



# BaptistCare Macquarie Park Concept Master Plan – Appendix P – Services

State Significant Development, Development  
Application (SSD DA)

Prepared for BaptistCare

## Revision History

REVISION	DATE	BY	CHECKED	COMMENTS
1	21/10/2022	GC	GM	Preliminary issue
2	02/11/2022	GC	GM	Original issue

The recipient of the latest issue as noted above will be responsible for superseding/destroying all previous documents.

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# 1. Introduction

This report has been prepared to accompany a State Significant Development Application (SSDA) for a Concept Master Plan for the site located at 157 Balaclava Road, Macquarie Park.

Specifically, consent is sought for the following in this Concept SSDA:

- A mixed use development comprising a maximum GFA of 190,000m<sup>2</sup> dedicated to a range of land uses including:
  - Student Housing;
  - Seniors Housing;
  - Build to Rent;
  - Retail;
  - Residential;
  - Mixed uses including commercial and allied health; and
  - A school.
- Maximum building heights and GFA for each development block;
- Public domain landscape concept, including parks, streets and pedestrian connections; and
- Vehicular and intersection upgrades.

## 2. The Site

The site is located at 157 Balaclava Road, Macquarie Park and is legally identified as Lot 60 in DP 1107965. The site is located near the corner of Herring Road and Epping Road within the City of Ryde Local Government Area (LGA). It is directly south of Macquarie University and in close proximity to Macquarie Shopping Centre. The surrounding area is characterised by a mix of commercial and education uses, as well as student accommodation and residential dwellings.

The site comprises a significant land holding with street frontages to Balaclava Road and Epping Road. It currently accommodates several low-medium density buildings that are connected via internal footpaths and lower order road networks. The total site area of the BaptistCare landholding is 63,871m<sup>2</sup>.



**Figure 1 – Location Plan**

This report has been prepared in response to the Secretary's Environmental Assessment Requirements (SEARS) dated 17<sup>th</sup> August 2022 for SSD-46561712. Specifically, this report has been prepared to respond to those SEARS summarised in Table 1.

<b>TABLE 1 - SEARs requirements</b>		
<b>Item</b>	<b>Description of Requirement</b>	<b>Section Reference (this report)</b>
<i>9. Infrastructure requirements</i>	<i>Identify key infrastructure components to be delivered with the development including open space land, open space embellishment, roads, drainage, power, telecommunication and community facilities.</i>	Section 4
<i>18. Water-related Infrastructure Requirements</i>	<i>Demonstrate that satisfactory arrangements for drinking water, wastewater, and recycled water services have been made.</i>	Section 4.3, 4.4, 5.3 and 5.4
	<i>The applicant must consult with Sydney Water regarding any potential impacts on any existing water, wastewater or stormwater main, or other Sydney Water asset, including any easement or property.</i>	Section 4.3, 4.4, 5.3 and 5.4
	<i>Lodge a Sydney Water feasibility application through an approved Water Servicing Coordinator.</i>	Section 5.3 and 5.4



### 3. Description of existing services

The below outlines the existing services infrastructure to the site.

#### 3.1. Electrical

The site is supplied from 3 pad mount sub stations on the Ausgrid network.

The Eastern sub station which is mounted near Epping road supplies an adjacent stand alone Main Switchboard which distributes power to the majority of Willandra ILU's. The electrical infrastructure is very dated (20 to 40 years old) and there is limited capacity within the network to build upon.



**Figure 2 – Existing sub station**



**Figure 3 – Existing sub station**



**Figure 4 – Internal arrangement of the existing sub station**

The Western sub station is located opposite Shalom on the other side of Balaclava Road and has an 800 Amp supply to a Main Switchboard on the Western corner of Shalom, that supplies power to Shalom and Cooina Court RACF's as well as small part (estimated as 22 units) of the Willandra Independent Living Units (ILU's) at the western end.



**Figure 5 – Existing Sub Station**





**Figure 6 – Existing western main switchboard**

The power supply to the Cooina Court RACF's and the small part of the Willandra ILU's is supplied via another old Main Switchboard within a small building on the corner of Eucalyptus Street and Bluegum Road.



**Figure 7 – Existing eastern main switchboard enclosure**



**Figure 8 – Existing eastern main switchboard**

Should the Shalom site be developed while Cooinda Court and the western end of Willandra ILU's remains operational, and although, as proposed in the master plan staging this remain unlikely, consideration will need to be made for the power supply to the Cooinda Court and the western end of Willandra ILU's.

The Dorothy Henderson Lodge (DHL) and Iliffe Centre buildings have a separate incoming power supply to that of Shalom and Cooinda Court buildings. The supply to these buildings is from a third sub station that is also located on Epping road. This sub station also supplies the residential development at 159 Epping Road.



**Figure 9 – Existing sub station**

### 3.2. Telecommunications

The various buildings at Macquarie Park are supplied with telecommunications supplies from the various pits along Balaclava Road and Epping Road.



**Figure 10 – Existing Telstra pits**

We have confirmed that nbn services are currently available to the Macquarie Park site and is currently installed in Epping Road.





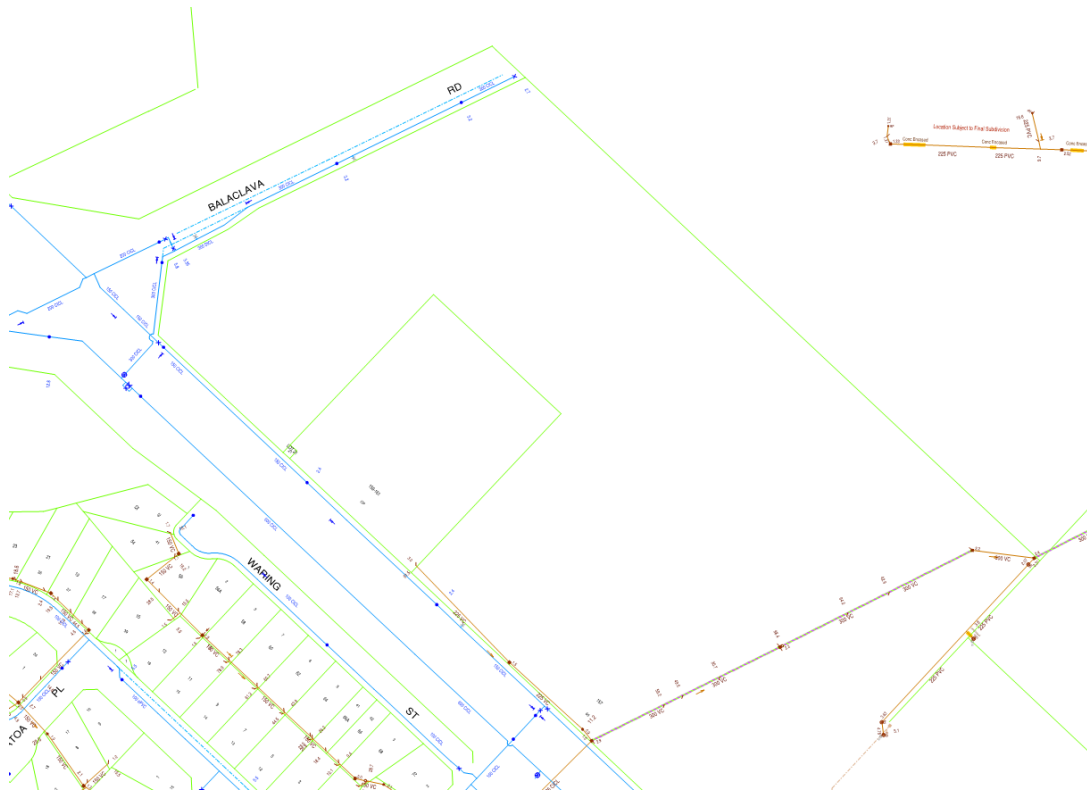
**Figure 11 – Existing nbn pit**

There is no known issues associated with the development of the site and the telecommunications.

### 3.3. Cold Water Services

The Macquarie Park site and the various buildings are served by multiple surrounding water mains and associated water meters. The water mains are located on Balaclava Rd with a 300mm main and Epping Road with a 150mm and 600mm main. While the associated water meters serving the site currently are suitable for the current arrangement, new appropriately sized meters would be expected for the proposed development. Further services investigation and design will be undertaken with subsequent detailed SSDAs.





**Figure 12 – Sydney Water existing infrastructure layout for the site**

The Shalom and DHL buildings are served by a 100mm water meter and RPZD arrangement located at the north west end of the site near the main entry. This water meter is served by the 300mm water main on Balaclava Rd.



**Figure 13 –Existing booster assemblies**

The Cooinda Court building is served by a water meter located on Epping Rd fed by a 150mm water main. The water meter is a 50mm water meter with RPZD protection.



**Figure 14 –Existing water meter**

A second water meter located on Epping Road serves the Willandra ILU's. This water meter is a 80mm water with RPZD protection.



**Figure 15 –Existing water meter**

### 3.4. Fire Hydrant and Sprinkler Services

The existing site is served by multiple fire hydrant and fire sprinkler booster arrangements. Although the arrangements are suitable for the current buildings, it is expected that these will need to be replaced with new appropriately sized fire services for the proposed development.

The Shalom and DHL buildings are served by a 100mm fire hydrant and fire sprinkler booster located on Balaclava Rd and are fed by the 300mm water main.





**Figure 16 –Existing booster assemblies**



**Figure 17 –Existing booster assemblies**

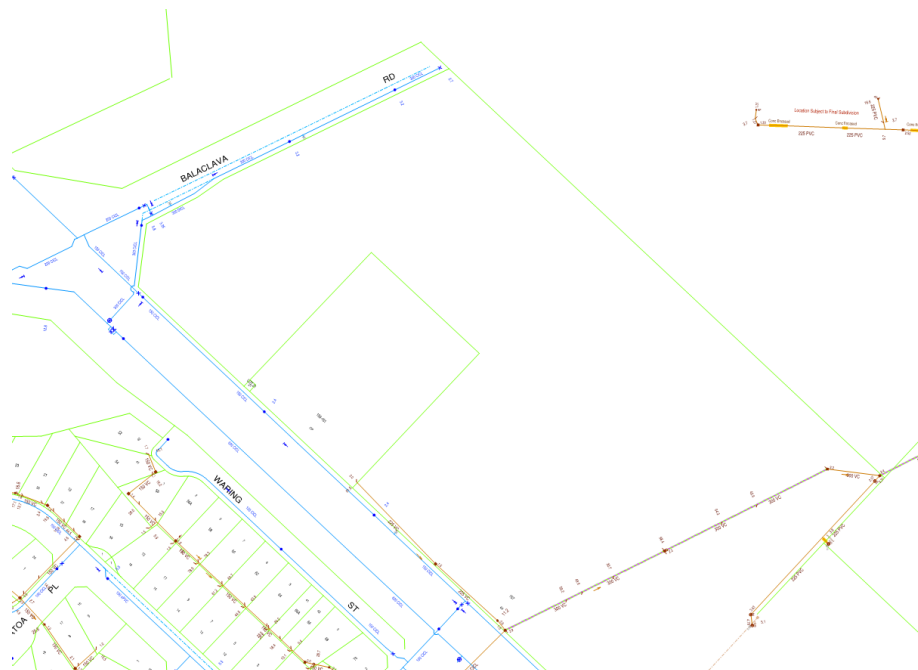
The Cooinda Court building is served by a 100mm fire hydrant booster and a 100mm fire sprinkler booster located on Epping Road and are fed by the 150mm water main. The Cooinda building also has a fire booster pump located in a pump room external to the building.



**Figure 18 –Existing water meter and fire pump**

### 3.5. Sewer System

The site is currently served by a 300mm diameter sewer main located at the north eastern end of the site with a branch line extending up the Epping Rd boundary to the separate private lot in the middle of the site (159 Epping Road). The sewer main will be subject to Sydney Water building over sewer requirements and is expected to be required to be relocated to make way for the new developments proposed for this site.



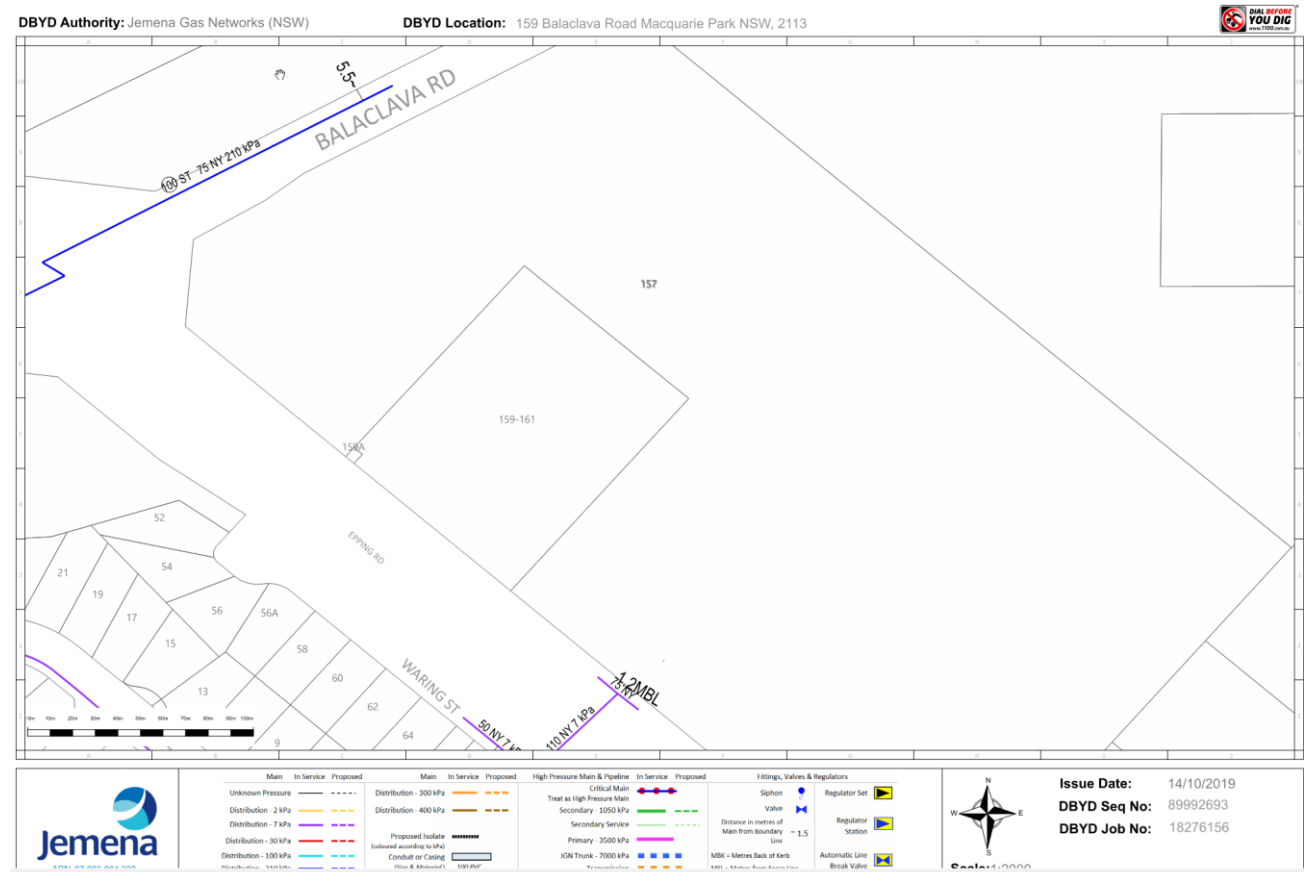
**Figure 19 – Sydney Water existing infrastructure layout for the site**



The Shalom sewer currently reticulates through the location of the future Vertical Village and will be required to be relocated to ensure continuity of sewer for Shalom.

### 3.6. Gas Systems

The site has access to 2 gas mains, one 75mm 210kpa main located on Balaclava Rd and one 110mm 7kpa located on Epping Rd. The gas main on Balaclava Rd main has complete frontage to the main while the Epping Rd service only has partial frontage, refer to the image below for extent.



The Shalom and DHL buildings are served by separate gas meters connected to the Balaclava Rd gas main.



**Figure 21 – Existing gas meters**

Gas is provided to the Cooinda Court building from a gas meter connected to the Epping Road gas main. The Willandra ILUs buildings adjacent to Cooinda Court has a separate on-site gas meter serving its central hot water plant.

## 4. Proposed services

### 4.1. Electrical

The site will require a significant high voltage connection to reticulate to sub stations within each building. The attached masterplan services sketch shows the overall infrastructure planning of the Electrical Services.

JN have applied to Ausgrid for the overall power requirements for the site. Ausgrid have provided a "Contract for Design Related Services Offer and Fee Estimate" that has been accepted and returned to Ausgrid and Ausgrid are currently completing the System Planning Advice with the expectation that this will be completed by mid November 2022. At that time a preferred connection option will be agreed and Ausgrid will prepare the Contestable Design information to progress the new supply to the site.

### 4.2. Telecommunications

New nbn cabling will be required to be installed for all new buildings. nbn is currently available from both Epping Road and Balacclava Road. The existing nbn cabling through the proposed location of the Vertical Village will be relocated as part of the telecommunications infrastructure works.

The attached masterplan services sketch shows the overall infrastructure planning of the nbn cabling and Services.

### 4.3. Cold Water

The below calculation outlines the average water demand per day for the new proposed buildings.

Breakdown by building type			
	Total Floor Area	Sydney Water Value	Average Water Demand L/Metric Unit/Per Day
Student Accommodation	11832	3.34	39,518.88
Residential	80630	3.34	269,304.20
Aged Care	71047	2.5	177,617.50
Retail	13770	2.48	34,149.60
Education	9775	20	195,500.00
TOTAL			716,090.18

The new water services will be designed to accommodate a fire booster assembly for each building.

The attached masterplan services sketch shows the overall infrastructure planning of the cold water Services.

## 4.4. Sewer

The below calculation outlines the average sewer demand per day for the new proposed buildings.

Breakdown by building type			
	Total Floor Area	Sydney Water Value	Average Sewer Discharge L/Metric Unit/Per Day
Student Accomodation	11832	3.34	31,615.10
Residential	80630	3.34	215,443.36
Aged Care	71047	2.5	142,094.00
Retail	13770	2.48	27,319.68
Education	9775	20	156,400.00
TOTAL			572,872.14

The new sewer infrastructure will be designed to reticulate the above flows to the existing Sydney Water 300mm diameter sewer main located at the north eastern end of the site. JN have reviewed the RL's of the site and there are no concerns with the required falls.

The existing Shalom sewer that reticulates through the current Vertical Village location will be relocated around the building to ensure continuity of sewer for the Shalom project.

Attached is a sketch of the site that shows the overall infrastructure planning of the sewer services.

## 4.5. Gas

Within the proposed master plan, gas will only be required for the seniors housing superlots. For superlot 4 or Stage 1 Vertical Village there is an expected gas load of 12,000MJ/hr. This supply can easily be accommodated within the current gas infrastructure on Epping Road.



## 5. Future Services & Consultation

### 5.1. Electrical

JN will continue to liaise with Ausgrid to progress the high voltage reticulation and electrical supply to the site. This will then proceed into the level 3 design for the agreed design package.

The timeframe from Ausgrid for the development of the power supply to the site is as outlined below.

The table below provides a preliminary program showing typical milestones and activities for establishing a connection.

Milestone or Activity	Coordinated By	Date / Duration
Develop and submit a Formal Enquiry / Connection Application	Customer	
Connection Application Response - Prepare Contract for Design Related Services Offer and Fee Estimates	Ausgrid	22 August 2022
Acceptance of Offer	Customer	
System Planning Advice	Ausgrid	12 weeks
Select preferred Connection Option	Customer	
Prepare Contestable Design Information	Ausgrid	16 weeks
Develop Contestable Design Package	Customer / ASP3	
Review and Certify Design Package (allow minimum 6 weeks per submission and at least 2 submissions)	Ausgrid / Customer	Subject to complexity
Prepare Negotiated Connection Offer and Construction / Commissioning Fee Estimates	Ausgrid / Customer	Up to 13 weeks
Construction, Audit & Compliance	Customer / ASP1 / Ausgrid	6 - 18 months
Testing and Commissioning	Ausgrid / Customer	12 weeks

### 5.2. Telecommunications

JN will apply to nbn for the reticulation of optical fibre telecommunication connection once the SSDA application has been approved.

### 5.3. Water

JN are working with a Sydney Water Water Services Co-ordinator to prepare the cold water infrastructure to support the new development and the water flow requirements for both fire services as well as those outlined in section 4.3

## 5.4. Sewer

JN are working with a Sydney Water Services Co-ordinator to prepare the sewer infrastructure to support the new development and the sewer flow requirements to the existing sewer connection in the north eastern corner of the site.

The Shalom sewer will be designed to co-ordinate with the new Vertical Village project.

## 5.5. Gas

JN will co-ordinate with Jemena for the incoming gas supply the Vertical Village once the SSDA application has been resolved and approved.

## 6. Conclusion

JN confirm that the site can be appropriately serviced for the proposed buildings associated with the masterplan and consultation with relevant agencies and providers will be undertaken as part of future detailed DAs.





- POTABLE WATER
- PROPOSED SUBSTATION LOCATION
- PROPOSED HV PUBLIC ROADS 1200MM FROM BOUNDARY
- PROPOSED HV PRIVATE 2M EASEMENT
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING NBN
- PROPOSED NBN
- PROPOSED GAS
- TREE PROTECTION ZONE

TREE PROTECTION ZONE WILL BE REMOVED AS THEY ARE WITHIN THE FOOTPRINT OF THE MASTERPLAN

EXISTING NBN TO BE RELOCATED

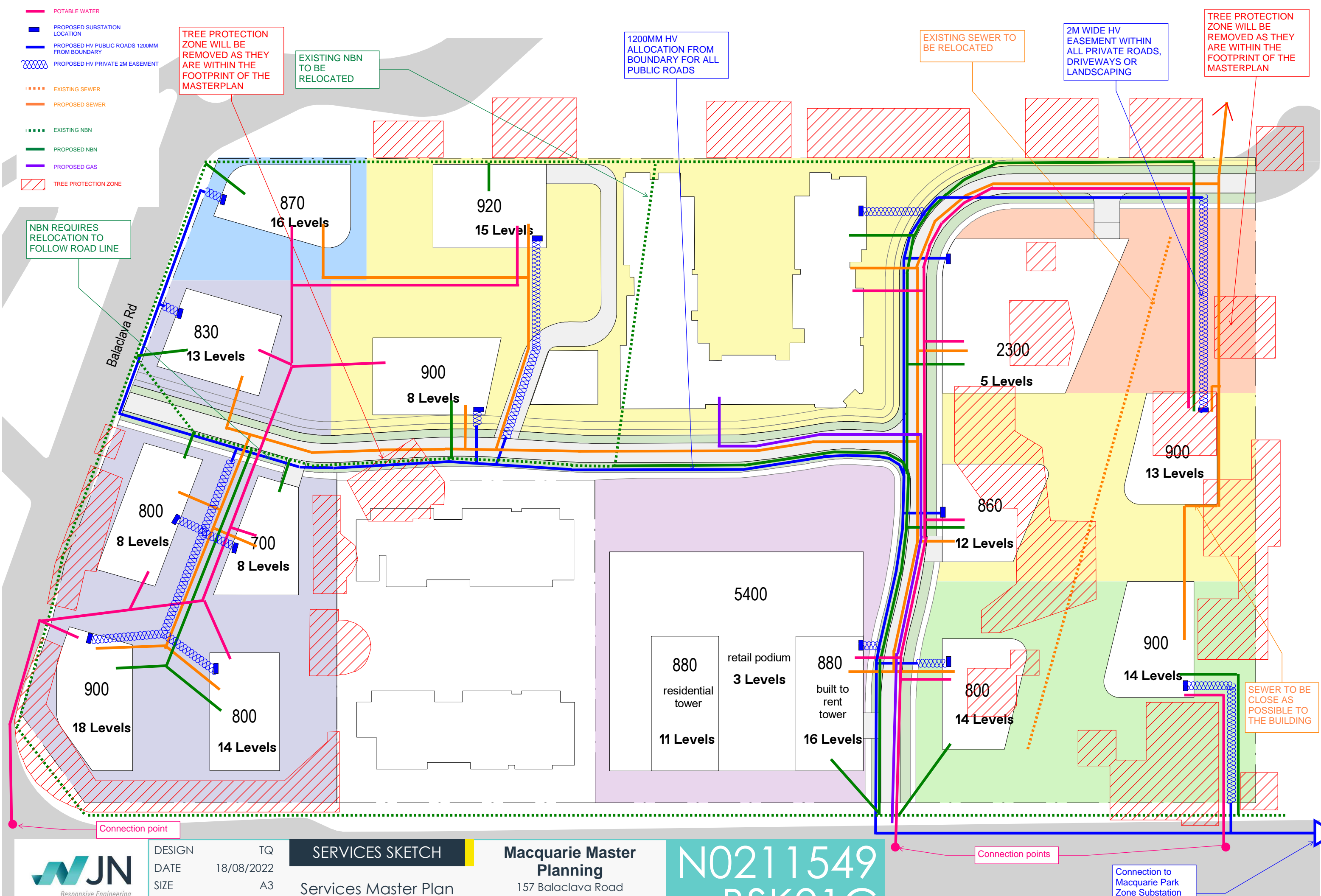
1200MM HV ALLOCATION FROM BOUNDARY FOR ALL PUBLIC ROADS

EXISTING SEWER TO BE RELOCATED

2M WIDE HV EASEMENT WITHIN ALL PRIVATE ROADS, DRIVEWAYS OR LANDSCAPING

TREE PROTECTION ZONE WILL BE REMOVED AS THEY ARE WITHIN THE FOOTPRINT OF THE MASTERPLAN

NBN REQUIRES RELOCATION TO FOLLOW ROAD LINE



DESIGN TQ  
DATE 18/08/2022  
SIZE A3  
SCALE  
PROJECT MGR GC

SERVICES SKETCH  
Services Master Plan

Macquarie Master Planning  
157 Balaclava Road  
Baptist Care NSW & ACT

N0211549  
BSK01C

Connection to Macquarie Park Zone Substation (Approximately 3km)

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