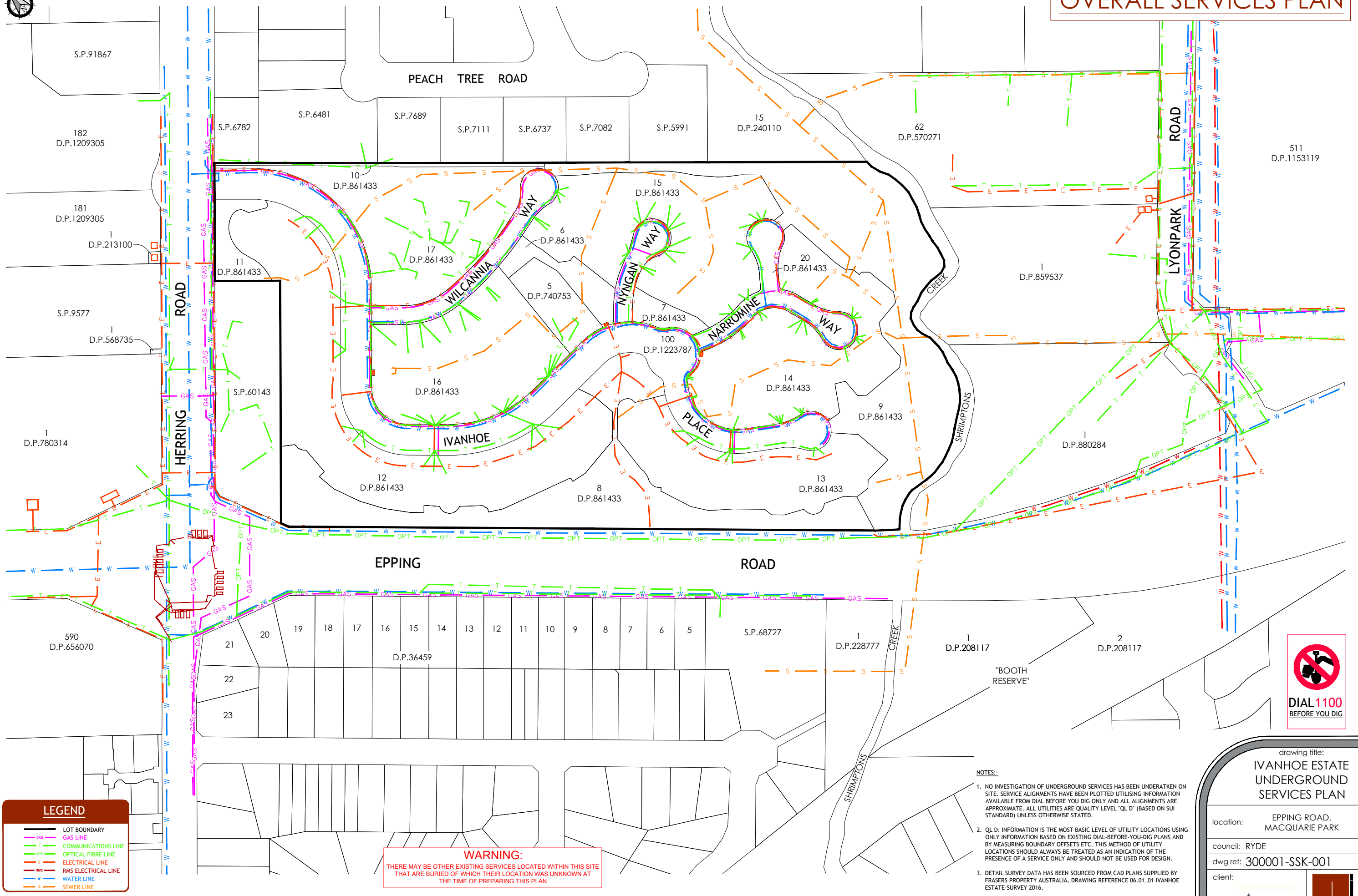


OVERALL SERVICES PLAN



LEGEND

- LOT BOUNDARY
- GAS LINE
- COMMUNICATIONS LINE
- OPTICAL FIBRE LINE
- ELECTRICAL LINE
- RMS ELECTRICAL LINE
- WATER LINE
- SEWER LINE

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drawing title:
IVANHOE ESTATE UNDERGROUND SERVICES PLAN

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council: RYDE

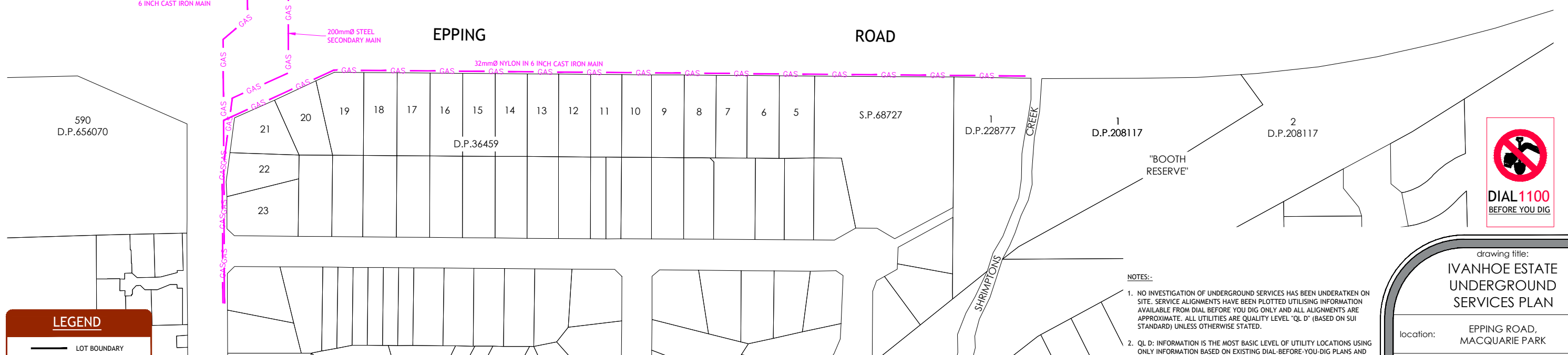
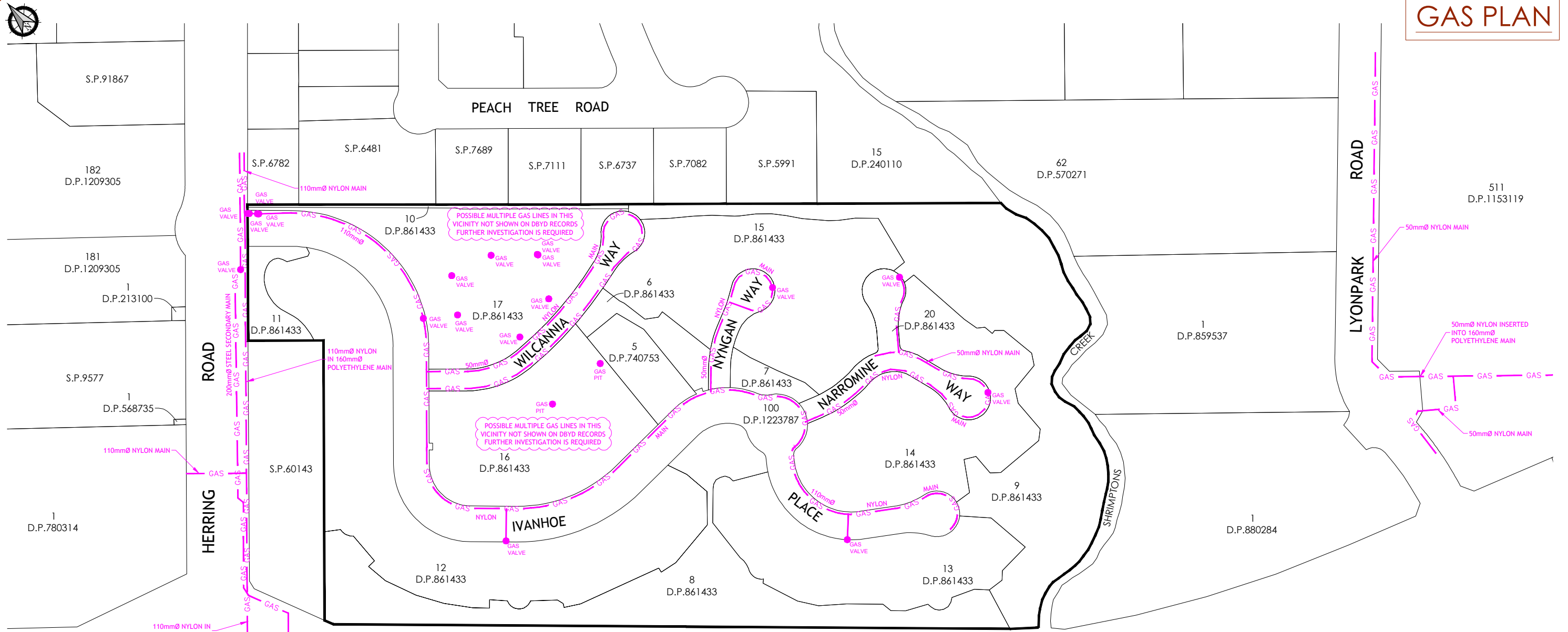
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client:

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LEGEND

- LOT BOUNDARY
- GAS LINE
- GAS VALVE
- GAS MARKER
- GAS PIT
- GAS MARKER

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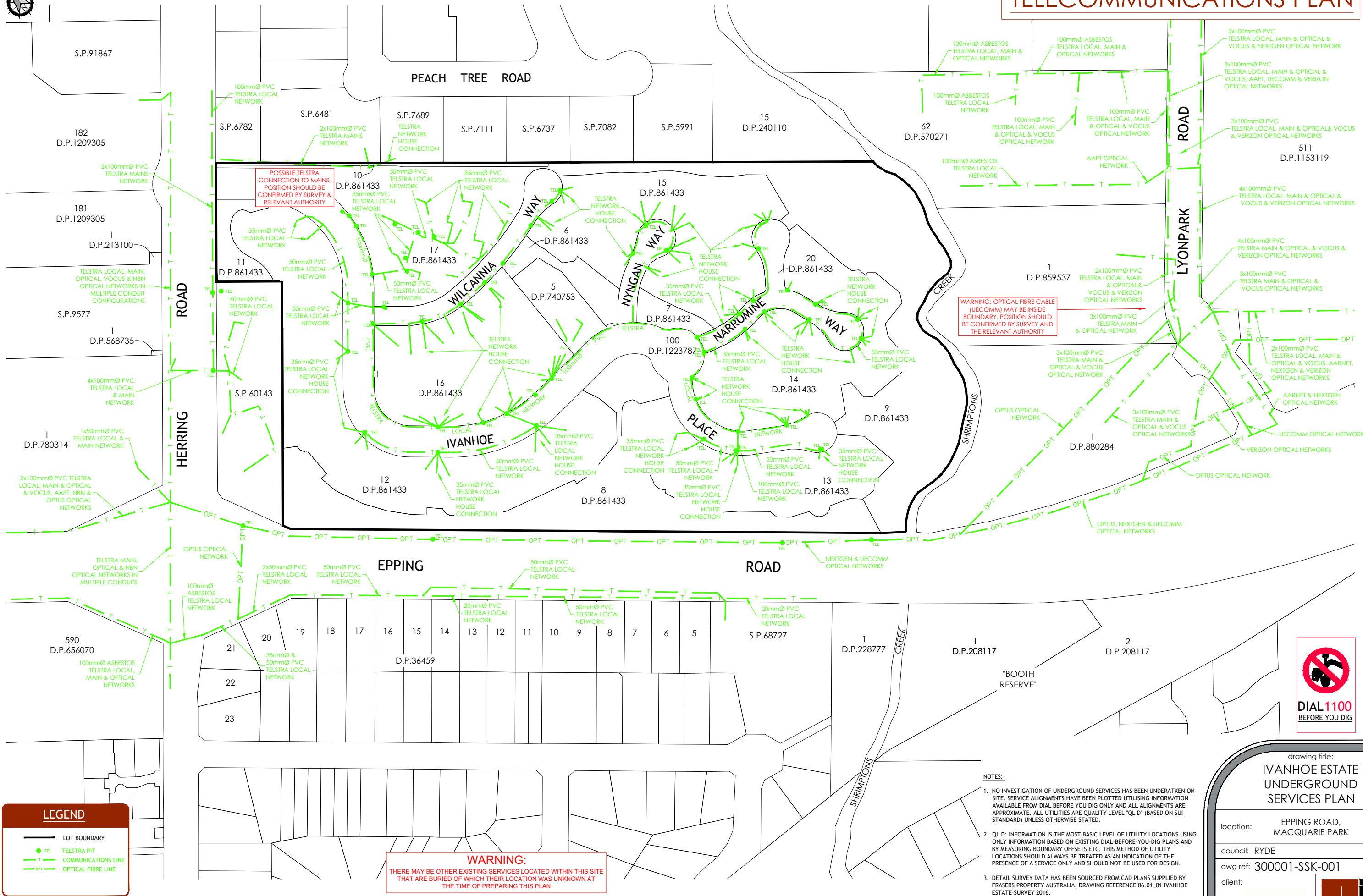
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TELECOMMUNICATIONS PLAN



POSSIBLE TELSTRA CONNECTION TO MAINS. POSITION SHOULD BE CONFIRMED BY SURVEY & RELEVANT AUTHORITY

WARNING: OPTICAL FIBRE CABLE (UECOMM) MAY BE INSIDE BOUNDARY. POSITION SHOULD BE CONFIRMED BY SURVEY AND THE RELEVANT AUTHORITY

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LEGEND

- LOT BOUNDARY
- TEL TELSTRA PIT
- COMMUNICATIONS LINE
- OPTICAL FIBRE LINE



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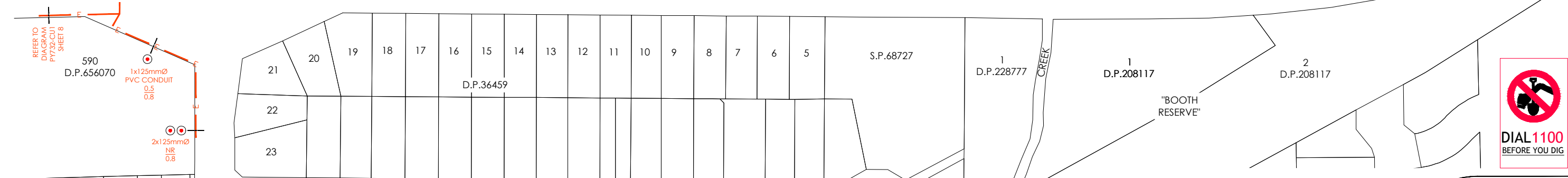
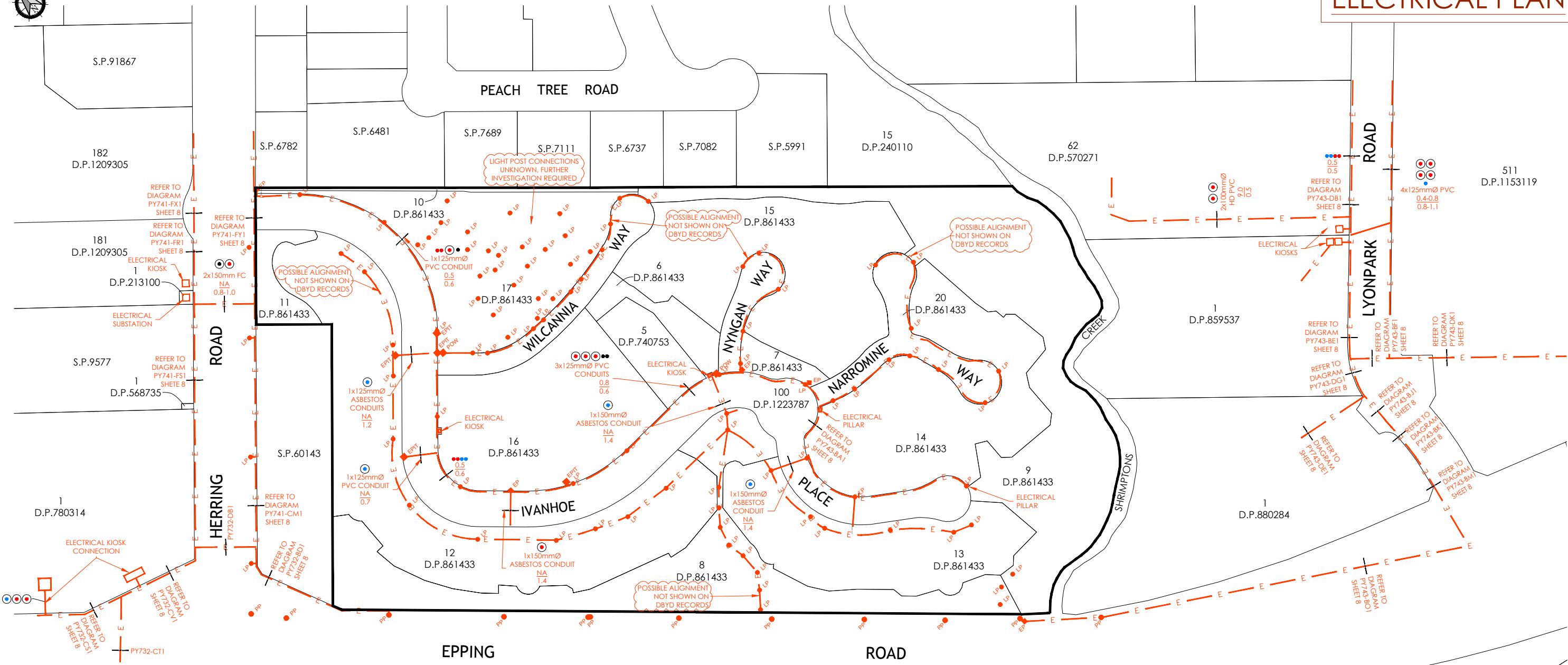
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ELECTRICAL PLAN



LEGEND

- LOT BOUNDARY
- ELECTRICAL LINE
- POWER POLE
- LIGHT POLE
- ELECTRICAL PILLAR
- ELECTRICAL PIT
- UNDERGROUND POWER BOX

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working beyond expectations

RMS SERVICES PLAN

1
D.P.780314

S.P.60143

12
D.P.861433

8
D.P.861433

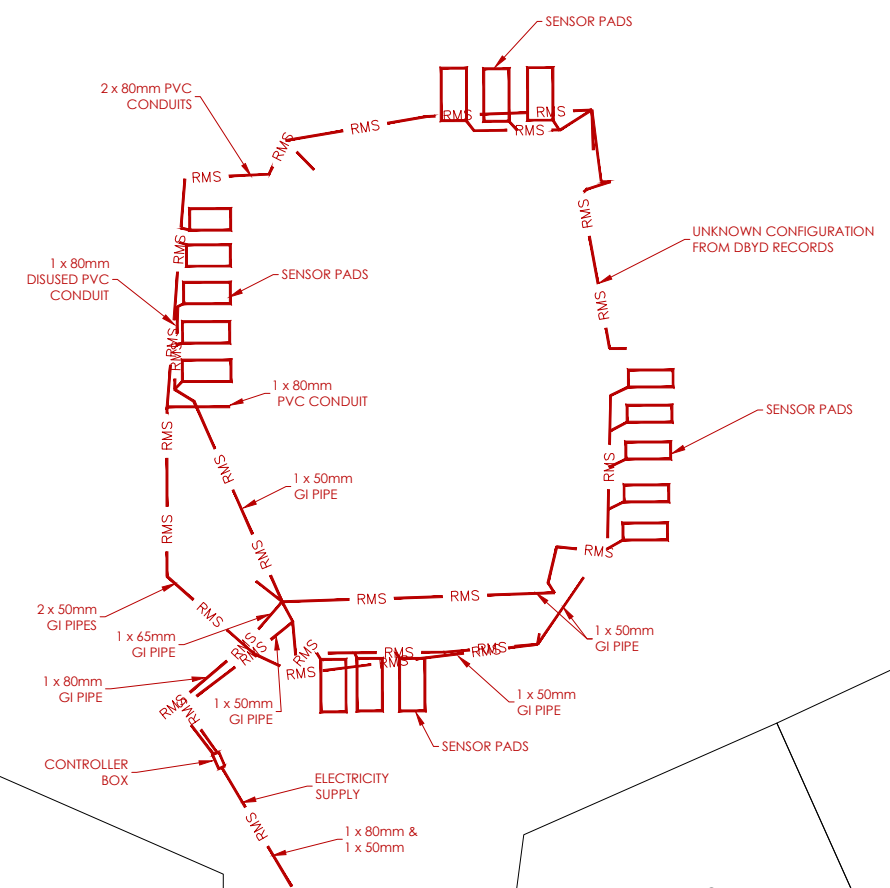
EPPING ROAD

ROAD

590
D.P.656070

20
D.P.36459

HERRING ROAD



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LEGEND

- LOT BOUNDARY
- RMS ELECTRICAL LINE

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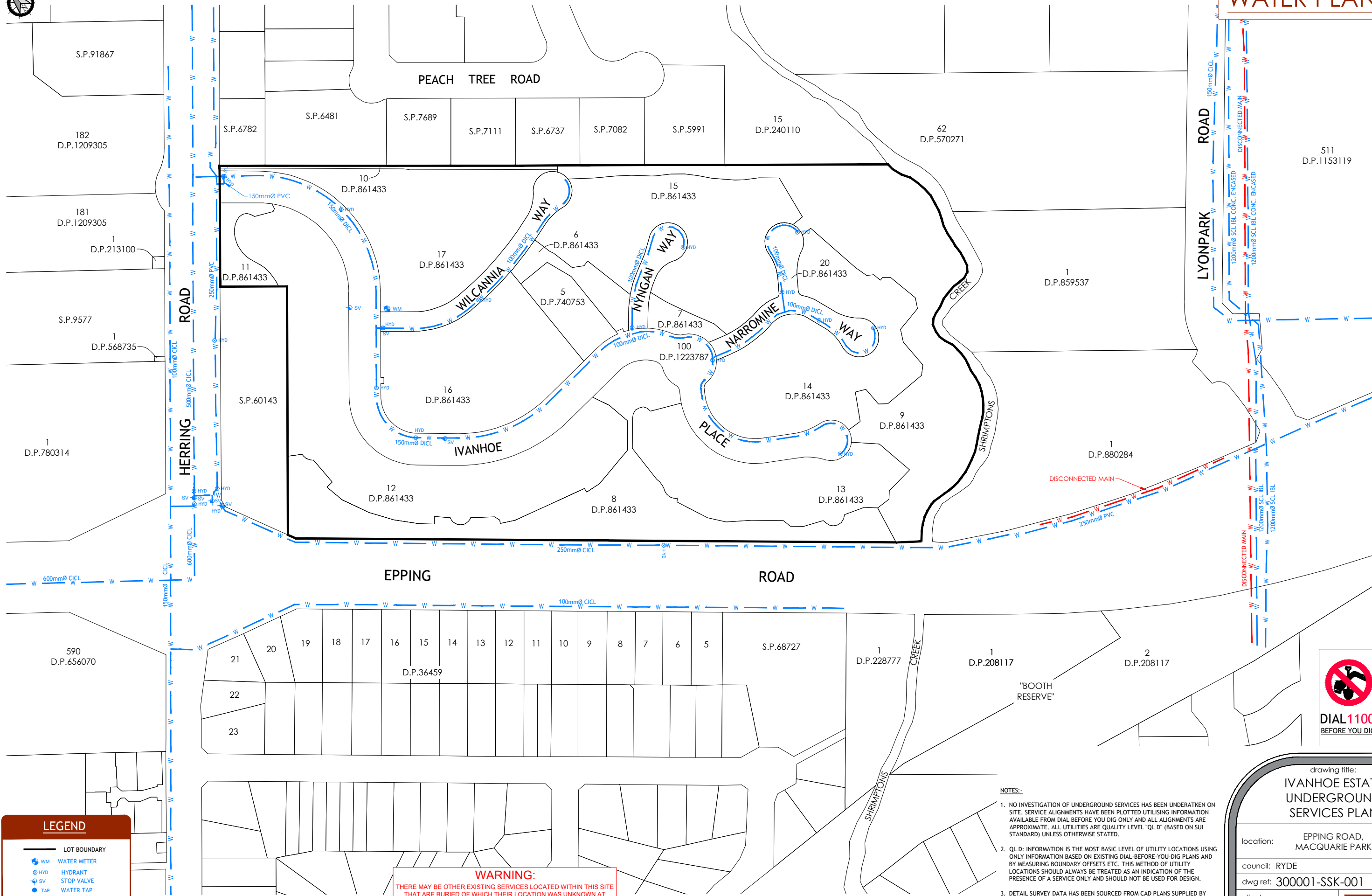
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LEGEND

- LOT BOUNDARY
- WM WATER METER
- HYD HYDRANT
- SV STOP VALVE
- TAP WATER TAP
- WATER LINE

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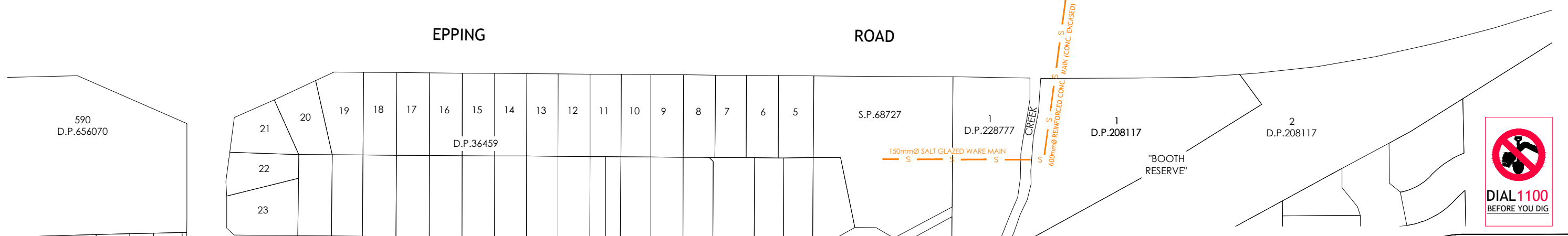
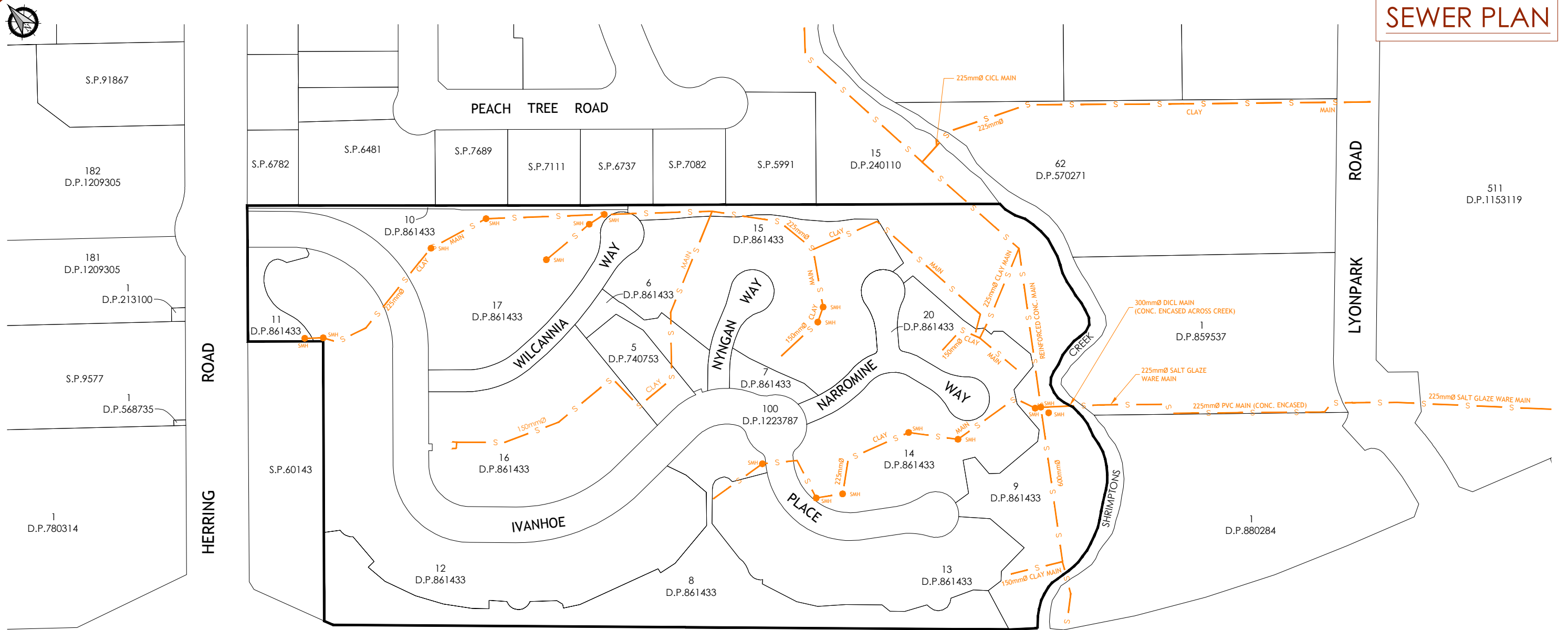
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client:

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LEGEND

- LOT BOUNDARY
- SIP SEWER INSPECTION PIT
- SMH SEWER MAN HOLE
- SEWER LINE

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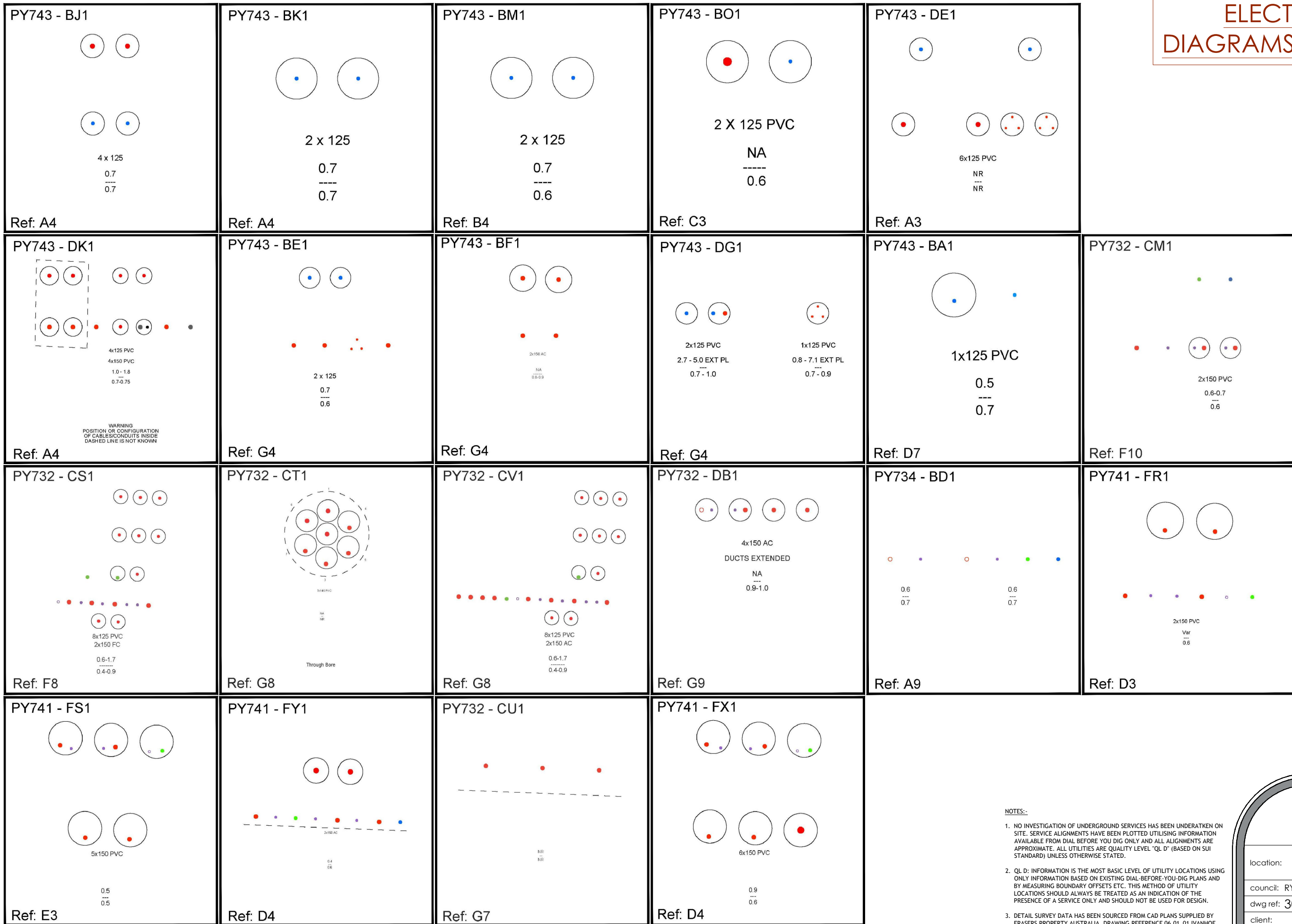
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ELECTRICAL DIAGRAMS PLAN



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Appendix D

SYDNEY WATER CORPORATION CORRESPONDENCE

3 August 2017

Frasers Property Australia
c/- Rose Atkins Rimmer

FEASIBILITY LETTER

Developer: Frasers Property Australia
Your reference: 41/24958
Development: Lot 5 DP740753 27 Ivanhoe Pl, Macquarie Park
Development Description: Social and market housing, independent living units, residential aged care facility, school and child care centres are being delivered in stages from Herring Road progressively east towards Shrimpton's Creek.
Your application date: 16 June 2017

Dear Applicant

This Feasibility Letter (Letter) is a guide only. It provides general information about what Sydney Water's requirements could be if you applied to us for a Section 73 Certificate (Certificate) for your proposed subdivision. **The information is accurate at today's date only.**

If you obtain development consent for that subdivision from your consent authority (this is usually your local Council) they will require you to apply to us for a Section 73 Certificate. You will need to submit a new application (and pay another application fee) to us for that Certificate by using your current or another Water Servicing Coordinator (Coordinator).

Sydney Water will then send you either a:

- Notice of Requirements (Notice) and Developer Works Deed (Deed) or
- Certificate.

These documents will be the definitive statement of Sydney Water's requirements.

There may be changes in Sydney Water's requirements between the issue dates of this Letter and the Notice or Certificate. The changes may be:

- if you change your proposed development eg the development description or the plan/site layout, after today, the requirements in this Letter could change when you submit

your new application; and

- if you decide to do your development in stages then you must submit a new application (and pay another application fee) for each stage.

You have made an application for specific information. Sydney Water's possible requirements are:

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

What You Must Do To Get A Section 73 Certificate In The Future.

To get a Section 73 Certificate you must do the following things. You can also find out about this process by visiting www.sydneywater.com.au > Plumbing, building & developing > Developing > Land development.

1. **Obtain Development Consent from the consent authority for your subdivision proposal.**
2. **Engage a Water Servicing Coordinator (Coordinator).**

You must engage your current or another authorised Coordinator to manage the design and construction of works that you must provide, at your cost, to service your subdivision. If you wish to engage another Coordinator (at any point in this process) you must write and tell Sydney Water.

For a list of authorised Coordinators, either visit www.sydneywater.com.au > Plumbing, building & developing > Developing > Providers > Lists or call **13 20 92**.

The Coordinator will be your point of contact with Sydney Water. They can answer most questions that you might have about the process and developer charges and can give you a quote or information about costs for services/works (including Sydney Water costs).

3. **Developer Works Deed**

It would appear that your feasibility application is served from existing mains and does not require any works to be constructed at this time. Sydney Water will confirm this with you after you have received Development Approval from Council and your Coordinator has submitted a new Development application and Sydney Water has issued you with a formal Notice of Requirements.

4. **Water and Sewer Works**

4.1 **Water**

Sydney Water has assessed your application and found that:

The proposed site is in the Marsfield water supply zone boundary. There is an existing DN500 trunk water main along Herring Road which has capacity to service the proposed development. A detailed planning study must be carried out to determine whether augmentation of existing water infrastructure within the Macquarie University growth precinct is required.

Sewer

The proposed development will drain to the existing North Head System via existing infrastructure. There is a DN600 trunk wastewater main adjacent to Shrimptons Creek, which has capacity to service the proposed site.

A detailed planning study must be carried out to determine whether augmentation of existing

wastewater infrastructure within the growth precinct is required.

5. Ancillary Matters

5.1 Asset adjustments

After Sydney Water issues this Notice (and more detailed designs are available), Sydney Water may require that the water main/sewer main/stormwater located in the footway/your property needs to be adjusted/deviated. If this happens, you will need to do this work as well as the extension we have detailed above at your cost. The work must meet the conditions of this Notice and you will need to complete it **before we can issue the Certificate**. Sydney Water will need to see the completed designs for the work and we will require you to lodge a security. The security will be refunded once the work is completed.

5.2 Entry onto neighbouring property

If you need to enter a neighbouring property, you must have the written permission of the relevant property owners and tenants. You must use Sydney Water's **Permission to Enter** form(s) for this. You can get copies of these forms from your Coordinator or the Sydney Water website. Your Coordinator can also negotiate on your behalf. Please make sure that you address all the items on the form(s) including payment of compensation and whether there are other ways of designing and constructing that could avoid or reduce their impacts. You will be responsible for all costs of mediation involved in resolving any disputes. Please allow enough time for entry issues to be resolved.

OTHER THINGS YOU MAY NEED TO DO

Shown below are other things you need to do that are NOT a requirement for the Certificate. They may well be a requirement of Sydney Water in the future because of the impact of your development on our assets. You must read them before you go any further.

Approval of your building plans

Please note that your building plans must be approved. This can be done at Sydney Water Tap inTM. Visit www.sydneywater.com.au > Plumbing, building & developing > Building > Sydney Water Tap inTM or call 13 20 92.

This is not a requirement of the Certificate but the approval is needed because construction/building works may impact on existing Sydney Water assets (e.g. water and sewer mains). In any case, these works MUST NOT commence until Sydney Water has granted approval.

Your Coordinator can tell you about the approval process including:

- Possible requirements;
- Costs; and
- Timeframes.

Note: You must obtain our written approval before you do any work on Sydney Water's systems. Sydney Water will take action to have work stopped on the site if you do not

have that approval. We will apply Section 44 of the *Sydney Water Act 1994*.

Backflow Prevention Water supply connections

A backflow prevention containment device appropriate to the property's hazard rating must be installed at the property boundary. The device is to be installed on all water supplies entering the property, regardless of the supply type or metering arrangements. It is needed to reduce the risk of contamination by backflow from these supplies.

A licensed plumber with backflow accreditation can advise you of the correct requirements for your property. To view a copy of Sydney Water's Backflow Prevention Policy and a list of backflow accredited plumbers visit www.sydneywater.com.au > Plumbing, building & developing > Plumbing > Backflow prevention.

Fire Fighting

Definition of fire fighting systems is the responsibility of the developer and is not part of the Section 73 process. It is recommended that a consultant should advise the developer regarding the fire fighting flow of the subdivision and the ability of Sydney Water's system to provide that flow in an emergency. Sydney Water's Operating Licence directs that Sydney Water's mains are only required to provide domestic supply at a minimum pressure of 15 m head.

Disused Water Service Sealing

You must pay to disconnect all disused private water services and seal them at the point of connection to a Sydney Water's water main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed plumber. The licensed plumber must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Disused Sewerage Service Sealing

Please do not forget that you must pay to disconnect all disused private sewerage services and seal them at the point of connection to a Sydney Water sewer main. This work must meet Sydney Water's standards in the Plumbing Code of Australia (the Code) and be done by a licensed drainer. The licensed drainer must arrange for an inspection of the work by a NSW Fair Trading Plumbing Inspection Assurance Services (PIAS) officer. After that officer has looked at the work, the drainer can issue the Certificate of Compliance. The Code requires this.

Soffit Requirements

Please be aware that floor levels must be able to meet Sydney Water's soffit requirements for property connection and drainage.

Other fees and requirements

The requirements in this Notice relate to your Certificate application only. Sydney Water may be involved with other aspects of your development and there may be other fees or requirements.

These include:

- plumbing and drainage inspection costs;
- the installation of backflow prevention devices; and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your subdivision as soon as possible. Your hydraulic consultant can help you here.)

No warranties or assurances can be given about the suitability of this document or any of its provisions for any specific transaction. It does not constitute an approval from Sydney Water and to the extent that it is able, Sydney Water limits its liability to the reissue of this Letter or the return of your application fee. You should rely on your own independent professional advice.

END

Appendix E

AUSGRID CORRESPONDENCE

From: Amir Mohina [<mailto:AMohina@ausgrid.com.au>]
Sent: Wednesday, 2 August 2017 1:42 PM
To: David Taylor
Cc: Cedric Halforty
Subject: Preliminary Enquiry at: Ivanhoe Place, Macquarie Park_ B17/2627 (Ausgrid Reference: 700003921)

Hi David,

Please refer to response below relating from our distribution planning group which addresses some of the issues raised in your earlier Preliminary enquiry. If you wish to proceed with one of the options listed below to supply the proposed development, make sure you refer your selection to the response below in your application for connection that way we have something to work off.

Feel free to contact me if you have any questions relating the information below... If the site requirements have changed and you wish to explore a different option proceed with submitting a new preliminary enquiry request to dataNorth as per the standard process

Regards
AMIR MOHINA

ENGINEER- Contestability| **AUSGRID**

Building 3, 59 Bridge Road, Hornsby, NSW, 2077 AUSTRALIA

 (02) 9585 5835 (ext.35835) |  (02) 9394 6908 (ext. 36908) |  amohina@ausgrid.com.au

----- Forwarded by Amir Mohina/Ausgrid on 02/08/2017 01:21 PM -----

From: Ahmad Chehade/Ausgrid
To: Amir Mohina/Ausgrid@Ausgrid,
Cc: Charbel Estephan/Ausgrid@Ausgrid
Date: 31/07/2017 08:41 AM
Subject: TRIM: D17/718074 - HVCon2017_382 Preliminary Enquire for the Ivanhoe Development

Hi Amir,

I have received a Preliminary Enquiry to investigate the connection of a large residential & commercial development on the corner of Epping Rd & Herring Rd, Macquarie Park. The Preliminary Enquire for Ivanhoe Development HVCon2017_382 indicates the load required will be 447A at 11kV or 8.5MVA of load.

The proposed load will more than likely require 3 HV feeders to support the load in N and N-1. There are several 11kV feeders that run past the site which are connected to either Macquarie Park Zone or Epping Zone but these feeders can not support the requested load without a considerable and uneconomic upgrade of the existing network. Macquarie Park Zone is also heavily loaded and no longer has capacity to support the proposed load.

At present the closest zone with enough capacity to support the proposed load is Epping Zone. Therefore I have made the following assumptions to cost out this project:

1. Three HV feeders are required to support the load for N and N-1.
2. 500mm² Al XLPE is required for the bulk of the installation.
3. There are spare conduits available which are not in use.
4. Thermal Stable Backfill(TSB) is not required for the bulk of the installation.
5. Epping Zone or Top Ryde have enough capacity to carry the new load.

Considering the information we have received to date from the customer and Contestability and the available capacity at the surrounding zones, I have investigated two options for the Ivanhoe Development HVCon2017_382. These are:

Option 1 - Install New Conduits - Epping Zone

Outline: This option is for a complete new cable run and installation of bank of 4x150mm conduits from Epping Zone to the Ivanhoe work site .
Three new 500mm² Al XLPE cables are installed for the entire run. The conduits may require installation in Thermal Stable Backfill in some areas which has not been included as part of the cost. Four existing feeders will require consolidation to allow for connection at the zone.

Benefit: This is the cheapest option available. It provides an absolute cost of the final project.. It also uses an alternate route along non-RMS roads.

Distance: 2.62km

Cost: **\$3,500,000**

Option 2 - Use Existing Conduits where possible - Top Ryde Zone

Outline: This option looks at running three new 500mm² Al XLPE cables from Top Ryde Zone to the Ivanhoe work site .
The cables will be installed using some existing conduits and some new conduits as shown on the attached PDF.

Benefit: This is a contingency option in the event that Epping Zone does not have capacity available. It provides an absolute cost of the final project.. It also uses an alternate route along non-RMS roads.

Distance: 4.81km

Cost: **\$6,100,000**

Regards,

Ahmad Chehade | Distribution Planner | Distribution Planning | AUSGRID

|

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<http://www.mailguard.com.au>



Issue Date: 23 January 2018

Amendment: 0

Design Information - Site Specific Terms and Conditions

Ausgrid's Response to a Proposed Design Scope submission received 20.12.17.

This document must be read in conjunction with the Design Information – General Terms and Conditions document that is available on the Ausgrid Website <http://www.ausgrid.com.au>

1. Ausgrid Project References

SAP Project Number	SC12221
Project Name	Installation of 3x HV supply feeders from Epping Zn Substation to Customer
Project Address	LOT 11 IVANHOE PLACE, MACQUARIE PARK
Prjtrak Number	XCH014046

2. Ausgrid Contact Details

Note that this information is not to be placed on the design	
Ausgrid Contact	Amir Mohina
Telephone Number	02 9585 5835
Email Address	amohina@ausgrid.com.au

3. Response to Proposed Design Scope (PDS)

The design must meet the requirements contained in the Design Information – General Terms and Conditions, Ausgrid Network Standards and Ausgrid policies regardless of the wording/description of proposed works detailed on the submitted PDS form. Any request for variation and/or dispensation to the Ausgrid requirements must be done via a dedicated application to Ausgrid (eg NS181).

The proposed design scope submission is approved with the following alterations.

3.1. Network Proposal

3.1.1. High Voltage Proposal

- As per the attached proposed HV feeder network diagram, the proposed length of the HV feeder cables has altered from what was originally stated in the PDS and may exceed 2.62 km.
- Use 500mm² AL3 or 300mm² Cu Triplex cable (or Equivalent). The cables used must be designed to withstand a continuous rating of 350A (HV).
- Any future substations to connect to the proposed HV feeders must be equipped with DM&C (monitoring and control) devices prior to commissioning.

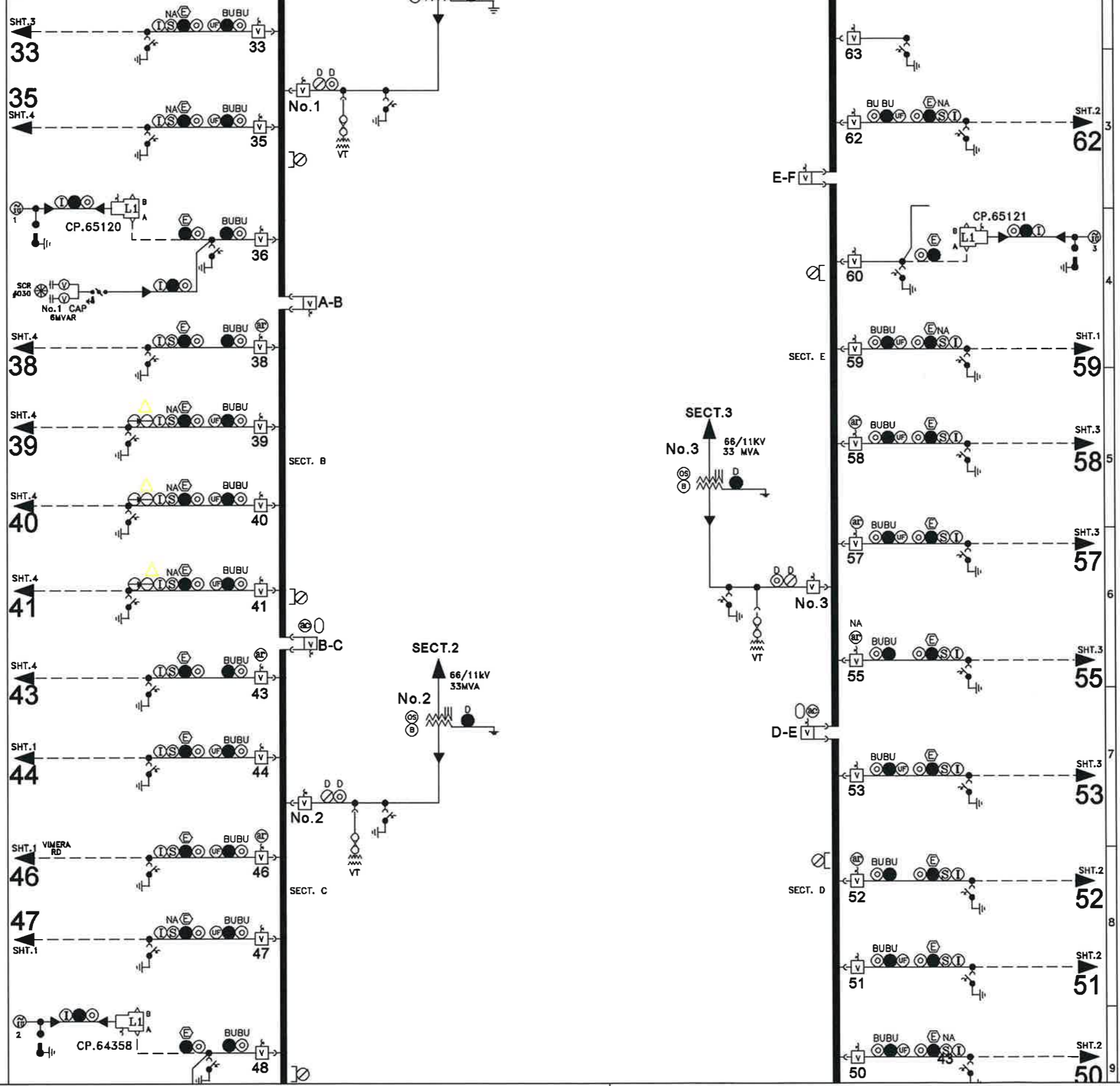
3.2. Conduits

- Where trenching install a minimum of one 150mm spare conduit per every HV feeder cable component
- one (1) spare 63mm conduit (for future optic fibre pilot cable use), is to be installed in association with all 11kV cable trenches.

4. Enclosures

- Proposed Design Scope.

EXISTING



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

20/12/2017

SIZE
A3

DPI-2017_1552

SAP NUMBER	SC12221
PROJTRAK No.	XCH014046
SHEETS	AMD.
3 of 14	0

©

PROPOSED FEEDER NETWORK

To IVANHOE ESTATE DEVELOPMENT

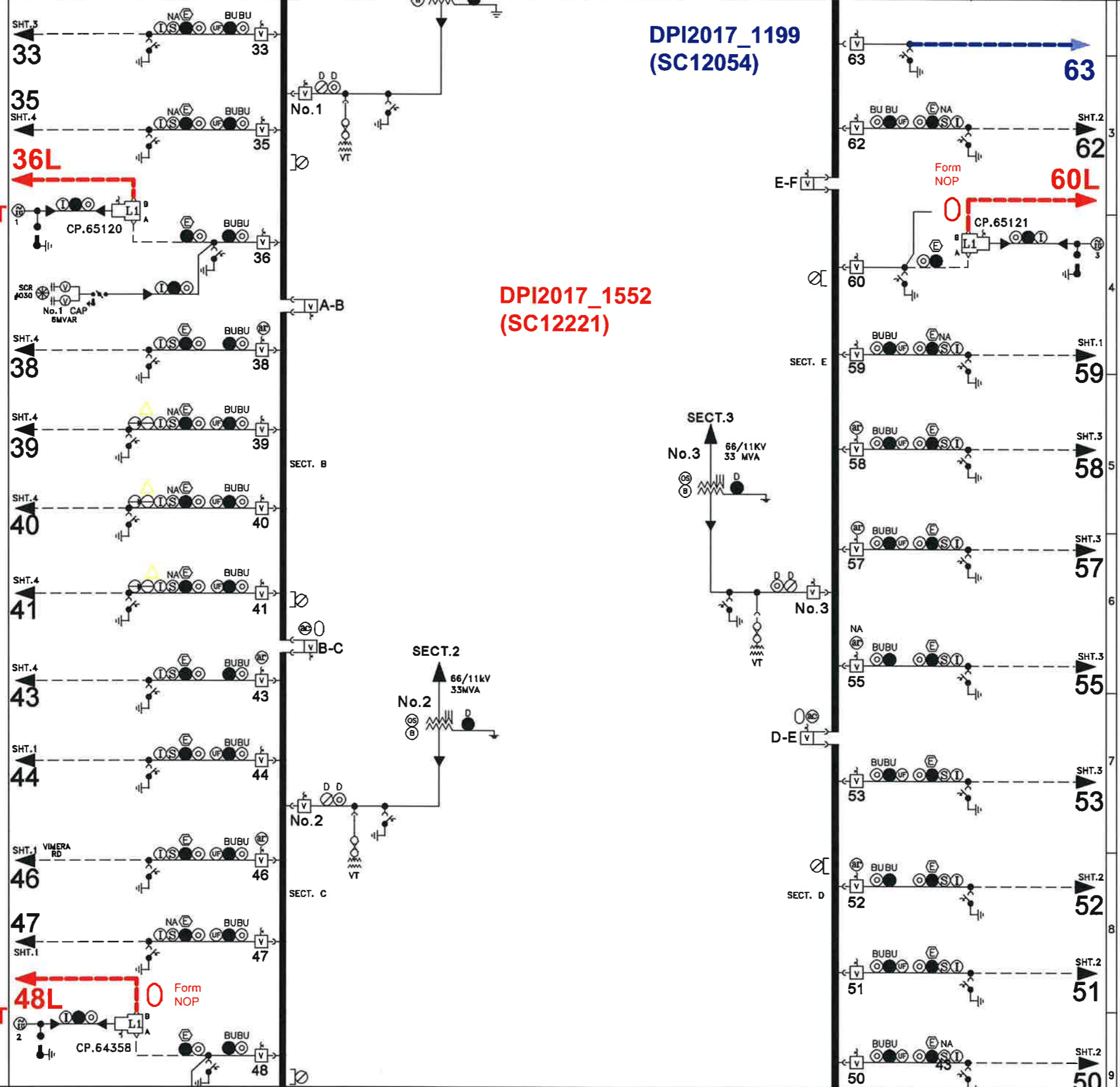
To IVANHOE ESTATE DEVELOPMENT

DPI2017_1199 (SC12054)

DPI2017_1552 (SC12221)

To PROPOSED S.78674 PEMBROKE CHAMBERS

To IVANHOE ESTATE DEVELOPMENT



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

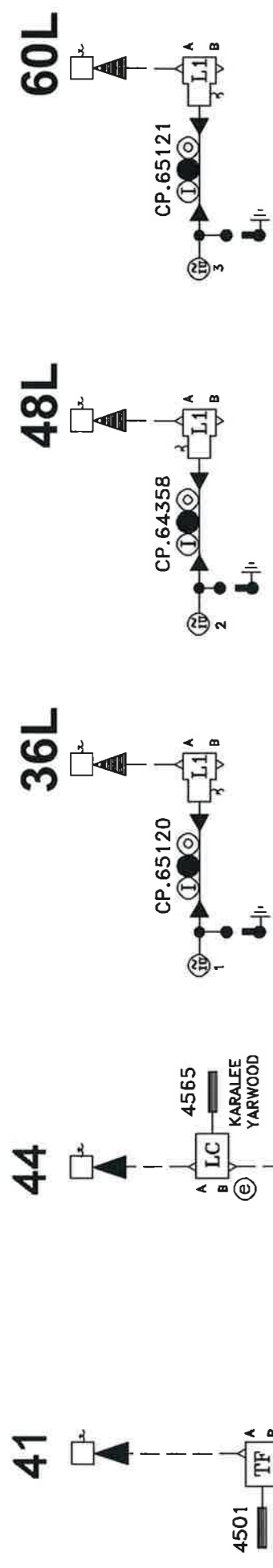
20/12/2017

SIZE
A3

DPI-2017_1552

SAP NUMBER	SC12221
PROJTRAK No.	XCH014046
SHEETS	4 of 14
AMD.	0

EXISTING



41
4501 EPPING BALACLAVA
2491 WILLANDRA VILLAGE MARS

44
4565 KARALEE YARWOOD

36L
CP.65120

48L
CP.64358

60L
CP.65121

7312 BALACLAVA KOORONG
63708 EPPING HERRING No.3
65631 HERRING IVANHOE
1796 HERRING TALAVERA

TO: S.4932 HERRING BOOTH TOP RYDE ZN.98 (SHT.2 C/9)

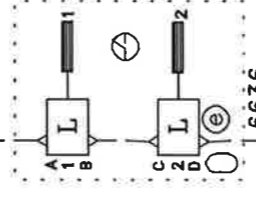
DPI2017_1552 (SC12221)

6503 IVANHOE PLACE

Decommission and recover S.6503 & S.6508

6508 IVANHOE HERRING

8697 HERRING TALAVERA No.4
8698 HERRING TALAVERA No.5
4873 TALAVERA SIEMENS



To S.63509 CHRISTIE TALAVERA No.2

8450 CULLODEN TALAVERA

2239 TALAVERA CULLODEN

4574 BUSACO TALAVERA No.1

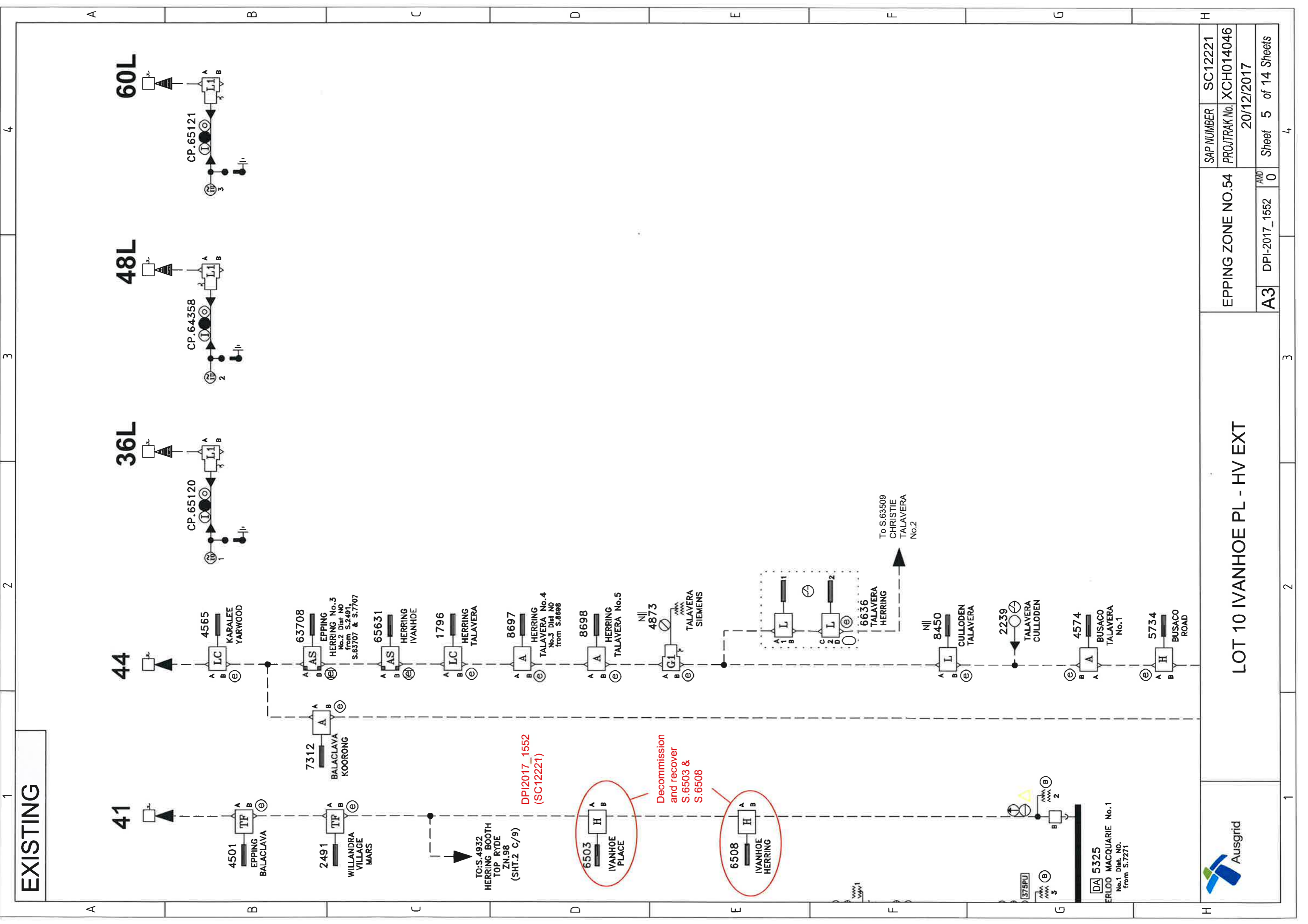
5734 BUSACO ROAD

DA 5325 ERLOO MACQUARIE No.1
No.1 Dist. NO. from S.7271



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54	SAP NUMBER	SC12221
	PROJTRAK No.	XCH014046
A3	DPI-2017_1552	0
	Sheet 5 of 14 Sheets	



PROPOSED FEEDER NETWORK

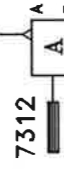
41



4501
EPPING
BALACLAVA



2491
WILLANDRA
VILLAGE
MARS



7312
BALACLAVA
KOORONG

TO: S.4932
HERRING BOOTH
TOP RYDE
ZN.98
(SHT.2 C/9)

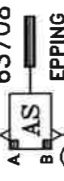
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(SC12221)



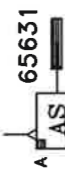
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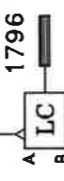
4565
KARALEE
YARWOOD



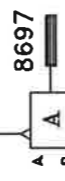
63708
EPPING No.3
No.2 Dist. NO
from S.2491,
S.63707 & S.7707



65631
HERRING
IVANHOE



1796
HERRING
TALAVERA



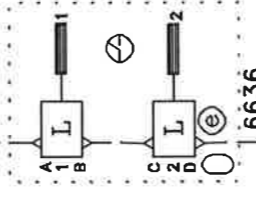
8697
HERRING
TALAVERA No.4
No.3 Dist. NO
from S.6698



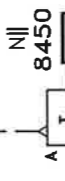
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HERRING
TALAVERA No.5



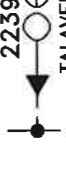
4873
TALAVERA
SIEMENS



To S.63509
CHRISTIE
TALAVERA
No.2



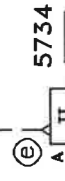
8450
CULLODEN
TALAVERA



2239
TALAVERA
CULLODEN



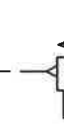
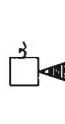
4574
BUSACO
TALAVERA
No.1



5734
BUSACO
ROAD

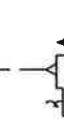
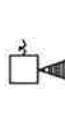
DA 5325
LOO MACQUARIE No.1
No.1 Dist. NO.
from S.7271

36L



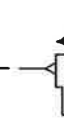
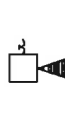
CP.65120

48L



CP.64358

60L



CP.65121

Use 300mm²
Cu Triplex
cable or
equivalent

DPI/2017_1552
(SC12221)

Use 500mm²
Al 3 core cable
or equivalent



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

SAP NUMBER SC12221

PROJTRAK No. XCH014046

A3 DPI-2017_1552

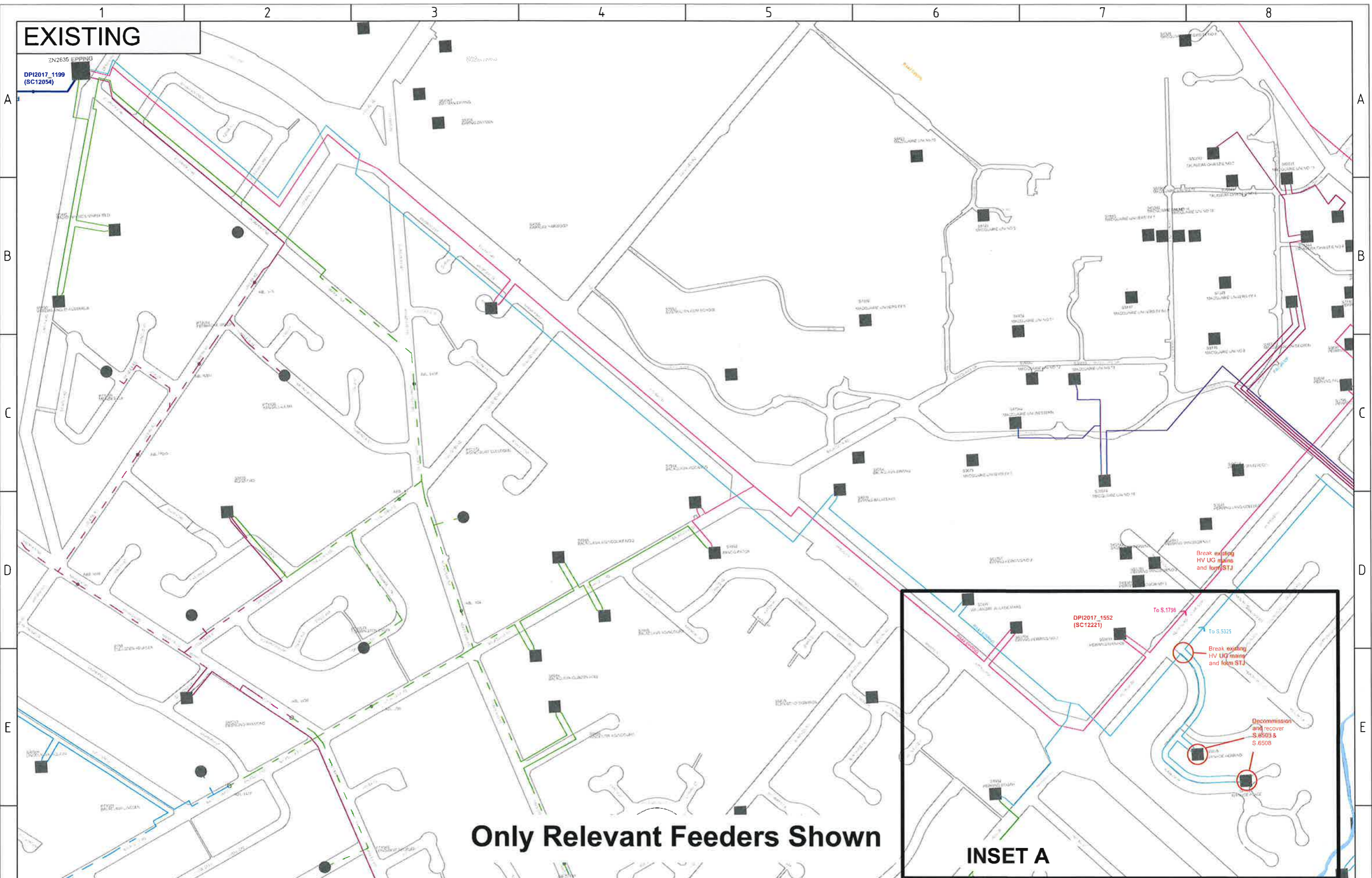
Sheet 6 of 14 Sheets

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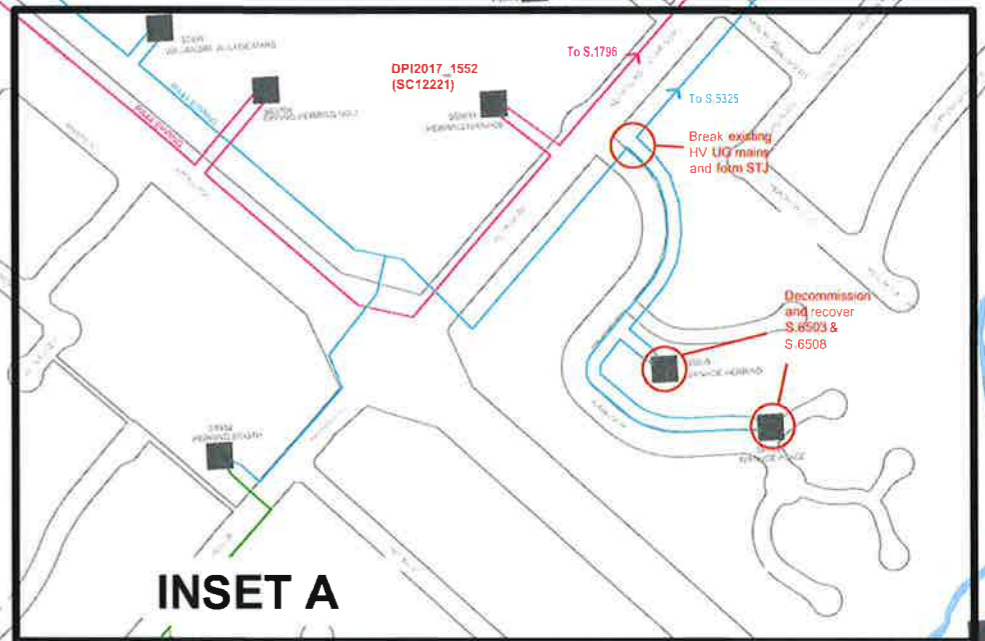
20/12/2017

EXISTING

ZN2635 EPPING
DPI2017_1199
(SC12054)



Only Relevant Feeders Shown



INSET A



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

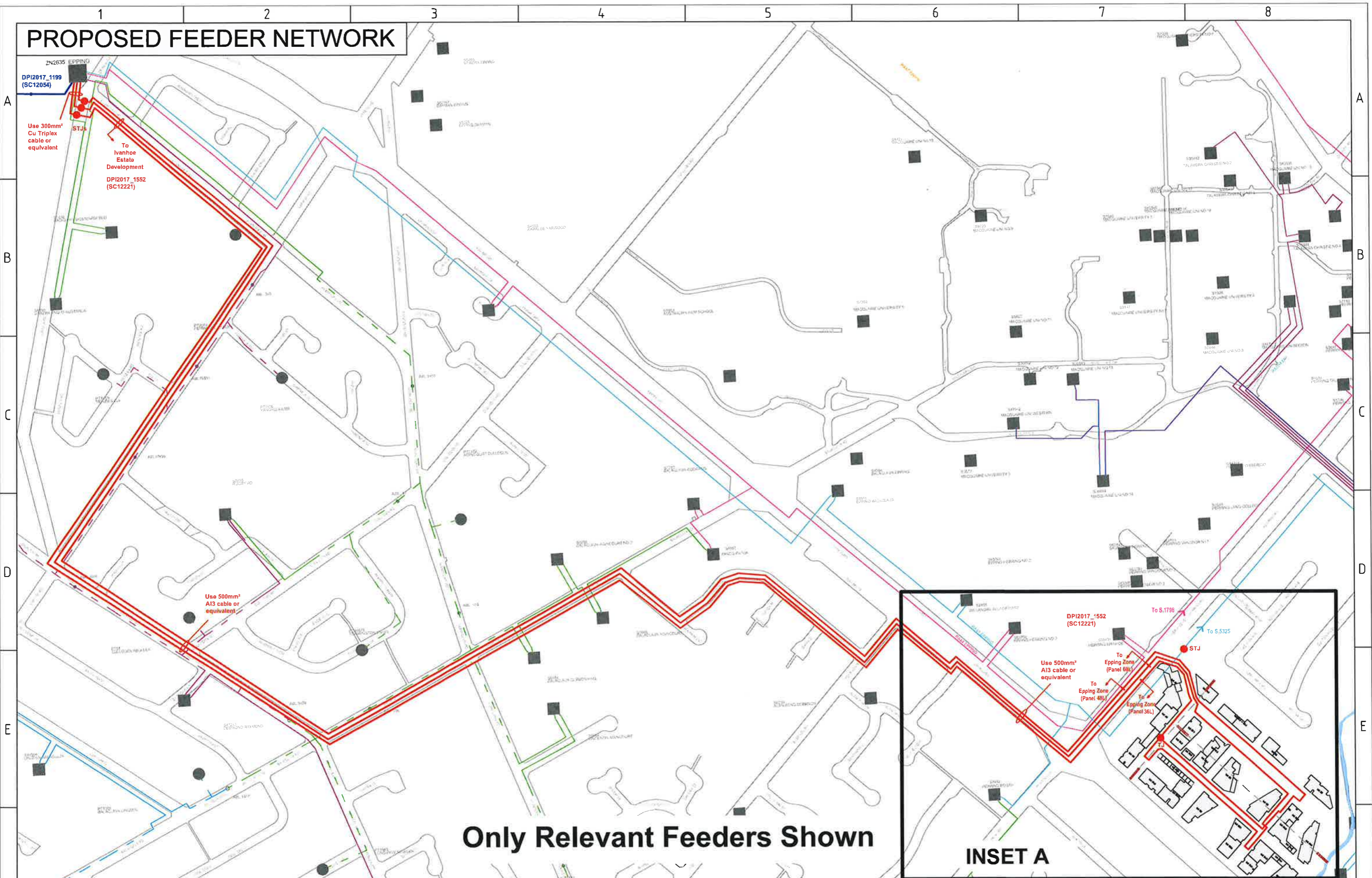
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PROJTRAK No.	XCH014046
SHEETS	AMD.
7 of 14	0

20/12/2017

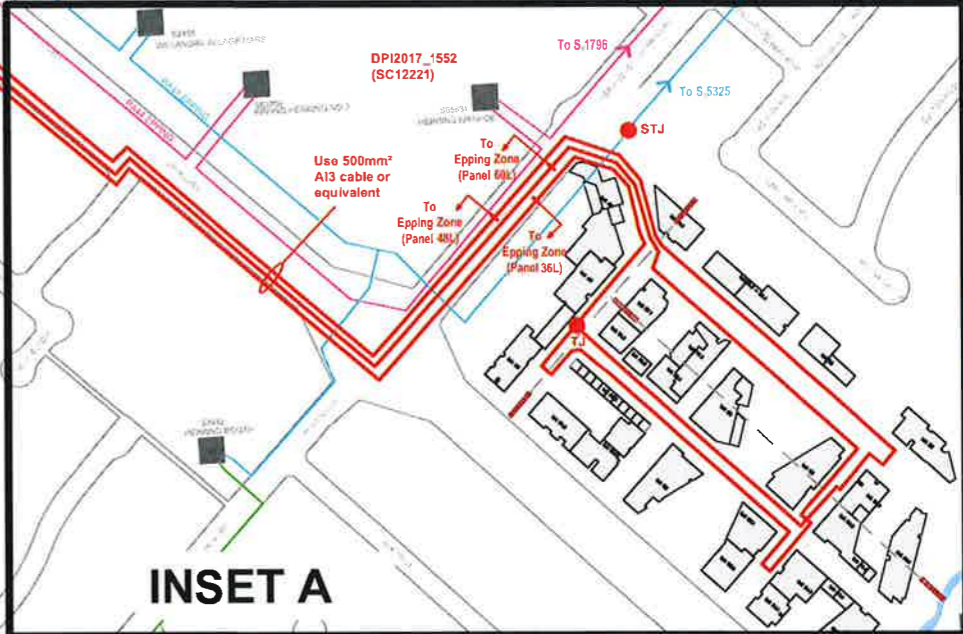
SIZE
A3

DPI-2017_1552

PROPOSED FEEDER NETWORK



Only Relevant Feeders Shown



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

20/12/2017

SIZE
A3

DPI-2017_1552

SAP NUMBER	SC12221
PROJTRAK No.	XCH014046
SHEETS	8 of 14
AMD.	0

EXISTING

S2491
WILLANDRA VILLAGE MARS

PA41 EPPING
PA44 EPPING

S63708
EPPING HERRING NO.3

DPI2017_1552
(SC12221)

S65631
HERRING IVANHOE

To S.1796

To S.5325

Break existing
HV UG mains
and form STJ

Decommission
and recover
S.6503 &
S.6508

S6508
IVANHOE HERRING

S6503
IVANHOE PLACE

S4932
HERRING BOOTH

INSET A

Only Relevant Feeders Shown



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

SAP NUMBER SC12221

PROJTRAK No. XCH014046

20/12/2017

SIZE
A3

DPI-2017_1552

SHEETS 9 of 14
AMD. 0

©

PROPOSED FEEDER NETWORK

DPI2017_1552 (SC12221)

Use 500mm² A13 cable or equivalent

INSET A

Only Relevant Feeders Shown



LOT 10 IVANHOE PL - HV EXT

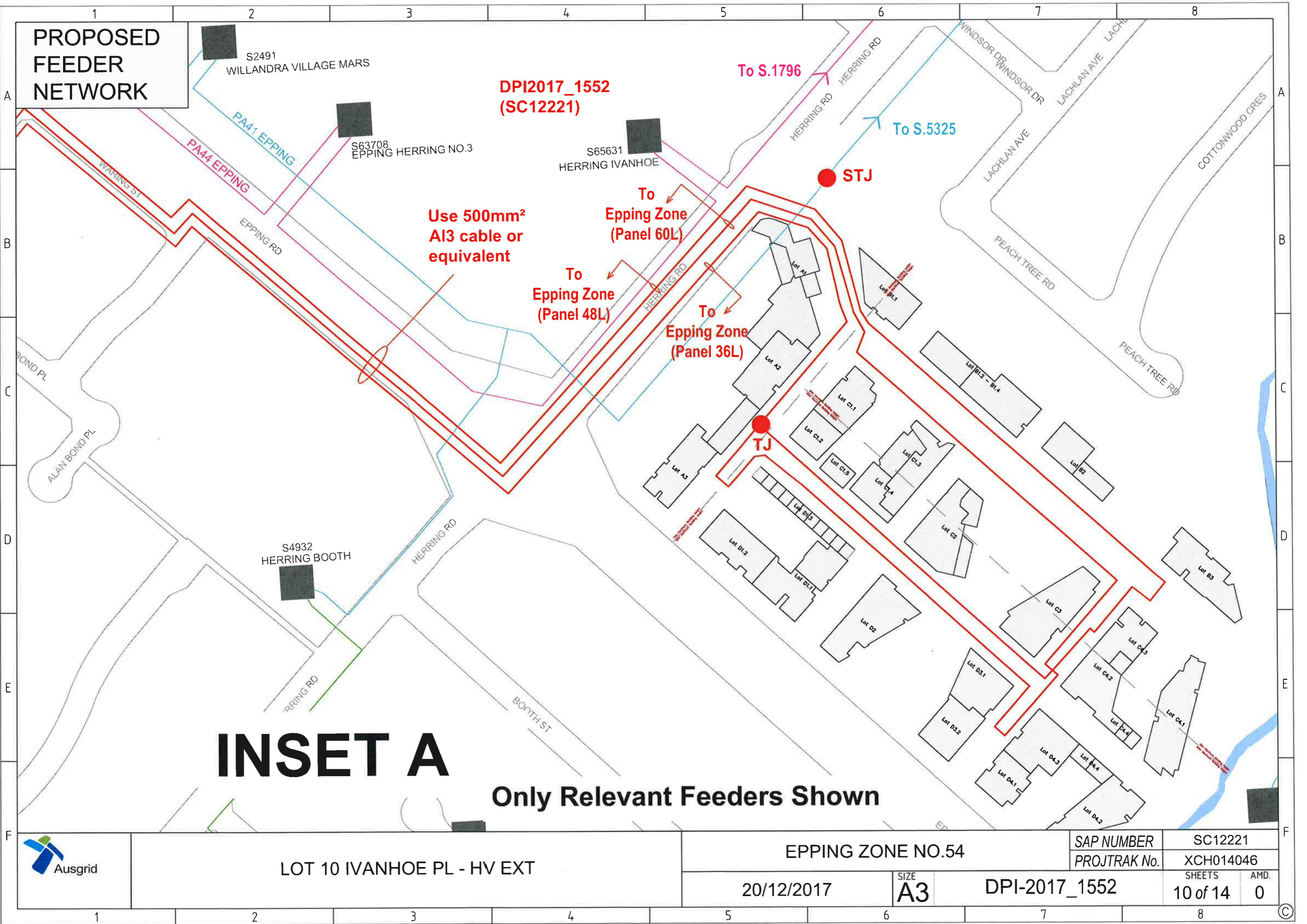
EPPING ZONE NO.54

20/12/2017

SIZE
A3

DPI-2017_1552

SAP NUMBER	SC12221
PROJTRAK No.	XCH014046
SHEETS	10 of 14
AMD.	0



PROPOSED SUBSTATION CONNECTIONS

To IVANHOE ESTATE DEVELOPMENT

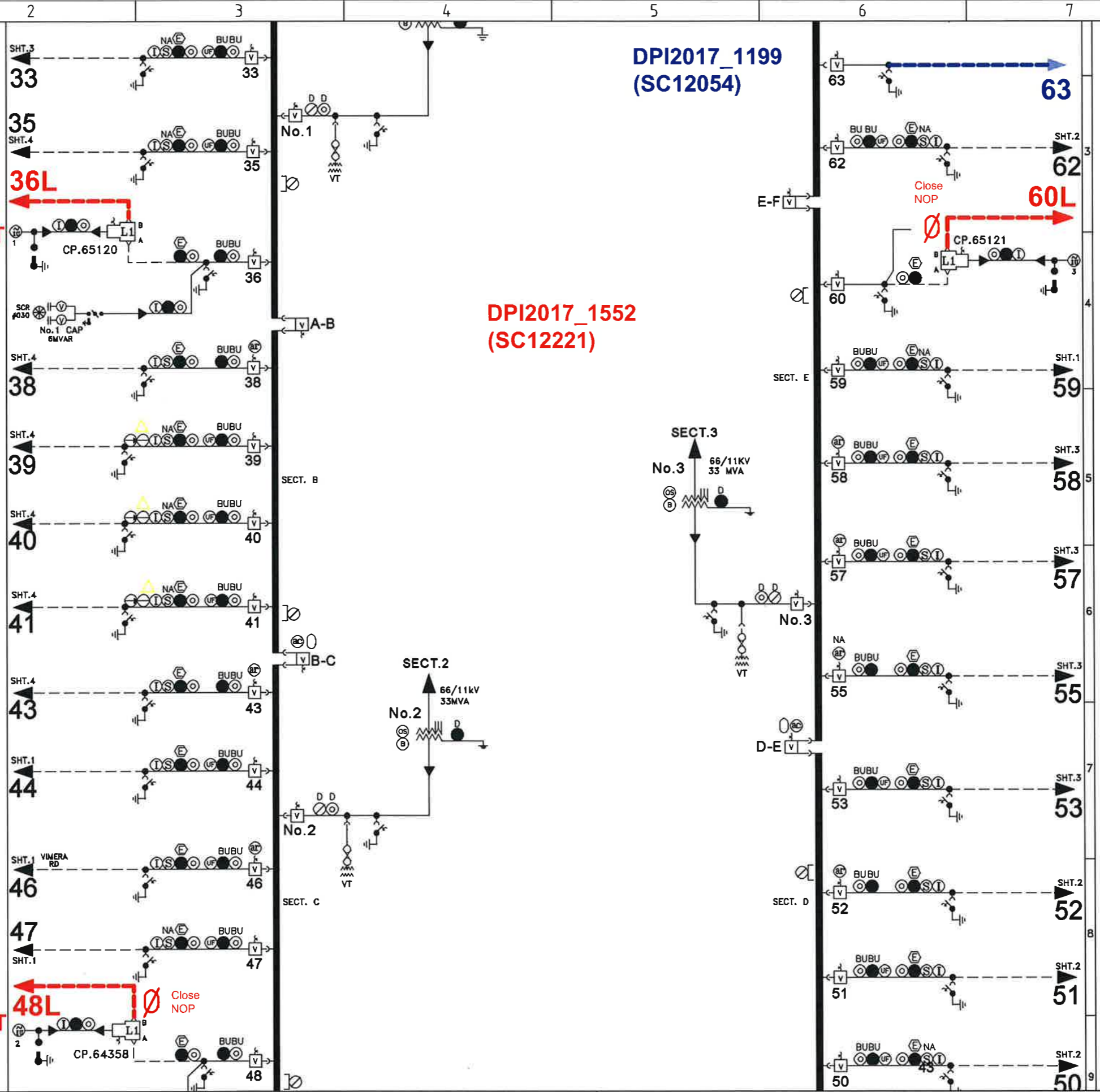
To IVANHOE ESTATE DEVELOPMENT

DPI2017_1199 (SC12054)

DPI2017_1552 (SC12221)

To PROPOSED S.78674 PEMBROKE CHAMBERS

To IVANHOE ESTATE DEVELOPMENT



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

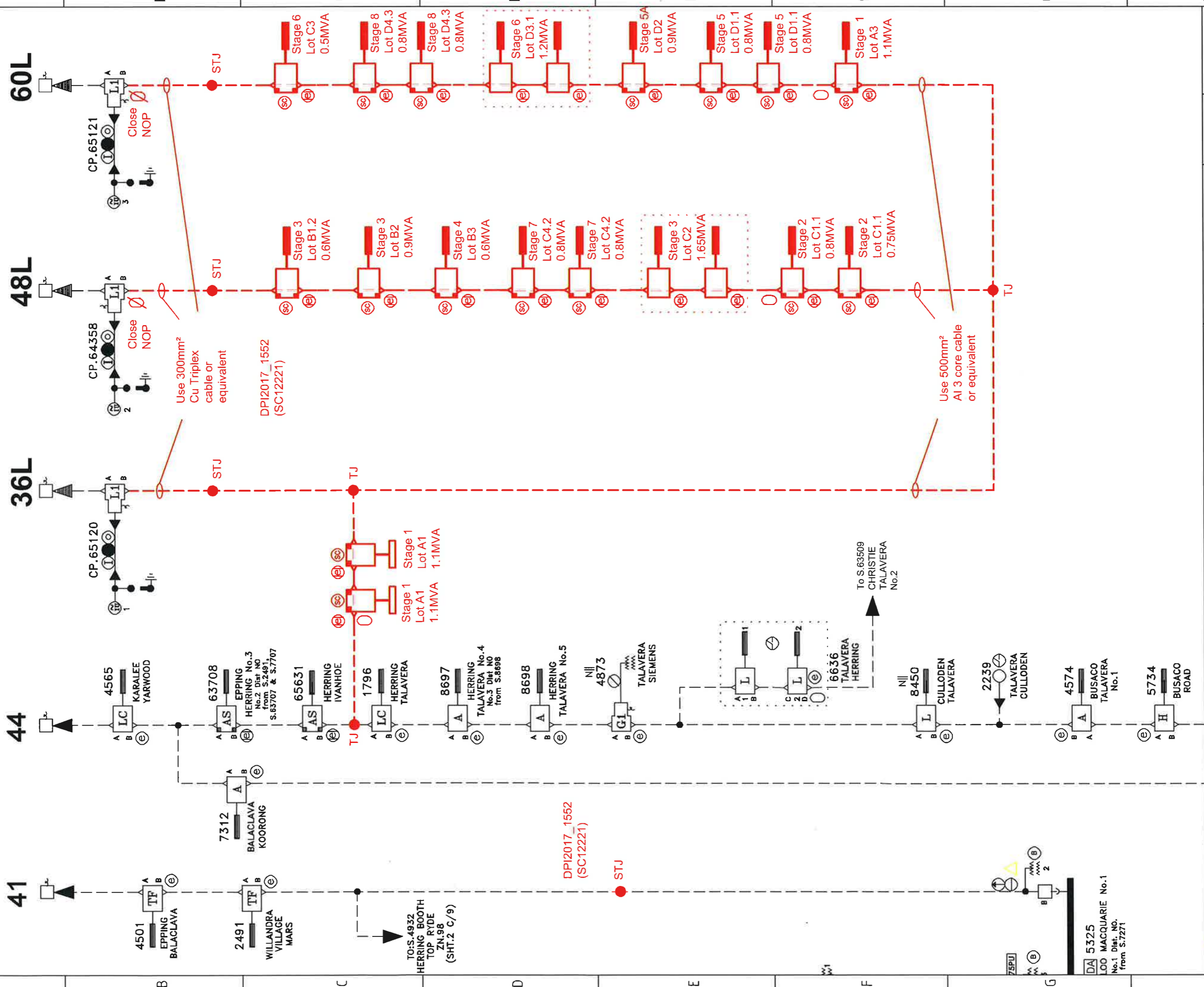
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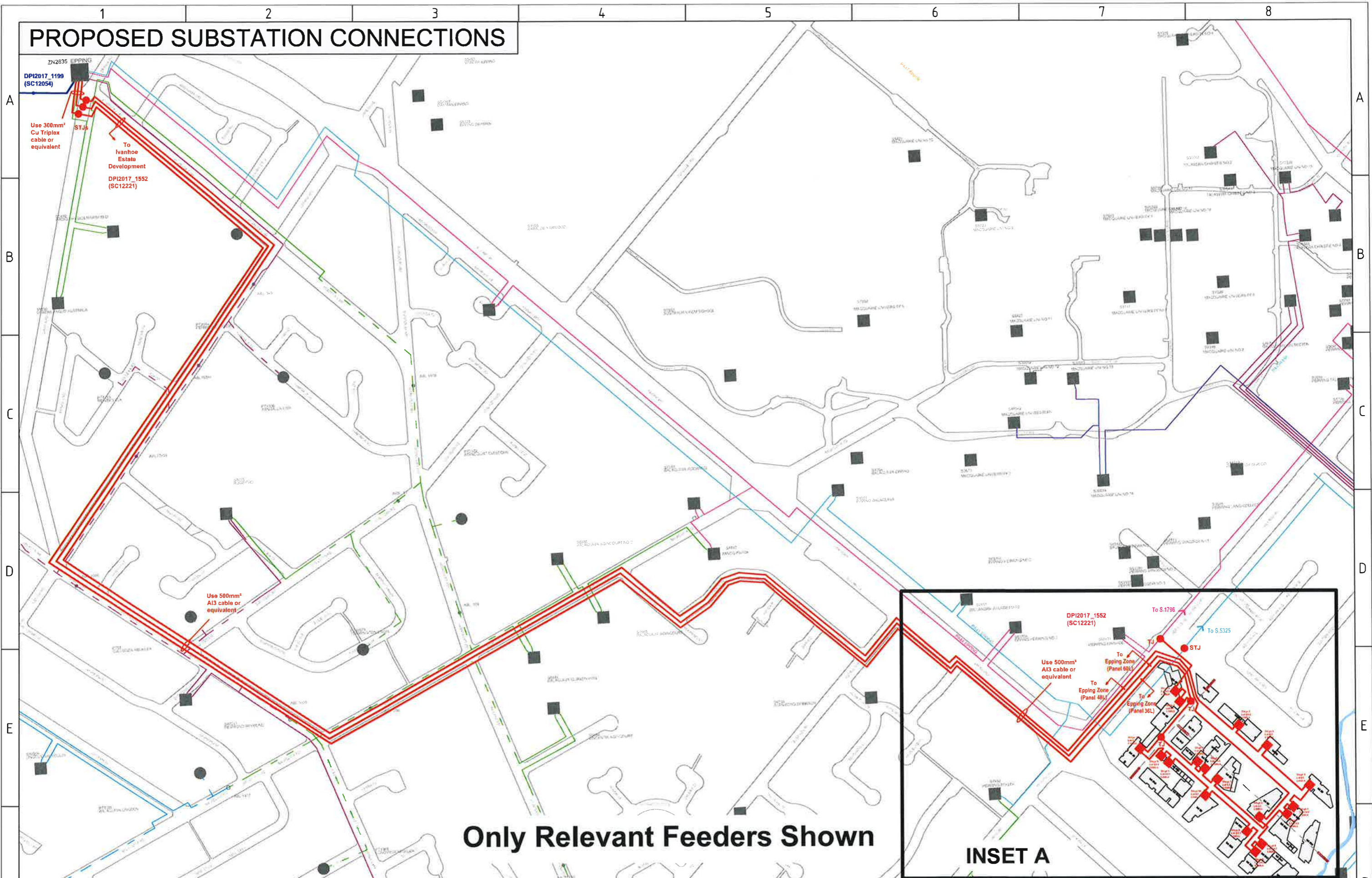
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PROJTRAK No.	XCH014046
SHEETS	11 of 14
AMD.	0

PROPOSED SUBSTATION CONNECTIONS



	LOT 10 IVANHOE PL - HV EXT		EPPING ZONE NO.54	SAP NUMBER SC12221
	A3	DPI-2017_1552	AMD 0	PROJTRAK No. XCH014046 20/12/2017
			Sheet 12 of 14 Sheets	4

PROPOSED SUBSTATION CONNECTIONS



Only Relevant Feeders Shown

INSET A



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

SAP NUMBER SC12221

PROJTRAK No. XCH014046

20/12/2017

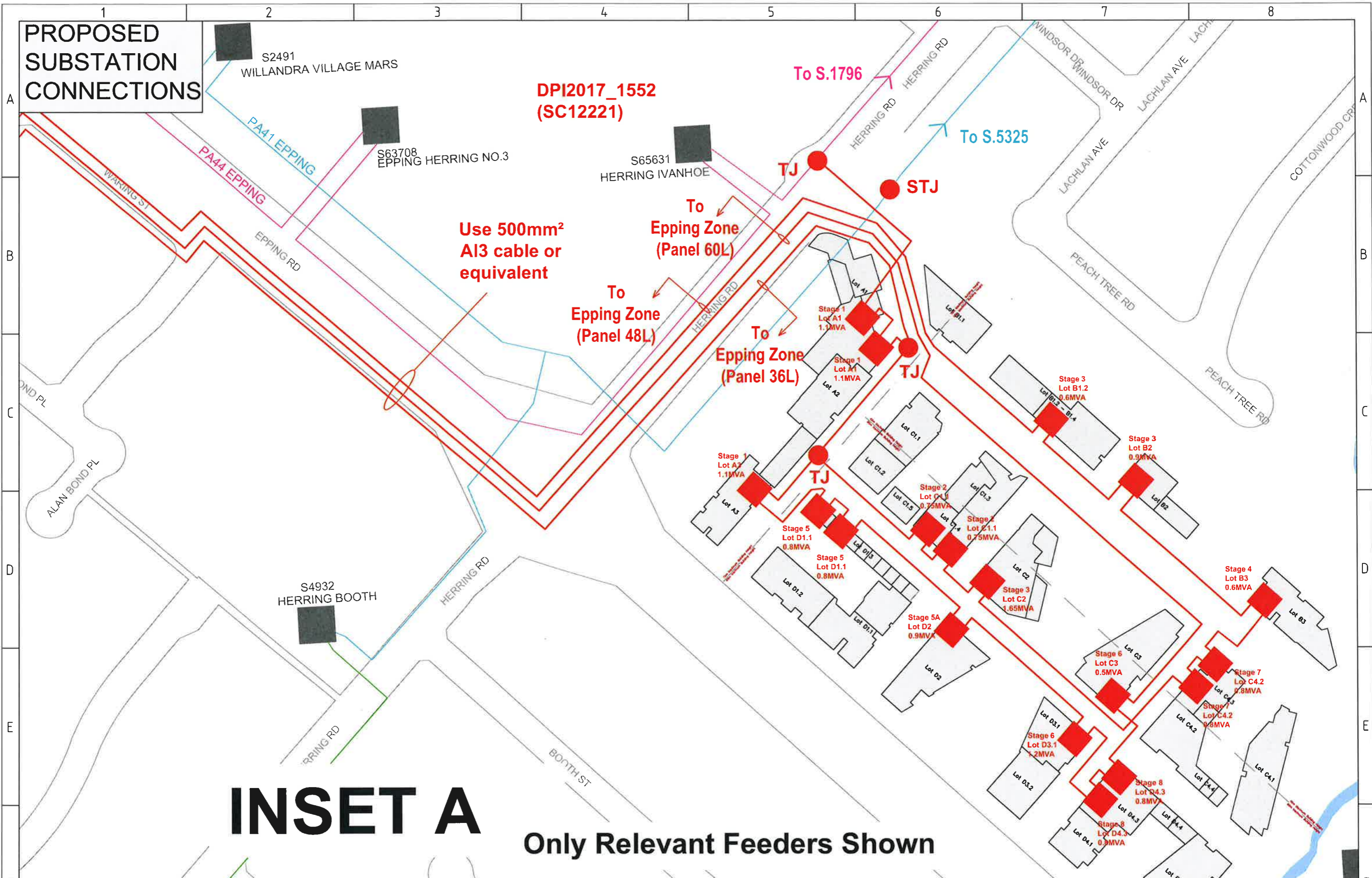
SIZE
A3

DPI-2017_1552

SHEETS AMD.
13 of 14 0

©

**PROPOSED
SUBSTATION
CONNECTIONS**



INSET A

Only Relevant Feeders Shown



LOT 10 IVANHOE PL - HV EXT

EPPING ZONE NO.54

20/12/2017

SIZE
A3

DPI-2017_1552

SAP NUMBER	SC12221
PROJTRAK No.	XCH014046
SHEETS	AMD.
14 of 14	0



PROPOSED DESIGN SCOPE

DATE: 24/10/2017

To: Ausgrid - Contestable Connections contestability@ausgrid.com.au From: ASP Company: Shelmerdines Consulting Engi+
 ASP Representative: David Taylor
 Authorisation Number: 2606/2
 Ausgrid reference: SC12221 Phone: 9436 3021
 Email: dtaylor@shelmerdines+

Project Description:	Three high voltage feeders from Epping Zone Substation
Project Address:	Lot 10 Ivanhoe Place, Macquarie Park

Connection Details	<input checked="" type="checkbox"/> HV Supply (i.e. HVC) <input checked="" type="checkbox"/> LV Supply Include description of existing and proposed load fields below			
Existing Load:	Phases	3	Amps	To be removed
Proposed Load:	Phases	3	Amps	~22,228 (LV)
Total:		22,228	Amps	Proposed connection Date: Late 2018

HV Proposal	
Proposed Distribution Centre: <small>include substation type, size, LV panel layout (e.g. L type kiosk, 1000kVA, 1600/400 panels)</small>	Multiple single transformer substations
Proposed Zone/Feeder:	Epping Zone
HV Network Proposal: <small>describe the HV connection proposal (e.g. loop in new new substation between HS01234 and HS09876)</small>	Install three new 500mm ² Al XLPE cables in a bank of 4 x 150mm conduits for the entire run. Consolidate four existing feeders to allow connection at the zone. Distance 2.62km +
HV Relocation Proposal:	Remove existing substations S.6508 and S.6503, but potentially retain these two for construction TBS until feeders commissioned. +

LV and/or SL Proposal, including comms	
LV and/or SL Network Proposal:	N/A
LV/SL Relocation Proposal:	N/A

Does this proposal involve modification of Ausgrid's transmission, ADSS or pilot cable system(s)? YES NO
 If YES, please include on sketch

Do you require fault level information that is not on WebGIS:? YES NO

Attachments: Items marked with X are mandatory Items with * asterisk are mandatory if applicable to the project type/application	<input checked="" type="checkbox"/> Sketch - proposed method of connection*	<input type="checkbox"/> Master plan (if multi stage subdivision)* <input type="checkbox"/> Photographs <input checked="" type="checkbox"/> Development Site Plans <input type="checkbox"/> Other
	<input type="checkbox"/> Sketch - System Diagram (for HV works)*	
	<input checked="" type="checkbox"/> Connection Application <input type="checkbox"/> includes large/disturbing loads*	
	<input checked="" type="checkbox"/> Design Contract Acceptance	

Ausgrid Use Only	Date Offer Accepted:	Load Cycle: Com/Ind
	Ausgrid Project Number:	CPC: A. Mohina

Planning: Response / Comments / Recommendations: (use additional pages if necessary)

**IVANHOE DEVELOPMENT MACQUARIE PARK
PROPOSED ELECTRICAL MAXIMUM DEMAND
Project Number 6820**

Assumptions - Residential Units do not have gas

Type	Quantity No/m2	ADMD kVA	Total (kVA)	
STAGE 1				
Units	801	4.0	3204.00	
STAGE 1 TOTAL				3204.00 kVA
STAGE 2				
Units	387	4.0	1548.00	
STAGE 2 TOTAL				1548.00 kVA
STAGE 3				
School	9000	0.1	900.00	
RACF	5900	0.1	590.00	
Units	415	4.0	1660.00	
STAGE 3 TOTAL				3150.00 kVA
STAGE 4				
Units	154	4.0	616.00	
STAGE 4 TOTAL				616.00 kVA
STAGE 5				
Units	414	4.0	1656.00	
STAGE 5 TOTAL				1656.00 kVA
STAGE 5A				
Units	215	4.0	860.00	
STAGE 5A TOTAL				860.00 kVA
STAGE 6				
Units	425	4.0	1700.00	
STAGE 6 TOTAL				1700.00 kVA
STAGE 7				
Units	405	4.0	1620.00	
STAGE 7 TOTAL				1620.00 kVA
STAGE 8				
Units	406	4.0	1624.00	
STAGE 8 TOTAL				1624.00 kVA
TOTAL MAX DEMAND				15978.00 kVA

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS

WARNING

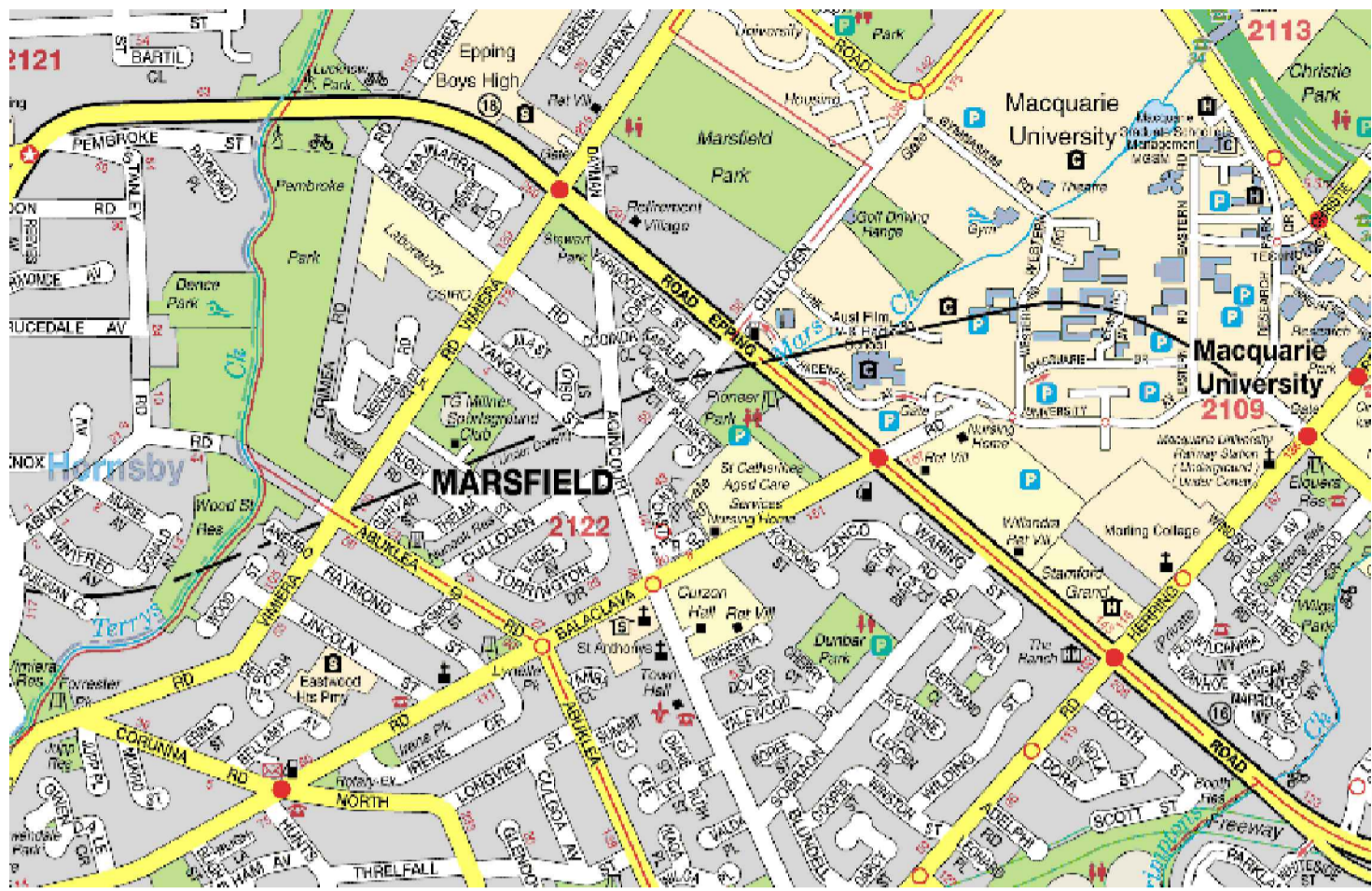
- THIS DESIGN CANNOT BE USED FOR CONSTRUCTION PURPOSES UNTIL THE LOCATION OF ALL EXISTING SERVICES IS VERIFIED.
- THE INFORMATION PROVIDED IN THIS DESIGN MUST BE CHECKED ON SITE AND THE MOST CURRENT INFORMATION ON THE CONFIGURATION OF ALL SERVICES, INCLUDING AUSGRID'S NETWORK, MUST BE VERIFIED IMMEDIATELY BEFORE CONSTRUCTION COMMENCES BY CONTACTING DIAL-BEFORE-YOU-DIG BY TELEPHONE ON 1100 OR AT www.1100.com.au.
- DIAL-BEFORE-YOU-DIG INFORMATION MUST NOT BE OLDER THAN 20 BUSINESS DAYS AT THE TIME OF CONSTRUCTION.

ASP LEVEL 2 WORK

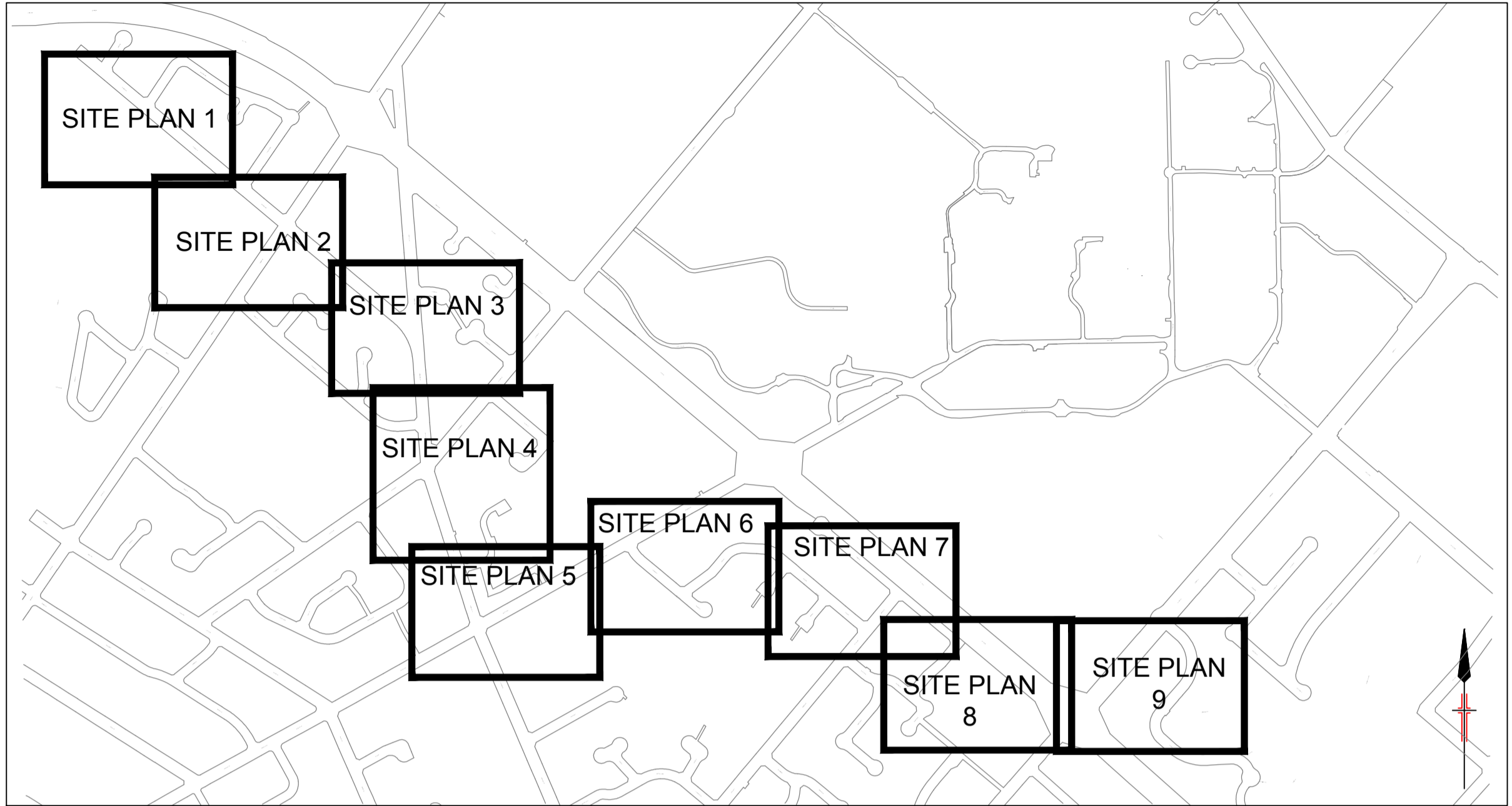
ALL LEVEL 2 ASP WORK DEPICTED ON THIS DRAWING IS SHOWN FOR INFORMATION PURPOSES ONLY AND DOES NOT FORM PART OF THE CERTIFIED DESIGN.

GENERAL NOTES:

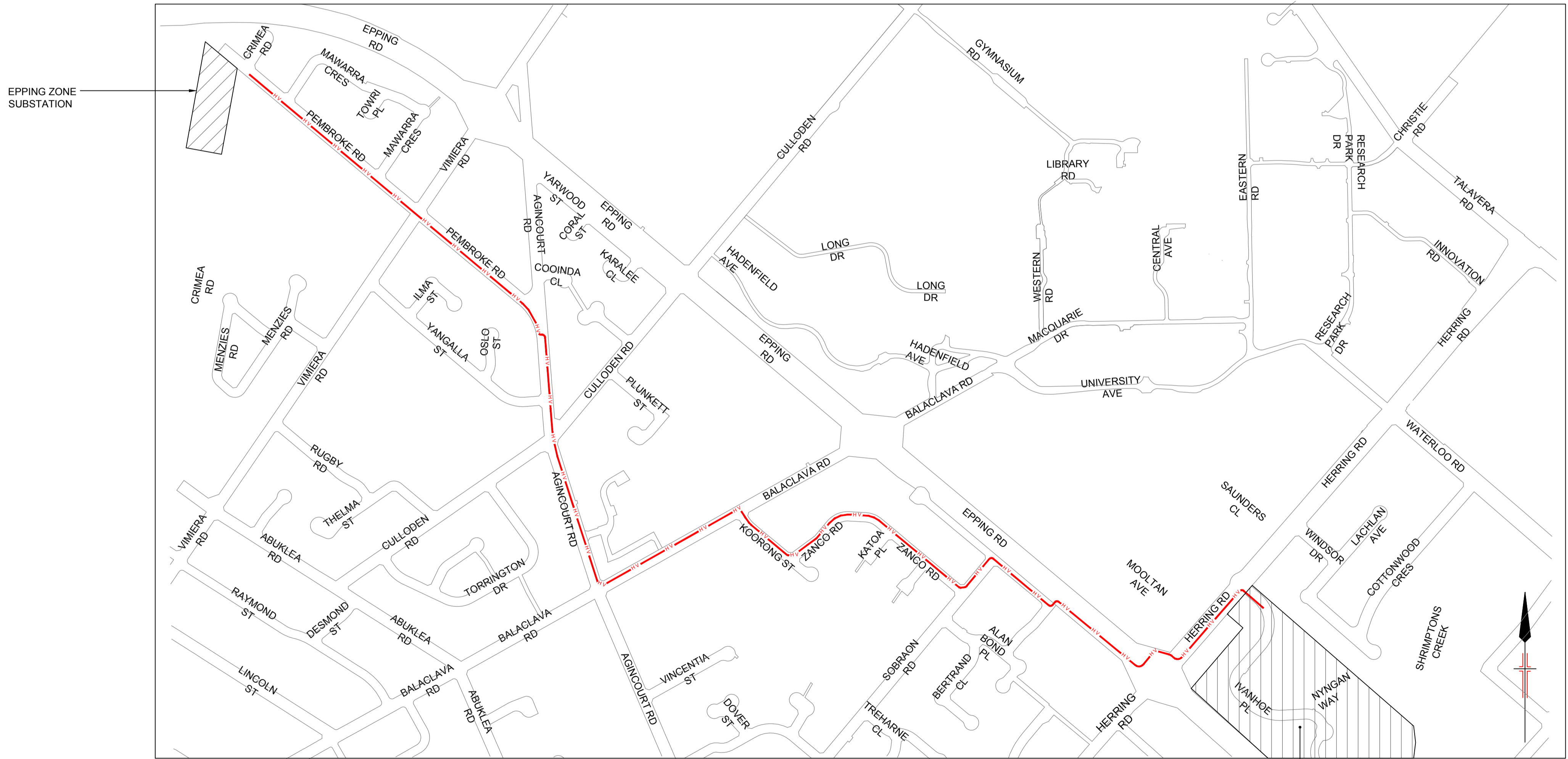
- CLAIMS FOR VARIATIONS TO THE COST OF NON-CONTESTABLE WORKS, INCLUDING ROCK EXCAVATION, WILL NOT BE ACCEPTED UNLESS VERIFIED ON SITE BY AUSGRID WHILE THE WORKS ARE IN PROGRESS.
- THE ASP/1 IS RESPONSIBLE FOR UNDERTAKING SATISFACTORY CONSULTATION WITH ALL LOCAL CUSTOMERS WHO MAY POTENTIALLY BE AFFECTED BY THE CONSTRUCTION WORKS INCLUDING ALL ALTERATIONS TO SERVICE MAINS.
- THE ASP/1 MUST MINIMISE THE IMPACT OF THE WORKS ON THE ELECTRICITY SUPPLY TO CUSTOMERS AND INTERRUPTIONS TO SUPPLY MUST BE AVOIDED WHEREVER POSSIBLE. AT LEAST FOUR (4) CLEAR BUSINESS DAYS NOTICE MUST BE PROVIDED TO ALL AFFECTED CUSTOMERS PRIOR TO ANY PLANNED INTERRUPTIONS TO THE ELECTRICITY SUPPLY. NOTICE MUST BE IN WRITING IN ACCORDANCE WITH CLAUSE 90 OF THE NATIONAL ENERGY RETAIL RULES.
- SPECIFIC PRIOR APPROVAL MUST BE SOUGHT FROM AUSGRID FOR ANY PLANNED ELECTRICITY SUPPLY INTERRUPTIONS WHERE THE PLANNED INTERRUPTION WILL EXCEED ONE (1) HOUR IN DURATION OR THE DURATION WILL BE LESS THAN ONE HOUR, BUT A SUITABLE TIME FOR THE INTERRUPTION CANNOT BE MUTUALLY AGREED TO WITH THE AFFECTED CUSTOMER(S).
- THE ASP/1 IS TO MAINTAIN ADEQUATE PUBLIC LIGHTING LEVELS FOR THE DURATION OF THE WORKS. IF NECESSARY, THE ASP/1 IS TO ARRANGE FOR SUITABLE TEMPORARY STREET LIGHTING TO BE PROVIDED UNTIL PERMANENT LIGHTING IS RE-ESTABLISHED.
- FOR KIOSK AND CHAMBER TYPE SUBSTATIONS IN THE HUNTER AREAS, ARRANGE PHASING OF 11KV AND LOW VOLTAGE TRANSFORMER TERMINATIONS TO ACHIEVE DYN 11 INTERCONNECTION CAPABILITIES.
- FOR KK 1500KVA KIOSK SUBSTATIONS THE ASP/1 IS TO CO-ORDINATE THE COLLECTION, MODIFICATION AND TESTING OF THE REQUIRED CDG RELAY WITH THE AUSGRID TECHNICAL SERVICES GROUP. THE ASP/1 IS TO CO-ORDINATE THE COLLECTION, MODIFICATION AND TESTING OF THE REQUIRED CDG RELAY WITH THE AUSGRID TECHNICAL SERVICES GROUP.
- THE ASP/1 IS REQUIRED TO COMPLY WITH THE CORRECT PROCEDURE(S) FOR WORKING WITH AND/OR NEAR ASBESTOS MATERIAL (REFER TO AUSGRID NUS 211 - WORKING WITH ASBESTOS PRODUCTS). THE FOLLOWING AUSGRID ASSETS ARE REGISTERED AS CONTAINING ASBESTOS: -S.3443 'PEMBERTON WAR' & S.1714 'HENRY YORK' (REFER TO AUSGRID ASSET SURVEY FORMS).
- SOFTWARE USED FOR THIS DESIGN:
-UNDERGROUND - DUCTPULL V1.1
- FOR IDENTIFICATION AND JOINTING PURPOSES, ALL CABLE ENDS SHALL BE LABELLED AT THE TERMINATIONS AND IN JOINT BAYS DURING CABLE INSTALLATION. THE CABLES MUST BE LABELLED AS PER THE CERTIFIED DESIGN.
- THE ASP MUST MAKE A SAFETY AND ENVIRONMENTAL ASSESSMENT OF THE SUBSTATION SITE AND THE EQUIPMENT TO BE RECOVERED, PRIOR TO COMMENCING WORK. THIS WILL INCLUDE SAFE WORK PROCEDURES FOR WORKING WITH ASBESTOS, AS APPLICABLE. THE ASP/1 MUST ALSO CHECK FOR THE PRESENCE OF PCB CONTAMINATED OIL BY ARRANGING FOR AUSGRID TO CARRY OUT PCB TESTING OF ALL OIL FILLED EQUIPMENT, PRIOR TO HANDLING AND TRANSPORTING THIS EQUIPMENT. THIS WILL INVOLVE THE ASP/1 TAKING AN OIL SAMPLE FROM THE EQUIPMENT AND DELIVERING IT TO AUSGRID FOR TESTING. PLEASE REFER TO THE PROCEDURE DETAILED AUSGRID DOCUMENT ES10 CLAUSE 11.13 'RETURN OF FREE ISSUE EQUIPMENT'. AUSGRID WILL TEST FOR PCB AND ALSO THE GENERAL CONDITION OF THE OIL AND FUND THE ACTUAL OIL TEST. THE OIL TEST RESULTS MUST ACCOMPANY THE RETURNED EQUIPMENT.
- THE ASP MUST TAKE THE APPROPRIATE SAFETY AND ENVIRONMENTAL PRECAUTIONS AND ARRANGE FOR THE APPROPRIATE LICENSES AND AUTHORISATION IN HANDLING AND TRANSPORTING HAZARDOUS EQUIPMENT, TO ENSURE COMPLIANCE WITH RELEVANT LEGISLATION AND AUSGRID'S NUS 174 ENVIRONMENTAL PROCEDURES.



LOCALITY PLAN
UBD REF: 196 P3
N.T.S



KEY PLAN
N.T.S



HV CABLE ROUTE OVERVIEW
NOT TO SCALE

WARNING

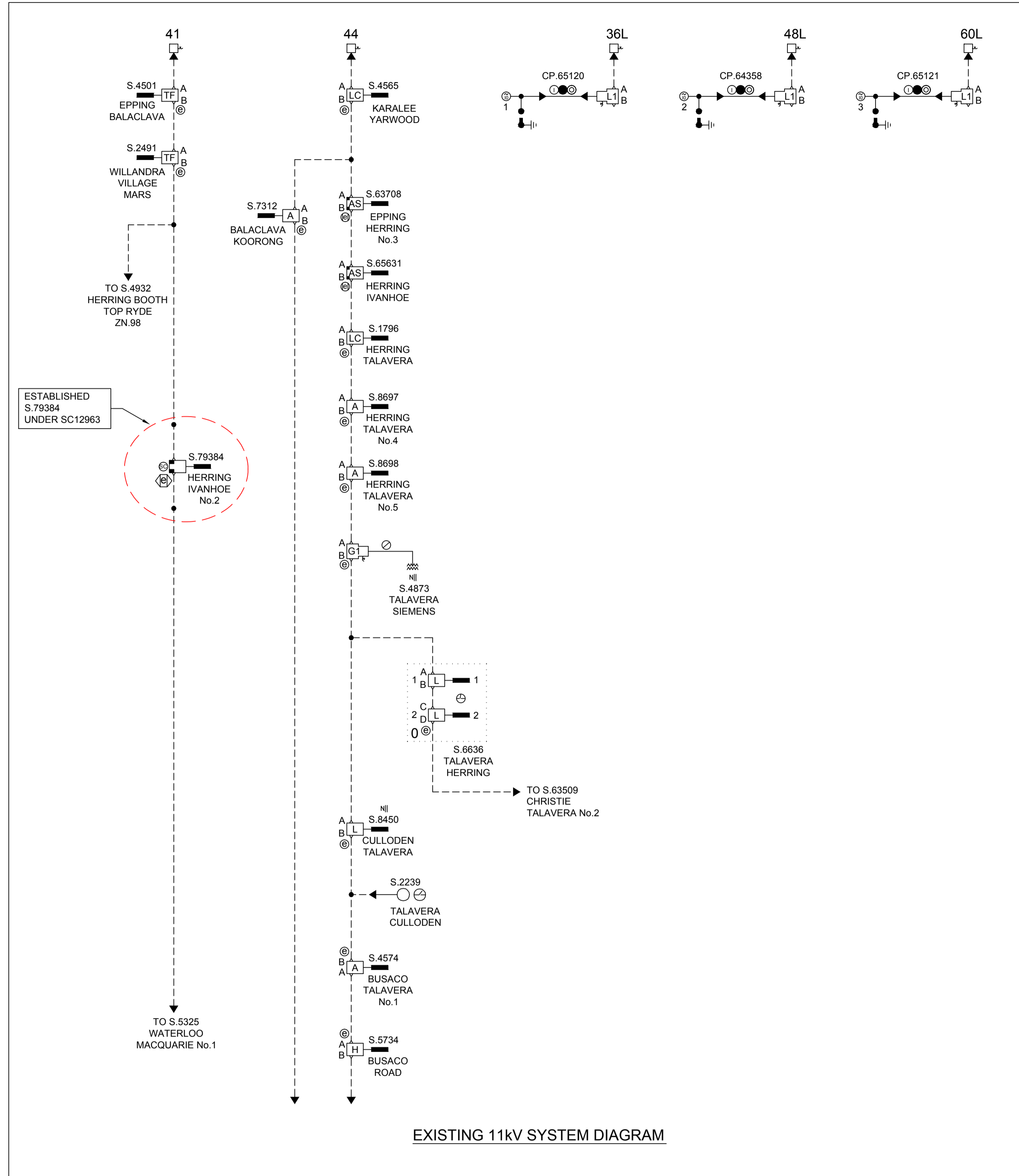
THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS, HOWEVER, WHOLLY RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF EXISTING SERVICES AND PERMANENT SURVEY MARKS BEFORE CONSTRUCTION COMMENCES, AND NO RESPONSIBILITY NOR LIABILITY WILL BE ACCEPTED BY THE DESIGNER OF THE PROJECT FOR ACCURACY OF INFORMATION OR DAMAGE TO EXISTING SERVICES OR ASSETS SHOWN ON THIS DESIGN.

FOR WORK NEAR TRANSMISSION CABLES IT IS COMPULSORY TO ARRANGE FOR AN AUSGRID REPRESENTATIVE TO ATTEND THE WORKSITE. IN THE SYDNEY AND CENTRAL COAST AREAS, CONTACT THE TRANSMISSION ON-CALL CONTACT ON PAGER (02) 4951 9200 TO ARRANGE FOR AN AUSGRID REPRESENTATIVE. FOR TRANSMISSION CABLES IN THE NEWCASTLE AND HUNTER AREAS, THE CORRECT NUMBER IS 0400 566 818. WHEREVER POSSIBLE, AUSGRID'S REPRESENTATIVE SHOULD BE BOOKED TWO WEEKS BEFORE WORK COMMENCES.

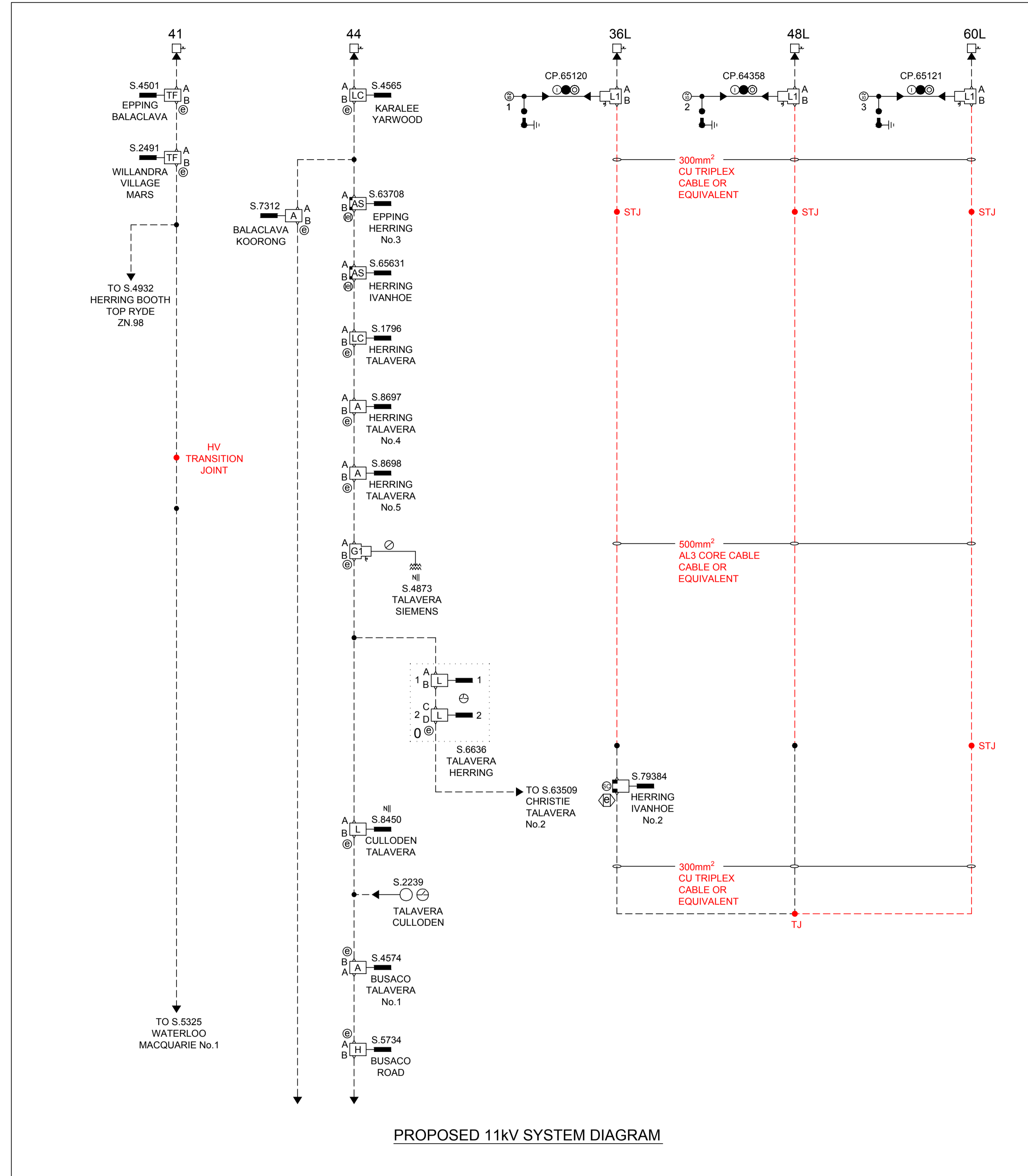
PRELIMINARY

CAD DRAWING AMENDMENTS 1 2 3 4 5 6 7 8 9 10 11 12	DEVELOPER: 	PROPOSED EXISTING Pole ○ ● SL Standard ○ ● Pillar Standard ○ ● LV Pillar ○ ● LV Link Pillar ○ ● Street Light ○ ● Street Light - PEC ○ ● Street Light - replacement ○ ●	PROPOSED EXISTING Pole to be removed ○ ● USL ○ ● ABS ○ ● IDT ○ ● Kiosk Sub ○ ● Chamber Sub ○ ● Pole Sub ○ ● Two Pole Sub ○ ●	PROPOSED EXISTING UGOH ○ Pot End ○ ● Joint ○ Sealed End ○ ● Conduit ○ ● OH Lines ○ ● UG Cables ○ ●	REMOVE EXISTING OH Lines ○ ● HV LV SL ○ ● UG Cables ○ ● HV LV SL ○ ● Joints ○ ● HV LV SL ○ ●	ASSOCIATED DRAWINGS 1 2 3 4 5 6 7 8 9 10 11 12	LEVEL 3 ACCREDITED SERVICE PROVIDER 55 Howe Street Crows Nest NSW 2065 Telephone: (02) 9436 3021 Email: enq@shelmerdines.com.au Web: www.shelmerdines.com.au ASP REF: 6820-AU-1/C	DESIGNED BY: ELBERT WANG AUTH NO.: 2606/06 SUBMIT DATE: 05/09/2018 LGA: RYDE CITY COUNCIL MAP REF: 196 P3 AUSGRID REF: EP92, EP94, PY71-PY74 PRJ/TRAK No.: XCH014046	INSTLLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK SIZE: A1 AUSGRID PROJECT No.: SC12221 SHEETS: 1 of 18 AMD: 0
	CERTIFICATION NUMBER: ## / ##								

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING
 ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS



EXISTING 11KV SYSTEM DIAGRAM



PROPOSED 11KV SYSTEM DIAGRAM

PRELIMINARY



DEVELOPER:

LEVEL 3 ACCREDITED SERVICE PROVIDER
Shelmerdines Consulting Engineers
 HSR 40/203 321 879
 55 Hume Street
 Crows Nest NSW 2065
 Telephone: (02) 9436 3021
 Email: mail@shelmerdines.com.au
 Web: www.shelmerdines.com.au
 ASP REF: 6820-AU-2/C

DESIGNED BY: ELBERT WANG
 AUTH NO: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF: 196 P3
 AUSGRID REF: EP92, EP94, PY71-PY74
 PRJ/TRAK No: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 2 of 18
 AMD: 0

UNDERGROUND CONSTRUCTION WORKS SCHEDULE - DUCTPULL V.1.1

REF. IDENTIFIER	ROUTE DISTANCE (m)	CIRCUIT VOLTAGE	CONDUCTOR OR ASSET DETAIL	CABLE CODE	MIN. INTERNAL BENDING RADIUS (mm) DURING INSTALLATION	MIN. INTERNAL BENDING RADIUS (mm) AFTER INSTALLATION	CALCULATED MAX. PULLING TENSION (kN) DURING INSTALLATION	CONSTRUCTION DETAIL
Ja1-Jc1, Ja2-Jc2, Ja3-Jc3, Ja4-Jc4, Ja5-Jc5, Ja6-Jc6, Ja7-Jc7, Ja8-Jc8, Ja9-Jc9, Ja10-Jc10, Ja11-Jc11	-	-	EXCAVATE THE JOINTING BAY	-	-	-	-	EXCAVATE THE JOINTING BAY AT BETWEEN POINTS Ja1-Jc1, Ja2-Jc2, Ja3-Jc3, Ja4-Jc4, Ja5-Jc5, Ja6-Jc6, Ja7-Jc7, Ja8-Jc8, Ja9-Jc9, Ja10-Jc10 AND Ja11-Jc11.
A-B	251.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
C-D	64.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
D-E	48.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
E-F	103.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
F-G	177.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
H-I	12.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
I-J	102.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
K-L	33.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
L-M	96.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
M-N	84.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
N-O	29.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
O-P	52.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Q-R	5.7	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
R-S	29.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
T-U	8.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
V-W	7.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
W-X	65.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Y-Z	15.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Z-Aa	41.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Aa-Ab	166.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ab-Ac	78.5	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ac-Ad	214.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ad-Ae	13.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ae-Af	10.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ag-Ah	88.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ah-Ai	10.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ai-Aj	100.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ak-Al	14.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Am-An	66.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Ao-Ap	26.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Aq-Ar	190.0	-	EXCAVATE AND INSTALL 6 x 150mm PVC CONDUITS EXCAVATE AND INSTALL 1 x 63mm PVC CONDUITS	-	-	-	-	EXCAVATE AND INSTALL 6x150mm AND 1x63mm CONDUITS AS PER SECTIONS 'X5-X5'.
Jd-Ja1, Je-Jb1 & Jf-Jc1	258.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja1-Ja2, Jb1-Jb2 & Jc1-Jc2	250.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja2-Ja3, Jb2-Jb3 & Jc2-Jc3	182.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja3-Ja4, Jb3-Jb4 & Jc3-Jc4	132.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja4-Ja5, Jb4-Jb5 & Jc4-Jc5	250.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja5-Ja6, Jb5-Jb6 & Jc5-Jc6	263.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja6-Ja7, Jb6-Jb7 & Jc6-Jc7	196.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja7-Ja8, Jb7-Jb8 & Jc7-Jc8	262.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja8-Ja9, Jb8-Jb9 & Jc8-Jc9	251.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja9-Ja10, Jb9-Jb10 & Jc9-Jc10	218.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja10-Ja11, Jb10-Jb11 & Jc10-Jc11	182.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Ja11-Ja12, Jb11-Jb12 & Jc11-Jc12	202.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Jc12-Jh	78.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	INSTALL 11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q FROM POINT 'A' TO POINT 'B' AS PER CROSS SECTIONS.
Jh-Ji	5.0	HV	11kV 300 CU1 EPR 70 CU(WS) Z YQ/TX/EA1400/10A	391	1275 (BUNDLED) 870 (PHASE)	745 (BUNDLED) 525 (PHASE)	-	INSTALL 11kV 300 CU1 EPR 70 CU(WS) Z YQ/TX/EA1400/10A (391) BETWEEN POINTS 'Jh' AND 'Ji'.
Jb12-Jg	14.0	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	CUT AND TURN EXISTING HV CABLE FROM POINT 'Jb12' TO POINT 'Jg'.
Jg-Ja12	18.000	HV	11kV 500 AL3 TRXQ 35 CU(WS) Z Y Q	545	2310	1385	1385	CUT AND REMOVE EXISTING HV CABLE BETWEEN POINT 'Jg' AND POINT 'Ja12'.
Ja1, Ja2, Ja3, Ja4, Ja5, Ja6, Ja7, Ja8, Ja9, Ja10 & Ja11, Ja12	-	HV	INSTALL HV STJ (HV2-22)	545	-	-	-	INSTALL HV STJ BETWEEN 11kV 500 AL3 (545) CABLES.
Jb1, Jb2, Jb3, Jb4, Jb5, Jb6, Jb7, Jb8, Jb9, Jb10 & Jb11, Jb12	-	HV	INSTALL HV STJ (HV2-22)	545	-	-	-	INSTALL HV STJ BETWEEN 11kV 500 AL3 (545) CABLES.
Jc1, Jc2, Jc3, Jc4, Jc5, Jc6, Jc7, Jc8, Jc9, Jc10 & Jc11, Jc12	-	HV	INSTALL HV STJ (HV2-22)	545	-	-	-	INSTALL HV STJ BETWEEN 11kV 500 AL3 (545) CABLES.
Jg	-	HV	TRANSITION STRAIGHT THROUGH JOINT (HV2-25)	351/545	-	-	-	INSTALL TRANSITION STRAIGHT THROUGH JOINTS BETWEEN 11kV 500 AL3 (351) AND 11kV 500 (545) CABLES AT POINT 'Jg'.
Jh	-	HV	THREE TO ONE JOINT (HV2-23)	391/545	-	-	-	INSTALL THREE TO ONE JOINTS BETWEEN 11kV 300 CU1 (391) AND 11kV 500 AL3 (545) CABLES AT POINT 'Jh'.
Ji	-	HV	INSTALL HV TEE JOINT (HV3-40)	391	-	-	-	INSTALL HV TEE JOINT (HV3-40) BETWEEN 11kV 300 CU1 (391) CABLES AT POINT 'Ji'.

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PRELIMINARY

CAD DRAWING
AMENDMENTS

DEVELOPER:



ASSOCIATED DRAWINGS

LEVEL 3 ACCREDITED SERVICE PROVIDER
Shelmerdines Consulting Engineers
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ASP REF: 6820-AU-3/C

DESIGNED BY: ELBERT WANG
AUTH NO: 2606/06
SUBMIT DATE: 05/09/2018
LGA: RYDE CITY COUNCIL
MAP REF: 196 P3
AUSGRID REF: EP92, EP94, PY71-PY74
PRJTRAK No: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

CERTIFICATION NUMBER

/ #

SIZE A1

AUSGRID PROJECT No SC12221

SHEETS 3 of 18
AMD 0

20160817

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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WARNING

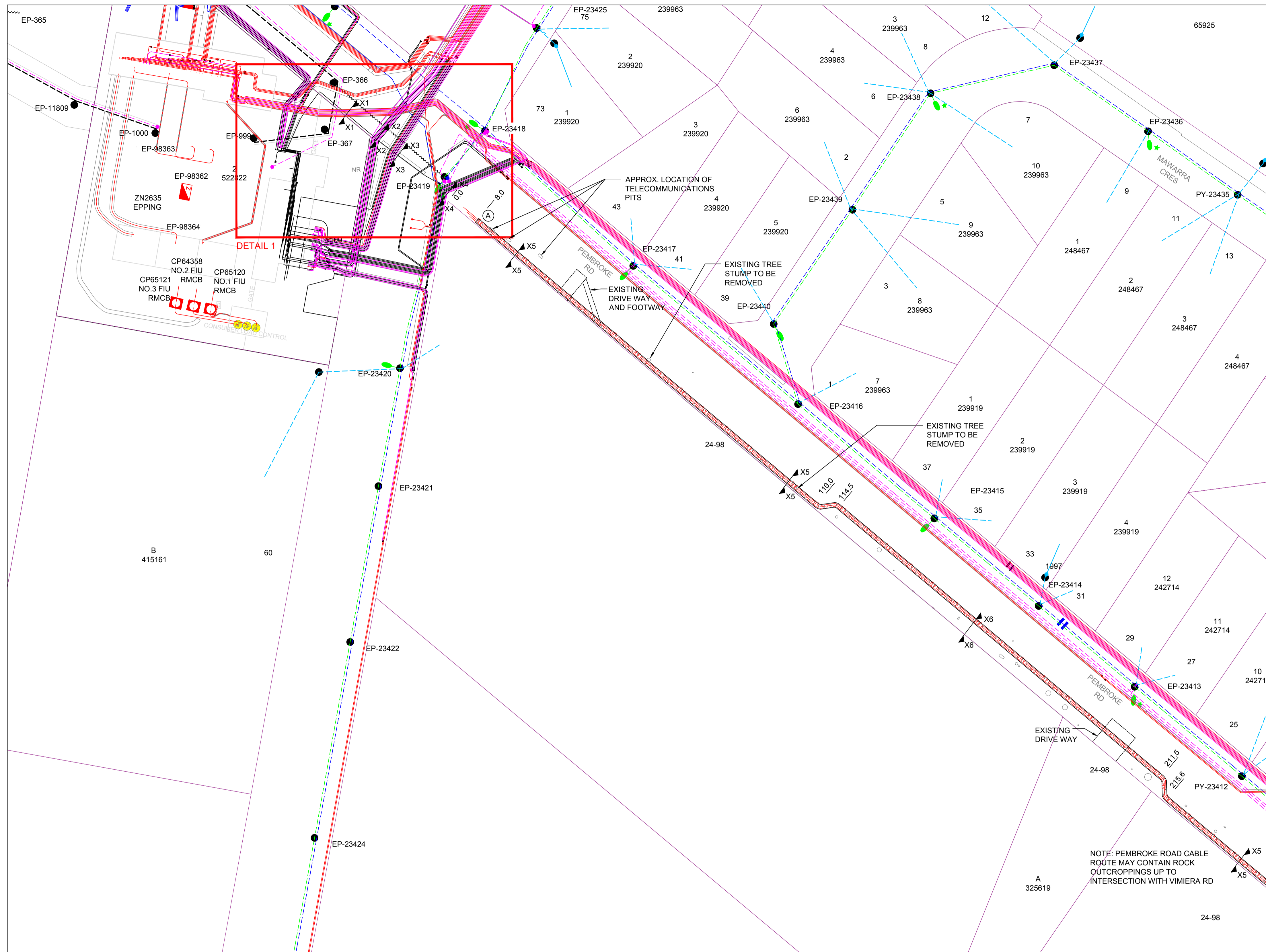
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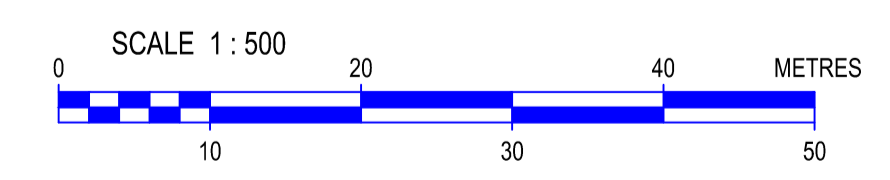
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FOR CONTINUATION REFER SITE PLAN 2

SITE PLAN 1



PRELIMINARY

DEVELOPER:



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 Crowes Nest NSW 2065
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 ASP REF: 6820-AU-4/C

DESIGNED BY: ELBERT WANG
 AUTH NO: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF: 196 P3
 AUSGRID REF: EP92, EP94, PY71-PY74
 PRJTRAK No: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

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SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 4 of 18
 AMD: 0

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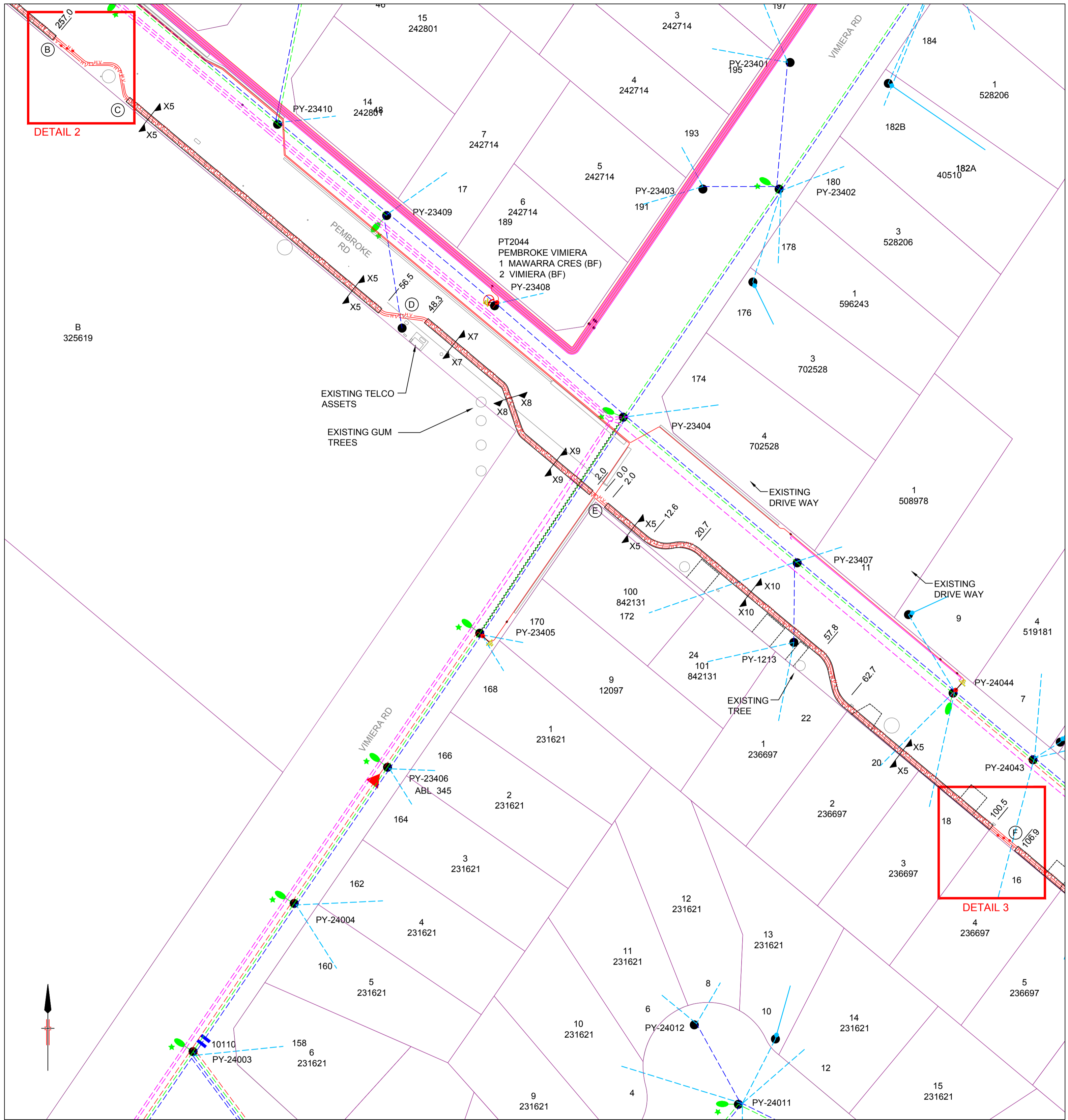
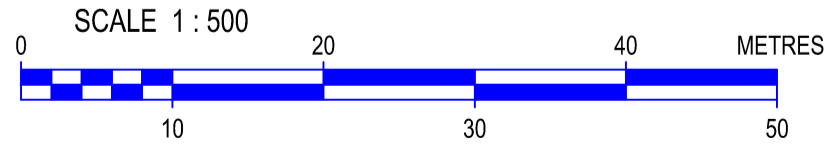
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FOR CONTINUATION REFER SITE PLAN 1

FOR CONTINUATION REFER SITE PLAN 3

SITE PLAN 2



DETAIL 2

DETAIL 3

PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER
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DESIGNED BY: ELBERT WANG
 AUTH NO.: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF.: 196 P3
 AUSGRID REF.: EP92, EP94, PY71-PY74
 PRJ/TRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 5 of 18
 AMD: 0

FOR CONTINUATION REFER SITE PLAN 2

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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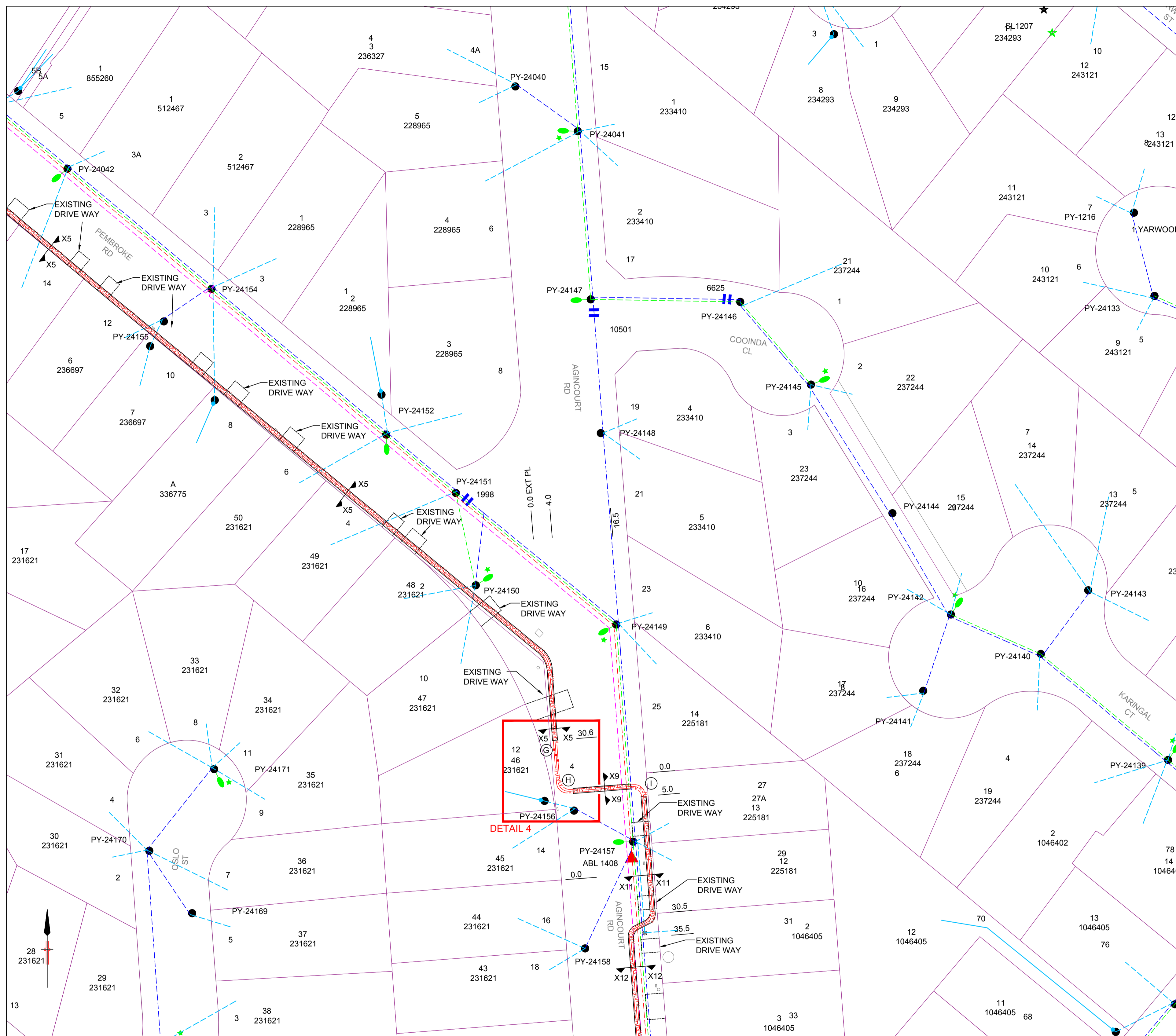
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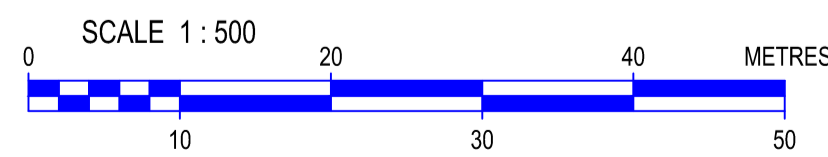
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FOR CONTINUATION REFER SITE PLAN 4
SITE PLAN 3



PRELIMINARY



LEVEL 3 ACCREDITED SERVICE PROVIDER Shelmerdines Consulting Engineers <small>HN 40 703 331 879 55 Home Street Crowe Nest NSW 2065 Telephone: (02) 9436 3021 Email: mail@shelmerdines.com.au Web: www.shelmerdines.com.au</small>	DESIGNED BY	ELBERT WANG	INSTLLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK SIZE A1 AUSGRID PROJECT No SC12221 SHEETS 6 of 18 AMD 0
	SUBMIT DATE	05/09/2018	
	LGA	RYDE CITY COUNCIL	
	MAP REF.	196 P3	
AUSGRID REF.	EP92, EP94, PY71-PY74		
PRJTRAK No.	XCH014046		
ASP REF.	6820-AU-6/C		
ASSOCIATED DRAWINGS		CERTIFICATION NUMBER	## / ##

CAD DRAWING AMENDMENTS

20160817

FOR CONTINUATION REFER SITE PLAN 3

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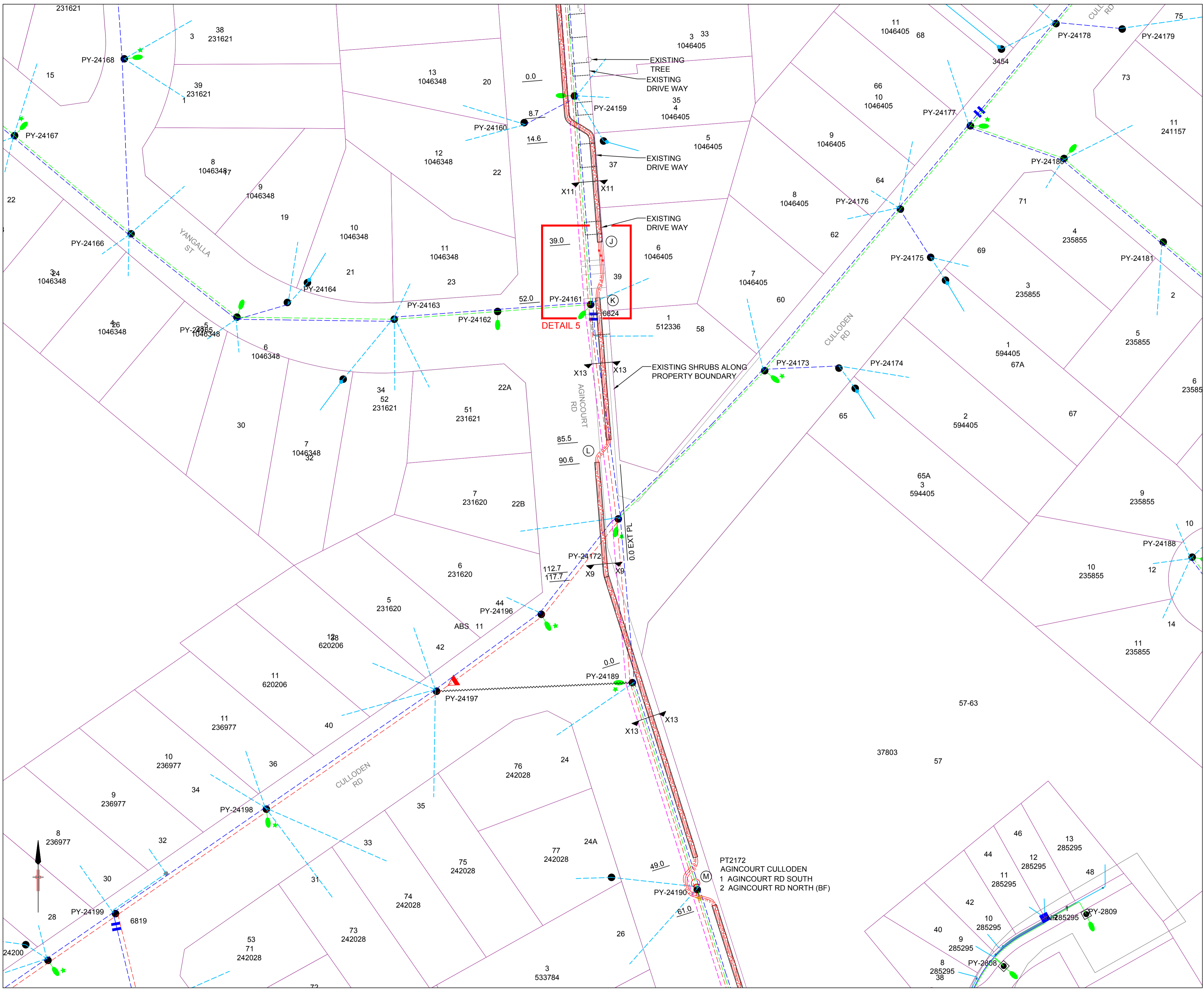
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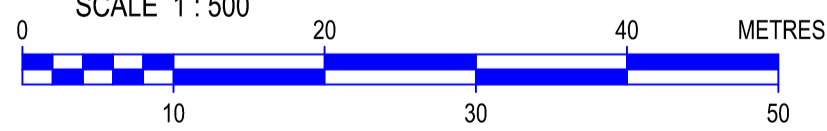
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SITE PLAN 4

FOR CONTINUATION REFER SITE PLAN 5



PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER

Shelmerdines Consulting Engineers

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 Web: www.shelmerdines.com.au

DESIGNED BY: ELBERT WANG
 AUTH NO.: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF.: 196 P3
 AUSGRID REF.: EP92, EP94, PY71-PY74
 PRJ/TRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

##/##

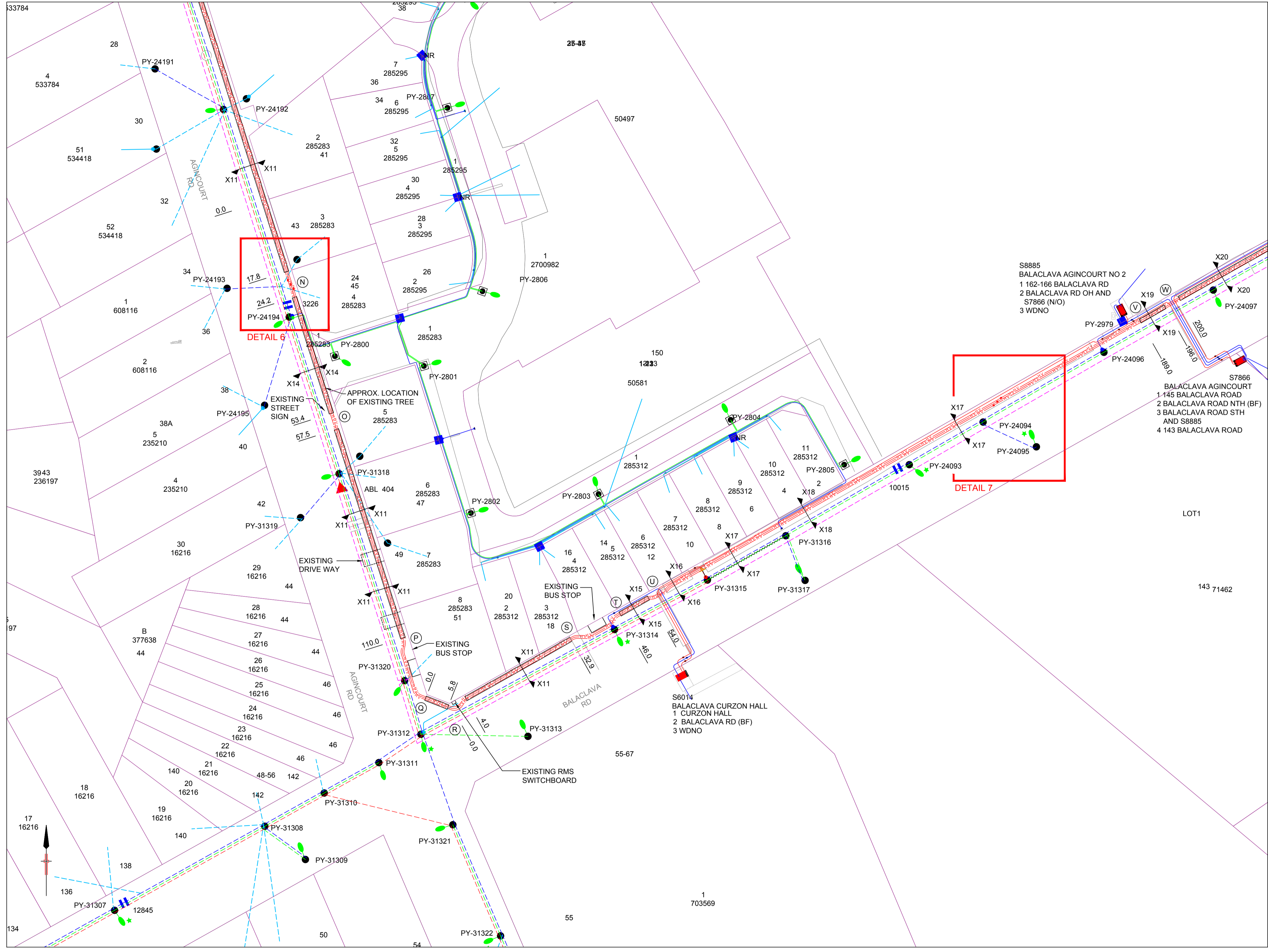
SIZE A1 AUSGRID PROJECT No. SC12221

SHEETS 7 of 18

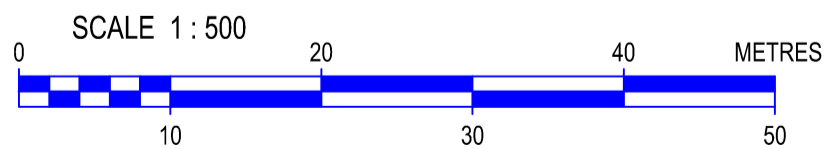
AM. 0

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

FOR CONTINUATION REFER SITE PLAN 4



SITE PLAN 5



ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS

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FOR CONTINUATION REFER SITE PLAN 6

PRELIMINARY



LEVEL 3 ACCREDITED SERVICE PROVIDER

Shelmerdines Consulting Engineers

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Web: www.shelmerdines.com.au

DESIGNED BY	ELBERT WANG
AUTH NO.	2606/06
SUBMIT DATE	05/09/2018
LGA	RYDE CITY COUNCIL
MAP REF.	196 P3
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PRJ/TRAK No.	XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE A1
AUSGRID PROJECT No SC12221
SHEETS 8 of 18
AMD 0

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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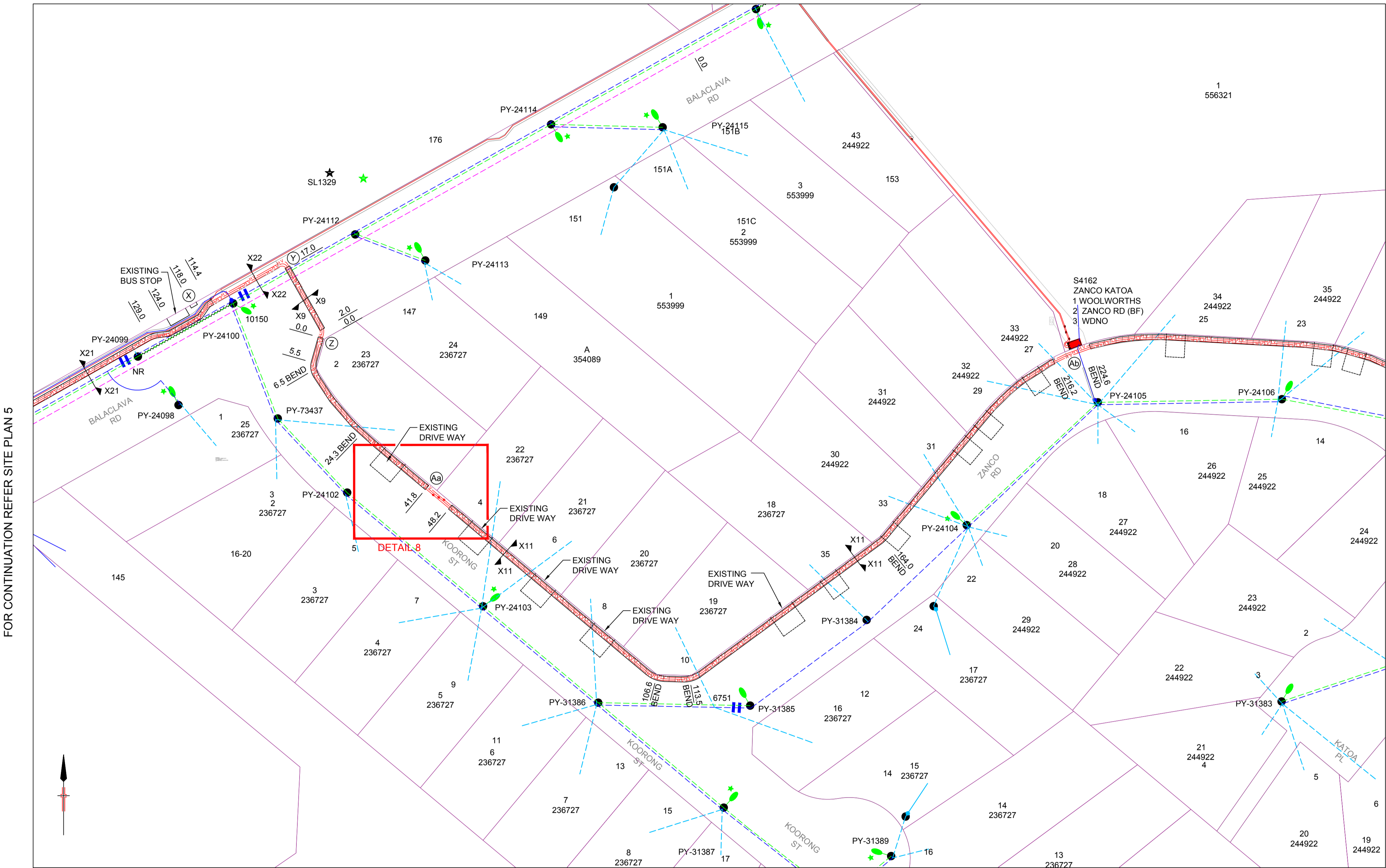
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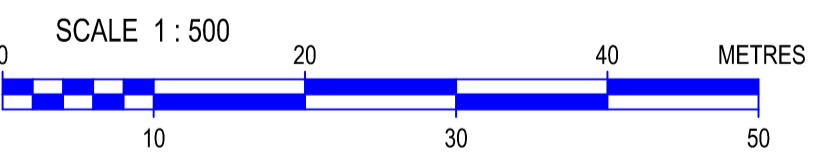
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SITE PLAN 6



FOR CONTINUATION REFER SITE PLAN 5

FOR CONTINUATION REFER SITE PLAN 7

PRELIMINARY



DEVELOPER:

LEVEL 3 ACCREDITED SERVICE PROVIDER
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 Consulting Engineers
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 55 Home Street Email: mail@shelmerdines.com.au
 Crowe Nest NSW 2065 Web: www.shelmerdines.com.au

DESIGNED BY: ELBERT WANG
 AUTH NO.: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF.: 196 P3
 AUSGRID REF.: EP92, EP94, PY71-PY74
 PRJTRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 9 of 18
 AMD: 0

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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ASP LEVEL 2 WORK

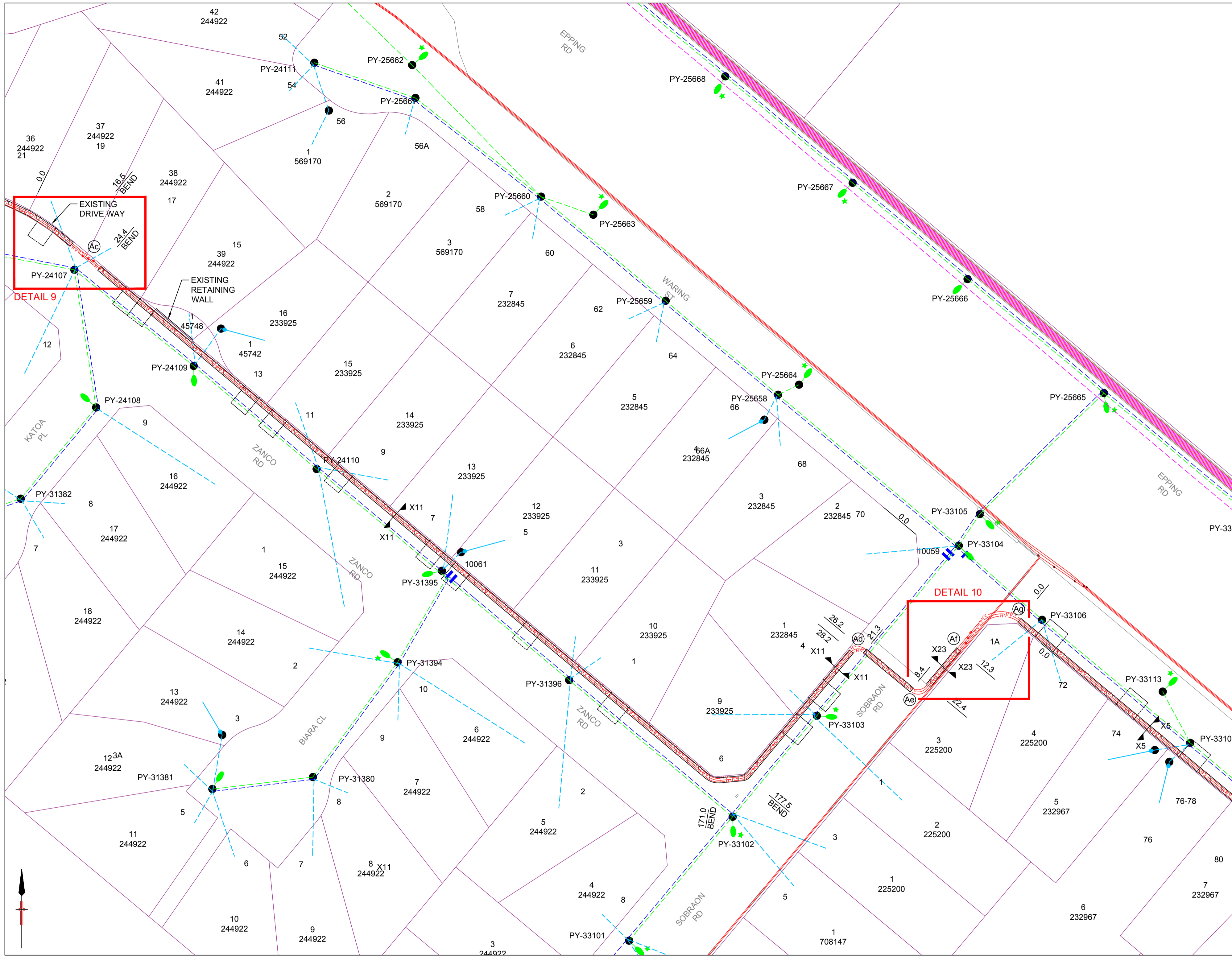
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WARNING

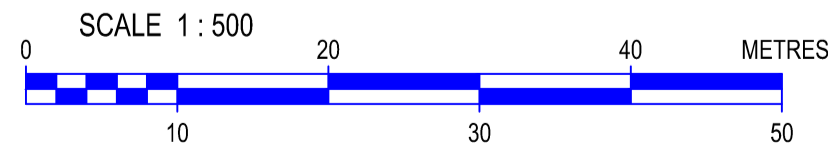
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FOR CONTINUATION REFER SITE PLAN 6



FOR CONTINUATION REFER SITE PLAN 8

SITE PLAN 7



PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER
Shelmerdines Consulting Engineers
 55 Home Street
 Crowe Nest NSW 2065
 Telephone: (02) 9436 3021
 Email: mail@shelmerdines.com.au
 Web: www.shelmerdines.com.au

DESIGNED BY: ELBERT WANG
 AUTH NO.: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF.: 196 P3
 AUSGRID REF.: EP92, EP94, PY71-PY74
 PRJ/TRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 10 of 18
 AMO: 0

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS

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- DIAL-BEFORE-YOU-DIG INFORMATION MUST NOT BE OLDER THAN 20 BUSINESS DAYS AT THE TIME OF CONSTRUCTION.

ASP LEVEL 2 WORK

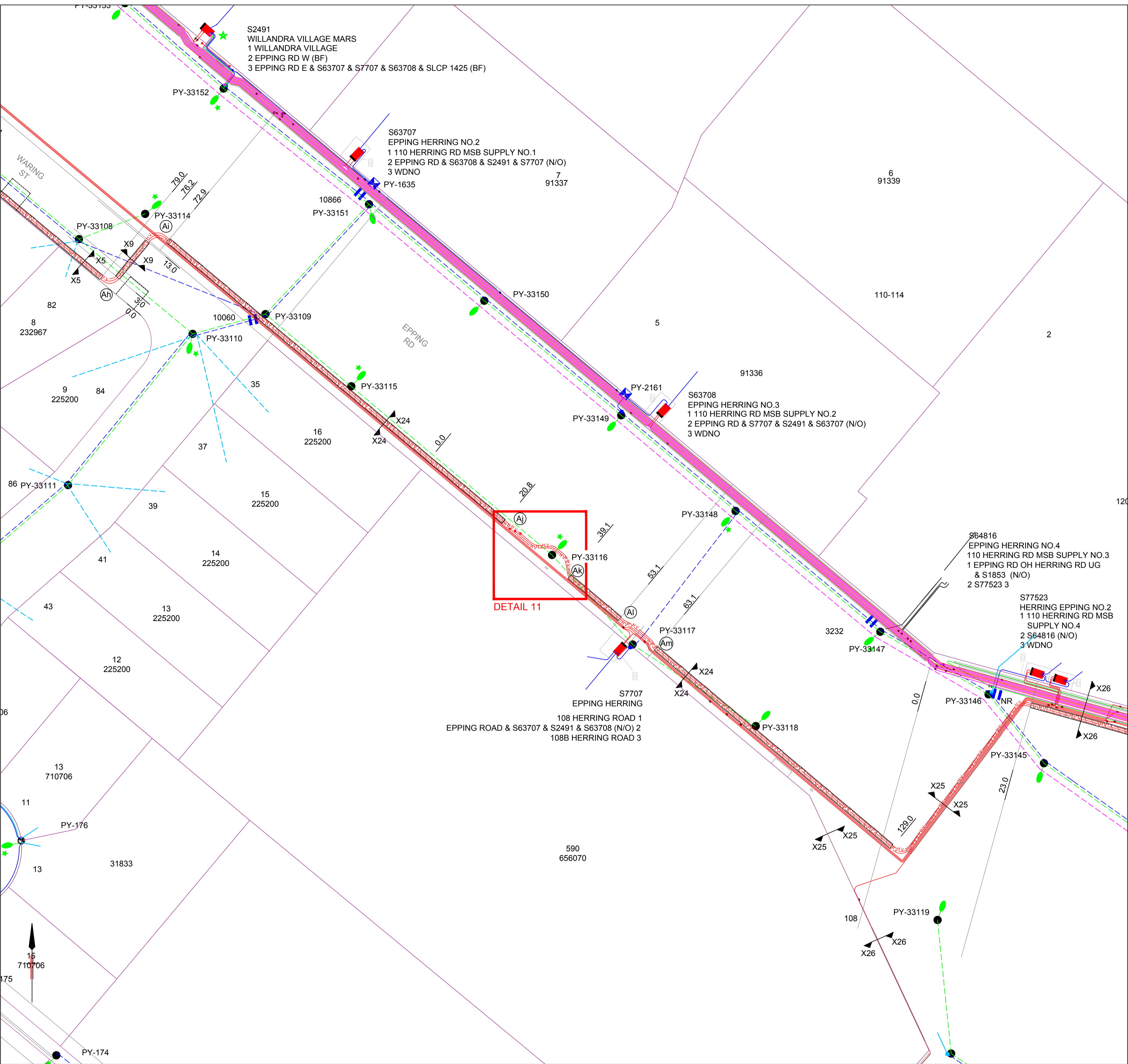
ALL LEVEL 2 ASP WORK DEPICTED ON THIS DRAWING IS SHOWN FOR INFORMATION PURPOSES ONLY AND DOES NOT FORM PART OF THE CERTIFIED DESIGN.

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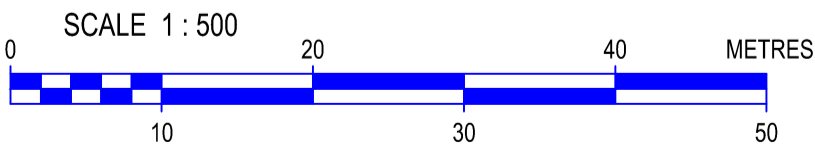
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FOR CONTINUATION REFER SITE PLAN 7



SITE PLAN 8



FOR CONTINUATION REFER SITE PLAN 9

PRELIMINARY



LEVEL 3 ACCREDITED SERVICE PROVIDER
Shelmerdines Consulting Engineers
ABN 40 703 321 879
35 Hume Street, Crowes Nest NSW 2065
Telephone: (02) 9436 3021
Email: mail@shelmerdines.com.au
Web: www.shelmerdines.com.au

DESIGNED BY: ELBERT WANG
AUTH NO.: 2606/06
SUBMIT DATE: 05/09/2018
LGA: RYDE CITY COUNCIL
MAP REF.: 196 P3
AUSGRID REF.: EP92, EP94, PY71-PY74
PRJ/TRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
AUSGRID PROJECT No: SC12221
SHEETS: 11 of 18
AMD: 0

FOR CONTINUATION REFER SITE PLAN 10

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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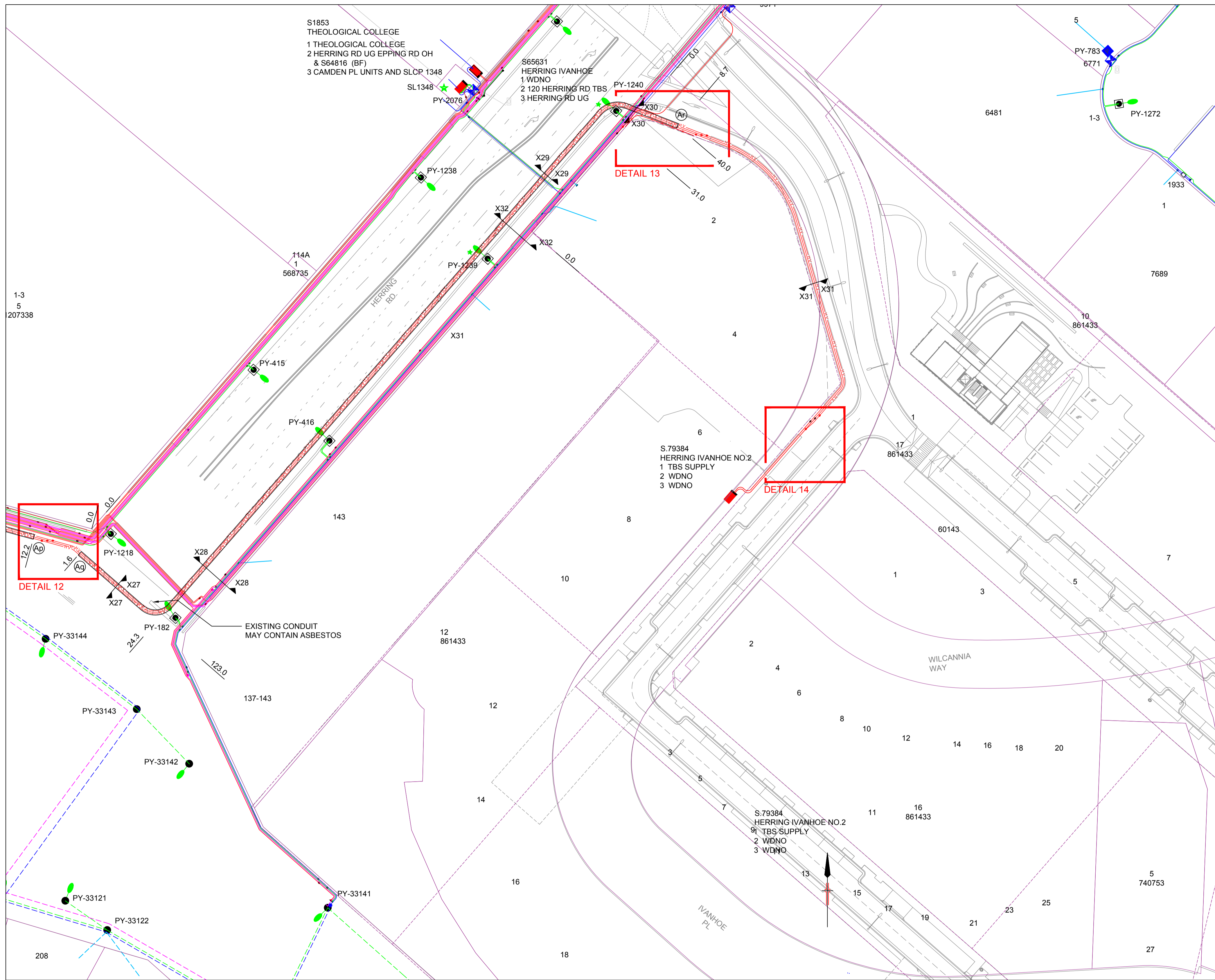
ASP LEVEL 2 WORK

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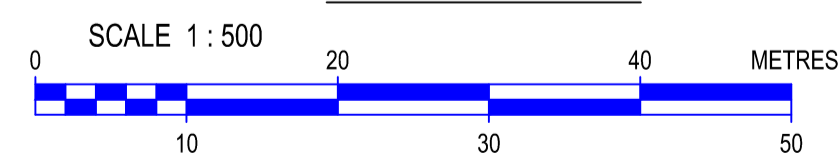
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SITE PLAN 9



FOR CONTINUATION REFER SITE PLAN 8

PRELIMINARY



ASSOCIATED DRAWINGS	LEVEL 3 ACCREDITED SERVICE PROVIDER	DESIGNED BY	ELBERT WANG	INSTLLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK	
		AUTH NO.	2606/06		
	401 923 321 879	SUBMIT DATE	05/09/2018		
	35 Home Street Crowe Nest NSW 2065 Email: mail@shelmerdines.com.au Web: www.shelmerdines.com.au	LGA	RYDE CITY COUNCIL		
CERTIFICATION NUMBER	AUSGRID REF.	EP92, EP94, PY71-PY74	196 P3	SIZE A1	
## / ##	PRJTRAK No.	XCH014046	AUSGRID PROJECT No.		SC12221
	ASP REF.	6820-AU-12/C		SHEETS	12 of 18
				AM.	0

CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING

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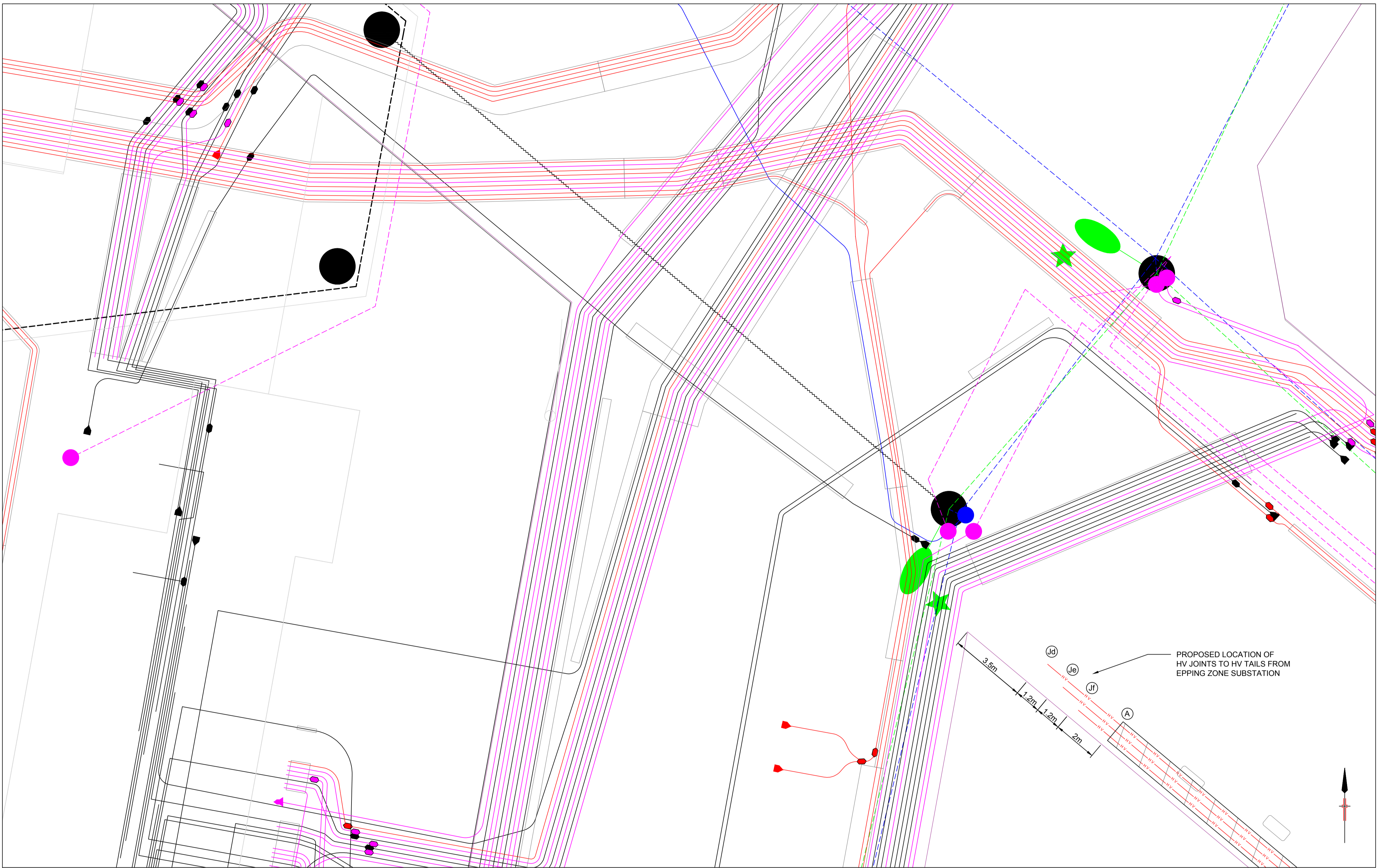
ASP LEVEL 2 WORK

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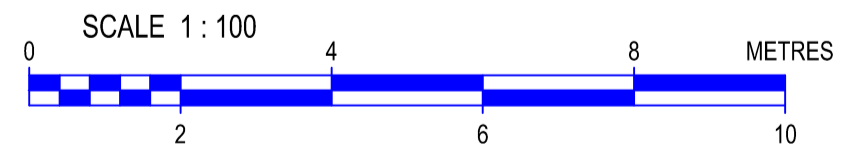
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DETAIL 1



PROPOSED LOCATION OF HV JOINTS TO HV TAILS FROM EPPING ZONE SUBSTATION

PRELIMINARY



LEVEL 3 ACCREDITED SERVICE PROVIDER	DESIGNED BY	ELBERT WANG
Shelmerdines Consulting Engineers	AUTH NO.	2606/06
55 Hume Street Crows Nest NSW 2065	SUBMIT DATE	05/09/2018
Phone: (02) 9436 3021 Email: mail@shelmerdines.com.au	LGA	RYDE CITY COUNCIL
ASP REF. 6820-AU-13/C	MAP REF.	196 P3
	AUSGRID REF.	EP92, EP94, PY71-PY74
	PRUTRAK No.	XCH014046

INSTLLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK	
SIZE	A1
AUSGRID PROJECT No.	SC12221
SHEETS	13 of 18
AMD.	0

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

CAD DRAWING AMENDMENTS

20160817

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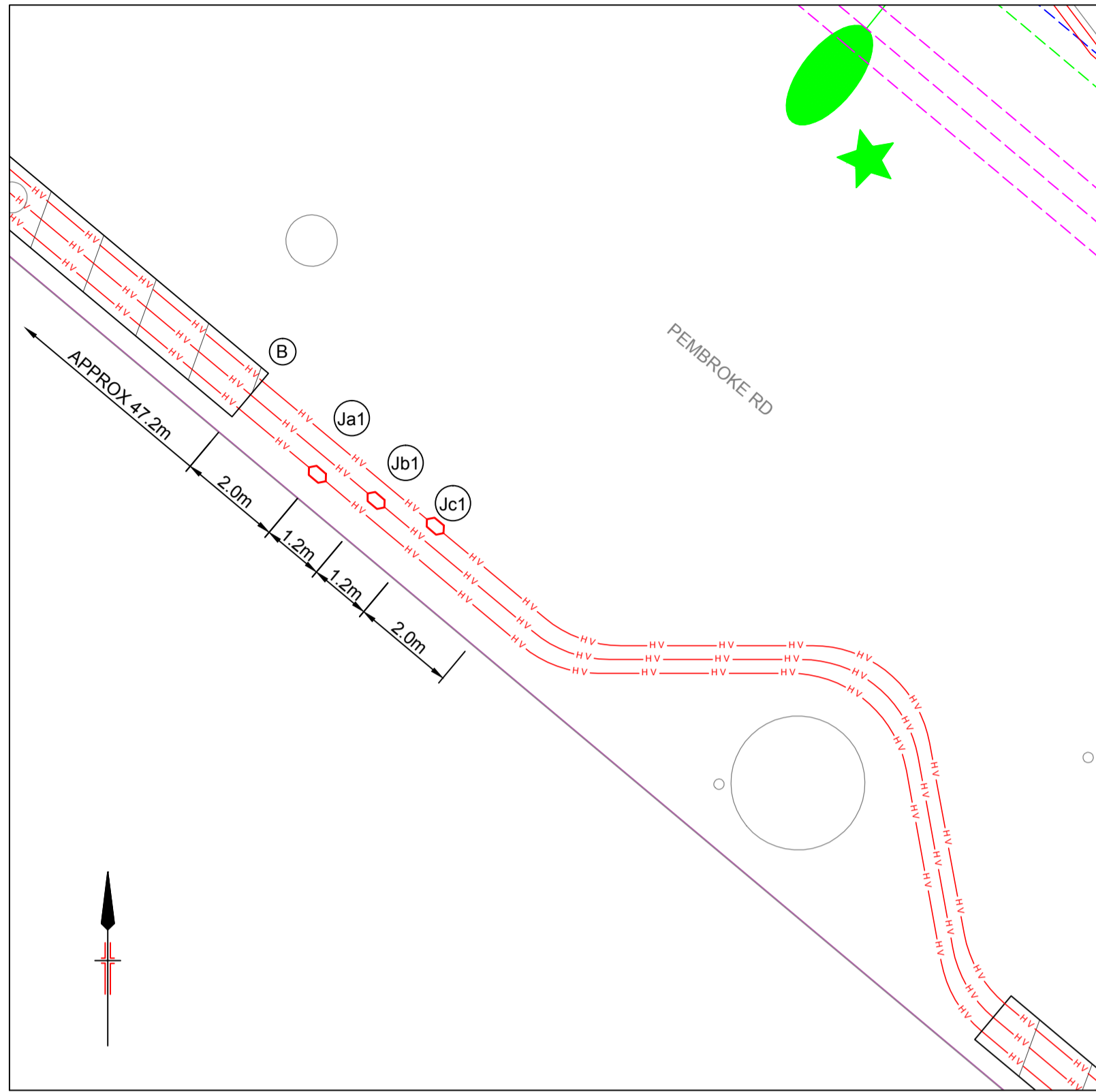
ASP LEVEL 2 WORK

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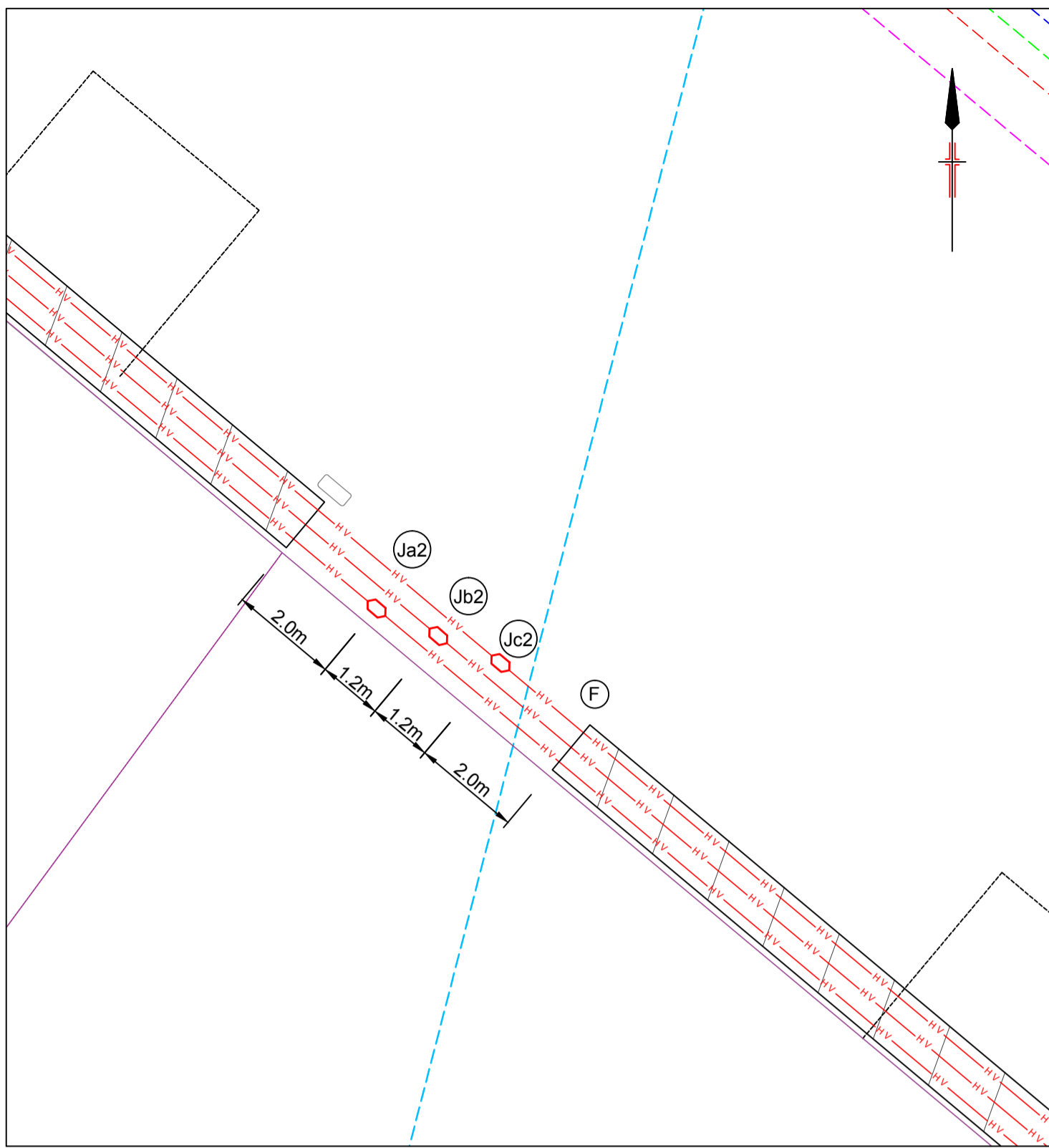
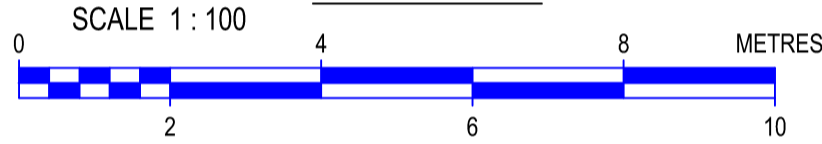
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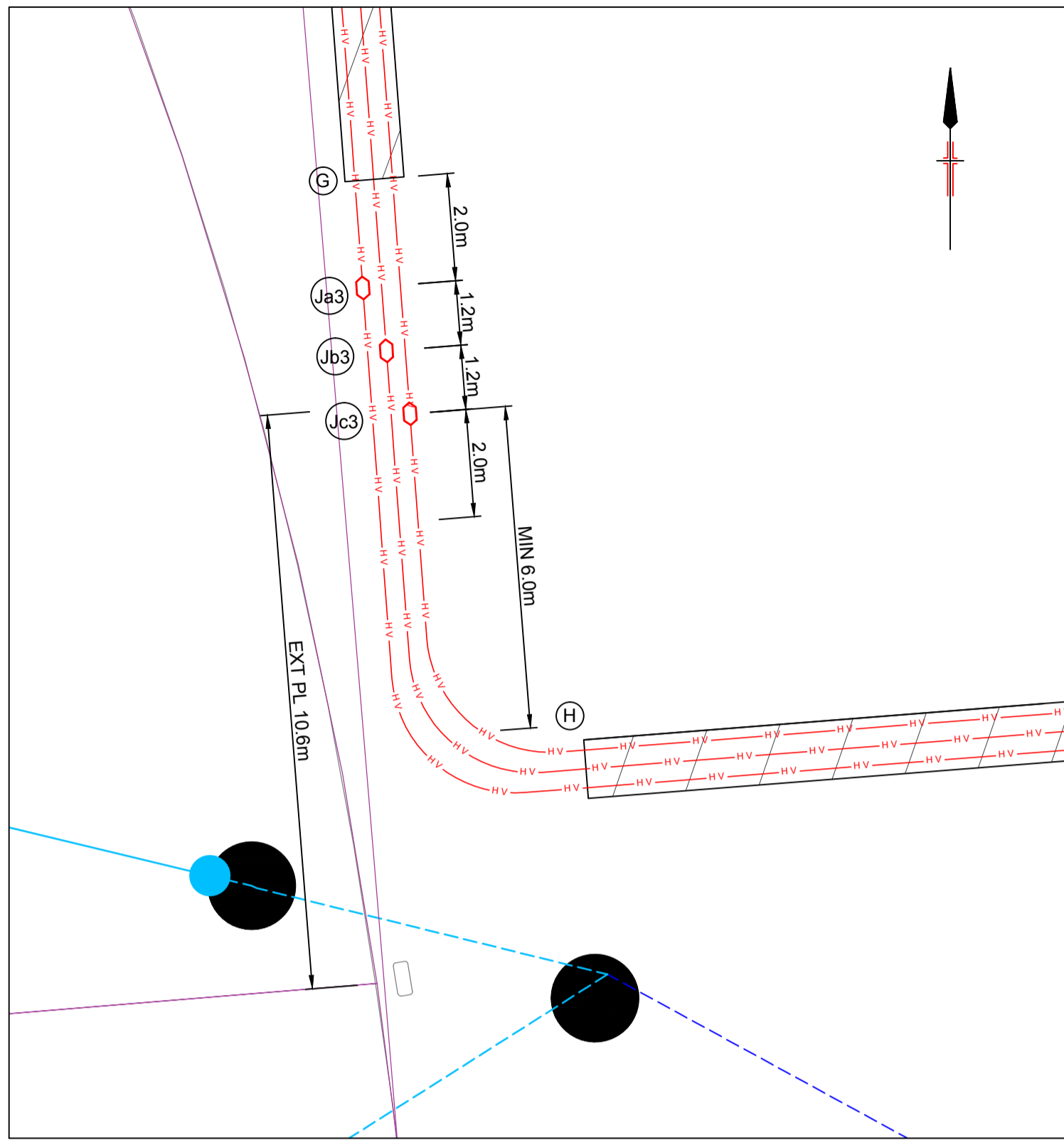
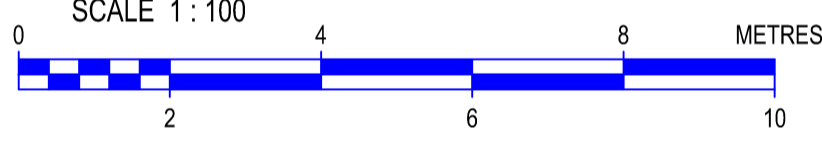
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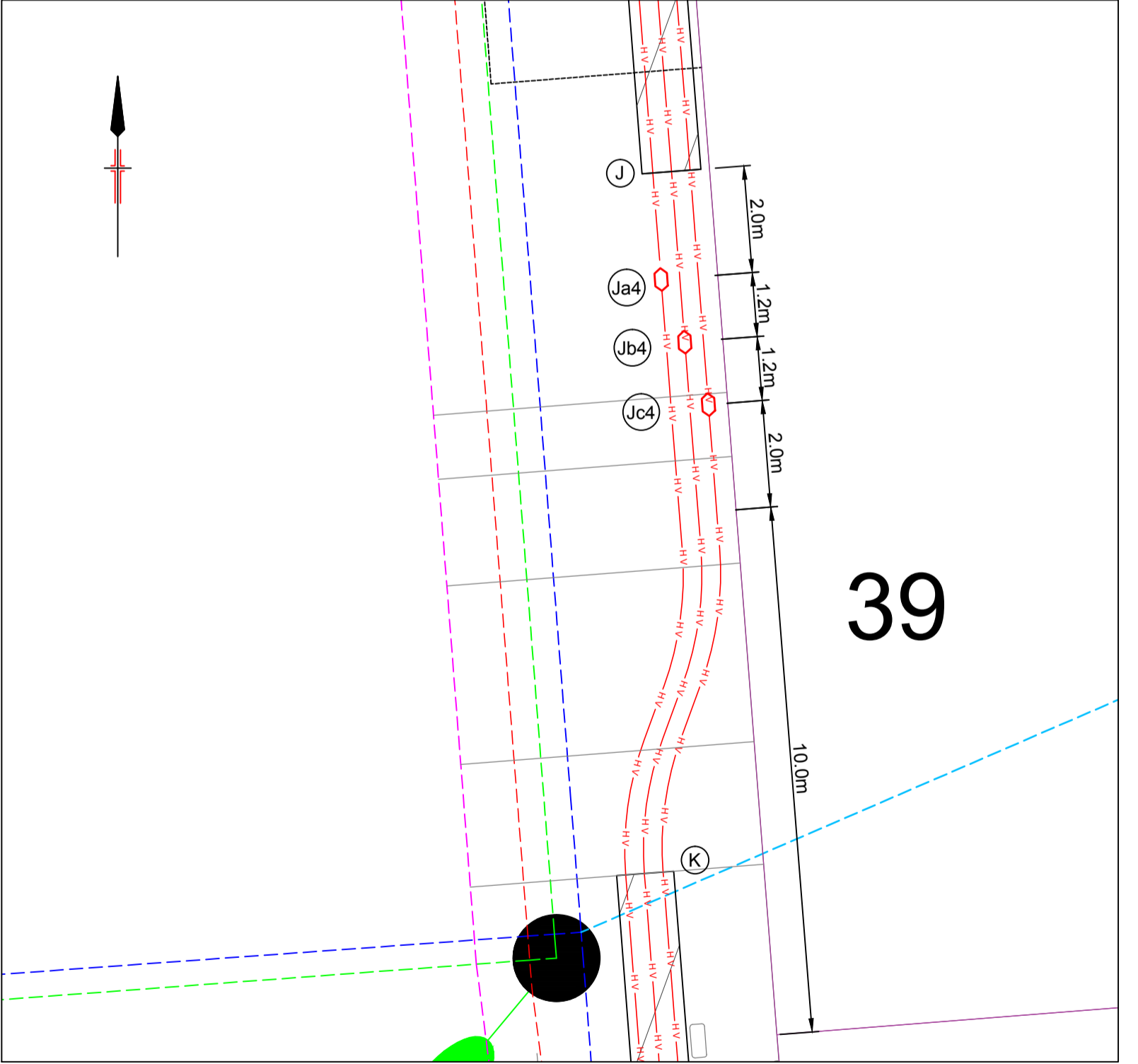
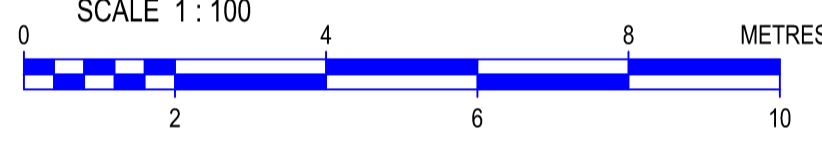
DETAIL 2



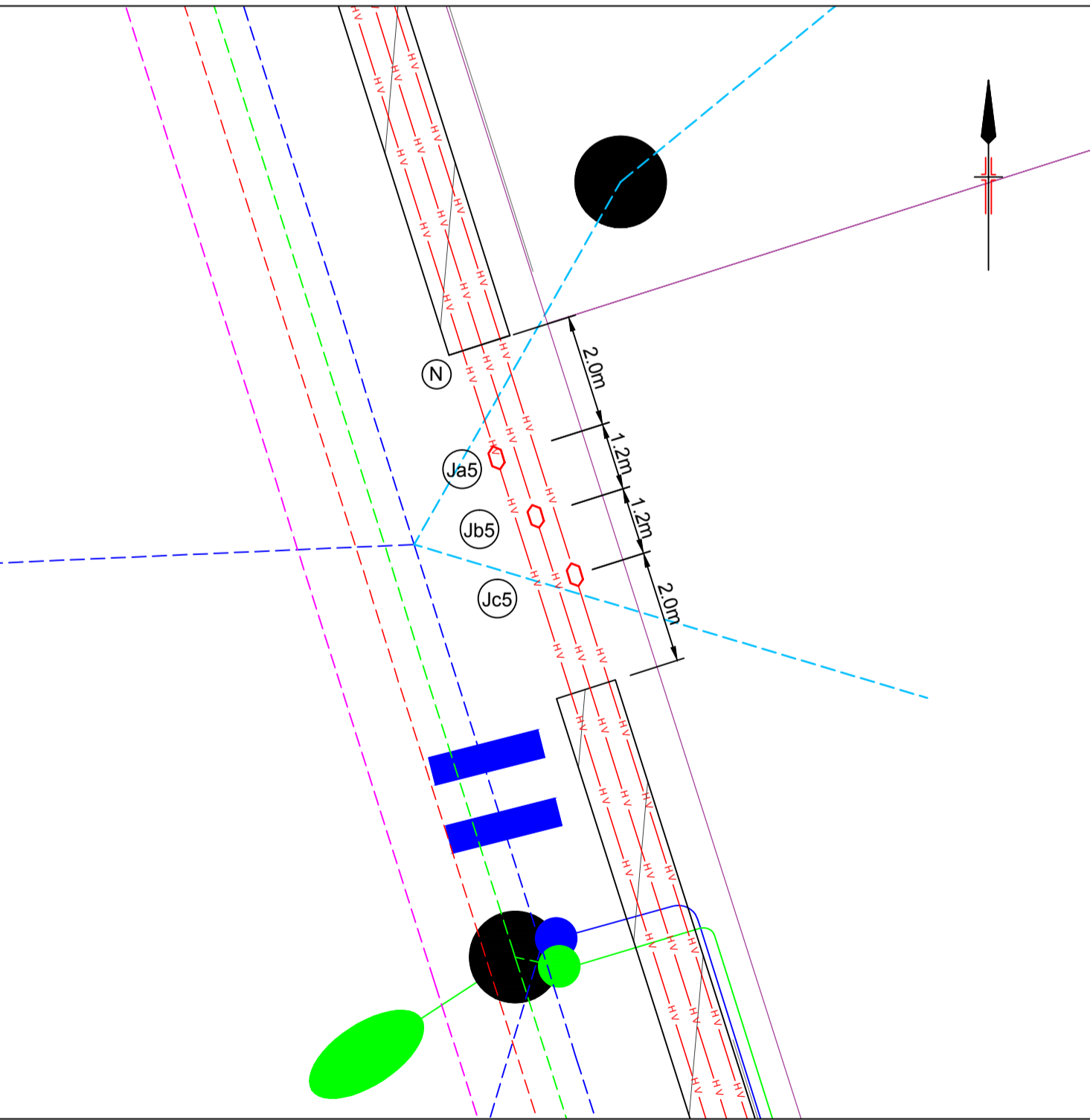
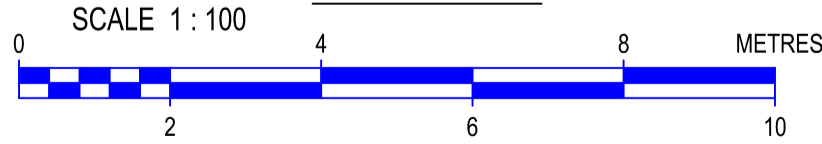
DETAIL 3



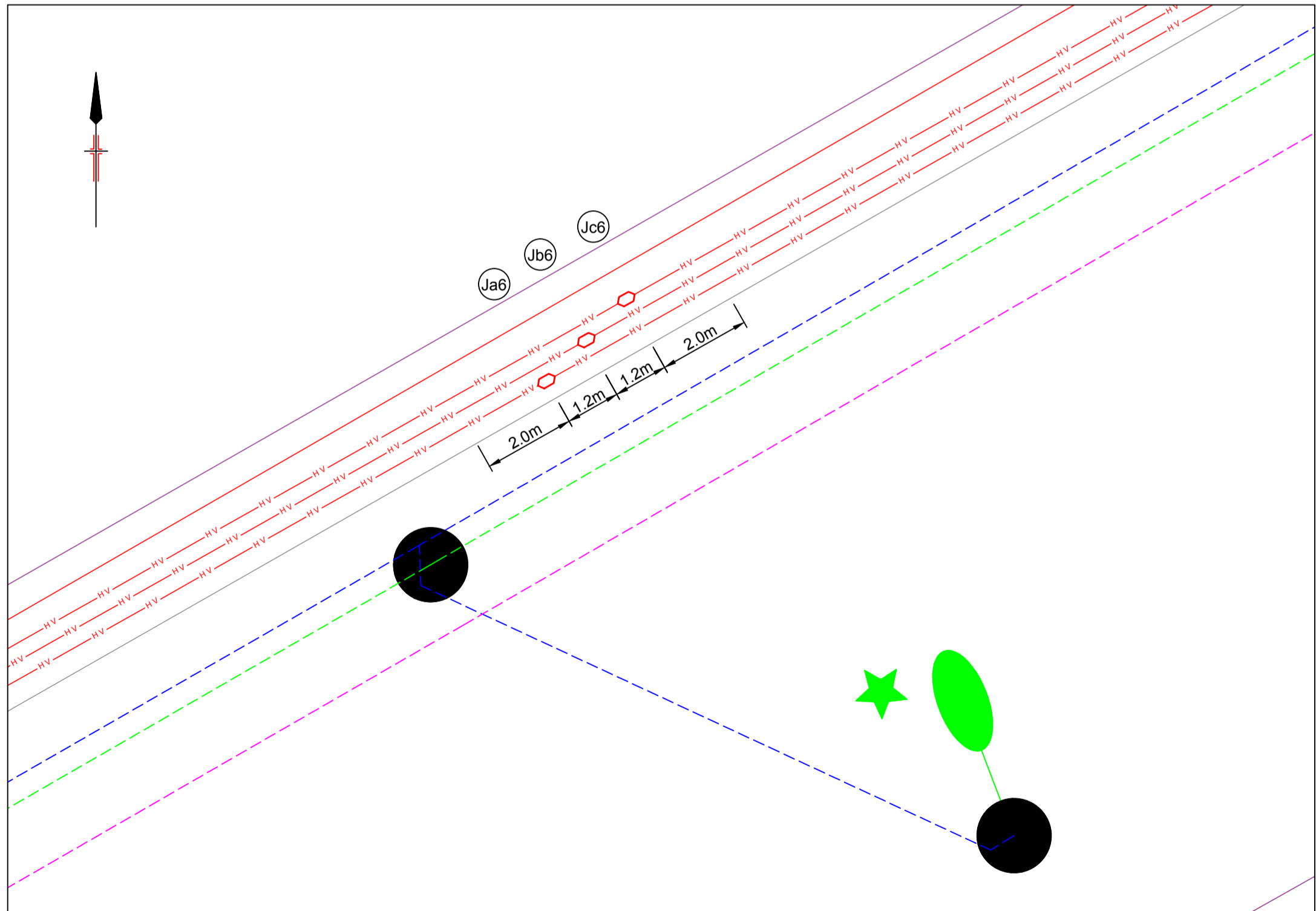
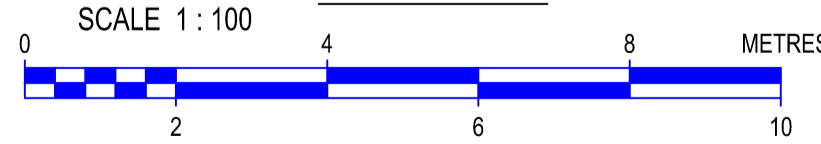
DETAIL 4



DETAIL 5



DETAIL 6



DETAIL 7



PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER
Shelmerdines Consulting Engineers
 ABN 40 703 321 879
 55 Home Street, Crowe Nest NSW 2065
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DESIGNED BY: ELBERT WANG
 AUTH NO.: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF.: 196 P3
 AUSGRID REF.: EP92, EP94, PY71-PY74
 PRJ/TRAK No.: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 14 of 18
 AMO: 0

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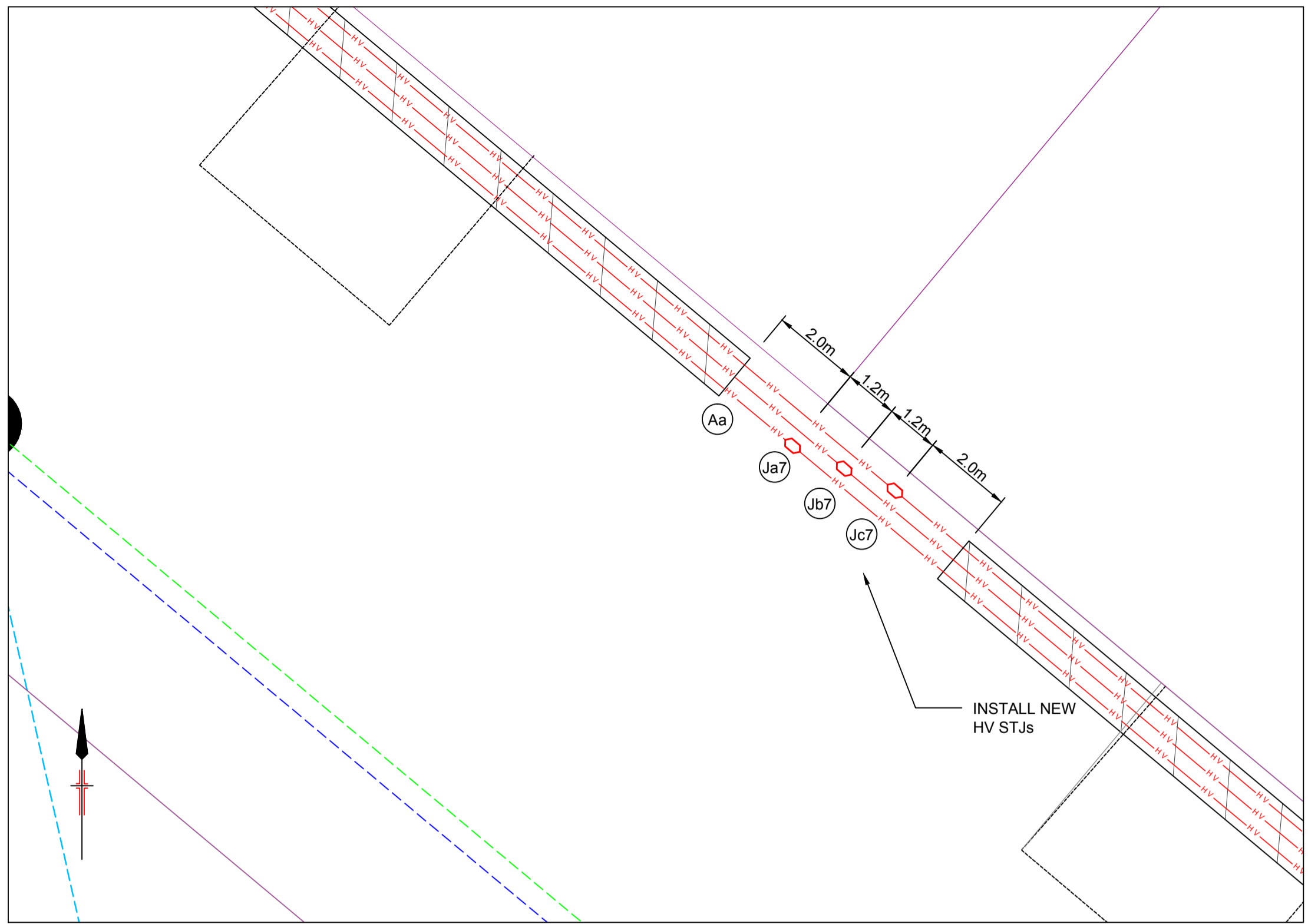
ASP LEVEL 2 WORK

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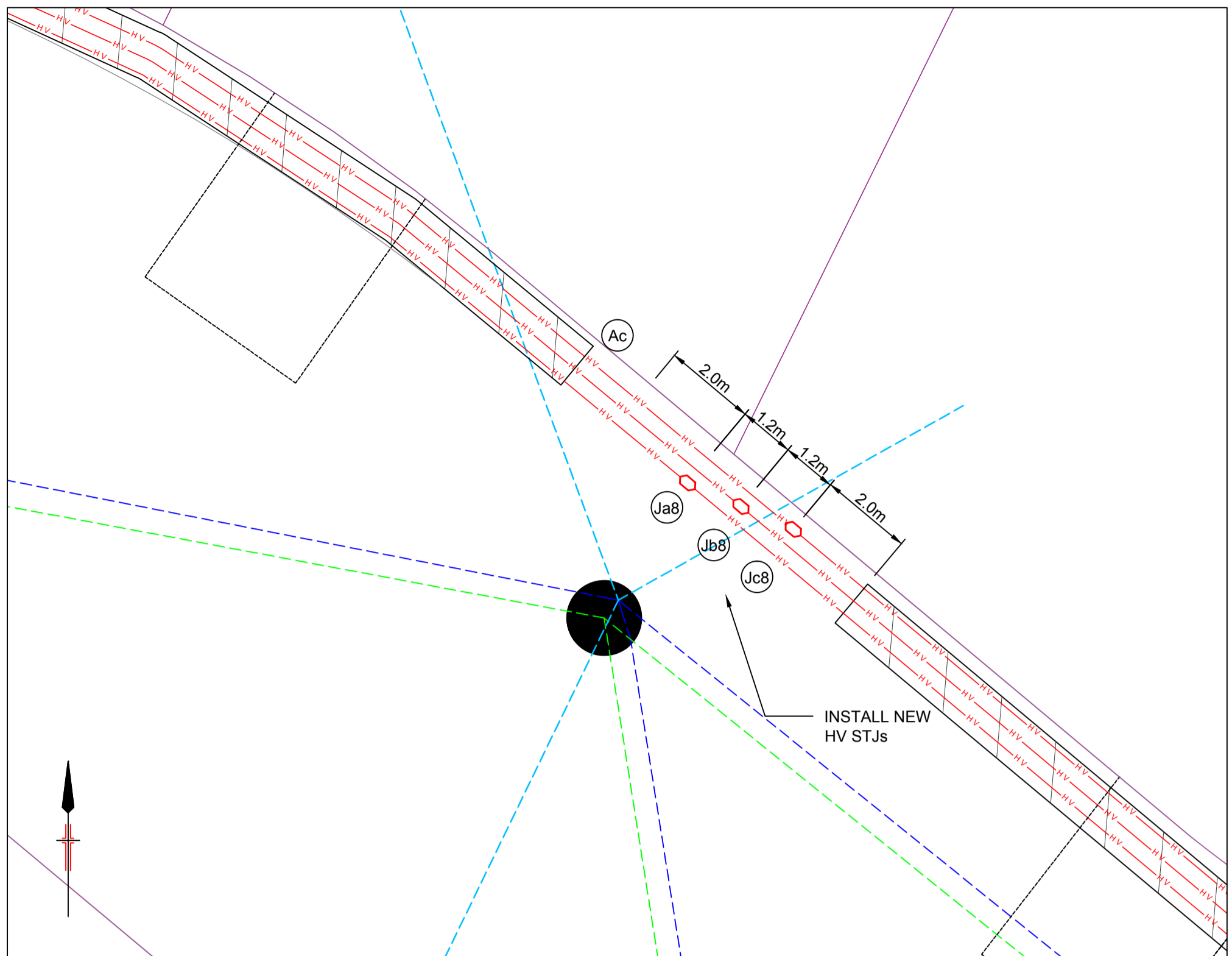
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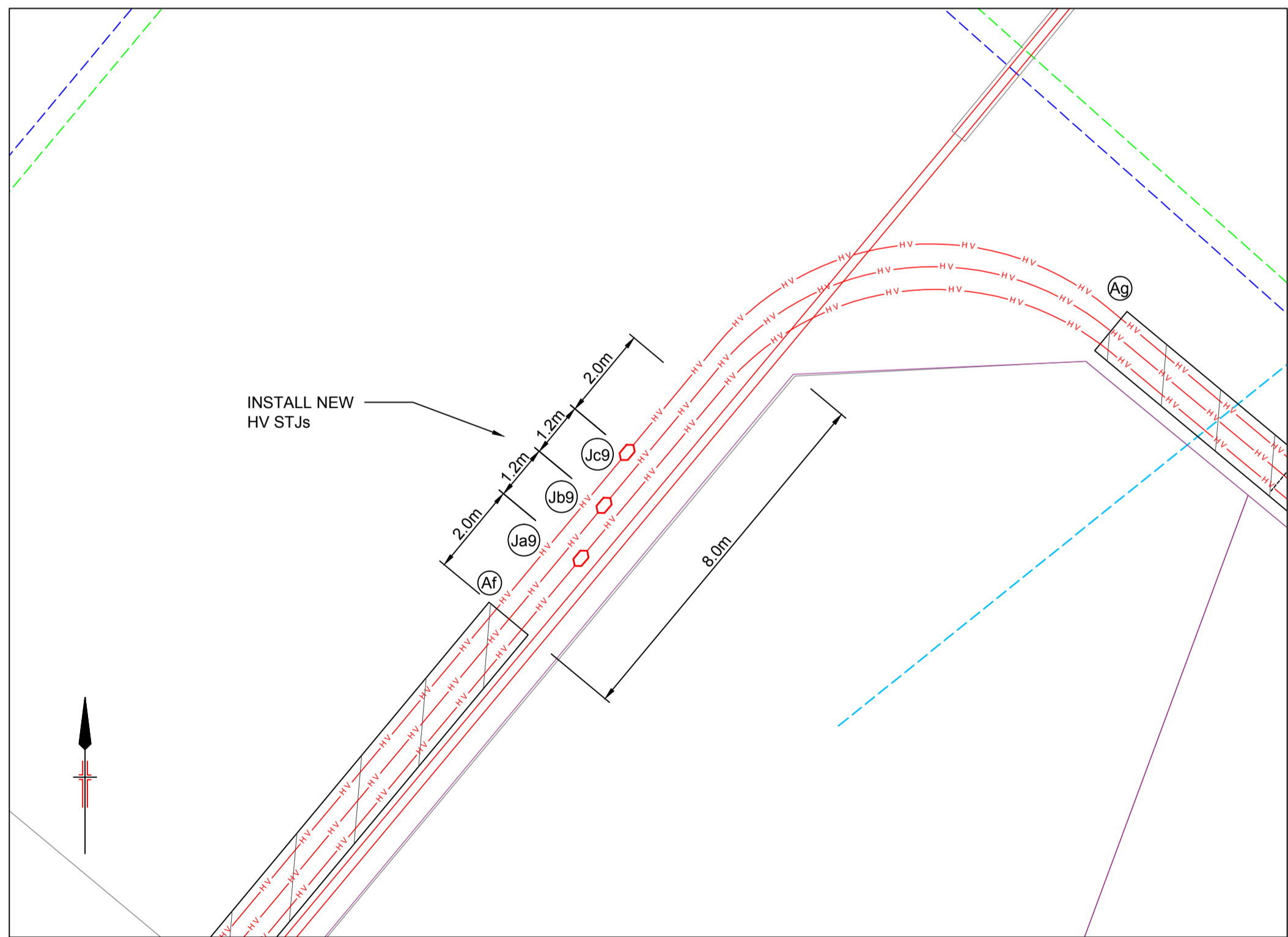
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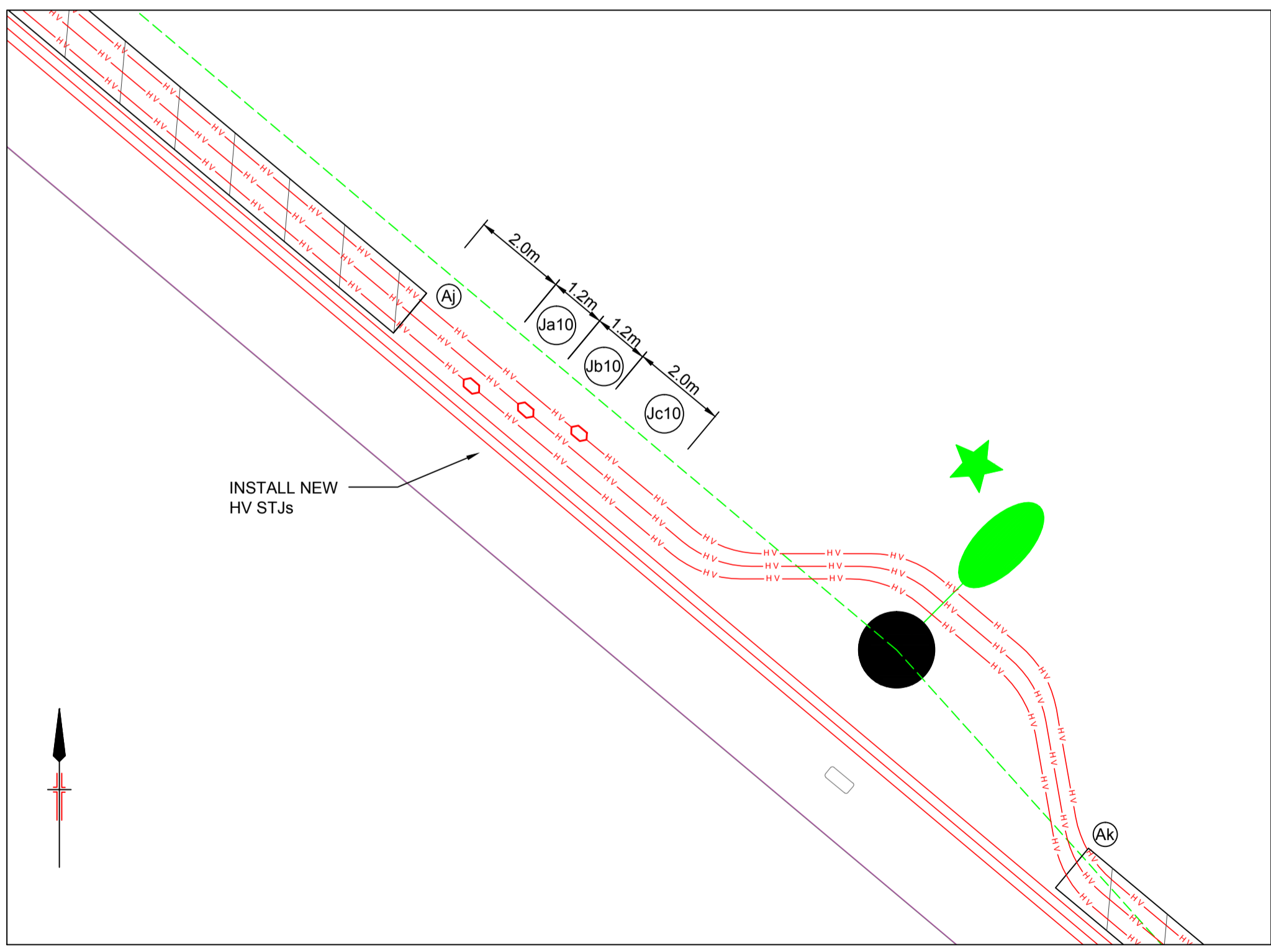
DETAIL 8
SCALE 1:100
0 2 4 6 8 10 METRES



DETAIL 9
SCALE 1:100
0 2 4 6 8 10 METRES



DETAIL 10
SCALE 1:100
0 2 4 6 8 10 METRES



DETAIL 11
SCALE 1:100
0 2 4 6 8 10 METRES

PRELIMINARY



LEVEL 3 ACCREDITED SERVICE PROVIDER
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Web: www.shelmerdines.com.au
ASP REF: 6820-AU-14/C

DESIGNED BY: ELBERT WANG
AUTH NO: 2606/06
SUBMIT DATE: 15/05/2018
LGA: RYDE CITY COUNCIL
MAP REF: 196 P3
AUSGRID REF: EP92, EP94, PY71-PY74
PRUTRAK No: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

##/##

SIZE A1 AUSGRID PROJECT No SC12221

SHEETS 15 of 18

AM. 0

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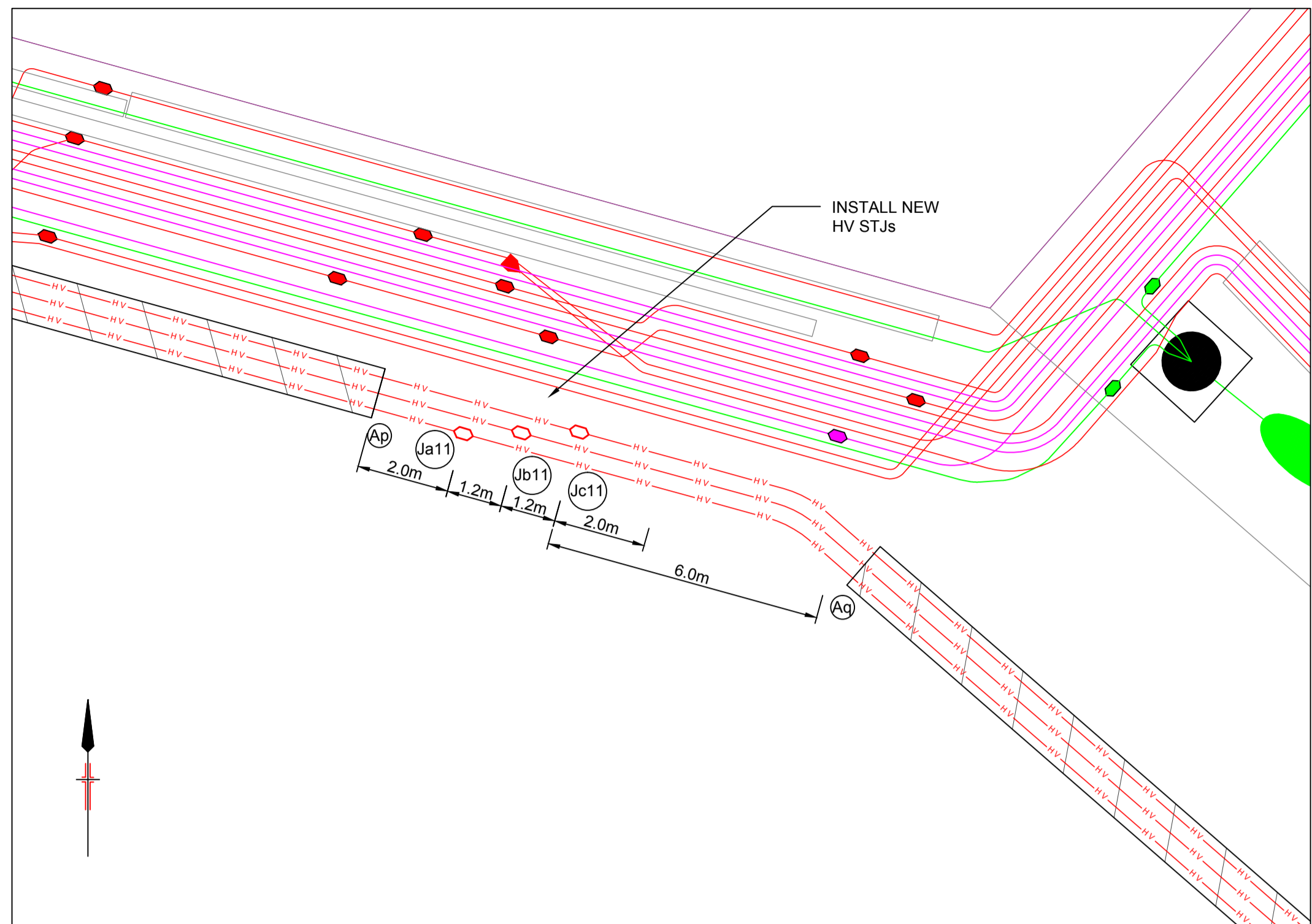
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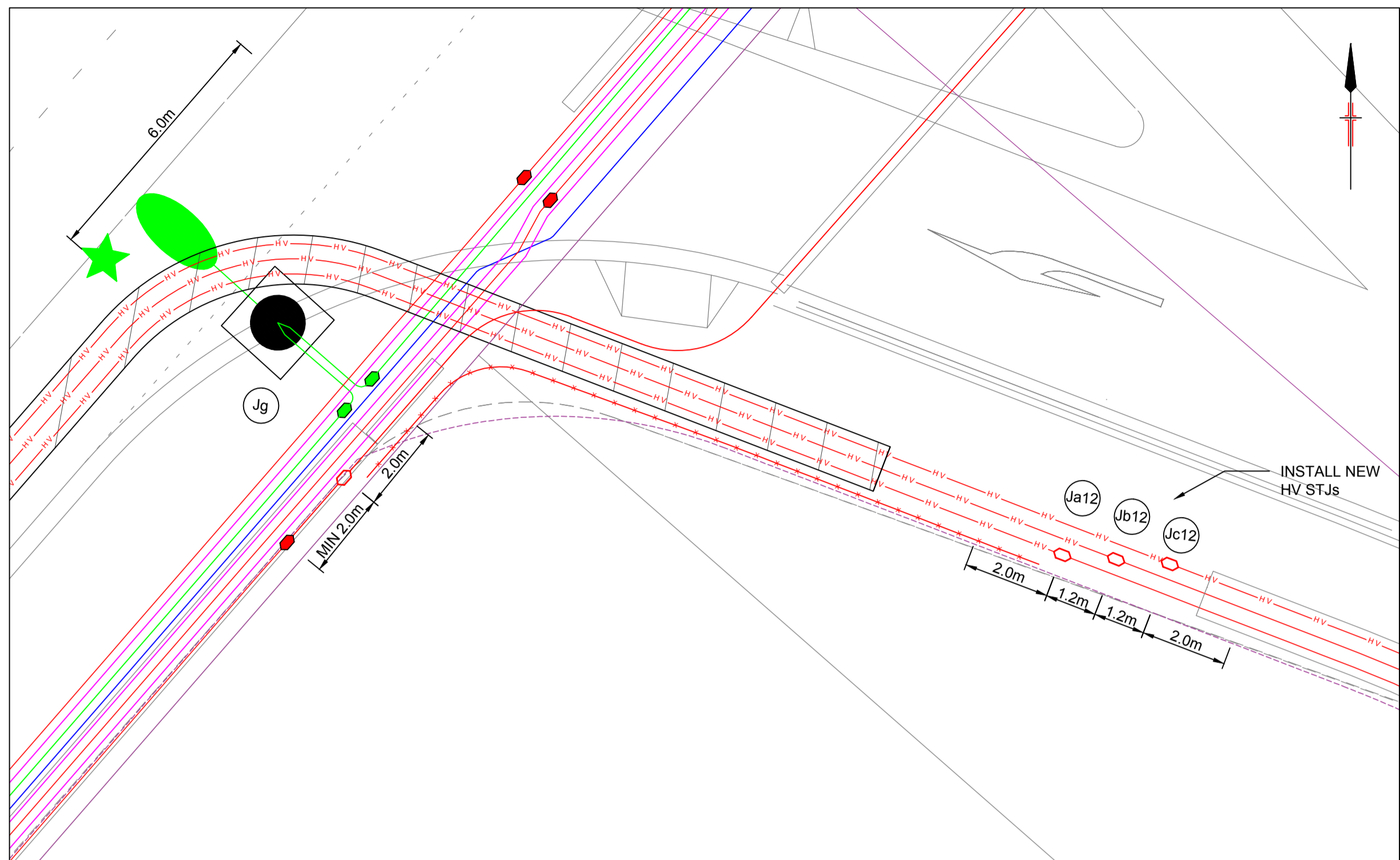
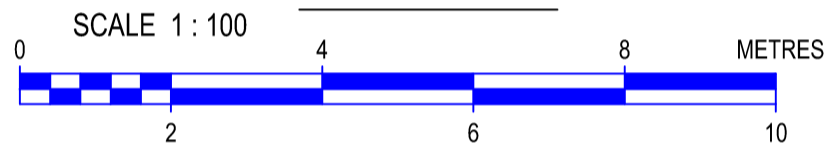
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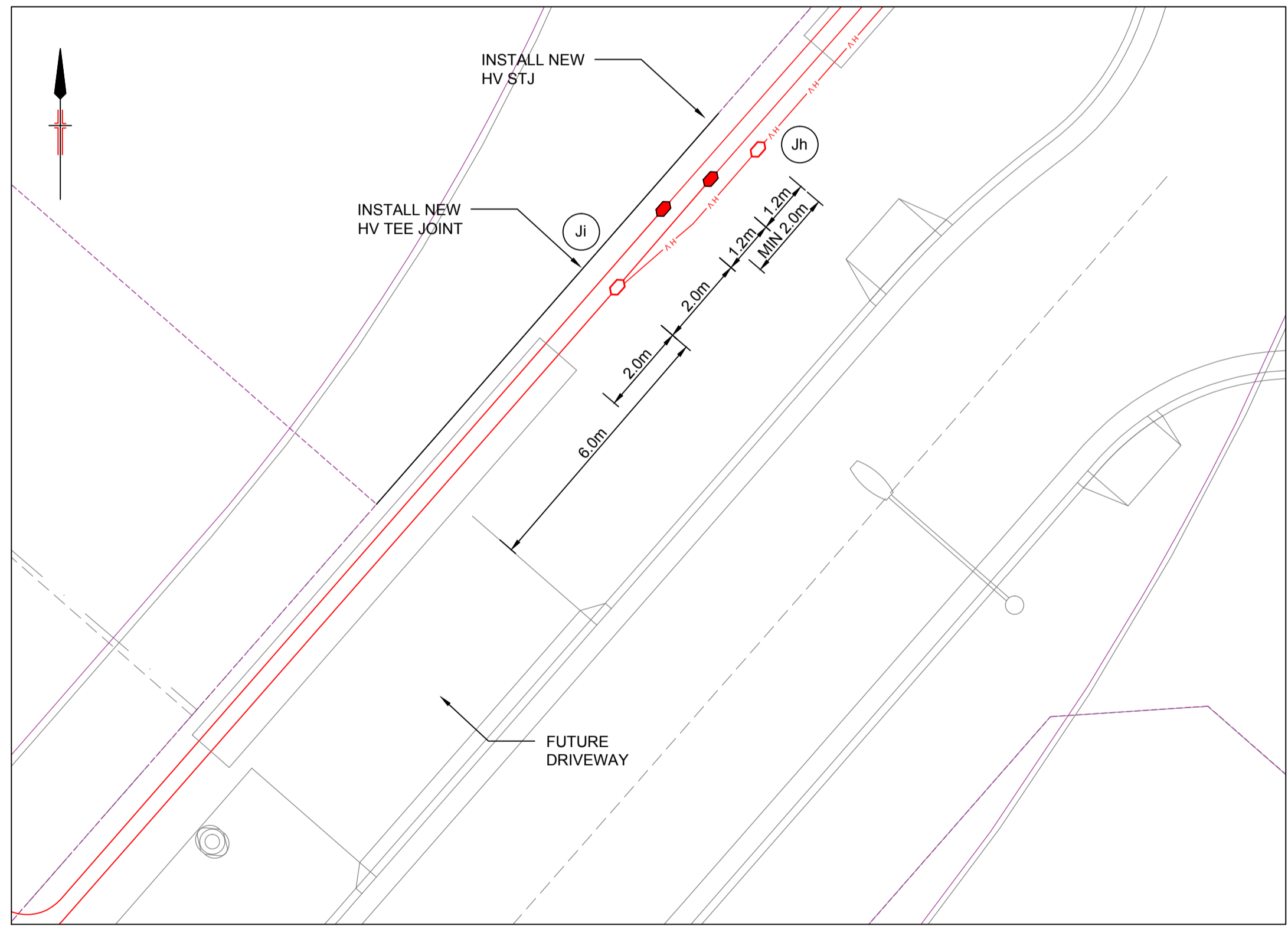
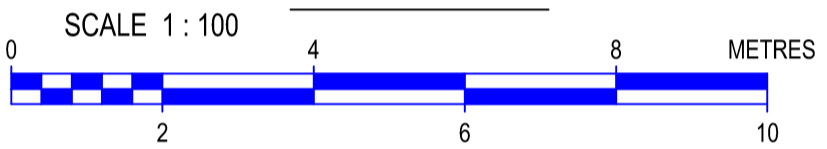
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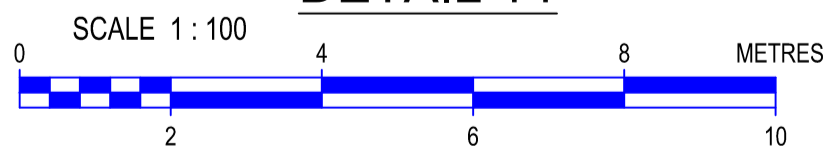
DETAIL 12



DETAIL 13



DETAIL 14



PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER
 ABRN 40 1003 321 879 Telephone: (02) 9436 3021
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 Crowe Nest NSW 2065 Web: www.shelmerdines.com.au

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ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

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SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 16 of 18
 AMD: 0

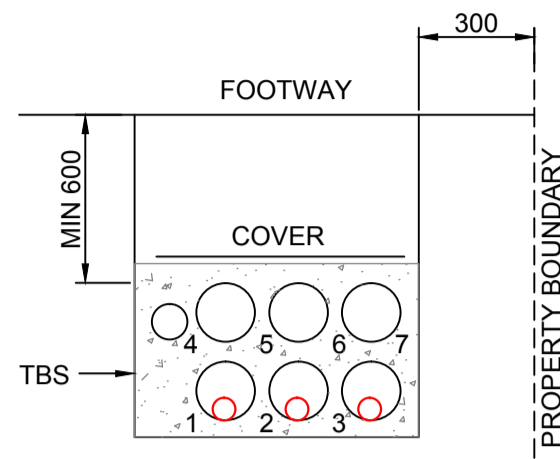
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 ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS

THIS HAS INTENTIONALLY BEEN LEFT BLANK

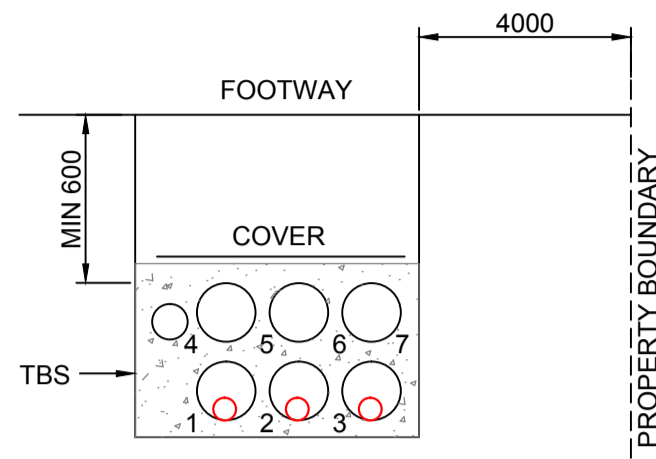
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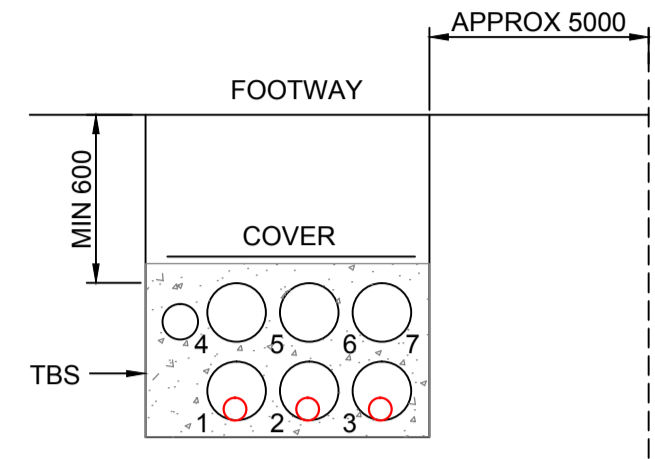
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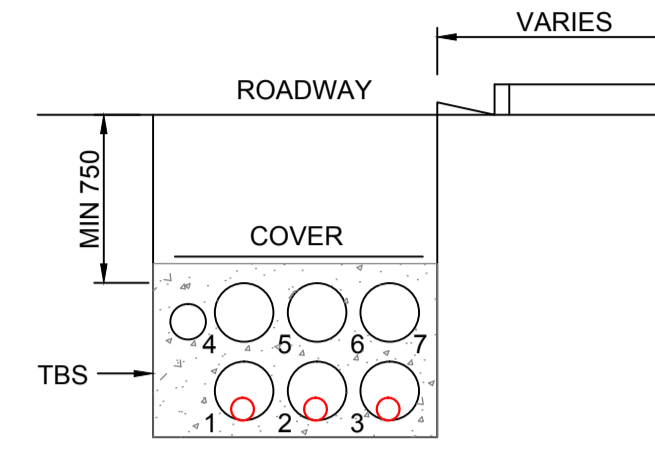
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



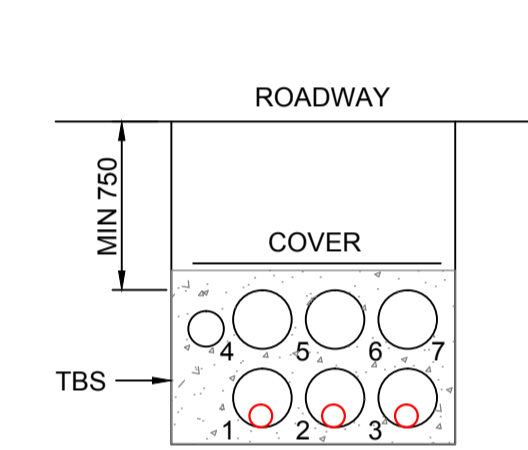
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



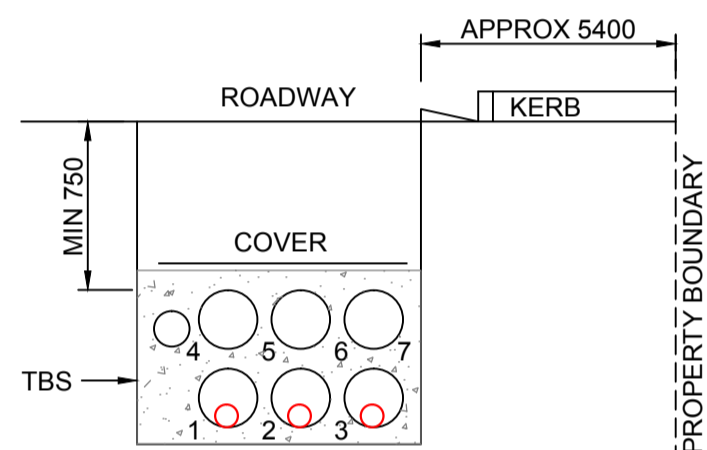
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



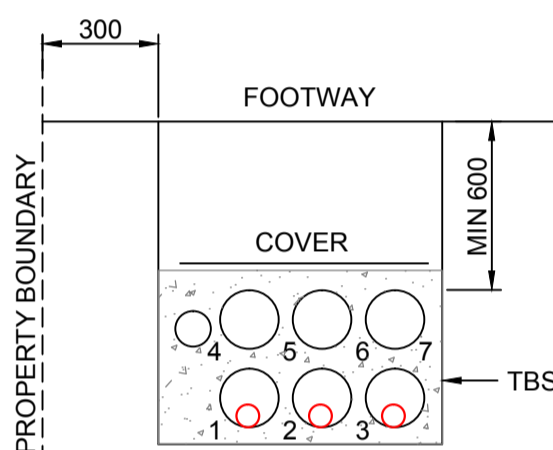
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



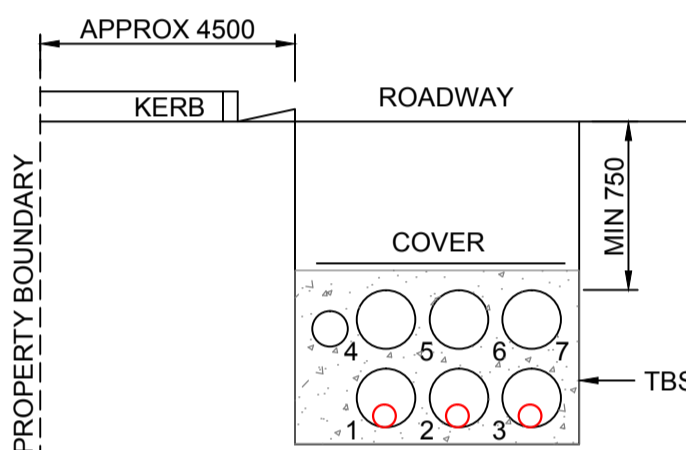
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



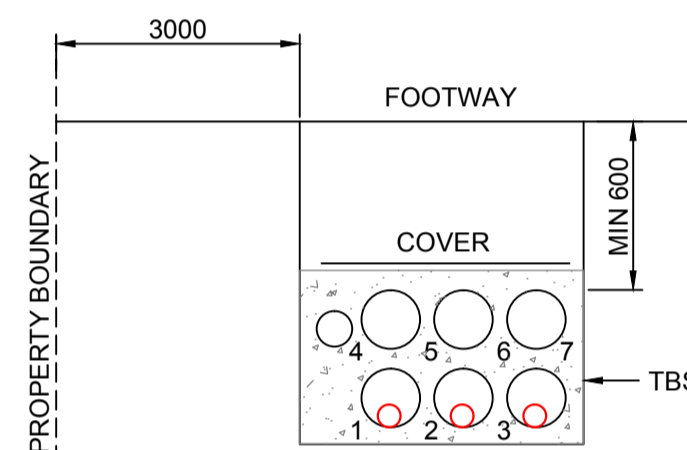
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



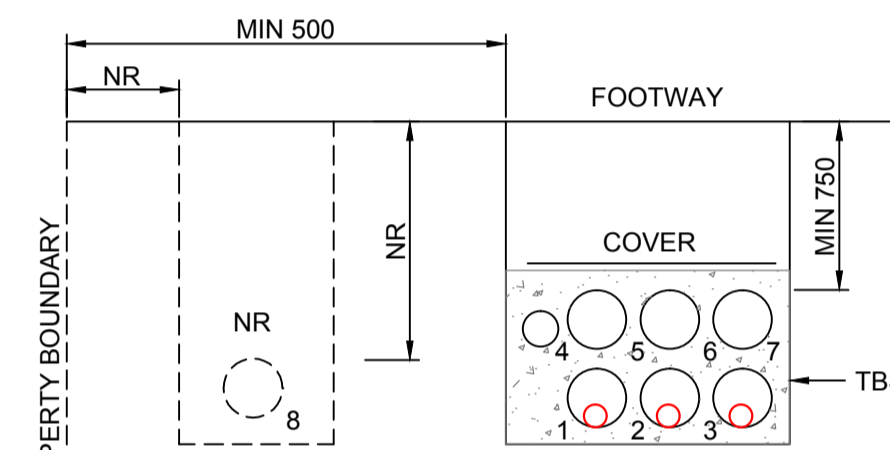
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- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



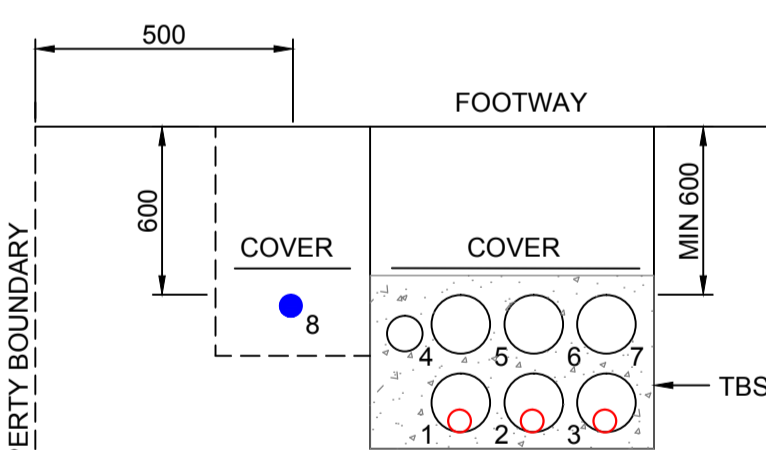
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- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



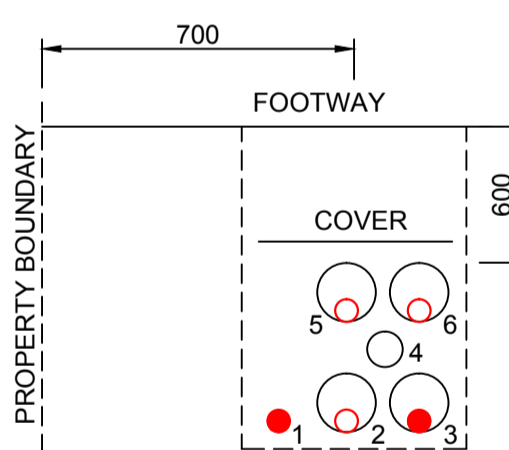
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- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE



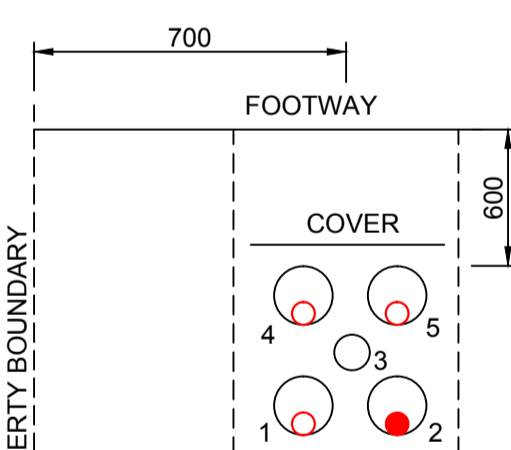
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- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE
- 8 - EXISTING CONDUIT - NR



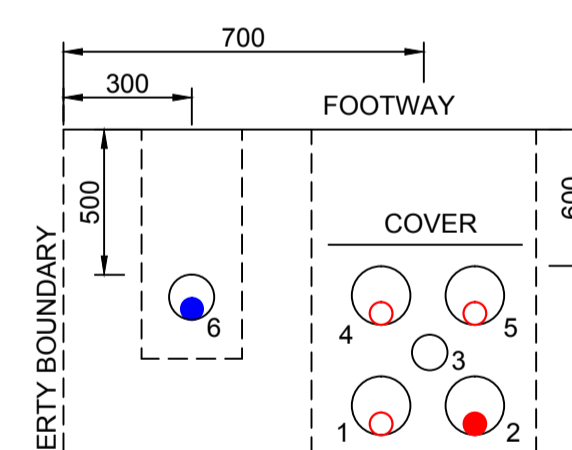
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE
- 8 - EXISTING LV - DIRECT BURIED



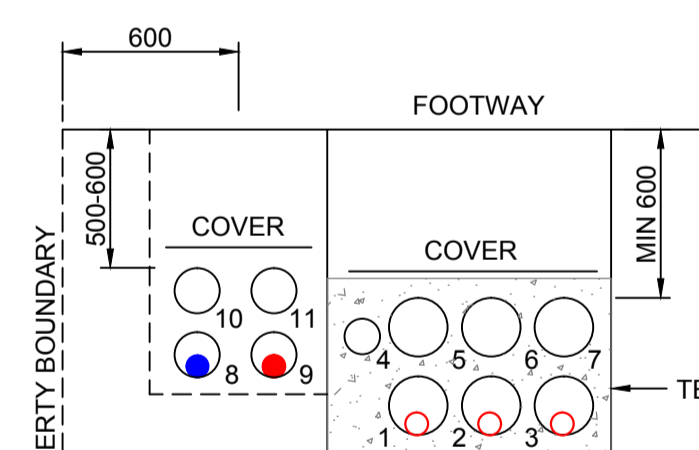
- 1 - EXISTING HV - DIRECT BURIED
- 2 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - EXISTING 150mm PVC CONDUIT WITH EXISTING HV
- 4 - EXISTING 50mm PVC CONDUIT - SPARE
- 5 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 6 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3



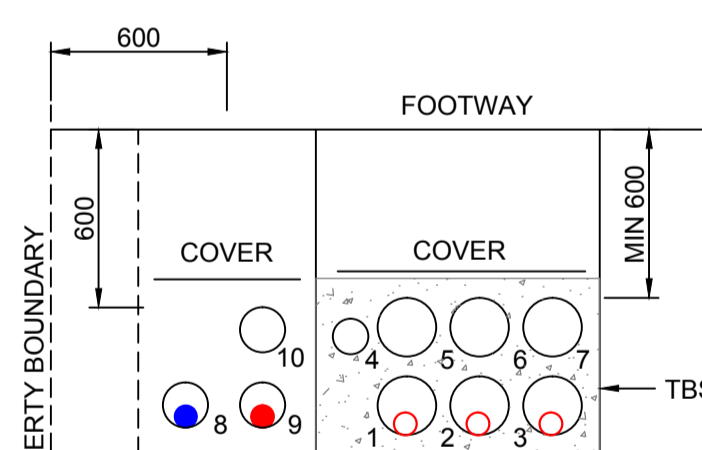
- 1 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - EXISTING 150mm PVC CONDUIT WITH EXISTING HV
- 3 - EXISTING 50mm PVC CONDUIT - SPARE
- 4 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 5 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3



- 1 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - EXISTING 150mm PVC CONDUIT WITH EXISTING HV
- 3 - EXISTING 50mm PVC CONDUIT - SPARE
- 4 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 5 - EXISTING 150mm PVC CONDUIT WITH NEW 500 AL3
- 6 - EXISTING 125mm PVC CONDUIT WITH EXISTING LV



- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE
- 8 - EXISTING 125mm PVC CONDUIT WITH EXISTING LV
- 9 - EXISTING 125mm PVC CONDUIT WITH EXISTING HV
- 10 - EXISTING 125mm PVC CONDUIT - SPARE
- 11 - EXISTING 125mm PVC CONDUIT - SPARE



- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
- 4 - NEW 65mm PVC CONDUIT - SPARE
- 5 - NEW 150mm PVC CONDUIT - SPARE
- 6 - NEW 150mm PVC CONDUIT - SPARE
- 7 - NEW 150mm PVC CONDUIT - SPARE
- 8 - EXISTING 125mm PVC CONDUIT WITH EXISTING LV
- 9 - EXISTING 125mm PVC CONDUIT WITH EXISTING HV
- 10 - EXISTING 125mm PVC CONDUIT - SPARE

PRELIMINARY



DESIGNED BY	ELBERT WANG
AUTH NO.	2606/06
SUBMIT DATE	05/09/2018
LGA	RYDE CITY COUNCIL
MAP REF.	196 P3
AUSGRID REF.	EP92, EP94, PY71-PY74
PRJ/TRAK No.	XCH014046
ASP REF.	6820-AU-17/C

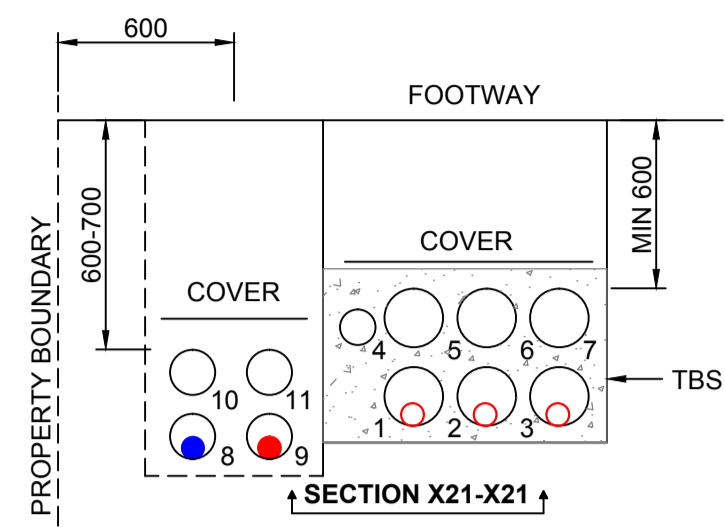
INSTLLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK	
SIZE	A1
AUSGRID PROJECT No.	SC12221
SHEETS	17 of 18
AMD	0

ASSOCIATED DRAWINGS

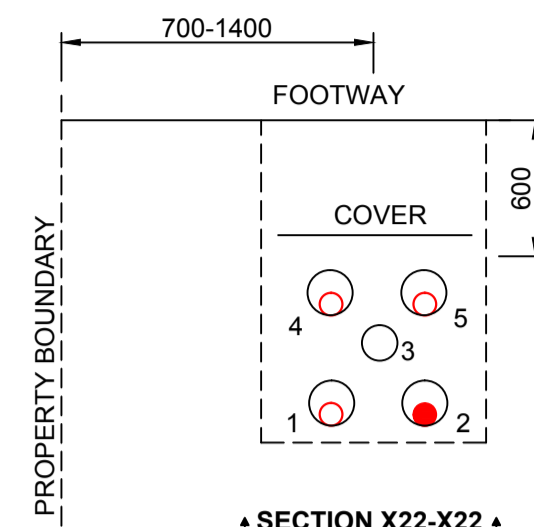
CERTIFICATION NUMBER

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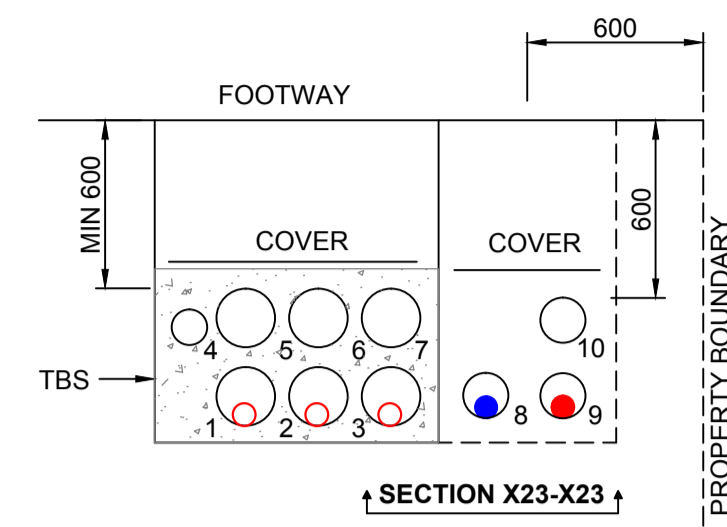
CHECK FOR OTHER SERVICES BEFORE BORING OR EXCAVATING
 ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH AUSGRID'S NETWORK STANDARDS



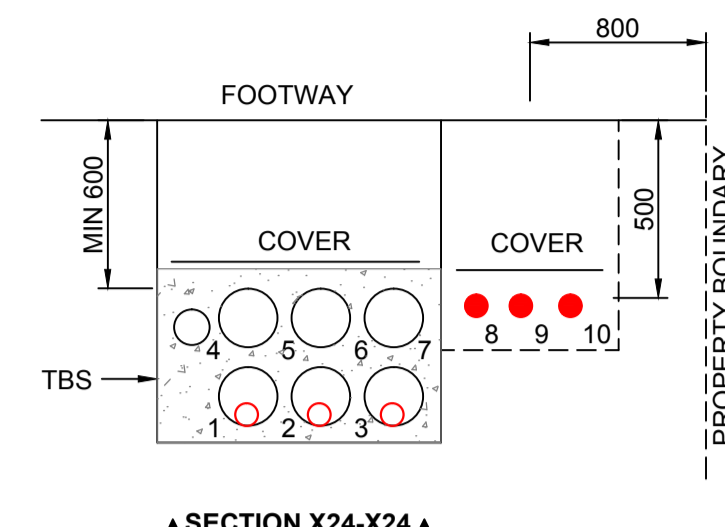
- ↑ SECTION X21-X21 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING 125mm PVC CONDUIT WITH EXISTING LV
 - 9 - EXISTING 125mm PVC CONDUIT WITH EXISTING HV
 - 10 - EXISTING 125mm PVC CONDUIT - SPARE
 - 11 - EXISTING 125mm PVC CONDUIT - SPARE



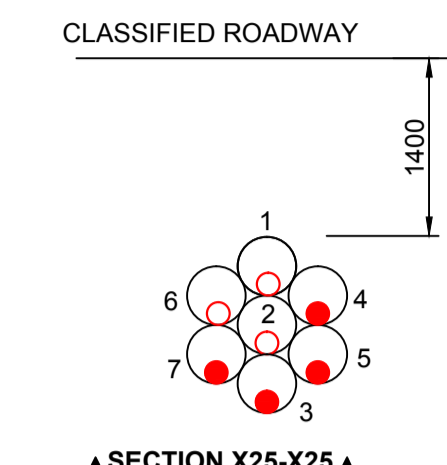
- ↑ SECTION X22-X22 ↓
- 1 - EXISTING 125mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - EXISTING 125mm PVC CONDUIT WITH EXISTING HV
 - 3 - EXISTING 50mm PVC CONDUIT - SPARE
 - 4 - EXISTING 125mm PVC CONDUIT WITH NEW 500 AL3
 - 5 - EXISTING 125mm PVC CONDUIT WITH NEW 500 AL3



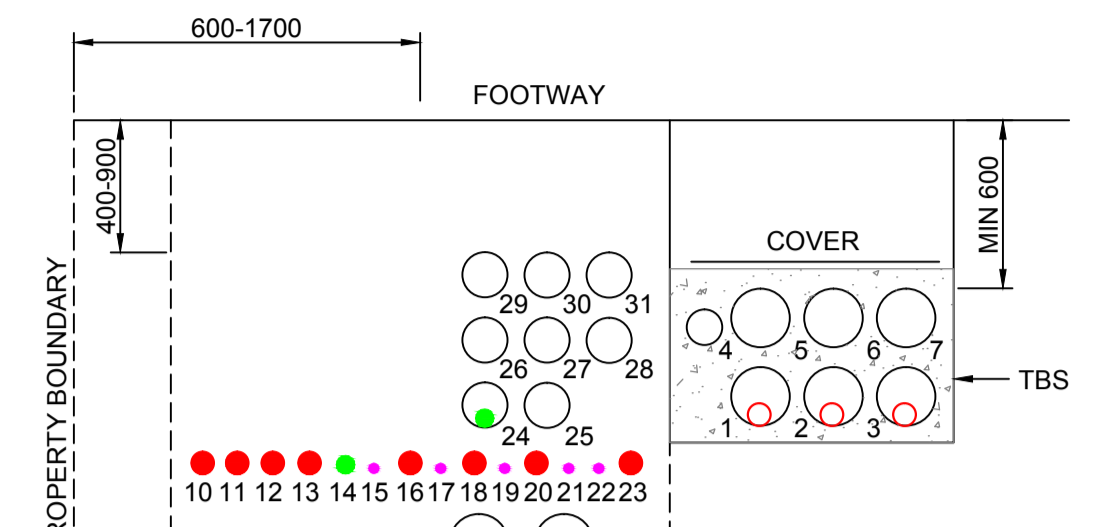
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- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH EXISTING HV
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING 125mm PVC CONDUIT WITH EXISTING LV
 - 9 - EXISTING 125mm PVC CONDUIT WITH EXISTING HV
 - 10 - EXISTING 125mm PVC CONDUIT - SPARE



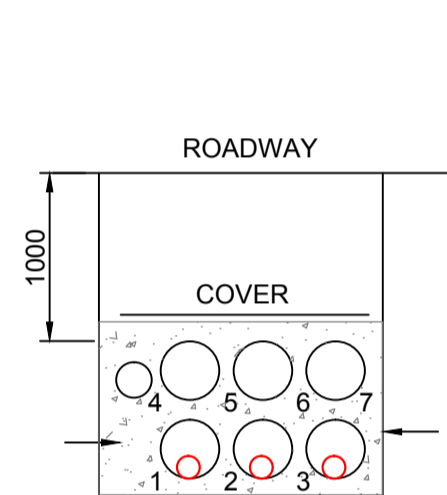
- ↑ SECTION X24-X24 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING HV - DIRECT BURIED
 - 9 - EXISTING HV - DIRECT BURIED
 - 10 - EXISTING HV - DIRECT BURIED



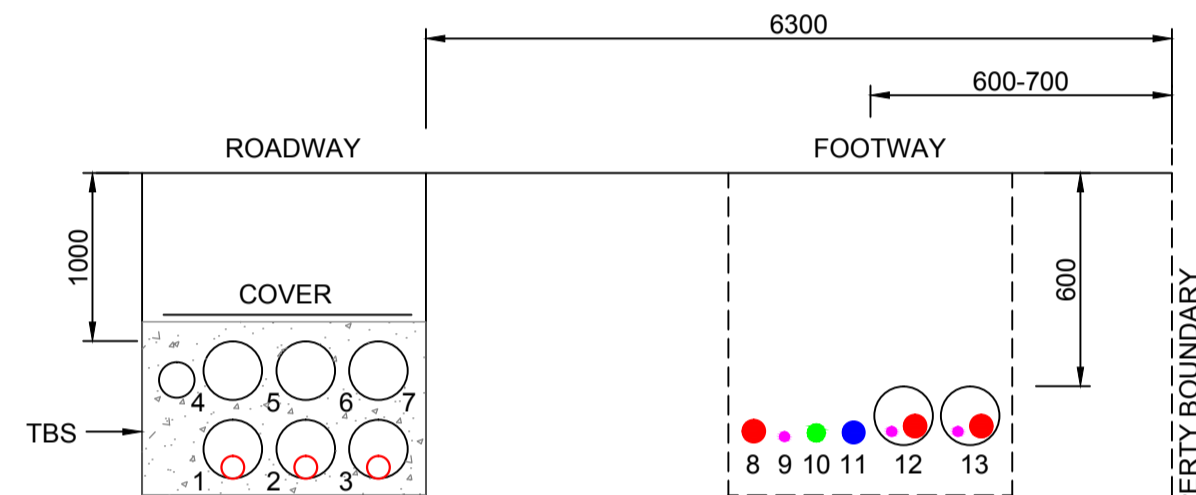
- ↑ SECTION X25-X25 ↓
- 1 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH EXISTING HV
 - 4 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH EXISTING HV
 - 5 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH EXISTING HV
 - 6 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH NEW 500 AL3
 - 7 - EXISTING UNDERBORE 145mm PVC CONDUIT WITH EXISTING HV



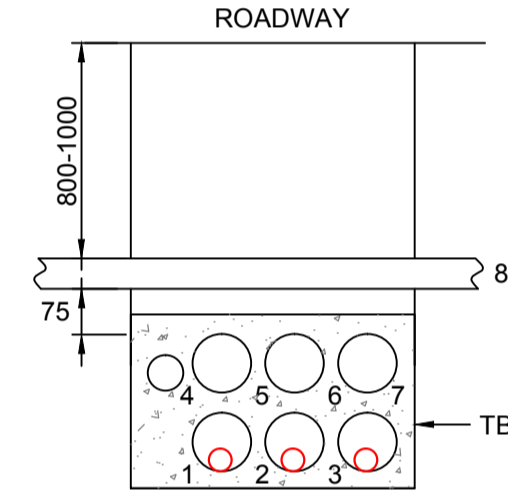
- ↑ SECTION X26-X26 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING 150mm AC CONDUIT - SPARE
 - 9 - EXISTING 150mm AC CONDUIT - SPARE
 - 10 - EXISTING HV CABLE - DIRECT BURIED
 - 11 - EXISTING HV CABLE - DIRECT BURIED
 - 12 - EXISTING HV CABLE - DIRECT BURIED
 - 13 - EXISTING HV CABLE - DIRECT BURIED
 - 14 - EXISTING SL CABLE - DIRECT BURIED
 - 15 - EXISTING AUX CABLE - DIRECT BURIED
 - 16 - EXISTING HV CABLE - DIRECT BURIED
 - 17 - EXISTING AUX CABLE - DIRECT BURIED
 - 18 - EXISTING HV CABLE - DIRECT BURIED
 - 19 - EXISTING AUX CABLE - DIRECT BURIED
 - 20 - EXISTING HV CABLE - DIRECT BURIED
 - 21 - EXISTING AUX CABLE - DIRECT BURIED
 - 22 - EXISTING AUX CABLE - DIRECT BURIED
 - 23 - EXISTING HV CABLE - DIRECT BURIED
 - 24 - EXISTING 125mm PVC CONDUIT WITH SL
 - 25 - EXISTING 125mm PVC CONDUIT - SPARE
 - 26 - EXISTING 125mm PVC CONDUIT - SPARE
 - 27 - EXISTING 125mm PVC CONDUIT - SPARE
 - 28 - EXISTING 125mm PVC CONDUIT - SPARE
 - 29 - EXISTING 125mm PVC CONDUIT - SPARE
 - 30 - EXISTING 125mm PVC CONDUIT - SPARE
 - 31 - EXISTING 125mm PVC CONDUIT - SPARE



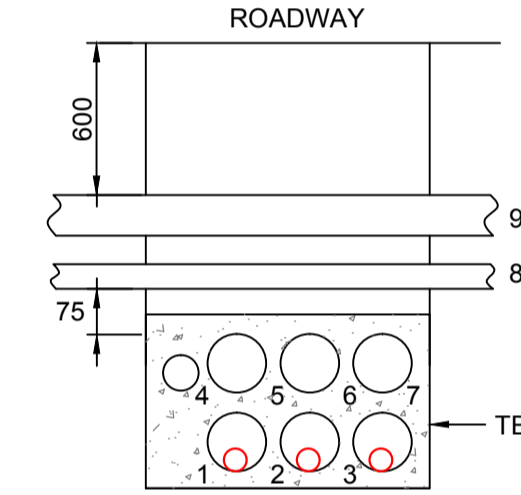
- ↑ SECTION X27-X27 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE



- ↑ SECTION X28-X28 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING HV CABLE - DIRECT BURIED
 - 9 - EXISTING AUX CABLE - DIRECT BURIED
 - 10 - EXISTING SL CABLE - DIRECT BURIED
 - 11 - EXISTING LV CABLE - DIRECT BURIED
 - 12 - EXISTING 150mm PVC CONDUIT WITH EXISTING AUX & HV CABLE
 - 13 - EXISTING 150mm PVC CONDUIT WITH EXISTING AUX & HV CABLE



- ↑ SECTION X29-X29 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING 150mm FC CONDUITS WITH EXISTING LV & SL CABLES



- ↑ SECTION X30-X30 ↓
- 1 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 2 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 3 - NEW 150mm PVC CONDUIT WITH NEW 500 AL3
 - 4 - NEW 65mm PVC CONDUIT - SPARE
 - 5 - NEW 150mm PVC CONDUIT - SPARE
 - 6 - NEW 150mm PVC CONDUIT - SPARE
 - 7 - NEW 150mm PVC CONDUIT - SPARE
 - 8 - EXISTING HV, LV, AUX & SL CABLES - DIRECT BURIED
 - 9 - EXISTING 150mm AC CONDUITS - SPARE

WARNING

- THIS DESIGN CANNOT BE USED FOR CONSTRUCTION PURPOSES UNTIL THE LOCATION OF ALL EXISTING SERVICES IS VERIFIED.
- THE INFORMATION PROVIDED IN THIS DESIGN MUST BE CHECKED ON SITE AND THE MOST CURRENT INFORMATION ON THE CONFIGURATION OF ALL SERVICES, INCLUDING AUSGRID'S NETWORK, MUST BE VERIFIED IMMEDIATELY BEFORE CONSTRUCTION COMMENCES BY CONTACTING DIAL-BEFORE-YOU-DIG BY TELEPHONE ON 1100 OR AT www.1100.com.au.
- DIAL-BEFORE-YOU-DIG INFORMATION MUST NOT BE OLDER THAN 20 BUSINESS DAYS AT THE TIME OF CONSTRUCTION.

ASP LEVEL 2 WORK

ALL LEVEL 2 ASP WORK DEPICTED ON THIS DRAWING IS SHOWN FOR INFORMATION PURPOSES ONLY AND DOES NOT FORM PART OF THE CERTIFIED DESIGN.

FOR WORK NEAR TRANSMISSION CABLES IT IS COMPULSORY TO ARRANGE FOR AN AUSGRID REPRESENTATIVE TO ATTEND THE WORKSITE. IN THE SYDNEY AND CENTRAL COAST AREAS, CONTACT THE TRANSMISSION ON-CALL CONTACT ON PAGER (02) 4951 3200 TO ARRANGE FOR AN AUSGRID REPRESENTATIVE. FOR TRANSMISSION CABLES IN THE NEWCASTLE AND HUNTER AREAS, THE CORRECT NUMBER IS 0400 566 818. WHEREVER POSSIBLE, AUSGRID'S REPRESENTATIVE SHOULD BE BOOKED TWO WEEKS BEFORE WORK COMMENCES.

WARNING

THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS, HOWEVER, WHOLLY RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF EXISTING SERVICES AND PERMANENT SURVEY MARKS BEFORE CONSTRUCTION COMMENCES, AND NO RESPONSIBILITY NOR LIABILITY WILL BE ACCEPTED BY THE DESIGNER OF THE PROJECT FOR ACCURACY OF INFORMATION OR DAMAGE TO EXISTING SERVICES OR ASSETS SHOWN ON THIS DESIGN.

PRELIMINARY

DEVELOPER:



LEVEL 3 ACCREDITED SERVICE PROVIDER

Shelmerdines Consulting Engineers

155 Home Street
 Crowe Nest NSW 2065

Telephone: (02) 9436 3021
 Email: mail@shelmerdines.com.au
 Web: www.shelmerdines.com.au

ASP REF: 6820-AU-18/C

DESIGNED BY: ELBERT WANG
 AUTH NO: 2606/06
 SUBMIT DATE: 05/09/2018
 LGA: RYDE CITY COUNCIL
 MAP REF: 196 P3
 AUSGRID REF: EP92, EP94, PY71-PY74
 PRJ/TRAK No: XCH014046

INSTALLATION OF 3xHV SUPPLY FEEDERS FROM EPPING ZN SUBSTATION TO LOT 11 IVANHOE PLACE, MACQUARIE PARK

SIZE: A1
 AUSGRID PROJECT No: SC12221
 SHEETS: 18 of 18
 AMD: 0

ASSOCIATED DRAWINGS

CERTIFICATION NUMBER

/

Appendix F

TELECOMMUNICATION CORRESPONDENCE

Date: 17 October 2017

Attn: Matt Owen,
Senior Project Manager
ADW Johnson Pty Limited,
Level 35 One International Towers,
100 Barangaroo Avenue, Sydney NSW 2000

Re: **Telecommunications Infrastructure and Services Feasibility Report,
Ivanhoe Estate**, 137-143 Herring Road, Macquarie Park, NSW 2113

Matt,

OptiComm is an Australian Government policy compliant wholesale Carrier that delivers Telecommunications services over Optical Fibre networks to both Master Planned Communities (MPC) and Multi-Dwelling Unit (MDU) residential and commercial developments. OptiComm networks fully comply with the amendments to Federal Telecommunications Act that were required to facilitate the Government's Telecommunications in New Developments (TIND) regulatory framework.

OptiComm has conducted a desktop study of the site and determined that the site can be serviced with superfast Fibre-optic Telecommunications Infrastructure and Services.

The map below shows Optical Fibre splice points in the vicinity. We can also confirm that although developer contributions apply for the construction of Fibre-to-the-Premises network infrastructure within the site, there is no backhaul construction cost to the developer to connect Telecommunications Infrastructure and Services to the overall site.

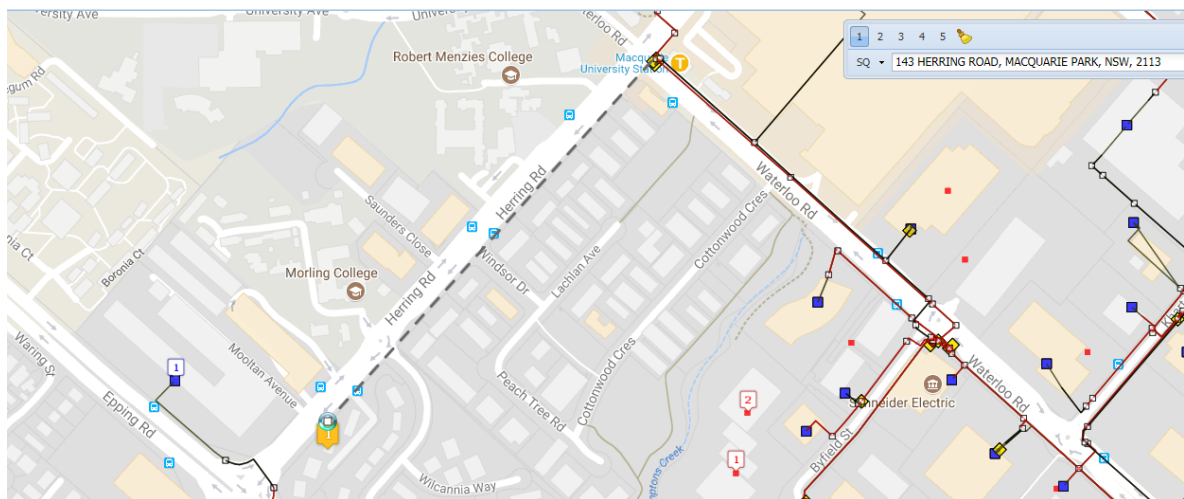


Fig 1: Telecommunications Infrastructure in the vicinity of the Ivanhoe Development

There are a number of lead-in options available to OptiComm and OptiComm will work with the developer to establish the actual route. It is expected that OptiComm will either construct or lease duct in either Herring Road or Epping Road. Final lead-in locations and route will be determined closer to actual construction commencement.

At the appropriate time, OptiComm is keen to submit a proposal for Fibre-to-the-Premises for the relevant stages.

OptiComm provide National Broadband Fibre in large and small Multi-Dwelling Unit developments.

In addition to the essential Broadband and Telephone, OptiComm offers a range of building services including:

Lift and FIP phone connectivity | SMATV system (FOXTEL & Free-to-Air TV) | Access Control, CCTV and Security systems connectivity | Public Wi-Fi | OptiComm Audio/Video Intercom | EMS/BMS connectivity | Distributed Antenna System (DAS) for mobile phone in-building coverage.

OptiComm is now the largest independent provider of broadband infrastructure with over 150 Greenfield developments nationally, 250,000 lots under contract and more than 70,000 lots constructed to date.

Let me know if you require further assistance or information.

Regards,

A handwritten signature in black ink, appearing to read 'Rob Carrick', written over a thin horizontal line.

Robert Carrick
Sales Manager – NSW and ACT
OptiComm Co Pty Ltd
Unit 23, 380 Eastern Valley Way,
Chatswood, NSW, 2067
M: 0421 058 734
P: (02) 8252 3604
E: rcarrick@opticomm.net.au

Matt Owen

From: Matthew Schwabrow <MatthewSchwabrow@nbnco.com.au>
Sent: Wednesday, 25 October 2017 12:43 PM
To: Matt Owen
Cc: Andy Every
Subject: Ivanhoe feasibility assessment [nbn-Confidential:Commercial]

Follow Up Flag: Follow up
Flag Status: Completed

nbn-Confidential: Commercial

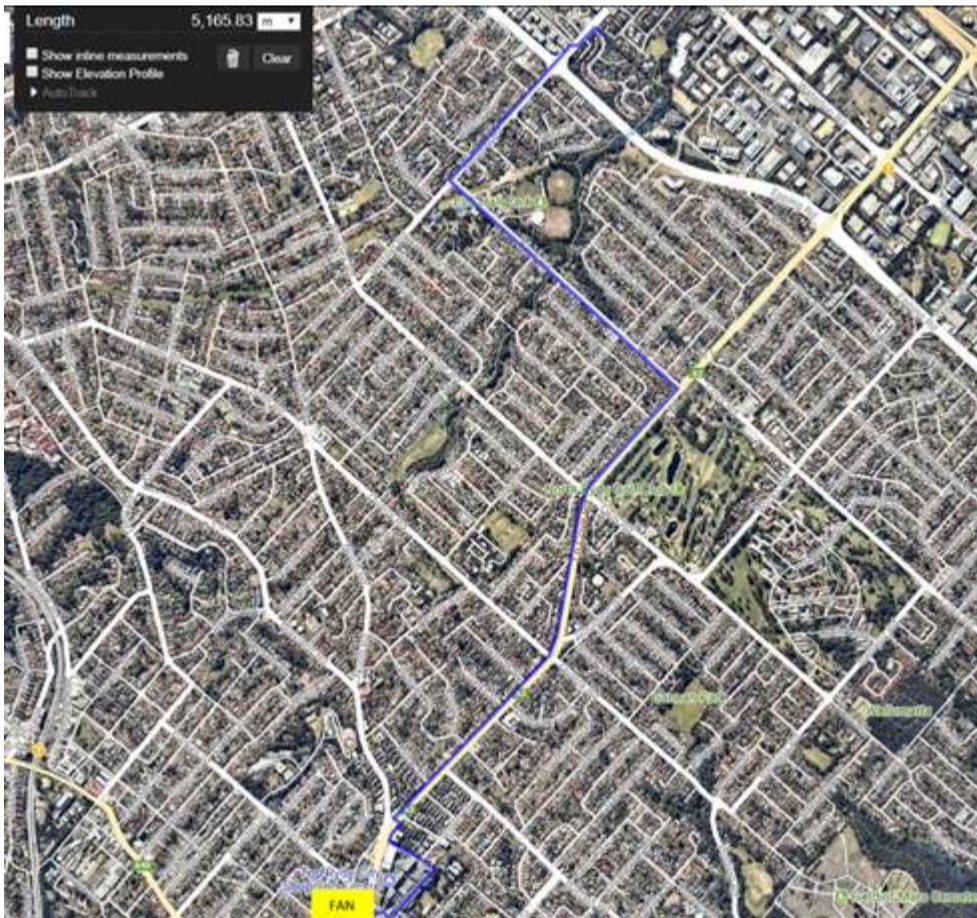
Hi Matt,

Great catching up again today.

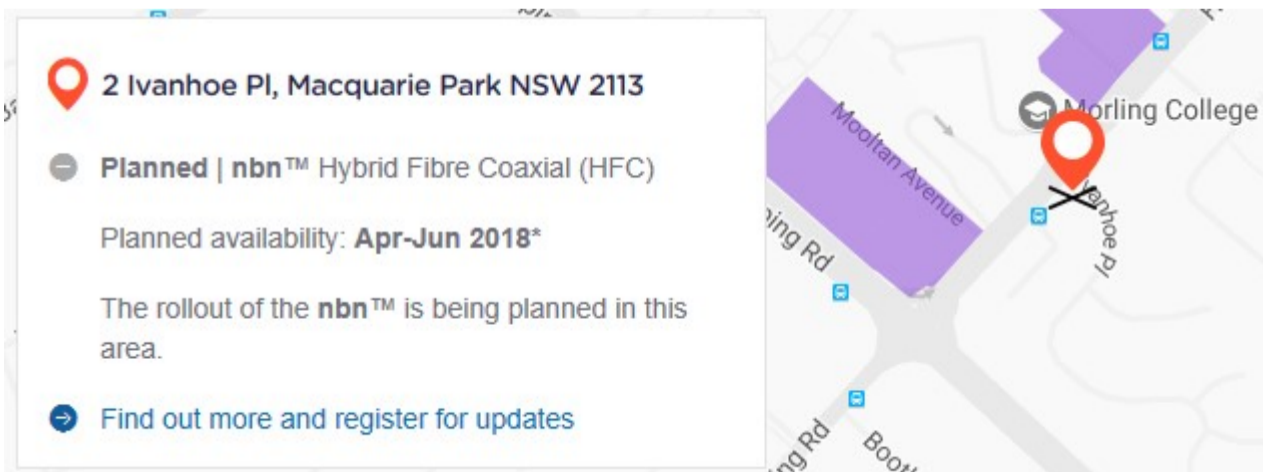
Please see the information relating to Ivanhoe.

Planning and Design has completed a feasibility assessment on New Development opportunity below:

Opportunity Id: AYCA-4TUKBO
Opportunity Name: Ivanhoe
Address: 25 Ivanhoe Pl
Suburb: Macquarie Park
State: NSW
Post Code: 2113
FSA: 2RYD
No. of New OLTs Required:
Total Route Distance (Kms): 5.2
Estimated Backhaul Cost Per Premises: \$ 18.77778
Backhaul Charge Amount: \$ 33800



In relation to the sales office it looks like we will have the ability to service it from June 2018.



I will send the letter shortly.

Regards,