



2B Hill Road, Lidcombe

2020 Revised Masterplan for Carter Street Precinct

Submission to DPIE

Prepared for
Riveredge Investments Pty Ltd

Issued
28th September 2020

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Introduction

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1.1 Table of Contents

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1.2 Reason for Submission

I am writing on behalf of Riveredge Investments Pty Ltd with regards to the site at 2B Hill Road, Lidcombe. SJB have been engaged to investigate potential development scenarios that respond to the site's urban condition and wider strategic context based on the Revised Masterplan for the Carter Street Precinct, including the associated LEP and DCP, which has been placed on exhibition by the Department of Planning and Environment NSW (DPE) in September 2020.

This is the third time we have made a submission to DPIE on the matter of the proposed controls and the implications they have on the development potential and urban design outcomes for the site. The previous submissions were made in September 2018 and January 2019, subsequent discussions held with DPIE in February 2020. A key outcome being sought from these representations to DPIE was the amendment to the Height of Building (currently 66m) control to allow the Floor Space Ratio (1.7:1) to be accommodated on the site, whilst minimising overshadowing of the proposed public domain to the south and providing a greater degree of flexibility in the form, orientation and configuration of built form across the site.

What the built form studies indicate is that an increase in the maximum building height to 78m/90m is required for the site to accommodate the FSR, whilst addressing the existing constraints (i.e. easements and gas pipeline blast zones), and proposed urban design objectives noted in the DCP (i.e. relocating the site access to align with Carter Street to the east of Hill Road).

Outlined in this package is our interpretation of the revised controls and the benefits associated from the proposed increase in the allowable height. Consideration has also been given to the form and location of parking, with both basement and podium (screened) parking investigated as part of the design testing. This has been an important consideration given the site's geotechnical conditions (see letter from Morrow in Appendices) and proximity to Haslams Creek. In addition, SJB has been involved in the delivery of several projects in the precinct for other land-owners, which feature podium parking, and the knowledge gained from these projects has been reflected in this work.

Another important design consideration for the site is the implications of the indicated blast zone noted in the DCP, and the restrictions this places on the location of residential development. This matter has been addressed in previous submissions and discussions with DPIE, and for clarity, we have provided in the appendices a letter from Sherpa, which follows their independent report on the location of residential on the site, which differs from those assumptions noted by DPIE in the revised controls.

We recognise the changes made to the revised controls and the implications on the built form outcomes, particularly in relation to the removal of the road along the western side of the canal and extent of the 66m designation to accommodate a larger tower footprint (1,000m² GBA, maximum length of 45m), street wall heights and setbacks, and the potential to for a smaller tower within the 45m height control.

Outlined in this pack is the built form testing of the revised planning controls, and the potential that a further increase in maximum building height to 90m will have on the site's capacity to deliver a development that minimises overshadowing of the public space, improved amenity in terms of building separation, whilst also achieving the objectives of the Masterplan and DCP (alignment of Carter Street).

The built form options prepared as part of this submission include;

- Study 01: Revised Controls, 66m
- Study 02: Revised Controls, 75m
- Study 03: Revised Controls 90m

Key Controls

2.1 Revised Controls - Height of Building

This submission is primarily focused on the revision of the height controls for 2B Hill Road, Lidcombe, without a corresponding change in the Floor Space Ratio (1.7:1). By revising this control to consolidate X1 (45m) and AA2 (66m) into a simplified AB5 (90m) for the northern portion of the site the following can be achieved;

- Greater flexibility in the location, configuration, orientation and management of impacts associated with the tower form across the site
- Reduces the need for a secondary tower/block form along Haslams Creek, up to 6 storeys, as the heights can be reduced to improve the scale of built form along this important public interface (see built form studies)
- Allows for both above ground (podium, screened) and basement parking to be provided
- Ensure the site reflects the same built form approach allowed at the other end of the precinct at 12-14 Birnie Avenue, where 90m is proposed. Its important to note that SJB's 2015 masterplan for Carter Street included taller buildings at the western (2B Hill Road), and eastern (12-14 Birnie Ave) extents of the precinct to serve as 'book-ends' that provided legibility for the site when viewed from the M4 and throughout Sydney Olympic Park. The height at these two ends were seen to be lower in the urban morphology hierarchy as compared to the centre of Uhrig Road.
- Accommodate varying approaches to parking provision, including up to three levels of above ground/podium parking, which will be screened to the north (Haslams Creek) and east (canal).
- Provide opportunity for the site access to be relocated to the north to align with Carter Street to the east of Hill Road. This will open-up views to the west through the site



Key Controls

2.2 Revised Controls - DCP

The Revised DCP for the Carter Street Precinct has been considered as part of this submission and reflected in the built form studies shown on the following pages. The key controls include;

- Tower footprints increased to 1,000m² GBA with a maximum length of 45m, which therefore dictates a building depth of 22m
- Interface to Haslams Creek public domain, where we're seeking to reduce the length of building and sense of enclosure along the northern frontage of the site
- Continue alignment of Carter Street through the site, which requires a relocation of the site access handle from the current arrangement - noting this requires the adjoining site (No. 4-6) to be developed
- 3-storey street wall around the northern and eastern frontages of the site, with the exception of tower forms.
- Consideration of the blast impact zone and alternate approach based on the independent report by Sherpa (see appendices)

10.3. Towers

Towers within the Precinct are to act as key gateways, arrival points and core activity areas and establish a dynamic skyline that decreases to the west as the Precinct interfaces with Haslams Creek Foreshore. Towers are generally located on corners, on wide streets, near public open spaces and along the north edge of Carter Street

10.3.1. Objectives

- To facilitate tall, slim, well-proportioned and positioned towers;
- To create an interesting and varied skyline;
- To create tall landmarks at key site gateways within the Precinct; To locate towers where they have minimal impact on amenity and the public domain; and
- To maximise solar access to the public domain.

10.3.2. Controls

- Buildings of 9 storeys and above are to have a maximum individual tower floor-plate of 1,000m² GBA.
- Building tower length shall not to exceed 45 metres;

Submission Response

Towers have been designed to a maximum footprint of 1,000m² GBA, with dimensions 45m x 22m

10.4. Public Domain Interface

The public domain interfaces have been developed to provide a diversity of streetscapes and to address site specific conditions. The interfaces vary according to the location and desired character, built form and land use. The public domain interfaces are to provide a safe, interesting and diverse environment.

10.4.1. Objectives:

- 6. To provide a built form transition of appropriate scale and relationship to the Haslams Creek Foreshore.

Controls:

- C. 2. Buildings fronting the Haslams Creek Foreshore shall:
 - v. Be "U" or "C" shaped and step down in scale to the creek edge;
 - vi. Avoid long building forms fronting the foreshore and public open space;
 - vii. Incorporate generous landscaping within setbacks; and
 - viii. Maximise new view corridors to Haslams Creek.

Submission Response

Reduce the length and/or height of building along the northern frontage order to improve the interface with the RE1 zoned land at Haslams Creek, whilst also mitigating over-shadowing of the public space to the south

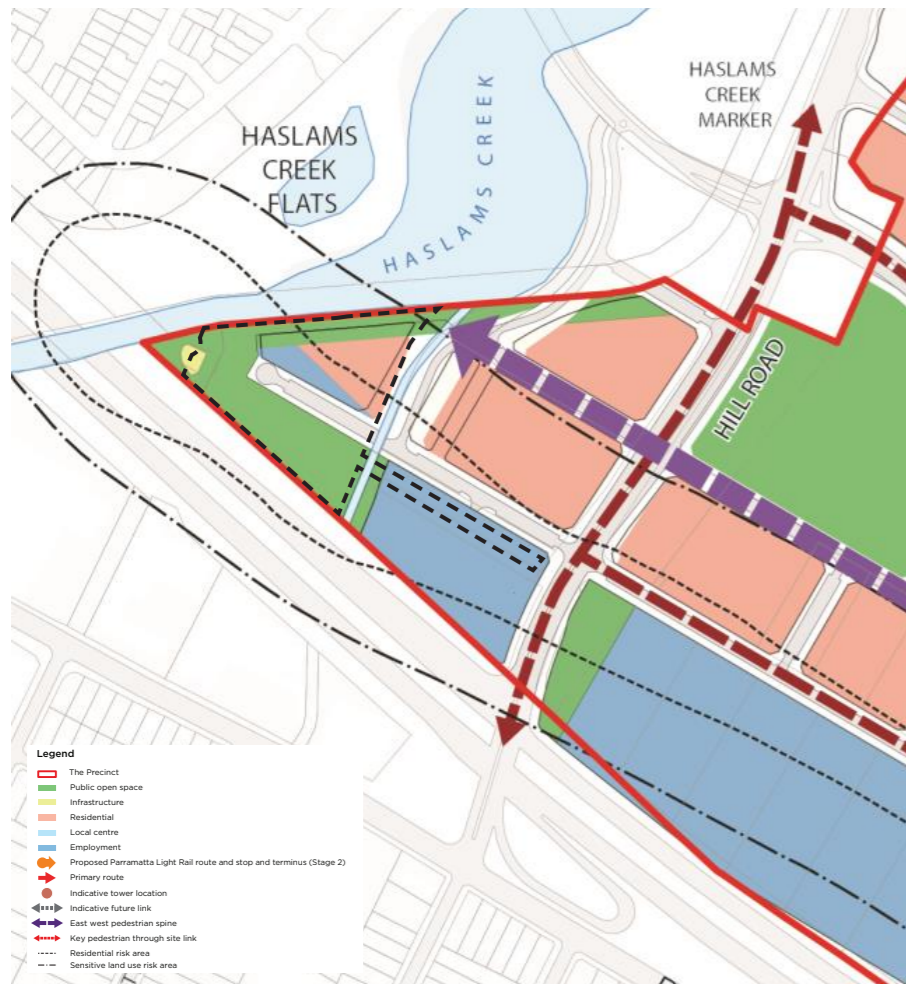


Submission Response

Previous submissions sought greater clarity around the illustrated built form on the site (seen above) and the assumptions used to inform the controls (i.e. GBA to GFA efficiencies per land use). These matters have been addressed in detail as part of the built form study

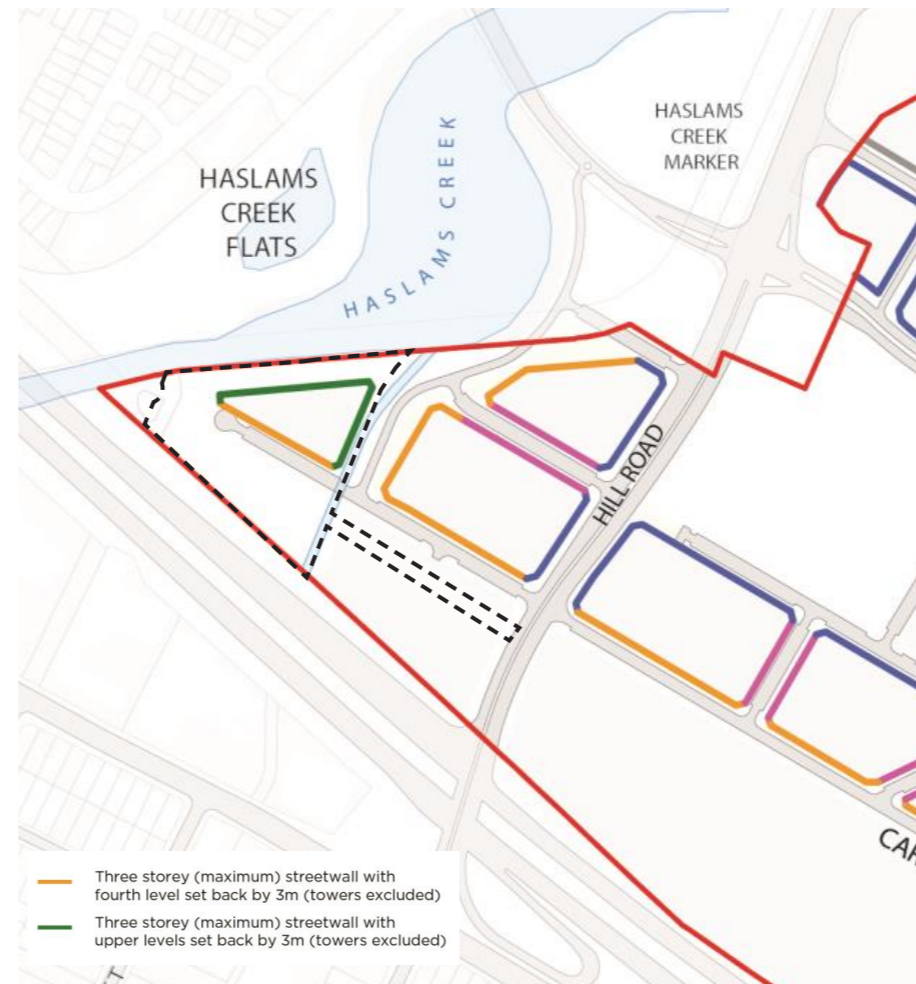
Key Controls

2.3 Revised Controls - DCP



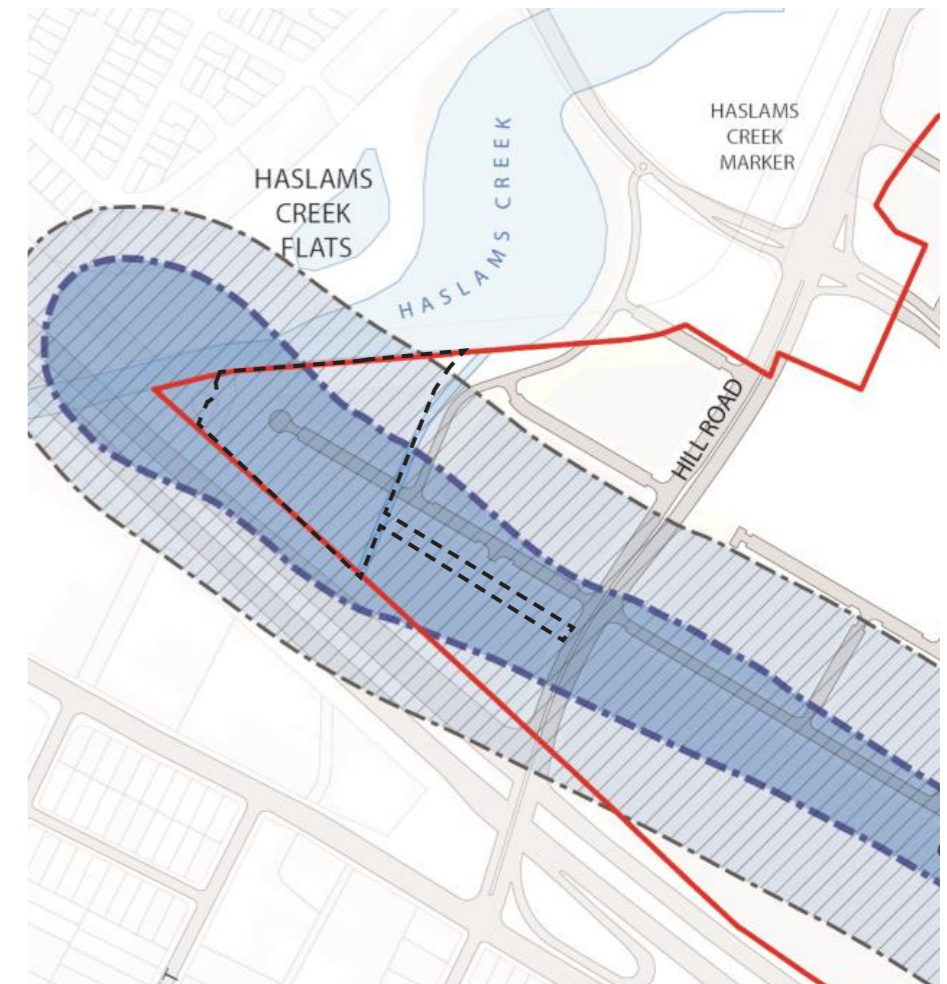
Submission Response

The continuation of Carter Street from Hill Road through the site has been reflected in the built form studies. The location of commercial at the western extent of the development hasn't been noted in the design (see advice by Sherpa). Previous iterations of the masterplan/DCP included an access road along the western edge of the canal - this has since been removed. This submission supports the revised masterplan layout around the canal and has been considered as part of the built form studies.



Submission Response

Streetwall controls noted in the DCP have been adopted as part of the built form studies, including three storey parking podium along the Carter Street extension - noting this frontage will be screened with architectural features, in a similar manner to the SJB-designed buildings from Meriton to the east.



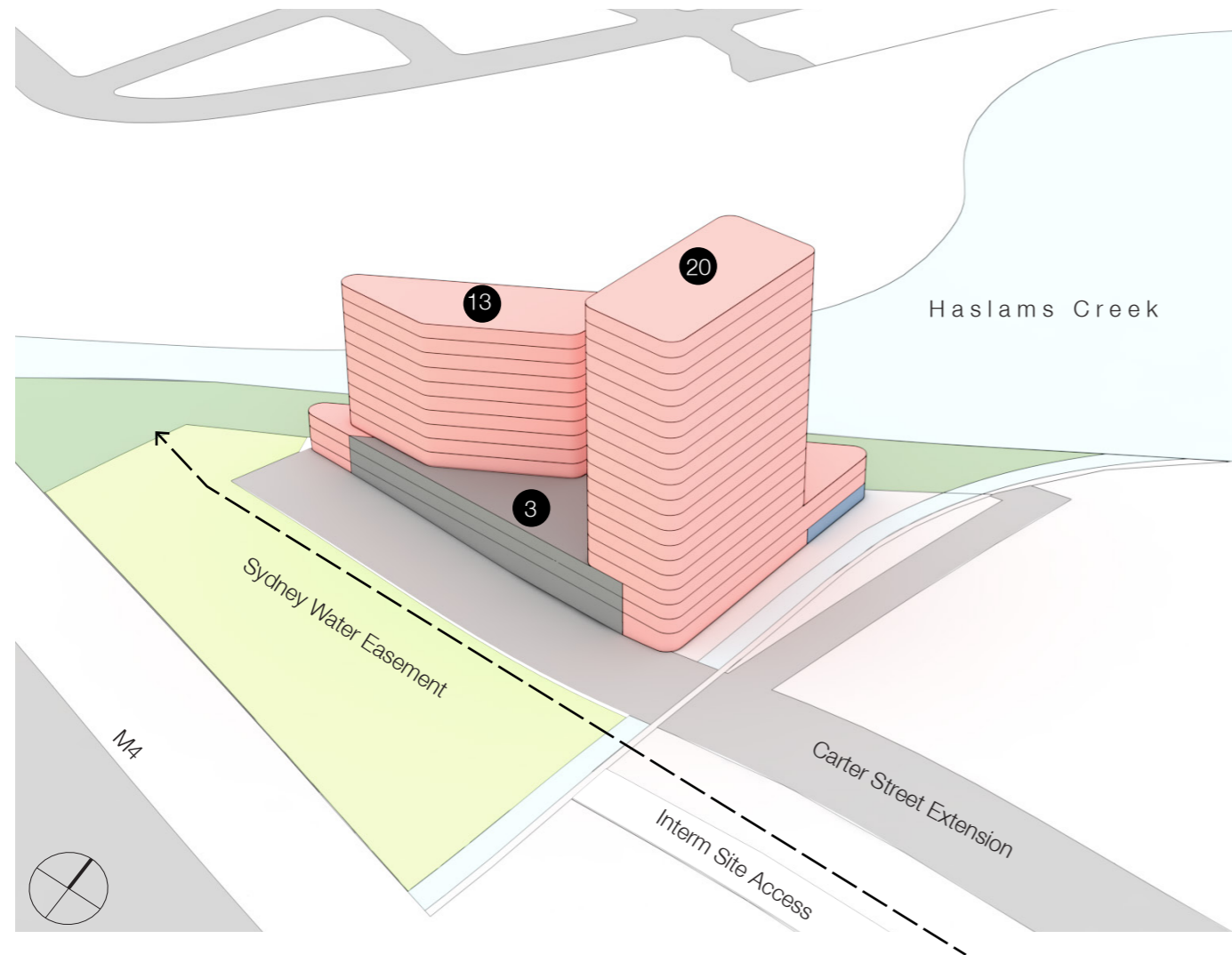
Submission Response

This control has been addressed through the accompanying advice by Sherpa.

Built Form Testing

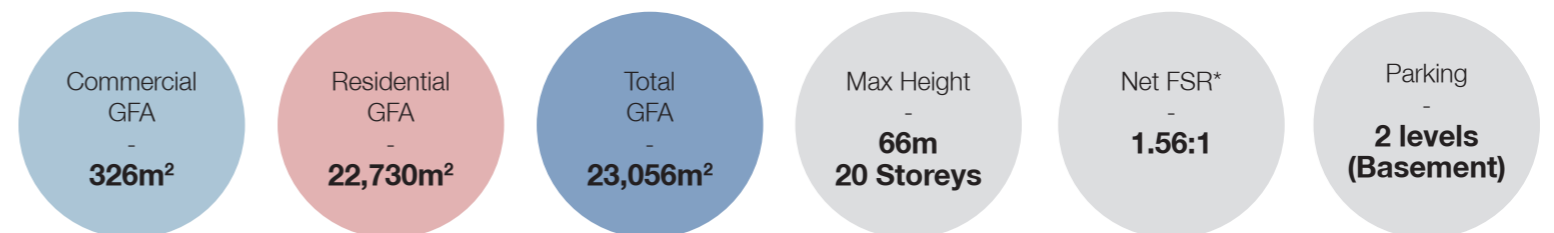
3

3.1 Study 01, Revised Controls - Max. Height 66m



Key Features

- 5m setback from Canal
- Assumes Sherpa's hazard advice for building footprint location
- 3m setback above 3 storey streetwall along northern frontage
- Non residential ground floor fronting the creek
- 1,000sqm GBA tower footprint
- 66m/20 storey maximum overall height
- 1.56:1 FSR based on zoned lane - does not achieve maximum permissible FSR (1.7:1)
- Basement carparking with opportunity for some parking in lower podium levels
- ADG separation distance between achieved between buildings



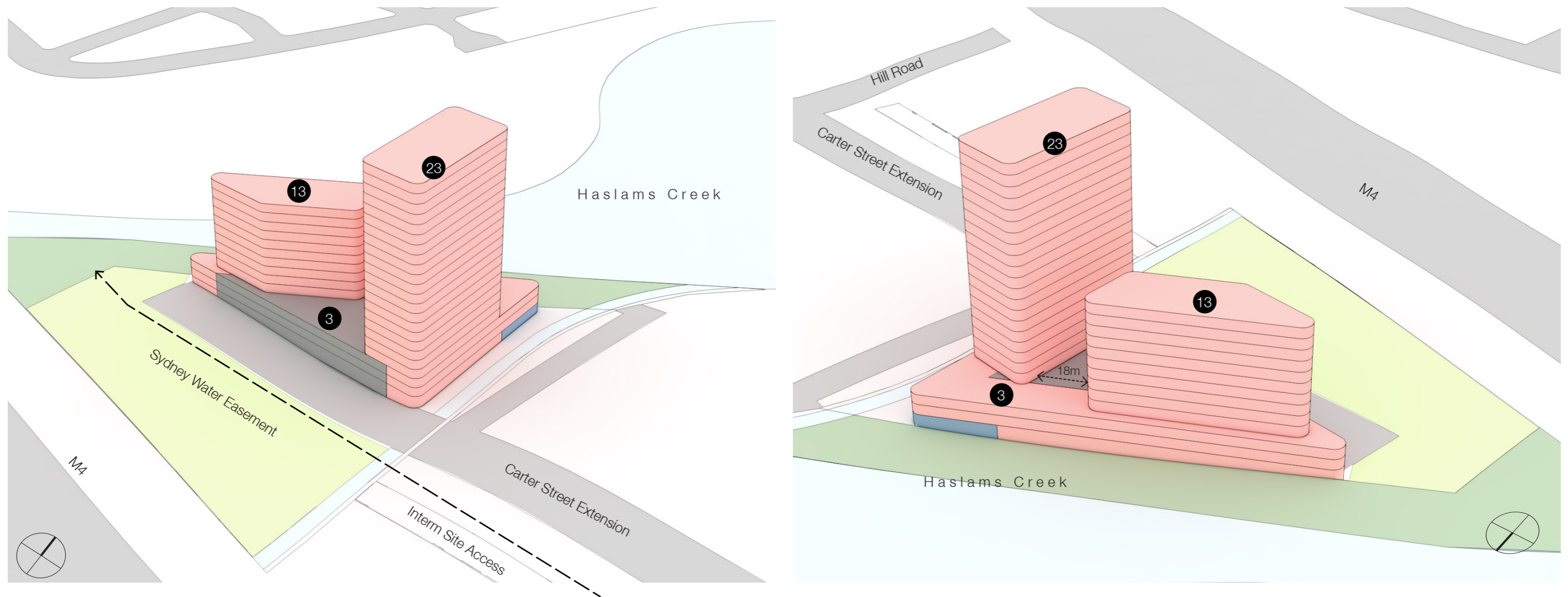
*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 75% of GBA
- 40m² per parking space
- 3.1m Residential levels floor to floor
- Minimum 3.6m Ground level floor to floors

Built Form Testing

3.2 Study 02, Revised Controls - Max. Height 75m

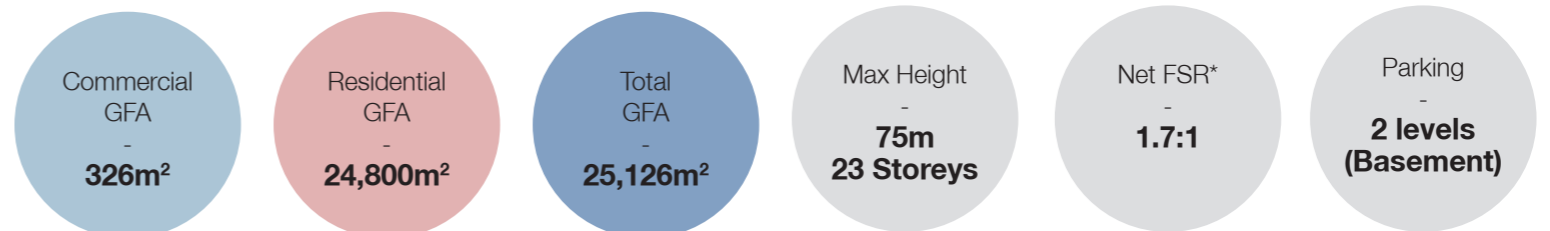


Key Features

- 5m setback from Canal
- Assumes Sherpa's hazard advice for building footprint location
- 3m setback above 3 storey streetwall along northern frontage
- Non residential ground floor fronting the creek
- 1,000sqm GBA tower footprint
- 75m/23 storey maximum overall height
- 1.7:1 FSR based on zoned lane Basement carparking with opportunity for some parking in lower podium levels
- ADG separation distance between achieved between buildings

Changes required to the Masterplan:

- Increase height to 75m to achieve the FSR



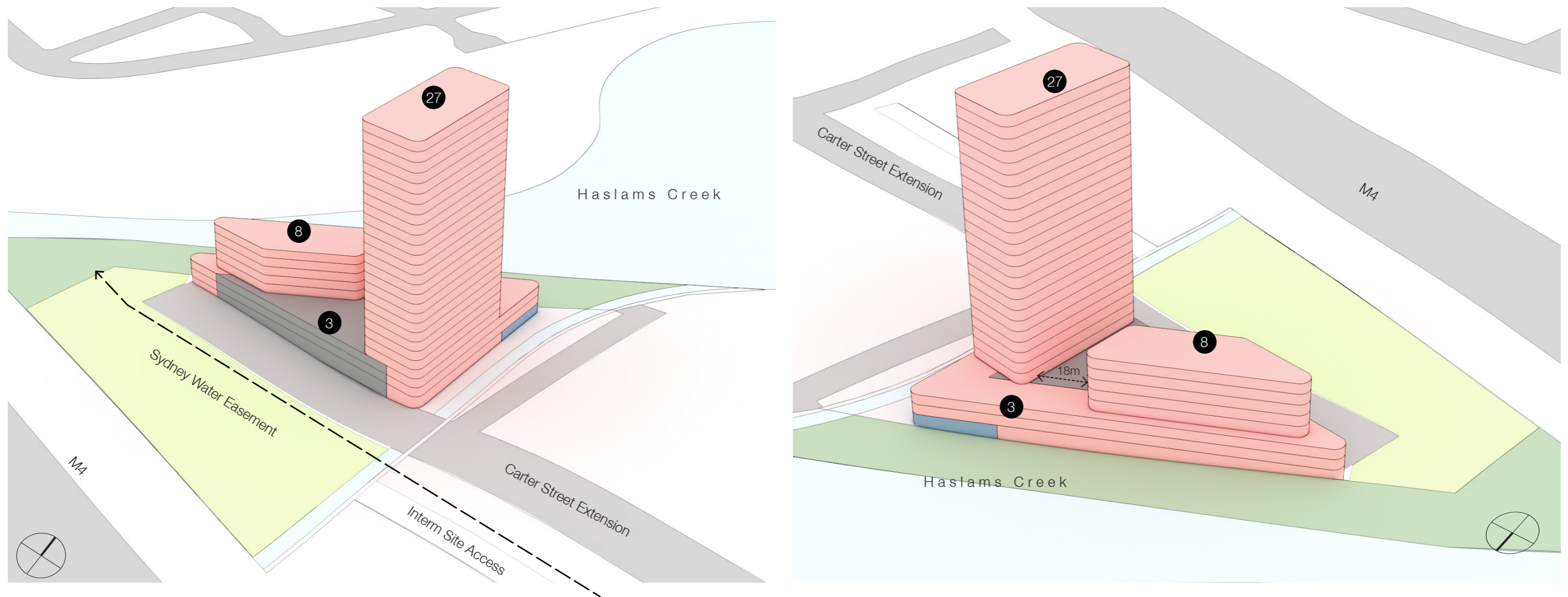
*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 75% of GBA
- 40m² per parking space
- 3.1m Residential levels floor to floor
- Minimum 3.6m Ground level floor to floors

Built Form Testing

3.3 Study 03, Revised Controls - Max. Height 90m

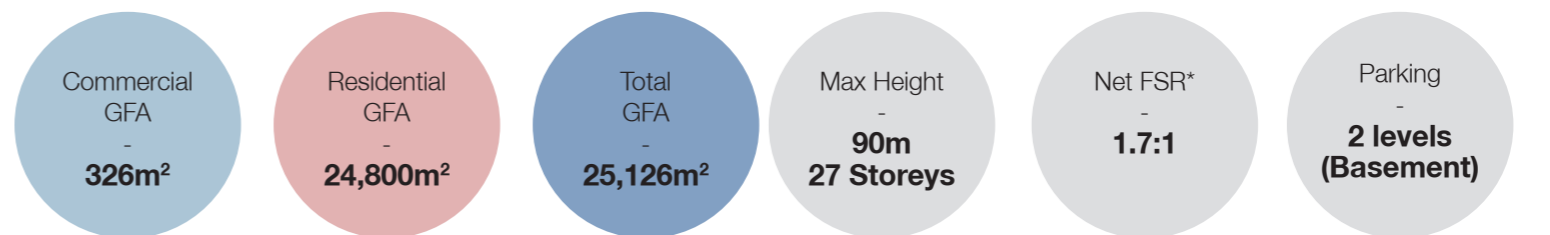


Key Features

- 5m setback from Canal
- Assumes Sherpa's hazard advice for building footprint location
- 3m setback above 3 storey streetwall along northern frontage
- Non residential ground floor fronting the creek
- 1,000sqm GBA tower footprint
- 90m/27 storey maximum overall height
- 1.7:1 FSR based on zoned lane Basement carparking with opportunity for some parking in lower podium levels
- ADG separation distance between achieved between buildings

Changes required to the Masterplan:

- Increase height to 90m to achieve the FSR to allow for flexibility



*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 75% of GBA
- 40m² per parking space
- 3.1m Residential levels floor to floor
- Minimum 3.6m Ground level floor to floors

Recommendations

4

4.1 Amendments to Height - 90m

The built form studies indicate that the Revised Masterplan and Controls provide an improved built form outcome for the site. The FSR still can't be achieved within the 66m height limit, whilst also addressing the other DCP and masterplanning objectives. A slightly increase in height from 66m to 75m will allow the 1.7:1 to be achieved, but we believe the overall development, amenity and urban design outcome could be improved by a further increase in height to 90m.

As noted above, the other benefits associated with the increase in height is the improved interface with Haslams Creek by reducing the scale of building along the northern frontage, and the reduction in over-shadowing impacts on the realigned Carter Street and proposed public open space in the south of the site.

At a precinct scale, this site also has a role to play in the legibility of the area and urban morphology of Carter Street, bookending height and complimenting the scale of built form proposed at 12-14 Bernie Avenue at the eastern end.

We appreciate that the changes to the site have been incremental and heading in the right direction. With the final change in the site's height control we believe an optimal outcome can be achieved from this important corner of the precinct.



Appendices

5

5.1 Sherpa Letter



Sherpa Consulting Pty Ltd (ABN 40 110 961 898)
PO Box 1830
Chatswood NSW 2057
AUSTRALIA
Phone: 61 2 9412 4555
Web: www.sherpaconsulting.com

Sherpa Ref: 21235-LET-004

22 September 2020

Attention: Mr John Bechara
Riveredge Investments Pty Ltd
c/o Level 23, 300 Barangaroo Avenue
Barangaroo
NSW 2000

Dear Sir

Subject: 2 Hill Road, Lidcombe - Parking Level Adjustments

Sherpa Consulting Pty Ltd (Sherpa) completed a Pipeline Risk Assessment report (Sherpa Reference 21235-RP-001 Rev 3) to determine the risk to a proposed development at 2 Hill Road Lidcombe from a set of pipelines located in a pipeline corridor adjacent to the development. The pipelines are used to transport liquid fuel and flammable gas. The report demonstrated that the offsite risk level from the pipelines to the development was acceptable (in the context of NSW Hazardous Industry Planning Advisory Paper No 4 (HIPAP 4) Risk Criteria for Land Use Safety Planning 2011).

This letter presents a qualitative assessment of the implications, in the context of offsite risk from the pipeline corridor to a revision to the proposed development which now includes an increase number of levels for above ground car parking. The revised development is referred to as the 'Preferred Option' in Attachment A. Because of the change to parking levels, the overall height of the development increases to 72m for the west tower (location of building A in the Pipeline Risk Assessment) and 86m for the east tower (location of buildings B/C in the Pipeline Risk Assessment).

It should be noted that the Pipeline Risk Assessment included several assumptions, one of which is that there is no differentiation between risks at different floor levels of the development so it is not possible to quantify a change in risk for increase in height.

This assessment assumes that:

- the overall residential population numbers and distribution remain unchanged from those analysed in the Pipeline Risk Assessment
- previously agreed separation distances from the pipelines to the development are maintained, and

- the final development design will be subject to a Final Hazard Analysis to demonstrate compliance with NSW Land Use Planning risk criteria.

On the basis of the above statements, the risk from the pipeline to the development for the designs evaluated in the Pipeline Risk Assessment and 'Preferred Option' are both acceptable (in the context of NSW land Use Planning guidance). This assessment is only concerned with the relative risk between the options.

The risk at the proposed development is driven by ignited releases from pipelines transporting liquid fuel.

Heat radiation contours from a range of fires are provided in the Pipeline Risk Assessment. The contours show that higher heat radiation is experienced nearer to the ground for a pipeline release. Hence, elevating the residential areas will generally reduce the number of residences impacted by higher heat radiation leading to an overall reduction in risk.

In addition, for some release scenarios (e.g. 20mm or rupture of the Viva Energy pipeline and 20mm release scenario from the Caltex pipeline) the heat radiation for 4.7kW/m² (note 1) reaches between 60m and 70m above the ground. For the 'Preferred Option' some residential areas would now be lifted above this heat radiation contour effectively eliminating the immediate fatality consequences of an ignited release. Residents in that area would have the opportunity to evacuate via fire stairs to a safe location.

As detailed in the Pipeline Risk Assessment, additional risk reduction options need to be considered even if the risk level meets the land use planning criteria. The change in car park configuration provides an opportunity to incorporate a wall without openings for the car park areas facing the pipelines. This wall would provide additional protection in the event of a release or fire from the pipelines as it would act as barrier to prevent flammable vapours (associated with liquid fuel releases) entering the development, prevent escalation of fires to vehicles in the car park and provide additional protection to the building structure and evacuation routes.

In summary, on a qualitative basis, the 'Preferred Option' has the potential to reduce the risk at the development from the pipelines by:

- reducing the number of residential units potentially impacted by higher heat radiation caused by an ignited pipeline release
- presenting an opportunity to further reduce the risk by providing a wall without openings to protect the development at lower levels against pipeline leaks.

Yours sincerely,

Giles Peach
Director and Principal
Sherpa Consulting Pty Ltd

¹ Ref: HIPAP 4 Potential to cause pain in 15-20 Seconds and Injury in 30 seconds.

5.2 Morrow Letter

Ref: P1352_02 rev1
22/09/2020



ABN 42 605 892 126
PO Box 4069
Carlton NSW 2218
T: 0405 843 933
E: info@morrowgeo.com.au

Geotechnical Letter
2 Hill Road, Lidcombe NSW

Morrow Geotechnics Pty Ltd has undertaken a Geotechnical Investigation to provide geotechnical advice and recommendations for the proposed development at 2 Hill Road, Lidcombe NSW.

The stratigraphy at the site is characterised by fill and alluvial soil overlying a weathered shale profile. The observed ground conditions have been divided into five geotechnical units. A summary of the subsurface conditions at the investigation locations is presented below in **Tables 1 and 2**.

TABLE 1 SUMMARY OF INFERRED SUBSURFACE CONDITIONS

Unit	Material	Comments
1	Fill	Generally low to high plasticity silty CLAY with some gravels based on El Australia boreholes carried out for contamination assessment at the site. Unit 1 fill is inferred to be uncontrolled and poorly compacted.
2	Fluvial Soil	Soft to firm, Silty Sandy CLAY, inferred from CPT behavior and regional geology to be fluvial (floodplain) soil.
3	Residual Soil	Very Stiff to Hard, Silty CLAY, inferred from CPT behavior and regional geology to be residual soil derived from weathering of underlying shale bedrock.
4	Weathered Shale	Inferred from CPT data and refusal to be very low to low strength shale. Rock strength is consistent with Class IV Shale in accordance with the Pells Rock Mass Classification System, however further testing of rock cores will be required to confirm preliminary classification.

Morrow Geotechnics Pty Ltd has undertaken a Geotechnical Investigation to provide geotechnical advice and recommendations for the proposed development at 2 Hill Road, Lidcombe NSW.

Excavation at the site will be subject to the following geotechnical limitations:

1. Deep floodplain soils up to 7.5 m thick. Soils were observed to be generally saturated and normally consolidated with a potential for ongoing consolidation settlements under structural loading.
2. Shallow water table encountered at approximately 2.5 m depth. Any proposed excavations at the site are likely to encounter the water table and careful groundwater management would need to be incorporated into design of basement shoring.

Geotechnical Letter

3. The presence of underground services in close proximity to the proposed structures. Sydney Water and Gas Supply assets are present in the vicinity of the works. Rigid shoring walls would be required in order to prevent lateral movement or settlement of existing services at the site.

Further to the above, DA Consent Condition 20 requires the following:

General Terms of Approval

20. The development shall be completed in accordance with the attached General Terms of Approval (GTA) issued by:
 - (a) Natural Resource Access Regulator dated 18 July 2018 (Ref: IDAS1107380)
 - (b) Water NSW dated 25 July 2018 (Ref: IDAS1107241)

No Construction Certificate shall be issued until such time as all conditions of those GTAs has been satisfied, with a copy of the required Authorisation being submitted to Council.

The development shall otherwise be undertaken in accordance with those GTAs, the Authorisation and the terms of this Notice.

Reason: To comply with legislative requirements

The above requirements for compliance with the NRAR and WaterNSW GTAs will be simplified through the elimination of basement excavation.

In light of the geotechnical limitations listed above, it would be more suitable for parking associated with the proposed development to be above ground rather than requiring deep basement excavation. Above ground parking would achieve elimination of the risk associated with excavation rather than relying on engineering controls for safe excavation.

For and on behalf of Morrow Geotechnics Pty Ltd,



Alan Morrow
Principal Geotechnical Engineer

P1352_02 rev1 rev1 22/09/2020

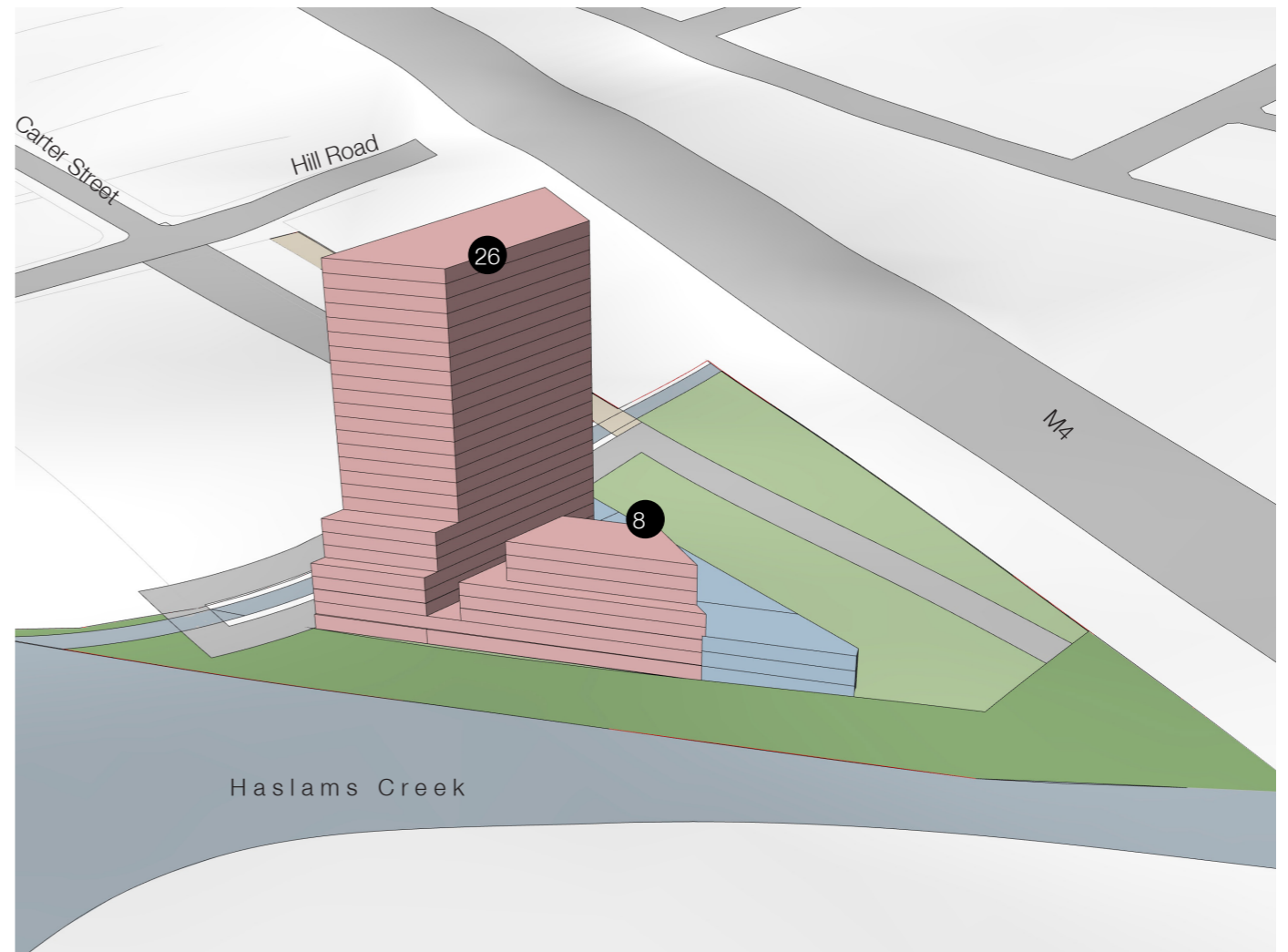
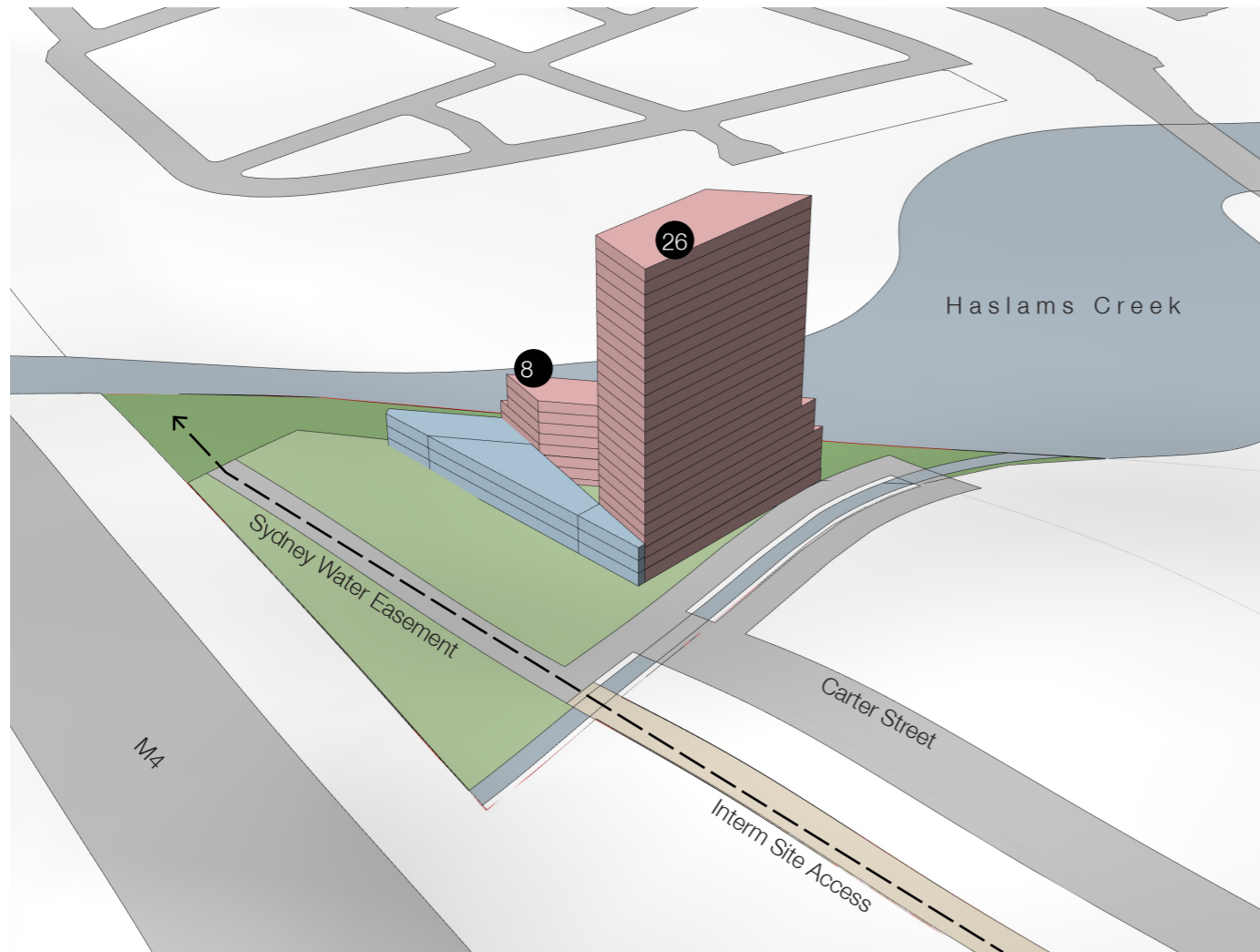
Geotechnical Letter – 2 Hill Road, Lidcombe NSW

SJB Architects

sjb.com.au

We create spaces people love.
SJB is passionate about the
possibilities of architecture,
interiors, urban design
and planning.
Let's collaborate.

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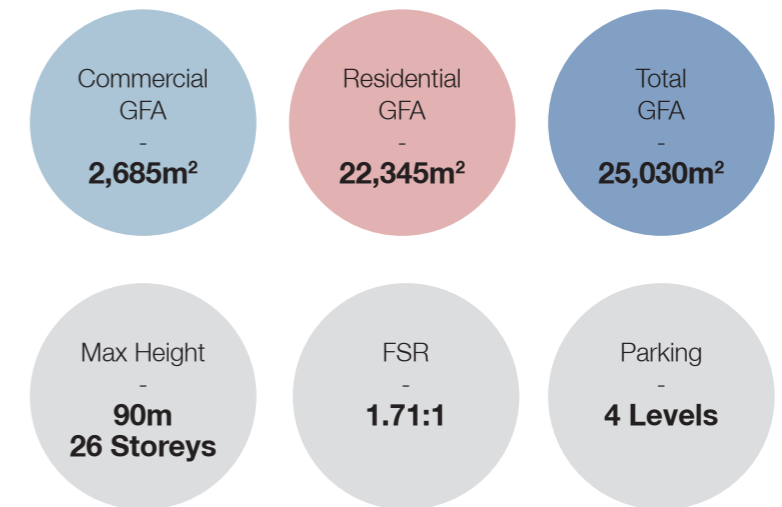
- 5 storey podium with parking below ground to achieve the parking requirements in the DCP.
- 3m setback above street wall (except towers)
- Tower footprint of 900m² GBA
- Maximum Height of 26 storey.
- Retain existing site access and Sydney Water easement. This can be decommissioned once properties to the east of the site are redeveloped and the extension of Carter Street is delivered
- Based on hazard report by Arriscar

Changes required to the Draft LEP

- Increase the area of the 65m to cover the location of the tower
- Increase height from 65m to 90m

Changes required to the Draft DCP

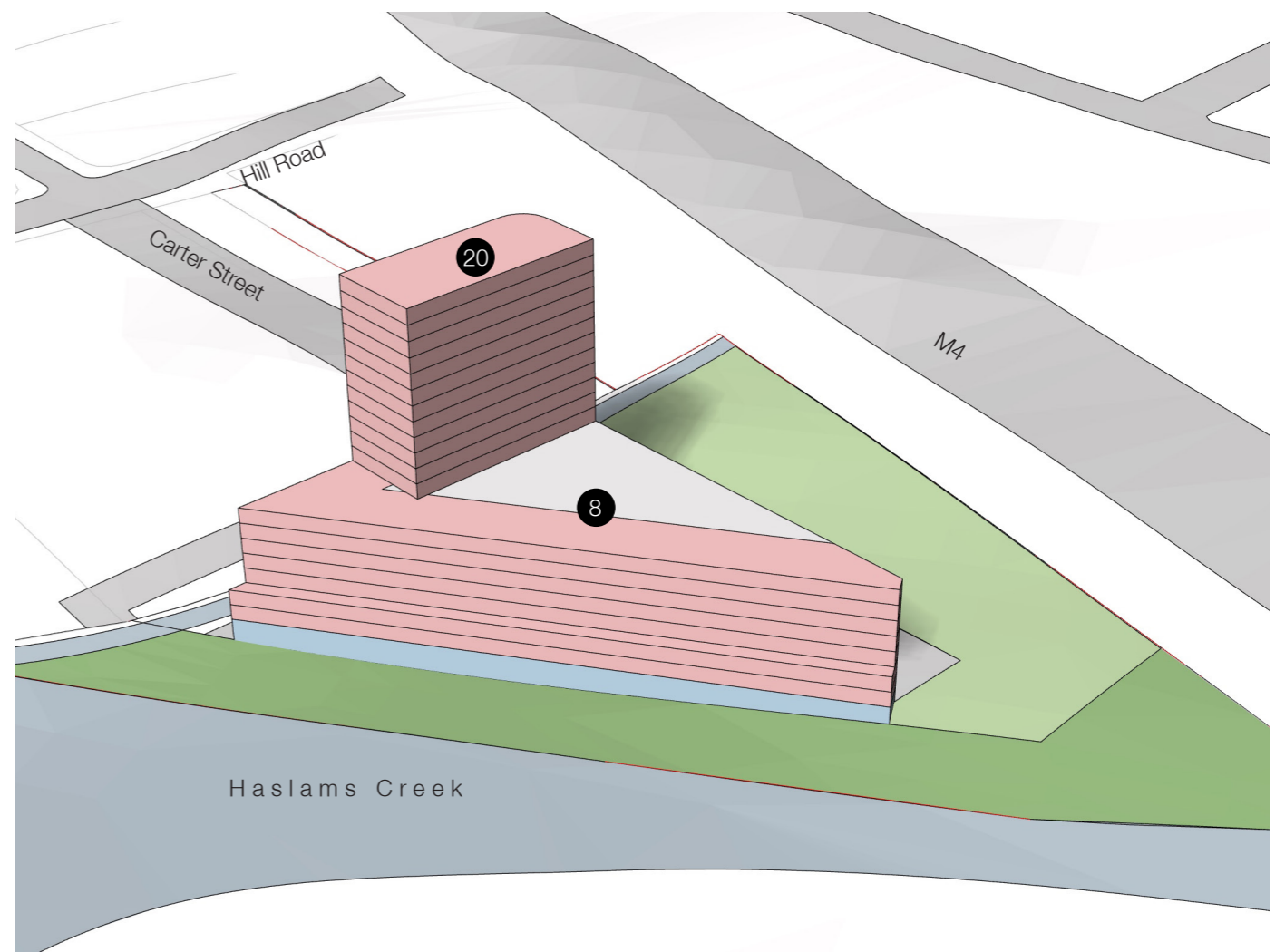
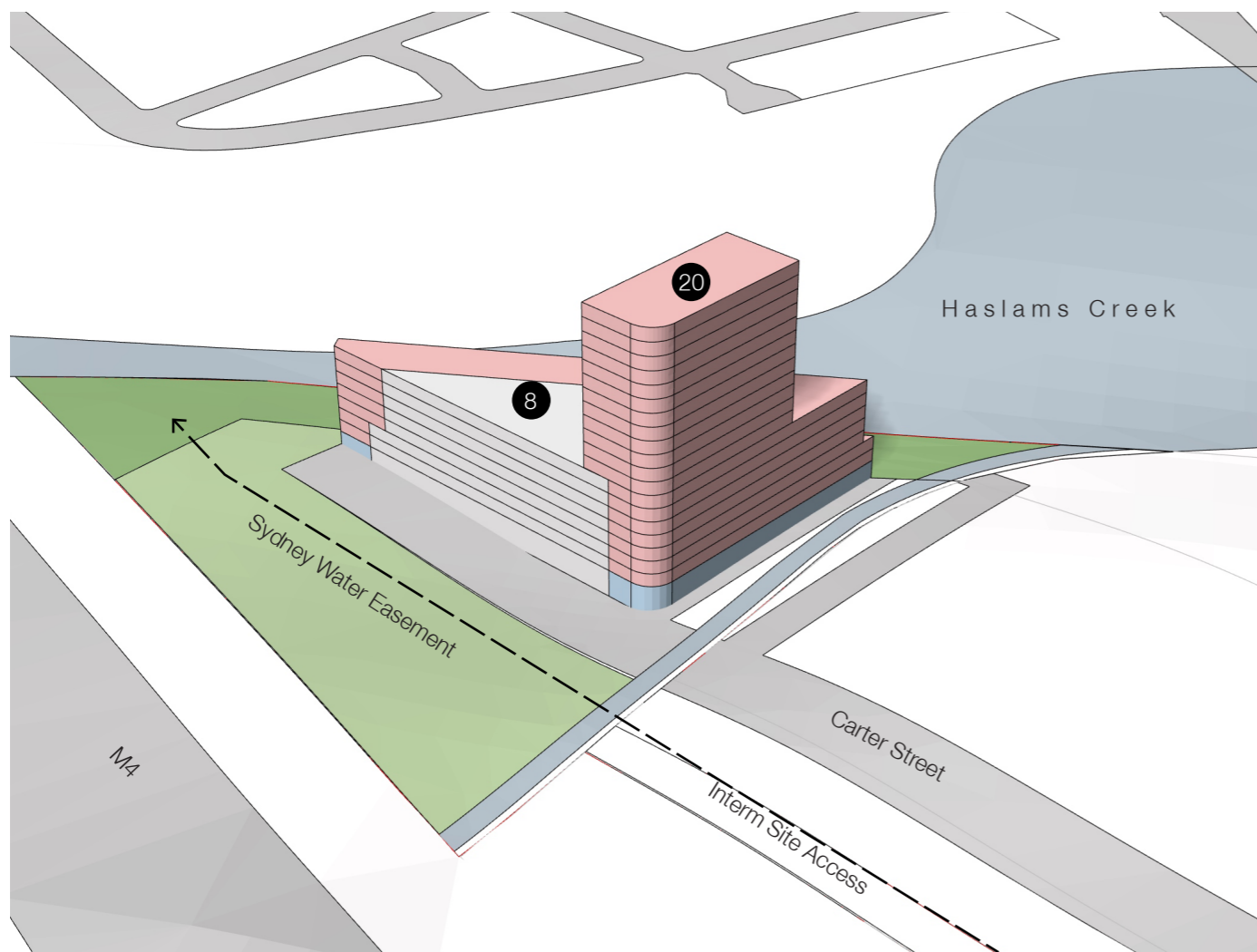
- Minimum tower footprint of 900m² GBA



*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 77% of GBA
- 35m per parking space
- 3.1m Residential levels floor to floor
- 3.6m Ground level floor to floors



Key Features

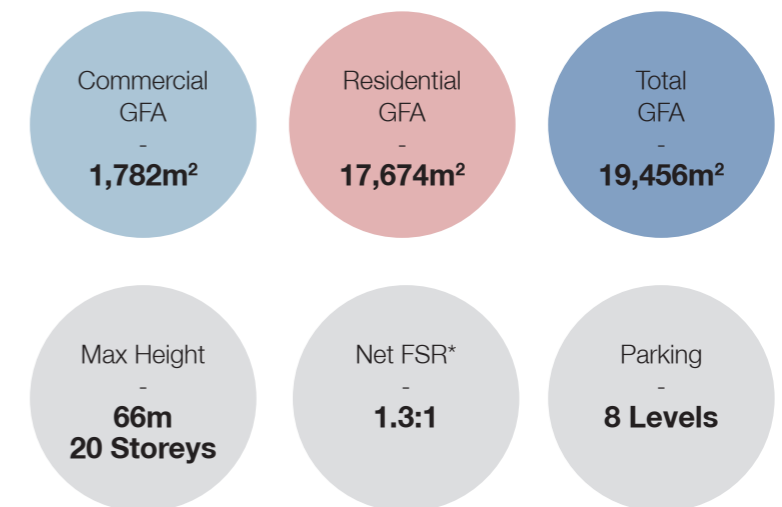
- 4m setback from Canal
- Assumes Sherpa's hazard advice for building footprint
- 8 storey overall podium height
- 3m setback above 3 storey streetwall along northern frontage
- Predominantly screened parking facade along Carter Street with commercial frontage along other edges
- Single-loaded apartments in podium
- 800sqm GBA tower footprint
- 66m/20 storey maximum overall height
- 1.3:1 net FSR
- Carparking located across 8 storeys of podium levels, screened along Carter Street Frontage

Changes required to the proposed draft masterplan to maintain current FSR:

- Amend Risk-Based Development Controls based on Sherpa's hazard advice
- Allow for non-residential uses along all ground floor frontages

Changes required to the Draft LEP:

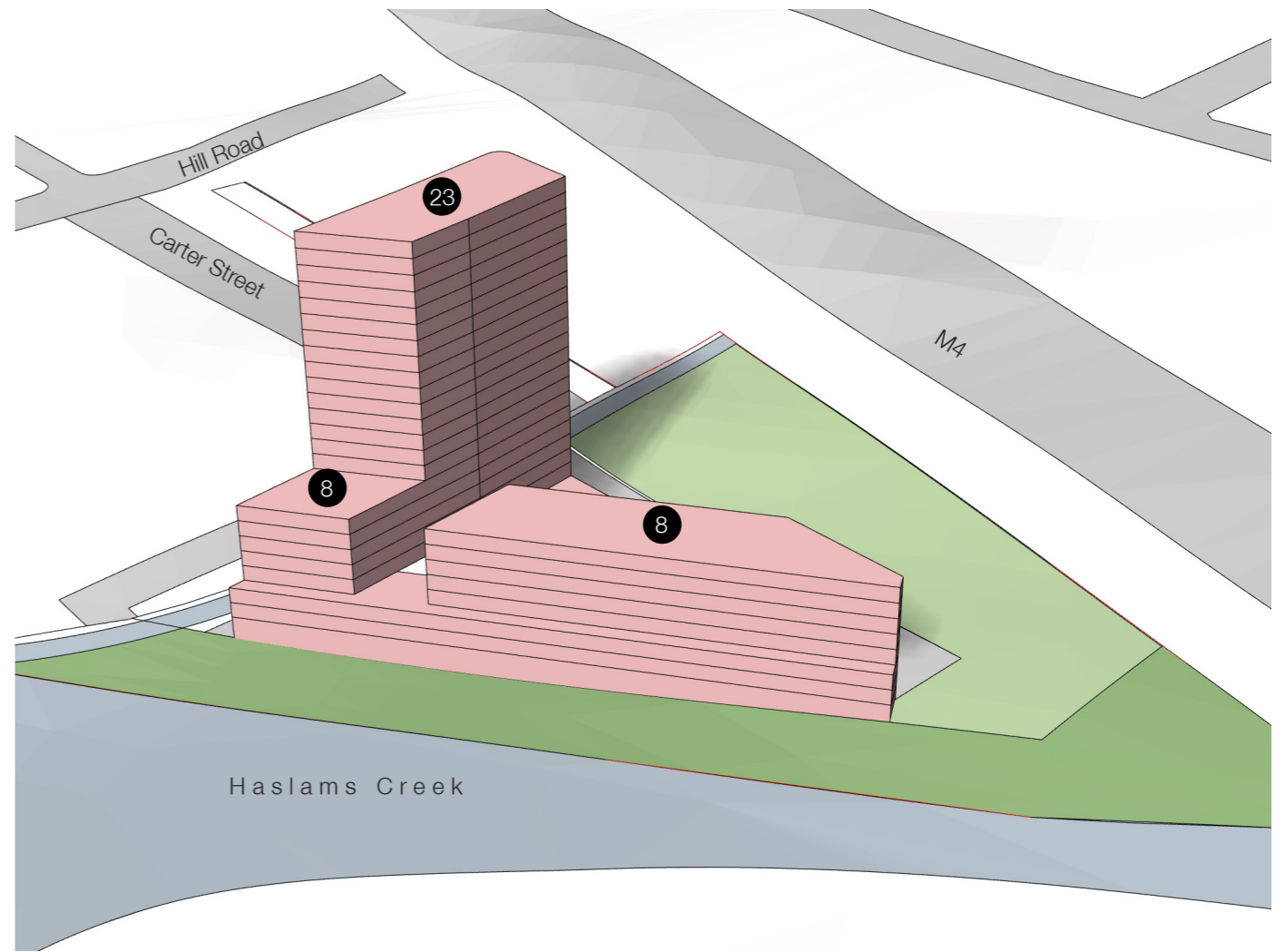
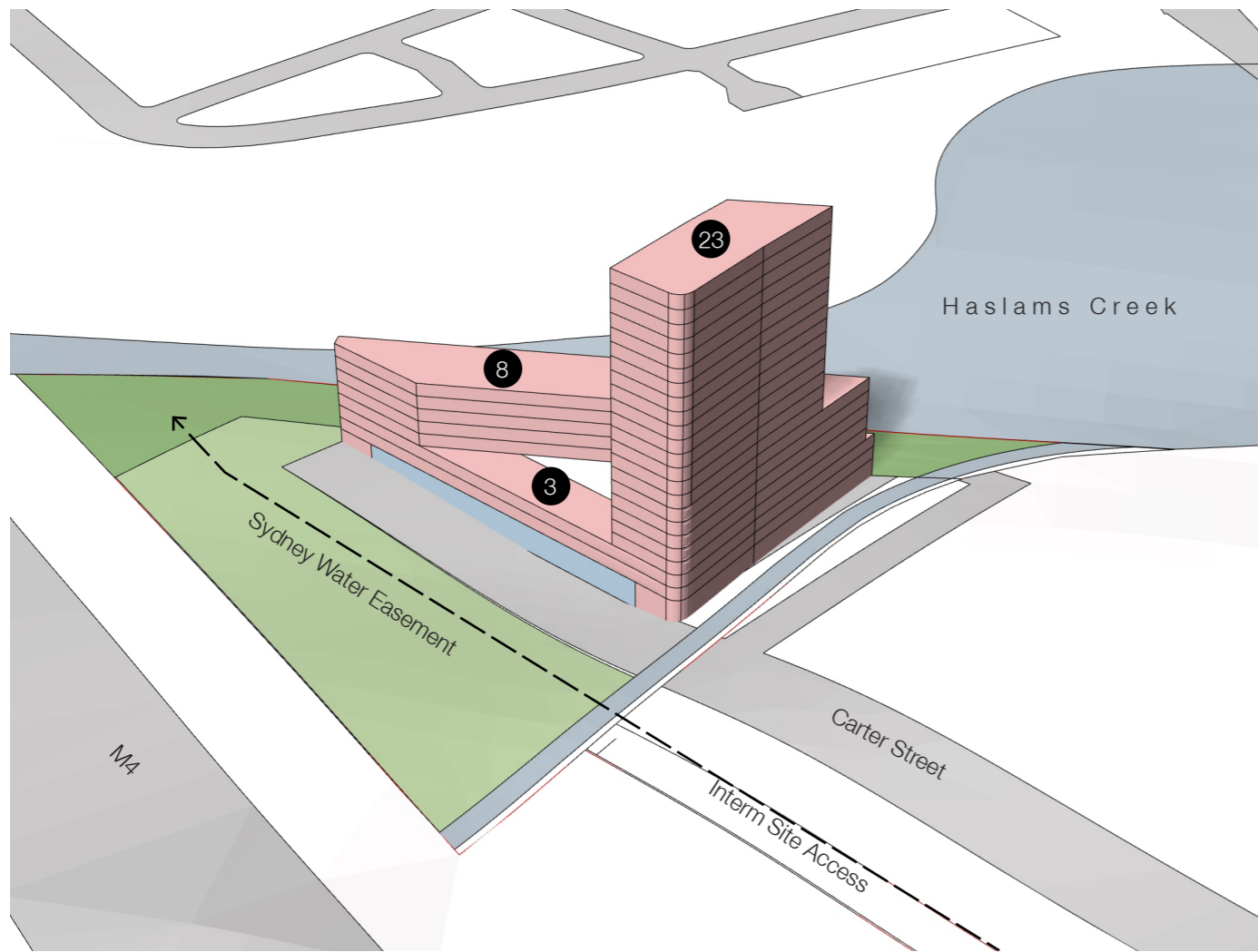
- Increase the area of the 66m height limit to cover the location of the tower
- Allow architectural features to screen south facing parking above ground



*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 77% of GBA
- 35m per parking space
- 3.1m Residential levels floor to floor
- Minimum 3.6m Ground level floor to floors



Key Features

Same as Option 1a except the following:

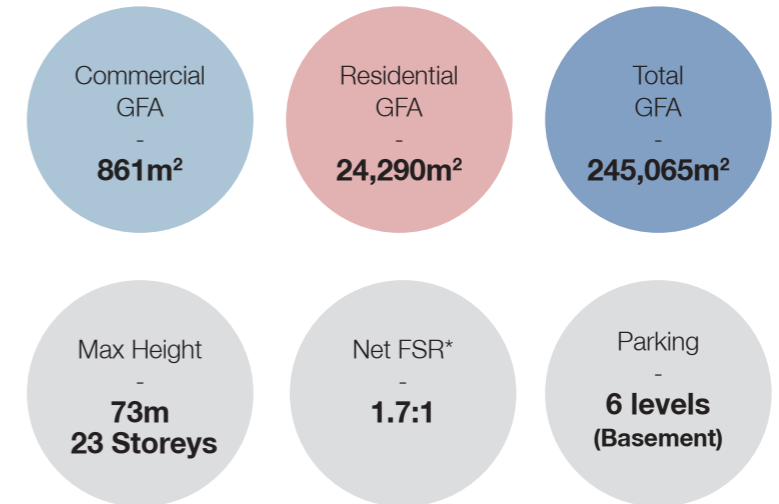
- 73m/23 storeys overall height
- Achieves maximum FSR of 1.7:1

Changes required to the proposed draft masterplan:

Same as Option 1a

Changes required to the Draft LEP:

- Amend maximum height control to be 23 storeys/73m at the location of the tower (excluding lift overrun) to achieve maximum FSR



*FSR is based on land Zoned R4 (14,780m²)

Building Assumptions

- Commercial GFA: 90% of GBA
- Residential GFA: 77% of GBA
- 35m² per parking space
- 3.1m Residential levels floor to floor
- Minimum 3.6m Ground level floor to floors

Option 1b - 1.7:1 FSR / Basement Carparking



Drawing number [00]
Revision number [00]
Project number 5094
Project name 2 Hill Road

Project address 2 Hill Road, Lidcombe
Client Riveredge Investments Pty Ltd

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