GORDON AVENUE URBAN DESIGN REPORT

Infrastructure Servicing Assessment

31 August 2023 **Ref: 304401044**

PREPARED FOR:

City of Greater Geelong

PREPARED BY:

Revision Schedule

Revision No.	Date	Description	Prepared by	Quality Reviewer	Independent Reviewer	Project Manager Final Approval
0	04/09/2023	Draft for Review				
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Executive Summary

This desktop Infrastructure Servicing Assessment (ISA) has been prepared at the request of The City of Greater Geelong, to present a high-level servicing strategy and advice for the Gordon Avenue Precinct. The Gordon Avenue precinct is defined in the City of Greater Geelong's 'Pakington Street and Gordon Avenue Urban Design Framework'.

The purpose of this report is to assess existing services infrastructure capacity and identify future servicing requirements, constraints and opportunities associated with the delivery of these services in accordance with current design standards.

Servicing advice was requested from service authorities. Following paragraphs summarises advice which was provided in response to these requests, along with predicted or suggested augmentation works using precedent similar projects.

Council

An extensive network of existing drainage is located within the precinct, capturing stormwater flows from external catchments which create high levels of surface runoff and stormwater flows.

Existing minor drains currently connect to a large 2100mm diameter drain which traverses through the site, outletting into the drainage network on Latrobe Terrace.

The site is constrained by a Special Building Overlay (SBO), which applies to some of the properties. It is expected that the SBO will have an impact on the development of the precinct.

Augmentation works which may be considered when undertaking the development may include the removal of large diameter main drains where they are located within private property and their relocation to adjacent road reserves. In keeping with current practice, additional minor stormwater drainage may need to be constructed to facilitate drainage of proposed properties into an underground network.

In order to ascertain the stormwater drainage system upgrade works required by the development of the precinct, comprehensive stormwater drainage system modelling would need to be undertaken. Augmentation works would also need to be considered in line with feasibility of the proposed works and a Development Contributions Plan.

Water Authority

Potable water reticulation and trunk mains are located within and adjacent to the site. High level advice received indicates that new water assets would be required to replace existing assets affected by the proposal and to meet an expected increase in demand.

Recycled water network is not currently available to the Gordon Avenue Precinct.

An existing sewer reticulation network currently services the Gordon Avenue Precinct, however it is expected that construction of new trunk and reticulation sewers would be required to meet the increase in capacity triggered by population growth and construction of multi – level developments.

The Water Authority have indicated that further modelling would be required to identify specific upgrade, extension or augmentation works required to meet the demand of the expected population growth of the precinct. Further comprehensive information is required in order for master planning and network modelling to be undertaken.

Electrical Authority

The site is currently serviced by an extensive network of underground and overhead electrical assets. No formal response has been received from the Electrical Authority, however, it is assumed that augmentation works will be required to meet expected increases in demand generated by the additional population and the ‘all electric’ residences and commercial properties.

Taking into account the aspirations of the Pakington Street and Gordon Avenue Urban Design Framework, to enhance the public realm by creating ’green’ landscape public spaces it is highly likely that all existing overhead assets would be removed and replaced with upgraded underground networks. It is expected these works would be Developer funded.

Gas Authority

The site is currently serviced by an extensive network of gas reticulation mains.

The Victorian Government has recently announced that gas connections will be banned from January 1st, 2024 for new residential properties that require procurement of a planning permit, as well as government buildings. As a consequence, there would be a reduced demand for gas to residential properties within the precinct. Commercial properties to be located within developments may still require gas supply. Depending on the number and gas usage requirements of these properties, there may be additional gas supply demands for the precinct.

Telecommunications Authority

The site is currently serviced by an extensive network of underground and overhead communication assets. The communications authority have advised that if additional capacity is required to service the new development(s), they will undertake any required works to service the new development(s) at no additional cost to the Developer.

Constraints and Opportunities

The Gordon Avenue Precinct is located close to Geelong’s CBD, it incorporates a mix of high density, historical and contemporary architecture and land use. The existing utility services within the precinct range in age, material, standards and conditions. There are many constraints to be considered when planning, designing and constructing future services to current standards. At the time of writing this report, it can not be confirmed that all existing and potential augmentation works or services can be accommodated within the existing road reserve network.

Therefore, to provide information on specific upgrade, extension or augmentation works, further comprehensive information is required for the Gordon Avenue Precinct and adjacent areas covered by the Urban Design Framework. Authorities have provided high level, preliminary responses regarding future servicing requirements, constraints and opportunities associated with the development of the Gordon Avenue Precinct.

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1. Background

The City of Greater Geelong is one of Australia's fastest growing regional cities. To meet the needs of the growing population, the Council are seeking to create well connected, compact, liveable neighbourhoods, to provide public and community infrastructure and new lifestyle and business opportunities in areas close to Geelong's CBD.

In response, Council developed the Pakington Street and Gordon Avenue Urban Design Framework (UDF) in November 2022 to help shape the development and renewal of the neighbourhood.

Gordon Avenue Precinct is to be rezoned to a mixture of Commercial 1, Residential Growth and Mixed Use Zones and will provide for building heights of between 4 to 10 storeys and site coverage from 60 to 80 percent. The rezoning is expected to provide infrastructure for an estimated total resident and worker population of 8,200[1] at maximum development capacity.

The Gordon Avenue Precinct is defined to have three character areas:

- Latrobe Terrace which includes sites directly fronting Latrobe Terrace. Developments in this zone are to be predominantly commercial mixed use precinct with taller building formats (ranging up to 10 storeys).
- Gordon Central which includes the majority of sites along Gordon Avenue, Spring Street and Autumn Street. Developments in this precinct are to be predominantly 4-6 storey residential buildings.
- Gordon West which includes sites fronting Pakington Street, several large scale sites along Gordon Avenue and sites along Spring Street within a residential area. Developments in this zone are to be predominantly 4-6 storey buildings for residential and retail use. This zone also includes new laneways and open spaces.

Existing services within the precinct include the following:

- Roadways and pavements for vehicles, bicycles and pedestrians
- Stormwater Drainage
- Sewer Reticulation Network
- Potable Water Network
- Electrical Network
- Gas Network
- Telecommunications Network

Authorities responsible for the utility services in the precinct have been contacted in order to determine the serviceability of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. The following authorities were contacted, with the exclusion of City of Greater Geelong and Department of Transport and Planning, regarding site access which was outside the scope of this servicing report.

Table 1 Responsible Authorities

Service	Authority
Access (not included in scope of this report)	City of Greater Geelong, Department of Transport and Planning
Stormwater drainage	City of Greater Geelong
Sewer Reticulation Network	Barwon Water
Potable and recycled water Reticulation Network	Barwon Water
Electrical Network	Powercor Australia (Powercor)
Gas Network	AusNet Gas Services Pty Ltd.
Telecommunications Network	NBN Co

[1] HillPDA, *Population Projections – Gordon Avenue*, 2023

The purpose of this report is to identify existing services infrastructure within and adjacent to the Gordon Avenue Precinct, gain a high-level understanding of the capacity of this infrastructure and network augmentation or alterations required to service the developed precinct. These findings have been informed by a desktop analysis of the area, reviewing the information provided by the service authorities and precedent, similar developments.

Figure 1 (below) outlines the area of the proposed Gordon Avenue precinct, overlaid on the aerial image of the site and existing lot and road reserve boundaries. The existing service locations and findings regarding augmentations and alterations will be overlaid on this diagram in the following sections of this report. This figure highlights the significant complexity of the site and built form.

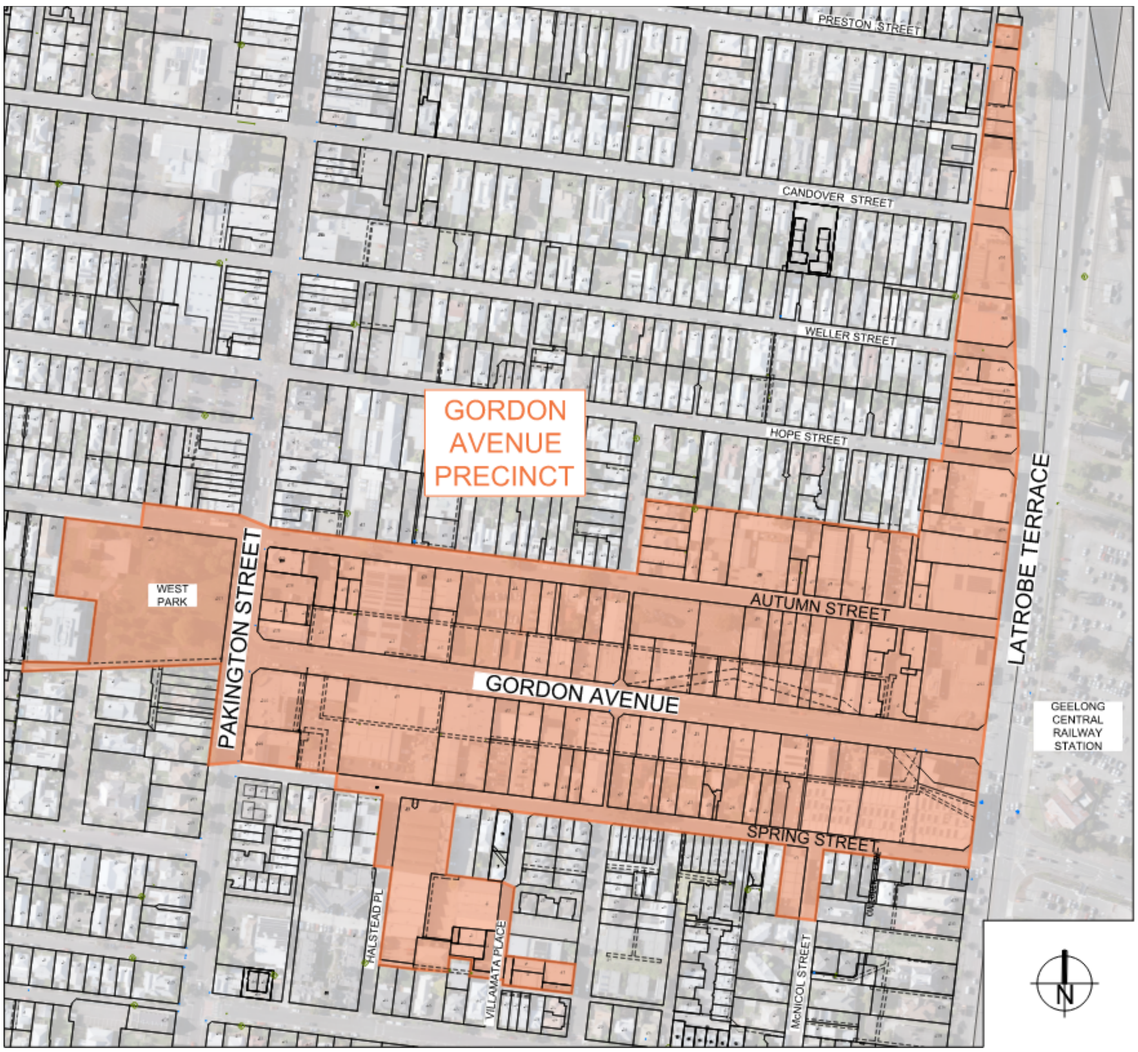

Figure 1 Precinct Layout

2. Site context

The Gordon Avenue Precinct is a 12 hectare (ha) site which is bounded by Pakington Street in the west (including West Park) and Latrobe Terrace in the east.

The Gordon Avenue Precinct is located close to the Geelong CBD, it incorporates a mix of historical and contemporary architecture. The site currently includes a mix of residential, commercial and industrial properties and a small park (West Park).

Properties within the Gordon Avenue Precinct are currently zoned General Residential (GRZ), Neighbourhood Residential (NRZ), Commercial 1 (C1Z), Commercial 2 (C12Z). Latrobe Terrace, which bounds the eastern portion of the site is zoned Principal Road Network (TRZ2). West Park, which is located along the western boundary of the site is zoned as Public Park and Recreation Zone (PPRZ).

Special Building Overlay (SBO), Design and Development Overlay (DDO), Heritage Overlay (HO) and an Environment Audit Overlay (EAO) applies to several existing properties within or adjacent to the site.

The built form of the site is predominantly low rise (one and two storey), with larger scale, contemporary commercial and light industrial properties fronting and adjacent to Gordon Avenue. Pakington Street and Latrobe Terrace. Existing residential properties are a mix of smaller scale, contemporary and older style. Some properties are of a significant age and have had a complex history of boundary changes and use. The servicing of the precinct has evolved to meet the changing uses and configurations, leading to a complex, diverse and ageing network of existing service utilities.

Gordon Avenue forms a valley through the site, which grades from west to east, levels adjacent to West Park approximately RL23 grading consistently down to RL16 adjacent to Latrobe Terrace. Many properties adjacent to Gordon Avenue are subject to inundation, and are largely covered by a Special Building Overlay. The SBO identifies land liable to flooding by stormwater or overland flows from rainfall-runoff. Building works on properties subject to a SBO are generally permitted but are subject to conditions. These conditions are relevant to flooding conditions which may be applied to the development and associated provision of utility services.

Although advice regarding landscape elements is outside the scope of this report, the provision of services for new developments must be coordinated with installation of trees, green spaces and public street furniture. The majority of the Gordon Avenue Precinct is predominantly covered by houses, structures and associated infrastructure, hardscapes and impermeable paved surfaces, with the exclusion of West Park where established gardens and trees have been maintained. There is a limited palette and number of street trees within the precinct, due to the width of carriageways, narrow verge areas and property access requirements. The presence of existing utilities such as overhead power lines has restricted development of many street trees, they have been severely pruned or compromised in order to limit their size or form. The provision of landscape elements and vegetation within verges and road reserves will require coordination with existing and proposed utility services required for developments.

City of Greater Geelong have indicated that Potentially Contaminated Land (PCL) has been identified within the Gordon Avenue Precinct. The area has a long term historical past, there have been multiple iterations of businesses and industries within the precinct. Development of properties which are identified as PCL will need to mitigate potential long term risk to human health, environment, buildings, associated structures and services. The potential use of these properties and provision of utilities to service them may be significantly challenging. It is important to investigate, manage and implement sufficient controls to manage contamination when servicing these properties. There is potential for contamination to either preclude development and servicing of these properties, or significantly increase costs for provision of future services and development.

3. Servicing

3.1 Access

The scope of this report does not include site access. Given the complexity of the site and number of stakeholders with interests in the road network a summary of existing roadway stakeholders has been included. Each authority will require assets to be installed to specific standards, coordination of their design and construction requirements will need to be considered.

The subject site is accessed and serviced by an existing road network which includes Latrobe Terrace (to the east). This is an Arterial Road managed by Department of Transport and Planning.

Pakington Street, Gordon Avenue and Autumn Street are the major roads servicing the site, these are managed by the City of Greater Geelong.

Traffic signals are located at the intersections of major roads within the Gordon Avenue precinct, at east and western ends of Gordon Avenue, the eastern end Autumn Street the intersection of Gordon Avenue and Latrobe Terrace.

Refer Figure 2 for existing road layout network details.

GORDON AVENUE
PRECINCT , GEELONG
SITE ACCESS - FIGURE 2

Scale: As Shown
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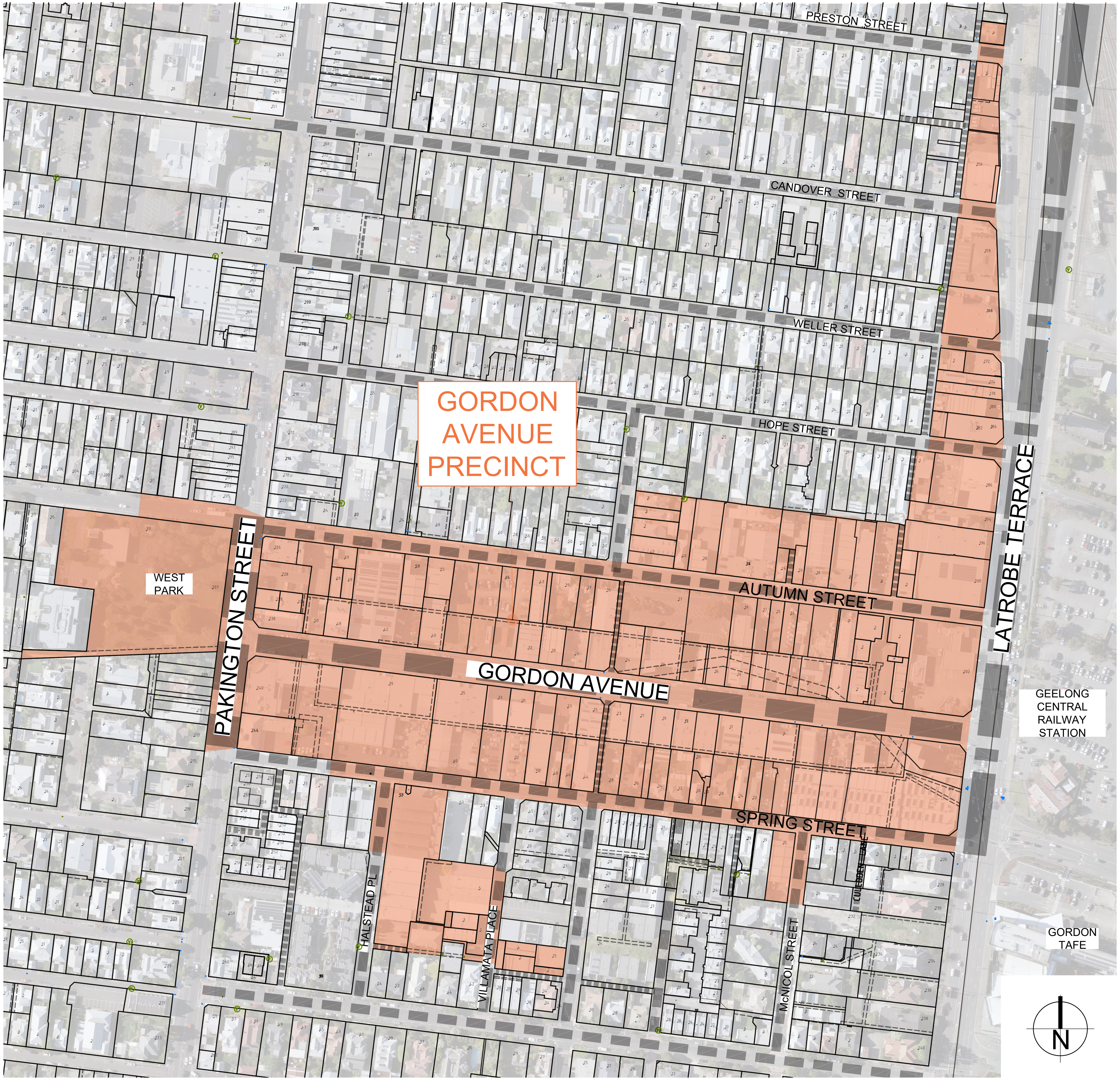

LEGEND

	Existing Arterial Road Managed by Department of Transport and Planning
	Existing Commercial / Collector Road Managed by City of Greater Geelong
	Existing local street
	Existing lane

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3.2 Stormwater Drainage

City of Greater Geelong is the managing authority for the stormwater drainage network within the precinct.

A Dial Before you Dig investigation was procured for the site. This confirmed that the site is serviced by a substantial network and existing stormwater drainage.

The existing drainage network within the precinct captures stormwater flows from external catchments and drainage networks from the north, west and south. The catchments external to and within the site are predominantly made up of impervious surfaces such as pavements, buildings and roads. This characteristic, along with the lack of pervious surfaces such as parks and gardens, create high levels of surface runoff and stormwater flows.

The topography of the site is generally sloping from west to east, Gordon Avenue forms a valley through the site. Gordon Avenue conveys both overland and underground flows in an easterly direction towards Latrobe Terrace.

A large 2100mm diameter drain is located within the road reserve and properties to the north and south of Gordon Avenue. This stormwater main drain directs flows to the drainage network on Latrobe Terrace. Minor stormwater drainage connects to the main drain at several locations, pipe sizes range from 225mm diameter to 675mm diameter.

A Special Building Overlay (SBO) applies to some of the properties within the Gordon Avenue Precinct, this identifies areas which may be subject to flooding in major stormwater event.

City of Greater Geelong have been contacted in order to determine the servicability of the existing infrastructure and gain an understanding of additional requirements (including the effects of the Special Building Overlay) triggered by the development of the precinct.

City of Greater Geelong have identified that the precinct is severely affected by stormwater flooding, as a prominent urban overland flow path passes through the area. The stormwater flood extent due to the 1% Annual Excedence Probability (AEP) covers significant parts of the precinct, with flood depths in excess of 0.50m (with a few areas exceeding 1m). The precinct may also be severely affected by flooding due to rainfall events more frequent than the 1% AEP. Figure 3 identifies the general location of Special Building Overlays within the precinct, a flood assessment plan has been provided by Council (refer Appendix B).

The presence of an SBO triggers development conditions which affect the minimum building floor levels of buildings. City of Greater Geelong have provided advice that to provide nominal flood protection, the required freeboard between proposed floor levels of habitable and non-habitable (incl. garages) buildings are respectively are 300 and 150mm above the applicable flood level. Given the constraints of the SBO, provision of basements for developments affected by a SBO may be precluded.

Legislative documents including acts, ordinances and guidelines (such as Victorian State Government Guidelines for Development in Flood Affected Areas) would be considered by Council when assessing development plans for each property. They have indicated that Council would restrict development if:

a) Flood depth and / or flow is a significant hazard within the property.
b) Flood depth and / or flow is a significant hazard to property access / egress
c) A development will significantly obstruct overland flow
d) A development / building will not provided the minimum freeboard
e) A development will adversely impact other properties or infrastructure.

Considering these restrictions, surface filling of properties to meet freeboard requirements for properties covered by a Special Building Overlay may be limited, in order not to restrict flows or have a detrimental affect on downstream properties. The levels of associated servicing infrastructure (including electrical substations) would also need to be considered.

In order to ascertain the stormwater drainage system upgrade works required by the development of the precinct, comprehensive stormwater drainage system modelling would need to be undertaken. An authorised Developer Contributions Plan would also be required to substantiate any system upgrade works which could potentially 'unlock' developable land. Works would also need to be considered in line with feasibility of the proposed works.

It should be noted that comprehensive modelling has not been undertaken when preparing this report. Potential upgrade works would need to be considered in line with the existing 'Central Geelong Stormwater Strategy', any future amendments or new Stormwater Strategies for the precinct and surrounding areas. For the purposes of this report, we have identified potential upgrade works which would need to be verified by comprehensive modelling, feasibility and planning input by Council:

- Potential removal of the existing 2100mm diameter main drain and pits located within properties adjacent to Gordon Avenue. In keeping with current design standards, this main drain would be replaced with a new 2100mm drain and pits within Gordon Avenue road reserve. This augmentation would remove existing easements in properties currently nominated over the existing drain, thus removing constraints on land use and building layouts. Properties potentially affected by these works have been identified in Appendix D.
- Addition of stormwater drainage (minimum 375mm diameter) system and associated pits within road reserves to provide direct connections for developed properties into the underground drainage system, in keeping with current design standards.

Augmentation or extension of the stormwater drainage would need to comply to current design standards, including the Infrastructure Design Manual. Stormwater Detention systems (to limit flows to 'pre-developed conditions') and Water Sensitive Urban Design assets (to treat and remove pollutants from stormwater drainage flows) may also need to be considered when undertaking stormwater drainage design for developments within the precinct.

There may be several constraints requiring consideration when designing and constructing future augmentation, replacement or realignment of stormwater drainage within the precinct:

- The extent and complexity of existing and proposed utility services required to service the precinct and the potential for conflict between stormwater drainage and these services.
- Narrow road reserves and verges may preclude construction of assets within road verges, requiring dispensation from Council to install assets within properties or under roadways.
- The historical age of the existing stormwater drainage assets which do not comply with current standards.
- The requirements and restrictions of the SBO overlay on properties and their development.
- Substantial work would be required to plan, design and construct of stormwater drainage in the vicinity of and within the arterial road network, as it would be expected there would be significant interruption to the road network.
- Complex implementation, coordination and staging strategies would be required to deliver upgrade works which would involve multiple stakeholders.
- Feasibility of complicated and costly augmentation or upgrade works.

Refer Figure 3 for details of existing drainage network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG STORMWATER - FIGURE 3

Scale: As Shown
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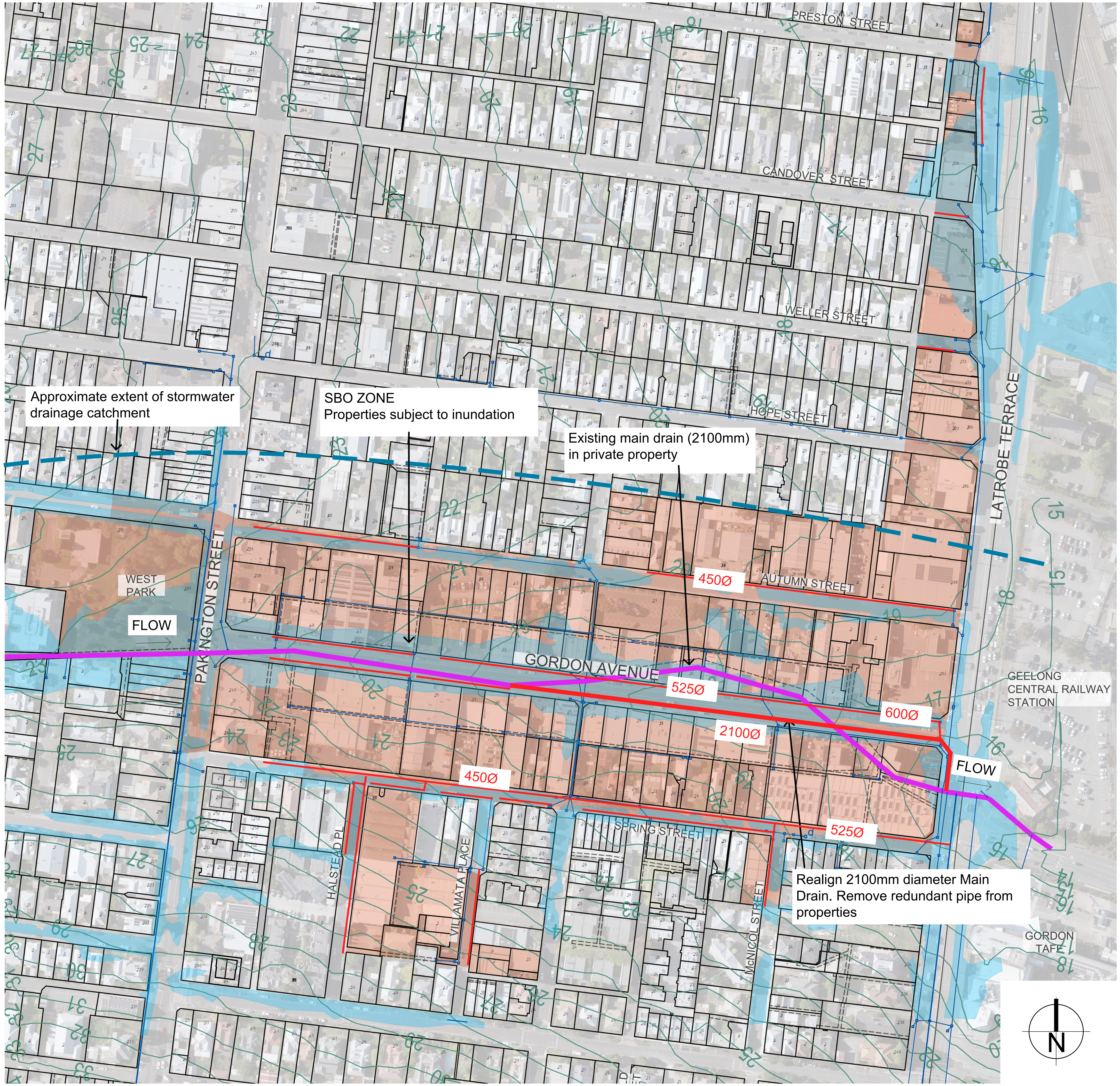

LEGEND

	Existing 2100mm Ø main drain
	Existing stormwater drain and pit
	Existing stormwater dissipation pit
	Special Building Overlay zone (general location)
	Infrastructure upgrades predicted by Stantec (375Ø unless noted otherwise)

Refer to Planning Victoria, for specific SBO and Flood Overlay locations.

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3.3 Sewer

Barwon Water is the responsible authority for the sewer reticulation network within the precinct.

A Dial Before you Dig investigation was procured for the site, this confirmed the site is serviced by a substantial network of sewer assets. These assets are predominantly smaller reticulation mains, however larger diameter (DN300 and DN375) Gravity Sewer Trunk Mains traverse through and around the site. These mains are located within Gordon Avenue, Spring Street and private property adjacent to these road reserves. The Main Outfall Sewer (DN1050) is located in Latrobe Terrace. Much of Geelong's upstream catchments are connected to this network. The depth of these major assets can range between two to six meters.

Barwon Water was contacted in order to determine the serviceability of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. Advice received from Barwon Water has identified:

- Much of Geelong's upstream catchments are connected to the existing sewer network, therefore capacity limitations are anticipated.
- Additional growth and increase of flows from future development of the precinct may necessitate the upsizing of sewers.
- Existing sewers within the precinct may require replacement, due to their age.
- A new sewer main is likely to be required along Gordon Avenue. It may be possible to stage the construction of this main.

Augmentation, relocation or replacement sewer designs required to service the precinct will be designed in accordance with the following standards and codes:

- WSA 02-2014-3.1 Gravity Sewerage Code of Australia, Melbourne Retail Water Agencies Edition, Version 2.0
- Barwon Water Supplementary Information to the WSAA Sewage Code of Australia

It is expected that any augmentation or upgrade works required would be a combination of Barwon Water and Developer funded.

There may be several constraints requiring consideration when designing and constructing future augmentation, replacement or realignment of sewers:

- Due to the age, size or condition of existing or rehabilitated sewer mains within the site, Barwon Water may nominate special conditions and consents when working in the vicinity of existing sewer reticulation mains.
- The close proximity of other services, current standards, clearance requirements and limited verge widths will need to be considered. Narrow road reserves and verges may preclude construction of assets within the road verges, requiring dispensation from Barwon Water to install assets within properties or under roadways.
- Location of existing trunk sewers within private properties and the effect this may have on proposed building footprints and levels in the precinct.
- Feasibility of complicated and costly augmentation or upgrade works.

Barwon Water have indicated that the advice provided is preliminary and may be subject to change once an evaluation of Barwon Water's network capacity has taken place in the context of adjacent precinct development as per the Urban Design Framework (Pakington North Precinct and Heritage Core Precinct). Barwon Water will need to be contacted for revised servicing advice once more information or certainty regarding the proposed development of the Gordon Avenue Precinct and adjacent precincts are known. Barwon Water will then be in a position to comprehensively review the development proposal and refine the infrastructure servicing requirements.

Refer Figure 4 for details of existing sewer reticulation network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG SEWER - FIGURE 4

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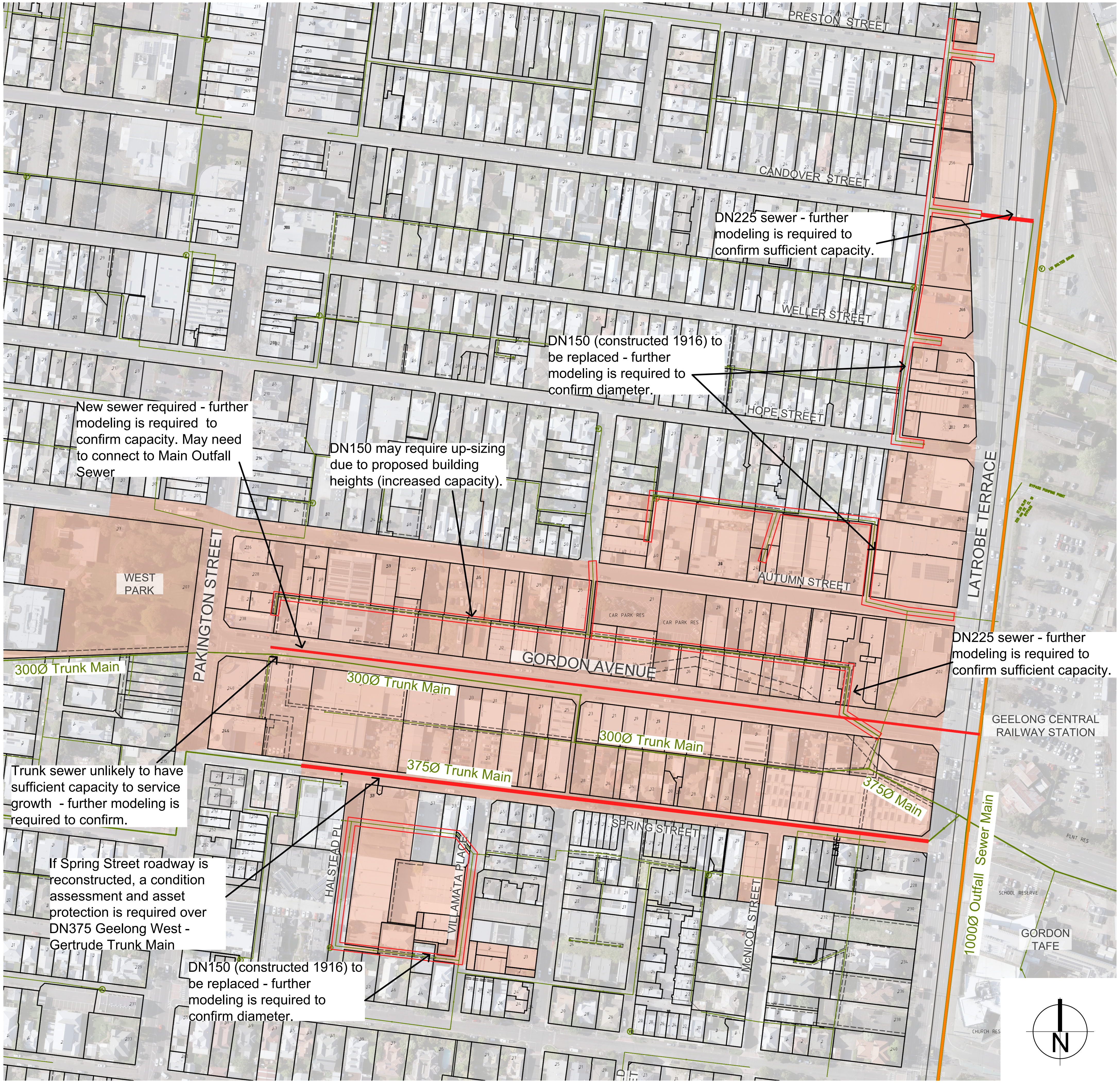

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LEGEND

(orange line)	Existing 1000mm Ø main outfall sewer
(green line)	Existing sewer reticulation main
(red line)	Infrastructure upgrades nominated by Barwon Water

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3.4 Potable Water

Barwon Water is the responsible authority for providing potable water to the site. The area is not currently serviced by recycled water, for the purposes of this report it is assumed that future provision of recycled water to the precinct is not required.

A Dial Before you Dig investigation was procured for the site, this confirmed that the site is serviced by a network of existing water main assets. The existing network predominantly consists of smaller reticulation mains (DN100 and DN150), however larger diameter (up to DN450) mains traverse through and around the site. There are a number of rehabilitated and Asbestos Cement mains in the existing water main network.

Barwon Water has been contacted in order to determine the serviceability of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. Advice received from Barwon Water has identified:

- Many of the existing mains (DN100 and DN150) require replacing due to their materiality (Asbestos or Fibro Cement) or due to the asset age.
- Water demand increases due to increasing population and fire services from future developments may trigger the upsizing of water mains.
- The DN375 Cast Iron Feeder main in Pakington Street, constructed in 1893, requires replacement.
- A new feeder main is required to connect the existing DN450 main in Latrobe Terrace to the replacement feeder main in Pakington Street, to secure supply for the precinct.
- Property connections are not permitted to water mains greater than DN225.
- Privately owned tank and pump systems to service hydrant and sprinkler systems may be required depending on future building fire service requirements.

Augmentation, relocation or replacement water main designs required to service the precinct will be designed in accordance with the following standards and codes:

- WSA 03-2011-3.2 Water Supply Code of Australia, Melbourne Retail Water Agencies Edition, Version 3.2
- Barwon Water Supplementary Information to the WSAA Water Code of Australia Version 4.0

It is expected that any augmentation or upgrade works required would be a combination of Barwon Water and Developer funded.

Barwon Water have indicated that the advice provided is preliminary and may be subject to change once an evaluation of Barwon Water's network capacity has taken place in the context of adjacent precinct development as per the Urban Design Framework (Pakington North Precinct and Heritage Core Precinct). Barwon Water will need to be contacted for revised servicing advice once more information or certainty regarding the proposed development of the precinct is known. Barwon Water will then be in a position to comprehensively review the development proposal and refine the infrastructure servicing requirements.

Refer Figure 5 for details of existing water reticulation network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG WATER - FIGURE 5

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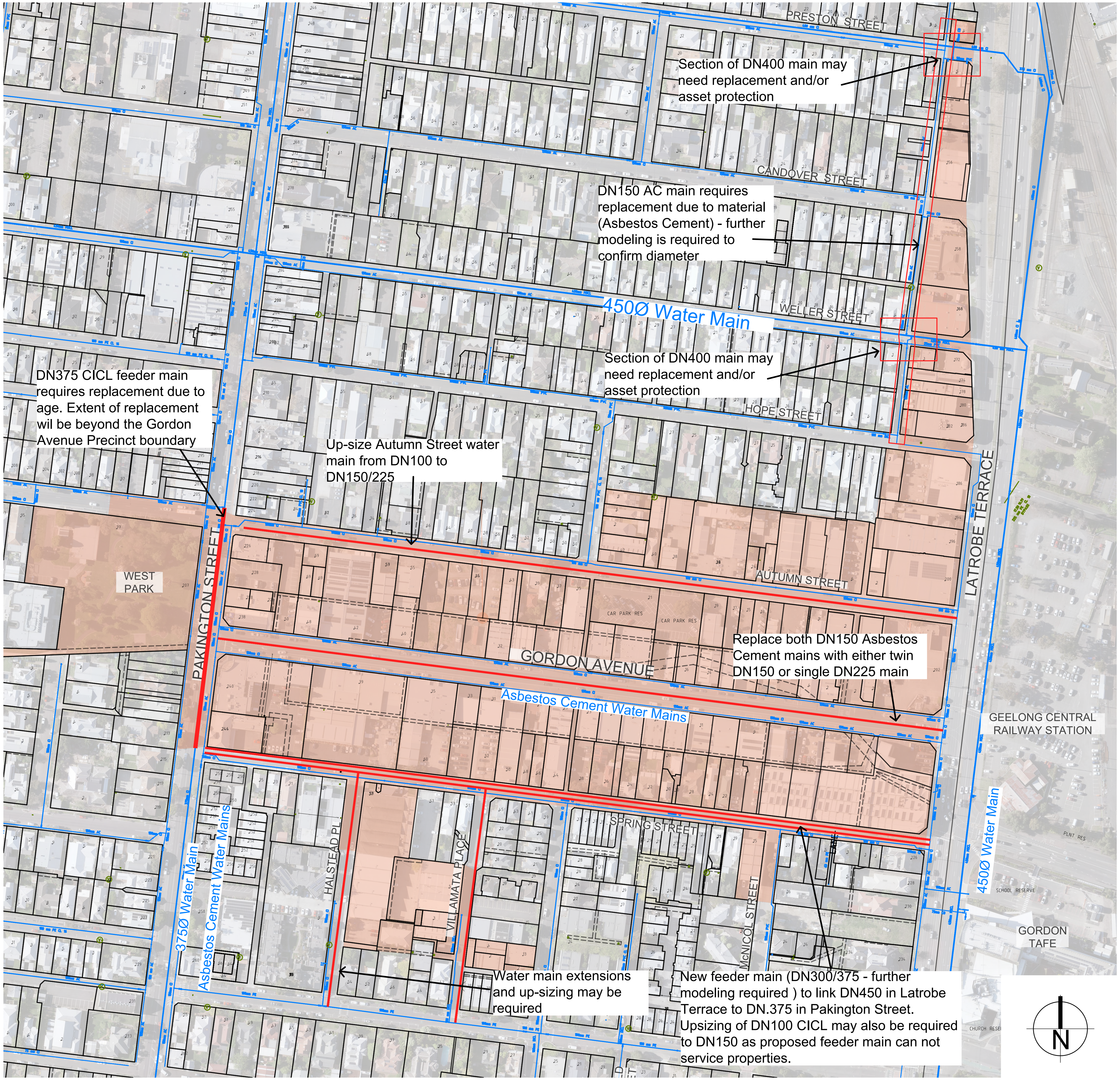

LEGEND	
Blue line	Existing water main
Red line	Infrastructure upgrades nominated by Barwon Water

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3.5 Electricity

Powercor Australia (Powercor) is the owner and operator of the low and high voltage electric distribution network within the precinct.

A Dial Before you Dig investigation was procured for the site, this established that the site is serviced by a substantial network of above and below ground electrical assets, noting that some details of existing assets are missing in DBYD investigation.

The site is predominantly serviced by overhead electrical assets which include a high voltage distribution system and substations. Overhead low voltage assets are also located on a network of poles, these supply residences and business on both sides of the streets. The existing streetscapes are dominated by a tangle of overhead electrical assets.

A smaller number of low and high voltage underground assets are also located within the precinct. These do not form a linked network system, but appear to be constructed for more recent developments within the precinct or Pakington Street Streetscape works.

Powercor have been contacted in order to determine the serviceability of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. No advice at this preliminary planning stage was provided.

Powercor should be contacted regarding future precinct needs when detailed information regarding the development is available. Succeeding the preparation of detailed development plans for the precinct, Powercor would prepare a scope of underground services and kiosk substations required to service each development. Given that the extent of existing electrical assets currently located within and around the precinct, there should not be significant issues regarding availability of electrical connections.

Taking in to account the aspirations of the Pakington Street and Gordon Avenue Urban Design Framework, to enhance the public realm by creating 'green' landscape public spaces, inclusion of street trees and safe, clear walkways we have predicted that the clutter of existing overhead electrical assets would be replaced with banks of underground high and low voltage assets. This concept is in keeping with current design standards and the approach taken in Pakington Street, where very few overhead electrical assets are visible. Additional loading incurred by the development of the precinct would also need to be accommodated within these underground assets. Existing substations currently located on electrical poles would also be replaced and additional substations installed as required for the development of the precinct. It is expected these would be located above ground within Substation Reserves. The requirement for these reserves will in turn have an affect on the Net Developable Area of the properties where they are located.

It is predicted that all underground works, connections to existing assets, distribution kiosks and substations would be Developer funded. It is expected upgrade works would be expensive and that Developers within the precinct would need to consider and coordinate the location of electrical assets such as substations and substation reserves. Lighting requirements of the developments within the precinct should also be considered when further detailed information is available.

The Victorian Government have recently announced that all new homes and residential developments, which require procurement of a planning permit, cannot connect to the gas network, gas connections for these properties will be banned from January 1st, 2024. This will have an impact on the Electrical System demands and the After Diversity Maximum Demand (ADMD) per household. It is expected that additional assets (including transformers and substations) and augmentation of the existing network will be required as a result of this policy. These would be delivered by each development as needed.

Coordination of electrical utility assets required to service the development, road infrastructure, buildings and structures and landscape elements will be challenging, particularly in areas where narrow verges are available for installation of services. The SBO overlay effecting properties within the precinct will add to challenges regarding provision of electrical supply, electrical assets would need to be located clear of areas affected by flooding. It is also expected that some of the existing assets within the precinct will need to be updated to current design standards and demands.

Refer Figure 6 for details of existing electrical network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG
ELECTRICAL - FIGURE 6

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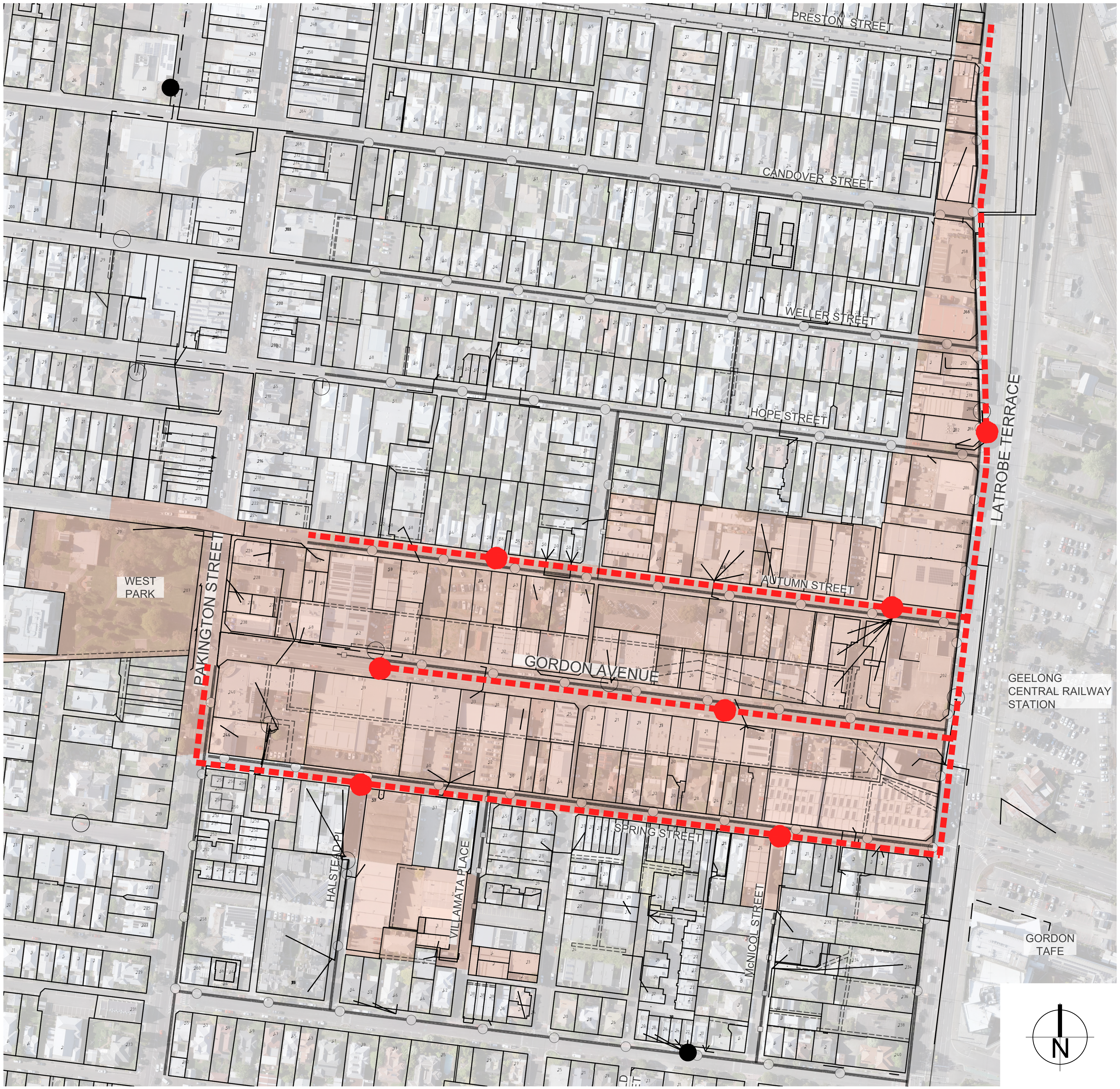
02.10.2023
Rev. 01



LEGEND	
− − −	Existing underground electrical asset (Low Voltage)
——	Existing underground electrical asset (High Voltage)
○	Existing electrical asset (substation)
	Existing electrical asset above ground - high and low voltage assets
	Existing electrical asset above ground - low voltage assets
	Infrastructure upgrades predicted by Stantec - bank of underground high and low voltage assets to replace existing overhead assets
●	Infrastructure upgrades predicted by Stantec - substation - additional required or replacement of overhead asset

Stantec

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ABN 17 007 820 322
Web: www.stantec.com

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3.6 Gas

AusNet Gas Services Pty Ltd. is the responsible authority for providing gas services to the precinct.

A Dial Before you Dig investigation was procured for the site, this investigation established that the site is serviced by a substantial network of gas main assets located within existing road reserves.

AusNet Services have been contacted in order to determine the particularly of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. No advice has been received from AusNet Services regarding existing capacity of the network or the impact the development of the precinct will have on these services.

The Victorian Government has recently announced that gas connections will be banned from January 1st, 2024 for new residential properties that require procurement of a planning permit, as well as government buildings. As a consequence, there would be a reduced demand for gas to residential properties within the precinct. Commercial properties to be located within developments may still require gas supply. Depending on the number and gas usage requirements of these properties, there may be additional gas supply demands for the precinct. Based on precedent developments where upgrade works are required within their boundaries, these works are normally funded by the gas authority.

Refer Figure 7 for details of existing gas network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG GAS - FIGURE 7

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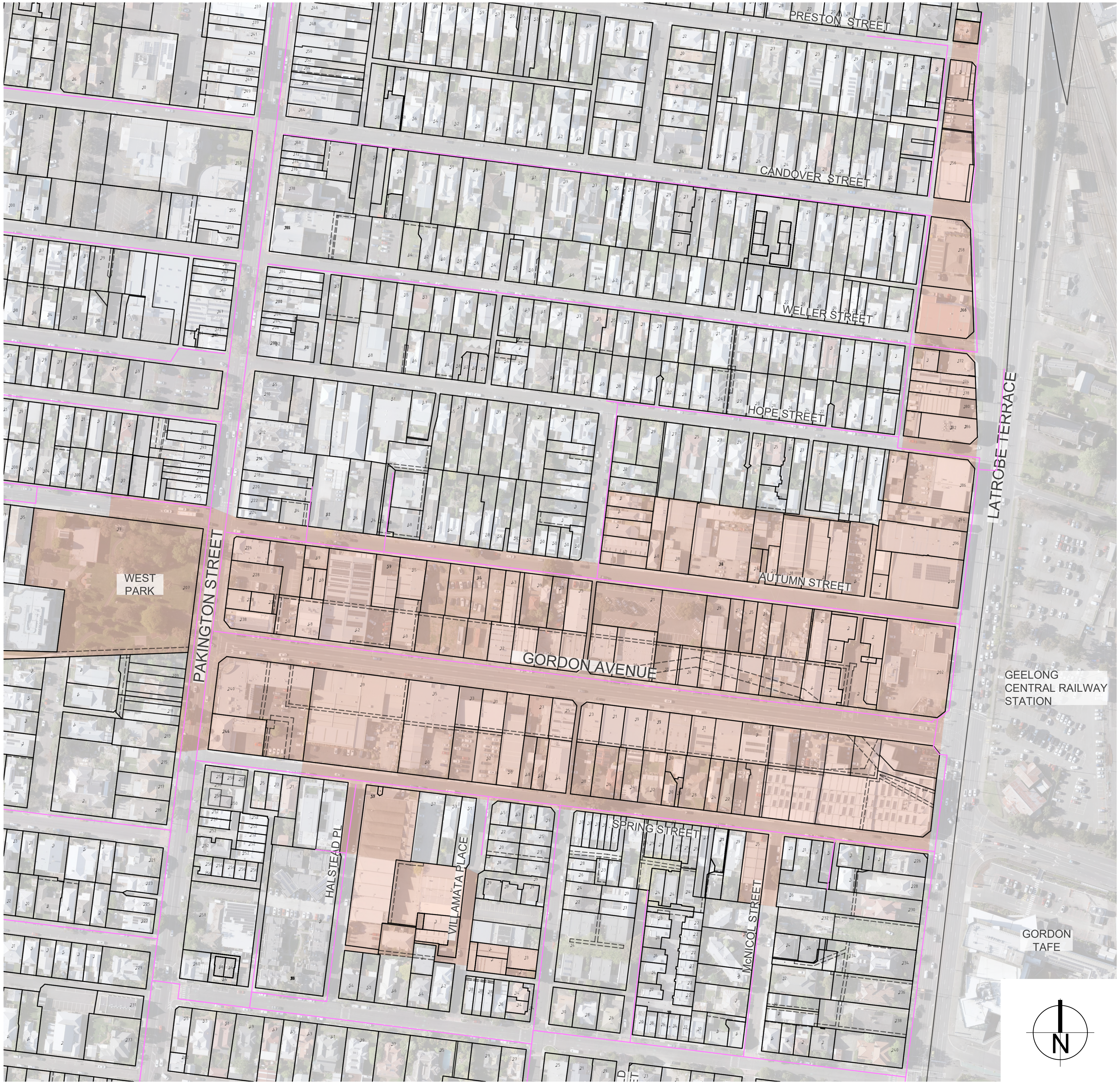
Rev. 01



LEGEND	
	Existing gas main

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3.7 Telecommunications

The Telecommunications in new developments (TIND) policy nominates NBN Co as the default statutory infrastructure provider of telecommunications in Australia. NBN Co is the responsible authority for providing communications to the precinct.

A Dial Before you Dig investigation was procured for the site. Results from the Dial Before You Dig investigation indicates there is a substantial network of existing communications within and around the site, including fibre optic assets. There are several carriers who are stakeholders in the existing network, including Optus, AAPT, AARnet, Nextgen and TPG.

NBN Co have been contacted in order to determine the serviceability of the existing infrastructure and gain an understanding of additional requirements triggered by the development of the precinct. Although no specific servicing or upgrade advice has been received from NBN Co, it is expected that additional assets would be required to service the precinct.

NBN Co have advised that they have completed a high-level review of the Gordon Avenue Precinct and it is in an existing fixed line footprint. NBN Co have advised that due to the numerous potential connection points located within and adjacent to the precinct at present, there will be no backhaul costs associated with any new development application(s) submitted to NBN Co.

The existing site should have enough capacity for future growth; however, we also reviewed capacity based on the new development applications received. If additional capacity is required to service the new development(s), then NBN Co will undertake any required works to enable us to service the new development(s) at no additional cost to the Developer. Future development information provided (and any future updates) will feed into our long-term planning data and potentially trigger ahead of time planning.

To meet the objectives and aspirations of the Pakington Street and Gordon Avenue Urban Design Framework, and enhance the public realm by creating ’green’ landscape public spaces It would be expected that any overhead communication assets may need to be relocated underground.

Refer Figure 8 for details of existing communication network details and augmentation works.

GORDON AVENUE PRECINCT , GEELONG COMMUNICATIONS - FIG.8

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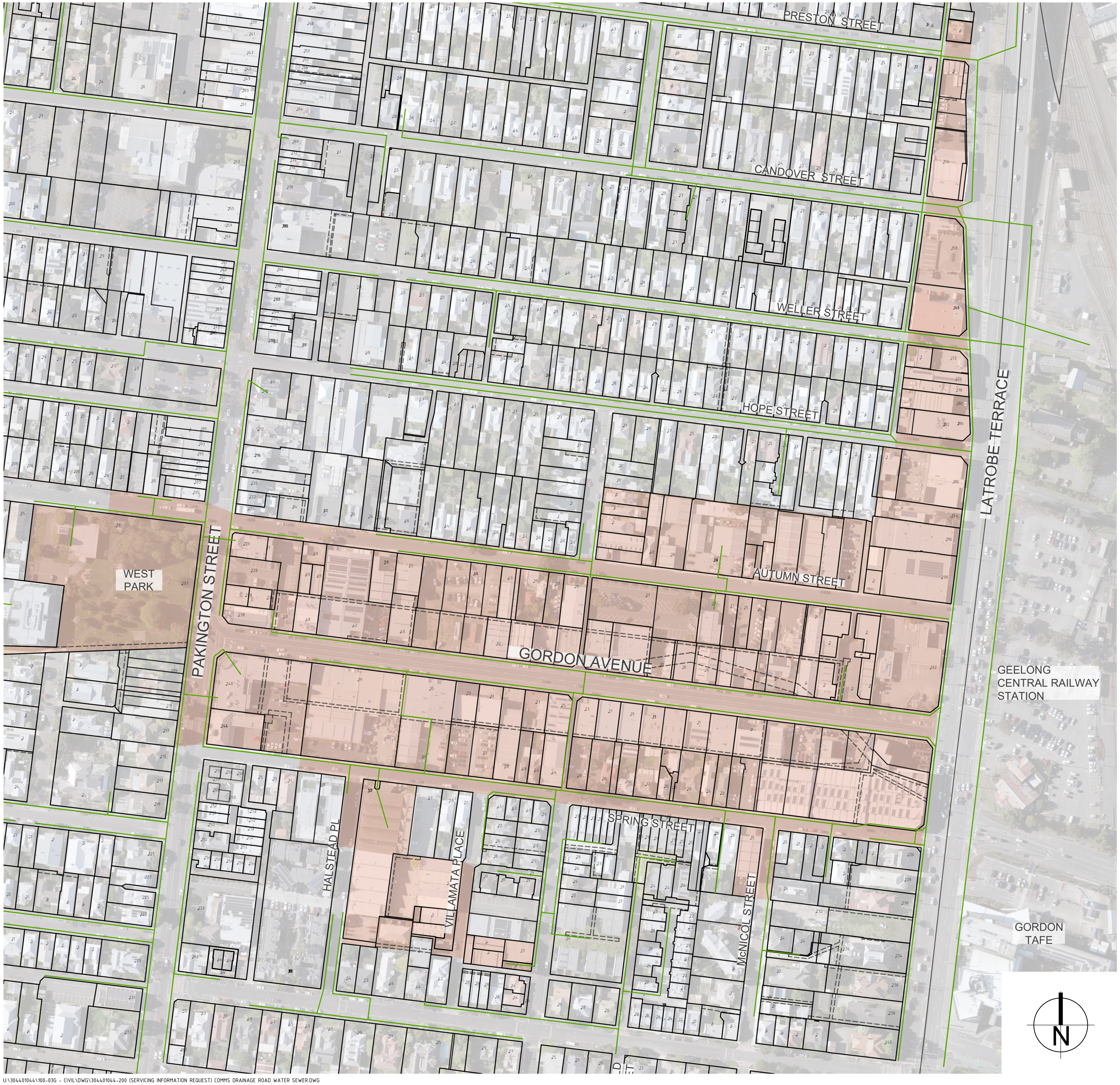
Rev. 01



LEGEND	
—	Existing underground communications asset

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4. Site Constraints

The following constraints have been identified for the provision and upgrading of services required for the development of the Gordon Avenue precinct as envisaged in the Urban Design Framework:

- Complex, high density nature of existing infrastructure and additional space requirements for service augmentations, extensions and realignments as identified in this report.
- Challenge of meeting current standards and clearance requirements where services are located within narrow road reserves or verges. The narrow nature of the road reserves and verges may preclude construction of assets where they would be typically located, requiring dispensation from service authorities to install assets within properties or under road pavements. At the time of writing this report, it can not be confirmed that all existing and proposed services can be accommodated within the existing road reserve network.
- Design and construction challenges triggered by the precinct's close proximity to heritage and existing properties which are to be retained.
- Design and construction constraints due to working in the vicinity of and connection to aged utility infrastructure which are not compliant to current standards.
- Design and construction constraints when working in the vicinity of arterial and commercial roadways.
- Given the inner city location of the development, it is expected there will be significant disruption to retail and residential stakeholders, vehicular and foot traffic during construction of services and building works.
- Provision of services adjacent to buildings and structures and the impact of the services on structural footings and foundations.
- Location of existing utilities including large diameter assets within private properties.
- Materiality of existing utility infrastructure, particularly asbestos cement pipelines.
- The Special Building Overlay and associated constraints on building and associated structure levels to provide freeboard above nominated flood levels, possible impact of the development on downstream properties and impact on SBO on access and egress to developments, including the preclusion of underground car parking.
- The impact of Potentially Contaminated Land (PCL) on the proposed use of developments within the precinct and the impact on design,construction and cost of future utility infrastructure.
- Balancing the aspirations of the Pakington Street and Gordon Avenue Urban Design Framework, to enhance the public realm by creating 'green' landscape public spaces, clear with utility services which meet current standards.
- Significant number of owners and stakeholders of properties within the precinct, leading to complex negotiations regarding Development Contributions.
- Complex implementation, coordination and staging strategies would be required to deliver upgrade works which would involve coordination of multiple stakeholders.
- High costs of design and construction of augmentation works, due to the constraints listed above.

Appendix A 'Cross Sections' have been prepared to demonstrate some of the precinct constraints and augmentation works to be considered.

5. Recommended Augmentations

To provide information on specific upgrade, extension or augmentation works, further comprehensive information is required for the Gordon Avenue Precinct and adjacent areas covered by the Urban Design Framework.

The following section summarises augmentations which have been identified in section 3 of this report. Appendix A 'Cross Sections' have been prepared to demonstrate possible augmentation works which may be considered.

Stormwater Drainage

In order to ascertain the stormwater drainage system upgrade works required by the development of the precinct, comprehensive stormwater drainage system modelling would need to be undertaken. An authorised Developer Contributions Plan would also be required to substantiate any system upgrade works which could potentially 'unlock' developable land. Works would also need to be considered in line with feasibility of the proposed works.

Augmentation works to be considered when undertaking the development may include the removal of the existing 2100mm diameter main drain within private property and relocation to adjacent road reserves. In keeping with current practice, additional minor stormwater drainage may need to be constructed to facilitate drainage of proposed properties into an underground network.

Sewer

Augmentation works to be considered when undertaking the development may include :

- Construction of additional sewer reticulation to service properties adjacent to Gordon Avenue
- Replacement of ageing sewer reticulation infrastructure within the precinct
- Upgrading of existing sewers to provide additional capacity
- Procurement of condition assessment reports and infrastructure asset protection measures.

Potable Water

Augmentation works to be considered when undertaking the development may include :

- Additional feeder main to link existing mains in Latrobe Terrace and Pakington Street
- Replacement of ageing water reticulation and feeder mains within the precinct
- Upgrading of existing water mains to provide additional capacity
- Replacement of Asbestos Cement mains within the precinct

Electricity

Augmentation works may include the replacement of existing overhead infrastructure with banks of underground assets, substations within substation reserves. The development of the precinct may trigger the upgrading of existing electrical assets to allow for increased capacity requirements for 'all electric' developments.

Gas

Given the recent Victorian Government announcement that gas connections will be banned from January 1st, 2024 it is not expected that augmentation works on the gas network would be required.

Telecommunications

It would be expected that any overhead communication assets may need to be relocated, in line with the aspirations of the Council, to enhance the public realm by creating 'green' landscape public spaces, clear of the 'clutter' of overhead infrastructure.

6. Conclusion

This desktop Infrastructure Servicing Assessment (ISA) has been prepared at the request of The City of Greater Geelong, to present a high-level servicing strategy and advice for the proposed area defined as the Gordon Avenue Precinct.

The Gordon Avenue Precinct is located close to Geelong's CBD, it incorporates a mix of high density, historical and contemporary architecture and land use. The existing utility services within the precinct range in age, material, standards and conditions.

All relevant services authorities were contacted to request information to identify and review existing services infrastructure within the Gordon Avenue Precinct. Some authorities have provided high level, preliminary responses regarding future servicing requirements. This information, along with collated existing service data and precedent developments have been used to confirm that network augmentation or alterations are required to service the developed precinct. Constraints associated with the development have also been identified for each service utility, where applicable.

The main augmentation works nominated in this report have been informed by the preliminary responses from service authorities, precedent developments and are subject to change. Augmentation works are predominantly required due to the increased capacity requirements triggered when developing and increasing population of an area, along with the requirement to design and construct utilities to current standards.

Authorities have provided high level, preliminary responses regarding future servicing requirements, constraints and opportunities associated with the development of the Gordon Avenue Precinct. To provide information on specific upgrades, extension or augmentation works, further comprehensive information such as development layout plans and architectural planning designs are required. At the time of writing this report, it can not be confirmed that all existing and proposed services can be accommodated within the existing road reserve network.

The desktop infrastructure Servicing Assessment for Gordon Avenue Precinct includes a high level costing of augmentation works which may be required when servicing the precinct. These costings have been incorporated within Appendix C of this report. These costings are preliminary in nature, the sequencing and number of stages the development is constructed in will have a large impact on the cost. These costings can be developed in line with future discussions with Service Authorities and Council as the planning for the precinct consolidates.

Appendices

Appendix A Typical Sections

GORDON AVENUE PRECINCT , GEELONG
SECTIONS - Figure A.1

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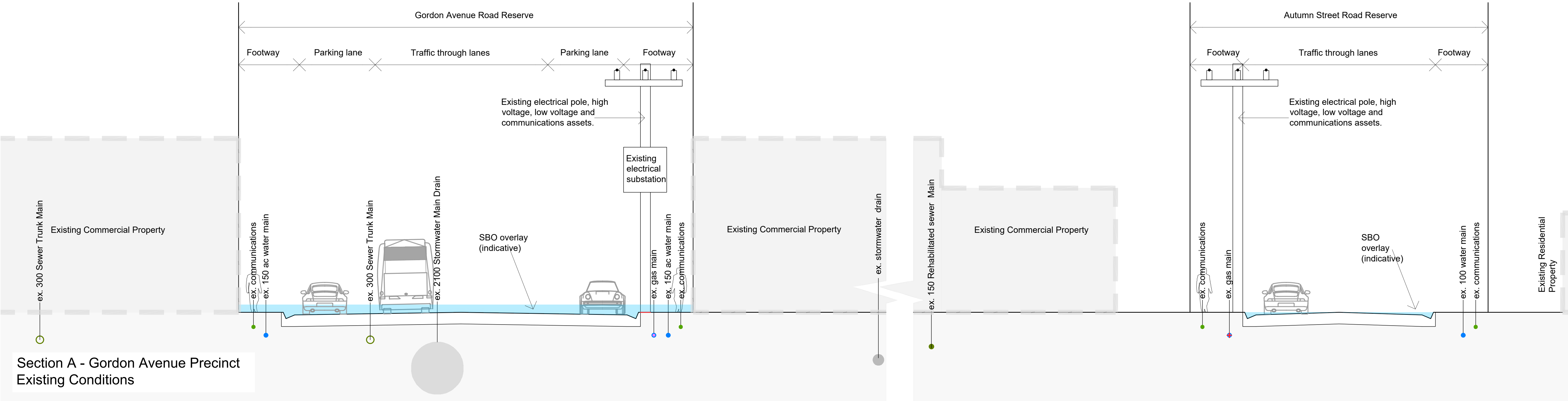

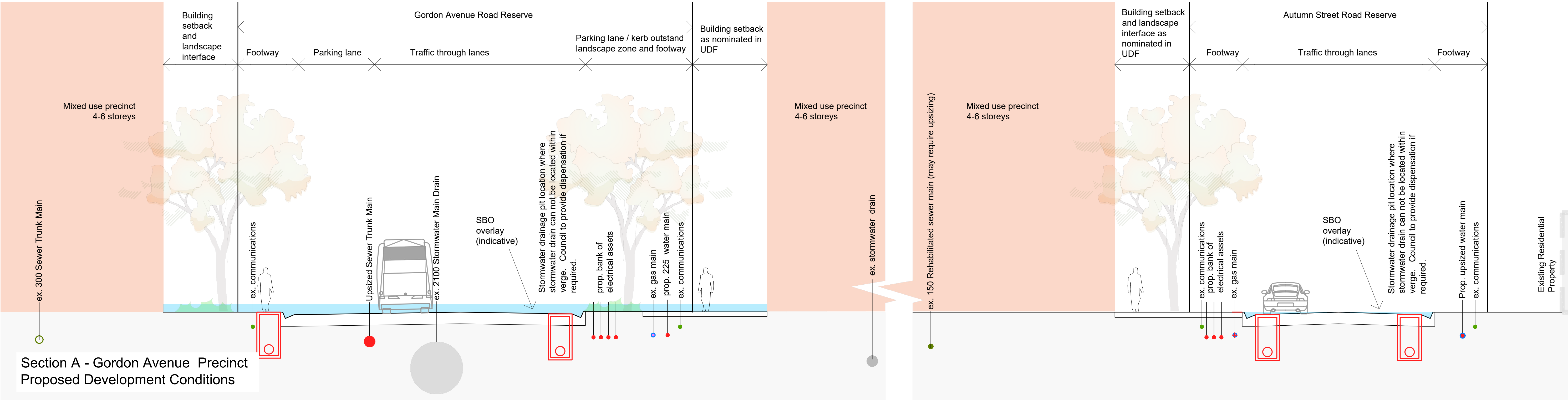

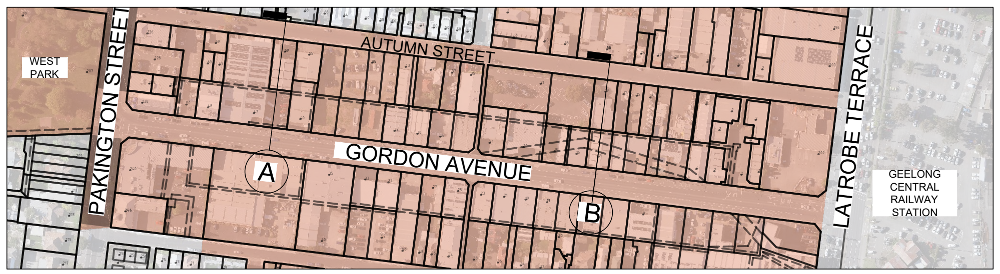

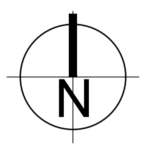

Notes:

- Services, assets and Special Building Overlay zones are shown at indicative locations , heights and diameters, to highlight the constraints of existing road reserves and verges. At the time of writing this report, it can not be confirmed if services (existing and proposed) can be accommodated within existing road verges or road reserves.
- In order to ascertain servicing upgrade works triggered by the development of the precinct, comprehensive modelling of the precinct and surrounding network is required.
- To facilitate the modelling and provide information on specific upgrades, extension or augmentation works, further comprehensive information such as development layouts and architectural concept designs are required.
- Dispensation may need to be procured from authorities, when locating infrastructure in locations not supported by current standards or protocols.

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GORDON AVENUE PRECINCT , GEELONG SECTIONS - FIGURE A.2

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02.10.2023
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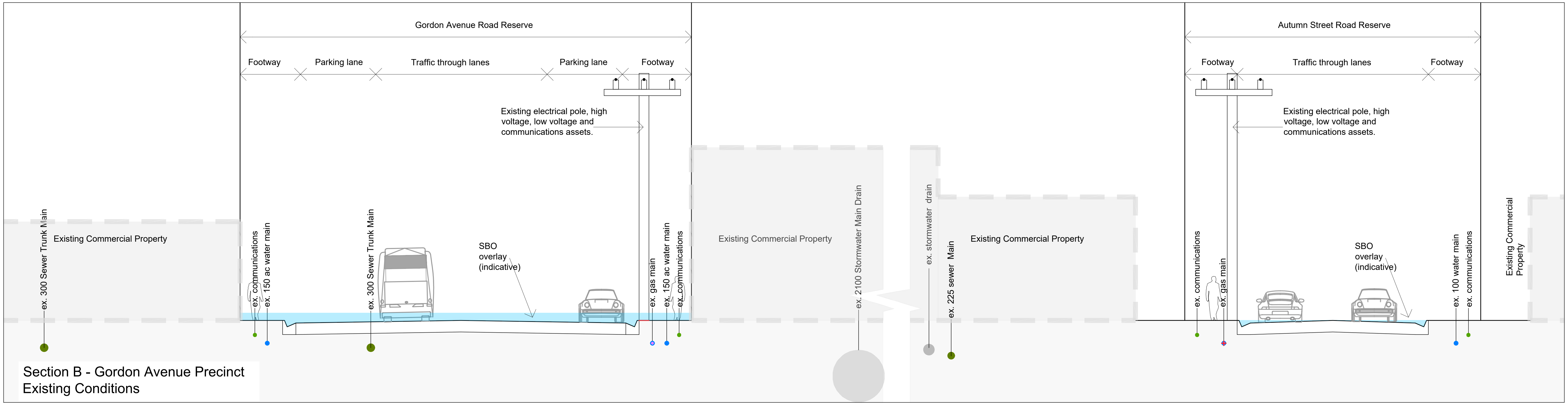
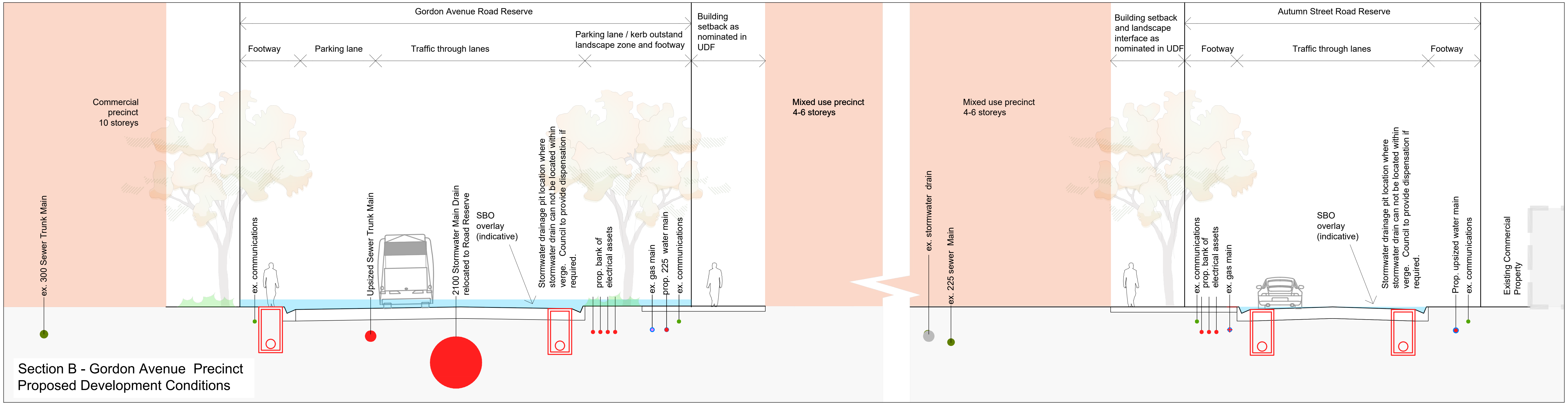


Section B - Gordon Avenue Precinct Existing Conditions



Section B - Gordon Avenue Precinct Proposed Development Conditions

N

Notes:

- Services, assets and Special Building Overlay zones are shown at indicative locations , heights and diameters, to highlight the constraints of existing road reserves and verges. At the time of writing this report, it can not be confirmed if services (existing and proposed) can be accommodated within existing road verges or road reserves.
- In order to ascertain servicing upgrade works triggered by the development of the precinct, comprehensive modelling of the precinct and surrounding network is required.
- To facilitate the modelling and provide information on specific upgrades, extension or augmentation works, further comprehensive information such as development layouts and architectural concept designs are required.
- Dispensation may need to be procured from authorities, when locating infrastructure in locations not supported by current standards or protocols.

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Appendix B Authority Responses

B.1 City of Greater Geelong : Stormwater Servicing / Special Building Overlay Advice

Infrastructure Planning
City of Greater Geelong

Flood Advice

Application/Referral Date:	**9 August 2023**	**Report Ref:**	**SBO-23399-FA**

Site address/location:	Gordon Avenue Precinct, GEELONG WEST
Request/Proposal for:	Flood advice with mapping and development constraints
Applicant/Planner:	Simone knott, simone.knott@stantec.com
Request type:	Flood Advice - Indicative/Information
Assessed plan/request (Record No.):	D23-383260

According to the City's flood study outcome/data, the subject precint is severly impacted by stormwater flooding as one of the Geelong's most prominent urban overland flowpath passess through this area. The SBO/stormwater flood extent due to 1% AEP rainfall covers significant parts of the precinct with flood depth in excess of 0.50 metres (with a few exceptions of exceeding 1m). The precinct may also be severly affected by flooding due to rainfall more frequent than 1% AEP (Annual Exceedance Probability).

To have nominal flood protection, the required minimum finished floor levels for habitable and non-habitable (garages, sheds etc.) buildings respectively are 300 and 150 mm freeboards above the applicable flood level. In general, a floor should be at least 150 mm above the adjoining ground/finished surface even not flood-prone.

The Victorian State government Guidelines for Development in Flood Affected Areas 2019 (by the then DELWP) sets the criteria for assessment of any development plans in relation to flood risks. Also, the Planning Scheme Ordinances in relation to SBO of the City of Greater geelong set the criteria for permitting or restricting development in the subject precinct. Very briefly, the City will restrict a development if:

(a) Flood depth and/or flow is a significant hazard within the property
(b) Flood depth and/or flow is a significant hazard to property access/egress
(c) A development will significantly obstruct overland flow path
(d) A development/building-floor will not provide required minimum freeboard (as stated above)
(e) A development will adversely impact other properties or infrastructure

Please note that the above are highly indicative advice. The official/legislative documents including acts, ordinances, guidelines etc. will determine the outcome of the assessment of an actual development plan which is often unique with reference to flood risks. As such, the assessment of the plans require careful considerations case-by-case basis.

General Notes

This report is based on the information provided by the applicant along with the available levels and topographical data - all to (or considered to) Australian Height Datum (AHD). The report does not represent or imply approval of any proposals/plans and is valid for one year.

The State Government Guidelines document for Development in Flood Affected Areas sets the requirements and decision-making criteria. This assessment is generally based on the computations of flooding due to 1% AEP (Annual Exceedance Probability) design rainfall.

Should the stated requirements be not met, a report detailing the flood risk/impact based on hydraulic modelling must be submitted for review.

Prepared By:		Date:	15/09/2023
Checked By:		Date:	

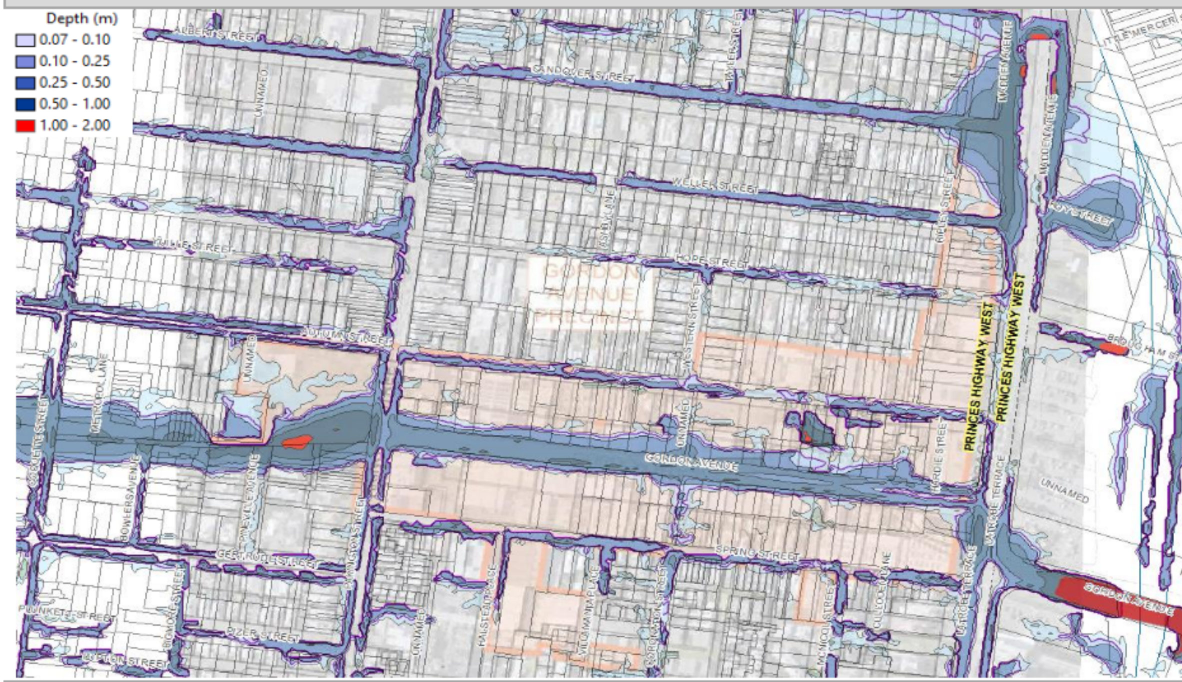
Please contact us as required via email (preferable) at stormwater@geelongcity.vic.gov.au or phone at (03) 5272 5272

Flood Assessment

Flood Maps/Plans

App./ref. Date:	9 August 2023	Report Ref:	SBO-23399-FA

SITE PLAN & FLOOD MAP



Prepared

Name:		Date:	15-September-2023

B.2 Barwon Water: Servicing Advice

From:
Sent: Tuesday, August 29, 2023 9:27 AM
To:
>
Subject: Gordon Avenue ISA - background information - High Level Advice Only - BW Response 29 08 2023

Please see the response I have received from our Network Planning Team after our meeting on 23rd August 2023 via Teams

Please refer below response with regards to the development query relating to the Gordon Ave Precinct. Barwon Water have been advised Stantec have been engaged by the City of Greater Geelong to prepare an Infrastructure Services Assessment for the proposed Gordon Avenue Precinct growth area located in Geelong West and have subsequently requested preliminary servicing advice from Barwon Water. Refer to Figure 1 for the growth area extent.

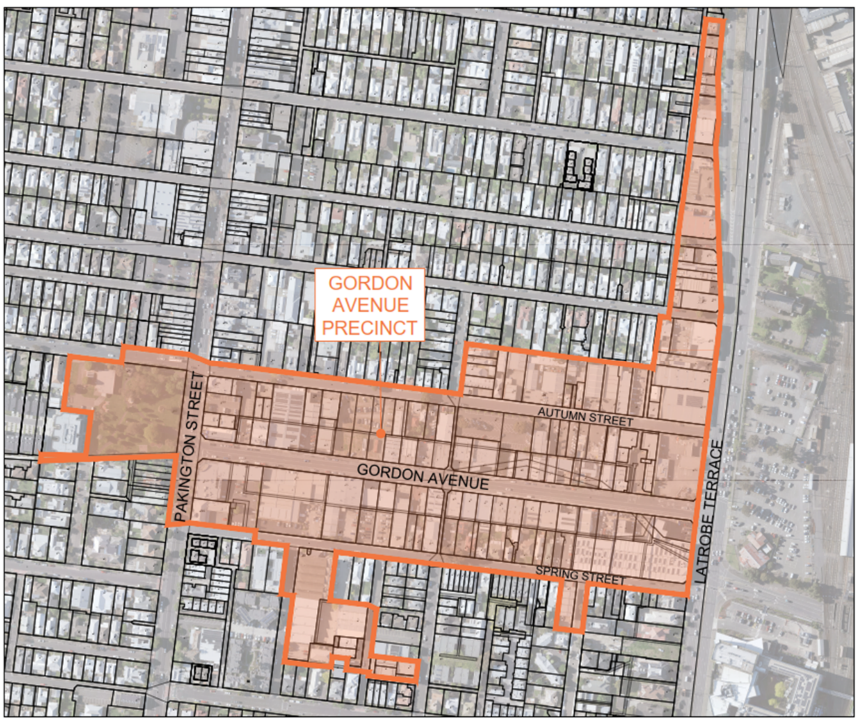


Figure 1 - Gordon Avenue Precinct Boundary

Source: Stantec, 2023

The Pakington Street & Gordon Avenue Urban Design Framework (final; Dec. 2021) prepared by the City of Greater Geelong (A24790109) represents a 25+ year strategy for the redevelopment of Geelong West. The proposed Gordon Avenue Precinct seeks to re-zone the growth area in accordance with Figure 2. The development's ultimate form will see a greater presence of Residential Growth and Mixed-Use zones. Furthermore, building heights within the precinct are proposed to increase in accordance with Figure 3. The proposed change will see buildings heights from 4-10 stories, with the tallest buildings located along Latrobe Tce in the south-east corner of the precinct. Advice provided by Stantec indicates that the Gordon Avenue Precinct could have a total estimated population of 8,200 (resident and worker population) in the precinct's ultimate form. It is not yet clear from the documentation provided whether the precincts are proposed to be serviced with alternative water or whether an Integrated Water Management plan will be developed.

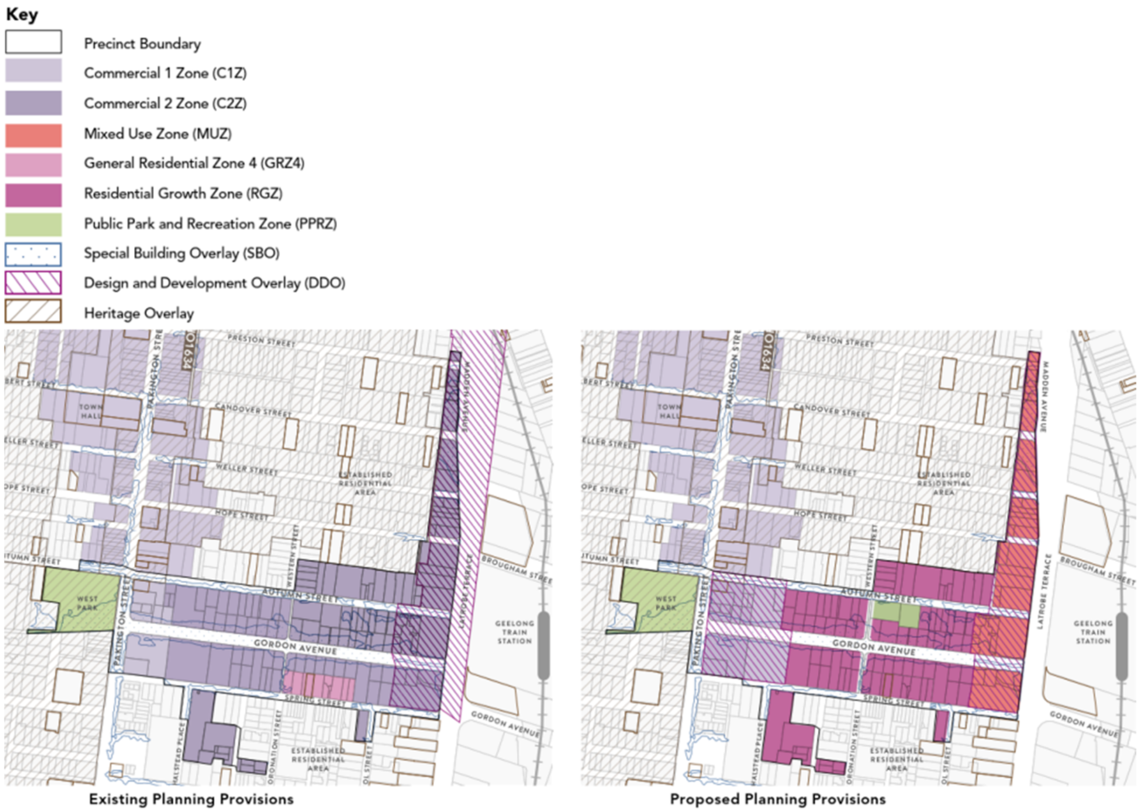


Figure 2 - Existing and Proposed Planning Provisions

Source: City of Greater Geelong, 2021

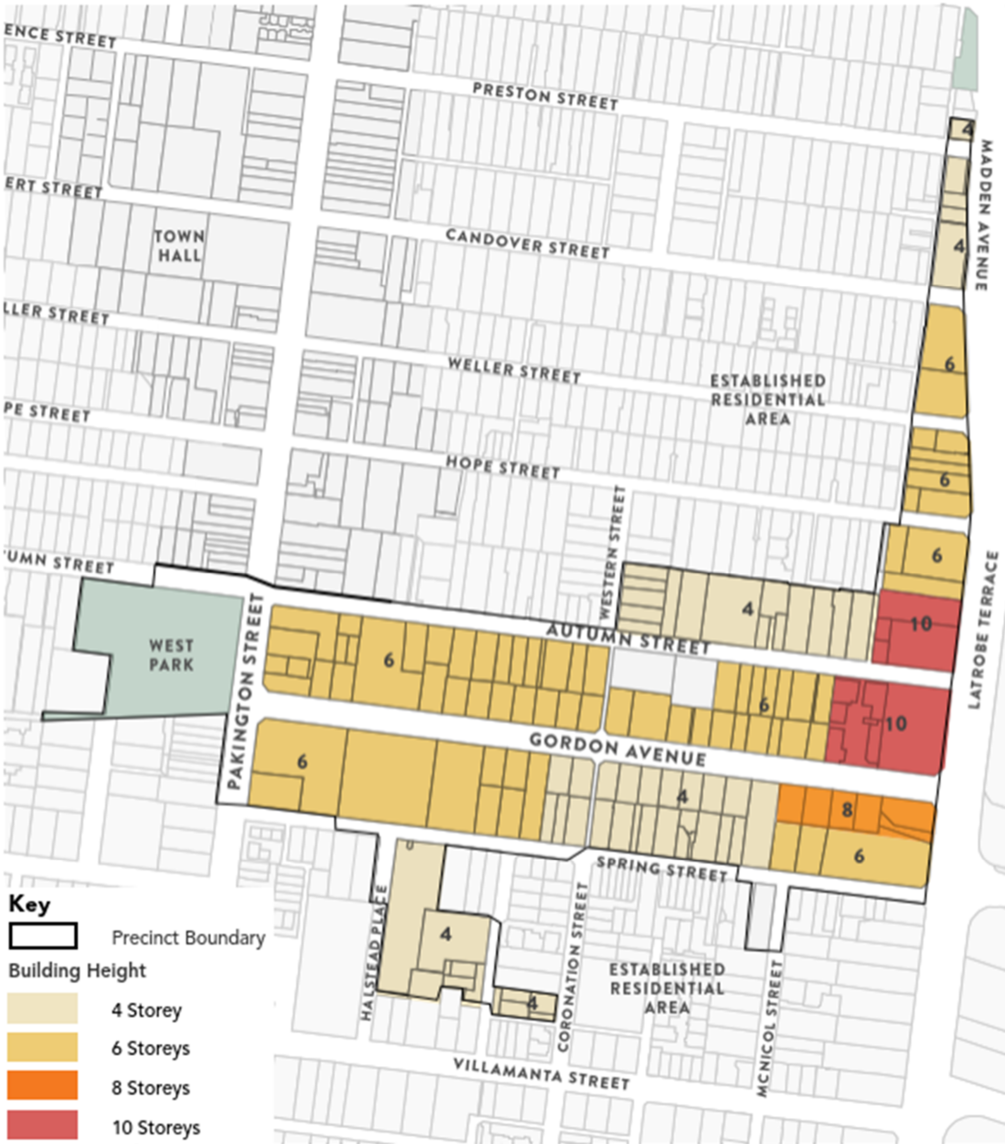


Figure 3 - Proposed Building Heights

<u>Source:</u> City of Greater Geelong, 2021

The advice provided below is preliminary only and based on very limited information given to Barwon Water. In order to determine network capacity and limitations, and sizing and alignment of required infrastructure upgrades, extensive water and sewer modelling will be required. This advice is also subject to change once an evaluation of Barwon Water's network capacity has taken place in the context of the remaining precincts as per the Urban Design Framework (Pakington North Precinct and Heritage Core Precinct).

Sewerage Infrastructure

The precinct is currently serviced with reticulated sized assets and is bounded by strategic sewer assets, including DN300 and DN375 trunk sewers in Gordon Ave and Spring St, respectively, and the DN1050 Main Outfall Sewer in Latrobe Tce. Much of Geelong's upstream catchments are connected to this network and therefore capacity limitations are anticipated. The sewers within the precinct are at/nearing the end of their service life (> 100 years old) and require replacing. A significant proportion of the reticulated network surrounding Gordon Ave will be required to be upsized due to the significant growth in the precinct. A new sewer main is likely required along Gordon Ave to service much of the new development. The outfall location of this new main will depend on the capacity of the downstream network. It may be possible to stage the construction of this main by first connect it to the DN225 RC main in Gordon Ave. Modelling will determine whether a direct connection to the Main Outfall Sewer in Latrobe Tce is required to service ultimate growth. Refer to Attachment 1 for a preliminary overview of the sewer network implications.

Potable Water Infrastructure

The precinct is currently serviced with reticulated sized assets as well as strategic mains which are a part of the Highton pressure zone (FSL = 81m. AHD). Many of the DN100 and DN150 mains require replacing due to their material type (being Asbestos or Fibro Cement), or due to asset age. Other reticulated mains require upsizing due to insufficient capacity to service general water supply and fire services associated with the proposed growth. The DN375 CI feeder main in Pakington St requires replacing due to asset age (construction date 1893). To provide a secure supply for the precinct, a new feeder main is required that will connect the existing DN450 feeder main on the east side of Latrobe Tce to the replacement feeder main in Pakington St. Property connections are not permitted to water mains greater the DN225. Privately owned tank and pump systems to service hydrant and sprinkler system(s) may be required depending on each building's fire service requirements. Refer to Attachment 2 for a preliminary overview of the water network implications.

Summary

The Developer and/or their consultant is to contact Barwon Water for revised servicing advice once more information and certainty regarding the proposed development is known. At such time, Barwon Water will undertake a comprehensive review of the development proposal to refine the infrastructure servicing requirements.

Regards

Acting Property Development Team Leader | Enterprise Project Delivery

Barwon Water
Tel: 52 269 297

55 - 67 Ryrie St, (PO Box 659) Geelong VIC 3220

www.barwonwater.vic.gov.au

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I care. We care.

Your customer experience and service needs are important to us.

Please take our short survey here

B.3 Powercor Australia (Powercor): Servicing Advice

Sent: Tuesday, August 1, 2023 10:22 AM

Subject: FW: Gordon Ave ISA - Powercor

Sorry for the confusion, Powercor has just upgraded our website to provide additional services showing our network on an interactive map base. You can visit this page via this link; Network Visualisation Portal. If you still require an actual layer of data for your report, then you can make this request via Network Data Request Portal

This is the new established process to manage all data requests for our networks.

Thanks

B.4 NBN Co: Servicing Advice

RE: [External] FW: 304401044 Gordon Ave ISA - Comms

DM

Mon 1:31 PM

We have completed a high-level review of the Gordon Avenue Precinct and it is in an existing fixed line footprint.

As a result of the location, there will be no backhaul costs associated with any new development application(s) to **nbn**.

The existing site should have enough capacity for future growth; however we also review the capacity based on the new development applications received. If additional capacity is required to service the new development(s), then **nbn** will undertake any required works to enable us to service the new development(s) at no additional cost to the developer.

The information provided (and any future updates) will feed into our long term planning data and potentially trigger ahead of time planning.

If you have any further questions, please let me know.

Regards,

Senior Account Manager, New Developments (Vic/Tas)

M +61 401 508 020 | I

Tower 5, Collins Square, 727 Collins Street, Melbourne VIC 3008

UDIA COMMITTEE MEMBER 2023-2025

REGIONAL: GEELONG CHAPTER

Appendix C Costings

GORDON AVENUE URBAN DESIGN REPORT
INFRASTRUCTURE SERVICING ASSESSMENT
COST ESTIMATE
04/10/23 REV01

A	**DRAINAGE - DEVELOPMENT COST ESTIMATE**				
1	Consulting fees, including planning, project management, design and construction management *To be included with development of site.* *Allow 10% of construction cost*	1	Item	$ 287,000.00	$ 287,000
2	Construction costs, drainage pipe & pit upgrade and removal of 2100mm dia line in easement.	1	Item	$ 2,870,000.00	$ 2,870,000.00
3	Service authority fees, including permits and applications as required. *Allow 5% of construction cost* *Highly dependant on the number of stages the development is completed.*	1	Item	$ 143,500.00	$ 143,500.00
	TOTAL OF DRAINAGE AND ROAD - DEVELOPMENT COST ESTIMATE				**$ 3,300,500.00**
B	**SEWER INFRASTRUCTURE SERVICING**				
4	Consulting fees, including planning, project management, design and construction management *To be included with development of site.* *Allow 10% of construction cost*	1	Item	$ 156,000.00	$ 156,000.00
5	Construction costs, works associated with the shutdown and connection to existing assets as required.	1	No.	$ 1,560,000.00	$ 1,560,000.00
6	Service authority fees, including permits and applications as required. *Allow 5% of construction cost* *Highly dependant on the number of stages the development is completed.*	1	Item	$ 78,000.00	$ 78,000.00
	TOTAL OF SEWER INFRASTRUCTURE SERVICING				**$ 1,794,000.00**
C	**POTABLE WATER INFRASTRUCTURE SERVICING**				
7	Consulting fees, including planning, project management, design and construction management *To be included with development of site.* *Allow 10% of construction cost*	1	Item	$ 205,000.00	$ 205,000.00
8	Construction costs, works associated with the shutdown and connection to existing assets as required	1	No.	$ 2,050,000.00	$ 2,050,000.00
9	Service authority fees, including permits and applications as required. *Allow 5% of construction cost* *Highly dependant on the number of stages the development is completed.*	1	Item	$ 102,500.00	$ 102,500.00
	TOTAL OF POTABLE AND RECYCLED WATER INFRASTRUCTURE SERVICING				**$ 2,357,500.00**

GORDON AVENUE URBAN DESIGN REPORT
INFRASTRUCTURE SERVICING ASSESSMENT
COST ESTIMATE
04/10/23 REV01

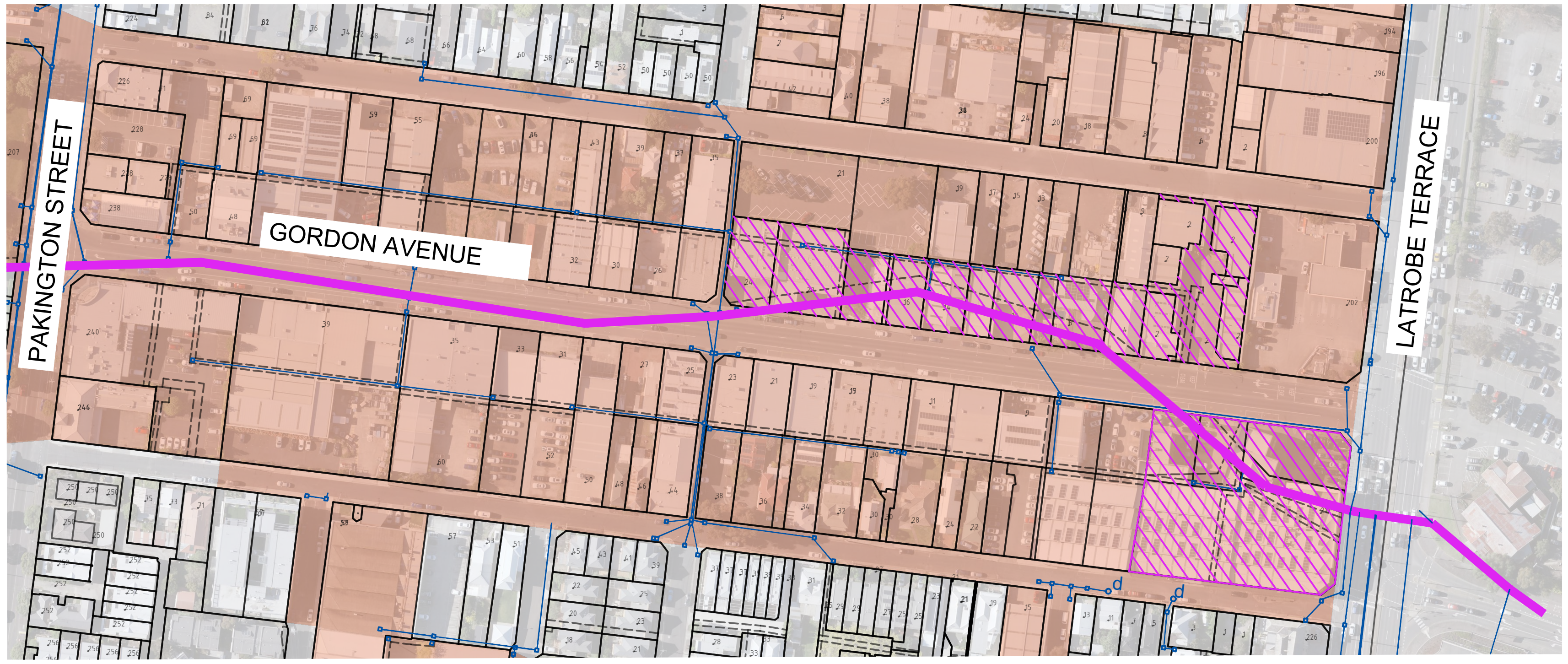
D	**ELECTRICAL INFRASTRUCTURE SERVICING**						
10	Consulting fees, including planning, project management, design and construction management *To be included with development of site.* *Allow 10% of construction cost*	1	Item	$	452,000.00	$	452,000.00
11	Construction costs, works associated with the shutdown and connection to existing assets as required	1	No.	$	4,520,000.00	$	4,520,000.00
12	Service authority fees, including permits and applications as required. *Allow 5% of construction cost* *Highly dependant on the number of stages the development is completed.*	1	Item	$	226,000.00	$	226,000.00
	TOTAL OF ELECTRICAL INFRASTRUCTURE SERVICING					**$**	**5,198,000.00**
E	**CONTINGENCIES**						
13	PROVISIONAL ITEM Contingencies *Allow 10%*	1	Item	$	1,270,000.00	$	1,270,000.00

A	**DRAINAGE AND ROAD - DEVELOPMENT COST ESTIMATE**	**$**	**3,300,500.00**
B	**SEWER INFRASTRUCTURE SERVICING**	**$**	**1,794,000.00**
C	**POTABLE AND RECYCLED WATER INFRASTRUCTURE SERVICING**	**$**	**2,357,500.00**
D	**ELECTRICAL INFRASTRUCTURE SERVICING**	**$**	**5,198,000.00**
E	**CONTINGENCIES**	**$**	**1,270,000.00**
	INFRASTRUCTURE SERVICING SUBTOTAL:	**$**	**13,920,000.00**
	G.S.T :	**$**	**1,392,000.00**
	INFRASTRUCTURE SERVICING SUBTOTAL (Including GST)	**$**	**15,312,000.00**

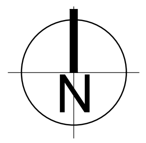
Appendix D Stormwater Relocation Works

GORDON AVENUE
PRECINCT , GEELONG
STORMWATER APPENDIX D

Scale: As Shown
02.10.2023
Rev. 01



LEGEND	
	Existing 2100mm Ø main drain
	Properties directly affected by (but not limited to) potential removal of existing 2100Ø main drain and associated easements



Properties directly affected by (but not limited to) potential removal of existing 2100Ø main drain and associated easements;

- 2,4,6-8,10-12,14,16,18,20 and 24 Gordon Avenue
- 212-224 Latrobe Terrace

PROPERTIES AFFECTED BY POTENTIAL REMOVAL OF 2100Ø mm STORMWATER DRAIN

NOT TO SCALE

Stantec

Level 1, 27-31 Myers Street
(PO Box 1137)
Geelong, VIC Australia 3220
Phone +61 3 5202 4600 Fax +61 3 5202 4691
ABN 17 007 820 322
Web: www.stantec.com

U:\304401044\100-03G - CIVIL\DWG\304401044-200 (SERVICING INFORMATION REQUEST) COMMS DRAINAGE ROAD WATER SEWER.DWG

Stantec Australia Pty Ltd
Level 1,
27-31 Myers Street
Geelong VIC 3220
Tel +61 3 5202 4600