building design life of at least 50 years. FORTH proposes the following durability classifications of the various structural elements as being consistent with the relevant design standards and recognised industry.

CONCRETE

The following exposure classifications are applicable for the development in accordance with AS 3600

Table 4.3:

Surface of members in contact with the ground:	B1
Surfaces of members in interior environments:	A2
Surfaces of members in above-ground exterior environments:	B2

STRUCTURAL STEELWORK

The anticipated time to first maintenance of structural steel is 15-25 years (paint coating), classified as 'very long term' durability in accordance with AS/NZS 2312.

The following Atmospheric Corrosivity Categories have been adopted:

Internal Environment:	Category C2 (Low) to AS/NZS 2312-2014
External Environment:	Category C4 (Medium) to AS/NZS 2312-2014

Dissimilar metals are to be passivated by use of non-conductive load-bearing washers.

STRUCTURAL MASONRY

The following exposure environments apply in accordance with AS 3700:

Internal Environment:	Interior Environment
External Environment:	Marine Environment

On this basis the durability requirements of AS 3700 stipulate:

Masonry Units:	General Purpose (minimum salt attack resistance grade)
Mortar:	M3
Built-in Component Durability:	R3
Minimum Cover to Reinforcement:	15mm



7.5.1 CONCRETE

The minimum design strengths generally comply with the following, where the indicated strength is the characteristic compressive cylinder strength of the concrete at 28 days.

Structural Element	Concrete MPa
Footings	N25
Walls (Precast)	N40
Slabs on Ground External	N40
Slabs on Ground Internal (Office)	N32
Slabs on Ground Internal (Warehouse)	N32
Columns and Pedestals	N40

7.5.2 REINFORCING STEEL

Reinforcing steel is to conform to the requirements of AS 4671

High-tensile hot rolled deformed bars: (N)	$f_v = 500 \text{ MPa}$
Hot rolled original steel reinforcing (R) bars:	$f_v = 250 \text{ MPa}$
Hard-drawn wire: (L)	$f_v = 500 \text{ MPa}$
Low ductility steel meshes: (RL/SL)	$f_v = 500 \text{ MPa}$

7.5.3 STRUCTURAL STEEL

Grades of structural steel adopted shall be as follows:

Open sections to AS3679:	$f_v = 300 \text{ MPa}$
Hollow sections (RHS and SHS) to AS1163:	$f_v = 350 \text{ MPa}$



Hollow sections (CHS) to AS1163:	$f_v = 350\text{MPa}$
Structural steel plate to AS1594:	$f_v = 300\text{MPa}$
Bolts:	Grade 4.6 to AS 1111 and Grade 8.8 to AS 1252
Shear Connectors to AS1554.2:	Min. yield strength = 345MPa
Welds to AS4100/ AS1554:	Category SP, $f_{uw} = 490\text{MPa}$

7.5.4 STRUCTURAL MASONRY

Grade of materials to be in accordance with AS 3700, with the following minimum unconfined compressive strengths, f_{uc} :

Loadbearing Blockwork:	$f_{uc} = 12\text{ MPa}$
Loadbearing Brickwork:	$f_{uc} = 12\text{ MPa}$
Grout for core filling:	$f_{uc} = 20\text{ MPa}$

7.5.5 STRUCTURAL GROUT

Minimum compressive strength 50MPa at 28 days. Grout to be non-shrink or expansive.

7.5.6 COLD FORM STEELWORK MEMBERS

Lysaght span tables have been utilised for the determination of purlin and girt sizes. Cold form purlins and girts sections are roll-formed from high strength zinc-coated steel complying with AS 1397 – 1993, the following minimum shall be adopted:

Yield Stress:	
– 1.0mm BMT:	550MPa
– 1.2mm BMT:	500MPa
– 1.5, 1.9 ,2.4 & 3.0mm BMT:	450MPa
Coating Mass (all members):	350g/m ²

Alternative proposed manufacturers will need to comply with the above minimum.



7.6 SERVICEABILITY LIMIT STATE

7.6.1 STRUCTURE DISPLACEMENTS

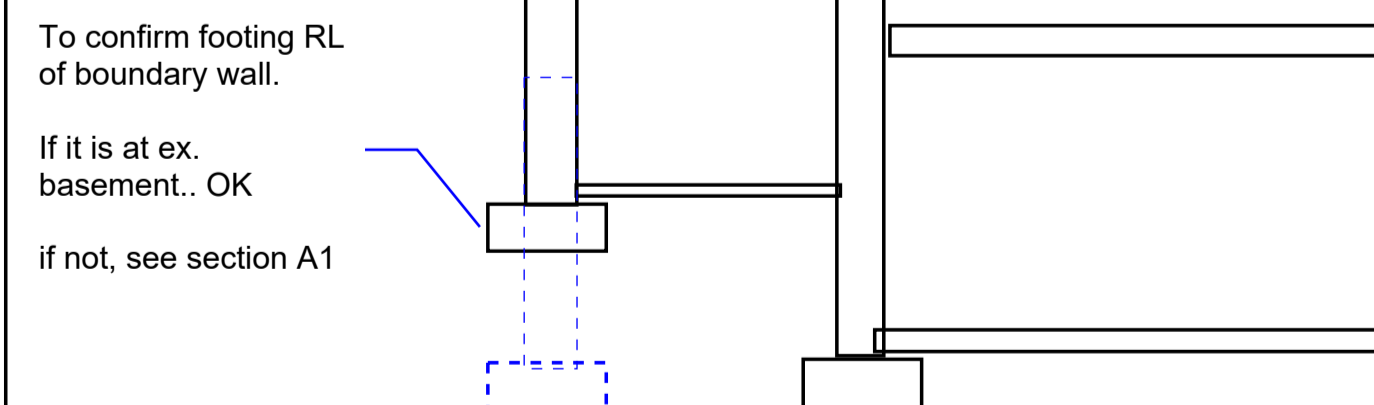
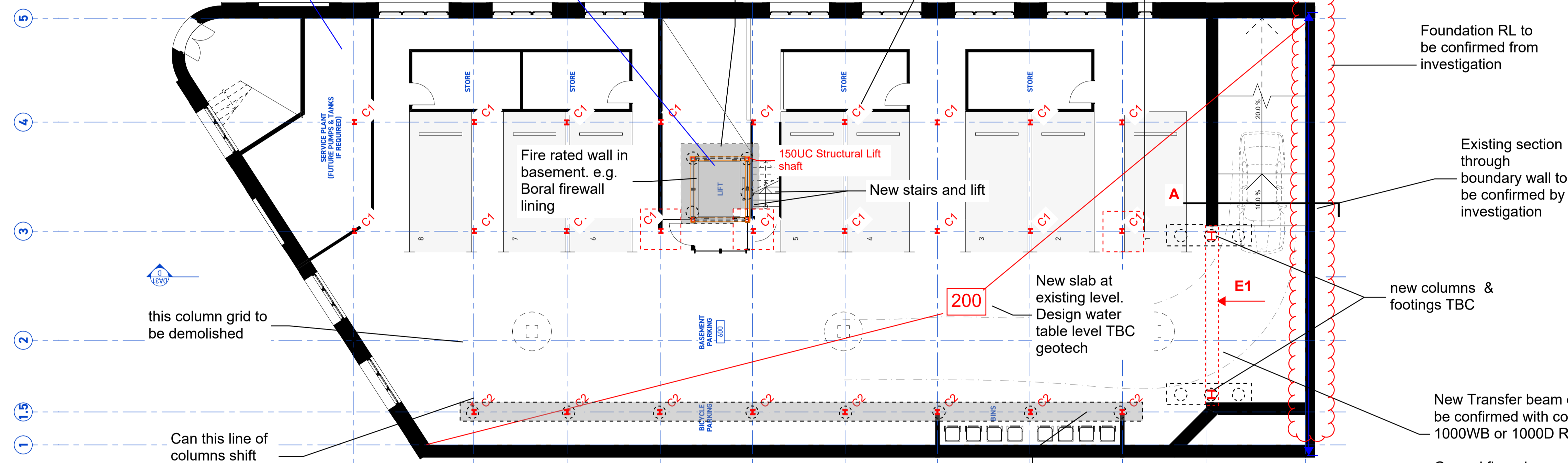
Total Deflection of Rafters (GSW+G+ ϕ l Q):	$\delta/L_{ef} = 1/300$
Total Cantilevers Deflection (GSW+G+ ϕ l Q):	$\delta/L_{ef} = 1/150$
Wind – Total Sway Deflection (W):	$\delta/H = 1/500$ but not greater than 50mm & frame spacing / 200
Purlins (GSW+G+ ϕ l Q):	$\delta/L_{ef} = 1/300$

7.6.2 FOUNDATION SETTLEMENTS

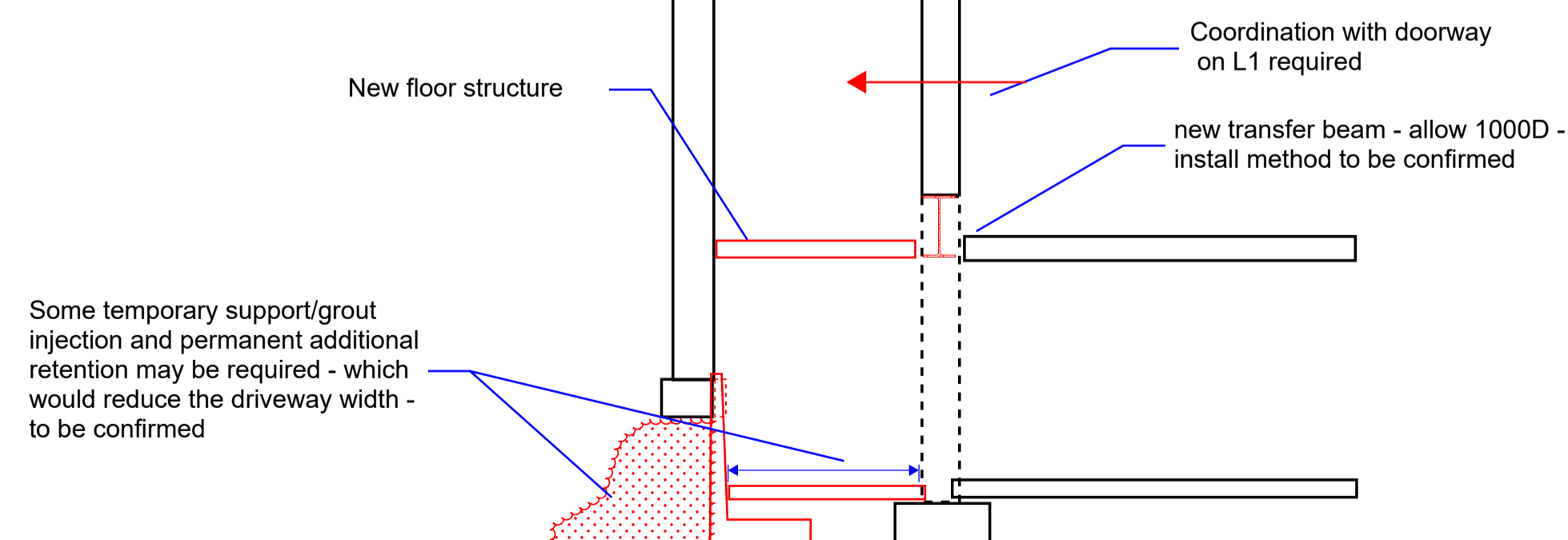
The maximum allowable settlement of any type of foundation throughout its design life are limited to that listed in the table below. Settlement calculations take into account both short term and long-term settlements and include immediate (non-recoverable), elastic, consolidation and creep settlements both at the foundation/soil interface and within the foundation itself.

Foundation Type	Total		Differential	
Shallow	20mm	20mm	1:1000	1:1000

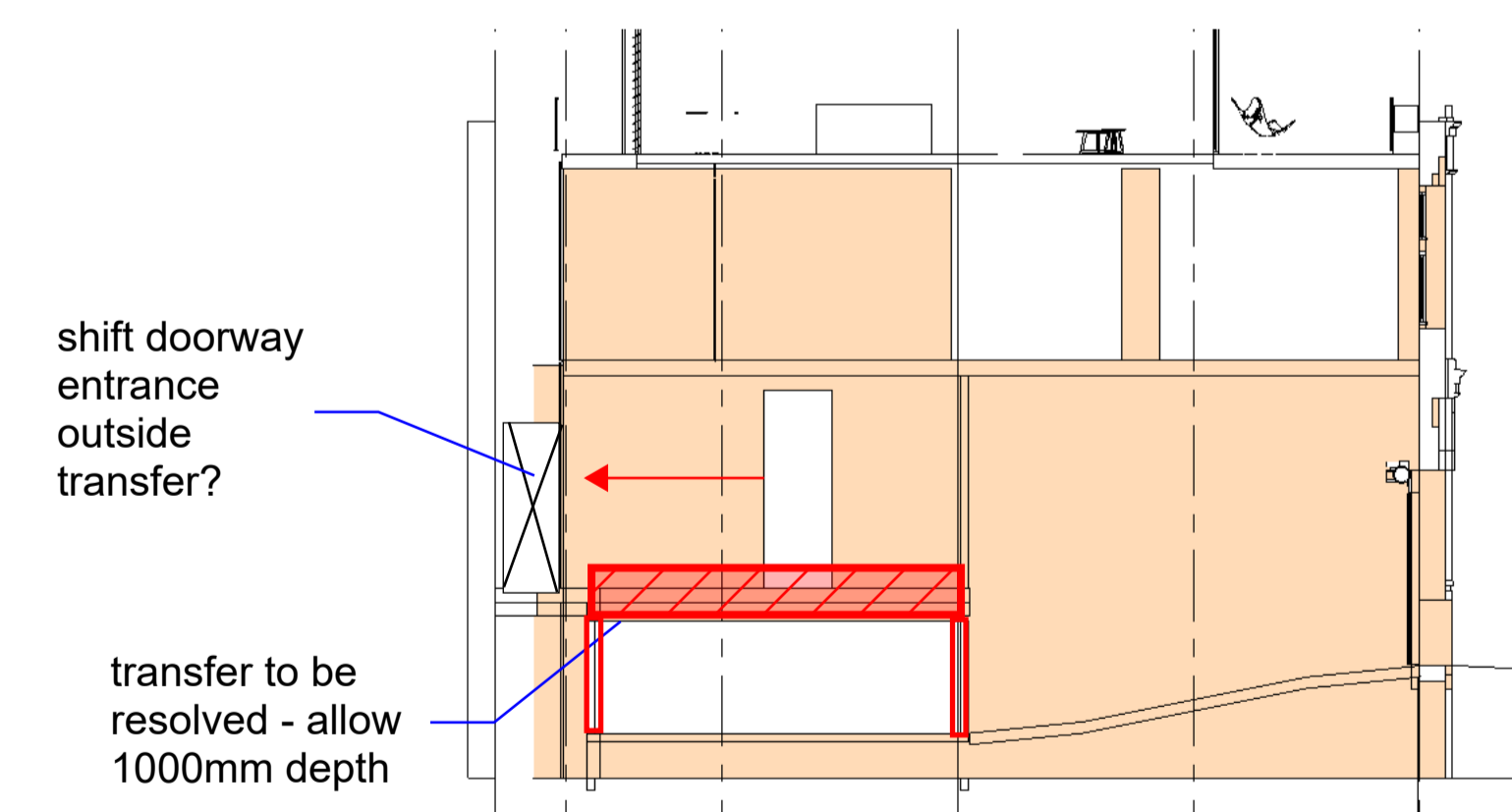
C3: Denotes new UC - nom 150UC30



Section A



Section A1



Elevation E1

					<p>GENERAL NOTES: CONTRACTOR TO CHECK ALL DIMENSIONS ON-SITE. REFER ANY DISCREPANCIES TO ARCHITECT FOR A DECISION PRIOR TO COMMENCING ANY WORK OR PREPARING SHOP DRAWINGS.</p>
B	xx.07.23	CONCEPT DESIGN	SC		
A	xx.06.23	DRAFT	SC	SC	
REV	DATE	DESCRIPTION	PRN	APP	



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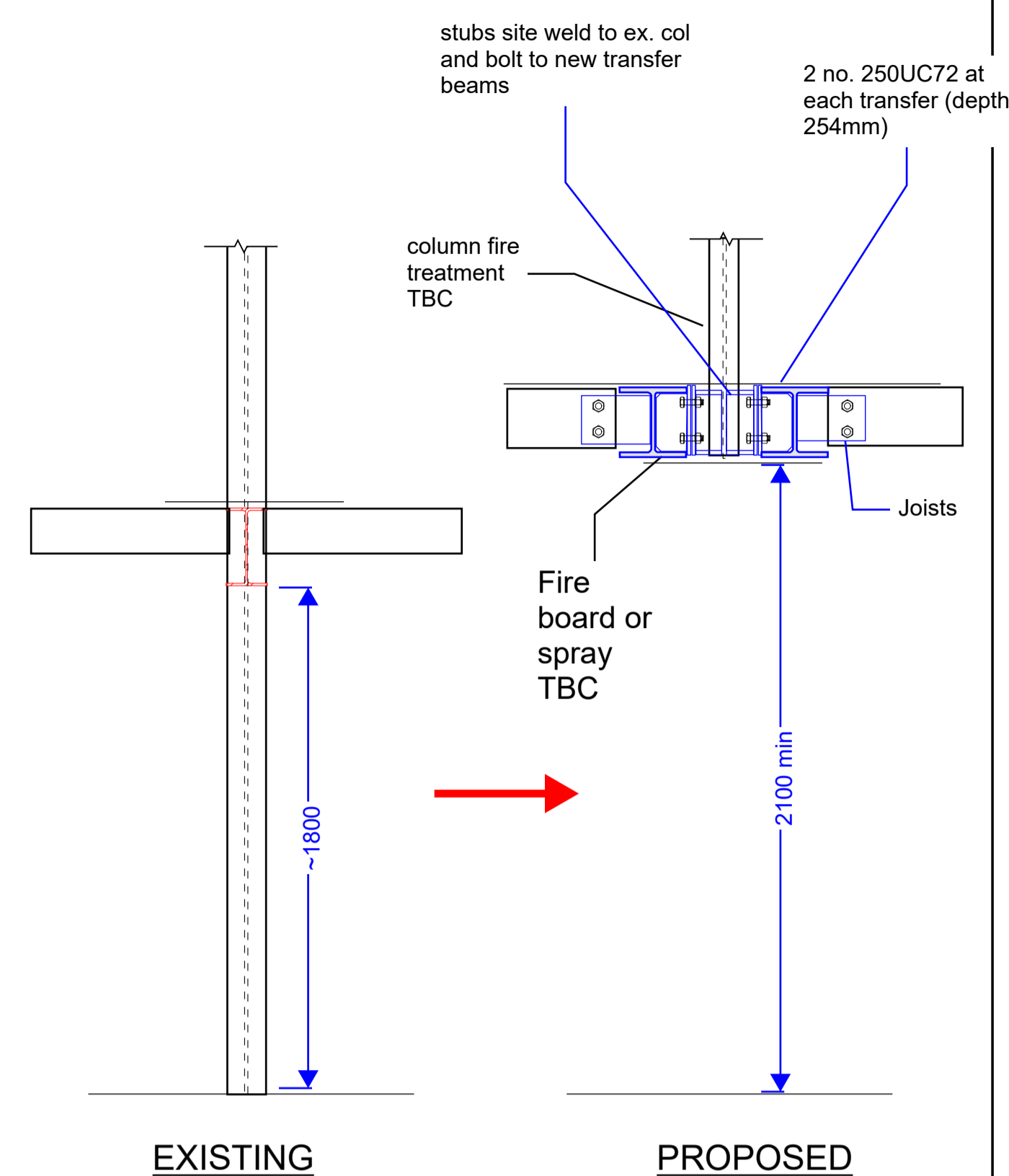
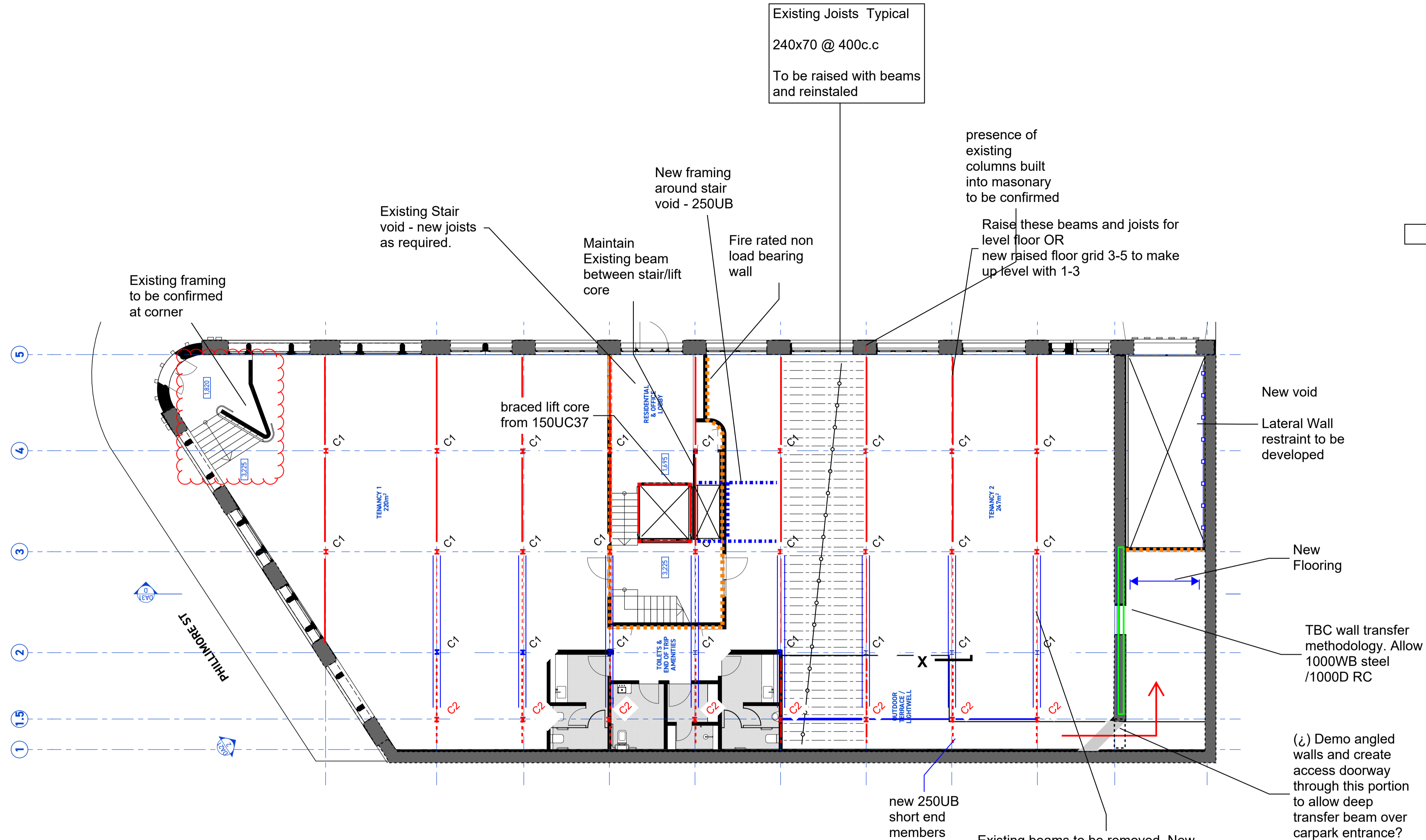
ARCHITECT:
spaceagency:
architects

PROJECT:
49 PHILLIMORE STREET,
FREMANTLE

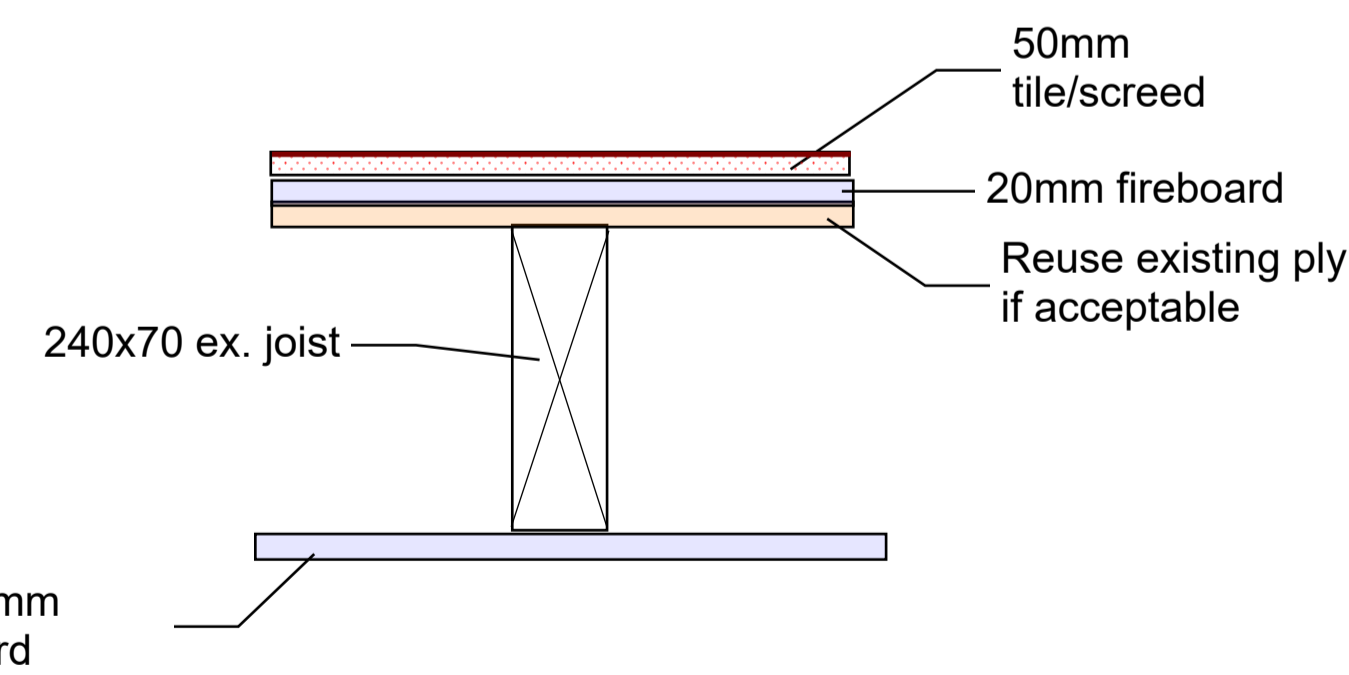
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BASEMENT PLAN

PRELIMINARY

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PROJECT NUMBER:	23-169		REV:
DRAWING NUMBER:	SK-01		B



Section X-X



Indicative Floor Buildup - Wet area

C1: Denotes: Existing Column - nom 150UC (heavy tapered historical section)

C2: Denotes new UC - nom 150UC37

C3: Denotes new UC - nom 150UC30

REV	DATE	DESCRIPTION	DRN	APP
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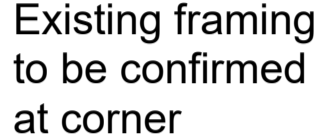
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spaceagency:
architects

PROJECT:
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DRAWING TITLE:
GROUND FLOOR PLAN

PRELIMINARY			
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DESIGN:	SC	DATE:	XX.07.23
CHECKED:		SCALE:	As indicated
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DRAWING NUMBER:	SK-02		B

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architects

PROJECT:
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DRAWING TITLE:
LEVEL 1 PLAN

PRELIMINARY

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DESIGN:	SC	DATE:	XX.07.23
CHECKED:		SCALE:	As indicated
PROJECT NUMBER:	23-169		REV:
DRAWING NUMBER:	SK-03		B



Termination height of existing steel columns at roof to be confirmed.

Note: grid 4 cols to be extended to u/s L2

New steel beams to be installed for new floor throughout

Existing Dome
support to be
confirmed and
framing TBC

confirm Buildup
of external -
planter zones?

Note: Grid 2 existing columns not present from L1 to L2 - not to be extended

**Loading Allowances -
Superimposed Dead Load:**

General External: 3kPa (300kg/m²:
Tiles, screed, finishes, services, joists,
CFC

Edge planter: 800mm high x 600mm wide max
Planter in front of core: 400mm max soil

Indicative Floor Buildup - external

||||| Denotes: 310UC96 transfer

Denotes: New grillage of steel beams
250UB25-37 (varies)

- ties columns in both directions
- restrains ex. boundary wall at regular locations
- provides diaphragm lateral load transfer for new building over
- allows good flexibility of new building in future stages - trimming members can be added as needed

Denotes: Beam framing Facade of upper building - 310UB40

- Allows a step line to occur between internal/external
- Supports weight of glazing/cladding etc.
- Can shift as needed for minor changes to building envelope

Denotes: Transfer Trimming
Steel 200UC59 (or 310UB)

Denotes: 20mm Rod bracing
beneath floor joists

Denotes: 200PFC Wall restraint header. Bolted to masonry at regular crs

Denotes: 200x45 LVL @ 450c/c
(internal), 200x45 @ 300 c/c
external

 Wall Bracing over - 100x8 Flat Plate

Denotes 20mm rod X
Bracing beneath joists

**Denotes ex. steel col
under - cut or extend to
new height**

Denotes new col
over - allow 125SHS

B	xx.07.23	CONCEPT DESIGN	SC	
A	xx.06.23	DRAFT	SC	SC
REV	DATE	DESCRIPTION	DRN	APP

GENERAL NOTES:
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ARCHITECT:

spaceagency:
architects

PROJECT:

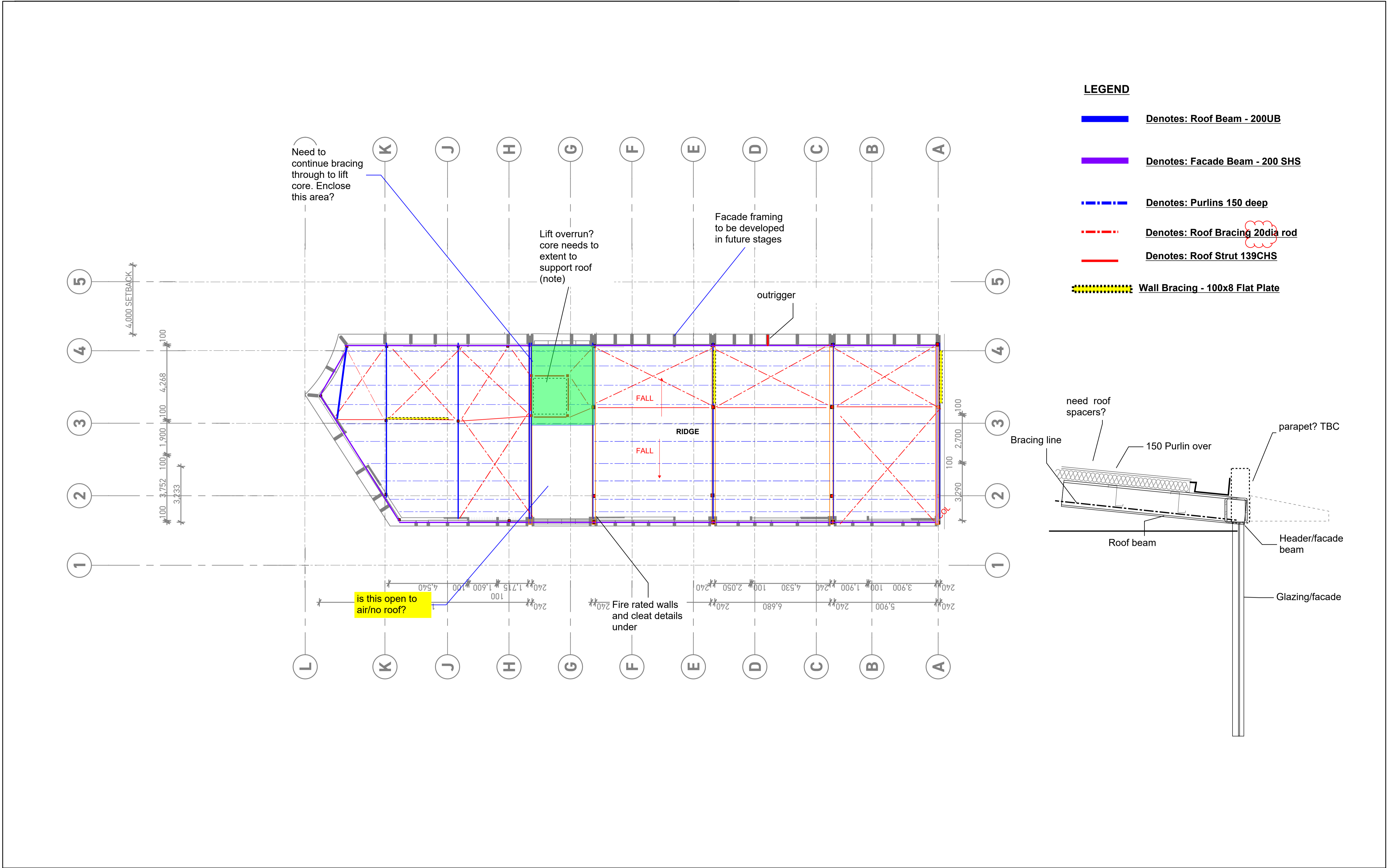
49 PHILLIMORE STREET,
FREMANTLE

DRAWING TITLE:

LEVEL 2 PLAN

PRELIMINARY

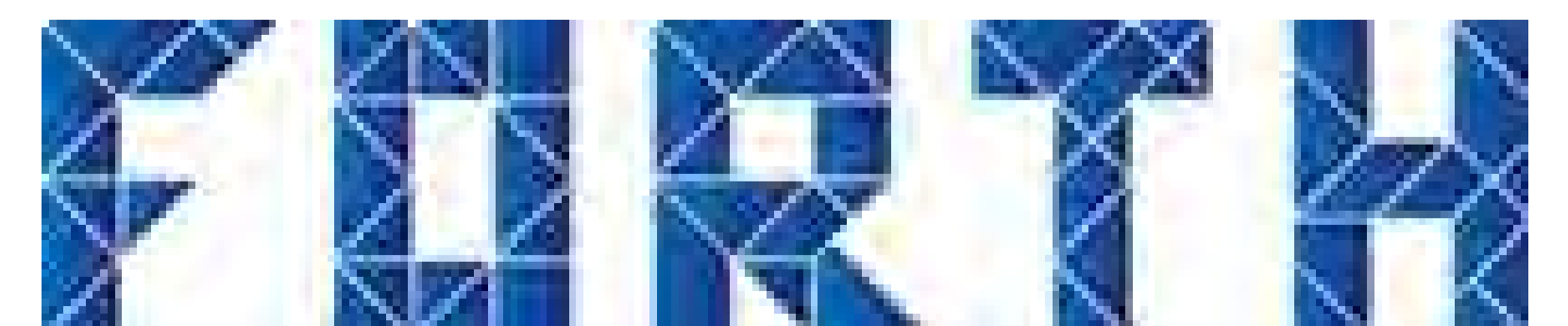
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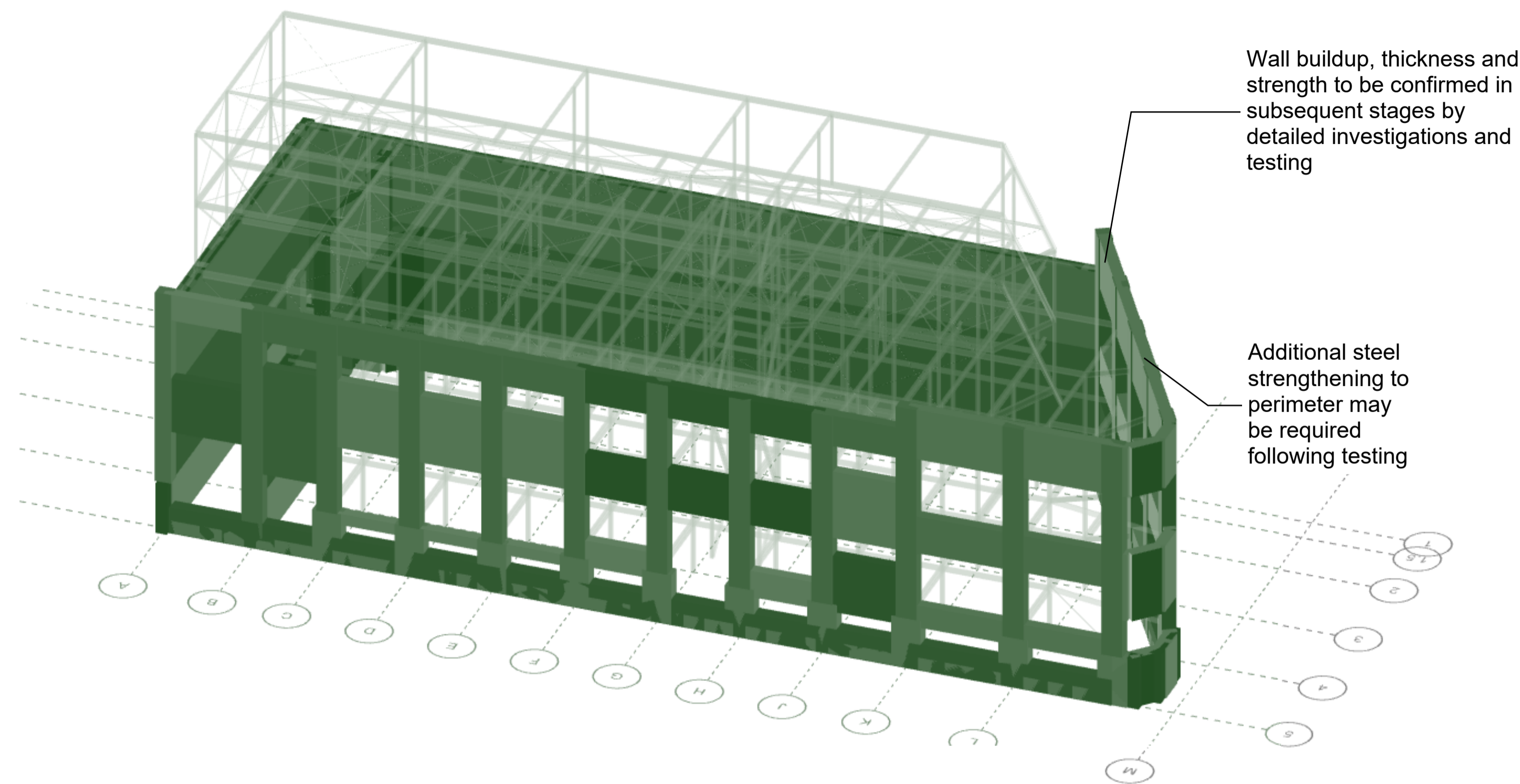


						<div>GENERAL NOTES: CONTRACTOR TO CHECK ALL DIMENSIONS ON-SITE. REFER ANY DISCREPANCIES TO ARCHITECT FOR A DECISION PRIOR TO COMMENCING ANY WORK OR PREPARING SHOP DRAWINGS.</div>	<div><div><div>FORTH</div><div>1064 HAY STREET, WEST PERTH WA 6005</div><div>P: +61 8 9485 2921 E: admin@forth.com.au W: forth.com.au</div></div><div>ARCHITECT: <div>spaceagency: architects</div></div></div>	<div>PROJECT: 49 PHILLIMORE STREET, FREMANTLE</div> <div>DRAWING TITLE: ROOF PLAN</div>	PRELIMINARY			
									DRAWN:	SC	APPROVED:	
									DESIGN:	SC	DATE:	XX.07.23
									CHECKED:		SCALE:	As indicated
									PROJECT NUMBER:	23-169		REV:
									DRAWING NUMBER:	SK-06		B
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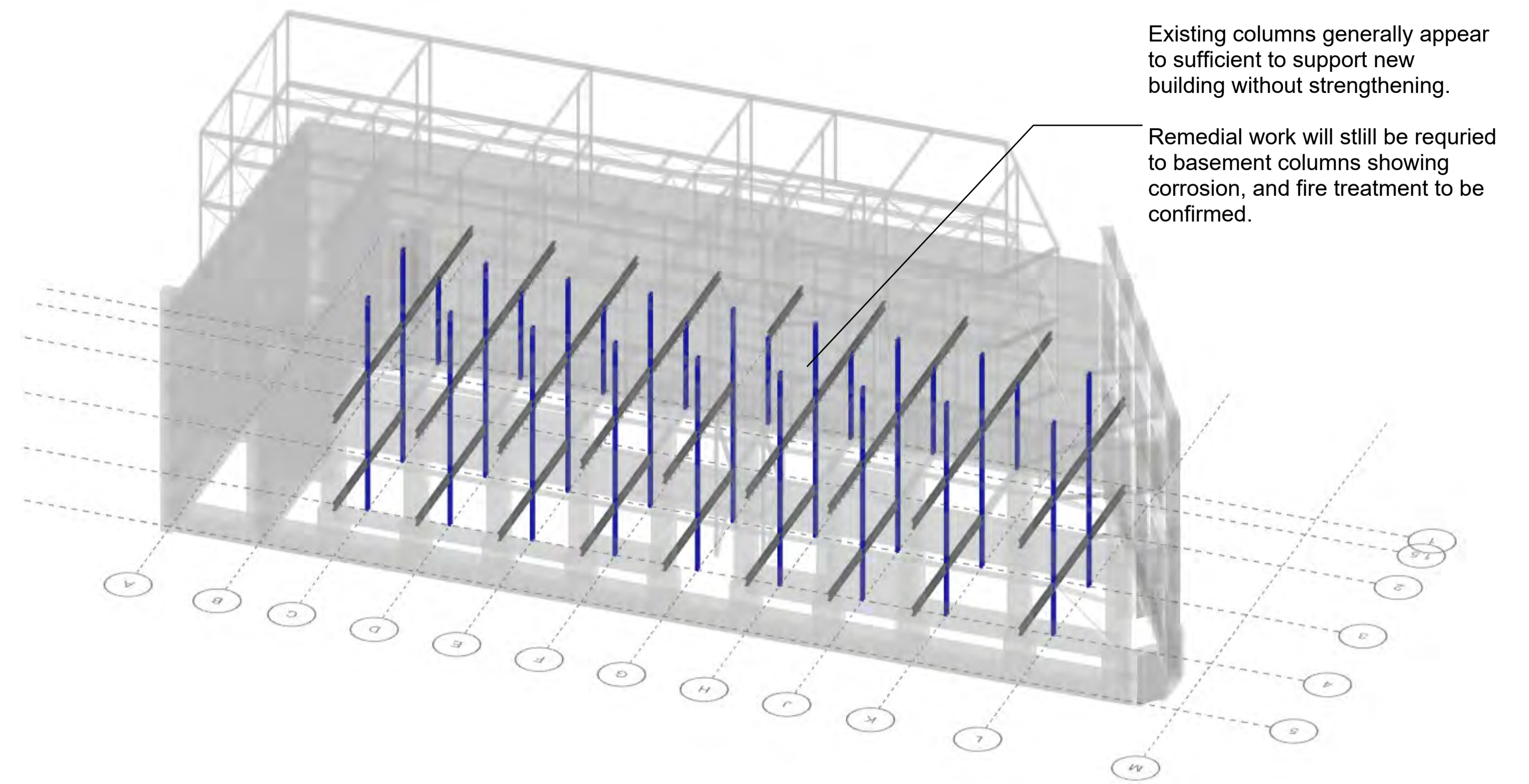
49 Phillimore Street

Primary Structural Elements

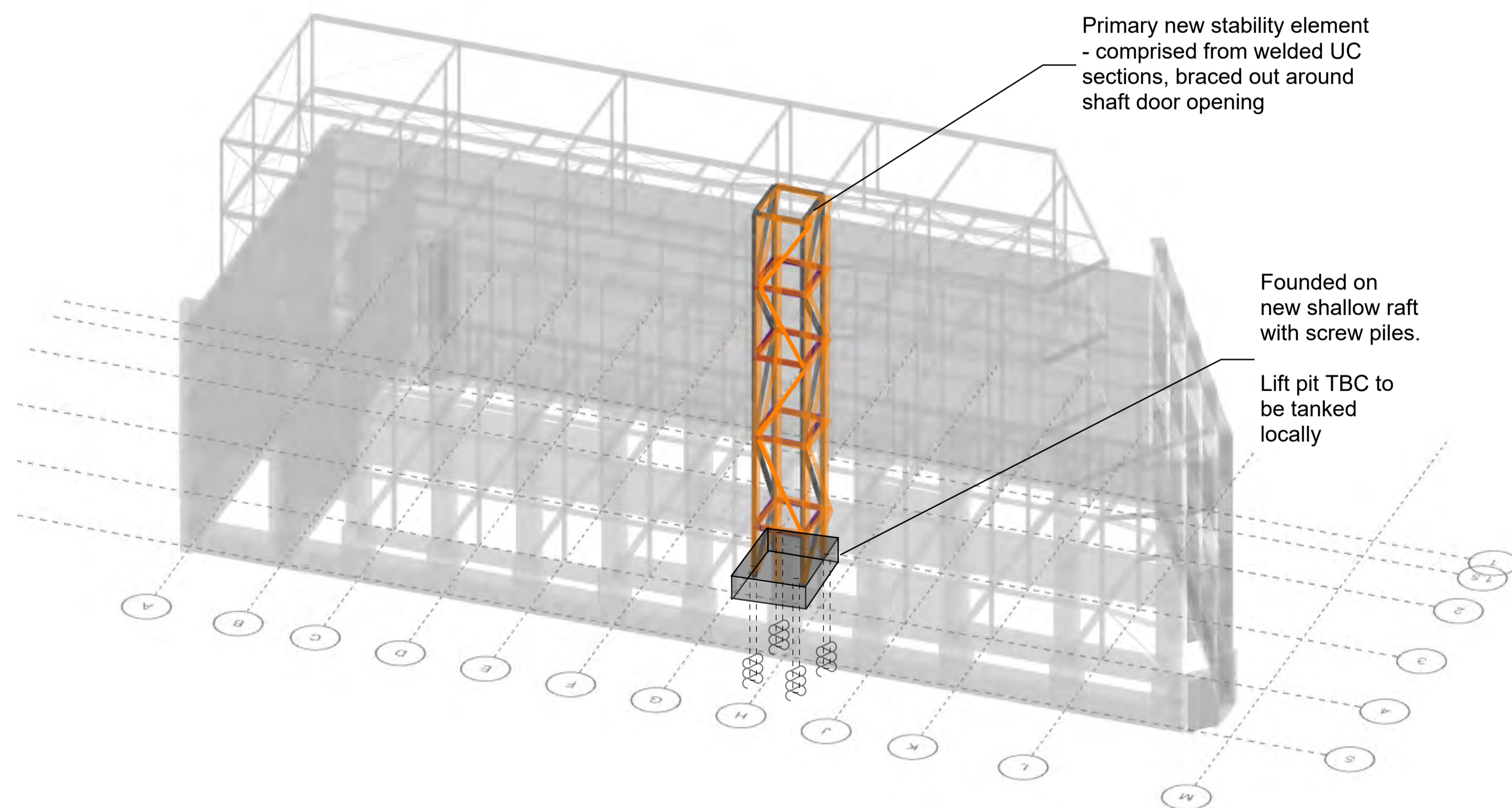




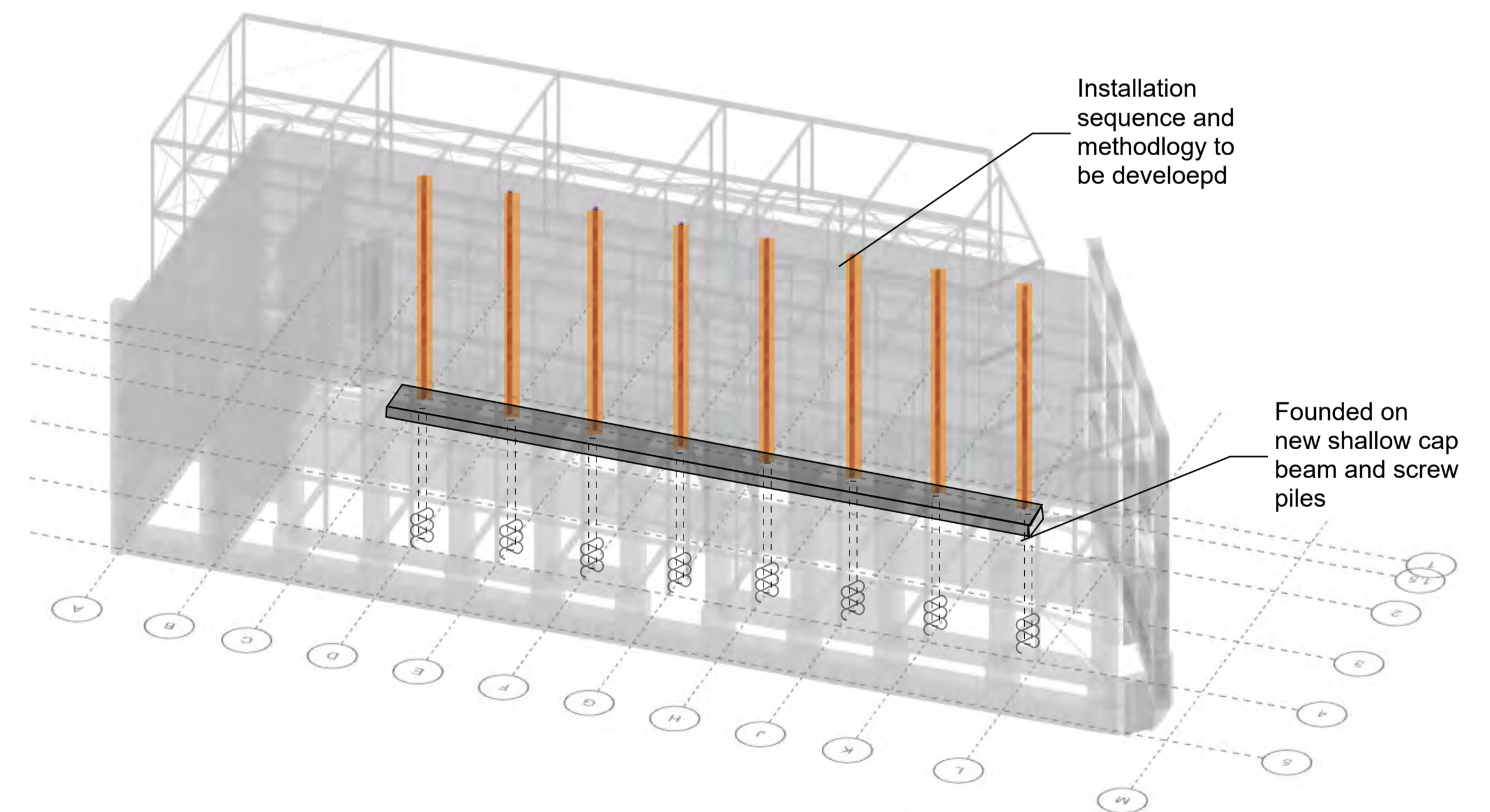
Existing Masonry Structure



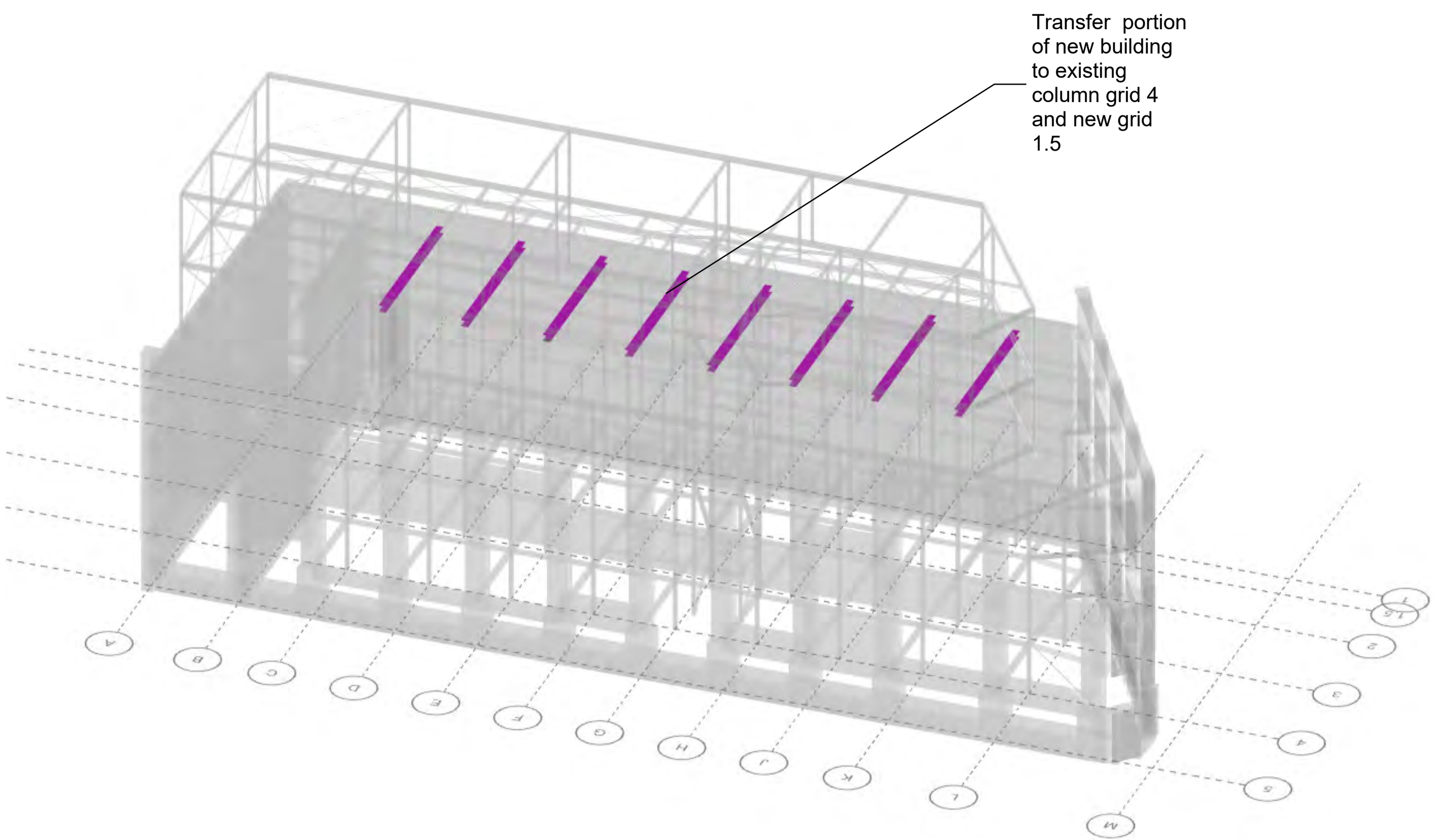
Existing Steel Columns, Beams



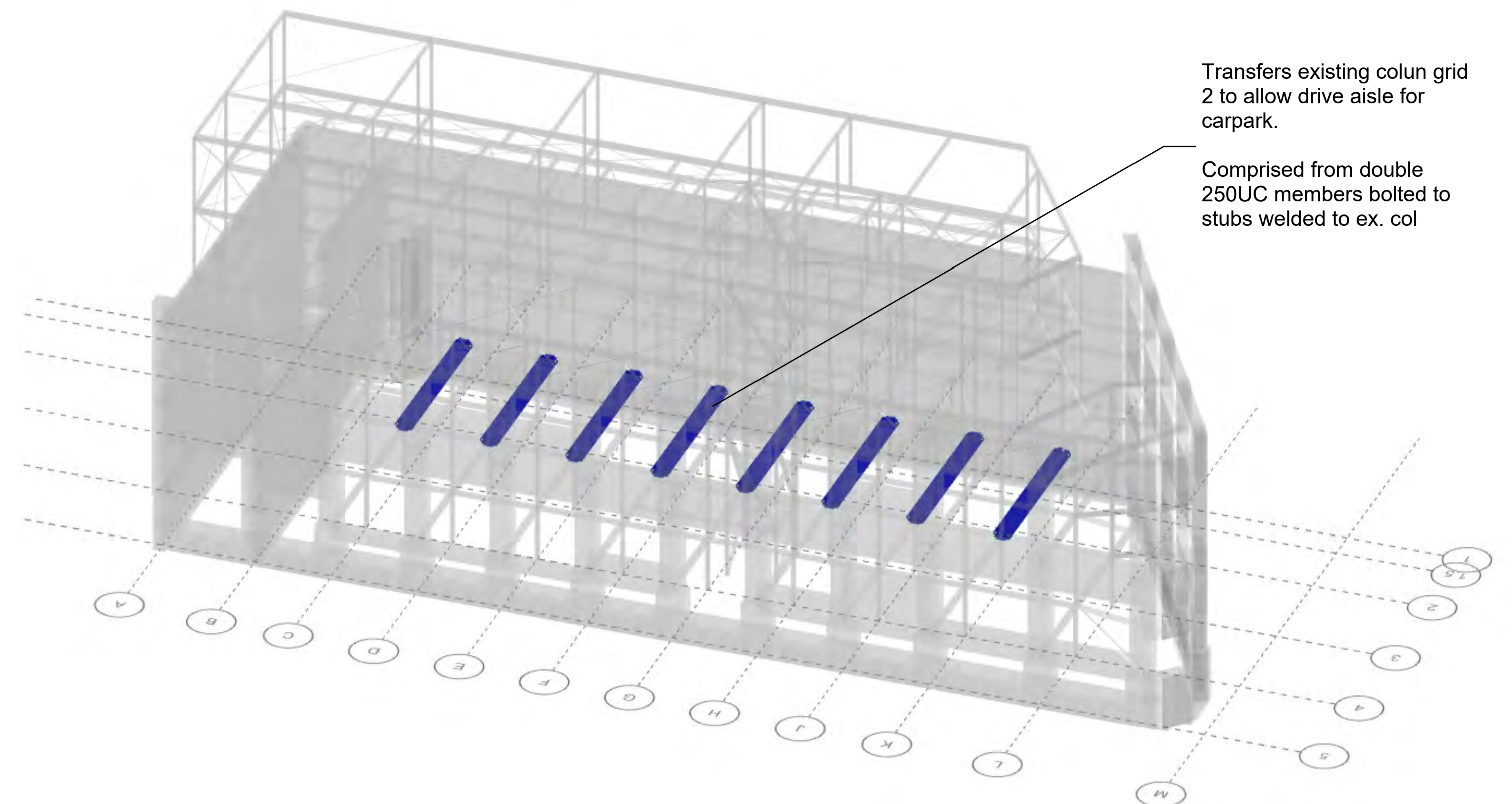
New Lift Core



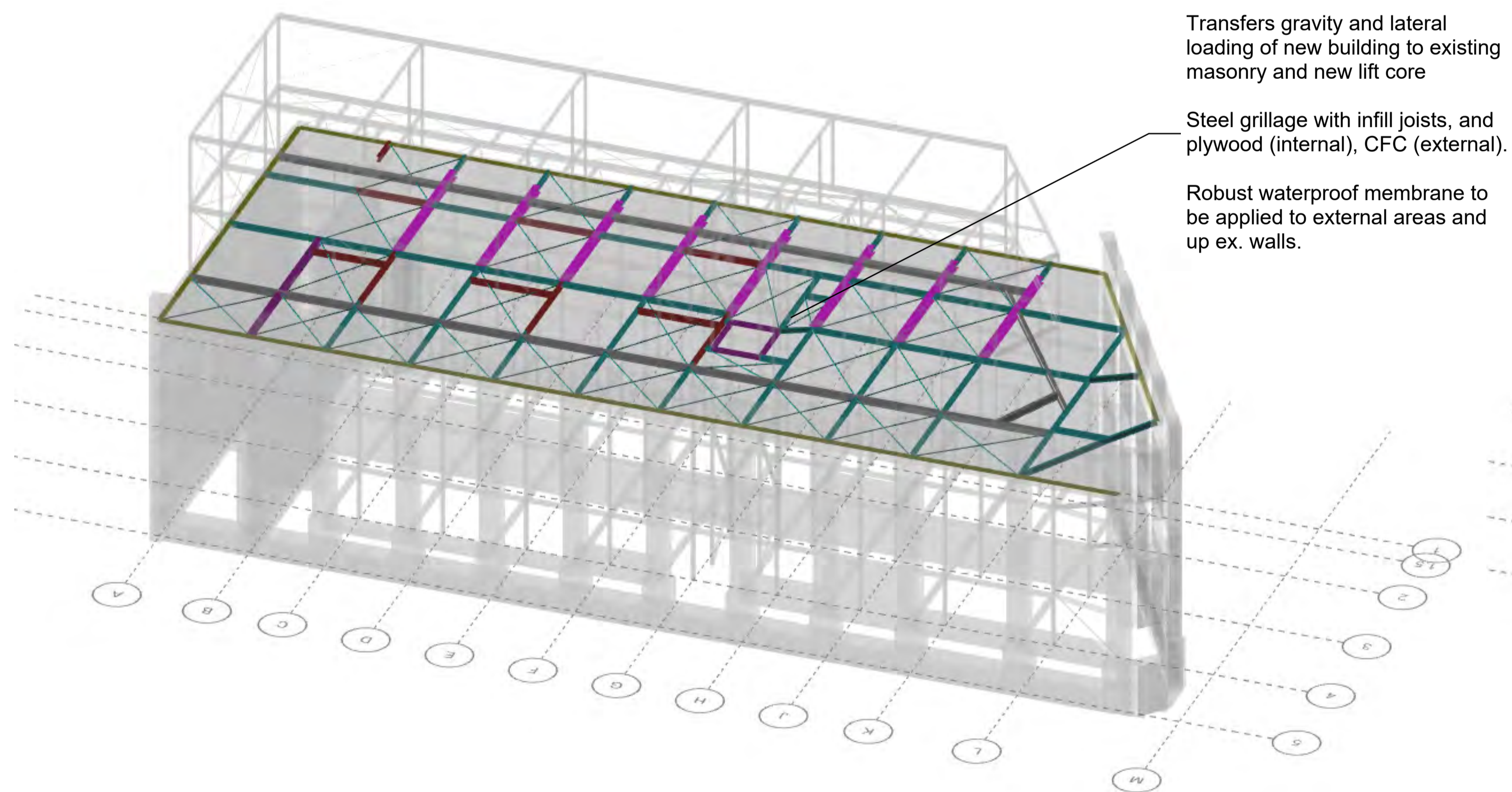
New Grid 1.5 Columns



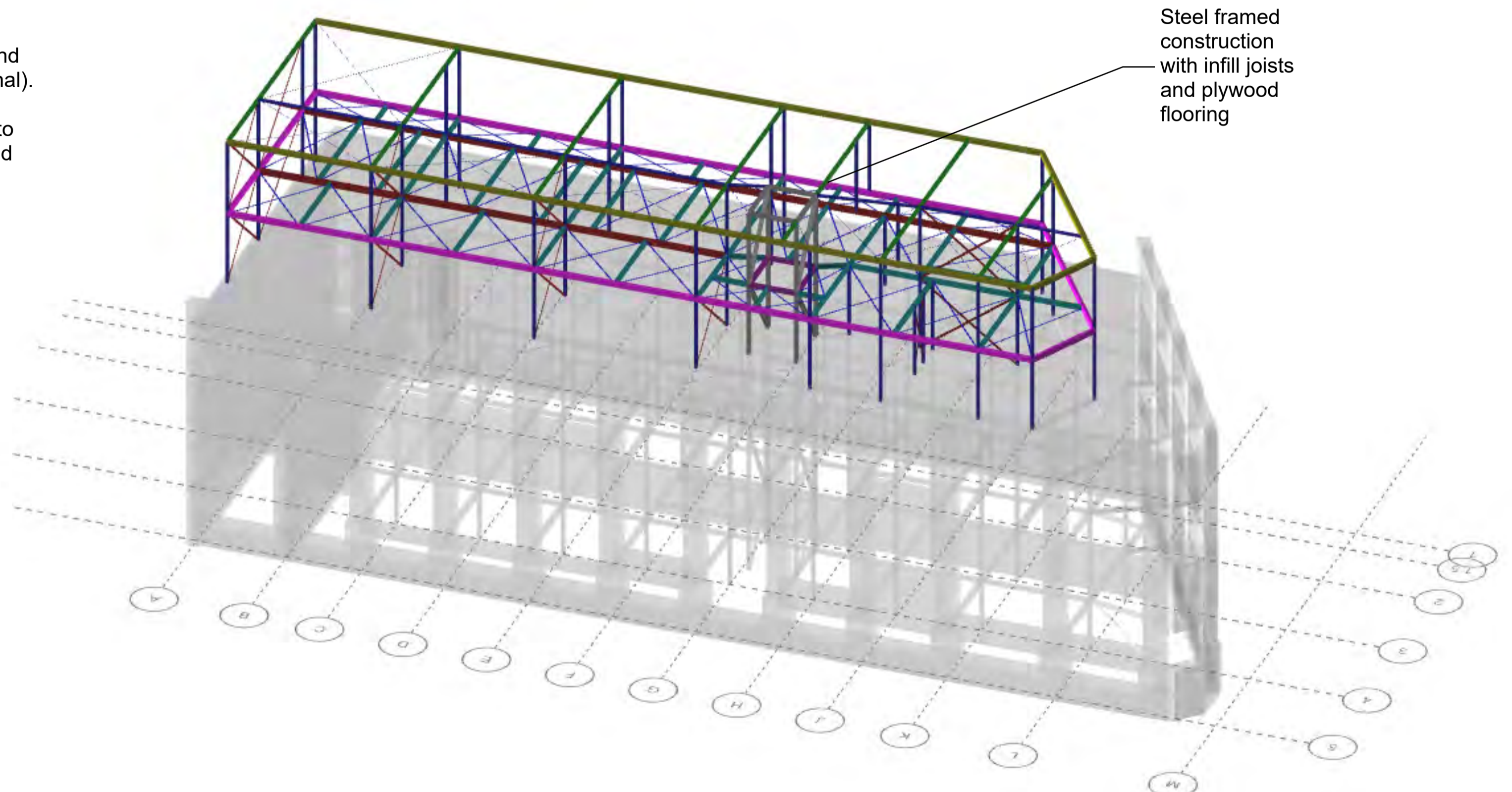
L2 Primary Transfer Beam



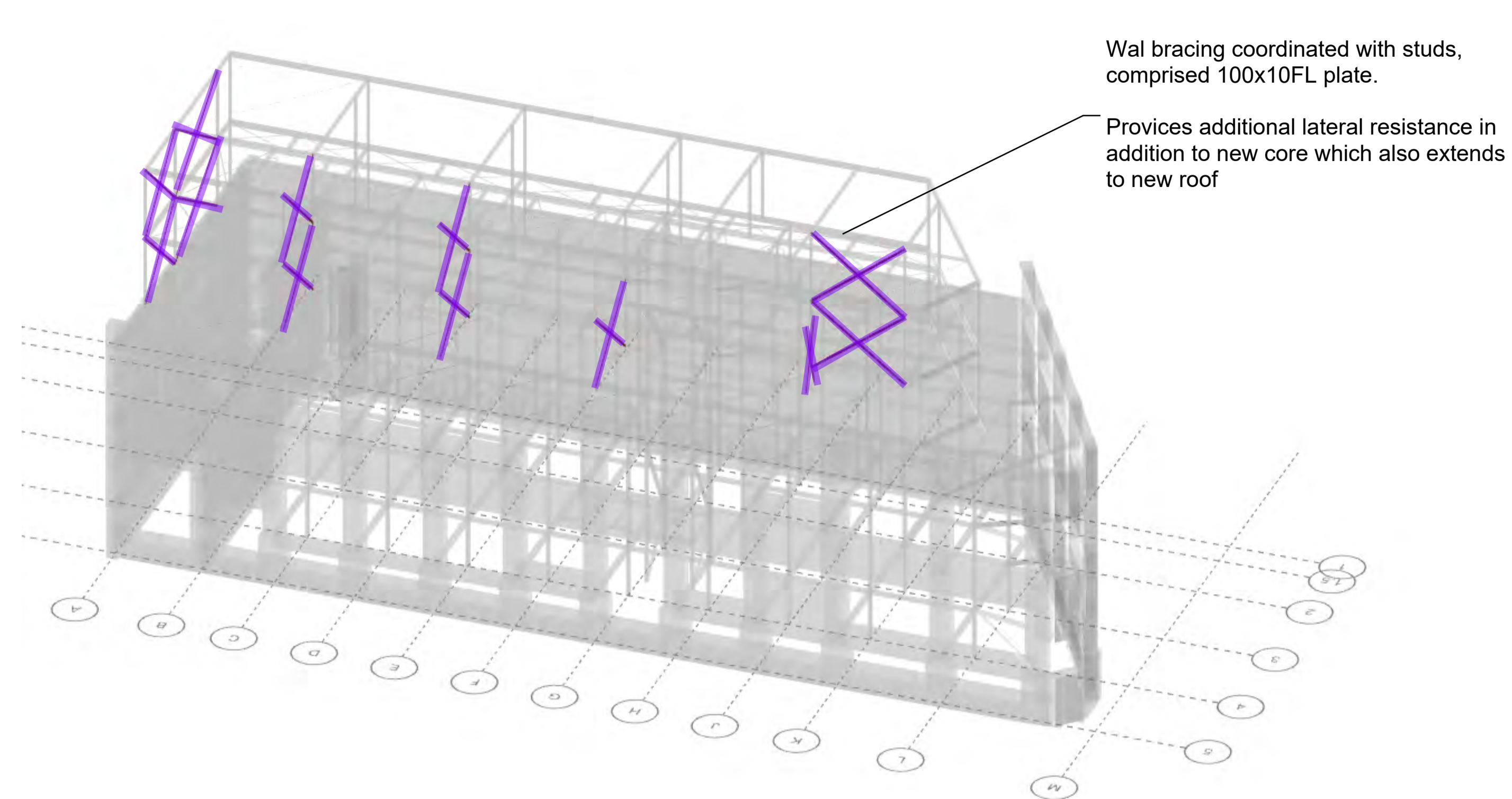
Ground Primary Transfer Beams



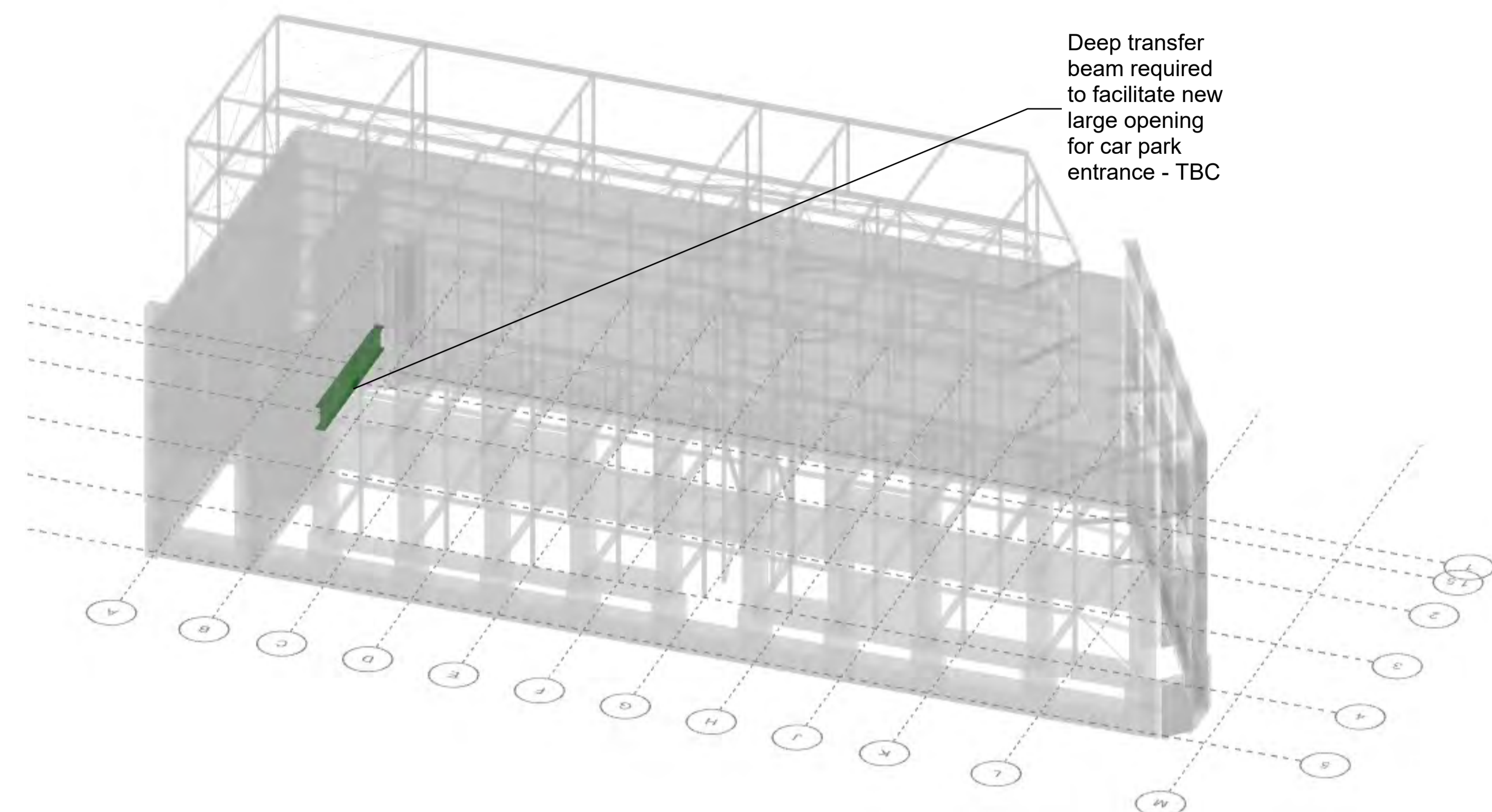
L2 Transfer Floor



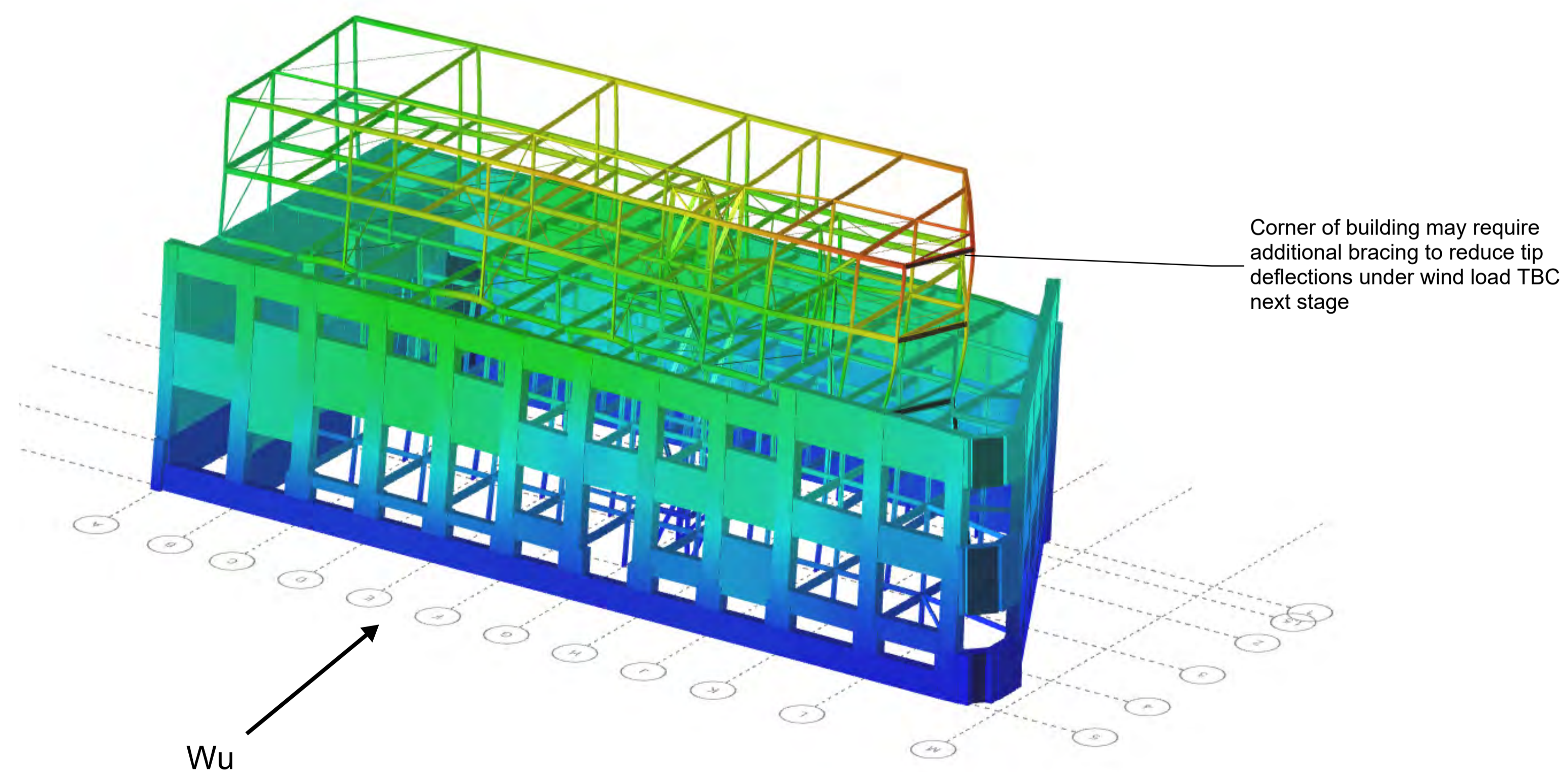
New Structure



New Structure - Stability Bracing



Ground Floor Wall Transfer

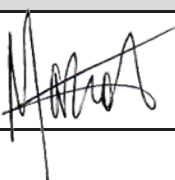


Global Sway - Wind

Design Review Report

Project Name: 49 Phillimore Street, Fremantle: DR 1

11 September 2023

Design Review Report		
Subject	49 Phillimore Street – Design Review 1 (NOTE: QUORUM WAS NOT REACHED. ADDITIONAL PRESENTATION WILL BE REQUIRED TO ENSURE LPS4 REQUIREMENTS MET)	
Date	11 September 2023	
Time	2.30pm -3.10pm	
Location	City of Fremantle	
Design Reviewers	Marco Vittino Flavia Kiperman	Acting Chair Panel Member
Proponent	Hesperia	
Project Team	Spaceagency architects Urbis See Design Studio Fini Group	Michael Patroni, Aaron Reddick Matthew Filov Joel Barker Jo Bennett
Planning Authority	City of Fremantle	
Staff	Chloe Johnston Justin Lawrence Gena Binet Bindi House	Manager Development Approvals Coordinator Statutory Planning Heritage Coordinator Senior Urban Designer
Stakeholders		
Declarations	None	
Briefings		
Relevant Authorities	The Planning Officer made a presentation to the Committee.	
Project Team	The Applicant made a presentation to the Committee.	
Design Review Report endorsement		
Reviewers signature	 Marco Vittino	

Introductory Comments	
<p>In accordance with clause 78B(6)(b) of Local Planning Scheme No. 4, Council shall not determine a development application that proposes a building with a building height of 11 metres or greater in any zone other than the Residential or Industrial zones without first referring the application to the Design Advisory Committee for advice and having regard to the advice provided by the DAC. In providing advice to Council, the DAC shall have due regard to the following principles of good design: Character; Continuity and Enclosure; Quality of the public realm, Ease of movement; Legibility; Adaptability; and Diversity.</p> <p>For the purposes of recording the advice of the DAC, the City will record the strengths of the proposal and comments and recommendations in accordance with SPP7.0 Design of the Built Environment, as detailed below.</p>	
Design quality evaluation	
Strengths of the Proposal	<p>The DAC</p> <ul style="list-style-type: none"> • appreciated the Applicant engaging in the process to seek comment on the proposal. • appreciated the intent of the scheme to retain the existing heritage building as much as possible whilst maximizing its potential and value. • noted the early engagement of sub-consultants to verify the opportunities and constraints of this delicate site. • noted the applicants attention to the impact of the additional height sought and the supporting streetscape analysis.
Principle 1 Context and character	<i>Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.</i>
	<ul style="list-style-type: none"> a) The existing building is of high Cultural and Heritage significance in the west end of Fremantle and it is imperative to retain its historical importance by fully understanding the elements that define it. b) The building is on a prominent site that is highly visible, even from a distance when approaching the west end from Phillimore St, as well as from Pioneer Park and Short St. c) Further research of the pre-existing tank on the roof and supporting structure is encouraged to see if parts may be retained and integrated or if the 'memory' of it may be re-interpreted in the design
Recommendations	<ol style="list-style-type: none"> 1. An assessment of Significance be prepared and presented by a registered Heritage Architect 2. A full schedule of works be prepared by a registered Heritage Architect and presented, including the proposed interventions on the façade, cupola, structures and other existing building elements. 3. The preparation of a set of drawings showing the existing building, proposed extent of demolition and retention, as well as addition of new structures required to support the added floors above. 4. A photographic Archival record to be prepared prior to carrying out any works to the satisfaction of the City of Fremantle 5. Further research the pre-existing tank on the roof and supporting structure to see if parts may be retained and integrated or if the 'memory' of it may be re-interpreted in the design
Principle 2 Landscape quality	<i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i>
	<ul style="list-style-type: none"> a) The DAC was supportive of the landscape proposition put forward, noting also the integration of the lightweight planting trellis for the arbour and its relationship to the existing building's structural module
Recommendations	1. Clarify how the on-structure planting will be designed and managed to be

	self-sustaining and require minimal intervention from building occupiers.
Principle 3 Built form and scale	<i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i>
	a) The general massing, scale and visual setback for the upper floor and roof terrace is supported.
Recommendations	1. None
Principle 4 Functionality and build quality	<i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i>
	a) The general strategy for the building is supported. b) Some uncertainty around the proposed replacement of large sections of brickwork with fixed glass panels of the same dimensions were raised.
Recommendations	1. Re-assess the proposed replacement of large sections of brickwork with fixed glass panels of the same dimensions, once the Heritage Reports have been finalised
Principle 5 Sustainability	<i>Good design minimizes the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i>
	a) The general strategy for sustainability is supported.
Recommendations	1. None
Principle 6 Amenity	<i>Good design minimizes internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.</i>
	a) Ensure that the offices have access to maximum daylighting and ventilation to minimize reliance on artificial lighting and climate control
Recommendations	1. Ensure that the offices have access to maximum daylighting and ventilation to minimize reliance on artificial lighting and climate control
Principle 7 Legibility	<i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i>
	a)
Recommendations	1. None
Principle 8 Safety	<i>Good design minimizes safety and security, minimizing the risk of personal harm and supporting safe behaviour and use.</i>
	a)
Recommendations	1. None
Principle 9 Community	<i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i>
	a) None
Recommendations	1.
Principle 10 Aesthetics	<i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i>
	a) Refer Principle 4 – Functionality and Build Quality
Recommendations	1. Re-assess the proposed replacement of large sections of brickwork with fixed glass panels of the same dimensions, once the Heritage Reports have been finalised

Concluding Remarks

The proposal illustrates a great approach and design strategy for this prominent building and site. The proposed functions are considered appropriate for the location.

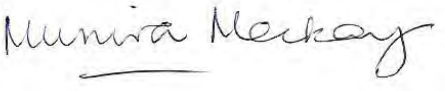
The DAC recommends further clarification around the impact of the proposal on this prominent Heritage building including:

- An assessment of Significance Report by a registered Heritage Architect
- A full schedule of works prepared by a registered Heritage Architect, including the proposed interventions on the façade, cupola, structures and other existing building elements.
- The preparation of a set of drawings showing the existing building, proposed extent of demolition and retention, as well as addition of new structures required to support the added floors above.
- A photographic Archival record prepared prior to carrying out any works to the satisfaction of the City of Fremantle
- Further research of the pre-existing tank on the roof and supporting structure to see if parts may be retained and integrated or if the 'memory' of it may be re-interpreted in the design

Design Review Report

**Project Name: 49 Phillimore Street, Fremantle
DR 2**

13th November 2023

Design Review Report		
Subject	49 Phillimore Street, Fremantle – Design Review 2	
Date	13 th November 2023	
Time	3.45pm - 4.45pm	
Location	City of Fremantle	
Design Reviewers	Munira Mackay Marco Vittino Flavia Kiperman	Chair Panel Member Panel Member
Proponent	Fini Group	
Project Team	Spaceagency architects Fini Group	Michael Patroni, Aaron Reddick Jo Bennett
Planning Authority	City of Fremantle	
Staff	Russel Kingdom Ben Talarczyk Justin Lawrence Jon Dornan Gena Binet	Director Strategic Planning and Projects A/Manager Development Approvals Coordinator Statutory Planning Planning Officer Heritage Coordinator
Stakeholders	None	
Declarations	None	
Briefings		
Relevant Authorities	The Planning Officer made a presentation to the Committee.	
Project Team	The Applicant made a presentation to the Committee.	
Design Review Report endorsement		
Reviewers signature	 Munira Mackay	

Introductory Comments	
<p>In accordance with clause 78B(6)(b) of Local Planning Scheme No. 4, Council shall not determine a development application that proposes a building with a building height of 11 metres or greater in any zone other than the Residential or Industrial zones without first referring the application to the Design Advisory Committee for advice and having regard to the advice provided by the DAC. In providing advice to Council, the DAC shall have due regard to the following principles of good design: Character; Continuity and Enclosure; Quality of the public realm, Ease of movement; Legibility; Adaptability; and Diversity.</p> <p>For the purposes of recording the advice of the DAC, the City will record the strengths of the proposal and comments and recommendations in accordance with SPP7.0 Design of the Built Environment, as detailed below.</p>	
Design quality evaluation	
Strengths of the Proposal	<ul style="list-style-type: none"> The proposal would breathe new life into this heritage listed building in the historic West End Precinct of Fremantle with premium quality office space in the existing building and residential (four two-level apartments) in a roof top addition. Confirmation of the retention of the heritage building's existing structural grid and floors. Separation from the existing structure of the new western wall for outdoor terraces and a light well to provide natural amenity for the new office use in the heritage building. The Applicant referred the DAC to the Heritage Consultant's schedule of works for information on the internal and external impacts of the proposal on the building's heritage. <p>The Applicant highlighted beneficial impacts for the heritage: externally – conservation of the landmark corner cupola, interpretation of the rhythm of bays along Pakenham Street (altered in 1990's), removal of intrusive paint, and integration of the existing brick support structure for the water tank with the proposed new residential addition; and internally - exposure of the original fabric of herringbone floor bracing, pressed metal ceilings and I-section columns that also should enhance the experience of heritage for people in the proposed new office use as well as views to the interior from the streetscape through modified openings.</p>
Principle 1 Context character and	<i>Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.</i>
	<p>a) The DAC appreciated receiving the Applicant's study that tests options for modifying the Pakenham Street frontage; currently for both floor levels and for the bays between piers that include brickwork below the high-light windows.</p> <p>The Applicant is seeking to modify the existing bay form by replacing all the brick panel with one fixed panel of glass of the same dimension and, thereby, enabling the proposed new office use to function better with more daylight, views out and passive surveillance opportunities of the street.</p> <p>The DAC advised that, following a review of the options, and noting that the least impact on the heritage is always preferred, the current proposed modification to the bay for a new window design was the preferred solution.</p> <p>The DAC acknowledged the Applicant's rationale that the modified design would best suit the overall composition of the elevation, proportion of the window and vertical rhythm of windows on the streetscape; improve building functionality by enabling daylight to enter the proposed new office use and provide community benefit with views to the interior exposed heritage from the public realm of the street.</p>
Recommendations	1. None

Principle 2 Landscape quality	<i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i>
	<p>a) The Applicant confirmed that species selection for on-structure planting would be predominantly waterwise endemic with likely twice-yearly maintenance. Planting would be accessible for additional maintenance by residents if desired.</p>
Recommendations	1. None
Principle 3 Built form and scale	<i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i>
	<p>a) In principle, the DAC has no concerns about a new roof top addition for the proposed new residential use and notes the existing roof has little heritage significance.</p> <p>In response to a query, the Applicant clarified that the floor level of Apartment A only on Level 2 had been raised 750mm higher than the rest of the floor level to allow views from the balcony over the existing parapet wall (that would serve as the balustrade).</p> <p>The Applicant also clarified that in response to the DAC's comment, the apartment façade treatment (Levels 2 and 3) had been amended to create a finer edge.</p> <p>The DAC previously supported the design strategy for the new roof top addition, including setbacks from the existing building edges on the western, northern, and eastern sides and Apartment A's balcony "breathing space" afforded to the existing corner cupola.</p> <p>However, the DAC commented that the impact of the variation sought for additional height for the site (16.79m deviation from the prescribed scheme height limit of 14m), bulk and scale of the two-storey extension on the existing heritage building height must be better understood in the context of this significant corner site location in the historic West End Precinct of Fremantle.</p> <p>The DAC therefore requests that additional eye level and long-distance views of the proposal be prepared and submitted, from along Phillimore Street, Fremantle Station and surrounding higher areas such as the Round House.</p> <p>b) The DAC also requested sight of the Heritage Impact Statement. (Note: the document submitted to the City as part of the DA package has been reviewed post-DR2).</p>
Recommendations	1. Provide additional eye level and long-distance views of the proposal from along Phillimore Street, Fremantle Station and surrounding higher areas such as the Round House.
Principle 4 Functionality and build quality	<i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i>
	<p>a) Refer to Principle 1: Context and Character for comment on the modified openings.</p> <p>b) The DAC sought clarification on the new roof top addition's structural grid, compared to the grid of the existing building. The applicant confirmed that the two grids were unable to coincide however, to address the discrepancy, the rhythm of the new lightweight landscape trellis structure aligns with the structural grid of the existing building.</p> <p>The DAC acknowledged this design approach and requested the eastern elevation drawing clearly shows the alignment between the existing structural grid with that of the new trellis structure.</p>

	<p>As per the recommendations at Design Review 1:</p> <ul style="list-style-type: none"> c) Provide demolition plans that clearly show the retention of significant heritage items, demolition of intrusive items, and proposed demolitions included in the adaptive re-use scope of works. d) Provide a detailed scope of conservation works proposed for the development. e) Submit a photographic archival record prior to an application for a building permit in accordance with the HCWA guidelines for Archival Records.
Recommendations	<ol style="list-style-type: none"> 1. Provide an updated eastern elevation that clearly shows the alignment between the existing structural grid with that of the new trellis structure. 2. Provide demolition plans that clearly show the retention of significant heritage items, demolition of intrusive items, and proposed demolitions included in the adaptive re-use scope of works. 3. Provide a detailed scope of conservation works proposed for the development. 4. Submit a photographic archival record prior to an application for a building permit in accordance with the HCWA guidelines for Archival Records.
Principle 5 Sustainability	<i>Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i>
	a) None
Recommendations	1. None
Principle 6 Amenity	<i>Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.</i>
	a) Refer to Principle 1: Context and Character for comment on the modified openings.
Recommendations	1. None
Principle 7 Legibility	<i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i>
	a) Consider how the integration of signage can maintain the aesthetic of the heritage building.
Recommendations	1. Provide a signage strategy that integrates signage appropriately with the heritage aesthetic.
Principle 8 Safety	<i>Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.</i>
	a) Since cyclists and vehicles share the entry and ramp access to the basement bike store and carparking, carefully consider the safety of cyclists and measures to allow sightlines of drivers who are maneuvering vehicles.
Recommendations	1. Manage and demonstrate the safety of building users accessing the basement bike store and carparking.
Principle 9 Community	<i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i>
	a) None
Recommendations	1. None
Principle 10 Aesthetics	<i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i>
	a) Refer to Principle 1: Context and Character for comment on the modified openings.
Recommendations	1. None

Concluding Remarks

The DAC acknowledges and supports the proposal's intent to revitalise this heritage building with new uses and interventions for beneficial impacts for the heritage as noted above.

However, the DAC recommends provision of the following additional information:

1. To understand the impact of the proposal's additional height above the permitted limit and within the context of the West End Precinct of Fremantle, provide further eye level and long-distance views of the proposal from along Phillimore Street, Fremantle Station and surrounding higher areas such as the Round House.
2. Demolition plans clearly showing the retention of significant heritage items, demolition of intrusive items, and proposed demolitions included in the adaptive re-use scope of works.
3. Detailed scope of conservation works proposed to the development.
4. Submission of a photographic archival record prior to an application for a building permit in accordance with the HCWA guidelines for Archival Records.
5. Provide an updated eastern elevation that clearly shows the alignment between the existing structural grid with that of the new trellis structure.
6. Provide a signage strategy that integrates signage appropriately with the heritage aesthetic.
7. Demonstrate the safety of building users accessing the basement bike store and carparking.

URBIS

PROPOSED MIXED USE DEVELOPMENT (MULTIPLE DWELLINGS AND OFFICE)

**49 PHILLIMORE STREET,
FREMANTLE WA 6160**

PREPARED FOR
THE CITY OF FREMANTLE
OCTOBER 2023



PROJECT TEAM



Developer
Fini Group



Town Planning
Urbis



Architect
spaceagency



Landscape Architect
See Design Studio



Waste Management
Talis Consultants



Heritage
Heritage Intelligence (WA) - Laura Gray



Sustainability
Cundall



Structural Engineering
Forth Consulting



Traffic
Flyt



Acoustic
Stantec

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Tim Dawkins
Consultant	Matthew Filov
Project Code	P0048098
Report Number	Final for Lodgement.

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We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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1. EXECUTIVE SUMMARY

This proposal represents another exciting collaboration between landowner (49 Phillimore Pty Ltd), developer (Fini Group), and renowned Fremantle Architect, spaceagency (led by Michael Patroni). We are pleased to lodge this development application for what will be a sophisticated, and contemporary reinvigoration of an important heritage building in the Fremantle west end. This exciting new development will positively contribute to the locality creating the opportunity for a significant new office workforce and new residents into the heart of Fremantle.

The lodgement of this development application represents the revitalisation of the former Robert Harper Building, which was constructed in the 1920s and is a stalwart on the prominent west end corner of Phillimore and Pakenham Street. The proposal aims to reinvigorate this iconic landmark by celebrating its rich history and Fremantle's unique culture, while also delivering contemporary office workspaces and residential homes to attract residents and tier one office tenants to the west end that will enliven the area day and night, weekday and weekend for years to come.

This application will respectfully restore the former Robert Harper Building to be more aligned with its original façade through the removal of intrusive paint, and 1950's alterations to restore the original brick and mortar fabric of the building. Internal reconfigurations to the existing office floors (ground and first) will provide a breath of fresh air to the building to transform it into a flexible office space capable of attracting top tier commercial tenants to work in the Fremantle city centre. The reconfiguration will maintain existing floor levels and heights, but create an opportunity for new landscaped courtyards on the ground and first floor.

On top of the existing building, the proposal delivers four high-quality apartments across a new additional second and third floor. With three different layouts, the apartments will deliver a diverse housing form unlike anything else within the west end and will attract and retain residents for years to come. Utilising the existing foundations and structural integrity of the Robert Harper Building, the new additions will be a combination of glazing and metal cladding to effortlessly contrast and complement the newly restored heritage brickwork on the lower floors.

This report has been prepared by Urbis, in collaboration with spaceagency and a broader team of technical consultants, in support of the works proposed for Lot 51 (No.49) Phillimore Street, Fremantle. We are very pleased and excited we have reached this milestone and look forward to continuing to work further with the City of Fremantle to deliver this exciting redevelopment.



2. DEVELOPMENT APPROVAL

This application seeks development approval for:

- Restoration of the external façade components of the former Robert Harper Building to bring the building's façade closer to its original aesthetic and rhythm. This includes the removal of mid-1950s façade changes (through the removal of paint to expose the building's brickwork and simplification of the fenestration) and reinstating the delineation between the corner and rear component of the building.
- Construction of a new second and third floor addition to facilitate the delivery of four contemporary residential dwellings (apartments).
- The following land uses:
 - Office
 - Multiple Dwellings

All components of this application are proposed to be constructed simultaneously, with anticipated commencement in 2024 and completion in 2025/26.

3. THE JOURNEY

3.1. OWNERSHIP CAPABILITY

Long term business partners and Fremantle investors, Nic Trimboli and Adrian Fini, are the landowners of 49 Phillimore Street. Together, they have a long legacy of delivering Western Australia's most loved and awarded property projects spanning hospitality, tourism, and the arts. What sets them apart is their keen awareness of placemaking, their collaboration with the best architects and consultants and most importantly - they are in it for the long game, both developing and operating their projects unlike many other landowners and developers.

Along with their many partners, they are synonymous with projects such as the State Buildings and COMO The Treasury, Alex Hotel, the Rechabite, Bread in Common, Coogee Common, Mello House, Lawson Flats, Little Creatures, Rosemount Hotel, Leederville Hotel, Vin Populi and many others. At the heart of each of these projects is a desire to bring people together and build community.

3.2. PROJECT ARCHITECT

The project architect, spaceagency, is a renowned and multi-award winning architectural practice based in Fremantle. Led by Michael Patroni, spaceagency is experienced in a wide range of projects including tourism, individual and multiple housing, commercial, institutional, educational, hospitality and urban design.

A selection of spaceagency's most recognised and awarded projects include:

- The Royal George
- State Buildings (Long Chim, Petition)
- Alex Hotel
- Premier Mill Hotel, Katanning
- The Farmers Home Hotel, Northam
- Bread in Common
- Coogee Common
- Rechabite Hall
- The Margaret River Hotel

3.3. PRE-LODGEEMENT ENGAGEMENT

The project team has conducted a significant amount of pre-lodgement engagement, which has occurred at Local government level prior to the lodgement of this development application.

Ongoing engagement with the City of Fremantle has occurred with the City over the last few months. This includes liaison at an Officer and Manager level through various meetings, phone calls and emails. Most notably:

- **Project Inception Meeting (Heritage Team)** - held on 10 August 2023 at the City of Fremantle to discuss the proposal, site conditions, the approach of the heritage restoration and improvements.
- **Project Inception Meeting (Planning Team)** - held on 17 August 2023 at the City of Fremantle to discuss the proposal, site conditions, design approach and functionality.
- **Design Advisory Committee (DAC) Meeting** – meeting one held on the 11 September 2023 to present the proposal, articulate project intent and design rationale to the DAC.
- **Various Discussions with City** – the project team has worked collaboratively with the City throughout the pre-lodgement phase of the project, with various discussions over the phone and email which has been of great assistance and has informed the development application.

4. THE SITE AND LOCALITY

4.1. CITY CONTEXT

The subject site is located within the City of Fremantle local government area and Fremantle City Centre, approximately 15km (as the crow flies) south-west of the Perth CBD. The proposal is located on land traditionally owned by the Whadjuk People of the Noongar Nation and is locally named as Walyalup.

The site is within 200 metres walking distance of Fremantle Train and Bus Station, providing direct rail connections to the Perth CBD and other key locations. In particular, the Fremantle Bus Station provides regular access to the Perth CBD, Curtin University, and the Murdoch Health and Knowledge Precinct.

The regional context of the site is shown in the figure below.

Figure 1 – Regional Context Plan



Source: [Urbis]

4.2. LOCAL CONTEXT

The subject site sits at the junction of Phillimore Street and Pakenham Street (to the north and east respectively) in Fremantle's iconic West End Precinct. Directly to the east of the site is Pioneer Park and the Quest Fremantle building. Directly south of the site is the Old Faithful Bar and Grill, the Whitespace Studio Space and the Republic of Fremantle Distillery. Just north of the site (across Phillimore Street) is the soon to be reimagined Victoria Quay, and the Fremantle Train and Bus Station. West of the subject site is Customs House, and the Fremantle Fire Station.

Situated in the West End (encompassing over 250 buildings), the site is surrounded by fascinating architecture, and enjoys the benefits of being within the historical Fremantle City Centre, located approximately 800m (west) from the World Heritage listed Fremantle Prison and 350m west of Walyalup Koort.

While Fremantle is a City Centre rich in culture and history, significant redevelopment has occurred in recent times. New development, including the redeveloped Warders Cottages for food beverage uses, the redevelopment of the Old Synagogue, FOMO Freo and the Walyalup Koort renewal, have been part of a broader strategy to revitalise the City Centre to reinforce its position as a key destination of choice from a resident, employment and tourist perspective.

The local context of the site is shown in the figure below, with a series of contextual graphics provided on the following page.

Figure 2 – Local Context Plan



Source: [spaceagency]

4.3. THE SITE

The proposed works are entirely within Lot 51 (No. 49) Phillimore Street, Fremantle as highlighted within the figure and table below. The site is relatively regular in shape, with approximately 21.0m of frontage to Phillimore Street, and 46.0m frontage to Pakenham Street.

A copy of the Certificate of Title is provided at **Appendix A**.

Table 1 – Site Particulars

Lot No.	Street Address	Diagram	Area	Volume	Folio	Registered Proprietor
51	49 Phillimore Street	67964	715sq.m	1695	11	49 Phillimore Pty Ltd

Figure 3 – Cadastre Plan



Source: [Urbis]

4.4. SITE HERITAGE AND EXISTING DEVELOPMENT

The site has two heritage contexts to consider, as it is within the Fremantle West End Heritage Area (listed as Place No. 25225 on the State Heritage Register), and the building itself is listed individually on the City's Municipal Heritage List with a Management Category of Level 1B (Exceptional Significance). Meaning, the City of Fremantle has identified this place as being of exceptional cultural heritage significance in its own right within the context of Fremantle and its conservation is required.

Further detail is provided **Section 6.1** and **Appendix B**, within a Heritage Impact Statement (HIS) prepared by Heritage Intelligence (WA)

4.4.1. Robert Harper Building

With a curved entry on an acute angled corner and topped with a metallic dome, the former Robert Harper Building (**the building**) is a landmark element in Fremantle's west end on the prominent Phillimore and Pakenham Street corner. The building is one of the predominant Federation era buildings in the west end and is typified by the form, construction materials, detailing, and its location in close proximity to the port and railway, which facilitated the historical warehouse functions of the place.

The architectural style of the building comprises a double storey face brick building with a half-floor basement that projects slightly above ground level, two stories above and the remains of a water tank stand on the roof at the southeast end of the Pakenham Street frontage. The main entrance is located on the curved truncated corner of Phillimore and Pakenham streets with a secondary entry introduced c.1950s, midway along the Pakenham Street frontage, and the cartway access at the southeast end.

The building is a face brick structure with rendered detailing, however, the brick has been painted several times. Externally there has been interventions to the warehouse bays along the Pakenham Street frontage, with three of the original blank brick bays infilled with windows to match the office section bays that comprise sets of three windows as evidenced on the frontages that flank the corner to both street fronts.

The proposal seeks to restore the former Robert Harper Building to be more consistent with its original façade. The external restoration includes the paint removal, conservation of the original built fabric and the increase in glazing to generate a positive contribution to the streetscape and internal amenity for the workforce it supports, whilst maintaining the original rhythm of the warehouse facade. This is further explained in **Section 6.1** and **Appendix B**.

Figure 4 – Existing Robert Harper Building



Source: [Freotopia]

4.5. EXISTING ACCESS

There is an existing crossover located in the southeast corner of the site on Pakenham Street. The crossover currently leads to the existing basement, which is accessible via a roller door and ramp, and utilised currently for service equipment and storage.

The site is situated just 200m (walking distance) southeast of the Fremantle Station, providing the site with excellent access to public transport, including regular train services to and from the Perth CBD, and the high frequency 999 route.

Pedestrian access to the site is facilitated along both frontages via Phillimore and Pakenham Street which provides the site with connections to the broader footpath network throughout the City of Fremantle. Most notably, the site has relatively direct connections through footpath to High Street, Victoria Quay and Bathers Bay.

4.6. EXISTING PARKING

There is currently no car parking provided on site.

5. PROPOSED REDEVELOPMENT

5.1. RESTORATION AND ACTIVATION

The proposed redevelopment seeks to provide Fremantle with a form of residential housing that is unlike anything else within the west end, by utilising best practice adaptive re-use principles and heritage conservation measures. The contemporary restoration of the former Robert Harper Building will see the site become more accessible, activated and inviting, as well as being materially and intricately restored closer to its original form. The new additions to the site will deliver four high-quality apartments across a new additional second and third floor.

The proposal will provide a mixed use (office and residential) offering that is unlike any other in Fremantle by providing high-quality office space, and delivering contemporary apartments in a prominent heritage building in Fremantle's west end. Overall, the redevelopment will provide a place for more people to live and work in Fremantle whilst restoring, activating and celebrating a prominent heritage building for years to come.

The ground floor and first floor building will be revived and reactivated, with both floors opened up by the removal of the 1950's and 1990's additions (such as window replicas, entry doors or partitions) to restore the building closer to its original envelope whilst providing greater amenity for the occupants via increased natural light and ventilation. This will allow for a floorplan that facilitates use as a contemporary workspace within the context of the heritage fabric that supports the needs of a modern business. With the majority of structural elements of the building retained, the proposal seeks to deliver four apartment dwellings above the existing heritage building – most of which will be supported by the steel columns and foundations that already exist on site.

With three different layouts, the apartments will deliver a diverse housing form unlike anything else within the west end and will attract and retain residents for years to come. Utilising the existing foundations and structural integrity of the Robert Harper Building, the new additions will be a combination of glazing and metal cladding to effortlessly contrast and complement the newly restored heritage brickwork on the lower floors.

As the site is currently not universally accessible, the proposal embodies a strategy for providing dignified access by reconstructing the Pakenham Street interface to provide a universally accessible entrance into the building. The introduction of a new central lift will deliver better accessibility throughout the basement, ground, first and second levels of the building.

Figure 5 – Proposed Development Render



Source: [Spaceagency]

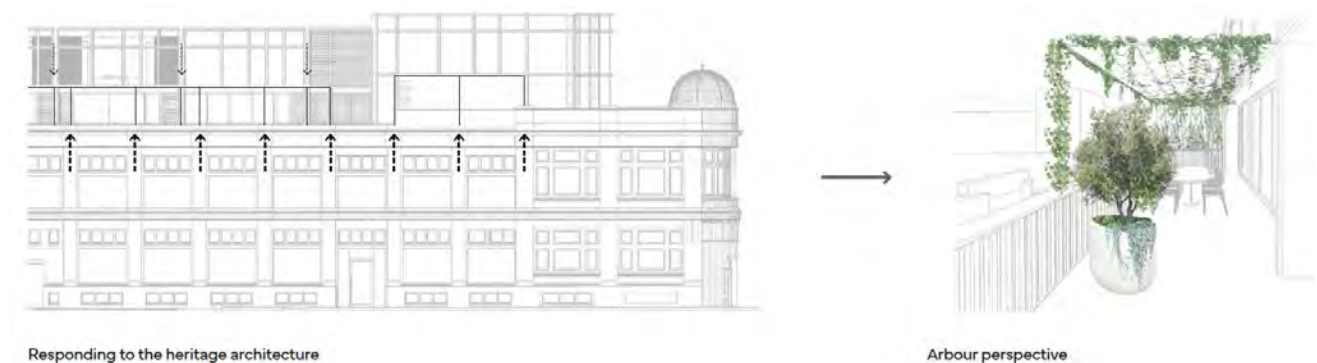
5.2. LANDSCAPE STRATEGY

The landscape strategy for the redevelopment is focused on delivering landscaping on a constrained site that is already entirely built out, whilst still celebrating and complementing the heritage value of the building. The landscaping seeks to deliver amenity for residents and workers through the delivery of outdoor terraces and courtyards on the ground, first and second floor of the building. This will deliver private open space with access to sunlight and fresh air to promote relaxation and well-being.

The delivery of on-structure planting, urban greenery and tying public and private realm is a critical component of the landscape strategy for the site. Through meticulous design consideration, the proposed landscape seeks to create visual links between private open space (private terraces for residents) on the second floor of the building, with the local public open space (Pioneer Park directly east of the site), and the broader Fremantle landscape (as the proposed dwellings enjoy views out to the Victoria Quay).

The landscape arrangement has been reconfigured to create spatial clarity and cohesiveness that is sympathetic to the building's heritage value. Raised planter boxes, privacy screens with climbing plants and potted trees will enable a verdant green terrace to wrap around the building and generate visual green amenity visible from the street. A landscaped arbour is proposed to wrap around the building and take inspiration from the verticality of the heritage building below. This provides a visual response and link to the heritage architecture of the existing building, and will improve the passive solar outcome for residences, create comfortable outdoor living spaces and a high visible green space connection from the street below.

Figure 6 – Landscaping Response to Heritage



The planting and material palette has been carefully considered and is a key component of the design to ensure that maintenance of the landscaping is manageable, sustainable and achievable all year round. The material palette is designed to be sympathetic with the architectural elements of the existing heritage building to ensure a cohesive and harmonious presentation is achieved throughout the project. Materials with natural tones are proposed with varying textural expression to create an appropriate level of intimacy and detail that is tactile, engaging and integral to achieving a rich experience for both residents and guests.

5.3. VEHICLE, SERVICE AND PEDESTRIAN ACCESS

Access to the site will remain the same, with one full-movement crossover provided at the south-east corner of the site on Pakenham Street, which leads to the existing basement. The basement carpark will be for resident access only (controlled via a roller door), and will provide 8 car bays (two bays for each apartment).

Servicing of the proposal (waste collection) will occur via Pakenham Street, with bins collected from a dedicated bin collection area that is managed by the building caretaker / manager - as described within the WMP provided at **Appendix D**.

From a pedestrian perspective, there is an already established footpath network throughout the west end, and the broader city centre surrounding the subject site. The proposal seeks to retain and utilise the existing footpath infrastructure, with no changes or amendments proposed as part of the redevelopment.

Within Fremantle, cycling is typically taking place either along the roads or designated cycle paths. In the immediate vicinity of the site, on-street cycle lane is provided along both sides of Phillimore Street. The proposed redevelopment includes provision of safe bicycle storage area for both office employees, residents and visitors. The end-of-trip facilities in the form of separate showers and bathroom for employees and guest is also provided within the development.

6. SPECIALIST TECHNICAL INPUTS

6.1. HERITAGE IMPACT STATEMENT

Heritage Architect, Laura Gray (Heritage Intelligence WA), has provided ongoing advice and input into the design evolution of the redevelopment, to inform the conservation strategy and ensure the proposed new built form is respectful of the building's rich history. Heritage Intelligence WA have prepared a Heritage Impact Statement (HIS) to support the proposal and specifically to assess the proposal against the Statements of Significance contained in the State Register of Heritage Places and City of Fremantle's Municipal Heritage Inventory.

The HIS provides a detailed assessment of the proposal (specifically against the provisions of Local Planning Policy 3.21 – West End Heritage Area) and considers the design, conservation approach, and if any measures of amelioration have been implemented to minimise adverse impacts on the heritage value of the building. Overall, the HIS concludes that the proposal for the conservation, repurposing and roof-top apartments of the former Robert Harper Building provides a significant opportunity to activate the Quay Edge precinct and make a significant contribution to the West End's social, cultural and economic vibrancy as a traditional multipurpose urban centre of the Fremantle City Centre – further, the proposed upgrades and additions are considered good conservation practice and will have a long-term positive impact on the cultural heritage significance of the site. The HIS further confirms:

- The proposal will restore and repurpose a significant heritage building by introducing compatible uses, and constructing roof-top apartments that will enhance the building's integrity and amenity. Overall, providing for the long-term conservation, viability and positive activation of the West End.
- The design has sought to maintain existing floor to floor heights to ensure that the built heritage, and the original form, scale and functionality of the former Robert Harper Building is retained.
- The height of the roof-top apartments is consistent with examples in Pakenham Street and new buildings behind parapets in Phillimore and Pakenham streets. The amenity of the roof-top views for the apartments and the associated outdoor space is outstanding and will further reinforce the viability and long-term conservation of Harpers Building.
- The proposed removal of the intrusive window frames in three 'bays' along the warehouse section of Pakenham Street frontage to be infilled with glazed panels will reinstate the rhythm of the original warehouse frontage. Removing the paint also allows the building fabric to breathe and minimise, if not negate entirely, the dampness issues and damage to this building and many others in the West End.

A copy of the HIS is provided at **Appendix B**.

6.2. TRAFFIC ASSESSMENT

Flyt have completed a traffic, basement and carpark assessment to confirm the functionality and compliance of the proposed basement carpark, entry crossover and ramp with relevant Australian Standards. The assessment confirms:

- The entry crossover will be clearly defined (with pavement marking) to ensure the safety of footpath users is prioritised, and the entry ramp to the carpark is legible for future residents.
- The ramp gradient at 1:5 with 2m transition lengths at 1:10 is compliant with Australian Standards.
- The swept path analysis conducted for the car park, and the ramp demonstrates that all bays and the car park are fully accessible for B99 design vehicles (which is the 99.8th percentile sized vehicle in the Australian passenger vehicle fleet).
- All car bays are compliant with AS2890.1 requirements for Class 1A bays (minimum dimensions of 2.4m wide by 5.4m long with a 5.8m aisle).

To review the Basement and Carpark Assessment in detail, please refer to **Appendix C**.

6.3. WASTE MANAGEMENT PLAN

The proposed development has allocated two separate bin storage areas (one for commercial and one for residential) in the basement level of the building. It is proposed that the City collect refuse, recyclables and FOGO from the proposed development utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Presentation Area on Pakenham Street, as prescribed within the WMP.

The building manager/caretaker will transfer bins to and from the respective Bin Storage Area and the Bin Presentation Area visitor bays on collection days utilising a bin tug. The travel path between the Bin Storage Areas and the Bin Presentation Areas will be kept free of obstacles. Signage that advises when street parking bays should be kept clear will be installed adjacent to the bays to ensure that access for bin collection is maintained. Further, the building manager/caretaker will place traffic cones within the required bays on collection days to ensure that bays are clear of vehicles. The building manager/caretaker will return the bins to the respective Bin Storage Area on the same day following collection.

A Waste Management Plan (WMP) has been prepared by Talis Consultants and is provided at **Appendix D**.

6.4. LANDSCAPE PLAN

See Design Studio has prepared a landscape concept report which details the landscape principles, design inspiration / response to the heritage of the building, and planting palette that is being proposed. Materiality, landscape species, site context and character has been carefully considered, to ensure that the proposal is cognisant of the buildings heritage, its location within Fremantle's west end and the surrounding streetscape.

As the site itself is completely built out, there is no ability to deliver on-site deep soil planting. With this in mind, the delivery of on-structure planting, urban greenery and tying public and private realm has become a critical component of the landscape strategy for the site.

The proposed arbours take inspiration from the verticality in the heritage façade, and ties with existing building with the new built form that will be provided above. Ultimately, the arbours will improve the passive solar outcome for the residences, create comfortable outdoor living spaces and a highly visible green space connection from the street below.

The key landscape strategies for the development are explained in **Section 5.2**, with a full copy of the landscape report provided at **Appendix E**.

6.5. SUSTAINABLE DESIGN REPORT

Cundall have prepared a Sustainable Design Report which outlines the Ecological Sustainable Design (ESD) strategy for the proposed development, and ensures that the proposal complies with the requirements that are established under Local Planning Policy 2.13 – Sustainable Buildings Design Requirements (**LPP 2.13**). This includes the development being designed to meet requirements of Ecologically Sustainable Design (ESD) and aiming to achieve a 4-star Green Star equivalent standard. In addition to the requirements listed in LPP 2.13, the proposal is also targeting a minimum 5.5-star NatHERS for the building as a whole, an average 7-star NatHERS rating for the residential components of the development and a 5-Star Energy under NABERS for Office for the office component of the development.

The Sustainable Design Report provides strategies, methods, and information to be investigated to ensure that energy, water and materials consumption is minimised throughout construction, operation and demolition. Further, there is guidance provided on how the internal and external spaces can be optimised for occupant health, wellbeing and comfort to contribute towards social sustainability.

Overall, the proposed development is capable of achieving the requirements that are set out within LPP 2.13, and will deliver a building that can increase the environmental, social and economic sustainability of Fremantle's west end.

A copy of the Sustainable Design Report is provided at **Appendix F**.

6.6. ACOUSTIC ASSESSMENT

An Acoustic Assessment has been undertaken by Stantec and demonstrates that the proposed development satisfies the requirements of the Western Australian Environmental Protection (Noise) Regulations, State Planning Policy 5.4 Road and Rail Noise (**SPP 5.4**), Local Planning Policy 2.18 – New Residential Developments in the City Centre Zone (**LPP 2.18**) as well as NCC and BCA requirements.

Noise intrusions that may impact the proposed development from the surrounding environment have been assessed, including noise generated from the railway line. The Acoustic Assessment provides noise mitigation measures such as façade, glazing, roof and wall configurations to assist in minimising acoustic impact on the development. As such, the following will be employed throughout the detailed design phase of the project:

- Façade, glazing, roof and wall treatments will be selected to meet the acceptable indoor noise requirements for the individual dwellings, and the commercial tenancies due to noise generated from railway line. To demonstrate this is achievable, noise intrusion calculations have been conducted to assess against the highest noise levels at each façade orientation to determine what will be appropriate external wall, glazing and roof configurations.
- A detailed review of mechanical equipment and services plant will be conducted during the design phase prior to the issue of a building permit to re-confirm there will be no acoustic impact on the proposed development, and the existing environment.

Overall, the proposed development is capable of mitigating noise impacts caused by the existing railway line and surrounding environment by applying building treatments and mitigation measures. Further, noise emissions from the development have been assessed and no adverse impact on the surrounding environment is anticipated.

The Acoustic Assessment is provided at **Appendix G**.

6.7. STRUCTURAL CONCEPT REPORT

Forth Consulting have prepared a Structure Concept Report which assesses the existing structural integrity of the building, including the foundation, slab, external walls, steel frame, flooring and roof. Further to this, the proposed structure and construction works associated with delivering this is considered in the context of the existing structural integrity of the building to determine whether or not the new loading of the proposed development can be catered for without further strengthening.

Based on the assessment conducted, at this stage, the structural integrity of the existing building is considered sufficient to bear the new load of the proposed development, without the need for further strengthening. However, it is noted that an existing column grid is being removed with modifications, including a new column grid being added to accommodate the minimum clear width drive aisle in the basement. Further, it is noted that some remedial work is still expected to repair corrosion or degradation of the structure due to its age.

The Structural Concept Report is provided at **Appendix H**.

7. RESPECTFUL REINVIGORATION UTILISING LOCAL KNOWLEDGE

7.1. FROM THE ARCHITECT

Project Vision - The primary objective is to restore and extend the life of the original warehouse and while at the same time leveraging the commercial and cultural opportunities intrinsic to the site. To increase the GFA of the site but adding 2 levels to the existing building and achieve a mixed-use development that optimises the attributes of the existing building to house a combination of commercial and residential. Achieve an architectural response that demonstrated design excellence, both in terms of external architectural expression and the internal layout and amenity.

Context - The fmr. Robert Harper Building has a prominent location on the corner of Phillimore and Pakenham streets in Fremantle's west end conservation precinct facing Pioneer Park and adjacent to Victoria Quay.

The former Office and warehouse for Robert Harper flour mill was built in the 1920s and presents as a significant corner element within the urban context with stepped parapets and topped off with a domed cupola. The Impressive stucco multi bayed window tracery detail of the corner element is in contrast to the blank, uniformity of the warehouse return onto Pakenham Street. Externally the facades remain largely original except for intrusive adaptations of some of the warehouse walls with new openings and entrance that mimic the detail of the corner. Internally little of the original detail is evident.

Located within the sub area 1.3.1 of the Central Business Zone of City of Fremantle's TSP4 a building height of 11m or 3 stories is permitted plus a further 3 m, subject to a incremental street setback. Yet further height is at Council's discretion if an existing building of greater height is within the vicinity.

The National Construction Code Requires residential building of 4 storeys or more to be protected by fire sprinklers, however as a result a number of egress and fire resistance concessions are afforded as result. Further the Code restricts open stairways to connect only 3 storeys, and opening windows on adjoining bounds to be setback.

Opportunities – In light of the project vision and the context surrounding the site / building we see the following opportunities:

- To restore and adapt an important architectural and cultural asset reinforcing a sense of place and state heritage.
- To provide more commercial floor area to facilitate financial viability of the restoration project.
- To leverage the value of a heritage asset to maximise the commercial return from sale to lease.
- Leverage the location to advance and reinforce the activation of the heritage precinct and a nascent central business area.
- Off set the mandatory cost of fire sprinkler system to afford concessions on egress and fire resistance.
- Provide a measure of on site residential car parking in the unused basement.

Architectural Moves - The project comprises a number of architectural moves that realise the restoration, conversion and addition to the original building that are best described firstly in considering a sectional view: firstly, constructing a vehicle access ramp to the basement level in the existing cartway in Pakenham Street to provide 8 car parking bays plus ancillary space; secondly inserting an open stairway and lift, to serve all tenancies with a naturally ventilated lit, and universally accessible connection and thirdly adding 4 two level residential apartments, with access from the central stair lobby to the lower level and with individual internal stairways, set back from the street facades.

The program within the building will comprise car parking and ancillary spaces on the lowest basement level, two subsequent levels of refurbished office space and topped by two levels of residential apartments.

The existing facade will be restored, with the paint being removed from the brick and stucco surfaces followed by repointing and remediation of the spalling concrete of the window tracery. The cupola will be re-clad in like for like metalwork. While the new stairway will address the 1990's opening intervention in the Pakenham Street elevation, the other 5 intrusive insertions will be reversed with a strategy that will return the warehouse elevation to its original uniformity and singular expression and scale. The original highlight sash widows and stucco cill detail will be reinstated and below a single panel of fixed glass will take the place of the former single panel of brickwork. This strategy will be employed uniformly to all bays of the Pakenham Street warehouse elevation. This removal of the intrusive elements will return the warehouse to the simplicity, uniformity and scale that originally contrasted with the more complex and upscale office finale at the corner, albeit that there will be a material modification, justified by the improved amenity and surveillance afforded by the adaptation of the former warehouse to an office workplace.

Internally intrusive partition walls and ceilings will be removed, and surviving pressed metal ceilings, still columns and open herringbone braced warehouse soffits will be exposed in the refurbished office spaces.

The proposed new built form additions will be setback from both street boundaries by 4 metres, and at the nexus a circular subtraction in deference to the plan form of the cupola. Furthermore 3 meters setback from the southwestern boundary is proposed. The margin will encompass terraces and landscaping for the residential apartments set behind the original stucco parapets. Articulation of the form steps up in line with original parapet to emphasise the corner condition.

The proposed materiality of the new build form is informed by the roof-scape strata within which it occupies.

Proposed rooftop planting will provide sun shading privacy and wind protection for the residents and the introduction of a "roof top garden" urban typology will enhance the experience of passers by, meanwhile providing a transitional element between the existing masonry parapet and the proposed additional built form.

Summary - The refurbishment of under utilised office space and the introduction of new residential use will prolong the life of the building whilst reinvigorating the locality with new residents and workers.

- Michael Patroni – Spaceagency

7.2. DESIGN EVOLUTION AND ENDORSEMENT

The Project Team first presented this proposal to the City of Fremantle Heritage Staff on 10 August 2023, and the Planning Staff on 17 August 2023. Following this, the proposal was formally presented to the City of Fremantle Design Advisory Committee (DAC) on 11 September 2023. Over this time and through to lodgement of this application, the design has evolved to respond to the City's feedback and the DAC comments and recommendations through the proposed architectural and landscape response.

Through those early discussions with the City, it was understood that a key consideration for the new addition should be to respond to the verticality of the existing heritage façade in an appropriate manner. As a design response to this, the landscaped arbours were revisited, and additional thin vertical supports were introduced to align with the primary pillars of the heritage facade. This ensures that the arbour now acts as a bridging element between the old and the new, and the heritage fabric of the building is continued on and re-interpreted in a contemporary manner.

An explanation of the design evolution through the DAC process is provided below.

7.2.1. DAC Meeting

The project team presented the proposal to the DAC and relevant City of Fremantle Staff on the 11th of September 2023, and articulated the design merit of the proposal, as well as the fundamental architectural moves that led to the design outcome.

Further, information was provided with respect to an analysis of surrounding building heights to justify the proposed minor height variation being sought, with support provided for the massing, scale and visual setback for the upper floor and roof terrace provided by the DAC.

Table 2 below provides a summary of the DAC recommendations, and the project teams response.

Table 2 – Summary of DAC Comments and Responses

DAC Recommendation	Design Response / Outcome
Context and Character:	
An assessment of Significance be prepared and presented by a registered Heritage Architect	A Heritage Impact Statement has been prepared by Heritage Architect, Laura Gray (Heritage Intelligence WA) - refer Appendix B . In response to the DAC recommendation, a Schedule of Elements & Works has been prepared and is attached at Appendix K .
A full schedule of works be prepared by a registered Heritage Architect and presented, including the proposed interventions on the façade, cupola, structures and other existing building elements.	
The preparation of a set of drawings showing the existing building, proposed extent of demolition and retention, as well as addition of new structures required to support the added floors above.	Please refer to the proposed development architectural plans at Appendix J .
A photographic Archival record to be prepared prior to carrying out any works to the satisfaction of the City of Fremantle	Accepted.
Further research the pre-existing tank on the roof and supporting structure to see if parts may be retained and integrated or if the 'memory' of it may be re-interpreted in the design	In response to the DAC feedback, the design has been revised to retain the majority of the remaining brick plinth supporting structure. This is discussed in further detail, and included as part of the assessment within the HIS at Appendix B .

DAC Recommendation	Design Response / Outcome
Landscape Quality	
Clarify how the on-structure planting will be designed and managed to be self-sustaining and require minimal intervention from building occupiers.	On structure planting will be designed to include species that require minimal maintenance. Typically, this will include predominantly waterwise endemic species that require maintenance approximately twice a year. The planters will be designed to be ergonomically accessible by residents to undertake their own additional maintenance if desired or required.
Functionality, Build Quality and Aesthetics	
Re-assess the proposed replacement of large sections of brickwork with fixed glass panels of the same dimensions, once the Heritage Reports have been finalised.	<p>The outcome has been explored and tested with alternative scenarios, however, ultimately it was found that the replacement with a singular pane of glass to be the most in line with the original utilitarian rhythm of the warehouse frontage. The outcome is driven by two primary purposes:</p> <ol style="list-style-type: none"> 1. Removal of the intrusive 1990's windows and insertions to reinstate the delineation of office and warehouse. 2. Increasing the amenity and passive surveillance for the building occupants and overall streetscape.
Amenity	
Ensure that the offices have access to maximum daylighting and ventilation to minimize reliance on artificial lighting and climate control	The removal of the 1990's additions and reinstating an original rhythm to the warehouse facade, albeit with a singular pane of glass, will have a significantly positive outcome for the amenity of both the building's occupants as well as the passersby. Existing and reinstated high-level windows will also be utilised for natural ventilation. The light well & courtyards to the southwest of the site will further increase access to daylight and natural ventilation for the buildings occupants

7.3. DESIGN PRINCIPLE ASSESSMENT

State Planning Policy 7.0 – Design of the Built Environment provides guidance on design quality and built form outcomes, setting out design principles to inform assessment and design review. The design merit of the proposal is highlighted below against these various principles.

7.3.1. Principle 1 – Context and Character

Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.

The proposal has been informed by a comprehensive review of the multitudes of histories that surround the site and the various contextual elements and personalities that are unique to the building itself, and Fremantle's west end. The analysis resulted in the development of a locally referenced material palette that enables an interpretive response and ultimately, arrives at a built form (for the newly proposed second and third floor) that is distinctive and unique, but still eclectic to Fremantle in character.

Locally, the site is located at the prominent corner of Phillimore and Pakenham Street within Fremantle's west end, as demonstrated in the local context map at Figure 2. Situated on the northern end of Pakenham Street, the site is surrounded by a diverse mixture of uses such as food, beverage, café, restaurant, shop, warehouse, office and tourist-based uses.

The building itself is one of the predominant Federation era buildings. Its Federation architectural style is typified by the form, construction materials, detailing, and its location in close proximity to the port and railway, in the West End, facilitated the office and warehouse storage functions of the place.

All of these contextual factors have been critical in shaping the design, resulting in an interpretive and contemporary expression of the local context while juxtaposing with the historical material palette and traditional scale of development referenced throughout the west end. As such, the proposal seeks to respectfully celebrate the site's context, location and each strand of history as it works towards creating a new addition to the west end.



7.3.2. Principle 2 – Landscape Quality

Good design recognises that together, landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.

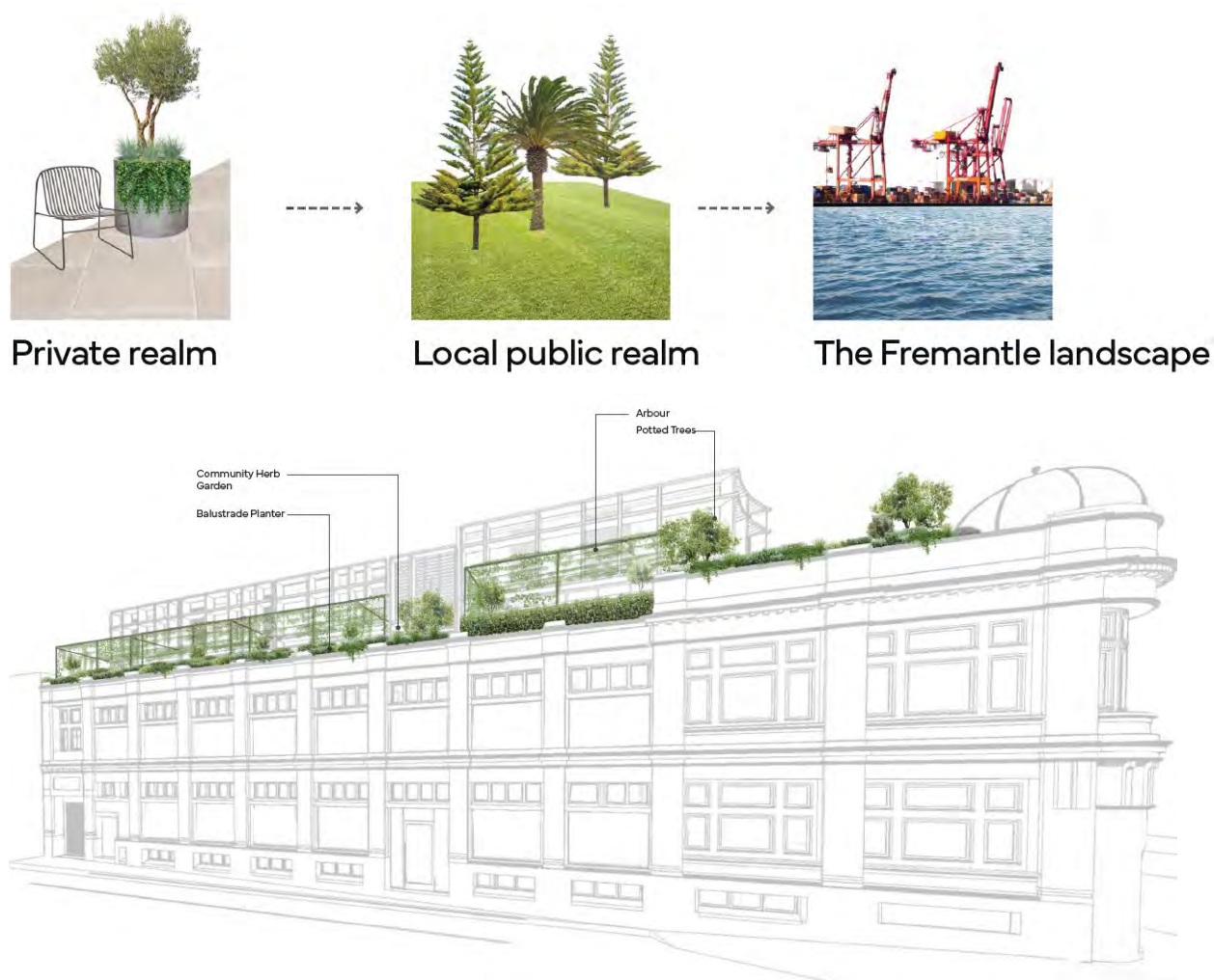
Similar to the architectural response, the proposed landscape strategy has been by first considering the existing contextual and cultural elements of the site and determining an appropriate design outcome for the site. As the site itself is completely built out, there is no ability to deliver on-site deep soil planting. With this in mind, the delivery of on-structure planting, urban greenery and tying public and private realm has become a critical component of the landscape strategy for the site.

The landscape design seeks to link the private open space (private terraces for residents) provided on the second floor of the building, with the local public open space (Pioneer Park directly east of the subject site) through direct visual links. Further, this will create a natural draw to ensure the broader Fremantle landscape as the proposed dwellings looks outward to the port and train lines. Views of this quintessentially Fremantle landscape are framed from the building and then looking back at Phillimore Street from a distance, the apartment terraces will be vibrant green pops of colour in the urban environment.

Furthermore, the proposal also seeks to remove a portion of the roof to create a void to provide sunlight and ventilation to a ground floor and first floor outdoor terrace which will enable office tenants to have access to an outdoor space with vegetation.

The key landscape elements of the proposal are discussed within the Landscape Report, prepared by See Design Studio and included at **Appendix E. Figure 7** below demonstrates the landscaping character, and strategy for the site.

Figure 7 – Landscape Strategy



7.3.3. Principle 3 – Built Form and Scale

Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.

The proposal seeks to deliver two additional storeys of residential on top of the existing building, whilst being cognisant of the existing height and scale that surrounds the subject site. The proposed additional residential storeys are set back from both street facades as well as western boundary to provide natural light to the rear side of lower levels. In doing so, the perceived scale is greatly reduced through a larger setback. This also enhances the amenity for usable green space for residents.

The proposed additional bulk and scale is situated appropriately on the building, and has been developed in consideration of the height and scale that surrounds the subject site. Notably, the Quest Apartment Hotel directly adjacent (east) of the subject site and will remain taller than the proposed additional residential dwellings as demonstrated in the figure below.

Figure 8 – Proposed Bulk and Scale



Note - building heights depicted above are calculated utilising a consistent datum line at ground to depict comparable building heights.

The proposed setback of the apartments ensures that future residents will have views towards the street, but the building will blend in suitably from street level to ensure a human scale is maintained at the street edge (refer **Figure 9** below).

Figure 9 – Proposed Bulk and Scale



Overall, the built form and scale of the project is a high-quality architectural response to the heritage value of the building and the broader west end, delivers a development of a suitable scale and will create a building that will become a new working and living hub in the heart of the Fremantle.

7.3.4. Principle 4 – Functionality and Build Quality

Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.

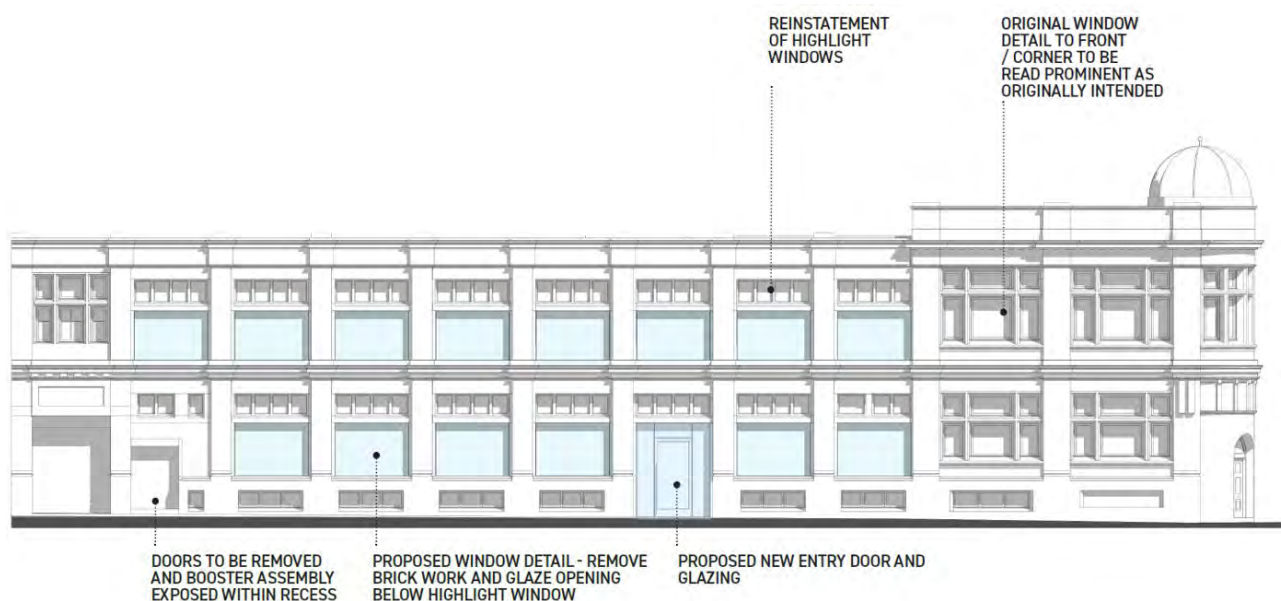
The proposed redevelopment will reinvigorate a cherished building and a prominent figure of the west end, and deliver an exciting and new mixed use offering. The proposal seeks to provide a high-end office workspace that is not currently widely available within the west end to attract commercial tenant(s) that will promote agglomeration of activity and attract similar tenants into the precinct in the future.

The proposal maintains nearby properties' amenity, with no detrimental increase in overshadowing (due to the generous setting back of new building mass), or overlooking of private outdoor living areas. Sightlines will open towards Victoria Quay, and Pioneer Park so that future residents enjoy beautiful views of the eclectic Fremantle landscape.

The location of new services such as air conditioning are hidden from public (and residents) view, with the service plant located on the third floor (in between Apartment A and B) and neatly screened so it is stitched into the fabric of the building. The building in its entirety will be re-serviced including a fire sprinkler system to mitigate unsympathetic compliance modifications allowing once hidden steel columns, pressed metal ceilings and timber warehouse soffits to be revealed.

Street interface / façade improvements will be made through the removal of window replicas and the entry door (which were mainly part of 1990's additions) and the reinstatement of highlight / high level windows, and glazed openings to generate a more inviting and active frontage (refer **Figure 10** below). The improvements assist with creating a more pedestrian friendly public realm and through the comprehensive site repair strategy, the existing Robert Harper building will be made entirely universally accessible, with wheelchair access provided via the Pakenham Street entry.

Figure 10 – Proposed Functionality Improvements



7.3.5. Principle 5 – Sustainability

Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.

Sustainability has been considered throughout the design process to ensure that a positive outcome is delivered from an environmental, social and economic perspective to enable the project to make a meaningful contribution to the future sustainability of Fremantle's west end.

By adaptively reusing the Robert Harper Building, there is a significant saving of resources, and building material. This provides a substantially reduced carbon footprint and landfill waste compared to the alternative of demolition and rebuilding. For the new additions being delivered on the upper levels of the existing building, there has been careful consideration undertaken in relation to building materials, construction practices, passive design, energy storage and waste production to ensure it meets the project's sustainability targets.

The development has been designed to meet requirements of Ecologically Sustainable Design (ESD) and aiming to achieve a 4-star Green Star equivalent standard. Further, the proposal is also targeting a minimum 5.5-star NatHERS for the building as a whole, an average 7-star NatHERS rating for the residential components of the development and a 5-Star Energy under NABERS for Office for the office component of the development.

The proposal seeks to increase social sustainability by delivering residential dwellings and new vibrant office space, which will bring more people to live and work in the west end, which in will create a more sociable, walkable environment for residents and workers alike.

The development will be a new 'hub' within the west end, encouraging both workers and residents to roam the streets of Fremantle city centre, which will positively support the local economy and small businesses. The integration of the development with the existing footpath network will connect the development with existing commercial properties on either side of the subject site, and more broadly with the walkable footpath network that is established throughout Fremantle.

7.3.6. Principle 6 – Amenity

Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.

The proposal has sought to preserve and build upon the existing amenity in the west end throughout the design phase of the project. Overlooking from the proposed residential upper levels has also been carefully considered, and the generous setbacks that have been applied assist in mitigating direct overlooking.

The development will create a new place of social engagement, employment, and accommodation for Fremantle, with the ground level street interface focused on providing a new contemporary office space that is capable of attracting tier one tenants and increasing a corporate workforce in the west end. The residential dwellings will diversify the availability and choice of housing within the west end.

The residential outdoor terraces and landscaped spaces will provide protected and shaded environments that will be a natural extension of the upper-level dwellings, and provide residents with opportunities for exposure natural daylight. The courtyard areas will be protected and shaded by strategically located landscaping (via the balustrade planter, potted trees and the arbour), which will also provide a natural green barrier of privacy.

The refurbished offices will provide an offering unlike anything else in the locality, providing a flexible and high-quality workspace for future tenants to utilise. Further, the new residential apartments utilise various floorplates to diversify the layout of the dwellings and provide choice for future residents. The building in its entirety (existing lower levels, and proposed upper levels) boasts an excellent orientation, as it enjoys views of Victoria Quay, and Pioneer Park – enabling future workers and residents to enjoy views and interfaces with endemic Fremantle locations.

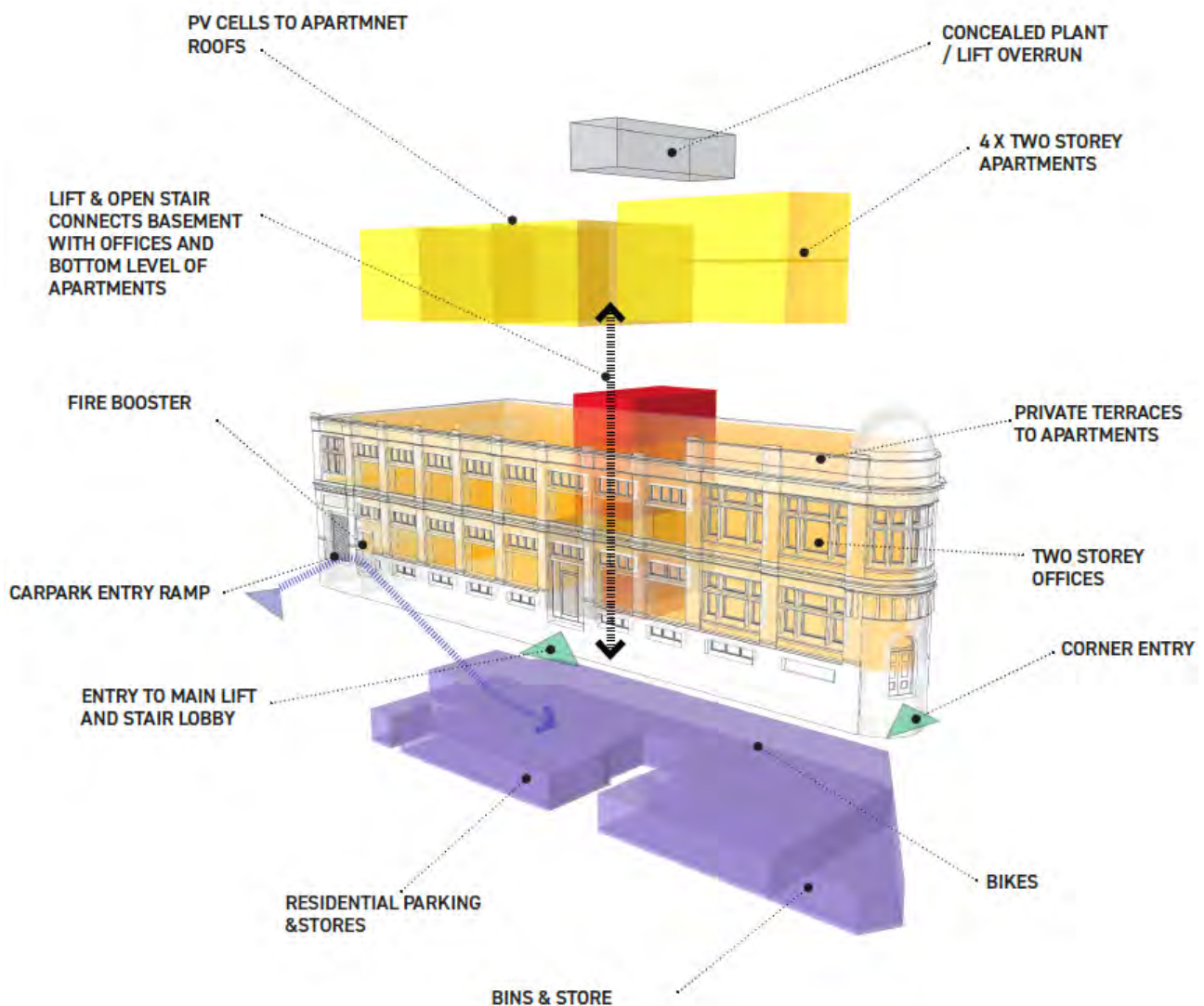
7.3.7. Principle 7 – Legibility

Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.

The architectural language, material and detail of the new apartment dwellings have been designed to differ, whilst still complement the existing form of the Robert Harper Building to ensure that the entire site integrates through a subtle contrast in material and scale. The Robert Harper Building is a well-recognised building in Fremantle's west end, and important focus was placed on celebrating this and ensuring that it will remain a legible and recognisable building for years to come.

The setback of building mass, and prioritisation of outdoor terraces (particularly around the corner apartment) reflects the existing facade articulation and assists in achieving clear sight lines over the existing parapets. Both the office and residential components of the building share a main entrance and lobby area, ensuring a legible entrance to building is created for residents, employees and visitors – this is achieved through the prominent corner entry being maintained and respected in expression of new built form.

Vehicles and people are completely separated, with vehicle entry located in the southeast corner of the site, leading to a basement carpark that will be accessible for resident's vehicles only. While the car parking is solely for residents, the office will have access to the basement via lift for bicycle parking and refuse disposal.



7.3.8. Principle 8 – Safety

Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.

The proposed redevelopment seeks to create a more safe, interactive and pedestrian friendly streetscape through the introduction of increased glazing, rooftop courtyards and residential dwellings that will provide eyes on the street and passive surveillance opportunities. This is achieved via the newly introduced glazing to the office, and with the addition of residents above for nighttime and weekend passive surveillance.

The carparking area will be well-lit, accessible for residents and office tenants, viewable from the highlight windows at street level and monitored by CCTV. Waste collection has been considered throughout the design phase of the proposal, with the WMP provided at **Appendix D** confirming that waste collection can be conducted safely and efficiently across the site.

It is noted that all external spaces within the project will be designed to achieve CPTED principles, including natural access control, territorial reinforcement, after-hours lighting and passive surveillance opportunities. The location of a singular vehicle access point in the southeast corner of the site off Pakenham Street will ensure vehicle/pedestrian safety is maximised.



7.3.9. Principle 9 – Community

Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.

The revitalisation and increased activation of a prominent corner building in Fremantle's west end will reinforce the local identity of Fremantle and bring additional residents, amenity, economic benefit and employment to the community. The proposal will provide dwellings at the northern end of the Fremantle city centre, generate more foot traffic on local streets (with more residents and office workers in the area) and successfully demonstrate best practice adaptive re-use of a heritage building.

In addition to the above, the proposed development will improve the Phillimore / Pakenham Street streetscape to create a more community-connected environment by creating a more permeable façade (through additional glazing and openings) and providing an additional 4 residential dwellings to the locality, which will further add to the social and economic vitality of the precinct.

7.3.10. Principle 10 – Aesthetics

Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.

The proposal embodies best practice conservation and adaptive re-use, through the delivery of appropriately scaled built form above an existing heritage building. The proposed design has evolved since its inception to respond to feedback from the City of Fremantle (both the Planning Team, and the DAC) and expert technical advice.

The material palette that has been selected is restrained and lightweight, allowing for a clear distinction between the solidity of the heritage masonry and the contemporary alterations. This achieves an integrated response between the old and new, while still being mindful of the surrounding Fremantle context and history. Direct reference to local context is made in the selection of metal cladding, landscaped trellis and metal balustrade – tying in subtly with the west end's industrial history.

The proposal has placed significant focus on landscaping to provide a level of amenity and aesthetic that doesn't currently exist on site. The introduction of courtyards with arbours, raised planters, privacy screens and potted trees will deliver a sense of urban greenery and make a significant contribution to the ecology, character and amenity of the broader locality.



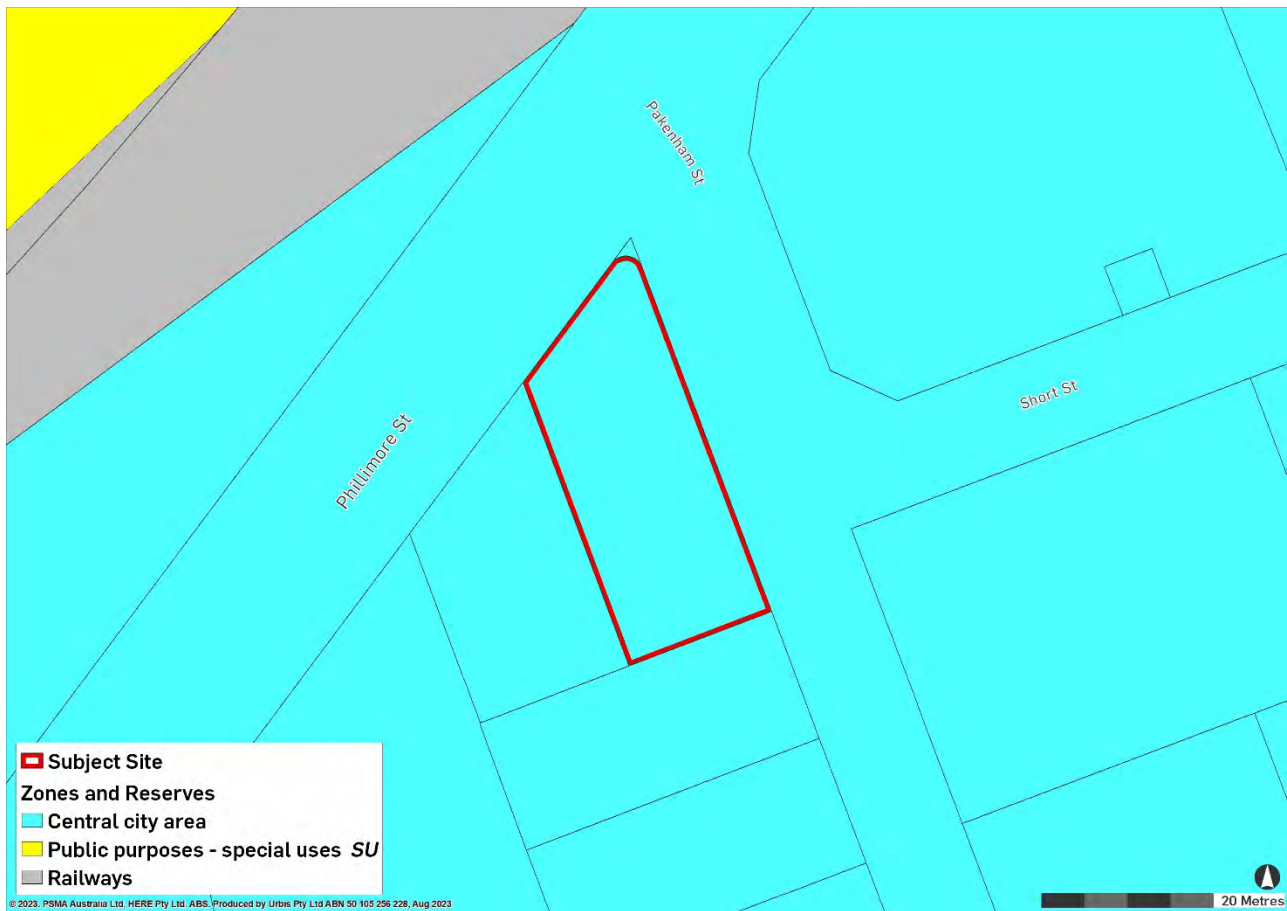
8. STATE PLANNING ASSESSMENT

8.1. METROPOLITAN REGION SCHEME

The Metropolitan Region Scheme (MRS) is the highest-level statutory planning framework which divides land within metropolitan Perth area into broad zones and reservations. The subject site is zoned 'Central City Area' under the MRS, which is applied to areas in which a range of activities are undertaken, including retail, commercial and office facilities as well as employment, civic, business and residential uses. The existing and proposed development on site is considered entirely consistent with the intentions of the Central City Area zoning under the MRS.

As demonstrated in **Figure 11** below, the railway line to the north of the subject site is identified as 'Railways' under the MRS, as it provides for public transit routes and associated facilities such as park'n'ride stations, maintenance depots and marshalling yards.

Figure 11 – Metropolitan Region Scheme Zoning







Source: [Urbis 2023]

8.2. STATE PLANNING POLICIES

The table below provides a summary of the proposal's compliance with the relevant State Planning Policies.

Table 3 - State Planning Documents

Document and Summary	Assessment	Compliance
<p>State Planning Policy 4.2 – Activity Centres for Perth and Peel</p> <p>This policy seeks to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. The policy is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.</p>	<p>Fremantle is identified as a 'Strategic Centre' under SPP 4.2, which are the main regional and sub-regional activity centres. They are multipurpose centres that provide a diversity of uses and are the main focus for housing and employment growth outside the Capital City. The proposed development complements the existing function of the centre by providing additional dwellings and office space for people to live and work within the locality.</p>	
<p>State Planning Policy 5.4 – Road and Rail Noise (SPP 5.4)</p> <p>The key objective of SPP 5.4 is to minimise the adverse impact of road and rail noise on noise-sensitive land uses.</p>	<p>The subject site is approximately 50m south of the railway line, which is classified as both a passenger and freight railway. As the proposed development is considered a 'noise sensitive land use' that is within the buffer area of the railway – an Acoustic Report has been prepared (refer Appendix G) to address the relevant attenuation requirements under the Noise Regulations / Guidelines.</p>	
<p>State Planning Policy 7.0 – Design of the Built Environment</p> <p>This policy addresses design quality and built form outcomes in Western Australia. It seeks to deliver the broad economic, environmental, social and cultural benefits that derive from good design outcomes and supports consistent and robust design review and assessment processes across the State.</p>	<p>The Design Principles outlined within this policy have underpinned the conceptualisation phase of the project, ensuring that all principles have adequately been addressed and considered in the proposed design. Please refer to the Section 7.3 of this application for a detailed design statement addressing each design principle of the policy.</p>	
<p>State Planning Policy 7.3 – Residential Design Codes Volume 2 (Apartments)</p> <p>This Policy (specifically, R-Codes Volume 2 - Apartments) provides planning and design standards for residential apartments (multiple dwellings) in areas coded R40 and above, within mixed use development and activity centres.</p>	<p>The R-Codes Vol. 2 is a performance-aligns with SPP 7.0 to enhance the quality of apartment design in WA. The proposal demonstrates compliance with the R-Codes Volume 2 and delivers a high-quality outcome for the locality. Please refer to Appendix I for a detailed R-Codes Assessment against the requirements of Volume 2.</p>	

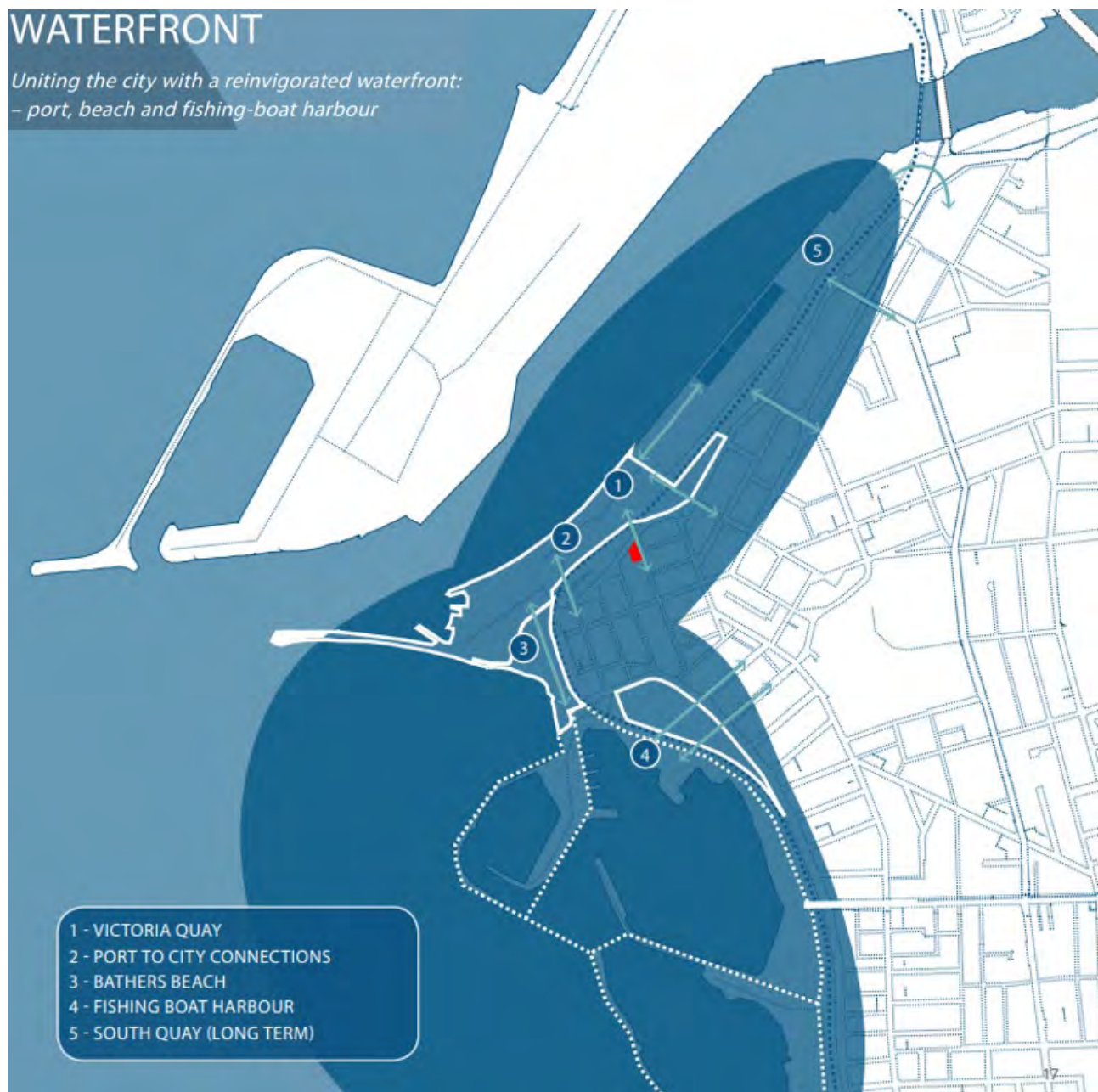
9. LOCAL PLANNING ASSESSMENT

9.1. FREO 2029 – TRANSFORMATIONAL MOVES

This document presents the City's strategic vision for 2029, based on extensive community visioning undertaken as part of the Fremantle 2029 Community Visioning Project. The subject site is within the 'Waterfront Precinct' of the document, in which it acknowledges the importance of attracting new residents, businesses and visitors to a rejuvenated city heart. This includes creating visual and physical connections with the future Victoria Quay Commercial Precinct, and the delivery of office space in the area.

This proposal is directly aligned with the City's strategic vision articulated in this document. The proposed redevelopment of the subject site will bring (and retain) new residents to the heart of the waterfront precinct, and increase sightlines and visual connectivity with the Victoria Quay Precinct.

Figure 12 – Fremantle Transformational Moves 2029 Extract



9.2. CITY OF FREMANTLE LOCAL PLANNING SCHEME NO.4

The subject site is located within the 'City Centre' zone of LPS 4 as shown in the figure below. The objectives of the zone are as follows:

- (i) provide for a full range of shopping, office, administrative, social, recreation, entertainment, and community services, consistent with the region-serving role of the centre and including residential uses, and
- (ii) comply with the objectives of Local Planning Area 1 of Schedule 7
- (iii) conserve places of heritage significance the subject of or affected by development.

The proposal will see the creation of a mixed-use development that optimises the efficiency of the existing building through the delivery of high-quality office and residential land uses, whilst being sensitive to the local heritage context of the site. In turn, this will deliver workspace that is not widely available in Fremantle, to attract commercial tenant(s) that will promote agglomeration and entice tenants of a similar nature into the heart of Fremantle.

The site's compliance with Local Planning Area 1 and its resulting Local Planning Sub-Area 1.3 are outlined in the following sections.

Figure 13 – Local Planning Scheme Extract



9.2.1. Land Use Permissibility

The proposal encapsulates the following two land uses:


- **Office** (Ground and First Floor) – Permissible 'P' Use under LPS 4.
- **Multiple Dwellings** (Second and Third Floor) – Discretionary 'D' Use under LPS 4.

As such, both land uses are capable of approval under the local planning framework.

9.2.2. Local Planning Sub-Area 1.3 Controls

The site is located in Local Planning Sub-Area 1.3.1 (LPA 1.3.1) in Schedule 7 of LPS 4 which outlines several development provisions that apply to the subject site and its zone. An assessment of the proposal against these provisions is provided in the table below.



Table 4 – LPA1.3.1 Parameters

LPA Provision	Design Response	Compliance
<p>Height Requirements</p> <p>LPA1.3.1 - Building height shall be limited to a maximum of three storeys (maximum external wall height of 11.0* metres as measured from ground level with a maximum roof plain pitch of 33 degrees).</p> <p>Council may consent to an additional storey subject to:</p> <ol style="list-style-type: none"> Where a site meets any of the requirements of Clause 1A(a)-(e) of the deemed provisions, the upper level being sufficiently setback from the street so as to not be visible from the street(s) adjoining the subject site, maximum external wall height of 14 metres, and compliance with clause 1.2 below. <p><i>*inclusive of parapet and spacing between floors</i></p> <p>Clause 1.2 - In granting consent to the maximum height prescribed, Council shall be satisfied in regard to all of the following:</p> <ol style="list-style-type: none"> that the proposal is consistent with predominant, height patterns of adjoining properties and the locality generally, the proposal would not be detrimental to the amenity of adjoining properties or the locality, the proposal would be consistent, if applicable, with conservation objectives for the site and locality generally, and any other relevant matter outlined in Council's local planning policies 	<p>The proposal reaches a maximum height of 16.79m, marginally deviating from the prescribed scheme height limit of 14m for the subject site.</p> <p>The proposal has been designed through a strong and comprehensive context evaluation which has determined that the proposed height, bulk, and mass of the proposal is appropriate for its inner-Fremantle location. Despite varying from scheme requirements, the development in its current form is a suitable proposition for the subject site and the broader west end.</p> <p>A minor variation is therefore sought to the LPA requirement. Refer to Section 9.4.1 for justification behind the proposed development height.</p>	<p>ALTERNATE DESIGN SOLUTION</p>
<p>Other Built Form Requirements (such as Setbacks, Plot Ratio, Façade Type)</p> <p>In accordance with Clause 4.2.4 of LPS 4, except in the Residential Development zone, where there is no R-Codes density applicable to land within the Scheme area, the R-AC3 provisions of the R-Codes shall be applied as relevant.</p>	<p>Please refer Appendix H to review a full assessment against the provisions of the R-Codes Volume 2.</p>	

9.2.3. Additional LPS4 Controls

Additional controls specified in LPS 4 pertaining to the site are outlined in the below table.

Table 5 – Additional LPS4 Controls

LPS4 Provision	Design Response	Compliance
Vehicle Parking Requirements: Office Use: <ul style="list-style-type: none"> 1 bay per 30m2 GLA (minimum of 3 spaces). Residential Use: <ul style="list-style-type: none"> As per R-Codes Volume 2. 	Office Use: The office component (1,216sq.m GLA) generates a requirement of 41 car bays. However, there is currently no carparking provided on site to service the existing office GLA. The proposal itself does not seek to increase the office GLA that currently operates without carparking. As such, the 8 bays being introduced as part of the proposal seek to service the newly proposed residential additions, with no change proposed to the existing operational functionality of the office component of the building. This is considered appropriate when also considering: <ul style="list-style-type: none"> The buildings heritage status, and the site's location within Fremantle's west end. The sites proximity to Fremantle Station. Fremantle's well-known levels of cross visitation, and asymmetric activity. Refer Section 9.4.2 for additional information and justification with respect to the carparking variation being sought. Residential Use: The residential component of the building generates a requirement of 4 car bays, which is exceeded by the proposal with a total of 8 bays delivered at the basement level.	
Bicycle Parking Requirements: Office Use: <ul style="list-style-type: none"> 1 per 200 m2 GLA (Class 1 or 2) 1 rack per 750 m2 GLA over 1000 m2 GLA (Class 3) Residential Use: <ul style="list-style-type: none"> As per R-Codes Volume 2. 	Office Use: The office component (1,216sq.m GLA) generates a requirement of 6 bays (Class 2) which is provided at the basement level of the proposal. Office users will have access to the secure basement area and can lock up their bike, and utilises the end of trip and storage facilities on their respective floors. Residential Use: The residential component generates a requirement of 6 bays, which are provided at the basement level of the proposal.	

Class 1 – High security level – Fully enclosed individual locker;

Class 2 – Medium security level – Lockable compound fitted with class 3 facilities with communal access using duplicated keys;

Class 3 – Low security level – Rails or racks to which both the bicycle frame and wheels can be locked

9.3. LOCAL PLANNING POLICIES AND GUIDELINES

9.3.1. Local Planning Policy 3.21 – West End Heritage Area

The site is located within the 'West End Heritage Area' and as such, is subject to the provisions of LPP 3.21. In order to demonstrate compliance with this policy, a HIS has been prepared to assess the proposal against each element objective to ensure that the design is considered appropriate from a heritage perspective. Please refer to the HIS at **Appendix B** to review this assessment. Notwithstanding, the table below provides an assessment of the proposal against core policy objectives.

Table 6 – LPP 3.21 Criteria

LPP 3.21 Core Policy Objectives	Project Response
Individual places and elements that contribute to the significance of the West End are recognised and conserved.	The former Robert Harper Building is a significant landmark within the west end, and will reinvigorate and restore this building for years to come.
<p>New development, including additions and modifications to existing structures, minimises conflict with heritage values and contributes to the West End's identity by complementing the streetscapes and buildings with a recognisable consistency and long-term perspective. Specifically, new development should:</p> <ul style="list-style-type: none"> Integrate with the area's urban setting, established skyline, view corridors, form, urban scale and grain; Respond to the existing streetscape and reflect the proportions, building format, materials and detailing of buildings within it; Relate to the proportions of adjoining buildings; Integrate and resolve the different parts of proposed development, including the spaces between buildings; Express the balance, repleteness ('fullness') and symmetry of the classically influenced buildings of the area; Demonstrate sensitive and perceptive design responses which capture the essential identity of the original. 	<p>The proposal seeks to deliver new additions in a sensitive manner that minimises conflict with the heritage values of the site, whilst still providing a point of difference between the old and new – specifically:</p> <ul style="list-style-type: none"> The proposal blends in with the existing streetscape from a bulk, scale and height perspective. The proposed building materials palette is restrained and lightweight, allowing for a clear distinction between the solidity of the existing built heritage and the contemporary additions. The building is of an appropriate height relative to adjoining buildings. The overall works will better resolve the building to increase functionality and accessibility. The proposed works seek to continue the building rhythm by reinstating a deep grid expression. The proposal itself will restore the building closer to its original form, design, style and identity.
Buildings and spaces remain functional, useful and pleasant.	Increased functionality and accessibility are achieved reconstructing the ground floor to provide a universally accessible entrance into the building.
The West End continues to contribute to the social, cultural and economic vibrancy of the City Centre and its role as a traditional multi-purpose urban centre.	The proposal will revitalise and further activate a significant building in the west end to deliver more workers (and residents) to the site than ever before.

9.3.2. Local Planning Policy 2.19 – Contributions for Public Art and/or Heritage Works

This policy seeks to provide criteria upon which Council can require multiple residential development, in specified areas, to contribute a percentage of the development's total cost to the development of public art works and/or heritage works. This requirement may be satisfied by contributing a monetary amount equal in value to one per cent of the estimated total development cost (as indicated on the Form of Application for Planning Approval) for the development of public art works and/or heritage works to enhance the public realm.

While we acknowledge the Policy requirement, the Robert Harper Building is a significant landmark and historically important building within Fremantle's west end, and this should be celebrated in its purest form. It is considered any public art element would detract from the heritage value of the building and distinct architectural form of the new building.

The total cost of works associated with the heritage restoration (internal and external) of the Robert Harper Building (existing building only, excluding the new development) well exceeds the equivalent (1%) contribution towards the installation of public art (that may detract from the heritage value of the building). The allocation of funds towards the heritage restoration allows a substantial investment in important heritage asset in Fremantle's west end. The overall restoration and reinvigoration of the building is considered an appropriate measure of 'public art' and more than adequately satisfies the public art contribution requisite. On this basis and for the broader design reasons articulated above, it is our strong opinion this requirement should be waived on this occasion.

It is understood that under Clause 6 of LPP 2.19, the City has the ability to waive the requirement for the public art / heritage work(s) contribution in cases where a development incorporates public art work(s) in a position clearly visible to the general public – subject to the following criteria being met:




Table 7 – LPP 2.19 Criteria





LPP 2.19 Criteria	Project Response
The details of the proposed public artwork shall be set out as part of the application for Planning Approval. Prior to determining the application, Council shall seek relevant professional advice with regard to the appropriateness and artistic merit of the proposed public artwork.	The details of significant restoration works are provided within the DA and are visible in the DA Plans.
Where the public art/heritage work is to be located on private land, the public artwork and/or heritage works shall be maintained by the owner(s) of the land to the satisfaction of the Council.	The heritage works will be completed by the proponent and managed by the future strata body.
Where the public art/heritage work is to be located within a crown reserve, the owner(s) of the subject development is required to enter into a legal agreement with the City undertaking to maintain the public art/heritage work to a standard specified by the City and, if required, to temporarily remove the public art work and to reinstate it (thereafter) should it be necessary to allow a public utility or service authority to carry out necessary/essential works.	N/A.

9.3.3. Additional Local Planning Policies

Additional design guidelines and local planning policies applicable to the site are outlined in the below table.

Table 8 – Additional Policy Considerations

Provision	Design Response	Compliance
LPP 1.6 – Heritage Assessment and Protection		
<p>This policy notes that all items on either the State Heritage List or municipal heritage list require a heritage assessment to be undertaken by a qualified heritage consultant.</p> <p>As the site is located within the Fremantle West End Heritage Area (listed as Place No. 25225 on the State Heritage Register), and the building itself is listed individually on the City's Municipal Heritage List with a Management Category of Level 1B (Exceptional Significance) – a heritage impact assessment is required.</p>	<p>A Heritage Impact Statement has been prepared by Heritage Intelligence WA and is included at Appendix B.</p> <p>The proposal for the conservation, repurposing and roof-top apartments of Robert Harper Building provides a significant opportunity to active the Quay Edge precinct and make a significant contribution to the West End's social, cultural and economic vibrancy as a traditional multipurpose urban centre of the Fremantle City Centre.</p>	
LPP 2.10 – Landscaping of Development and Existing Vegetation		
<p>This LPP defines where a landscaping plan is required as part of a development application. Relevant to this application, the following provision requires a landscape plan:</p> <p>a. In cases where the landscaping of a proposed development is an integral part of the assessment of the acceptability of that proposal.</p>	<p>A Landscape Plan has been prepared by See Design Studio in accordance with this Policy and is discussed at Section 7.3.2 and included at Appendix E.</p> <p>As the site itself is completely built out, there is no ability to deliver on-site deep soil planting. With this in mind, the delivery of on-structure planting, urban greenery and tying public and private realm together has become a critical component of the landscape strategy for the site.</p>	
LPP 2.13 – Sustainable Development Requirements		
<p>This LPP ensures that all applicable development shall be designed and constructed in such a manner so as to demonstrate a rating not less than 4 Star Green Star using the relevant Green Building Council of Australia Green Star rating tool, or its equivalent demonstrated through a report provided by a suitability qualified professional.</p>	<p>Cundall (Qualified Sustainability Consultants) have undertaken a sustainability investigation for this development (refer Appendix F). The report demonstrates that the proposal is also capable of achieving a minimum 5.5-star NatHERS for the building as a whole, an average 7-star NatHERS rating for the residential components of the development and a 5-Star Energy under NABERS for Office for the office component of the development.</p>	

Provision	Design Response	Compliance
LPP 2.18 - New Residential Developments in the City Centre Zone - Noise from an existing source		
This LPP seeks address the issue of noise when considering new residential developments in the City Centre zone in close proximity to existing noise producing uses. The policy provides a number of design measures and requirements to ensure that noise impacts from existing non-residential land uses in close proximity to the site can be successfully attenuated for new residential proposals within the City Centre zone / area.	An Acoustic Assessment (Assessment) has been undertaken by Stantec and provided at Appendix G . The Assessment demonstrates that the proposed development satisfies the requirements of the Western Australian Environmental Protection (Noise) Regulations, State Planning Policy 5.4 Road and Rail Noise (SPP 5.4), Local Planning Policy 2.18 – New Residential Developments in the City Centre Zone (LPP 2.18) as well as NCC and BCA requirements.	
LPP 2.3 - Fremantle Port Buffer Area Development Guidelines		
<p>This policy seeks to provide a set of planning controls and measures to manage potential land use conflicts between the industrial port facilities and adjoining areas within the Fremantle City Centre.</p> <p>The subject site is within 'Buffer Area 2' under the policy, and as such, is subject to the relevant policy requirements in relation to built form, and considerations.</p>	The proposed development meets the built form requirements that are set out in the policy, with further details in relation to windows and openings, air-conditioning systems and construction methodologies (quiet house guidelines and roof insulation etc) provided at the detailed design / building permit stage of the project.	
LPP 2.24 - Waste Management Plans for New Development		
This LPP seeks to specify when details of waste management will be required to support the assessment of applications for development approval and confirm the City's broad expectations with respect to the accommodation of waste management in new development.	In accordance with the requirements of LPP 2.24, a Waste Management Plan (WMP) has been prepared by Talis and is provided at Appendix D . The WMP delivers the content required under the City's policy and confirms that the site can be adequately and appropriately serviced.	
DE 4 – Paving Policy for Central Fremantle		
This policy ensures all development in Central Fremantle provides street front paving that is long lasting and enhances Fremantle's unique sense of place and heritage assets. The paving is viewed to unify the city in a restrained a dignified manner while reinforcing the city's structure and legibility. Phillimore and Pakenham Street are both required to have a main body pave colour of Yellow / Grey.	The proposal will not seek to amend the street front paving outside of the lot boundary as part of this application. The existing street front paving on both Pakenham Street and Phillimore Street abutting the lot boundary is to be maintained as is.	

9.4. LPS 4 VARIATIONS

9.4.1. Building Height

The proposal reaches a maximum height of 16.79m, marginally deviating from the prescribed scheme height limit of 14m for the subject site. The maximum overall building height has been calculated utilising surveyed points as depicted by the survey plan attached **Appendix J**. This minor height variation is sought under Clause 4.8.1.1 of LPS 4 which states:

'Where sites contain or are adjacent to buildings that depict a height greater than that specified in the general or specific requirements in Schedule 7, Council may vary the maximum height requirements subject to being satisfied in relation to all of the following:

- (a) the variation would not be detrimental to the amenity of adjoining properties or the locality generally,*
- (b) degree to which the proposed height of external walls effectively graduates the scale between buildings of varying heights within the locality,*
- (c) conservation of the cultural heritage values of buildings on-site and adjoining, and*
- (d) any other relevant matter outlined in Council's local planning policies.'*

The proposal has been designed through a strong and comprehensive context evaluation which has determined that the proposed height, bulk, and mass of the proposal is appropriate for its inner-Fremantle location. Despite varying from scheme requirements, the development in its current form is a suitable proposition for the subject site and the broader west end.

In specific reference to the aforementioned Cl. 4.8.1.1, a strong justification for the proposal's height variation can be provided against the stipulated criteria and is summarised as follows:

- The proposal has sought to maintain the existing floor to floor heights of the two commercial (office) floors to ensure that the built heritage, and the original form, scale and functionality of the former Robert Harper Building is retained and respected throughout the redesign. This approach was commended verbally by the DAC, and demonstrates high quality heritage conservation practice.
- The site is directly adjacent the Quest Apartment Hotel, in which the main bulk of the building sits at an RL 18,380, and the glass art feature corner of the building sits at RL 19,340. This enables the proposed development height to be considered under the requirements of LPS 4, with the proposal reaching a maximum of RL 18,300 towards the Phillimore / Pakenham Street corner and stepping down slightly to RL 17,500 further down the Pakenham Street frontage – as such, the maximum height of the proposed development sits lower than the Quest Apartment Hotel.
- The proposal's shadow study demonstrates that through the generous setback that has been applied to the newly proposed second and third floor apartments, there is no increase in overshadowing to Phillimore or Pakenham Street than what already occurs.
- The subject site is one of the most prominent corner locations in the west end, and presents an exciting opportunity to breathe new life into a cherished building with a rich history. By providing a functional space for tier one office tenants and permanent residential dwellings on upper levels, the proposal will act as a people generating land use that will further enhance and activate the west end, which is a key component of Fremantle's amenity and cultural fabric.
- The requested variation is a minor departure from the planning scheme, representing a variation that does not seek to exploit the subject clause allowing for variation, but rather supporting a stronger outcome for the site context and prime location.
- The proposal addresses the relevant criteria outlined in clause 67 of the deemed provisions.

9.4.2. Car Parking

A total of 8 car bays are proposed as a part of the development, which are reserved for residents with each apartment provided two bays. This represents a variation to the Scheme requirement, which requires a total of 45 bays based on both the office (41 bays required) and residential (4 bays required) components.

Further, the following contextual arguments are presented to support a reduced total of parking bays:

- There is currently no carparking provided on site. The proposal itself does not seek to increase the existing amount of commercial GFA, that currently operates without carparking. As such, the 8 bays being introduced as part of the proposal seek to service the newly proposed residential additions, with no change proposed to the existing operational functionality of the office component of the building.
- The existing heritage building covers the entirety of the subject site, and restricts any ability to provide a significant amount of on site parking. The basement level will be reworked and refined to deliver an efficient carparking design, however, the level cannot be lowered further due to the water table, or significantly compromising the heritage retention of the building.
- The use of public transport within the Fremantle City Centre is highly common, with public transport usage in the central area nearly double that of the wider Metropolitan area according to the 2021 Census. Multiple bus services, access to the Fremantle Station (just 150m northeast of the subject site), and the area's high walkability result in common practice for people visiting the Fremantle City Centre to either utilise public transport, ride share, or utilise public parking and walk to their distance.
- There are a number of businesses within the Fremantle City Centre that do not, in ordinary circumstances, provide on-site parking for its exclusive use. This is due to Fremantle's well known high levels of activity and cross visitation between uses and sites.
- The site is surrounded by prominent sites of high visitation, resulting in visitors to the development having a large existing knowledge and wayfinding understanding of the area. As such, visitors can be expected to utilise existing parking locations throughout the central area, as they usually would when visiting Fremantle Markets and other neighbouring attractors.

Overall, the City Centre location of the development has a significant impact on the way in which people will travel to the development. Given the high degree of walkability, cycle access and the number of bus and train public transport options, the LPS 4 parking requirements are considered excessive.

For the reasons outlined above, the proposed number of parking bays is considered adequate and therefore it is requested this be approved (without a cash-in-lieu requirement).

10. CONCLUSION

This report demonstrates the significant merit of the proposal in relation to the applicable planning framework and its location within the west end. The proposal, in addition to its statutory merit, aligns with the strategic visions of the City of Fremantle as outlined within its Freo 2029 Transformational Moves document.

The development application and supporting technical reporting successfully demonstrates:

- a well-considered and high-quality design that successfully responds to the site's context through architectural appropriateness, good quality design and bringing value to the Fremantle city centre.
- the activation of a prominent heritage site in the west end, which will increase amenity and activity in Fremantle's cultural fabric.
- a proposal that will deliver a mixed-use development that will restore the long term viability and lifespan of a cherished Fremantle heritage building for years to come.
- the strong compatibility through contrast that creates a differentiation between the old and the new, and delivers a best-practice adaptive re-use outcome for the site.
- a proposal that will provide the local community with a new and exciting mixed use development, that has the ability to attract new residents and tier one office tenants to live and work in the west end.
- a proposal that is consistent with State, Regional and Local Planning Frameworks, will support local businesses and stimulates additional life and vitality within the city centre.

We acknowledge the support provided by the City of Fremantle's Design Advisory Committee, in particular regarding its height and scale, and look forward to working with the City of Fremantle and other agencies throughout the assessment process.



DISCLAIMER

This report is dated 6 October 2023 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Fini Group (**Instructing Party**) for the purpose of Development Application (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

**C2312-11 PHILLIMORE STREET, NO. 49 (LOT 51), FREMANTLE – MIXED USE DEVELOPMENT
(OFFICE AND MULTIPLE DWELLING) OF EXISTING BUILDING - (JD DAP007/23)**

Attachment 12 – Schedule of Submissions

Schedule of Submissions – Alterations and Additions to Existing Building and Four Multiple Dwellings

Date Commenced: 25 October 2023

Date Ended: 24 November 2023

Total Submissions Received: 33 Submissions

Consultation Method: Letters (200m radius), MySay Webpage, Sign on Site; Talk to A Planner Session; Press Notices

Ref#	Comments
1.	this is a great proposal to give this heritage site a new life. the development will bring activation to this quiet end of town
2.	I would like to vote in favor of this development.
3.	I wholeheartedly support this proposal. It will revitalise the area and preserves the heritage.
4.	Very supportive of this development. The West end of Fremantle is slowly coming alive again with newly opened restaurants and bars. More people in the area can only mean good things. I attended university in Fremantle and loved being emersed in the Fremantle vibe.
5.	I am writing to express my support for the proposed development at 49 Philimore St. It is great to see developers and architects tackle the adaptive reuse of these wonderful buildings in the west end. The designed roof top addition appears to reinterpret the existing window openings of the existing fabric in a manner which is both contemporary and sensitive. It looks like the outcome will be of a high quality and we hope to see it proceed,
6.	Fantastic proposal that will help to activate the west end of Fremantle. Both Fini Group and Space Agency have a deep understanding of Fremantle and are very suitable proponents to bring this development to life. Office and residential uses are appropriate to provide both daytime and night time activation.
7.	I am in support
8.	A great development for Fremantle and much needed.
9.	The proposal is great. The preservation of the heritage elements is sound with the new additions set back and complementary of its site location. Great application.
10.	I support the proposal relating to 49 Phillimore Street, Fremantle.
11.	This proposal is a sophisticated, efficient, and respectful adaptive re-use of a prominent Fremantle building. The heights are appropriate and the usage is in keeping with the area. Spaceagency are one of Perth's most awarded and well-regarded firms and this project will be of the highest design excellence.
12.	I have just come across the plans to revitalise this history building and wanted to comment that it is a fantastic plan, and I look forward to seeing the finished structure.

13.	As a Fremantle resident, I support the proposed alterations and additions to the former Robert Harper Building (49 Phillimore St). I have spent time living and working in Fremantle over the past decade, and know how special the west end precinct is. Maintaining and activating the existing buildings in the area is important to its vibrancy and success. I believe this proposal will enhance the building's original character while respectfully adapting it to suit new uses that will attract businesses to Fremantle. I am also familiar with spaceagency's work and believe that they, along with Fini Group, are the right firm to look after this Fremantle landmark.
14.	Appears a very well considered development proposal that not only maintains but adds to the heritage fabric of Fremantle's west end. Wholly support this and believe it will significantly contribute to renewal of Fremantle
15.	This development is a fantastic example of heritage restoration. Pleased to see this building being celebrated and utilised with a mix of commercial/ retail and residential.
16.	I think the proposal for 49 Philimore Street looks great and provides much needed additional housing options in the Heart of Fremantle. The team behind this are also well known and proven to being great developers with considerations to the local community.
17.	I am supporting this
18.	The development is respective to the context of Fremantle, I would welcome the opportunity to bring further activity to the area!
19.	The project appears to be of exceptional architectural integrity, with a significant respect for the existing heritage buildings. This corner of the West End is very important to the entry of Fremantle and a project of this quality will add significantly to the town centre urban design qualities, high quality commercial opportunities and symbolic in Fremantles rejuvenation.
20.	Very pleased to see another great adaptive reuse of a Fremantle heritage building. The proposal will be a fantastic addition to the west end of Fremantle and add to activating the area across from the train station.
21.	The proposal looks like a considered and well-designed approach to activate the corner 24hr / per day and revitalize a beautiful old building.
22.	Love the idea of new apartments in Fremantle, they look great on the plans!
23.	I support the submission for the redevelopment of 49 Phillimore Street. It will be a great addition to the West end helping to revitalise an area which has been a vibrant place in the past.
24.	I support this development. It looks great and will be a lovely addition to the neighbourhood
25.	Looks great and a fantastic addition to Fremantle
26.	I like the new development. It appears that you have gone to great lengths to keep the nice old building and setback the new section on top so that it isn't super visible from the street. Again on that setback, it is really nice, whilst it may be seen from further back, the addition makes the heritage building look like it embraces the modern design. Removing the heritage components on the roof and within the building is a bit of a downside, as is turn 15 or so offices into 4 expensive ones, but i believe the result is worth it, with modern offices suiting the historic facade, and i must say, keeping the dome keeps it looking really good and keeps that historic vibe. The residences on top look very luxury and whilst probably expensive, i think they suit the location and add that modern feel to this

	<p>historic part of Freo. They also add more people to the inner-Freo population everyone wants to start growing. Overall I appreciate the effort taken in this design, and i think it would be a fitting addition to this building and overall this area in Freo.</p>
27.	<p>Let it be known from the start that I am not against the refurbishment of 49 Phillimore Street, in fact I welcome the fact that the owners are finally putting something positive into Fremantle. What I do disagree with is the addition of apartmentd to the roof top. Set back or no set back. I feel that it will take away from the aesthetics of the historic West End. It will be a blight on the view from the north. May I bring to your attention the dismall addition to the Navy Club on the corner of Packerham and High Streets. The structure on the top of the Mediterranean Steamship Company building on the corner of Phillimore. and Cliff Streets. How was that allowed? And just to add, so as you understand my thoughts on roof top additions to Historic Buildings in the West End, the roof top apartments at No 7 Henry Street where, ironically, I live. It was a good thought in theory, however the building does not contribute to anything in practice. The deign offers nothing to the street where the building of a box behind an already desecrated facade achieved nothing. The building with the iron facade on Cliff Street just before Phillimore Street is an indication of good architecture in a historic setting. Even Tunnock Hall on the corner of Cliff and Croke does not take away the esthetics of the area. Take a look at the Customs House on the corner of Phillamore and Henry Streets. Can tou honestly say that was a smart idea? The government building on Packerham Street opposite Leake Street. Did that enhance the aesthetics of the West End? What I fear most is, should this proposal be given the green light, it will give all the owners of buildings in the West End carte blanche and the council will have no power to stop the desecration of historic Fremantle. Well before my time in Fremantle, others, like me, fought to preserve Fremantle. Both East and West End. Most of the East End disappeared and that continues today. Look what was allowed to be done to the Wool Stores!!! It took a bit more time but the powers to be finally got rid of it. Is that the plan for the remaining building? I ask the powers to be to think long and hard. Walk around the West End Streets and look up. Ask yourselves what do you want to see when you walk through history?? I've lived in Fremantle for 44 years now. A short time for some / A long time to others. I plead that you spend some time discussing what you want to see when you look up at 49 Phillimore Street and come to the conclusion of an unencumbered skyline of a beautiful historic building standing the test of time.</p>
28.	<p>I believe this development proposal is a good example of the heritage-management mistakes we are currently making in Fremantle. Following 50 years of exhaustive and exhausting work by community groups, individuals, the City of Fremantle, and others, we are now immersed in yet another crucial chapter in our shared journey. We are now attempting to re-develop and re-purpose precious and rare Georgian/Victorian architecture from the viewpoint of what is the best compromise we can justify? By asking, what is the cleverest way we can build over and around these buildings, and get away with basically destroying the integrity of the thing? The West End of Fremantle is a rare jewel, precious for that reason. We are lucky that the energetic developments that saw the elegance and charm of St George's Terrace in Perth mostly destroyed during the sixties and seventies, largely passed Fremantle by. Poverty and disinterest can have positive benefits in the longer term. :-) But we are now faced with a new wave of potential destruction. Fremantle land values are such that the pressure is now great to maximise "potential". Mostly potential for profit, rather than potential for excellence. I say that even in the context of architectural solutions by Spaceagency that tick all the boxes in terms of sympathetic design. The overall language of the new roof-top apartments is "well-mannered". Building forms and rhythms cleverly match those of the original building below. Vertical and horizontals are unfussy and elegant. The apartments are a workable</p>

solution, if the question is "how can we most successfully integrate the new and the old, but still build new buildings over the old?" But it's the wrong question. The question should be "how can we most effectively retain and maintain the existing scale and character of the Fremantle West End?" The answer to this question is "don't create dominating roof-top additions, no matter how 'sympathetic' or skilful the new architecture may be. Recent out of scale developments such as the Forrest Hotel in William/Henderson Streets; and the new Police Complex, focus attention on the fragile nature of townscapes. It's possible to chip away, like the slow boiling of a frog, until one day the main conversion - like it is today regarding St Georges Terrace - is, "Do you remember when this area was once so very beautiful?" I know we have weak state heritage laws. I know the Heritage Council is a toothless tiger. I know JDAP makes Council procedures more difficult. But Fremantle's West End cannot be subject to the same "we gotta cut through the red-tape" response we hear for developments in most other areas. A unique built environment needs a unique management perspective. Clever, sensitively scaled and detailed architecture from Spaceagency is no substitute for what is missing.....and that is a strong recognition that if we keep going as we are, we will simply destroy Fremantle. We can't keep applying new overcoats to existing Victorian buildings without changing the overall harmonious built character of our city. We have to stop kidding ourselves. Council is charged with managing Fremantle for the future. With respect, I urge you to please take this as seriously as this awesome responsibility deserves.

When the viewpoint for a 3D image is taken from a little further away, as in my crude and approximate mark-up on the right, the roof-top addition is much more evident. I believe we need to see a range of 3D views from various vantage points. These are not difficult to produce with today's digital technology.

Close views from adjacent footpaths are not relevant, as the perspective masks so much of the real overall bulk of the new addition.

As I said in my previous associated submission, which this page appends, large-massed roof top additions completely destroy the scale and the integrity of the original heritage building. Instead of looking at "well-mannered" architecture, we should be concentrating on the destructive effects of the overall massing.



29. The subject property is the landmark 1920s Robert Harper building curving elegantly from Phillimore into Pakenham Street. Its corner position opposite the quay and Pioneer Park make it an especially visible and sensitive site of high significance. While this application has many high quality features, and while it is presented by eminent architects and owners, it fails spectacularly in two key areas - by seeking to build 4 highly visible apartments on top of a heritage building, and removing masonry façade and replacing it with glass panels. When the West End area of Fremantle, though only half the area the experts wanted, was heritage listed, it signalled a line in the

sand, that this precinct, one of the most important of its kind in Australia, would be protected from inappropriate development – especially important as such a precinct would grow in significance over time, given the high rise infill push elsewhere, and plans to house 60,000 people just 400 metres away in North Fremantle.

In simplest terms the fundamental objective from all the policies put in place and reports done, was to preserve the integrity of the area, allowing new development of heritage properties if it couldn't be seen from the street.

The proposal for 49 Phillimore Street blatantly breaks that understanding by seeking to have 4 apartments soaring high up above the existing Robert Harper building, a building listed in its own right as having “exceptional significance.”

Just a couple of years ago another set of plans for the same building of similar scale rooftop apartments was presented and dismissed, so why is this shocking idea back again?

Even before the listing of the West End, council was strictly enforcing rules about new additions to heritage buildings, and Notre Dame University managed to move into 46 buildings with 7,000 students and never once built anything new or damaging that broke heritage rules. When they did try later to get a 5 storey building approved for the corner of High and Cliff Streets, they quickly withdrew the plans after backlash.

It is of great concern that at prelodgement stage there was not greater push back from officers or DAC. The DAC told the applicants to get a heritage impact assessment done and to reassess replacement of brickwork with glass panels.

Applicant's Heritage Assessment: An examination of Laura Gray's heritage report (Heritage Intelligence) sees highly questionable justifications for approval:

“Apartments offer a unique residential opportunity of views over the harbour” – providing million dollar views to developers at the expense of those who have slavishly been following the rules for decades, is not a heritage justification.

Further, the apartments apparently provide: “aesthetic contributions to the West End.” The aesthetic contribution is provided by the existing building listed as being of “exceptional significance”, not new highly visible apartments to leverage more profit.

The roof top apartments apparently will have: “significant positive impact on the cultural significance, integrity, long term conservation.” It is inconceivable that by diminishing the “exceptional” significance of a heritage property, that somehow has a “positive impact on cultural significance.”

The report is correct in noting that “the only perceived adverse effect could be the height of the apartments.” They not only are visible from the street, but are 20% higher at 16.79 metres than the maximum height allowed for the West End of 14 metres.

Applicants' comments: The new works on top of the building are required to be assessed under various criteria, including:

a) Impact on West End.

b) Impact on the level 1a heritage building, itself of “exceptional significance.”

At 6.1 the applicants state that “the roof top apartments will enhance the building's integrity”. Integrity includes completeness and originality. The building has “exceptional” status currently because it has its integrity there in full view for all to see from a myriad of angles. The apartments will result in a significant loss of integrity.

Regarding the height issue, the applicants argue that the extra height sought (16.79m) is only a minor deviation from the maximum allowed of 14m. In fact a major increase in height of 20% is being sought, purely so millions more dollars profit can be made.

The Quest Hotel across the road was highly controversial when proposed by council's bedfellow Sirona, as it broke many rules,

	<p>resulted in one DAC member resigning in protest saying it was “technically illegal.” That is now being used as a precedent, but it should not be seen by council as such, rather as an aberration not to be repeated.</p> <p>The application also fails at satisfy policy 9.4.1. because it can clearly be seen that the new apartments are “detrimental” to the existing heritage and do not conserve its present cultural heritage values.</p> <p>At 5.2 Landscape Policy there is intended to be a “verdant green terrace to wrap around the building and generate visual green amenity visible from the street”. Not just visible from the street as a link between the old and new, but a “highly visible green space from the street below.” If there wasn’t going to be a strikingly contrasting new development on top of an already “exceptional” building, there would be no need for a green belt in the sky, totally alien to any historic West End precedent.</p> <p>Interior including staircase: It is hoped the applicants will respect and restore interior heritage elements as well as external ones, including if possible restoration of the original staircase.</p> <p>The applicants seek not to make a Percent for Art contribution because “the building is a significant landmark that should be celebrated in its purest form.” That sums up the case for the Robert Harper building – let’s celebrate it in its purest form without overheight apartments sticking out.</p>
30.	<p>I am firmly opposed to this development. I will state my reasons with reference to the Heritage Impact Statement</p> <p>The acute corner of Phillimore and Pakenham streets is the domed landmark of the Robert Harper Building that extends along both street frontages. It is integral to the consistency of form, rhythm, scale and architecture of the West End precinct, evidencing common construction materials and detailing, and historical functions associated with the port.</p> <p>The dome, emphasising the landmark significance of the building, was surely no afterthought on the part of its original architect. It is an emphatic, bold statement by its entrepreneur owner. The HIS acknowledges that it is integral to the heritage values of the West End, but the apartments rising behind it overwhelm it and totally undermine its impact.</p> <p>Robert Harper Building is integral to the West End streetscape presenting a parapeted frontage to both street frontages, with the dome topping the landmark curved corner in an oblique view encompassing multiple buildings along Phillimore and Pakenham Streets. The proposed rooftop apartments, setback from the parapets along those street frontages (and the other sides), will be a secondary element, contemporary, complementing the heritage significance of 49 Phillimore Street Fremantle 5 Harper Building in the streetscape views, and providing outstanding views from the rooftop to the harbour and Fremantle City.</p> <p>It is hard to reconcile these statements with the purpose of an HIS, which is to assess the impact of the development with reference to its heritage significance. Having acknowledged the integral contribution of the building to the streetscape, the statement goes on to dismiss the impact of the clearly visible apartments as a secondary element, an entirely subjective observation that few would agree with. In what way the apartments contribute anything positive to the building’s significance and landscape value is also highly contestable; and the outstanding views from the rooftop may have lots to do with the apartments’ dollar value but have no relevance whatever to their heritage impact.</p> <p>What measures (if any) are proposed to ameliorate any adverse impacts?</p> <p>The only perceived adverse impact to the proposed conservation and addition of apartments to the Robert Harper Building could be the height of the apartments. The apartments and roof top landscaping will provide an aesthetic and passive surveillance of the immediate context. There are several examples of similar and greater height top-floor additions (Quest development opposite in</p>

	<p>Pakenham Street) and new builds behind facades of original buildings in Pakenham Street and the former Customs building in Phillimore Street.</p> <p>The HIS minimises what is in fact the principal adverse impact on the building's significance. What an aesthetic and passive surveillance of the immediate context means is anybody's guess; but that, and justifying the height with reference to similar developments nearby (many of which were objected to at the time) ignores the central function of the HIS, which is to treat this building on its own terms as a unique place in a singular location from where it is visible from near and far.</p> <p>IN CONCLUSION</p> <p>The Heritage Impact Statement fails to address its principal objective of assessing the impact of the proposal against the Statement of Significance of the place in its own right and as an essential contributor to the significance of the West End as a whole. Whilst acknowledging the importance of the place, the HIS introduces several observations which are irrelevant to the matter in hand, as well as an inappropriate comparison with other nearby developments, and should be rejected as a basis for approving the application.</p> <p>The proposed actions to restore the fabric of the building, while welcome, do not in any way compensate for the development's adverse impact on the core heritage values of the place.</p>
31.	<p>I oppose the approval of the development plans for 49 Phillimore Street, the Robert Harper Building. The West End precinct is Heritage Listed and the building itself is of exceptional significance. The addition of four modern apartments on top of the building erode the architectural aesthetics of this historical area and the proposed height increases change one of the main historical features of the West End which is the height conformity of its buildings. Where this has occurred in recent examples in the West End, it has been a failure, for example Atwell Arcade and the Quest Hotel. The additional storeys built on these buildings/developments have had a detrimental impact to the overall appearance of the West End because these additions can be seen from many viewpoints within the town and from without and detract from the historical amalgamation of buildings which make the West End special. The corner position of the Robert Harper building means that it is highly visible from Pioneer Park across the street and from along Phillimore Street which is a major street, circling the West End. Another concern is that a building of exceptional significance may have its facade altered to accommodate glass panels thereby eroding the integrity of the fabric of the building and altering the appearance of the building permanently. Overall I believe these proposed changes make this an inappropriate development for this highly sensitive historical precinct and needs to be rejected in this particular form.</p>
32.	<p>I live not too far from Fremantle and consider it as a home. What differentiates Fremantle from other places in Perth and indeed Australia is the uniqueness of the West end. A development of this kind would never be considered in Newtown, Sydney let alone Paris. Whilst one may scoff at comparing Freo to those places, I consider it on that level of significance. Most of the Europe we see today was not built too long before Fremantle was. Paris as we know it was mostly built in 2nd half of the 19th century.</p> <p>With this in mind, keeping the authenticity of the area is paramount. New developments may happen, but this one completely disregards the area it is in and cheapens it. It dwarfs the current structure and does not blend in with it, rather it makes a statement saying its better by looking so different.</p> <p>I often notice that when people take pictures in Fremantle, they crop out new buildings, or angle the picture so you can not see the new building. Also people have weddings in Fremantle and only take pictures in front of the old structures. The West End is where</p>

	<p>this primarily happens, and is a small slice of a picturesque setting which does not exist elsewhere in Perth. Demolishing and putting modern apartments in the West End, would destroy this.</p> <p>Perth, and even Fremantle, is a big place. The West End is tiny and is a small piece of Paris in Australia, if they wouldn't do this in Paris, then I don't think this should be approved here. Especially considering Perth is quite large and there are more modern areas that would better suit this development such nearby North Coogee.</p>
33.	<p>I oppose the addition of 2 levels of 4 residential apartments on the roof level of the Robert Harper Building at 49 Phillimore Street. A great view to be had is not an appropriate reason to permit a change of such a magnitude to a heritage building. Such a change is a regressive step and does not consider best conservation practice standard. The Robert Harper Building has an inHerit statement of significance. The Heritage Impact Statement as the 'proposed conservation and development' (Heritage Intelligence WA for spaceagency) proposes to restore, repurpose and add 2 levels of 4 residential apartments atop of the roof, as well as constructing new openings. The Burra Charter sets out very clear guidelines on what is considered best practice standard when caring for heritage places. Surely these practice standards are part of the local area policies for the West End of Fremantle! Article 3. Cautious approach 3.1 Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible. 3.2 Changes to a place should not distort the physical or other evidence it provides, nor be based on conjecture (Burra Charter 2013). Article 8. Setting 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 the place. New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate (Burra Charter 2013). 2 levels of apartments (irrespective of setback) on top of this heritage building are a major visual intrusion into the streetscape of the West End and not sympathetic to the heritage low skyline of the port city. The existing built roofline of the building itself is an integral visual element of the building. Below are quoted some of the comments (green) from the 'proposed conservation and development' : The proposed roof-top apartments on Robert Harper Building respond to the City's desire for the reintroduction of residential uses into the West End, integrating conservation and revitalisation of a significant building Desired reintroduction of residential use in the West End should occur where it existed originally, or in places where it would have a minimal impact, not on top of a roof of a heritage building - a use which would involve more than a minimal impact on cultural significance. This is a large building and should be able to accommodate the use of residential living in the space that already exists. 1.11 Compatible use means a use which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance (Definitions Burra Charter 2013). 1.2 Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects (Definitions Burra Charter 2013). . The proposed roof- top apartments, setback from the parapets along those street frontages (and the other sides), will be a secondary element, contemporary, complementing the heritage significance of Robert Harper Building in the streetscape views, and providing outstanding views from the rooftop to the harbour and Fremantle City. The notion that a 'secondary element' (even if contemporary and set back) placed on the roof is 'complementing the heritage significance' expresses a subjective opinion/claim and does not reflect conservation principles: The restoration and re-purposing of the interior and the construction of the roof-top apartments further contribute to the integrity and long-term conservation of Robert</p>

Harper Building. This statement makes no sense. The construction of roof top apartments does not contribute to the integrity and longtime conservation of the Robert Harper Building. By definition the Integrity and conservation is a function of how well the building is managed according to best practice standard. There are several examples of similar and greater height top-floor additions (Quest development opposite in Pakenham Street) and new builds behind facades of original buildings in Pakenham Street and the former Customs building in Phillimore Street. Existing violations of heritage buildings do not warrant/justify further violations of other heritage buildings. Botched heritage buildings are most regretful and undermine the cultural significances of the Robert Harper and other places, and the West End in general. There are many buildings in the West End that have maintained an intact integrity. These are the buildings that should set the standard of practice. 1.12 Setting means the immediate and extended environment of a place that is part of or contributes to its cultural significance and distinctive character (Definitions Burra Charter 2013). 1.13 Related place means a place that contributes to the cultural significance of another place (Definitions Burra Charter 2013). The apartments further reinforce the viability and long-term conservation of Harpers Building. Its is not clear how the apartments on the roof top reinforce viability and long-term conservation of the Robert Harper Building. This would be a function of how well the building is managed according to best practice standard. The Practice Note Burra Charter Article 22 New Work (2013) states that proposed work should

- Not adversely affect the setting of the place (Article 8)
- Have minimal impact on the cultural significance of the place (Article 21.1)
- Not distort or obscure the cultural significance of the place, or detract from its interpretation and appreciation (Article 22.1)
- Respect and have minimal impact on the cultural significance of the place (Article 22.2).

Accordingly, the conservation proposal in relation to the addition of 4 apartments across 2 levels for this development does not follow the advice provided by the Burra Charter for managing heritage places. Therefore, this proposal does not deserve support.

**C2312-11 PHILLIMORE STREET, NO. 49 (LOT 51), FREMANTLE – MIXED USE DEVELOPMENT
(OFFICE AND MULTIPLE DWELLING) OF EXISTING BUILDING - (JD DAP007/23)**

Attachment 13 – Applicant’s Response to Submissions

Table 1 – Response to Public Submissions (Objections / Indifferent)

At the close of advertising, a total of 33 submissions were received in relation to the proposal at 49 Phillimore Street. There were 26 submissions in support of the proposal and 7 submissions that objected to the proposal. To respond appropriately to the objections, we have grouped our responses into categories of four key themes that were evident in the 7 submissions (#2, 27, 28, 29, 31, 32 and 33).

- Key Theme One – Apartment Rooftop Addition
- Key Theme Two – Visual Impact to West End
- Key Theme Three – Proposed Height
- Key Theme Four – Glazing to Façade

KEY THEME ONE – APARTMENT ROOF TOP ADDITION

Public Submissions 2, 27, 28, 29, 31, 32, 33

Primary Issue: Impact on the aesthetic value of the West End precinct and streetscape

- Overall, the proposal will respectfully restore the former Robert Harper Building to be more aligned with its original façade and rhythm, providing a more activated building frontage through glazing to the Pakenham streetscape. The building will retain its current form to the Phillimore streetscape. 3D modelling demonstrates that the proposed apartment addition to the rooftop does not impact on the current streetscape experience. Its potential broader impact on the West End Precinct is discussed in ‘Key Theme Two’.
- The four high-quality apartments will provide a rare opportunity for residents to live within a reputable heritage building within Fremantle’s West End. Together the two aspects of the proposal, the office and residential components, will enliven the locality during the day, night and weekend. Further, the proposal is directly aligned with the City’s Freo 2029 Transformational Moves document, in which the site is identified within the Waterfront Precinct – a precinct that acknowledges the importance of attracting new residents, businesses and visitors to a rejuvenated city heart, and creating visual connections with Victoria Quay. The delivery of the proposed dwellings in this location will attract and retain residents, and provide the West End with a building that achieves the City’s strategic vision for the Waterfront Precinct.
- The additional gross floor area also assists to facilitate the financial viability of the restoration and conservation scope of works. The carefully considered rooftop addition enables this whilst ensuring the existing heritage building’s structure (in terms of its existing floor-to-floor levels) are maintained and protected. This is contrary to many of the poor examples of adaptive re-use where extra floor area and new levels are ‘inserted’ and ‘squeezed’ into existing heritage envelopes.

KEY THEME ONE – APARTMENT ROOF TOP ADDITION

- The proposed new built form additions are a demonstration of a sensible and considered architectural response to the site and the building's heritage - providing generous setbacks (exceeding the minimum requirements permitted under the R-Codes), quality landscaping and a bulk / scale that is generally consistent with the broader built form of the West End and city centre.
- Advice from the Heritage Council noted as follows: "The proposed two storey roof-top apartment addition provides for greater retention of, and reduces intervention into, internal original fabric. The proposed addition is set back from the parapet wall of the existing building which minimises its visibility and places it as a secondary element to the existing building".
- It is also worth noting that the proposed redevelopment seeks to create a more safe, interactive and pedestrian friendly streetscape through the introduction of increased glazing, rooftop courtyards and residential dwellings that will provide eyes on the street and passive surveillance opportunities.

KEY THEME TWO – Visual Impact to West End

Public Submissions 27, 31, 33

Primary Issue: 3Ds required from various vantage points to assess visual impact of addition

- Throughout the design process the building was reviewed in the context of the entire West End. This assessment has informed the design and the decision to setback 4m from both street frontages.
- In addition, following DAC #2, spaceagency have provided several flythrough videos and images to the city showcasing the building within the West End context including from:
 - Round House
 - Victoria Quay Sheds
 - Fremantle Train Station
 - West End of Phillimore Street
- As a result of these studies, it has been demonstrated that the 4m setback and proposed height ensures the proposal is in keeping with the overall scale and bulk of its context.

KEY THEME THREE – Proposed Height

Public Submission 28, 31

Primary Issue: Proposed height in excess of permissible height in the West End

- The proposal reaches a maximum height of 16.79m, marginally deviating from the prescribed scheme height limit of 14m for the subject site, noting that LPS 4 provides the Council with the discretion to vary this subject to the satisfaction of relevant criteria (refer Section 9.4.1 of Development Application Report).
- The proposal has been designed through a strong and comprehensive context evaluation which has determined that the proposed height, bulk, and mass of the proposal is appropriate for its inner-Fremantle location. Despite varying from scheme requirements, the development in its current form is a suitable proposition for the subject site and the broader west end.
- The proposal has sought to maintain the existing floor to floor heights of the two commercial (office) floors to ensure that the built heritage, and the original form, scale and functionality of the former Robert Harper Building is retained and respected throughout the redesign. This approach was commended verbally by the DAC and demonstrates high quality heritage conservation practice.
- The subject site is a prominent corner location in the West End and presents an exciting opportunity to breathe new life into a cherished building with a rich history. By providing a functional space for office tenants and residential dwellings on upper levels, the proposal will act as a people generating land use that will further enhance and activate the West End, which is a key component of Fremantle's amenity and cultural fabric.
- The requested variation is a minor departure from the baseline provisions of the planning scheme, representing a variation that does not seek to exploit the subject clause allowing for variation, but rather supporting a stronger outcome for the site context and prime location.
- Generally, the height that has been proposed has received the support from the City's Design Advisory Committee (**DAC**), with the massing, scale and visual setback for the upper floor and roof terrace supported in DAC #1.

KEY THEME FOUR – Glazing to Façade

Public Submission 28, 31

Primary Issue: Proposed replacement of brickwork with glass

- The former Robert Harper Building was originally built as an office and warehouse, and whilst the corner portion is afforded large windows that provide excellent daylighting and connectivity with surrounds, the Pakenham Street portion had small windows at high level. The modifications made to the facade in the 1990's resulted in a significant disruption to the original delineation of office and warehouse. The proposal seeks to undo the 1990's facade works and replace the brickwork in the remaining bays to adopt a simpler 'move' that maintains the scale and singularity of the original warehouse component, as well as reinstating the highlight windows. As a result, this will generate a positive contribution to the streetscape and internal amenity for the workforce it supports, whilst maintaining the original utilitarian rhythm of the warehouse facade.
- From a safety perspective, the increase in glazing will provide additional activation, passive surveillance and eyes on the street along Pakenham Street – increasing the amenity of future workers, residents and pedestrians of the locality.
- The restoration works to the interior will include a substantial amount of original fabric that is currently concealed behind plasterboard to be re-exposed. The incorporation of glazing to the facade will allow these uncoverings to be visual for both the internal occupants as well as to the passerby.

SPP7.3 R-CODES

VOLUME 2 - APARTMENTS

ASSESSMENT TEMPLATE

ELEMENT 2.2		BUILDING HEIGHT										
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>			APPLICANT COMMENT					ASSESSOR COMMENT				
			<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>									
O2.2.1 – The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.			The proposed height is appropriate for the site’s location within the Fremantle west end, and will have no undue impact on the existing or future character of the local area. Refer to Section 9.4 of the DA Report for further detail.									
O2.2.2 – The height of buildings within a development responds to changes in topography.			N/A – two additional storeys proposed on top of existing building (which is being retained, and adaptively re-used).									
O2.2.3 – Development incorporates articulated roof design and/or roof top communal open space where appropriate.			The proposal focuses on delivering a significant amount of outdoor amenity for future residents, including private outdoor (rooftop) courtyard space, as well as a communal herb garden for residents to utilise.									
O2.2.4 – The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.			The proposal’s shadow study demonstrates that through the generous setback that has been applied to the newly proposed second and third floor apartments, there is no increase in overshadowing to Phillimore or Pakenham Street than what already occurs.									
ACCEPTABLE OUTCOMES												
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>												
A2.2.1 – Development complies with the building height limit (storeys) set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the building height limit set out in the applicable local planning instrument.												
<i>(Excerpt from table 2.1)</i>												
Streetscape contexts and character <i>refer A2</i>		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0	
Building height (storeys) <i>refer 2.2</i>	2	3	3	4	4	5	3	6	7	9		
LOCAL PLANNING FRAMEWORK					REQUIREMENT							
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:					The site is located in Local Planning Sub-Area 1.3.1 (LPA 1.3.1) in Schedule 7 of LPS 4 which outlines several development provisions that apply to the subject site and its zone. An assessment of the proposal against these provisions is provided in the Table 3 within the DA Report.							

ELEMENT 2.3		STREET SETBACKS										
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT						ASSESSOR COMMENT				
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>										
02.3.1 – The setback of the development from the street reinforces and/or complements the existing or proposed landscape character of the street.		As the existing building is heritage listed, no changes are proposed to the setbacks that currently exist on site. However, the newly proposed upper levels have been generously setback by over 4m from both Phillimore and Pakenham Street.										
02.3.2 – The street setback provides a clear transition between the public and private realm.		As above.										
02.3.3 – The street setback assists in achieving visual privacy to apartments from the street.		Due to the generous setback provided on upper levels, visibility into the apartments from street level will be minimal, if not, non-existent.										
02.3.4 – The setback of the development enables passive surveillance and outlook to the street.		The setback provided for upper levels provides for private outdoor courtyard space for each dwelling, which will enable eyes on the street and passive surveillance to both frontages.										
ACCEPTABLE OUTCOMES												
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>												
A3.2.1 – Development complies with the street setback set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the street setback set out in the applicable local planning instrument												
<i>(Excerpt from table 2.1)</i>												
Streetscape contexts and character refer A2		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding		R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0
Minimum primary and secondary street setbacks refer 2.3		4m ⁴	2m	2m		2m		2m or Nil ⁵	2m or Nil ⁵	2m or Nil ⁵		
(4) Minimum secondary street setback 1.5m												
(5) Nil setback applicable if commercial use at ground floor												
LOCAL PLANNING FRAMEWORK				REQUIREMENT								
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:				N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.								

ELEMENT 2.4 SIDE AND REAR SETBACKS		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O2.4.1 – Building boundary setbacks provide for adequate separation between neighbouring properties.	No proposed changes to existing building setbacks, however, generous setbacks from both streets and western neighbour at upper levels have been provided.	
O2.4.2 – Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.	The proposal remains consistent with the existing streetscape character, as the existing building is being retained with setbacks unaltered and the new apartments above are generously setback from the street.	
O2.4.3 – The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area, support tree canopy and assist with stormwater management.	The subject site is entirely built out, with the existing building leaving no opportunity for deep soil planting.	
O2.4.4 – The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.	N/A – Refer O2.4.1.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A2.4.1 - Development complies with the side and rear setbacks set out in Table 2.1, except where: <ul style="list-style-type: none"> a) modified by the local planning framework, in which case development complies with the side and rear setbacks set out in the applicable local planning instrument AND /OR b) a greater setback is required to address 3.5 <i>Visual privacy</i>. <i>(Excerpt from table 2.1)</i>		

Streetscape contexts and character <i>refer A2</i>	Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas	
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0	
Boundary wall height (storeys) ^{1,2} <i>refer 2.4</i>	1 ³		1 ³	2 ³	2 ³		2	3	4			
Minimum side setbacks ⁶ <i>refer 2.4</i>	2m	3m	3m		3m		Nil					
Minimum rear setback <i>refer 2.4</i>	3m		3m		6m		6m	Nil	Nil			
Average side setback where building length exceeds 16m <i>refer 2.4</i>	2.4m	3.5m	3.5m	3.5m	3.5m	4.0m	NA	NA	NA			
<p>(1) Wall may be built up to a lot boundary, where it abuts an existing or simultaneously constructed wall of equal or greater proportions</p> <p>(2) Where the subject site and an affected adjoining site are subject to different density codes, the length and height of any boundary wall on the boundary between them is determined by reference to the lower density code</p> <p>(3) Boundary wall only permitted on one boundary, and shall not exceed 2/3 length.</p> <p>(6) Boundary setbacks will also be determined by provisions for building separation and visual privacy within this SPP and building separation provisions of the NCC.</p>												
A2.4.2 – Development is setback from the boundary in order to achieve the Objectives outlined in 2.7 <i>Building separation</i> , 3.3 <i>Tree canopy and deep soil areas</i> , 3.5 <i>Visual privacy</i> and 4.1 <i>Solar and daylight access</i> .												
LOCAL PLANNING FRAMEWORK						REQUIREMENT						
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:						N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.						

ELEMENT 2.5		PLOT RATIO											
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>			APPLICANT COMMENT					ASSESSOR COMMENT					
			<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>										
O2.5.1 – The overall bulk and scale of development is appropriate for the existing or planned character of the area.			The proposal has a plot ratio of 2.5. 1,798sq.m GFA divided by 715sq.m (Lot Area) = 2.5. Under Clause 2.2.1 of LPP 3.21, there is no specific plot ratio restriction that applies to the subject site due to its location within the west end heritage area.										
ACCEPTABLE OUTCOMES													
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>													
A2.5.1 – Development complies with the plot ratio requirements set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the plot ratio set out in the applicable local planning instrument. <i>(Excerpt from table 2.1)</i>													
Streetscape contexts and character <i>refer A2</i>		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas	
		Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0
		Plot ratio ⁷ <i>refer 2.5</i>	0.6	0.7	0.8	1.0	1.3	2.0	1.2	2.0	2.5	3.0	
(6) Refer to Definitions for calculation of plot ratio													
LOCAL PLANNING FRAMEWORK			REQUIREMENT										
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:			Yes – Clause 2.2.1 of LPP 3.21 states: Table 2.1 ‘Primary Controls’ of State Planning Policy 7.3 Residential Design Codes Volume 2 – Apartments is superseded by planning scheme controls and this policy. No specific residential plot ratio restriction applies: floorspace is governed by the building envelope established by lot size, height, setbacks and other elements.										

ELEMENT 2.6		BUILDING DEPTH	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O2.6.1 – Building depth supports apartment layouts that optimise daylight and solar access and natural ventilation.		The building orientation, depth and design (utilising full height glazing where possible) ensures solar access and natural cross ventilation is maximised.	
O2.6.2 – Articulation of building form to allow adequate access to daylight and natural ventilation where greater building depths are proposed.		The configuration of apartments allows glazing opportunities to a minimum of two entire facades for each apartment which provides more than adequate natural daylight and excellent cross ventilation opportunities.	
O2.6.3 – Room depths and / or ceiling heights optimise daylight and solar access and natural ventilation.		Refer O2.6.1 and O2.6.2 above.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A2.6.1 – Developments that comprise single aspect apartments on each side of a central circulation corridor shall have a maximum building depth of 20m. All other proposals will be assessed on their merits with particular consideration to <i>4.1 Solar and daylight access</i> and <i>4.2 Natural ventilation</i> .			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 2.7		BUILDING SEPARATION																												
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT																											
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>																												
O2.7.1 – New development supports the desired future streetscape character with spaces between buildings.		The proposal seeks to retain and restore the built heritage that currently exists on site, and ensures that the new two story apartments do not adversely impact the streetscape character of the area. This is achieved by generous setbacks of the upper levels reducing the visual impact from the street.																												
O2.7.2 – Building separation is in proportion to building height.		Careful location of major openings, selective screening and larger side setbacks, the development can achieve separation commensurate to the bulk and scale of the development and adjoining properties whilst managing privacy between properties. Further, this has enhanced effects on natural ventilation and daylight access / outlook.																												
O2.7.3 – Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.																														
O2.7.4 – Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings		N/A – Refer comments in O2.4.3.																												
ACCEPTABLE OUTCOMES																														
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>																														
A2.7.1 – Development complies with the separation requirements set out in Table 2.7.																														
<div>Table 2.7 Building separation</div> <table><tr><th rowspan="2"></th><th rowspan="2">Separation between:</th><th colspan="3">Building height</th></tr><tr><th>≤ 4 storeys (up to 15m)</th><th>5-8 storeys (up to 28m)</th><th>≥ 9 storeys (over 28m)</th></tr><tr><td rowspan="3">Within site boundary</td><td>Habitable rooms/balconies</td><td>12m</td><td>18m</td><td>24m</td></tr><tr><td>Habitable and non-habitable rooms</td><td>7.5m</td><td>12m</td><td>18m</td></tr><tr><td>Non-habitable rooms</td><td>4.5m</td><td>6m</td><td>9m</td></tr><tr><td>To adjoining property boundaries</td><td>Habitable rooms/balconies and boundary</td><td>Refer 2.4 Side and rear setbacks (Table 2.1) and 3.5 Visual privacy (Table 3.5)</td><td>9m</td><td>12m</td></tr></table> <div>Distances apply from major openings of rooms, or the inside of balustrading of balconies. Average dimensions may be applied subject to major openings meeting other requirements for privacy, daylight and the like.</div>						Separation between:	Building height			≤ 4 storeys (up to 15m)	5-8 storeys (up to 28m)	≥ 9 storeys (over 28m)	Within site boundary	Habitable rooms/balconies	12m	18m	24m	Habitable and non-habitable rooms	7.5m	12m	18m	Non-habitable rooms	4.5m	6m	9m	To adjoining property boundaries	Habitable rooms/balconies and boundary	Refer 2.4 Side and rear setbacks (Table 2.1) and 3.5 Visual privacy (Table 3.5)	9m	12m
	Separation between:	Building height																												
		≤ 4 storeys (up to 15m)	5-8 storeys (up to 28m)	≥ 9 storeys (over 28m)																										
Within site boundary	Habitable rooms/balconies	12m	18m	24m																										
	Habitable and non-habitable rooms	7.5m	12m	18m																										
	Non-habitable rooms	4.5m	6m	9m																										
To adjoining property boundaries	Habitable rooms/balconies and boundary	Refer 2.4 Side and rear setbacks (Table 2.1) and 3.5 Visual privacy (Table 3.5)	9m	12m																										
LOCAL PLANNING FRAMEWORK		REQUIREMENT																												
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.																												

ELEMENT 3.2		ORIENTATION	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.2.1 – Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development.		The development provides an attractive public realm interface with the retention of the existing building layout but increased glazing to provide a more active interface. The design responds to the site's built heritage, existing streetscape character, whilst optimising solar daylight access and natural cross ventilation through carefully considered apartment configurations.	
O3.2.2 – Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.		The proposed additional building form results in no additional overshadowing – Refer O2.2.4.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A3.2.1 – Buildings on street or public realm frontages are oriented to face the public realm and incorporate direct access from the street.			
A3.2.2 – Buildings that do not have frontages to streets or public realm are oriented to maximise northern solar access to living areas.			
A3.2.3 – Development in climate zones 4, 5 and 6 shall be designed such that the shadow cast at midday on 21st June onto any adjoining property does not exceed: <ul style="list-style-type: none"> – adjoining properties coded R25 and lower – 25% of the site area¹ – adjoining properties coded R30 – R40 - 35% of the site area¹ – adjoining properties coded R50 – R60 – 50% of the site area¹ – adjoining properties coded R80 or higher – Nil requirements. 			
<small>(1) Where a development site shares its southern boundary with a lot, and that lot is bound to the north by other lot(s), the limit of shading at A3.2.3 shall be reduced proportionally to the percentage of the affected properties northern boundary that abuts the development site. (Refer to Figure A7.2 in Appendix 7)</small>			
A3.2.4 – Where adjoining sites are coded R40 or less, buildings are oriented to maintain 4 hours per day solar access on 21 June for existing solar collectors on neighbouring sites.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 3.3 TREE CANOPY AND DEEP SOIL AREAS		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.3.1 – Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees.	N/A – the subject site is entirely built out, with the existing building leaving no opportunity for deep soil planting. Refer O2.4.3.	
O3.3.2 – Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition.	As the site itself is completely built out, there is no ability to deliver on-site deep soil planting. With this in mind, the delivery of on-structure planting and urban greenery has become a critical component of the landscape strategy for the site.	
O3.3.3 – Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.	Refer O3.3.2 above.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.3.1 – Retention of existing trees on the site that meet the following criteria: <ul style="list-style-type: none"> – healthy specimens with ongoing viability AND – species is not included on a State or local area weed register AND – height of at least 4m AND/OR – trunk diameter of at least 160mm, measured 1m from the ground AND/OR – average canopy diameter of at least 4m. 		
A3.3.2 – The removal of existing trees that meet any of the criteria at A3.3.1 is supported by an arboriculture report.		
A3.3.3 – The development is sited and planned to have no detrimental impacts on, and to minimise canopy loss of adjoining trees.		
A3.3.4 – Deep soil areas are provided in accordance with Table 3.3a. Deep soil areas are to be co-located with existing trees for retention and/or adjoining trees, or alternatively provided in a location that is conducive to tree growth and suitable for communal open space.		

Table 3.3a Minimum deep soil area and tree provision requirements

Site Area	Minimum deep soil area	Minimum requirement for trees ¹
Less than 700m ²	10% OR 7% if existing tree(s) retained on site (% site area)	1 medium tree and small trees to suit area
700 – 1,000m ²		2 medium trees OR 1 large tree and small trees to suit area
> 1,000m ²		1 large tree and 1 medium tree for each additional 400m ² in excess of 1000m ² OR 1 large tree for each additional 900m ² in excess of 1000m ² and small trees to suit area

¹ Minimum requirement for trees includes retained or new trees
Refer Table 3.3b for tree sizes

A3.3.5 – Landscaping includes existing and new trees with shade producing canopies in accordance with Tables 3.3a and 3.3b.

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided ¹ (min 1m depth)	Indicative pot size at planting
Small	4-6m	4-8m	9m ²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6-9m	8-12m	36m ²	3m	2m (DSA) + 1m (RSZ)	200L
Large	>9m	>12m	64m ²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

¹ Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

A3.3.6 – The extent of permeable paving or decking within a deep soil area does not exceed 20 per cent of its area and does not inhibit the planting and growth of trees.

A3.3.7 – Where the required deep soil areas cannot be provided due to site restrictions, planting on structure with an area equivalent to two times the shortfall in deep soil area provision is provided.

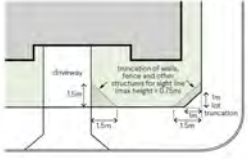
LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.

ELEMENT 3.4		COMMUNAL OPEN SPACE													
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT												
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>													
O3.4.1 – Provision of quality communal open space that enhances resident amenity and provides opportunities for landscaping, tree retention and deep soil areas.		The proposal focuses on delivering a generous amount of outdoor amenity for future residents, including private outdoor (rooftop) courtyard space, as well as a communal herb garden for residents to utilise.													
O3.4.2 – Communal open space is safe, universally accessible and provides a high level of amenity for residents.		The communal open space area has been designed to a high standard by the See Design landscape architecture team. The space is accessible for all residents, provides a level of safety through its elevation / separation from the public realm and passive surveillance to its surroundings.													
O3.4.3 – Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.		The communal open space is located on second floor of the proposal and is neatly tucked between residential courtyards and the lift landing area, reducing its impacts on the privacy of residents.													
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>															
A3.4.1 – Developments include communal open space in accordance with Table 3.4															
<p>Table 3.4 Provision of communal open space</p> <table> <tr> <th>Development size</th><th>Overall communal open space requirement</th><th>Minimum accessible / hard landscape area (included in overall area requirement)</th><th>Minimum open space dimension</th></tr> <tr> <td>Up to 10 dwellings</td><td>Informal seating associated with deep soil or other landscaped areas</td><td>NA</td><td>NA</td></tr> <tr> <td>More than 10 dwellings</td><td>Total 4m² per dwelling up to a maximum 300m²</td><td>At least 2m² per dwelling up to 100m²</td><td>4m</td></tr> </table>				Development size	Overall communal open space requirement	Minimum accessible / hard landscape area (included in overall area requirement)	Minimum open space dimension	Up to 10 dwellings	Informal seating associated with deep soil or other landscaped areas	NA	NA	More than 10 dwellings	Total 4m ² per dwelling up to a maximum 300m ²	At least 2m ² per dwelling up to 100m ²	4m
Development size	Overall communal open space requirement	Minimum accessible / hard landscape area (included in overall area requirement)	Minimum open space dimension												
Up to 10 dwellings	Informal seating associated with deep soil or other landscaped areas	NA	NA												
More than 10 dwellings	Total 4m ² per dwelling up to a maximum 300m ²	At least 2m ² per dwelling up to 100m ²	4m												
A3.4.2 – Communal open space located on the ground floor or on floors serviced by lifts must be accessible from the primary street entry of the development.															
A3.4.3 – There is 50 per cent direct sunlight to at least one communal open space area for a minimum of two hours between 9am and 3pm on 21 June.															
A3.4.4 – Communal open space is co-located with deep soil areas and/or planting on structure areas and/ or co-indoor communal spaces.															
A3.4.5 – Communal open space is separated or screened from adverse amenity impacts such as bins, vents, condenser units, noise sources and vehicle circulation areas.															
A3.4.6 – Communal open space is well-lit, minimises places for concealment and is open to passive surveillance from adjoining dwellings and/or the public realm.															
A3.4.7 – Communal open space is designed and oriented to minimise the impacts of noise, odour, light-spill and overlooking on the habitable rooms and private open spaces within the site and of neighbouring properties.															
LOCAL PLANNING FRAMEWORK		REQUIREMENT													
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.													

ELEMENT 3.5		VISUAL PRIVACY		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT		ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
O3.5.1 – The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.		The proposal has generously setback the upper level residential addition a minimum of 4m from the street boundaries as well as 3m from the Western boundary to minimise overlooking, and maximise visual privacy for both adjoining sites and the future residents of the building. The alignment of apartments assists in mitigating overlooking of habitable rooms. The apartment layouts and location of the proposed outdoor courtyard areas maintains a level of visual privacy for all future residents whilst still ensuring daylight and solar access. The use of landscaped planters and screens provide greater privacy and separation from private outdoor living areas.		
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>				
A3.5.1 – Visual privacy setbacks to side and rear boundaries are provided in accordance with Table 3.5.				
Table 3.5 Required privacy setback to adjoining sites				
Cone of vision from unscreened:		First 4 storeys		5th storey and above
		Adjoining sites coded R50 or lower	Adjoining sites coded higher than R50	
Major opening to bedroom, study and open access walkways		4.5m	3m	Refer Table 2.7
Major openings to habitable rooms other than bedrooms and studies		6m	4.5m	
Unenclosed private outdoor spaces		7.5m	6m	
A3.5.2 – Balconies are unscreened for at least 25 per cent of their perimeter (including edges abutting a building).				
A3.5.3 - Living rooms have an external outlook from at least one major opening that is not obscured by a screen.				
A3.5.4 – Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening of windows and balconies.				
LOCAL PLANNING FRAMEWORK		REQUIREMENT		
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.		

ELEMENT 3.6 PUBLIC DOMAIN INTERFACE		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.6.1 – The transition between the private and public domain enhances the privacy and safety of residents.	The existing office building is being maintained and revitalised on the ground floor. However, through the introduction of additional glazing at the ground level will enable increased street presence and passive surveillance.	
O3.6.2 – Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.	The proposed apartments are provided with large amounts of glazing to maximise passive surveillance opportunities to the street. The landscaping proposes a mix of visually permeable balustrading to provide residents with privacy, whilst maintaining eyes on the street. The proposed arbour and potted trees will provide shading to the residential outdoor living areas as well as providing an enhanced visual amenity to the local community and passersby.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.6.1 – The majority of ground floor dwellings fronting onto a street or public open space have direct access by way of a private terrace, balcony or courtyard.		
A3.6.2 – Car-parking is not located within the primary street setback; and where car parking is located at ground level behind the street setback it is designed to integrate with landscaping and the building façade (where part of the building).		
A3.6.3 – Upper level balconies and/or windows overlook the street and public domain areas.		
A3.6.4 – Balustrading includes a mix of visually opaque and visually permeable materials to provide residents with privacy while maintaining casual surveillance of adjoining public domain areas.		
A3.6.5 – Changes in level between private terraces, front gardens and the ground floor level of the building and the street level average less than 1m and do not exceed 1.2m.		
A3.6.6 – Front fencing includes visually permeable materials above 1.2m and the average height of solid walls or fences to the street does not exceed 1.2m.		
A3.6.7 – Fencing, landscaping and other elements on the frontage are designed to eliminate opportunities for concealment.		
A3.6.8 – Bins are not located within the primary street setback or in locations visible from the primary street.		
A3.6.9 – Services and utilities that are located in the primary street setback are integrated into the design of the development and do not detract from the amenity and visual appearance of the street frontage. ¹ (1) Firefighting and access to services such as power and water meters require careful consideration in the design of the front façade. Consult early with relevant authorities to resolve functional requirements in an integrated design solution.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 3.7		PEDESTRIAN ACCESS AND ENTRIES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.7.1 – Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.		The two existing pedestrian entries are maintained as primary access points to the heritage building. The original ornate corner entry is retained and restored with the Pakenham St entry location retained but modified to provide a universally accessible entrance to the building. The pedestrian entries are connected via a legible, well defined, continuous path of travel to building access areas such as lift lobbies, stairs, accessways and the office visitor entry area on the ground floor.	
O3.7.2 – Entries to the development connect to and address the public domain with an attractive street presence.		The retention and restoration of the two pedestrian entries ensure there is both a corner street entry presence, and an attractive entrance along the larger street frontage (Pakenham Street). Both are visible from the public domain without opportunity for concealment, and designed to enable casual surveillance of the entry from within the site.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A3.7.1 – Pedestrian entries are connected via a legible, well-defined, continuous path of travel to building access areas such as lift lobbies, stairs, accessways and individual dwelling entries.			
A3.7.2 – Pedestrian entries are protected from the weather.			
A3.7.3 – Pedestrian entries are well-lit for safety and amenity, visible from the public domain without opportunity for concealment, and designed to enable casual surveillance of the entry from within the site.			
A3.7.4 – Where pedestrian access is via a shared zone with vehicles, the pedestrian path is clearly delineated and/or measures are incorporated to prioritise the pedestrian and constrain vehicle speed.			
A3.7.5 – Services and utilities that are located at the pedestrian entry are integrated into the design and do not detract from the amenity of the entry.			
A3.7.6 – Bins are not located at the primary pedestrian entry.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 3.8 VEHICLE ACCESS		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.8.1 – Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.	The vehicle access point is located in the southeast corner of the site on Pakenham Street and is separated from pedestrian entries (to avoid pedestrian conflict) and the nearby street intersection (to avoid vehicle conflict).	
O3.8.2 – Vehicle access points are designed and located to reduce visual impact on the streetscape.	The proposed vehicle access point seeks to utilise the location of the existing roller door that is on site, causing no further visual impact on the streetscape.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.8.1 – Vehicle access is limited to one opening per 20m street frontage that is visible from the street.		
A3.8.2 – Vehicle entries are identifiable from the street, while being integrated with the overall façade design and/ or located behind the primary building line.		
A3.8.3 – Vehicle entries have adequate separation from street intersections.		
A3.8.4 – Vehicle circulation areas avoid headlights shining into habitable rooms within the development and adjoining properties.		
A3.8.5 – Driveway width is kept to a functional minimum, relative to the traffic volumes and entry/egress requirements.		
A3.8.6 – Driveways designed for two way access to allow for vehicles to enter the street in forward gear where: <ul style="list-style-type: none"> – the driveway serves more than 10 dwellings – the distance from an on-site car parking to the street is 15m or more OR – the public street to which it connects is designated as a primary distributor, district distributor or integrated arterial road. 		
A3.8.7 – Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect (refer Figure 3.8a).		
 <p>Figure 3.8a Truncation at street corner to provide sightlines (refer A3.8.7)</p>		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 3.9 CAR AND BICYCLE PARKING		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O3.9.1 – Parking and facilities are provided for cyclists and other modes of transport.	A requirement of 7.5 (8) bays is generated for the residential component of the proposal – therefore, 8 bicycle parking bays and storage areas have been provided in the basement carpark to cater for this, with opportunity for the provision of more dependent upon demand.	
O3.9.2 – Car parking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.	<p>The proposal exceeds the statutory carparking requirements for residents. however fewer no visitor or office car parking bays are proposed to be provided. The office component generates a requirement of 41 car bays. However, there is currently no carparking provided on site to service the existing office GLA. The proposal itself does not seek to increase the office GLA that currently operates without carparking. As such, the 8 bays being introduced as part of the proposal seek to service the newly proposed residential additions, with no change proposed to the existing operational functionality of the office component of the building.</p> <p>It is anticipated that much like many other local businesses within the Fremantle city centre, office employees or residential visitors will be required to utilise the existing public carparking available within the city centre, or catch public transport to the site. This arrangement will also expose visitors to more of Fremantle (walking to and from the site), use the public open space and go to local businesses in the area.</p>	
O3.9.3 – Car parking is designed to be safe and accessible.	Flyt have prepared a carpark assessment which confirms the manoeuvrability of the carparking area and the ramp. This is provided at Appendix C of the DA Report.	
O3.9.4 – The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.	All parking is concealed from view at basement level to minimise visual impact with the streetscape.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.9.1 – Secure, undercover bicycle parking is provided in accordance with Table 3.9 and accessed via a continuous path of travel from the vehicle or cycle entry point.		

Table 3.9 Parking ratio

Parking types		Location A	Location B
Car parking ¹	1 bedroom dwellings	0.75 bay per dwelling	1 bay per dwelling
	2+ bedroom dwellings	1 bay per dwelling	1.25 bays per dwelling
	Visitor	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	
Bicycle parking ¹	Resident	0.5 space per dwelling	
	Visitor	1 space per 10 dwellings	
Motorcycle/ Scooter parking ²		Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays	

¹ Calculations of parking ratios shall be rounded up to the next whole number.

² For each five motorcycle/scooter parking bays provided in accordance with Table 3.9, car parking bays may be reduced by one bay.

Definitions:
Location A: within 800m walkable catchment of a train station and/or 250m of a transit stop (bus or light rail) of a high-frequency route and/or within the defined boundaries of an activity centre.
Location B: not within Location A.

A3.9.2 – Parking is provided for cars and motorcycles in accordance with Table 3.9.

A3.9.3 – Maximum parking provision does not exceed double the minimum number of bays specified in Table 3.9

A3.9.4 – Car parking and vehicle circulation areas are designed in accordance with AS2890.1 (as amended) or the requirements of applicable local planning instruments.

A3.9.5 – Car parking areas are not located within the street setback and are not visually prominent from the street.

A3.9.6 – Car parking is designed, landscaped or screened to mitigate visual impacts when viewed from dwellings and private outdoor spaces.

A3.9.7 – Visitor parking is clearly visible from the driveway, is signed 'Visitor Parking' and is accessible from the primary entry or entries.

A3.9.8 – Parking shade structures, where used, integrate with and complement the overall building design and site aesthetics and have a low reflectance to avoid glare into apartments.

A3.9.9 – Uncovered at-grade parking is planted with trees at a minimum rate of one tree per four bays.

A3.9.10 – Basement parking does not protrude more than 1m above ground, and where it protrudes above ground is designed or screened to prevent negative visual impact on the streetscape.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.

ELEMENT 4.1 SOLAR AND DAYLIGHT ACCESS		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
04.1.1 – In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms.	The dwellings (including outdoor private open space areas, and habitable rooms) are well orientated and positioned to receive sun throughout the day via extensive glazing on a minimum of two elevations for each apartment. The windows include glazed louvres throughout for natural ventilation whilst maintaining daylight access when closed.	
04.1.2 – Windows are designed and positioned to optimise daylight access for habitable rooms.	Windows are located to maximise daylight access in habitable rooms, with each apartment enjoying dual aspect access to maximise light and ventilation into habitable rooms.	
04.1.3 – The development incorporates shading and glare control to minimise heat gain and glare: <ul style="list-style-type: none"> – from mid-spring to autumn in climate zones 4, 5 and 6 AND – year-round in climate zones 1 and 3. 	The residential envelope has been designed with extensive glazing to maximise daylight and ventilation opportunities but through orientation, incorporation of spandrel panels, and an extensive external shading device heat gain and glare will be minimised.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.1.1 – In climate zones 4, 5 and 6 <u>only</u> : <ul style="list-style-type: none"> a) Dwellings with a northern aspect are maximised, with a minimum of 70 per cent of dwellings having living rooms and private open space that obtain at least 2 hours direct sunlight between 9am and 3pm on 21 June AND b) A maximum of 15 per cent of dwellings in a building receiving no direct sunlight between 9am and 3pm on 21 June. 		
A4.1.2 – Every habitable room has at least one window in an external wall, visible from all parts of the room, with a glazed area not less than 10 per cent of the floor area and comprising a minimum of 50 per cent of clear glazing.		
A4.1.3 – Lightwells and/or skylights do not form the primary source of daylight to any habitable room.		
A4.1.4 – The building is oriented and incorporates external shading devices in order to: <ul style="list-style-type: none"> – minimise direct sunlight to habitable rooms: <ul style="list-style-type: none"> ▪ between late September and early March in climate zones 4, 5 and 6 only AND ▪ in all seasons in climate zones 1 and 3 – permit winter sun to habitable rooms in accordance with A 4.1.1 (a). 		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.2 NATURAL VENTILATION		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.2.1 – Development maximises the number of apartments with natural ventilation.	The proposal exceeds the minimum requirements and provides natural cross ventilation for all proposed dwellings with the inclusion of operable glass louvres throughout the envelope.	
O4.2.2 – Individual dwellings are designed to optimise natural ventilation of habitable rooms.	Cross ventilation has been a primary focus for the design of all dwellings, with natural ventilation optimised in habitable rooms wherever possible.	
O4.2.3 – Single aspect apartments are designed to maximise and benefit from natural ventilation.	There are no single aspect apartments.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.2.1 – Habitable rooms have openings on at least two walls with a straight line distance between the centre of the openings of at least 2.1m.		
A4.2.2 – <ul style="list-style-type: none"> (a) A minimum 60 per cent of dwellings are, or are capable of, being naturally cross ventilated in the first nine storeys of the building (b) Single aspect apartments included within the 60 per cent minimum at (a) above must have: <ul style="list-style-type: none"> ▪ ventilation openings oriented between 45° – 90° of the prevailing cooling wind direction AND ▪ room depth no greater than 3 × ceiling height (c) For dwellings located at the 10th storey or above, balconies incorporate high and low level ventilation openings. 		
A4.2.3 – The depth of cross-over and cross-through apartments with openings at either end and no openings on side walls does not exceed 20m.		
A4.2.4 – No habitable room relies on lightwells as the primary source of fresh-air.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.3		SIZE AND LAYOUT OF DWELLINGS													
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT												
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>													
O4.3.1 – The internal size and layout of dwellings is functional with the ability to flexibly accommodate furniture settings and personal goods, appropriate to the expected household size.		All proposed dwellings meet minimum internal floor areas in Table 4.3a. Furnishings have been shown on the floor plans to demonstrate the highly functional and flexible nature of the proposed floor plates / layouts that are capable of meeting the residents’ needs.													
O4.3.2 – Ceiling heights and room dimensions provide for well-proportioned spaces that facilitate good natural ventilation and daylight access.		Proposed ceiling heights and room dimensions meet, or exceed minimum requirements in Table 4.3b and A4.3.3													
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>															
A4.3.1 – Dwellings have a minimum internal floor area in accordance with Table 4.3a.															
<div>Table 4.3a Minimum floor areas for dwelling types</div> <table><tr><th>Dwelling type</th><th>Minimum internal floor area</th></tr><tr><td>Studio</td><td>37m²</td></tr><tr><td>1 bed</td><td>47m²</td></tr><tr><td>2 bed × 1 bath¹</td><td>67m²</td></tr><tr><td>3 bed × 1 bath¹</td><td>90m²</td></tr><tr><td colspan="2">¹An additional 3m² shall be provided for designs that include a second or separate toilet, and 5m² for designs that include a second bathroom.</td></tr></table>				Dwelling type	Minimum internal floor area	Studio	37m ²	1 bed	47m ²	2 bed × 1 bath ¹	67m ²	3 bed × 1 bath ¹	90m ²	¹ An additional 3m ² shall be provided for designs that include a second or separate toilet, and 5m ² for designs that include a second bathroom.	
Dwelling type	Minimum internal floor area														
Studio	37m ²														
1 bed	47m ²														
2 bed × 1 bath ¹	67m ²														
3 bed × 1 bath ¹	90m ²														
¹ An additional 3m ² shall be provided for designs that include a second or separate toilet, and 5m ² for designs that include a second bathroom.															
A4.3.2 – Habitable rooms have minimum floor areas and dimensions in accordance with Table 4.3b.															

Table 4.3b Minimum floor areas and dimensions for habitable rooms

Habitable room type	Minimum internal floor area	Minimum internal dimension
Master bedroom	10m ²	3m
Other bedrooms	9m ²	3m
Living room – studio and 1 bed apartments	N/A	3.6m
Living room – other dwelling types	N/A	4m
¹ Excluding robes		

A4.3.3 – Measured from the finished floor level to finished ceiling level, minimum ceiling heights are:

- Habitable rooms – 2.7m
- Non-habitable rooms – 2.4m
- All other ceilings meet or exceed the requirements of the NCC.

A4.3.4 – The length of a single aspect open plan living area is equal to or less than 3 x the ceiling height. An additional 1.8m length may be provided for a kitchen, where the kitchen is the furthest point from the window in an open plan living area provided that the maximum length does not exceed 9m.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.

ELEMENT 4.4 PRIVATE OPEN SPACE AND BALCONIES																	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT															
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>																
O4.4.1 – Dwellings have good access to appropriately sized private open space that enhances residential amenity.	All dwellings have access to a private open space of which each space meets the minimum required dimension and area listed in Table 4.4.																
O4.4.2 – Private open space is sited, oriented and designed to enhance liveability for residents.	Private open space is orientated to maximise solar views to high amenity locations (such as Victoria Quay or Pioneer Park) and be street facing for passive surveillance.																
O4.4.3 – Private open space and balconies are integrated into the overall architectural form and detail of the building.	Private open spaces are designed into the building through high quality architectural components, and generous setbacks of building mass.																
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>																	
A4.4.1 – Each dwelling has private open space accessed directly from a habitable room with dimensions in accordance with Table 4.4.																	
Table 4.4 Private open space requirements <table border="1"> <thead> <tr> <th>Dwelling type</th><th>Minimum Area¹</th><th>Minimum Dimension¹</th></tr> </thead> <tbody> <tr> <td>Studio apartment + 1 bedroom</td><td>8m²</td><td>2.0m</td></tr> <tr> <td>2 bedroom</td><td>10m²</td><td>2.4m</td></tr> <tr> <td>3 bedroom</td><td>12m²</td><td>2.4m</td></tr> <tr> <td>Ground floor / apartment with a terrace</td><td>15m²</td><td>3m</td></tr> </tbody> </table> <p>¹ Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.</p>			Dwelling type	Minimum Area ¹	Minimum Dimension ¹	Studio apartment + 1 bedroom	8m ²	2.0m	2 bedroom	10m ²	2.4m	3 bedroom	12m ²	2.4m	Ground floor / apartment with a terrace	15m ²	3m
Dwelling type	Minimum Area ¹	Minimum Dimension ¹															
Studio apartment + 1 bedroom	8m ²	2.0m															
2 bedroom	10m ²	2.4m															
3 bedroom	12m ²	2.4m															
Ground floor / apartment with a terrace	15m ²	3m															
A4.4.2 – Where private open space requires screening to achieve visual privacy requirements, the entire open space is not screened and any screening is designed such that it does not obscure the outlook from adjacent living rooms.																	
A4.4.3 – Design detailing, materiality and landscaping of the private open space is integrated with or complements the overall building design.																	
A4.4.4 – Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.																	
LOCAL PLANNING FRAMEWORK	REQUIREMENT																
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.																

ELEMENT 4.5		CIRCULATION AND COMMON SPACES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.5.1 – Circulation spaces have adequate size and capacity to provide safe and convenient access for all residents and visitors.		The lobby spaces on each level and access throughout the building is designed to meet or exceed minimum requirements.	
O4.5.2 – Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.		<p>Circulation and common spaces are designed to minimise opportunities for concealment and encourage interaction and passive surveillance. No major openings directly open into the lobby spaces, and are provided with appropriate separation to communal spaces.</p> <p>Common spaces can be illuminated at night without causing conflict with adjacent development or apartments within the development.</p>	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.5.1 – Circulation corridors are a minimum 1.5m in width.			
A4.5.2 – Circulation and common spaces are designed for universal access.			
A4.5.3 – Circulation and common spaces are capable of passive surveillance, include good sightlines and avoid opportunities for concealment.			
A4.5.4 – Circulation and common spaces can be illuminated at night without creating light spill into the habitable rooms of adjacent dwellings.			
A4.5.5 – Bedroom windows and major openings to living rooms do not open directly onto circulation or common spaces and are designed to ensure visual privacy and manage noise intrusion.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.6		STORAGE																			
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT																		
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>																			
O4.6.1 – Well-designed, functional and conveniently located storage is provided for each dwelling.		All storage areas exceed the minimum requirements of Table 4.6 with 4 storage areas provided within the basement (one for each dwelling).																			
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>																					
A4.6.1 – Each dwelling has exclusive use of a separate, ventilated, weatherproof, bulky goods storage area. This can be located either internally or externally to the dwelling with dimensions in accordance with Table 4.6.																					
Table 4.6 Storage requirements																					
<table><tr><th>Dwelling type</th><th>Storage area¹</th><th>Minimum dimension¹</th><th>Minimum height¹</th></tr><tr><td>Studio dwelling</td><td>3m²</td><td rowspan="4">1.5m</td><td rowspan="4">2.1m</td></tr><tr><td>1 bedroom dwelling</td><td>3m²</td></tr><tr><td>2 bedroom dwellings</td><td>4m²</td></tr><tr><td>3 bedroom dwellings</td><td>5m²</td></tr><tr><td colspan="4">¹ Dimensions exclusive of services and plant.</td></tr></table>				Dwelling type	Storage area ¹	Minimum dimension ¹	Minimum height ¹	Studio dwelling	3m ²	1.5m	2.1m	1 bedroom dwelling	3m ²	2 bedroom dwellings	4m ²	3 bedroom dwellings	5m ²	¹ Dimensions exclusive of services and plant.			
Dwelling type	Storage area ¹	Minimum dimension ¹	Minimum height ¹																		
Studio dwelling	3m ²	1.5m	2.1m																		
1 bedroom dwelling	3m ²																				
2 bedroom dwellings	4m ²																				
3 bedroom dwellings	5m ²																				
¹ Dimensions exclusive of services and plant.																					
A4.6.2 – Bulky good stores that are not directly accessible from the dwelling/private open space are located in areas that are convenient, safe, well-lit, secure and subject to passive surveillance.																					
A4.6.3 – Storage provided separately from dwellings or within or adjacent to private open space ¹ , is integrated into the design of the building or open space and is not readily visible from the public domain.																					
(1) Storage on/adjacent to private open space is additional to required open space area and dimensions.																					
LOCAL PLANNING FRAMEWORK		REQUIREMENT																			
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.																			

ELEMENT 4.7 MANAGING THE IMPACT OF NOISE		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.7.1 – The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.	The proposal has been designed to appropriately mitigate impacts of external noise sources (such as the nearby railway line). Refer Acoustic Report provided with the DA Report. S	
O4.7.2 – Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.	Acoustic treatments are proposed with the plant area proposed to be located and concealed within the top floor between apartments to minimise noise within the development. The Acoustic Report identified areas of further mitigation which will be addressed in greater detail in working drawings phase.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.7.1 – Dwellings exceed the minimum requirements of the NCC, such as a rating under the AAAC Guideline for Apartment and Townhouse Acoustic Rating (or equivalent).		
A4.7.2 – Potential noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open space and refuse bins are not located adjacent to the external wall of habitable rooms or within 3m of a window to a bedroom.		
A4.7.3 – Major openings to habitable rooms are oriented away or shielded from external noise sources.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.8		DWELLING MIX	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
O4.8.1 – A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.		Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.	
O4.8.1 – A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.		The development includes a mixture of two and three-bedroom apartment types to suit local demand within the area and reflect the immediate development context. The larger three-bedroom dwelling is situated on the corner to enable a larger floorplate.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.8.1 –			
a) Dwelling mix is provided in accordance with the objectives, proportions or targets specified in a local housing strategy or relevant local planning instrument OR			
b) Where there is no local housing strategy, developments of greater than 10 dwellings include at least 20 per cent of apartments of differing bedroom numbers.			
A4.8.2 – Different dwelling types are well distributed throughout the development, including a mix of dwelling types on each floor.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.9		UNIVERSAL DESIGN	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
O4.9.1 – Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.		Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.	
O4.9.1 – Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.		As the site is currently not universally accessible, the proposal embodies a strategy for providing efficient access by reconstructing the Pakenham Street interface to provide a universally accessible entrance into the building. The delivery of a new central lift will deliver better accessibility throughout the basement, ground, first and second levels of the building, with the existing building currently not universally accessible on any levels.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.9.1 – <ul style="list-style-type: none"> a) 20 per cent of all dwellings, across a range of dwelling sizes, meet Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia) OR b) 5 per cent of dwellings are designed to Platinum Level as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia). 			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		N/A	

ELEMENT 4.10 FAÇADE DESIGN		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.10.1 – Building façades incorporate proportions, materials and design elements that respect and reference the character of the local area.	The upper residential façade demonstrates sophisticated articulation and sensitively juxtaposes with the existing heritage façade below. The metal cladding is responsive to it being part of the roofscape component and is detailed as a contemporary addition to the heritage fabric.	
O4.10.2 – Building façades express internal functions and provide visual interest when viewed from the public realm.	The motif of the shading element picks up on the original ornate treatment to the heritage office windows. While upscaling and being contrasted as a lightweight metal addition to the solidity of masonry below. This consistent treatment across the apartment envelope is a distinct new addition providing visual interest for the passersby. In addition, the proposed modification to the office levels by incorporating glass enhance the public realm by allowing for visual permeability and activation.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.10.1 – Façade design includes: <ul style="list-style-type: none"> – scaling, articulation, materiality and detailing at lower levels that reflect the scale, character and function of the public realm – rhythm and visual interest achieved by a combination of building articulation, the composition of different elements and changes in texture, material and colour. 		
A4.10.2 – In buildings with height greater than four storeys, façades include a defined base, middle and top for the building.		
A4.10.3 – The façade includes design elements that relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights.		
A4.10.4 – Building services fixtures are integrated in the design of the façade and are not visually intrusive from the public realm.		
A4.10.5 – Development with a primary setback of 1m or less to the street includes awnings that: <ul style="list-style-type: none"> – define and provide weather protection to entries – are integrated into the façade design – are consistent with the streetscape character. 		
A4.10.6 – Where provided, signage is integrated into the façade design and is consistent with the desired streetscape character.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.11 ROOF DESIGN		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.11.1 – Roof forms are well integrated into the building design and respond positively to the street.	Roof forms respond positively to the street through providing appropriate height and scale in line with (and lower than) neighbouring properties.	
O4.11.2 – Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.	Roof space of the existing heritage building is now utilised as provide open space / courtyard areas for the new residential dwellings – maximising amenity, and leaving the roof of the apartment dwellings for solar energy generation (PV Cells).	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.11.1 – The roof form or top of building complements the façade design and desired streetscape character.		
A4.11.2 – Building services located on the roof are not visually obtrusive when viewed from the street.		
A4.11.3 – Useable roof space is safe for users and minimises overlooking and noise impacts on private open space and habitable rooms within the development and on adjoining sites.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.12 LANDSCAPE DESIGN		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.12.1 – Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.	The proposal's landscape design has been prepared by See Design and has focussed sensitively delivering landscaping on a heritage site that is entirely built out, whilst maintaining the character of the area. That seeks to deliver amenity, shading and greenery on all floors of the development, whilst also providing suitable visual links to the adjoining Pioneer Park to ensure that passersby and residents can enjoy the landscape response.	
O4.12.2 – Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.	Planting choice was meticulously selected by the landscape architect, aiming to retain existing character and enhance the connection of nature to place. Particular focus has also been placed on ensuring the plants selected are suitable from a maintenance perspective. Please refer to the landscape report appended to the DA Report.	
O4.12.3 – Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.	The irrigation system will be designed to be as water efficient as possible based on the species selected. Irrigation documentation and specifications will be provided for building permit approval prior to installation.	
O4.12.4 – Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.	A large portion of planting is provided through built garden bed planter boxes, with other green provisions to enhance biophilic design. The species selection and maturity is proposed to suit the climatic, orientation and maintenance requirements of the area and building.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.12.1 – Submission of a landscape plan prepared by a competent landscape designer. This is to include a species list and irrigation plan demonstrating achievement of Waterwise design principles.		
A4.12.2 – Landscaped areas are located and designed to support mature, shade-providing trees to open space and the public realm, and to improve the outlook and amenity to habitable rooms and open space areas.		
A4.12.3 – Planting on building structures meets the requirements of Table 4.12.		

Table 4.12 Planting on structure: minimum soil standards for plant types and sizes

Plant type	Definition	Soil volume	Soil depth	Soil area
Large tree	Over 12m high, crown spread at maturity	76.8m ³	1,200mm	64m ² with minimum dimension 7m
Medium tree	8-12m high, crown spread at maturity	36m ³	1,000mm	36m ² with minimum dimension 5m
Small tree	4-8m high, crown spread at maturity	7.2m ³	800mm	3m × 3m
Small ornamentals	3-4m high, crown spread at maturity	3.2m ³	800mm	2m × 2m
Shrubs	--	--	500-600mm	--
Ground cover	--	--	300-450mm	--
Turf	--	--	200mm	--

A4.12.4 – Building services fixtures are integrated in the design of the landscaping and are not visually intrusive.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.

ELEMENT 4.13 ADAPTIVE REUSE		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.13.1 – New additions to existing buildings are contemporary and complementary and do not detract from the character and scale of the existing building.	The proposed new apartments serve as an example of a contemporary addition that utilises contrasting colours and materials to effortlessly juxtapose, but complement the existing character of the heritage building. The use of generous upper-level setbacks ensures that the new mass will not detract from the existing scale of the building.	
O4.13.2 – Residential dwellings within an adapted building provide good amenity for residents, generally in accordance with the requirements of this policy.	Being located in Fremantle’s west end, the site is surrounded by quality amenity for residents (including Pioneer Park, various cafes and restaurants, shops and more). Direct residential amenity is provided through the provision of generous amounts of outdoor private open space and communal garden.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.13.1 – New additions to buildings that have heritage value do not mimic the existing form and are clearly identifiable from the original building.		
A4.13.2 – New additions complement the existing building by referencing and interpreting the scale, rhythm and materiality of the building.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.14 MIXED USE		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.14.1 – Mixed use development enhances the streetscape and activates the street.	The proposal seeks to retain the current ground floor use (office). However, through the proposed works and the intent to increase glazing along the two office floors, the street interface will be activated.	
O4.14.2 – A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.	The upper level of the building is secure, safe and well managed from any potential impacts of the non-residential office use below. Waste collection, traffic and noise has all been considered as part of the DA, with respective technical reports attached as appendices confirming that all of these factors can be adequately addressed / managed.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.14.1 – Where development is located within a mixed-use area designated within the local planning framework, ground floor units are designed for future adaption to non-residential uses.		
A4.14.2 – Ground floor uses including non-commercial uses, such as communal open space, habitable rooms, verandahs and courtyards associated with ground floor dwellings, address, enhance and activate the street.		
A4.14.3 – Non-residential space in mixed use development is accessed via the street frontage and/or primary entry as applicable.		
A4.14.4 – Non-residential floor areas provided in mixed use development has sufficient provision for parking, waste management, and amenities to accommodate a range of retail and commercial uses in accordance with the requirements		
A4.14.5 – Mixed use development is designed to mitigate the impacts of non-residential uses on residential dwellings, and to maintain a secure environment for residents.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.15 ENERGY EFFICIENCY		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.15.1 – Reduce energy consumption and greenhouse gas emissions from the development.	The development will incorporate a number of energy efficiency initiatives as per the Sustainable Design Report. The proposal is also targeting a minimum 5.5-star NatHERS for the building as a whole, an average 7-star NatHERS rating for the residential components of the development and a 5-Star Energy under NABERS for Office for the office component of the development	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.15.1 – <ul style="list-style-type: none"> a) Incorporate at least one significant energy efficiency initiative within the development that exceeds minimum practice (refer Design Guidance) OR b) All dwellings exceed the minimum NATHERS requirement for apartments by 0.5 stars.¹ <p>Compliance with the NCC requires that development shall achieve an average star-rating across all dwellings that meets or exceeds a nominated benchmark, and that each unit meets or exceeds a slightly lower benchmark. Compliance with this Acceptable Outcome requires that each unit exceeds that lower benchmark by at least half a star.</p>		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.16 WATER MANAGEMENT AND CONSERVATION		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.16.1 – Minimise potable water consumption throughout the development.	Apartments can be smart metered to ensure that individual residents are responsible and aware of their water use.	
O4.16.2 – Stormwater runoff from small rainfall events is managed on-site, wherever practical.	The proposal does not increase the catchment of stormwater, as the existing heritage building covers the entirety of the site. Due to the water table, there is no ability to accommodate any additional stormwater on site. As such, no changes to the existing stormwater arrangements are proposed.	
O4.16.3 – Reduce the risk of flooding so that the likely impacts of major rainfall events will be minimal.		
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.16.1 – Dwellings are individually metered for water usage.		
A4.16.2 – Stormwater runoff generated from small rainfall events is managed on-site.		
A4.16.3 – Provision of an overland flow path for safe conveyance of runoff from major rainfall events to the local stormwater drainage system.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.17 WASTE MANAGEMENT		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
04.17.1 – Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents.	Waste storage is located internally at basement level and is not visible to the street. The waste store is of sufficient size to accommodate waste given the size and number of dwellings / amount of office space proposed. It is proposed that the City collect refuse, recyclables and FOGO from the proposed development utilising its kerbside collection service. The City's waste collection vehicle will service the bins from the Bin Presentation Area on Pakenham Street, as prescribed within the WMP.	
04.17.2 – Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.	The storage area is safe and convenient for building manager / caretaker and residents (bin storage areas separated), with direct access from the lift provided. The waste store will be provided with wash down and drainage facilities to keep the area clean and odour free.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.17.1 – Waste storage facilities are provided in accordance with the Better Practice considerations of the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines</i> (or local government requirements where applicable).		
A4.17.2 – A Level 1 Waste Management Plan (Design Phase) is provided in accordance with the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines</i> - Appendix 4A (or equivalent local government requirements).		
A4.17.3 – Sufficient area is provided to accommodate the required number of bins for the separate storage of green waste, recycling and general waste in accordance with the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines</i> - Level 1 Waste Management Plan (Design Phase) (or local government requirements where applicable).		
A4.17.4 – Communal waste storage is sited and designed to be screened from view from the street, open space and private dwellings.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	

ELEMENT 4.17 WASTE MANAGEMENT		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
04.18.1 – The site is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/broadband services that are fit for purpose and meet current performance and access requirements of service providers.	The existing building is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/broadband services that are fit for purpose and meet current performance and access requirements of service providers. The proposed additions will build upon this, and upgrade servicing where necessary.	
04.18.2 – All utilities are located such that they are accessible for maintenance and do not restrict safe movement of vehicles or pedestrians.	All utilities, including those that are consolidated in the service plant on the third floor of the building will be accessible for maintenance without the need to disturb pedestrians or residents.	
04.18.3 – Utilities, such as distribution boxes, power and water meters are integrated into design of buildings and landscape so that they are not visually obtrusive from the street or open space within the development.	Existing utilities will be maintained in situ, with new utilities for the residential additions neatly situated within the services plant to ensure it is visually unobtrusive from street level.	
04.18.4 – Utilities within individual dwellings are of a functional size and layout and located to minimise noise or air quality impacts on habitable rooms and balconies.	Utilities will be centrally located, and consolidated in the services plant on the third floor of the building.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.18.1 – Utilities that must be located within the front setback, adjacent to the building entry or on visible parts of the roof are integrated into the design of the building, landscape and/or fencing such that they are accessible for servicing requirements but not visually obtrusive.		
A4.18.2 – Developments are fibre-to-premises ready, including provision for installation of fibre throughout the site and to every dwelling.		
A4.18.3 – Hot water units, air-conditioning condenser units and clotheslines are located such that they can be safely maintained, are not visually obtrusive from the street and do not impact on functionality of outdoor living areas or internal storage.		
A4.18.4 – Laundries are designed and located to be convenient to use, secure, weather-protected and well-vented; and are of an overall size and dimension that is appropriate to the size of the dwelling.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	N/A – Proposal meets Acceptable Outcomes and Element Objectives of SPP7.3.	



Photo 1: Subject site as viewed from the corner of Phillimore and Pakenham Street.



Photo 2: Subject site as viewed from Pakenham Street.



Photo 3: Subject site as viewed from Phillimore Street.



Photo 4: Subject site as viewed from Pioneer Park.



Figure 1 – View from the north east of the subject site along Phillimore Street.



Figure 2 – View from the south west of the subject site along Phillimore Street.



Figure 3 – View from the south west of the subject site from street level along Phillimore Street.



Figure 4 - View from the west of the subject site (from the harbour).



Figure 5 - View from the west of the subject site (E-Shed carpark).



Figure 6 - View from the north east of the subject site towards the corner of Pakenham and Phillimore Street.