



AMENDMENT NO. 16

TO THE

EAST WANNEROO CELL 2

AGREED STRUCTURE PLAN NO. 4

RECORD OF AMENDMENTS MADE TO THE EAST WANNEROO CELL 2

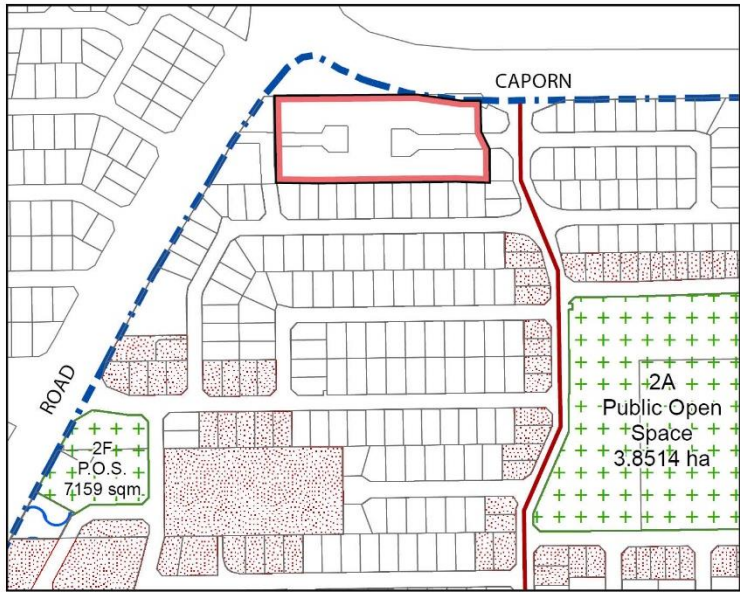
AGREED STRUCTURE PLAN NO. 4

Amendment No.	Summary of the Amendment	Date approved by WAPC
16	Recodes Lot 701 (10) Caporn Street, Sinagra from Residential R20 to R30	

**AMENDMENT NO. 16 TO THE
EAST WANNEROO CELL 2 AGREED STRUCTURE PLAN NO. 4**

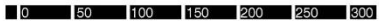
The City of Wanneroo, pursuant to its District Planning Scheme No. 2, hereby recommends to the Western Australian Planning Commission to approve the abovementioned amendment by:

1. Recoding Lot 701 (10) Caporn Street, Sinagra from Residential R20 to R30.



Legend

- SUBJECT SITE
 - CELL BOUNDARY
 - PUBLIC OPEN SPACE
 - SCHOOL
 - DRAINAGE SUMP
 - R10
 - R25
 - R30
 - R40
 - SPECIAL RESIDENTIAL
- NOTE:** Unless otherwise denoted the residential code is R20.



In accordance with the Western Australian Planning Commission's Structure Plan Framework, Structure Plan maps for amendments are to show the original boundary of the structure plan with the area affected by the amendment highlighted in an appropriate manner.

This Structure Plan Amendment is prepared under the provisions of the City of Wanneroo
District Planning Scheme No. 2

IT IS CERTIFIED THAT THIS STRUCTURE PLAN AMENDMENT NO. 16 TO THE EAST
WANNERO CELL 2 AGREED STRUCTURE PLAN NO. 4.

WAS APPROVED BY

RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON

.....

Signed for and on behalf of the Western Australian Planning Commission

.....

an officer of the Commission duly authorised by the Commission pursuant to section 24 of the
Planning and Development Act 2005 for that purpose, in the presence of:

..... Witness

..... Date

..... Date of Expiry

PART 2 - EXPLANATORY REPORT

AMENDMENT NO. 16 TO THE

EAST WANNEROO CELL 2 AGREED STRUCTURE PLAN NO. 4



**LEVEL 14, THE QUADRANT
1 WILLIAM STREET
PERTH WA 6000**

URBIS.COM.AU
Urbis Pty Ltd
ABN 50 105 256 228

19 November 2018

Mr Tim Dawson
City of Wanneroo
Locked Bag 1
Wanneroo WA 6946

Dear Tim,

PROPOSED AMENDMENT TO LOCAL STRUCTURE PLAN

LOT 701 (10) CAPORN STREET, SINAGRA

1. INTRODUCTION

The East Wanneroo Cell 2 – Adopted Structure Plan No. 4 (ASP4) was originally approved by the Western Australian Planning Commission (WAPC) on 30 June 2004. This letter has been prepared by Urbis on behalf of Buckley Land Pty Ltd to support the proposed amendment to the existing ASP4 as it relates to Lot 701 (10) Caporn Street, Sinagra (subject site).

The current ASP4 covers an area of approximately 214ha and is generally bound by Caporn Street to the north, Griffiths Road to the east, Dundee Road to the south, Wanneroo Road to the west and Pinjar Road to the north west.

Since the approval of the original structure plan, a number of amendments to ASP4 have progressed. This amendment proposes to rezone the subject site from Residential R20 to Residential R30. The amendment is being undertaken as the proprietor of the subject site is seeking to undertake subdivision for residential development in a form which is consistent and compatible with the surrounding land, taking advantage of the locational attributes of the subject site.

This submission and accompanying subdivision concept plan demonstrate that the proposed increase in residential density is consistent with the strategic objectives and statutory requirements of both the City of Wanneroo (City) and the WAPC. The subdivision concept is based on contemporary planning principles and will assist in the delivery of residential lots in a location that is adequately suited to cater for a density increase.

2. SITE DETAILS

The subject site is located on Caporn Street, Sinagra, and is located approximately 30km north of the Perth Central Business District. The total area of the subject site is approximately 1.5286ha.

The subject site is situated within the East Wanneroo Area, which is generally characterised by low to medium residential development. The Ashby Neighbourhood Centre is located approximately 200m

north, and the Wanneroo Town Centre including Wanneroo Central is located approximately 2km south of the subject site.

The subject site is well serviced by public open space, with Caporn Park located immediately north of the subject site, and San Teodoro Park located approximately 200m south east.

The subject site has frontage to Caporn Street to the north, San Teodoro Avenue to the east, single dwellings to the south and Pinjar Road to the east. Wanneroo Road is located approximately 1km west, which connects the subject site to the wider metropolitan area.

The subject site was until recently used for small scale rural operation, and contains an existing homestead, and two sheds servicing the cultivation land located within the eastern portion of the subject site. A crossover to Caporn Street provides vehicle access to the homestead.

There is only one (1) lot subject of this amendment, being the whole of Lot 701 (10) Caporn Street, Sinagra. The legal description of the subject site is detailed within the below table.

Table 1 – Lot Particulars

Lot	No	Plan	Vol / Fol	Area	Local Zoning	MRS Zoning	Registered Proprietor
701	10	47159	2608/575	1.5286ha	Urban Development	Urban	Buckley Land Pty Ltd

A copy of the relevant Certificate of Title is included in **Appendix A**.

Figure 1 – Aerial Photograph.

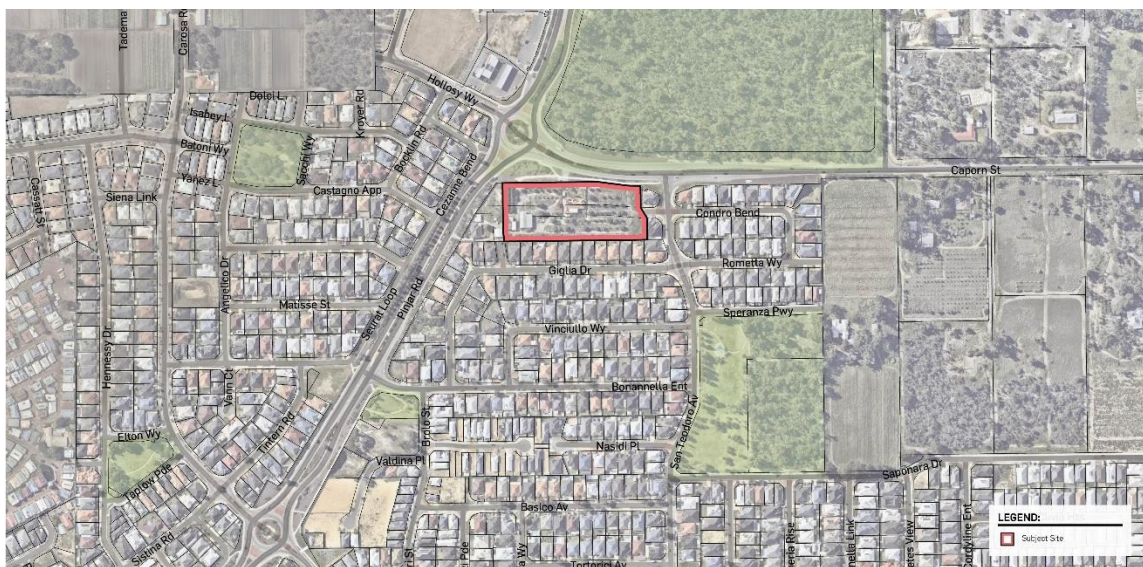
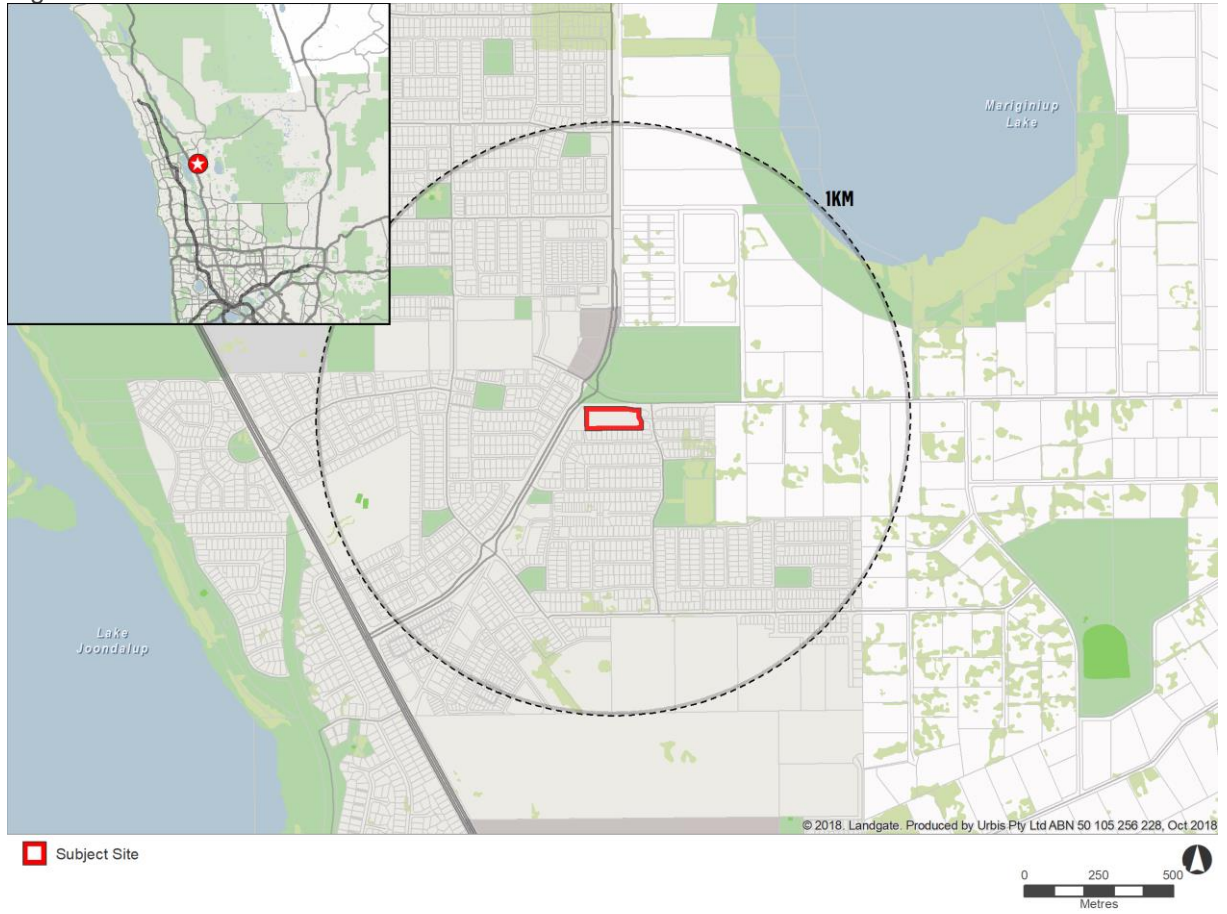
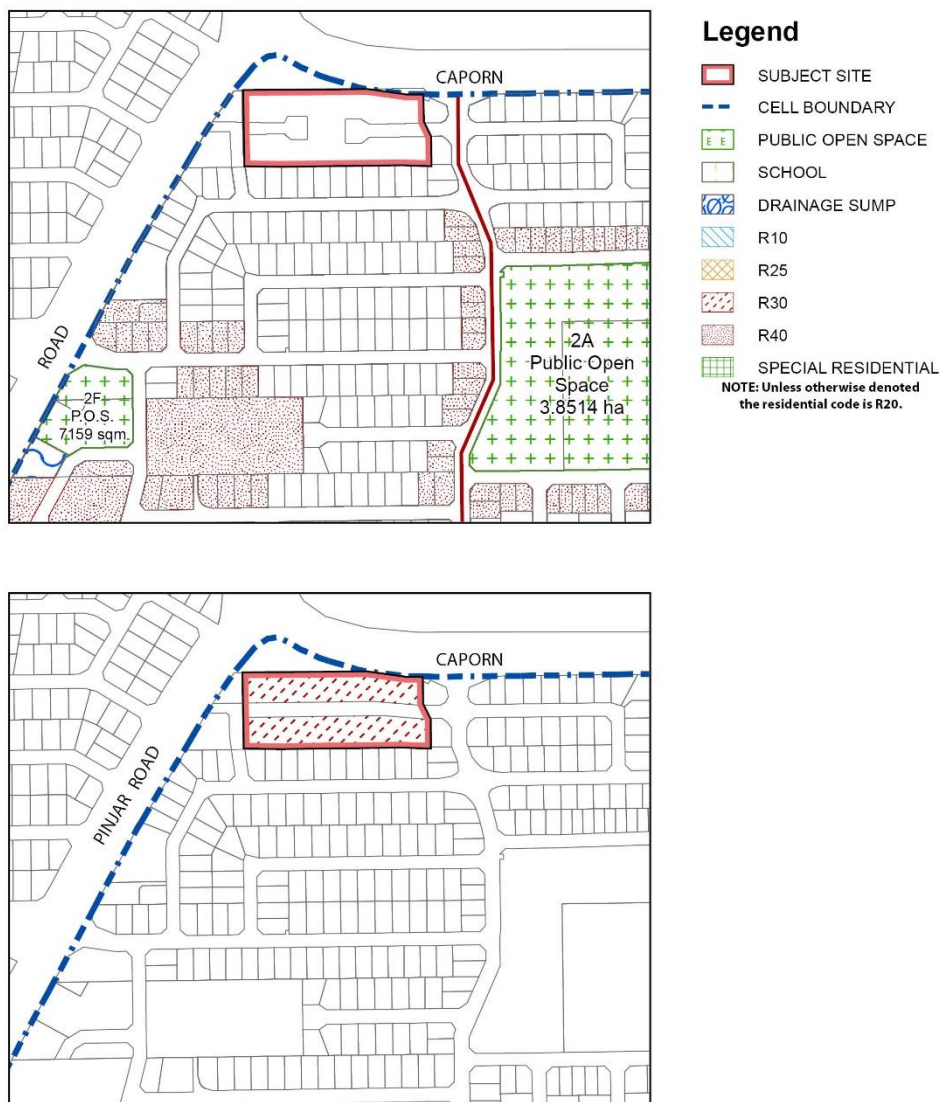


Figure 2 – Location Plan.



3. PROPOSED AMENDMENT

This letter provides the justification supporting a request to amend ASP4 to rezone the subject site from Residential R20 to R30. Figure 3 – Proposed Amendment.



4. PLANNING BACKGROUND

The subject site is zoned Urban under the Metropolitan Regional Scheme (MRS), which provides for a range of land use activities including residential development. Under the City's Town Planning Scheme No. 2 (TPS2) the subject site is zoned 'Urban Development', which generally defers the planning control to an adopted structure plan. ASP4 is applicable to the subject site in this instance.

5. ENVISIONED LAND USE

The subject site is intended to be developed for residential purposes. A Subdivision Concept Plan has been prepared to guide the planning of the subject site, and is contained in **Appendix B**.

The Subdivision Concept Plan has been prepared to respond to the context of the subject site, in the context of the following principles:

- The establishment of a coordinated residential development consistent with the strategic framework.
- The subdivision lot and road layout, which is generally consistent with the original ASP4, including maintaining the opportunity for road connection to adjoining lots.
- Appropriate interface treatment with the adjoining residential land.
- Maintaining residential development over the site consistent with the original intention of ASP4.

The detailed design considerations such as built and architectural form, dwelling typology and interfaces with surrounding development will be addressed through any future Development Application. The City will be responsible for the assessment and determination of any such application on the site.

6. APPROPRIATENESS OF PROPOSED AMENDMENT

6.1. PLANNING AND DEVELOPMENT (LOCAL PLANNING SCHEMES) REGULATIONS 2015

Part 4 of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Regulations) deals with the procedures applicable to the preparation, adoption and amendment of structure plans. Specifically, clause 29(1) of the Regulations provides the ability for the WAPC to amend a structure plan at the request of a landowner.

The proposed amendment has been prepared in accordance with the provisions of Part 4 of the Regulations.

6.2. EAST WANNEROO AGREED STRUCTURE PLAN NO. 4

Subdivision and planning for the subject site and the immediate surrounds is governed by the East Wanneroo ASP4. The subject site is current designated within the Residential Precinct of ASP4, with an applicable density of R20. An increase in the applicable residential code to R30 will remain consistent with the objectives of the Residential Precinct.

6.3. LOCAL PLANNING POLICY 3.1 – LOCAL HOUSING STRATEGY

The City’s Local Planning Policy No. 3.1 – Local Housing Strategy (LPP3.1) provides the guidance framework for establishing residential density code. Specifically, LPP31 details specific locational criteria for appropriate application of residential density, and forms a suitable guide to proposals seeking density increases. The objectives and outcomes of LPP3.1 are guided by the City’s Local Housing Strategy 2005.

LPP3.1 places emphasis on increasing residential density and housing choice in residential areas in proximity to retail and employment centres, and public transport services. Specifically, Table 3 of Part 2 of LPP3.1 details two criterion for guiding residential coding changes within an approved structure plan area. An assessment of the two criterion of LPP3.1 against the context of the subject site is provided in the following table.

A ped shed analysis and context plan demonstrating the subject site’s proximity to key centres and transport services is provided at **Figure 4** and **Figure 5** respectively.

Table 2 – LPP3.1 Criterion Detail

Criterion Detail	Subject Site Context	Compliance
<i>Easy access/close proximity to Activity Centres.</i>	The ped shed analysis provided within Figure 5 below demonstrates the subject site is within a 400m walkable catchment of the Ashby Neighbourhood Centre.	✓
<i>Easy access / close proximity to public transport with priority towards rail nodes and bus interchanges.</i>	Transperth bus stop servicing route 467 is located within an 800m walkable catchment of the subject site.	✓

Figure 4 – Ped Shed Analysis Map.

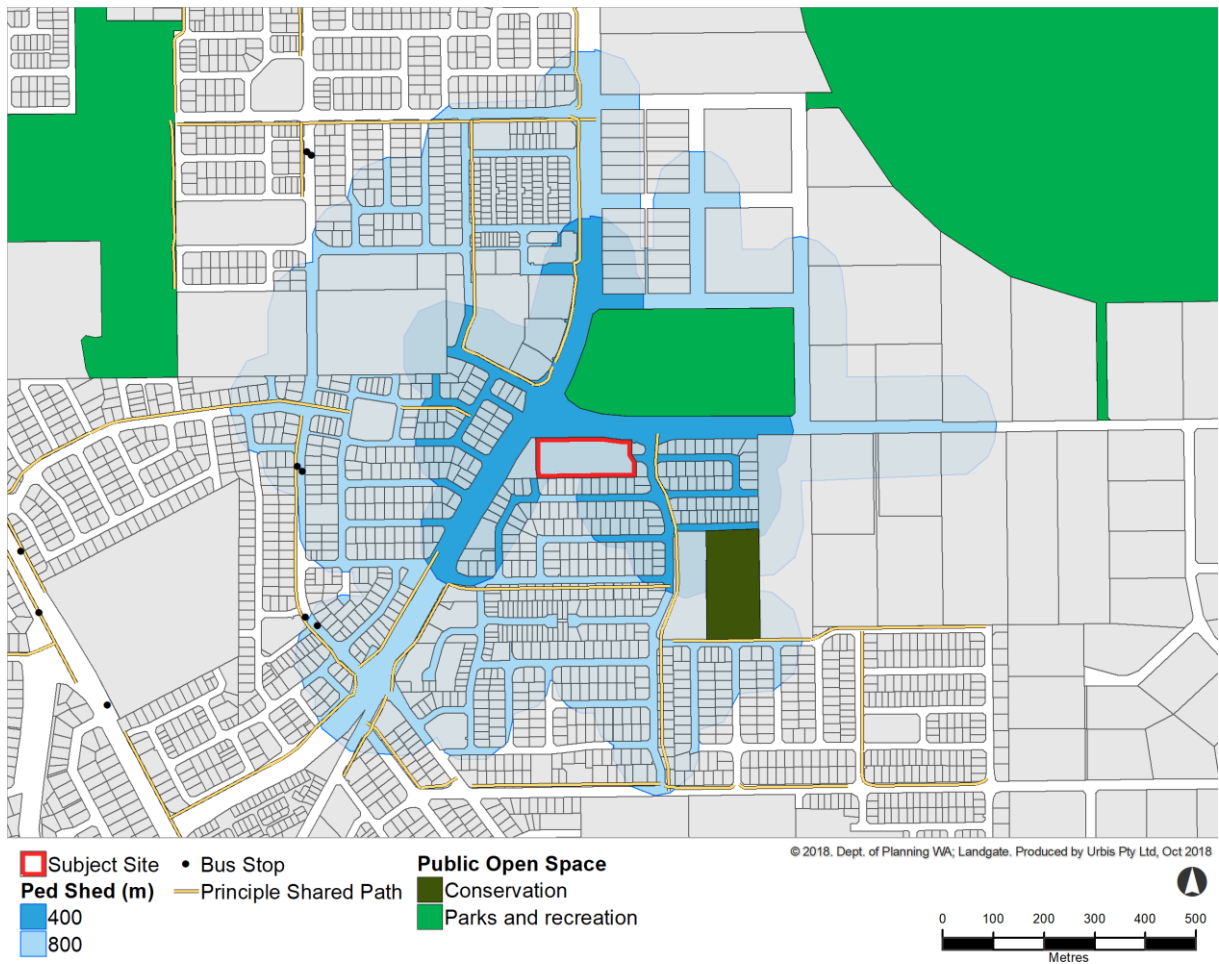
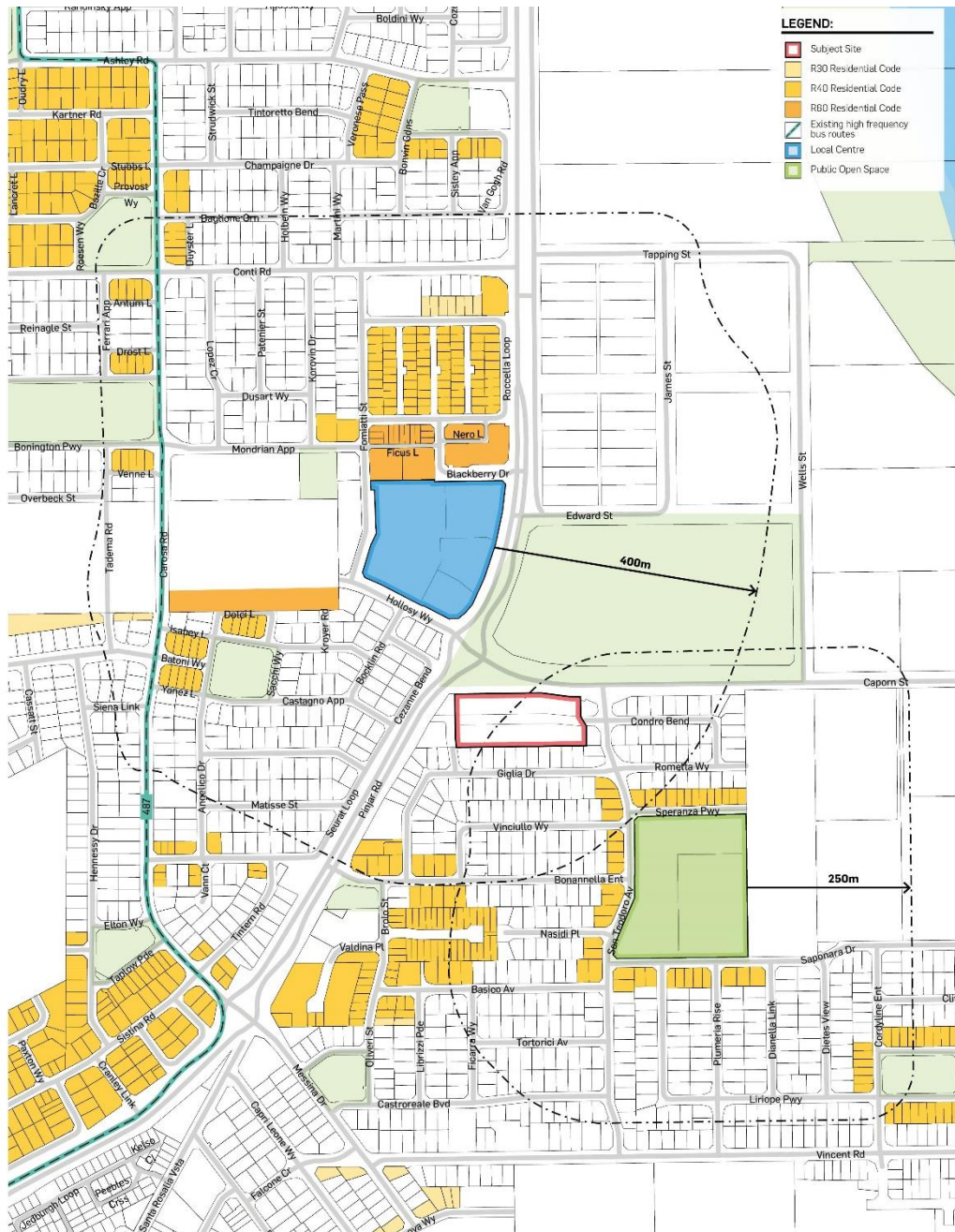


Figure 5 – Context Plan



As demonstrated in the Table 2 and Figures 4 and 5 the subject site is well serviced by public transport, public open space and retail / employment opportunities, and demonstrates the prerequisites to support application of a higher density code. The proposed amendment is thereby entirely consistent with the City's strategic objectives for residential density outcomes.

The surrounding Sinagra area is also characterised by areas of medium to high residential density, up to the R60 density code. The context surrounding the subject site thereby incorporates a variety of densities, and the proposed amendment is entirely consistent with this existing character.

LPP3.1 also requires confirmation on the servicing arrangements supporting the increase in density. A servicing report is provided at **Appendix C**, with a summary of the report findings provided at section 6.7 of this submission.

6.4. TRAFFIC AND ACCESS

All road works undertaken will be designed and constructed in accordance with the requirements and standards of the City of Wanneroo. Individual lots will be provided with access via a single 14m internal subdivision road reserve. Detailed design of this internal road will be confirmed at the subdivision stage.

The proposed Subdivision Concept Plan provides for both an interim and ultimate road network, summarised as follows:

Interim Road Network: a single access and egress point via San Teodoro Avenue. The internal road will culminate with a temporary cul-de-sac.

Ultimate Road Network: a road network with crossovers to both San Teodoro Avenue and Giglia Avenue. The ultimate road network relies on connection through adjacent Lot 700, and is thereby dependant on redevelopment or subdivision of Lot 700.

The proposed density code change from R20 to R30 is expected to yield approximately 3 to 4 additional dwellings. As the net dwelling yield increase does not exceed 10 dwellings, the proposed development is 'low impact' from a traffic perspective. On this basis, the proposed recoding is low impact, and does not trigger a traffic assessment as per the thresholds of Table 1 of the WAPC's Transport Impact Assessment Guidelines.

6.5. BUSHFIRE

The north east section of the subject site is designated as a 'Bushfire Prone Area' in accordance with the Department of Fire and Emergency Services Map of Bushfire Prone Areas, with the primary fuel source being Caporn Park immediately north of the subject site. Further technical studies to establish the level of bushfire risk and associated building design requirements will be commissioned at the subsequent subdivision stage.

6.6. STREETScape AND AMENITY

The proposed R30 scenario will increase the potential yield of the subject site to 30 dwellings, with an anticipated average lot size of 398m². This minor increase in dwelling yield will not have any material impact on the streetscape outcomes being sought under ASP4.

The interface with the streetscape will generally remain consistent with that of the immediately adjoining land, with no notable outcomes resulting from the recoding.

6.7. SERVICING

The proposed amendment is supported by a preliminary Engineering Servicing Report prepared by Peritas Group, provided at **Appendix C**. The report concludes that the subject site is capable of sustaining intensive development, and the subsequent residential development would be able to connected to all essential services. The following provides commentary on the relevant service areas.

6.7.1. Site Grading and Bulk Earthworks

The subject site has a modest downward slope of approximately 2.8m from the south eastern corner to the northwest corner of the subject site, being an average gradient of 1:120. The required grading of the subject site will largely be determined by the servicing requirements and environmental constraints in respect to ensuring that geotechnical and soil parameters achieve the appropriate site classification.

Clearance to groundwater and flood level clearance are not an issued for the subject site.

Bulk earthworks are expected to predominately comprise 'cut-and-fill' operations, and imported fill locally sourced from existing sand supply operations within the locality. It is anticipated that lot levels will vary from RL67 to RL68.5 AHD, with a maximum of 500mm of imported sand fill required for the bulk earthworks programme.

A maximum retaining wall height of 2m is anticipated to provide level building pads.

6.7.2. Stormwater Drainage

A stormwater disposal system of reinforced concrete pit and pipe drainage system is suitable for the subject site attributes, with drainage pits collecting road runoff and directing to designated drainage basins to the requirements of the City. Surface runoff will be contained and discharged on site. A lot has been dedicated as a stormwater drainage basin area in anticipation of the City's requirements.

The final details of the drainage system will be determined at the subdivision and detailed design stage.

6.7.3. Water Supply

An existing waster distribution main is provided along Lopollo Court, which will provide potable water to the subject site. Individual lot connections will be made to this main extension.

6.7.4. Power, Telecommunication and Gas

An underground power supply is anticipated. A desktop analysis determined that existing power infrastructure, including the existing transformer in the north-east corner of the site, will be sufficient to service the development.

Telecommunication service network is provided within the area, and the lots are anticipated to be provided with NBN Telecommunication services.

An existing high pressure gas line is extension is provided to Lopollo Court. This network is anticipated to have sufficient capacity to service development via an extension to the existing main.

7. CONCLUSION

The proposed amendment to the Agreed Structure Plan No. 4 has been submitted the City of Wanneroo to facilitate the rezoning of Lot 701 (10) Caporn Street, Sinagra from a residential density coding of R20 to R30.

This submission has provided an overview as to how the proposed amendment is consistent with the planning outcomes sought by the City of Wanneroo and the WAPC.

Specifically, we believe the proposed amendment is supportable on the following basis:

- The context of the subject site provides the essential infrastructure and service capacity to support an increase in residential density, including access to basic retail and employment services, proximity to public transport and access to public open space.
- The up-coding to R30 is complementary to the surrounding locality, and lot sizes will reflect a similar housing pattern and typology to that of the existing lot and dwelling stock within the immediate locality.
- The rezoning is consistent with the objectives and requirements of the City's planning framework, and remains consistent with the intended use of the residential zone.

If you have any questions please don't hesitate to contact me at rtravaglione@urbis.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Rebecca Travaglione".

Rebecca Travaglione
Consultant



APPENDIX A – CERTIFICATE OF TITLE

WESTERN



AUSTRALIA

REGISTER NUMBER 701/DP47159	
DUPLICATE EDITION 4	DATE DUPLICATE ISSUED 24/5/2011

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2608** FOLIO **575**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 701 ON DEPOSITED PLAN 47159

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

BUCKLEY LAND PTY LTD OF SUITE 36 328 ALBANY HIGHWAY VICTORIA PARK WA 6100
(T O006335) REGISTERED 12/10/2018

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. J513880 RESTRICTIVE COVENANT TO CITY OF WANNEROO SEE SKETCH ON DEPOSITED PLAN 47159. REGISTERED 17/11/2005.
2. *J513881 NOTIFICATION CONTAINS FACTORS AFFECTING THE WITHIN LAND. LODGED 17/11/2005.
3. *O006336 MORTGAGE TO NATIONAL AUSTRALIA BANK LTD REGISTERED 12/10/2018.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

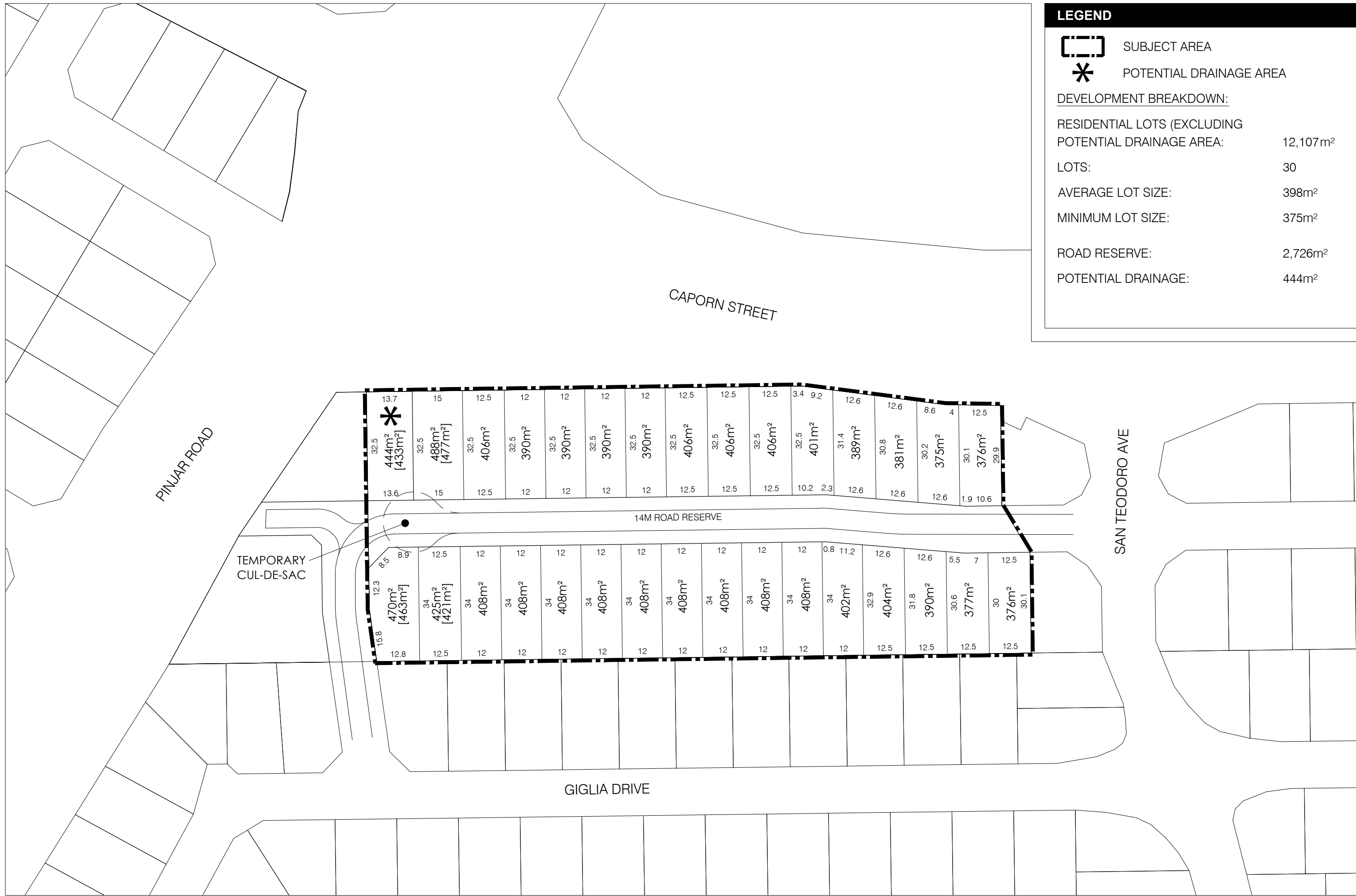
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP47159
PREVIOUS TITLE: 1289-525
PROPERTY STREET ADDRESS: 10 CAPORN ST, SINAGRA.
LOCAL GOVERNMENT AUTHORITY: CITY OF WANNEROO

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING O006336



APPENDIX B – SUBDIVISION CONCEPT PLAN



LEGEND	
	SUBJECT AREA
	POTENTIAL DRAINAGE AREA
DEVELOPMENT BREAKDOWN:	
RESIDENTIAL LOTS (EXCLUDING POTENTIAL DRAINAGE AREA):	12,107m ²
LOTS:	30
AVERAGE LOT SIZE:	398m ²
MINIMUM LOT SIZE:	375m ²
ROAD RESERVE:	2,726m ²
POTENTIAL DRAINAGE:	444m ²

SUBDIVISION CONCEPT PLAN - R30
LOT 701 CAPORN STREET, SINAGRA

Level 14, The Quadrant, 1 William Street | Perth WA 6000 Australia | +61 8 9346 0500 | URBIS Pty Ltd | ABN 50 105 256 228

DATA SOURCE
Landgate
PROJECTION
MGA Zone 50

DISCLAIMER
Copyright by URBIS Pty Ltd. This drawing or parts thereof may not be reproduced for any purpose or used for another project without the consent of URBIS. The plan must not be used for ordering, supply or installation and no reliance should be placed on this plan for any financial dealing of the land. This plan is conceptual and is for discussion purposes only and subject to further detail study, Council approval, engineering input, and survey. Cadastral boundaries, areas and dimensions are approximate only. Written figured dimensions shall take preference to scaled dimensions.

CLIENT
Buckley Land Pty Ltd

1:1,000 @ A3
0 10 20m

PROJECT NO.
P0002464
DATE
01.11.18
DRAWING NO.
01
REVISION
-





APPENDIX C – ENGINEERING SERVICING REPORT

Report Type: Engineering Servicing Report

Project No: PC17184

Project Location: 10 Caporn Street, Sinagra, WA



Cnr Goodwood Pde & Vivian St
Burswood WA 6100

P.O. Box 134
Burswood WA 6100

T 08 6336 9299
F 08 6336 9288

Enquire@peritasgroup.com.au
www.peritasgroup.com.au

Revision	Description	Author	Checked	Approved	Date
0	First issue	SJ	OO	OO	08/11/2018
1	Issued for Approval	SJ	OO	OO	13/11/2018

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APPENDIX E EXISTING WESTERN POWER TRANSMISSION LINES

APPENDIX F EXISTING GAS NETWORK

APPENDIX G EXISTING NBN NETWORK

1. INTRODUCTION

Peritas Group was commissioned by Urbis to review the engineering constraints and servicing requirements associated with the development of the subject land.

The subject land is identified as 10 Caporn Street in Sinagra, WA. It is located within the City of Wanneroo and comprises a total area of approximately 1.55 ha. The subject land is bounded by Caporn Street to the north, and by residential properties to the remainder of the site. The subject land is zoned as 'Urban'.

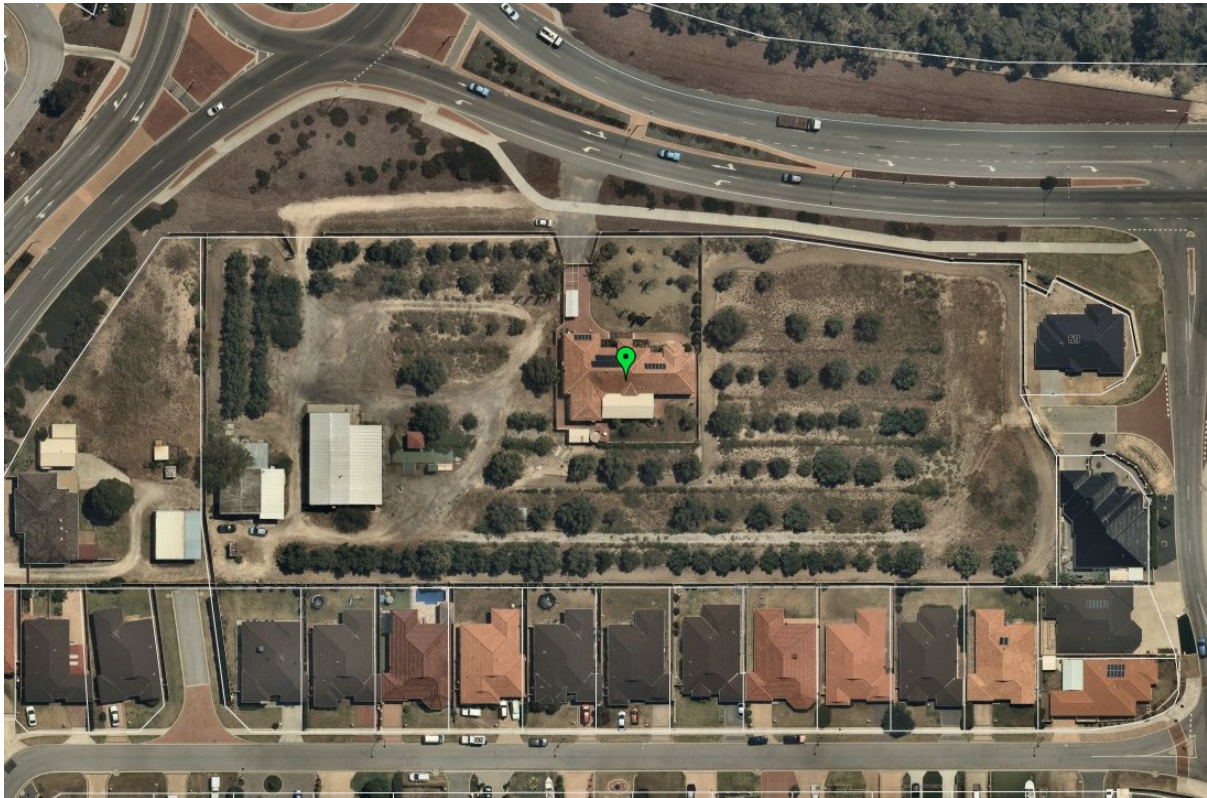


Figure 1 – Location Subject Land

In summary this report highlights:

- The subject land is capable of sustaining intensive development within the allowable development zone in keeping with the proposed residential zoning.
- The land is capable of being connected to and provided with all essential services to sustain residential development (based on current and future service authority planning).

This report also presents the proponent's commitments regarding further engineering assessment of the site and has been compiled based on the following terms of reference:

- Briefing discussions and regular meetings with the client and the consultant team.
- Site data and documents included in this report.
- Servicing concepts and Regional Strategic Infrastructure planning information from the regulatory authorities.

2. SITE EVALUATION

The land generally slopes from the southeastern corner of the site from a level of approximately RL 68.8 m AHD to the northwestern corner of the site at a level of approximately RL 66.0 m AHD at an average grade of 1:120.

Land with shallow to medium gradients dictates that bulk earthworks comprising cut and fill operations and imported fill, will be required to regrade the site to create level building pads and for infrastructure servicing of the site.

2.1. SITE GEOLOGY

The Perth sheet of the 1:50,000 scale Environmental Geology series map indicates that the area is underlain by sand derived from Tamala Limestone. The sand is described as "SAND – pale and olive yellow, medium to coarse-grained, subangular to sub-rounded quartz".

A formal site geotechnical investigation is recommended to raise all the information that might affect the design, construction, and performance which may range from the presence of rock, loose soils, uncontrolled filling, and any cemented layers. *(Refer to Appendix A for existing site geology)*

2.2. GROUNDWATER

Based on the information outlined in the online Perth Groundwater Atlas, historical maximum groundwater level at the site is at approximately RL 38.0 m AHD, which varies between 28 m and 30 m below existing surface levels and is therefore not likely to influence the proposed development.

2.3. SITE GRADING & BULK EARTHWORK

2.3.1. General Principles & Approach

Site grading will generally be determined by the servicing requirements and geotechnical constraints of the site, in order to ensure a sustainable as well as economic development of the infrastructure. *(Refer to Appendix B for existing surface level contour details)*

Preparatory works should be limited to the following:

- Removal of fencing and other improvements as necessary, however, retaining as many trees and vegetation as possible.
- Stripping and grubbing of areas to be earth worked with due regards to vegetation preservation in selected areas.
- Strip and stockpiling topsoil.
- Demolition and disposal of existing dwellings, structures, and driveways.
- Cut to fill operations as required.
- Replace topsoil to batters and verges and POS areas.
- Stabilise any areas where topsoil has not been respread.

Site levels will be set in accordance with the following parameters:

- Geotechnical and soil parameters to ensure that the site achieves appropriate site classification for its purpose.

- Fill levels to provide clearance to groundwater (not an issue on this site).
- Building pad levels to be designed to ensure that floor levels maintain a clearance of a minimum of 0.5m to the regional 1 in 100-year flood levels (not an issue on this site).
- To tie into the matching levels of the surrounds.
- To enable servicing of the site through gravity stormwater drainage and sewer reticulation services.

Peritas Group anticipates that the bulk earthwork operations will be completed using the material available from the area and that if required, importation of material will be locally sourced from existing sand supply operations within the locality.

Upon completion of bulk earthworks, any disturbed areas will be stabilised either by respreading the stockpiled topsoil from the bulk earthwork operations or via hydro mulching stabilisation as appropriate or in accordance with the requirements of the Local Authority.

2.3.2. Clearing and Disposal

Wherever possible, cleared vegetative material will be collected and used in soil and land stabilisation, either as 'brush matting' or chipped and used as a mulch. Debris from clearing which cannot be re-used will be disposed off in the approved landfill sites in accordance with Local Authority policy. Following clearing, the topsoil will be stripped and stockpiled on site for re-use.

2.3.3. Land Stabilisation & Dust Suppression

Prior to construction taking place, a construction water supply will be established to provide water for dust suppression, temporary sand stabilisation, and irrigation during the construction phases. Water trucks and spray equipment will be on site throughout the construction programme to damp down exposed sand surfaces until the surface is physically stabilised. In the event that adjacent occupied homes or trafficked roads are affected by sand drift, a sand trapping fence will be constructed fronting the affected section of the development.

In the event of strong winds blowing towards adjacent properties that cause blown sand to reach those properties, earthworks, including the stripping or respreading of topsoil, will be temporarily suspended and dust suppression measures immediately implemented. Stabilisation of the soil surface will be carried out, as required, immediately following topsoil re-spreading and minor regrading.

Soil stabilisation will generally comprise stockpiled topsoil respreading; however, Hydromulch without seed will also be used with Council Approval. Hydromulch with seed, or dry seeding, may also be employed in select locations with due care to utilise wherever possible local and native species.

Soil stabilisation will be maintained until such time as the vegetation cover is sufficient to prevent erosion.

2.3.4. Minimum Fill

It is expected that minimal imported fill will be placed, to ensure that all lots could be serviced with wastewater and other services. It is anticipated that lot levels will vary from RL67 to RL 68.5m AHD.

Based on preliminary concept planning it is envisaged that a maximum of 500mm m of imported sand fill will be required as part of the bulk earthworks programme.

2.3.5. Retaining Walls

Retaining walls with the maximum retaining height not exceeding 2.0m will be required in order to provide level building pads.

3. STORMWATER DRAINAGE

The proposed stormwater disposal system will generally consist of a reinforced concrete pit and pipe drainage system. With drainage pits collecting road runoff and directing it into designated drainage basin in accordance with the requirements of the Local Authority.

The surface runoff will be contained on site and be discharged via soakage in below ground storage basins located in verges or a dedicated stormwater drainage site. Peritas experience suggests that the City of Wanneroo will require one lot within the proposed subdivision to be a dedicated stormwater drainage basin.

4. WASTEWATER DISPOSAL

Preliminary information from Water Corporation of WA indicates that there is service network in the area. It is anticipated that all lots within the proposed development area will be connected to the existing sewerage system available on Lopollo Court.

All internal sewer reticulation pipework will be designed and constructed to the standards and requirements of the Water Corporation of Western Australia. Standard Water Corporation water headwork charges will apply. *(Refer to Appendix C for existing sewer reticulation details)*

5. WATER SUPPLY

Potable water supply to the estate will be provided by a reticulation network that connects to the existing water distribution mains along Lopollo Court.

The proposed development will be serviced internally by the extension of the 100mm diameter pipe from in Lopollo Court. All individual lot connections will be made to this main extension.

All internal water reticulation pipework will be designed and constructed to the standards and requirements of the Water Corporation of Western Australia. Standard Water Corporation water headwork charges will apply.

Standard Water Corporation water headwork charges will apply. *(Refer to Appendix D for existing water reticulation details).*

6. POWER, TELECOMMUNICATION & GAS

6.1. WESTERN POWER

It is anticipated that all lots within the proposed development will be served with underground power. The cost of this work will need to be met in full by the developer.

Based on a desktop study review of the area and preliminary advice from Western Power and Underground Power Development the existing power infrastructure within the vicinity of the site will be sufficient to service the development. It is likely that an existing transformer in the north-east corner of the site will have sufficient capacity to service the development.

The street lighting throughout the development will be designed in accordance with Local Government requirements and to match the existing street lights in the area.

Western Power requirements will apply. *(Refer to Appendix E for existing power distribution network details)*

6.2. TELECOMMUNICATION SERVICES

Information from Telstra and NBN Co indicate that there is a service network within the area. It is anticipated that all lots within the proposed development will be served with NBN Telecommunication services.

NBN will design (developer to pay) and provide details for the installation of a pit and pipe network at the cost of the developer the new telecommunication network facilities to the proposed lots. Alternatively, where cable routes match Western Power underground power supply routes, NBN will wherever possible use the Western Power trenches in lieu of the developer providing additional trenching.

NBN or other communications providers will cable the development once housing has commenced in the area and applications are made by individual owners for communications services to their lots. Headwork charges for NBN services extensions are anticipated. *(Refer to Appendix G for existing NBN network details)*

6.3. GAS SUPPLY

Based on information collected through Dial Before You Dig, ATCO Gas has an existing high-pressure gas line in the area. The existing 40 PE 1.5 PEHP 350 kPA gas main extends is in Lopollo Court.

It is anticipated that this network will have sufficient capacity to service the development with reticulated gas services by extension of the existing main. *(Refer to Appendix F for existing gas distribution network details).*

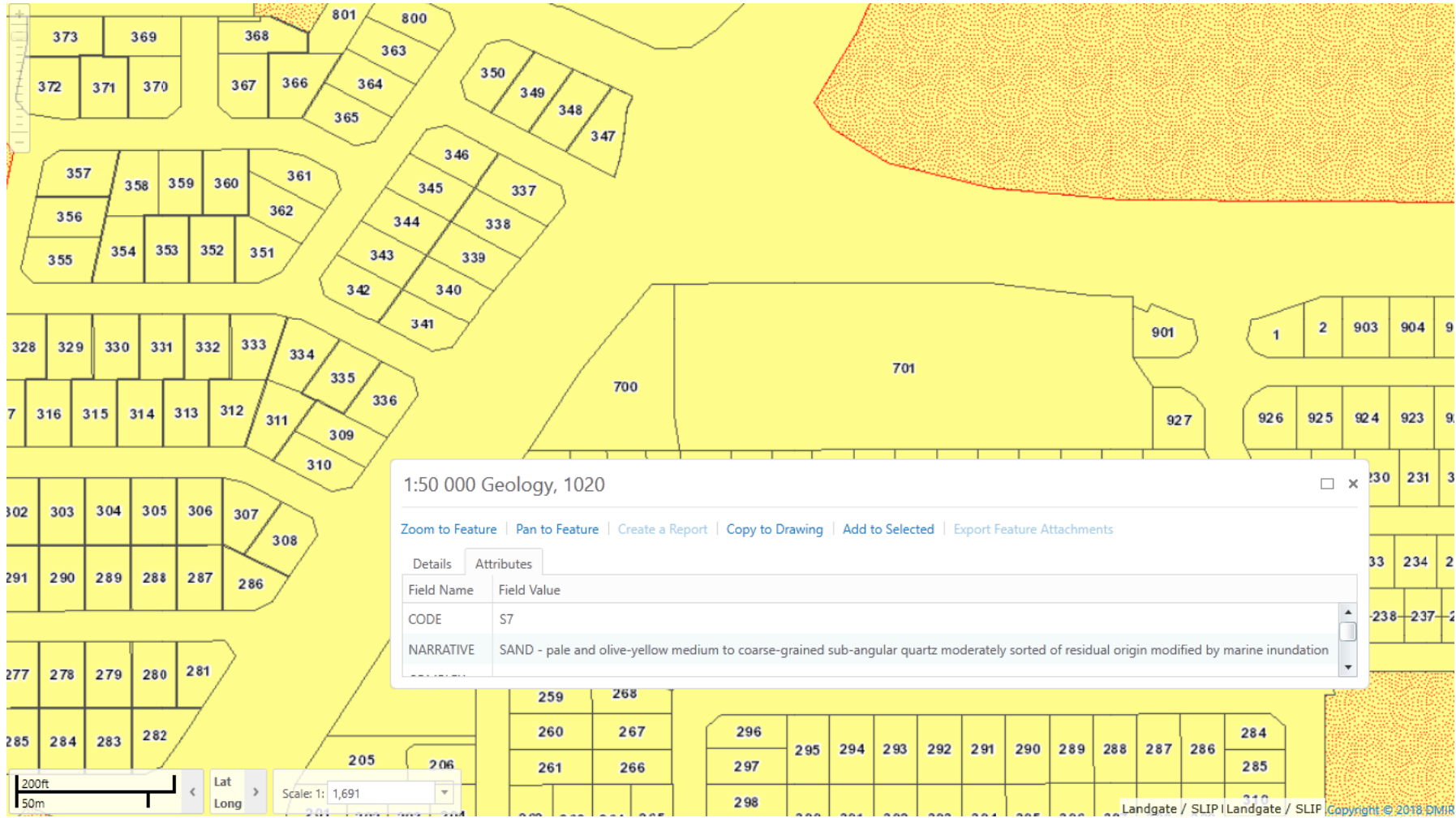
7. CONCLUSIONS & RECOMMENDATIONS

In conclusion, Peritas Civil does not envisage any major servicing constraints for the proposed development.

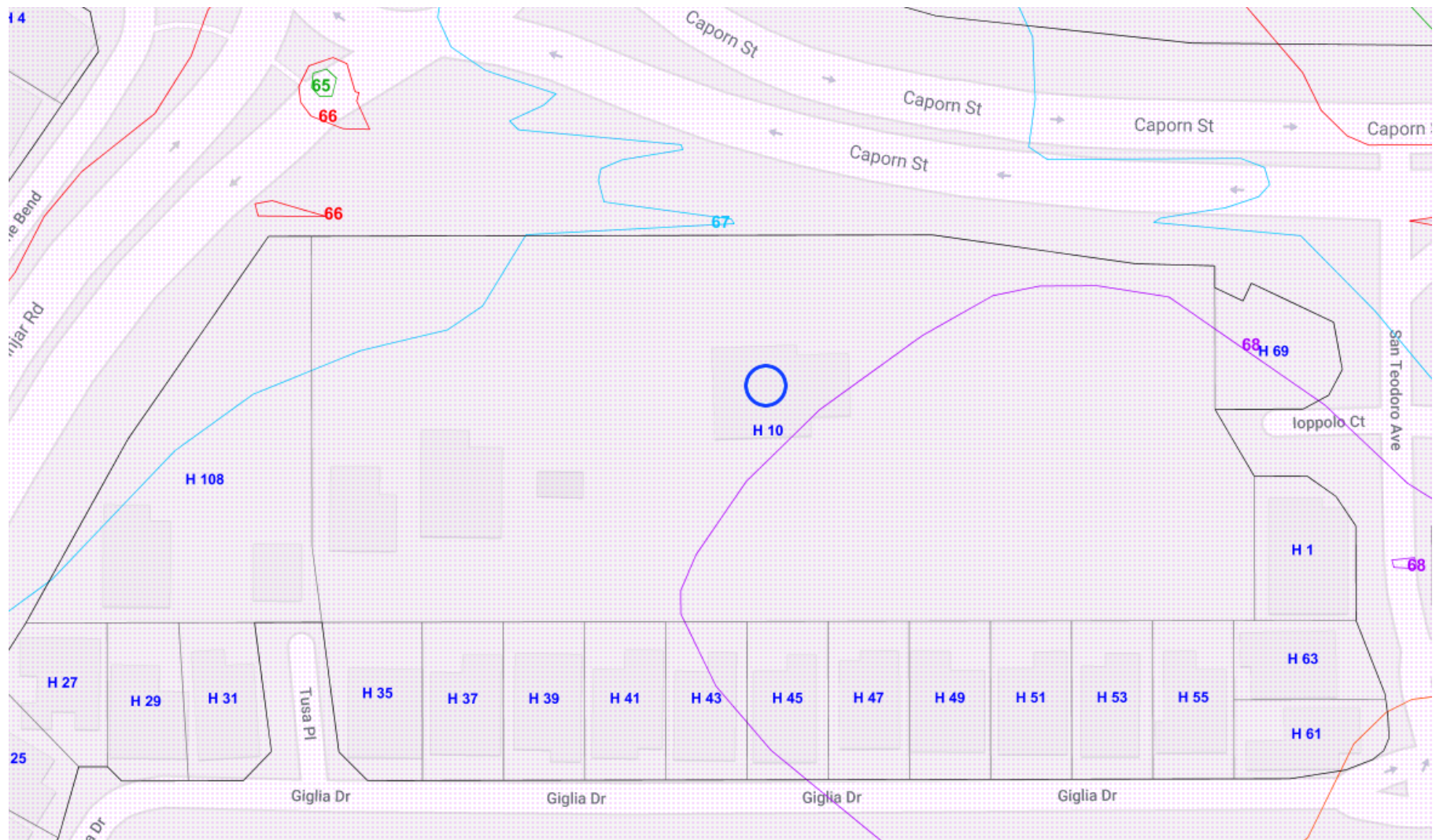
The site is capable of being serviced with all essential services, has no identifiable problematic soil conditions based on detailed desktop geotechnical studies in the vicinity of the site and with the carefully considered design would result in a high-quality development.

The precinct has all the attributes necessary to serve a vibrant rural residential community with proposed access upgrades capable of delivering all the necessary requirements of a modern development serviced with all essential services and facilities.

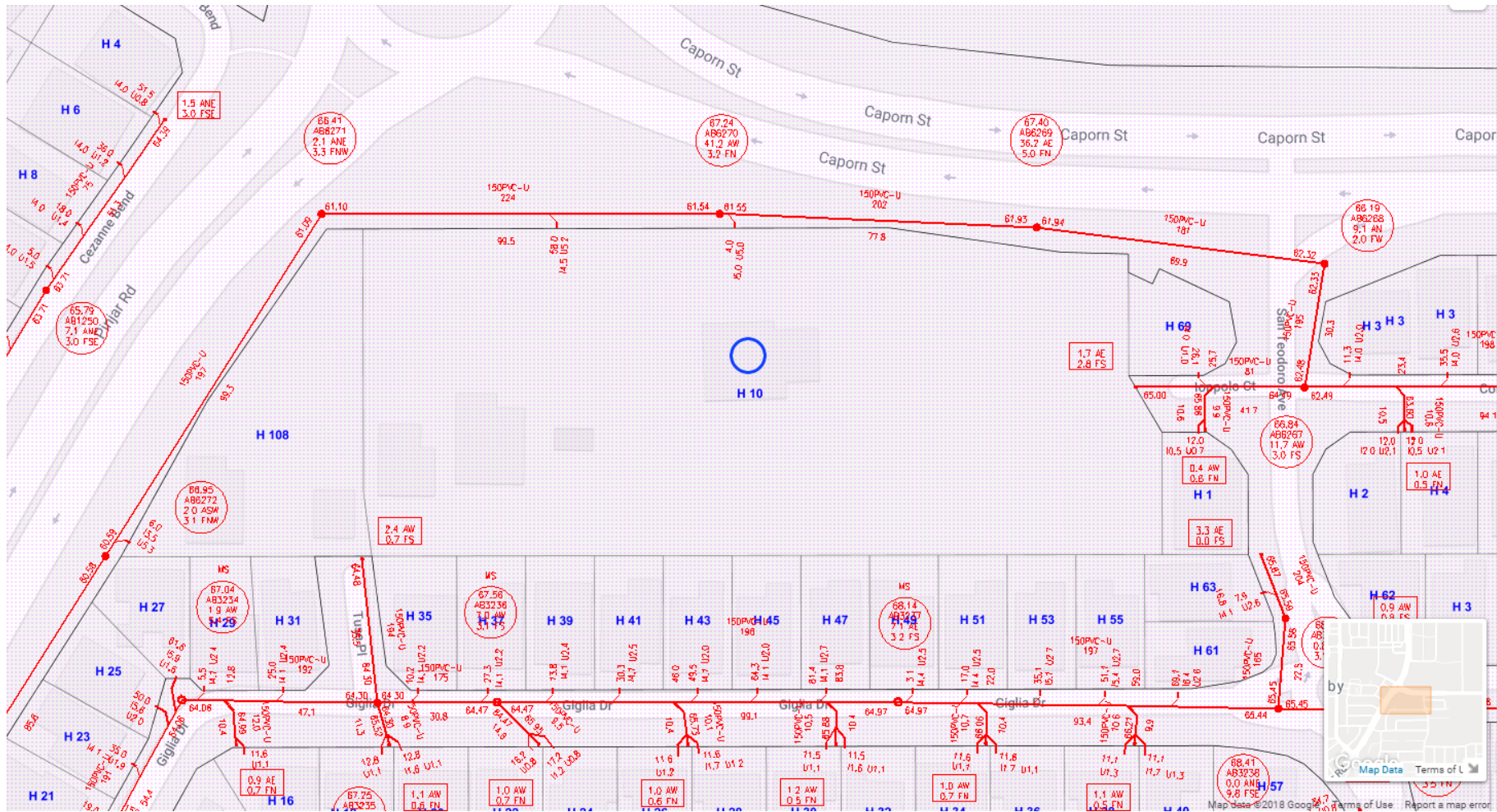
APPENDIX A- GEOLOGICAL PLAN



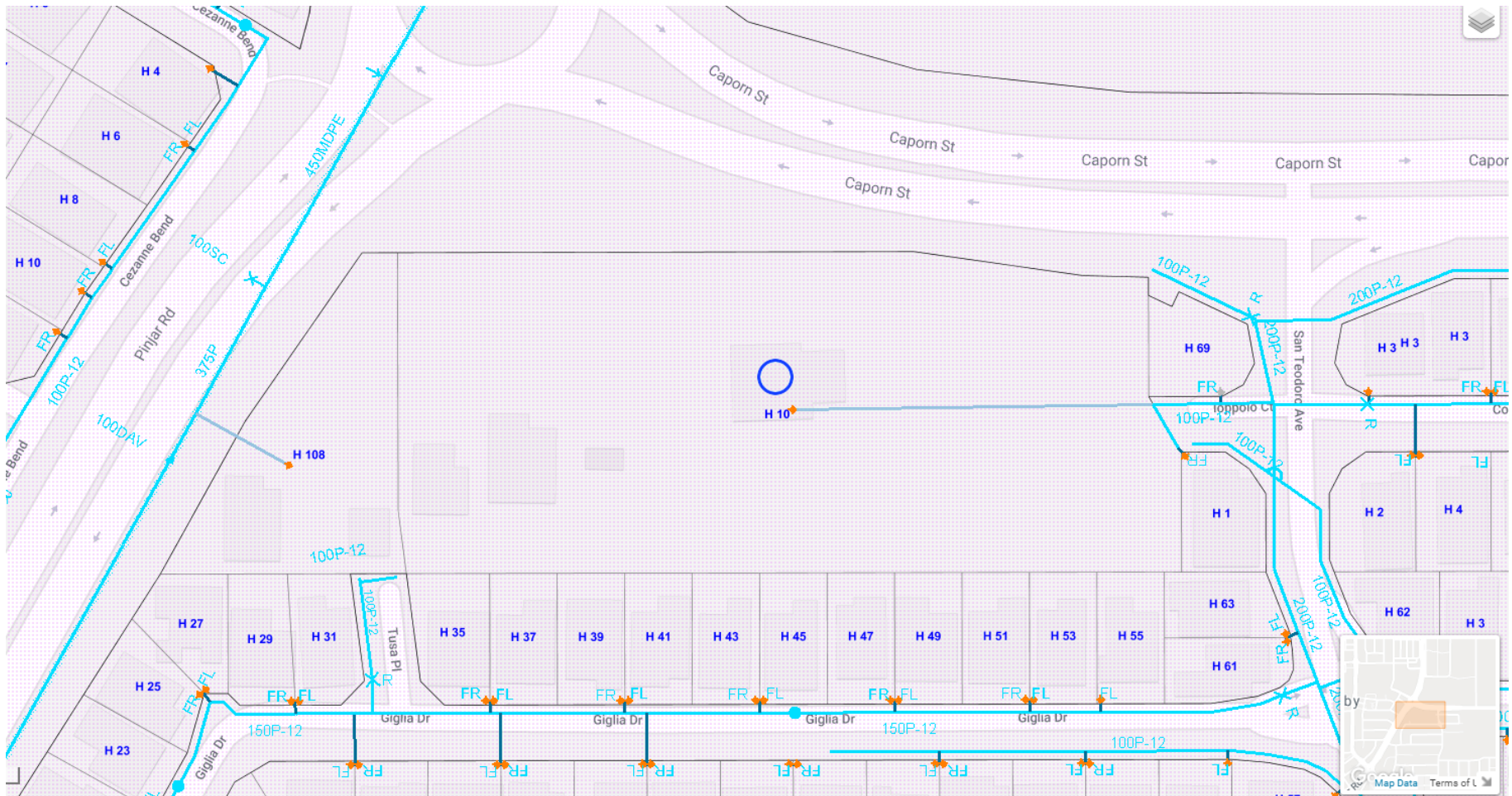
APPENDIX B- ELEVATION CONTOURS



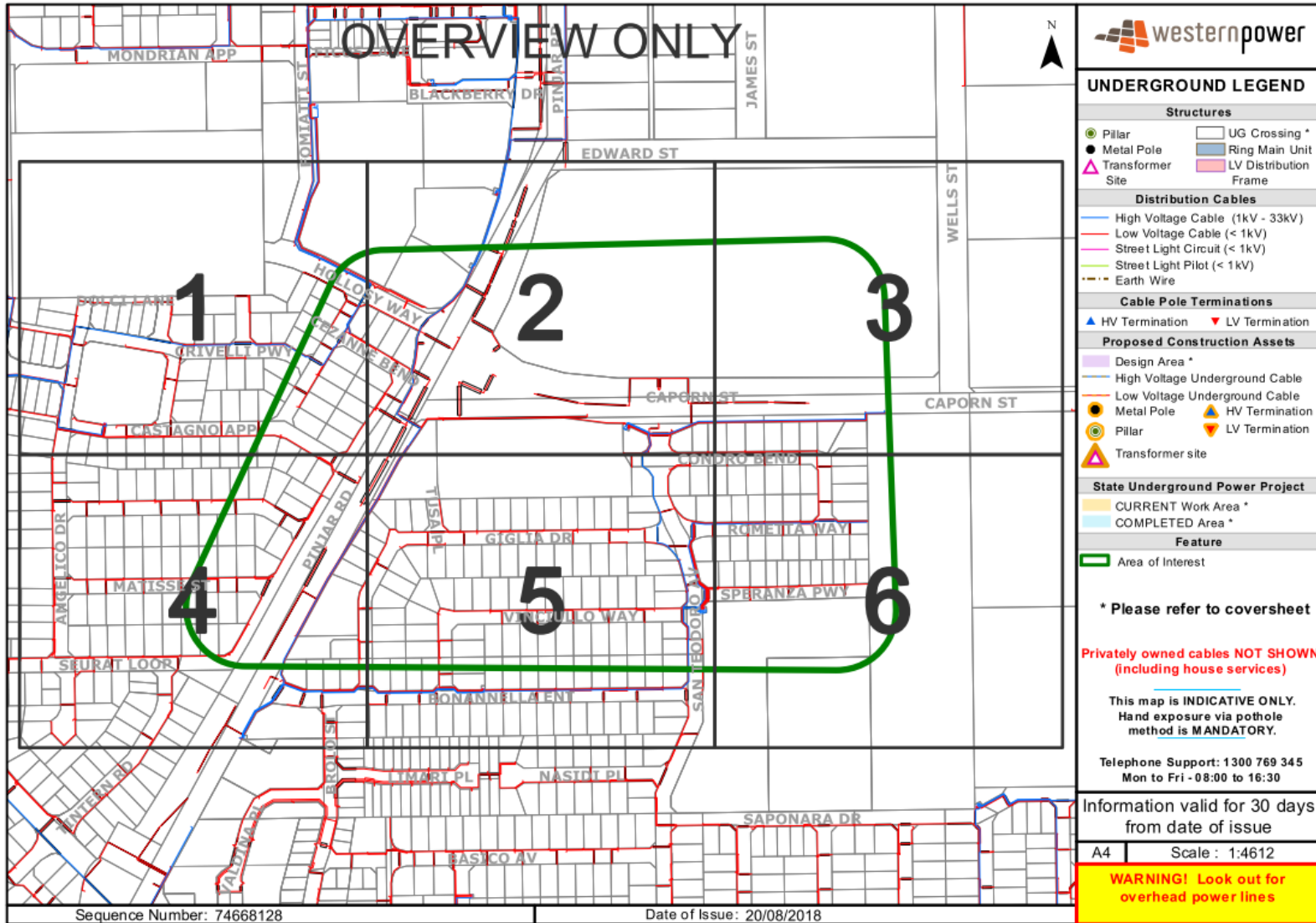
APPENDIX C – EXISTING SEWER



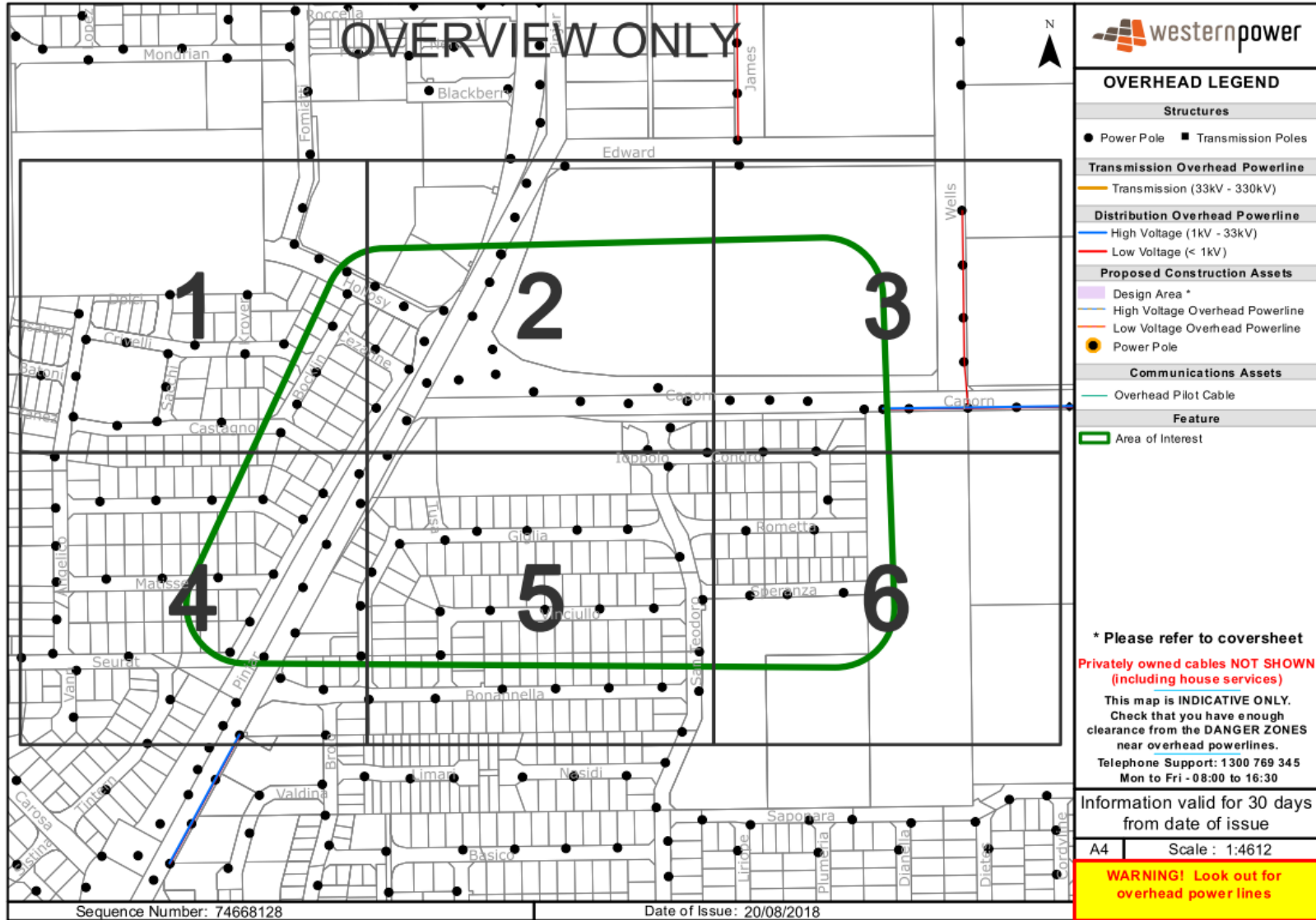
APPENDIX D – EXISTING WATER



APPENDIX E – EXISTING WESTERN POWER TRANSMISSION LINES (Underground)



APPENDIX E – EXISTING WESTERN POWER TRANSMISSION LINES (Overhead)



APPENDIX F – EXISTING GAS NETWORK



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APPENDIX G – EXISTING NBN NETWORK

