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ARCHITECTURE I URBAN PROJECTS

Beverly Hills Town Centre Urban Design Study

For the Beverly Hills Owners Association Incorporated

V4.0 - April 2024

DOCUMENT CONTROL

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Client	Beverly Hills Land Owners Association
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0.0 EXECUTIVE SUMMARY

OLSSON Architecture and Urban Projects have prepared this urban design study based on our extensive planning, urban design and architectural experience. This study forms part of the Planning Proposal (lodged in 2022, revised in 2023 and further revised in 2024) prepared by Mecone for the sites on the western side of King Georges Road, between Beverly Hills train station and Stoney Creek Road.

The revised Urban Design Study forms part of the response to Sydney South Planning Panel (SSNP) Record of Decision – RR-2023-12.

At its meeting on 11 December 2023 (date of determination 22 December 2023) the Sydney South Planning Panel determined that this proposal should be submitted for a Gateway determination because it has demonstrated strategic merit and would demonstrate site specific merit subject to the revisions set out in the Panel's Record of Decision. This urban design study is in accordance with the Panel's Record of Decision. As noted in the Record of Decision, the Department of Planning Housing and Infrastructure is to further test the FSR to ensure that it can be accommodated within the proposed maximum Height of Building.

The aims of this project are to:

- Contribute to the renewal of the Beverly Hills Town Centre;
- Promote Transit Oriented Development which capitalises upon the highly connected location of Beverly Hills, being on the rail line linking the two Sydney Airports;
- Promote the continuation and revitalisation of evening and night-time uses;
- Provide on-site servicing and parking to facilitate business opportunity;
- Increase the supply of transit-oriented housing, contributing to Council's housing target;
- Provide quality dwellings for key workers and residents in a vibrant town centre; and
- Better address and activate laneways which complement the adjacent residential neighbourhood.

Our vision is to transform Beverly Hills into a vibrant mixed use centre with nightlife activating a contemporary boulevard built form, with residential apartments based on sustainability principles and design excellence.

We achieve this vision at the scales of regional planning and urban design.

Regional planning

We demonstrate that there is good reason for Beverly Hills to be re-developed due to its location in the potential growth corridors of the *South District Plan*. The town centre's proximity to the M5 and its location on the rail line between the two airports, and the recent emphasis on Transport Oriented Design, are reasons to support the study area's redevelopment.

Urban design

The existing layout of King Georges Road over the topography, the landscaped median and the existing night time uses provide local identity to the centre. We propose enhancing the centre's sense of place in the 3rd dimension, with built form which is relatively low in relation to the wide road reserve.

Existing active uses and nightlife is centred around the Cinema and Hotel sites, with a number of other properties being run down. This proposal is aimed at enhancing street level activity with wider footpaths and revitalisation in mixed use developments.

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1.1 SITE OVERVIEW

Eastern side of King Georges Road.

View of the Subject Site on the western side of King Georges Road.

Image: Site Location Plan (Source: NSW Six Maps) - Planning Proposal boundary in red

The subject of this urban design study is the main core of the Beverly Hills Town Centre. Outlined in red, the study area has an area of approximately 16,291 m^2 and comprises the western side of the town centre commercial core on King Georges Road.

The commercial precinct of King Georges Road located between Stoney Creek Road and the train station features a row of 2 storey buildings containing an array of restaurants, retail outlets, and a range of professional services, a pub (the Beverly Hills Hotel), and a cinema.

King Georges Road at Beverly Hills is highly imageable. The commercial strip sits within a valley, rising at either end near the train station and Stoney Creek Road. This creates spatial enclosure of the commercial area at either end. The avenue of palm trees in the median is a distinctive landscape feature.

However the sense of place is currently dominated by King Georges Road and the landscaped central median, rather than the commercial, retail and array of restaurants lining the street.

King Georges Road is 30 metres wide and features 3 lanes per direction. The high traffic volumes and daytime clearway, coupled with low rise buildings result in a poor urban outcome that stifles the potential vibrancy on the street, and contrasts with the importance of the town centre within the surrounding suburbs.

1.2 SITE LOCATION

Beverly Hills is located 16 km south of the Sydney central business district and 8 km from the international airport. The suburb is part of the St George area and belongs to the Georges River LGA together with Hurstville, Kogarah, Blakehurst, Oatley, Carlton and Sans Souci.

The Town Centre is in close proximity to the M5 motorway and WestConnex and is also located directly to the south of the Beverley Hills train station. This station is on the East Hills line which links the existing Domestic and International airport and the new airport at Badgerys Creek. Both the road and rail links provide excellent regional connectivity.

The site is well located to leverage this connectivity to build on its relevance and presence within the network of metropolitan centres. Undertaking a process of development and renewal has the potential to re-establish Beverly Hills Town Centre as a vibrant destination for residents in the surrounding suburbs, with an accessible offering that complements nearby centres such as Hurstville.

Image: Location Context Area Plan (Source: NSW Six Maps)

Subject Site

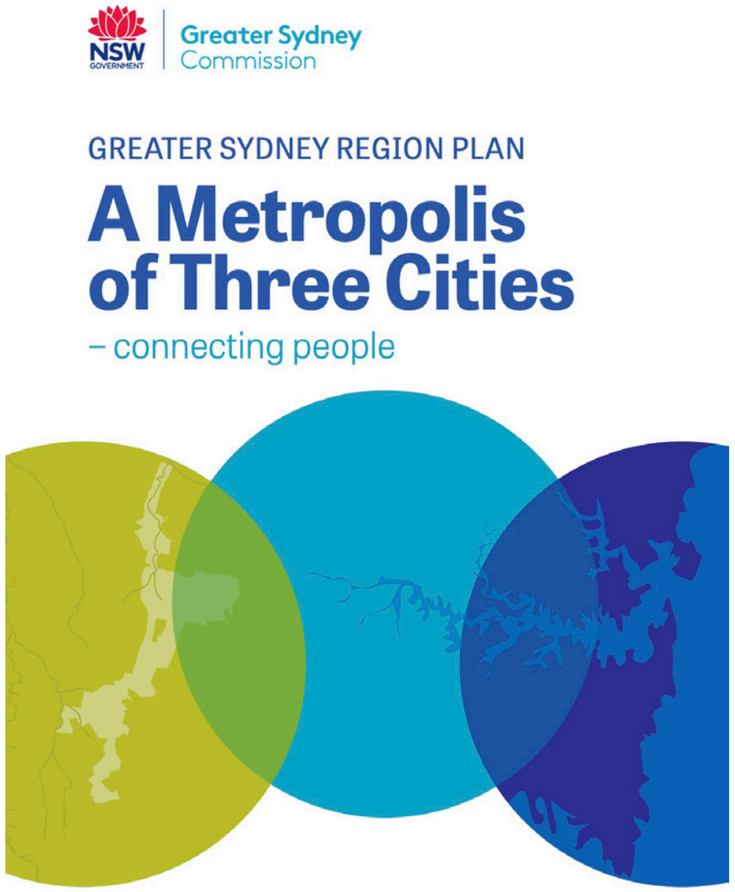


Image: A Metropolis of Three Cities
Source - Greater Cities Commission

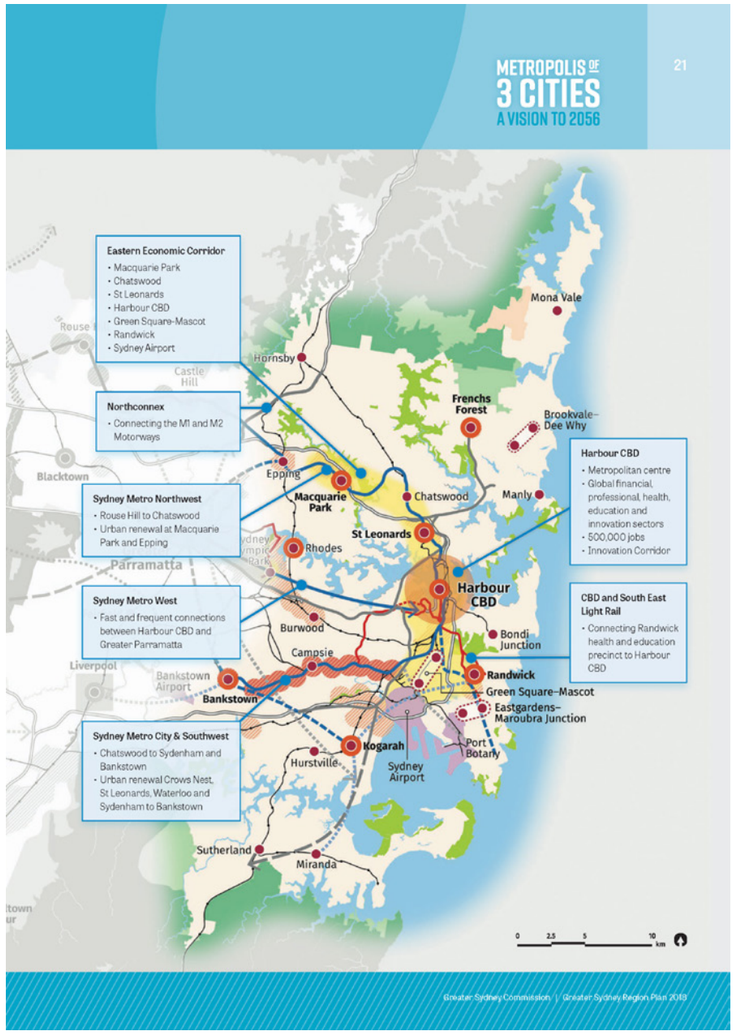


Image: The Eastern City
Source - Greater Cities Commission

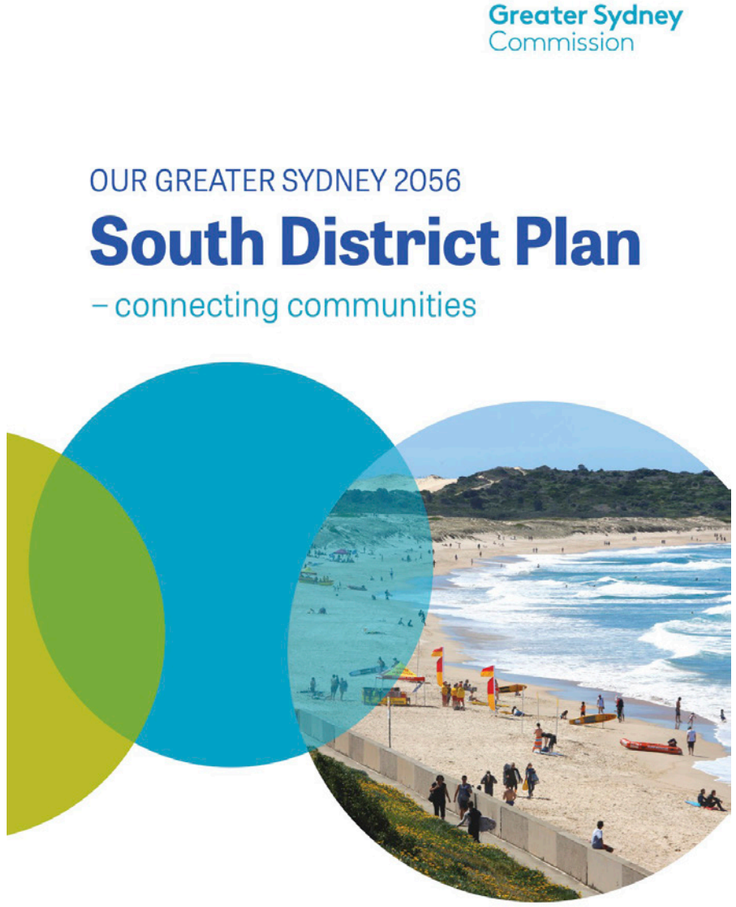


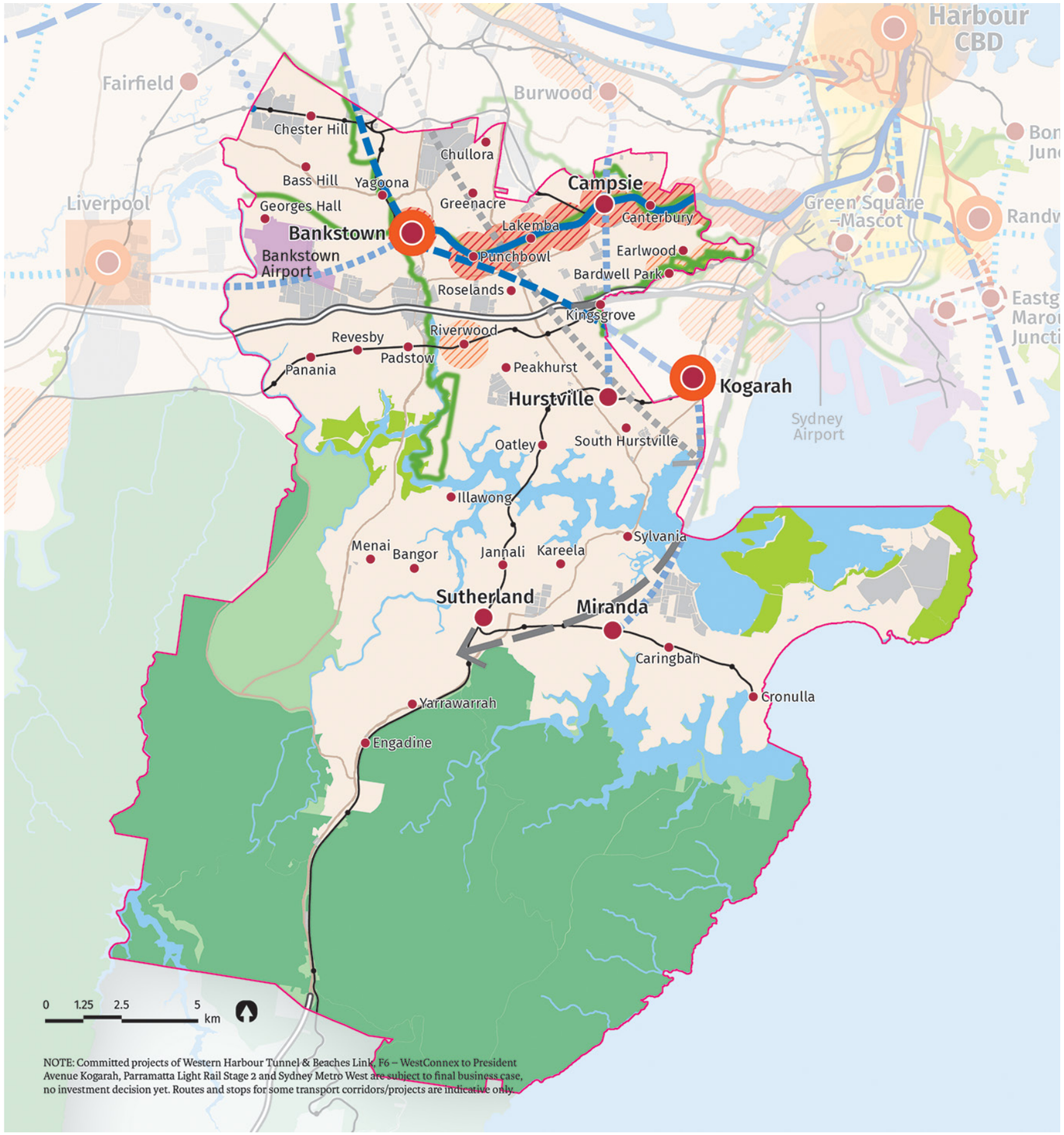
Image: South District Plan cover page
Source - Greater Cities Commission

1.4 SOUTH DISTRICT PLAN

In the Greater Sydney Regional Plan titled "A Metropolis of Three Cities" detailing the strategic future direction of the greater Sydney Region. The Department of Planning & Environment has established 3 separate Cities, and 5 different districts, including the South District where Beverly Hills Town Centre is located.

Within the South District plan Kogarah and Hurstville have been designated major strategic centres. Supporting these centres there are a series or urban renewal corridors alongside transport infrastructures, mainly along the forthcoming Sydenham to Bankstown Metro line.

The plan also includes the potential upgrade of the King Georges Road corridor connecting Princess Highway from South Hurstville towards Greenacre.



- Metropolitan Centre
- Health and Education Precinct
- Strategic Centre
- Local Centre
- Economic Corridor
- Trade Gateway
- Industrial Land
- Land Release Area
- Transit Oriented Development
- Urban Renewal Area
- Urban Area
- Protected Natural Area
- Metropolitan Rural Area
- Major Urban Parkland including National Parks and Reserves
- Waterways
- Green Grid Priority Corridor
- Train Station
- Committed Train Link
- Train Link/Mass Transit Investigation 10–20 years
- Train Link/Mass Transit Visionary
- Motorway
- Committed Motorway
- Road Investigation 0–10 years
- Road Visionary
- District Boundary

Image: South District Plan. *Source - Greater Sydney Commission*

1.5 LOCAL STRATEGIC PLANNING STATEMENT

The Georges River Local Strategic Planning Statement (LSPS) creates a land use vision for the future of the entire Local Government Area. Within the LSPS Beverly Hills is supported to grow safe night-time entertainment, dining and other recreational opportunities.

Council's vision focusses on concentrating new apartments close to services and transport, with growth being linked to transport corridors and frequent services, and all centres having a role in housing and jobs growth.

Growth should also be supported by green open space, social and physical infrastructure. Specifically in this regard, Beverly Hills Town Centre's location on a major North-South state road, which connects to the M5 Motorway, and also along the T8 railway line, means that it is well placed to provide housing close to services and transport, with easy access to the CBD and airport.

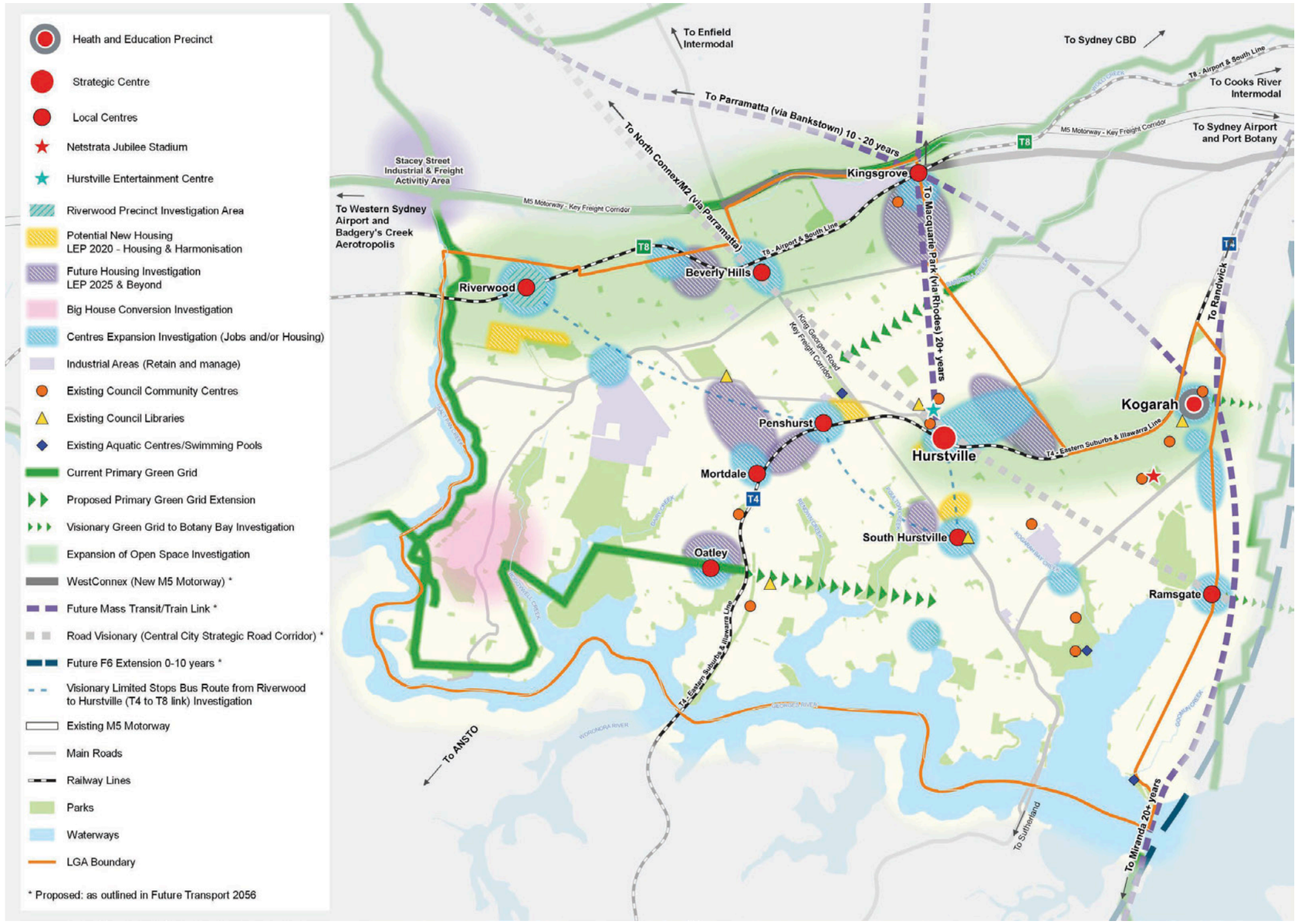


Image: LSPS Structure plan - Overall
Source: Georges River Council Local Strategic Planning Statement February 2020

1.6 CONNECTIVITY

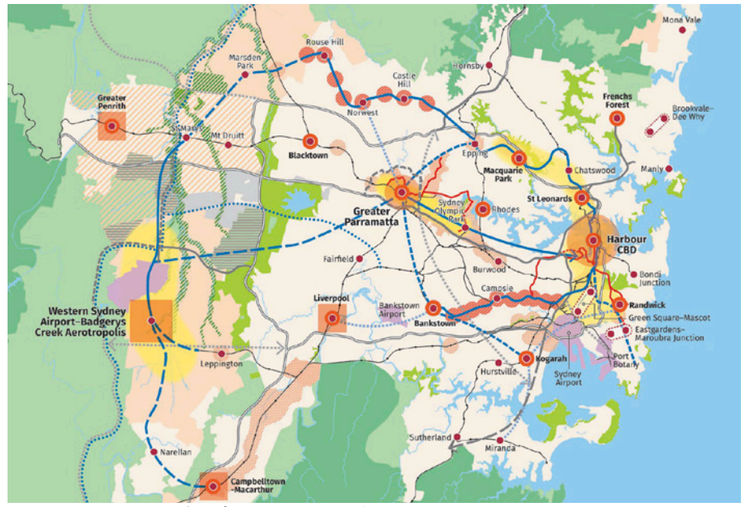


Image: Structure plan for Greater Sydney
Source: Greater Sydney Region Plan, March 2018

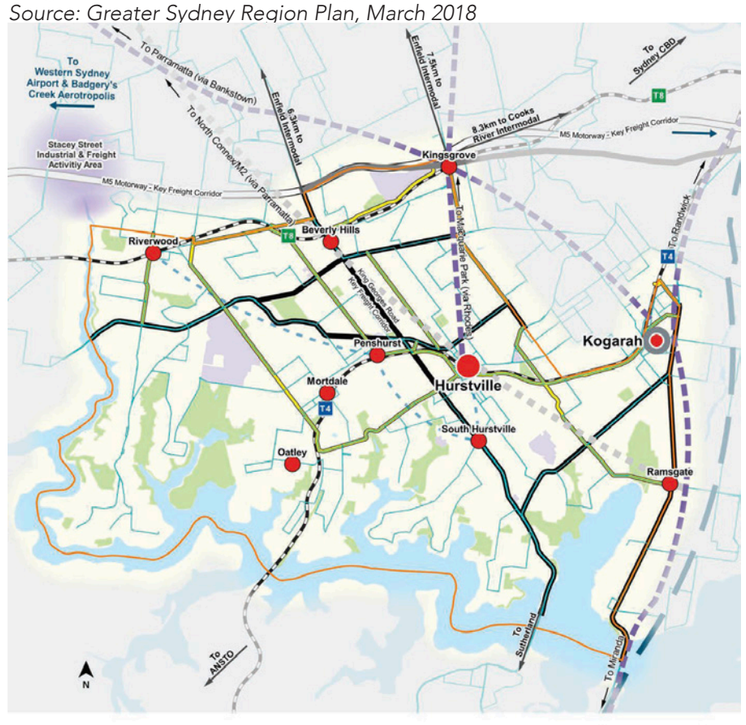


Image: LSPS Structure plan - Overall
Source: Georges River Council LSPS February 2020

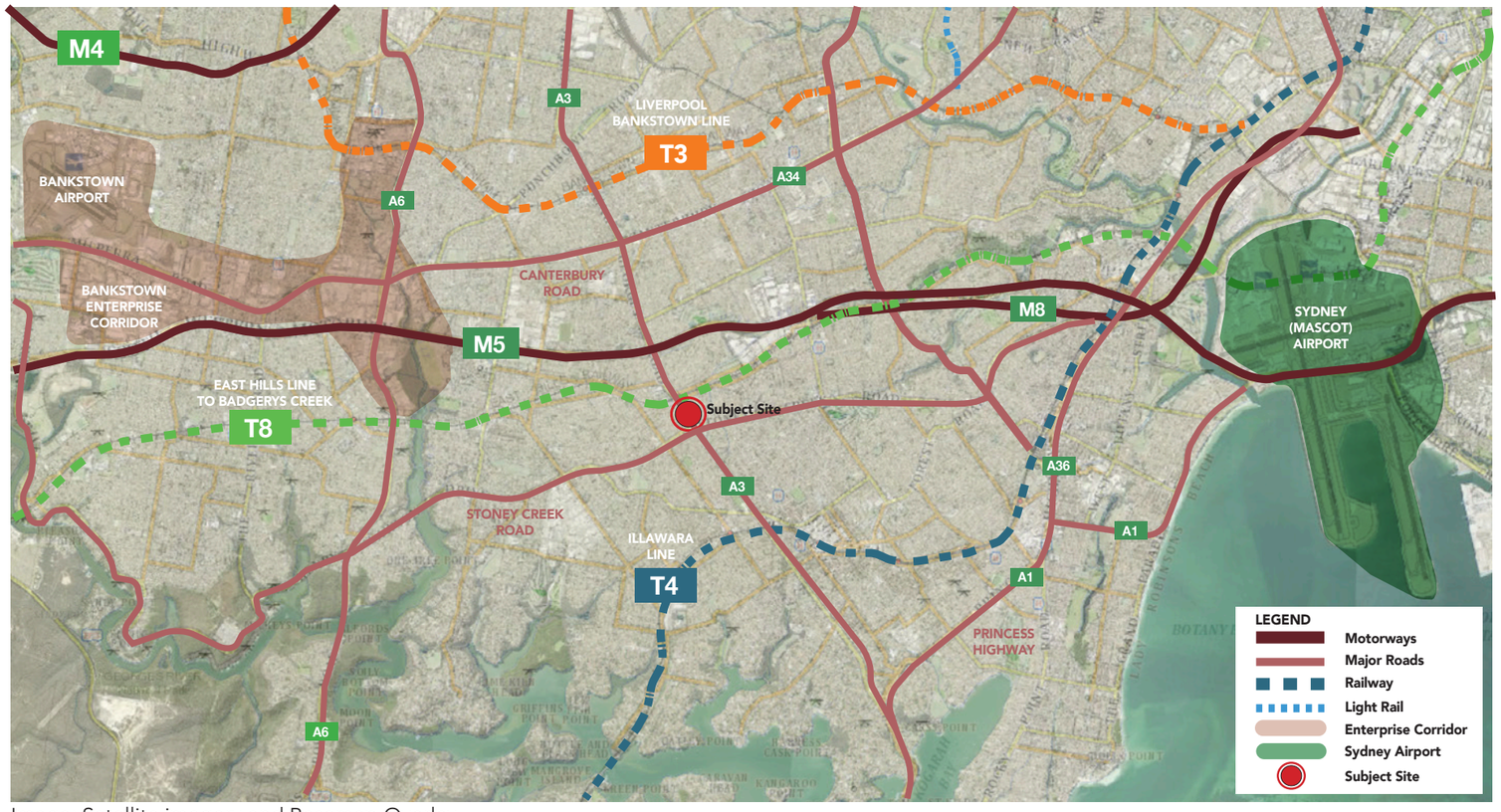


Image: Satellite imagery and Basemap Overlay
Source: NSW spatial information eXchange (SIX maps)

Beverly Hills Town Centre is well positioned to take advantage of the existing high degree of connectivity and recently completed road upgrades. Policies and objectives within the State Government's Future Transport Strategy 2056, and the Georges River Council LSPS, have identified a number of medium and long term transport infrastructure upgrades. These changes will increase the size of the '30 minute' catchment area for Beverly Hills which can be a key catalyst for population growth.

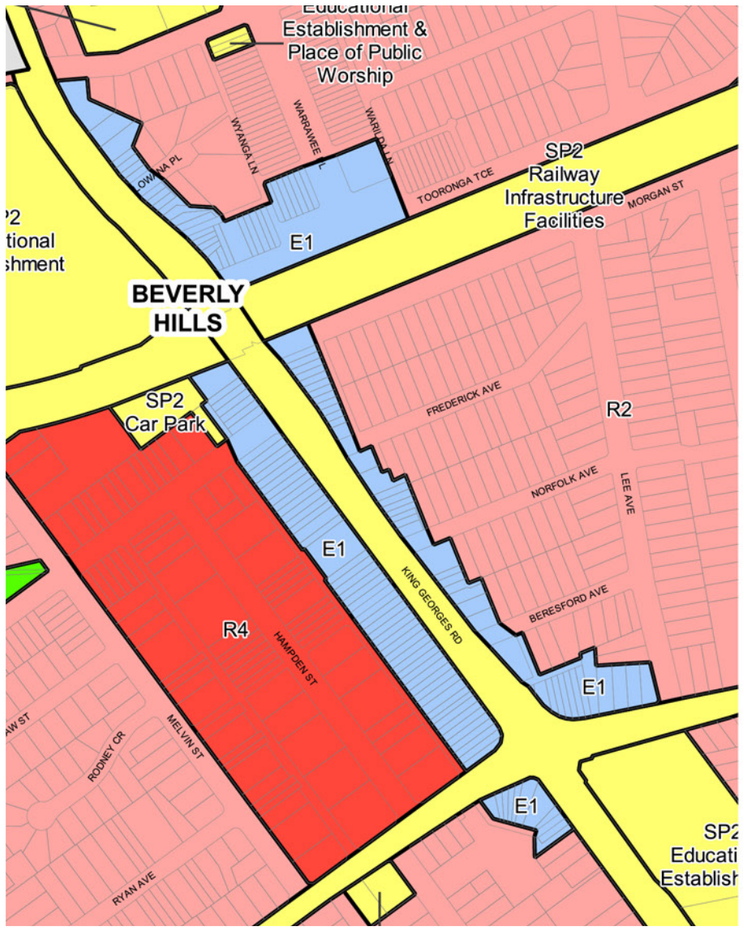
The existing transport infrastructure serving Beverly Hills has seen a number of recent upgrades to the road network such to the M5 and WestConnex. These have increased the connectivity of the Town Centre improving access to the Health and Education Precinct at Kogarah, and the Strategic Centre at Hurstville. Residents can easily access employment opportunities in nearby strategic and employment centers such as the Bankstown CBD and those located along the M5.

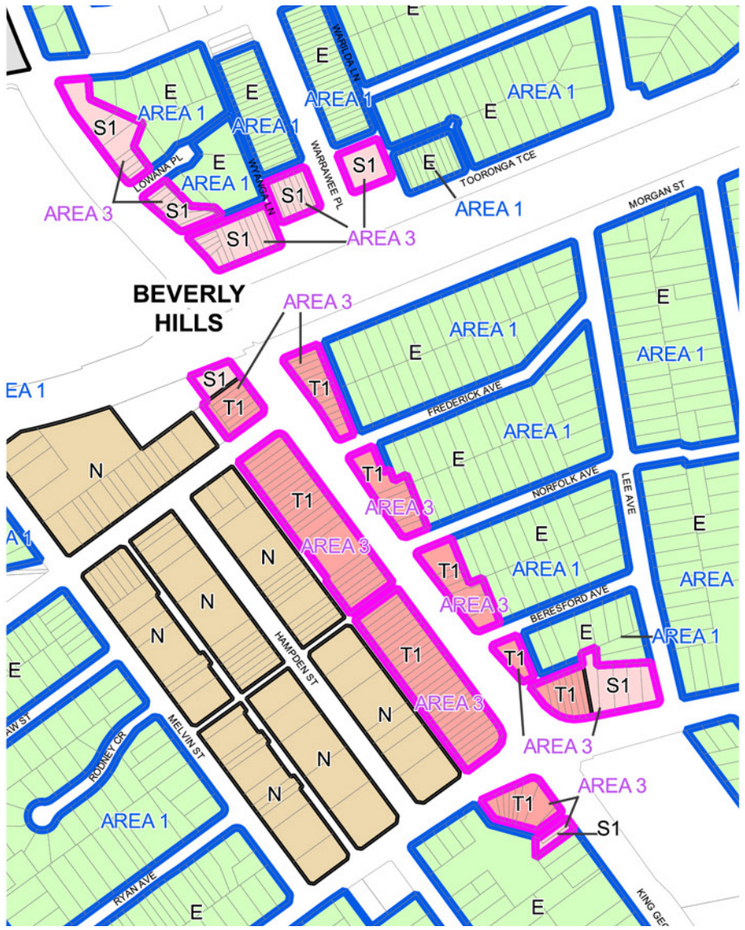
The T8 East Hills Rail line links the Town Centre directly to Sydney Airport and the Sydney CBD. Planned network upgrades that will connect Beverly Hills to the Western Sydney Employment Area, and the Nancy Bird Walton Airport at Badgerys Creek. This provides clear benefits for existing and future residents of Beverly Hills who will be able to use public transport to easily access employment opportunities offered by the airports and the CBD.

Businesses within the Town Centre that provide professional services, and those who form part of the night time economy are well positioned to take advantage of this connectivity. Future redevelopment has the opportunity to increase population density and provide facilities that are under supplied such as off street parking provision. If realised these can reinvigorate and reinforce Beverly Hills as an important Town Centre that is culturally rich and highly connected.

2.1 EXISTING PLANNING CONTROLS

The existing planning controls acknowledge the structure and hierarchy of the town centre organized around King Georges Road in the Land Zoning map, however they fall short in terms of the FSR and Height assigned to the different sites. The controls do not take in consideration the present infrastructure and location of the town centre.





LAND ZONE

E1	Local Centre
SP2	Infrastructure
R2	Low Density Residential
R4	High Density Residential
RE1	Public Recreation

FLOOR SPACE RATIO

E	0.6:1
N	1:1
S1	1.5:1
T1	2:1 (AREA 3 - Refer to clause 4.4B)

GR LEP2021 Clause 4.4B Exceptions to floor space ratio - non-residential land. Requires development on land identified as "Area 3"— to have at least 0.5:1 of non-residential - use.

HEIGHT OF BUILDINGS

J	9 m
M	12 m
O1	15 m

2.2 EXISTING CONTEXT AND SITE ANALYSIS

LEGEND

- Major Roads
- Railway
- Planning Proposal Boundary
- H — Beverly Hills Hotel Site
- C — Cinema Site
- R — Railway Station
- Medium Density Residential
- Educational Facilities
- Commercial Strip
- Park
- Water Canal (Area subject to flooding)

SITE CHARACTERISTICS

- Educational facilities at both ends of the Town Centre (North & South)
- Situated in valley, both the Station and the South end are on a high point with the centre of the boulevard at the lowest point
- Retail and recreational area with numerous restaurants and entertainment options including cinemas, a hotel and a supermarket.
- West of the PP boundary is medium density residential
- Accessible open spaces are located to the west and north of the PP Boundary.

CONSTRAINTS

- Low level areas such as Hampden Street and along Edgebaston Road identified for 1 in 100 year flood events.
- Small lots ownership pattern

OPPORTUNITIES

- Redevelopment of the commercial strip into a vibrant high density mixed use community.
- Renewal of the commercial sites with dining, small bars and entertainment venues to revitalise the centre
- Creation of new through site links by extending Rudduck Lane, and capitalising on opportunities such as providing potential new open space.
- Opportunities to revitalise the rear lane by widening the footpaths, providing new residential development with passive surveillance throughout the day.
- Widening of the footpath on King Georges Road to enhance amenity for diners and pedestrians, with additional landscaping
- Strengthening of town centre identity with corner gateway sites at the Beverly Hills train station and Stoney Creek Road intersection

3.1 URBAN DESIGN PRINCIPLES

Our vision is to transform Beverly Hills into a vibrant mixed use centre with nightlife activating a contemporary boulevard built form, with residential apartments based on sustainability principles and design excellence

1. Enhance the sense of place

Activate the centre with retail and nightlife, tree planting and widened footpaths for greater pedestrian amenity.

2. Create an attractive and vibrant boulevard

Develop the urban potential of the 30m wide road with complementary built form that defines the space and makes a great urban boulevard.

3. Increase Permeability

Leverage opportunities to create new through site links featuring accessible and attractive active uses. Revitalise the existing links and lanes with public domain enhancements and upgrades to the pedestrian infrastructure.

4. Design a streetscape on the rear lane

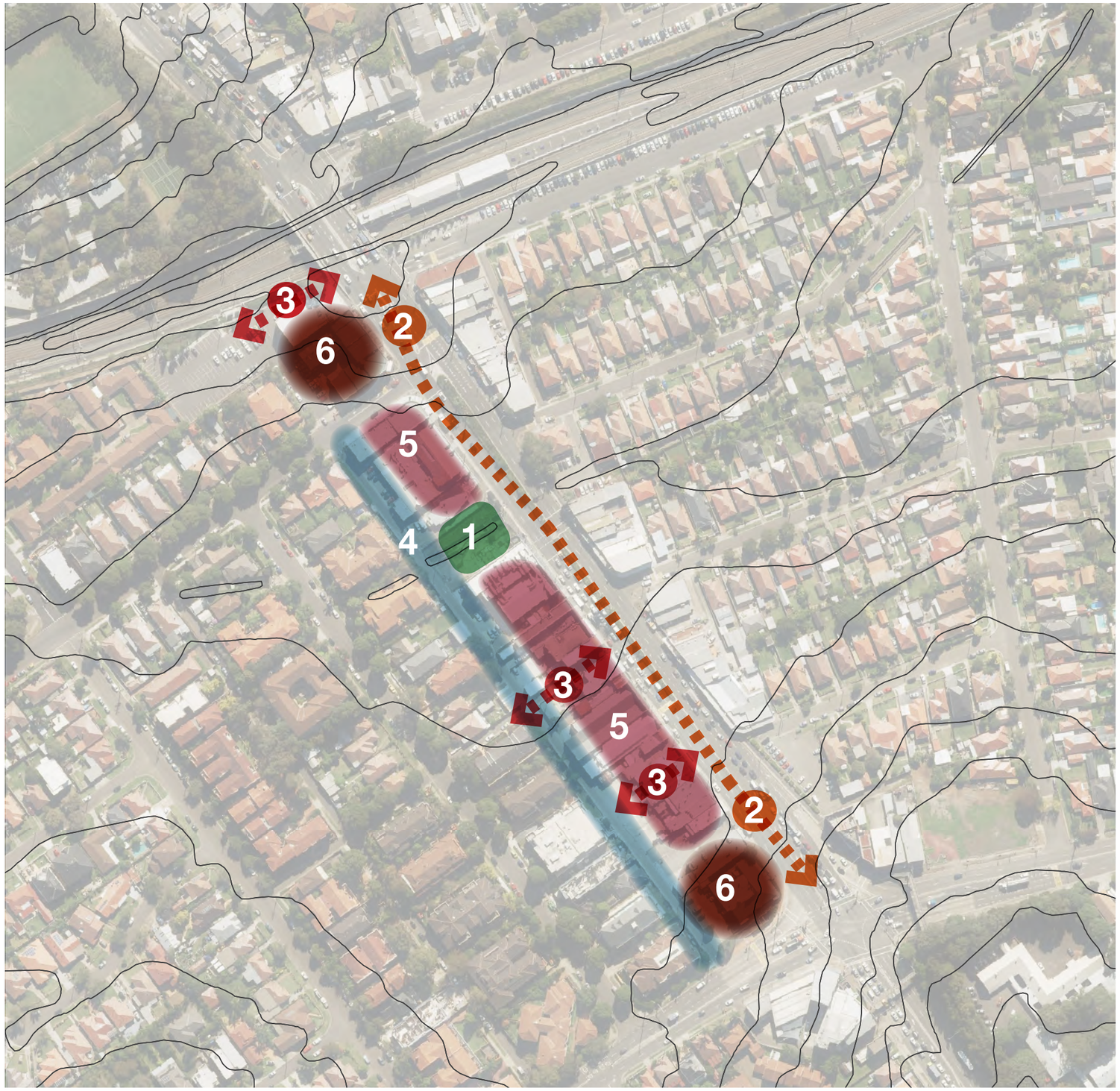
The existing lane is run down and in need of enhancement. The proposal will revitalise this space by creating new 3 storey built form of active and residential uses, widening the rear lane to provide space for enhanced movement, and opportunities for activation.

5. Generate efficient and sustainable built form envelopes

Slender medium-rise building envelopes that are orientated to the N-E, maximising solar access and natural ventilation. Low rise envelopes are separated from medium rise by a 12m wide courtyard, creating an efficient layout.

6. Create landmark corner buildings

The entry /exit to the station and the Stoney Creek Road corner are celebrated with landmark corner buildings.



3.2 BUILT FORM PLAN

A SENSE OF PLACE

Beverly Hills town centre is unique in the region as a destination for entertainment and multicultural dining experiences. At present the King Georges Road shops are run down and many sites are underutilised. The LSPS sets out a number of planning priorities for Beverly Hills. These aim to reinforce the night time economy, provide new employment floor space, and promote residential apartment buildings near transport hubs.

The proposal for the western side of King Georges Road will increase the building heights to 7 Storeys for the mid-block sites and 9 storeys for the landmark corner sites.

The built form to the rear will be limited to 3 storeys. This will maintain a high degree of building separation from the tallest built forms, and ensure that future development reflects the scale of the residential area adjacent to the Planning Proposal. The proposed widening of the Dumbleton Lane will improve vehicle serviceability. The ground floor setbacks on King Georges Road will provide refuge from the traffic, whilst providing space for a range of activities on the street.

There are a number of large sites in the Masterplan area that may not require amalgamation, or minimal amalgamation for development. In this proposal the maximum FSR and maximum building height are only achievable on sites 20 metres wide or greater. This proposal maintains the existing E1 zoning. All sites will have a maximum FSR of 3.5:1. The FSR of 3.5:1 is to include a Non-Residential FSR of 0.75:1.

Building heights on corner sites adjacent to the train line and Stoney Creek Road have heights of 31.4 metres to create landmark corner buildings. Mid block sites have maximum heights of 24.1 metres. Heights of 12 metres adjoin Dumbleton Lane. Residential Flat Buildings are an additional permitted use (APU) at the rear of the lots adjoining Dumbleton Lane. The remainder of the lot only permits dwellings as Shop Top Housing, a permissible use in the E1 Local Centre Zone.

POTENTIAL HEIGHT IN STOREYS AND FLOOR SPACE RATIOS

4.1 POTENTIAL KEY LEP CONTROLS

LZN
LAND ZONING

LEGEND

Zone E1
Local Centre

Additional Permitted
Use - Residential
Flat Building

ZONING

The zoning of the subject site is to be E1 Local Centre. In addition to the permitted uses in the zone, Residential Flat Buildings are to be permitted adjacent to Dumbleton Lane, for a distance of 26 metres from the lane as shown on the land zoning map.

FSR
FLOOR SPACE RATIO

LEGEND

FSR 3.5:1

FSR

The FSR for all sites in the subject area is to be 3.5:1 including a Non-Residential FSR of 0.75:1 as shown on the FSR map.

HOB
HEIGHT OF BUILDING

LEGEND

31.4 m
24.1 m
12 m

MAXIMUM HEIGHT

Buildings heights on corner sites adjacent to the train line and Stoney Creek Road have heights of 31.4 metres to create landmark corner buildings. Mid block sites have maximum heights of 24.1 metres. Heights of 12 metres adjoin Dumbleton Lane.

Testing FSR and HOB Controls

As noted in the Rezoning Review Record of Decision by the Strategic Planning Panel of the Sydney South Planning Panel, the Department of Planning Housing and Infrastructure is to further test the FSR to ensure that it can be accommodated within the proposed maximum Height of Building.

4.2 POTENTIAL DCP CONTROLS

URBAN DESIGN CONTROLS (DCP)

The following suggested controls apply to the blocks on the Western side of King Georges Road.

SETBACKS

Front Setbacks - King Georges Road

- Ground Floor Retail/Commercial/ F+B front setback 2m
- Level 2 Podium level to be built to the street alignment
- 1 metre setback above podium for levels 3-7

Rear setbacks.

Typical sites 3 metre setback from the lane.

Side setbacks.

Buildings can be built to the side boundary.

STREET WALL HEIGHT

The mid block buildings will present a 7-storey street wall. The corner buildings will present a 9 storey street wall.

PODIUM

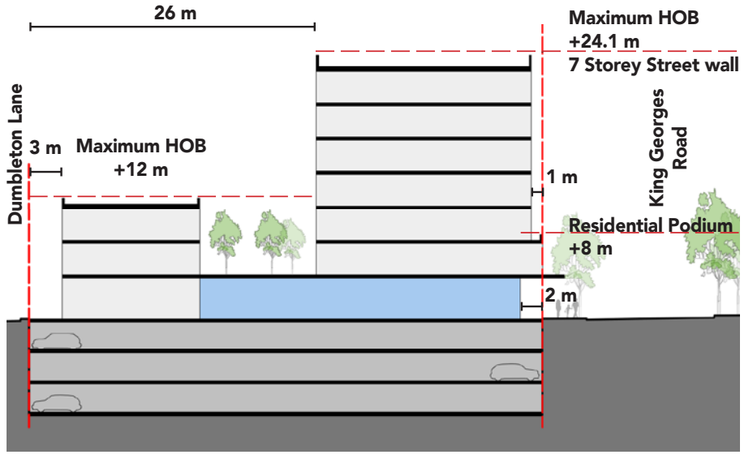
2 storey podiums for residential developments with ground floor non-residential uses such as retail, commercial or food and beverage to be located on King Georges Road.

MINIMUM STREET FRONTAGE WIDTH

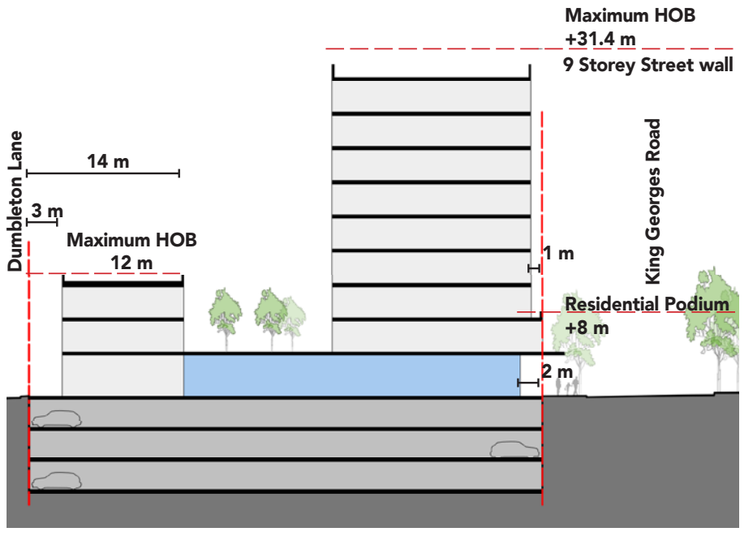
For the area to be redeveloped there will be a need to amalgamate different lots into bigger sites with a minimum frontage of 20m. This will allow for workable basement parking layouts and efficient floorplates.

SEPP 65 ADG COMPLIANCE

Compliance with SEPP 65 Apartment Design Guide criteria is to form part of the FSR and height of building testing by the Department of Planning Housing and Infrastructure.



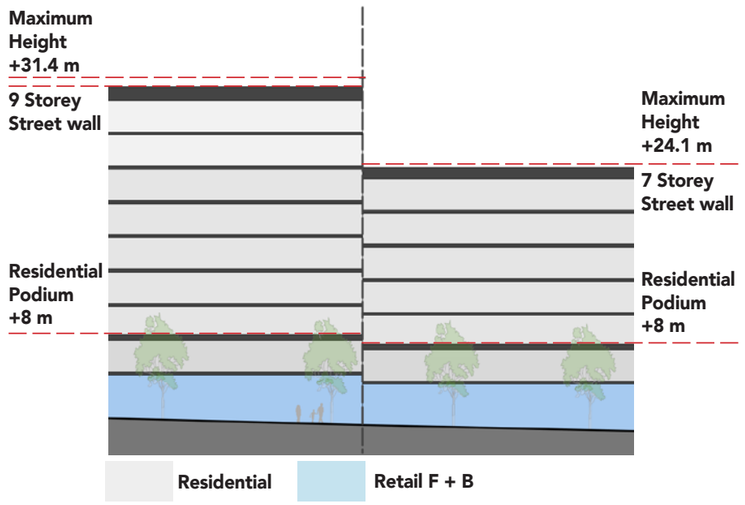
TYPICAL MID-BLOCK SECTION



LANDMARK CORNER SITE

STREETSCAPE DESIGN

The proposed masterplan allows for a 2 storey podium to reinforce the human scale of the street. The street wall will be built from side boundary to side boundary to reinforce the urban structure of the town centre.



MID-BLOCK AND LANDMARK SITE STREET ELEVATION

5.1 443-445 KING GEORGES ROAD

THE 'CULVERT HOTEL' SITE

This Planning Proposal has sought to incorporate the drainage lot at 443-445 King Georges Road into the overall design. This approach is consistent with Council's Masterplan.

Located adjacent to the cinema site the approved hotel has a total FSR of 1.245:1 within a five storey height plus rooftop plant making a 6 storey built form.

The Planning Proposal proposes increasing the height to 21.4 metre height of building. This will align the site with the rest of the mid-block sites, and deliver consistent height in King Georges Road.

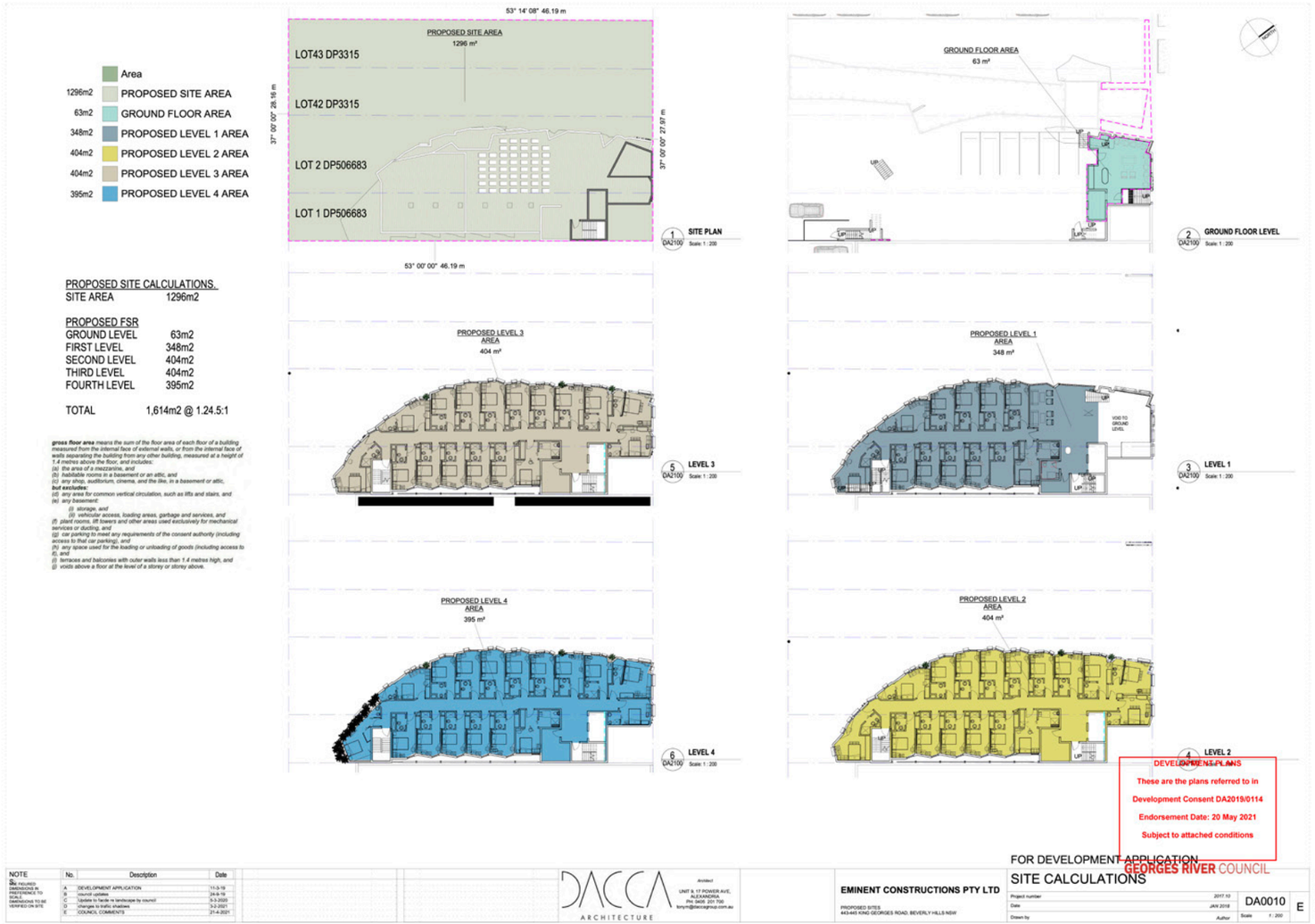
The adjacent building envelopes have been designed to respond to the built form and internal layout of the hotel. This approach will result in an integrated design for all lots within the Proposal's boundary.

The Planning Proposal provides an opportunity for an improved public realm in this location. It is recommended that the lot to the north of the culvert (439 King Georges Road) is left open to deliver through-site link and open space per the panels request. This will need to be negotiated with the land owner in future.

KING GEORGES ROAD VIEW 1

KING GEORGES ROAD VIEW 2

DUMBLETON LANE VIEW



APPROVED GFA PLAN N.T.S

6.0 OVERSHADOW DIAGRAMS

MINIMISING OVERSHADOWING

The Record of Decision by the Strategic Planning Panel of the Sydney South Planning Panel requires that any future development controls for the subject area are to allow for compliance with the SEPP 65 Apartment Design Guide. This is to include overshadowing of neighbouring properties.

PROPOSED SHADOWS MID-WINTER

9.00 AM

12.00 PM

3.00 PM

7.1 ARCHITECTURAL REFERENCES - MIXED USE

Image 01: The Calile by Richards & Spence

Image 02: Fabric House by Durbach Block Jaggers Architects

Image 03: Richmond Quarter by SJB Architects

7.2 ARCHITECTURAL REFERENCES - BUILT FORM

Image 04: Wellington on the Park by Fox Johnston Architects

Image 05: Park Erskineville by WMK

Image 06: West End Residences by Turner Studios

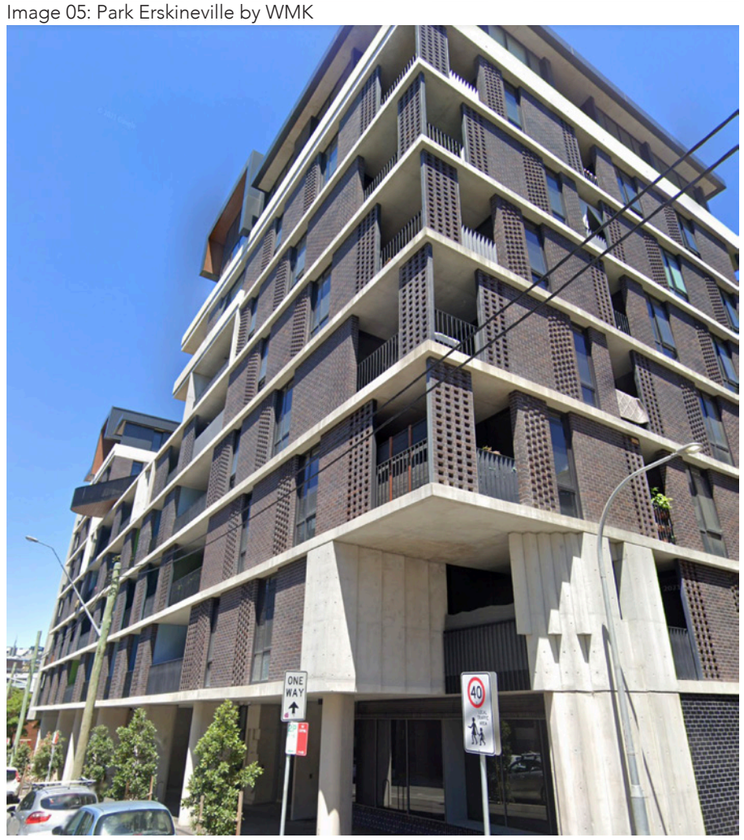


Image 07: Blackwattle Glebe by Turner Studio

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407-511 KING GEORGES ROAD, BEVERLY HILLS

TRANSPORT IMPACT ASSESSMENT

PREPARED FOR BEVERLY HILL OWNERS ASSOCIATION INCORPORATED
6 MAY 2024 | 300303680

Stantec

407-511 King Georges Road, Beverly Hills

Revision	Date	Description	Author	Quality Check	Approver
A	05/10/2022	Final	Connor Hoang	Mackenzie Brinums	Rhys Hazell
B	20/10/2022	Final	Connor Hoang	Mackenzie Brinums	Rhys Hazell
C	25/11/2022	Final	Connor Hoang	Mackenzie Brinums	Rhys Hazell
D	06/05/2024	Final – updated development schedule	Connor Hoang	Brett Maynard	Brett Maynard

The conclusions in the Report titled 407-511 King Georges Road, Beverly Hills are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Beverly Hill Owners Association Incorporated (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

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Reviewed by: 

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Approved by: 

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1 Introduction

1.1 Background

A Planning Proposal is to be lodged with Georges River Council (Council) on land at 407-511 King Georges Road to transform the site into a vibrant mixed-use centre. The Planning Proposal will facilitate a range of LEP amendments largely relating to FSR controls and height controls.

Beverly Hills Owners Association Incorporated engaged Stantec to prepare a transport impact assessment to accompany the Planning Proposal.

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the planning proposal, including consideration of the following:

- existing traffic conditions surrounding the site
- the traffic generating characteristics of the proposal
- suitability of the proposed access arrangements
- internal road network layout and design
- the transport impact of the proposal on the surrounding road network.

1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Georges River Council Development Control Plan 2021 (DCP 2021)
- Georges River Council Local Environmental Plan 2021 (LEP 2021)
- Relevant Australian Standard/ New Zealand Standard (AS/NZS 2890.1:2004, AS 2890.2:2018, AS/NZS 2890.6:2009)
- Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Planning Proposal Stage 1 – Preliminary Concept Design, March 2018
- Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Planning Proposal Urban Design Study, October 2022
- Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Urban Design Study, April 2024
- Beverly Hill Masterplan Transport & Accessibility Assessment, 24 January 2019, prepared by ptc.
- other documents and data as referenced in this report.

2 Existing Conditions

2.1 Site Location

The site is at 407-511 King Georges Road, Beverly Hills and occupies the land on the western side of King Georges Road between Stoney Creek Road to the south and the railway line to the north. It is also bounded by Dumbleton Lane to the west and forms part of Beverly Hills town centre.

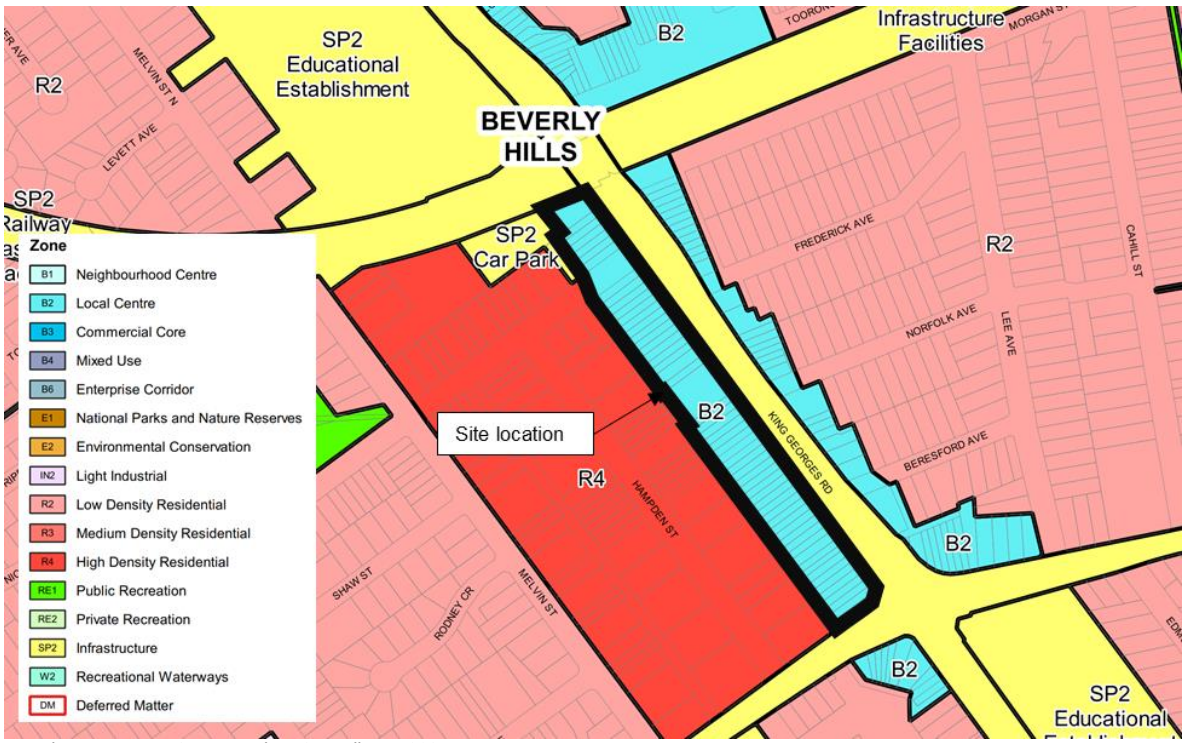
Beverly Hills town centre is approximately 16 kilometres southwest of Sydney CBD and eight kilometres west of Sydney airport. The site is currently occupied by various retail and commercial two-storey tenancies including restaurants, a cinema, bar/ pub, cafes, and other public facilities. Surrounding properties primarily consist of residential dwellings, commercial and retail businesses, and educational facilities. Beverly Hills Station is also located north of the site. The site is currently zoned B2 (Local Centre) and primarily includes a floor space ratio (FSR) of 2:1, with the exception of the northern lot (Lot 1 DP 533022) with an FSR of 1.5:1.

The site and surrounding environs are shown in Figure 1 and current land zoning map shown in Figure 2.

Figure 1: Subject site and surrounding environs

Base image source: Nearmap

Figure 2: Land zoning map



Base image source: Georges River Council LEP 2021

2.2 Transport Network

2.3 Road Hierarchy

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Transport for NSW (TfNSW) is responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993, and the regulation to manage the road system is stated in the Australian Road Rules.

TfNSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility to high accessibility and low mobility. These road classes are:

- Arterial Roads – Controlled by TfNSW, typically no limit in flow and designed to carry vehicles long distance between regional centres.
- Sub-Arterial Roads – Managed by either Council or TfNSW under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).

- Collector Roads – Provide connectivity between local sites and the sub-arterial road network, and typically carry between 2,000 and 10,000 vehicles per day.
- Local Roads – Provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

2.4 Surrounding Road Network

2.4.1 KING GEORGES ROAD

King Georges Road is a classified arterial road that is orientated in a north-south direction to the east of the site. It has three travel lanes in each direction separated by a three-metre-wide central median, set within an approximate 25-metre-wide carriageway. As of December 2019, restrictions were introduced extending the existing clearway from 6:00am to 7:00pm Monday to Friday and 9:00am to 6:00pm on weekends and public holidays. The clearway restrictions generally apply on both sides of King Georges Road along the frontage of the site except for a small section of the eastern side of the road between Morgan Street and Frederick Avenue where an idented parking lane is provided. Outside clearway hours, kerbside parking is permitted on King Georges Road.

King Georges Road corridor is a primary arterial road travelling through Beverly Hills town centre and would function as the main access route for the future development traffic. King Georges Road has a posted speed limit of 60 kilometres per hour, with a posted school zone active on school days along most of the site frontage.

King Georges Road is shown in Figure 3.

Figure 3: King Georges Road (looking south)

2.4.2 STONEY CREEK ROAD

Stoney Creek Road is a sub-arterial road orientated in an east-west direction south of the site. It generally provides two travel lanes in each direction set within a 14-metre-wide carriageway widening close to the King Georges Road signalised intersection. The same clearway restrictions as King

Georges Road apply east of King Georges Road with 6:00am to 10:00am and 3:00pm to 7:00pm Monday to Friday clearway restrictions in place to the west.

Stoney Creek Road has a posted speed limit of 60 kilometres per hour, with a school zone active on school days between Lee Avenue and Hampden Street, east of King Georges Road.

With Dumbleton Lane being one-way southbound, Stoney Creek Road would accommodate a significant proportion of vehicles when exiting the site. Stoney Creek Road is shown in Figure 4.

Figure 4: Stoney Creek Road (looking east)

2.4.3 DUMBLETON LANE

Dumbleton Lane is a local road orientated in a north-south direction along the western boundary of the site. It intersects with Edgbaston Road to the north and facilitates left turn movements onto Stoney Creek Road at the southern end. It is a one-way southbound road with an approximate five-metre-wide carriageway with a posted 50 kilometre per hour speed limit.

It provides rear access to all retail and commercial properties that make up the subject site. Kerbside parking is not permitted on either side of the road.

With the proposal indicatively including basement car park access via Dumbleton Lane, it would facilitate all vehicle access to and from the site. Dumbleton Lane is shown in Figure 5.

Rudduck Lane is also located mid-block and facilitates westbound only traffic from Dumbleton Lane. This allows for local area connections through to several local streets to the west, including Hampden Street, McCready Street and Melvin Street.

Figure 5: Dumbleton Lane (looking south)

2.4.4 EDGBASTON ROAD

Edgbaston Road is a local road aligned in an east-west direction intersecting with King Georges Road at its eastern end. It is a two-way road with one traffic lane and one parking lane in each direction set within a 12-metre-wide carriageway. Edgbaston Road has a posted speed limit of 50 kilometres per hour.

Right turns are banned from Edgbaston Road onto King Georges Road and with all other turning movements permitted, it would facilitate most traffic on approach to the site. This is further reinforced by Dumbleton Lane being one-way southbound.

2.5 Public Transport Network

The site is well-serviced by public transport services with bus stops located along the site frontage between Norfold Avenue and Frederick Avenue. Beverly Hills Railway Station is also located immediately north of the site. The surrounding public transport services are summarised in Table 1.

Table 1: Beverly Hills public transport network

Public Transport	Route	Description	Frequency (peak/ off peak)
Train	T8 – Airport & South Line	Macarthur to City via Airport or Sydenham	15 mins
Bus	450	Strathfield to Hurstville	15 mins/ 30 mins
	452	Beverly Hills to Rockdale	20 mins/ 30 mins
	493	Rockdale to Roselands	Limited services approx. 60 mins
	S14	Lakemba to Mount Lewis	2 services per day
	N20	City Town Hall to Riverwood via Airport (Night Service)	4 services per day

2.6 Active Transport Network

Footpaths are generally provided on both sides of all surrounding roads and combine to ensure adequate pedestrian facilities in this part of Beverley Hills town centre. Dumbleton Lane does not provide any footpaths due to the limited road reserve width.

There are formalised pedestrian crossings on all legs of the King Georges Road/ Stoney Creek Road intersection. Dedicated pedestrian bridges are also provided on the south and east approaches and ensure safe pedestrian movement, especially students walking to and from Beverly Hills Public School.

There is also a mid-block signalised pedestrian crossing along the site frontage and opposite Norfolk Avenue. Stairs and lifts are also provided on the King Georges Road rail overpass to facilitate pedestrian access to Beverley Hills station.

Cycling infrastructure is limited immediately surrounding the site, however the M5 South Western Motorway is located around 700 metres north of the site which includes shared paths on both sides of the road between King Georges Road and Bexley Road to the east.

The pedestrian facilities are summarised in Figure 6.

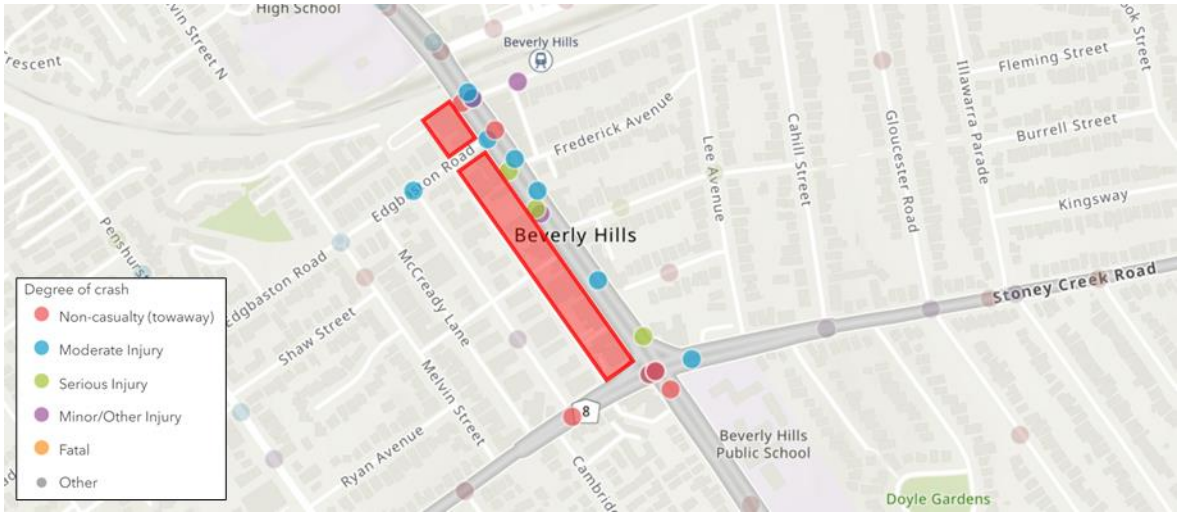
Figure 6: Existing formalised pedestrian crossings

Source: ptc. Beverly Hills Masterplan Transport & Accessibility Assessment, 24 January 2019

2.7 Crash History

An analysis has been undertaken of the most recent five-year period of available crash data between 2018 and 2022, accessed from the Transport for NSW Centre of Road Safety website. The locations and severity of the crash data for the five-year period is shown in Figure 7 and summarised in Table 2.

Figure 7: Reported crashes - 2018 to 2022



Base image source: Transport for NSW Centre for Road Safety

Table 2: Recorded crashes

Location	RUM code(s)	Number of crashes	Injuries
Morgan Street	30	1	2
King Georges Road/ Morgan Street	13 (2), 30 (3), 35, 39	7	6
Edgbaston Road	40	1	1
King Georges Road/ Edgbaston Road	29, 30	2	1
King Georges Road	3, 30 (2), 33, 34, 71	6	6
King Georges Road/ Stoney Creek Road	0, 30 (10), 34, 35, 84, 90	15	13
	Total	**32 crashes**	**29 injuries**

The relevant crash history information is summarised below:

- 32 crashes and 29 injuries were recorded during the five-year recording period.
- No fatalities were recorded during the reporting period.
- Only four of the incidents were serious in nature accounting for 13 per cent of crashes.
- Rear-end crashes were most common, with 17 incidents recorded accounting for about 53 per cent of crashes. Rear-end crashes are the most common type of crash that occur in metropolitan areas in NSW, particularly in more congested traffic conditions.

- The Stoney Creek Road and Morgan Street intersections with King Georges Road accounted for about 47 per cent of all incidents.

2.8 Recent Changes to Road Conditions

2.8.1 CLEARWAY RESTRICTIONS

On 2 December 2019, clearway restrictions were extended along King Georges Road through Beverly Hills from the M5 South Western Motorway to Stoney Creek Road. The previous clearway restrictions covered the typical 6:00am to 10:00am and 3:00pm to 7:00pm Monday to Friday periods. These have been extended cover 6:00am to 7:00pm (Monday to Friday) and 9:00am to 6:00pm (Saturday, Sunday and Public Holidays). This expands on the previously modified clearway restrictions north of the M5 South Western Motorway and south of Stoney Creek Road that were similarly extended.

The recent changes to clearway restrictions are shown in Figure 8.

Figure 8: Clearway restrictions on King Georges Road

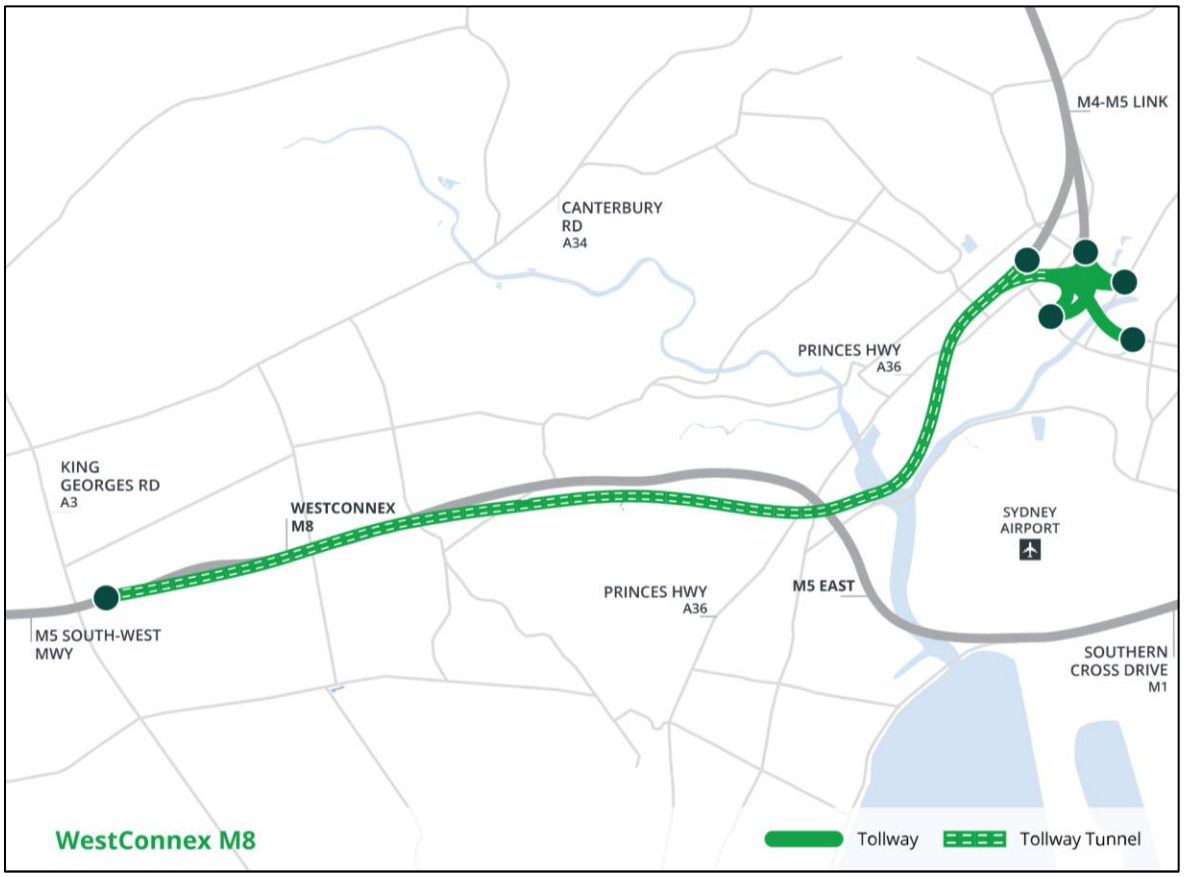
Source: roads-waterways.transport.nsw.gov.au/projects/, accessed May 2022

2.8.2 M8 MOTORWAY

The M8 Motorway connects Kingsgrove to St Peters via a nine-kilometre tunnel. Entry for eastbound traffic is via the King Georges Road Interchange, around 800 metres north of the site, with exit at the St Peters Interchange. The project was completed and opened to public use on 5 July 2020.

The M8 Motorway is shown in Figure 9.

Figure 9: M8 Motorway



Source: linkt.com.au/using-toll-roads/about-sydney-toll-roads/westconnex-m8, accessed May 2022

The opening of the M8 Motorway has changed travel behaviour in the local and regional area and assisted with alleviating demand for east-west roads near the site, particularly Stoney Creek Road. With the M8 Motorway providing a more direct and faster route to the east and various parts of the inner southern suburbs of Sydney this has alleviated some historical road network constraints.

Annual average daily traffic (AADT) has been sourced from the TfNSW Traffic Volume Viewer for the most recent six-year period on Stoney Creek Road, with a summary of the data provided in Table 3.

Table 3: Two-way traffic volumes on Stoney Creek Road

Year	Annual average daily traffic (two-way)	Difference from previous year
2017	36,253	
2018	36,291	+0.1%
2019	35,615	-1.9%
2020 (M8 opened July 2020)	34,554	-3.0%
2021	32,843	-5.0%
2022	27,873	-15.1%

The data indicates that there has been a general decline in traffic volumes on Stoney Creek Road since 2019. The AADT data for 2020 indicated a larger decrease of around three per cent from the previous year, much of which could be attributed to the COVID-19 pandemic. The 2021 data however indicates a further five per cent reduction in traffic volumes from 2020 despite lockdown restrictions either being eased or similar. The data for 2022 to date also shows a reduction of around 15 per cent from 2021. The increased rate of reduction in traffic volumes between 2020 and 2022 illustrates the benefits of the M8 Motorway in alleviating traffic congestion on the surface roads in the surrounding area. This trend is important in the context of the site and overall development potential.

3 Planning Proposal

The Planning Proposal relates to land at 407-511 King Georges Road, Beverly Hills, occupying a total site area of 16,291 square metres, and aims to rezone the site to increase the FSR and building heights.

The indicative Master Plan for the site indicates the site could accommodate up to 12,219 square metres of retail/ commercial gross floor area (GFA) and 44,800 square metres GFA of residential apartments (accommodating up to 560 units assuming an average apartment size of 80 square metres GFA) with the proposed planning controls.

The location of the site and broader Beverly Hills Town Centre area is shown in Figure 10.

Figure 10: Subject site and broader Beverly Hills Town Centre

Base image source: Beverly Hills Town Centre Planning Proposal Stage 1 – Preliminary Concept Design, March 2018

The subject site would indicatively be divided into several development lots (denoted as Lots 'A' to 'L', in Figure 11). The lot areas are detailed in Table 4. Each lot would typically provide ground floor retail and commercial premises with residential apartments on the upper levels located above two basement parking levels and loading facilities with access via Dumbleton Lane.

The indicative basement and ground floor site layouts for each lot are shown in Figure 12.

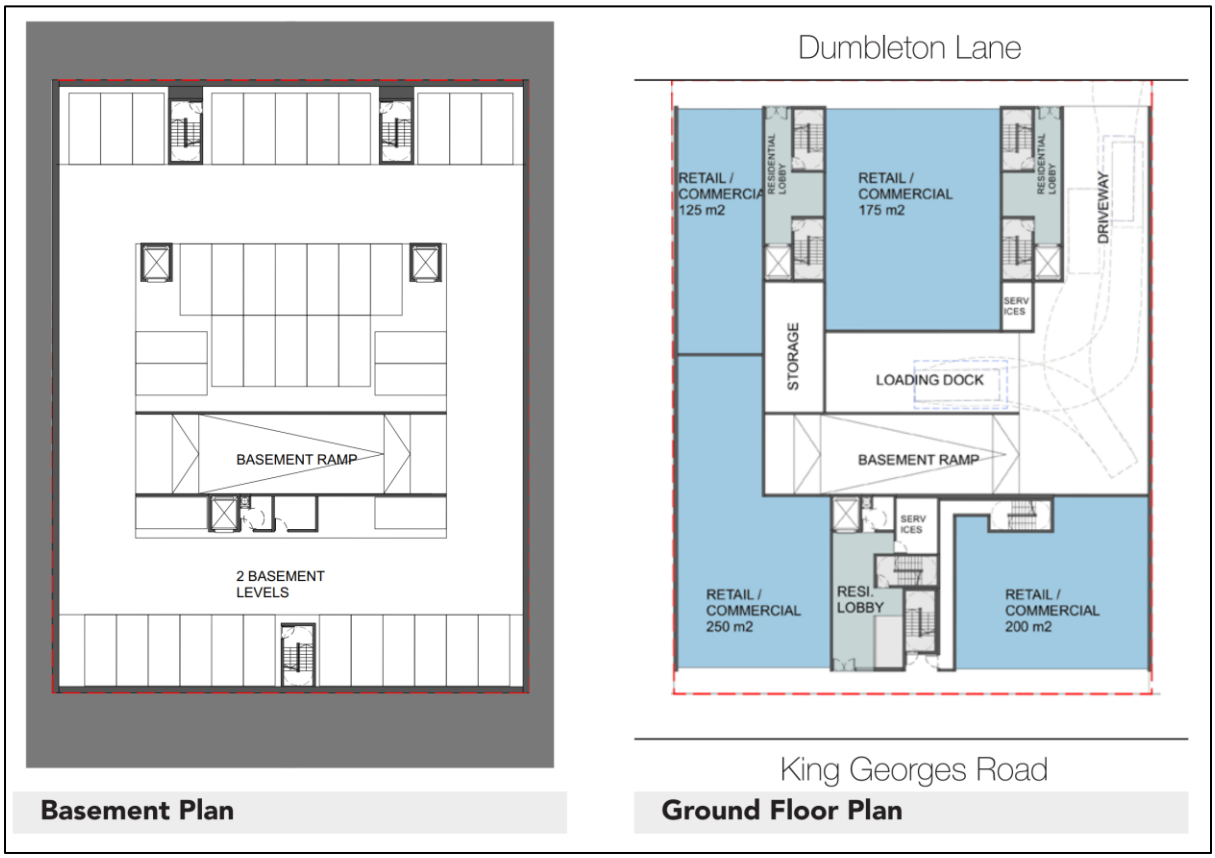
Figure 11: Indicative block analysis

Source: Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Planning Proposal Stage 1 – Preliminary Concept Design, March 2018

Table 4: Individual lot areas

Lot	Lot Area
A	1,688
B	1,052
C	1,506
D	1,675
E	1,695
F	1,694
G	1,456
H	868
I	1,407
J	887
K	1,576
L	787
Total	**16,291m^2**

Figure 12: Indicative basement and ground floor layout



Source: Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Planning Proposal Urban Design Study, October 2022

4 Parking and Loading Assessment

4.1 Car Parking Requirements

The car parking requirements for different development types are set out in Georges River Council DCP 2021. The following minimum parking rates apply to the proposed land uses for the site:

Retail/ Commercial

- 1 space per 60 square metres GFA.

Residential:

- 1 space per 1 and 2-bedroom apartments
- 2 spaces per 3 or more-bedroom apartments
- 1 visitor space per 5 apartments
- 1 car wash bay (can also be designated as a visitor space).

The residential parking requirements have been determined assuming the following:

- average apartment size of 80 square metres GFA (equating to 560 apartments based on a residential GFA of 44,800 square metres)
- apartment mix of 25 per cent one-bedroom, 50 per cent two-bedroom, and 25 per cent three-bedroom.

Table 5: Minimum car parking requirements for residential land uses

Use	Description	Size	Parking Rate	Parking Requirement
Residential	1-bedroom	140 units	1 space per unit	140
	2-bedroom	280 units	1 space per unit	280
	3-bedroom	140 units	2 spaces per unit	280
	Visitor	-	1 space per 5 units	112
Retail/ Commercial	-	12,219m^2 GFA	1 space per 60m^2 GFA	204
			Total	**1,016 spaces**

Table 5 indicates that the indicative yield would likely result in a minimum parking requirement of around 1,016 car parking spaces including 204 spaces for the retail/ commercial uses, 700 spaces for residents and 112 spaces for residential visitors. Further detail on the proposed car parking provision and allocation between the various uses would form part of future development applications.

4.2 Bicycle Parking

The bicycle parking requirements for different development types are set out in Georges River Council DCP 2021. The following minimum bicycle parking rates apply to the proposed land uses for the site:

Retail/ Commercial

- 1 space per 5 car parking spaces.

Residential:

- 1 space per 3 dwellings for residents
- 1 space per 10 dwellings for visitors.

Based on the indicative yield of 560 apartments and parking requirement for a minimum 204 retail/ commercial parking spaces, this generates a requirement of around 41 retail/ commercial bicycle spaces, 187 resident bicycle spaces and 56 residential visitor bicycle spaces. Further detail on proposed bicycle parking provision and allocation between the various uses would form part of future development applications.

4.3 Loading Requirements

Georges River Council DCP 2021 indicates the following loading requirements:

Retail/ Commercial

- Floor area >100 square metres to 500 square metres – 1 bay
- Floor area > 500 square metres to 1500 square metres – 2 bays.

Commercial:

- Floor area 1,000 square metres to 5,000 square metres – 1 bay
- Floor area > 5,000 square metres to 10,000 square metres – 2 bays.

Figure 12 indicates loading is proposed within the basement of each individual lot. Such details would be included as part of future development applications.

5 Transport Assessment

5.1 Traffic Generation

5.1.1 EXISTING ZONING

The existing site has a FSR of 2:1, apart from the 1.5:1 FSR attributed to the northernmost lot (denoted as Lot 'L' in Figure 13). Georges River LEP 2021 also specifies a minimum non-residential FSR component of 0.5:1.

Figure 13: Existing FSR controls

Base image source: Olsson & Associates Architects Pty Ltd Beverly Hills Town Centre Planning Proposal Stage 1 – Preliminary Concept Design, March 2018

Assuming that the site is developed to current maximum FSR controls it could potentially provide up to 8,149 square metres GFA of retail/ commercial uses and 24,047 square metres GFA of residential uses, or 301 apartments (assuming 80 square metres per apartment in line with the indicative proposed maximum yield). The potential site breakdown under existing planning controls is shown in Table 6.

Table 6: Potential yield under existing FSR controls

Lot	Lot Area	Retail/ Commercial	Residential	
			GFA	Apartments
A	1,689	845	2,534	32
B	1,052	526	1,578	20
C	1,506	753	2,259	28
D	1,675	838	2,513	31
E	1,695	848	2,543	32
F	1,694	847	2,541	32
G	1,456	728	2,184	27
H	868	434	1,302	16
I	1,407	704	2,111	26
J	887	444	1,331	17
K	1,576	788	2,364	30
L	787	394	787	10
Total	**16,292m^2**	**8,149m^2 GFA**	**24,047m^2 GFA**	**301 apartments**

Traffic generation rates for the potential uses and yield under existing FSR controls have been sourced from the Transport for NSW Guide to Traffic Generating Developments 2002 (the Guide) and Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a).

For the retail and commercial uses, the specialty retail rate of 4.6 vehicle trips per 100 square metres gross leasable floor area (GLFA) in the weekday PM peak hour has been conservatively assumed (noting that an appropriate reduction factor could be consider as part of any future development applications to reflect local walking trips between the town centre and surrounding local area residents, as well as linked trips between various land uses that make up the town centre). The traffic generation in the weekday AM peak hour has been assumed to be 50 per cent of the PM peak hour, reflecting the typically lower activity at this time.

For the residential uses, the typical 0.19 and 0.15 vehicle trips in the AM and PM peak hours have been adopted as recommended for high density residential apartments in TDT 2013/ 04a.

Considering the above, the potential traffic that could be generated by the site under the existing planning controls is summarised in Table 7.

Table 7: Potential traffic generation under existing planning controls

Use	Size	Traffic generation rate (vehicle trips per hour)		Traffic generation estimates (vehicle trips per hour)	
		AM	PM	AM	PM
Retail/ Commercial	8,149m^2 GFA 6,110m^2 GLFA [1]	2.3 per 100m^2 GFA [2]	4.6 per 100m^2 GFA	141	281
Residential	301 apartments	0.19 per apt	0.15 per apt	57	45
			Total	**198**	**326**

[1] GLFA assumed to be 75 per cent of GFA as suggested in the Guide 2002
[2] 50 per cent reduction factor applied in the AM peak hour.

Table 7 indicates that under existing planning controls, the site has the potential to generate 198 and 326 vehicle trips during the AM and PM peak hours respectively.

5.1.2 FUTURE GENERATION

Traffic generation estimates for the planning proposal have been assessed based on the maximum apartment yield and the same traffic generation rates as those used to assess the likely traffic generation under the existing planning controls. These are summarised in Table 8.

Table 8: Potential traffic generation under proposed planning controls

Use	Size	Traffic generation rate (vehicle trips/ hour)		Traffic generation rate (vehicle trips per hour)	
		AM	PM	AM	PM
Retail/ Commercial	12,219m^2 GFA 9,164m^2 GLFA [1]	2.3 per 100m^2 GLFA [2]	4.6 per 100m^2 GLFA	211	422
Residential	560 apartments	0.19 per apt	0.15 per apt	106	84
Total				**317**	**506**

[1] GLFA assumed to be 75 per cent of GFA as suggested in the Guide 2002
[2] 50 per cent reduction factor applied in the AM peak hour.

Table 8 indicates that under proposed planning controls, the site could generate 317 and 506 vehicle trips during the AM and PM peak hours respectively. Again, it is noted that the assumed retail/ commercial GFA is considered conservatively high and represents a maximum achievable GFA. In addition, the assessment does not account for any reduction factors to reflect linked trips between various land uses that make up the town centre (i.e., individuals making a single journey to more than one land use within the town centre which therefore accounts for one trip, as opposed to two individual trips to each land use by more than one person). As such, the associated vehicle trip estimates are also considered conservative and represent a 'worst-case' scenario.

5.1.3 SUMMARY

Considering the above, it is estimated that the indicative yield generated by the proposed planning controls could potentially result in a net increase in traffic generation of up to 119 and 180 vehicle trips during the AM and PM peak hours respectively compared to the existing planning controls for the site. This is summarised in Table 9.

Table 9: Estimated change in traffic generation as a result of proposed planning controls

Planning controls	Potential traffic generation estimate (vehicle trips per hour)	
	AM	PM
Existing planning controls	198	326
Proposed planning controls	317	506
Change in traffic generation	**+119**	**+180**

5.2 Traffic Distribution

As discussed, vehicle travel paths to and from the site are relatively limited on account of Dumbleton Lane allowing for one-way southbound only traffic and the left turn only on exit to Stoney Creek Road. Rudduck Lane is also one-way westbound from Dumbleton Lane. Given this, all vehicles would need

to enter Dumbleton Lane via Edgbaston Road at the northern end and either exit mid-block via Rudduck Lane or travel south for the length of the site to exit via Stoney Creek Road.

Those exiting the lots north of Rudduck Lane would be afforded other alternative routes when exiting the area to the west and avoid the need to travel through the King Georges Road/ Stoney Creek Road intersection.

Overall, with the split of arrival and departure vehicles between the various land uses, and accounting for the existing road network constraints, the weekday afternoon peak hour will see the most vehicle trips with up to about 170 vehicle trips likely to exit the site to Stoney Creek Road. This is based on a 50:50 split of retail/ commercial traffic and 80:20 split of residential traffic (dominant exit in the AM, entry in the PM) with 75 per cent estimated to exit via Stoney Creek Road and 25 per cent via Rudduck Lane. On these estimates, it represents an increase of about 60 vehicle trips per hour (or one to two vehicles per minute) over that likely under the existing controls.

The anticipated approach and departure routes are shown in Figure 14 and Figure 15.

Figure 14: Approach routes

Base image source Nearmap

Figure 15: Departure routes

Base image source Nearmap

5.3 Traffic Impact

It is anticipated that Stoney Creek Road, Edgbaston Road and Morgan Street intersections at King Georges Road would provide for the key entry and exit routes associated with the site. Specifically, most traffic would use the King Georges Road/ Edgbaston Road intersection on entry and the King Georges Road/ Stoney Creek Road intersection on exit.

Recent changes to clearway restrictions have also effectively provided an additional lane on King Georges Road for much of the day period. In this regard, an additional traffic lane could potentially provide capacity for up to an additional 1,400 vehicles per hour mid-block. The opening of the M8 Motorway has also returned some capacity on the surrounding road network by reducing demand for other east-west roads near the site, including Stoney Creek Road.

Overall, it is anticipated that the potential net increase in traffic generation generated by the site under the proposed planning controls from that estimated for the existing planning controls is expected to be manageable, particularly when considering likely resultant additional road capacity generated by the recent road infrastructure improvements.

Naturally, further detailed traffic modelling would be completed if and as required as part of any future development applications.

5.4 Infrastructure Improvements

Ongoing consultation with Council and TfNSW will be key to implementation of appropriate infrastructure improvements that could be delivered to support future development in line with this planning proposal. Potential improvements that could be implemented to support the precinct could include upgrades to footpaths particularly along the frontages of the study area, together with considering opportunities to improve the laneways amenity (such as Dumbleton Lane and Rudduck Lane) by way of formal shared zones. Such measures would improve pedestrian amenity, provide greater activation and improve the public domain generally along these frontages.

Other broader opportunities include potential improvements to the cycling connections to better link the Town Centre with existing cycling infrastructure, including those along the M5 Motorway. These potential active transport improvements would not only benefit the precinct, but also the residential catchment surrounding the site and have the potential to reduce the reliance on private vehicle travel, particularly for local trips.

As mentioned, recent changes to clearway restrictions and the opening of the M8 Motorway have likely increased road capacity on the immediate surrounding road network. Further detailed traffic modelling would be completed if and as required as part of any future development applications to assess the operation of the surrounding road network. Modelling would focus on arrival and departure routes to ensure appropriate traffic distribution throughout.

Any potential active transport or road infrastructure improvements identified through future consultation with Council and TfNSW could be funded via development contributions as part of future development applications if and as required.

6 Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

1. The planning proposal relates to land at 407-511 King Georges Road, Beverly Hills and proposes changes to the current planning controls to increase the FSR and building heights.

2. The indicative Master Plan for the site indicates the site could accommodate up to 12,219 square metres of retail/ commercial GFA and about 560 residential apartments with the proposed planning controls.

3. The indicative yield of the planning proposal would generate a parking requirement of around 1,016 parking spaces including 204 spaces for the retail/ commercial uses, 700 spaces for residents and 112 spaces for residential visitors. Further details on the proposed parking provision and allocation between the various uses would form part of future development applications for the site.

4. Under existing planning controls, the site has the potential to accommodate 8,149 square metres GFA of retail/ commercial uses and 24,047 square metres GFA of residential land uses (or around 301 apartments).

5. Considering this, development of the site under the existing planning controls could potentially generate up to 198 and 326 vehicle trips during the weekday AM and PM peak hours, respectively.

6. Under the proposed planning controls, the site could accommodate around 12,219 square metres GFA of retail/ commercial uses and 44,800 square metres GFA of residential uses (or about 560 apartments).

7. Considering this, development of the site under the proposed planning controls could potentially generate up to 317 and 506 vehicle trips during the weekday AM and PM peak hour, respectively.

8. Overall, it is estimated that the indicative yield generated by the proposed planning controls could potentially result in a net increase in traffic generation of up to 119 and 180 vehicle trips during the AM and PM peak hours when compared to the existing planning controls.

9. The assumed retail and commercial GFA is considered conservatively high and represents a maximum achievable GFA. This in-turn results in the associated vehicle trip estimates also being considered conservative and represent a worst-case scenario in terms of potential impacts. Appropriate reduction factors could be considered as part of any future development applications.

10. Given surrounding road network that includes one-way traffic flows on Dumbleton Lane and Rudduck Lane, and the left-out only movements to Stoney Creek Road, entry to the site would be via Edgbaston Road to the north with egress via Stoney Creek Road and Rudduck Lane.

11. Overall, it is anticipated that the potential net increase in traffic generation generated by the site under the proposed planning controls from that estimated for the existing planning controls is expected to be manageable, particularly when considering the road capacity returns afforded by

the road infrastructure improvements over recent years. This specifically includes changes to clearway conditions and the opening of the M8 Motorway.

Robert Bird Group

Preliminary Flooding Study for Planning Proposal

Beverley Hills Town Centre

Issue: P03

6 May 2024

Prepared For: Beverly Hills Owners Association Incorporated C/O Mecone

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Report Amendment Register

Issue Ref	Amended Section(s)	Issue / Amendment Details	Author(s)	Reviewer	Date
1	All	Issued for Information	Charlene Huang	Colin Rope	12/07/22
P02	All	Issued for Information	Charlene Huang	Colin Rope	20/12/22
P03	All	Issued for Information	Chris Waite	Chris Waite	06/05/24

REVISION/ISSUE AUTHOR:

Chris Waite
Signing for and on behalf of
Robert Bird Group Pty Ltd
Date: 06 May 2024

Executive Summary

Robert Bird Group (RBG) have been engaged by Beverly Hills Owners Association Incorporated c/o Mecone to undertake a preliminary flood study to inform the reference scheme associated with a Planning Proposal of a proposed development site at Beverley Hills Town Centre.

The purpose of this report is to identify and discuss existing flooding conditions, design requirements and opportunities for flood immunity as well as the implications in the context of the development proposal and masterplan design.

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1 Introduction

Robert Bird Group (RBG) have been engaged by Beverly Hills Owners Association Incorporated c/o Mecone to undertake a preliminary flood study to inform the reference scheme associated with a Planning Proposal of a proposed development site at Beverley Hills Town Centre, (the subject site), see Figure 1-1 below.

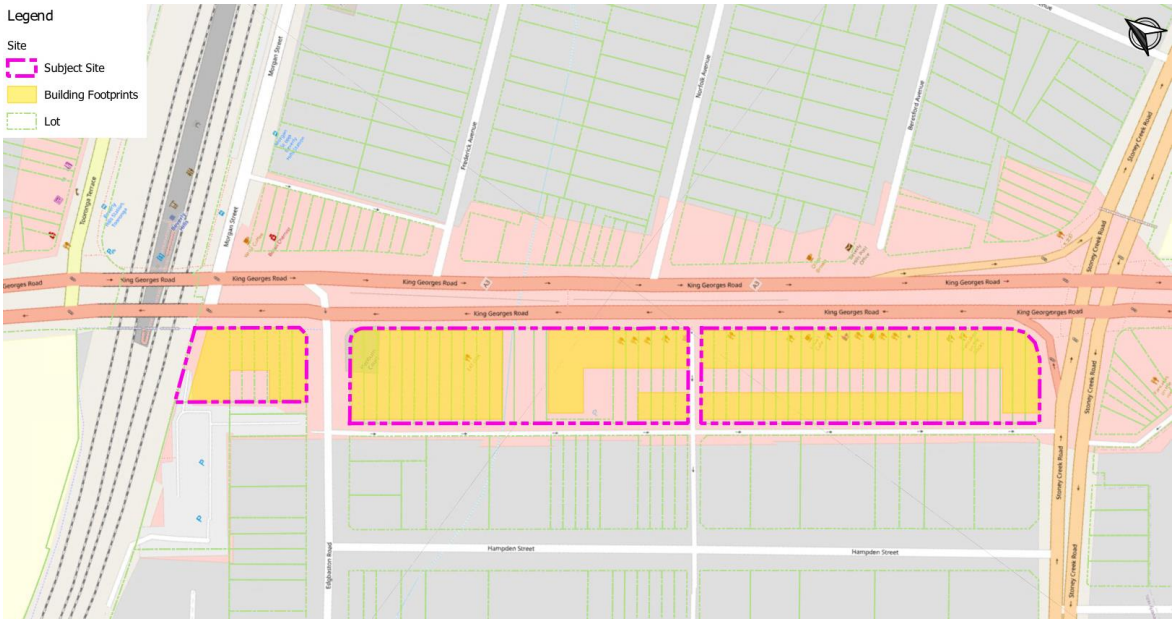


Figure 1-1 Site Locality – Beverly Hills Town Centre

This Planning Proposal will be submitted to the Georges River Council to request amendments to the Georges River Local Environmental Plan (GRLEP) 2021 for land at the subject site. The purpose of this Planning Proposal is to introduce a maximum floor space (FSR) control for the site and amend the height limit on the site for a proposed residential development.

1.1 Subject Site

The site is currently bound by King Georges Road to east, Stoney Creek Road to south, Dumbleton Lane to west and Beverley Hills Railway Station to north.

The existing site is falling from the west of Dumbleton Lane to the east of King Georges Road at approximate 0.5%. Figure 1-2 below has shown the existing site elevations.

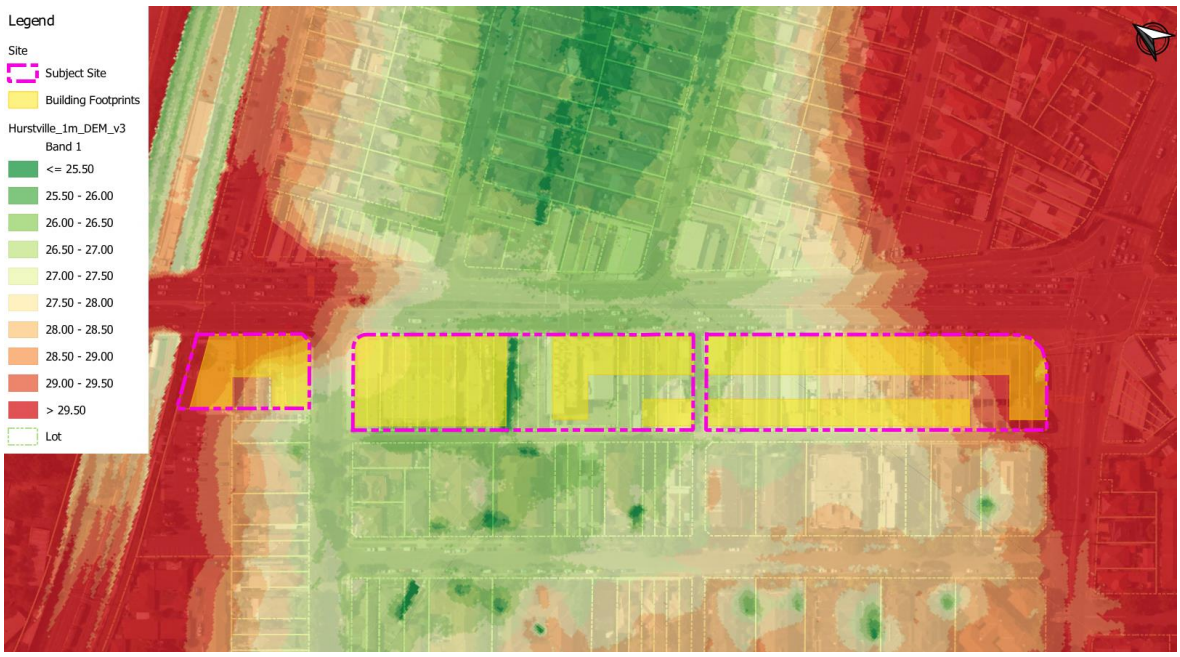


Figure 1-2 Existing Site Elevation Plan (source: NSW Spatial Services)

1.2 Concept Reference Design

A masterplan design has been developed as part of the planning proposal to demonstrate that the proposed building envelope is capable of accommodating a viable scheme.

The masterplan design is indicative only and the final detailed design will be the subject of a competitive design process and detailed development application (DA) which will ultimately result in further refinement. The latest masterplan design is shown in Figure 1-3 below.

Is it noted in the proposal that the Residential Flat Building (RFB) be an Additional Permitted Use (APU) at the rear of the site adjoining Dumbleton Lane and that the APU should extend for 26m from Dumbleton Lane. The remainder of the site will only permit dwellings as shop-top housing.

It is proposed that a maximum height of building (HOB) for 423-505 King Georges road of part 12m (for 26m from Dumbleton Lane) and part 24.1m for remainder of these lots; and the corner ‘gateway’ lots, being 407-421 and 507-511 King Georges Road, of part 12m (for 14m from the western boundary) and part 31.4m for the remainder of these lots a maximum floor space ratio (FSR) of 3.5:1, including a Non-Residential FSR of 0.75:1.

It is noted that further testing to prove whether the FSR can be accommodated within the proposed HOB. The maximum HOB and FSR can only be achieved if; A minimum side width of 20m to King Georges Road Increased width of Dumbleton Lane to 3m, and activation of parts of the lane with non-residential uses at ground level. 439 King Georges Road being investigated for future open space (subject to drainage infrastructure upgrades)

Figure 1-3 Proposed Masterplan

1.3 Purpose of Report

The purpose of this report is to identify and discuss existing flooding conditions, design requirements and opportunities for flood immunity as well as the implications in the context of the development proposal and masterplan design.

As the planning submission does not seek consent for the specific development, a detailed quantitative assessment of the Masterplan Design is not considered to be warranted at this stage.

2 Existing Drainage Infrastructure

There is an existing Sydney Water concrete channel of 4039mm x 1600mm running across the site as shown below, which is acting as a major overland flow structure and a tributary of Wolli Creek.

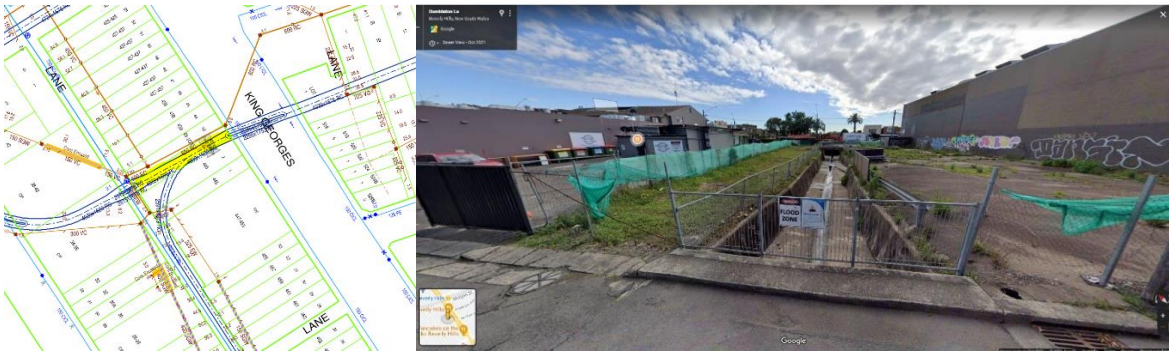


Figure 2-1 Existing Sydney Water Concrete Channel
(source: NSW Spatial Services)

This preliminary flood study for a design scenario to retain the existing concrete channel in an open area that can be featured in the landscaping design.

3 Flood Planning Requirements

In Georges River Council's Stormwater Management Policy April 2021, flood planning controls for floor levels are specified below.

1. Non-habitable floor levels should be no lower than 300mm above the 1% AEP (annual exceedance probability) flood level.

2. All habitable floor levels to be equal to or greater than the 1% AEP flood level plus freeboard.

3. All floor levels to be equal to or greater than the PMF level plus freeboard.

4. All floor levels to be equal to or greater than the 5% AEP (1 in 20 year) flood level plus freeboard.

5. All floor levels to be equal to or greater than the 1% AEP flood level plus freeboard. Where this is not practical due to compatibility with the height of adjacent buildings, or with the floor level of existing buildings, or the need for access by persons with disabilities, a lower floor level may be considered. In these circumstances, the floor level is to be as high as practical. When undertaking alterations or additions, the floor level is to be no lower than the existing floor level. However in all cases, any storage of dangerous goods, plant etc. is to be above the 100-year flood level plus freeboard.

6. If a qualified stormwater engineer provides evidence to the satisfaction of Council's development engineers that in the 1% AEP flood the maximum depth of flooding does not exceed 150mm, and the hydraulic hazard determined in accordance with Figure 1 is low:

   (i). Habitable floor levels are to be equal to or greater than the 1% AEP flood level plus 300mm freeboard; and

   (ii). Non-habitable floor levels should be no lower than 150mm above the 1% AEP flood level.

Building Components

1. All structures to have flood compatible building components below the 1% AEP flood level plus freeboard.

2. All structures to have flood compatible building components below the PMF.

Structural Soundness

1. Applicant to demonstrate that the structure can withstand the forces of floodwater, debris, and buoyancy up to and including a 1% AEP flood plus freeboard, or up to the probable maximum flood (PMF) if required to satisfy the evacuation requirement (see below); an engineer's report may be required.

2. Applicant to demonstrate that the structure can withstand the forces of floodwater, debris, and buoyancy up to and including a 1% AEP flood plus freeboard. An engineer's report may be required.

3. Engineer's report is required to certify that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus freeboard.

4. Engineer's report is required to certify that the structure can withstand the forces of floodwater, debris and buoyancy up to and including a 1% AEP flood plus freeboard, or up to the PMF if required to satisfy the evacuation requirement (see below).

5. Engineer's report is required to certify that the structure can withstand the forces of floodwater, debris and buoyancy up to and including the PMF

4 Preliminary Flood Study

4.1 Existing Council's Flood Model

In order to assess the flooding impacts of the proposed development, a 2-dimensional flood model has been developed in this flood study using the latest existing TUFLOW model prepared by WMA Water with Georges River Council's authorisation for the sole purpose of analysis of the flooding impact for this site.

It is understood that this existing TUFLOW model is still being finalised by WMA Water prior to the handover stage to Georges River Council. RBG take not responsibility to identify or verify any discrepancies between the Overland Flow Flood Study for Hurstville, Mortdale and Peakhurst Wards 2016 prepared by SMEC and the latest existing flood model prepared by WMA Water as received.

As part of this preliminary flood study, the latest existing TUFLOW model prepared by WMA Water has been rerun as the baseline scenario for the flood impact study of the proposed development. RBG take no responsibility to validate the existing model.

4.2 Hydrological Data

The critical storm durations have been identified below as part of the existing TUFLOW model provided by WMA Water, see Table 4-1 below.
Table 4-1 Critical Storm Durations

Design Storms	Critical Storm Duration
1% AEP	2 hours
PMF	30 minutes

4.3 Hydraulic Roughness

Different land uses have been assigned different hydraulic roughness values in the existing TUFLOW model. The hydraulic roughness is measured using the Manning's 'n' value (dimensionless constant) as follows:

Table 4-2 Manning Coefficients

Design Storms	Manning Coefficient
Buildings	0.95
Roads	0.8
Trees Urban	0.3
Water	1
Grass Urban	0.3
Shrubs Urban	0.3
Concrete	0.95
Trees	0
Grass	0
Shrubs/Long Grass	0
Trees Industrial	0.95
Grass Industrial	0.95
Shrubs Industrial	0.95

In the proposed development model, the proposed building landscaping and driveways at ground level have been assigned the same 'n' values as above.

4.4 Site Topography

The existing case flood models utilise topography from 1m LIDAR survey. The buildings have also been modelled with a raise of blockage wall with minimum height of 2.4m at the upstream side of the buildings. This allows the model to force flowing water to find a flow path around the buildings.

The same modelling principal for proposed buildings have been used in the proposed development models to ensure consistency and allow results to be compared directly. The proposed building footprints have been shown as the yellow areas in Figure 1-1 above.

4.5 Results and Analysis

Outputs from the TUFLOW model are provided in Appendix A for each of the existing and design scenarios for both the 100 Year ARI and PMF flood events. The outputs show graphically:

- Peak Flood Height (H)
- Peak Flood Depth (D)
- Peak Flood Velocity (V)
- Maximum DxV (measure of flood hazard); and
- Afflux (difference in maximum flood depth between developed and existing state)

The flood hazard is determined by the product of the maximum depth and velocity of flow. Within properties and pedestrian areas within road reserves, the maximum DxV product for safety of children and vehicles is 0.4 m^2/s.

4.6 Flood Impact Assessment

A number of locations around the subject site have been selected as shown in Figure 4-1 below to compare the peak flood level difference to assess the flood impact from the proposed development.

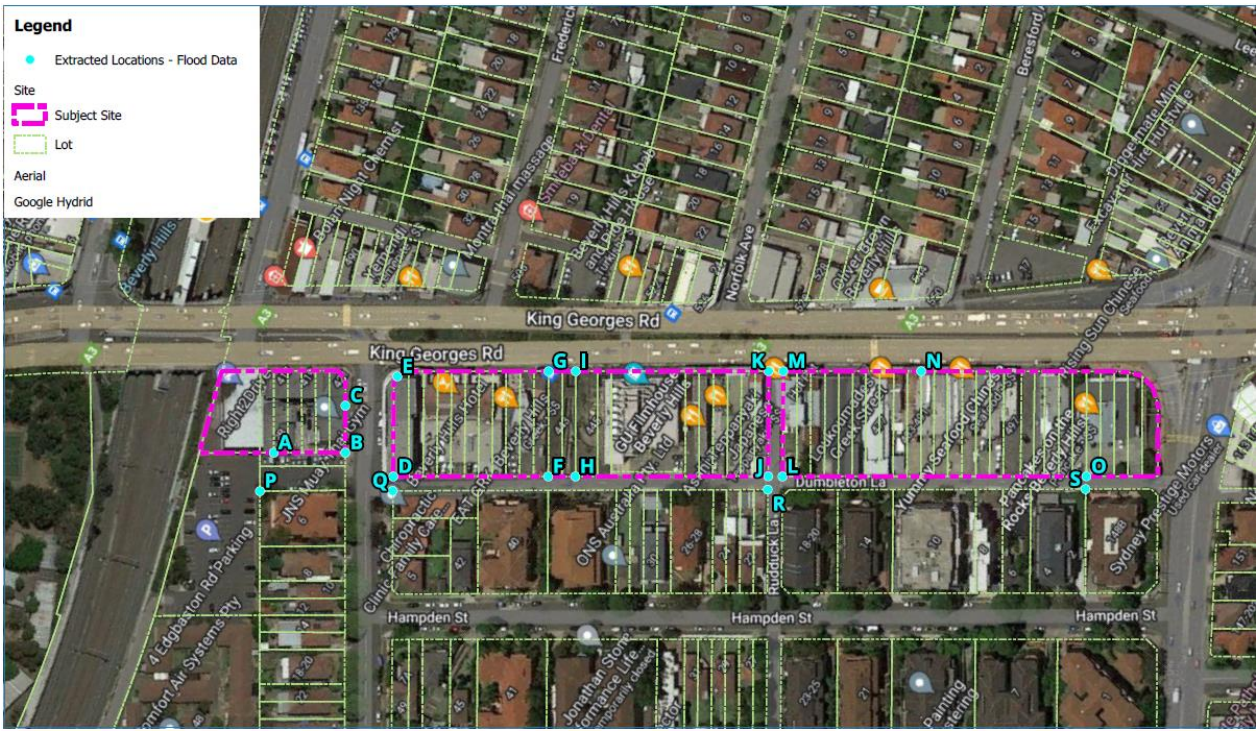


Figure 4-1 Selected Locations for Flood Impact Assessment Study

Table 4-3 below has summarised the difference of the peak flood levels, i.e. post minus pre-development peak flood levels. It has shown that the proposed development will have minor flood impact for a maximum flood level increase of 0.11m at these selected locations.

Table 4-3 Extracted Peak Flood Levels at Selected Locations (Ref. Figure 4-1)

Locations	1% AEP Maximum Flood Levels (m)			PMF Maximum Flood Levels (m)		
	Pre	Post	Difference	Pre	Post	Difference
A				29.053	29.133	0.080
B				29.053	29.074	0.021
C				29.056	28.954	-0.102
D				29.052	29.137	0.085
E				28.395	28.452	0.057
F	26.802	26.798	-0.004	28.706	28.615	-0.091
G				27.885	27.848	-0.037
H	26.797	26.789	-0.008	28.688	28.462	-0.226
I	26.365	26.371	0.006	27.744	27.81	0.066
J	27.179	27.188	0.009	28.908	29.016	0.108
K				28.002	27.974	-0.028
L	27.234	27.287	0.053	28.906	28.974	0.068
M				28.033	27.994	-0.039
N				28.063	28.011	-0.052
O				29.152	29.221	0.069
P				29.054	29.133	0.079

Q	26.806	26.823	0.017	29.021	29.104	0.083
R	27.159	27.194	0.035	28.906	29.012	0.106
S				29.165	29.221	0.056

More details of the flood impact assessment can be found in the Afflux flood maps in Appendix A, which represent the difference of the peak flood levels from post minus pre-development.

5 Conclusion and Recommendations

This Report outlines the flood modelling exercise undertaken by RBG to assess the Flooding impact of the proposed development of Beverley Hills Town Centre in the 100 Year and PMF critical storms.

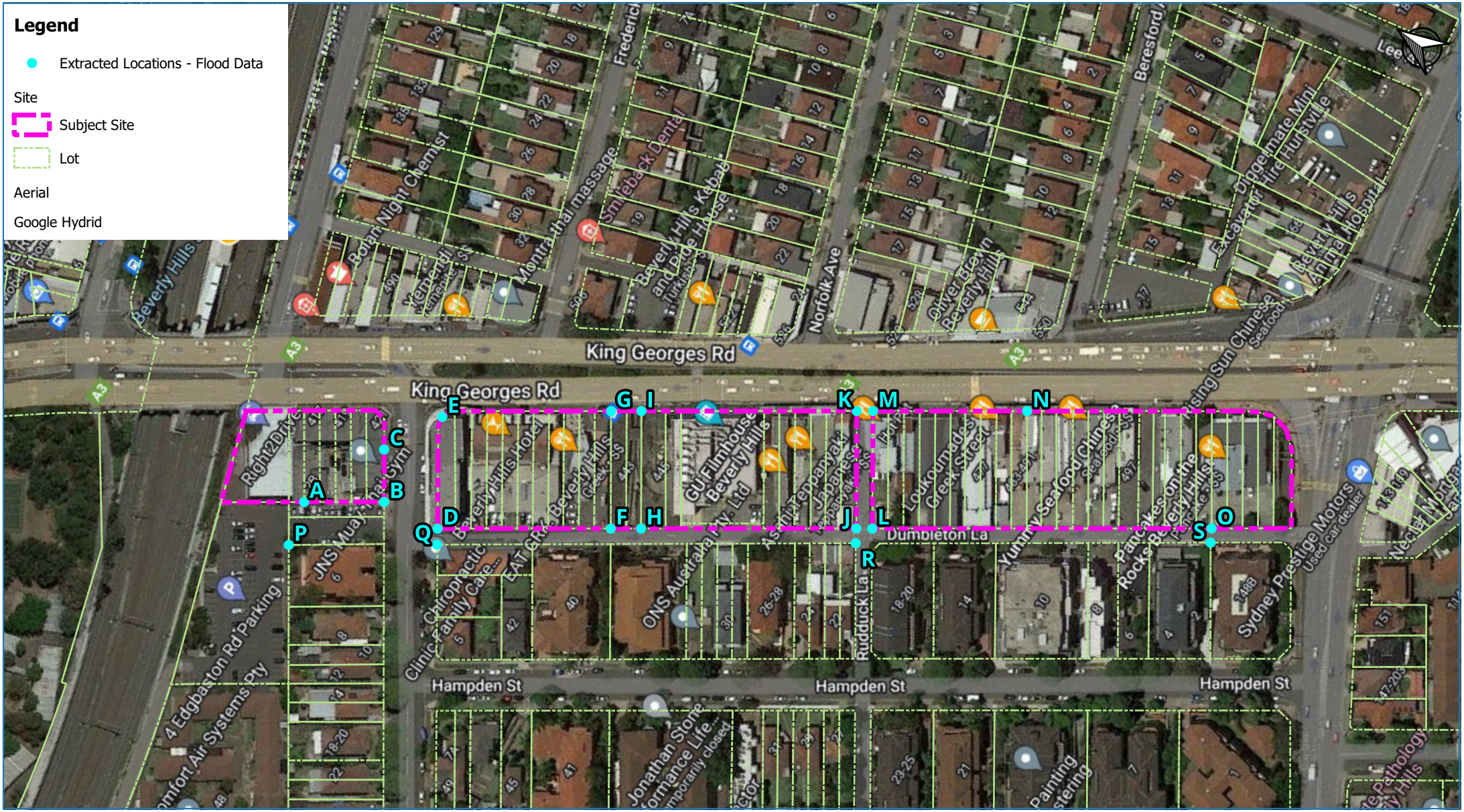
The model outputs have shown that the proposed development will have minor effect on the flooding risk of the surrounding areas. This is driven by the current building forms of blocking the width of the existing overland flow path from Dumbleton Lane to King Georges Road.

RBG recommend the building forms for proposed development should be refined to feature open landscaping space between individual buildings and thus retain the existing overland flow path capacity and minimise the flood impact, which can be dealt with in further details during the Development Application stage.

APPENDICES

Appendix A Flood Maps

Appendix A Flood Maps



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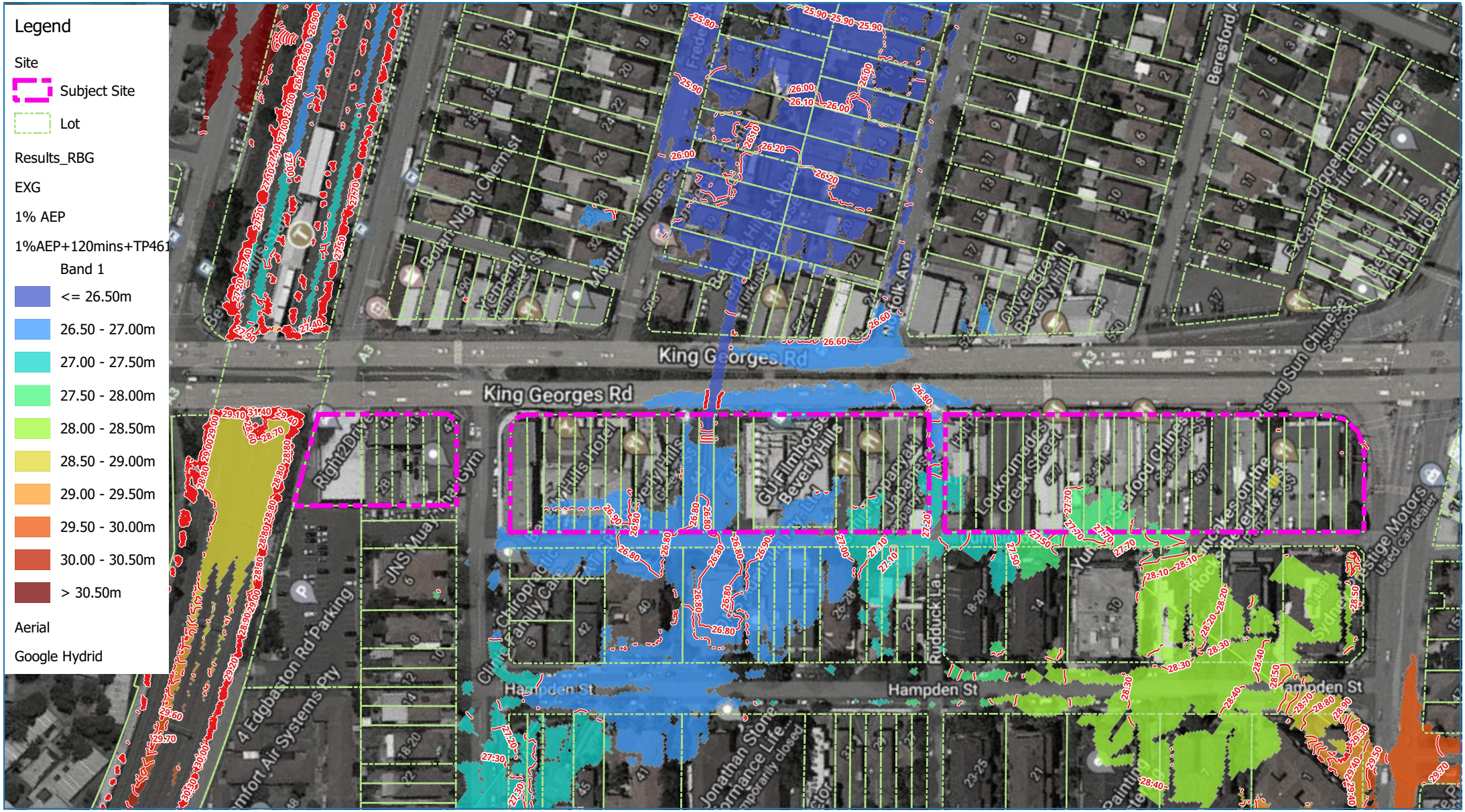
STORM EVENT:					
HYDRAULIC MODEL:					

CONSULTANT:

Robert Bird Group
Member of the Surbana Jurong Group

CLIENT:

Beverly Hills Owners Association Incorporated c/o Mecone



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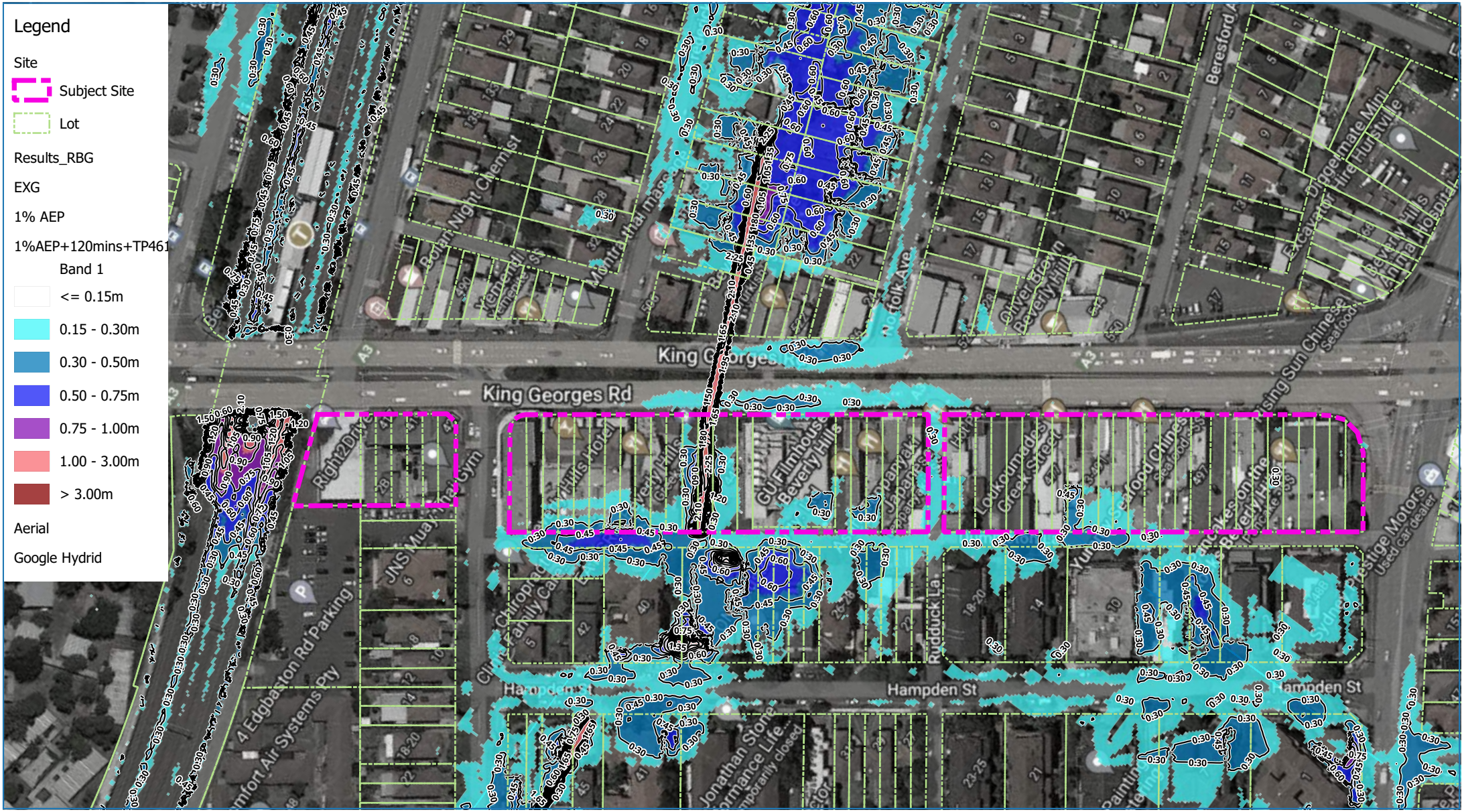

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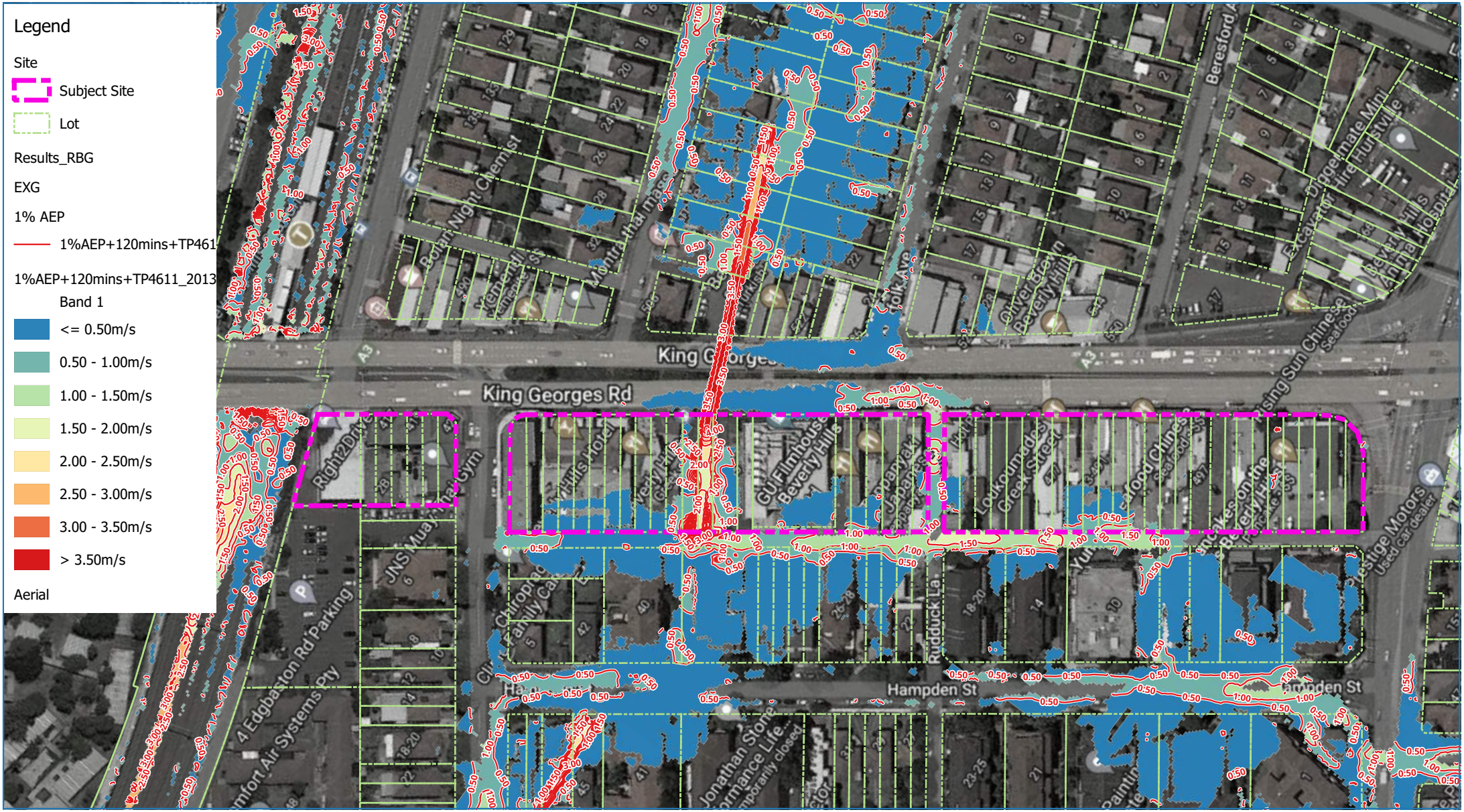

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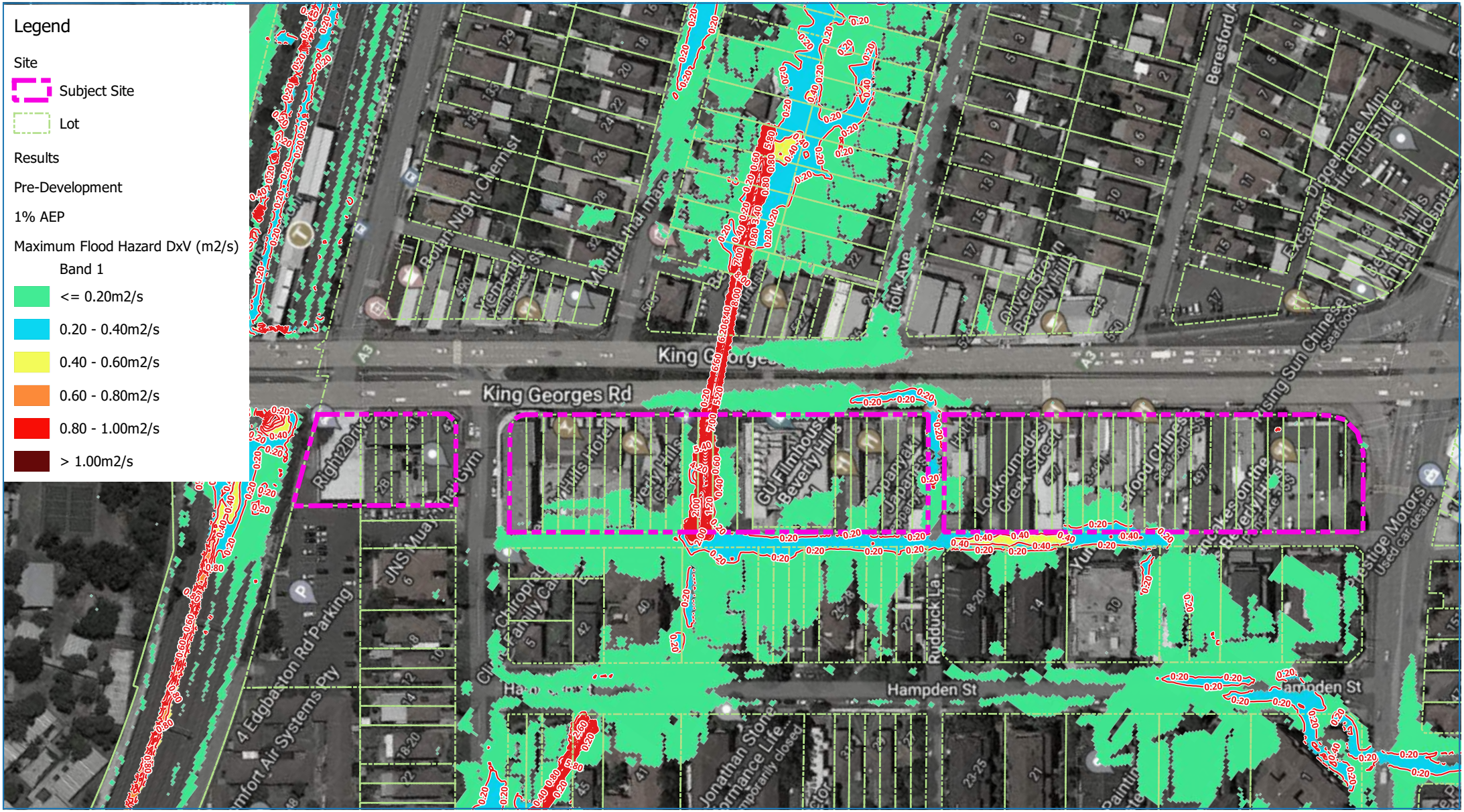

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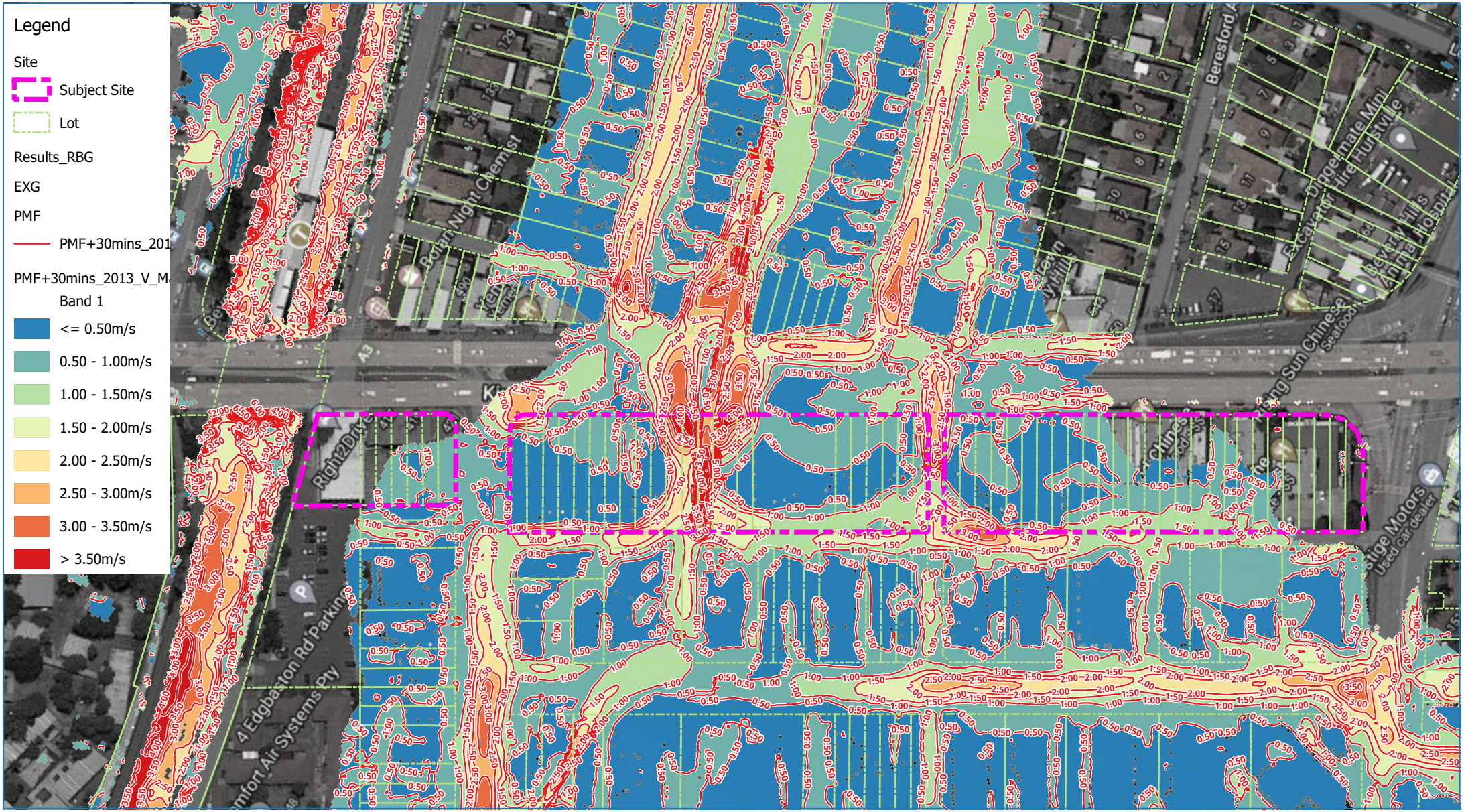

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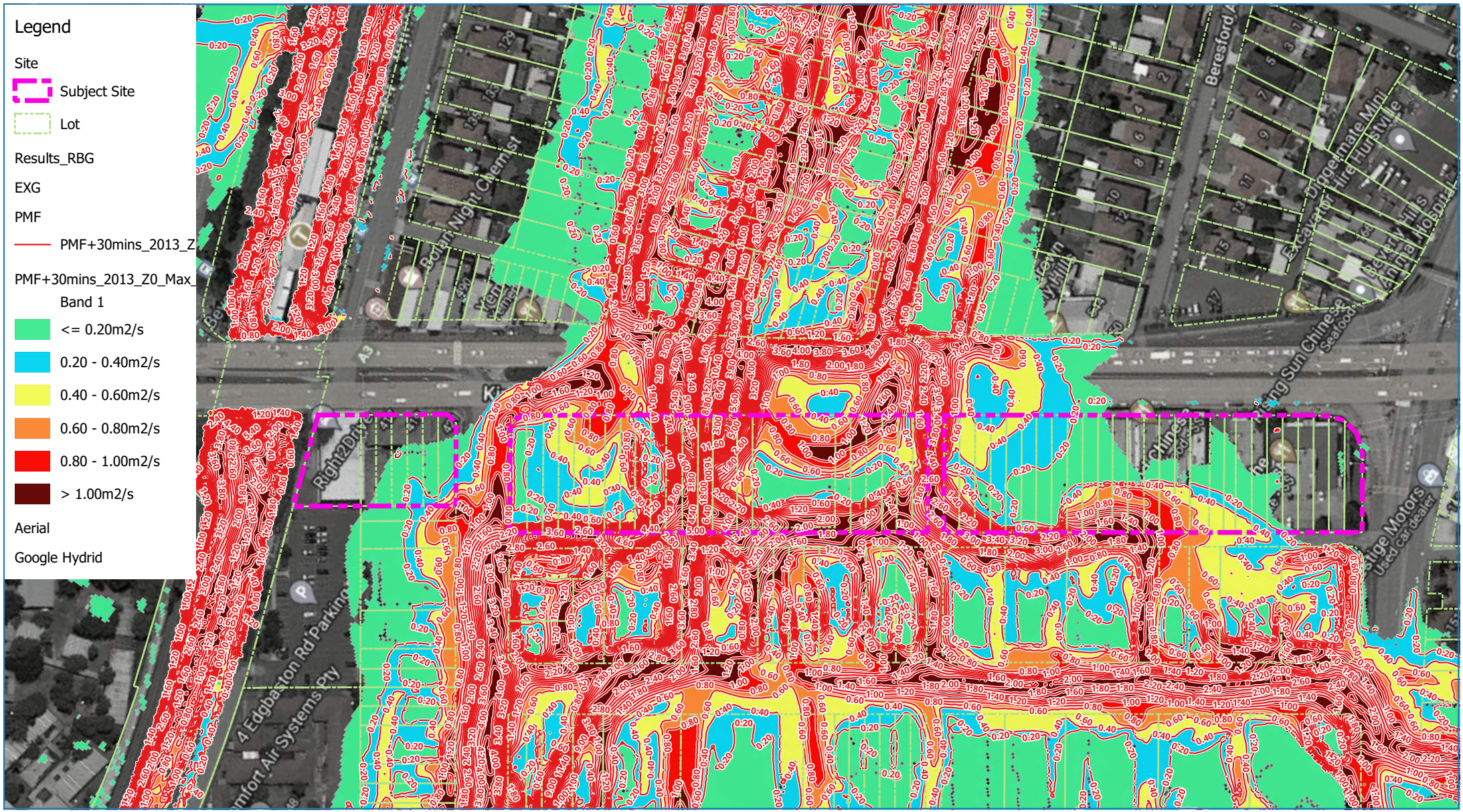

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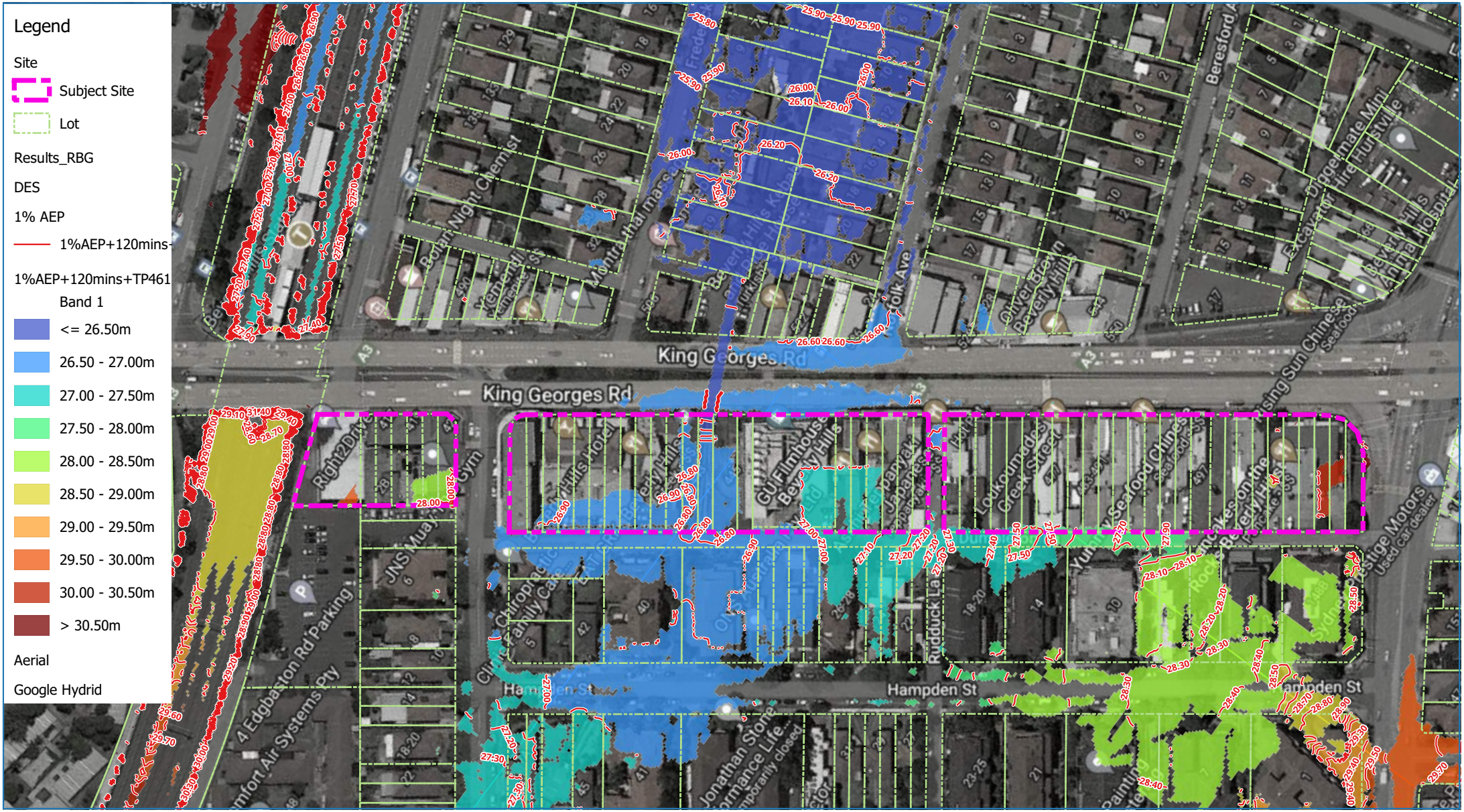

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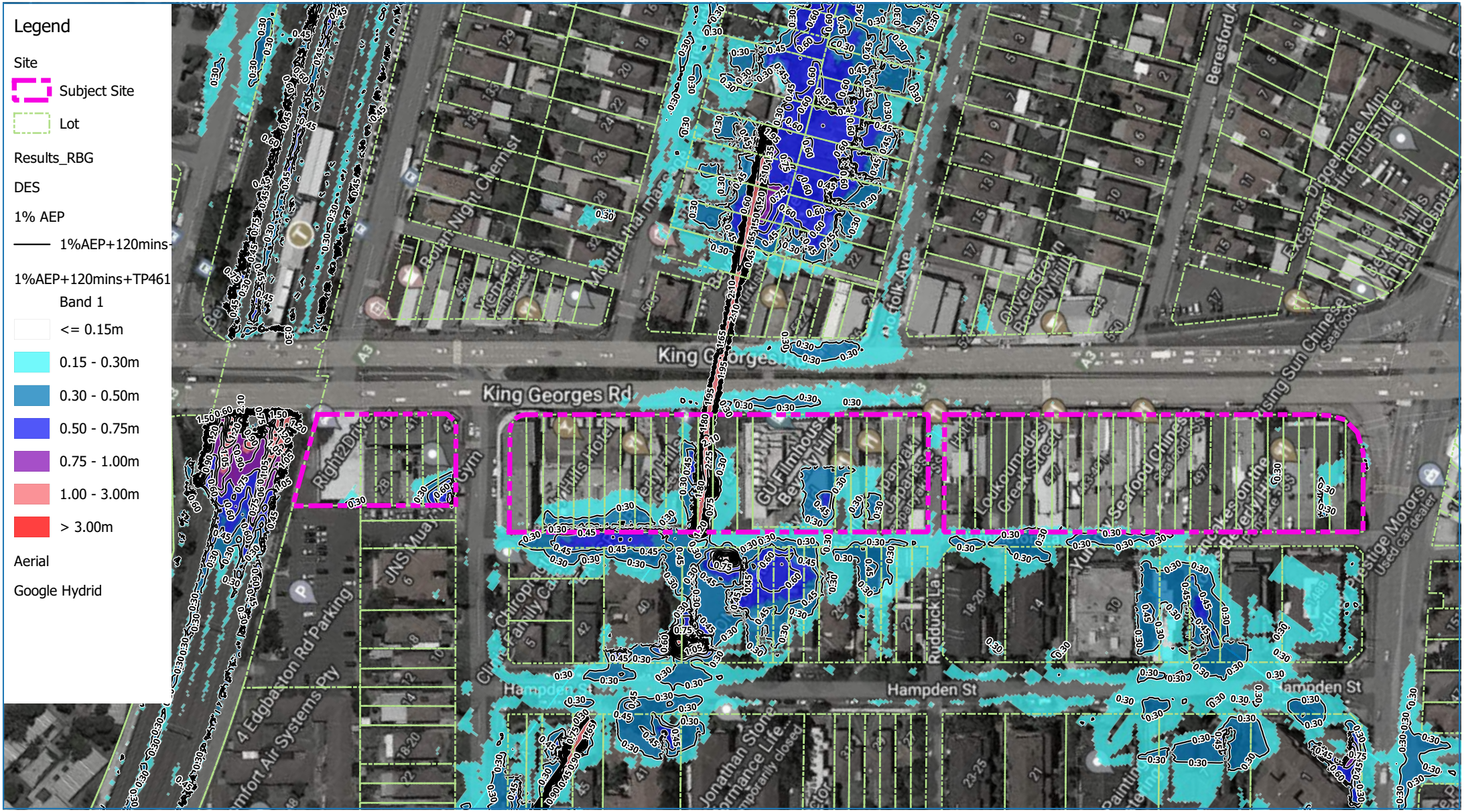

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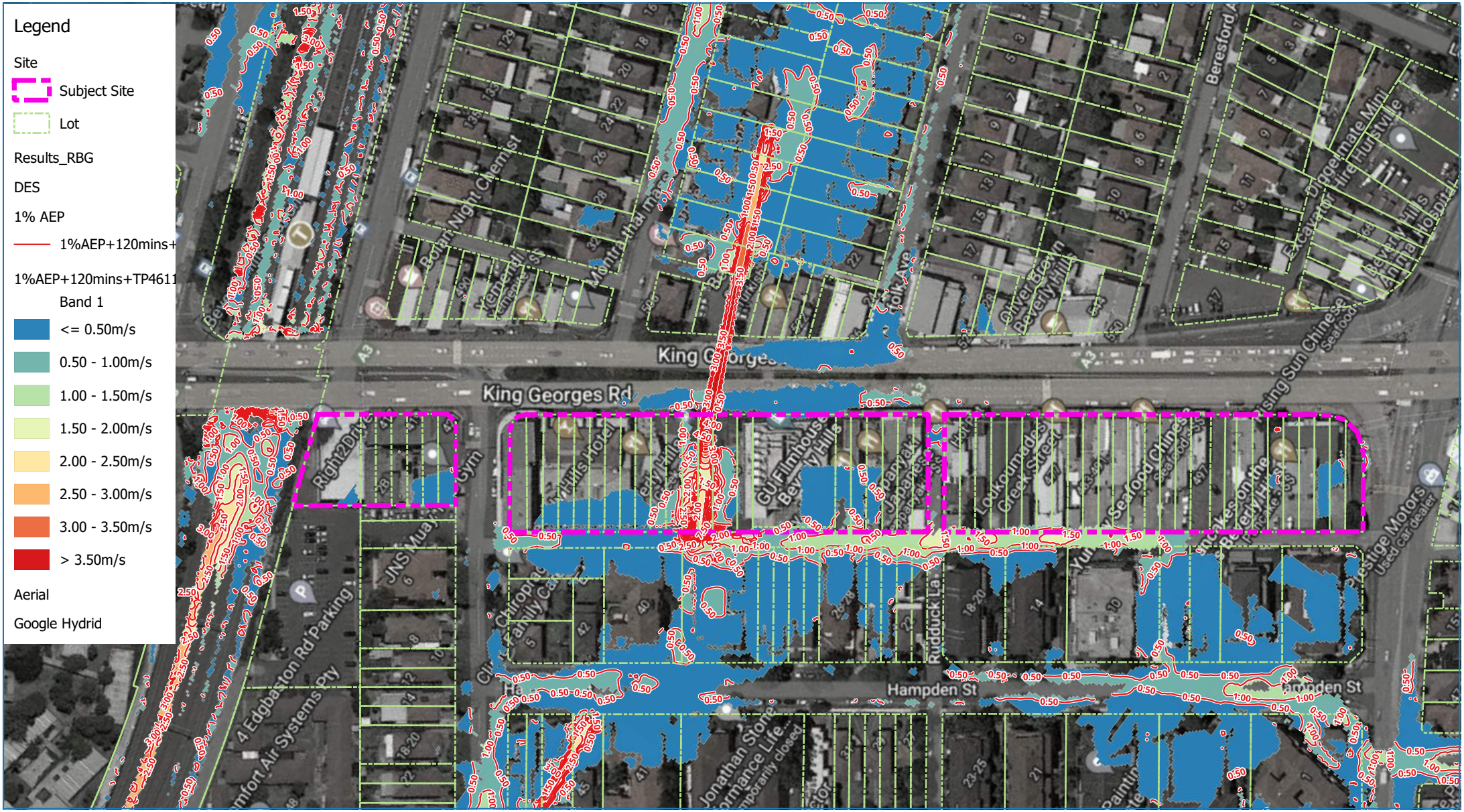

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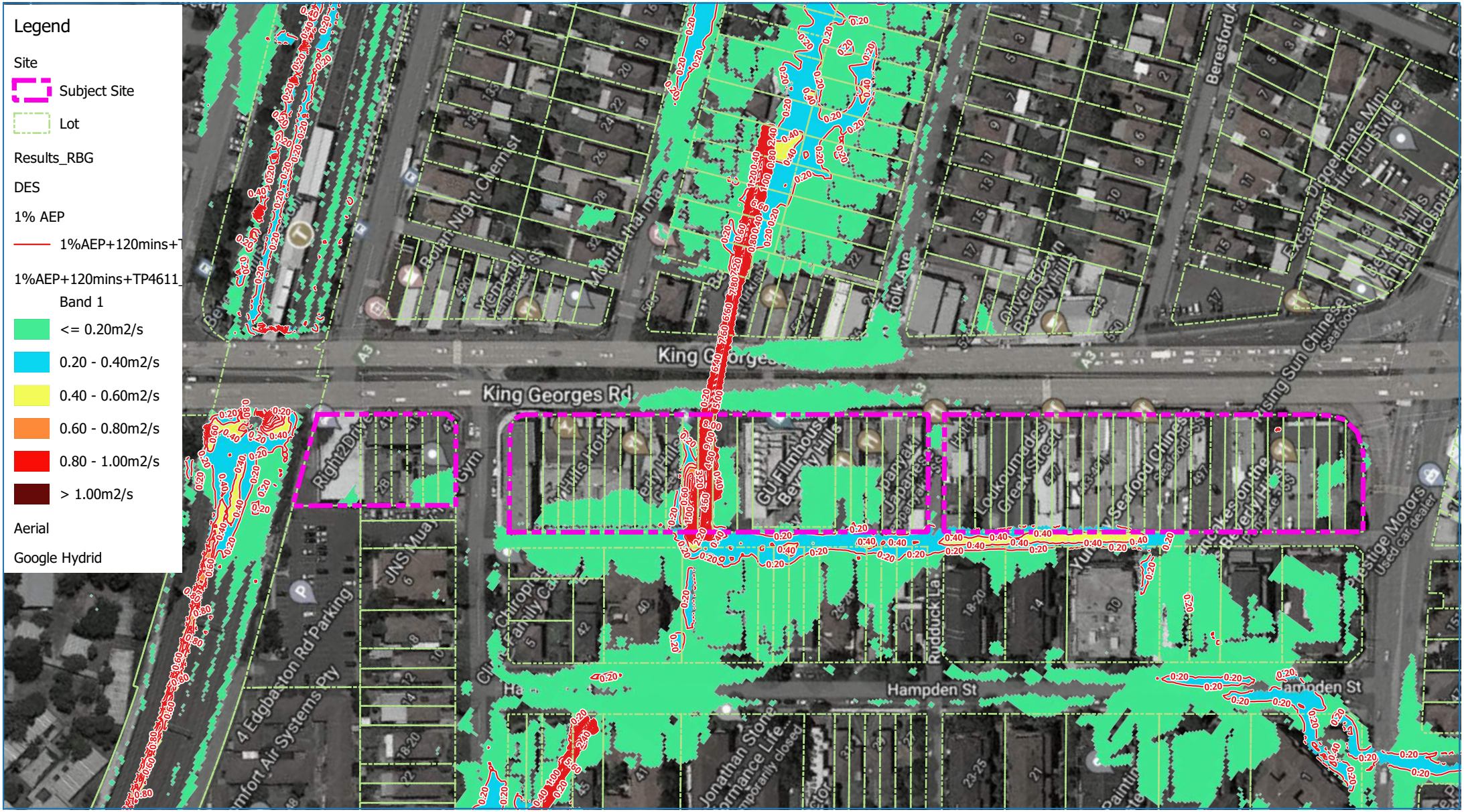

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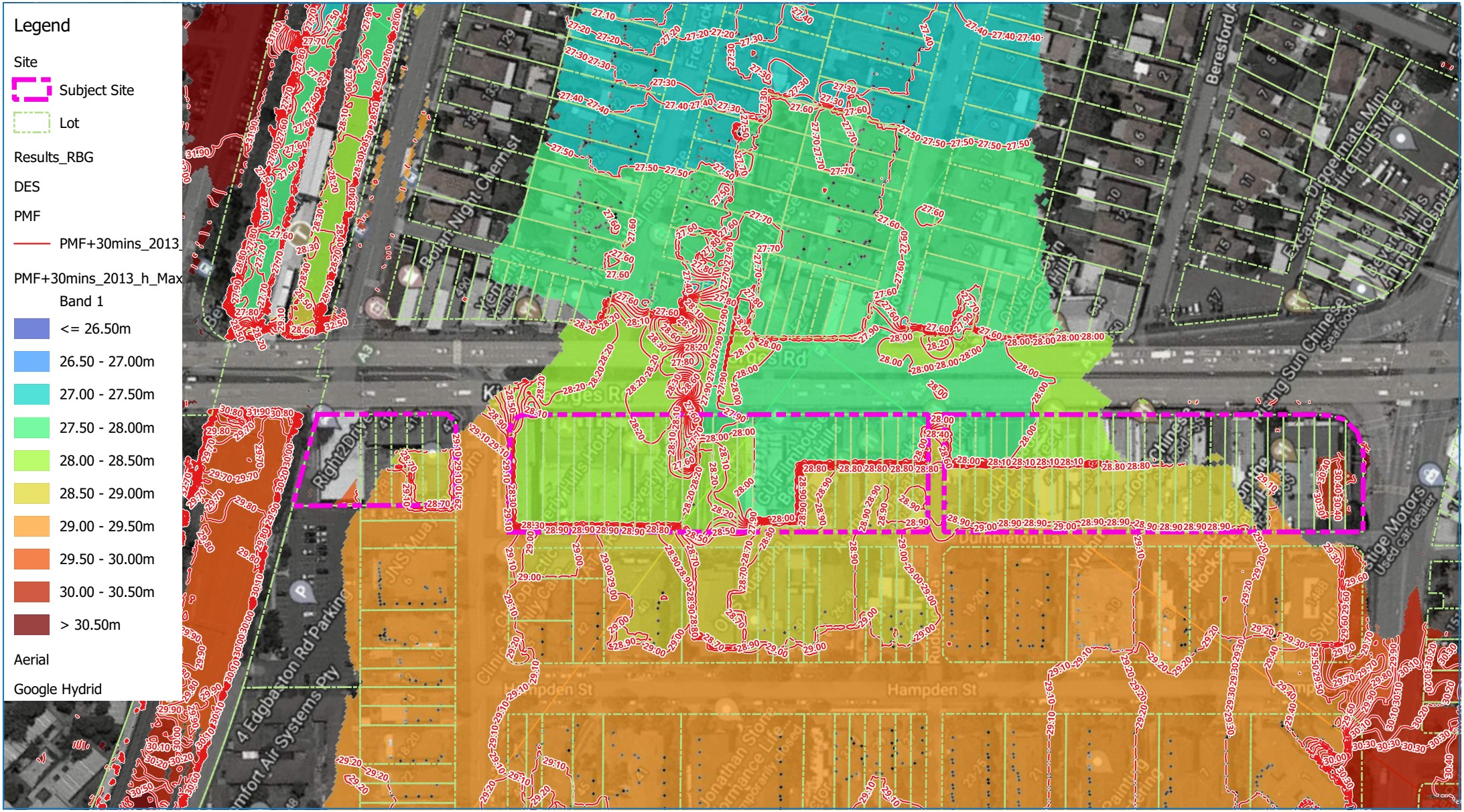

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MODEL SCENARIO:	POST-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	PMF+30mins		
HYDRAULIC MODEL:	Hurstville_ARR2019.tcf		

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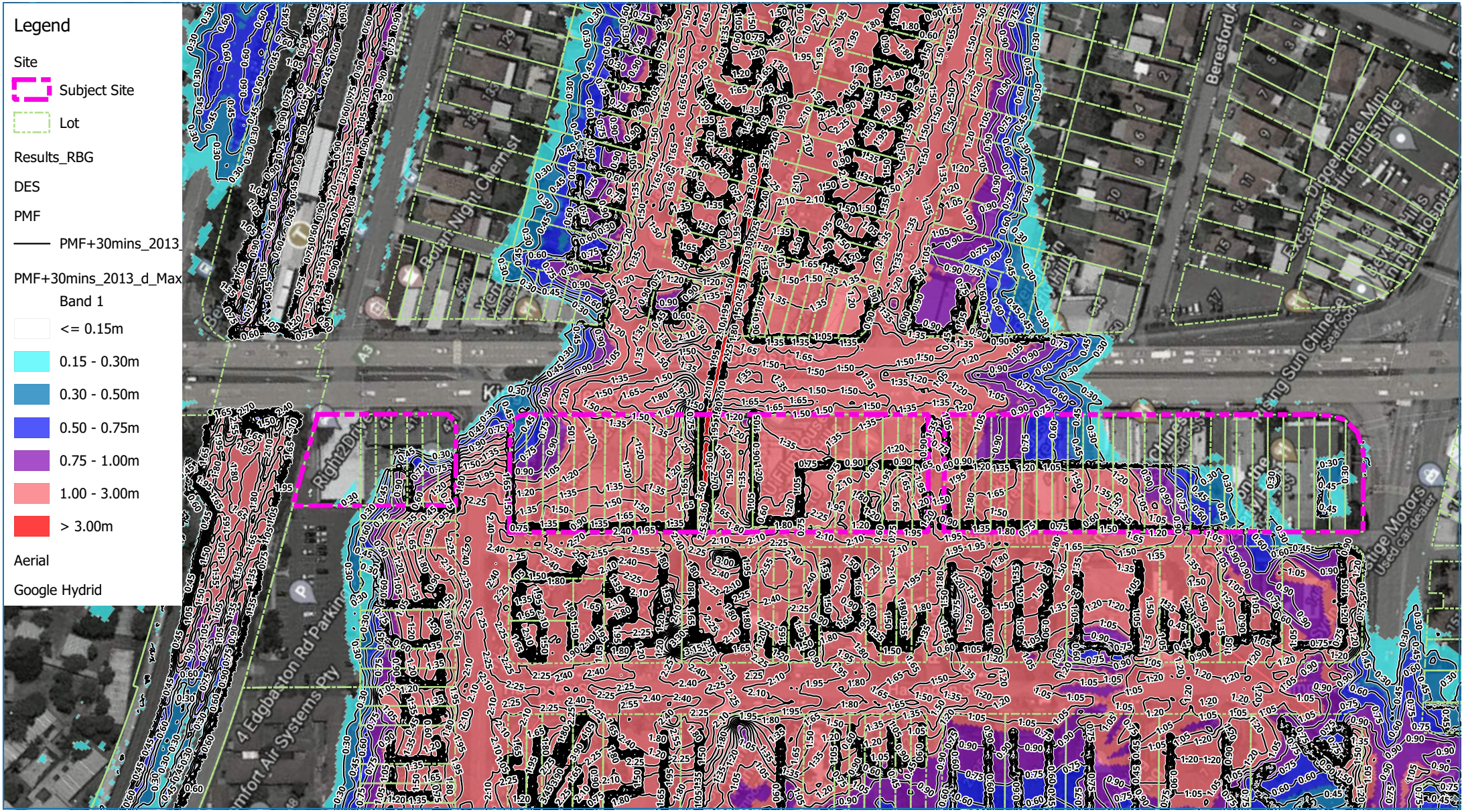
CONSULTANT:

Robert Bird Group
Member of the Surbana Jurong Group

CLIENT:

Beverly Hills Owners Association Incorporated c/o Mecone



PROJECT NAME:	BEVERLY HILLS TOWN CENTRE MASTERPLAN	**REVISION:**	2
PROJECT NUMBER:	22145C	**DATE:**	20/12/2022
MAP TYPE:	MAXIMUM FLOOD DEPTH	**CREATED BY:**	C.HUANG
MODEL SCENARIO:	POST-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	PMF+30mins		
HYDRAULIC MODEL:	Hurstville_ARR2019.tcf		

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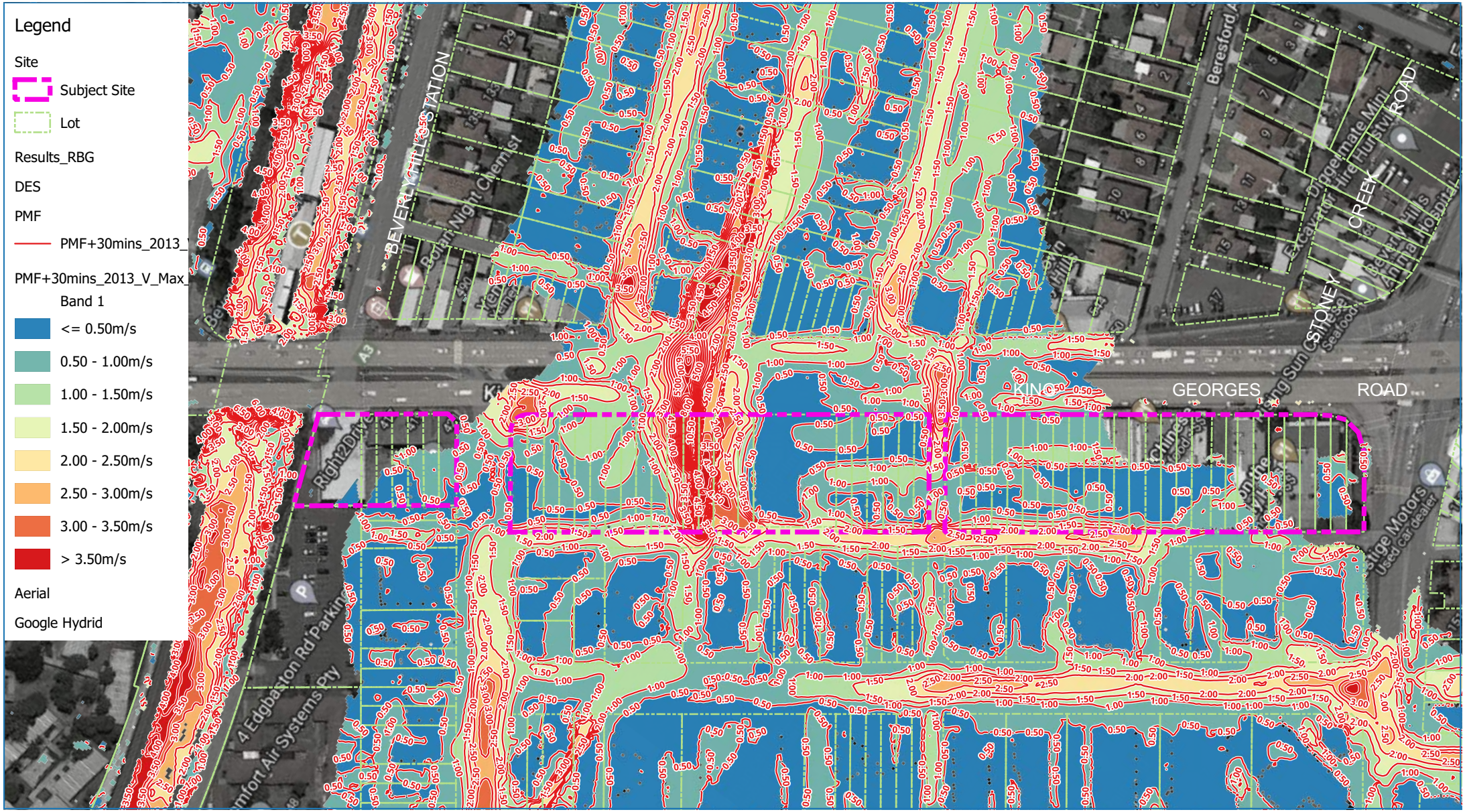
CONSULTANT:

Robert Bird Group
Member of the Surbana Jurong Group

CLIENT:

Beverly Hills Owners Association Incorporated c/o Mecone



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PROJECT NUMBER:	22145C	**DATE:**	20/12/2022
MAP TYPE:	MAXIMUM FLOOD VELOCITY	**CREATED BY:**	C.HUANG
MODEL SCENARIO:	POST-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	PMF+30mins		
HYDRAULIC MODEL:	Hurstville_ARR2019.tcf		

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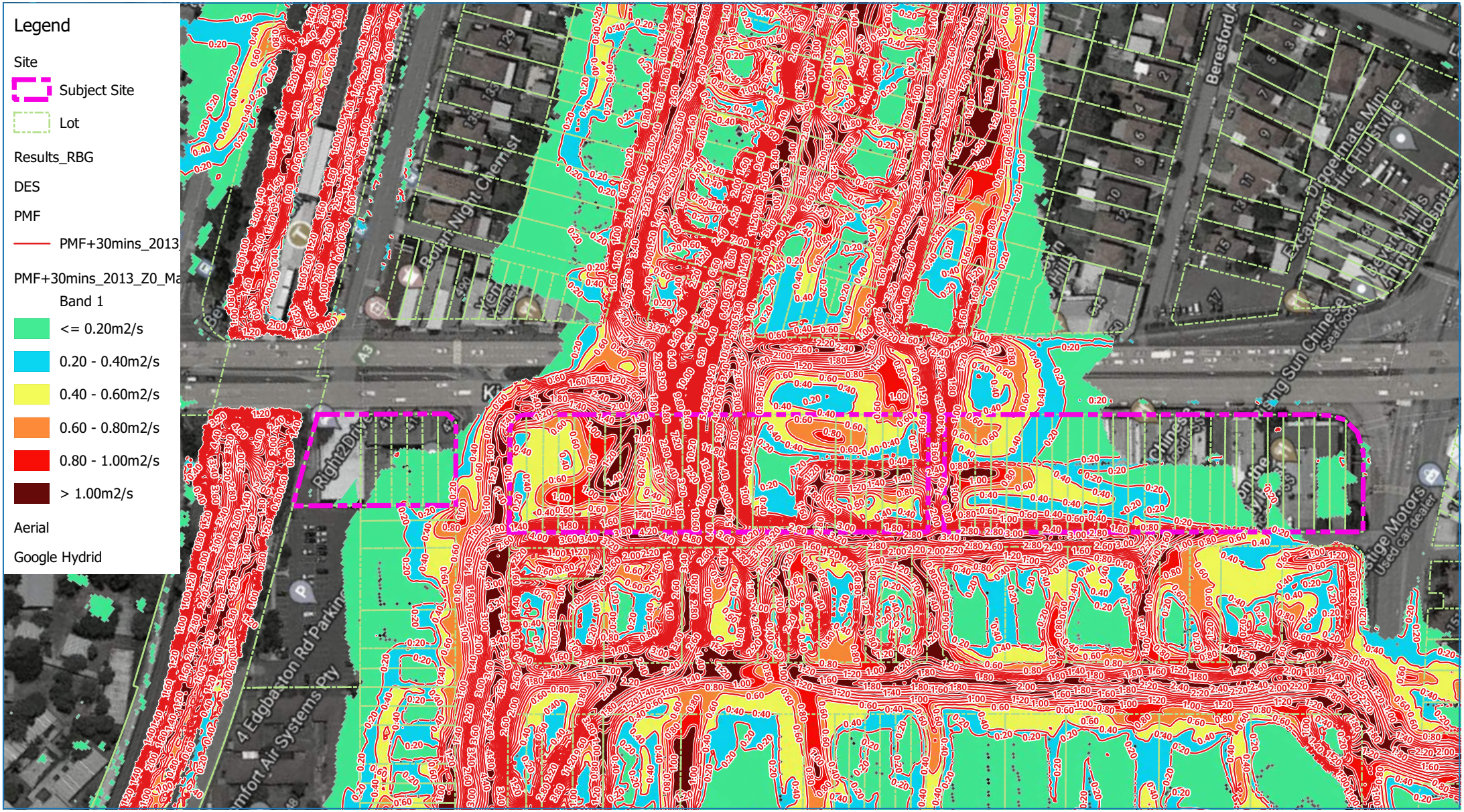

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PROJECT NUMBER:	22145C	**DATE:**	20/12/2022
MAP TYPE:	MAXIMUM FLOOD HAZARD DEPTH x VELOCITY	**CREATED BY:**	C.HUANG
MODEL SCENARIO:	POST-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	PMF+30mins		
HYDRAULIC MODEL:	Hurstville_ARR2019.tcf		

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CLIENT:

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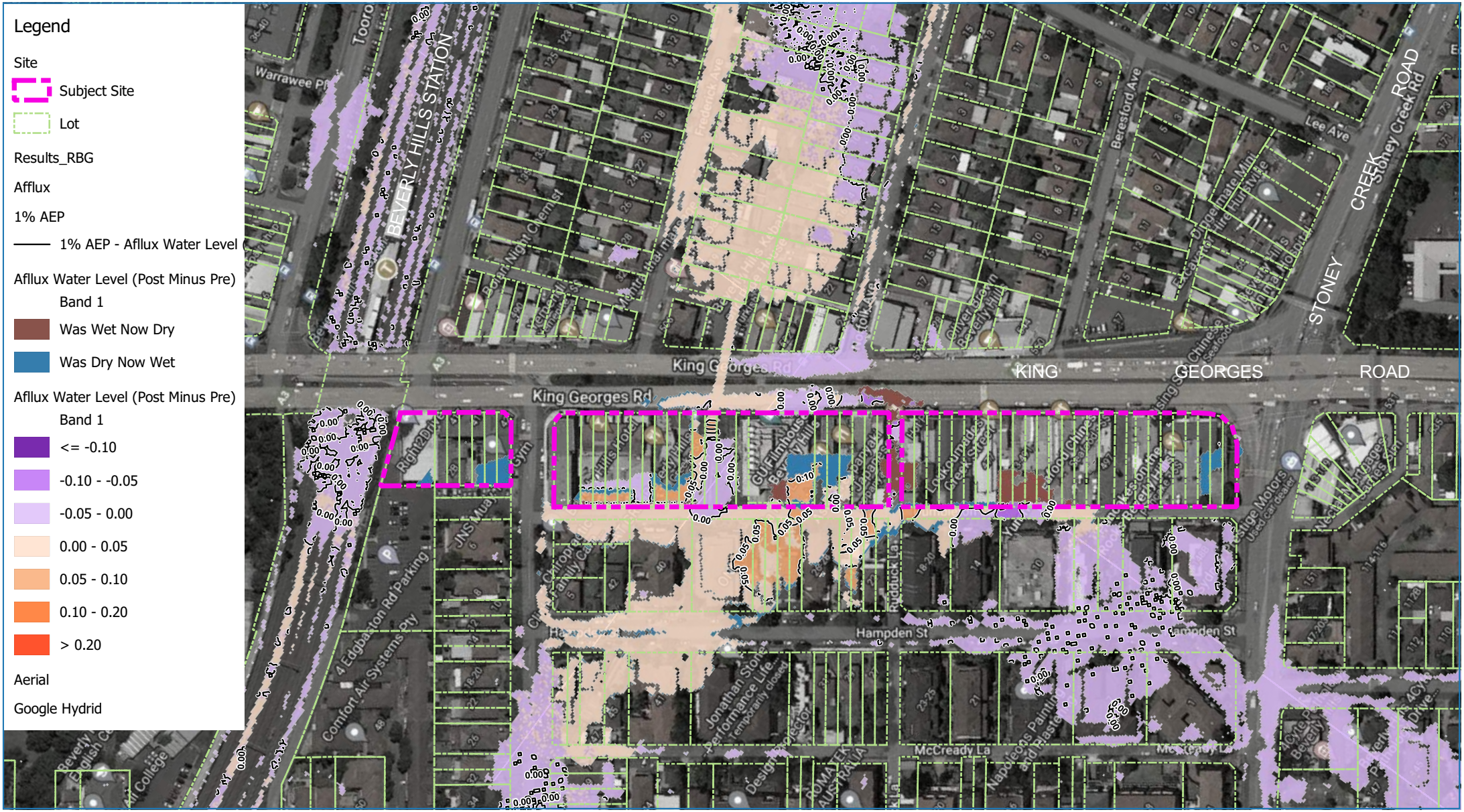

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PROJECT NUMBER:	22145C	**DATE:**	20/12/2022
MAP TYPE:	AFFLUX - MAXIMUM WATER LEVELS	**CREATED BY:**	C.HUANG
MODEL SCENARIO:	POST MINUS PRE-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	1%AEP+120mins+TP4611		
HYDRAULIC MODEL:			

CONSULTANT:

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CLIENT:

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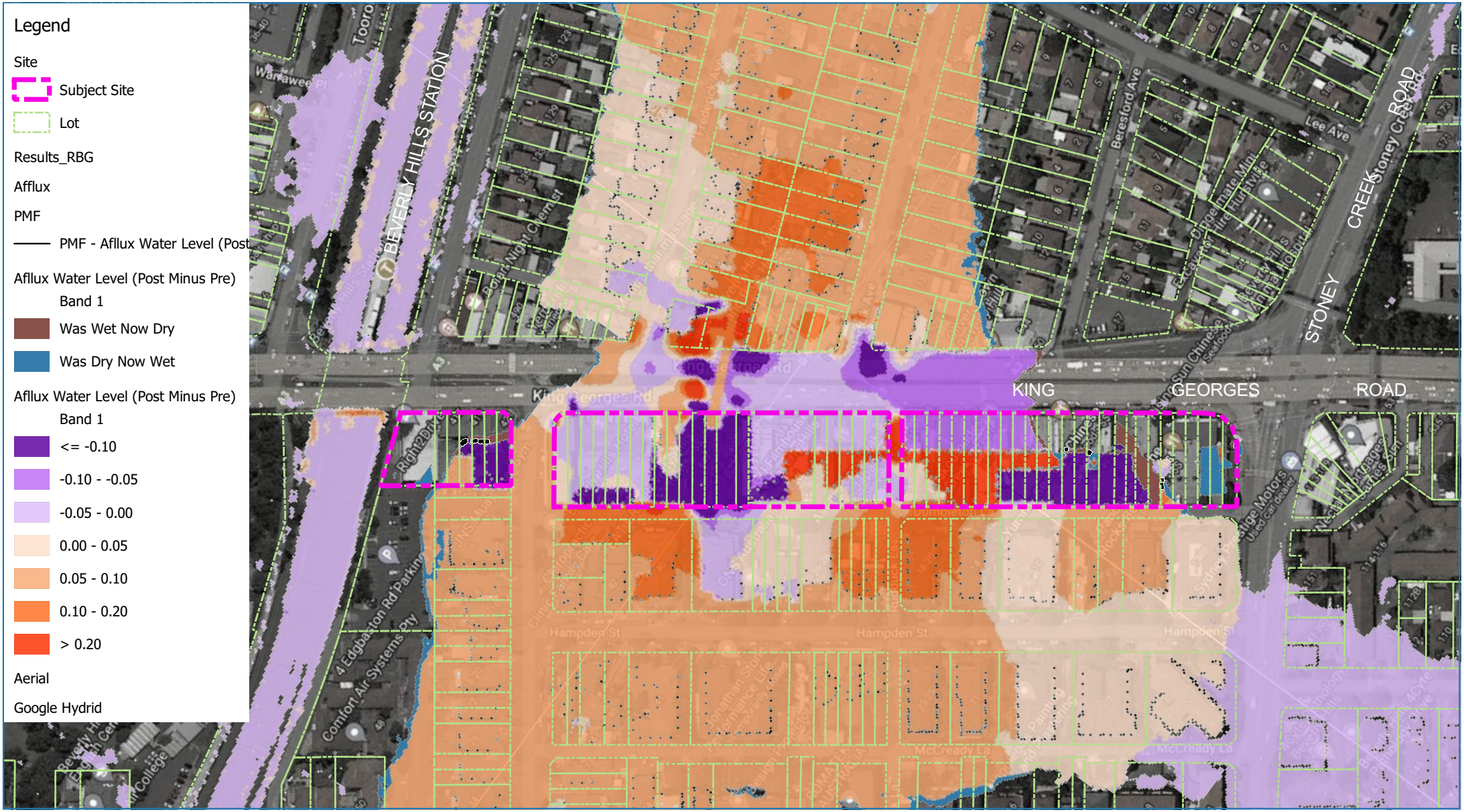

PROJECT NAME:	BEVERLY HILLS TOWN CENTRE MASTERPLAN	**REVISION:**	2
PROJECT NUMBER:	22145C	**DATE:**	20/12/2022
MAP TYPE:	AFFLUX - MAXIMUM WATER LEVELS	**CREATED BY:**	C.HUANG
MODEL SCENARIO:	POST MINUS PRE-DEVELOPMENT	**NOTE:**	CUTOFF DEPTH 150mm
STORM EVENT:	PMF+30mins		
HYDRAULIC MODEL:			

0 50 100 m

CONSULTANT:

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25 October 2022

Beverly Hills Owners Association Incorporated
c/- Khourys & Associates
PO Box 1414
Liverpool BC NSW 1871

Re: Beverly Hills Planning Proposal - Construction and Permanent Employment Estimates

The Beverly Hills Owners Association (the Association) represents a number of landowners along King Georges Road, Beverly Hills. The Association has been investigating appropriate land use and densities for the Beverly Hills Town Centre (the Town Centre) that would facilitate its revitalisation and renewal.

A concept scheme commissioned by the Association (the Scheme) was completed in mid-2018 and provided to Georges River Council to inform strategic planning being undertaken for the Town Centre. The Scheme focused on the western side of King Georges Road (407-511 King Georges Road) zoned B2 Local Centre between Beverly Hills train station and Stoney Creek Road. This is referred to as the 'Study Area'.

In parallel to the Scheme, Georges River Council (the Council) prepared the draft Beverly Hills Town Centre Masterplan (the Council Masterplan) which was placed on public exhibition in April 2020. In April 2022, Council resolved to defer the Council Masterplan for further consideration.

The Association is now seeking to progress a proponent-led planning proposal (the Planning Proposal) for the Study Area, with the Proposal largely consistent with the Council Masterplan's vision for the broader Beverly Hills Town Centre.

To assist in the preparation of the Planning Proposal, the Association has engaged Atlas Economics (Atlas) to estimate the number of jobs which could be supported through the Planning Proposal (both during construction and upon build-out).

Methodology and Limitations

In carrying out the high-level employment estimates, the following steps have been carried out:

- Estimate the number of construction jobs which could be supported by the Planning Proposal by:
    - Estimate the value of construction work required to facilitate the Planning Proposal using standard industry cost publications and benchmarks (Rawlinson's Construction Handbook; RLB Rider's Digest).
    - Converting the estimated construction value into an equivalent job (FTEs) using standard industry benchmarks.
- Estimate the number of permanent jobs which could be accommodated upon 'build out' of the Planning Proposal by:
    - Reviewing the existing quantum of retail and commercial floorspace in the Bevery Hills Town Centre and compare against historical employment counts (2016 Census) to identify historical work space ratios in the centre.
    - Reviewing industry standards and NSW Government guidelines for the application of work space ratios.
    - Applying adopted workspace ratios to the proposed non-residential floorspace and develop a range of employment estimates (Low, Medium, High) which could be accommodated through the Proposal.

This high-level estimate of employment potential is based on standard/ generic industry benchmarks and does not consider the detailed 'business-to-business' requirements of individual sub-industries.

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The Association Planning Proposal

The Planning Proposal outlines the proposed land use mix and built form for the western portion of the Beverly Hills Town Centre. A broad mix of land uses is envisaged, including residential, retail and commercial uses.

The Planning Proposal proposes a new maximum building height of 12-storeys for mid-block sites and 14-storeys for landmark corner sites, with street wall heights along King Georges Road limited to 8-storeys. The Planning Proposal envisages a mix of floor space ratios (FSRs), including:

- A minimum FSR 4:1 across all sites on King Georges Road, inclusive of one ground floor retail or commercial level.
- Due to better efficiencies and their landmark nature, corner sites are proposed at FSR 5.5:1.
- The cinema and hotel sites are proposed FSR 5.5:1, with the cinema site to include 3-4 levels of commercial floorspace.

The Planning Proposal outlined indicative development yields for each development block within the Study Area, outlining the quantum of residential and non-residential gross floor area (GFA) which could be delivered on each block.

The Planning Proposal assumes that all development blocks will deliver ground floor retail floorspace to retain street level activity, whilst some blocks (e.g. the existing Cinema site) could retain existing commercial floorspace on upper floors. Overall, it is estimated the Planning Proposal could result in some ~14,000sqm of non-residential floorspace.

The breakdown of this estimate (by development block) is provided in **Table 1**.

Table 1: Estimated Floorspace, Association Planning Proposal

Block	Site Area	Residential GFA	Non -Residential GFA			Total GFA
			Retail	Commercial	Total Non-Residential	
A	1,689	8,192	1,100	-	1,100	9,292
B	1,052	3,421	755		755	4,176
C	1,506	4,992	1,032		1,032	6,024
D	1,674	5,560	1,140		1,140	6,700
E	1,695	5,695	1,085		1,085	6,780
F	1,694	5,656	1,120		1,120	6,776
G	1,456	3,663	2,172	2,172*	4,344	8,008
H	868	2,953	515		515	3,468
I	1,407	4,727	901		901	5,628
J	887	2,998	550		550	3,548
K	1,576	7,600	1,068	-	1,068	8,668
L	787	3,923	405		405	4,328
Total	**16,291**	**59,380**	**11,843**	**2,172**	**14,015**	**73,396**

*Existing cinema complex assumed to be retained
Source: Olsson Architecture

Construction Job Estimates

Development and construction activity is a major generator of employment activity. To estimate the quantum of jobs which could be supported through the redevelopment activity catalysed by the Planning Proposal, Input-Output (IO) modelling has been carried out.

IO models estimate how products sold (outputs) from one industry are purchased (inputs) in the production process by other industries, thus generating economic and employment activity.

Impacts are traced through the economy via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts**, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:

- **Production-induced impacts (Type I)** comprise industrial support effects of additional activities undertaken by supply chain industries increasing their production in response to direct and subsequent rounds of spending.
- **Consumption-induced impacts (Type II)** which estimate the re-circulation of labour income earned as a result of the initial spending, through other industry impacts, or impacts from increased household consumption.

By estimating the likely value of total construction and development activity which could result from the total 'build-out' of the Study Area as per the Planning Proposal, an estimate of the direct and indirect construction jobs (within the Georges River LGA) catalysed by the Planning Proposal can be estimated using IO modelling.

Based on a high-level cost estimate of $5,500/sqm of GFA (inclusive of total hard and soft costs and a 'blend' of residential and commercial construction costs[1]), it is estimated that the total development cost of the Planning Proposal could be in the order of $403.7m. This total development cost is apportioned between four key industries:

- Heavy and Civil Engineering Construction: 5%
- Professional, Scientific and Technical Services: 10%
- Non-Residential Building Construction: 20%
- Residential Building Construction: 65%

Based on these assumptions, it is estimated that total build-out of the Study Area as per the Planning Proposal could generate a total of 765 jobs across the Georges River LGA. A breakdown of this provided in **Table 2**.

Table 2: Construction Jobs Generated by Association Planning Proposal*

Type	FTE
Direct	390
Production Induced (Type 1)	239
Consumption Induced (Type 2)	136
Total	**765**

*Assuming the Study Area is fully developed as per the Scheme
Source: Atlas Economics

Operational Job Estimates

Upon build-out, the Study Area is expected to generate ongoing employment through the ~14,000sqm of retail and commercial floorspace proposed in the Planning Proposal. To estimate the net additional employment which could be generated by the Planning Proposal, we have:

- Estimated the existing number of workers accommodated in the various commercial/retail buildings across the Study Area through comparison of historical employment data (2016 Census).
- Adopted generic workspace ratios to apply to mix of retail and commercial floorspace proposed in the Planning Proposal. Workspace ratios reflect the amount of floorspace occupied per individual worker (on average).
- Compared the estimated number of workers currently located in the Study Area (as at 2016) against the estimated number of workers which could be supported in the Planning Proposal.

Estimate of Existing Employment

Small area employment data is provided at the Australian Bureau of Statistics (ABS) Destination Zone (DZ) level. The most recent small area employment data available is the 2016 Census. A release of the 2021 Census employment data is anticipated in October 2022.

The Town Centre straddles two DZ geographies[2] which cover an area larger than the defined boundaries of the Town Centre (i.e. the area zoned B2 Local Centre). Based on the employment composition of these DZ geographies, it could be estimated there were 460 workers[3] within the Town Centre in 2016.

[1] Residential construction costs are generally substantially higher than non-residential construction costs
[2] Destination Zones 113702144 and 113702145
[3] Population-serving (excluding construction) and knowledge intensive workers are assumed to be accommodated in the Town Centre.

An audit of existing floorspace in the Study Area has not been sighted. Assuming half of the Town Centre's estimated workforce was accommodated in the Study Area, this would equate to approximately 230 jobs.

The development blocks (**Table 1**) collectively comprise 16,291sqm in site area. A review of existing built form suggests not all sites are maximising their floorspace potential, with the majority of existing buildings being single storey. Assuming a site cover ratio of 70%, it is estimated that there could be currently ~11,400sqm of ground floor employment floorspace across the Study Area, noting the existing Cinema site has potentially ~2,200sqm of upper-level commercial space.

By applying the estimated existing number of workers within the Study Area to the estimated quantum of existing employment floorspace, a workspace ratio of just over 49sqm per worker results.

Generic Workspace Ratios

An analysis of workspace ratios across Greater Sydney and Australia was carried out by Landcom in 2018. This analysis examined the amount of floorspace occupied by workers in a broad mix of industries. In Landcom's *Productive Places* study, the following workspace ratios were recommended for adoption in business cases, planning proposals, land use plans and development applications across Greater Sydney:

- Commercial office: 20sqm/FTE
- Retail (generic shops, cafes, restaurants, supermarkets): 35sqm/FTE
- Childcare: 35sqm/FTE
- Fitness centres: 100sqm/FTE
- Hotel: 100sqm/FTE

Estimate of Employment Potential

To estimate the number of operational jobs which could be accommodated upon buildout of the Study Area, a set of workspace ratios have been applied to the retail and commercial floorspace proposed in the Planning Proposal. To reflect the mix of industries and sectors which could eventually be accommodated within the Study Area, three Workspace Scenarios have been adopted to reflect a mix of potential employment densities:

- Low Scenario: average workspace ratio of 48sqm per FTE.
- Medium Scenario: average workspace ratio of 38sqm per FTE.
- High Scenario: average workspace ratio of 28sqm per FTE.

By applying these workspace ratios to the ~14,000sqm of employment floorspace proposed under the Planning Proposal, it is estimated that between ~290 and ~500 FTEs could be accommodated in the Study Area. When deducting the estimated number of workers existing workers in the Study Area (230 jobs), the Scheme could facilitate between 61 and 273 *additional* operational workers. This is summarised in **Table 3**.

Table 3: Net Additional Employment Estimates (Ground Floor Non-Residential), Planning Proposal

Scenario	Est. Employment Floorspace (Planning Proposal)		Workspace Ratio (GFA/FTE)			Estimated Jobs (FTE)			Net Additional Jobs*
	Retail	Commercial	Retail	Commercial	Avg.	Retail	Commercial	Total	
Low	11,843	2,172#	50	40	48.1	237	54	291	61
Medium			40	30	38.0	296	72	368	138
High			30	20	27.8	395	109	503	273

*Net additional jobs calculated by deducting the estimated number of existing jobs in the Study Area (230 jobs)
*Existing cinema complex assumed to be retained
Source: Atlas Economics

Summary of Employment Estimates

Overall, employment estimates suggest that upon build-out of the Study Area in line with the development yields proposed in the Planning Proposal, the Beverly Hills LGA would benefit from a substantial uptick in both temporary and permanent employment. This includes:

- 765 jobs (FTE) during the construction phase (including 390 direct FTEs).
- Between 291 and 503 permanent jobs (FTE) upon completion of the ~14,000sqm of retail and commercial floorspace proposed, reflecting an additional 61 to 273 full-time workers compared to the existing (2016) employment estimate.

We trust the above analysis is useful. Please contact the undersigned should you wish to discuss further.

Yours sincerely

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