



INFRASTRUCTURE DELIVERY, MANAGEMENT AND STAGING PLAN

47526_RPT_01 - 93-107 Cecil Ave, & 9-10 Roger
Ave, Castle Hill

POWERED BY
neuron

Date 2024-12-10 - Revision 01.



AUTHORITY
INTERFACE

EXEC SUMMARY

SITE OVERVIEW

STAGING
IMPLICATIONS

BUILDING
CONNECTIONS

- > POWER
- > COMMS
- > WATER
- > GAS
- > SEWER
- > STORMWATER

Executive Summary

This report has been prepared to accompany a detailed State Significant Development Application (SSDA) for a proposed mixed use residential development at 93-107 Cecil Ave & 9-10 Roger Ave, Castle Hill.

The minister for Planning and Public Spaces, or their delegate, is the consent authority for the SSDA and this application is lodged with the NSW Department of Planning, Housing and Infrastructure (NSW DPHI) for assessment.

This report has been prepared in response to the requirements contained within the Planning Secretary’s Environmental Assessment Requirements (SEARs) dated 29th November 2024.

The specific SEARs that this report has been prepared in relation to is listed within the below table.

Table 1 - SEARs Requirements

SEARs Item	Issue and Assessment Requirement	Document	Section of this report which responds to the SEARs requirement
21. Infrastructure Requirements and Utilities	In consultation with relevant service providers: Assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.	Infrastructure Delivery, Management and Staging Plan	Building Connections - All
	Identify any infrastructure required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained	Infrastructure Delivery, Management and Staging Plan	Building Connections - All
	Provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be coordinated, funded and delivered to facilitate the development.	Infrastructure Delivery, Management and Staging Plan	Staging Implications

SITE OVERVIEW

This project consists of the redevelopment of 93-107 Cecil Ave, & 9-10 Roger Ave, Castle Hill. The proposal is for a mixed-use development comprising the following:

- Demolition of existing buildings
- Construction of four mixed-use buildings above carpark levels.
- The development incorporates non-residential uses on the ground floor, upper ground floor, level 01 and level 02.
- A total of approximately 615 apartments are proposed, including 169 affordable apartments.
- A total non-residential GFA of 8,025m2
- Vehicle access to the site is proposed from Cecil Avenue with a carpark accommodating 979 spaces.
- The application proposed the staged construction of the buildings. The proposed stages are as follows:
 - Stage 1 - Building A and B
 - Stage 2 - Building C
 - Stage 3 - Building D

This report is based on the area schedules and A+ Design Group reference scheme dated 2024-12-04. These drawings and area schedules were used as the basis of this preliminary analysis.



STAGING IMPLICATIONS

The proposed development has three stages to consider for the infrastructure utility works and the programme for applications, design and construction need to be carefully developed in order to meet the overall development programme. The proposed utility works is to treat each of the phases as individual torrens title lots. The final staging and delivery of the project is subject to the developers intent of the site, therefore we have allowed utility infrastructure to service each phase individually without comprising the other stages.

Decommissioning Utilities

Decommission of existing services to buildings and then buildings demolished. Clean site for excavation.

- Power: Application to Endeavour Energy as part of the overall substation application process.
- Communications: Existing Telstra, NBN and Optus connections to be decommissioned.
- Gas: Existing medium pressure gas main to be decommissioned.
- Water: Sydney Water application to disconnect water (or modify for construction purposes)
- Sewer: Sydney Water application to disconnect sewer (or modify for construction purposes)

Early Works Utility Modifications

To allow early works, the following scope is to be considered;

- Power: HV Feeder extended to the site in consultation with Endeavour Energy and an ASPL3. Coordination with builders supply for construction.
- Communications : Chosen fibre/s to be extended to each site.
- Gas: No works required
- Water: Supply - New Water main extended to site within Stage 1.
- Sewer: Undertake building plan approval process to divert the existing sewer mains that run through the site. (This will be major works) Review detailed sewer analysis with Sydney Water to confirm final connection locations for each stage

Utility works for the Proposed development

Refer to the subsequent sections of this report for details.

- Power: New substation arrangement to be built once the site has been developed to the ground floor of stage 1. Connection to further stages to follow.
- Communications: NBN, Telstra or Optus adjacent to the site for each phase.
- Gas: All electric development, gas not required.
- Water supply: Finalised application with proposed connection to the adjacent water main.
- Sewer: Finalised application with confirmation of sewer connection as per early works statement. Each building to have its own connection.

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ELECTRICAL INFRASTRUCTURE

EXISTING POWER INFRASTRUCTURE

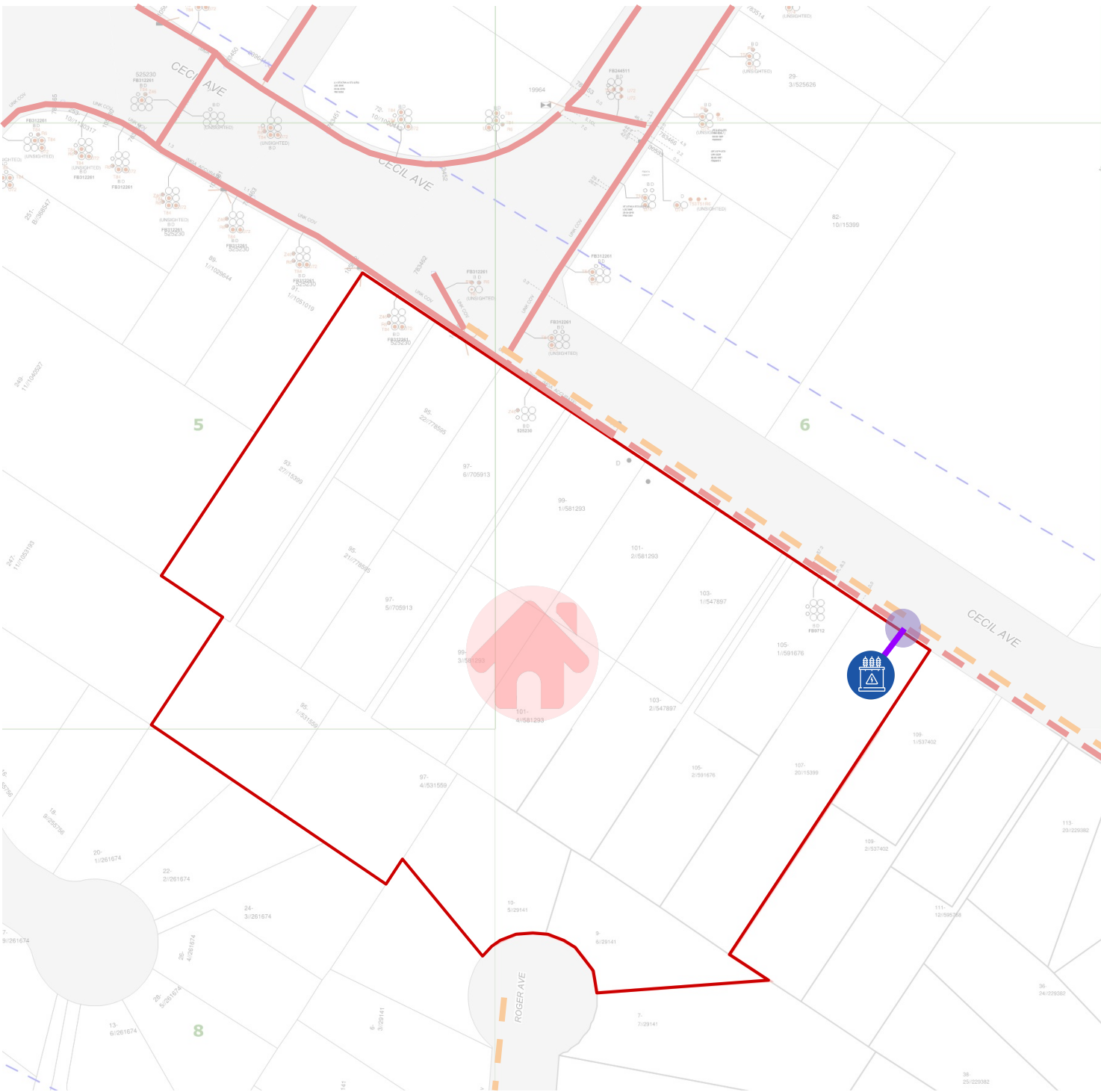
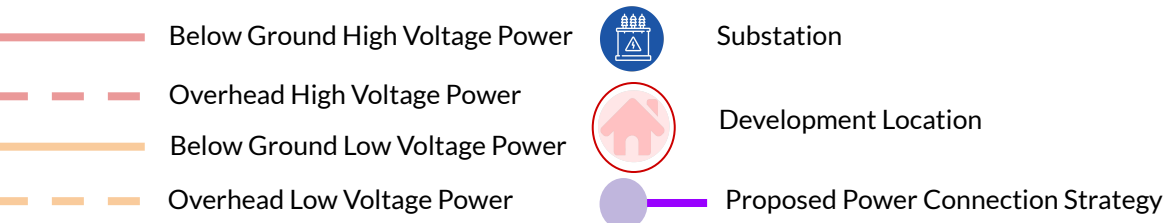
The Endeavour Energy network maps indicate that the nearest High Voltage available for substation loop-in is adjacent to the site with connection opportunities along Cecil Avenue.

There are no existing substations or other power infrastructure on the site. There are power line on the road reserve that will be undergrounded. Details of this are to be provided with the Construction Certificate Plans.

A detailed review of power supply along Cecil Avenue to be carried out with project stakeholders.

At the time of this report no formal feedback has been received from Endeavour Energy.

Power Infrastructure Map



ELECTRICAL INFRASTRUCTURE

AUTHORITY INTERFACE

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STAGING IMPLICATIONS

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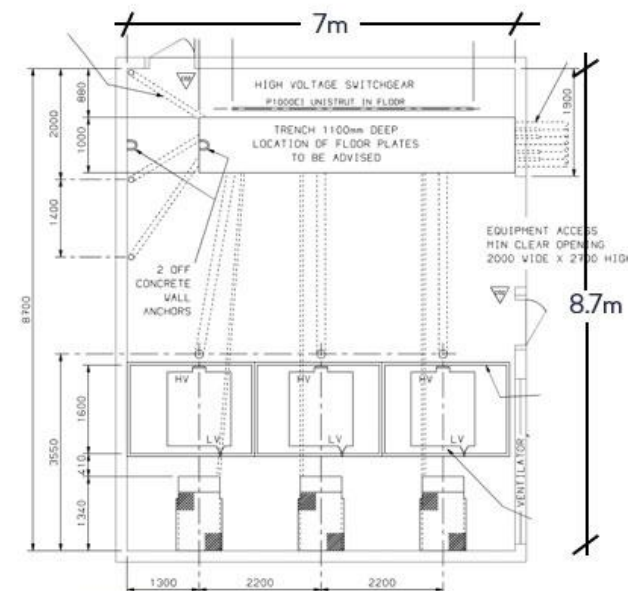
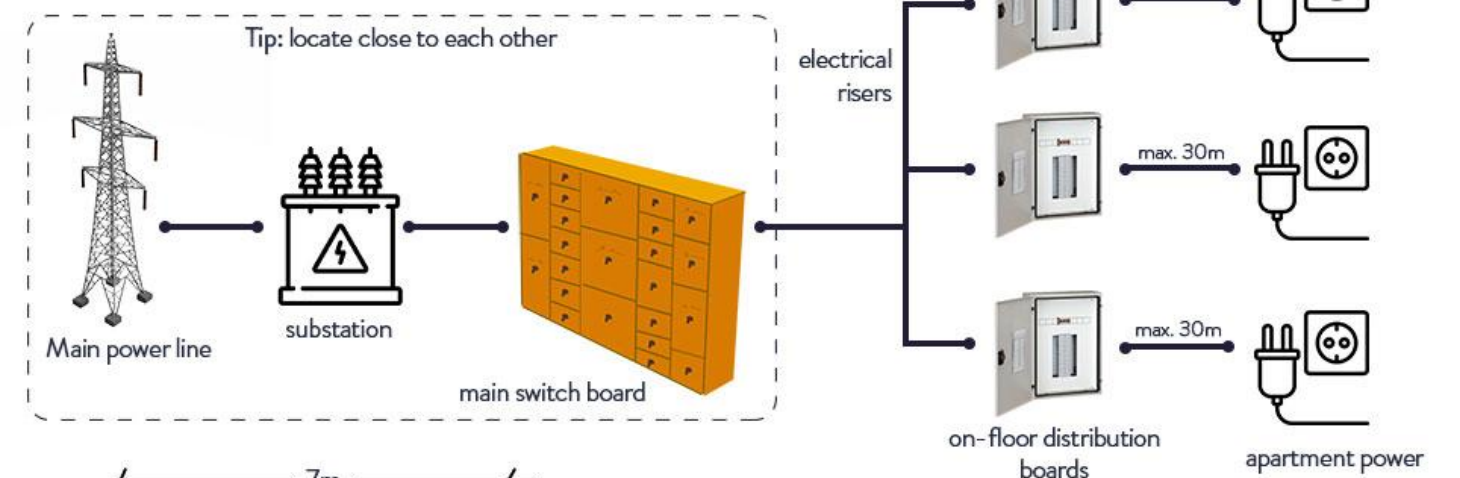
PROPOSED ELECTRICAL SERVICES

The preliminary maximum demand for the site is 6,640 amps or (3,761 kVA diversified).

The site will likely require a new substation with three x 1,500kVA transformers.

As part of the next phase of works, an ASP Level 03 consultant will be engaged to begin the detailed design of this substation, including consultation with Endeavour.

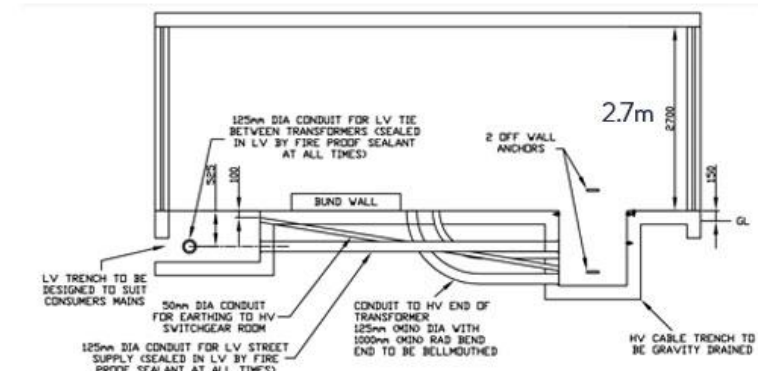
Electrical infrastructure overview



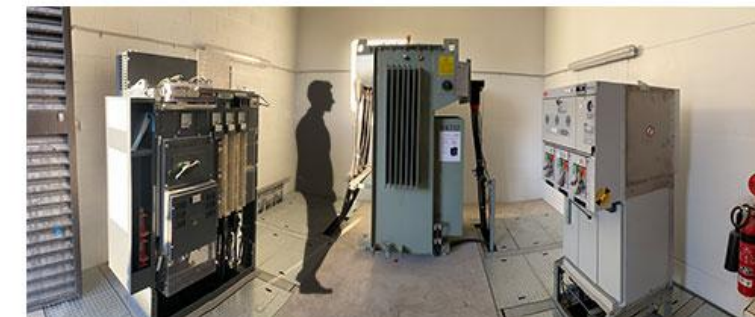
Chamber substation plan



Ventilation louvres on the front of a chamber substation



Chamber substation section



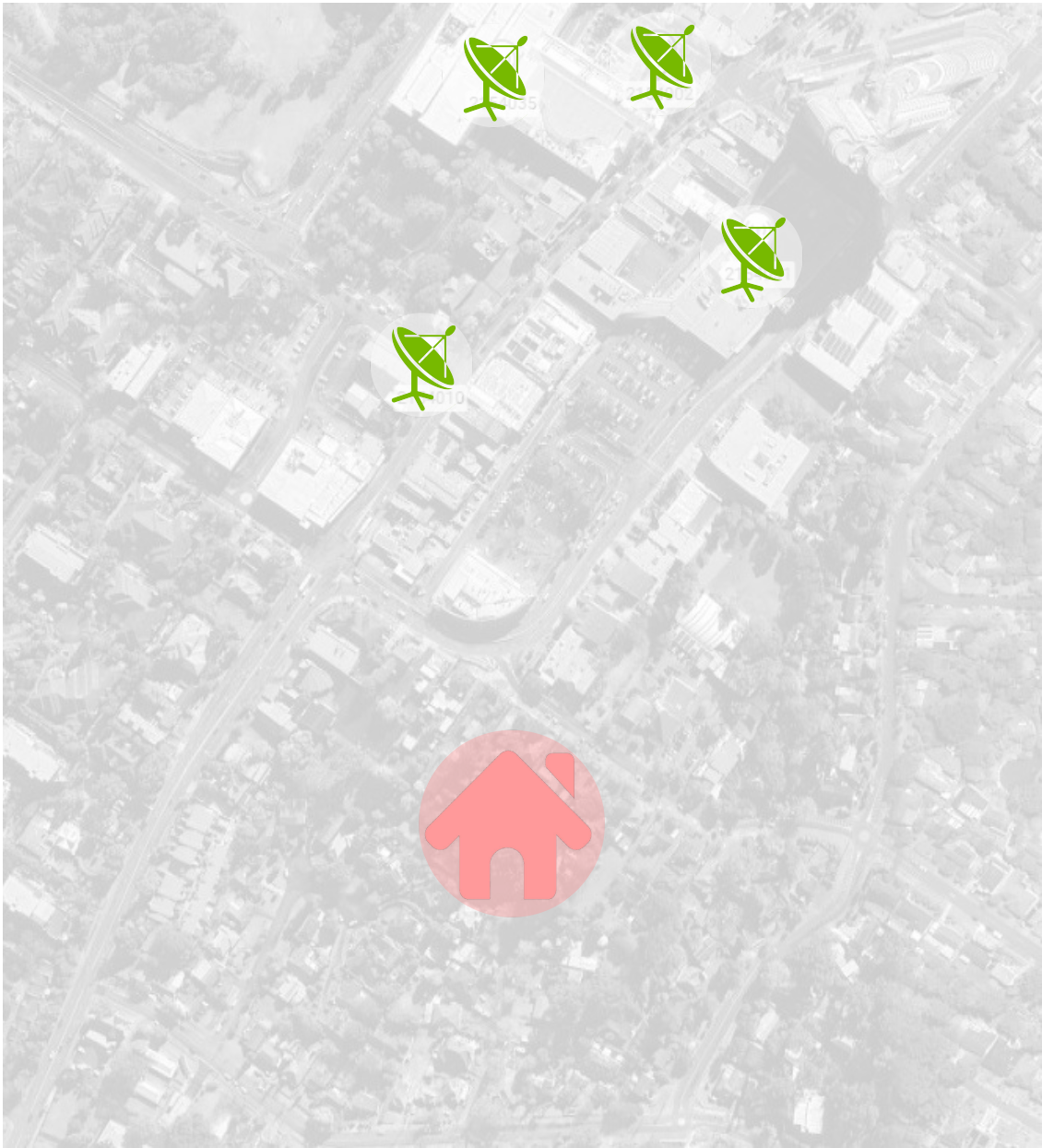
Inside a chamber substation

- > POWER
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COMMUNICATIONS INFRASTRUCTURE

Mobile base stations

There are no carrier mobile base stations located on this site. There are multiple mobile base stations within the area to provide connectivity to the site.



Mobile Base Station Map



Existing Mobile Base Station



Development Location

COMMUNICATIONS INFRASTRUCTURE

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

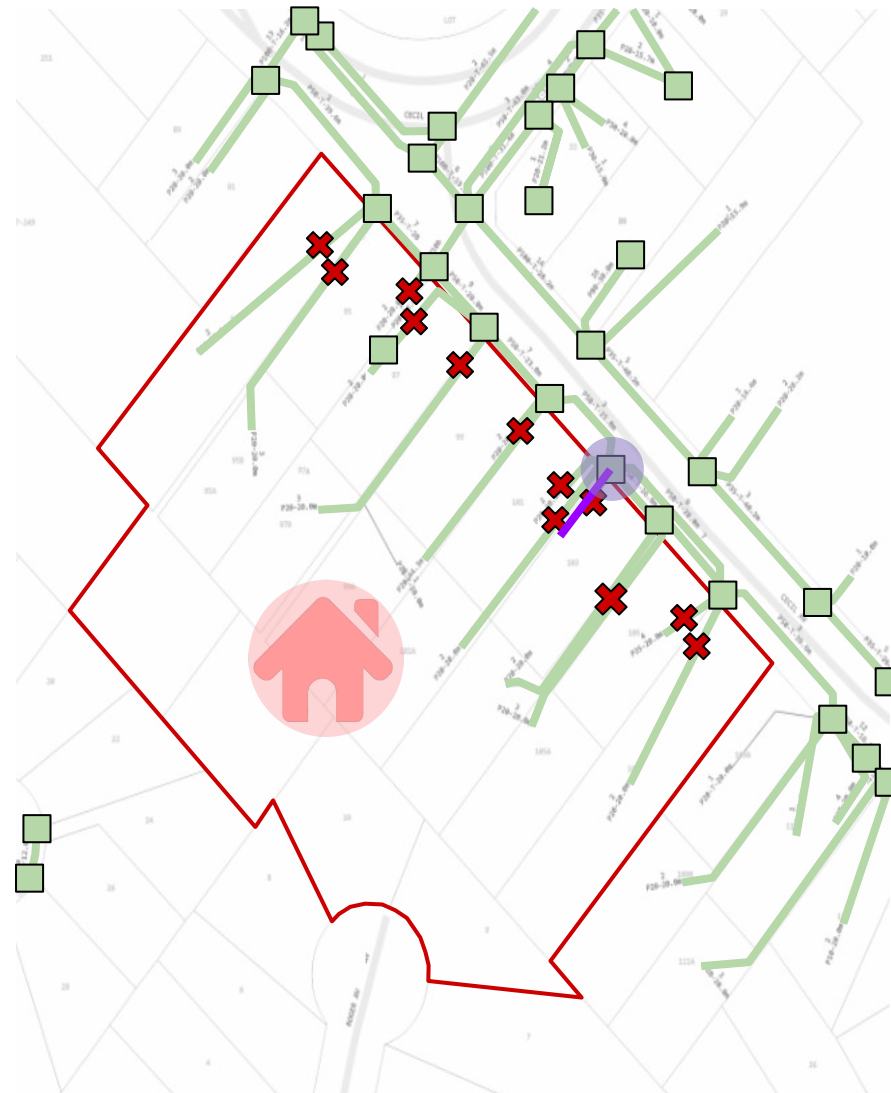
STAGING IMPLICATIONS

BUILDING CONNECTIONS

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NBN

The existing NBN carrier service infrastructure is illustrated below. As shown, there is a connection opportunity available for this site. There is existing NBN infrastructure running through the site which will be removed prior to excavation. Careful coordination with NBN will be undertaken during the next stage of the project to coordinate the required works.

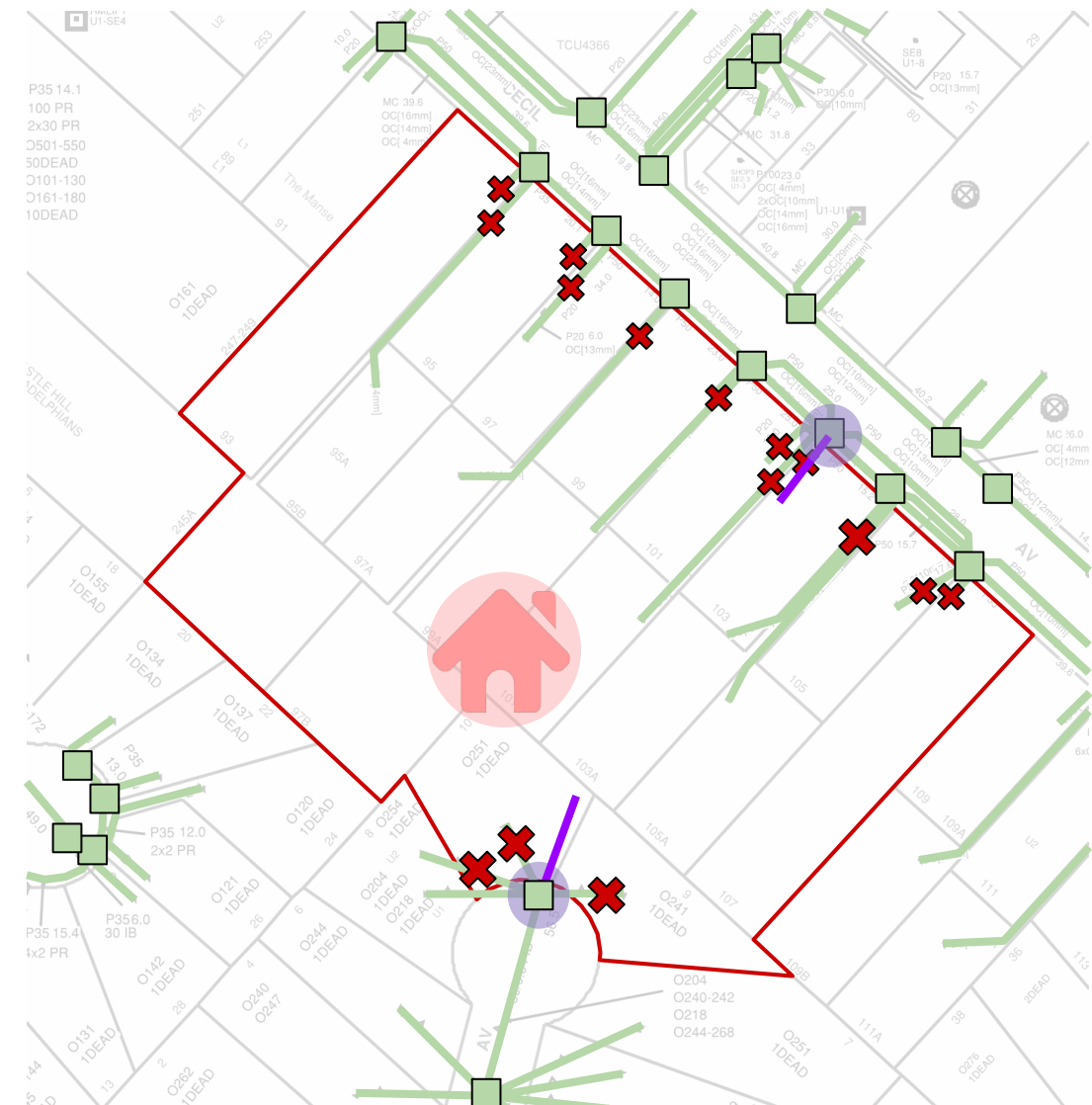


Fibre Infrastructure Map

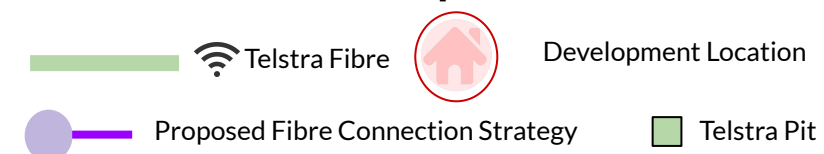


Telstra

The existing Telstra carrier service infrastructure is illustrated below. As shown, there are connection opportunities available for this site. There is existing Telstra infrastructure running through the site which will be removed prior to excavation. Careful coordination with Telstra will be undertaken during the next stage of the project to coordinate the required works.



Fibre Infrastructure Map

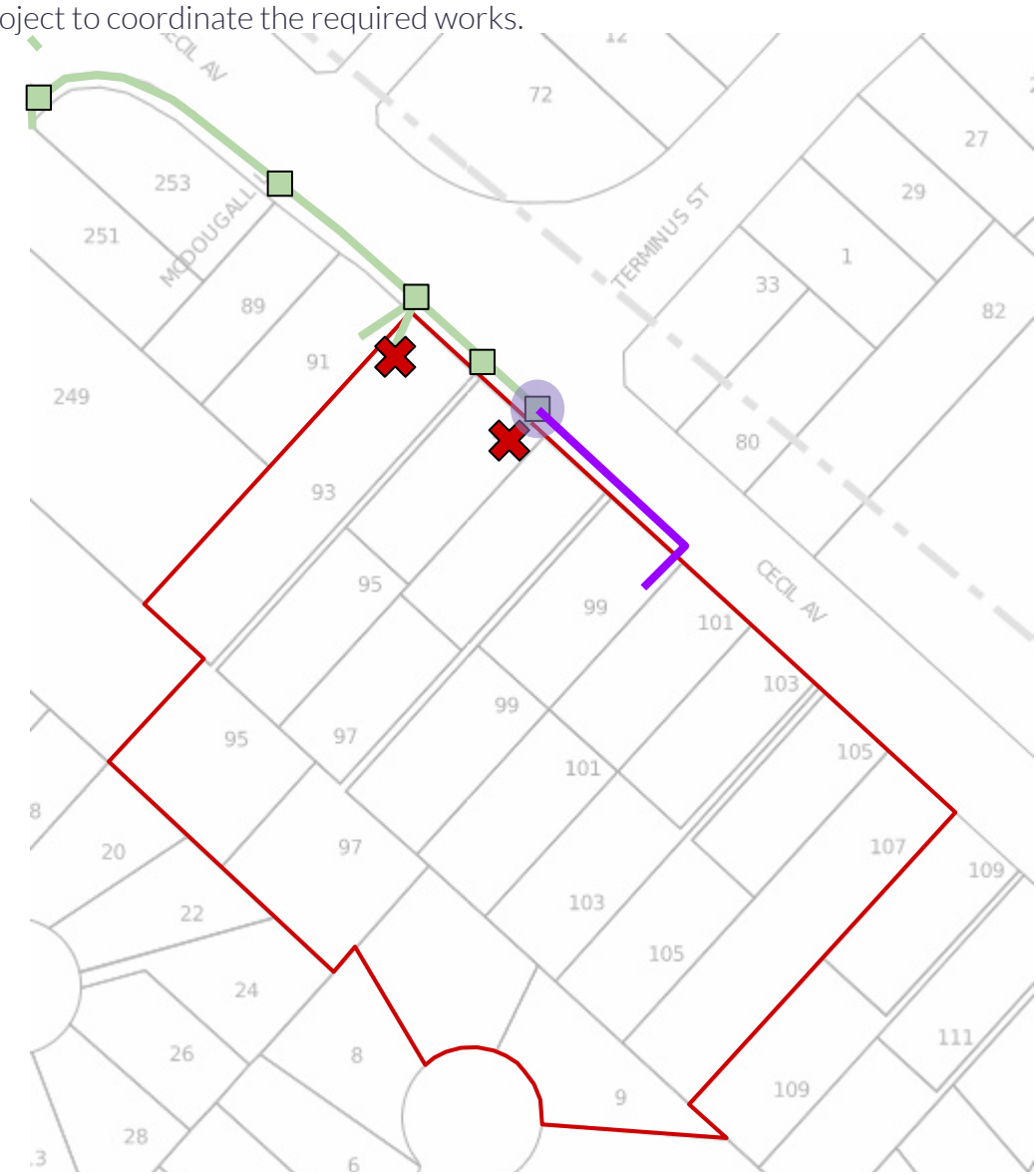


- > POWER
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COMMUNICATIONS INFRASTRUCTURE

Optus

The existing Optus carrier service infrastructure is illustrated below. As shown, there are connection opportunities available for this site. There is existing Optus infrastructure running through the site which will be removed prior to excavation. Careful coordination with Optus will be undertaken during the next stage of the project to coordinate the required works.



Fibre Infrastructure Map



- > POWER
- > COMMS
- > **WATER**
- > GAS
- > SEWER
- > STORMWATER

WATER INFRASTRUCTURE

The proposed connection point and existing water mains are illustrated in the adjacent image. The site has an existing 100 and 150mm water mains running along Cecil Avenue as well as a 375mm water mains running on the opposite side of Cecil Avenue. There is also a 1050mm trunk main on Cecil Avenue.

Based on the preliminary calculations, this site is likely to require a new 250mm mains water connection. The existing 100mm and 150mm supplies on Cecil Avenue may not be sufficient to support this development. We recommend two amplification options, which are illustrated in the adjacent image:

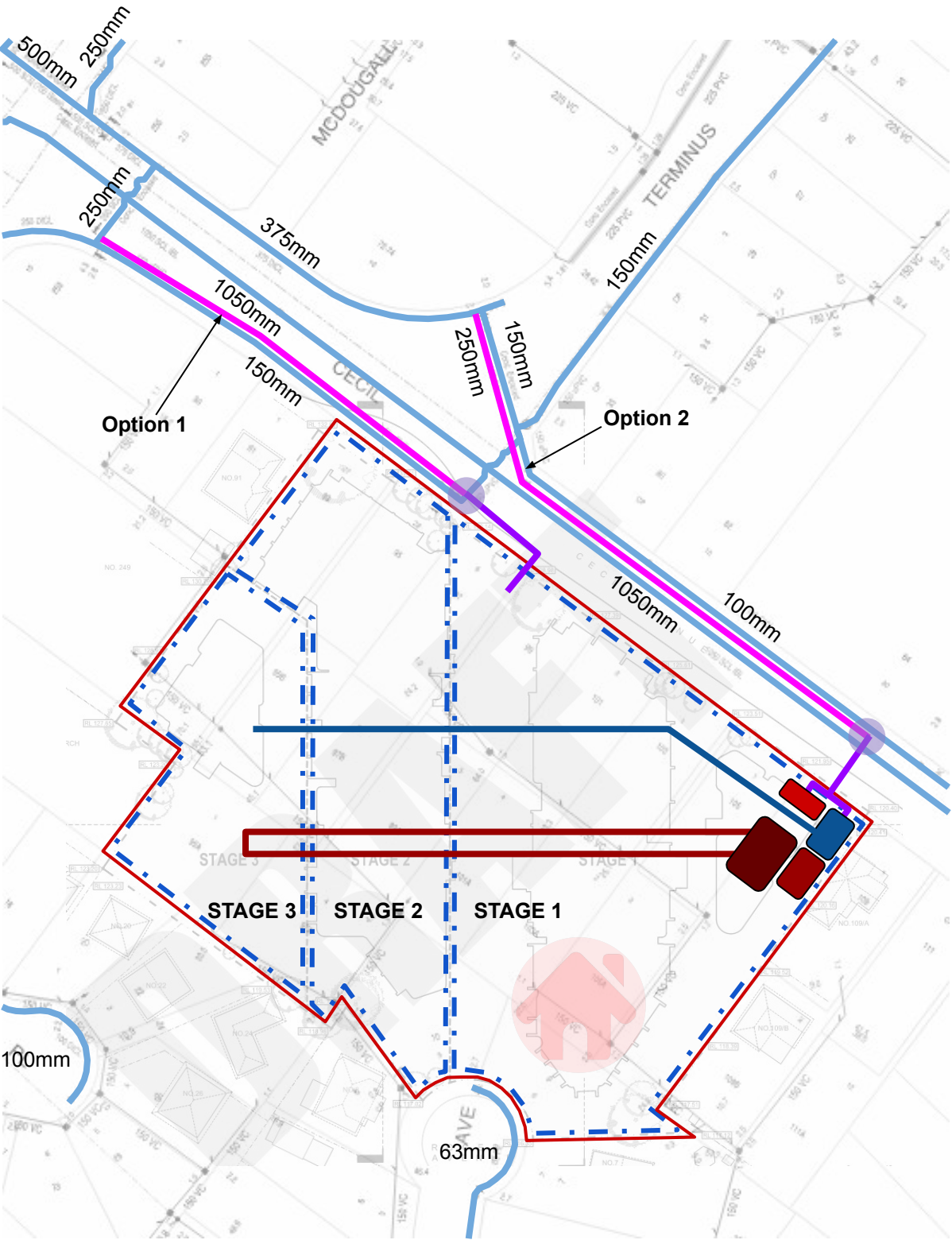
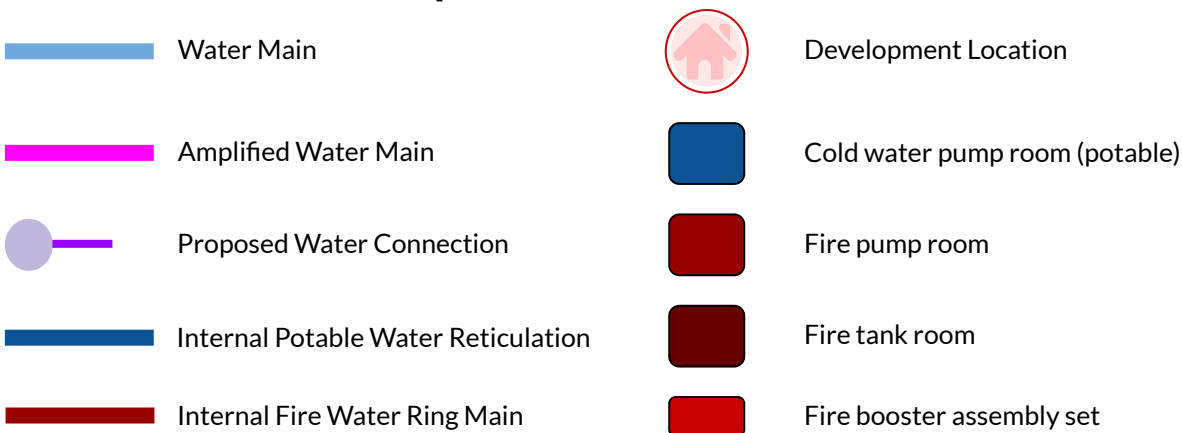
- Option 1: Amplify the existing 150mm main back to the 250mm main.
- Option 2: Amplify the existing 150mm mains back to the 375mm main on the other side of Cecil Avenue.

No other water-related infrastructure appears to run through the site.

We recommend that a ring main approach is taken with the fire infrastructure using the main infrastructure located in stage one to serve the future stages with fire main reticulation through the basement car park level as illustrated.

A Sydney Water Coordinator will be engaged during the next stage of the project to begin consultation with Sydney Water.

Water Infrastructure Map



GAS INFRASTRUCTURE

AUTHORITY INTERFACE

There is a Medium pressure 210 kPa gas main running adjacent to the proposed site with possible connection points on Cecil Avenue as illustrated in the adjacent image.

EXEC SUMMARY

There is existing gas infrastructure within the site that will be removed.

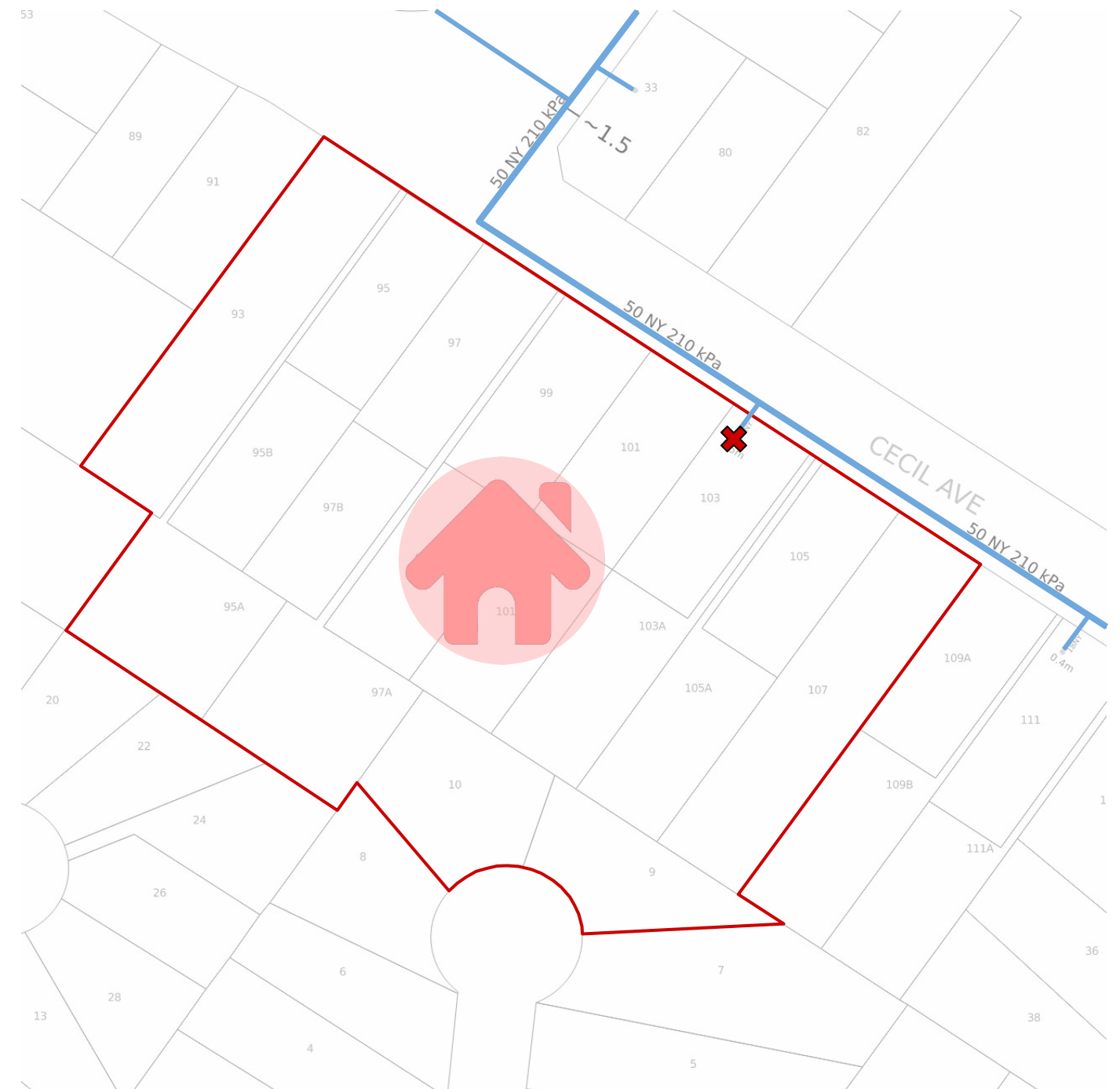
SITE OVERVIEW

We do understand that gas will not be utilised in this development.

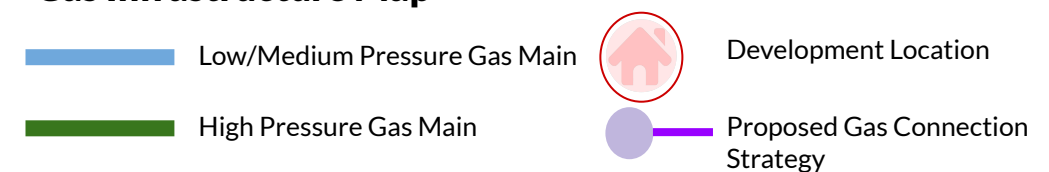
STAGING IMPLICATIONS

BUILDING CONNECTIONS

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Gas Infrastructure Map



- > POWER
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SEWER INFRASTRUCTURE

There are 150mm sewer mains running through the site serving the existing development and adjacent sites, as shown in the adjacent image.

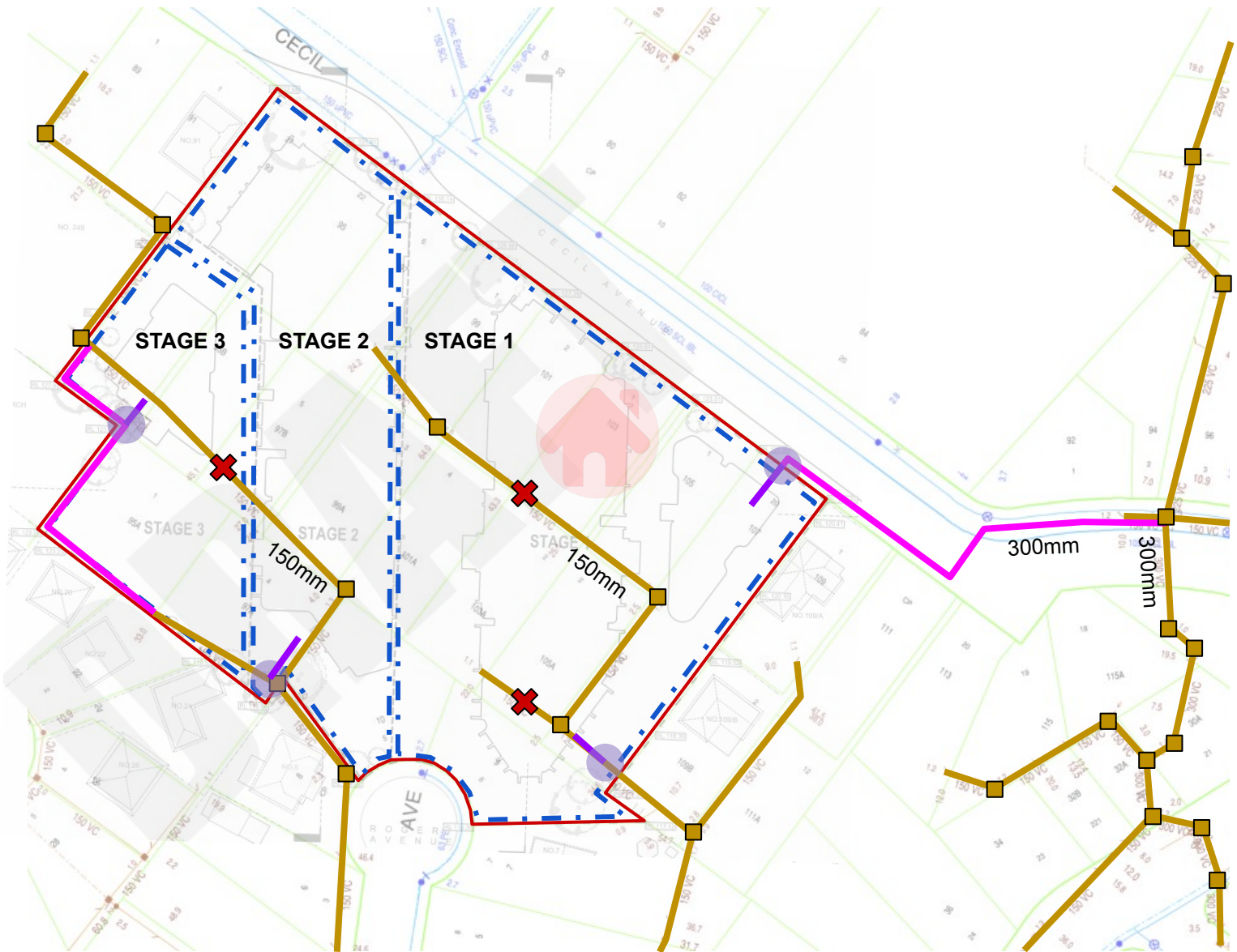
Based on the preliminary calculations:

- Building A will require a new 150mm sewer connection
- Building B will require a new 300mm sewer connection
- Building C will require a new 300mm sewer connection
- Building D will require a new 150mm sewer connection

The existing sewer mains are not likely to have capacity for the entire development. We have proposed an extension of the 300mm main on Cecil Avenue to the site to serve the new development. A compliant internal sewer network is to run to future stages through the podium and basement, with additional connections to the existing sewer mains as required.

There is a 150mm sewer main running through the proposed development site which serves the adjacent site. A diversion strategy has been proposed, and will be coordinated with Sydney Water during design development.

A Sydney Water Coordinator will be engaged during the next stage of the project to begin consultation with Sydney Water.



Sewer Infrastructure Map

-  Sewer Main
-  Sewer Manhole
-  Development Location
-  Proposed Sewer Connection Strategy
-  Proposed Sewer Diversion

STORMWATER INFRASTRUCTURE

AUTHORITY INTERFACE

EXEC SUMMARY

SITE OVERVIEW

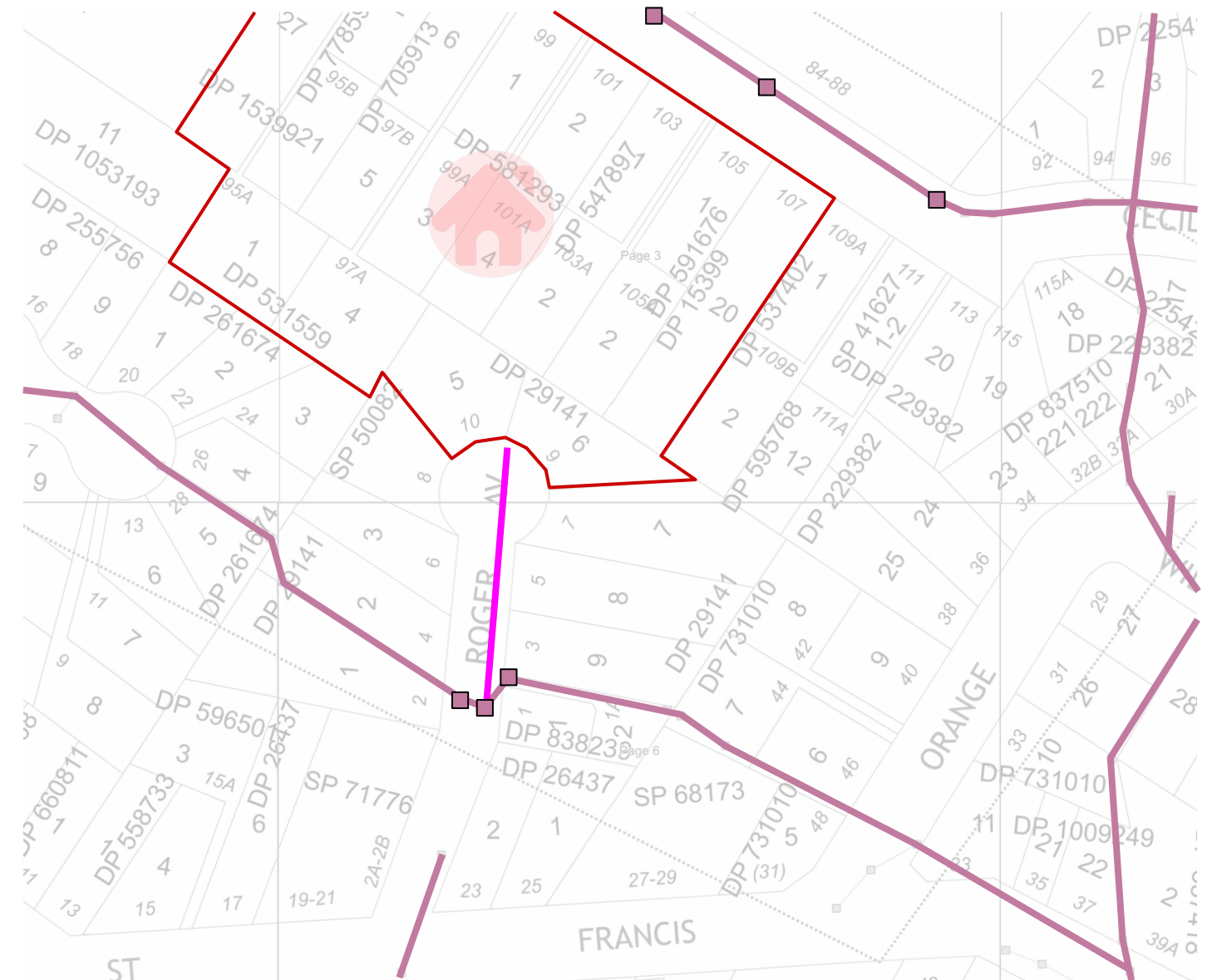
STAGING IMPLICATIONS

BUILDING CONNECTIONS

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- > **STORMWATER**

There is existing stormwater infrastructure near the site on Roger Avenue and Cecil Avenue, as shown in the adjacent image.

Stellen Consulting have completed a review of the surrounding stormwater and determined that a minimum of 68m stormwater extension will be needed from the existing stormwater pits of Roger Avenue.



Sewer Infrastructure Map

Existing Stormwater

Stormwater Pit

Proposed Stormwater



Development Location



Proposed Sewer Connection Strategy